



INSTITUTO FEDERAL DE
TELECOMUNICACIONES

ANEXO 3

REPORTES DE LA DIRECCIÓN GENERAL ADJUNTA DE VIGILANCIA DEL ESPECTRO RADIOELÉCTRICO

INFORME DE RADIOMONITOREO

REPORTE No. 155/2015

LUGAR DE ESTUDIO: Unidad Profesional Zacatenco Edificio Auditorio Cultural "Ing. Alejo Peralta" México D.F.
 USUARIO(S) : (*) Universidad Iberoamericana
 FRECUENCIA(S) : (*) 90.9 MHz.
 INDICATIVO : (*) XHUIA
 BANDA : VHF TIPO DE SERVICIO : RADIODIFUSION
 MODO DE OPERACIÓN: BROADCASTING TIPO DE EMISIÓN : 240KOF3
 HORARIO DE OPERACIÓN:(*) CONTINUO

(*) Datos proporcionados de acuerdo a la observación efectuada.

IRREGULARIDADES DETECTADAS

n/a	USUARIO NO AUTORIZADO	n/a	EXCEDE TOLERANCIA EN FRECUENCIA
n/a	NO USA SUS INDICATIVOS	n/a	SOBREMODULA
n/a	FRECUENCIA NO AUTORIZADA	n/a	HORARIO NO AUTORIZADO
n/a	TRÁFICO NO AUTORIZADO	n/a	OPERA FUERA DE BANDA
n/a	TRÁFICO EN CLAVE	n/a	EXCEDE ANCHO DE BANDA
n/a	RADIACIONES NO ESENCIALES	n/a	USUARIO NO IDENTIFICADO

OBSERVACIONES

PERIODO DE OBSERVACIÓN DEL 2 DE junio AL 2 DE junio DE 2015
 DETECTÁNDOSE OPERAR A ESTACION (ES) IDENTIFICÁNDOSE COMO : Radio Ibero 90.9 MHz..

TRAFICO RELATIVO A : Spot de prueba transmitiendo fragmento voz femenina, masculina, música, ruido, tono

EQUIPO UTILIZADO: Analizador Espectro Anritsu modelo MS2713E

FRECUENCIA MEDIDA EN LA ESTACION (ES) FIJA (S): 90.9 MHz.

FRECUENCIA MEDIDA PARA SUS MOVILES: n/a

OBSERVACIONES:

Se tomaron gráficas durante la emisión del spot según una programación de tiempos previamente planeada (anexo 1) en la que disminuyeron las portadoras digitales asimétricamente, simétricamente, y en su totalidad.

UBICACIÓN: Interior Auditorio Cultural Ing. Alejo Peralta

LATITUD : N 19.496293

DOA : n/a

OTROS : 80 dBm

LONGITUD : W -99.1351

LPDF : n/a

LUGAR Y FECHA DE ELABORACIÓN: MEXICO, D.F. a 8 de junio de 2015

HORA DE ELABORACIÓN: 12:48 Hrs.

ING. EPIGENIO MARTÍNEZ BEJARANO

OPERADOR(ES)

INSTITUTO FEDERAL DE
TELECOMUNICACIONES

PAGINA 1 DE 22

23 JUN 2015

RECIBIDO

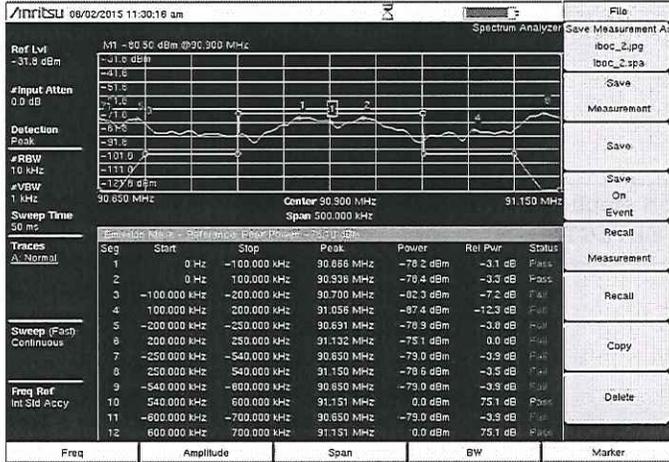
Vo. Bo. ING ROBERTO SALAS GUTIÉRREZ

SUBDIRECTOR DE VIGILANCIA DEL ESPECTRO

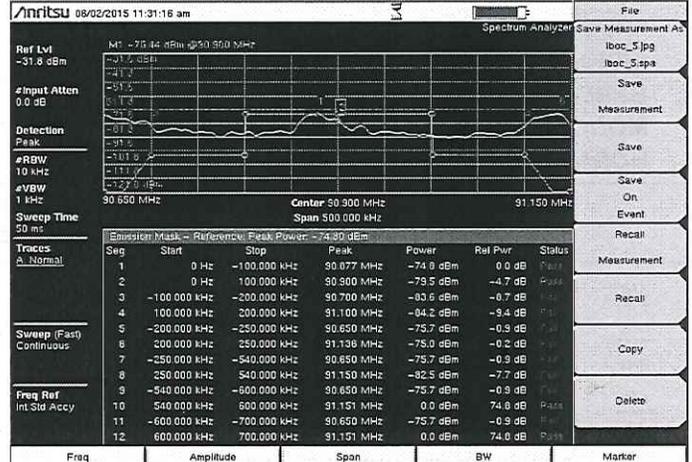
RADIOELÉCTRICO

NOTA: inicio 11:30 a.m.

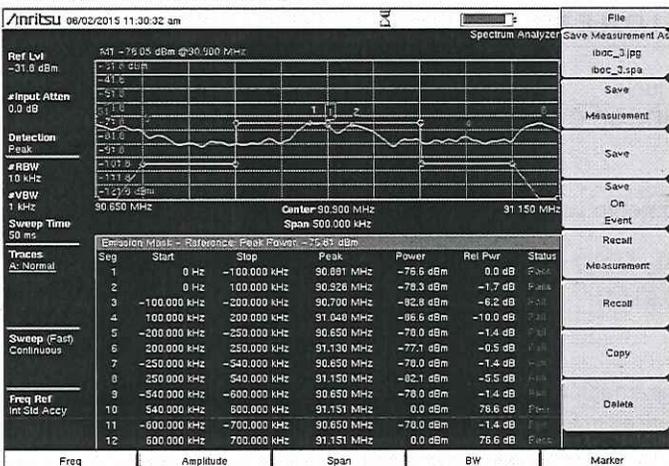
1.1 Voz: 11:30:16 hrs. a.m.



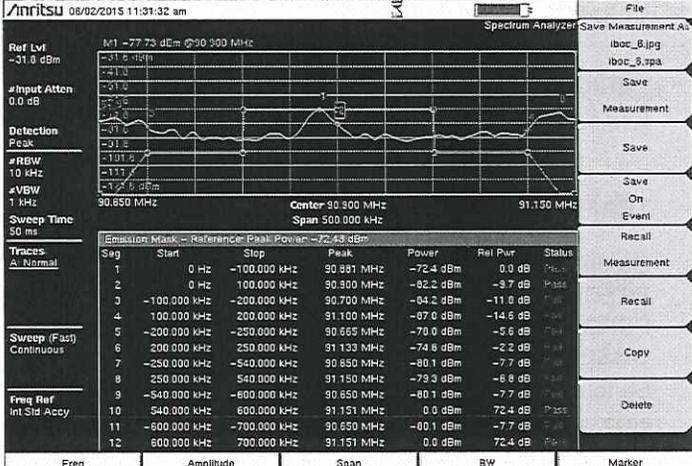
2.1 Música: 11:30:16 hrs. a.m.



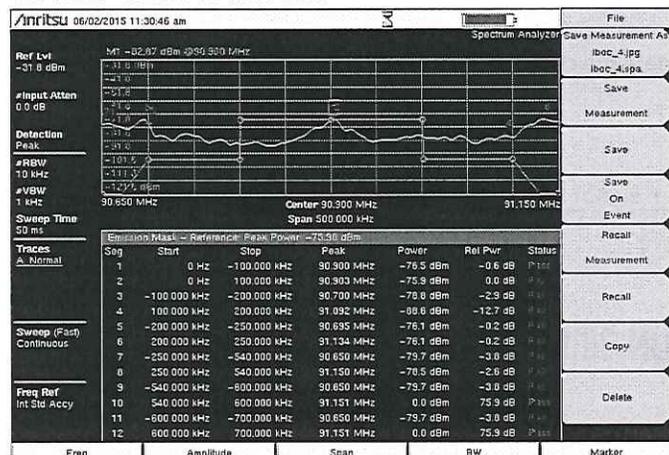
1.2 Voz: 11:30:32 hrs. a.m.



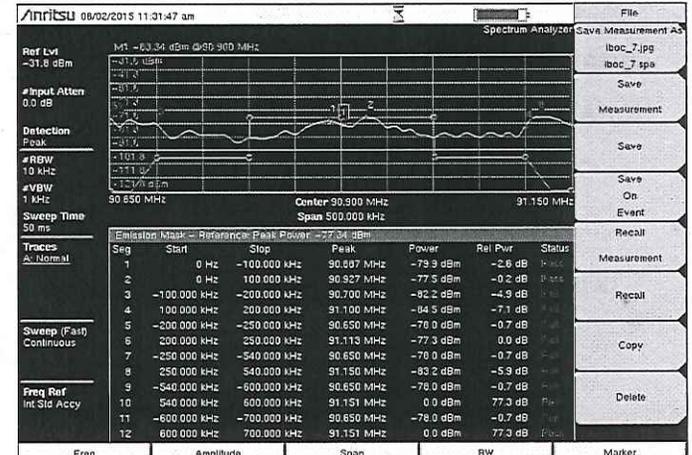
2.2 Música: 11:31:32 hrs. a.m.



1.3 Voz: 11:30:46 hrs. a.m.

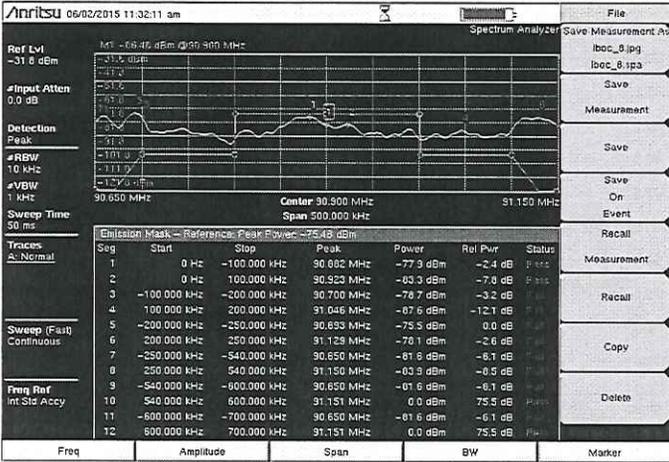


2.3 Música: 11:31:47 hrs. a.m.

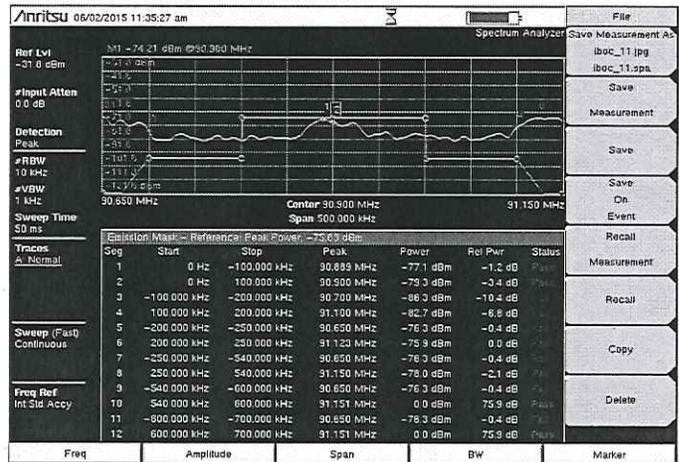


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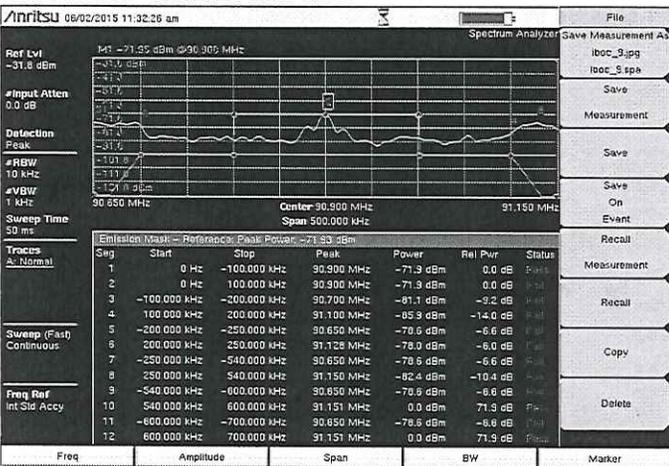
3.1 Ruido: 11:32:11 hrs. a.m.



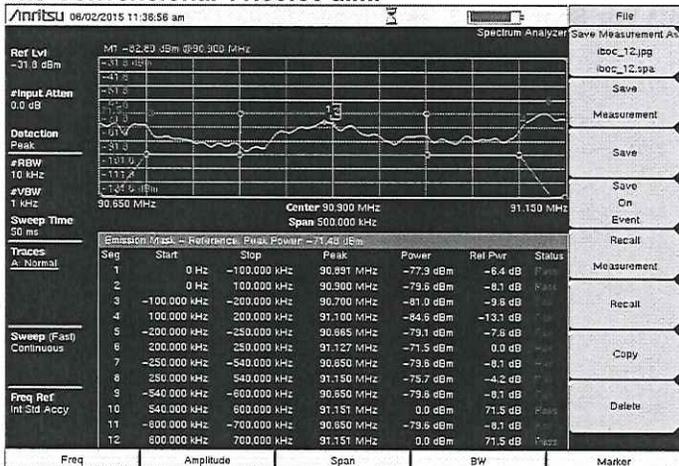
4.2 Convencional 11:35:27 a.m.



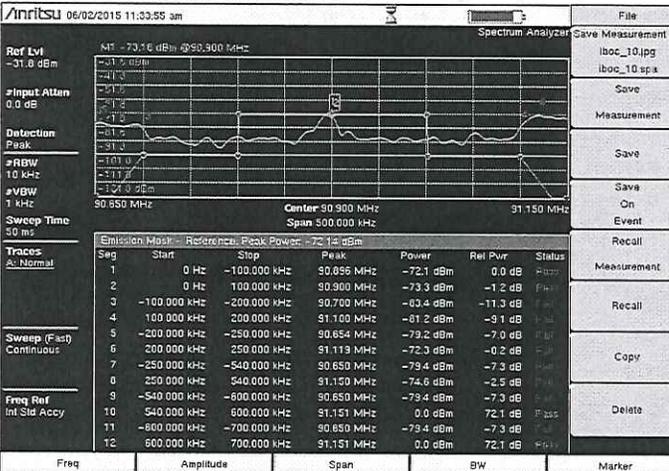
3.2 Ruido: 11:32:26 hrs. a.m.



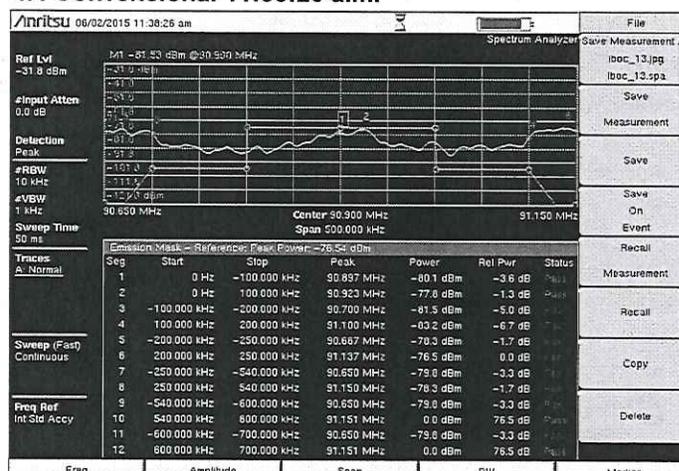
4.3 Convencional 11:36:56 a.m.



4.1 Convencional 11:33:55

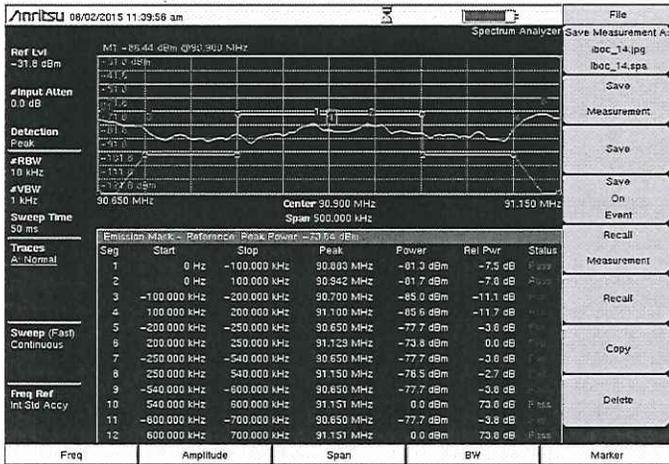


4.4 Convencional 11:38:26 a.m.

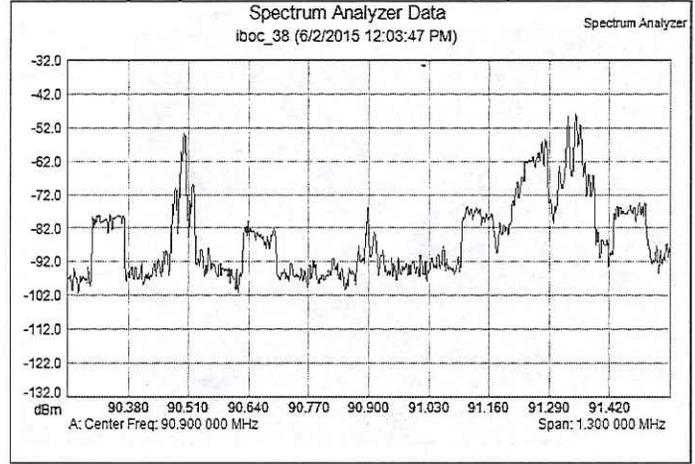


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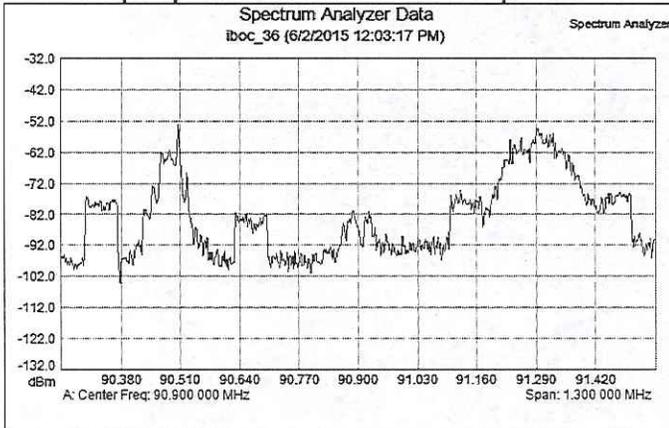
4.5 Convencional 11:39:56 a.m.



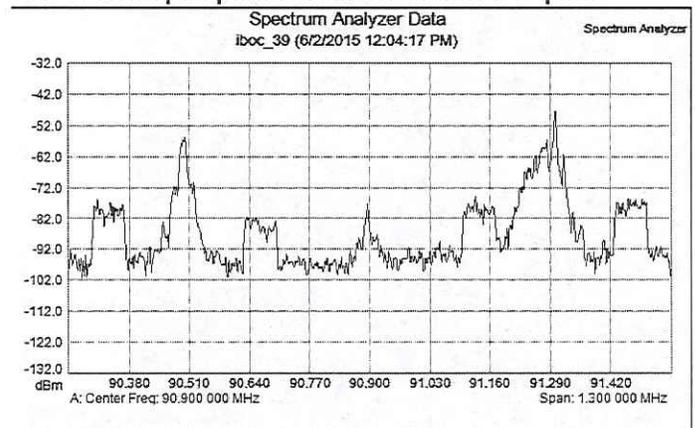
1.3 Voz Span para 3 estaciones 12:03:47 p.m.



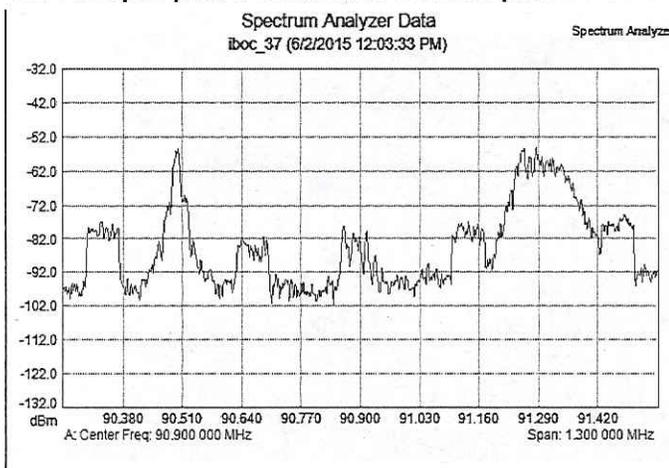
1.1 Voz Span para 3 estaciones 12:03:17 p.m.



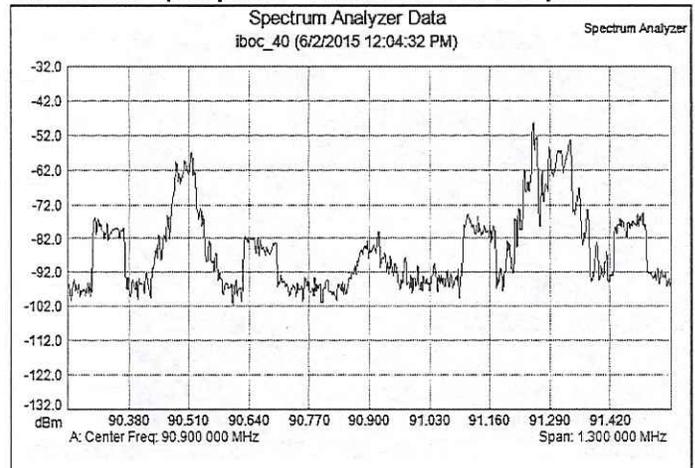
2.1 Música Span para 3 estaciones 12:04:17 p.m.



1.2 Voz Span para 3 estaciones 12:03:33 p.m.

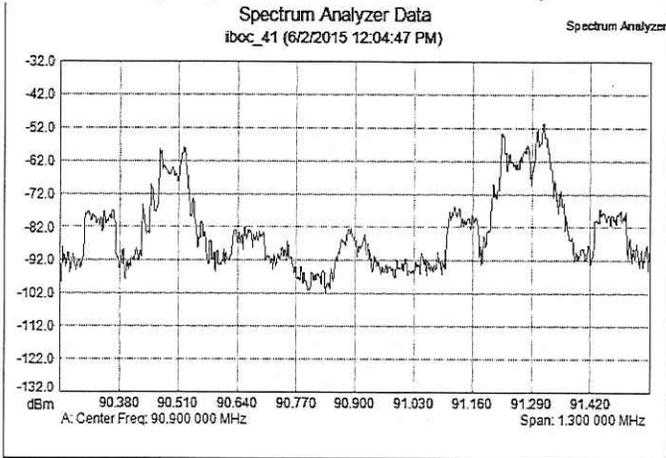


2.2 Música Span para 3 estaciones 12:04:32 p.m.

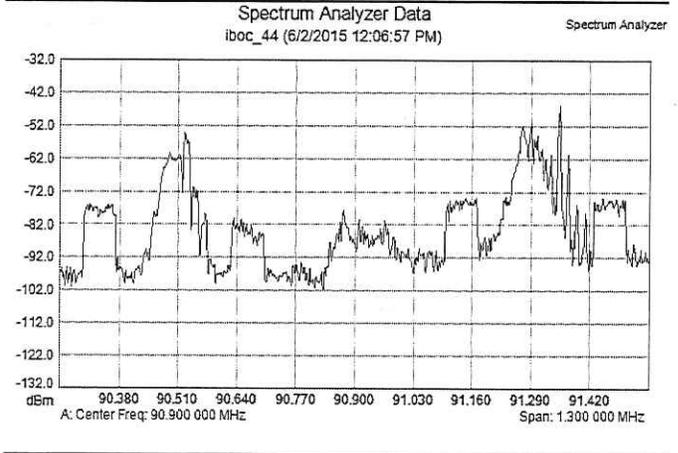



NOTA:

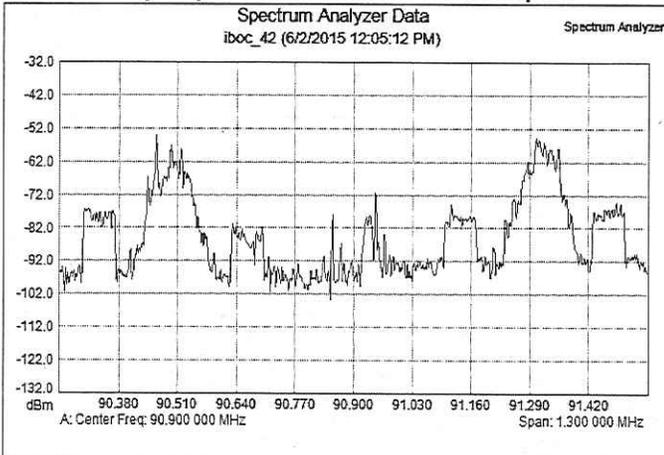
2.3 Música Span para 3 estaciones 12:04:47 p.m.



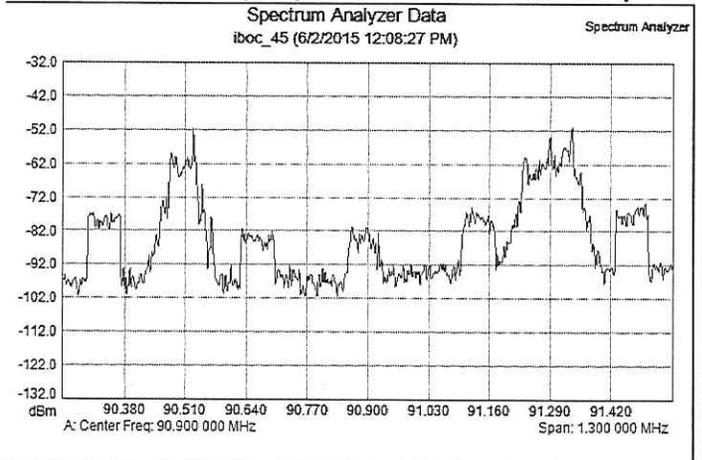
4.1 Convencional Span para 3 estaciones 12:06:57 p.m.



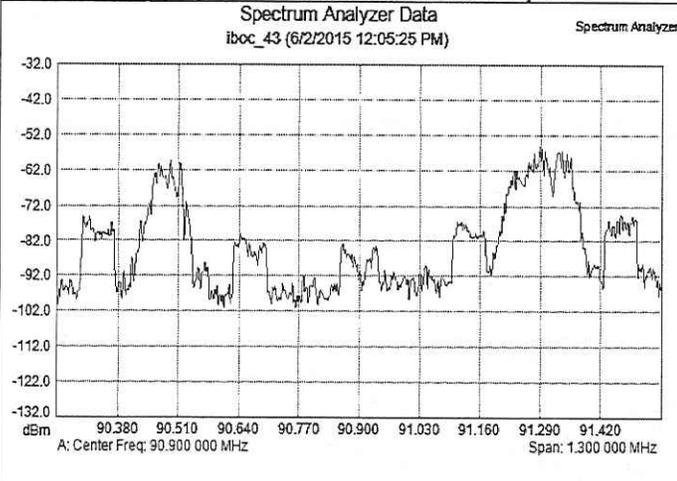
3.1 Ruido Span para 3 estaciones 12:05:12 p.m.



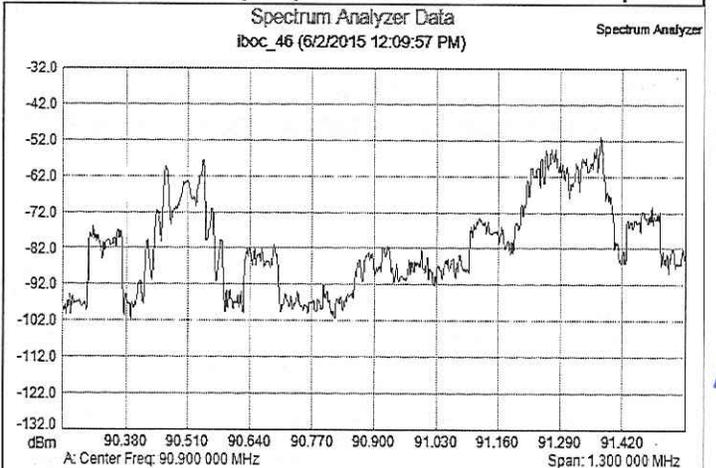
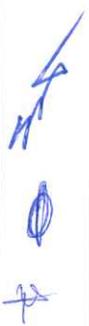
4.2 Convencional Span para 3 estaciones 12:08:27 p.m.



3.2 Ruido Span para 3 estaciones 12:05:25 p.m.



4.3 Convencional Span para 3 estaciones 12:09:57 p.m.

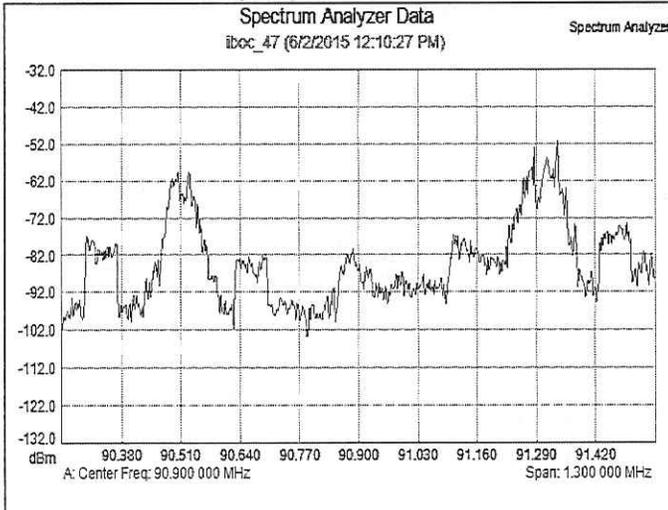


INSTITUTO FEDERAL DE TELECOMUNICACIONES

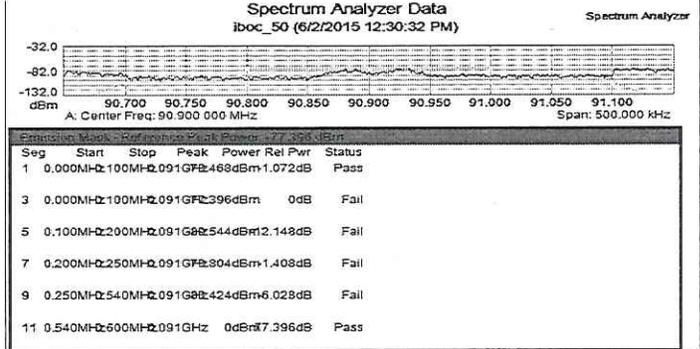
UNIDAD DE CUMPLIMIENTO
DIRECCIÓN GENERAL ADJUNTA DE
VIGILANCIA DEL ESPECTRO RADIOELÉCTRICO
CENTRO DE CONTROL

NOTA:

4.4 Convencional Span para 3 estaciones 12:10:27 p.m.

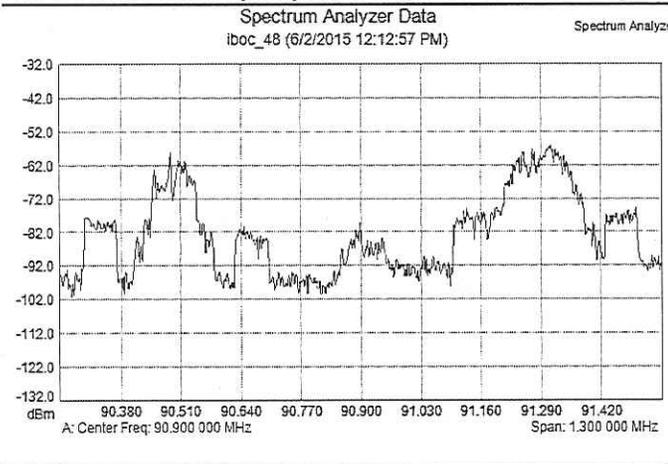


1.2 Voz: 12:30:17 hrs. a.m.

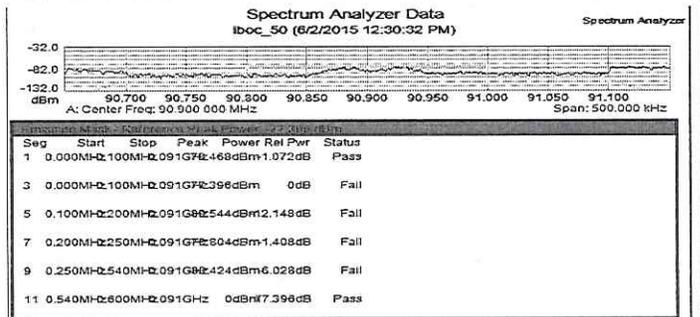


Measurement Parameters			
Trace Mode	Normal	Stop Frequency	91.150 000 MHz
Preamp	OFF	Frequency Span	500.000 000 kHz
Min Sweep Time	0.001 S	Reference Level	-32.000 dBm
Reference Level Offset	0 dB	Scale	10.0 dB/div
Input Attenuation	0.0 dB	Serial Number	1444097
RBW	1.0 kHz	Base Ver.	V5.07
VBW	10.0 kHz	App Ver.	V6.45
Detection	Peak	Model	MS2713E
Center Frequency	90.900 000 MHz	Options	9, 25, 31, 431, 509
Start Frequency	90.650 000 MHz	Date	6/2/2015 12:30:32 PM
		Device Name	

4.5 Convencional Span para 3 estaciones 12:12:57 p.m.

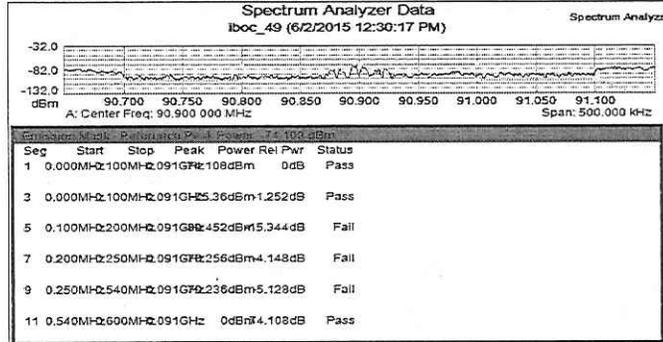


1.3 Voz: 12:30:32 hrs. a.m.



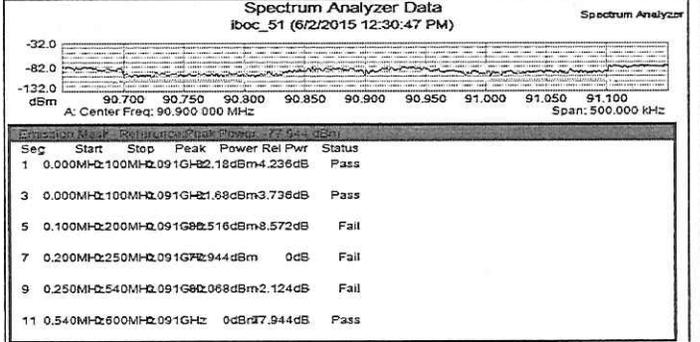
Measurement Parameters			
Trace Mode	Normal	Stop Frequency	91.150 000 MHz
Preamp	OFF	Frequency Span	500.000 000 kHz
Min Sweep Time	0.001 S	Reference Level	-32.000 dBm
Reference Level Offset	0 dB	Scale	10.0 dB/div
Input Attenuation	0.0 dB	Serial Number	1444097
RBW	1.0 kHz	Base Ver.	V5.07
VBW	10.0 kHz	App Ver.	V6.45
Detection	Peak	Model	MS2713E
Center Frequency	90.900 000 MHz	Options	9, 25, 31, 431, 509
Start Frequency	90.650 000 MHz	Date	6/2/2015 12:30:32 PM
		Device Name	

1.1 Voz: 12:30:17 hrs. a.m.



Measurement Parameters			
Trace Mode	Normal	Stop Frequency	91.150 000 MHz
Preamp	OFF	Frequency Span	500.000 000 kHz
Min Sweep Time	0.001 S	Reference Level	-32.000 dBm
Reference Level Offset	0 dB	Scale	10.0 dB/div
Input Attenuation	0.0 dB	Serial Number	1444097
RBW	1.0 kHz	Base Ver.	V5.07
VBW	10.0 kHz	App Ver.	V6.45
Detection	Peak	Model	MS2713E
Center Frequency	90.900 000 MHz	Options	9, 25, 31, 431, 509
Start Frequency	90.650 000 MHz	Date	6/2/2015 12:30:17 PM
		Device Name	

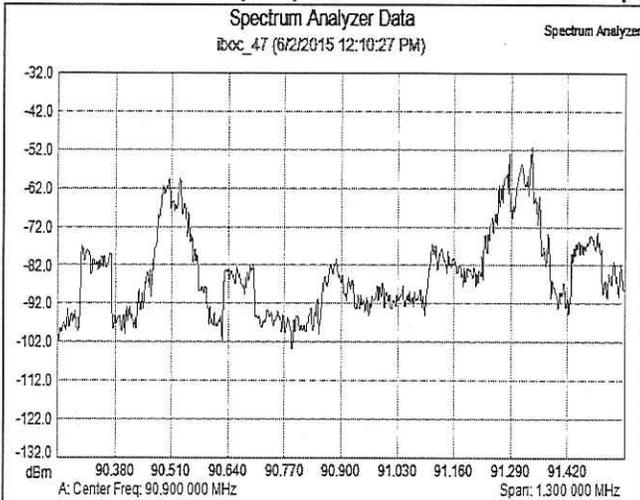
2.1 música 12:30:47 p.m.



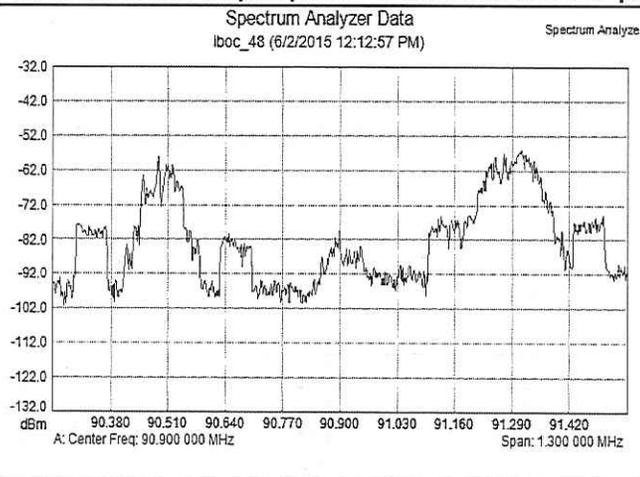
Measurement Parameters			
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Preamp	OFF	Frequency Span	500.000 000 kHz
Min Sweep Time	0.001 S	Reference Level	-32.000 dBm
Reference Level Offset	0 dB	Scale	10.0 dB/div
Input Attenuation	0.0 dB	Serial Number	1444097
RBW	1.0 kHz	Base Ver.	V5.07
VBW	10.0 kHz	App Ver.	V6.45
Detection	Peak	Model	MS2713E
Center Frequency	90.900 000 MHz	Options	9, 25, 31, 431, 509
Start Frequency	90.650 000 MHz	Date	6/2/2015 12:30:47 PM
		Device Name	

NOTA:

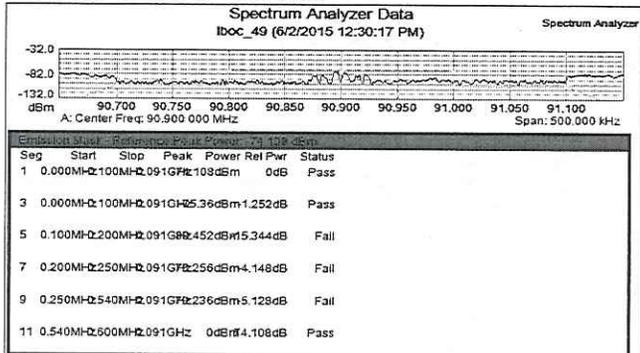
4.4 Convencional Span para 3 estaciones 12:10:27 p.m.



4.5 Convencional Span para 3 estaciones 12:12:57 p.m.

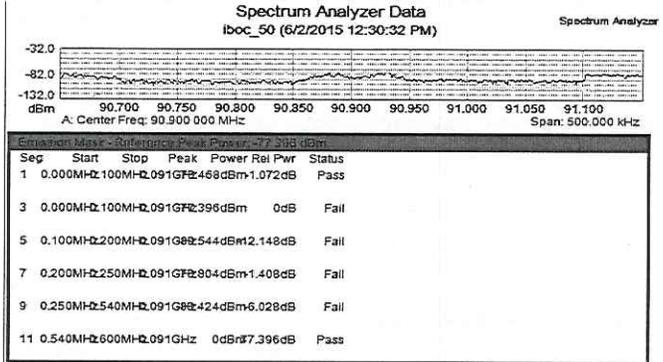


1.1 Voz: 12:30:17 hrs. a.m.



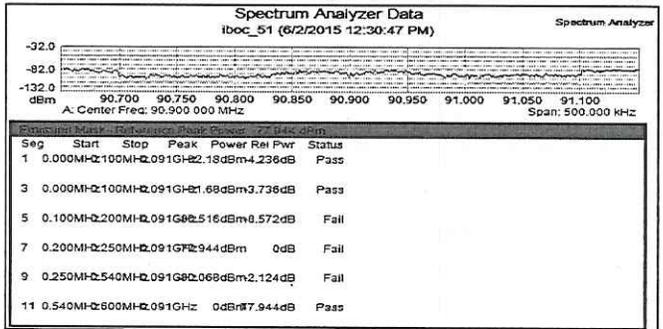
Measurement Parameters			
Trace Mode	Normal	Stop Frequency	91.150 000 MHz
Preamp	OFF	Frequency Span	500.000 000 kHz
Min Sweep Time	0.001 S	Reference Level	-32.000 dBm
Reference Level Offset	0.0 dB	Scale	10.0 dB/div
Input Attenuation	0.0 dB	Serial Number	1444097
RBW	1.0 kHz	Base Ver.	V5.07
VBW	10.0 kHz	App Ver.	V6.45
Detection	Peak	Model	MS2713E
Center Frequency	90.900 000 MHz	Options	9.25.31.431.509
Start Frequency	90.650 000 MHz	Date	6/2/2015 12:30:17 PM
		Device Name	

1.2 Voz: 12:30:17 hrs. a.m.



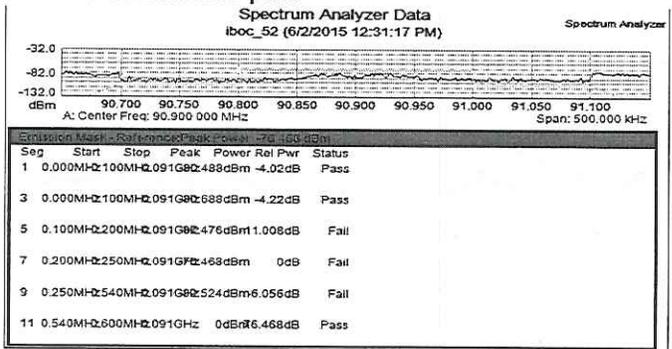
Measurement Parameters			
Trace Mode	Normal	Stop Frequency	91.150 000 MHz
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Min Sweep Time	0.001 S	Reference Level	-32.000 dBm
Reference Level Offset	0.0 dB	Scale	10.0 dB/div
Input Attenuation	0.0 dB	Serial Number	1444097
RBW	1.0 kHz	Base Ver.	V5.07
VBW	10.0 kHz	App Ver.	V6.45
Detection	Peak	Model	MS2713E
Center Frequency	90.900 000 MHz	Options	9.25.31.431.509
Start Frequency	90.650 000 MHz	Date	6/2/2015 12:30:32 PM
		Device Name	

1.3 Voz: 12:30:47 hrs. a.m.



Measurement Parameters			
Trace Mode	Normal	Stop Frequency	91.150 000 MHz
Preamp	OFF	Frequency Span	500.000 000 kHz
Min Sweep Time	0.001 S	Reference Level	-32.000 dBm
Reference Level Offset	0.0 dB	Scale	10.0 dB/div
Input Attenuation	0.0 dB	Serial Number	1444097
RBW	1.0 kHz	Base Ver.	V5.07
VBW	10.0 kHz	App Ver.	V6.45
Detection	Peak	Model	MS2713E
Center Frequency	90.900 000 MHz	Options	9.25.31.431.509
Start Frequency	90.650 000 MHz	Date	6/2/2015 12:30:47 PM
		Device Name	

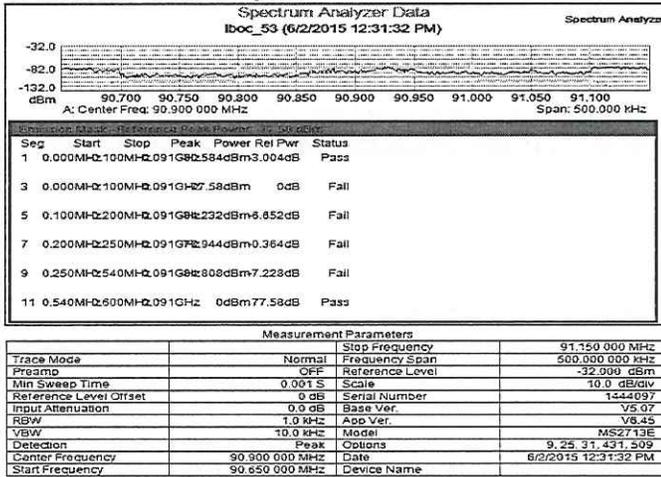
2.1 música 12:31:17 p.m.



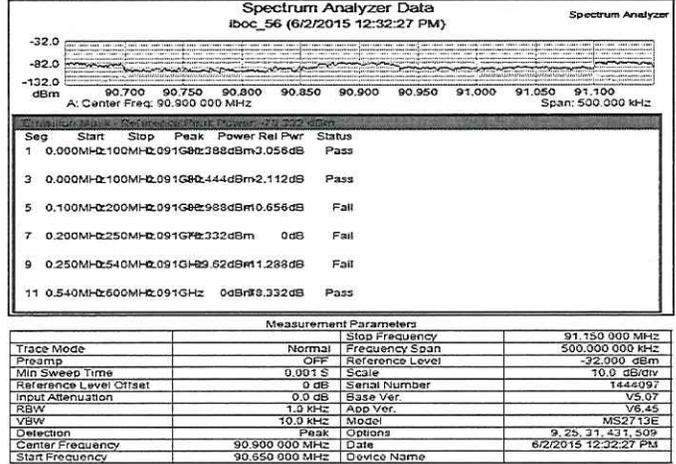
Measurement Parameters			
Trace Mode	Normal	Stop Frequency	91.150 000 MHz
Preamp	OFF	Frequency Span	500.000 000 kHz
Min Sweep Time	0.001 S	Reference Level	-32.000 dBm
Reference Level Offset	0.0 dB	Scale	10.0 dB/div
Input Attenuation	0.0 dB	Serial Number	1444097
RBW	1.0 kHz	Base Ver.	V5.07
VBW	10.0 kHz	App Ver.	V6.45
Detection	Peak	Model	MS2713E
Center Frequency	90.900 000 MHz	Options	9.25.31.431.509
Start Frequency	90.650 000 MHz	Date	6/2/2015 12:31:17 PM
		Device Name	

NOTA:

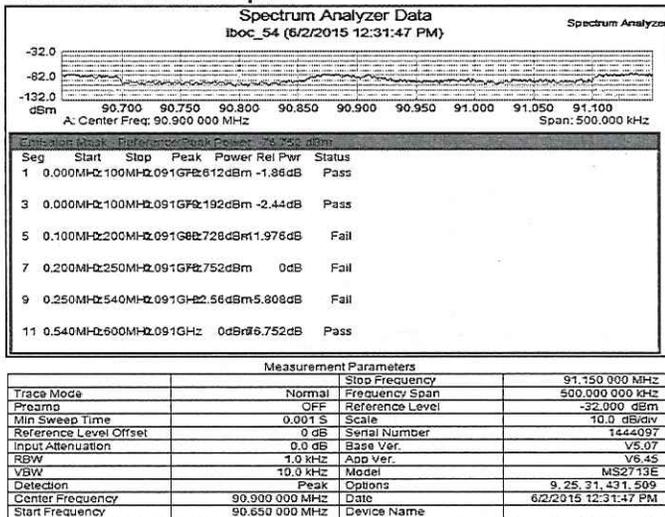
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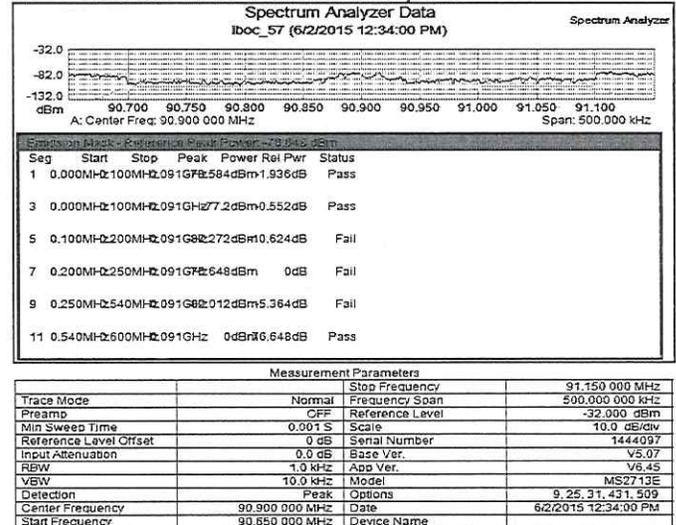
3.2 ruido: 12:32:27 hrs. p.m.



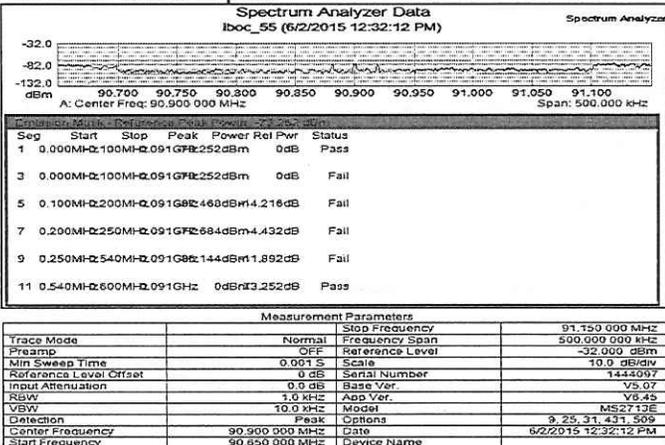
2.3 música 12:31:47 p.m.



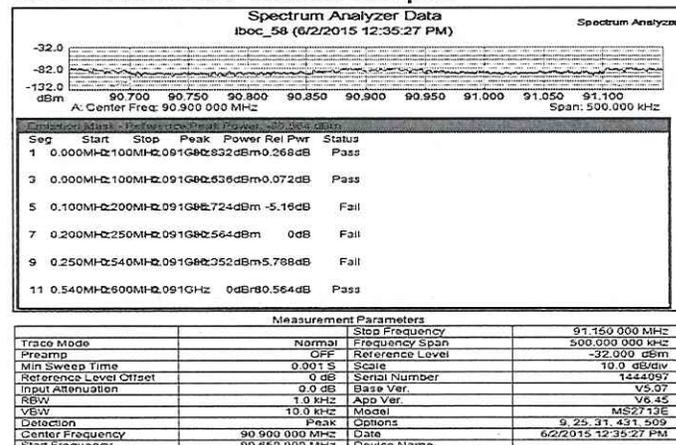
4.1 Convencional : 12:34:00 hrs. p.m.



3.1 ruido 12:32:12 p.m.

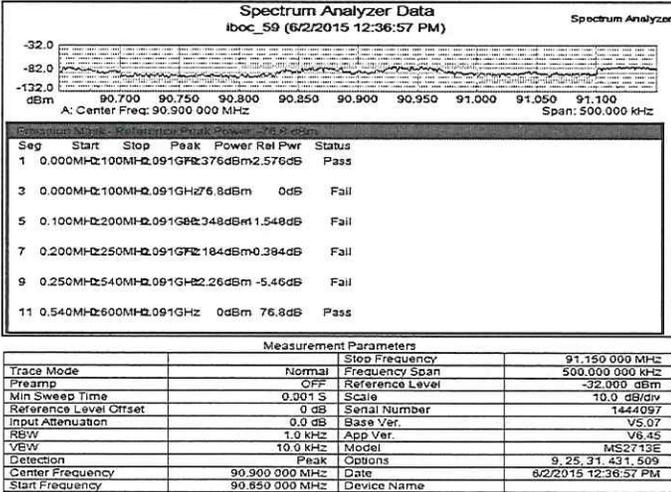


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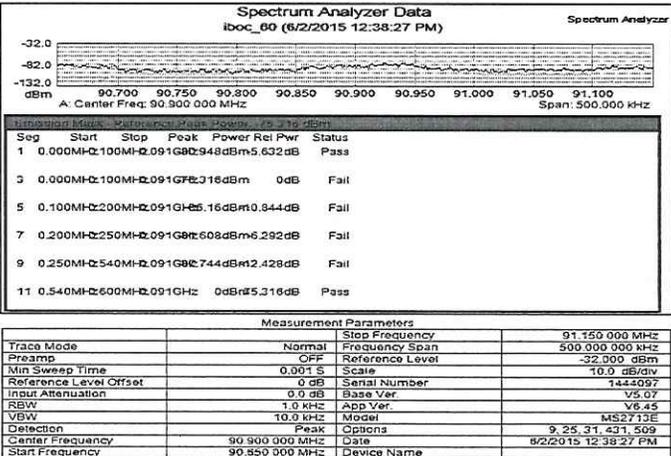


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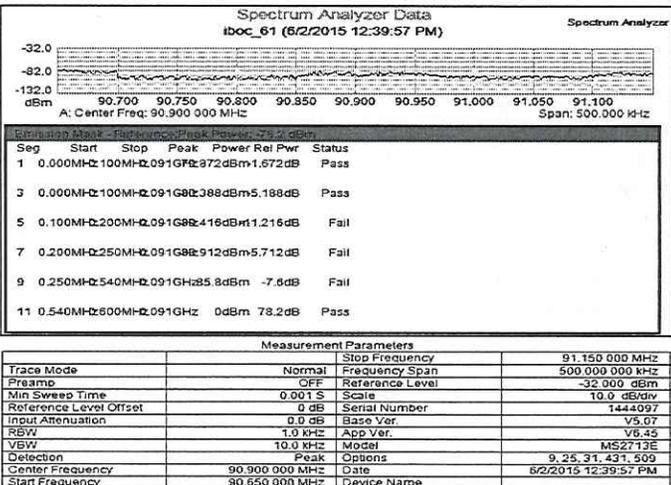
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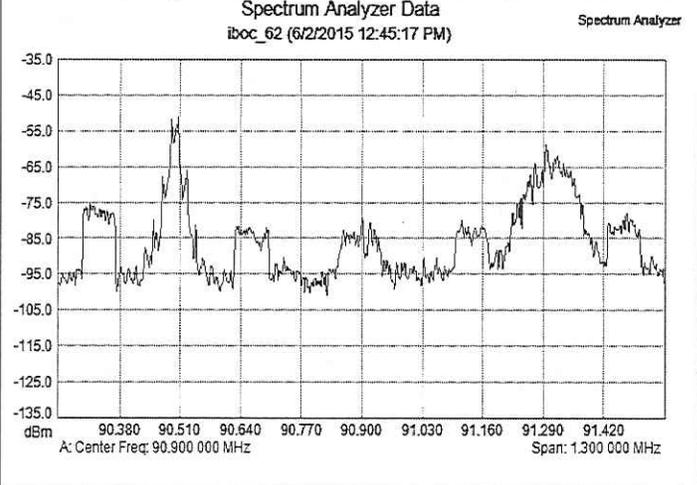
4.4 Convencional : 12:38:27 hrs. p.m.



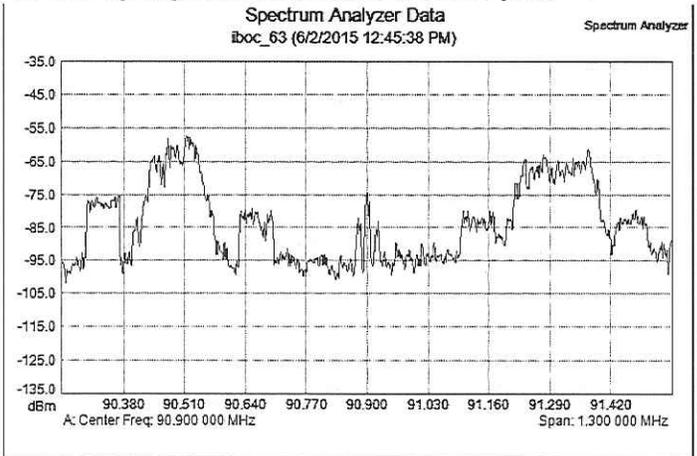
4.5 Convencional : 12:39:57 hrs. p.m.



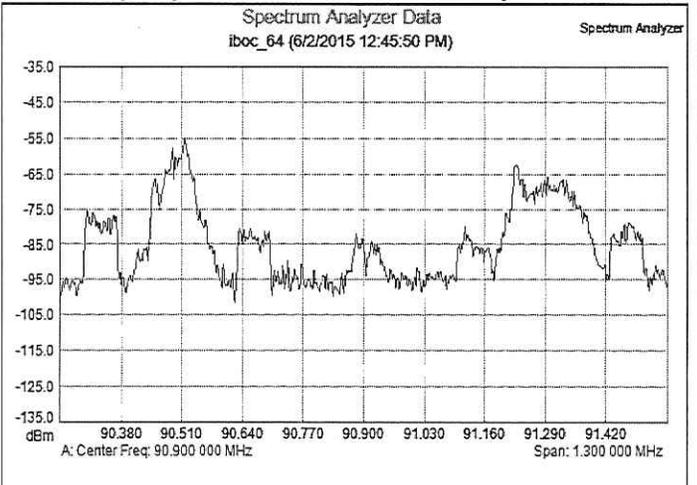
1.1 Voz Span para 3 estaciones 12:45:17 p.m.



1.2 Voz Span para 3 estaciones 12:45:38 p.m.

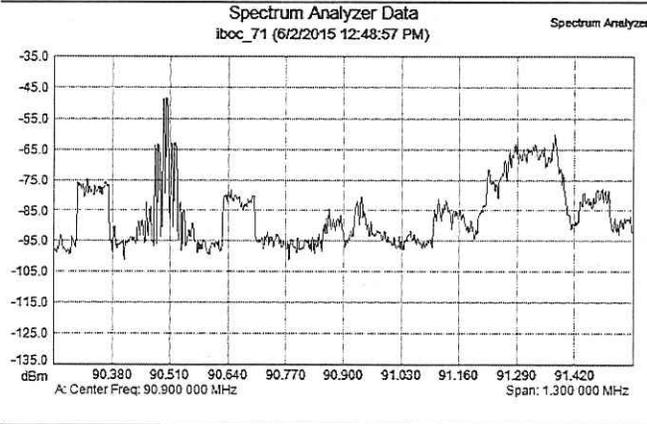


1.3 Voz Span para 3 estaciones 12:45:50 p.m.

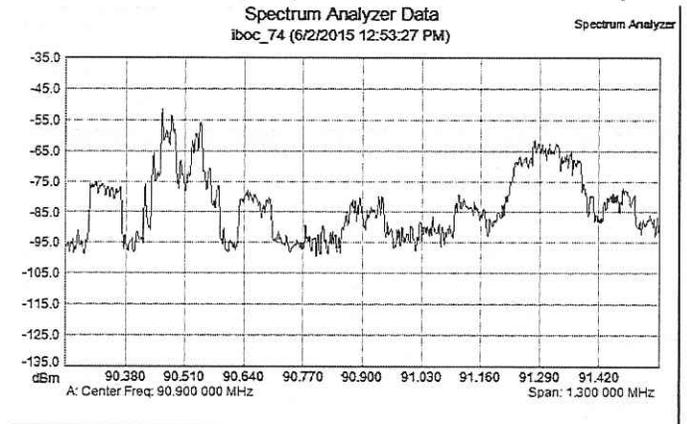


NOTA:

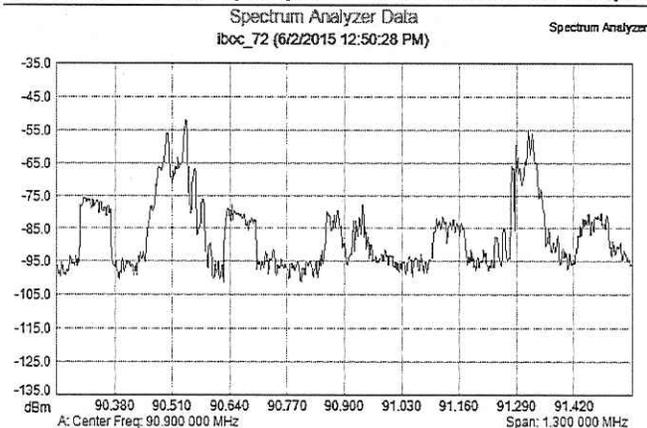
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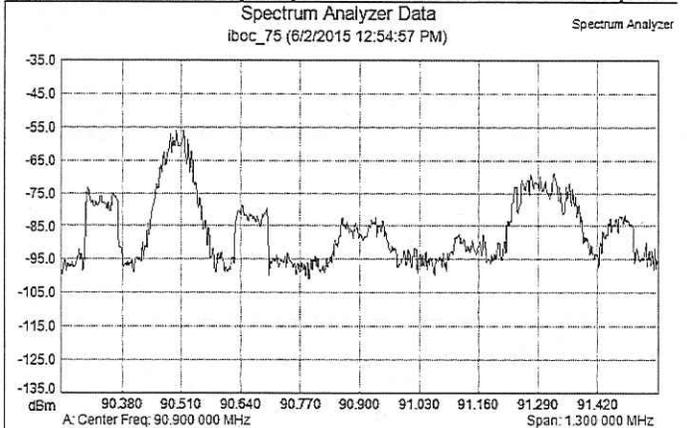
4.4 Convencional Span para 3 estaciones 12:53:27 p.m.



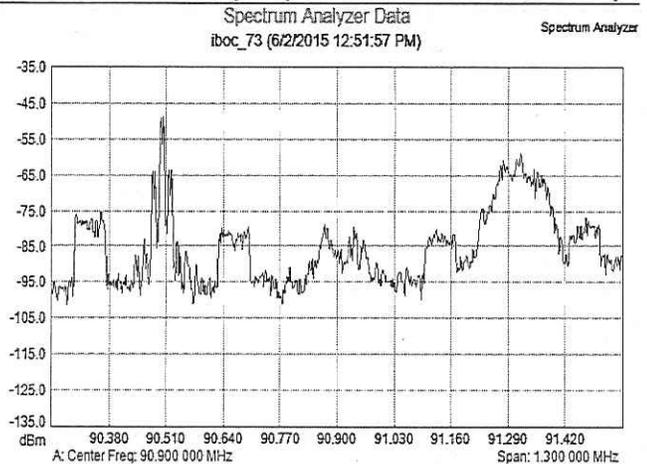
4.2 Convencional Span para 3 estaciones 12:50:28 p.m.



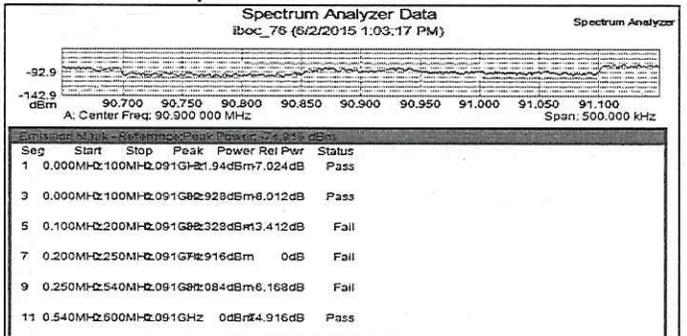
4.5 Convencional Span para 3 estaciones 12:54:57 p.m.



4.3 Convencional Span para 3 estaciones 12:51:57 p.m.



1.1 Voz 1:03:17 p.m.



Measurement Parameters		91.150 000 MHz
Trace Mode	Normal	500.000 000 kHz
Preampl	OFF	-42.900 dBm
Min Sweep Time	0.001 S	10.0 dB/div
Reference Level Offset	0 dB	Serial Number 1444097
Input Attenuation	0.0 dB	Base Ver. V5.07
RBW	1.0 kHz	App Ver. V6.45
VBW	10.0 kHz	Model MS2713E
Detection	Peak	Options 9.25, 31.431, 509
Center Frequency	90.900 000 MHz	Date 6/2/2015 1:03:17 PM
Start Frequency	90.650 000 MHz	Device Name

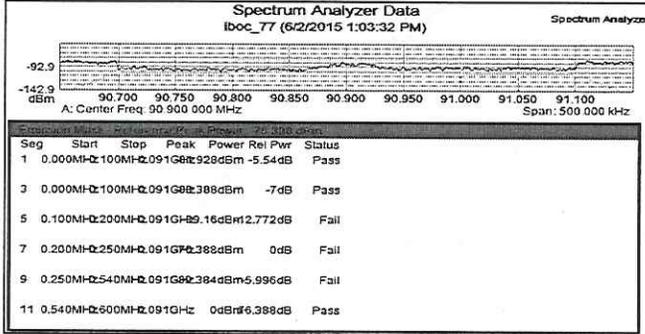


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UNIDAD DE CUMPLIMIENTO
DIRECCIÓN GENERAL ADJUNTA DE
VIGILANCIA DEL ESPECTRO RADIOELÉCTRICO
CENTRO DE CONTROL

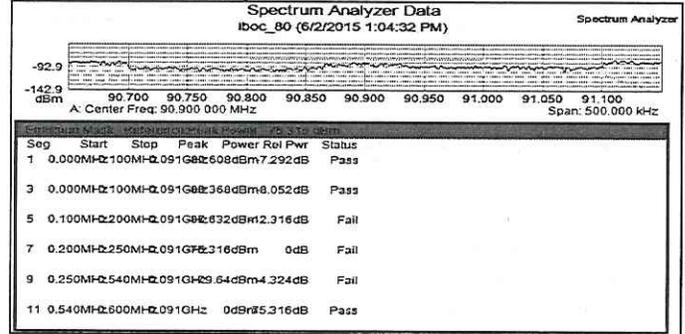
NOTA:

1.2 **Voz 1:03:32 p.m.**



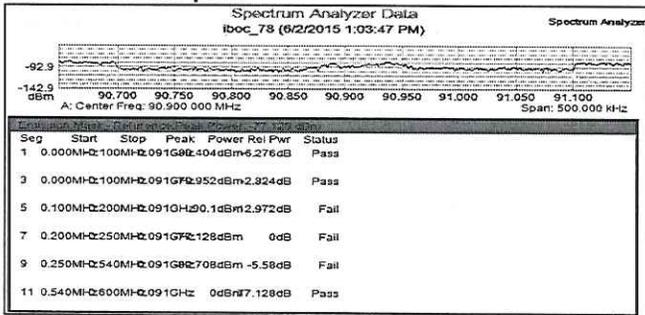
Measurement Parameters		Stop Frequency	91.150 000 MHz
Trace Mode	Normal	Frequency Span	500.000 000 kHz
Preamp	OFF	Reference Level	-42.900 dBm
Min Sweep Time	0.001 S	Scale	10.0 dB/div
Reference Level Offset	0 dB	Serial Number	1444097
Input Attenuation	0.0 dB	Base Ver.	V5.07
RBW	1.0 kHz	App Ver.	V6.45
VBW	10.0 kHz	Model	MS2713E
Detection	Peak	Options	9.25, 31.431, 509
Center Frequency	90.900 000 MHz	Date	6/2/2015 1:03:32 PM
Start Frequency	90.650 000 MHz	Device Name	

2.2 **música 1:04:32 p.m.**



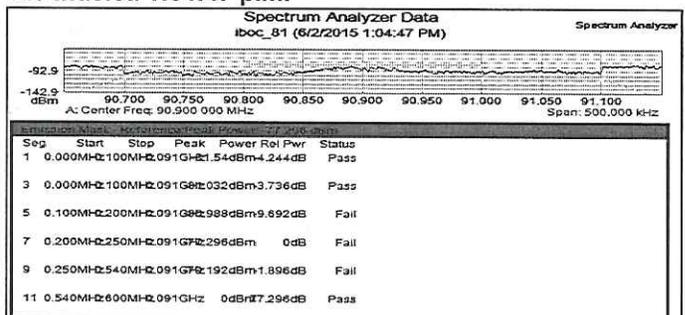
Measurement Parameters		Stop Frequency	91.150 000 MHz
Trace Mode	Normal	Frequency Span	500.000 000 kHz
Preamp	OFF	Reference Level	-42.900 dBm
Min Sweep Time	0.001 S	Scale	10.0 dB/div
Reference Level Offset	0 dB	Serial Number	1444097
Input Attenuation	0.0 dB	Base Ver.	V5.07
RBW	1.0 kHz	App Ver.	V6.45
VBW	10.0 kHz	Model	MS2713E
Detection	Peak	Options	9.25, 31.431, 509
Center Frequency	90.900 000 MHz	Date	6/2/2015 1:04:32 PM
Start Frequency	90.650 000 MHz	Device Name	

1.3 **Voz 1:03:47 p.m.**



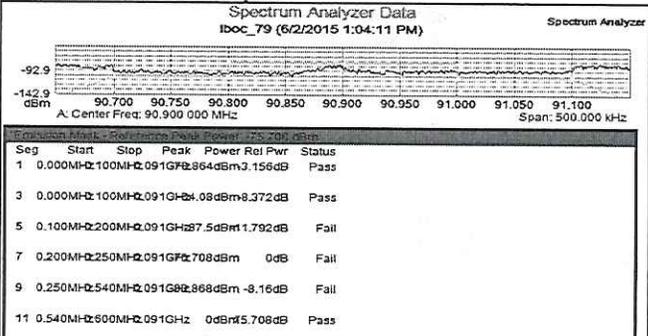
Measurement Parameters		Stop Frequency	91.150 000 MHz
Trace Mode	Normal	Frequency Span	500.000 000 kHz
Preamp	OFF	Reference Level	-42.900 dBm
Min Sweep Time	0.001 S	Scale	10.0 dB/div
Reference Level Offset	0 dB	Serial Number	1444097
Input Attenuation	0.0 dB	Base Ver.	V5.07
RBW	1.0 kHz	App Ver.	V6.45
VBW	10.0 kHz	Model	MS2713E
Detection	Peak	Options	9.25, 31.431, 509
Center Frequency	90.900 000 MHz	Date	6/2/2015 1:03:47 PM
Start Frequency	90.650 000 MHz	Device Name	

2.3 **música 1:04:47 p.m.**



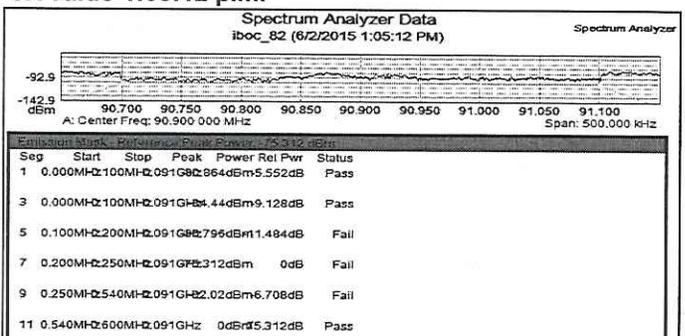
Measurement Parameters		Stop Frequency	91.150 000 MHz
Trace Mode	Normal	Frequency Span	500.000 000 kHz
Preamp	OFF	Reference Level	-42.900 dBm
Min Sweep Time	0.001 S	Scale	10.0 dB/div
Reference Level Offset	0 dB	Serial Number	1444097
Input Attenuation	0.0 dB	Base Ver.	V5.07
RBW	1.0 kHz	App Ver.	V6.45
VBW	10.0 kHz	Model	MS2713E
Detection	Peak	Options	9.25, 31.431, 509
Center Frequency	90.900 000 MHz	Date	6/2/2015 1:04:47 PM
Start Frequency	90.650 000 MHz	Device Name	

2.1 **música 1:04:11 p.m.**



Measurement Parameters		Stop Frequency	91.150 000 MHz
Trace Mode	Normal	Frequency Span	500.000 000 kHz
Preamp	OFF	Reference Level	-42.900 dBm
Min Sweep Time	0.001 S	Scale	10.0 dB/div
Reference Level Offset	0 dB	Serial Number	1444097
Input Attenuation	0.0 dB	Base Ver.	V5.07
RBW	1.0 kHz	App Ver.	V6.45
VBW	10.0 kHz	Model	MS2713E
Detection	Peak	Options	9.25, 31.431, 509
Center Frequency	90.900 000 MHz	Date	6/2/2015 1:04:11 PM
Start Frequency	90.650 000 MHz	Device Name	

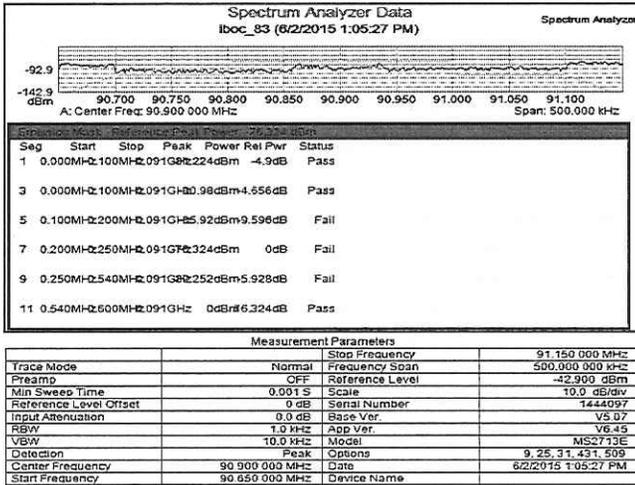
3.1 **ruido 1:05:12 p.m.**



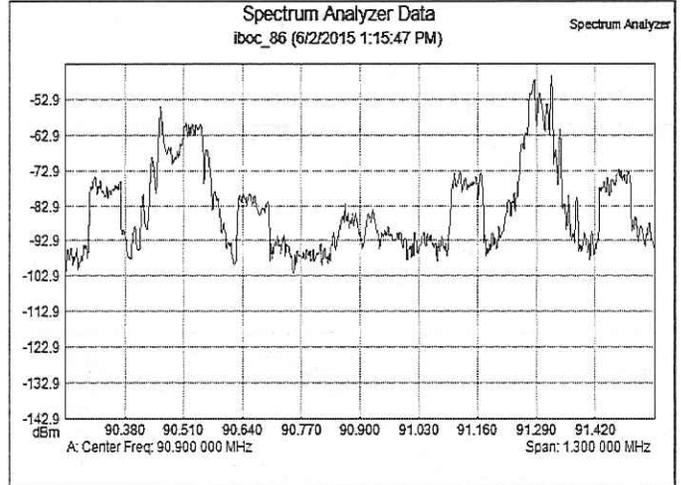
Measurement Parameters		Stop Frequency	91.150 000 MHz
Trace Mode	Normal	Frequency Span	500.000 000 kHz
Preamp	OFF	Reference Level	-42.900 dBm
Min Sweep Time	0.001 S	Scale	10.0 dB/div
Reference Level Offset	0 dB	Serial Number	1444097
Input Attenuation	0.0 dB	Base Ver.	V5.07
RBW	1.0 kHz	App Ver.	V6.45
VBW	10.0 kHz	Model	MS2713E
Detection	Peak	Options	9.25, 31.431, 509
Center Frequency	90.900 000 MHz	Date	6/2/2015 1:05:12 PM
Start Frequency	90.650 000 MHz	Device Name	

NOTA:

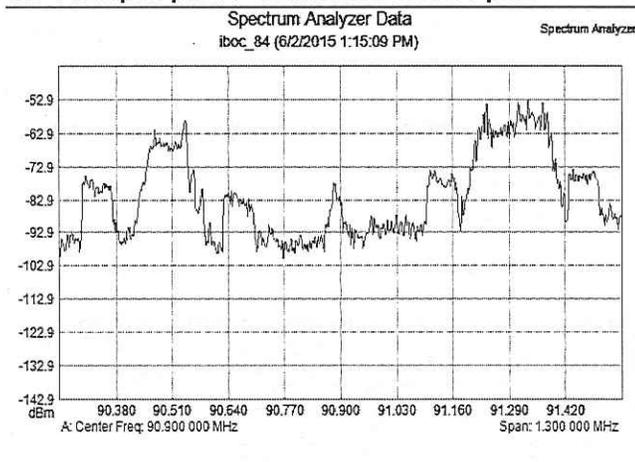
3.2 ruido 1:05:27 p.m.



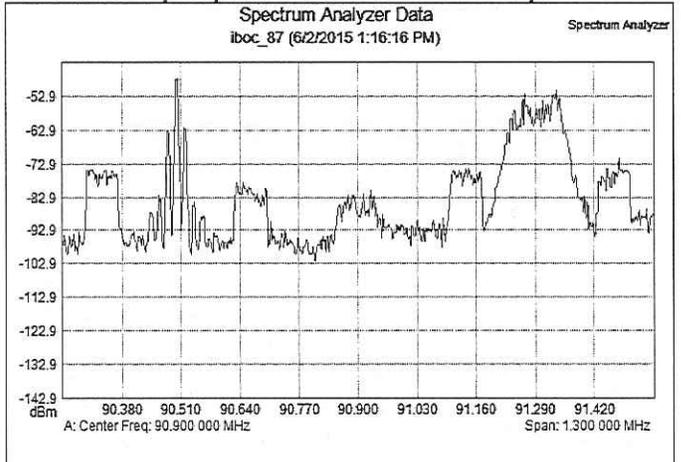
1.3 voz Span para 3 estaciones 1:15:47 p.m.



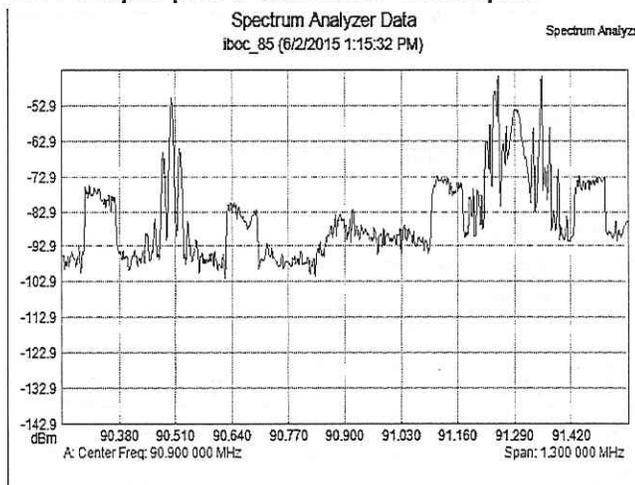
1.1 voz Span para 3 estaciones 1:15:09 p.m.



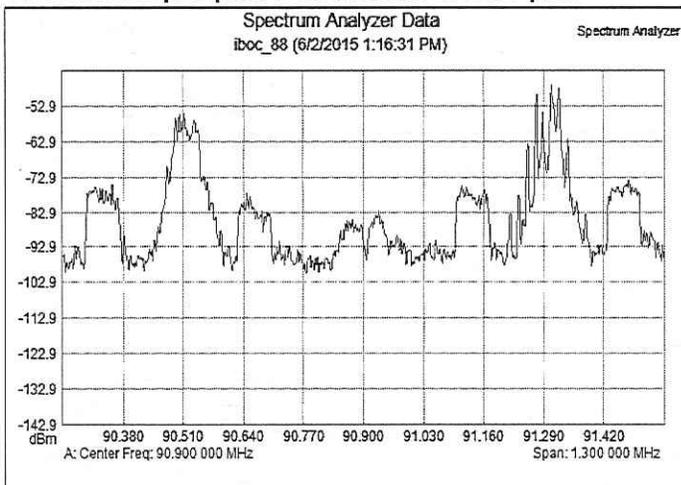
2.1 música Span para 3 estaciones 1:16:16 p.m.



1.2 voz Span para 3 estaciones 1:15:32 p.m.



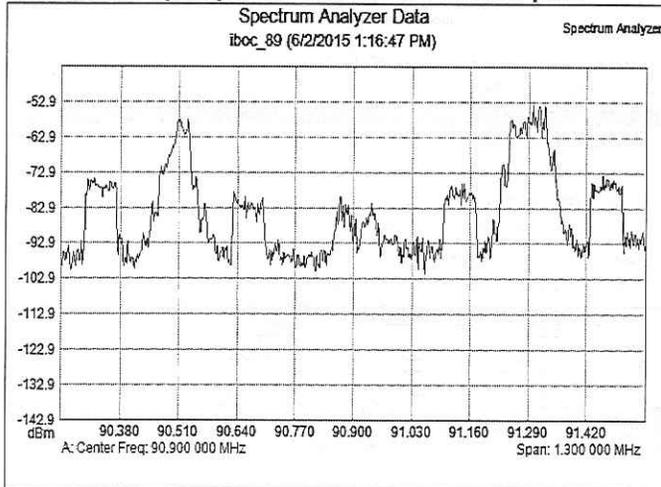
2.2 música Span para 3 estaciones 1:16:31 p.m.



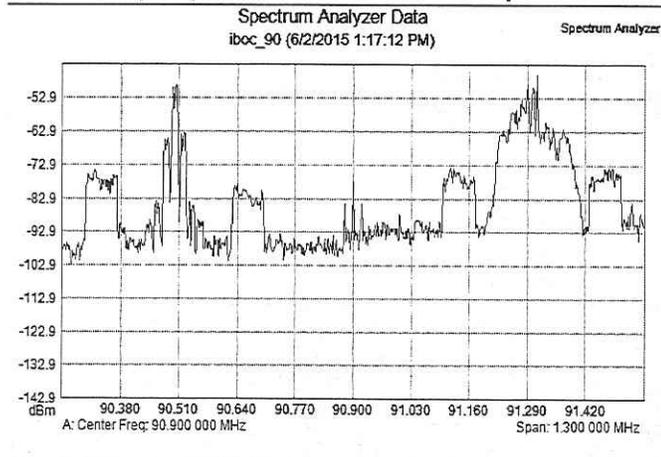
[Handwritten signature and initials]

NOTA: debido a la interrupciones de una dama de la PBI (hubo que explicarle nuestra presencia ahí) se omitieron las convencionales para tres estaciones

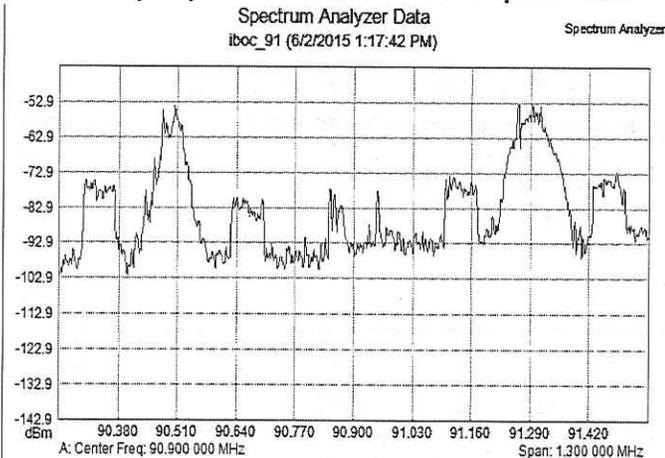
2.3 música Span para 3 estaciones 1:16:47 p.m.



3.1 ruido Span para 3 estaciones 1:17:12 p.m.



3.2 ruido Span para 3 estaciones 1:17:42 p.m.

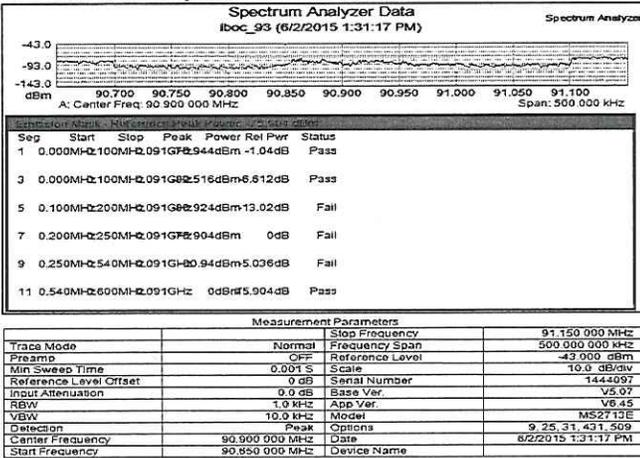




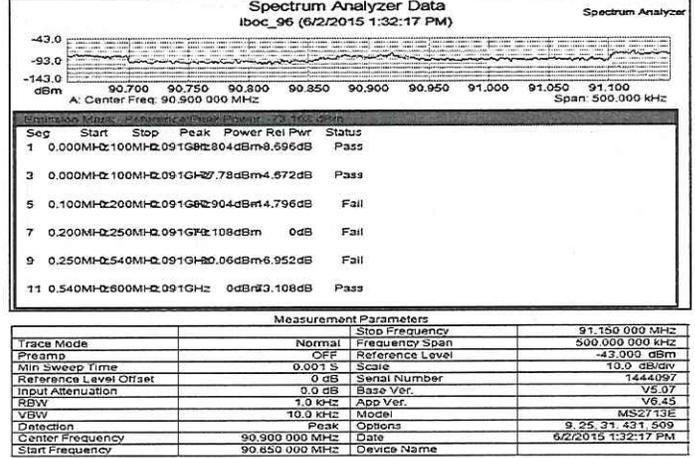
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NOTA: Avisan que hay un corrimiento de los bloques (por haber perdido los dos primeros)

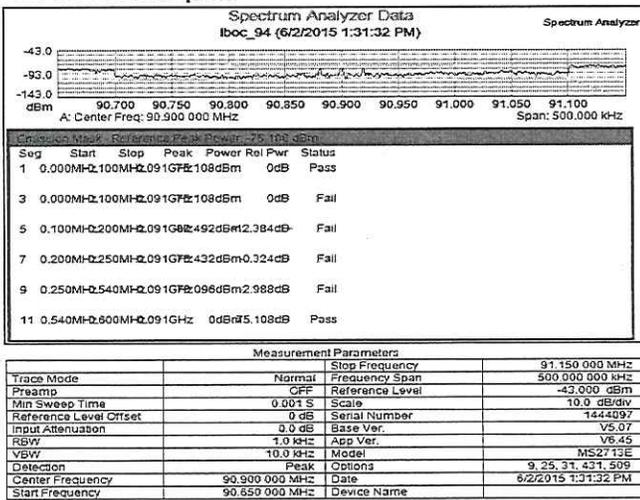
1.1 Voz 1:31:17p.m.



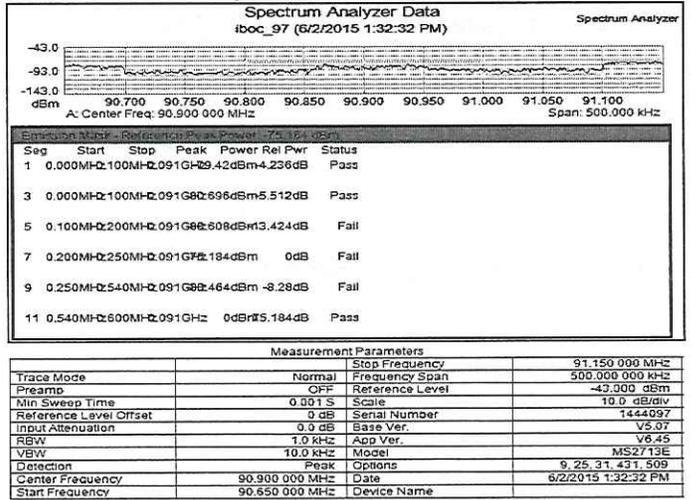
2.1 música 1:32:17p.mp.m.



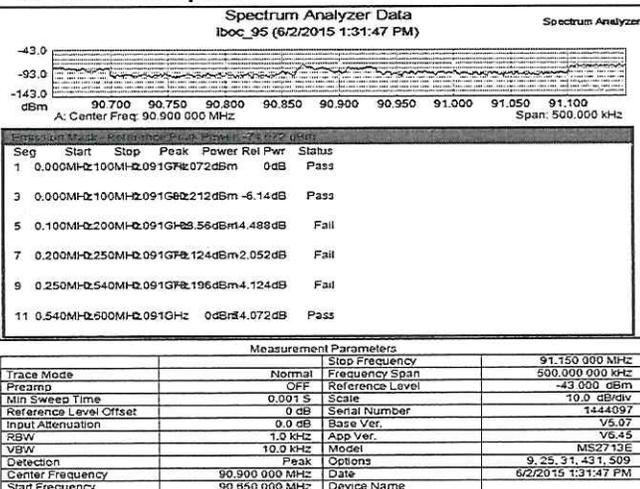
1.2 Voz 1:31:32p.m.



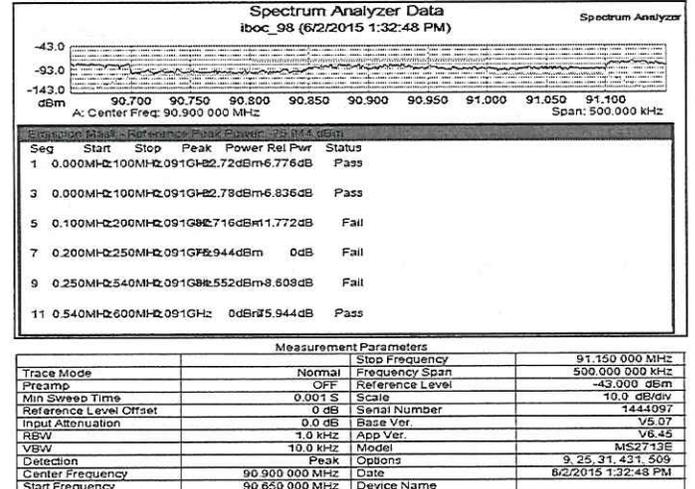
2.2 música 1:32:32p.m.



1.3 Voz 1:31:47p.m.

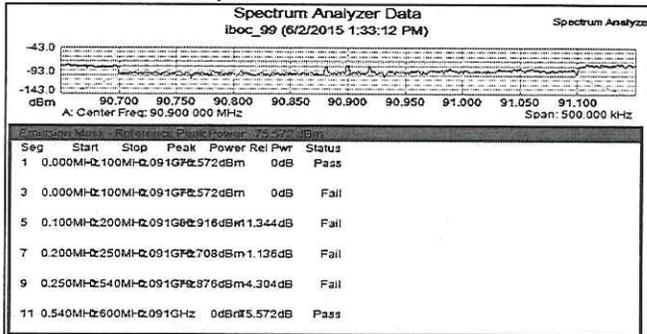


2.3 música 1:32:32p.m.



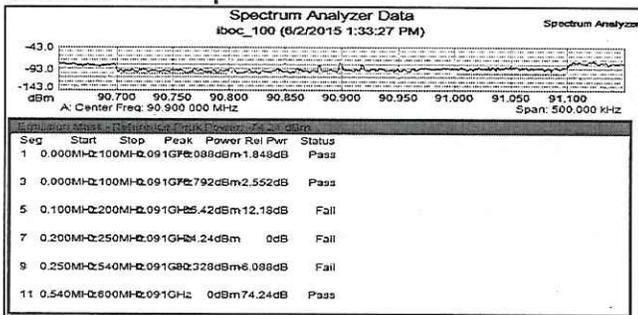
NOTA:

3.1 ruido 1:33:12 p.m.



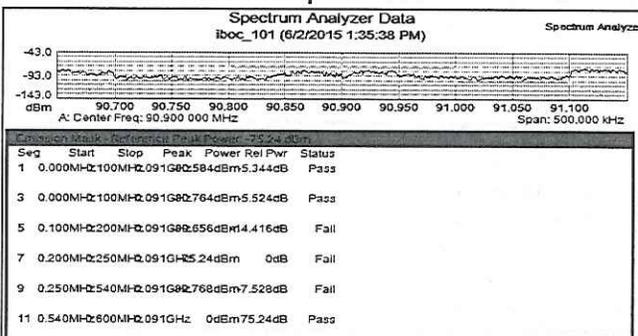
Measurement Parameters			
Trace Mode	Normal	Stop Frequency	91.150 000 MHz
Preamp	OFF	Frequency Span	500.000 000 kHz
Min Sweep Time	0.001 S	Reference Level	-43.000 dBm
Reference Level Offset	0.0 dB	Scale	10.0 dB/div
Input Attenuation	0.0 dB	Serial Number	1444097
RBW	1.0 kHz	Base Ver.	V5.07
VBW	10.0 kHz	App Ver.	V6.45
Detection	Peak	Model	MS2713E
Center Frequency	90.900 000 MHz	Options	9.25.31.431.509
Start Frequency	90.650 000 MHz	Date	6/2/2015 1:33:12 PM
		Device Name	

3.2 ruido 1:33:27 p.m.



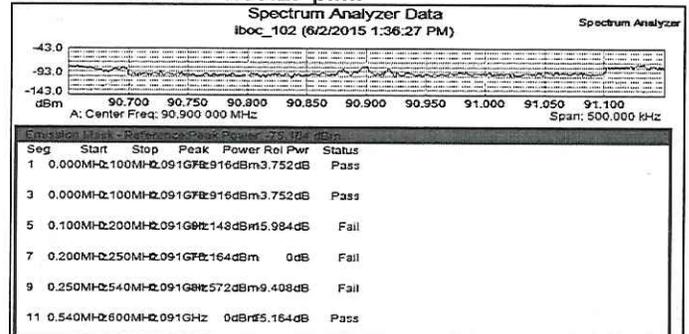
Measurement Parameters			
Trace Mode	Normal	Stop Frequency	91.150 000 MHz
Preamp	OFF	Frequency Span	500.000 000 kHz
Min Sweep Time	0.001 S	Reference Level	-43.000 dBm
Reference Level Offset	0.0 dB	Scale	10.0 dB/div
Input Attenuation	0.0 dB	Serial Number	1444097
RBW	1.0 kHz	Base Ver.	V5.07
VBW	10.0 kHz	App Ver.	V6.45
Detection	Peak	Model	MS2713E
Center Frequency	90.900 000 MHz	Options	9.25.31.431.509
Start Frequency	90.650 000 MHz	Date	6/2/2015 1:33:27 PM
		Device Name	

4.1 convencional 1:35:38 p.m.



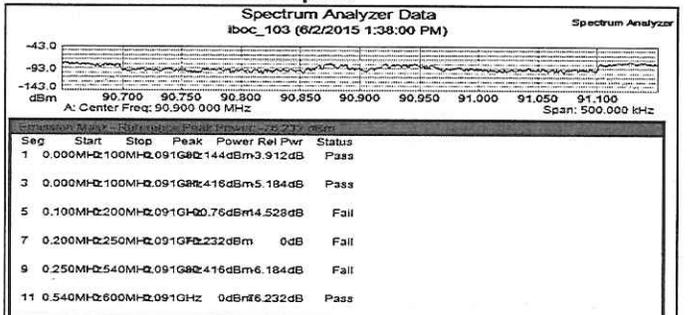
Measurement Parameters			
Trace Mode	Normal	Stop Frequency	91.150 000 MHz
Preamp	OFF	Frequency Span	500.000 000 kHz
Min Sweep Time	0.001 S	Reference Level	-43.000 dBm
Reference Level Offset	0.0 dB	Scale	10.0 dB/div
Input Attenuation	0.0 dB	Serial Number	1444097
RBW	1.0 kHz	Base Ver.	V5.07
VBW	10.0 kHz	App Ver.	V6.45
Detection	Peak	Model	MS2713E
Center Frequency	90.900 000 MHz	Options	9.25.31.431.509
Start Frequency	90.650 000 MHz	Date	6/2/2015 1:35:38 PM
		Device Name	

4.2 convencional 1:36:27 p.m.



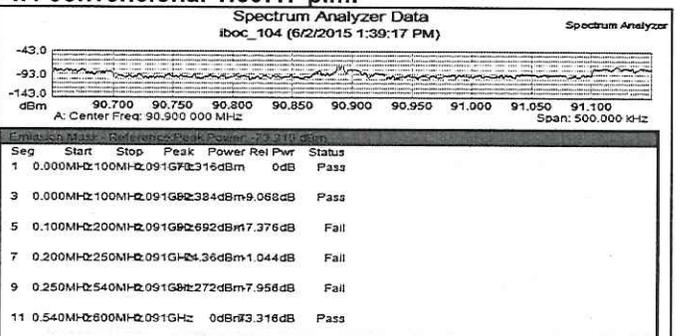
Measurement Parameters			
Trace Mode	Normal	Stop Frequency	91.150 000 MHz
Preamp	OFF	Frequency Span	500.000 000 kHz
Min Sweep Time	0.001 S	Reference Level	-43.000 dBm
Reference Level Offset	0.0 dB	Scale	10.0 dB/div
Input Attenuation	0.0 dB	Serial Number	1444097
RBW	1.0 kHz	Base Ver.	V5.07
VBW	10.0 kHz	App Ver.	V6.45
Detection	Peak	Model	MS2713E
Center Frequency	90.900 000 MHz	Options	9.25.31.431.509
Start Frequency	90.650 000 MHz	Date	6/2/2015 1:36:27 PM
		Device Name	

4.3 convencional 1:38:00 p.m.



Measurement Parameters			
Trace Mode	Normal	Stop Frequency	91.150 000 MHz
Preamp	OFF	Frequency Span	500.000 000 kHz
Min Sweep Time	0.001 S	Reference Level	-43.000 dBm
Reference Level Offset	0.0 dB	Scale	10.0 dB/div
Input Attenuation	0.0 dB	Serial Number	1444097
RBW	1.0 kHz	Base Ver.	V5.07
VBW	10.0 kHz	App Ver.	V6.45
Detection	Peak	Model	MS2713E
Center Frequency	90.900 000 MHz	Options	9.25.31.431.509
Start Frequency	90.650 000 MHz	Date	6/2/2015 1:38:00 PM
		Device Name	

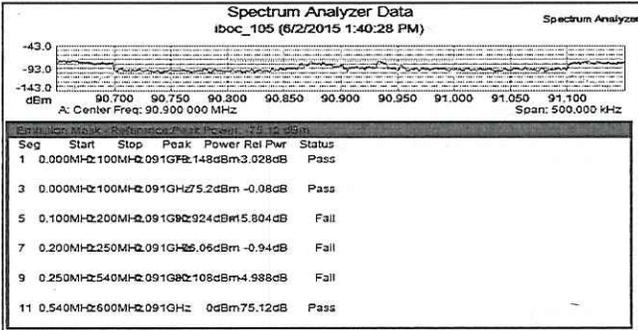
4.4 convencional 1:39:17 p.m.



Measurement Parameters			
Trace Mode	Normal	Stop Frequency	91.150 000 MHz
Preamp	OFF	Frequency Span	500.000 000 kHz
Min Sweep Time	0.001 S	Reference Level	-43.000 dBm
Reference Level Offset	0.0 dB	Scale	10.0 dB/div
Input Attenuation	0.0 dB	Serial Number	1444097
RBW	1.0 kHz	Base Ver.	V5.07
VBW	10.0 kHz	App Ver.	V6.45
Detection	Peak	Model	MS2713E
Center Frequency	90.900 000 MHz	Options	9.25.31.431.509
Start Frequency	90.650 000 MHz	Date	6/2/2015 1:39:17 PM
		Device Name	

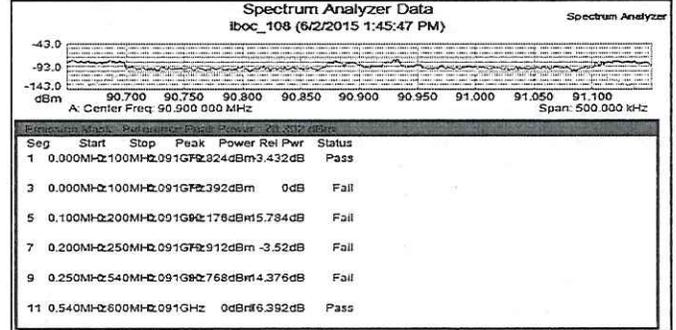
NOTA: Las encargadas del baño vuelven a llamar a la administrativa del IPN y pierdo segmento ruido 3.1 y 3.2

4.5 convencional 1:40:28 p.m.



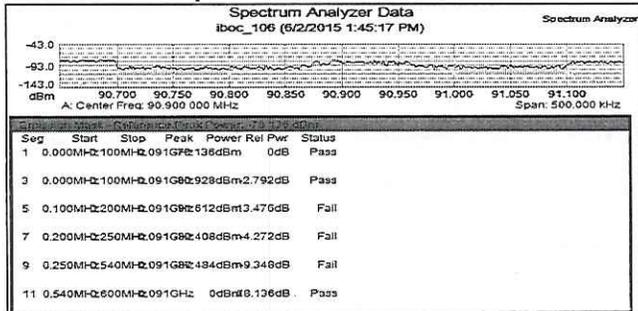
Measurement Parameters			
Trace Mode	Normal	Stop Frequency	91.150 000 MHz
Preamp	OFF	Frequency Span	500.000 000 kHz
Min Sweep Time	0.001 S	Reference Level	-43.000 dBm
Reference Level Offset	0 dB	Scale	10.0 dB/div
Input Attenuation	0.0 dB	Serial Number	1444097
RBW	1.0 kHz	Base Ver.	V5.07
VBW	10.0 kHz	App Ver.	V6.45
Detection	Peak	Model	MS2713E
Center Frequency	90.900 000 MHz	Peak Options	9.25, 31, 431, 509
Start Frequency	90.650 000 MHz	Date	6/2/2015 1:40:28 PM
		Device Name	

1.3 voz 1:45:47p.m.



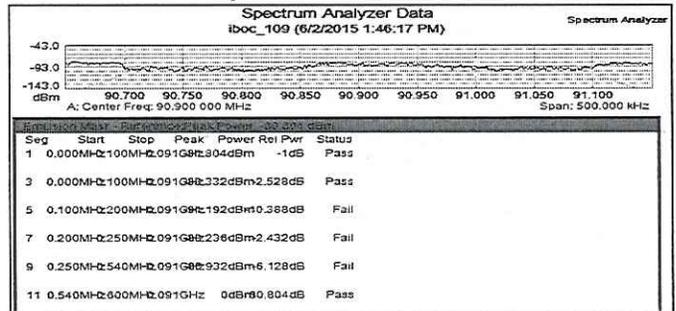
Measurement Parameters			
Trace Mode	Normal	Stop Frequency	91.150 000 MHz
Preamp	OFF	Frequency Span	500.000 000 kHz
Min Sweep Time	0.001 S	Reference Level	-43.000 dBm
Reference Level Offset	0 dB	Scale	10.0 dB/div
Input Attenuation	0.0 dB	Serial Number	1444097
RBW	1.0 kHz	Base Ver.	V5.07
VBW	10.0 kHz	App Ver.	V6.45
Detection	Peak	Model	MS2713E
Center Frequency	90.900 000 MHz	Peak Options	9.25, 31, 431, 509
Start Frequency	90.650 000 MHz	Date	6/2/2015 1:45:47 PM
		Device Name	

1.1 Voz 1:45:17 p.m.



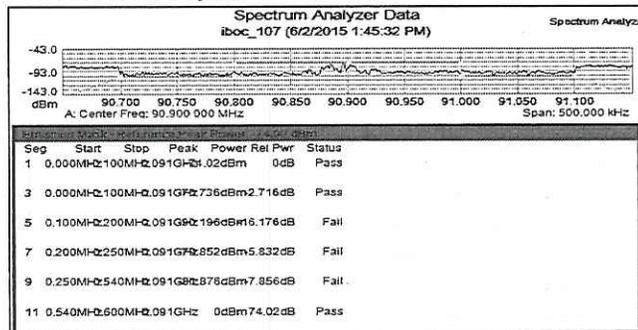
Measurement Parameters			
Trace Mode	Normal	Stop Frequency	91.150 000 MHz
Preamp	OFF	Frequency Span	500.000 000 kHz
Min Sweep Time	0.001 S	Reference Level	-43.000 dBm
Reference Level Offset	0 dB	Scale	10.0 dB/div
Input Attenuation	0.0 dB	Serial Number	1444097
RBW	1.0 kHz	Base Ver.	V5.07
VBW	10.0 kHz	App Ver.	V6.45
Detection	Peak	Model	MS2713E
Center Frequency	90.900 000 MHz	Peak Options	9.25, 31, 431, 509
Start Frequency	90.650 000 MHz	Date	6/2/2015 1:45:17 PM
		Device Name	

2.1 música 1:46:17p.m.



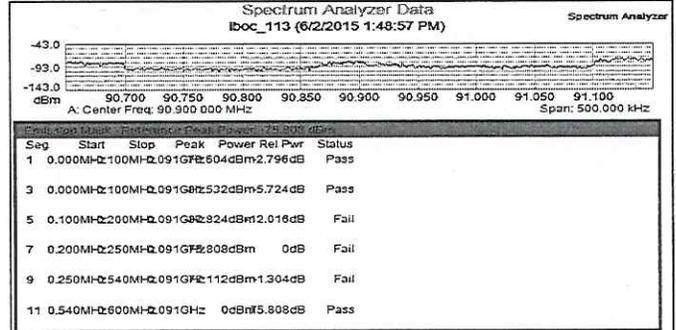
Measurement Parameters			
Trace Mode	Normal	Stop Frequency	91.150 000 MHz
Preamp	OFF	Frequency Span	500.000 000 kHz
Min Sweep Time	0.001 S	Reference Level	-43.000 dBm
Reference Level Offset	0 dB	Scale	10.0 dB/div
Input Attenuation	0.0 dB	Serial Number	1444097
RBW	1.0 kHz	Base Ver.	V5.07
VBW	10.0 kHz	App Ver.	V6.45
Detection	Peak	Model	MS2713E
Center Frequency	90.900 000 MHz	Peak Options	9.25, 31, 431, 509
Start Frequency	90.650 000 MHz	Date	6/2/2015 1:46:17 PM
		Device Name	

1.2 Voz 1:45:32 p.m.



Measurement Parameters			
Trace Mode	Normal	Stop Frequency	91.150 000 MHz
Preamp	OFF	Frequency Span	500.000 000 kHz
Min Sweep Time	0.001 S	Reference Level	-43.000 dBm
Reference Level Offset	0 dB	Scale	10.0 dB/div
Input Attenuation	0.0 dB	Serial Number	1444097
RBW	1.0 kHz	Base Ver.	V5.07
VBW	10.0 kHz	App Ver.	V6.45
Detection	Peak	Model	MS2713E
Center Frequency	90.900 000 MHz	Peak Options	9.25, 31, 431, 509
Start Frequency	90.650 000 MHz	Date	6/2/2015 1:45:32 PM
		Device Name	

4.1 convencional 1:48:57 p.m.

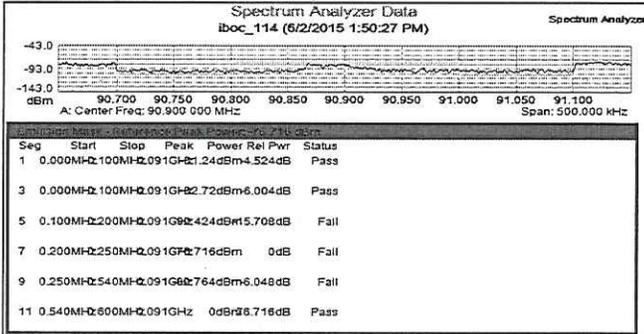


Measurement Parameters			
Trace Mode	Normal	Stop Frequency	91.150 000 MHz
Preamp	OFF	Frequency Span	500.000 000 kHz
Min Sweep Time	0.001 S	Reference Level	-43.000 dBm
Reference Level Offset	0 dB	Scale	10.0 dB/div
Input Attenuation	0.0 dB	Serial Number	1444097
RBW	1.0 kHz	Base Ver.	V5.07
VBW	10.0 kHz	App Ver.	V6.45
Detection	Peak	Model	MS2713E
Center Frequency	90.900 000 MHz	Peak Options	9.25, 31, 431, 509
Start Frequency	90.650 000 MHz	Date	6/2/2015 1:48:57 PM
		Device Name	

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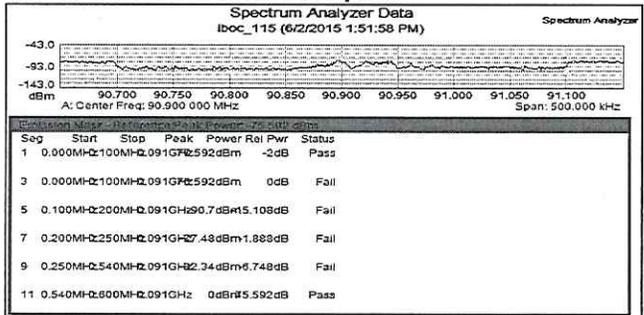
NOTA:

4.2 convencional 1:50:27 p.m.



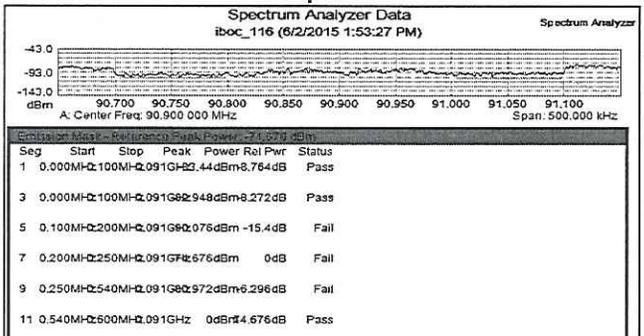
Measurement Parameters			
Trace Mode	Normal	Stop Frequency	91.150 000 MHz
Preamp	OFF	Frequency Span	500.000 000 kHz
Min Sweep Time	0.001 S	Reference Level	-43.000 dBm
Reference Level Offset	0 dB	Scale	10.0 dB/dv
Input Attenuation	0.0 dB	Serial Number	1444097
RBW	1.0 kHz	Base Ver.	V5.07
VBW	10.0 kHz	App Ver.	V6.45
Detection	Peak	Model	MS2713E
Center Frequency	90.900 000 MHz	Options	9.25.31.431.509
Start Frequency	90.650 000 MHz	Date	6/2/2015 1:50:27 PM
		Device Name	

4.3 convencional 1:51:58:17 p.m.



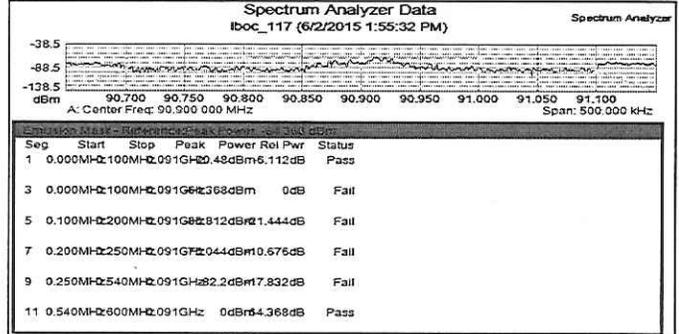
Measurement Parameters			
Trace Mode	Normal	Stop Frequency	91.150 000 MHz
Preamp	OFF	Frequency Span	500.000 000 kHz
Min Sweep Time	0.001 S	Reference Level	-43.000 dBm
Reference Level Offset	0 dB	Scale	10.0 dB/dv
Input Attenuation	0.0 dB	Serial Number	1444097
RBW	1.0 kHz	Base Ver.	V5.07
VBW	10.0 kHz	App Ver.	V6.45
Detection	Peak	Model	MS2713E
Center Frequency	90.900 000 MHz	Options	9.25.31.431.509
Start Frequency	90.650 000 MHz	Date	6/2/2015 1:51:58 PM
		Device Name	

4.4 convencional 1:53:27 p.m.



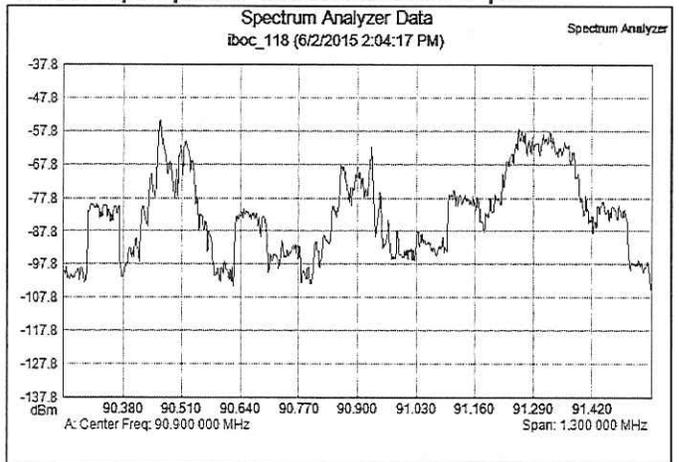
Measurement Parameters			
Trace Mode	Normal	Stop Frequency	91.150 000 MHz
Preamp	OFF	Frequency Span	500.000 000 kHz
Min Sweep Time	0.001 S	Reference Level	-43.000 dBm
Reference Level Offset	0 dB	Scale	10.0 dB/dv
Input Attenuation	0.0 dB	Serial Number	1444097
RBW	1.0 kHz	Base Ver.	V5.07
VBW	10.0 kHz	App Ver.	V6.45
Detection	Peak	Model	MS2713E
Center Frequency	90.900 000 MHz	Options	9.25.31.431.509
Start Frequency	90.650 000 MHz	Date	6/2/2015 1:53:27 PM
		Device Name	

4.5 convencional 1:55:32 p.m.

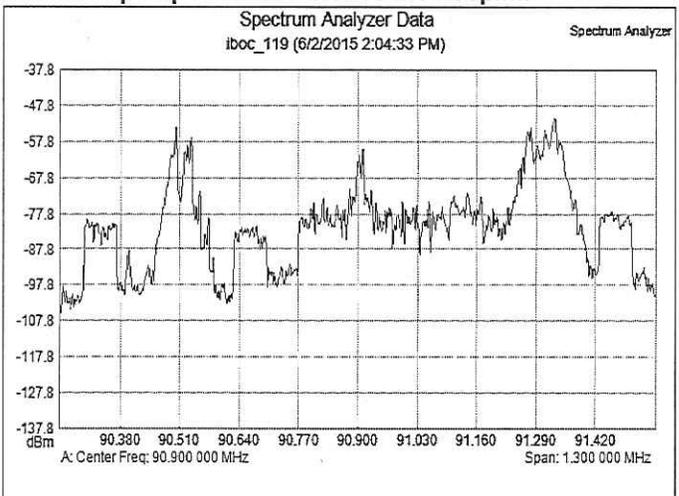


Measurement Parameters			
Trace Mode	Normal	Stop Frequency	91.150 000 MHz
Preamp	OFF	Frequency Span	500.000 000 kHz
Min Sweep Time	0.001 S	Reference Level	-38.500 dBm
Reference Level Offset	0 dB	Scale	10.0 dB/dv
Input Attenuation	0.0 dB	Serial Number	1444097
RBW	1.0 kHz	Base Ver.	V5.07
VBW	10.0 kHz	App Ver.	V6.45
Detection	Peak	Model	MS2713E
Center Frequency	90.900 000 MHz	Options	9.25.31.431.509
Start Frequency	90.650 000 MHz	Date	6/2/2015 1:55:32 PM
		Device Name	

1.1 Voz Span para 3 estaciones 2:04:17 p.m.



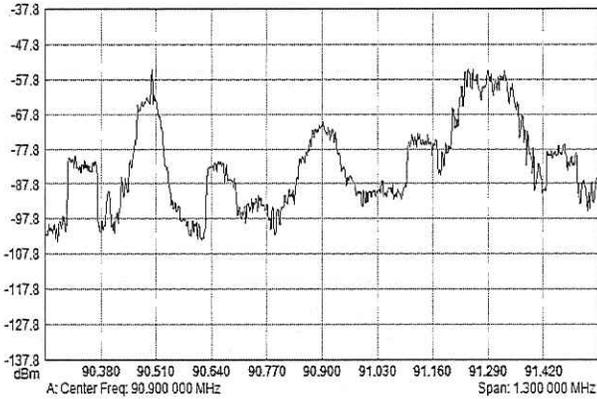
1.2 Voz Span para 3 estaciones 2:04:33 p.m.



NOTA:

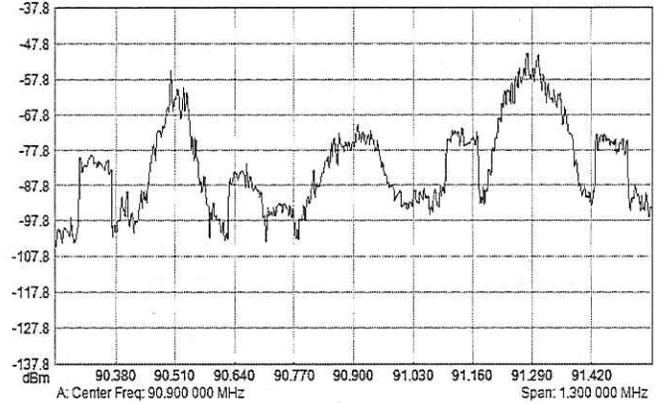
1.3 Voz Span para 3 estaciones 2:04:49 p.m.

Spectrum Analyzer Data
iboc_120 (6/2/2015 2:04:49 PM) Spectrum Analyzer



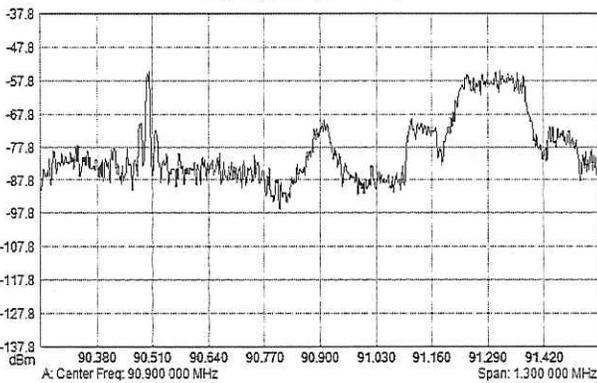
2.3 música Span para 3 estaciones 2:05:49 p.m.

Spectrum Analyzer Data
iboc_123 (6/2/2015 2:05:49 PM) Spectrum Analyzer



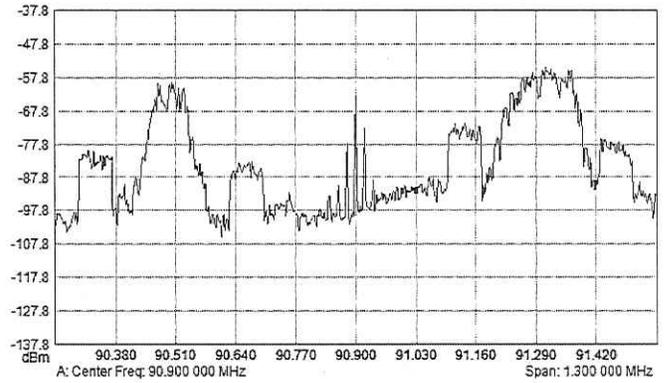
2.1 música Span para 3 estaciones 2:05:17 p.m.

Spectrum Analyzer Data
iboc_121 (6/2/2015 2:05:17 PM) Spectrum Analyzer



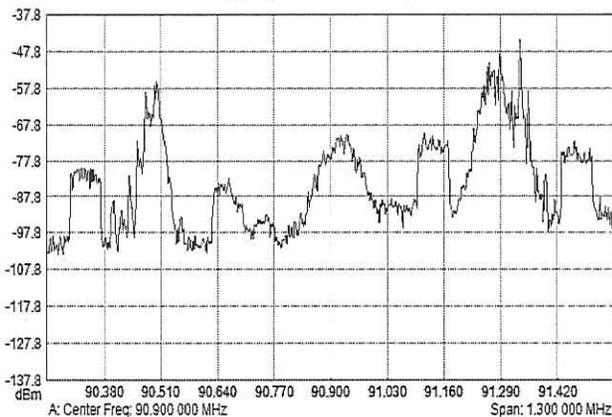
3.1 ruido Span para 3 estaciones 2:06:12 p.m.

Spectrum Analyzer Data
iboc_124 (6/2/2015 2:06:12 PM) Spectrum Analyzer



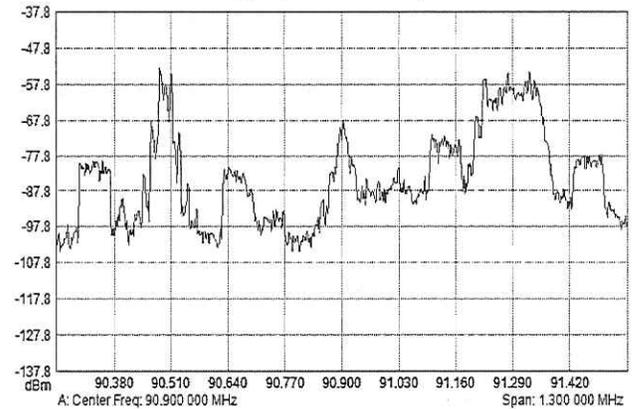
2.2 música Span para 3 estaciones 2:05:34 p.m.

Spectrum Analyzer Data
iboc_122 (6/2/2015 2:05:34 PM) Spectrum Analyzer



3.2 ruido Span para 3 estaciones 2:06:26 p.m.

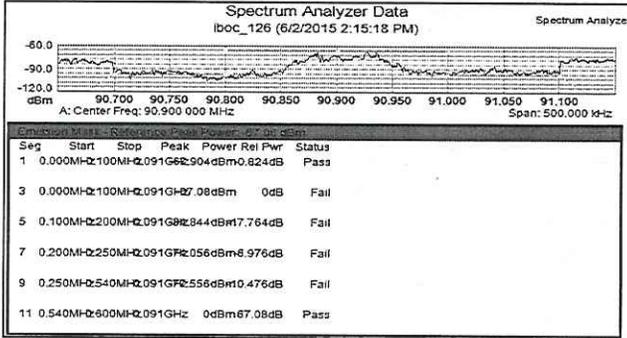
Spectrum Analyzer Data
iboc_125 (6/2/2015 2:06:26 PM) Spectrum Analyzer



Handwritten signature and initials in blue ink.

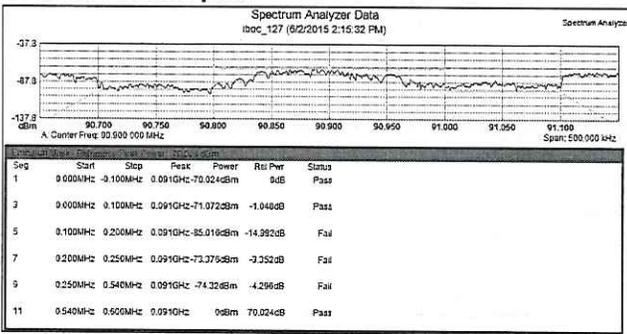
NOTA:

1.1 Voz 2:15:18 p.m.



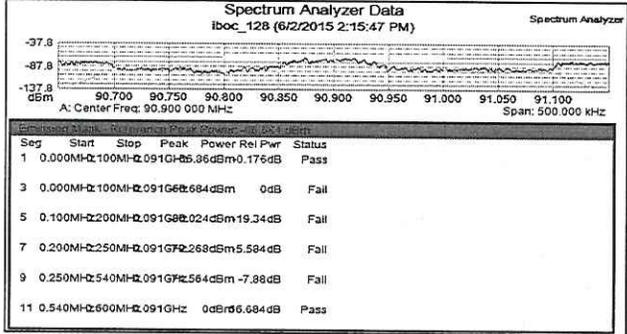
Seg	Start	Stop	Peak	Power	Rel Pwr	Status
1	0.000MHz	100MHz	0.91GHz	66.904dBm	0.24dB	Pass
3	0.000MHz	100MHz	0.91GHz	0.08dBm	0dB	Fail
5	0.100MHz	200MHz	0.91GHz	84.4dBm	17.764dB	Fail
7	0.200MHz	250MHz	0.91GHz	0.56dBm	6.976dB	Fail
9	0.250MHz	540MHz	0.91GHz	5.56dBm	0.476dB	Fail
11	0.540MHz	600MHz	0.91GHz	0dBm	67.08dB	Pass

1.2 Voz 2:15:32 p.m.



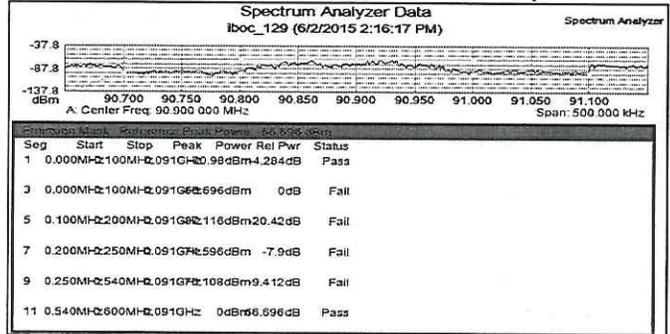
Seg	Start	Stop	Peak	Power	Rel Pwr	Status
1	0.000MHz	100MHz	0.91GHz	70.024dBm	0dB	Pass
3	0.000MHz	100MHz	0.91GHz	-71.072dBm	-10.40dB	Pass
5	0.100MHz	0.200MHz	0.91GHz	85.019dBm	-14.992dB	Fail
7	0.200MHz	0.250MHz	0.91GHz	-73.379dBm	-2.352dB	Fail
9	0.250MHz	0.540MHz	0.91GHz	-74.320dBm	-4.296dB	Fail
11	0.540MHz	0.600MHz	0.91GHz	0dBm	70.024dB	Pass

1.3 Voz 2:15:47 p.m.



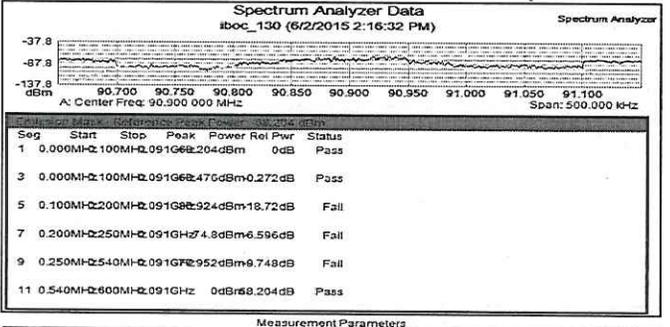
Seg	Start	Stop	Peak	Power	Rel Pwr	Status
1	0.000MHz	100MHz	0.91GHz	66.366dBm	0.175dB	Pass
3	0.000MHz	100MHz	0.91GHz	0.684dBm	0dB	Fail
5	0.100MHz	200MHz	0.91GHz	82.024dBm	19.34dB	Fail
7	0.200MHz	250MHz	0.91GHz	2.68dBm	5.584dB	Fail
9	0.250MHz	540MHz	0.91GHz	5.64dBm	-7.88dB	Fail
11	0.540MHz	600MHz	0.91GHz	0dBm	65.684dB	Pass

2.1 música Span para 3 estaciones 2:16:17 p.m.



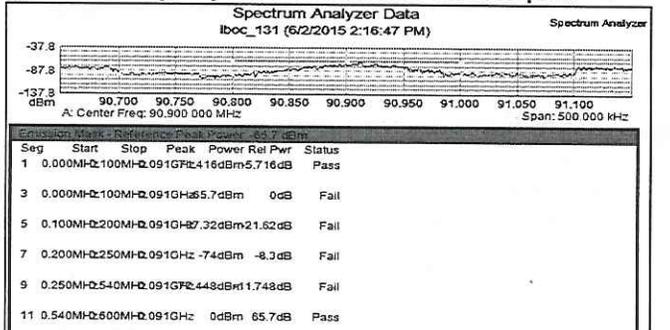
Seg	Start	Stop	Peak	Power	Rel Pwr	Status
1	0.000MHz	100MHz	0.91GHz	80.984dBm	4.284dB	Pass
3	0.000MHz	100MHz	0.91GHz	0.696dBm	0dB	Fail
5	0.100MHz	200MHz	0.91GHz	116.6dBm	20.42dB	Fail
7	0.200MHz	250MHz	0.91GHz	5.96dBm	-7.9dB	Fail
9	0.250MHz	540MHz	0.91GHz	10.8dBm	9.412dB	Fail
11	0.540MHz	600MHz	0.91GHz	0dBm	65.696dB	Pass

2.2 música Span para 3 estaciones 2:16:32 p.m.



Seg	Start	Stop	Peak	Power	Rel Pwr	Status
1	0.000MHz	100MHz	0.91GHz	68.204dBm	0dB	Pass
3	0.000MHz	100MHz	0.91GHz	47.0dBm	0.272dB	Pass
5	0.100MHz	200MHz	0.91GHz	92.4dBm	18.72dB	Fail
7	0.200MHz	250MHz	0.91GHz	4.8dBm	6.596dB	Fail
9	0.250MHz	540MHz	0.91GHz	9.52dBm	9.748dB	Fail
11	0.540MHz	600MHz	0.91GHz	0dBm	68.204dB	Pass

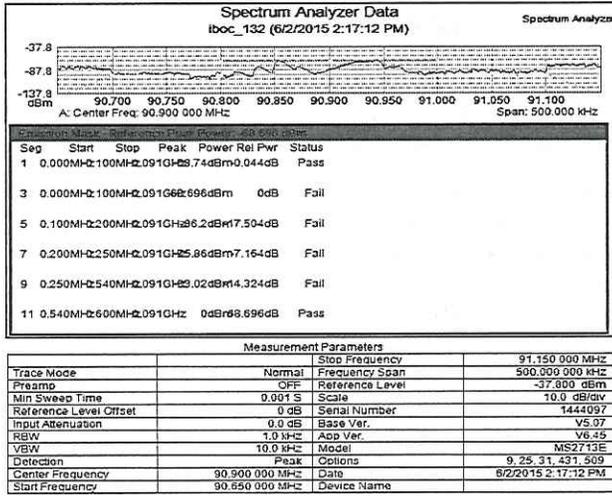
2.3 música Span para 3 estaciones 2:16:47 p.m.



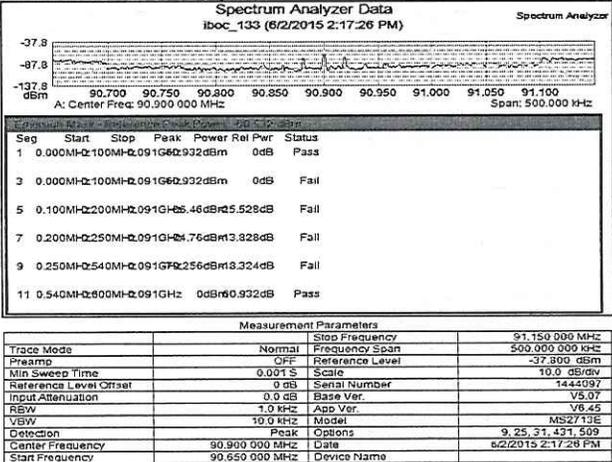
Seg	Start	Stop	Peak	Power	Rel Pwr	Status
1	0.000MHz	100MHz	0.91GHz	44.16dBm	5.716dB	Pass
3	0.000MHz	100MHz	0.91GHz	5.7dBm	0dB	Fail
5	0.100MHz	200MHz	0.91GHz	87.32dBm	21.62dB	Fail
7	0.200MHz	250MHz	0.91GHz	-7.4dBm	-8.3dB	Fail
9	0.250MHz	540MHz	0.91GHz	4.48dBm	1.748dB	Fail
11	0.540MHz	600MHz	0.91GHz	0dBm	65.7dB	Pass

NOTA:

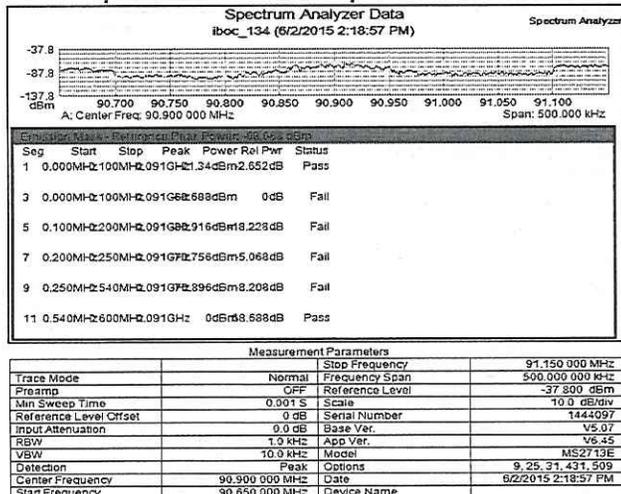
3.1 ruido 2:17:12 p.m.



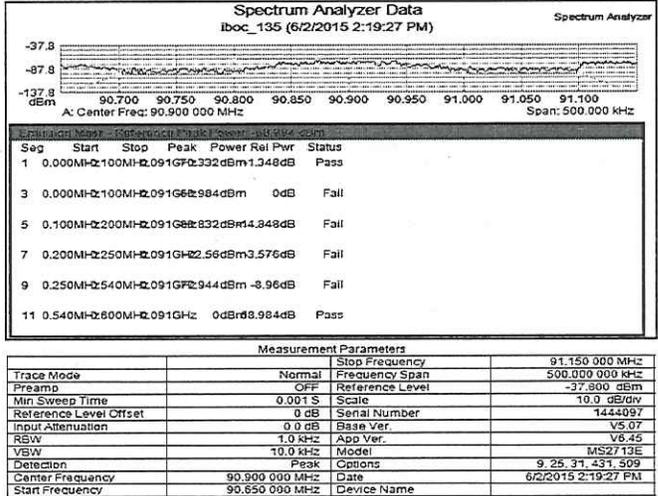
3.2 ruido 2:17:26 p.m.



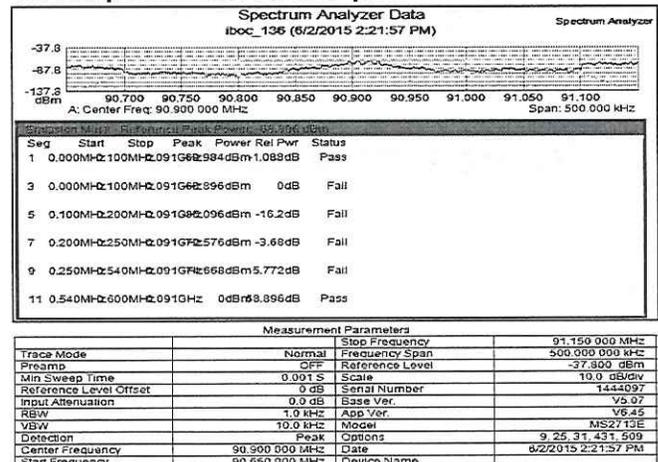
4.1 complementaria 2:18:57 p.m.



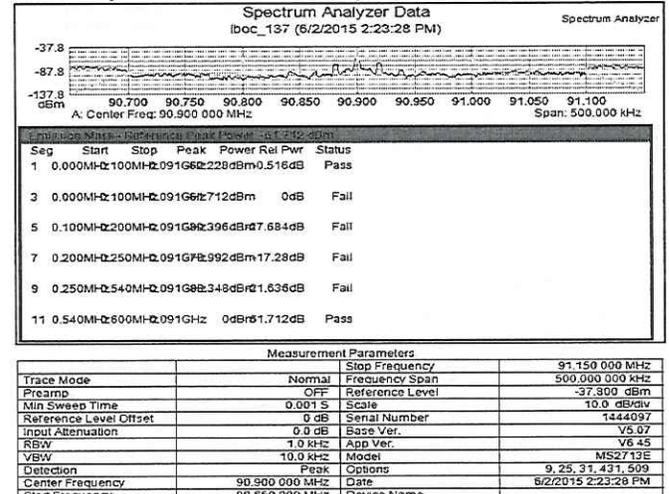
4.2 complementaria 2:19:27 p.m.



4.3 complementaria 2:21:57 p.m.



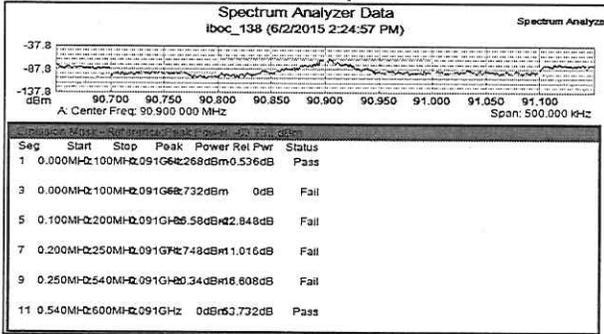
4.4 complementaria 2:23:28 p.m.



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NOTA:

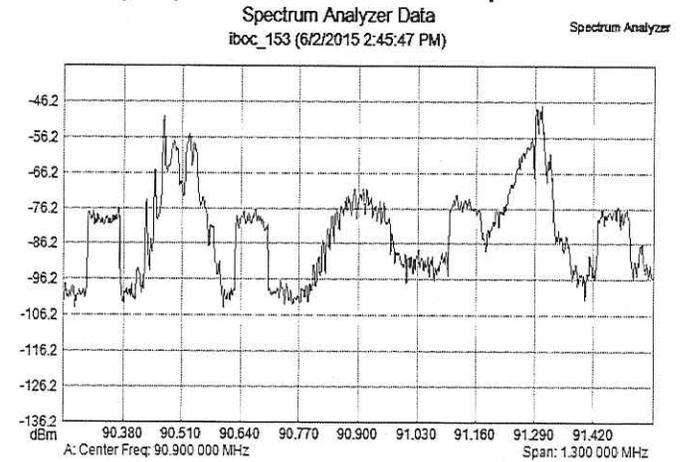
4.5 complementaria 2:24:57 p.m.



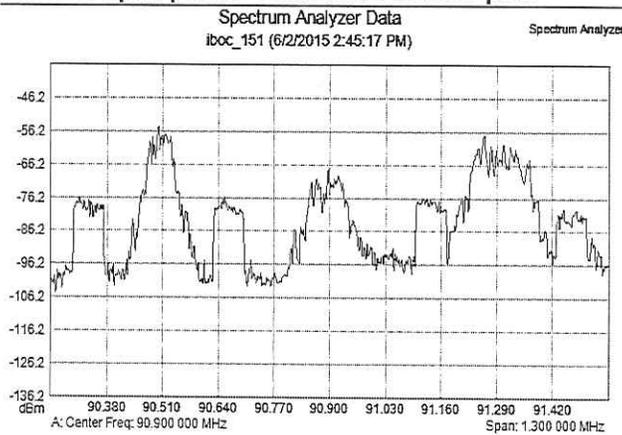
Measurement Parameters

Trace Mode	Normal	Stop Frequency	91.150 000 MHz
Preamp	OFF	Frequency Span	500.000 000 kHz
Min Sweep Time	0.001 S	Reference Level	-37.800 dBm
Reference Level Offset	0 dB	Scale	10.0 dB/dv
Input Attenuation	0 dB	Serial Number	1444097
RBW	1.0 kHz	Base Ver.	V5.07
VBW	10.0 kHz	App Ver.	V6.45
Detection	Peak	Model	MS2713E
Center Frequency	90.900 000 MHz	Options	9, 25, 31, 431, 509
Span Frequency	90.850 000 MHz	Date	6/2/2015 2:24:57 PM
		Device Name	

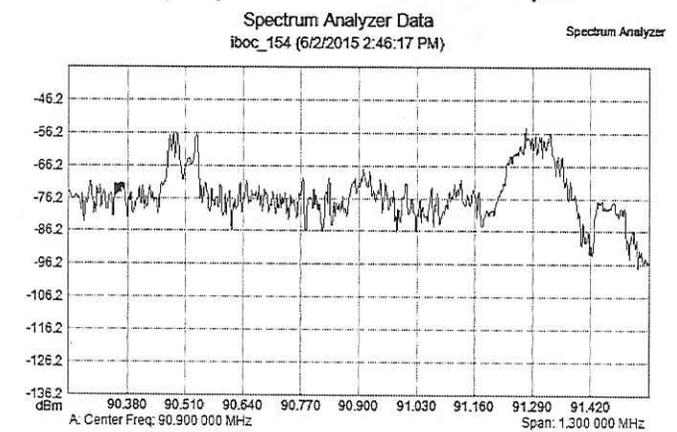
1.3 Voz Span para 3 estaciones 2:45:47 p.m



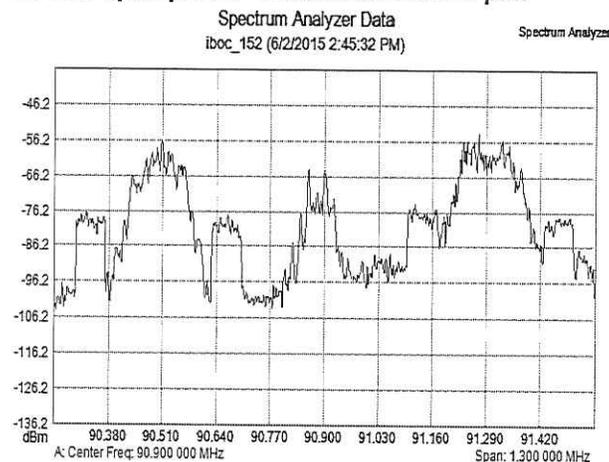
1.1 Voz Span para 3 estaciones 2:45:17 p.m.



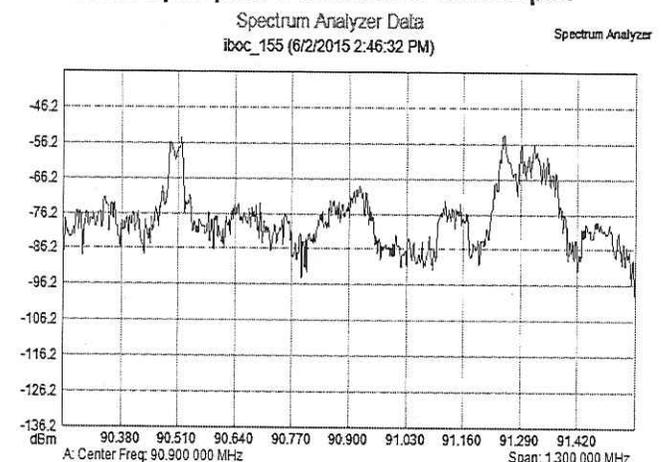
2.1 música Span para 3 estaciones 2:46:17 p.m



1.2 Voz Span para 3 estaciones 2:45:32 p.m



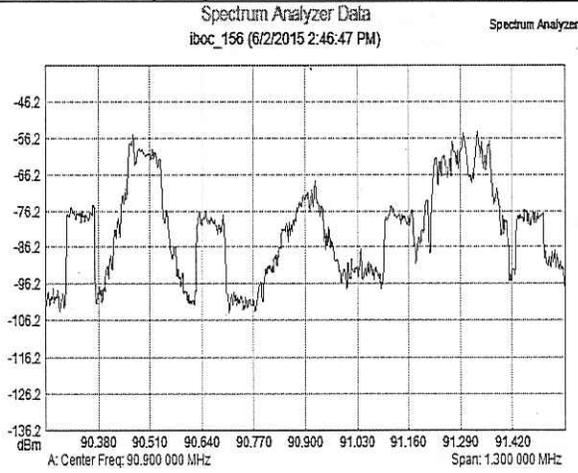
2.2 música Span para 3 estaciones 2:46:32 p.m



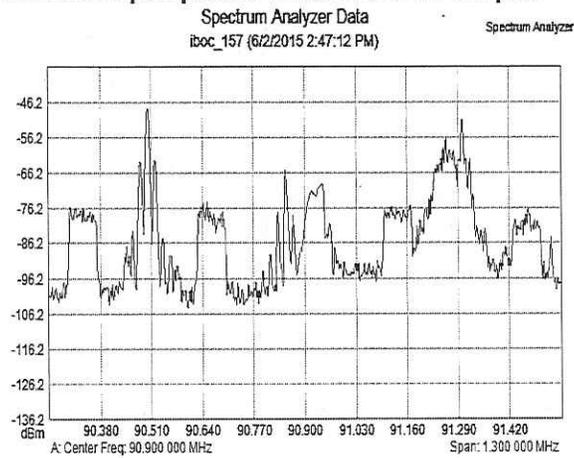
[Handwritten blue marks and signatures]

NOTA: En este momento llegó un PBI a solicitarme mi permiso para permanecer en las instalaciones, lo cual me impidió tomar las mediciones complementarias, y aunque volví a ingresar minutos después, se le bajó la batería al analizador.

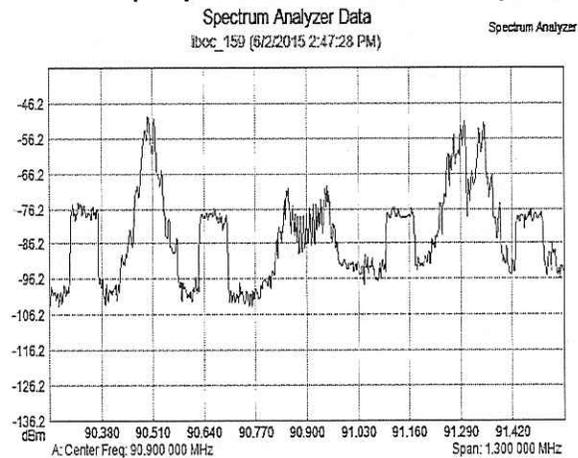
2.3 música Span para 3 estaciones 2:46:47 p.m



3.1 ruido Span para 3 estaciones 2:47:12 p.m



3.2 ruido Span para 3 estaciones 2:47:28 p.m



INFORME DE RADIOMONITOREO

REPORTE No. IFT/ 201 /2015

LUGAR DE ESTUDIO: _____ ESIME ZACATENCO
 USUARIO: _____ RADIO IBERO
 FRECUENCIA: _____ 90.9 MHz
 INDICATIVO : _____ XHUIA
 BANDA: _____ VHF TIPO DE SERVICIO: _____ RADIODIFUSIÓN EN FM
 MODO DE OPERACIÓN: _____ BROADCAST TIPO DE EMISIÓN: _____ 240K0F3
 HORARIO QUE OPERA: _____ 24 HRS.

IRREGULARIDADES DETECTADAS

N/A	USUARIO NO AUTORIZADO	N/A	EXCEDE TOLERANCIA EN FRECUENCIA
N/A	NO USA SUS INDICATIVOS	N/A	SOBREMODULA
N/A	FREC. NO AUTORIZADA	N/A	HORARIO NO AUTORIZADO
N/A	TRAFICO NO AUTORIZADO	N/A	OPERA FUERA DE BANDA
N/A	TRAFICO EN CLAVE	N/A	EXCEDE ANCHO DE BANDA
N/A	RADIACIONES NO ESENCIALES	N/A	USUARIO NO IDENTIFICADO

OBSERVACIONES

PERIODO DE OBSERVACIÓN DEL 2 DE Junio AL 2 DE Junio DEL 2015.
 DETECTASE OPERAR A ESTACIÓN (ES) IDENTIFICÁNDOSE COMO: _____ Radio ibero
 TRAFICO RELATIVO A: _____ Pruebas de audio, música y programación diversa
 EQUIPO UTILIZADO: _____ Analizador de Espectro portátil Anritsu MS2713E y antena omnidireccional.
 FRECUENCIA MEDIDA EN LA ESTACION (ES) FIJA (S): _____ 90.9 MHz
 FRECUENCIA MEDIDA PARA SUS MÓVILES: _____ N/A
 OBSERVACIONES: En atención a la solicitud de apoyo de la Unidad de Espectro, se efectuaron mediciones a la estación radiodifusora en comento dentro de los tiempos solicitados por dicha Unidad, en un Estacionamiento dentro de las instalaciones del ESIME Zacatenco.
 Cabe mencionar que debido a problemas de coordinación entre el personal de la Unidad de Espectro y el personal del ESIME Zacatenco, las mediciones se realizaron desde una ubicación diferente a la acordada, lo cual ocasionó descoordinación y desfases en los tiempos programados para efectuar las mediciones. Se anexan gráficas con los resultados de medición obtenidos.
 UBICACIÓN: Estacionamiento ubicado en Manuel de anda y Barredo al interior del ESIME Zacatenco
 LATITUD: 19°29'53.00"N DOA: _____ No aplica OTROS: _____ No aplica
 LONG: 99° 8'9.55"O LPDF: _____ No aplica

LUGAR Y FECHA DE ELABORACIÓN: _____ México, D.F., a 15 de junio de 2015.

HORA DE ELABORACION: _____ 11:01 Hrs.

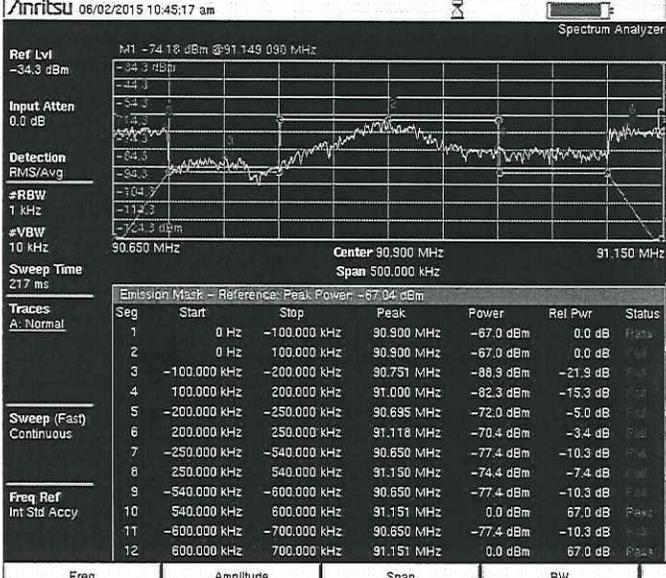

 Fernando Ramírez Suárez
 Jefe de Departamento de Vigilancia
 del Espectro Radioeléctrico

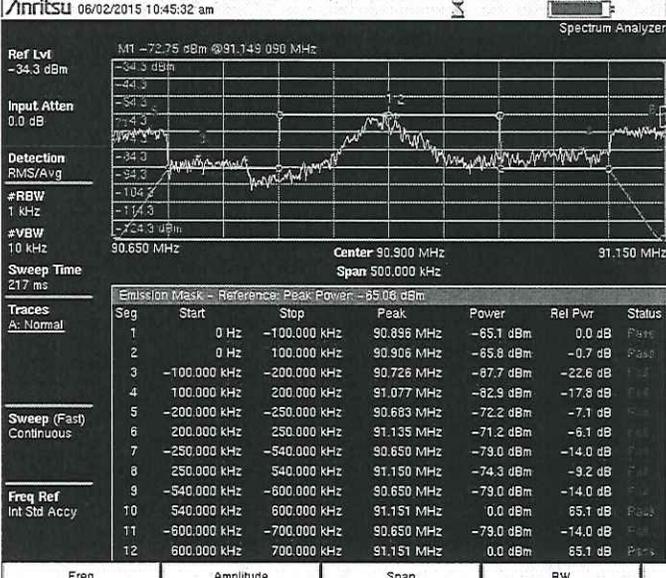
OPERADOR (ES)
 TELECOMUNICACIONES
 22 JUN 2015
 RECIBIDO
 HORA: _____ PÁGINA 1 DE 58

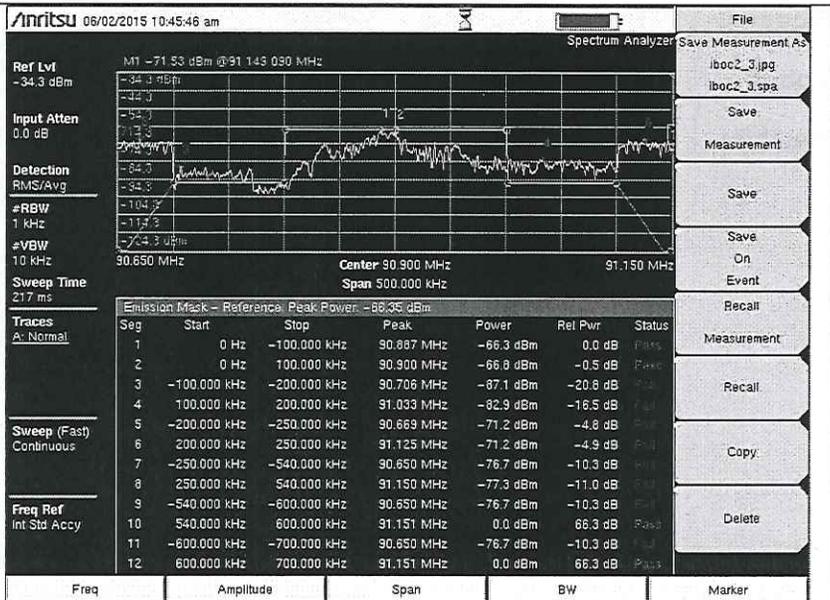

 Vo.-Bo. C. Roberto Salas Gutierrez
 Subdirector de Vigilancia del Espectro
 Radioeléctrico

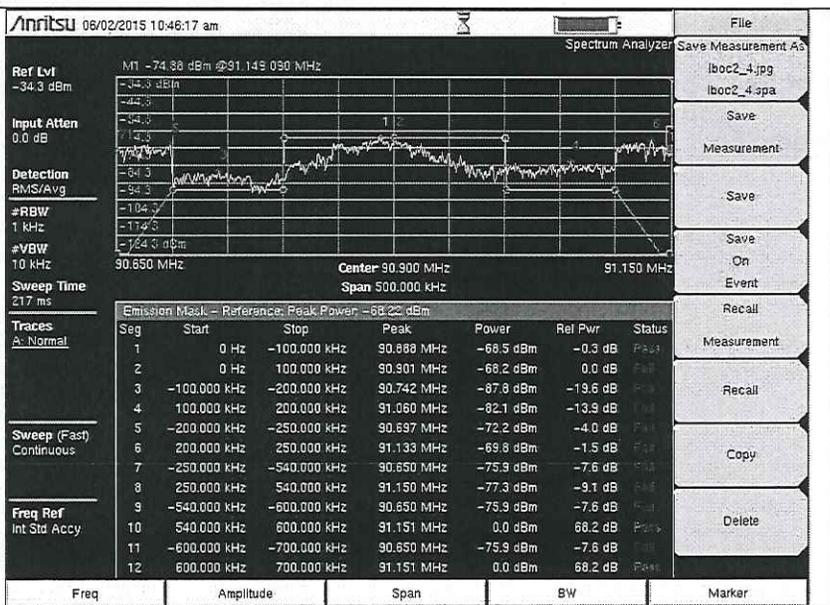


GRÁFICAS

Escenario	1- Potencia Nominal		<p>File</p> <p>Save Measurement As iboc2_1.jpg iboc2_1.spa</p> <p>Save</p> <p>Measurement</p> <p>Save</p> <p>Save On Event</p> <p>Recall</p> <p>Measurement</p> <p>Recall</p> <p>Copy</p> <p>Delete</p>																																																																																										
Bloque	3																																																																																												
Medición	1.1																																																																																												
VOZ		<p>Ref Lvl -34.3 dBm</p> <p>Input Atten 0.0 dB</p> <p>Detection RMS/Avg</p> <p>#RBW 1 kHz</p> <p>#VBW 10 kHz</p> <p>Sweep Time 217 ms</p> <p>Traces A: Normal</p> <p>Sweep (Fast) Continuous</p> <p>Freq Ref Int Std Accy</p> <table border="1"> <thead> <tr> <th>Seg</th> <th>Start</th> <th>Stop</th> <th>Peak</th> <th>Power</th> <th>Rel Pwr</th> <th>Status</th> </tr> </thead> <tbody> <tr><td>1</td><td>0 Hz</td><td>-100.000 kHz</td><td>90.900 MHz</td><td>-67.0 dBm</td><td>0.0 dB</td><td>Pass</td></tr> <tr><td>2</td><td>0 Hz</td><td>100.000 kHz</td><td>90.900 MHz</td><td>-67.0 dBm</td><td>0.0 dB</td><td>Pass</td></tr> <tr><td>3</td><td>-100.000 kHz</td><td>-200.000 kHz</td><td>90.751 MHz</td><td>-86.9 dBm</td><td>-21.9 dB</td><td>Pass</td></tr> <tr><td>4</td><td>100.000 kHz</td><td>200.000 kHz</td><td>91.000 MHz</td><td>-82.3 dBm</td><td>-15.3 dB</td><td>Pass</td></tr> <tr><td>5</td><td>-200.000 kHz</td><td>-250.000 kHz</td><td>90.695 MHz</td><td>-72.0 dBm</td><td>-5.0 dB</td><td>Pass</td></tr> <tr><td>6</td><td>200.000 kHz</td><td>250.000 kHz</td><td>91.118 MHz</td><td>-70.4 dBm</td><td>-3.4 dB</td><td>Pass</td></tr> <tr><td>7</td><td>-250.000 kHz</td><td>-540.000 kHz</td><td>90.650 MHz</td><td>-77.4 dBm</td><td>-10.3 dB</td><td>Pass</td></tr> <tr><td>8</td><td>250.000 kHz</td><td>540.000 kHz</td><td>91.150 MHz</td><td>-74.4 dBm</td><td>-7.4 dB</td><td>Pass</td></tr> <tr><td>9</td><td>-540.000 kHz</td><td>-600.000 kHz</td><td>90.650 MHz</td><td>-77.4 dBm</td><td>-10.3 dB</td><td>Pass</td></tr> <tr><td>10</td><td>540.000 kHz</td><td>600.000 kHz</td><td>91.151 MHz</td><td>0.0 dBm</td><td>67.0 dB</td><td>Pass</td></tr> <tr><td>11</td><td>-600.000 kHz</td><td>-700.000 kHz</td><td>90.650 MHz</td><td>-77.4 dBm</td><td>-10.3 dB</td><td>Pass</td></tr> <tr><td>12</td><td>600.000 kHz</td><td>700.000 kHz</td><td>91.151 MHz</td><td>0.0 dBm</td><td>67.0 dB</td><td>Pass</td></tr> </tbody> </table>	Seg	Start	Stop	Peak	Power	Rel Pwr	Status	1	0 Hz	-100.000 kHz	90.900 MHz	-67.0 dBm	0.0 dB	Pass	2	0 Hz	100.000 kHz	90.900 MHz	-67.0 dBm	0.0 dB	Pass	3	-100.000 kHz	-200.000 kHz	90.751 MHz	-86.9 dBm	-21.9 dB	Pass	4	100.000 kHz	200.000 kHz	91.000 MHz	-82.3 dBm	-15.3 dB	Pass	5	-200.000 kHz	-250.000 kHz	90.695 MHz	-72.0 dBm	-5.0 dB	Pass	6	200.000 kHz	250.000 kHz	91.118 MHz	-70.4 dBm	-3.4 dB	Pass	7	-250.000 kHz	-540.000 kHz	90.650 MHz	-77.4 dBm	-10.3 dB	Pass	8	250.000 kHz	540.000 kHz	91.150 MHz	-74.4 dBm	-7.4 dB	Pass	9	-540.000 kHz	-600.000 kHz	90.650 MHz	-77.4 dBm	-10.3 dB	Pass	10	540.000 kHz	600.000 kHz	91.151 MHz	0.0 dBm	67.0 dB	Pass	11	-600.000 kHz	-700.000 kHz	90.650 MHz	-77.4 dBm	-10.3 dB	Pass	12	600.000 kHz	700.000 kHz	91.151 MHz	0.0 dBm	67.0 dB	Pass
Seg	Start	Stop	Peak	Power	Rel Pwr	Status																																																																																							
1	0 Hz	-100.000 kHz	90.900 MHz	-67.0 dBm	0.0 dB	Pass																																																																																							
2	0 Hz	100.000 kHz	90.900 MHz	-67.0 dBm	0.0 dB	Pass																																																																																							
3	-100.000 kHz	-200.000 kHz	90.751 MHz	-86.9 dBm	-21.9 dB	Pass																																																																																							
4	100.000 kHz	200.000 kHz	91.000 MHz	-82.3 dBm	-15.3 dB	Pass																																																																																							
5	-200.000 kHz	-250.000 kHz	90.695 MHz	-72.0 dBm	-5.0 dB	Pass																																																																																							
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7	-250.000 kHz	-540.000 kHz	90.650 MHz	-77.4 dBm	-10.3 dB	Pass																																																																																							
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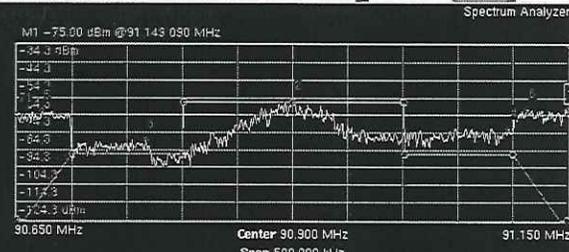
Escenario	1- Potencia Nominal		<p>File</p> <p>Save Measurement As iboc2_2.jpg iboc2_2.spa</p> <p>Save</p> <p>Measurement</p> <p>Save</p> <p>Save On Event</p> <p>Recall</p> <p>Measurement</p> <p>Recall</p> <p>Copy</p> <p>Delete</p>																																																																																										
Bloque	3																																																																																												
Medición	1.2																																																																																												
VOZ		<p>Ref Lvl -34.3 dBm</p> <p>Input Atten 0.0 dB</p> <p>Detection RMS/Avg</p> <p>#RBW 1 kHz</p> <p>#VBW 10 kHz</p> <p>Sweep Time 217 ms</p> <p>Traces A: Normal</p> <p>Sweep (Fast) Continuous</p> <p>Freq Ref Int Std Accy</p> <table border="1"> <thead> <tr> <th>Seg</th> <th>Start</th> <th>Stop</th> <th>Peak</th> <th>Power</th> <th>Rel Pwr</th> <th>Status</th> </tr> </thead> <tbody> <tr><td>1</td><td>0 Hz</td><td>-100.000 kHz</td><td>90.896 MHz</td><td>-65.1 dBm</td><td>0.0 dB</td><td>Pass</td></tr> <tr><td>2</td><td>0 Hz</td><td>100.000 kHz</td><td>90.906 MHz</td><td>-65.8 dBm</td><td>-0.7 dB</td><td>Pass</td></tr> <tr><td>3</td><td>-100.000 kHz</td><td>-200.000 kHz</td><td>90.726 MHz</td><td>-87.7 dBm</td><td>-22.6 dB</td><td>Pass</td></tr> <tr><td>4</td><td>100.000 kHz</td><td>200.000 kHz</td><td>91.077 MHz</td><td>-82.9 dBm</td><td>-17.8 dB</td><td>Pass</td></tr> <tr><td>5</td><td>-200.000 kHz</td><td>-250.000 kHz</td><td>90.693 MHz</td><td>-72.2 dBm</td><td>-7.1 dB</td><td>Pass</td></tr> <tr><td>6</td><td>200.000 kHz</td><td>250.000 kHz</td><td>91.135 MHz</td><td>-71.2 dBm</td><td>-6.1 dB</td><td>Pass</td></tr> <tr><td>7</td><td>-250.000 kHz</td><td>-540.000 kHz</td><td>90.650 MHz</td><td>-79.0 dBm</td><td>-14.0 dB</td><td>Pass</td></tr> <tr><td>8</td><td>250.000 kHz</td><td>540.000 kHz</td><td>91.150 MHz</td><td>-74.3 dBm</td><td>-9.2 dB</td><td>Pass</td></tr> <tr><td>9</td><td>-540.000 kHz</td><td>-600.000 kHz</td><td>90.650 MHz</td><td>-79.0 dBm</td><td>-14.0 dB</td><td>Pass</td></tr> <tr><td>10</td><td>540.000 kHz</td><td>600.000 kHz</td><td>91.151 MHz</td><td>0.0 dBm</td><td>65.1 dB</td><td>Pass</td></tr> <tr><td>11</td><td>-600.000 kHz</td><td>-700.000 kHz</td><td>90.650 MHz</td><td>-79.0 dBm</td><td>-14.0 dB</td><td>Pass</td></tr> <tr><td>12</td><td>600.000 kHz</td><td>700.000 kHz</td><td>91.151 MHz</td><td>0.0 dBm</td><td>65.1 dB</td><td>Pass</td></tr> </tbody> </table>	Seg	Start	Stop	Peak	Power	Rel Pwr	Status	1	0 Hz	-100.000 kHz	90.896 MHz	-65.1 dBm	0.0 dB	Pass	2	0 Hz	100.000 kHz	90.906 MHz	-65.8 dBm	-0.7 dB	Pass	3	-100.000 kHz	-200.000 kHz	90.726 MHz	-87.7 dBm	-22.6 dB	Pass	4	100.000 kHz	200.000 kHz	91.077 MHz	-82.9 dBm	-17.8 dB	Pass	5	-200.000 kHz	-250.000 kHz	90.693 MHz	-72.2 dBm	-7.1 dB	Pass	6	200.000 kHz	250.000 kHz	91.135 MHz	-71.2 dBm	-6.1 dB	Pass	7	-250.000 kHz	-540.000 kHz	90.650 MHz	-79.0 dBm	-14.0 dB	Pass	8	250.000 kHz	540.000 kHz	91.150 MHz	-74.3 dBm	-9.2 dB	Pass	9	-540.000 kHz	-600.000 kHz	90.650 MHz	-79.0 dBm	-14.0 dB	Pass	10	540.000 kHz	600.000 kHz	91.151 MHz	0.0 dBm	65.1 dB	Pass	11	-600.000 kHz	-700.000 kHz	90.650 MHz	-79.0 dBm	-14.0 dB	Pass	12	600.000 kHz	700.000 kHz	91.151 MHz	0.0 dBm	65.1 dB	Pass
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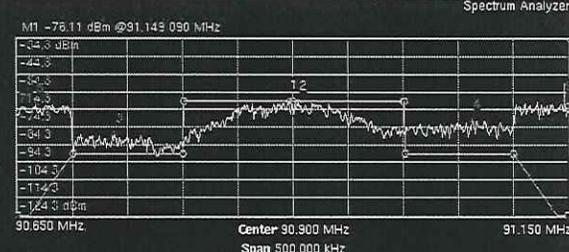
Escenario	1- Potencia Nominal	
Bloque	3	
Medición	1.3	
VOZ		

Escenario	1- Potencia Nominal	
Bloque	3	
Medición	2.1	
MUSICA		

72

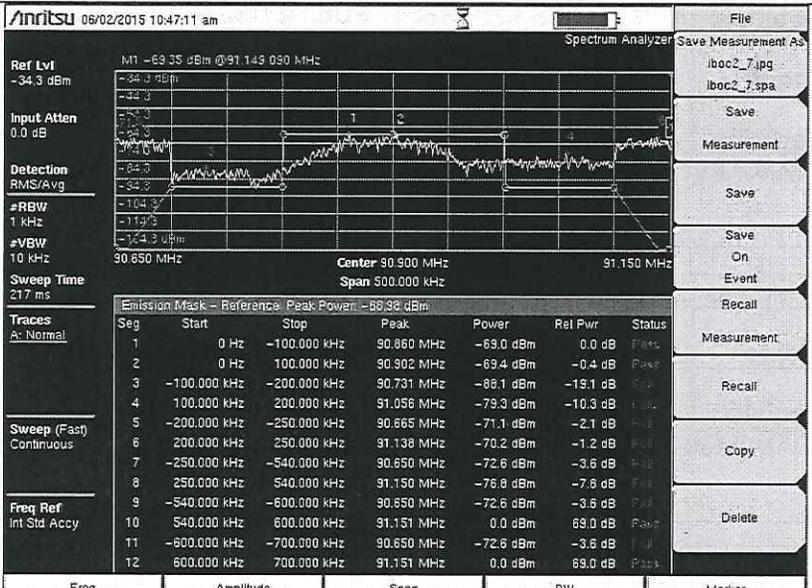


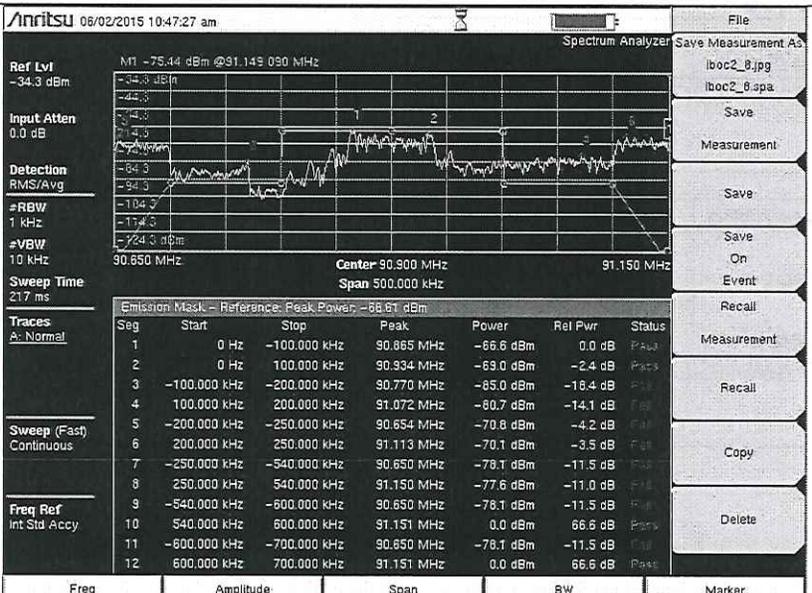
Escenario	1- Potencia Nominal	/Anritsu 06/02/2015 10:46:32 am Spectrum Analyzer M1 -75.00 dBm @91.143 090 MHz Ref Lvl -34.3 dBm Input Atten 0.0 dB Detection RMS/Avg #RBW 1 kHz #VBW 10 kHz Sweep Time 217 ms Traces A: Normal Sweep (Fast) Continuous Freq Ref Int Std Accy	 <p>Center 90.900 MHz Span 500.000 kHz</p> <table border="1"> <thead> <tr> <th>Seg</th> <th>Start</th> <th>Stop</th> <th>Peak</th> <th>Power</th> <th>Rel Pwr</th> <th>Status</th> </tr> </thead> <tbody> <tr><td>1</td><td>0 Hz</td><td>-100.000 kHz</td><td>90.900 MHz</td><td>-66.6 dBm</td><td>0.0 dB</td><td>Pass</td></tr> <tr><td>2</td><td>0 Hz</td><td>100.000 kHz</td><td>90.900 MHz</td><td>-66.6 dBm</td><td>0.0 dB</td><td>Pass</td></tr> <tr><td>3</td><td>-100.000 kHz</td><td>-200.000 kHz</td><td>90.766 MHz</td><td>-88.8 dBm</td><td>-22.2 dB</td><td>Fail</td></tr> <tr><td>4</td><td>100.000 kHz</td><td>200.000 kHz</td><td>91.036 MHz</td><td>-81.9 dBm</td><td>-15.1 dB</td><td>Fail</td></tr> <tr><td>5</td><td>-200.000 kHz</td><td>-250.000 kHz</td><td>90.673 MHz</td><td>-72.2 dBm</td><td>-5.6 dB</td><td>Fail</td></tr> <tr><td>6</td><td>200.000 kHz</td><td>250.000 kHz</td><td>91.113 MHz</td><td>-70.4 dBm</td><td>-3.8 dB</td><td>Fail</td></tr> <tr><td>7</td><td>-250.000 kHz</td><td>-540.000 kHz</td><td>90.650 MHz</td><td>-74.1 dBm</td><td>-7.5 dB</td><td>Fail</td></tr> <tr><td>8</td><td>250.000 kHz</td><td>540.000 kHz</td><td>91.150 MHz</td><td>-74.8 dBm</td><td>-8.2 dB</td><td>Fail</td></tr> <tr><td>9</td><td>-540.000 kHz</td><td>-600.000 kHz</td><td>90.650 MHz</td><td>-74.1 dBm</td><td>-7.5 dB</td><td>Fail</td></tr> <tr><td>10</td><td>540.000 kHz</td><td>600.000 kHz</td><td>91.151 MHz</td><td>0.0 dBm</td><td>66.6 dB</td><td>Pass</td></tr> <tr><td>11</td><td>-600.000 kHz</td><td>-700.000 kHz</td><td>90.650 MHz</td><td>-74.1 dBm</td><td>-7.5 dB</td><td>Fail</td></tr> <tr><td>12</td><td>600.000 kHz</td><td>700.000 kHz</td><td>91.151 MHz</td><td>0.0 dBm</td><td>66.6 dB</td><td>Pass</td></tr> </tbody> </table>	Seg	Start	Stop	Peak	Power	Rel Pwr	Status	1	0 Hz	-100.000 kHz	90.900 MHz	-66.6 dBm	0.0 dB	Pass	2	0 Hz	100.000 kHz	90.900 MHz	-66.6 dBm	0.0 dB	Pass	3	-100.000 kHz	-200.000 kHz	90.766 MHz	-88.8 dBm	-22.2 dB	Fail	4	100.000 kHz	200.000 kHz	91.036 MHz	-81.9 dBm	-15.1 dB	Fail	5	-200.000 kHz	-250.000 kHz	90.673 MHz	-72.2 dBm	-5.6 dB	Fail	6	200.000 kHz	250.000 kHz	91.113 MHz	-70.4 dBm	-3.8 dB	Fail	7	-250.000 kHz	-540.000 kHz	90.650 MHz	-74.1 dBm	-7.5 dB	Fail	8	250.000 kHz	540.000 kHz	91.150 MHz	-74.8 dBm	-8.2 dB	Fail	9	-540.000 kHz	-600.000 kHz	90.650 MHz	-74.1 dBm	-7.5 dB	Fail	10	540.000 kHz	600.000 kHz	91.151 MHz	0.0 dBm	66.6 dB	Pass	11	-600.000 kHz	-700.000 kHz	90.650 MHz	-74.1 dBm	-7.5 dB	Fail	12	600.000 kHz	700.000 kHz	91.151 MHz	0.0 dBm	66.6 dB	Pass	File Save Measurement As iboc2_5.jpg iboc2_5.spa Save Measurement Save On Event Recall Measurement Recall Copy Delete
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Bloque	3																																																																																														
Medición	2.2																																																																																														
MUSICA		Freq	Amplitude	Span	BW	Marker																																																																																									

Escenario	1- Potencia Nominal	/Anritsu 06/02/2015 10:46:47 am Spectrum Analyzer M1 -76.11 dBm @91.143 090 MHz Ref Lvl -34.3 dBm Input Atten 0.0 dB Detection RMS/Avg #RBW 1 kHz #VBW 10 kHz Sweep Time 217 ms Traces A: Normal Sweep (Fast) Continuous Freq Ref Int Std Accy	 <p>Center 90.900 MHz Span 500.000 kHz</p> <table border="1"> <thead> <tr> <th>Seg</th> <th>Start</th> <th>Stop</th> <th>Peak</th> <th>Power</th> <th>Rel Pwr</th> <th>Status</th> </tr> </thead> <tbody> <tr><td>1</td><td>0 Hz</td><td>-100.000 kHz</td><td>90.836 MHz</td><td>-69.4 dBm</td><td>0.0 dB</td><td>Pass</td></tr> <tr><td>2</td><td>0 Hz</td><td>100.000 kHz</td><td>90.905 MHz</td><td>-70.3 dBm</td><td>-0.9 dB</td><td>Pass</td></tr> <tr><td>3</td><td>-100.000 kHz</td><td>-200.000 kHz</td><td>90.738 MHz</td><td>-88.8 dBm</td><td>-19.4 dB</td><td>Fail</td></tr> <tr><td>4</td><td>100.000 kHz</td><td>200.000 kHz</td><td>91.063 MHz</td><td>-80.5 dBm</td><td>-11.1 dB</td><td>Fail</td></tr> <tr><td>5</td><td>-200.000 kHz</td><td>-250.000 kHz</td><td>90.666 MHz</td><td>-71.9 dBm</td><td>-2.5 dB</td><td>Fail</td></tr> <tr><td>6</td><td>200.000 kHz</td><td>250.000 kHz</td><td>91.146 MHz</td><td>-70.2 dBm</td><td>-0.8 dB</td><td>Fail</td></tr> <tr><td>7</td><td>-250.000 kHz</td><td>-540.000 kHz</td><td>90.650 MHz</td><td>-77.2 dBm</td><td>-7.8 dB</td><td>Fail</td></tr> <tr><td>8</td><td>250.000 kHz</td><td>540.000 kHz</td><td>91.150 MHz</td><td>-75.1 dBm</td><td>-5.7 dB</td><td>Fail</td></tr> <tr><td>9</td><td>-540.000 kHz</td><td>-600.000 kHz</td><td>90.650 MHz</td><td>-77.2 dBm</td><td>-7.8 dB</td><td>Fail</td></tr> <tr><td>10</td><td>540.000 kHz</td><td>600.000 kHz</td><td>91.151 MHz</td><td>0.0 dBm</td><td>69.4 dB</td><td>Pass</td></tr> <tr><td>11</td><td>-600.000 kHz</td><td>-700.000 kHz</td><td>90.650 MHz</td><td>-77.2 dBm</td><td>-7.8 dB</td><td>Fail</td></tr> <tr><td>12</td><td>600.000 kHz</td><td>700.000 kHz</td><td>91.151 MHz</td><td>0.0 dBm</td><td>69.4 dB</td><td>Pass</td></tr> </tbody> </table>	Seg	Start	Stop	Peak	Power	Rel Pwr	Status	1	0 Hz	-100.000 kHz	90.836 MHz	-69.4 dBm	0.0 dB	Pass	2	0 Hz	100.000 kHz	90.905 MHz	-70.3 dBm	-0.9 dB	Pass	3	-100.000 kHz	-200.000 kHz	90.738 MHz	-88.8 dBm	-19.4 dB	Fail	4	100.000 kHz	200.000 kHz	91.063 MHz	-80.5 dBm	-11.1 dB	Fail	5	-200.000 kHz	-250.000 kHz	90.666 MHz	-71.9 dBm	-2.5 dB	Fail	6	200.000 kHz	250.000 kHz	91.146 MHz	-70.2 dBm	-0.8 dB	Fail	7	-250.000 kHz	-540.000 kHz	90.650 MHz	-77.2 dBm	-7.8 dB	Fail	8	250.000 kHz	540.000 kHz	91.150 MHz	-75.1 dBm	-5.7 dB	Fail	9	-540.000 kHz	-600.000 kHz	90.650 MHz	-77.2 dBm	-7.8 dB	Fail	10	540.000 kHz	600.000 kHz	91.151 MHz	0.0 dBm	69.4 dB	Pass	11	-600.000 kHz	-700.000 kHz	90.650 MHz	-77.2 dBm	-7.8 dB	Fail	12	600.000 kHz	700.000 kHz	91.151 MHz	0.0 dBm	69.4 dB	Pass	File Save Measurement As iboc2_6.jpg iboc2_6.spa Save Measurement Save On Event Recall Measurement Recall Copy Delete
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MUSICA		Freq	Amplitude	Span	BW	Marker																																																																																									

4



Escenario	1- Potencia Nominal	
Bloque	3	
Medición	3.1	
RUIDO		

Escenario	1- Potencia Nominal	
Bloque	3	
Medición	3.2	
RUIDO		

Escenario	1- Potencia Nominal	FUE NECESARIO RESETEAR EL ANALIZADOR DE ESPECTRO
Bloque	3	
Medición	4.1	
TRANSMISIÓN CONVENCIONAL		

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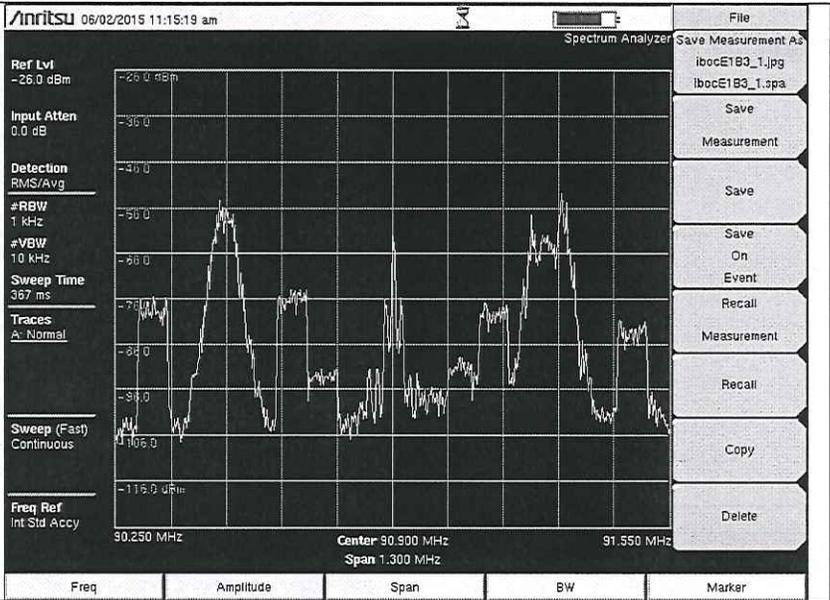
Escenario	1- Potencia Nominal	FUE NECESARIO RESETEAR EL ANALIZADOR DE ESPECTRO
Bloque	3	
Medición	4.2	
<i>TRANSMISIÓN CONVENCIONAL</i>		

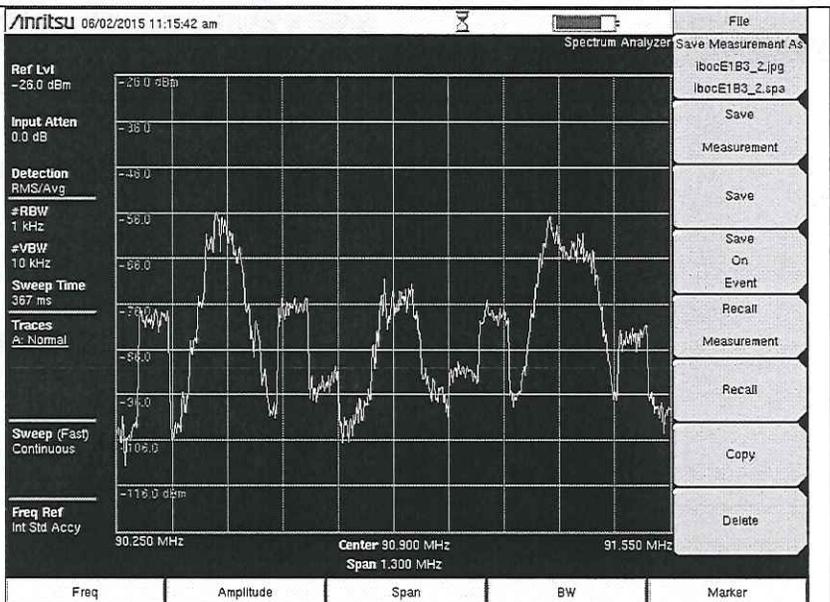
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Bloque	3	
Medición	4.3	
<i>TRANSMISIÓN CONVENCIONAL</i>		

Escenario	1- Potencia Nominal	FUE NECESARIO RESETEAR EL ANALIZADOR DE ESPECTRO
Bloque	3	
Medición	4.4	
<i>TRANSMISIÓN CONVENCIONAL</i>		

Escenario	1- Potencia Nominal	FUE NECESARIO RESETEAR EL ANALIZADOR DE ESPECTRO
Bloque	3	
Medición	4.5	
<i>TRANSMISIÓN CONVENCIONAL</i>		

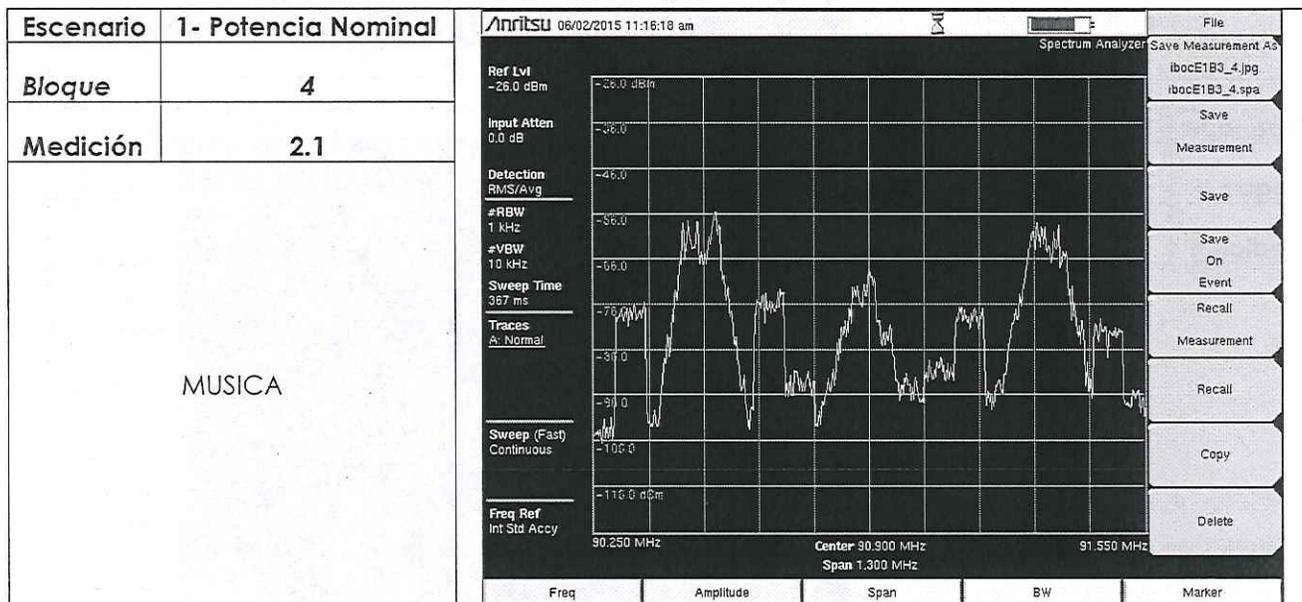
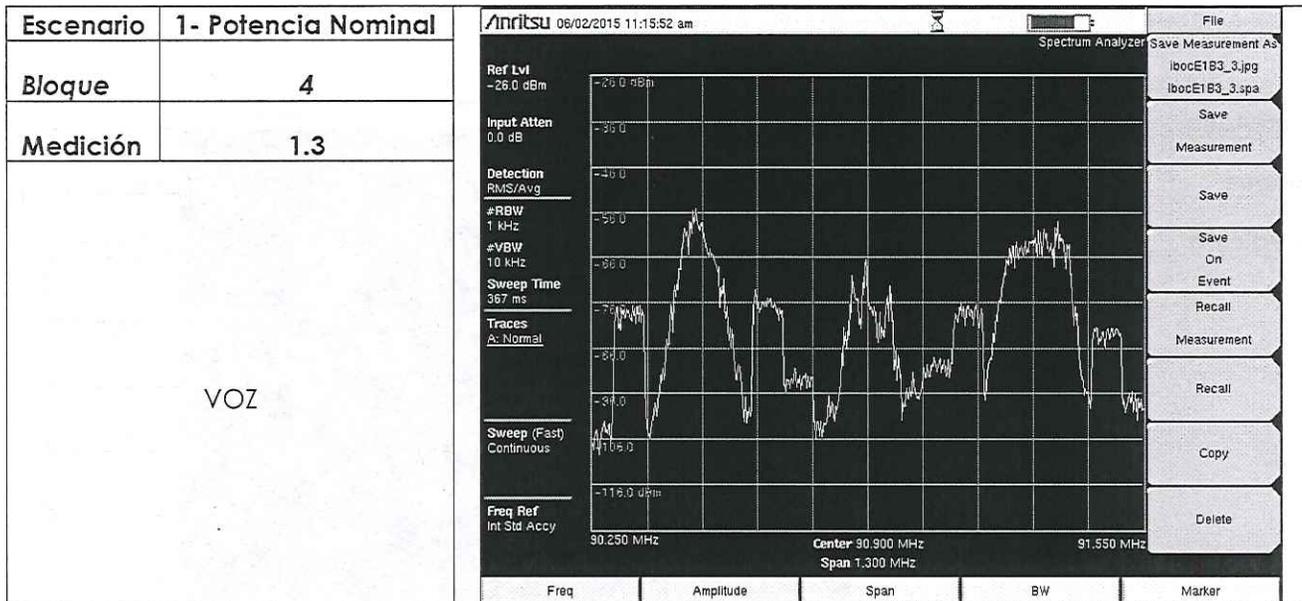
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Escenario	1- Potencia Nominal	
Bloque	4	
Medición	1.1	
VOZ		

Escenario	1- Potencia Nominal	
Bloque	4	
Medición	1.2	
VOZ		

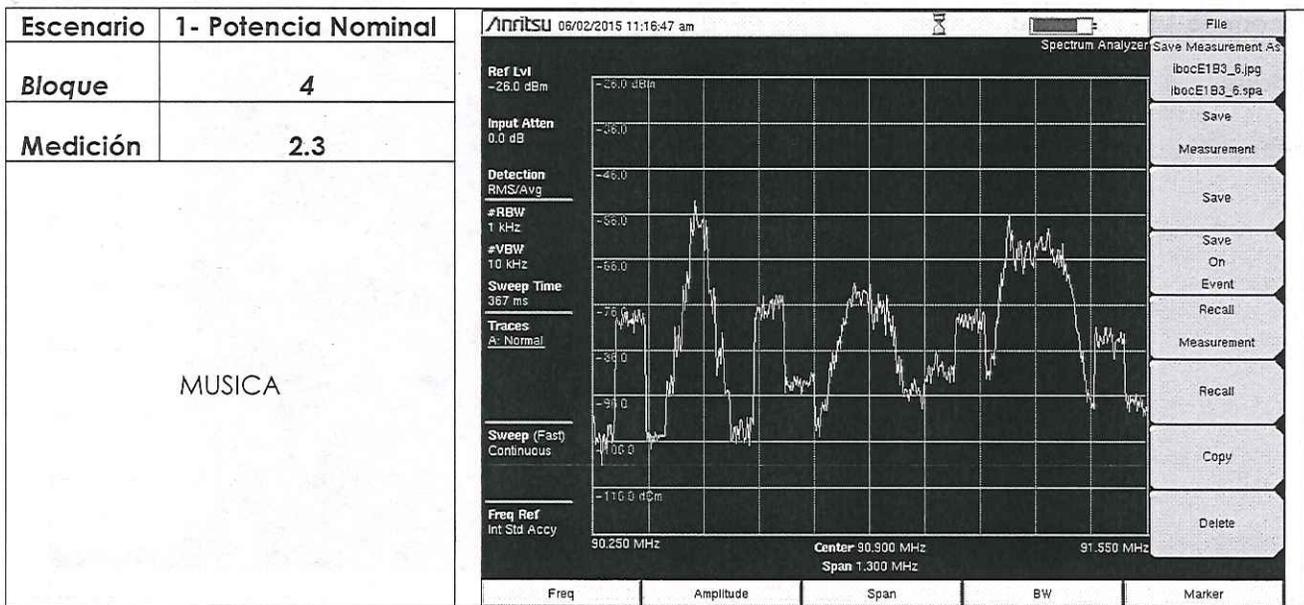
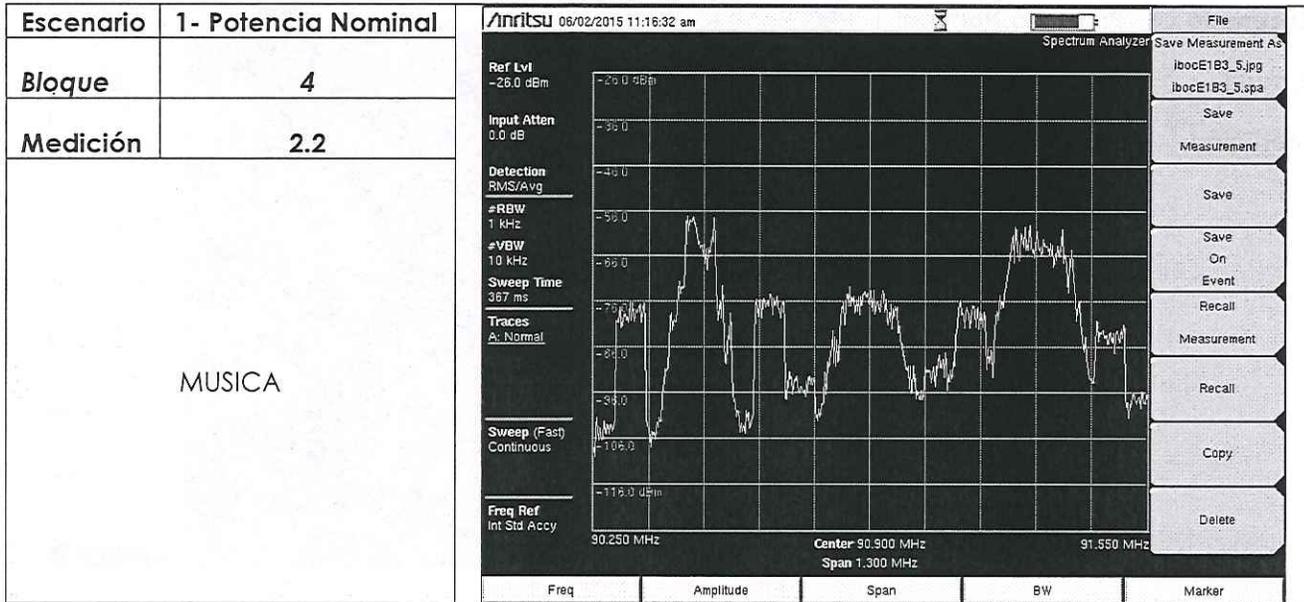
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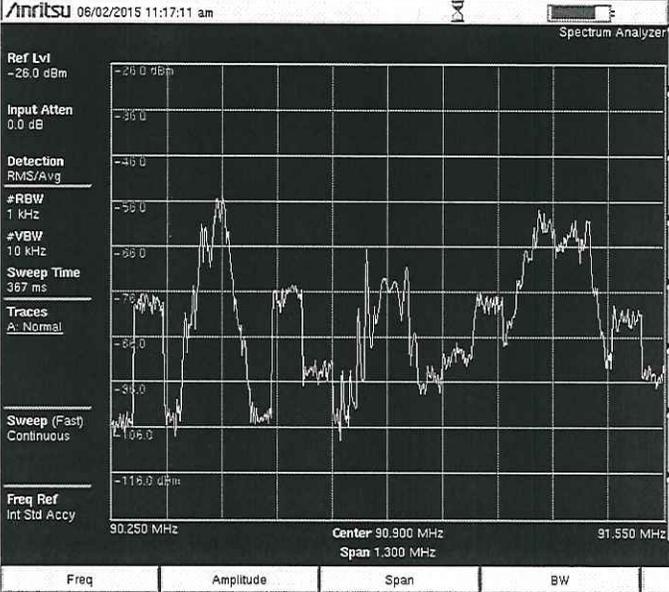
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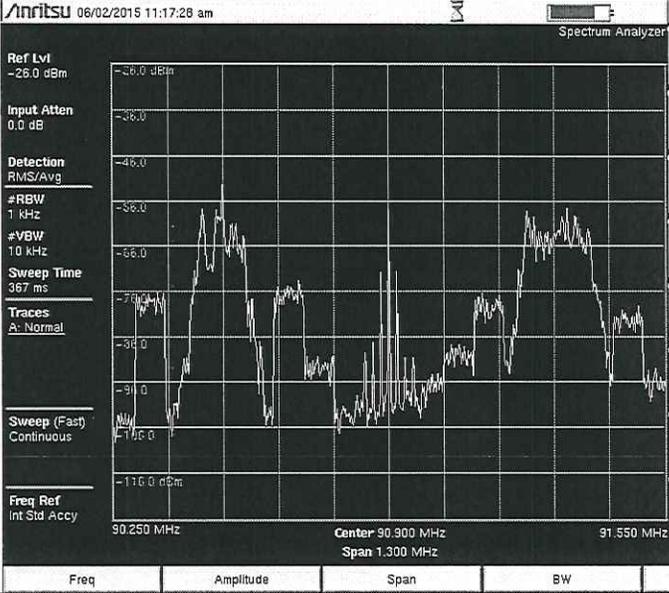


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Escenario	1- Potencia Nominal		File
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Medición	3.1		Save Measurement Save On Event Recall Measurement Recall Copy Delete
RUIDO			

Escenario	1- Potencia Nominal		File
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Medición	3.2		Save Measurement Save On Event Recall Measurement Recall Copy Delete
RUIDO			

Escenario	1- Potencia Nominal	FUE NECESARIO RESETEAR EL ANALIZADOR DE ESPECTRO
Bloque	4	
Medición	4.1	
TRANSMISIÓN CONVENCIONAL		

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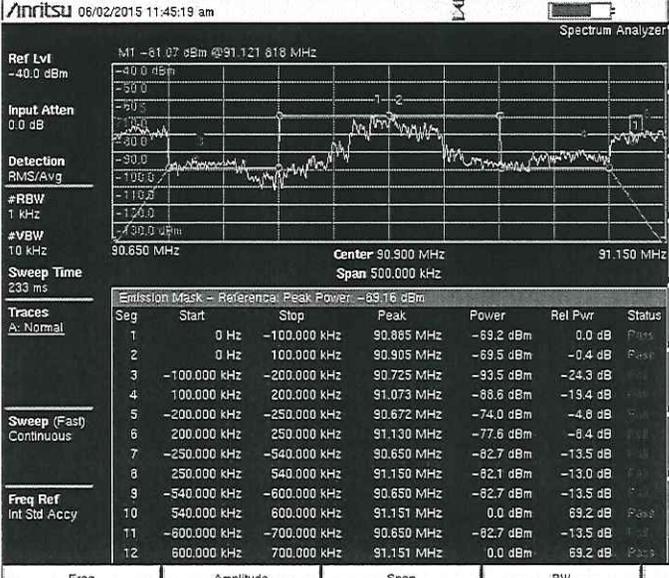
UNIDAD DE CUMPLIMIENTO
DIRECCIÓN GENERAL ADJUNTA DE
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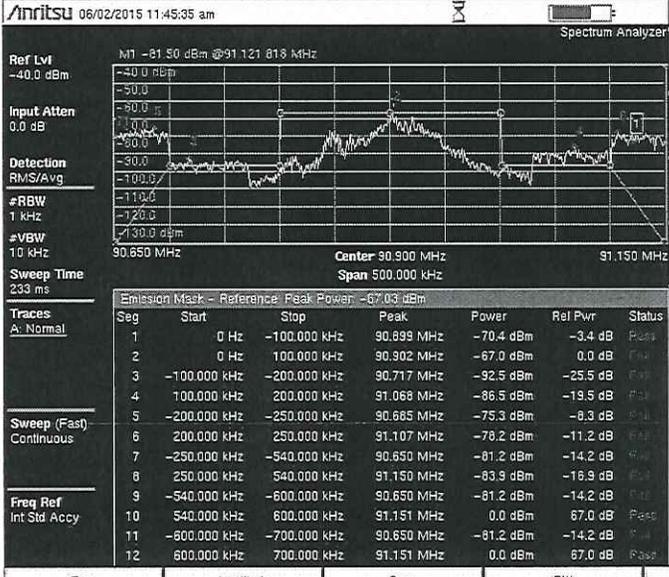
Escenario	1- Potencia Nominal	FUE NECESARIO RESETEAR EL ANALIZADOR DE ESPECTRO
Bloque	4	
Medición	4.2	
<i>TRANSMISIÓN CONVENCIONAL</i>		

Escenario	1- Potencia Nominal	FUE NECESARIO RESETEAR EL ANALIZADOR DE ESPECTRO
Bloque	4	
Medición	4.3	
<i>TRANSMISIÓN CONVENCIONAL</i>		

Escenario	1- Potencia Nominal	FUE NECESARIO RESETEAR EL ANALIZADOR DE ESPECTRO
Bloque	4	
Medición	4.4	
<i>TRANSMISIÓN CONVENCIONAL</i>		

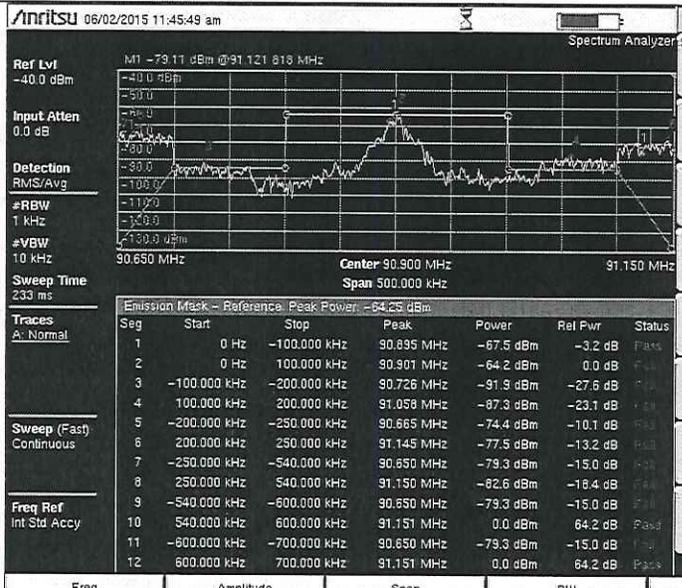
Escenario	1- Potencia Nominal	FUE NECESARIO RESETEAR EL ANALIZADOR DE ESPECTRO
Bloque	4	
Medición	4.5	
<i>TRANSMISIÓN CONVENCIONAL</i>		

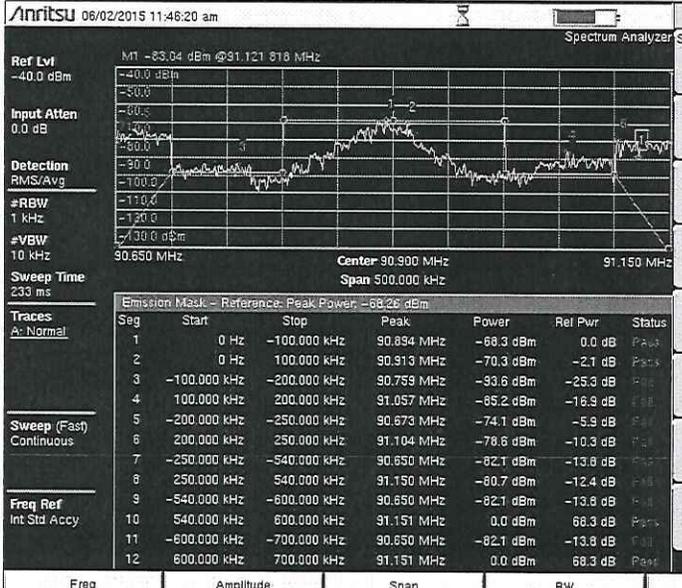
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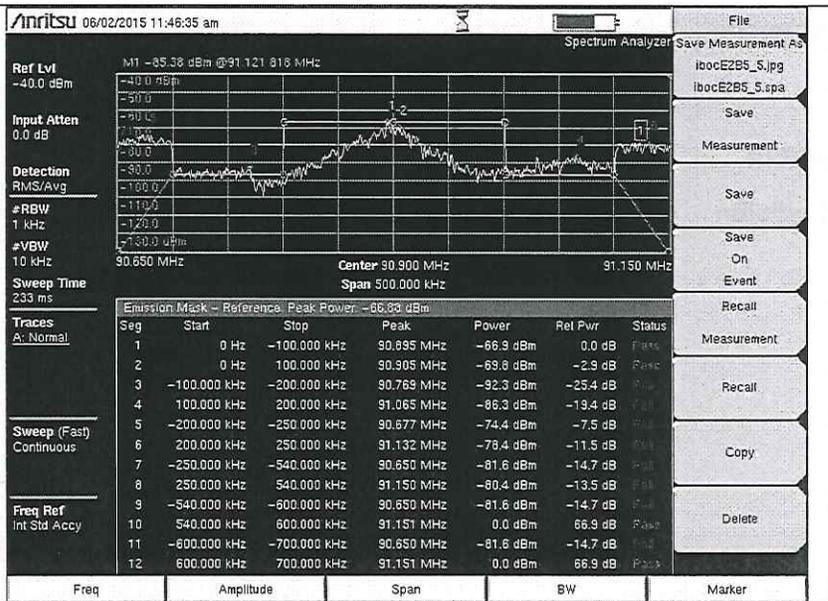
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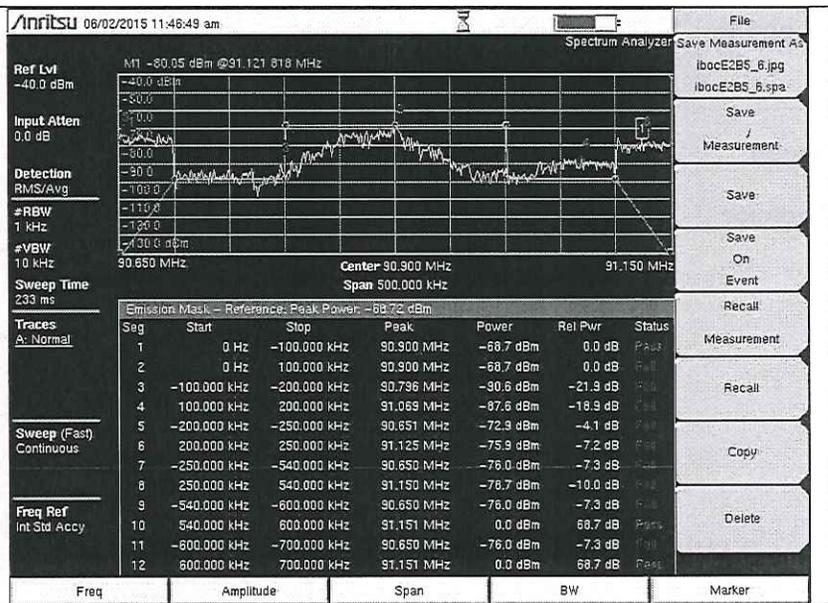
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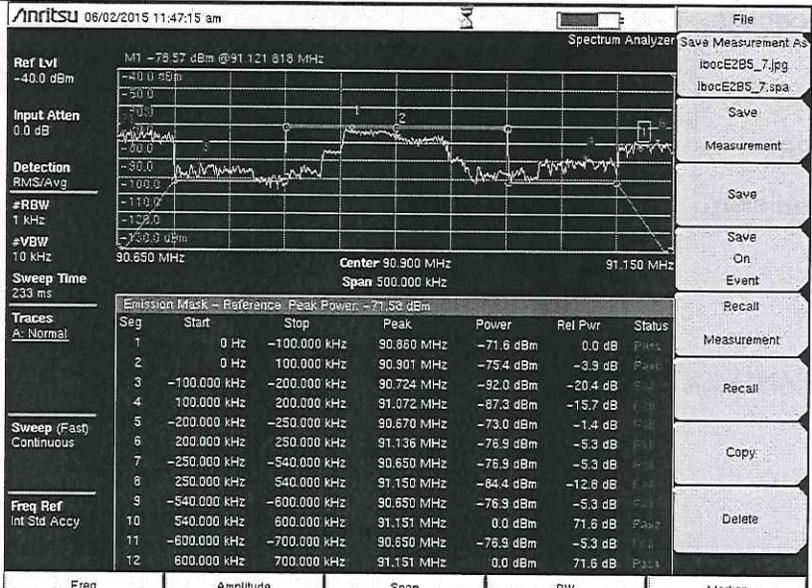
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Medición	2.2
MUSICA	

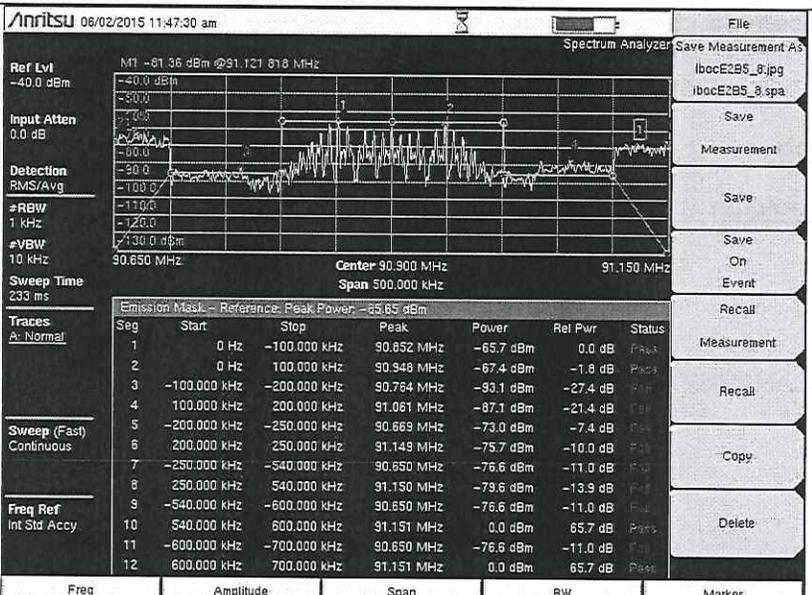


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Bloque	7
Medición	2.3
MUSICA	

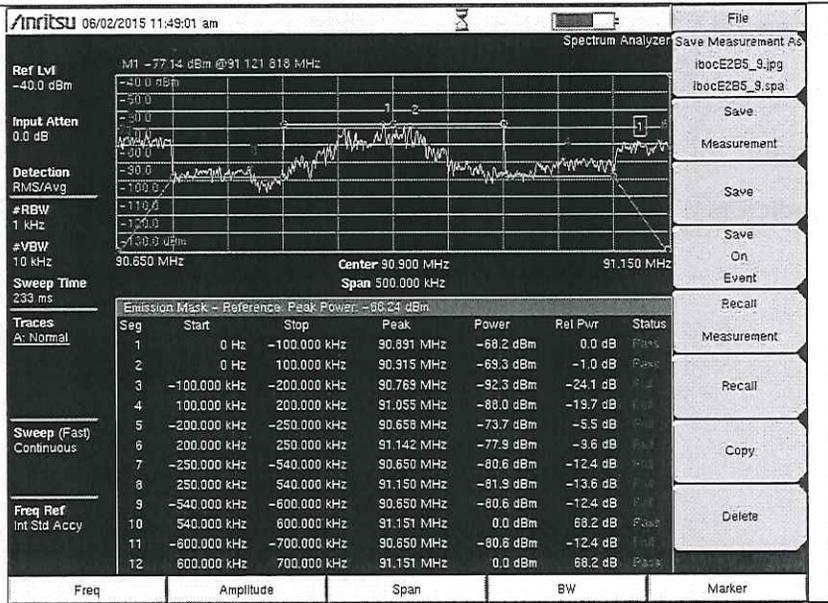


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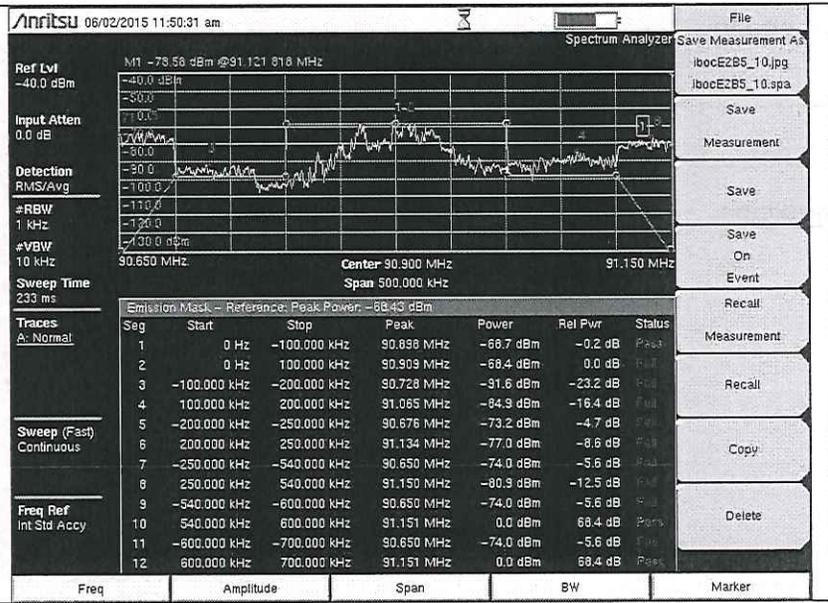
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Bloque	7	
Medición	3.1	
RUIDO		

Escenario	2- Disminución de potencia de portadora digital	
Bloque	7	
Medición	3.2	
RUIDO		

Escenario	2- Disminución de potencia de portadora digital
Bloque	7
Medición	4.1
TRANSMISIÓN CONVENCIONAL	



Escenario	2- Disminución de potencia de portadora digital
Bloque	7
Medición	4.2
TRANSMISIÓN CONVENCIONAL	



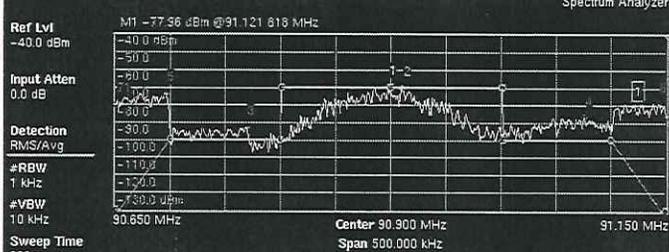
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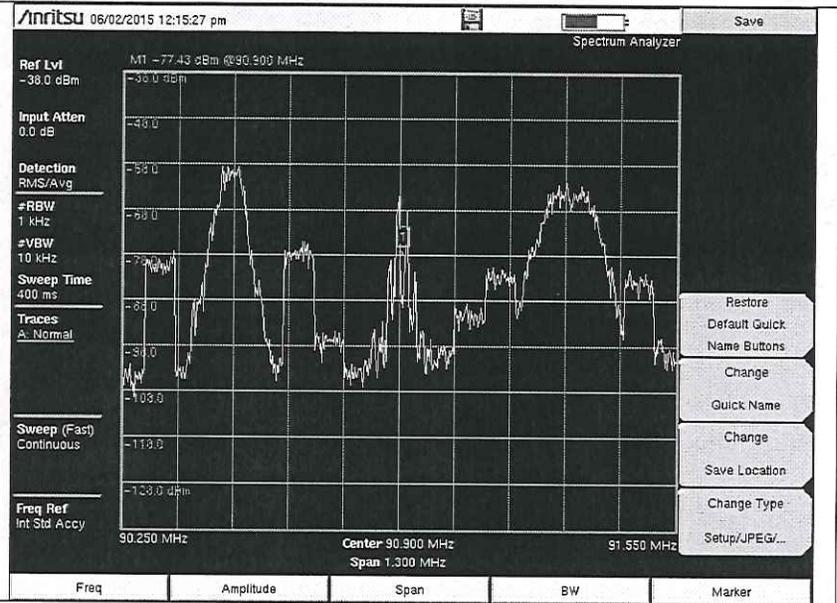
INSTITUTO FEDERAL DE TELECOMUNICACIONES

Escenario	2- Disminución de potencia de portadora digital		File Save Measurement As ibocE285_11.jpg ibocE285_11.spa Save Measurement Save Save On Event Recall Measurement Recall Copy Delete																																																																																											
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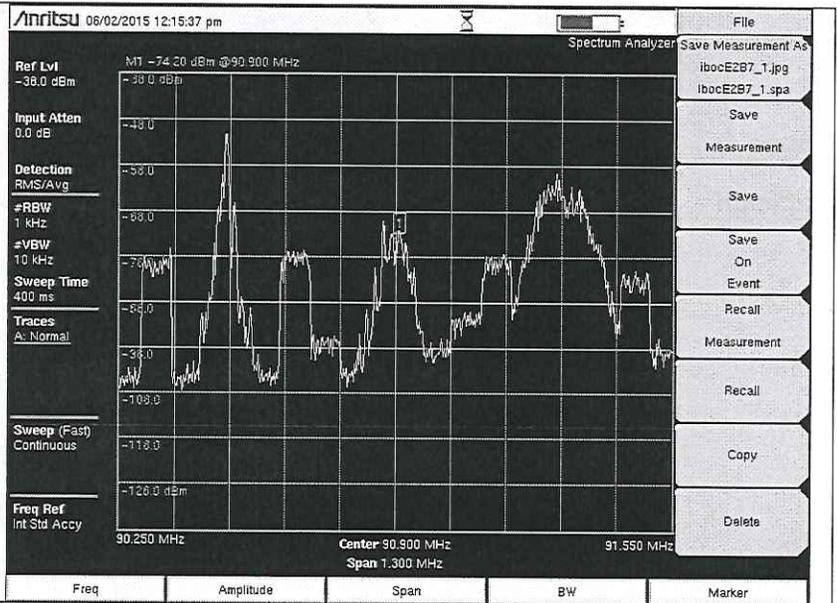
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TRANSMISIÓN CONVENCIONAL		Anritsu 06/02/2015 11:53:32 am Ref Lvl -40.0 dBm Input Atten 0.0 dB Detection RMS/Avg #RBW 1 kHz #VBW 10 kHz Sweep Time 233 ms Traces A: Normal Sweep (Fast) Continuous Freq Ref Int Std Accy	<table border="1"> <thead> <tr> <th>Seg</th> <th>Start</th> <th>Stop</th> <th>Peak</th> <th>Power</th> <th>Rel Pwr</th> <th>Status</th> </tr> </thead> <tbody> <tr><td>1</td><td>0 Hz</td><td>-100.000 kHz</td><td>90.857 MHz</td><td>-68.0 dBm</td><td>0.0 dB</td><td>Pass</td></tr> <tr><td>2</td><td>0 Hz</td><td>100.000 kHz</td><td>90.949 MHz</td><td>-68.1 dBm</td><td>-0.1 dB</td><td>Pass</td></tr> <tr><td>3</td><td>-100.000 kHz</td><td>-200.000 kHz</td><td>90.706 MHz</td><td>-82.9 dBm</td><td>-24.9 dB</td><td>Pass</td></tr> <tr><td>4</td><td>100.000 kHz</td><td>200.000 kHz</td><td>91.057 MHz</td><td>-86.4 dBm</td><td>-18.3 dB</td><td>Pass</td></tr> <tr><td>5</td><td>-200.000 kHz</td><td>-250.000 kHz</td><td>90.650 MHz</td><td>-72.7 dBm</td><td>-4.7 dB</td><td>Pass</td></tr> <tr><td>6</td><td>200.000 kHz</td><td>250.000 kHz</td><td>91.121 MHz</td><td>-75.7 dBm</td><td>-7.7 dB</td><td>Pass</td></tr> <tr><td>7</td><td>-250.000 kHz</td><td>-540.000 kHz</td><td>90.650 MHz</td><td>-72.7 dBm</td><td>-4.7 dB</td><td>Pass</td></tr> <tr><td>8</td><td>250.000 kHz</td><td>540.000 kHz</td><td>91.150 MHz</td><td>-77.1 dBm</td><td>-9.1 dB</td><td>Pass</td></tr> <tr><td>9</td><td>-540.000 kHz</td><td>-600.000 kHz</td><td>90.650 MHz</td><td>-72.7 dBm</td><td>-4.7 dB</td><td>Pass</td></tr> <tr><td>10</td><td>540.000 kHz</td><td>600.000 kHz</td><td>91.151 MHz</td><td>0.0 dBm</td><td>68.0 dB</td><td>Pass</td></tr> <tr><td>11</td><td>-600.000 kHz</td><td>-700.000 kHz</td><td>90.650 MHz</td><td>-72.7 dBm</td><td>-4.7 dB</td><td>Pass</td></tr> <tr><td>12</td><td>600.000 kHz</td><td>700.000 kHz</td><td>91.151 MHz</td><td>0.0 dBm</td><td>68.0 dB</td><td>Pass</td></tr> </tbody> </table>	Seg	Start	Stop	Peak	Power	Rel Pwr	Status	1	0 Hz	-100.000 kHz	90.857 MHz	-68.0 dBm	0.0 dB	Pass	2	0 Hz	100.000 kHz	90.949 MHz	-68.1 dBm	-0.1 dB	Pass	3	-100.000 kHz	-200.000 kHz	90.706 MHz	-82.9 dBm	-24.9 dB	Pass	4	100.000 kHz	200.000 kHz	91.057 MHz	-86.4 dBm	-18.3 dB	Pass	5	-200.000 kHz	-250.000 kHz	90.650 MHz	-72.7 dBm	-4.7 dB	Pass	6	200.000 kHz	250.000 kHz	91.121 MHz	-75.7 dBm	-7.7 dB	Pass	7	-250.000 kHz	-540.000 kHz	90.650 MHz	-72.7 dBm	-4.7 dB	Pass	8	250.000 kHz	540.000 kHz	91.150 MHz	-77.1 dBm	-9.1 dB	Pass	9	-540.000 kHz	-600.000 kHz	90.650 MHz	-72.7 dBm	-4.7 dB	Pass	10	540.000 kHz	600.000 kHz	91.151 MHz	0.0 dBm	68.0 dB	Pass	11	-600.000 kHz	-700.000 kHz	90.650 MHz	-72.7 dBm	-4.7 dB	Pass	12	600.000 kHz	700.000 kHz	91.151 MHz	0.0 dBm	68.0 dB	Pass
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Escenario	2- Disminución de potencia de portadora digital	Anritsu 06/02/2015 11:55:05 am		File																																																																																											
Bloque	7			Save Measurement As 'ibocE2B5_13.jpg' 'ibocE2B5_13.spa' Save Measurement Save On Event Recall Measurement Recall Copy Delete																																																																																											
Medición	4.5	<table border="1"> <thead> <tr> <th>Seg</th> <th>Start</th> <th>Stop</th> <th>Peak</th> <th>Power</th> <th>Rel Pwr</th> <th>Status</th> </tr> </thead> <tbody> <tr><td>1</td><td>0 Hz</td><td>-100.000 kHz</td><td>90.897 MHz</td><td>-69.7 dBm</td><td>0.0 dB</td><td>Pass</td></tr> <tr><td>2</td><td>0 Hz</td><td>100.000 kHz</td><td>90.910 MHz</td><td>-70.4 dBm</td><td>-0.6 dB</td><td>Pass</td></tr> <tr><td>3</td><td>-100.000 kHz</td><td>-200.000 kHz</td><td>90.768 MHz</td><td>-92.6 dBm</td><td>-22.9 dB</td><td>Pass</td></tr> <tr><td>4</td><td>100.000 kHz</td><td>200.000 kHz</td><td>91.075 MHz</td><td>-86.7 dBm</td><td>-17.0 dB</td><td>Pass</td></tr> <tr><td>5</td><td>-200.000 kHz</td><td>-250.000 kHz</td><td>90.695 MHz</td><td>-73.5 dBm</td><td>-3.8 dB</td><td>Pass</td></tr> <tr><td>6</td><td>200.000 kHz</td><td>250.000 kHz</td><td>91.143 MHz</td><td>-78.9 dBm</td><td>-9.2 dB</td><td>Pass</td></tr> <tr><td>7</td><td>-250.000 kHz</td><td>-540.000 kHz</td><td>90.650 MHz</td><td>-79.6 dBm</td><td>-9.9 dB</td><td>Pass</td></tr> <tr><td>8</td><td>250.000 kHz</td><td>540.000 kHz</td><td>91.150 MHz</td><td>-86.3 dBm</td><td>-16.6 dB</td><td>Pass</td></tr> <tr><td>9</td><td>-540.000 kHz</td><td>-600.000 kHz</td><td>90.650 MHz</td><td>-79.6 dBm</td><td>-9.9 dB</td><td>Pass</td></tr> <tr><td>10</td><td>540.000 kHz</td><td>600.000 kHz</td><td>91.151 MHz</td><td>0.0 dBm</td><td>69.7 dB</td><td>Pass</td></tr> <tr><td>11</td><td>-600.000 kHz</td><td>-700.000 kHz</td><td>90.650 MHz</td><td>-79.6 dBm</td><td>-9.9 dB</td><td>Pass</td></tr> <tr><td>12</td><td>600.000 kHz</td><td>700.000 kHz</td><td>91.151 MHz</td><td>0.0 dBm</td><td>69.7 dB</td><td>Pass</td></tr> </tbody> </table>		Seg	Start	Stop	Peak	Power	Rel Pwr	Status	1	0 Hz	-100.000 kHz	90.897 MHz	-69.7 dBm	0.0 dB	Pass	2	0 Hz	100.000 kHz	90.910 MHz	-70.4 dBm	-0.6 dB	Pass	3	-100.000 kHz	-200.000 kHz	90.768 MHz	-92.6 dBm	-22.9 dB	Pass	4	100.000 kHz	200.000 kHz	91.075 MHz	-86.7 dBm	-17.0 dB	Pass	5	-200.000 kHz	-250.000 kHz	90.695 MHz	-73.5 dBm	-3.8 dB	Pass	6	200.000 kHz	250.000 kHz	91.143 MHz	-78.9 dBm	-9.2 dB	Pass	7	-250.000 kHz	-540.000 kHz	90.650 MHz	-79.6 dBm	-9.9 dB	Pass	8	250.000 kHz	540.000 kHz	91.150 MHz	-86.3 dBm	-16.6 dB	Pass	9	-540.000 kHz	-600.000 kHz	90.650 MHz	-79.6 dBm	-9.9 dB	Pass	10	540.000 kHz	600.000 kHz	91.151 MHz	0.0 dBm	69.7 dB	Pass	11	-600.000 kHz	-700.000 kHz	90.650 MHz	-79.6 dBm	-9.9 dB	Pass	12	600.000 kHz	700.000 kHz	91.151 MHz	0.0 dBm	69.7 dB	Pass	
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		Span	BW	Marker																																																																																											

Escenario	3- Disminución de potencia de portadora digital derecha
Bloque	9
Medición	1.1
VOZ	



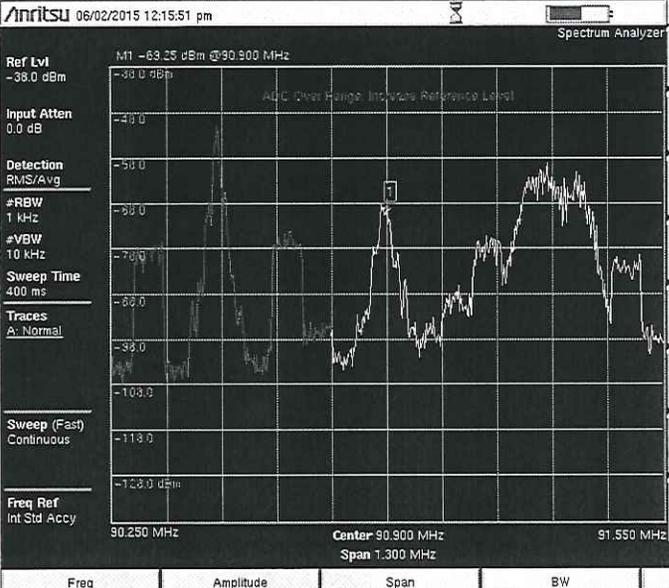
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Bloque	9
Medición	1.2
VOZ	

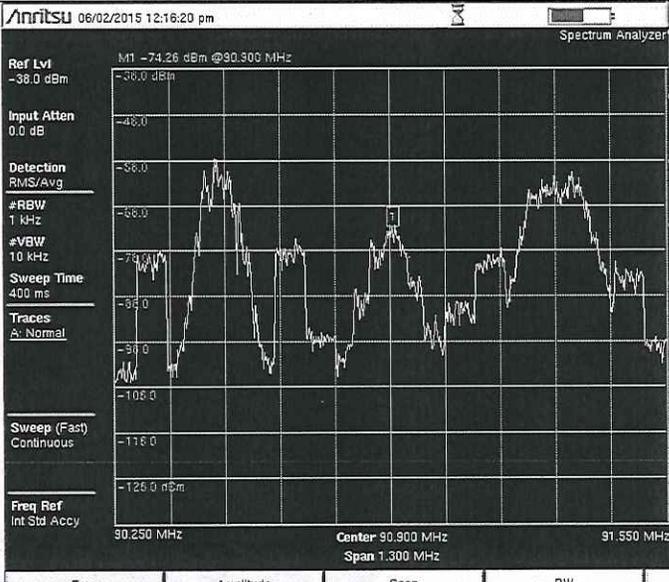


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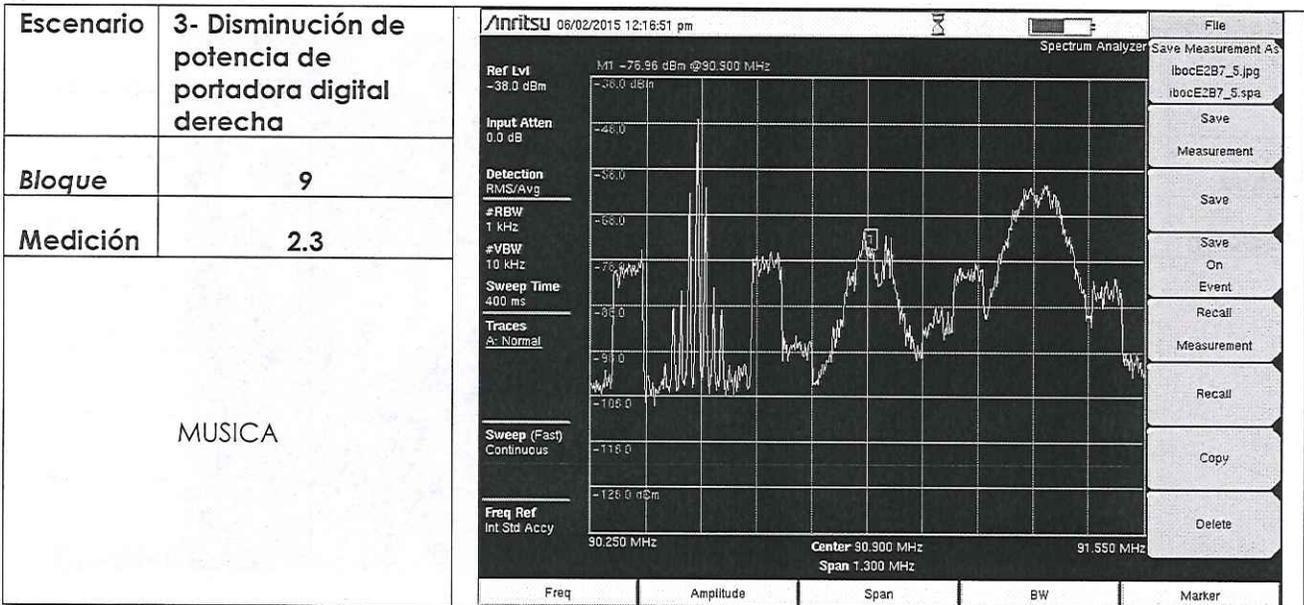
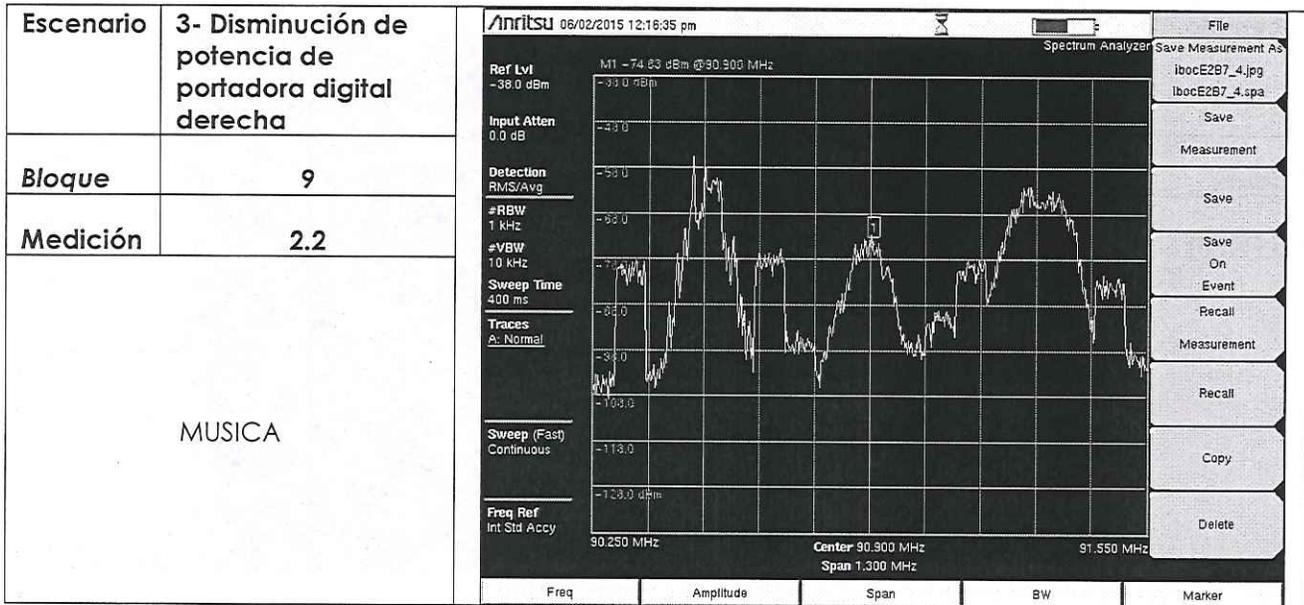
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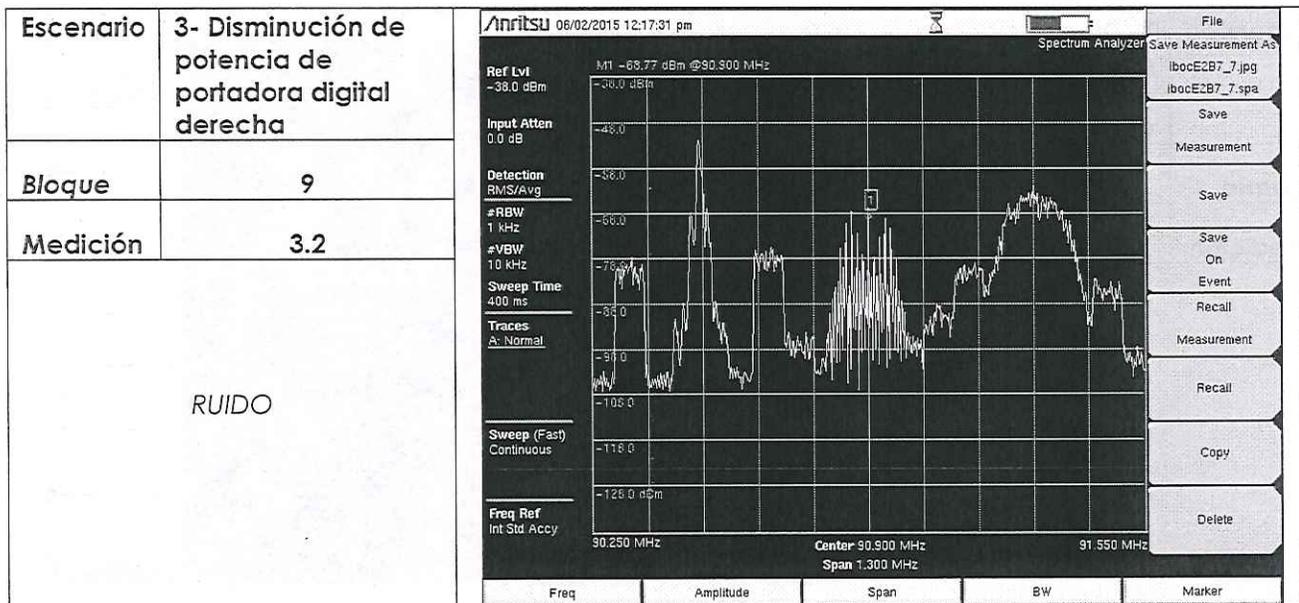
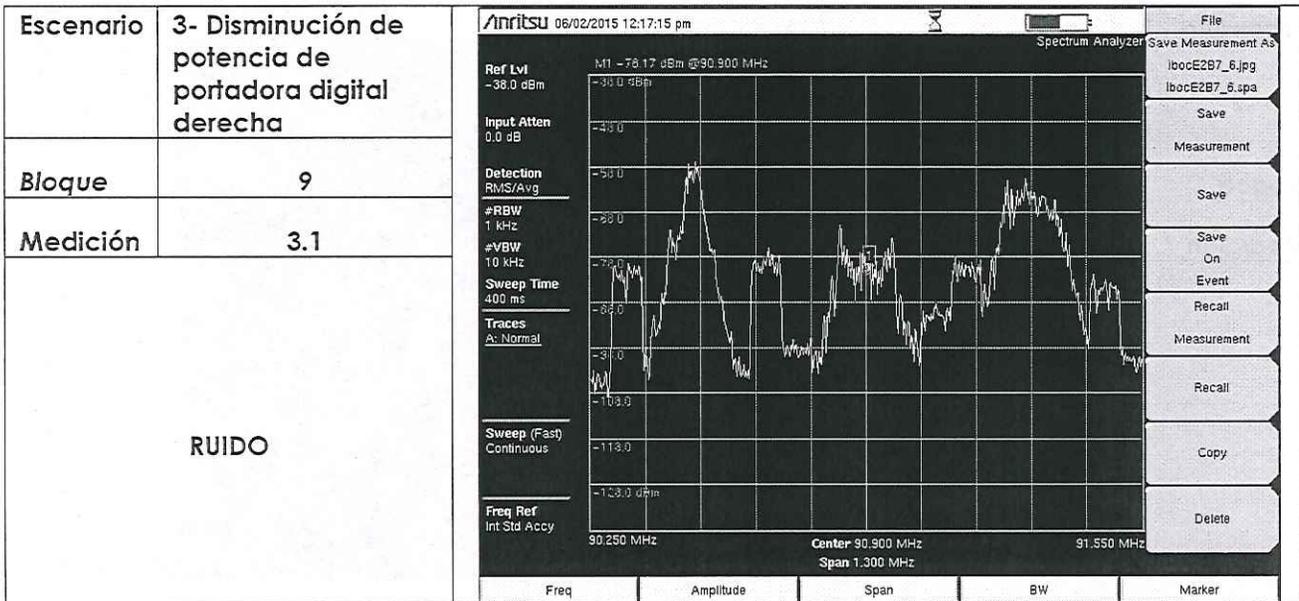


Escenario	3- Disminución de potencia de portadora digital derecha		File			
Bloque	9		Save Measurement As ibocE2B7_3.jpg ibocE2B7_3.spa			
Medición	1.3		Save Measurement			
VOZ			Save On Event Recall Measurement Recall Copy Delete			
		Freq	Amplitude	Span	BW	Marker

Escenario	3- Disminución de potencia de portadora digital derecha		File			
Bloque	9		Save Measurement As ibocE2B7_3.jpg ibocE2B7_3.spa			
Medición	2.1		Save Measurement			
MUSICA			Save On Event Recall Measurement Recall Copy Delete			
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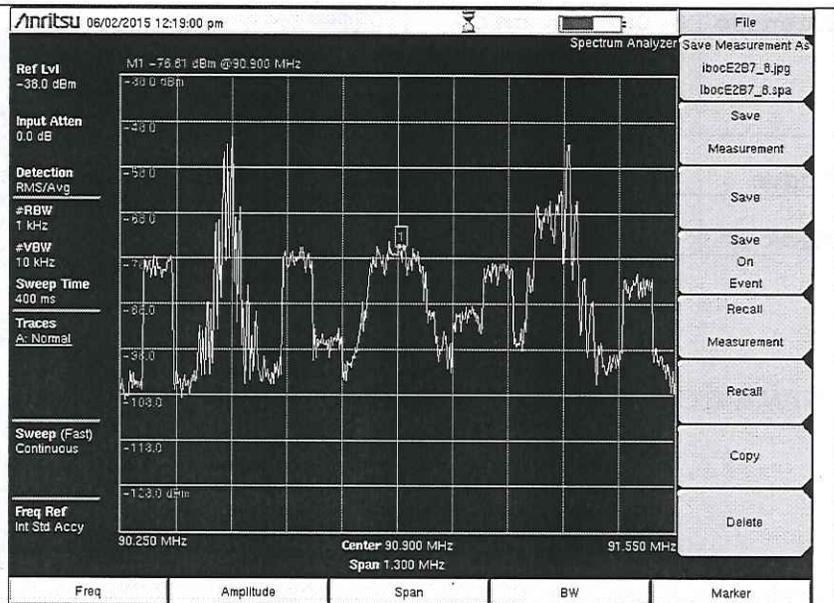
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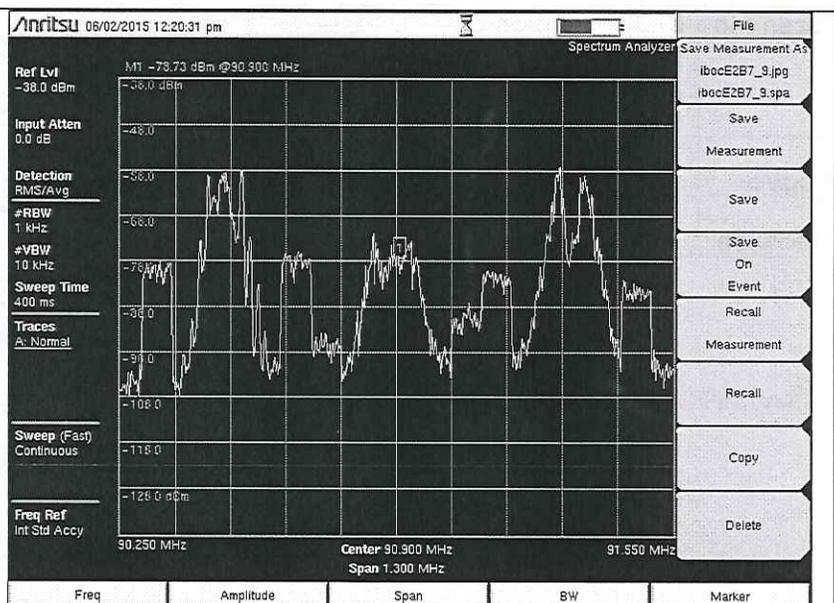


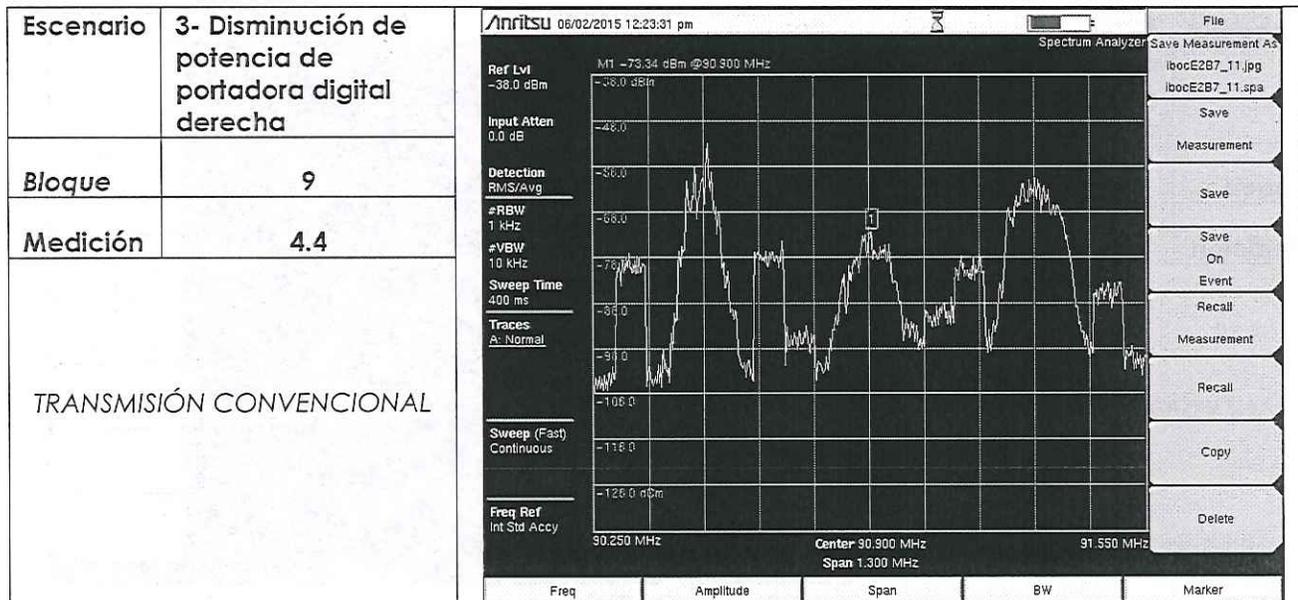
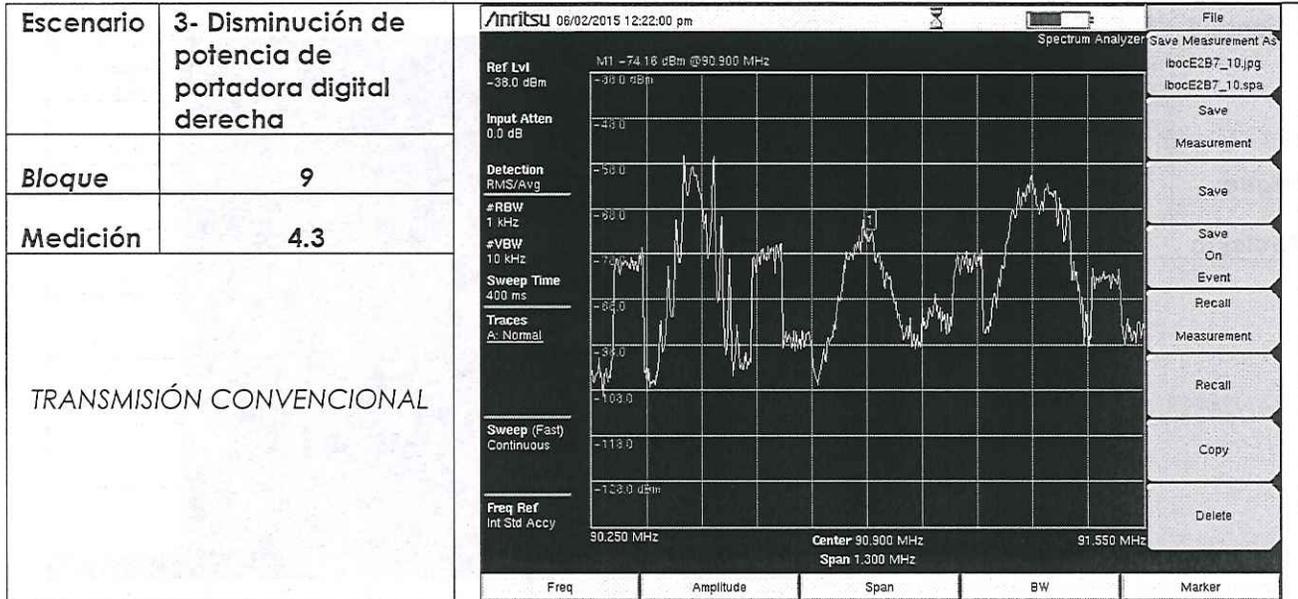
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Escenario	3- Disminución de potencia de portadora digital derecha
Bloque	9
Medición	4.1
TRANSMISIÓN CONVENCIONAL	



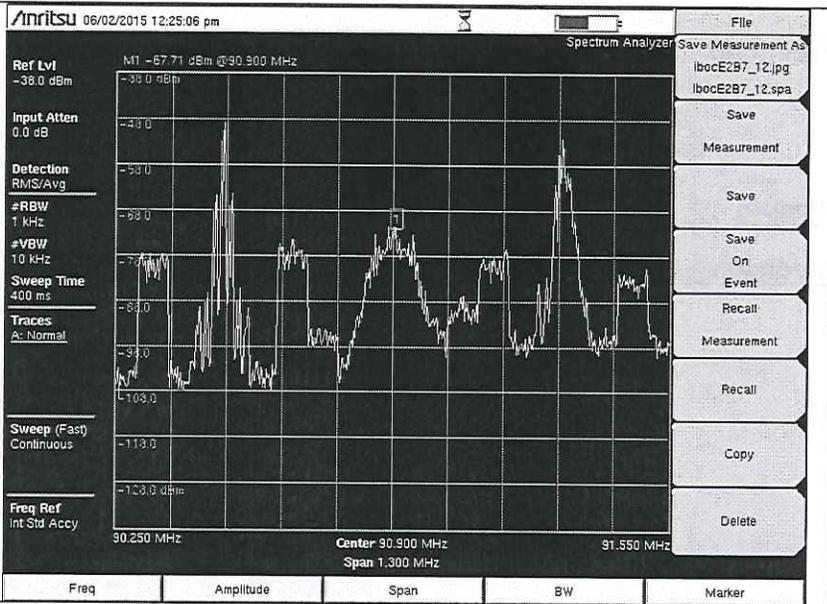
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Bloque	9
Medición	4.2
TRANSMISIÓN CONVENCIONAL	





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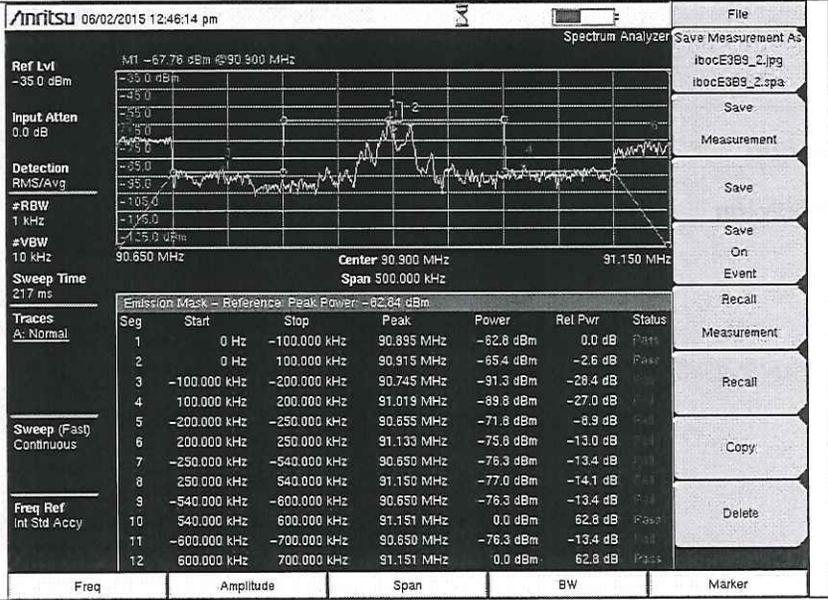
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Escenario	3- Disminución de potencia de portadora digital derecha		
Bloque	9		
Medición	4.5		
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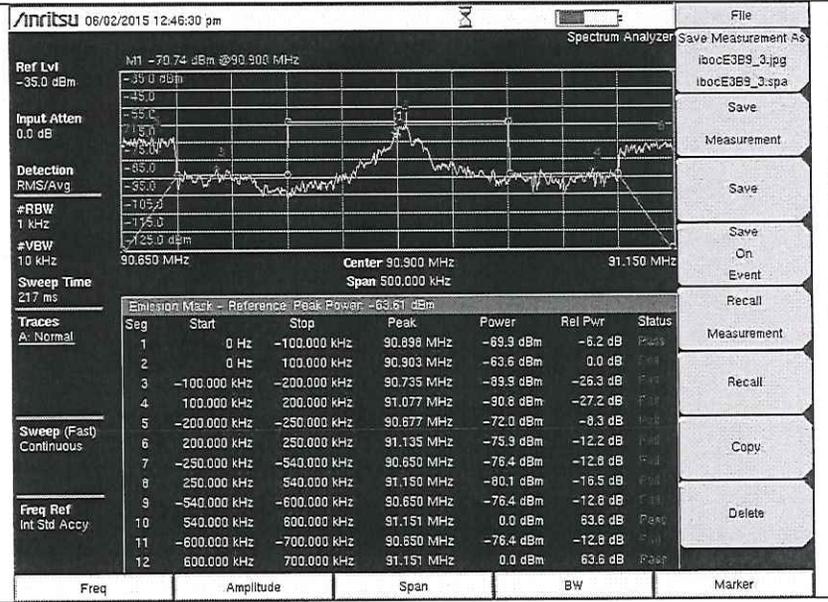
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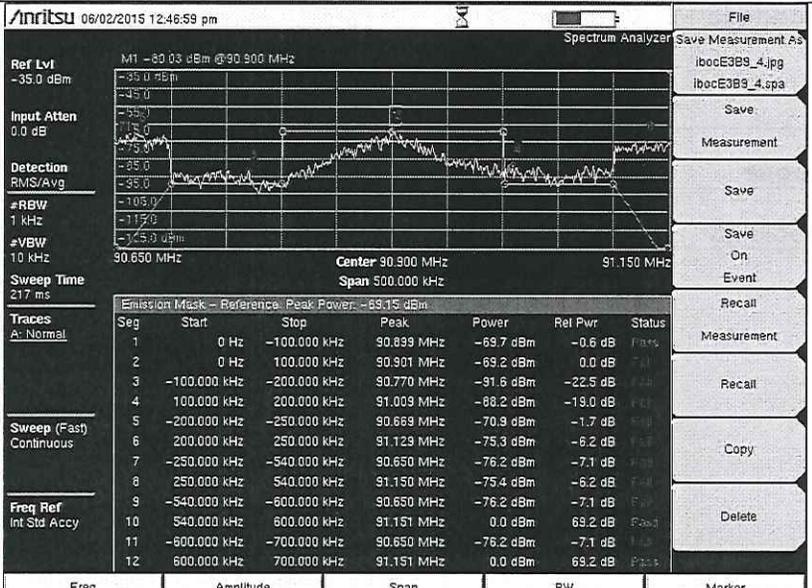
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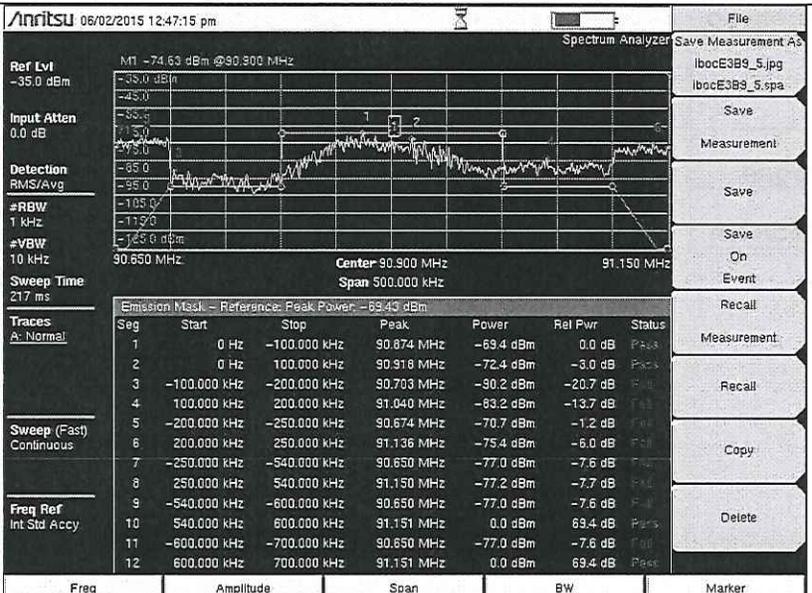
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Bloque	11
Medición	1.1
VOZ	

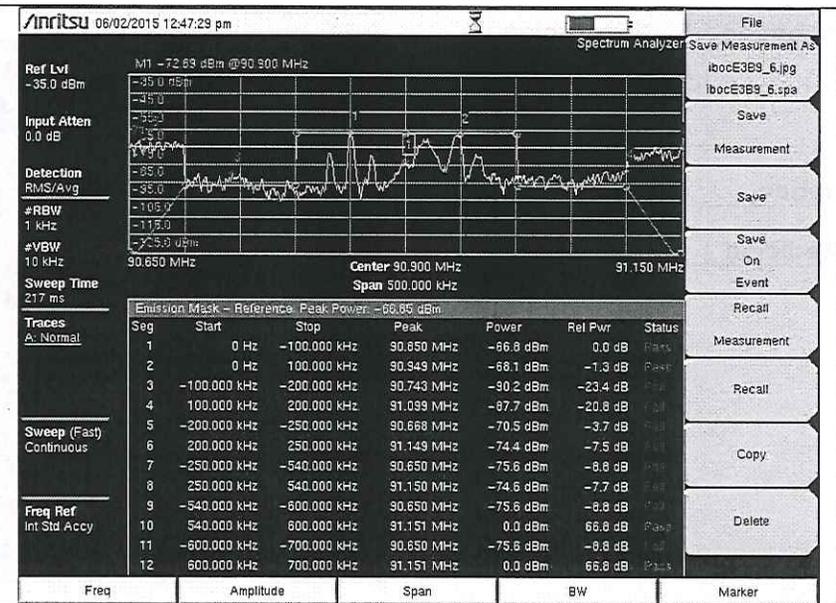


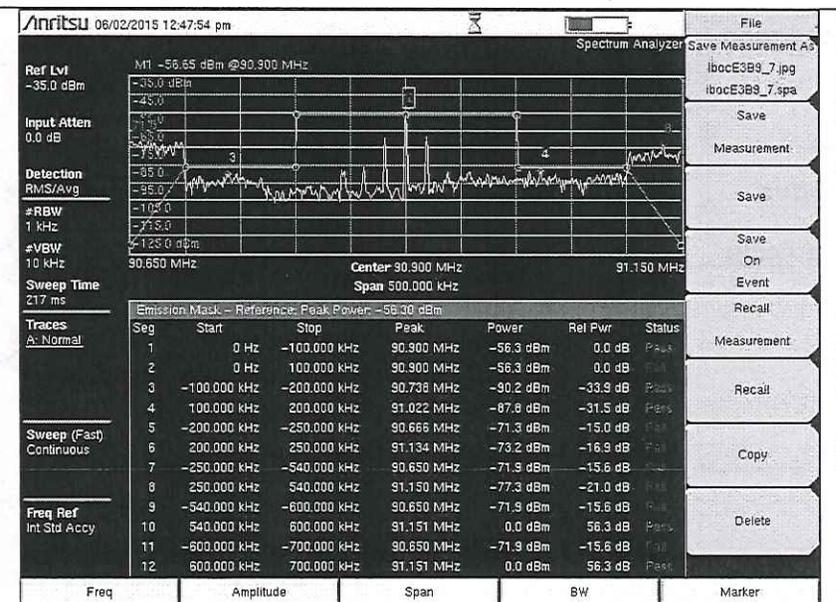
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Bloque	11
Medición	1.2
VOZ	



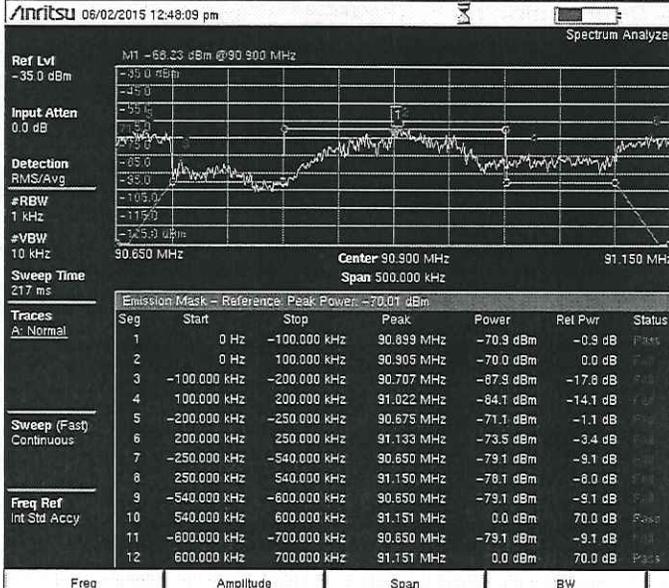
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Bloque	11	
Medición	1.3	
VOZ		

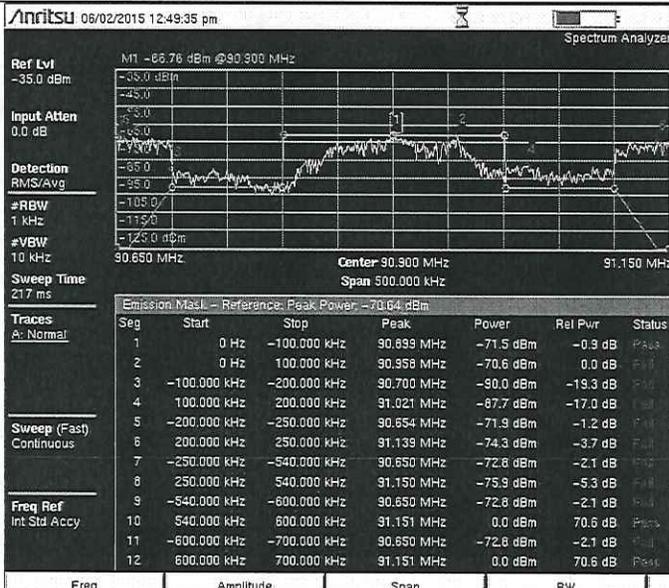
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Bloque	11	
Medición	2.1	
MUSICA		

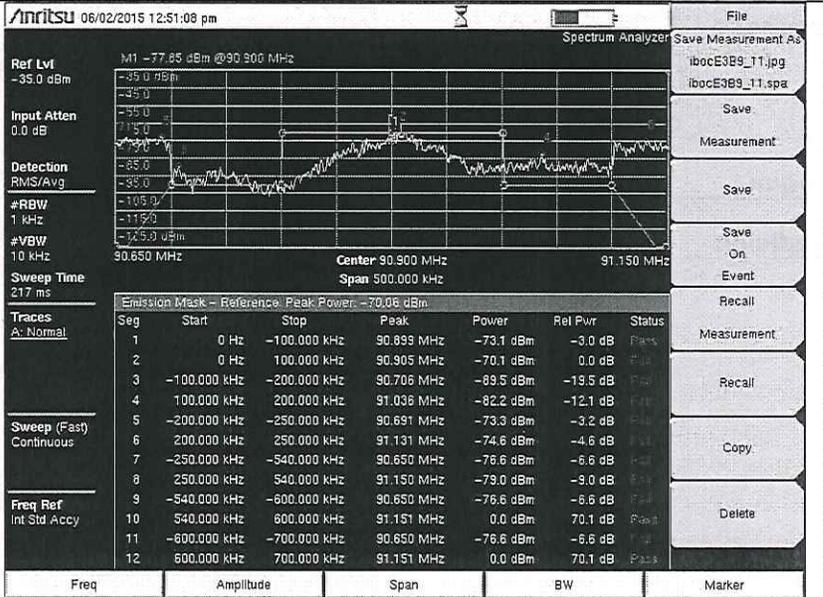
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Bloque	11	
Medición	2.2	
MUSICA		

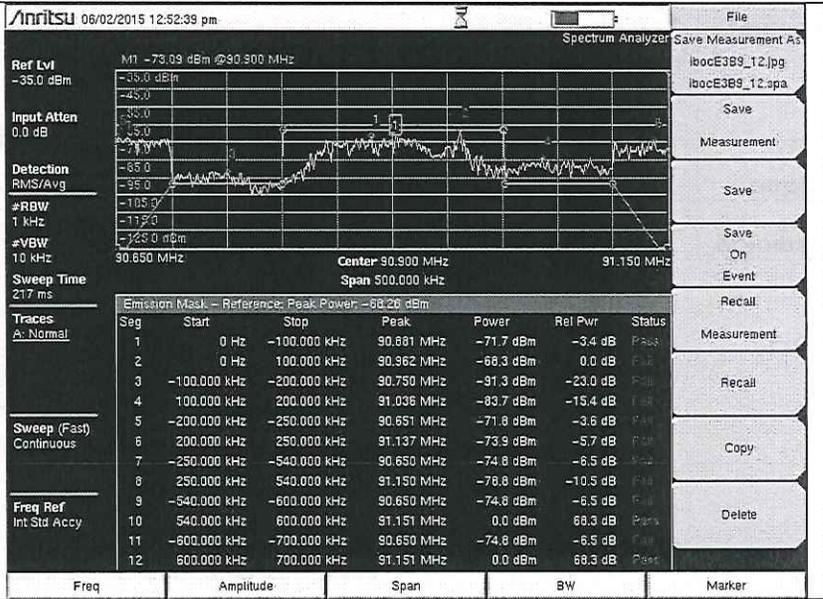
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Bloque	11	
Medición	2.3	
MUSICA		

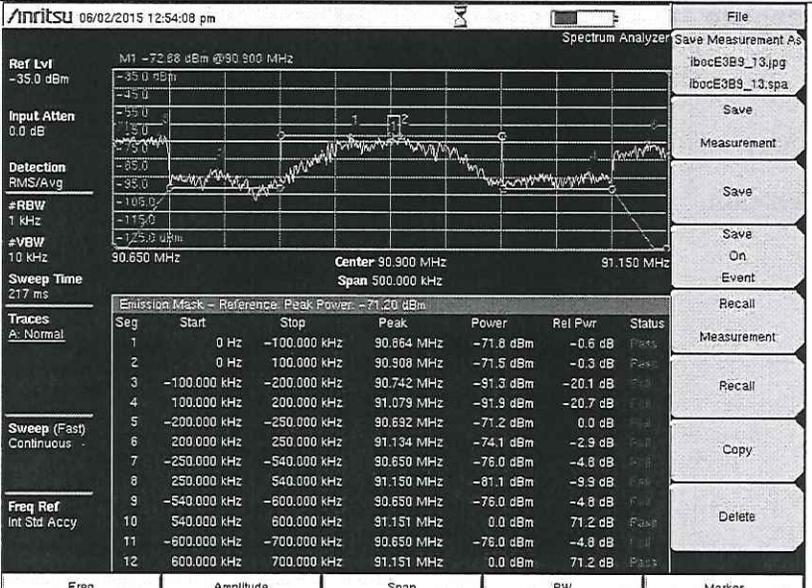
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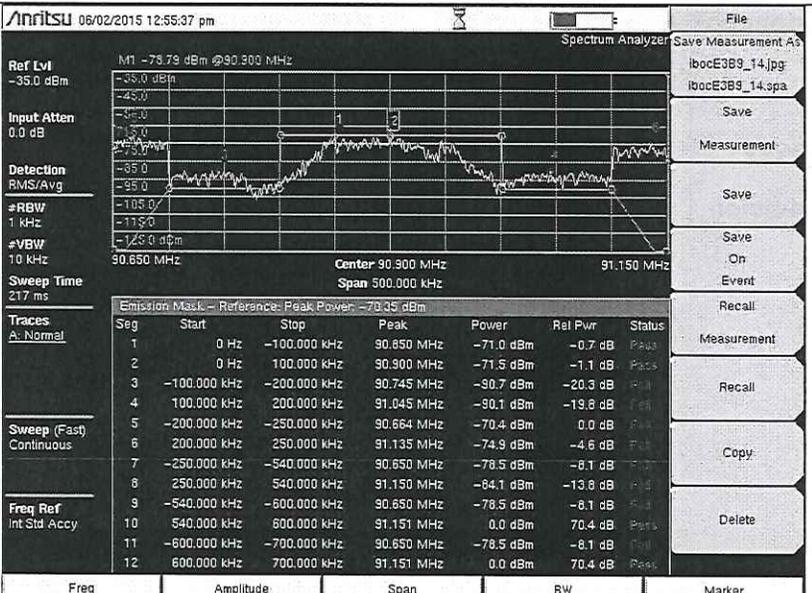
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5	-200.000 kHz	-250.000 kHz	90.654 MHz	-71.9 dBm	-1.2 dB	Pass																																																																																							
6	200.000 kHz	250.000 kHz	91.139 MHz	-74.3 dBm	-3.7 dB	Pass																																																																																							
7	-250.000 kHz	-540.000 kHz	90.650 MHz	-72.8 dBm	-2.1 dB	Pass																																																																																							
8	250.000 kHz	540.000 kHz	91.150 MHz	-75.9 dBm	-5.3 dB	Pass																																																																																							
9	-540.000 kHz	-600.000 kHz	90.650 MHz	-72.8 dBm	-2.1 dB	Pass																																																																																							
10	540.000 kHz	600.000 kHz	91.151 MHz	0.0 dBm	70.6 dB	Pass																																																																																							
11	-600.000 kHz	-700.000 kHz	90.650 MHz	-72.8 dBm	-2.1 dB	Pass																																																																																							
12	600.000 kHz	700.000 kHz	91.151 MHz	0.0 dBm	70.6 dB	Pass																																																																																							

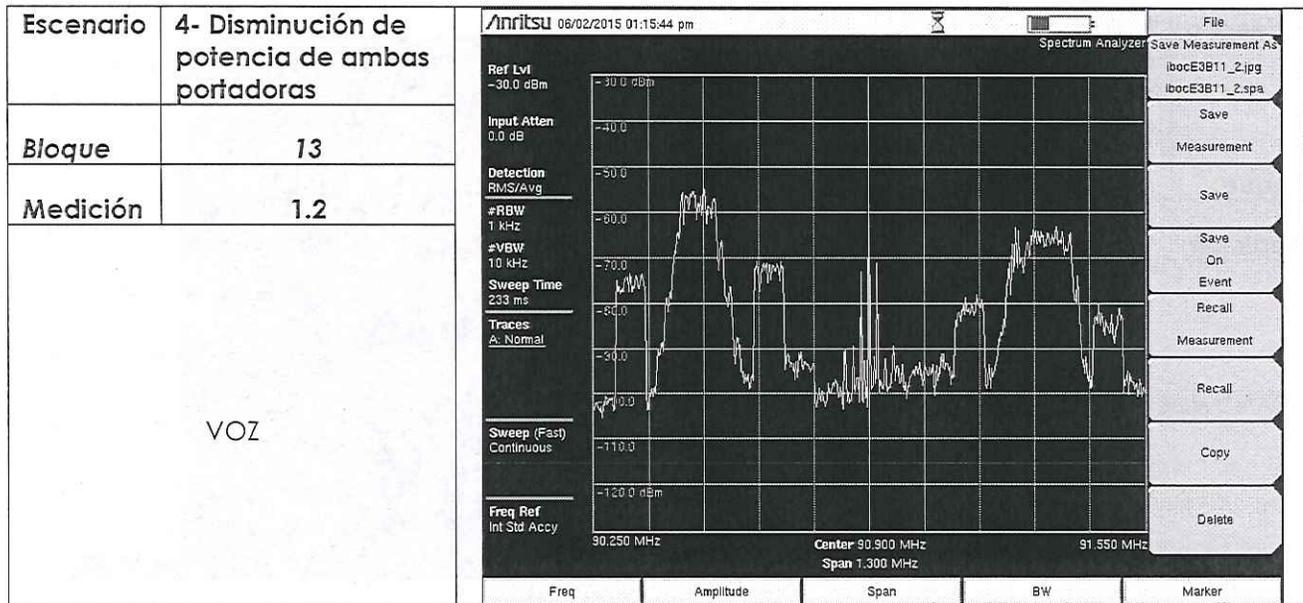
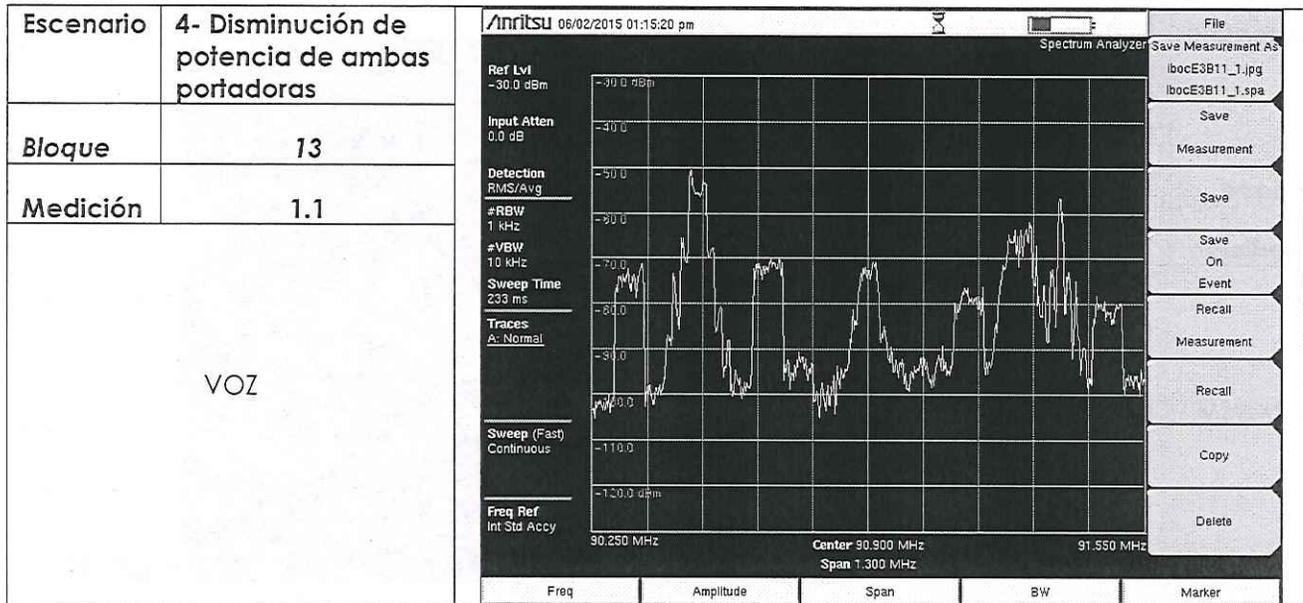
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Bloque	11	
Medición	4.1	
TRANSMISIÓN CONVENCIONAL		

Escenario	3- Disminución de potencia de portadora digital derecha	
Bloque	11	
Medición	4.2	
TRANSMISIÓN CONVENCIONAL		

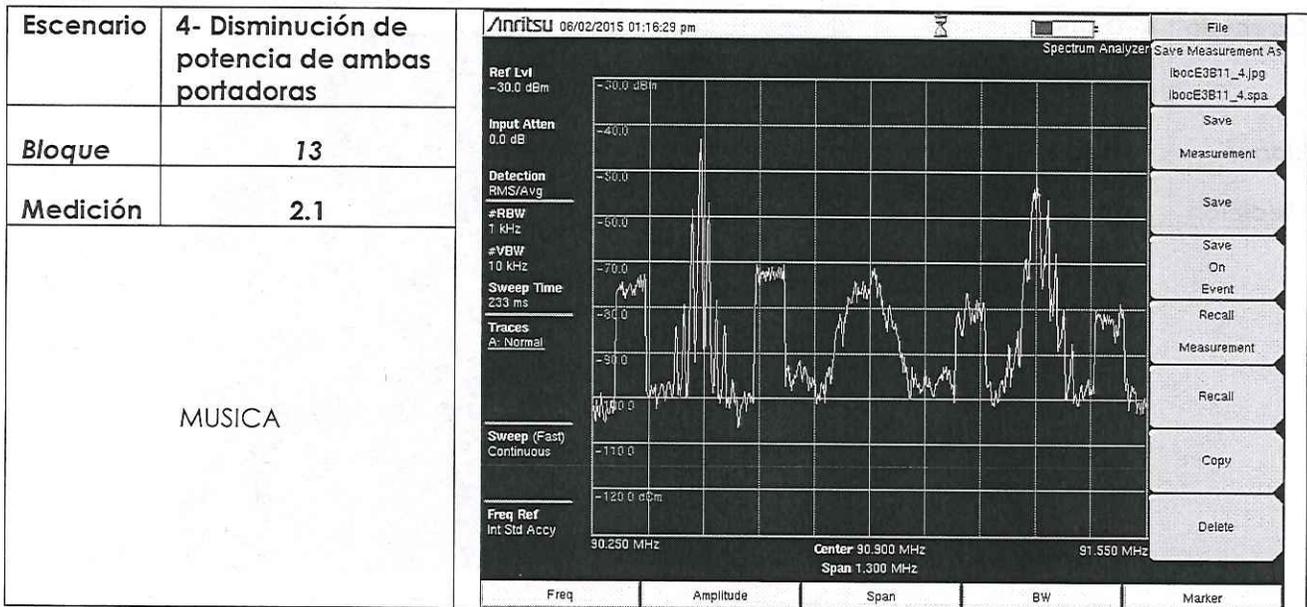
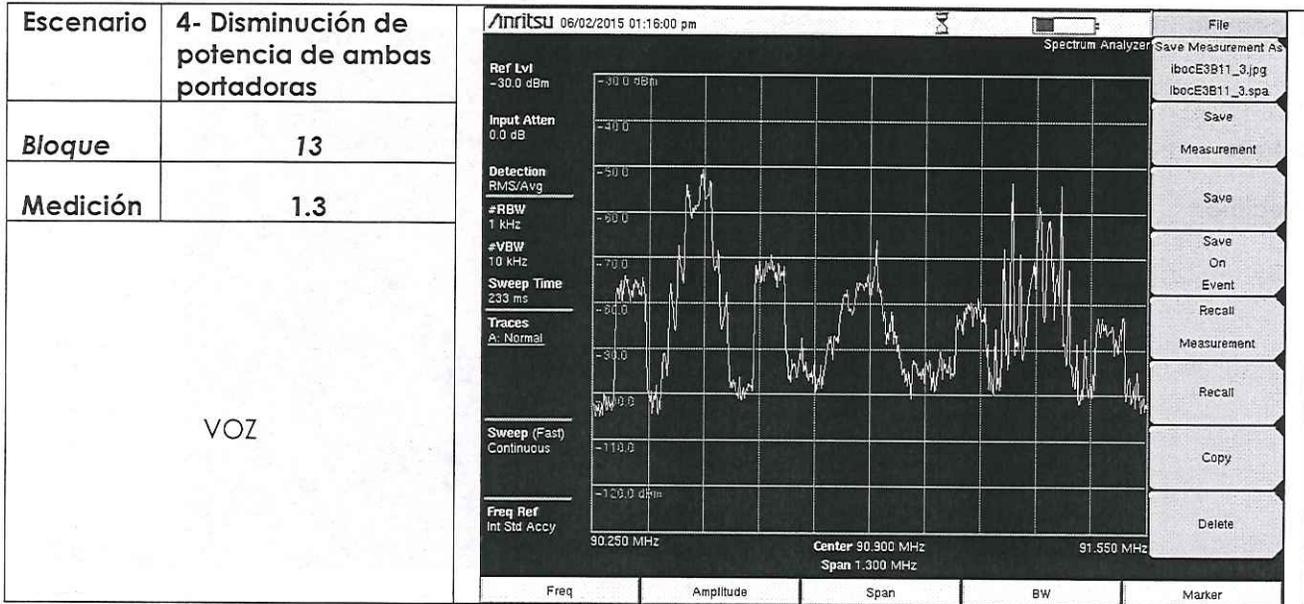
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Bloque	11	
Medición	4.3	
TRANSMISIÓN CONVENCIONAL		

Escenario	3- Disminución de potencia de portadora digital derecha	
Bloque	11	
Medición	4.4	
TRANSMISIÓN CONVENCIONAL		

Escenario	3- Disminución de potencia de portadora digital derecha	<p>FUE NECESARIO RESETEAR EL ANALIZADOR DE ESPECTRO</p>
Bloque	11	
Medición	4.5	
TRANSMISIÓN CONVENCIONAL		







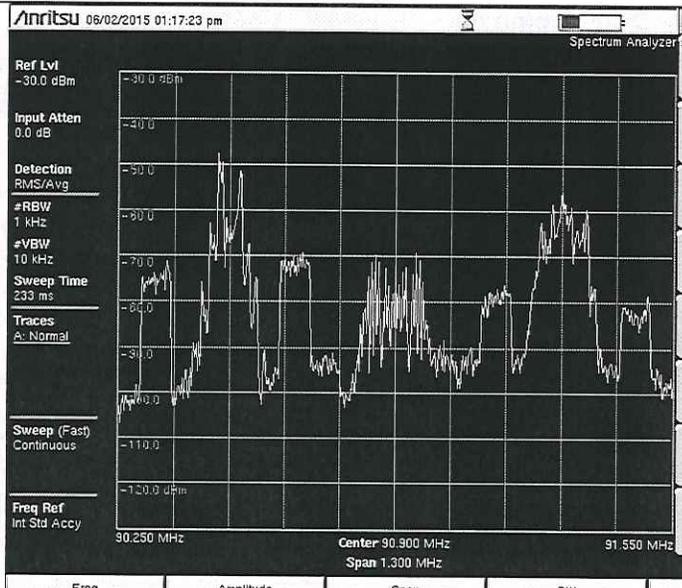
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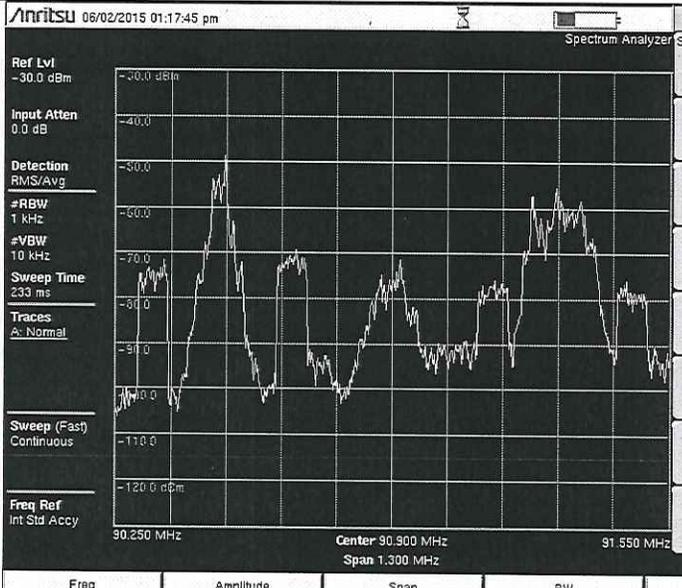
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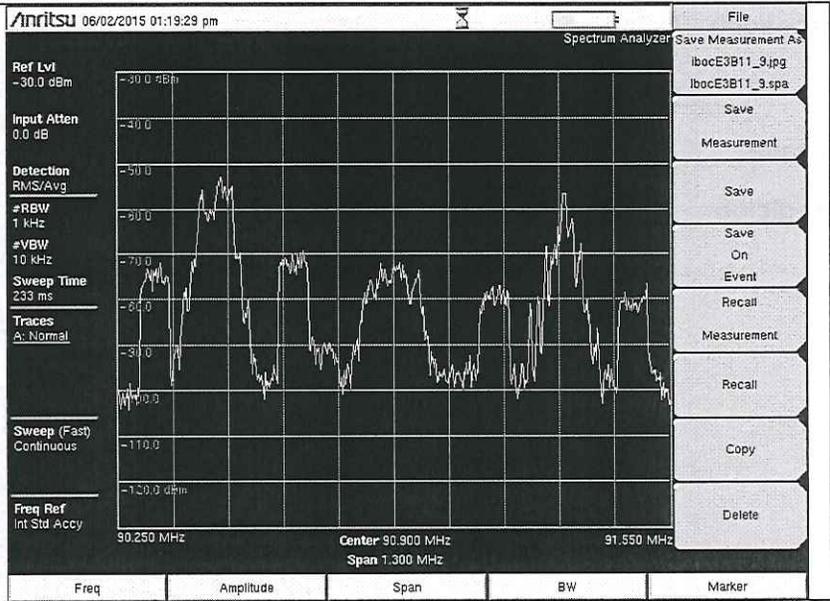


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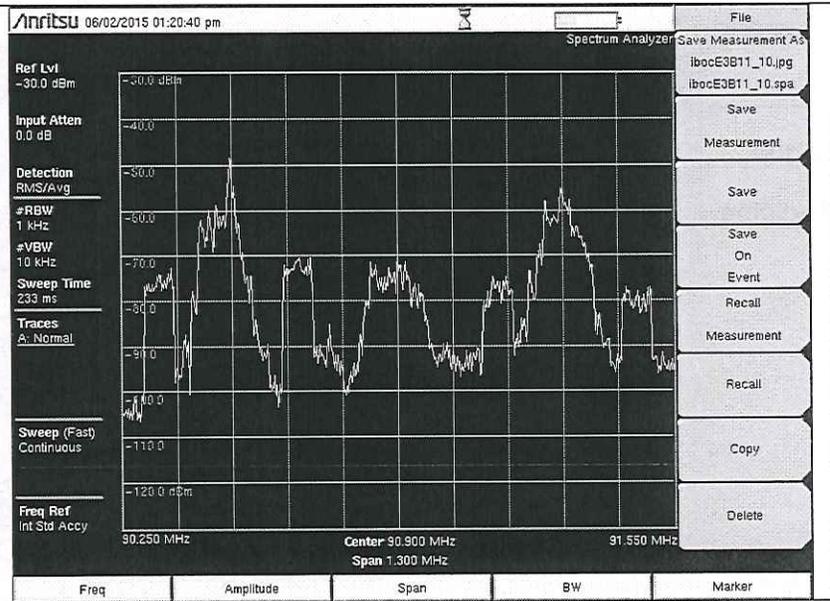
Escenario	4- Disminución de potencia de ambas portadoras	RUIDO		File Save Measurement As ibocE3B11_7.jpg ibocE3B11_7.spa Save Measurement Save On Event Recall Measurement Recall Copy Delete
Bloque	13			
Medición	3.1			

Escenario	4- Disminución de potencia de ambas portadoras	RUIDO		File Save Measurement As ibocE3B11_8.jpg ibocE3B11_8.spa Save Measurement Save On Event Recall Measurement Recall Copy Delete
Bloque	13			
Medición	3.2			

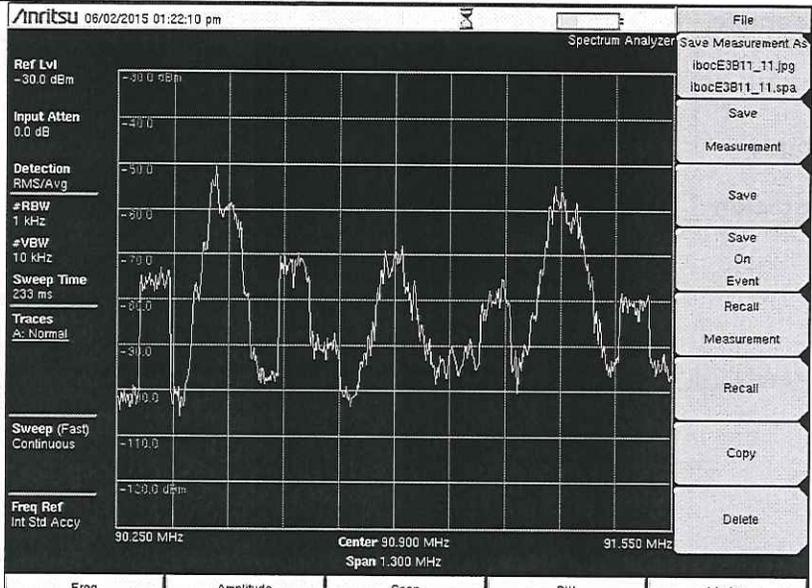
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Bloque	13
Medición	4.1
TRANSMISIÓN CONVENCIONAL	

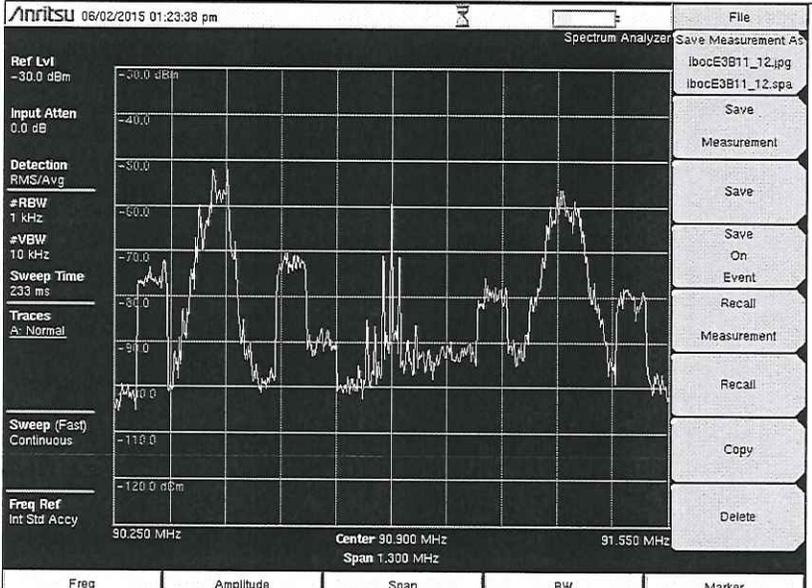


Escenario	4- Disminución de potencia de ambas portadoras
Bloque	13
Medición	4.2
TRANSMISIÓN CONVENCIONAL	



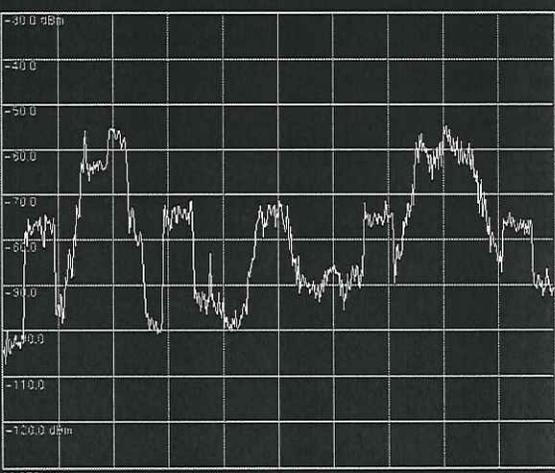
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Bloque	13	
Medición	4.3	
TRANSMISIÓN CONVENCIONAL		

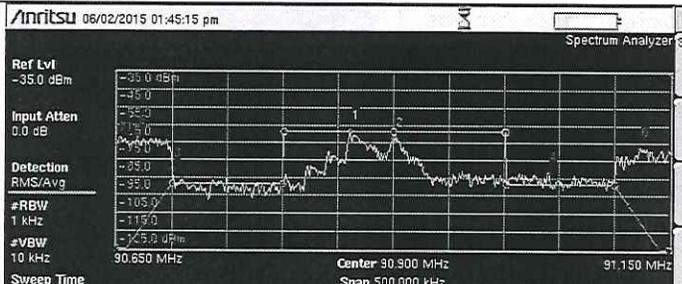
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Bloque	13	
Medición	4.4	
TRANSMISIÓN CONVENCIONAL		

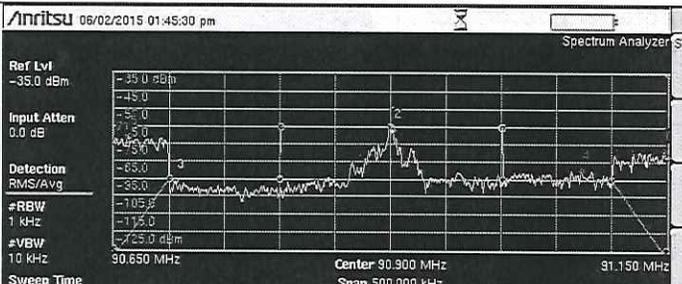
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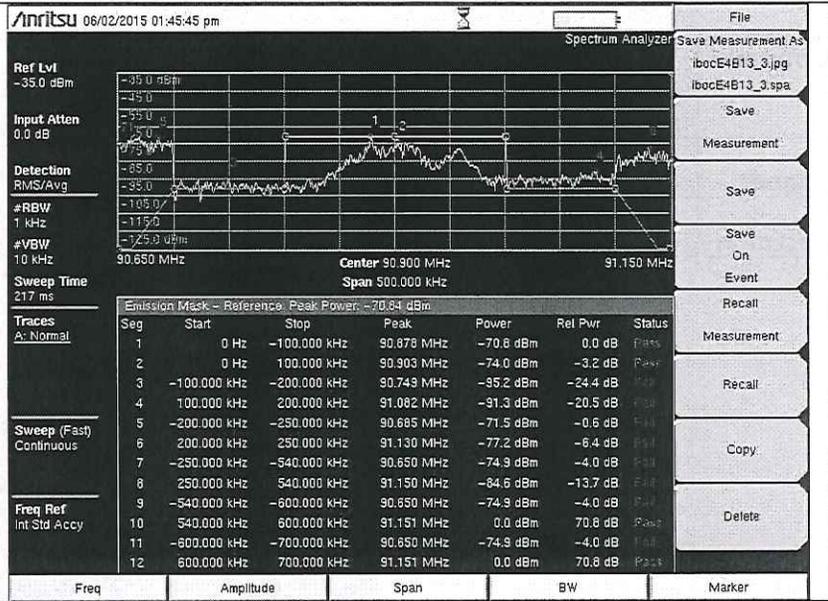
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Bloque	13			Save Measurement As ibocE3811_13.jpg ibocE3811_13.spa
Medición	4.5			Save Measurement
TRANSMISIÓN CONVENCIONAL				Save
		Save On Event		
		Recall Measurement		
		Recall		
		Copy		
		Delete		
		90.250 MHz Center 90.900 MHz 91.550 MHz Span 1.300 MHz Freq Amplitude Span BW Marker		

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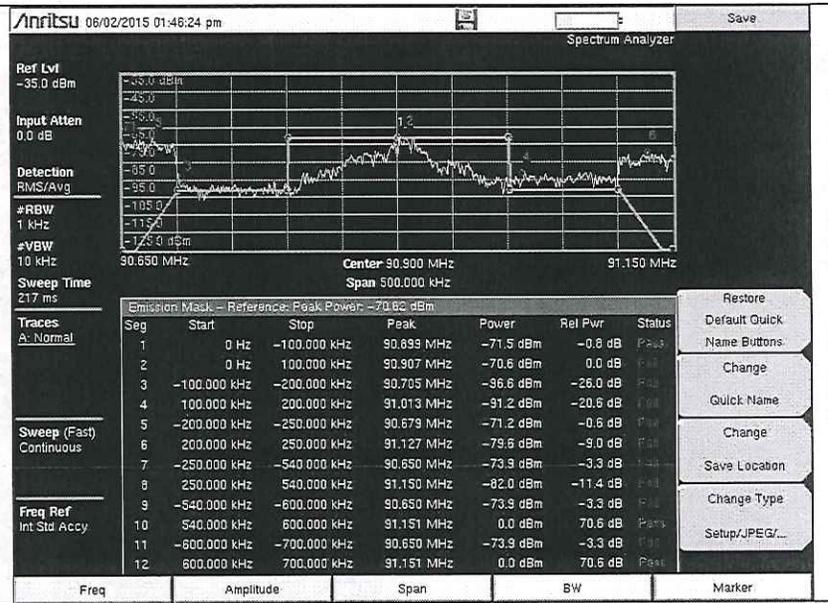
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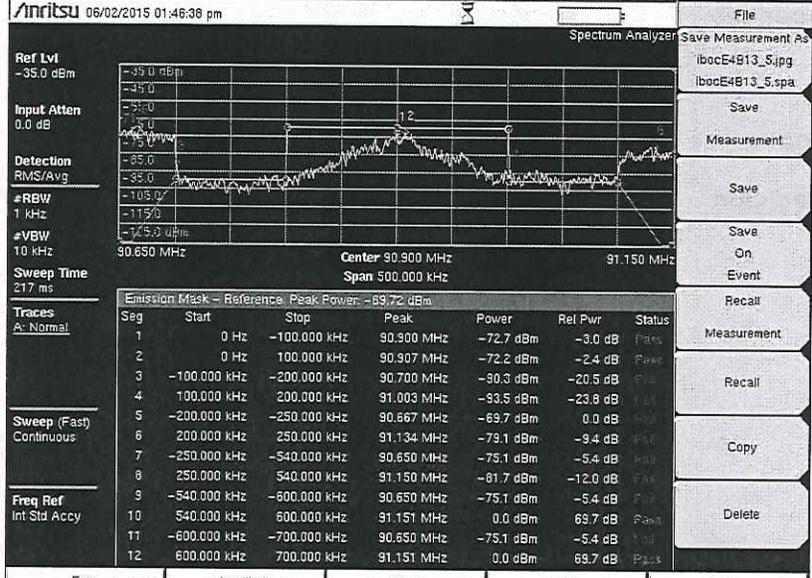
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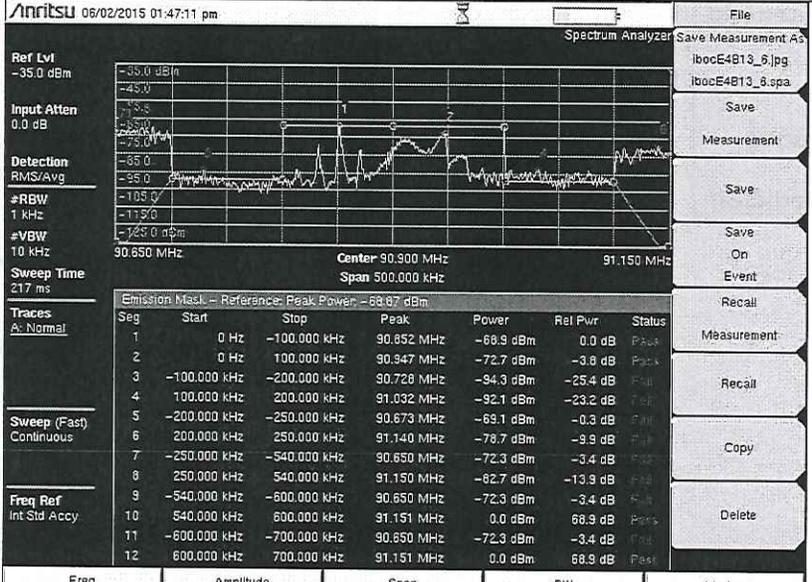
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Bloque	15
Medición	1.3
VOZ	

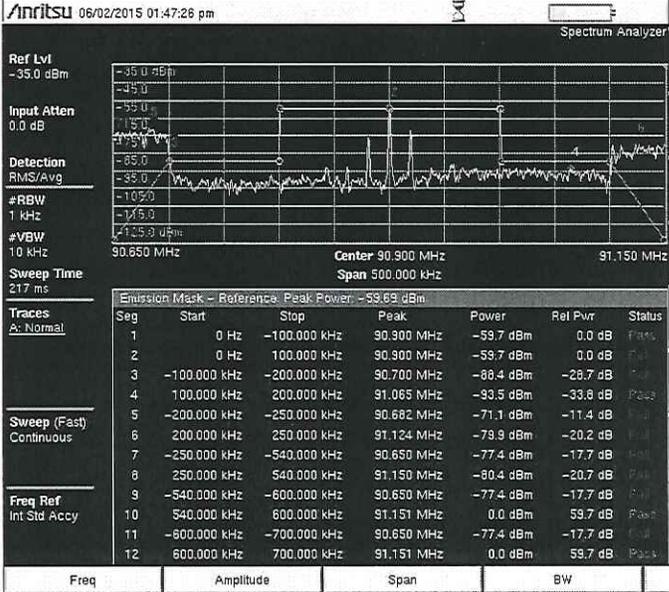


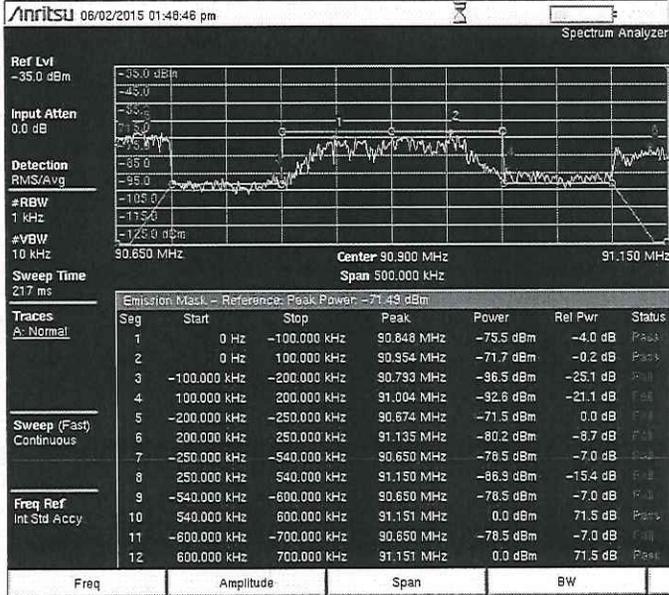
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Bloque	15
Medición	2.1
MUSICA	



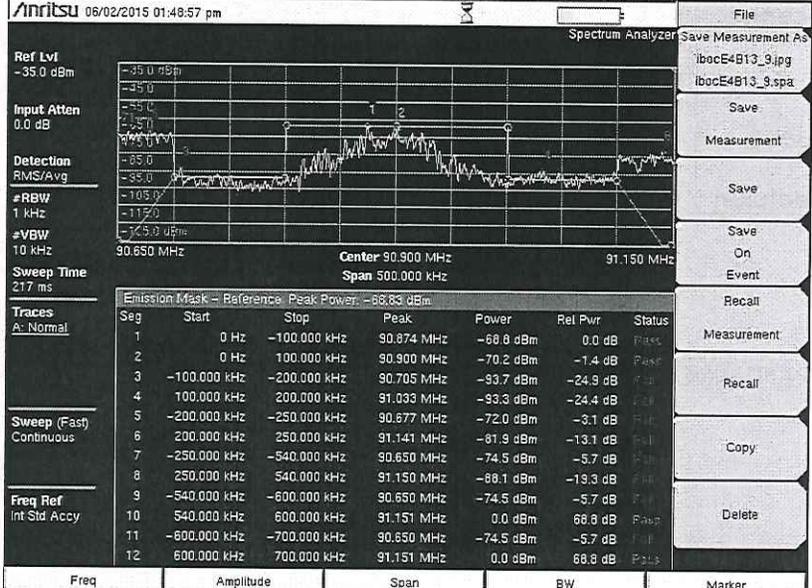
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Bloque	15	
Medición	2.2	
MUSICA		

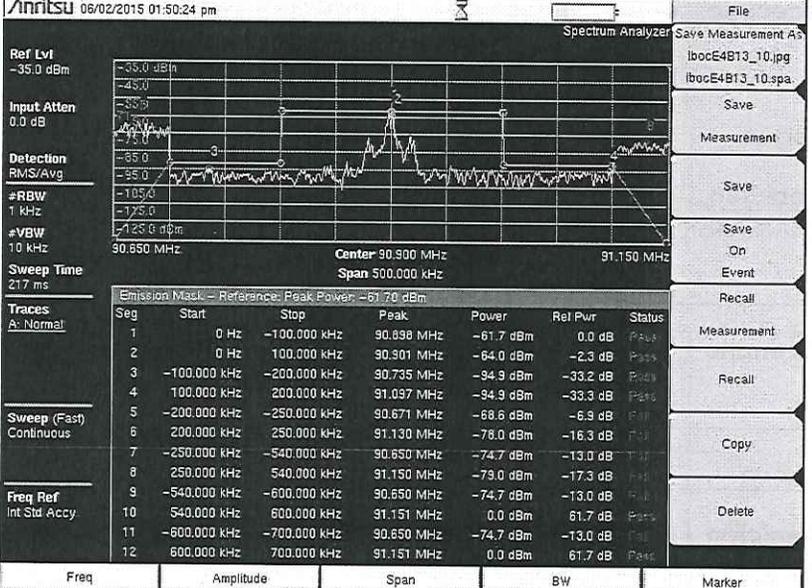
Escenario	4- Disminución de potencia de ambas portadoras	
Bloque	15	
Medición	2.3	
MUSICA		

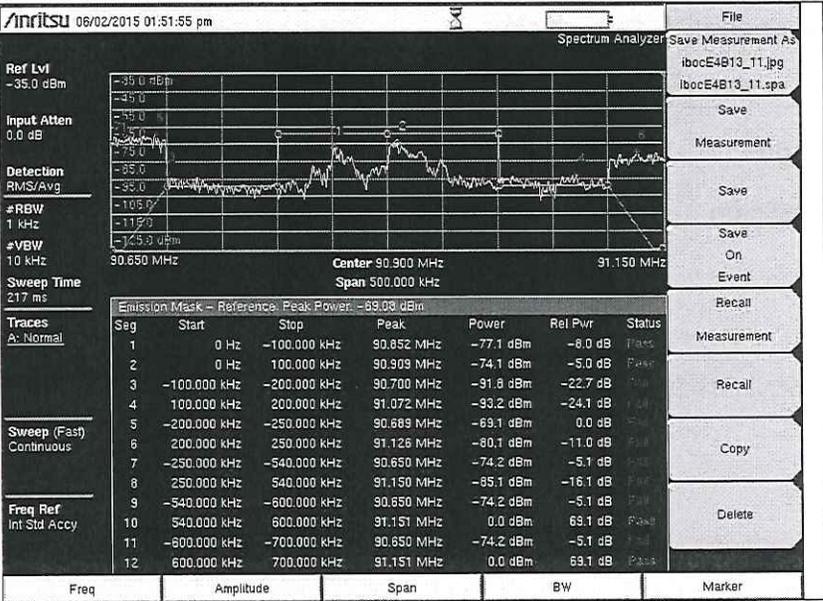
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Escenario	4- Disminución de potencia de ambas portadoras		File																																																																																											
Bloque	15		Save Measurement As ibocE4B13_8.jpg ibocE4B13_8.spa																																																																																											
Medición	3.2		Save Measurement																																																																																											
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Escenario	4- Disminución de potencia de ambas portadoras	
Bloque	15	
Medición	4.1	
TRANSMISIÓN CONVENCIONAL		

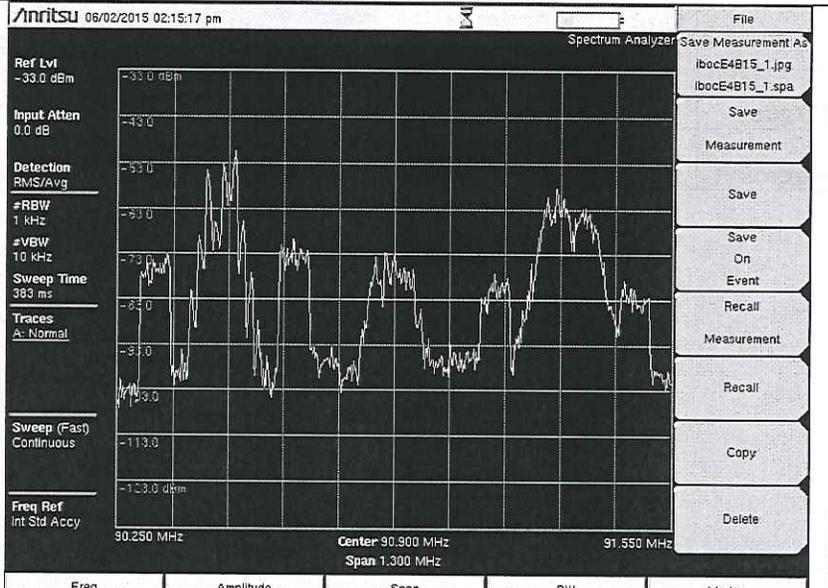
Escenario	4- Disminución de potencia de ambas portadoras	
Bloque	15	
Medición	4.2	
TRANSMISIÓN CONVENCIONAL		

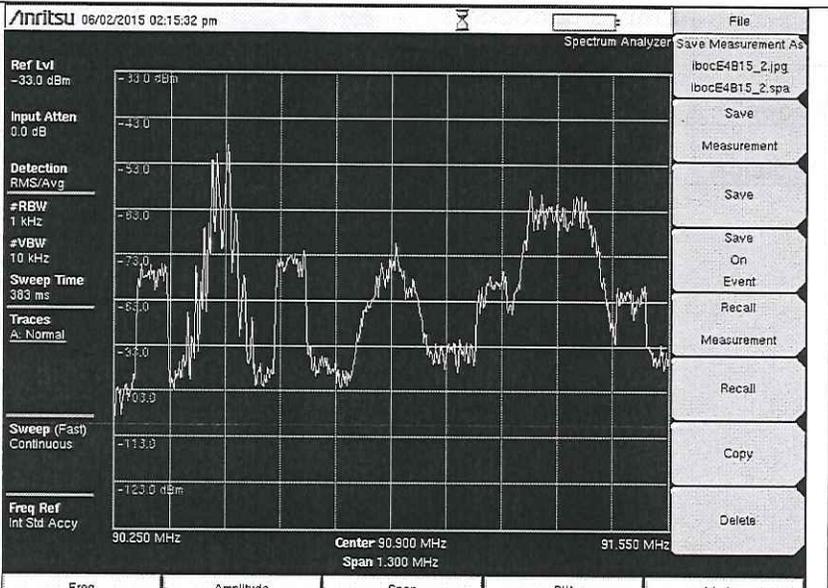
Escenario	4- Disminución de potencia de ambas portadoras	
Bloque	15	
Medición	4.3	
TRANSMISIÓN CONVENCIONAL		

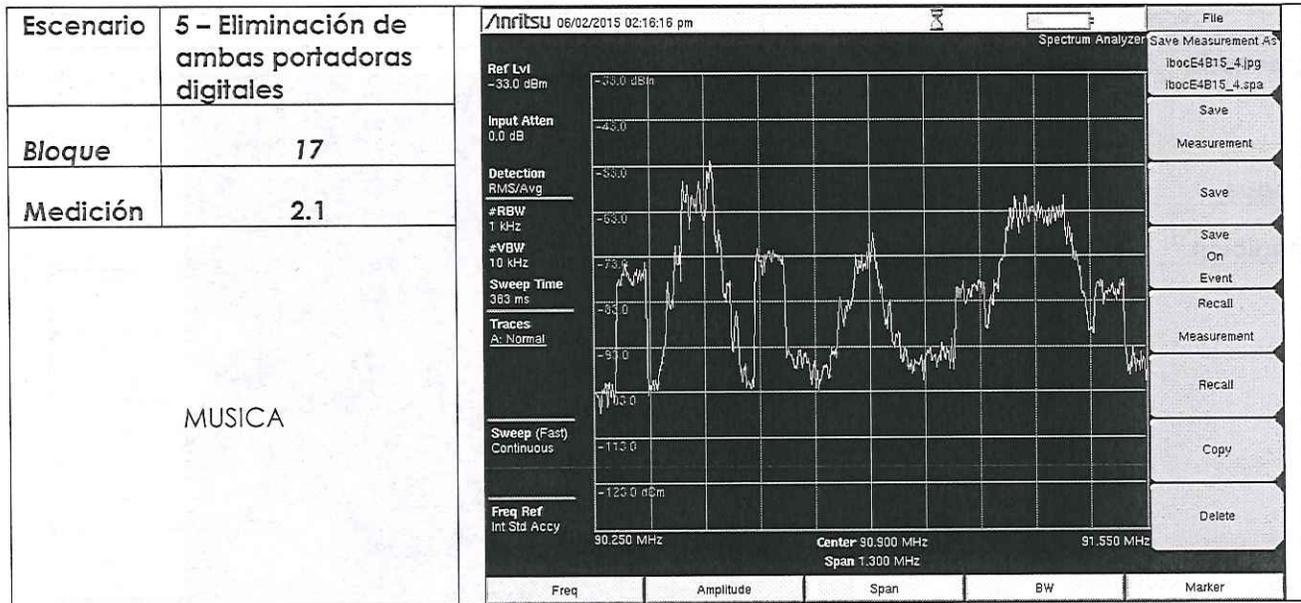
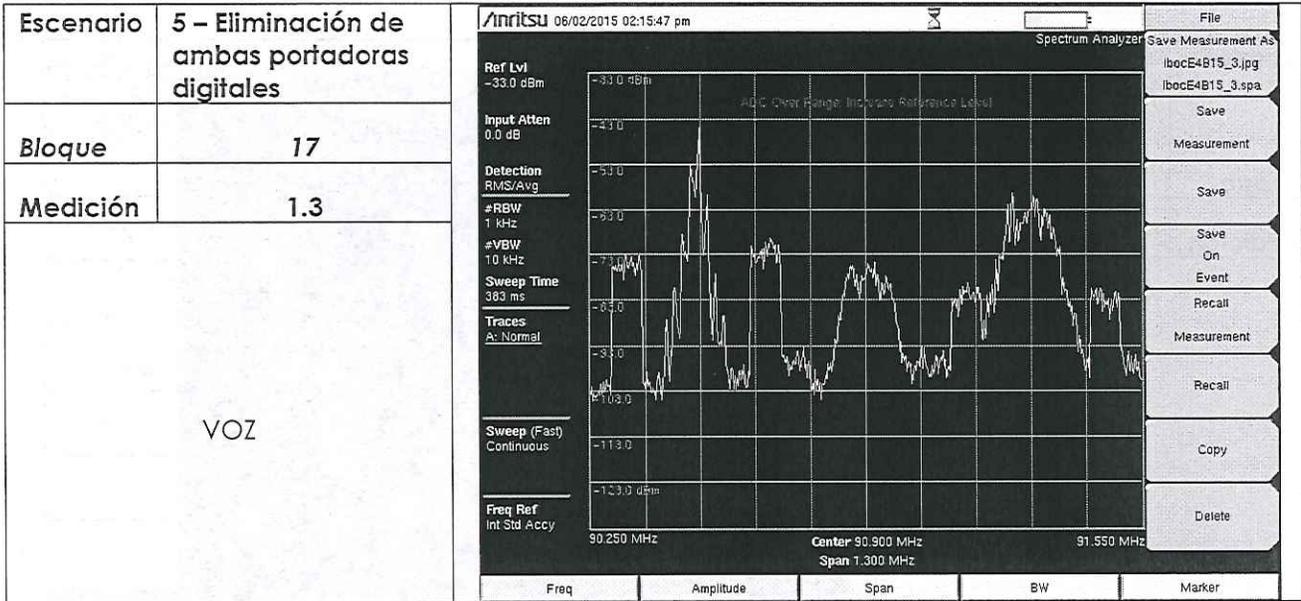
Escenario	4- Disminución de potencia de ambas portadoras	<p>FUE NECESARIO RESETEAR EL ANALIZADOR DE ESPECTRO</p>
Bloque	15	
Medición	4.4	
TRANSMISIÓN CONVENCIONAL		

Escenario	4- Disminución de potencia de ambas portadoras	<p>FUE NECESARIO RESETEAR EL ANALIZADOR DE ESPECTRO</p>
Bloque	15	
Medición	4.5	
TRANSMISIÓN CONVENCIONAL		

44
MRF

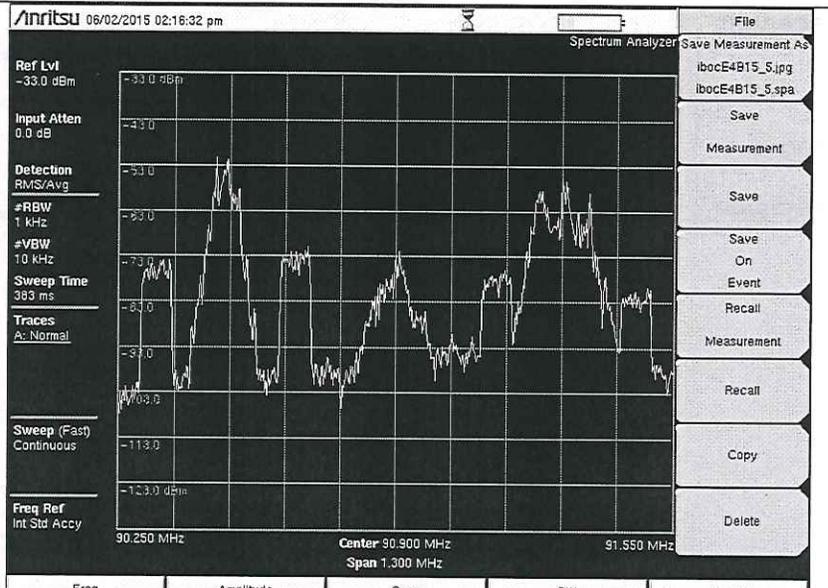
Escenario	5 – Eliminación de ambas portadoras digitales	
Bloque	17	
Medición	1.1	
VOZ		

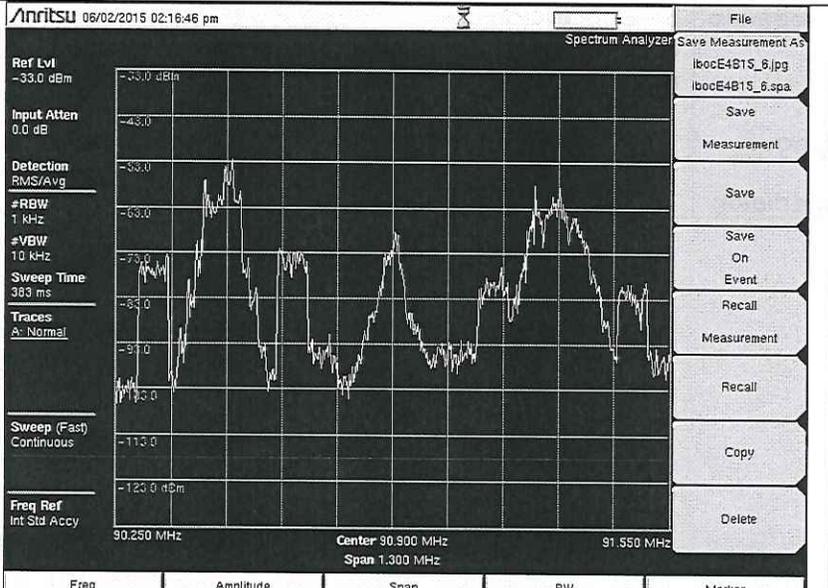
Escenario	5 – Eliminación de ambas portadoras digitales	
Bloque	17	
Medición	1.2	
VOZ		



H

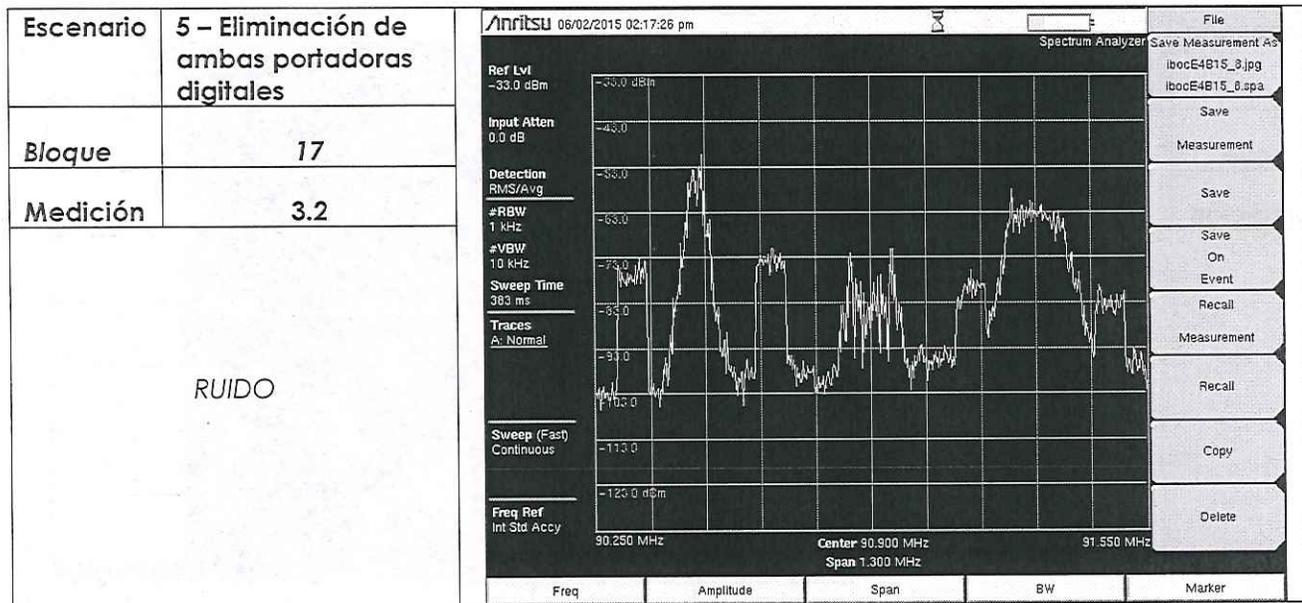
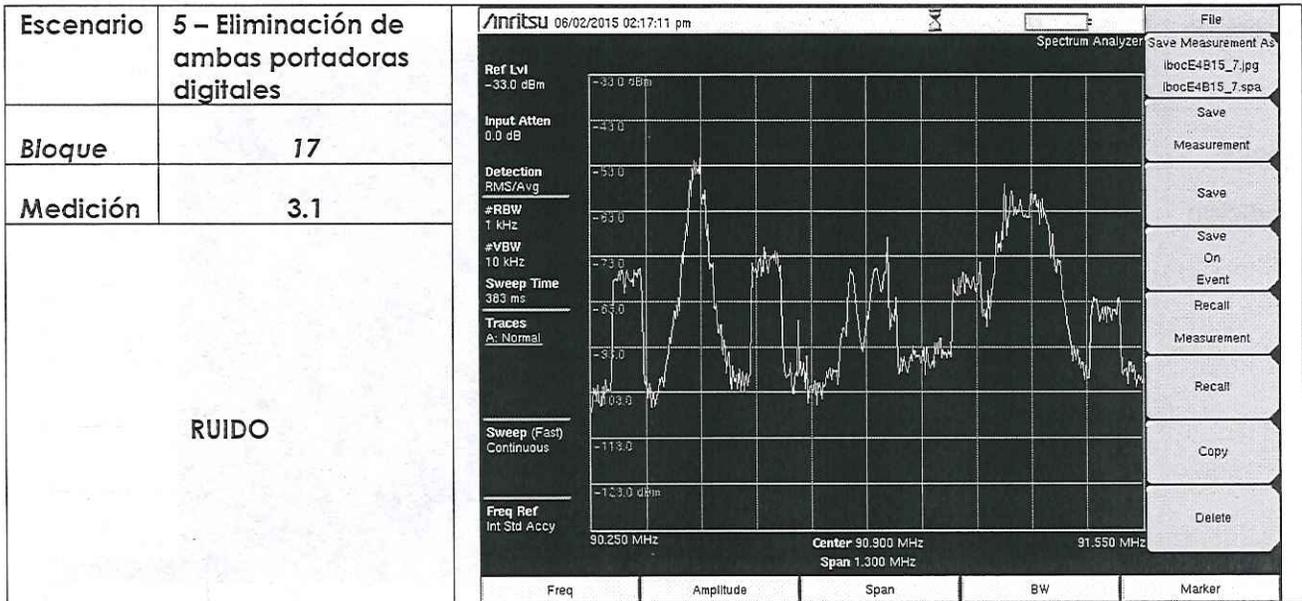
MS

Escenario	5 – Eliminación de ambas portadoras digitales	
Bloque	17	
Medición	2.2	
MUSICA		

Escenario	5 – Eliminación de ambas portadoras digitales	
Bloque	17	
Medición	2.3	
MUSICA		

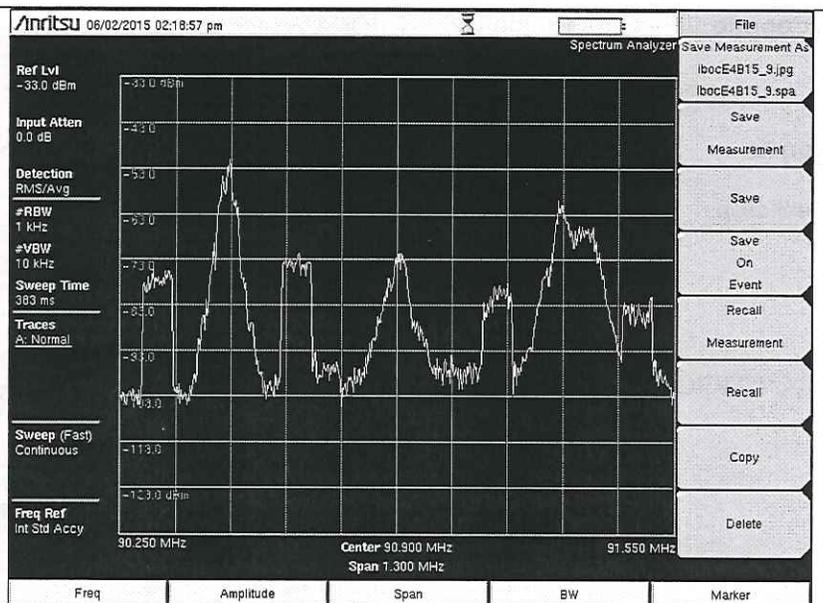
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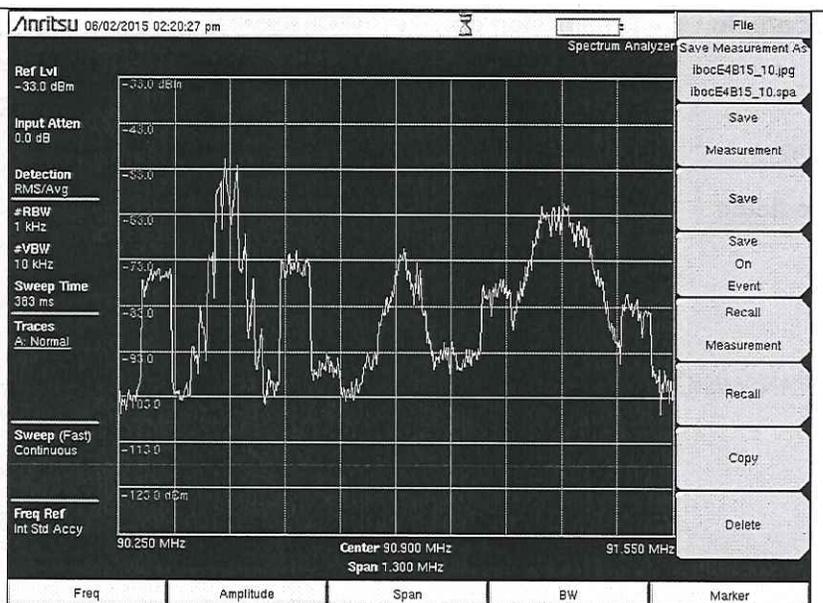




Escenario	5 – Eliminación de ambas portadoras digitales
Bloque	17
Medición	4.1
TRANSMISIÓN CONVENCIONAL	



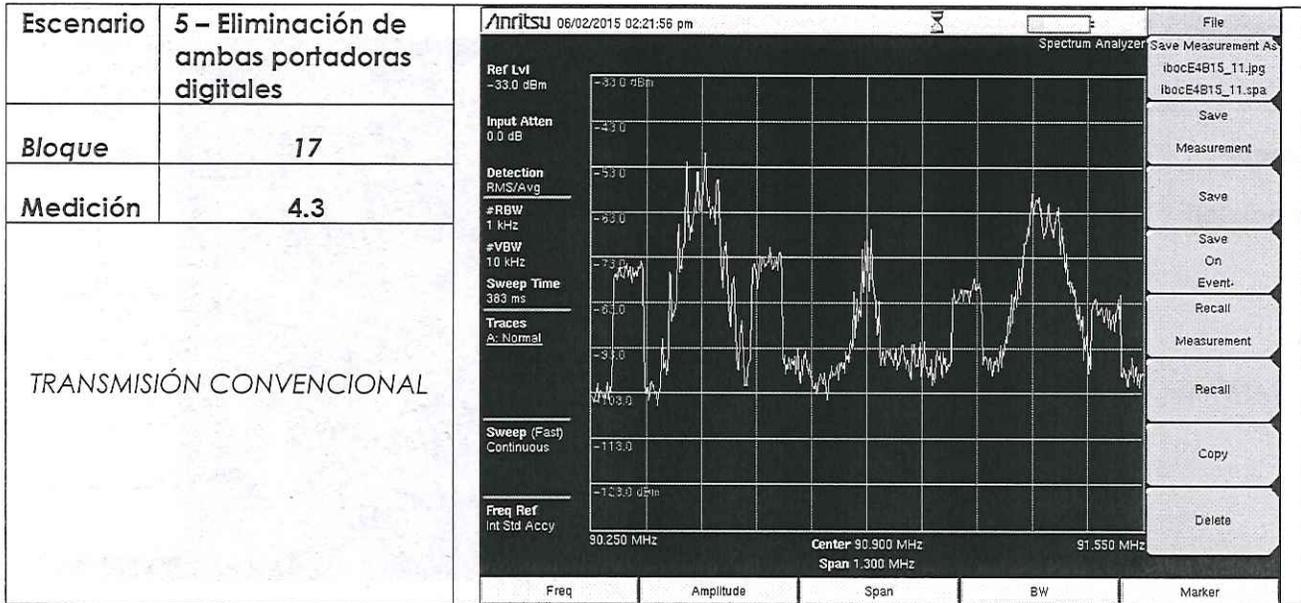
Escenario	5 – Eliminación de ambas portadoras digitales
Bloque	17
Medición	4.2
TRANSMISIÓN CONVENCIONAL	



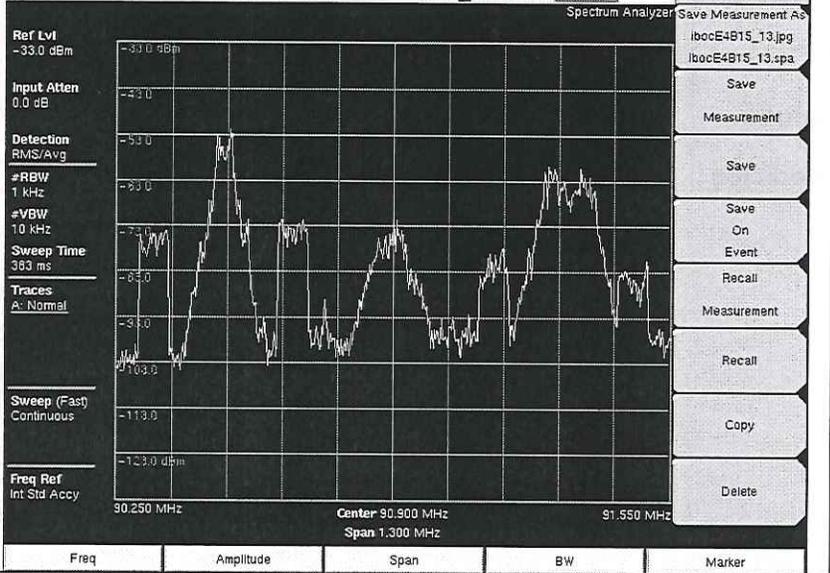
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44

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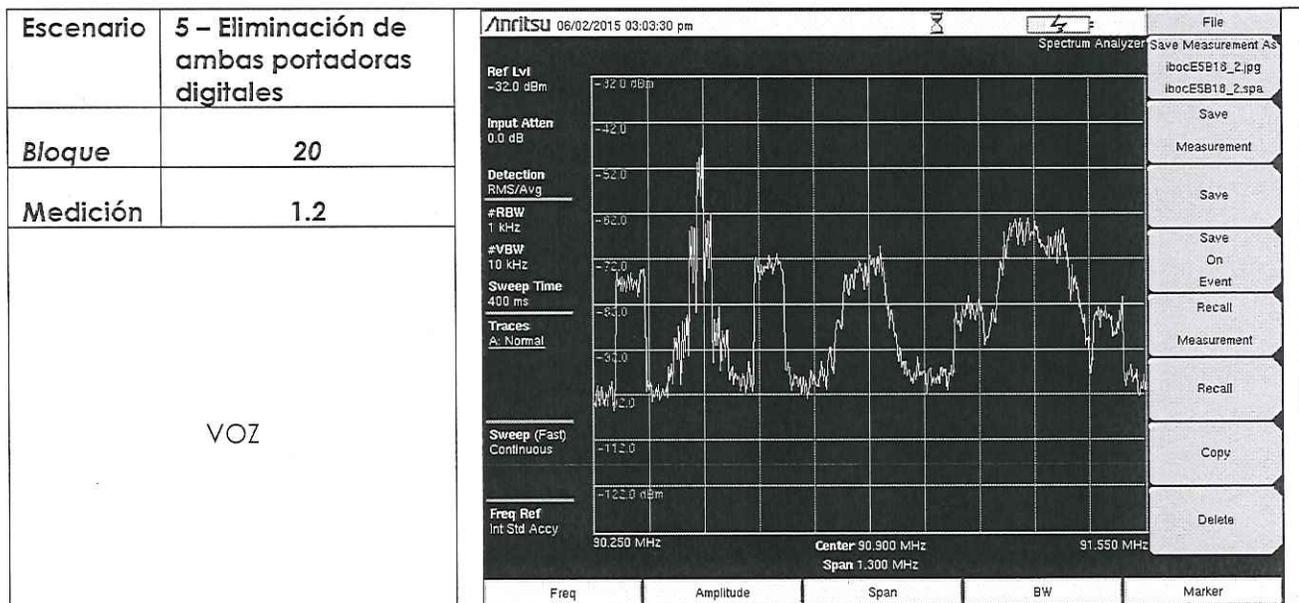
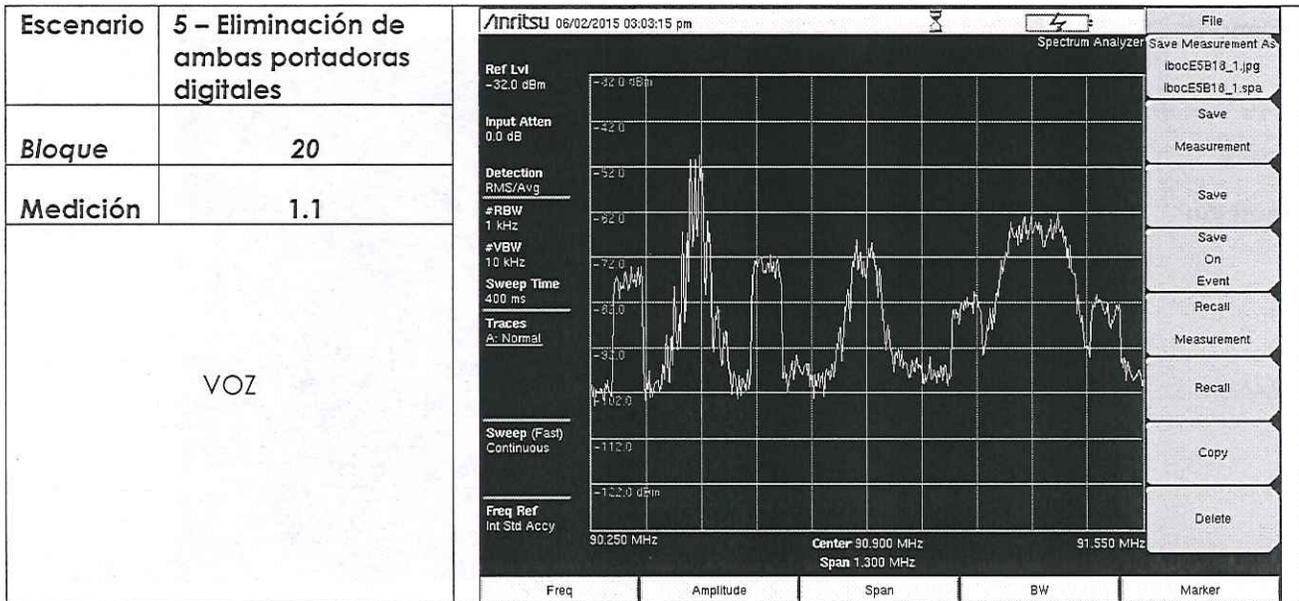


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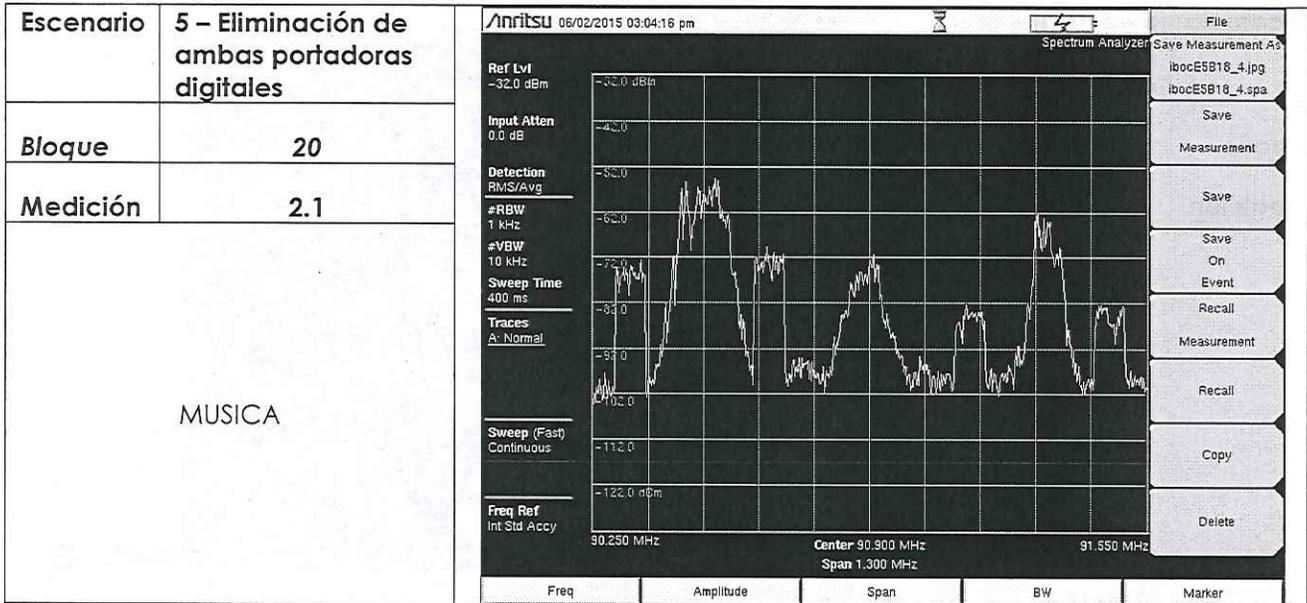
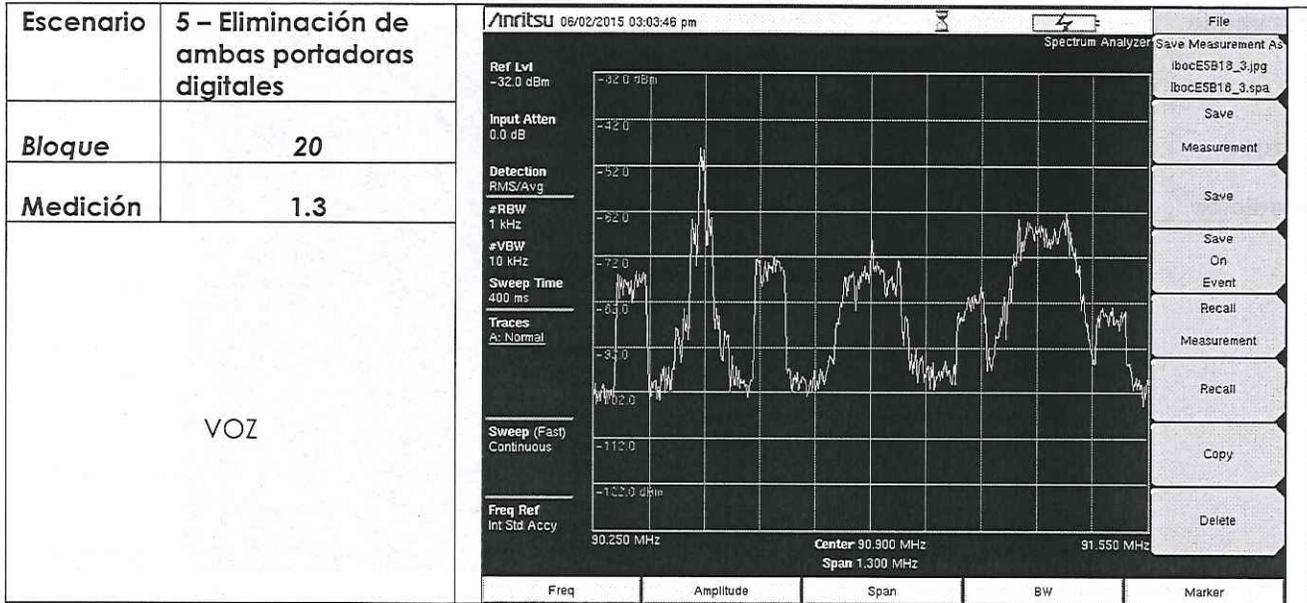
Escenario	5 – Eliminación de ambas portadoras digitales	Anritsu 06/02/2015 02:24:56 pm		File		
Bloque	17			Spectrum Analyzer		
Medición	4.5			Save Measurement As		
TRANSMISIÓN CONVENCIONAL				ibocE4B15_13.jpg		
		ibocE4B15_13.spa				
		Save				
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Recall						
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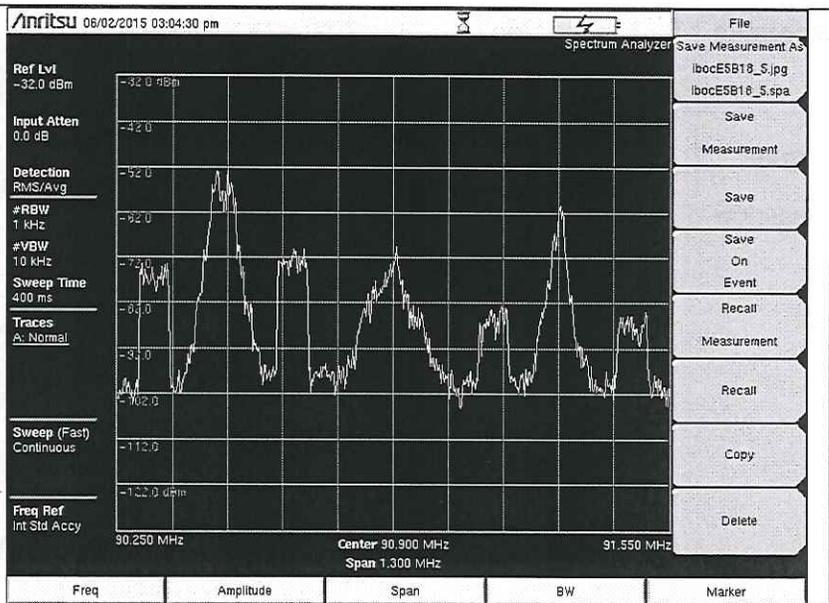
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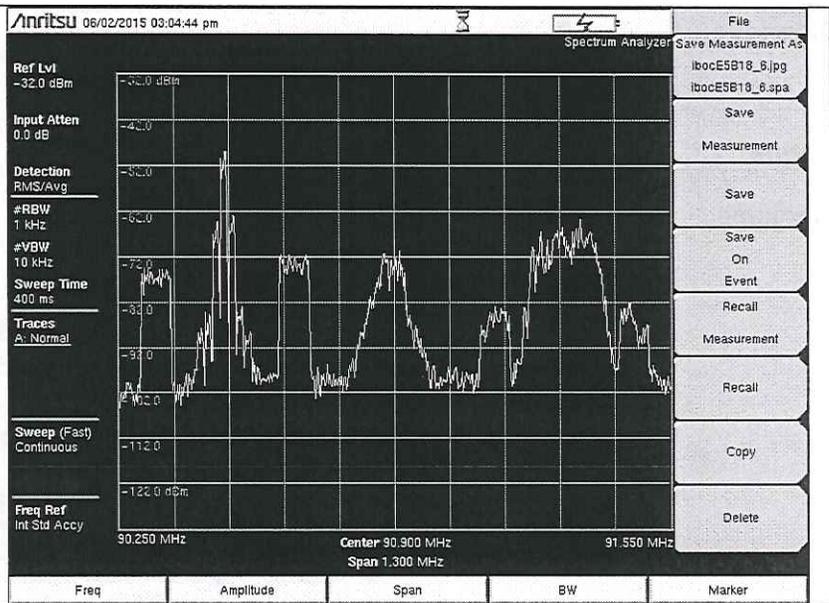
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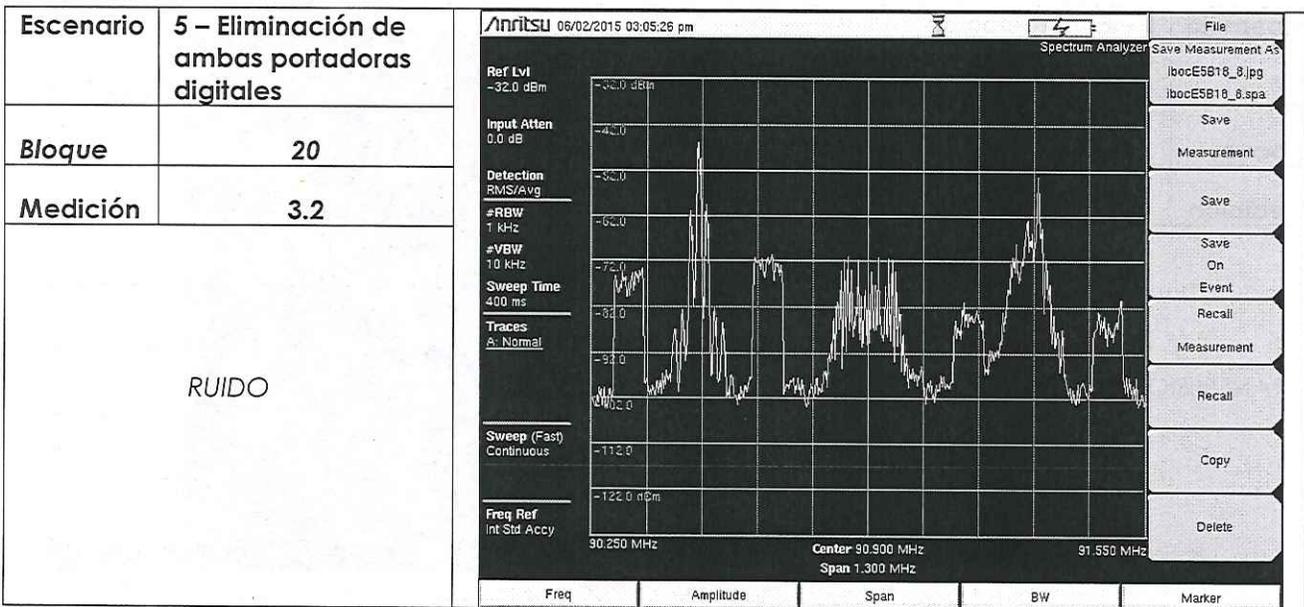
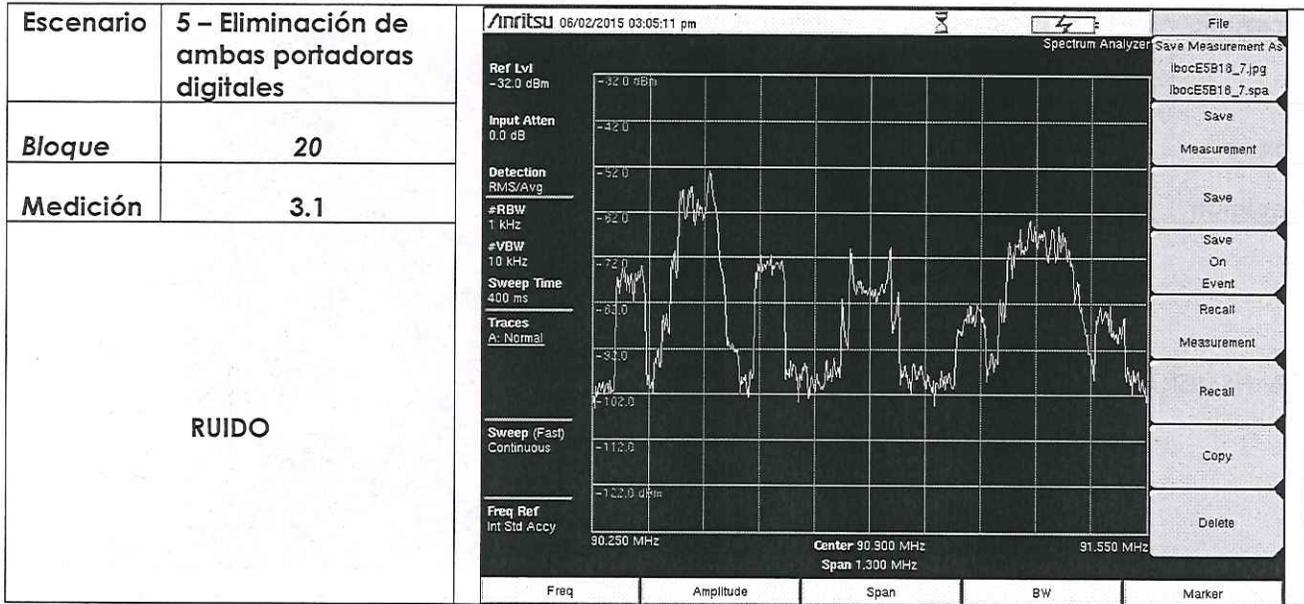
Escenario	5 - Eliminación de ambas portadoras digitales
Bloque	20
Medición	2.2
MUSICA	



Escenario	5 - Eliminación de ambas portadoras digitales
Bloque	20
Medición	2.3
MUSICA	



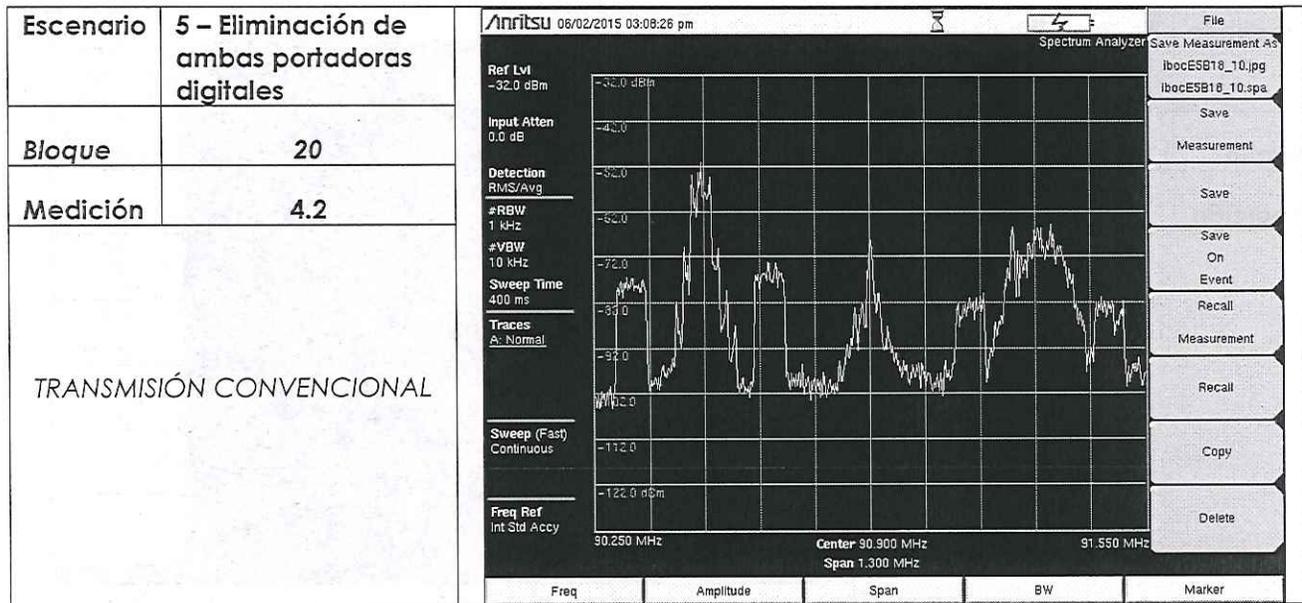
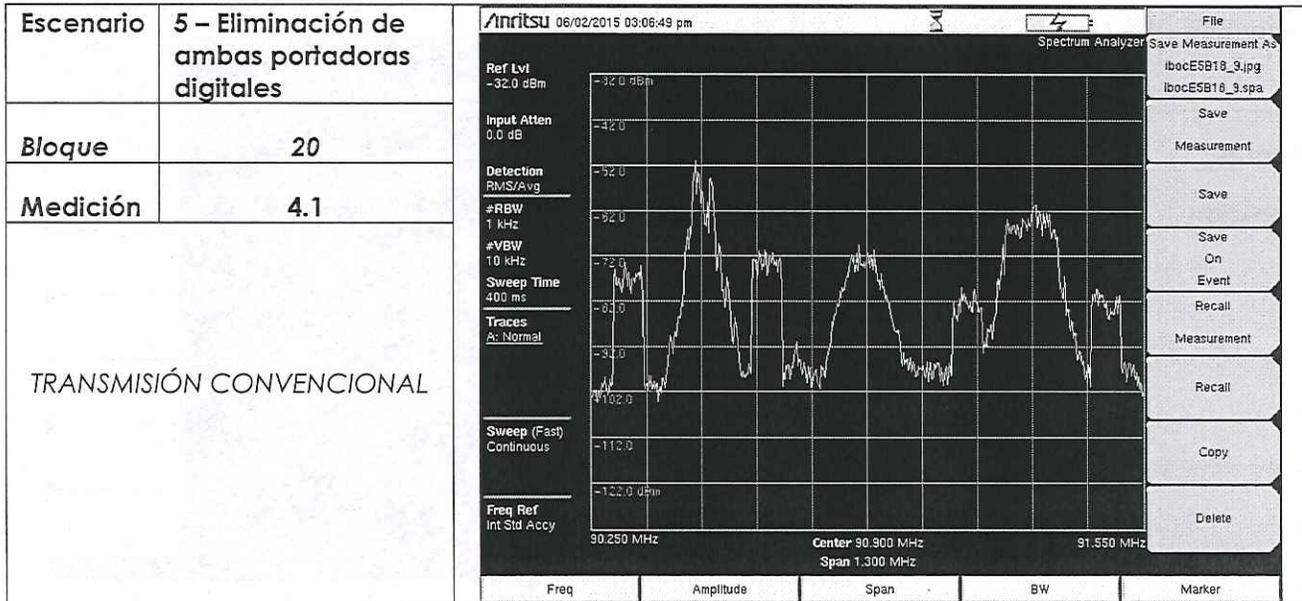
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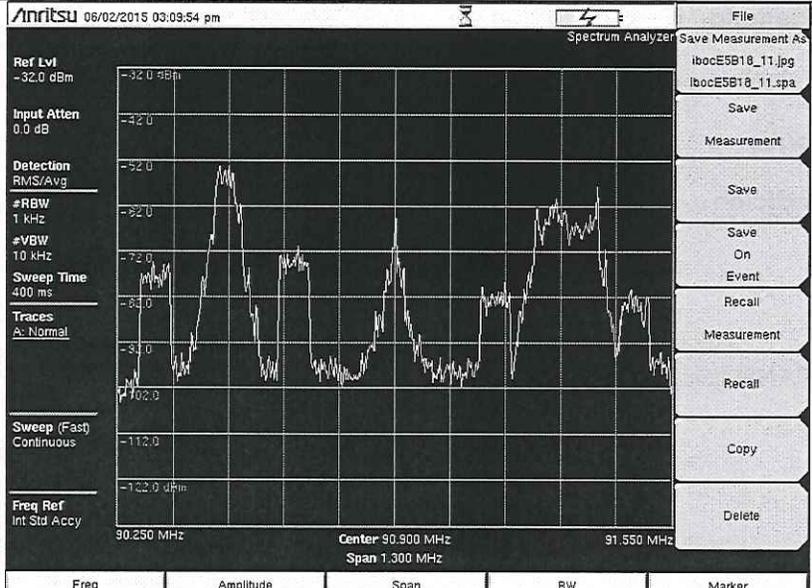


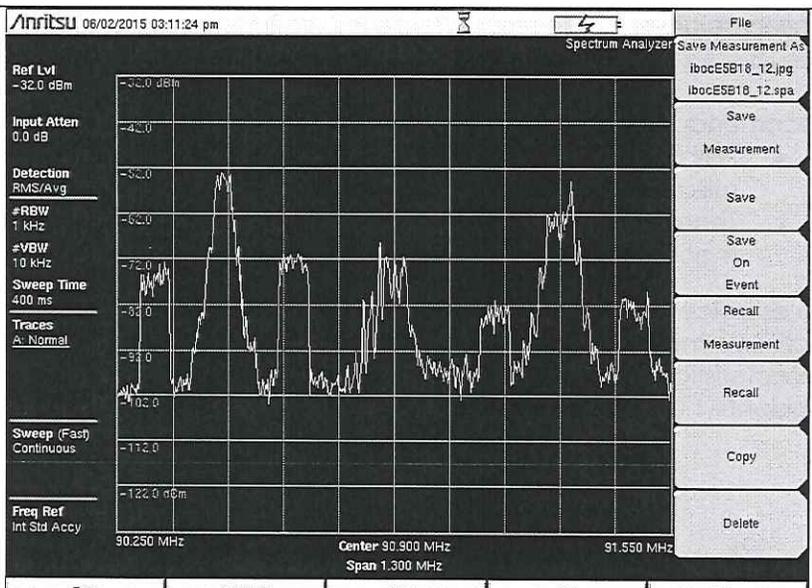
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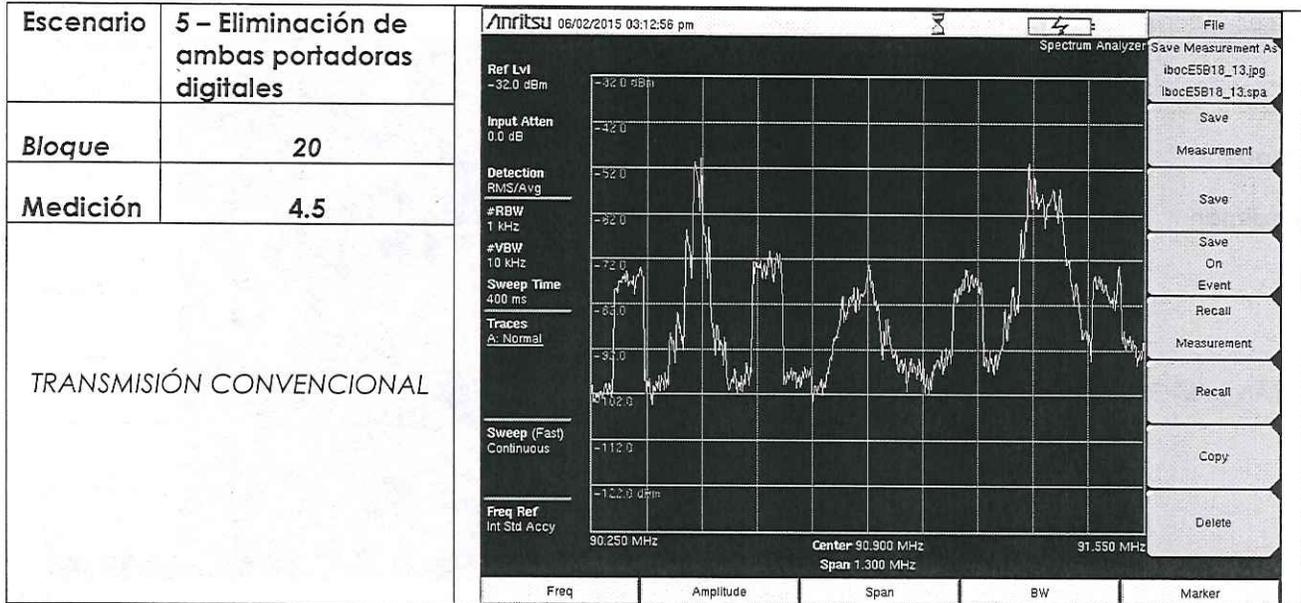


Escenario	5 – Eliminación de ambas portadoras digitales	
Bloque	20	
Medición	4.3	
TRANSMISIÓN CONVENCIONAL		

Escenario	5 – Eliminación de ambas portadoras digitales	
Bloque	20	
Medición	4.4	
TRANSMISIÓN CONVENCIONAL		

AS

AS



Observaciones: Como resultado de las gráficas obtenidas, se detectó, en la mayoría de los casos, que la emisión de la estación en comento rebasa los parámetros establecidos en la máscara.

Recomendaciones:

- Para obtener una mejor calidad de la medición en aire, esta deberá efectuarse a una milla de distancia.
- Tener mejor comunicación y coordinación con los actores externos para sincronizar de manera más eficiente las mediciones.

No es óbice señalar que el estudio de radiomonitorio realizado es circunstancial, es decir, pueden realizarse mediciones durante un periodo de tiempo determinado y encontrar señales con ciertas características y niveles; sin embargo, en fechas posteriores estas podrían cambiar o aparecer emisiones nuevas.



INFORME DE RADIOMONITOREO

No. IFT/188/2015

LUGAR DE ESTUDIO: _____ Distrito Federal _____

USUARIO: _____ Radio Ibero, A.C. _____

FRECUENCIA DE REFERENCIA: _____ 90.9 MHz _____

INDICATIVO : _____ XHUIA _____

BANDA: _____ VHF _____ TIPO DE SERVICIO: _____ Radiodifusión en FM _____

MODO DE OPERACION: _____ Broadcast _____ TIPO DE EMISION: _____ 240K0F3 _____

HORARIO QUE OPERA: _____ 24 hrs _____

IRREGULARIDADES DETECTADAS

N/A	USUARIO NO AUTORIZADO	N/A	EXCEDE TOLERANCIA EN FRECUENCIA
N/A	NO USA SUS INDICATIVOS	N/A	SOBREMODULA
N/A	FREC. NO AUTORIZADA	N/A	HORARIO NO AUTORIZADO
N/A	TRAFICO NO AUTORIZADO	N/A	OPERA FUERA DE BANDA
N/A	TRAFICO EN CLAVE	N/A	EXCEDE ANCHO DE BANDA
N/A	RADIACIONES NO ESENCIALES	N/A	USUARIO NO IDENTIFICADO

OBSERVACIONES

PERIODO DE OBSERVACION DEL 02 DE junio AL 02 DE junio DEL 20 15

DETECTASE OPERAR A ESTACION (ES) IDENTIFICÁNDOSE COMO: _____ Radio Ibero XHUIA _____

TRAFICO RELATIVO A: _____ Transmisión convencional _____

EQUIPO UTILIZADO: _____ Analizador de Espectro Anritsu MS2713E, con un rango de frecuencias de 9 kHz a 6GHz _____

FRECUENCIA MEDIDA EN LA ESTACION (ES) FIJA (S): _____ N/A _____

FRECUENCIA MEDIDA PARA SUS MOVILES: _____ N/A _____

OBSERVACIONES: En atención al apoyo solicitado por la Unidad de Espectro Radioeléctrico se llevaron a cabo mediciones en la frecuencia 90.9 MHz, dentro de las instalaciones del edificio sede del Instituto Federal de Telecomunicaciones, ubicado en; Insurgentes Sur #1143, Colonia Nochebuena, Delegación Benito Juárez, CP. 03720, México D.F.

UBICACIÓN: _____ N/A _____

LATITUD: _____ N/A _____ DOA: _____ N/A _____ OTROS: _____ N/A _____

LONG: _____ N/A _____ LPDF: _____ N/A _____

LUGAR Y FECHA DE ELABORACIÓN: México, D.F., a 10 de junio de 2015

HORA DE ELABORACION: 12:00 hrs


Eduardo de Jesús Sánchez Magaña
INGENIERO TITULAR C

OPERADORES


Roberto Salas Gutiérrez
SUBDIRECTOR DE VIGILANCIA DEL ESPECTRO
RADIOELÉCTRICO

Objetivo

Realizar mediciones en la frecuencia 90.9 MHz, de XHUIA Radio Ibero, con ayuda de una máscara de límite de emisión espectral, para comprobar el comportamiento de la señal, mediante el analizador de espectro, tomando estas mediciones en el edificio sede del IFT, ubicado en el domicilio referido anteriormente.

Lugar

Periodo	Lugar
2 de junio de 2015	Edificio Sede del IFT en el Distrito Federal

Equipo empleado

- Analizador de Espectro Anritsu MS2713E

Desarrollo

El radiomonitorio se desarrolló de la siguiente manera; se realizaron mediciones en la frecuencia 90.9 MHz con ayuda del Analizador de Espectro Anritsu, en el interior del edificio sede del Instituto Federal de Telecomunicaciones(Prueba Indoor), obteniéndose graficas del comportamiento de la señal, considerándose diversos escenarios de comportamiento de la señal híbrida, utilizándose una máscara de límites espectrales en un Span de 500 kHz, además de utilizarse un Span de 1.300 MHz(sin mascara de límites de emisión espectral) para la toma de medición del comportamiento tres estaciones. Se incluyen las gráficas de las mediciones correspondientes a cada escenario y bloque.

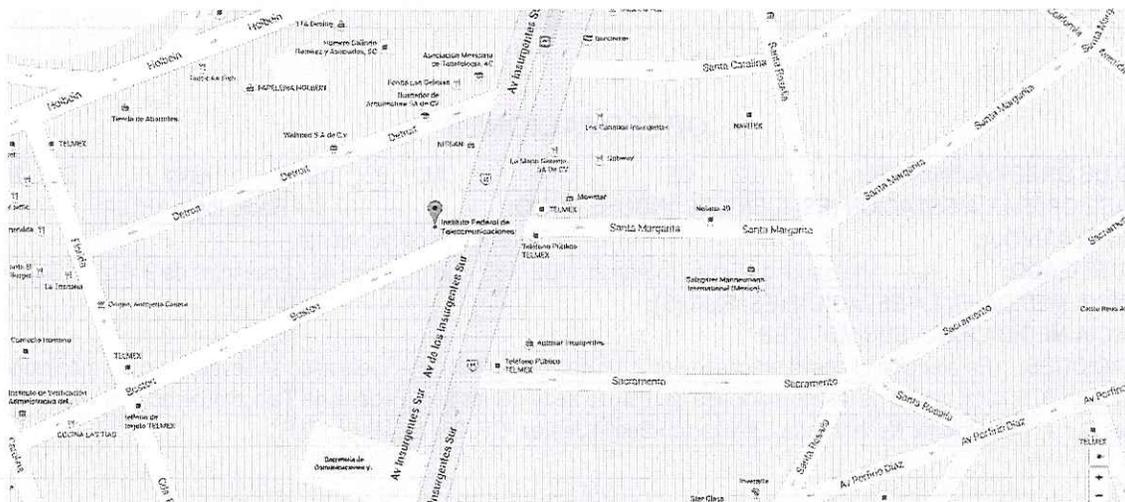
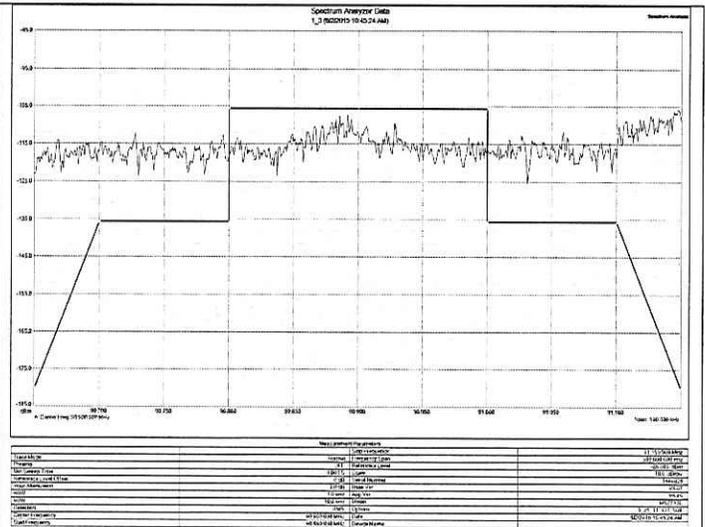
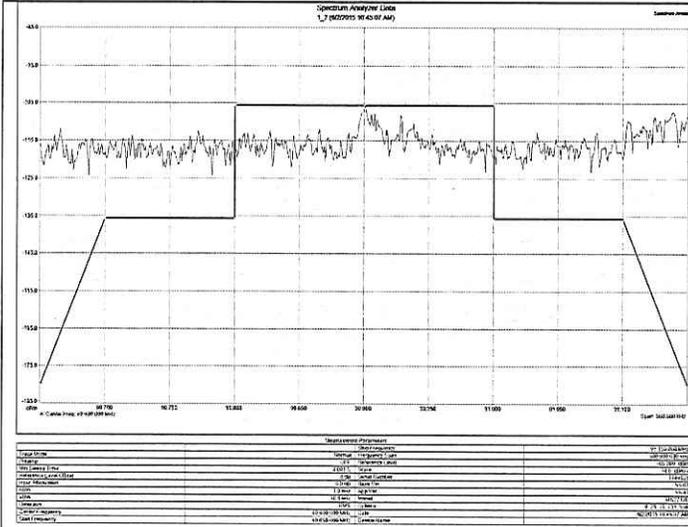


Imagen 1. Ubicación del edificio sede del IFT, donde se realizó el radiomonitorio en la frecuencia 90.9 MHz

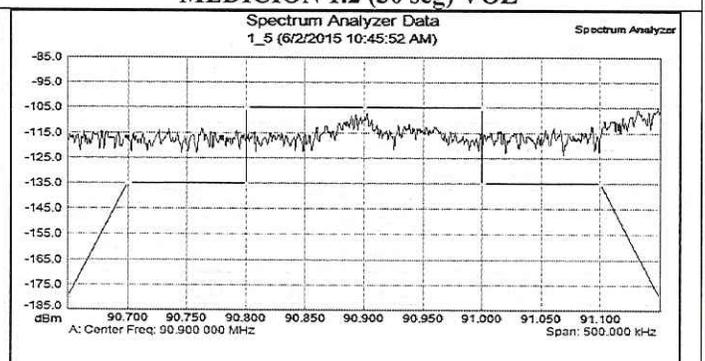
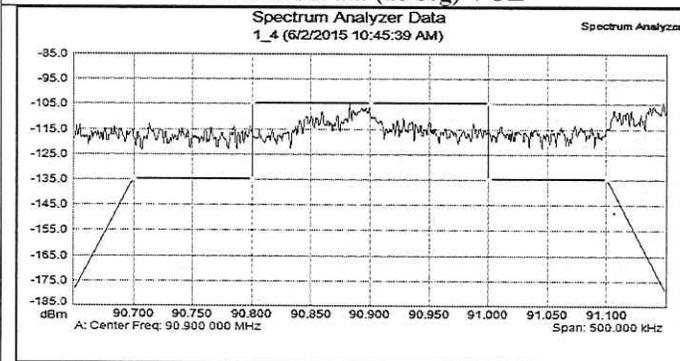
ESCENARIO 1.- POTENCIA NOMINAL

Bloque 1-SPAN PARA 1 ESTACIÓN



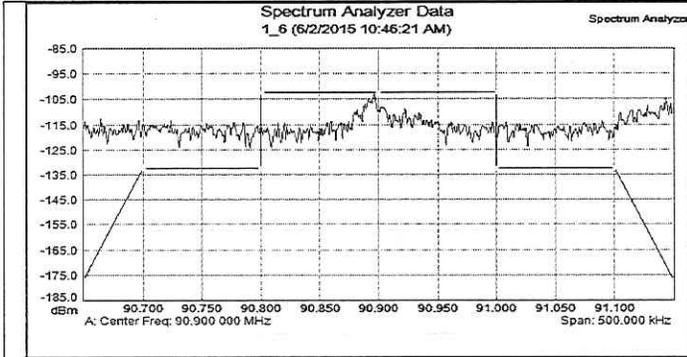
MEDICIÓN 1.1 (15 seg) VOZ

MEDICIÓN 1.2 (30 seg) VOZ



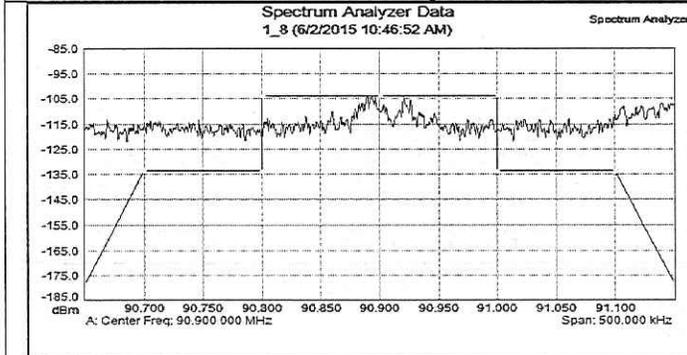
MEDICIÓN 1.3 (45 seg) VOZ

MEDICIÓN 2.1 (75 seg) MUSICA



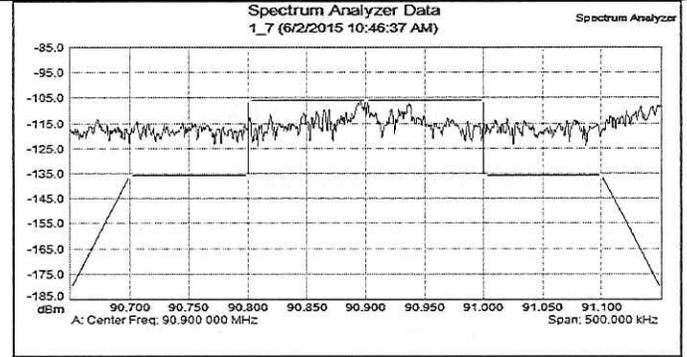
Measurement Parameters			
Trace Mode	Normal	Stop Frequency	91.150 000 MHz
Preamp	OFF	Frequency Span	500.000 000 kHz
Min Sweep Time	0.001 S	Reference Level	-85.000 dBm
Reference Level Offset	0 dB	Scale	10.0 dB/div
Input Attenuation	0.0 dB	Serial Number	1444026
RBW	1.0 kHz	Base Ver.	V5.07
VBW	10.0 kHz	App Ver.	V6.45
Detection	RMS	Model	MS2713E
Center Frequency	90.900 000 MHz	RMS Options	9, 25, 31, 431, 509
Start Frequency	90.650 000 MHz	Date	6/2/2015 10:46:21 AM
		Device Name	

MEDICIÓN 2.2 (90 seg) MUSICA



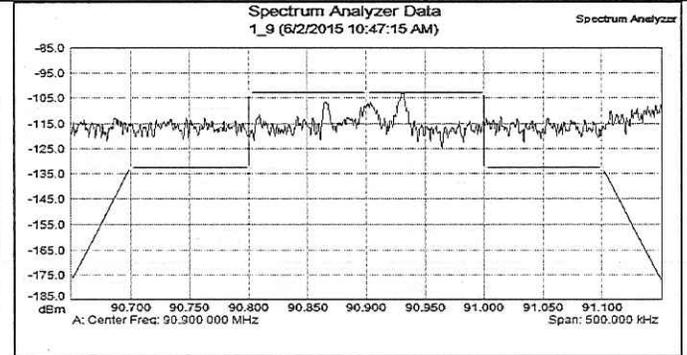
Measurement Parameters			
Trace Mode	Normal	Stop Frequency	91.150 000 MHz
Preamp	OFF	Frequency Span	500.000 000 kHz
Min Sweep Time	0.001 S	Reference Level	-85.000 dBm
Reference Level Offset	0 dB	Scale	10.0 dB/div
Input Attenuation	0.0 dB	Serial Number	1444026
RBW	1.0 kHz	Base Ver.	V5.07
VBW	10.0 kHz	App Ver.	V6.45
Detection	RMS	Model	MS2713E
Center Frequency	90.900 000 MHz	RMS Options	9, 25, 31, 431, 509
Start Frequency	90.650 000 MHz	Date	6/2/2015 10:46:52 AM
		Device Name	

MEDICIÓN 3.1 (130 seg) RUIDO



Measurement Parameters			
Trace Mode	Normal	Stop Frequency	91.150 000 MHz
Preamp	OFF	Frequency Span	500.000 000 kHz
Min Sweep Time	0.001 S	Reference Level	-85.000 dBm
Reference Level Offset	0 dB	Scale	10.0 dB/div
Input Attenuation	0.0 dB	Serial Number	1444026
RBW	1.0 kHz	Base Ver.	V5.07
VBW	10.0 kHz	App Ver.	V6.45
Detection	RMS	Model	MS2713E
Center Frequency	90.900 000 MHz	RMS Options	9, 25, 31, 431, 509
Start Frequency	90.650 000 MHz	Date	6/2/2015 10:46:37 AM
		Device Name	

MEDICIÓN 2.3 (105 seg) MUSICA

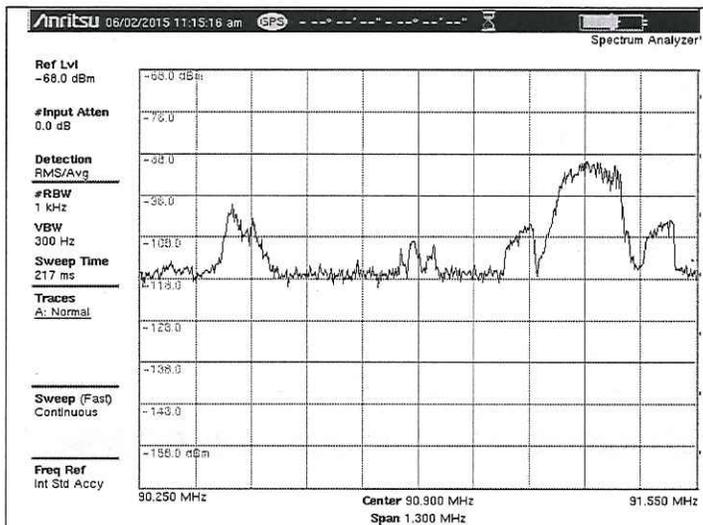


Measurement Parameters			
Trace Mode	Normal	Stop Frequency	91.150 000 MHz
Preamp	OFF	Frequency Span	500.000 000 kHz
Min Sweep Time	0.001 S	Reference Level	-85.000 dBm
Reference Level Offset	0 dB	Scale	10.0 dB/div
Input Attenuation	0.0 dB	Serial Number	1444026
RBW	1.0 kHz	Base Ver.	V5.07
VBW	10.0 kHz	App Ver.	V6.45
Detection	RMS	Model	MS2713E
Center Frequency	90.900 000 MHz	RMS Options	9, 25, 31, 431, 509
Start Frequency	90.650 000 MHz	Date	6/2/2015 10:47:15 AM
		Device Name	

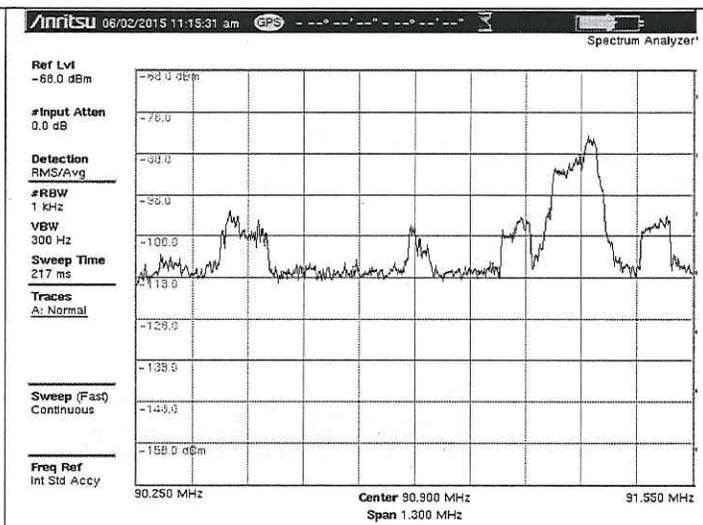
MEDICIÓN 3.2 (145 seg) RUIDO

ESCENARIO 1.- POTENCIA NOMINAL

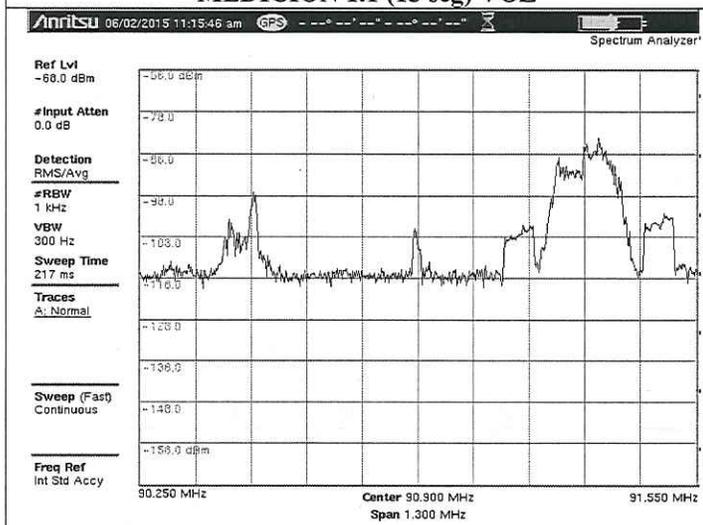
Bloque 3- SPAN PARA 3 ESTACIÓN



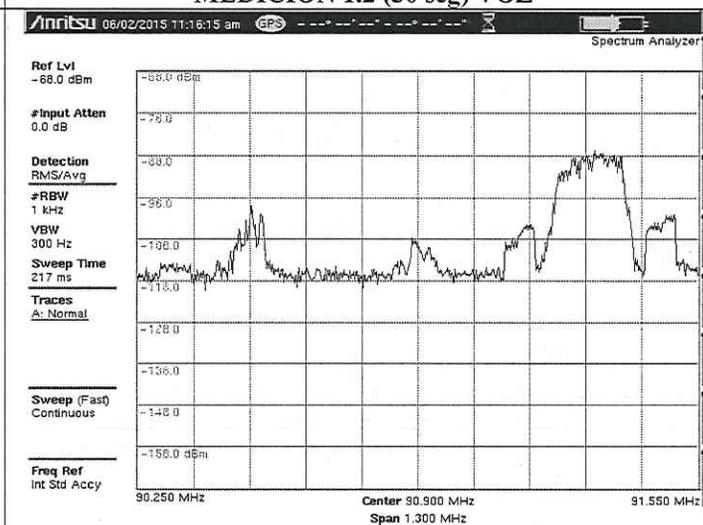
MEDICIÓN 1.1 (15 seg) VOZ



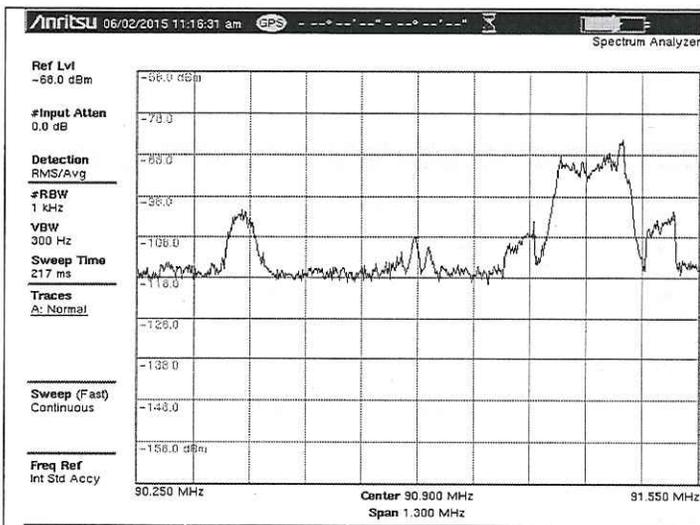
MEDICIÓN 1.2 (30 seg) VOZ



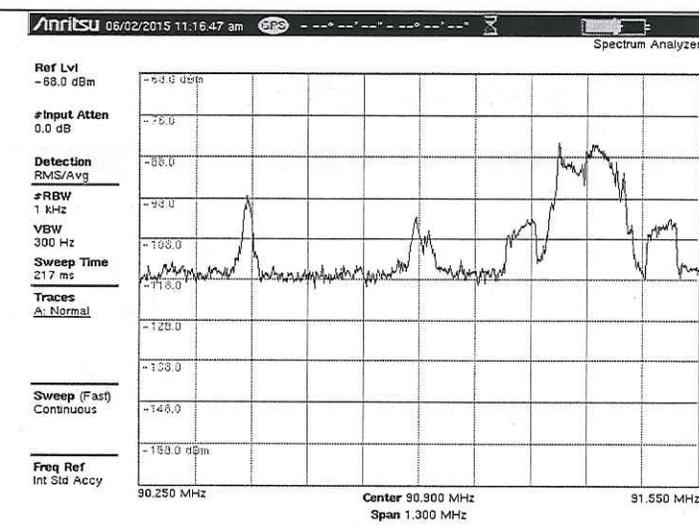
MEDICIÓN 1.3 (45 seg) VOZ



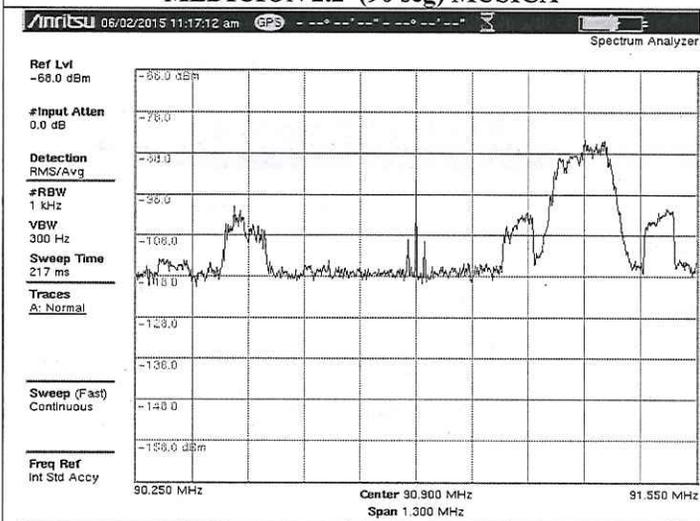
MEDICIÓN 2.1 (75 seg) MUSICA



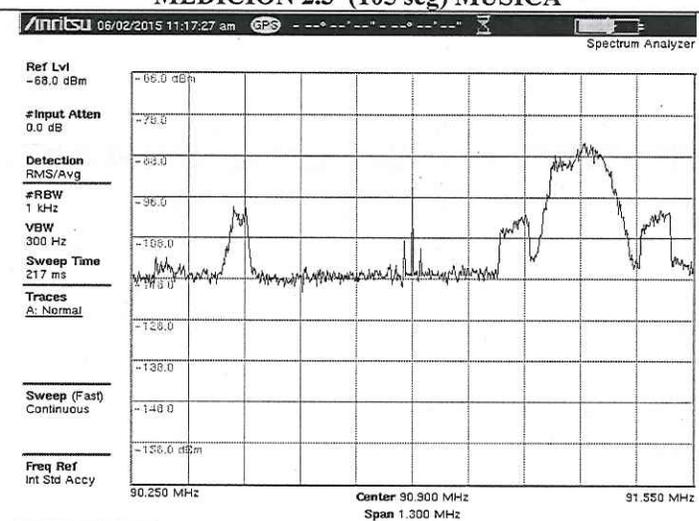
MEDICIÓN 2.2 (90 seg) MUSICA



MEDICIÓN 2.3 (105 seg) MUSICA



MEDICIÓN 3.1 (130 seg) RUIDO



MEDICIÓN 3.2 (145 seg) RUIDO

Spectrum Analyzer Data
1_11 (6/2/2015 11:18:55 AM)

Micr	Ref	Delta	Ref Freq	Ref Amp	Delta Freq	Delta Amp
1	<input type="checkbox"/>	<input type="checkbox"/>	--	--	--	--
2	<input type="checkbox"/>	<input type="checkbox"/>	--	--	--	--
3	<input type="checkbox"/>	<input type="checkbox"/>	--	--	--	--
4	<input type="checkbox"/>	<input type="checkbox"/>	--	--	--	--
5	<input type="checkbox"/>	<input type="checkbox"/>	--	--	--	--
6	<input type="checkbox"/>	<input type="checkbox"/>	--	--	--	--

Measurement Parameters			Stop Frequency	91.550 000 MHz
Trace Mode	Normal	Frequency Span	1.300 000 MHz	
Preampl	OFF	Reference Level	-68.000 dBm	
Min Sweep Time	0.001 S	Scale	10.0 dB/div	
Reference Level Offset	0.0 dB	Serial Number	1444026	
Input Attenuation	0.0 dB	Base Ver.	V5.07	
RBW	1.0 kHz	App Ver.	V6.45	
VBW	300.0 Hz	Model	MS2713E	
Detection	RMS	Options	9.25.31.431.509	
Center Frequency	90.900 000 MHz	Date	6/2/2015 11:19:29 AM	
Start Frequency	90.250 000 MHz	Device Name		

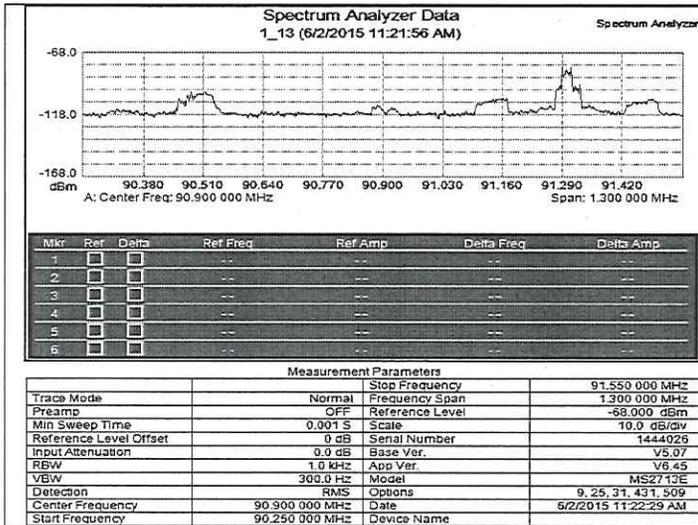
***T.C. MEDICIÓN 4.1 90 seg/ 1.5 min**

Spectrum Analyzer Data
1_12 (6/2/2015 11:20:25 AM)

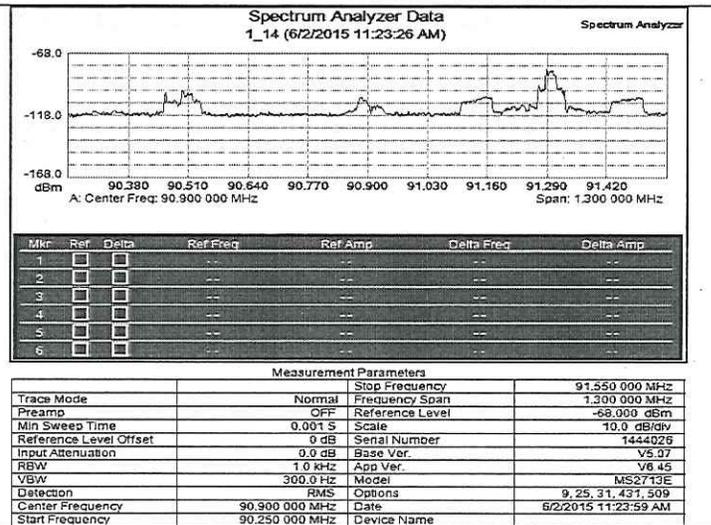
Micr	Ref	Delta	Ref Freq	Ref Amp	Delta Freq	Delta Amp
1	<input type="checkbox"/>	<input type="checkbox"/>	--	--	--	--
2	<input type="checkbox"/>	<input type="checkbox"/>	--	--	--	--
3	<input type="checkbox"/>	<input type="checkbox"/>	--	--	--	--
4	<input type="checkbox"/>	<input type="checkbox"/>	--	--	--	--
5	<input type="checkbox"/>	<input type="checkbox"/>	--	--	--	--
6	<input type="checkbox"/>	<input type="checkbox"/>	--	--	--	--

Measurement Parameters			Stop Frequency	91.550 000 MHz
Trace Mode	Normal	Frequency Span	1.300 000 MHz	
Preampl	OFF	Reference Level	-68.000 dBm	
Min Sweep Time	0.001 S	Scale	10.0 dB/div	
Reference Level Offset	0.0 dB	Serial Number	1444026	
Input Attenuation	0.0 dB	Base Ver.	V5.07	
RBW	1.0 kHz	App Ver.	V6.45	
VBW	300.0 Hz	Model	MS2713E	
Detection	RMS	Options	9.25.31.431.509	
Center Frequency	90.900 000 MHz	Date	6/2/2015 11:20:59 AM	
Start Frequency	90.250 000 MHz	Device Name		

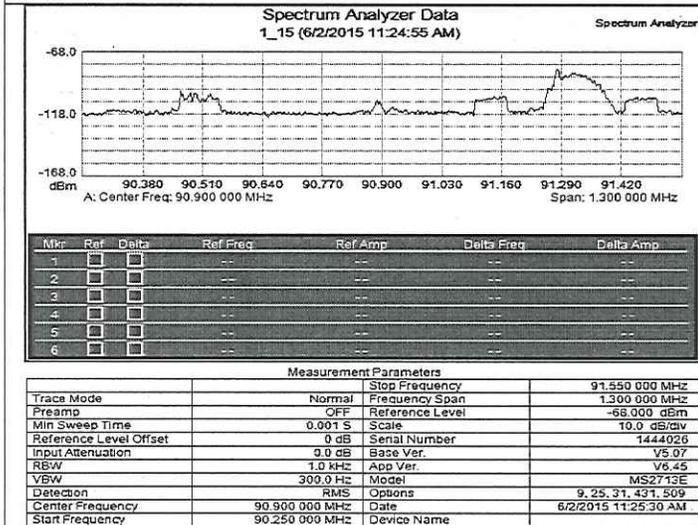
***T.C. MEDICIÓN 4.2 180 seg/ 3 min**



*T.C. MEDICIÓN 4.3_270 seg/ 4.5 min



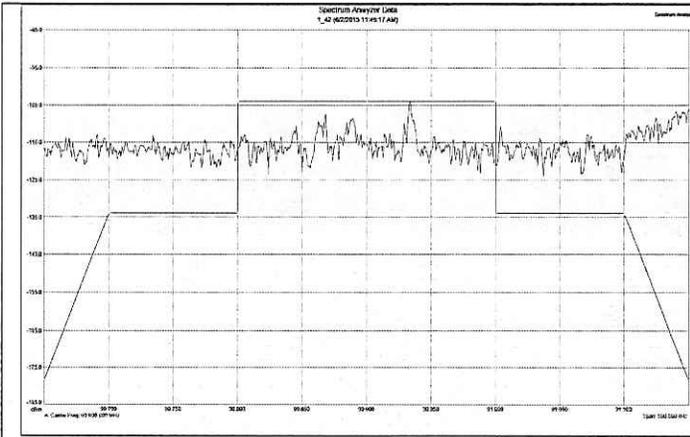
*T.C. MEDICIÓN 4.4 360 seg/ 6 min



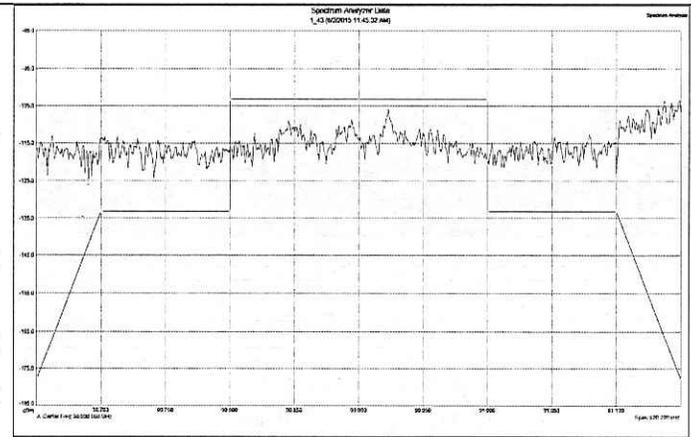
*T.C. MEDICIÓN 4.5_450 seg/ 7.5 min

ESCENARIO 2.- DISMINUCIÓN DE POTENCIA EN PORTADORA DIGITAL IZQUIERDA

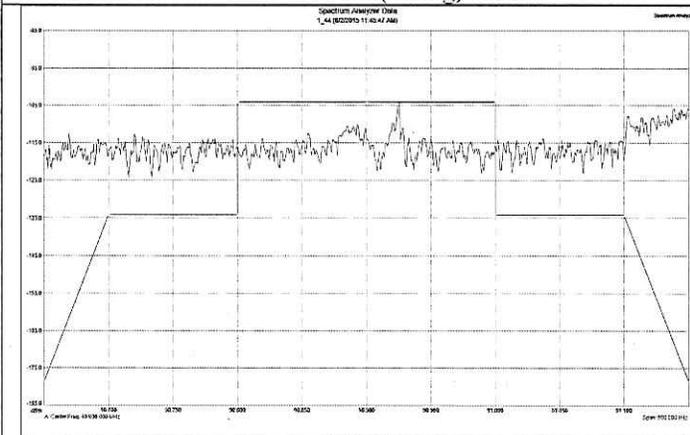
Bloque 5- SPAN PARA 1 ESTACIÓN



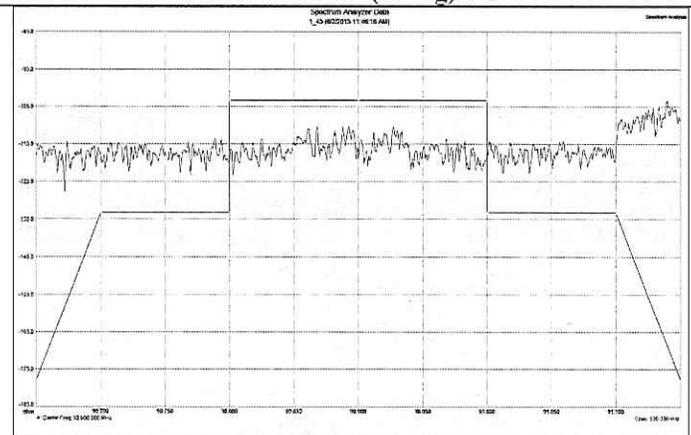
MEDICIÓN 1.1 (15 seg) VOZ



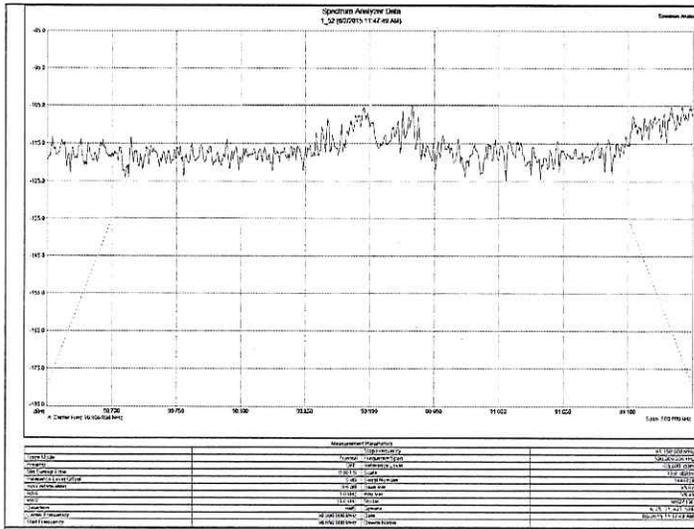
MEDICIÓN 1.2 (30 seg) VOZ



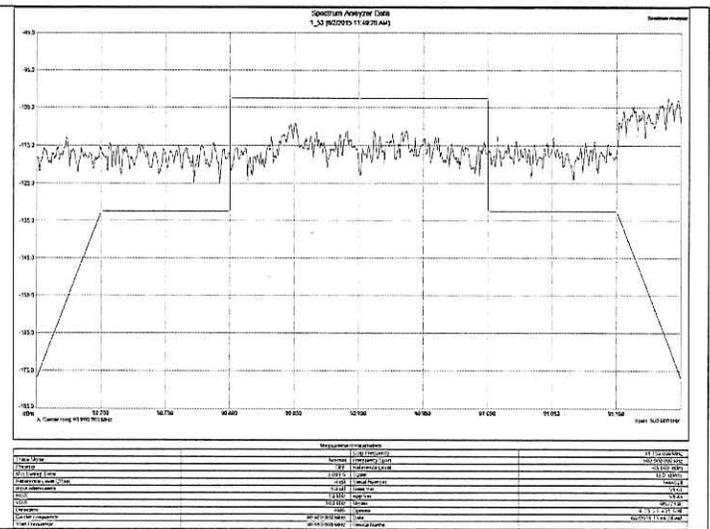
MEDICIÓN 1.3 (45 seg) VOZ



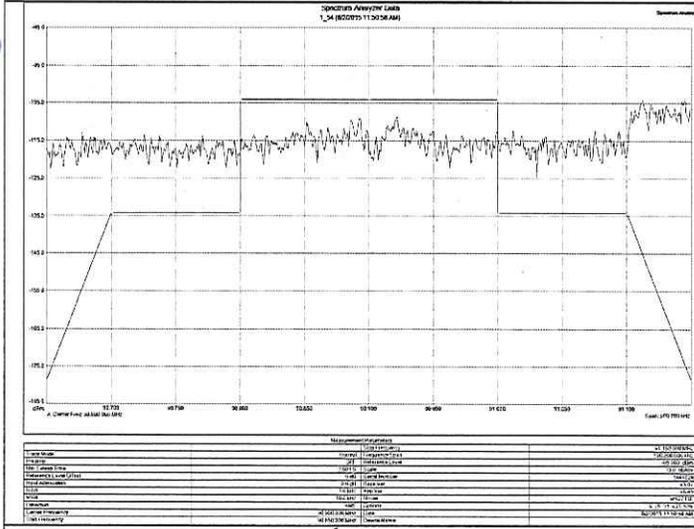
MEDICIÓN 2.1 (75 seg) MUSICA



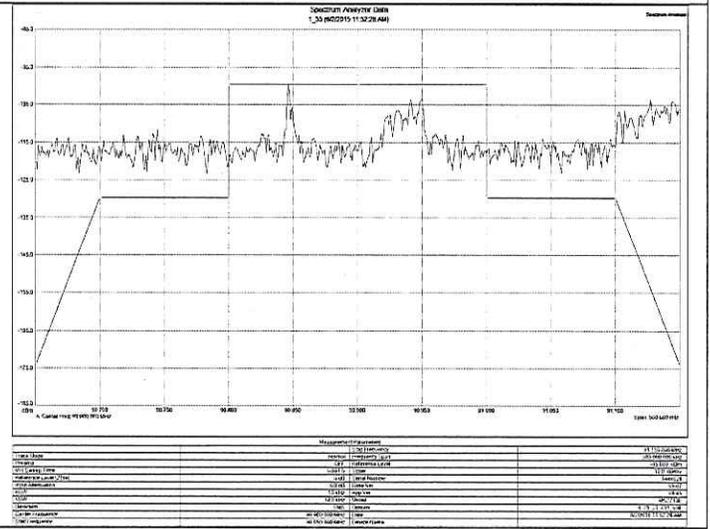
MEDICIÓN EXTRA 3 RUIDO



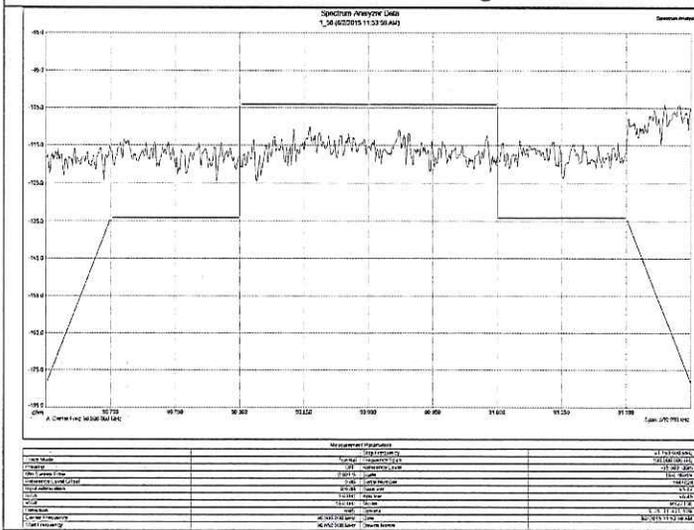
***T.C. MEDICIÓN 4.1 90 seg/ 1.5 min**



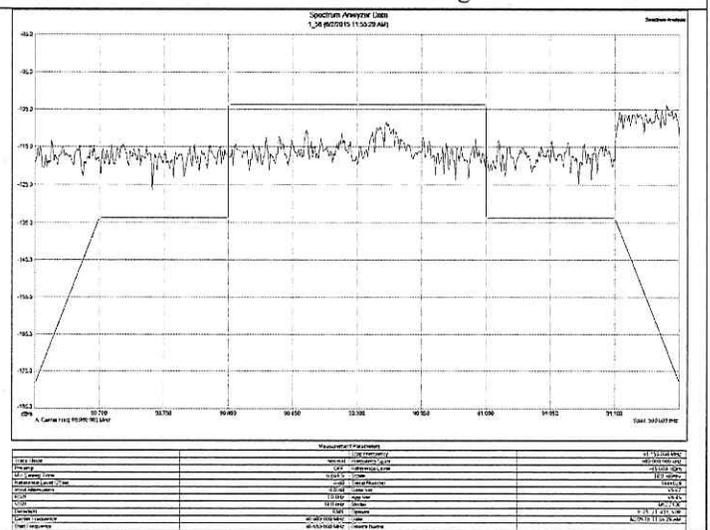
***T.C. MEDICIÓN 4.2 180 seg/ 3 min**



***T.C. MEDICIÓN 4.3 270 seg/ 4.5 min**



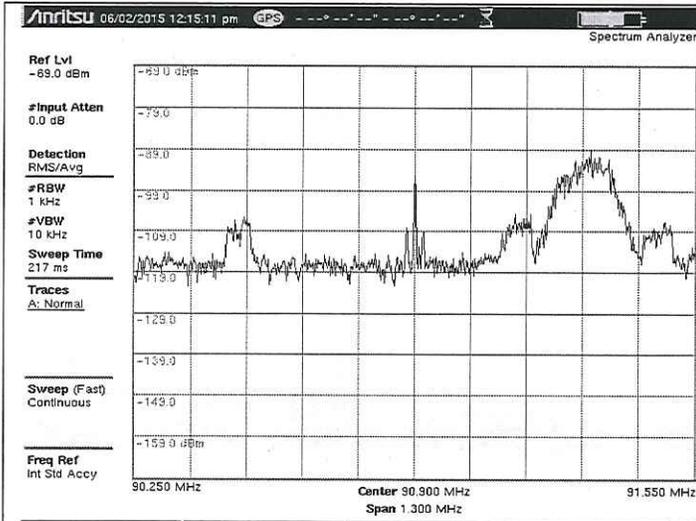
***T.C. MEDICIÓN 4.4 360 seg/ 6 min**



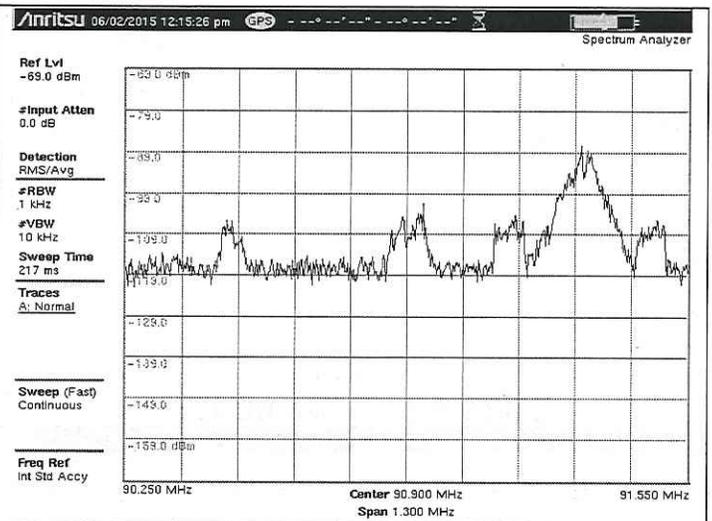
***T.C. MEDICIÓN 4.5 450 seg/ 7.5 min**

ESCENARIO 2.- DISMINUCIÓN DE POTENCIA EN PORTADORA DIGITAL IZQUIERDA

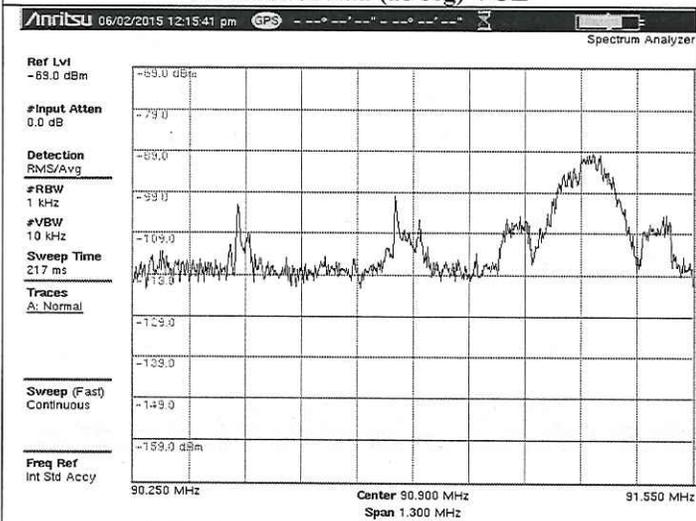
Bloque 7- SPAN PARA 3 ESTACIÓN



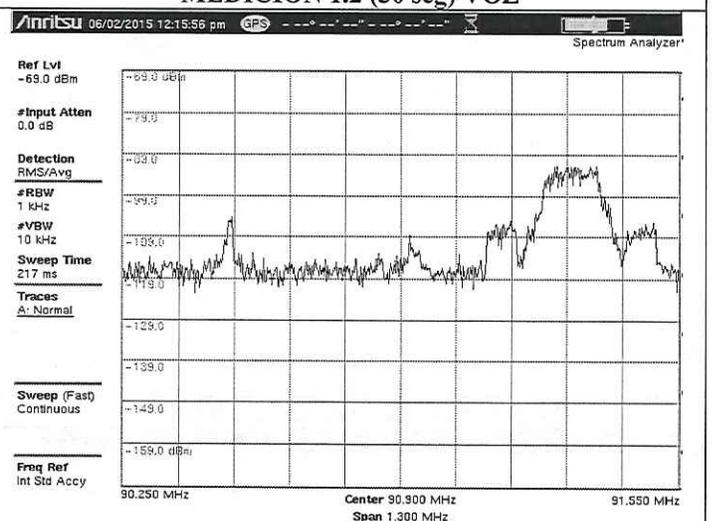
MEDICIÓN 1.1 (15 seg) VOZ



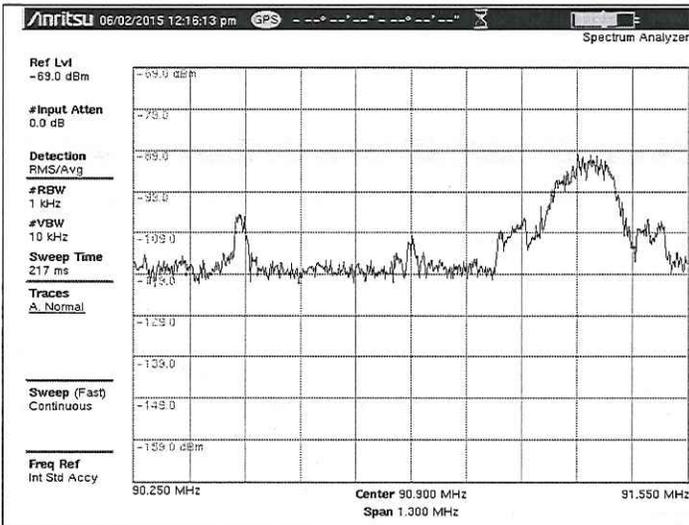
MEDICIÓN 1.2 (30 seg) VOZ



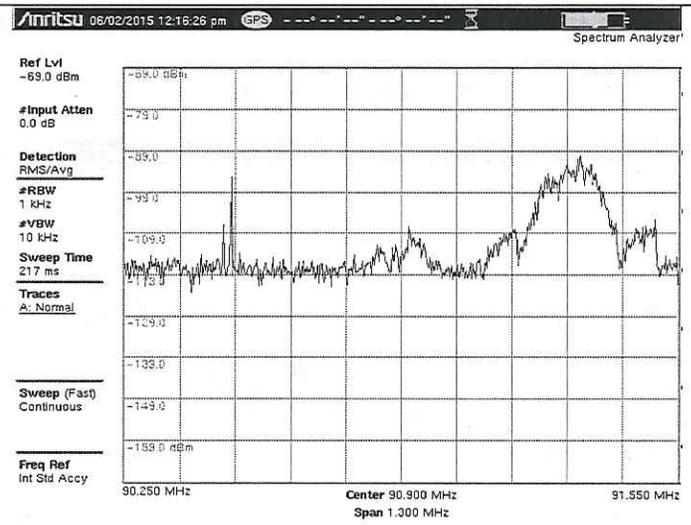
MEDICIÓN 1.3 (45 seg) VOZ



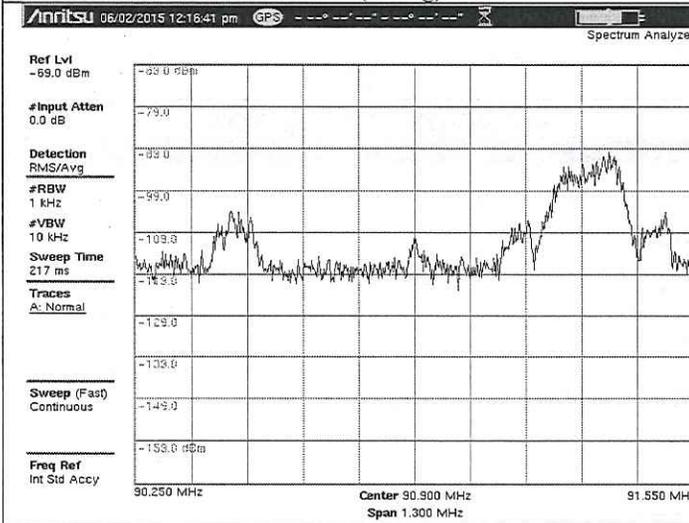
MEDICIÓN 2.1 (75 seg) MUSICA



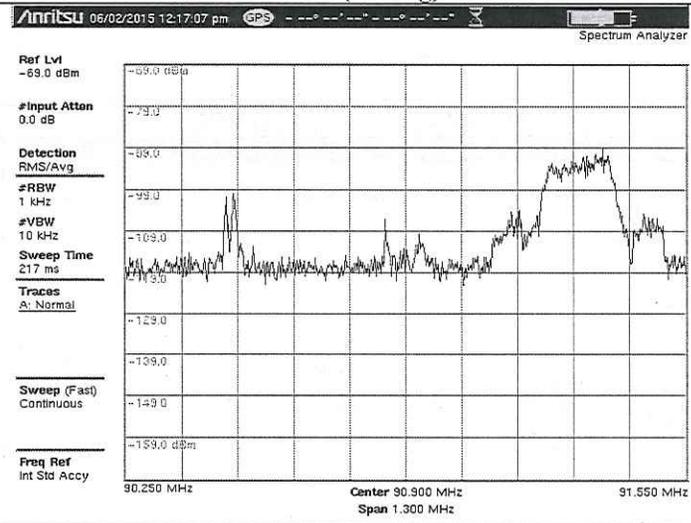
MEDICIÓN 2.2 (90 seg) MUSICA



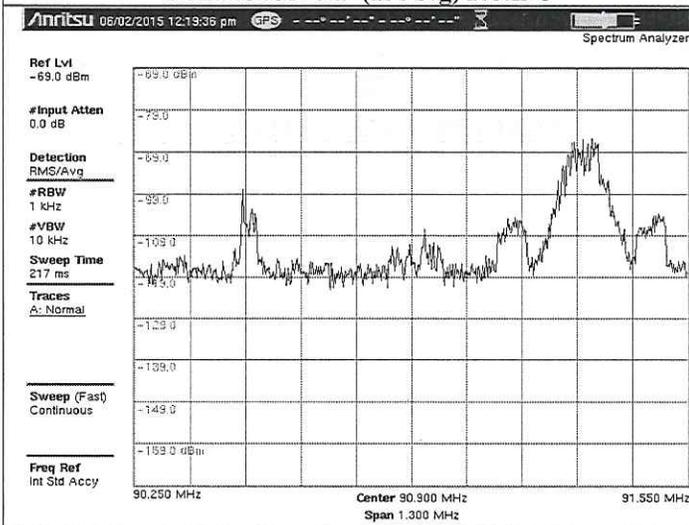
MEDICIÓN 2.3 (105 seg) MUSICA



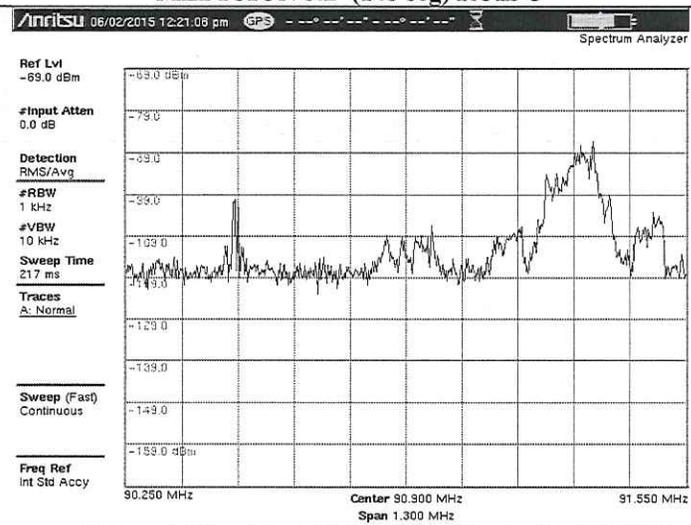
MEDICIÓN 3.1 (130 seg) RUIDO



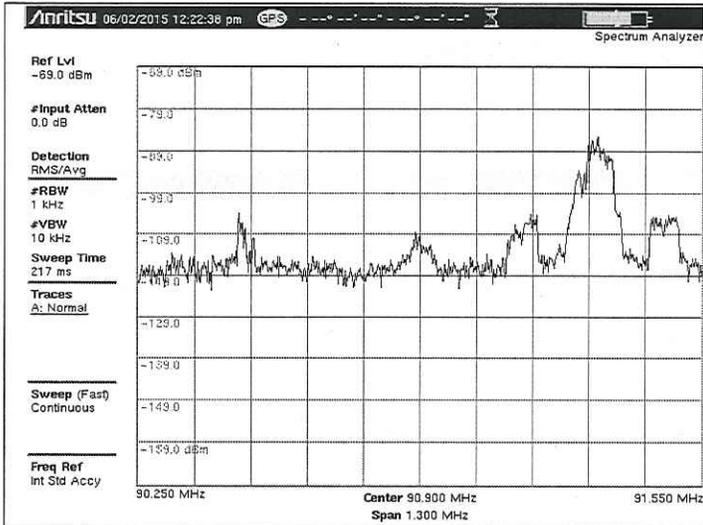
MEDICIÓN 3.2 (145 seg) RUIDO



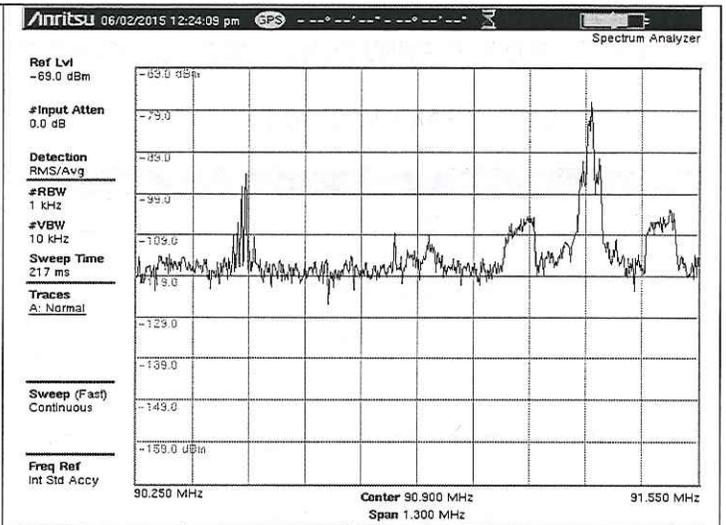
***T.C. MEDICIÓN 4.1 (90 seg)/ 1.5 min**



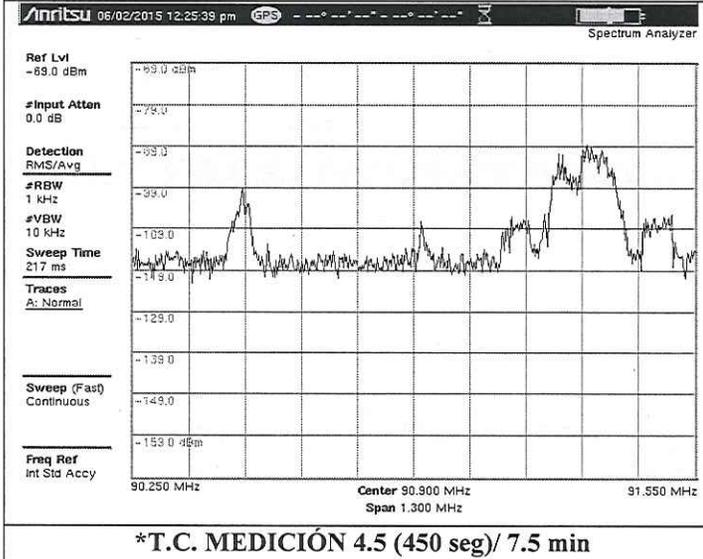
***T.C. MEDICIÓN 4.2 (180seg)/ 3 min**



***T.C. MEDICIÓN 4.3 (270 seg)/ 4.5 min**



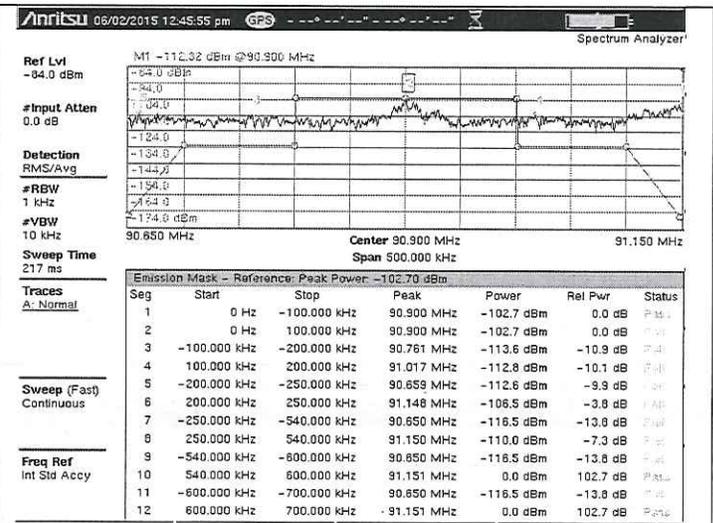
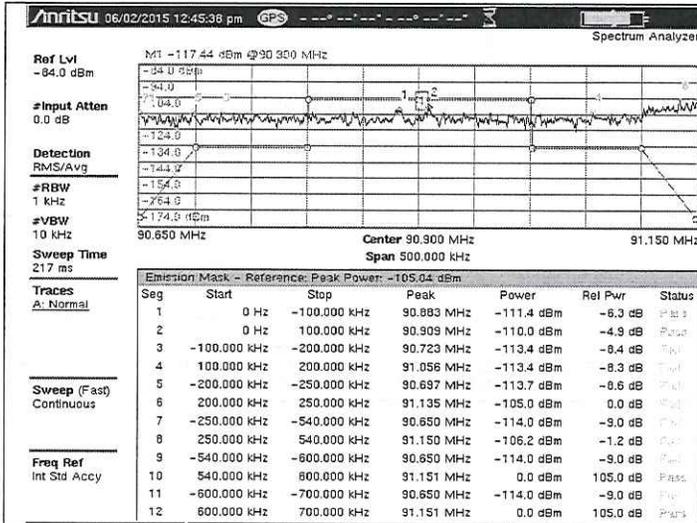
***T.C. MEDICIÓN 4.4 (360 seg)/ 6 min**



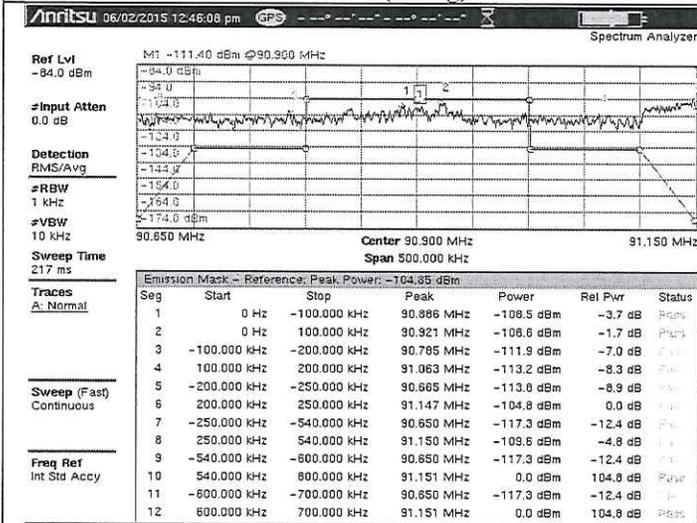
***T.C. MEDICIÓN 4.5 (450 seg)/ 7.5 min**

ESCENARIO 3.- DISMINUCIÓN DE POTENCIA EN PORTADORA DIGITAL DERECHA

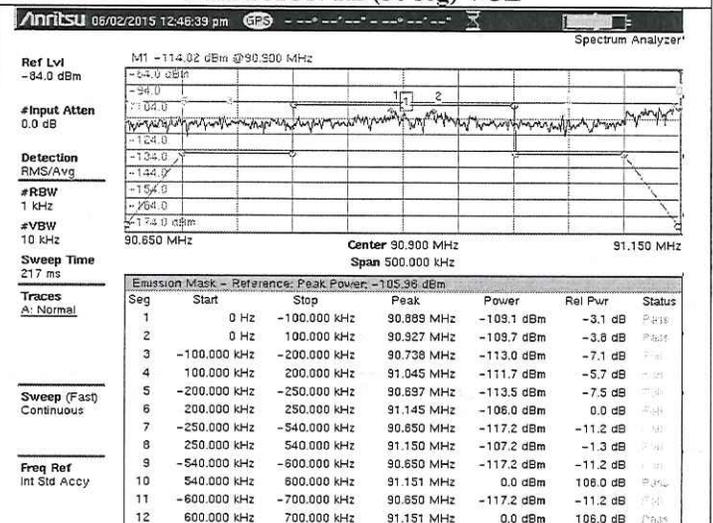
Bloque 9- SPAN PARA 1 ESTACIÓN



MEDICIÓN 1.1 (15 seg) VOZ



MEDICIÓN 1.2 (30 seg) VOZ

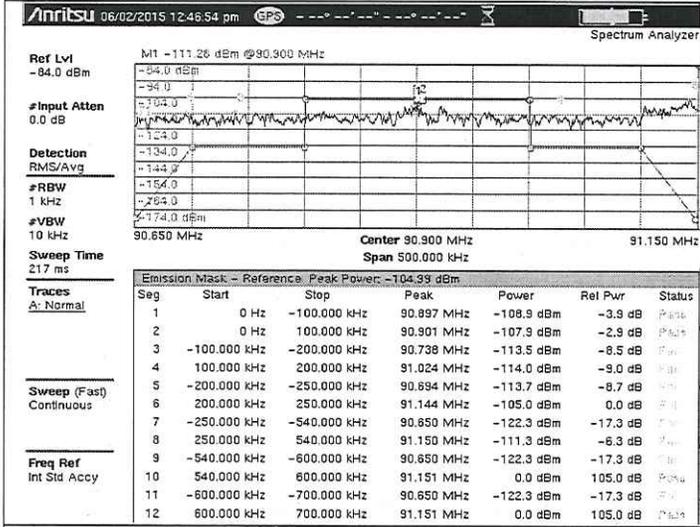


MEDICIÓN 1.3 (45 seg) VOZ

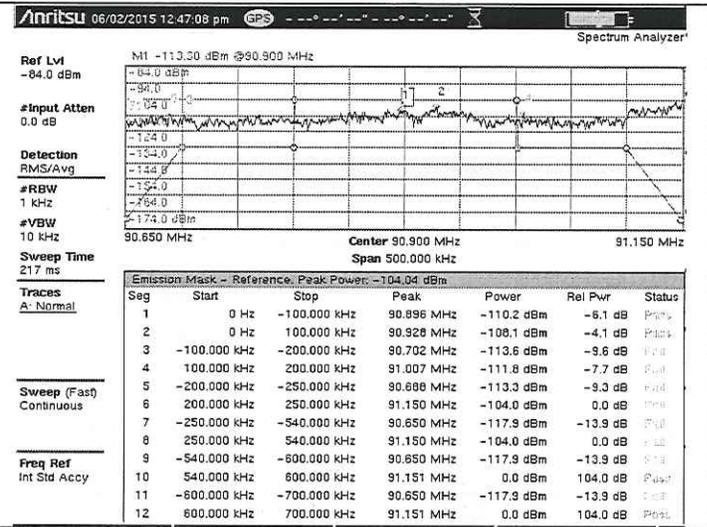


MEDICIÓN 2.1 (75 seg) MUSICA

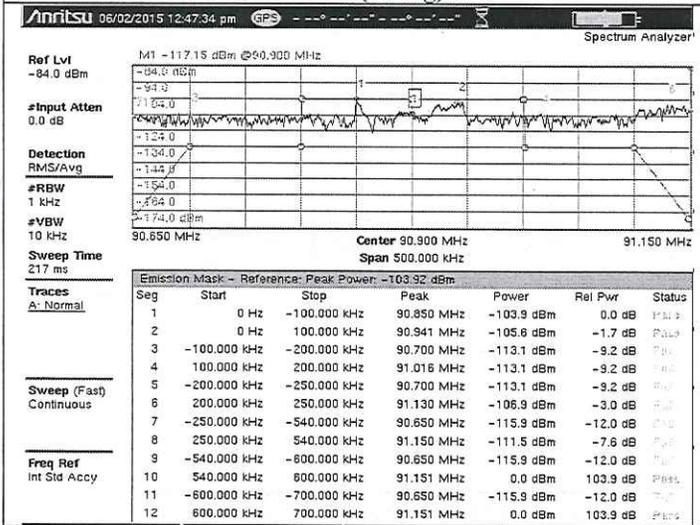




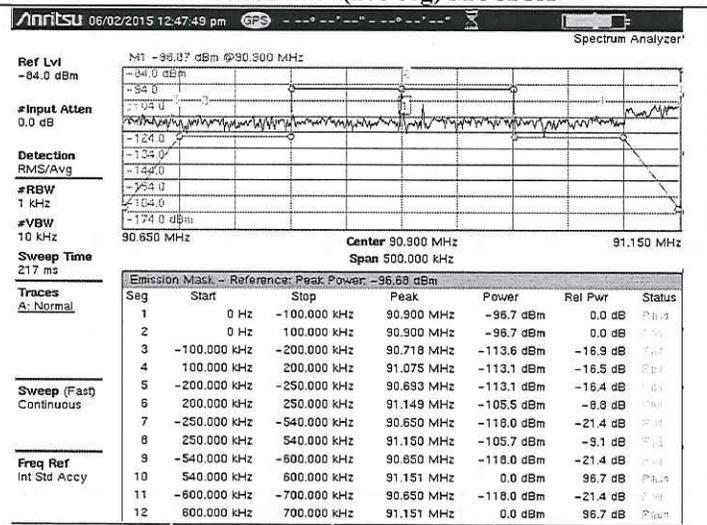
MEDICIÓN 2.2 (90 seg) MUSICA



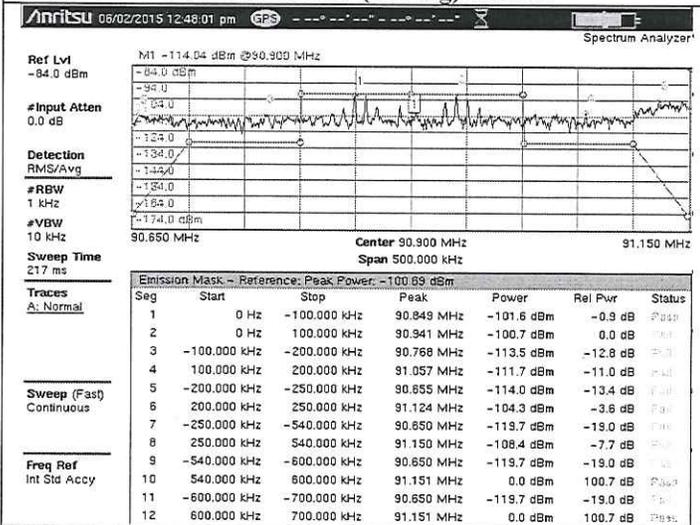
MEDICIÓN 2.3 (105 seg) MUSICA



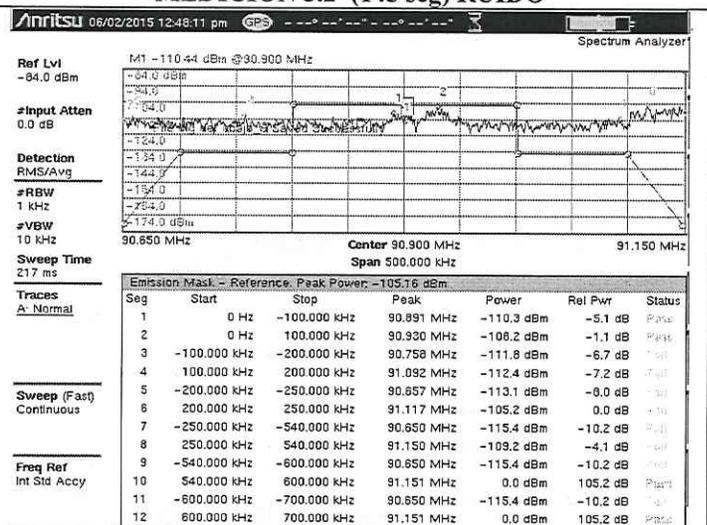
MEDICIÓN 3.1 (130 seg) RUIDO



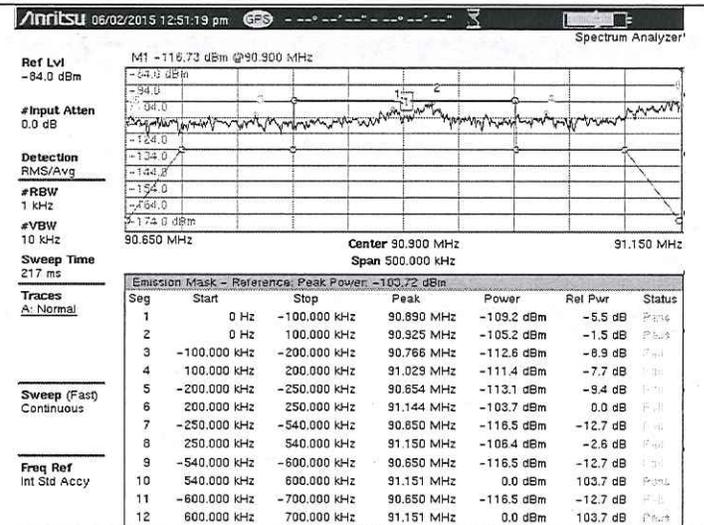
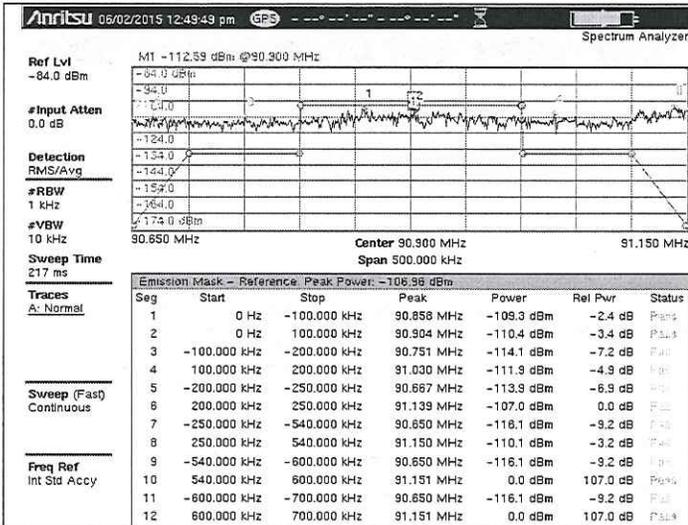
MEDICIÓN 3.2 (145 seg) RUIDO



MEDICIÓN EXTRA 1 RUIDO

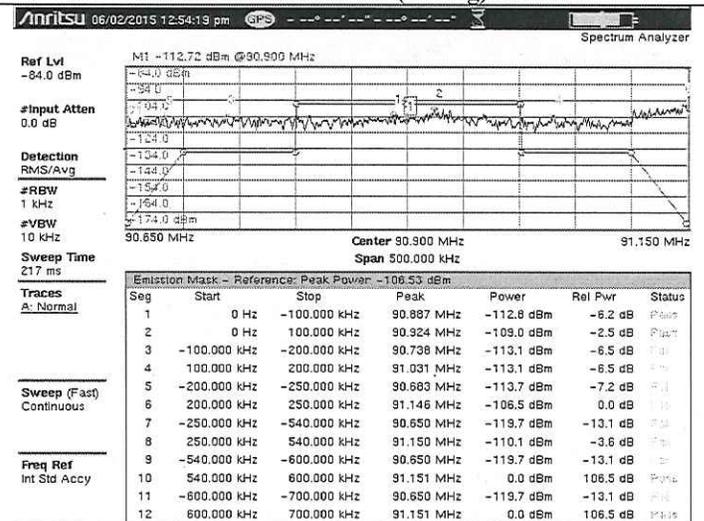
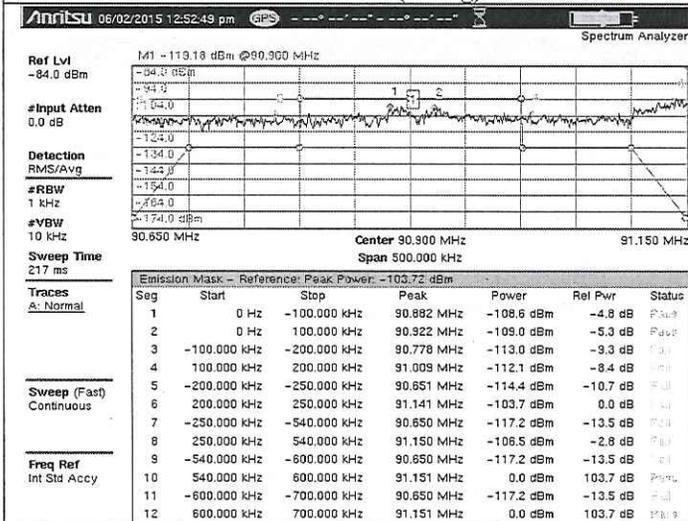


MEDICIÓN EXTRA 2 RUIDO



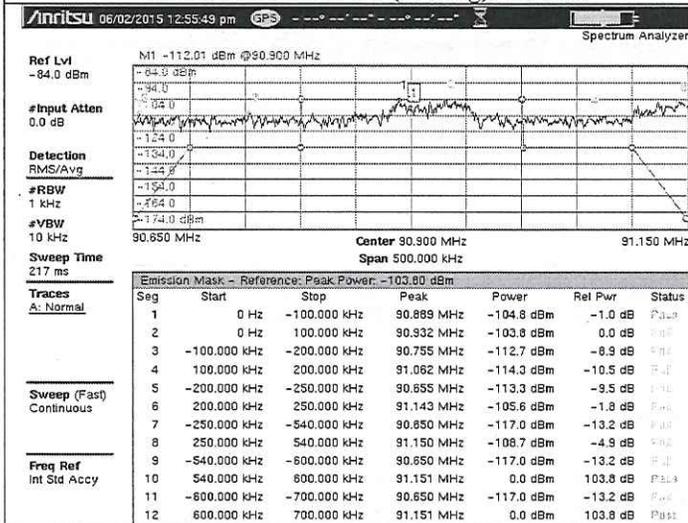
*T.C. MEDICIÓN 4.1 (90 seg)/ 1.5 min

*T.C. MEDICIÓN 4.2 (180seg)/ 3 min



*T.C. MEDICIÓN 4.3 (270 seg)/ 4.5 min

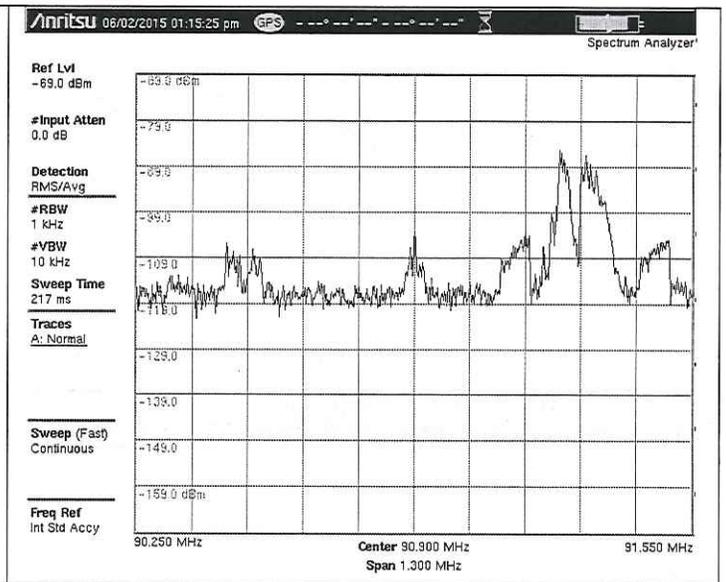
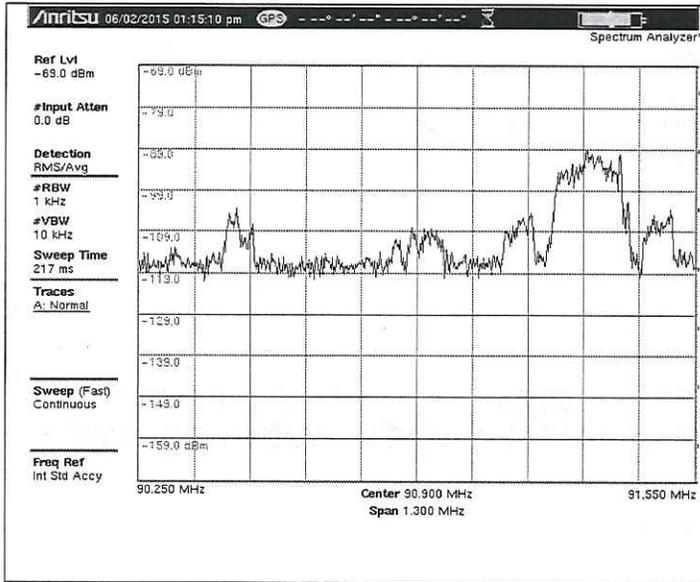
*T.C. MEDICIÓN 4.4 (360 seg)/ 6 min



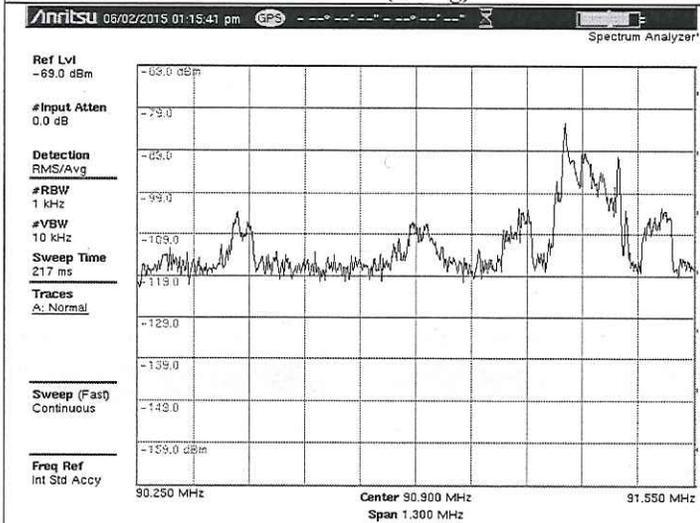
*T.C. MEDICIÓN 4.5 (450 seg)/ 7.5 min

ESCENARIO 3.- DISMINUCIÓN DE POTENCIA EN PORTADORA DIGITAL DERECHA

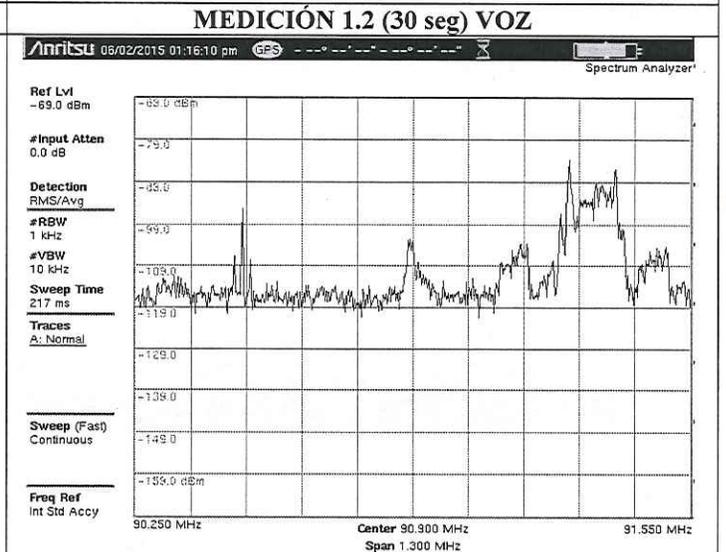
Bloque 11- SPAN PARA 3 ESTACIONES



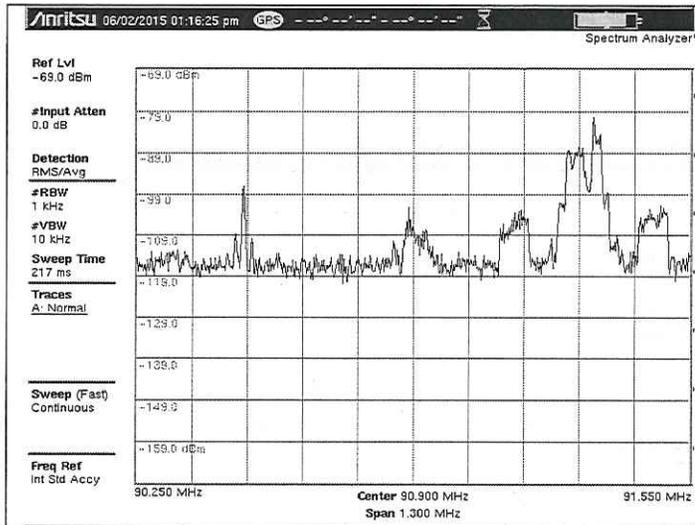
MEDICIÓN 1.1 (15 seg) VOZ



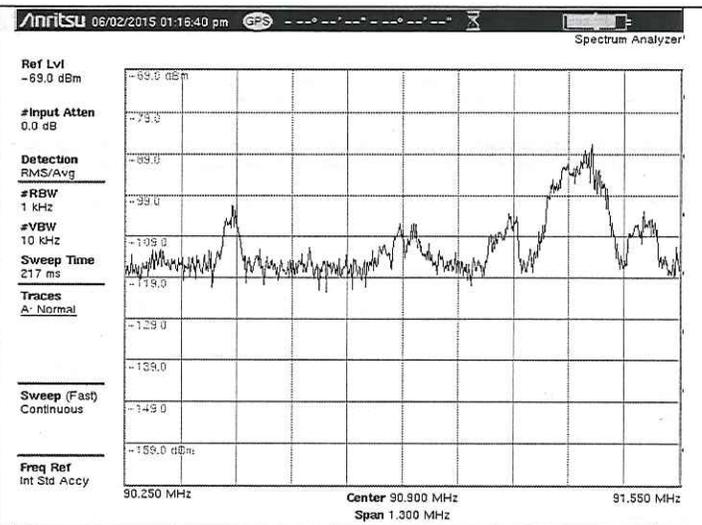
MEDICIÓN 1.3 (45 seg) VOZ



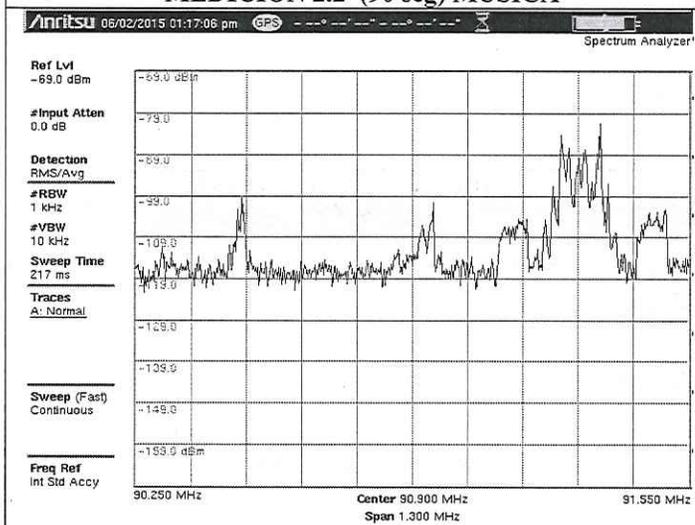
MEDICIÓN 2.1 (75 seg) MUSICA



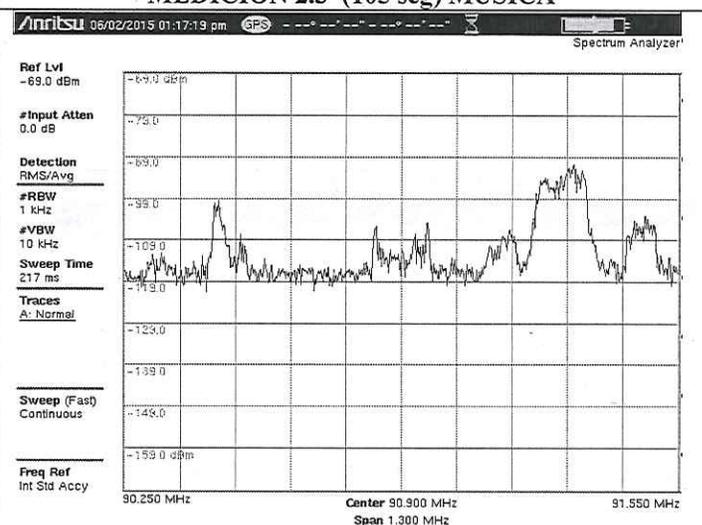
MEDICIÓN 2.2 (90 seg) MUSICA



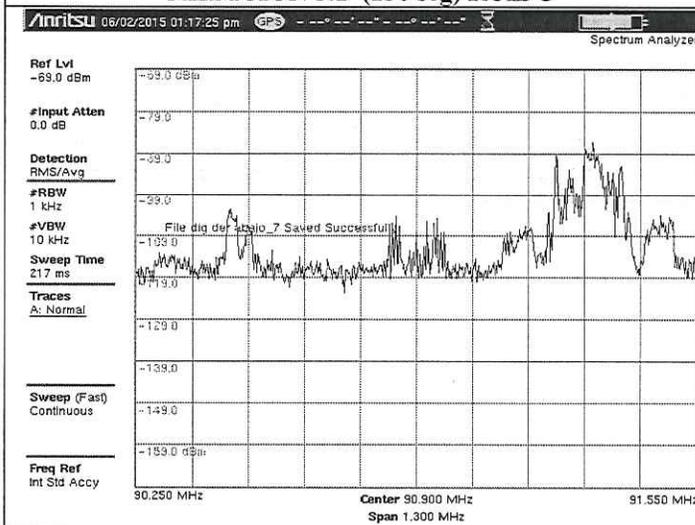
MEDICIÓN 2.3 (105 seg) MUSICA



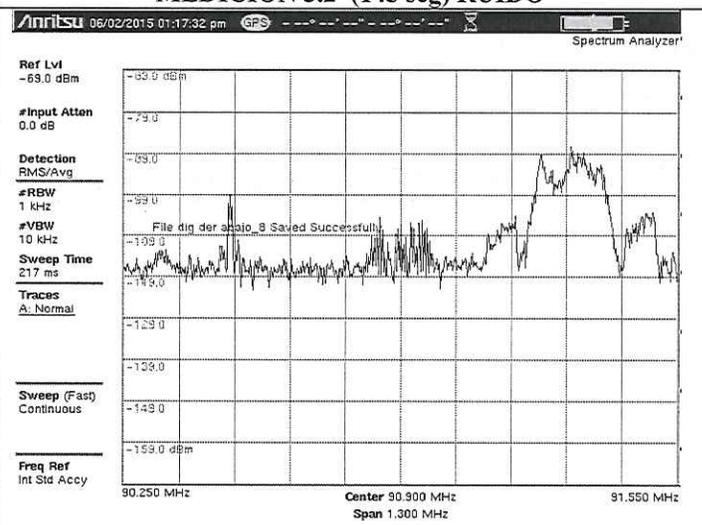
MEDICIÓN 3.1 (130 seg) RUIDO



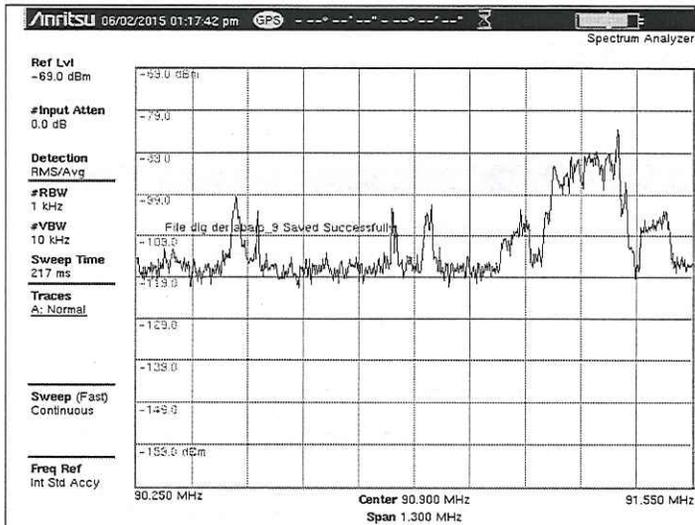
MEDICIÓN 3.2 (145 seg) RUIDO



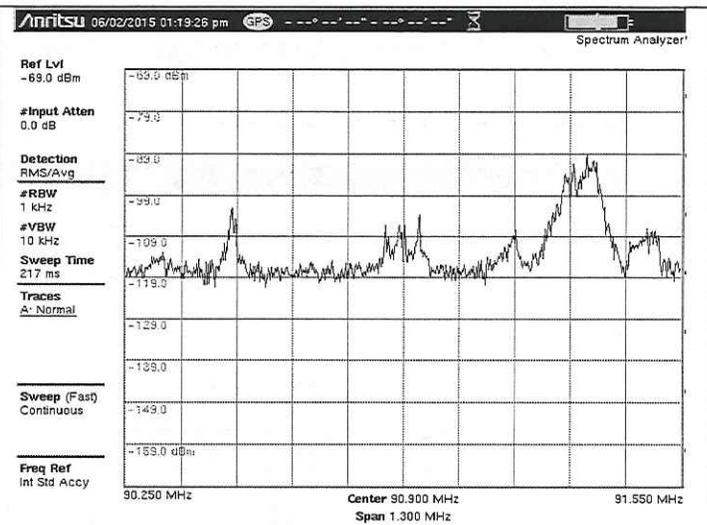
MEDICIÓN EXTRA 1 RUIDO



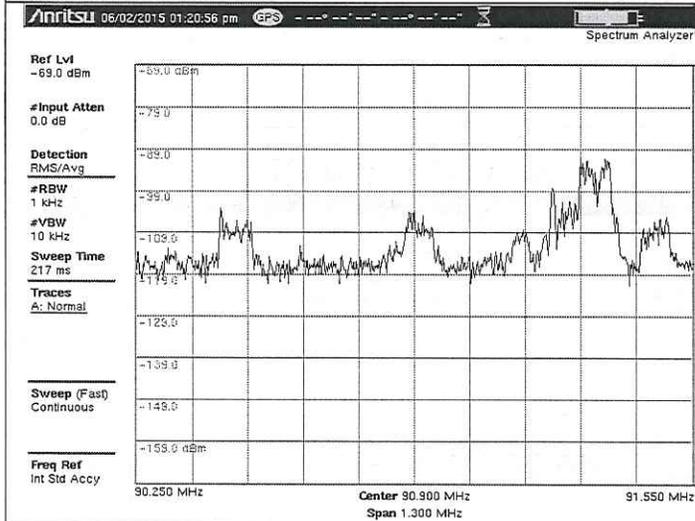
MEDICIÓN EXTRA 2 RUIDO



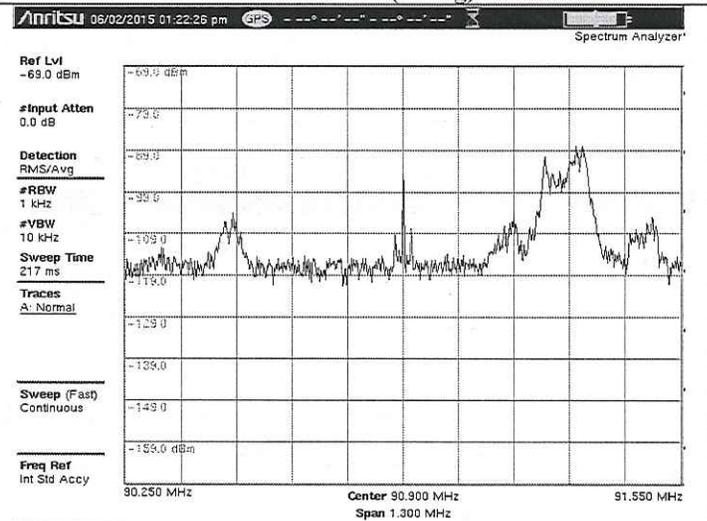
MEDICIÓN EXTRA 3 RUIDO



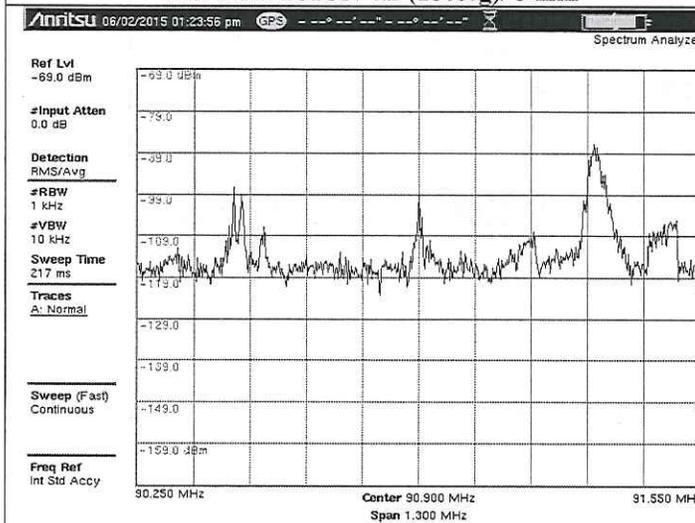
***T.C. MEDICIÓN 4.1 (90 seg)/ 1.5 min**



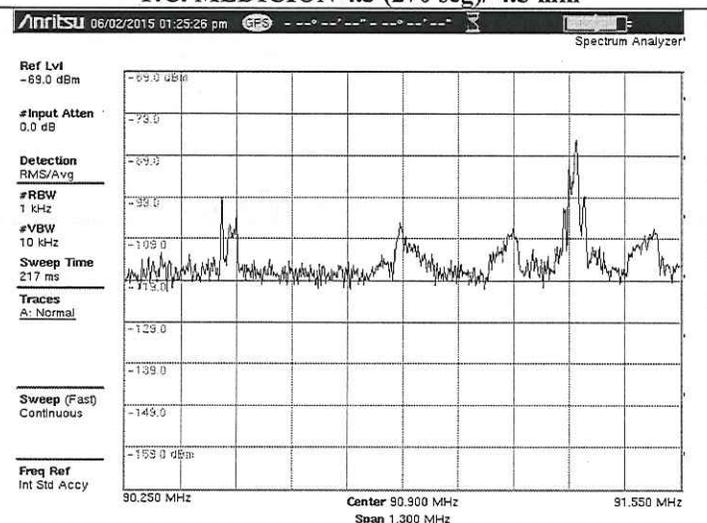
***T.C. MEDICIÓN 4.2 (180seg)/ 3 min**



***T.C. MEDICIÓN 4.3 (270 seg)/ 4.5 min**



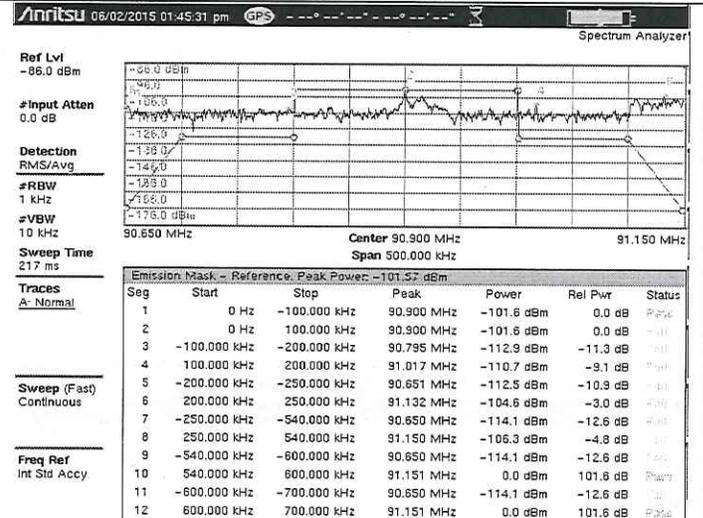
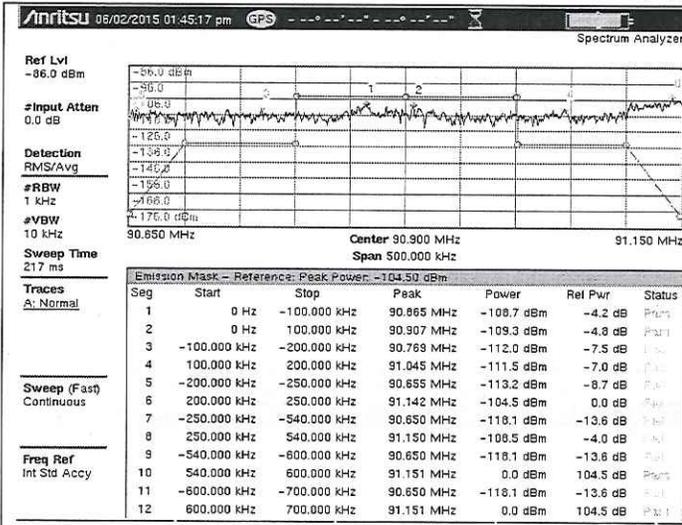
***T.C. MEDICIÓN 4.4 (360 seg)/ 6 min**



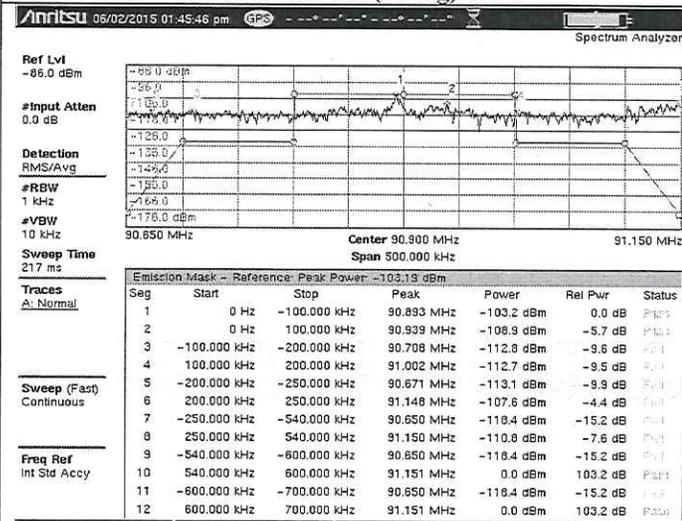
***T.C. MEDICIÓN 4.5 (450 seg)/ 7.5 min**

ESCENARIO 4.- DISMINUCIÓN DE POTENCIA DE AMBAS PORTADORAS

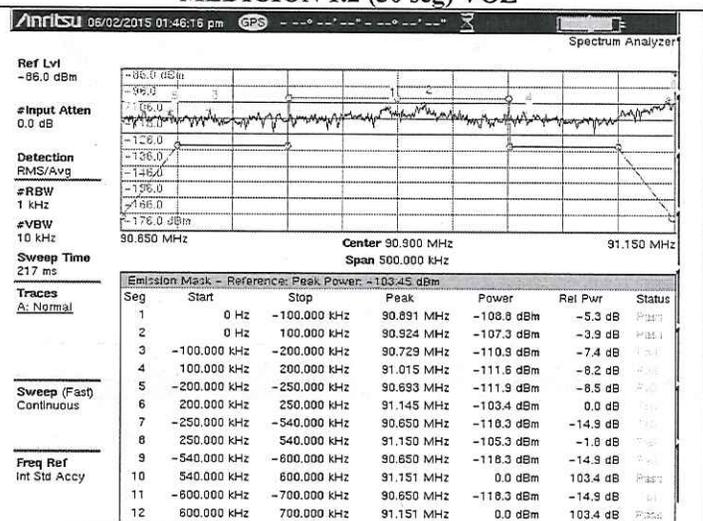
BLOQUE 13- SPAN PARA 1 ESTACIÓN



MEDICIÓN 1.1 (15 seg) VOZ

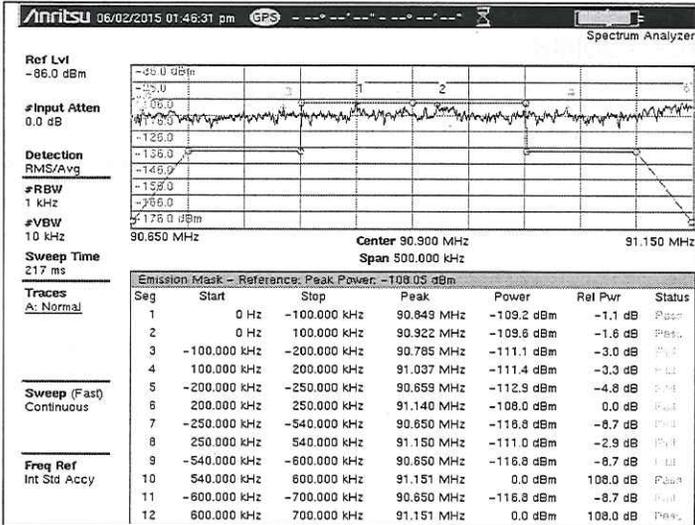


MEDICIÓN 1.2 (30 seg) VOZ

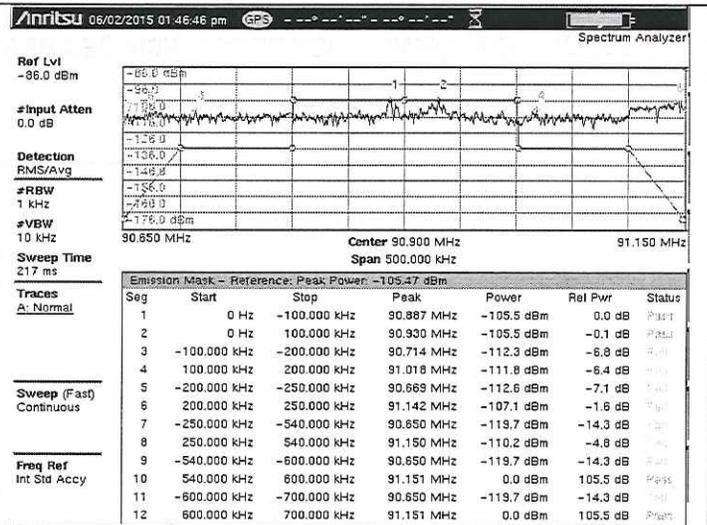


MEDICIÓN 1.3 (45 seg) VOZ

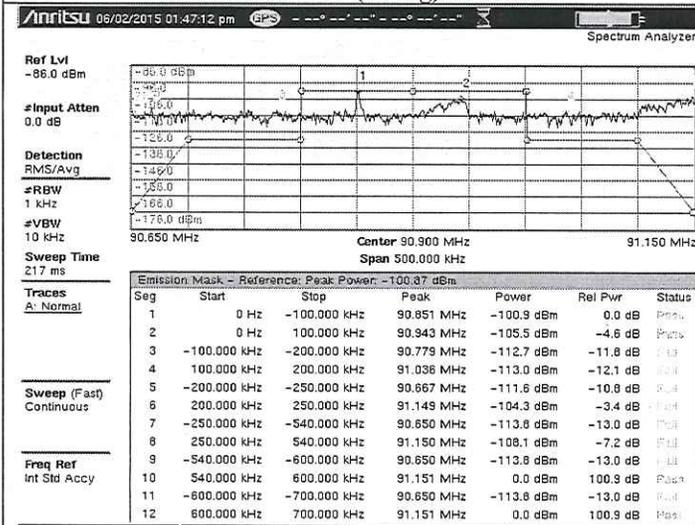
MEDICIÓN 2.1 (75 seg) MUSICA



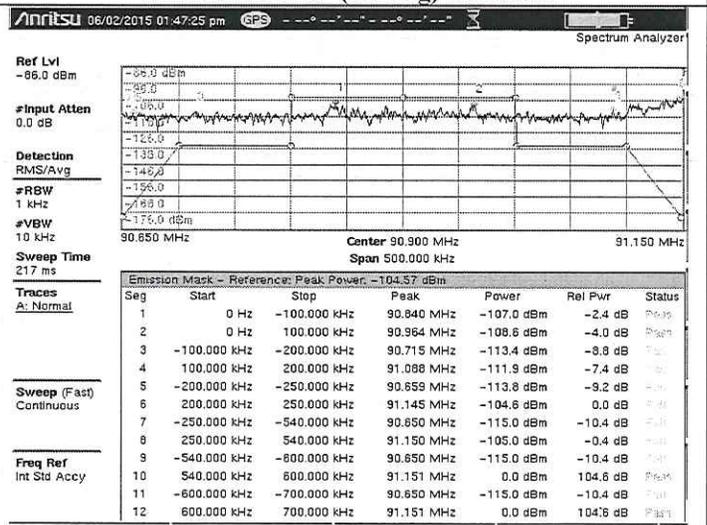
MEDICIÓN 2.2 (90 seg) MUSICA



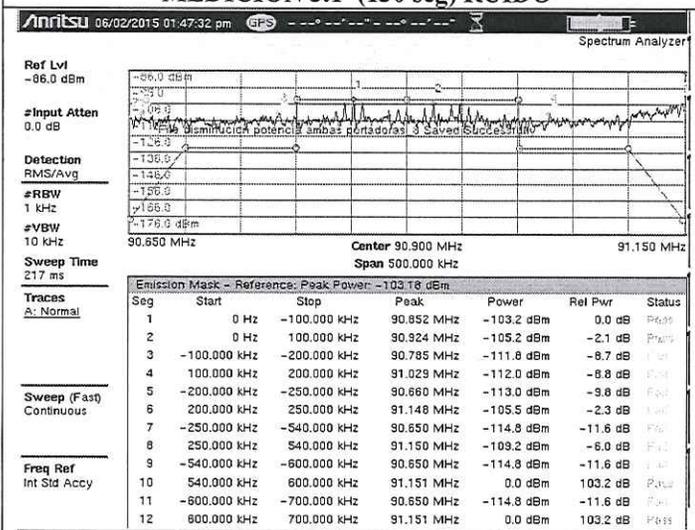
MEDICIÓN 2.3 (105 seg) MUSICA



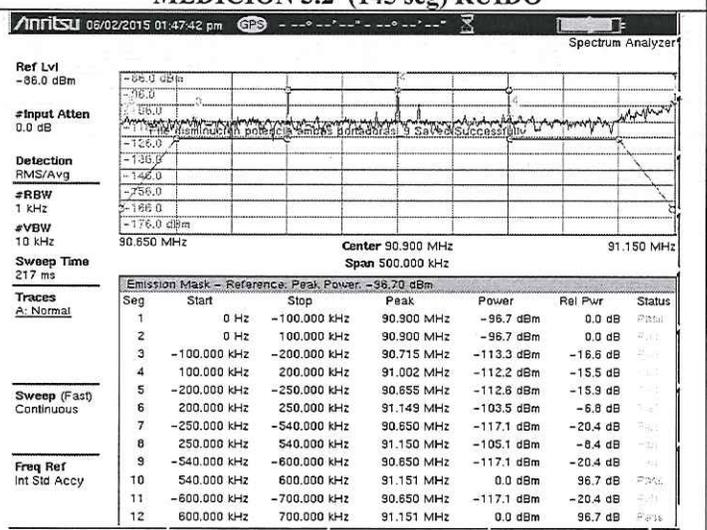
MEDICIÓN 3.1 (130 seg) RUIDO



MEDICIÓN 3.2 (145 seg) RUIDO



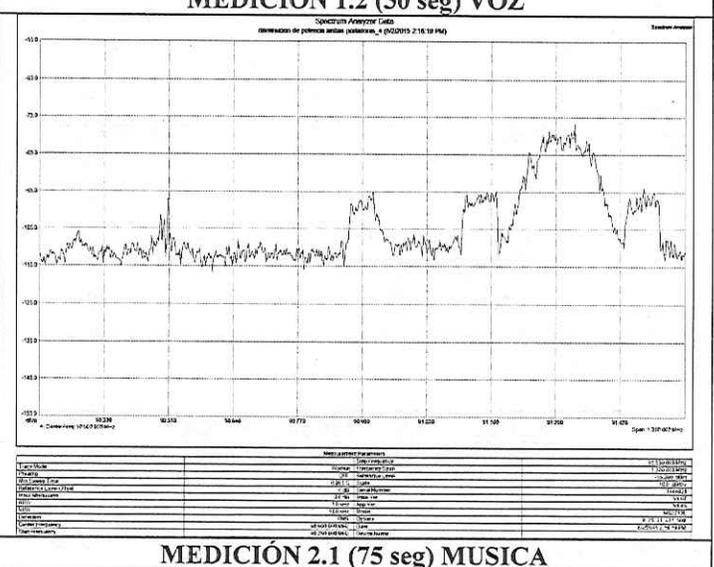
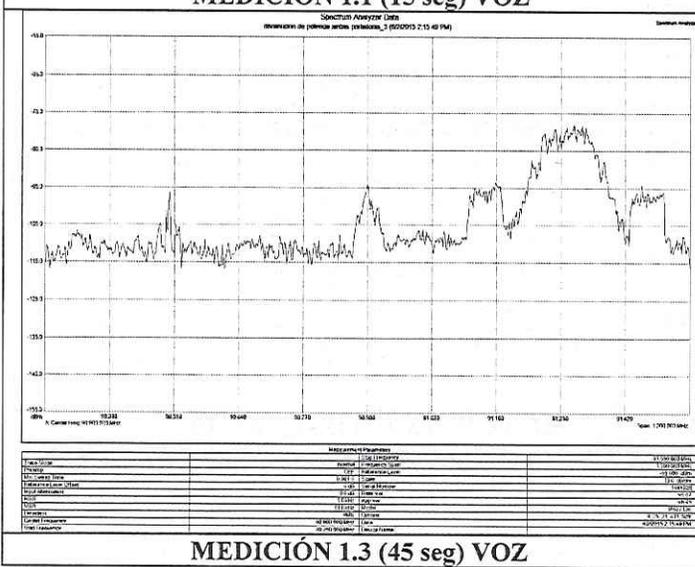
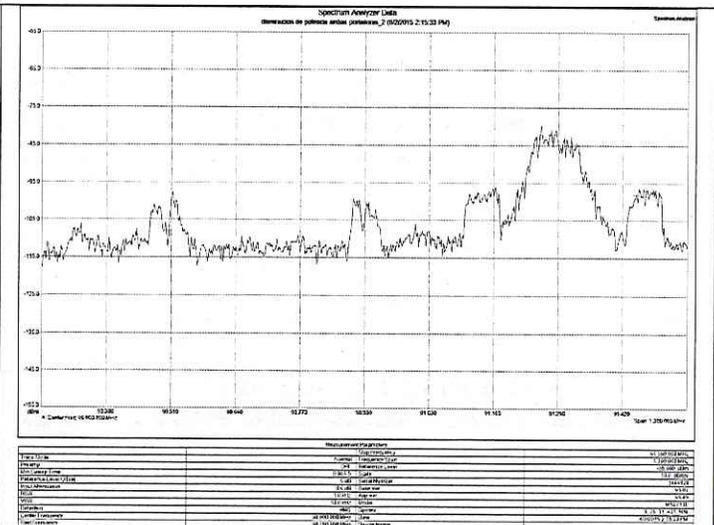
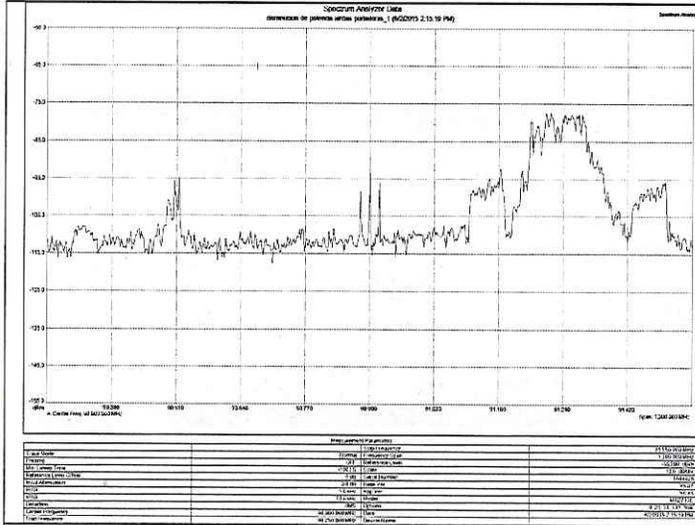
MEDICIÓN EXTRA 9

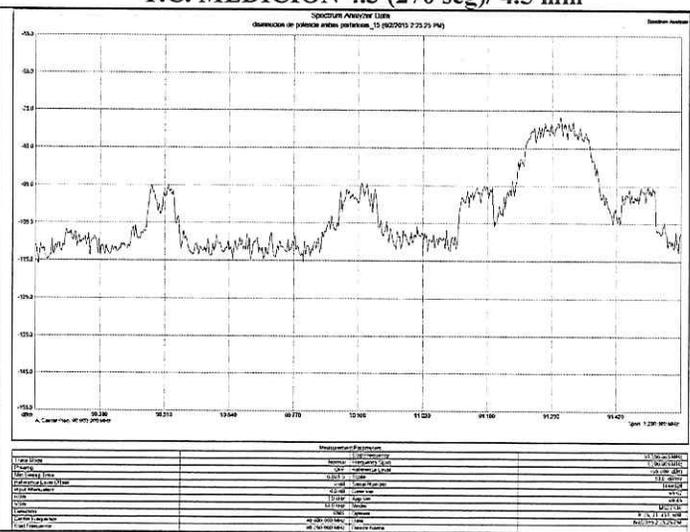
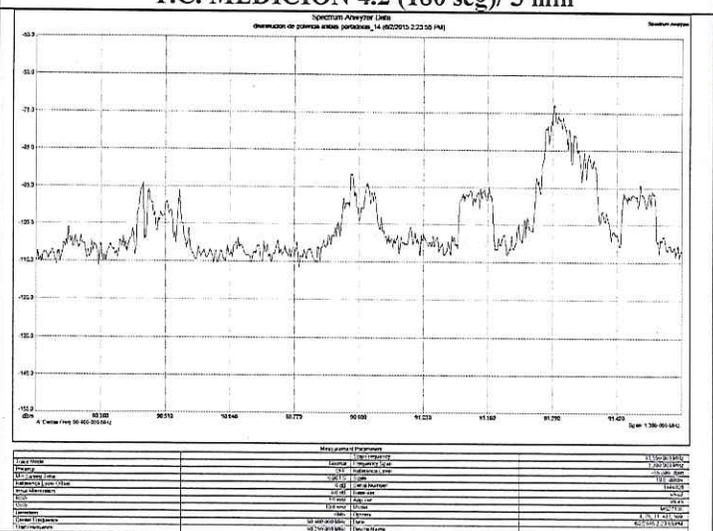
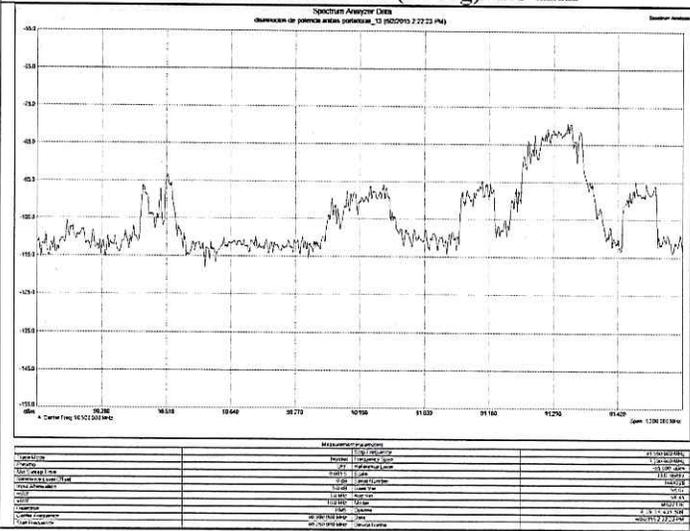
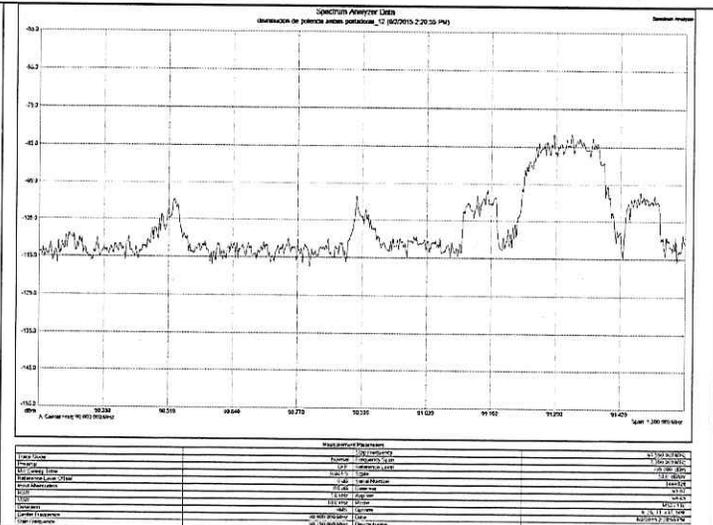
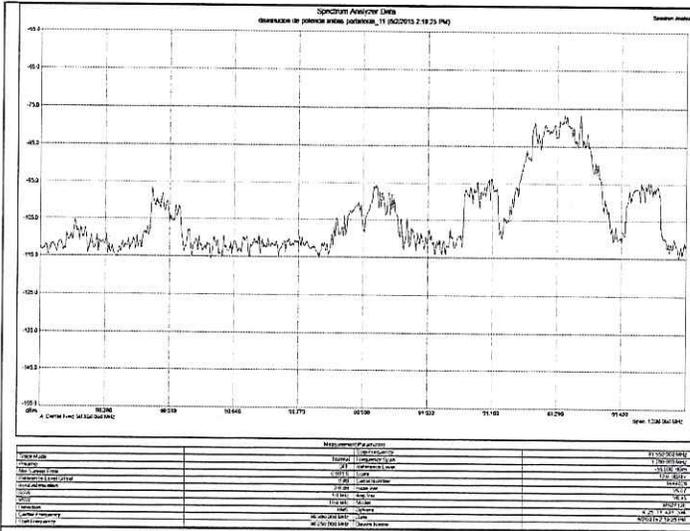


MEDICIÓN EXTRA 10

ESCENARIO 4.- DISMINUCIÓN DE POTENCIA DE AMBAS PORTADORAS

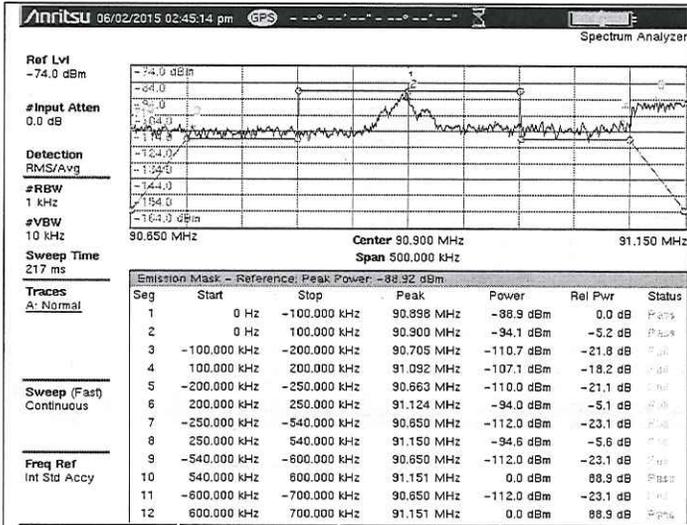
BLOQUE 15- SPAN PARA 3 ESTACIONES



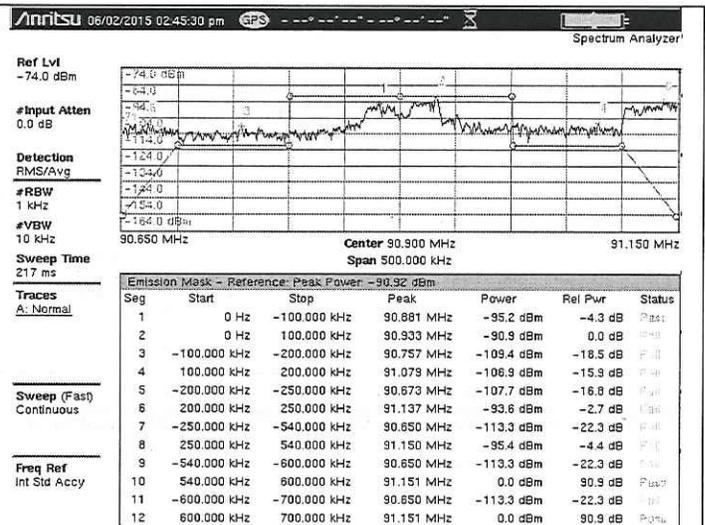


ESCENARIO 5.- ELIMINACIÓN DE AMBAS PORTADORAS DIGITALES

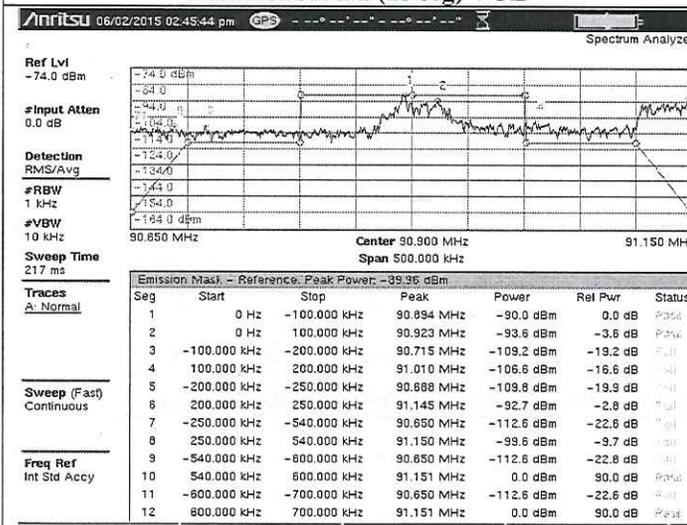
BLOQUE 17- SPAN PARA 1 ESTACIÓN



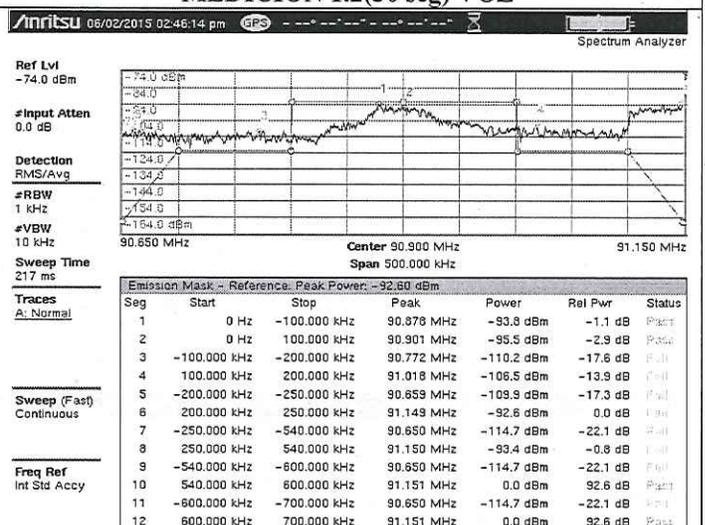
MEDICIÓN 1.1 (15 seg) VOZ



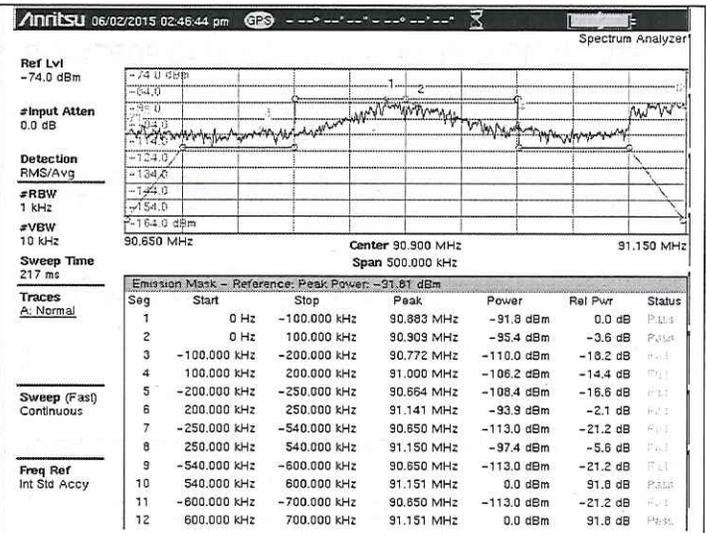
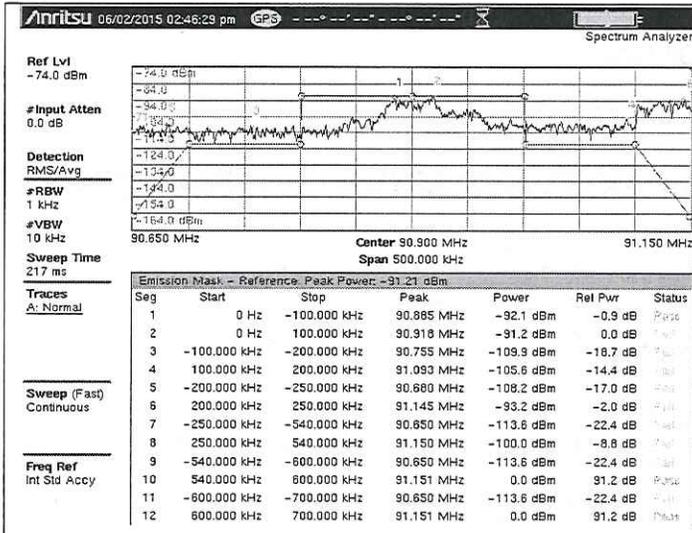
MEDICIÓN 1.2 (30 seg) VOZ



MEDICIÓN 1.3 (45 seg) VOZ

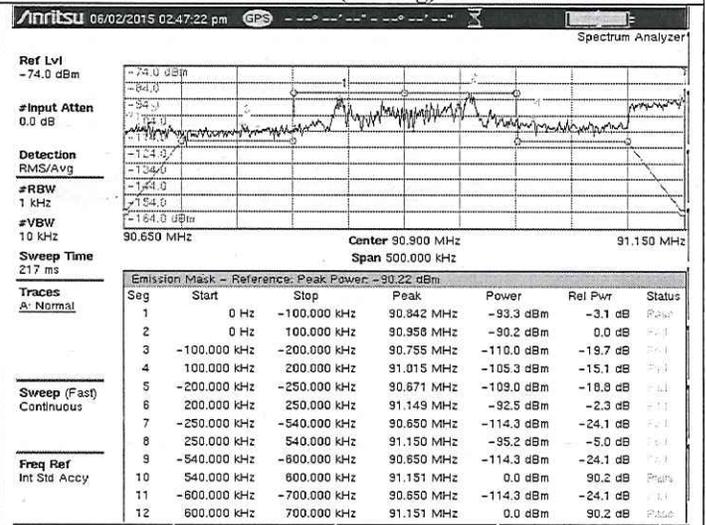
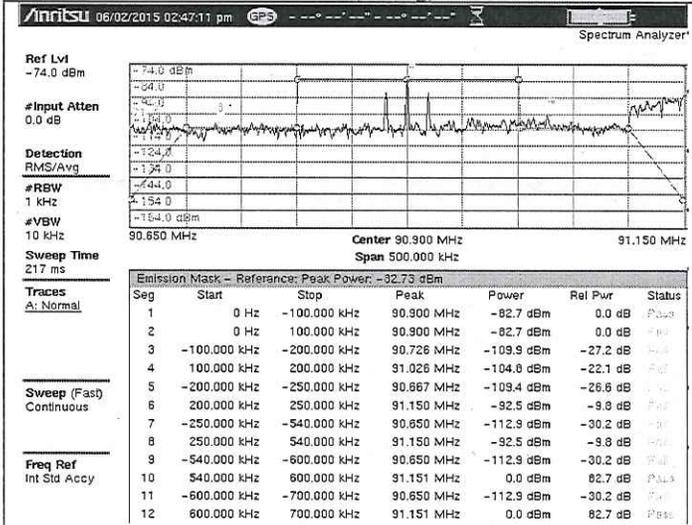


MEDICIÓN 2.1 (75 seg) MUSICA



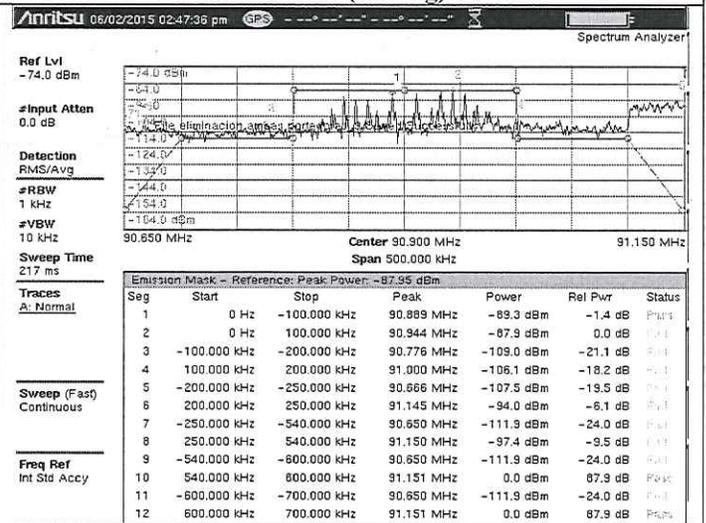
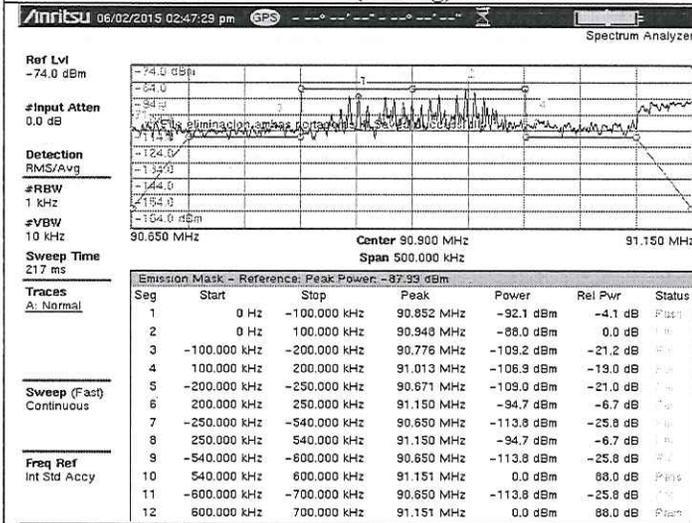
MEDICIÓN 2.2 (90 seg) MUSICA

MEDICIÓN 2.3 (105 seg) MUSICA



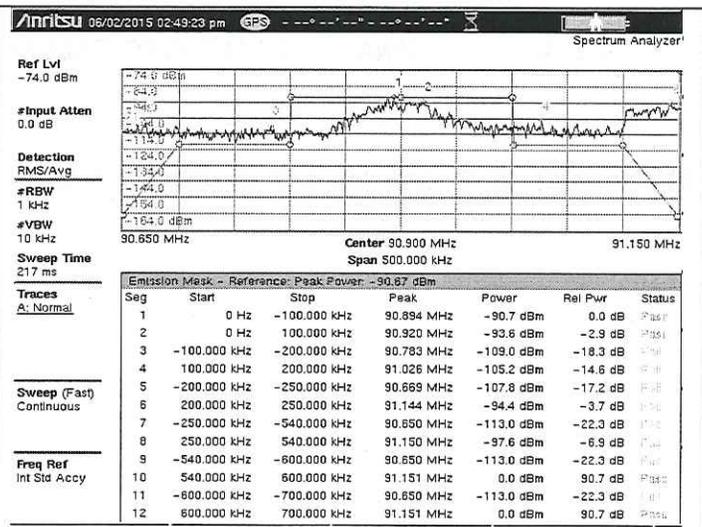
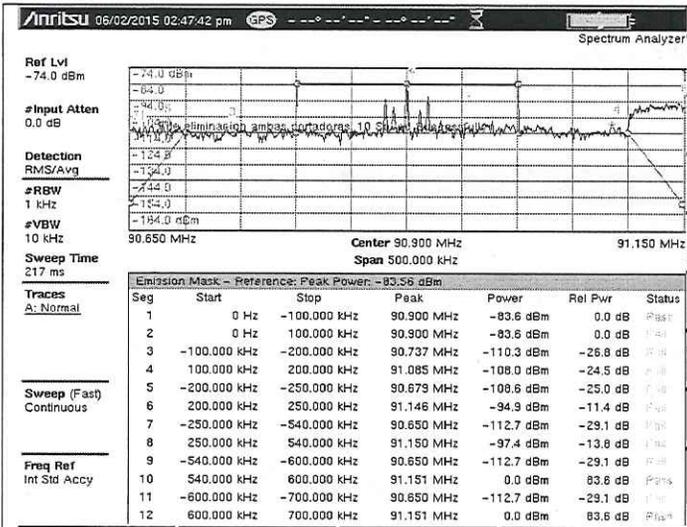
MEDICIÓN 3.1 (130 seg) RUIDO

MEDICIÓN 3.2 (145 seg) RUIDO



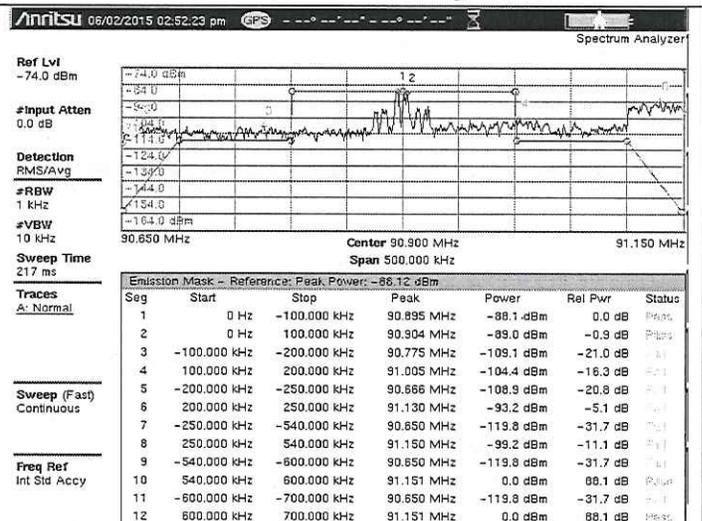
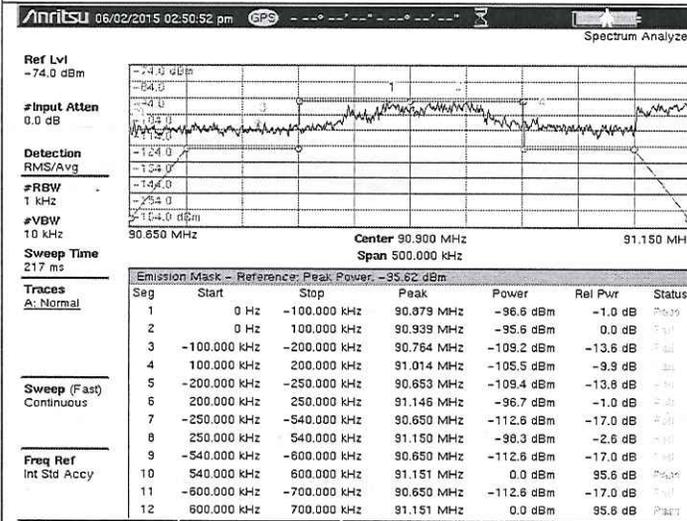
MEDICION EXTRA RUIDO 1

MEDICION EXTRA RUIDO 2



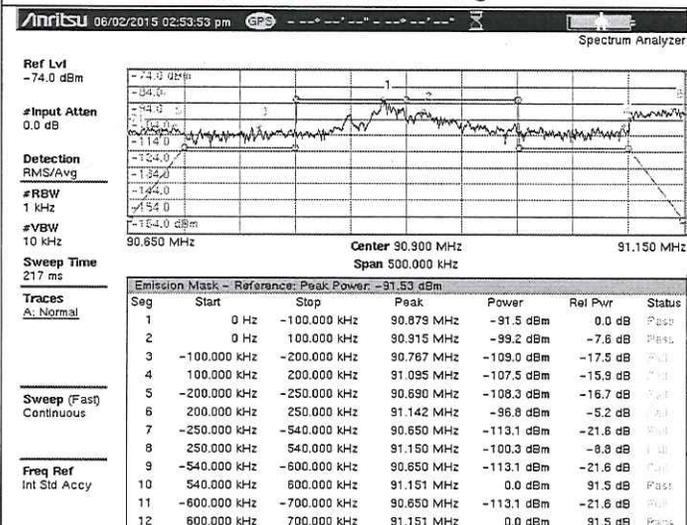
MEDICION EXTRA RUIDO 3

***T.C. MEDICIÓN 4.1 90 seg/ 1.5 min**



***T.C. MEDICIÓN 4.2 180 seg/ 3 min**

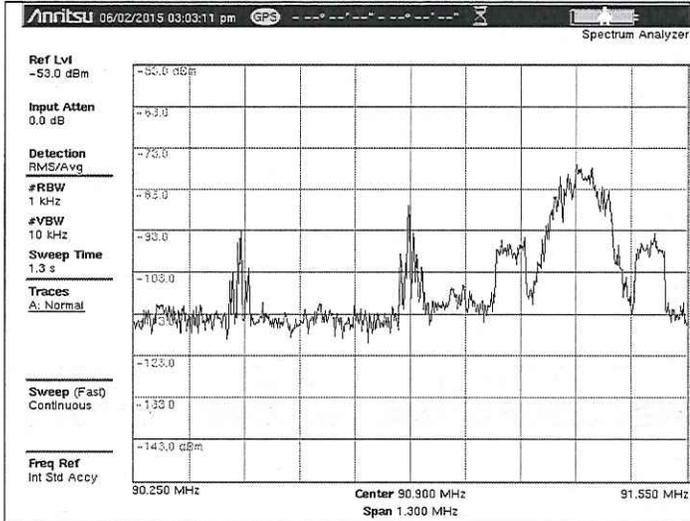
***T.C. MEDICIÓN 4.3 270 seg/ 4.5 min**



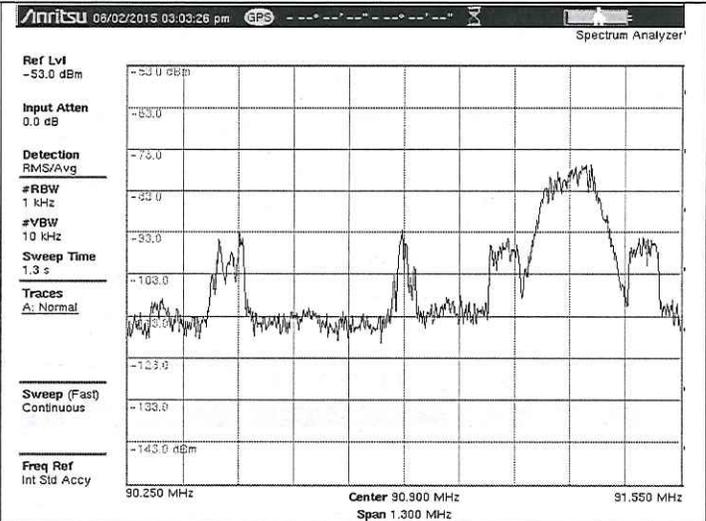
***T.C. MEDICIÓN 4.4 360 seg/ 6 min**

ESCENARIO 5.- ELIMINACIÓN DE AMBAS PORTADORAS DIGITALES

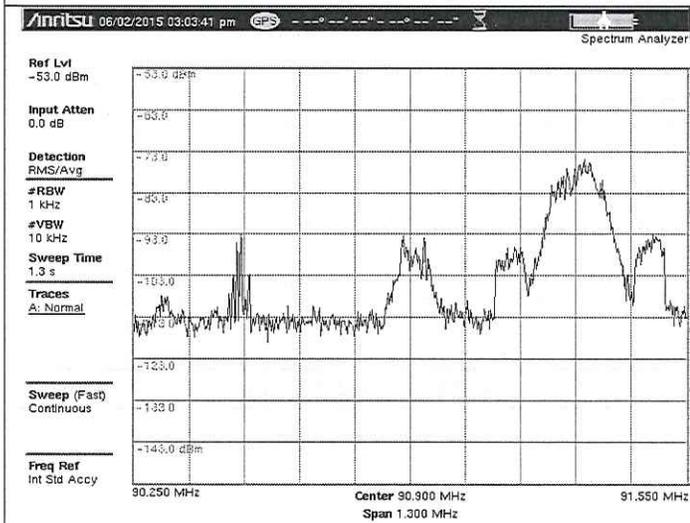
BLOQUE 19- SPAN PARA 3 ESTACIONES



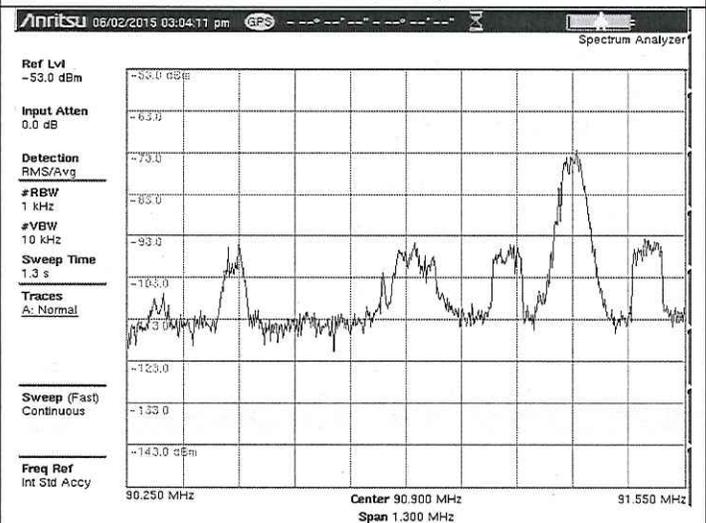
MEDICIÓN 1.1 (15 seg) VOZ



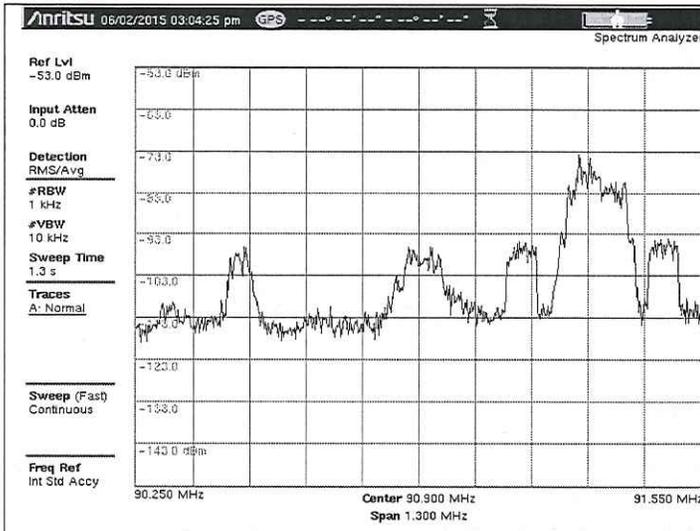
MEDICIÓN 1.2(30 seg) VOZ



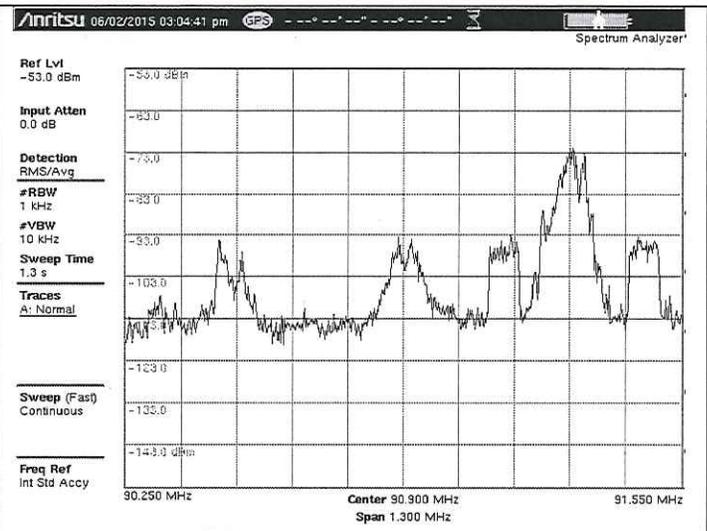
MEDICIÓN 1.3 (45 seg) VOZ



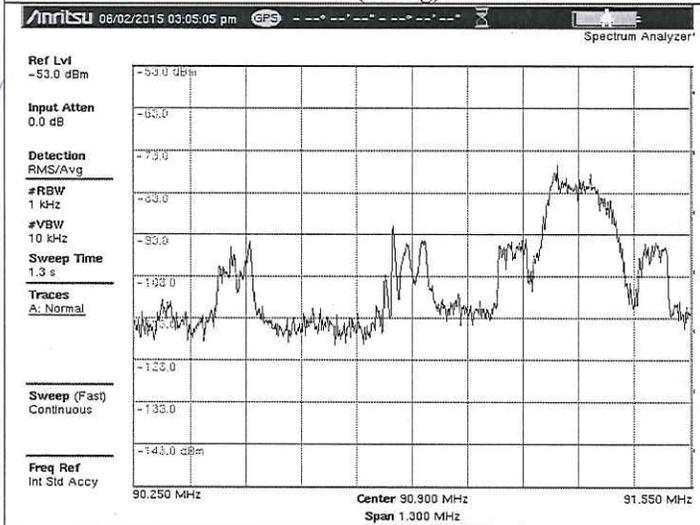
MEDICIÓN 2.1 (75 seg) MUSICA



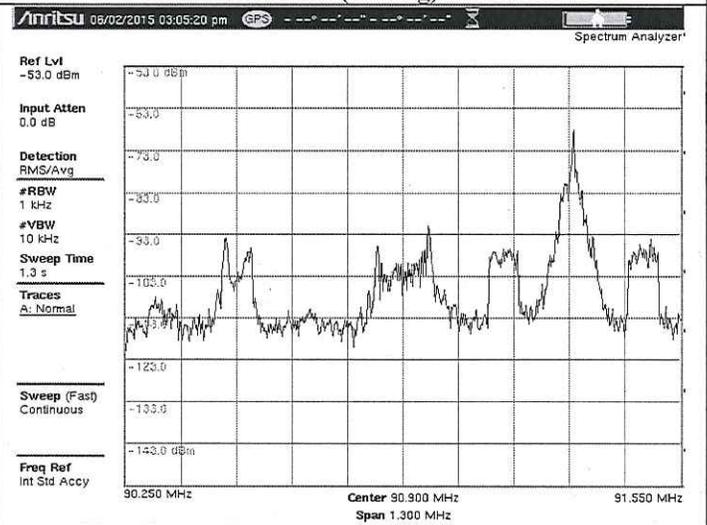
MEDICIÓN 2.2 (90 seg) MUSICA



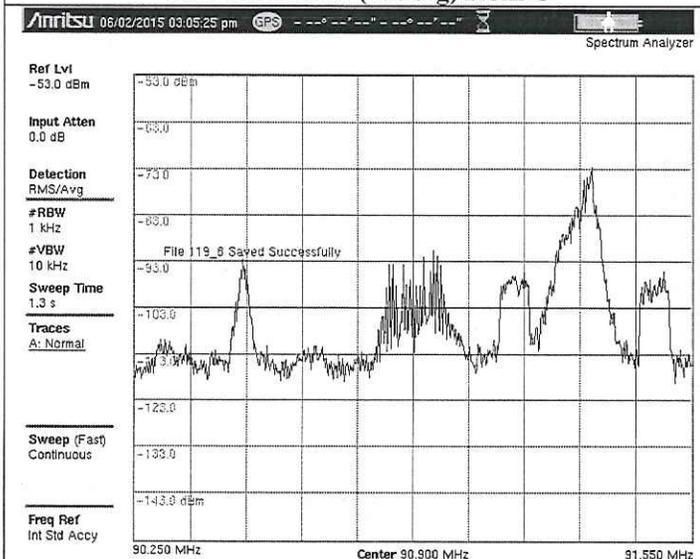
MEDICIÓN 2.3 (105 seg) MUSICA



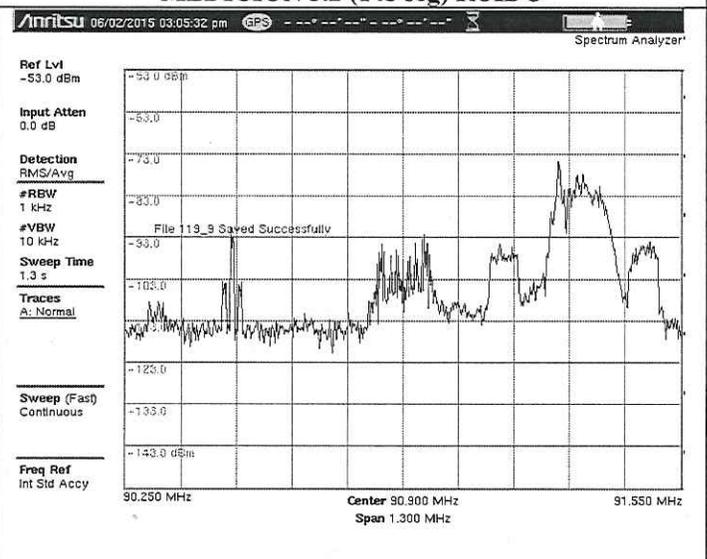
MEDICIÓN 3.1 (130 seg) RUIDO



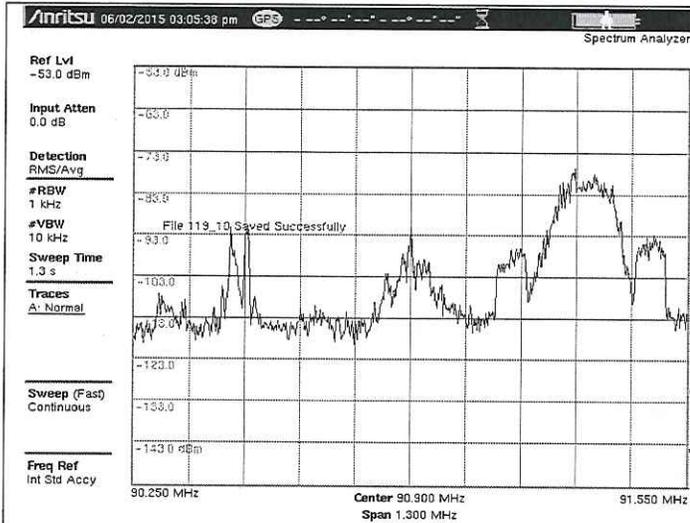
MEDICIÓN 3.2 (145 seg) RUIDO



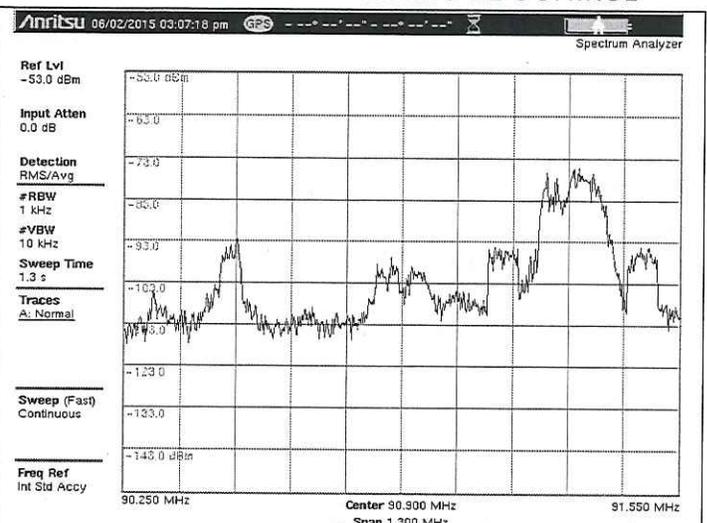
MEDICION EXTRA RUIDO 1



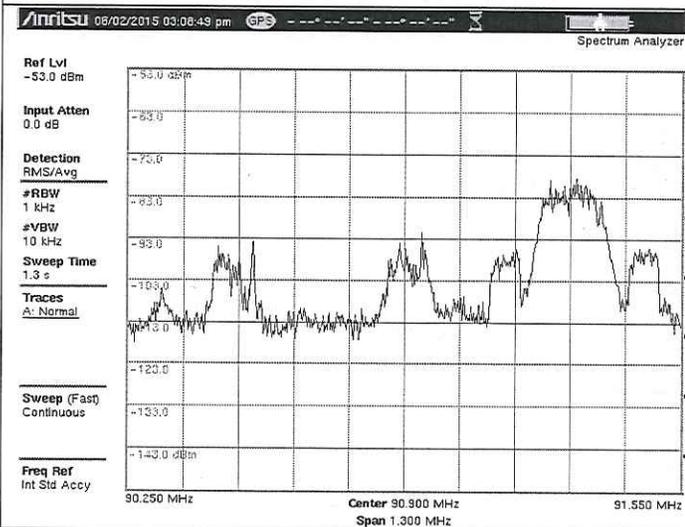
MEDICION EXTRA RUIDO 2



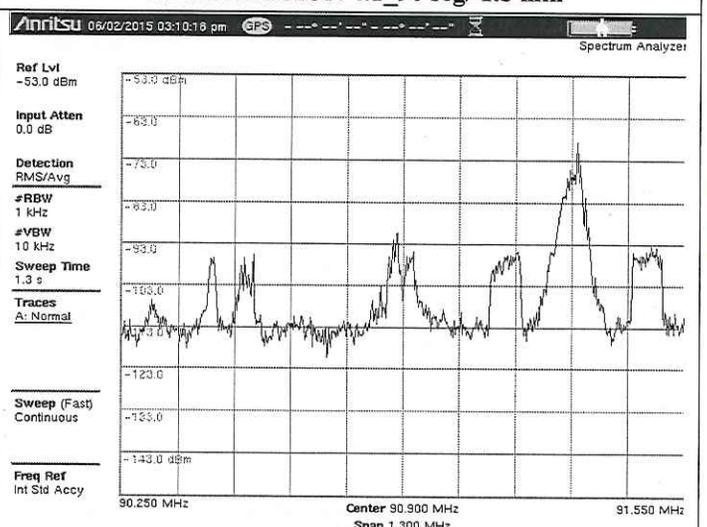
MEDICION EXTRA RUIDO 3



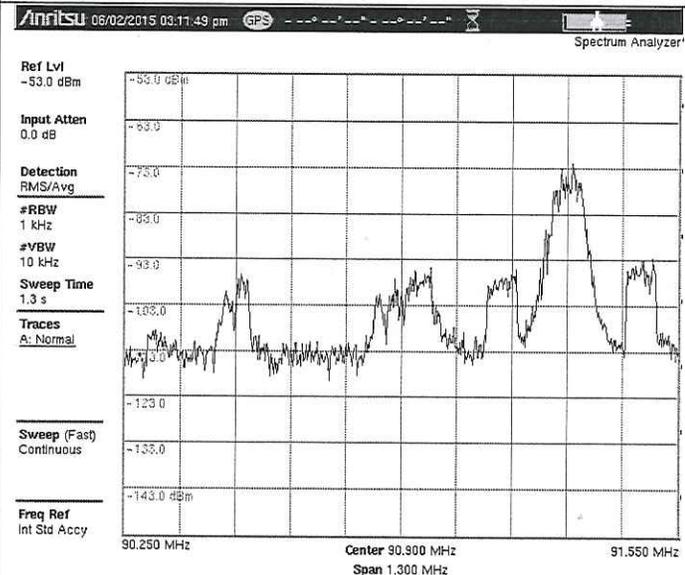
*T.C. MEDICIÓN 4.1_90 seg/ 1.5 min



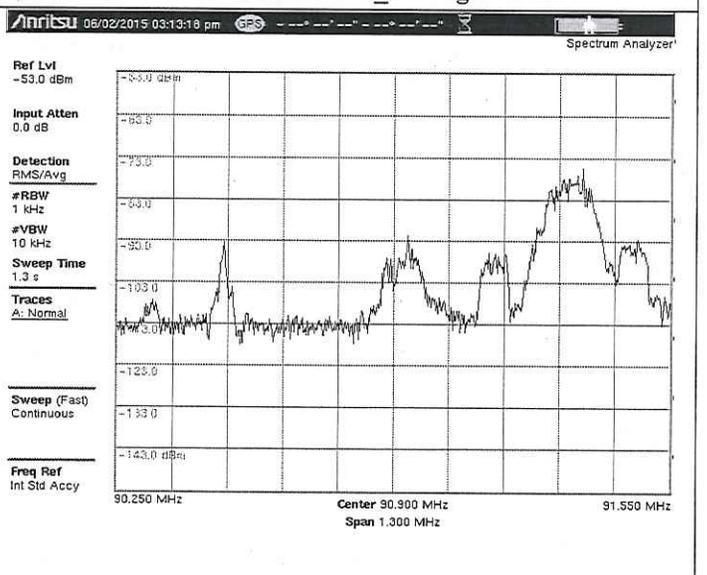
*T.C. MEDICIÓN 4.2_180 seg/ 3 min



*T.C. MEDICIÓN 4.3_270 seg/ 4.5 min



*T.C. MEDICIÓN 4.4_360 seg/ 6 min



*T.C. MEDICIÓN 4.5_450 seg/ 7.5 min

***T.C.= Transmisión Convencional**

No es óbice señalar que el estudio de radiomonitorio es circunstancial, es decir, pueden realizarse mediciones durante un periodo de tiempo determinado y encontrar ocupada la frecuencia monitoreada; sin embargo, en fechas posteriores podría desaparecer o aparecer emisiones nuevas.





INFORME DE RADIOMONITOREO

No. IFT/ 194/2015

LUGAR DE ESTUDIO: _____ IFT Insurgentes Sur 1143 _____
 USUARIO: _____ Radio Ibero, A.C. _____
 FRECUENCIA DE REFERENCIA: _____ 90.9 MHz _____
 INDICATIVO : _____ XHUIA _____
 BANDA: _____ VHF _____ TIPO DE SERVICIO: _____ Radiodifusión en FM _____
 MODO DE OPERACION: _____ Broadcast _____ TIPO DE EMISION: _____ 240K0F3 _____
 HORARIO QUE OPERA: _____ 24 hrs _____

IRREGULARIDADES DETECTADAS

N/A	USUARIO NO AUTORIZADO	N/A	EXCEDE TOLERANCIA EN FRECUENCIA
N/A	NO USA SUS INDICATIVOS	N/A	SOBREMODULA
N/A	FREC. NO AUTORIZADA	N/A	HORARIO NO AUTORIZADO
N/A	TRAFICO NO AUTORIZADO	N/A	OPERA FUERA DE BANDA
N/A	TRAFICO EN CLAVE	N/A	EXCEDE ANCHO DE BANDA
N/A	RADIACIONES NO ESENCIALES	N/A	USUARIO NO IDENTIFICADO

OBSERVACIONES

PERIODO DE OBSERVACION DEL 2 DE junio AL 2 DE junio DEL 20 15
 DETECTASE OPERAR A ESTACION (ES) IDENTIFICÁNDOSE COMO: _____ Radio Ibero XHUIA _____
 TRAFICO RELATIVO A: _____ Servicio de radiodifusión en FM. _____
 EQUIPO UTILIZADO: _____ Analizador de espectro Anritsu MS2713E _____
 FRECUENCIA MEDIDA EN LA ESTACION (ES) FIJA (S): _____ N/A _____
 FRECUENCIA MEDIDA PARA SUS MOVILES: _____ N/A _____
 OBSERVACIONES: En atención al apoyo solicitado por la Unidad de Espectro Radioeléctrico se llevaron a cabo mediciones en la señal que se transmite en la frecuencia 90.9 MHz, en las inmediaciones del domicilio del IFT, ubicado en Insurgentes Sur 1143. Estas corresponden a la brigada 3 de acuerdo con la logística de la UE.
 UBICACIÓN: Calle Boston s/n, Col. Nochebuena, C.P. 03720, Delegación Benito Juárez, México. D.F.
 LATITUD: 19° 22' 53" N DOA: _____ N/A _____ OTROS: _____ N/A _____
 LONG: 99° 10' 37" O LPDF: _____ N/A _____

LUGAR Y FECHA DE ELABORACIÓN: México, D.F., a 10 de junio de 2015

HORA DE ELABORACION: 12:00 hrs

OPERADOR
[Signature]

Linda Morales Flores

INSTITUTO FEDERAL DE
TELECOMUNICACIONES

[Signature]
SALAS GUT.

Ing. Roberto Salas Gutiérrez
SUBDIRECTOR DE VIGILANCIA DEL
ESPECTRO RADIOELÉCTRICO

22 JUN 2015

Objetivo

Realizar mediciones en la señal que se transmite en la frecuencia 90.9 MHz del servicio de radiodifusión en FM.

Lugar

Periodo	Lugar
2 de junio de 2015	Exterior del edificio del Instituto Federal de Telecomunicaciones ubicado en Insurgentes Sur 1143, en la calle Boston sin número

Equipo empleado

- Equipo de medición portátil marca Anritsu mod.MS2713E con un rango de frecuencia de 9 KHz a 6 GHz.
- Antena magnética con un rango de VHF.

Desarrollo

El radiomonitorio se desarrolló de la siguiente manera:

- Con ayuda del analizador de espectro Anritsu MS2713E, a bordo de la unidad móvil Cherokee, ubicada en el exterior del edificio del IFT (imagen 1), se capturaron las gráficas del spot de prueba transmitido el cual estaba dividido en: voz, música, ruido y transmisión convencional, con base a los siguientes escenarios en la frecuencia 90.9 MHz.
 1. Potencia nominal
 - Span para una estación
 - Span para tres estaciones
 2. Disminución de potencia en portadora digital izquierda
 - Span para una estación
 - Span para tres estaciones
 3. Disminución de potencia en portadora digital derecha
 - Span para una estación
 - Span para tres estaciones
 4. Disminución de potencia en ambas portadoras
 - Span para una estación
 - Span para tres estaciones
 5. Eliminación de ambas portadoras digitales
 - Span para una estación
 - Span para tres estaciones

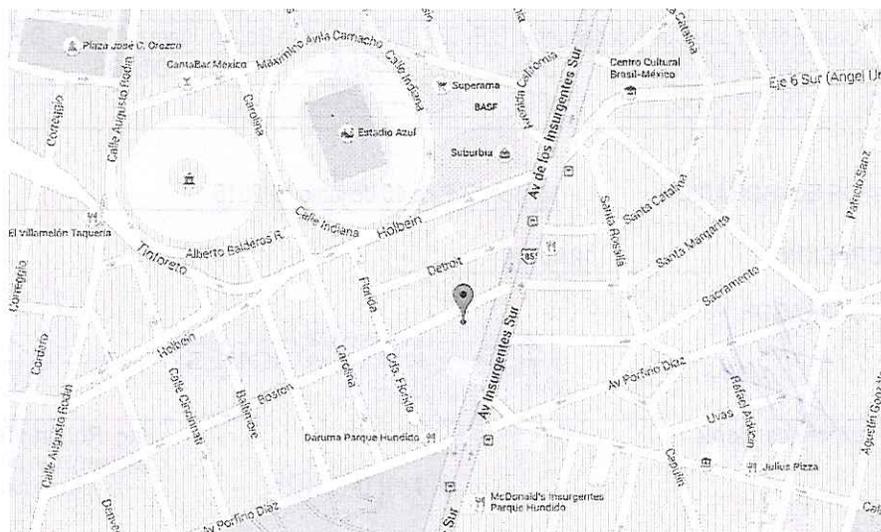
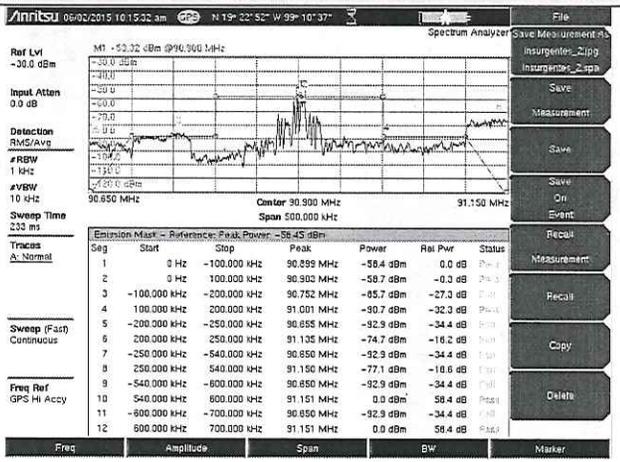


Imagen 1. Mapa donde se realizó el radiomonitorio en la frecuencia 90.9 MHz

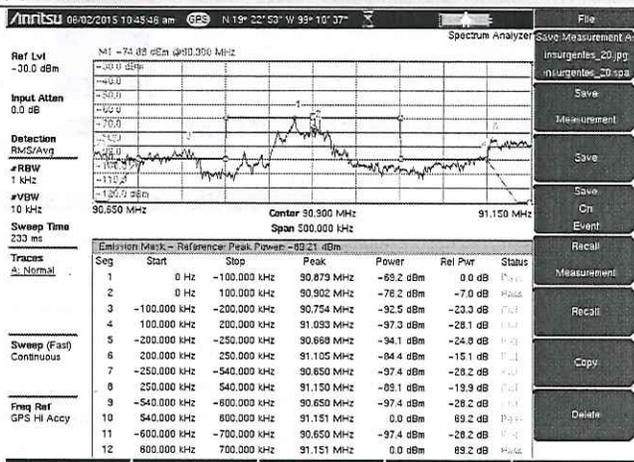
Fecha: 02 de junio de 2015
Lugar de Radiomonitorio: Exterior del edificio del IFT
Coordenadas Geográficas: 19° 22' 53" N, 99° 10' 37" O

ESCENARIO 1.- POTENCIA NOMINAL (10:45)

SPAN PARA UNA ESTACIÓN BLOQUE 1



Medición 1.1



Medición 1.2

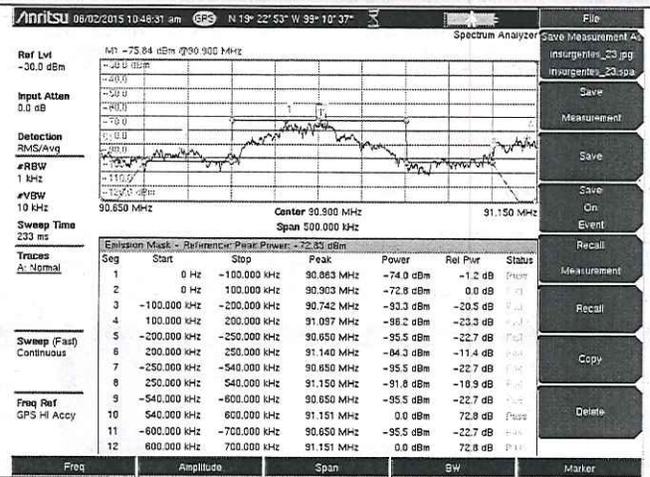
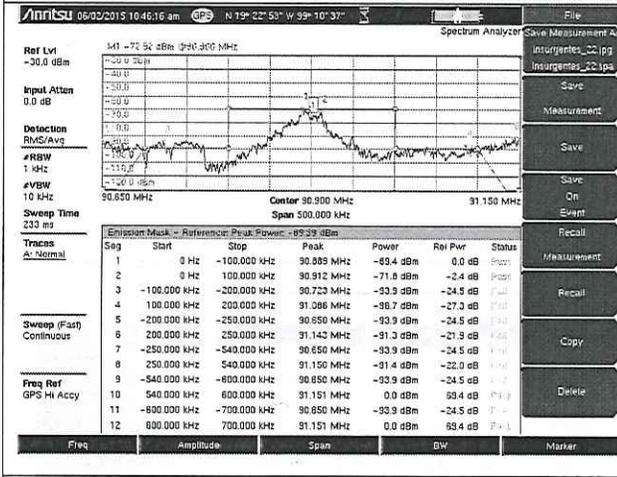
Se obtuvo de la primer transmisión que se realizó, la cual por problemas en una brigada no se considero



Medición 1.3

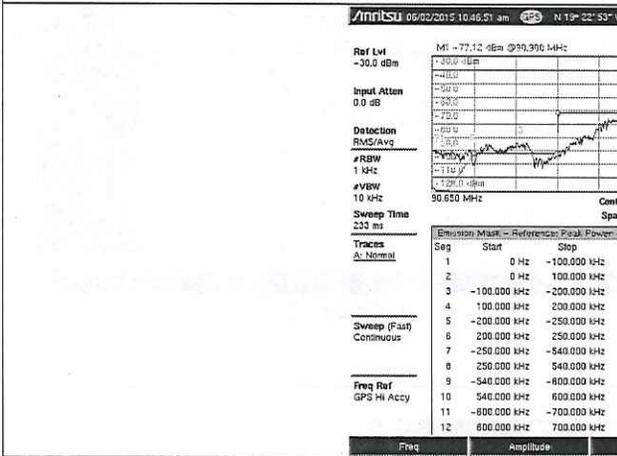
Handwritten blue marks and scribbles.

Música



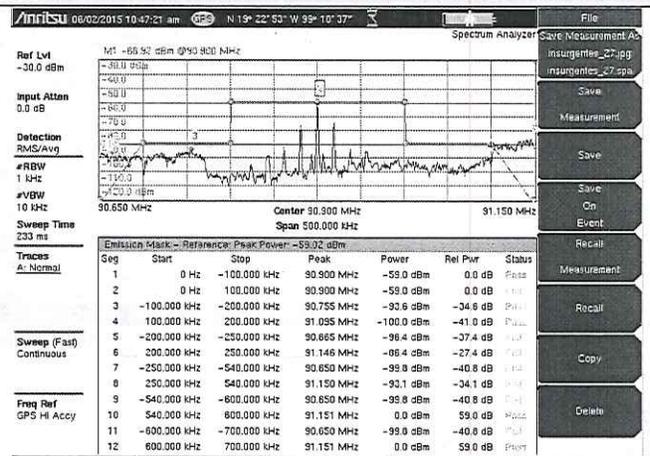
Medición 2.1

Medición 2.2



Medición 2.3

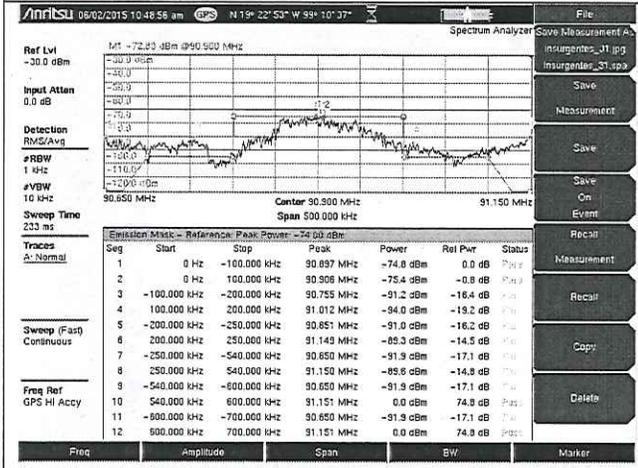
Ruido



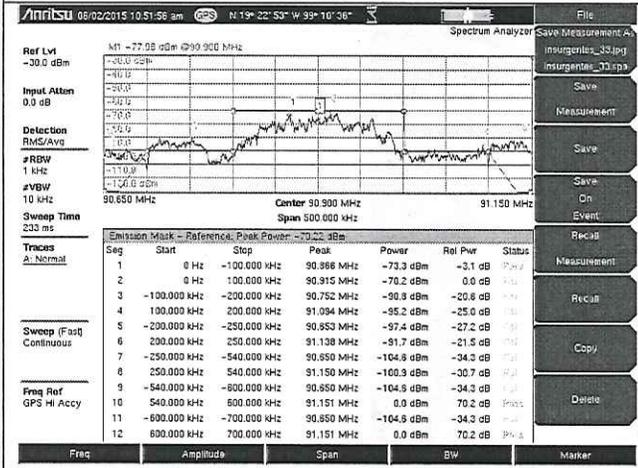
Medición 3.1

Medición 3.2

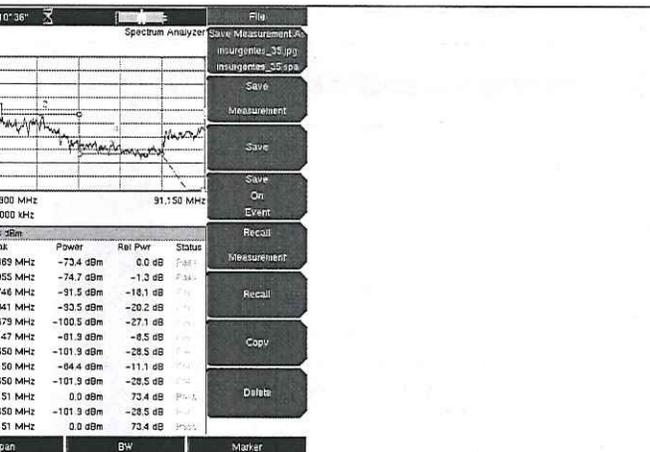
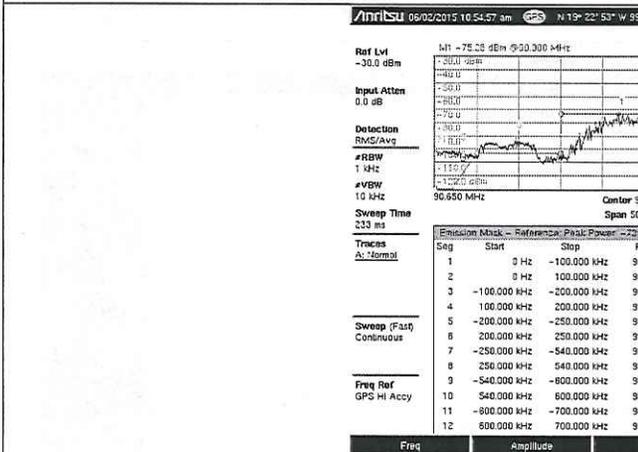
Transmisión convencional



Medición 4.1



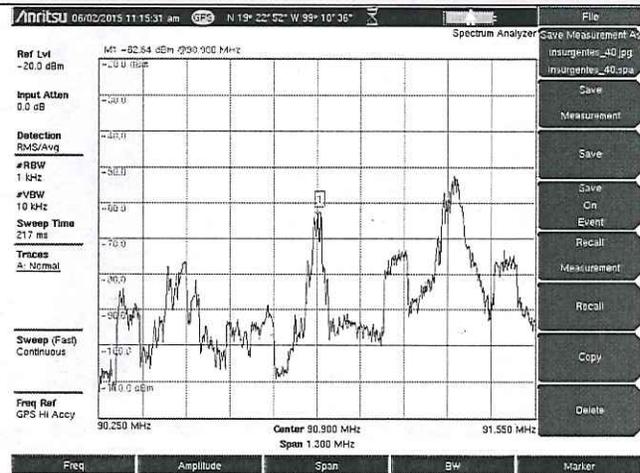
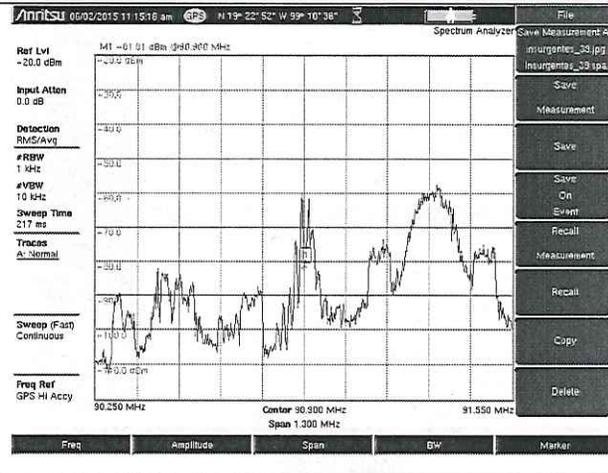
Medición 4.3



Medición 4.5

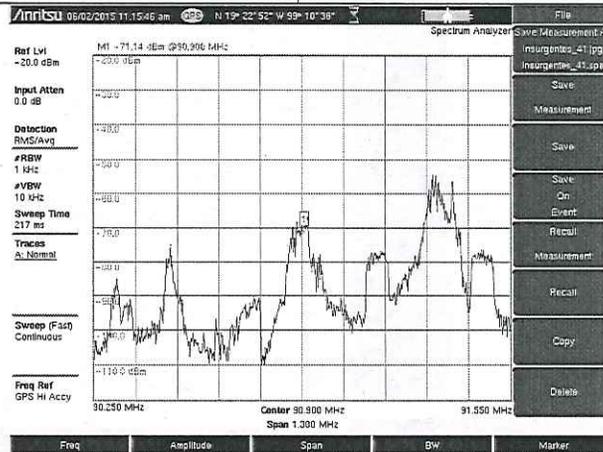
SPAN PARA TRES ESTACIONES (11:15)
BLOQUE 3

Voz



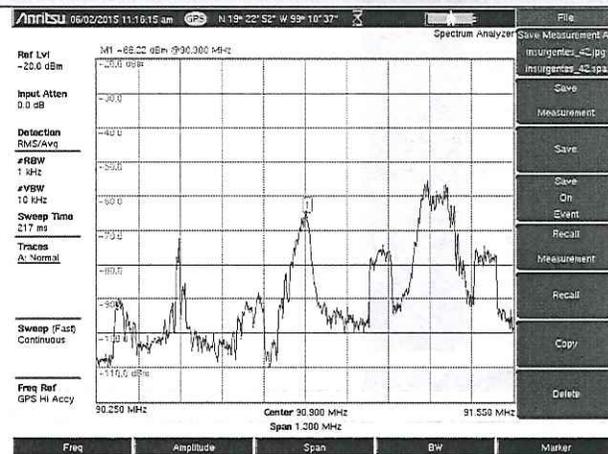
Medición 1.1

Medición 1.2

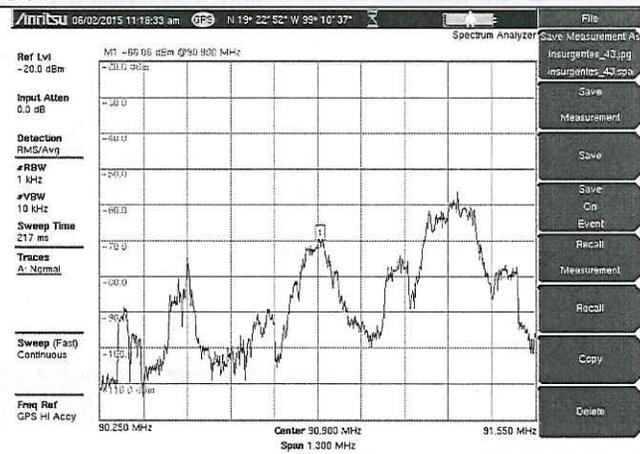


Medición 1.3

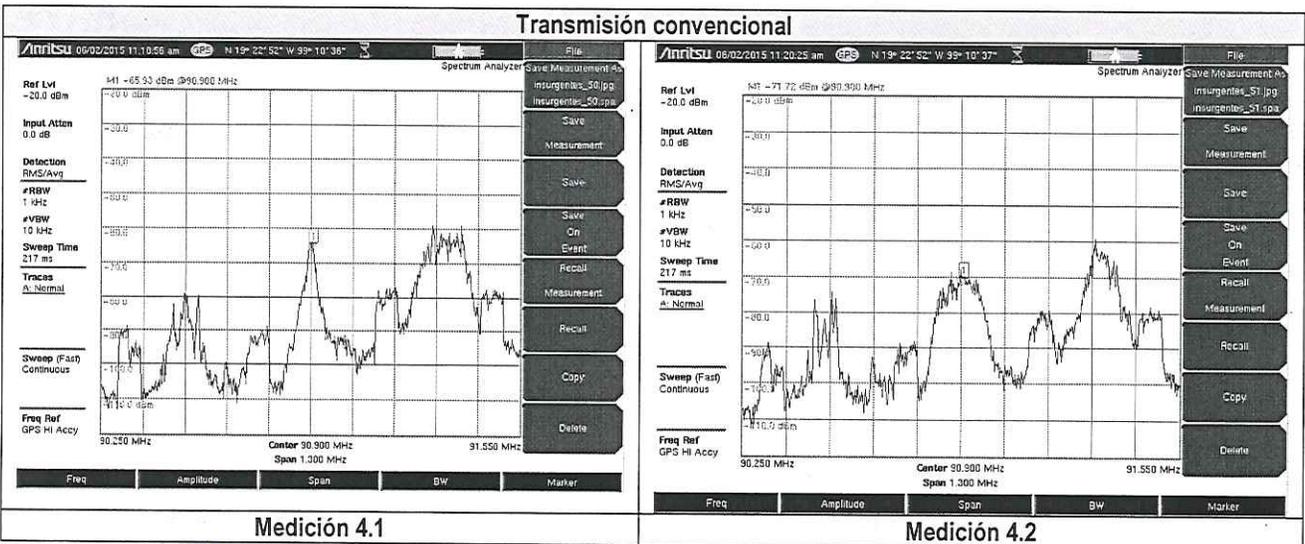
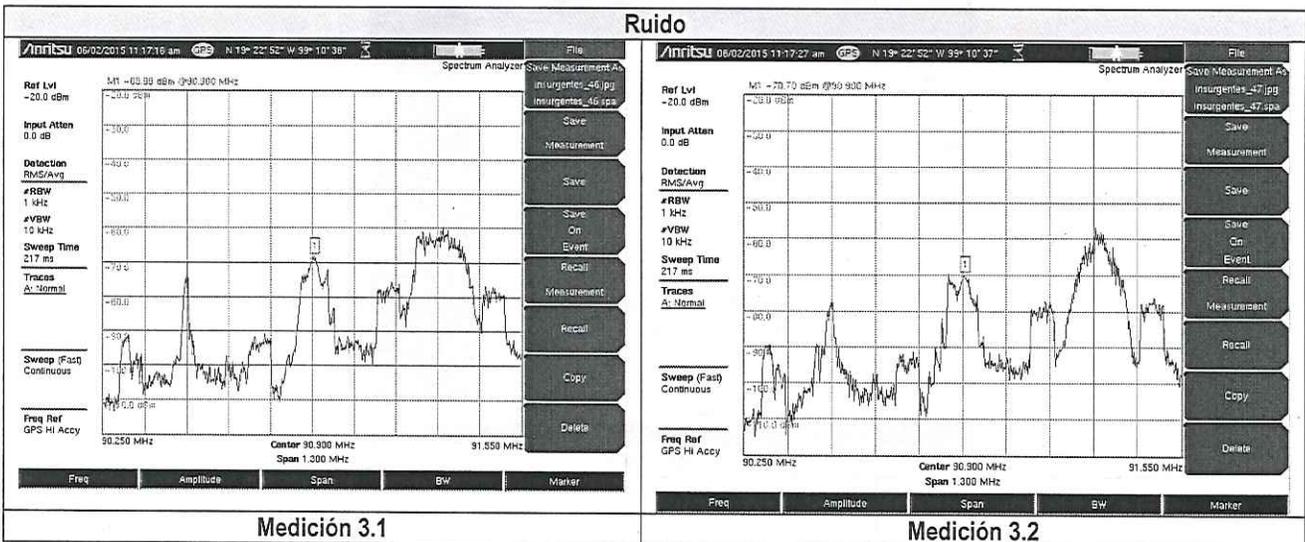
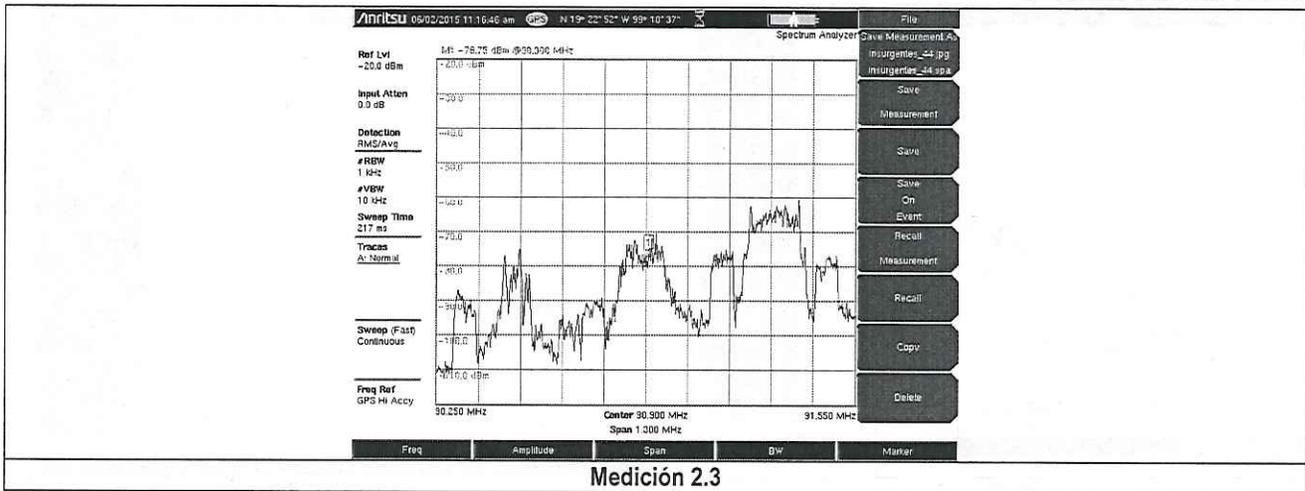
Música



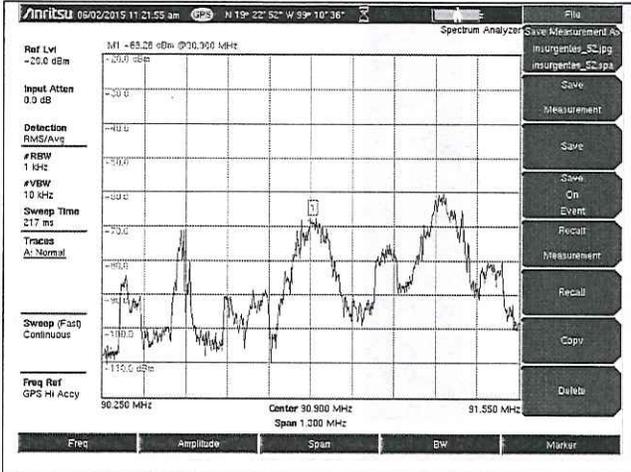
Medición 2.1



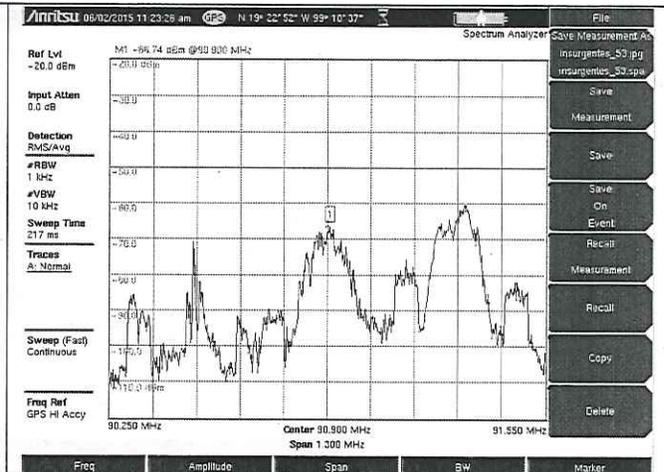
Medición 2.2



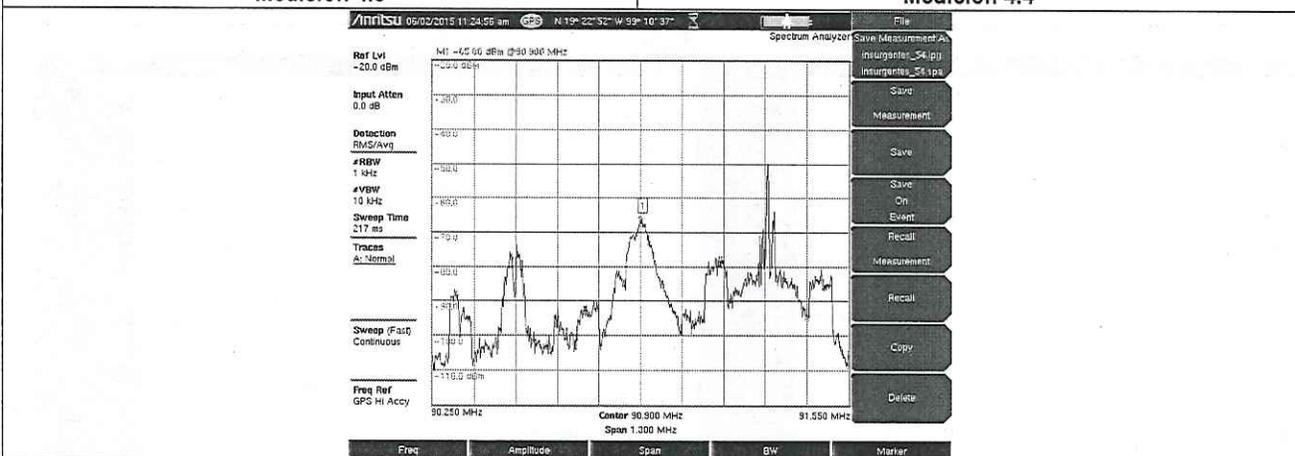
Handwritten blue marks: a checkmark and a signature.



Medición 4.3



Medición 4.4



Medición 4.5

Handwritten mark

Handwritten mark

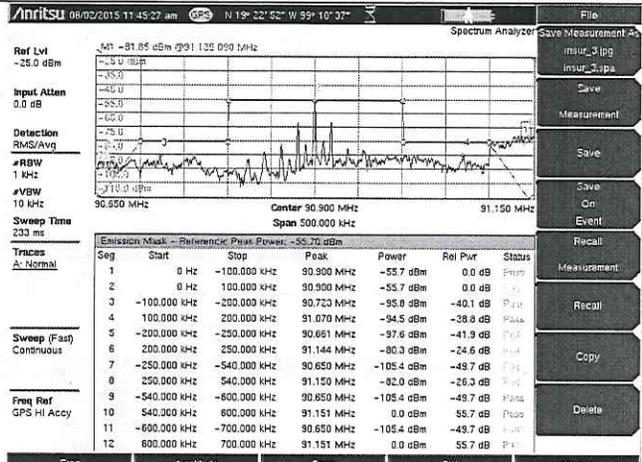
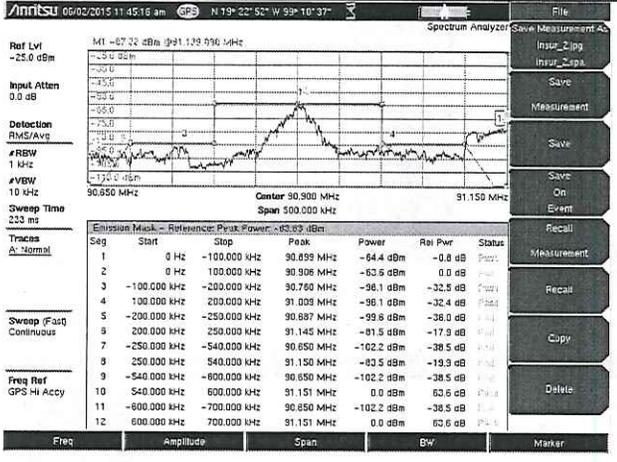
Handwritten mark

ESCENARIO 2.- DISMINUCIÓN DE POTENCIA EN PORTADORA DIGITAL IZQUIERDA

SPAN PARA UNA ESTACIÓN (11:45)

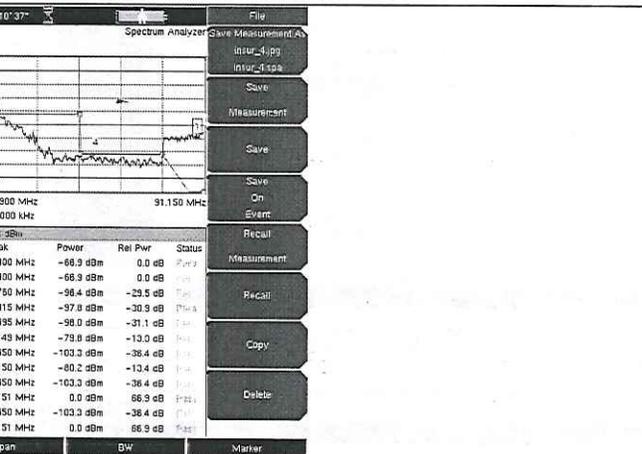
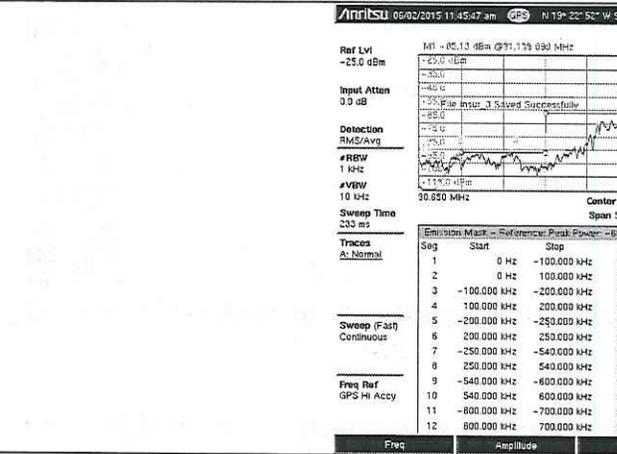
BLOQUE 5

Voz



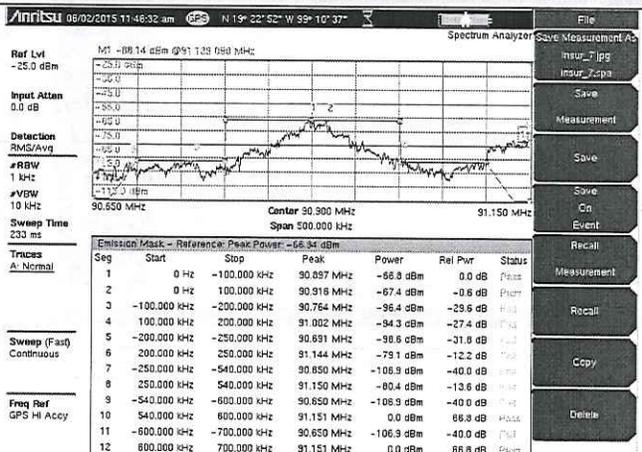
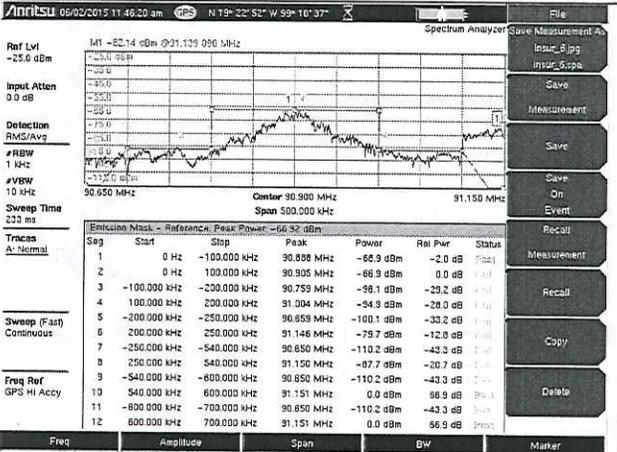
Medición 1.1

Medición 1.2



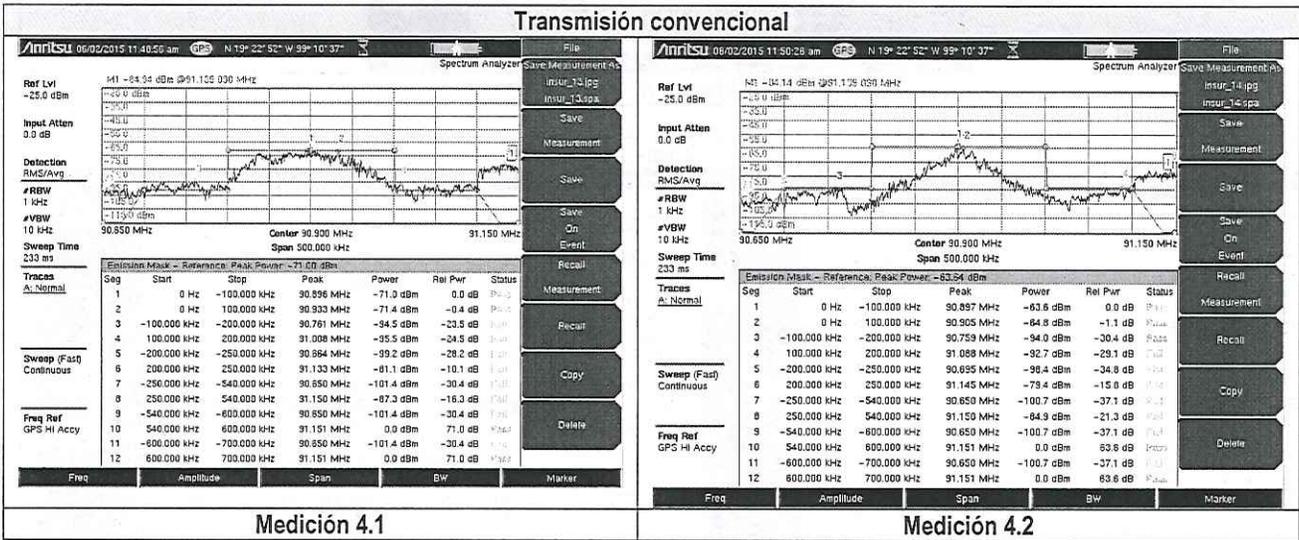
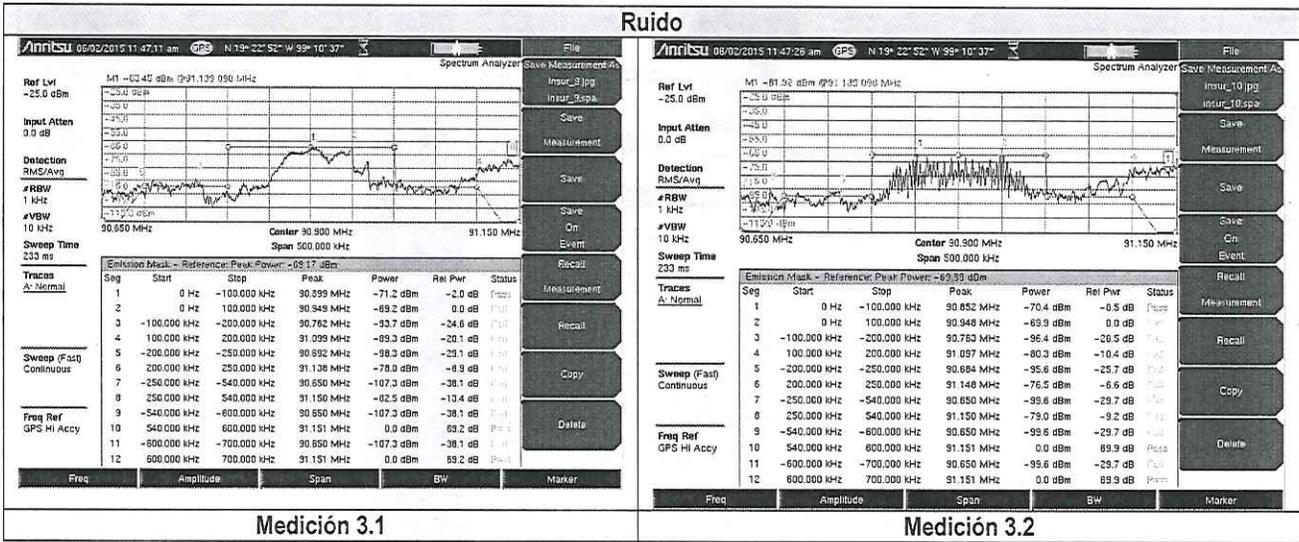
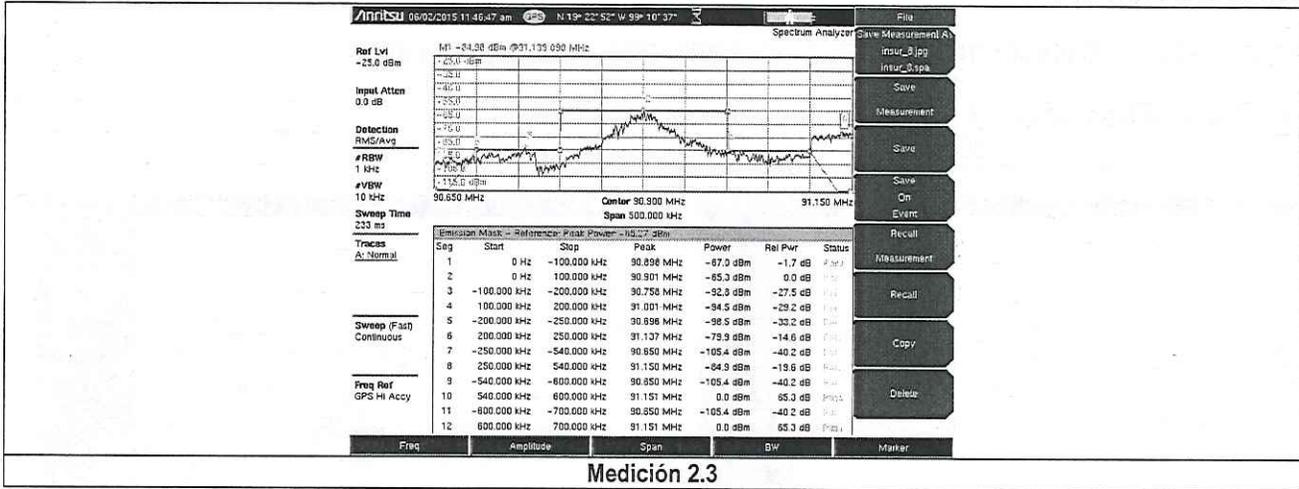
Medición 1.3

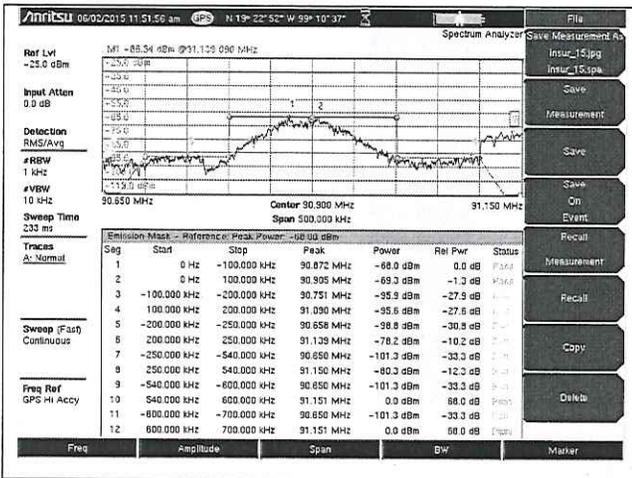
Música



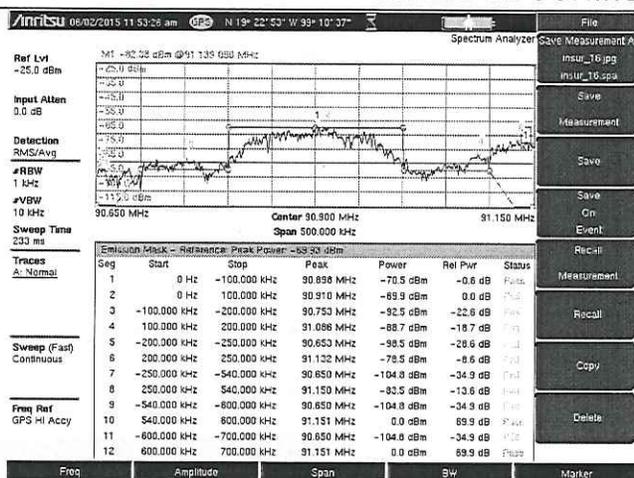
Medición 2.1

Medición 2.2

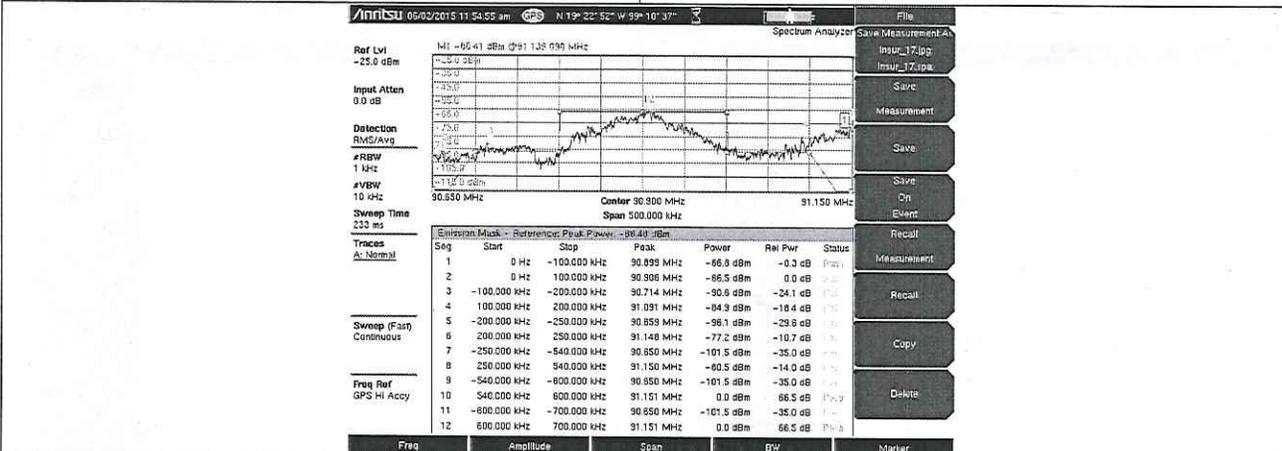




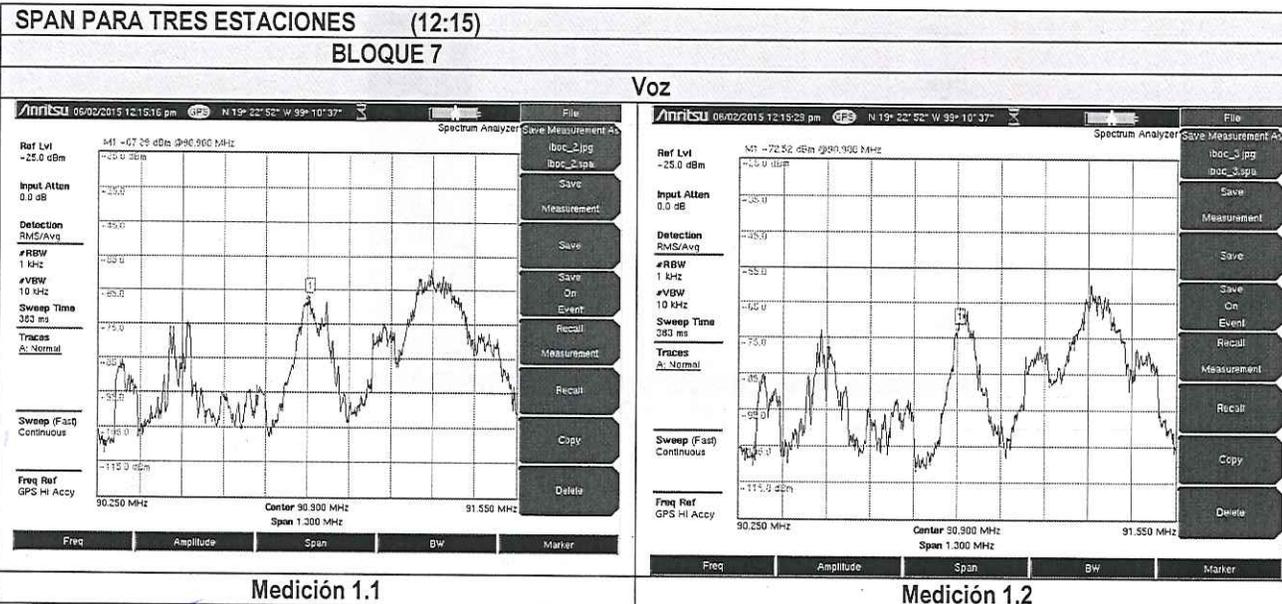
Medición 4.3



Medición 4.4

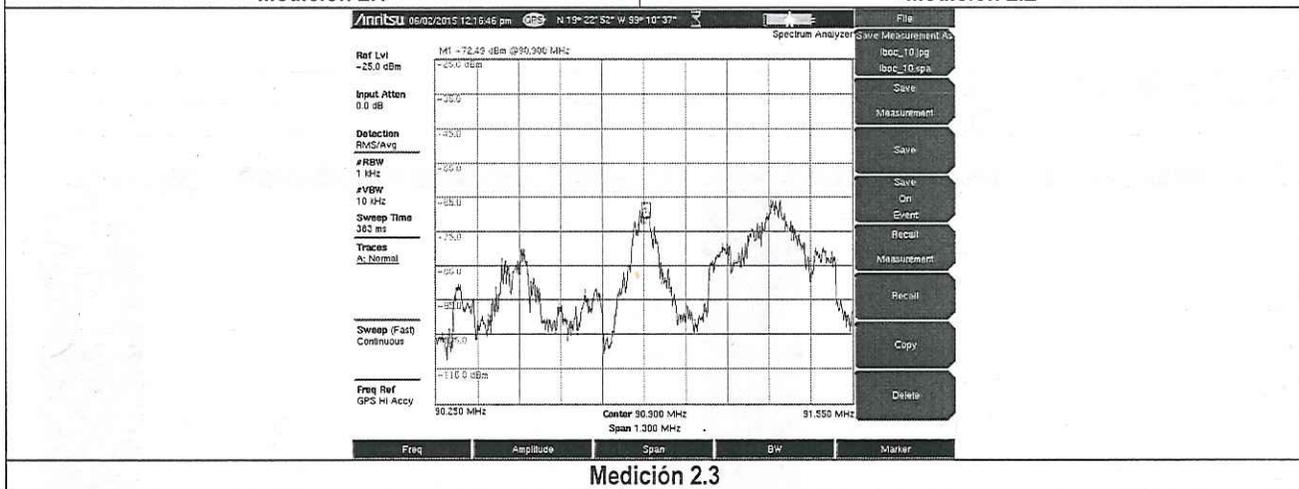
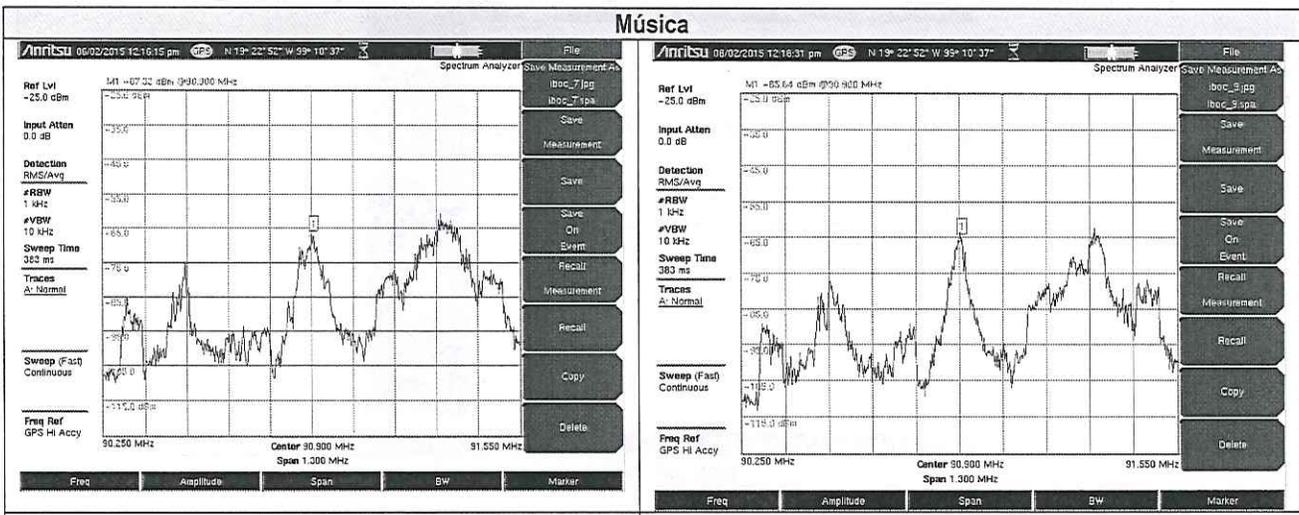
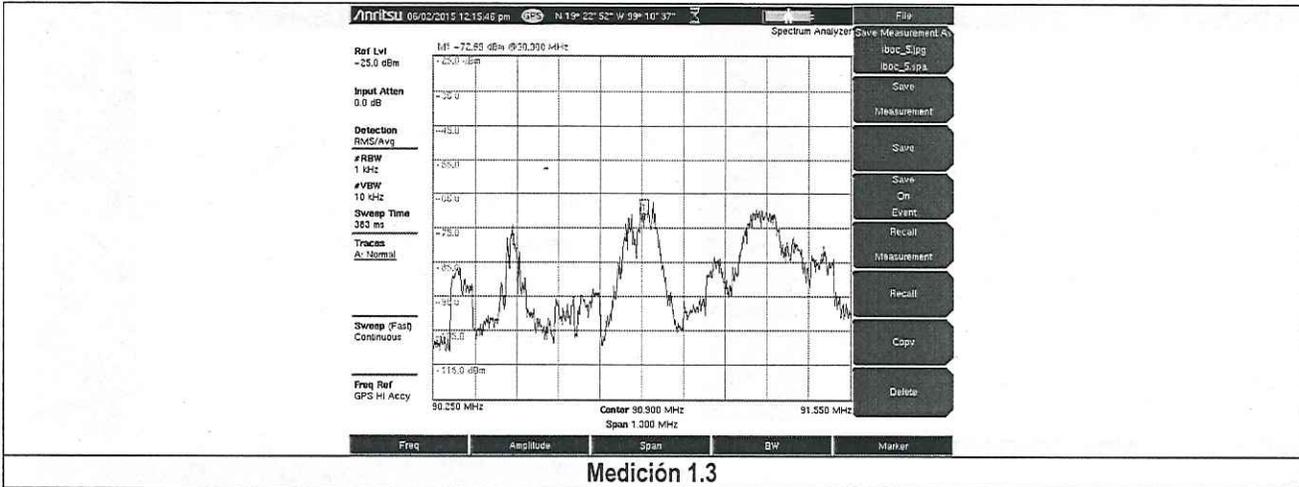


Medición 4.5

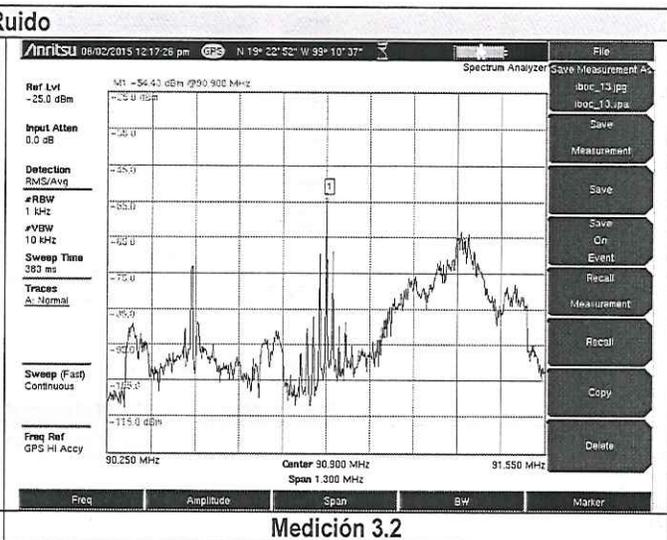
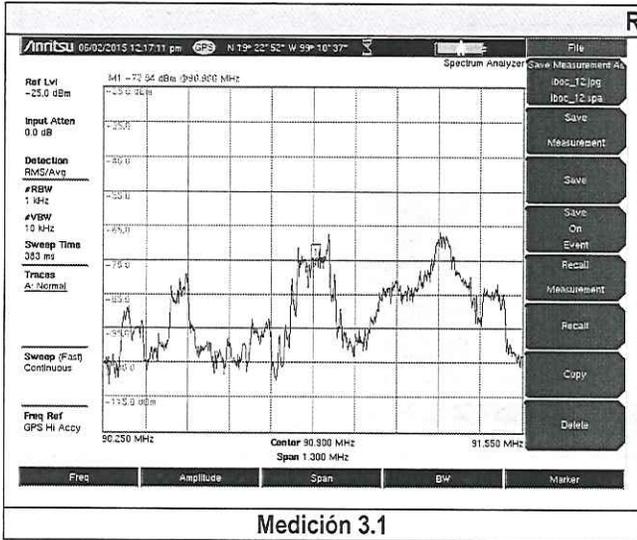


Medición 1.1

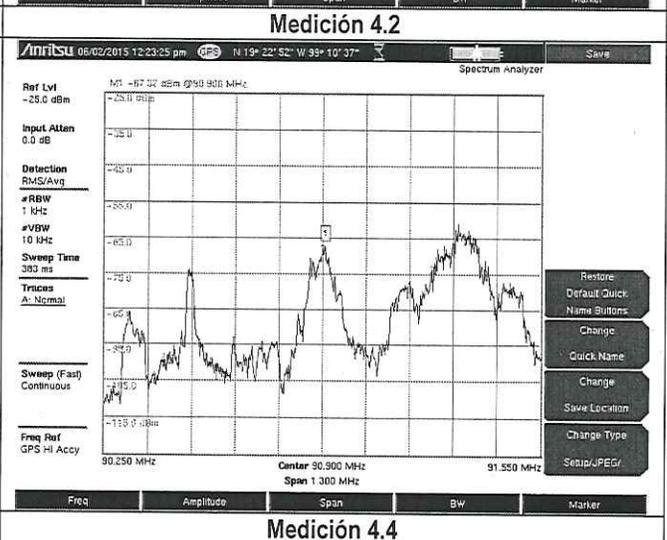
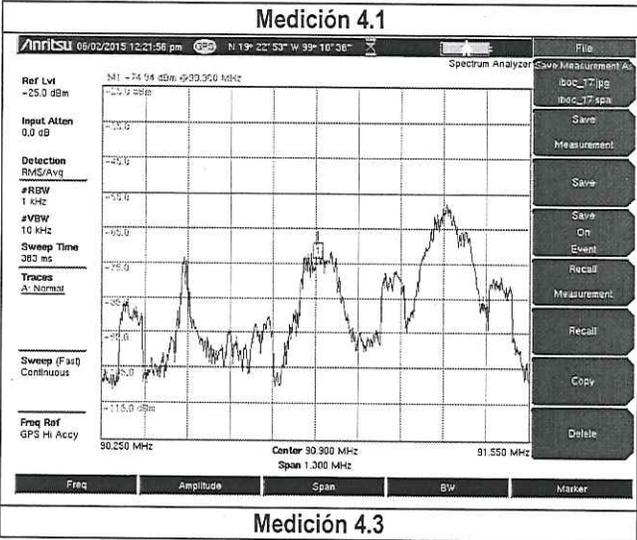
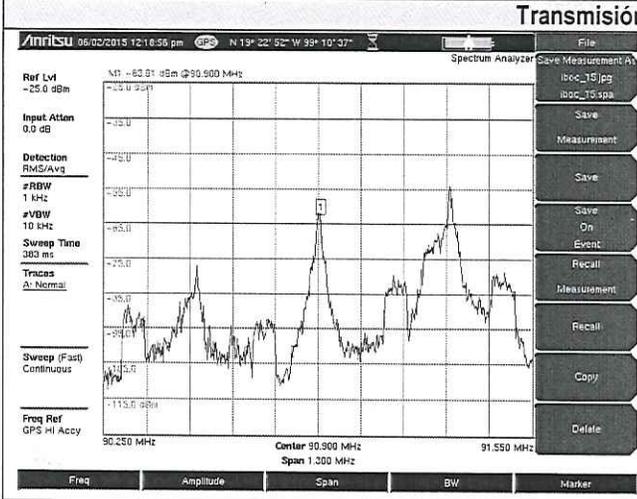
Medición 1.2



Ruido

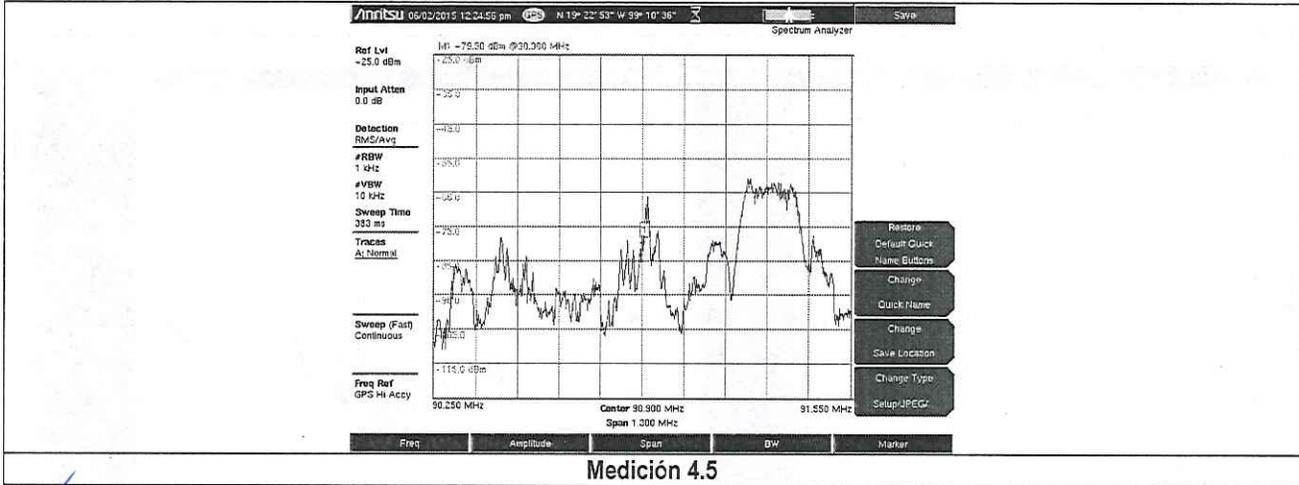


Transmisión convencional



Handwritten mark.

Handwritten signature.



Handwritten blue marks, possibly initials or a signature.

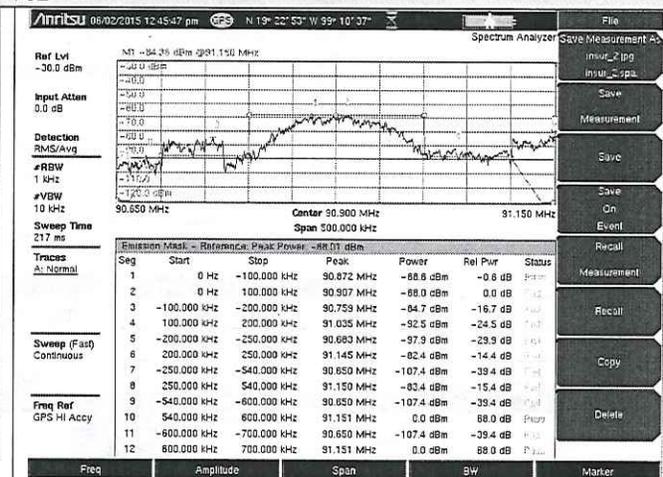
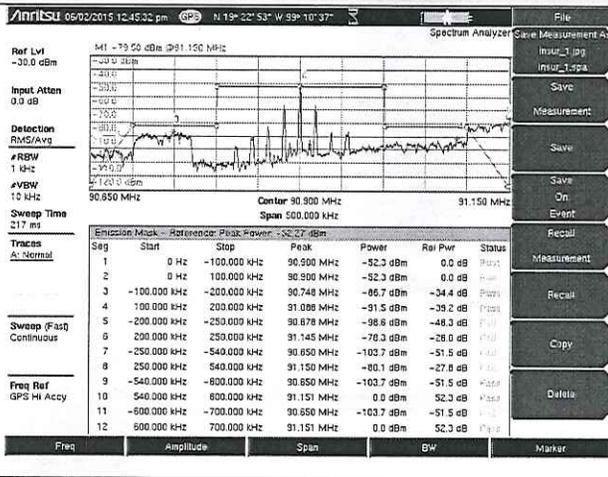
Handwritten blue mark, possibly a signature or initials.

ESCENARIO 3.- DISMINUCIÓN DE POTENCIA EN PORTADORA DIGITAL DERECHA

SPAN PARA UNA ESTACIÓN (12:45)

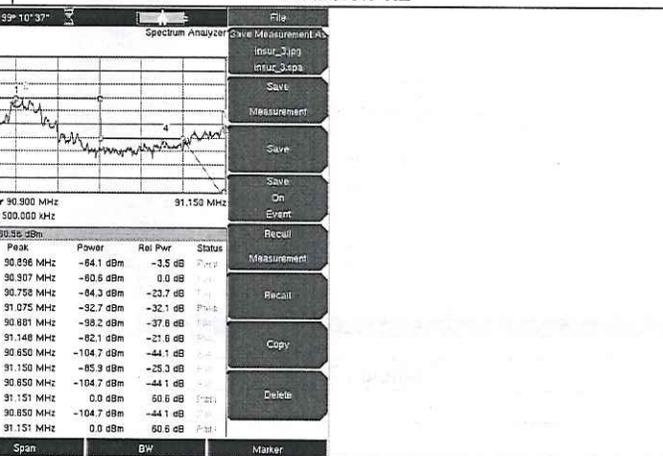
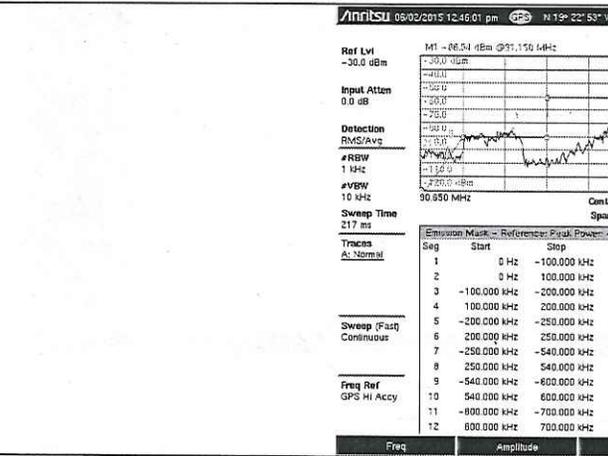
BLOQUE 9

Voz



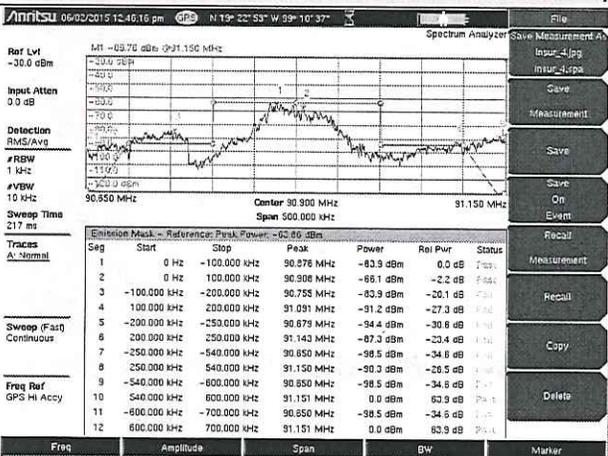
Medición 1.1

Medición 1.2



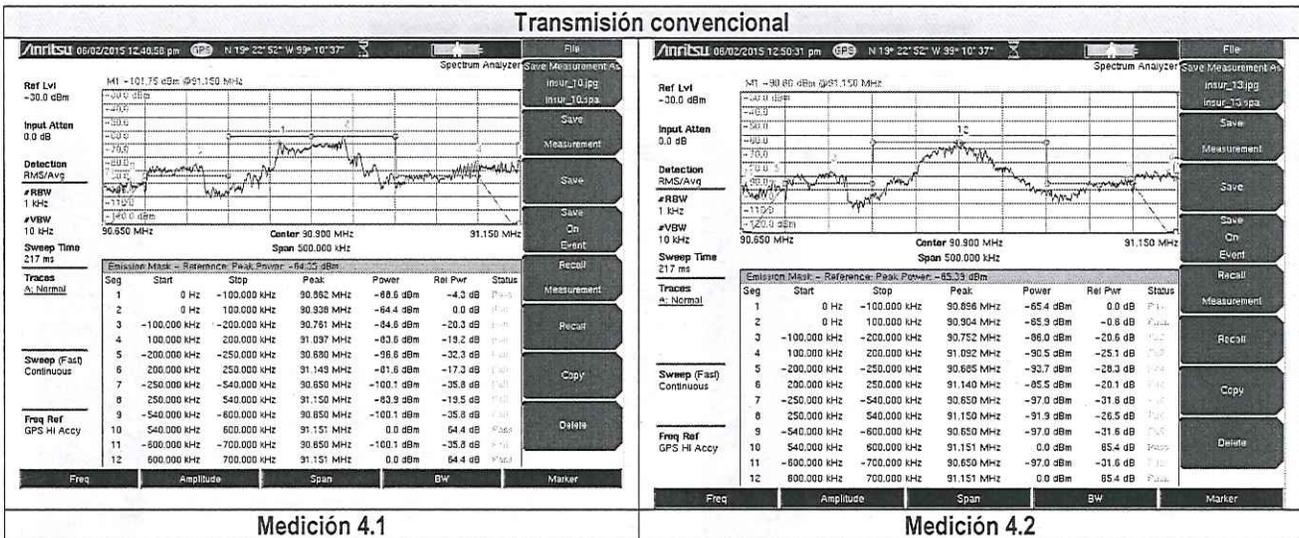
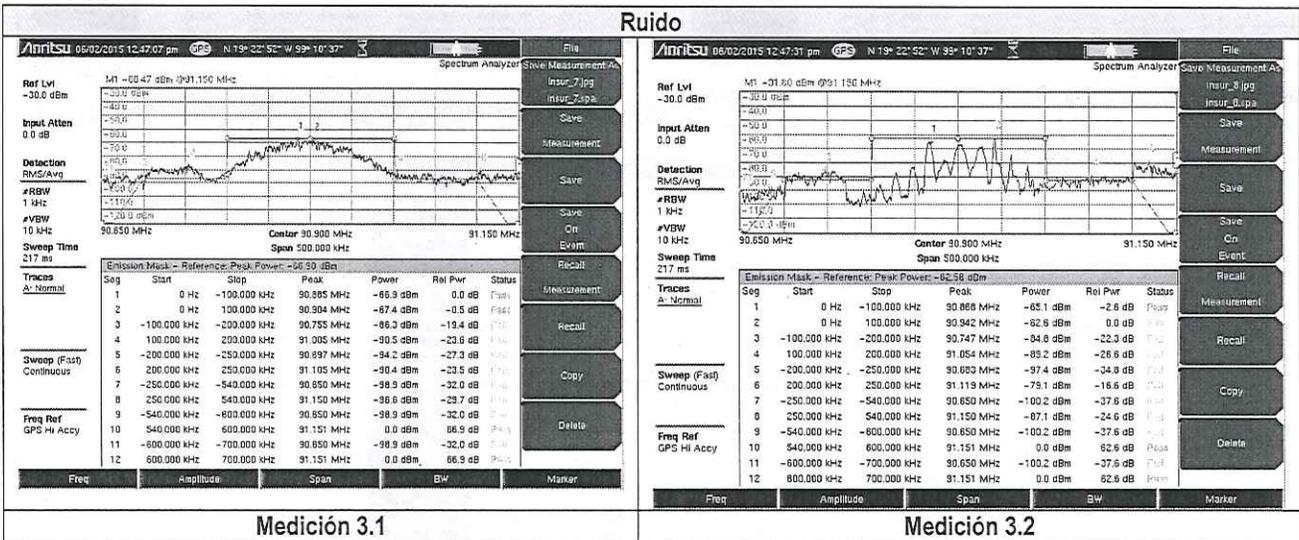
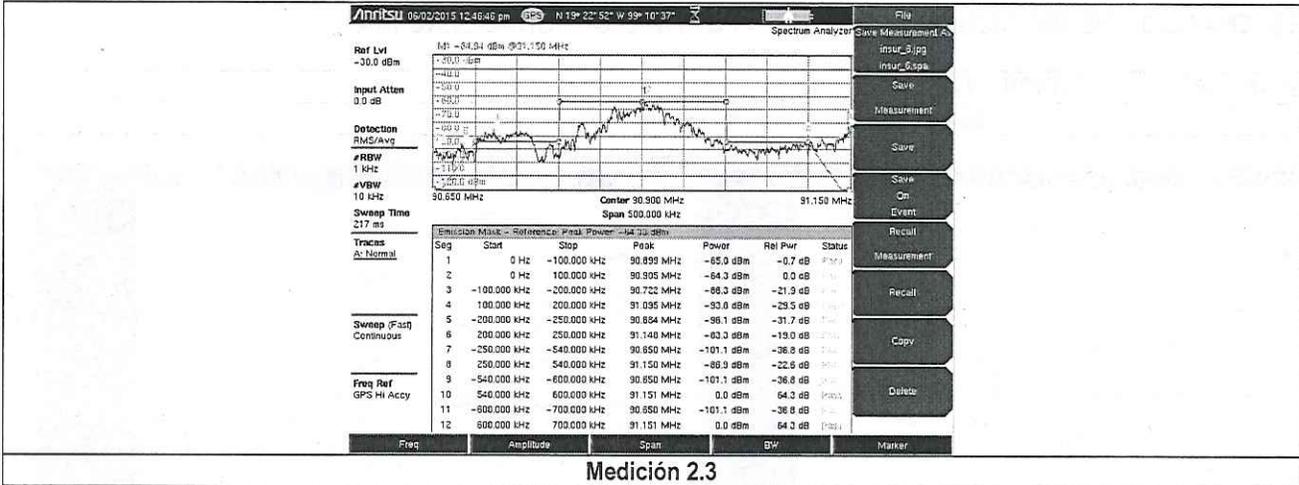
Medición 1.3

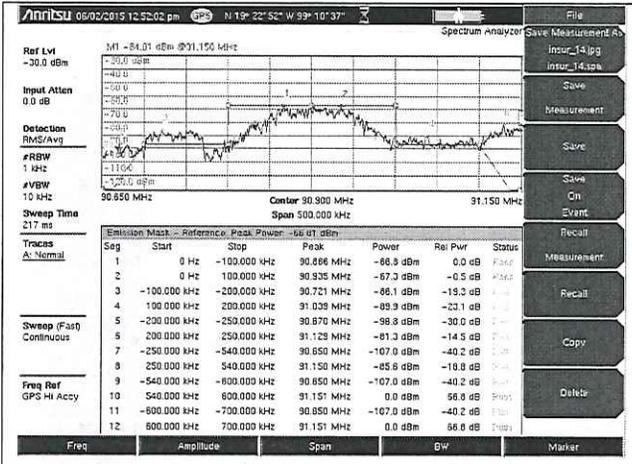
Música



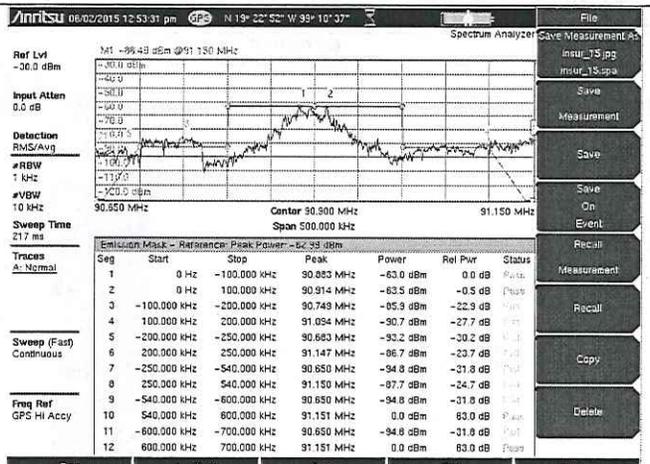
Medición 2.1

Medición 2.2





Medición 4.3



Medición 4.4



Medición 4.5

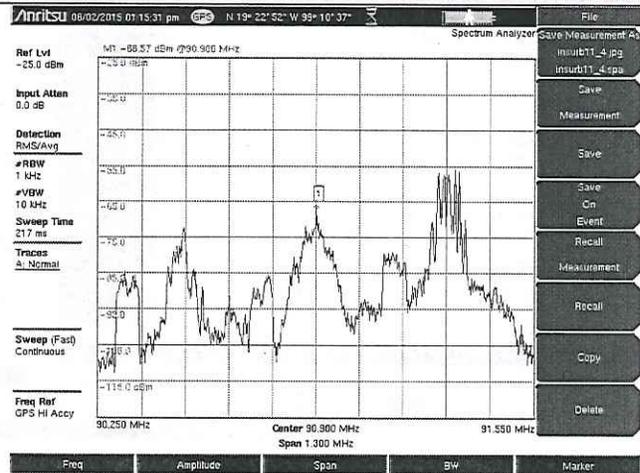
Handwritten signature/initials in blue ink.

SPAN PARA TRES ESTACIONES (13:15)
BLOQUE 11

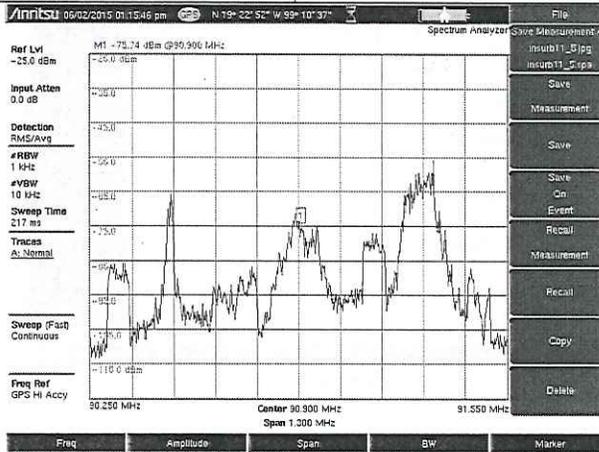
Voz



Medición 1.1



Medición 1.2

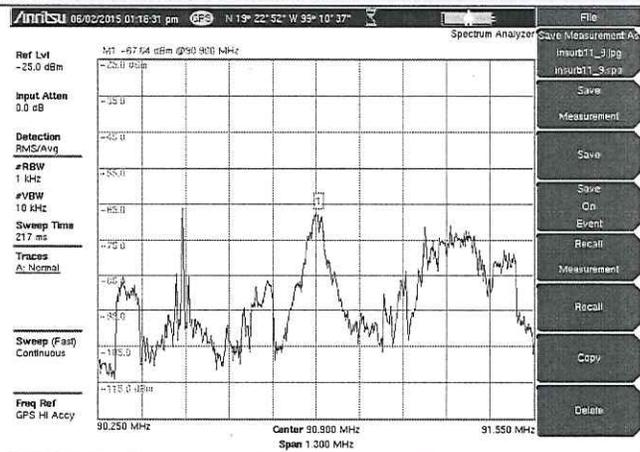


Medición 1.3

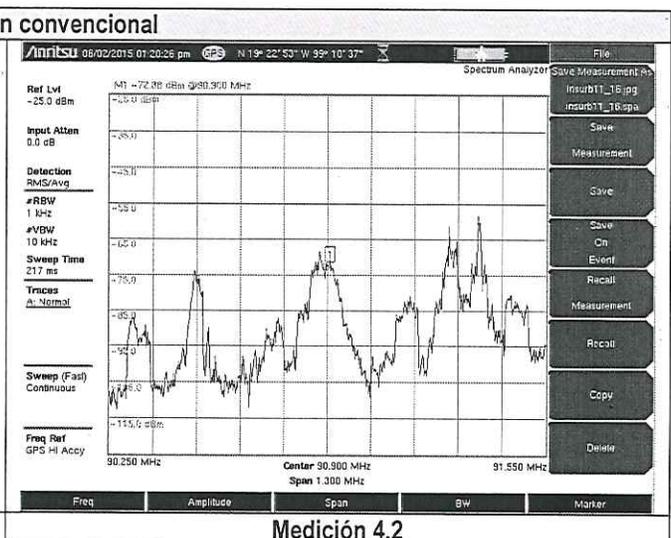
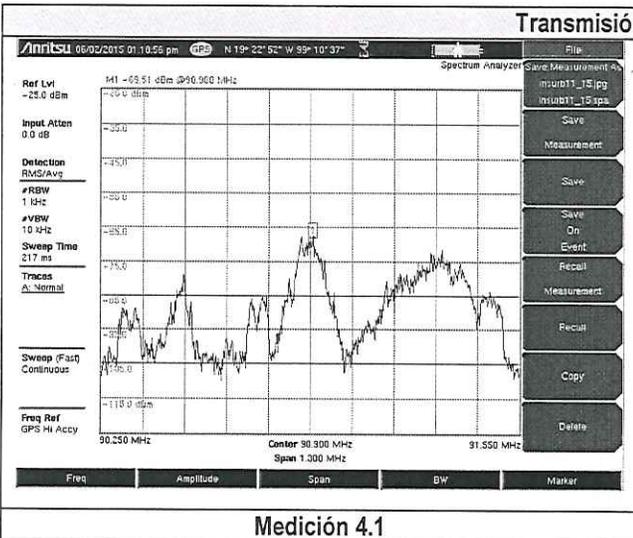
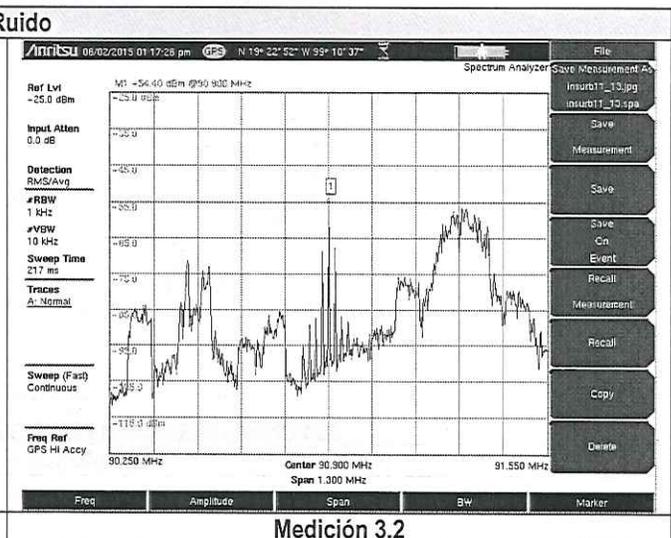
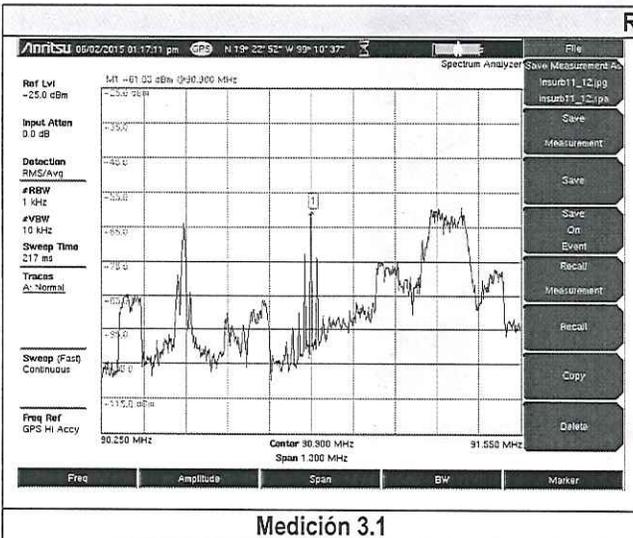
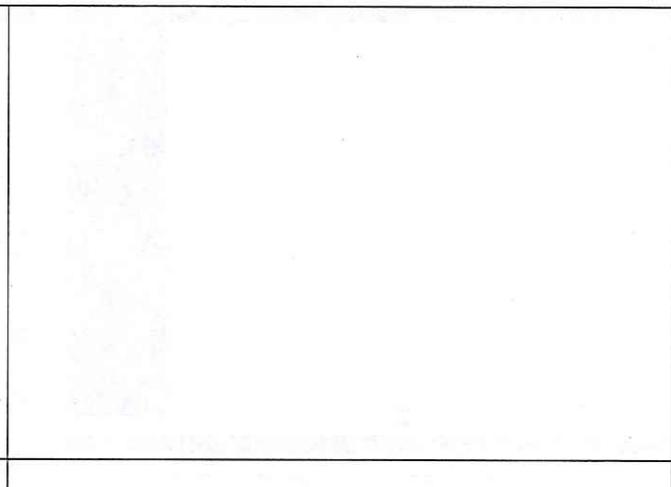
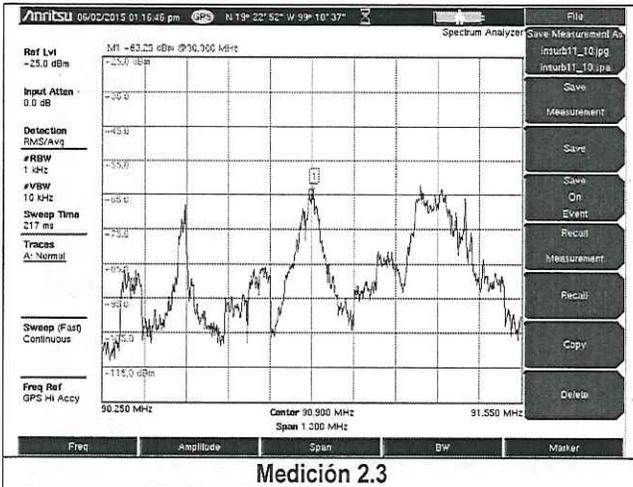
Música



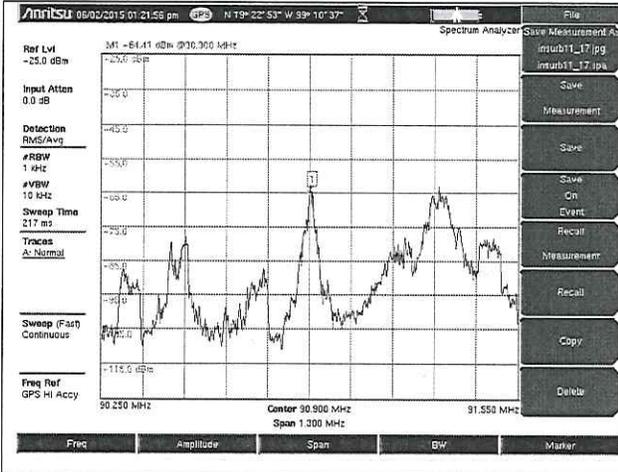
Medición 2.1



Medición 2.2



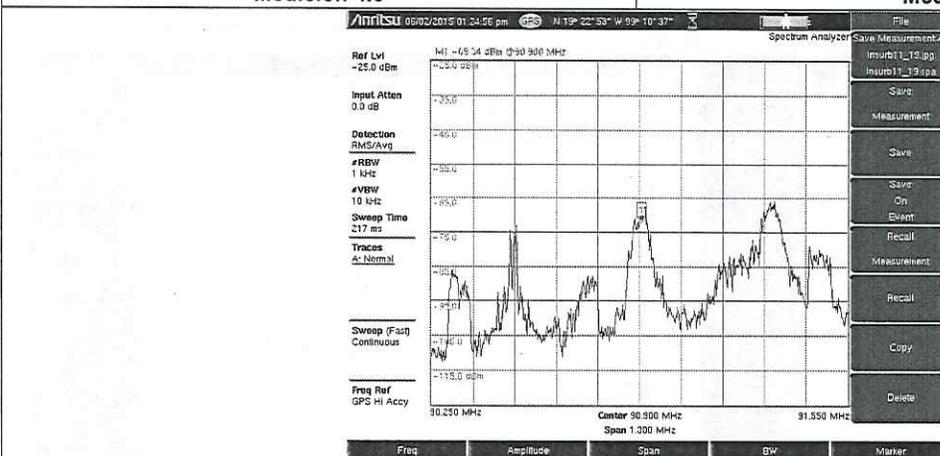
Handwritten marks and signatures in blue ink.



Medición 4.3



Medición 4.3



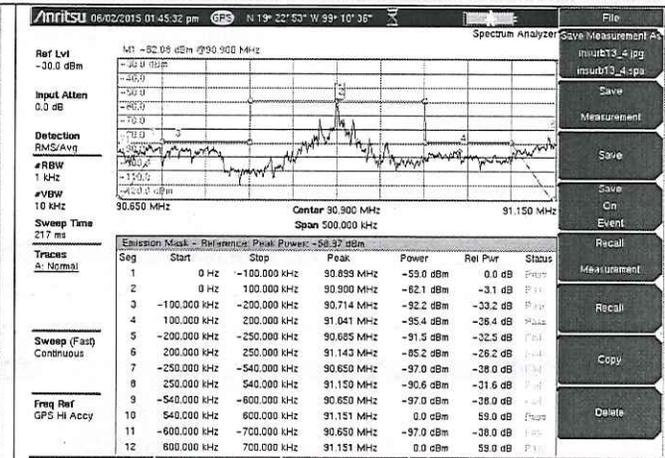
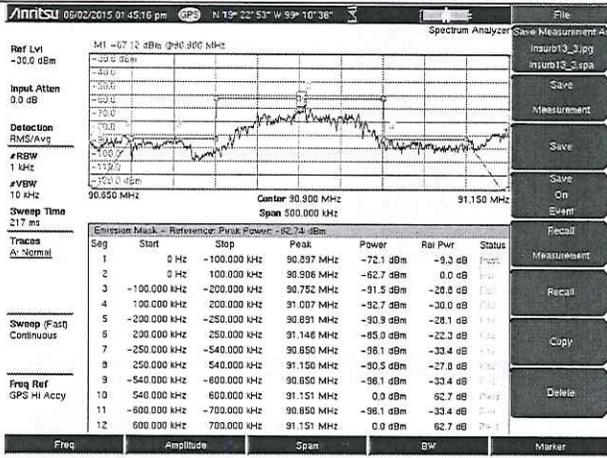
Medición 4.5

ESCENARIO 4.- DISMINUCIÓN DE POTENCIA DE AMBAS PORTADORAS

SPAN PARA UNA ESTACIÓN (01:45)

BLOQUE 13

Voz



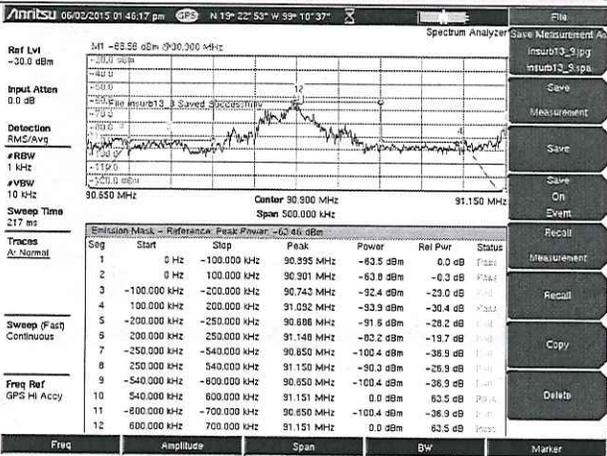
Medición 1.1

Medición 1.2

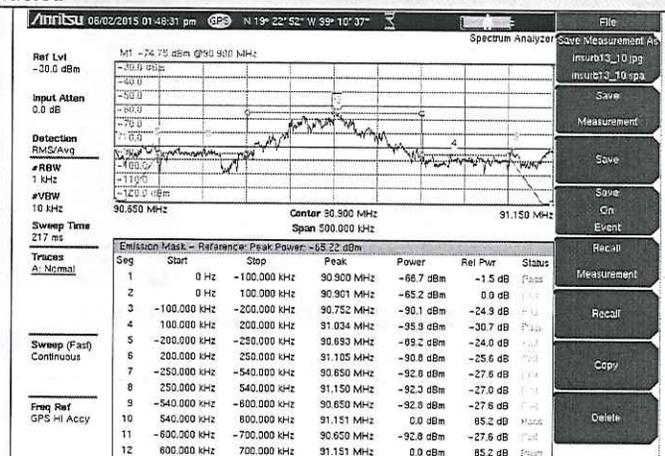


Medición 1.3

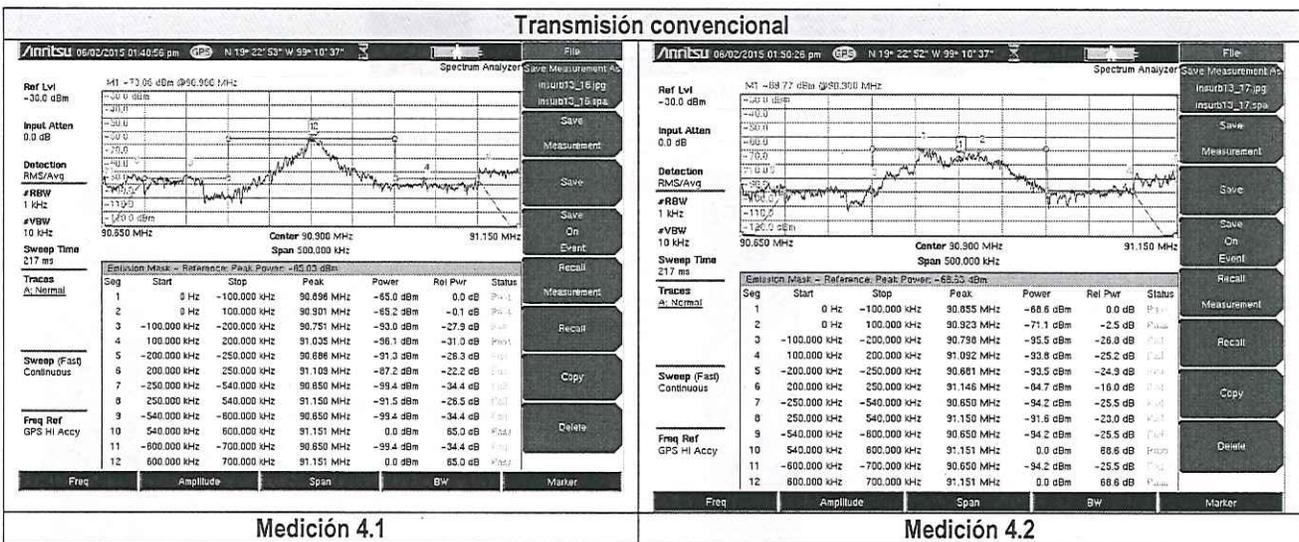
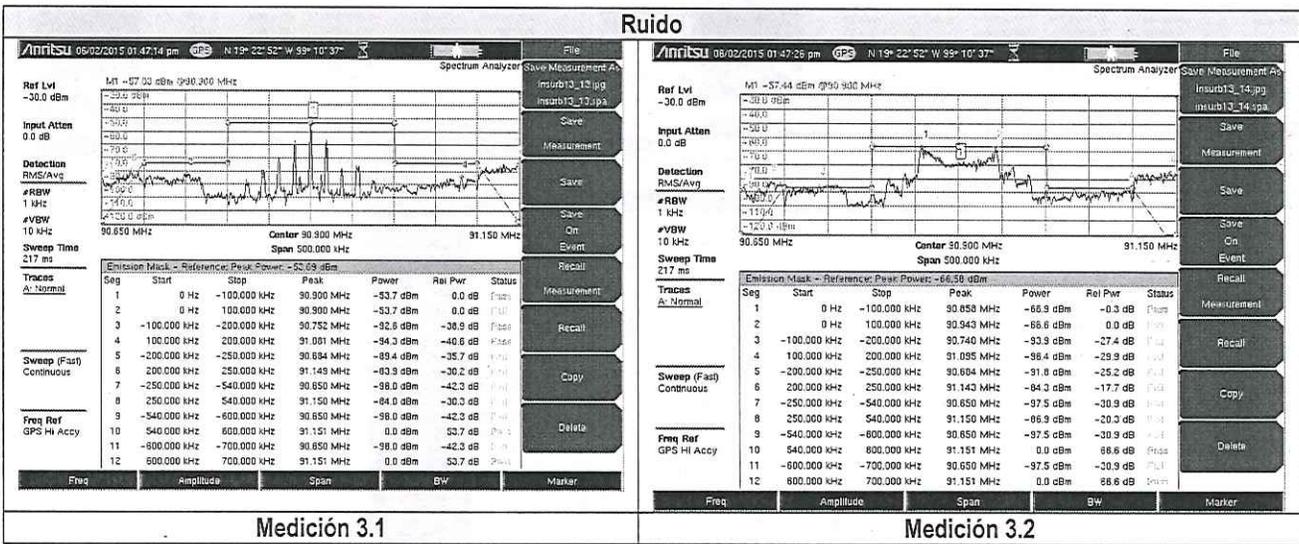
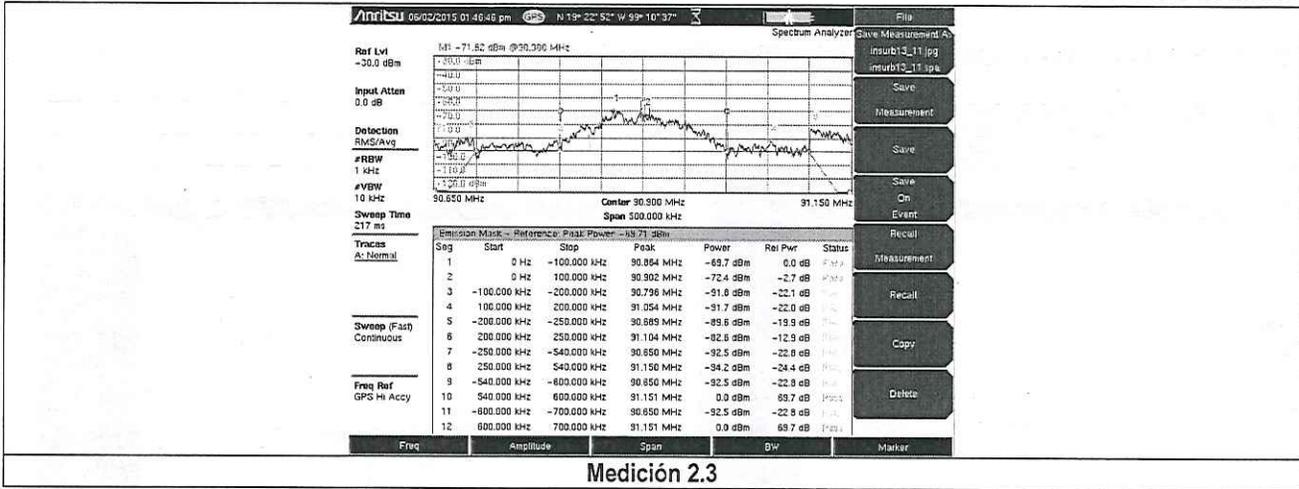
Música

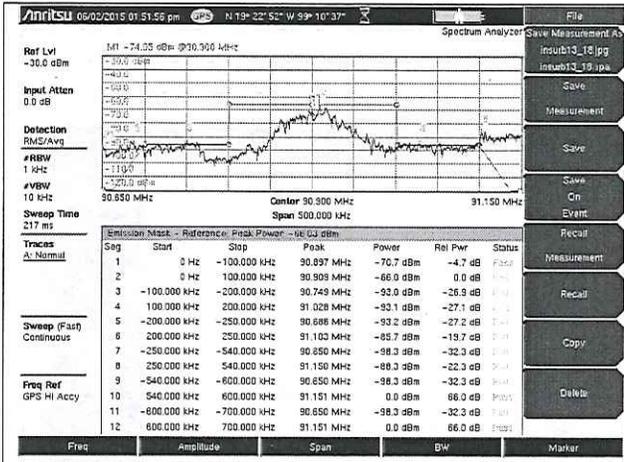


Medición 2.1

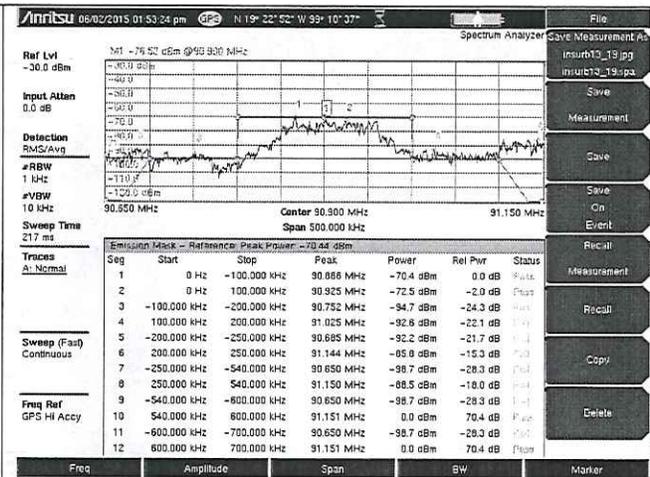


Medición 2.2

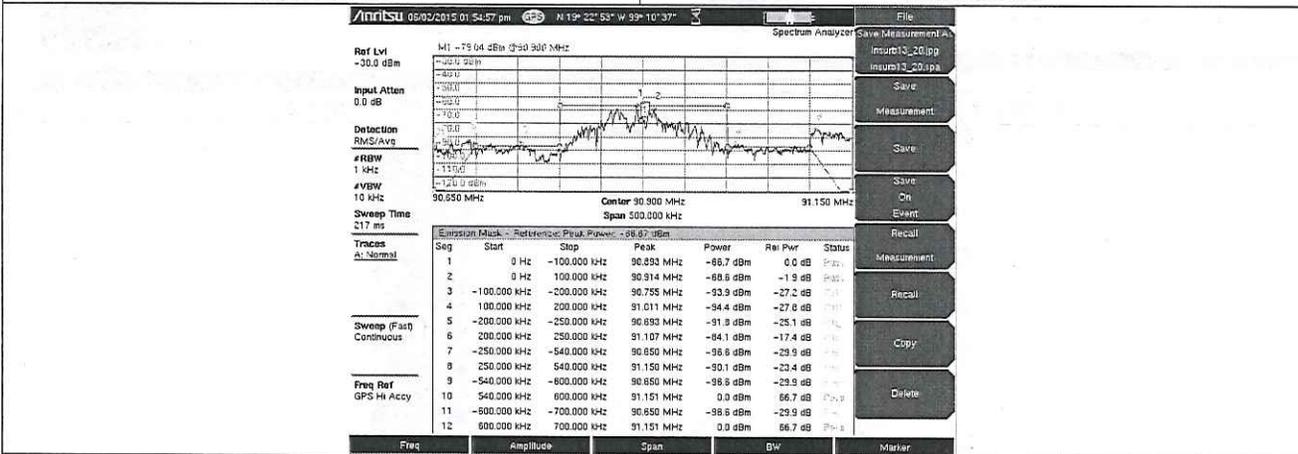




Medición 4.3



Medición 4.4

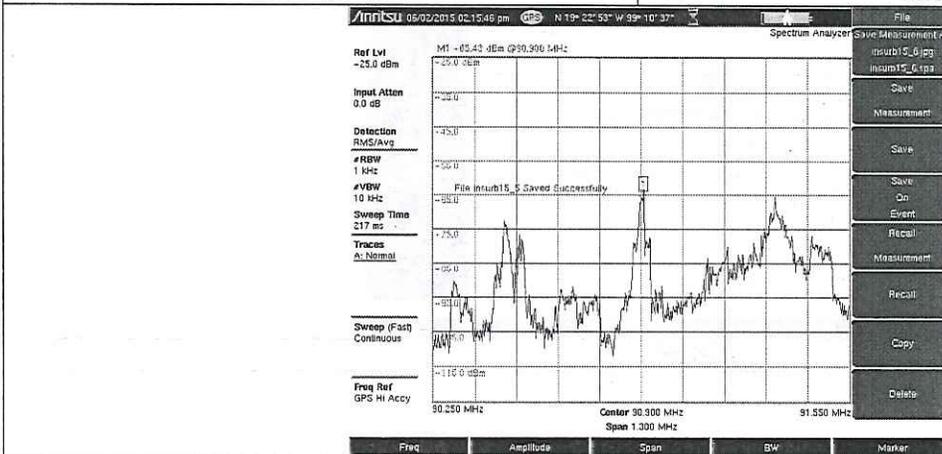
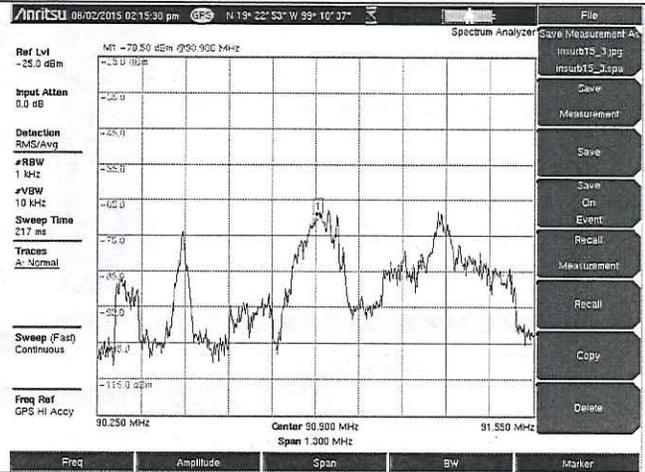
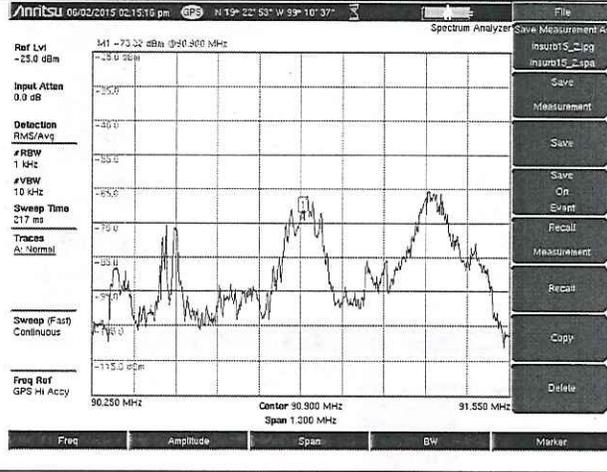


Medición 4.5

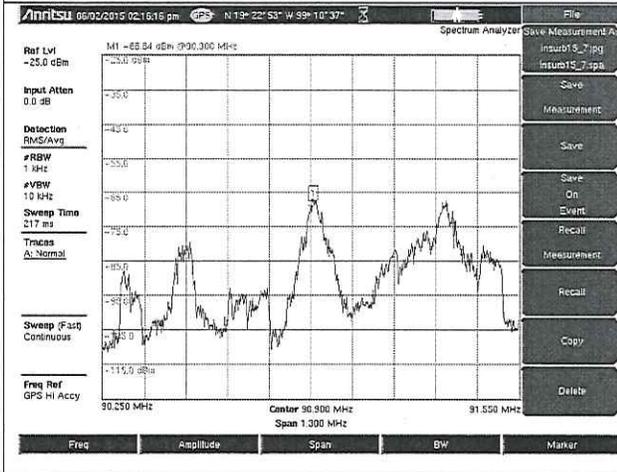
SPAN PARA TRES ESTACIONES (02:15)

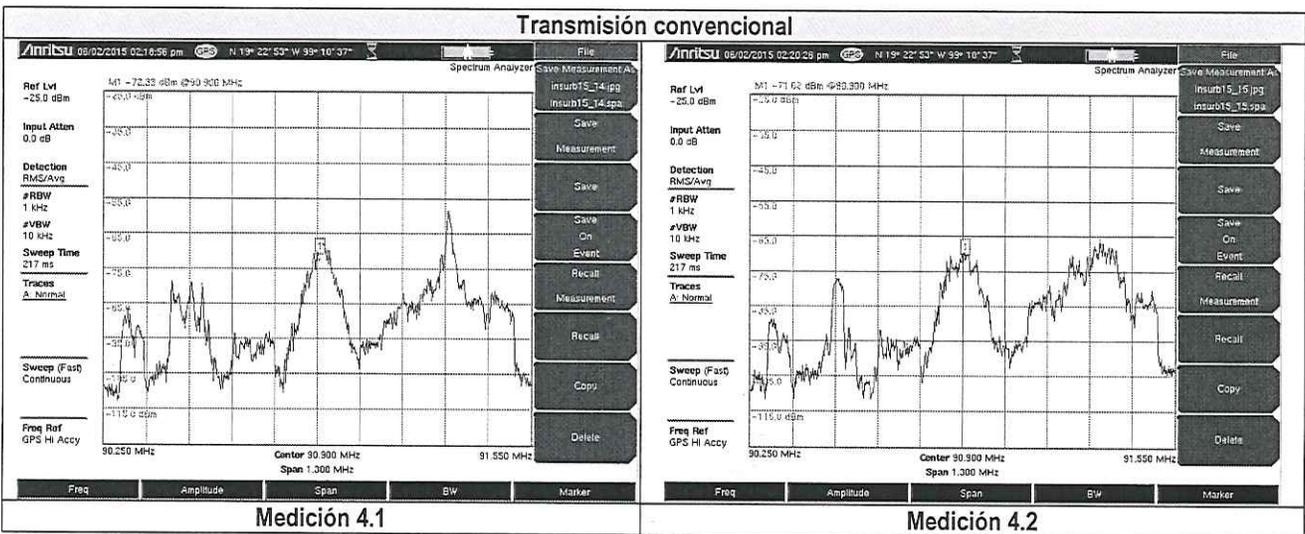
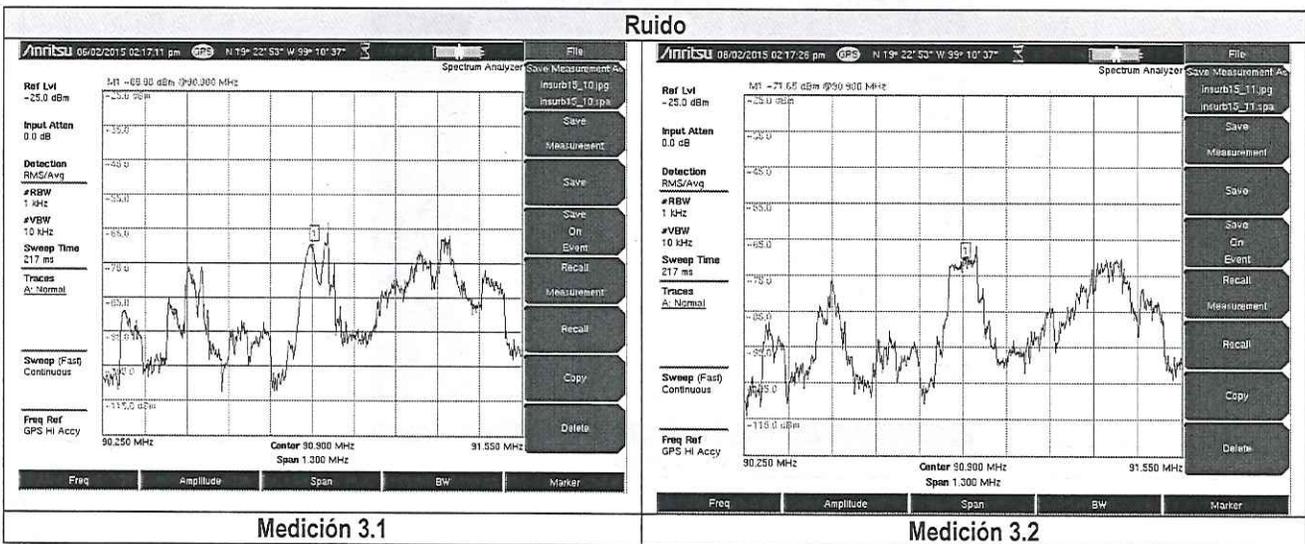
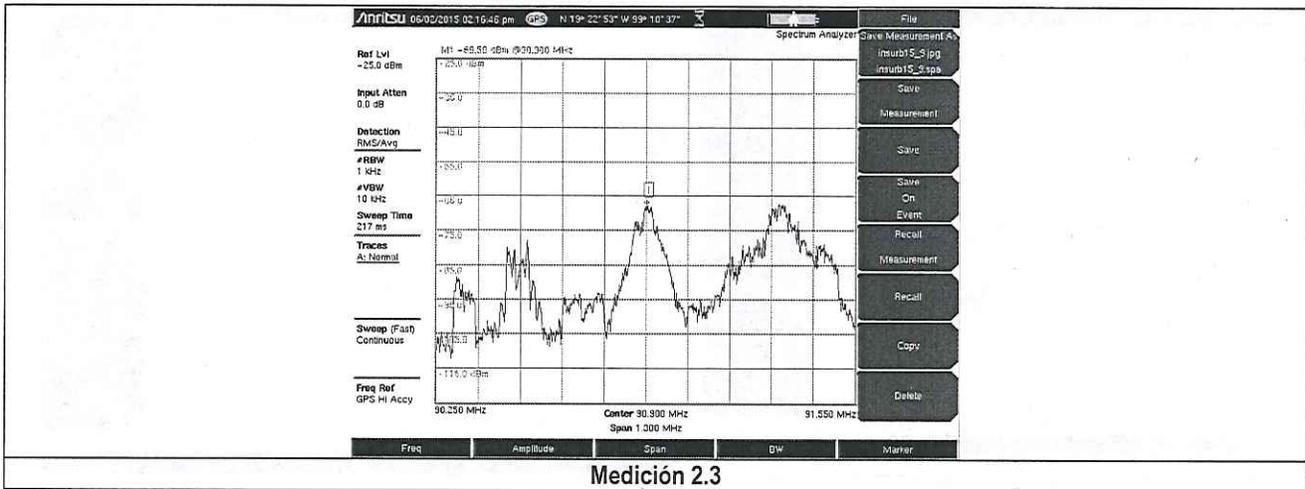
BLOQUE 15

Voz

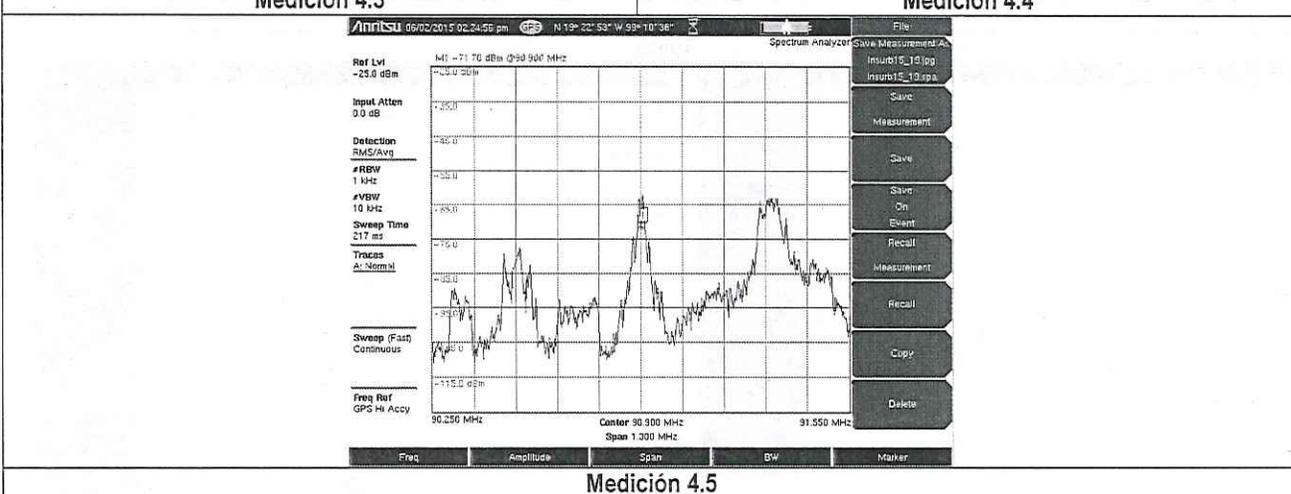
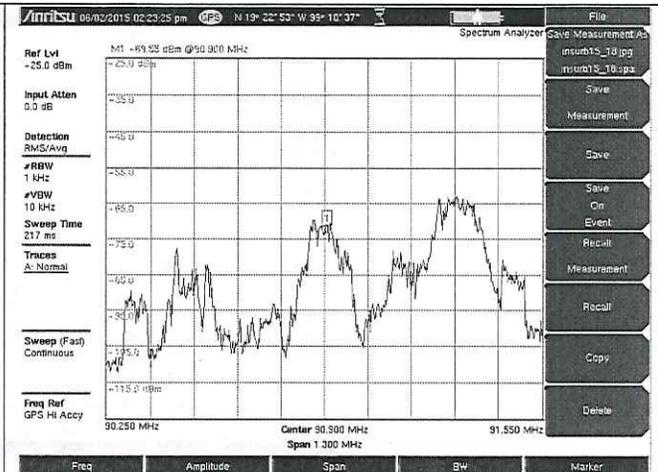
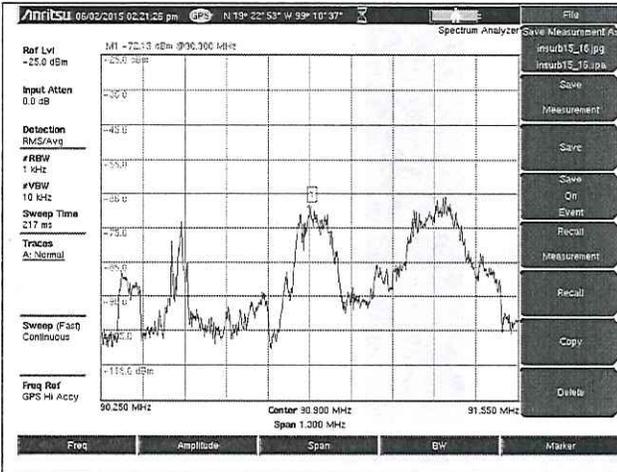


Música





Handwritten blue ink marks and signatures.



Handwritten mark

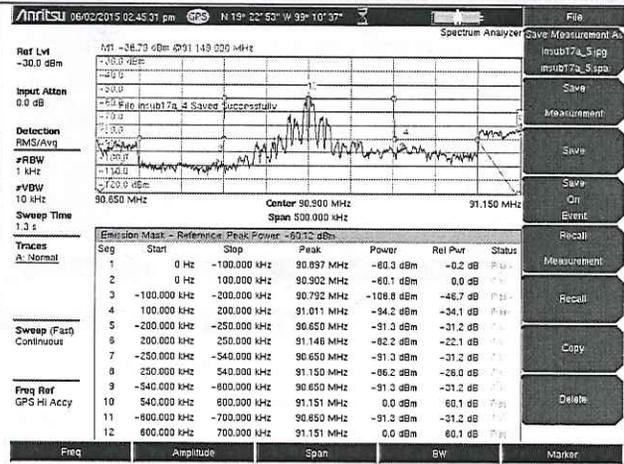
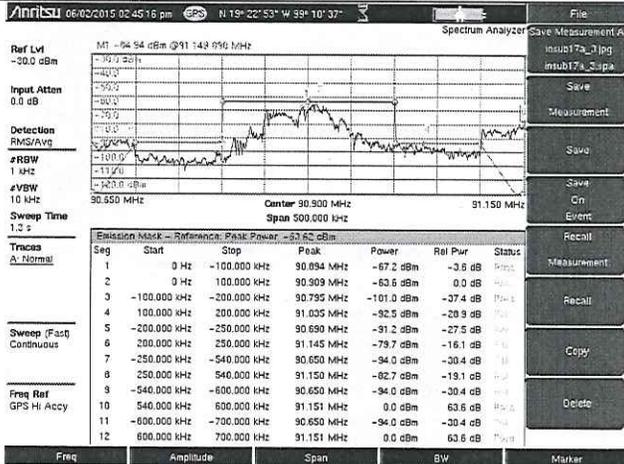
Handwritten mark

ESCENARIO 5.- ELIMINACIÓN DE AMBAS PORTADORAS

SPAN PARA UNA ESTACIÓN (02:45)

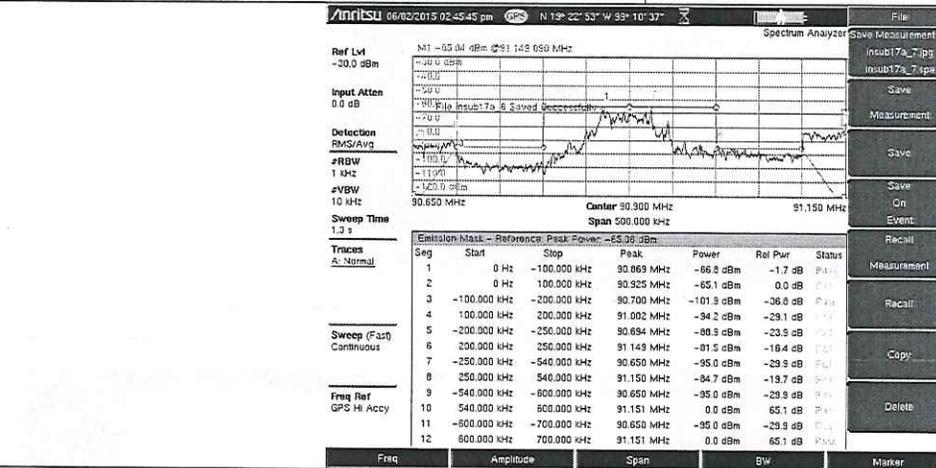
BLOQUE 17

Voz



Medición 1.1

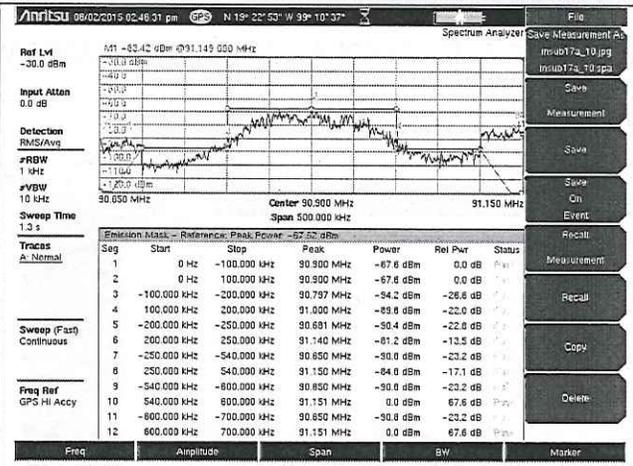
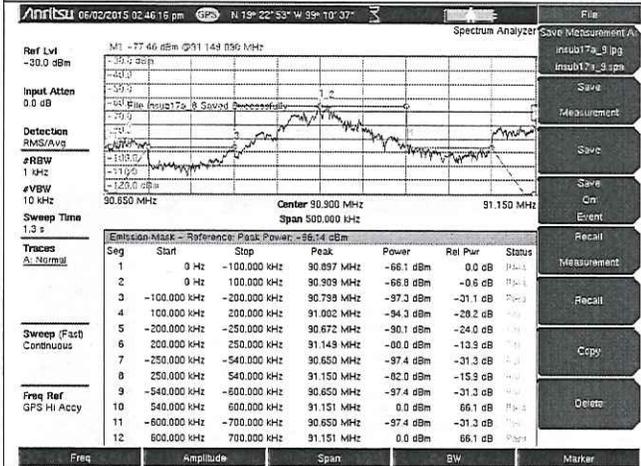
Medición 1.2



Medición 1.3

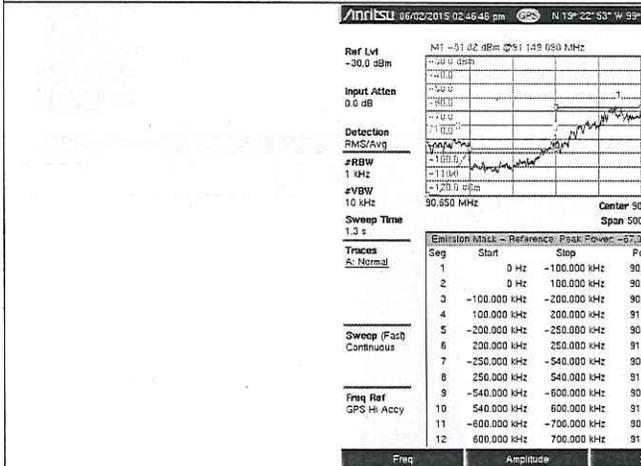
Handwritten notes: 72, #, and a signature.

Música



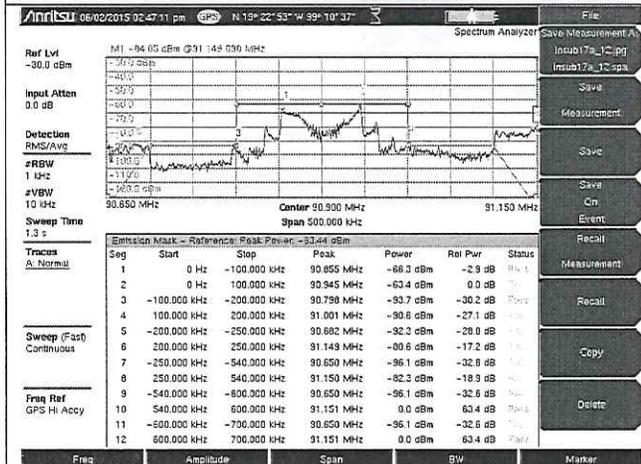
Medición 2.1

Medición 2.2

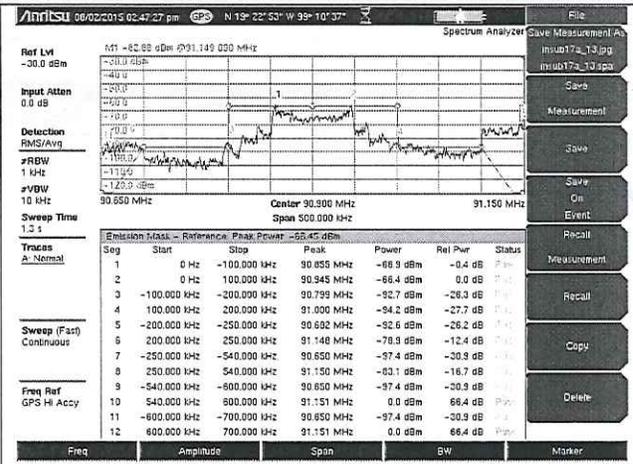


Medición 2.3

Ruido

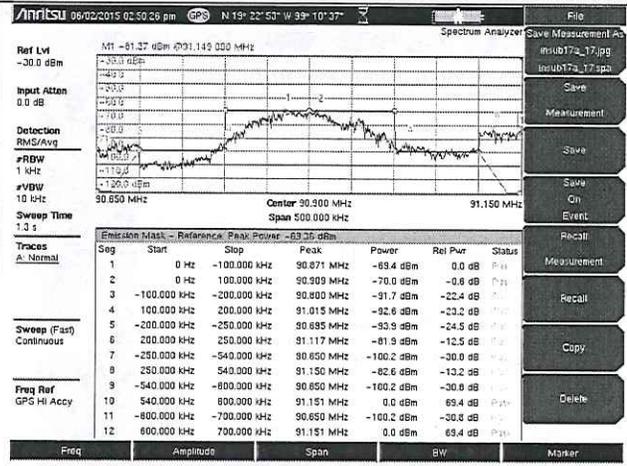
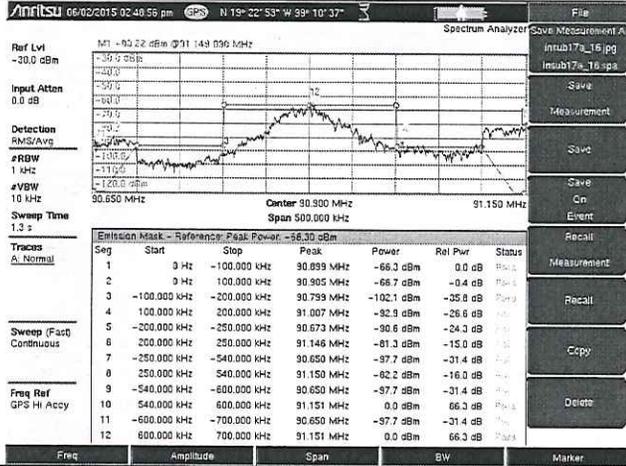


Medición 3.1

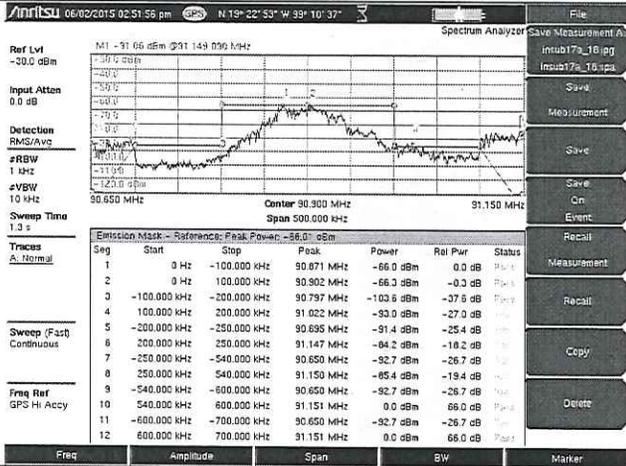


Medición 3.2

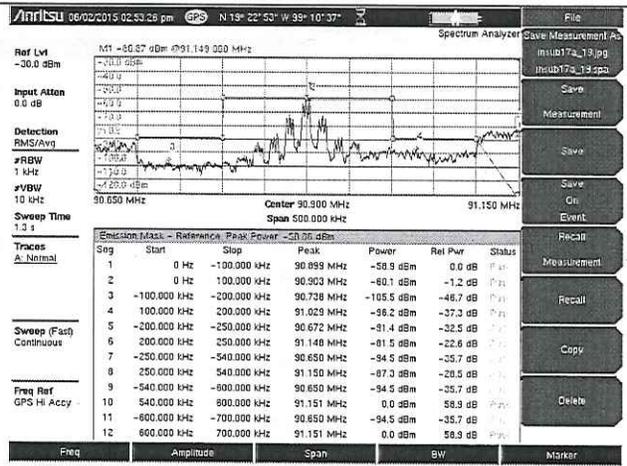
Transmisión convencional



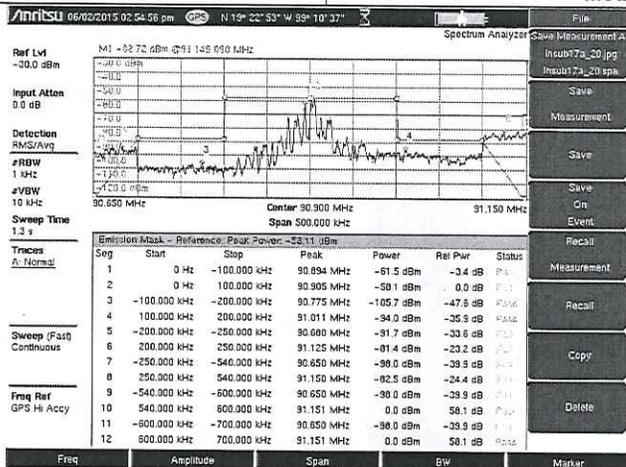
Medición 4.1



Medición 4.2



Medición 4.3



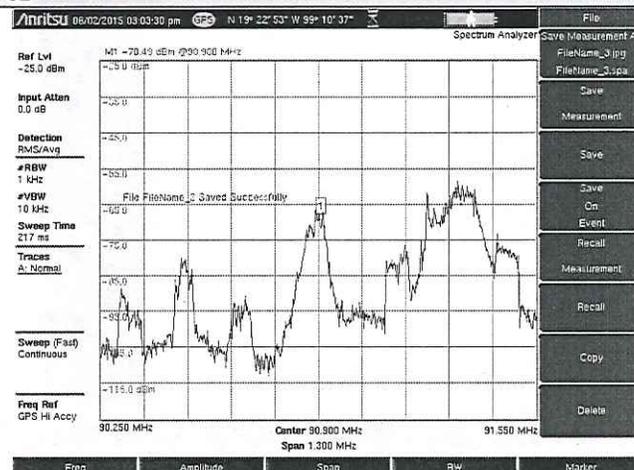
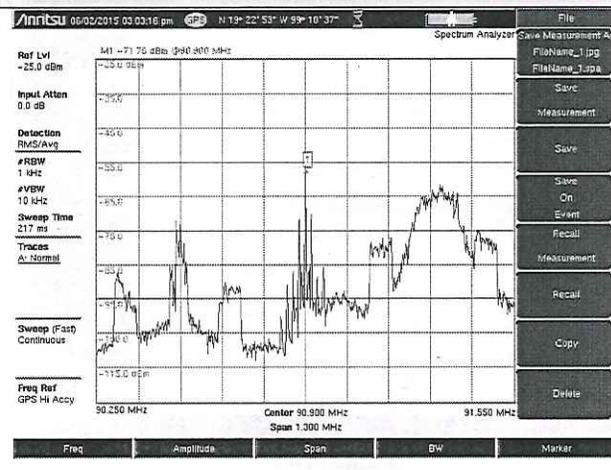
Medición 4.4

Medición 4.5

SPAN PARA TRES ESTACIONES (03:03)

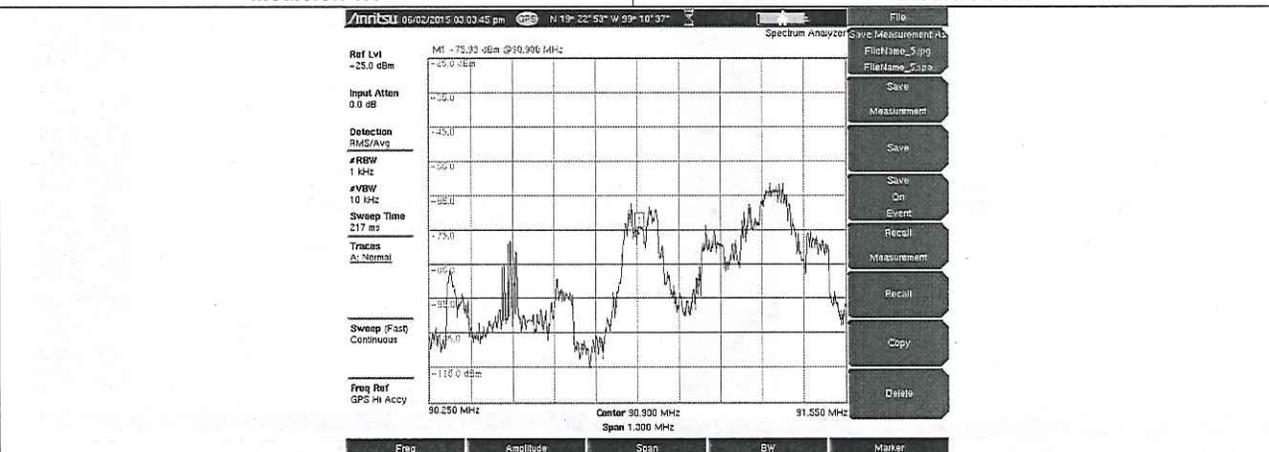
BLOQUE 19

Voz



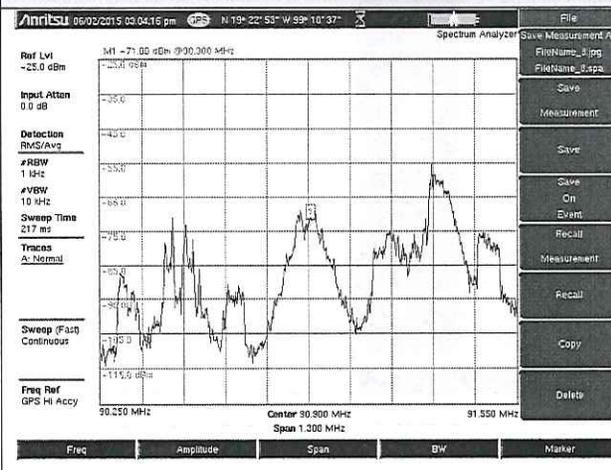
Medición 1.1

Medición 1.2

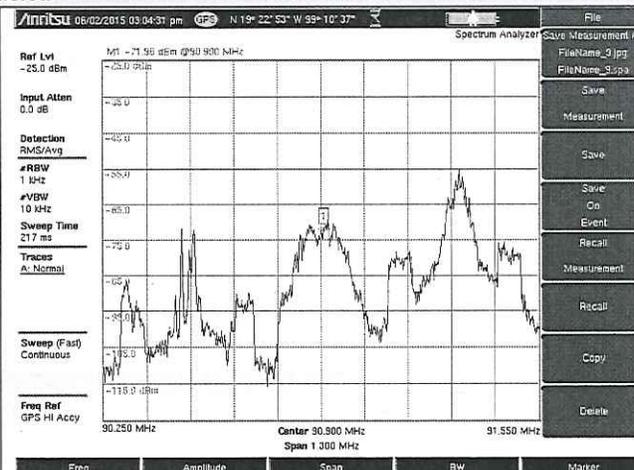


Medición 1.3

Música



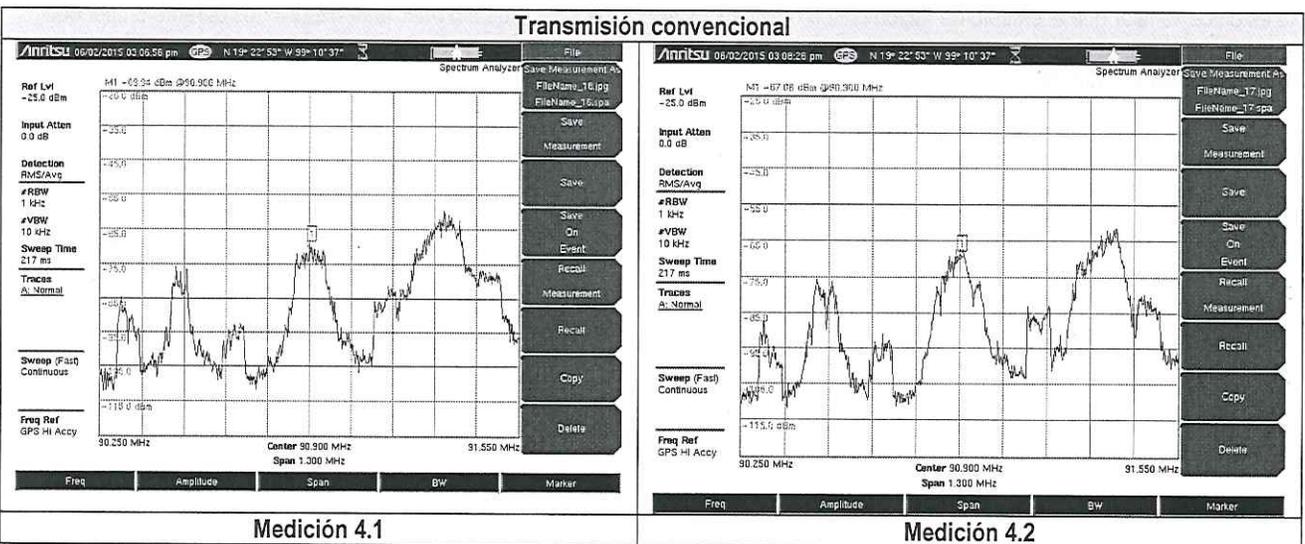
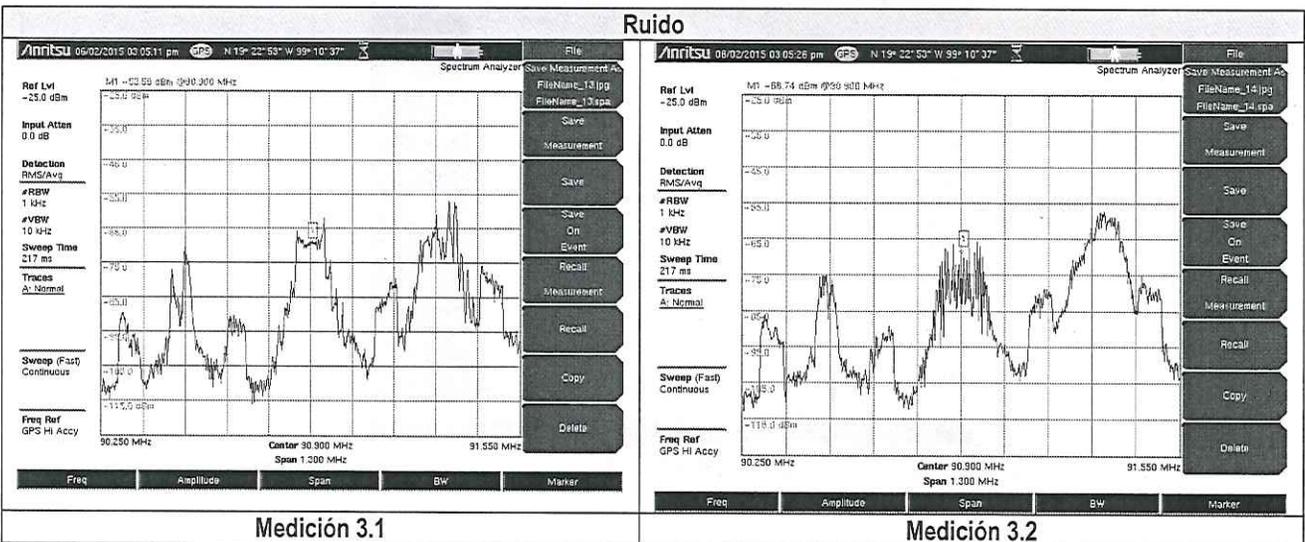
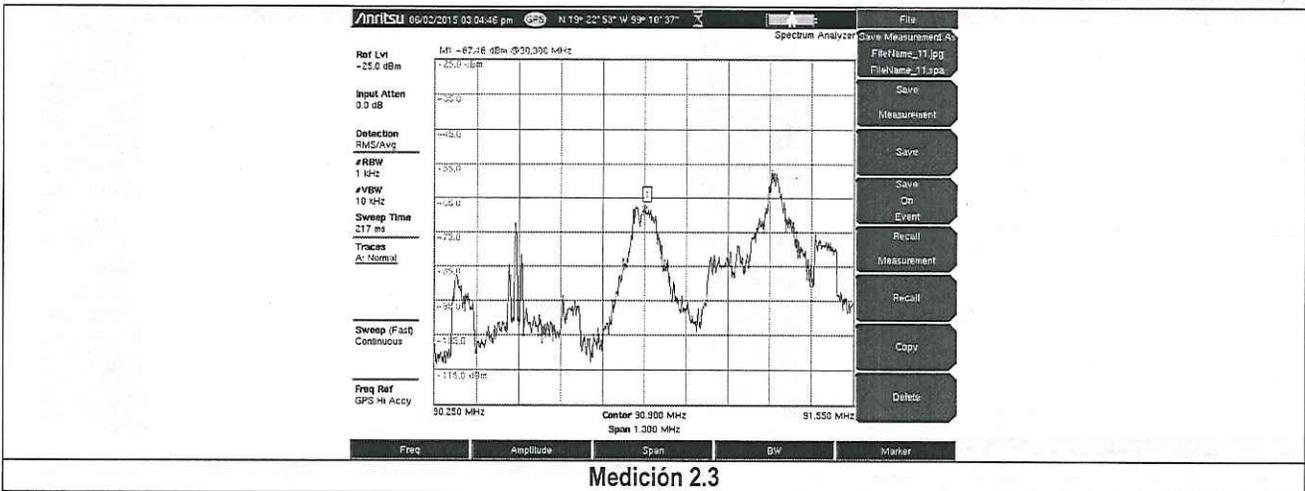
Medición 2.1

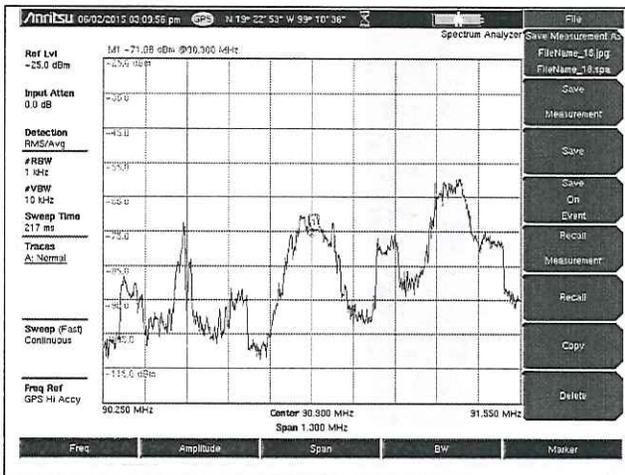


Medición 2.2

AR

Handwritten signature and initials in blue ink.





Medición 4.3



Medición 4.4



Medición 4.5

No es óbice señalar que el estudio de radiomonitorio es circunstancial, es decir, pueden realizarse mediciones durante un periodo de tiempo determinado y encontrar ocupada la frecuencia monitoreada; sin embargo, en fechas posteriores podría desaparecer o aparecer emisiones nuevas.

Handwritten mark

Handwritten mark



INSTITUTO FEDERAL DE TELECOMUNICACIONES

UNIDAD DE CUMPLIMIENTO
DIRECCIÓN GENERAL ADJUNTA DE
VIGILANCIA DEL ESPECTRO RADIOELÉCTRICO
CENTRO DE CONTROL

INFORME DE RADIOMONITOREO

REPORTE No. 152/2015

LUGAR DE ESTUDIO: CIUDAD UNIVERSITARIA - UNAM
 USUARIO(S): ESTACIÓN RADIODIFUSORA IBERO 90.9 MHz.
 FRECUENCIA(S): 90.9 MHz.
 INDICATIVO: XHUIA
 BANDA: VHF TIPO DE SERVICIO: RADIODIFUSION
 MODO DE OPERACIÓN: BROADCASTING TIPO DE EMISIÓN: 240K0F3
 HORARIO DE OPERACIÓN: CONTINUO

IRREGULARIDADES DETECTADAS

N/A	USUARIO NO AUTORIZADO	N/A	EXCEDE TOLERANCIA EN FRECUENCIA
N/A	NO USA SUS INDICATIVOS	N/A	SOBREMODULA
N/A	FRECUENCIA NO AUTORIZADA	N/A	HORARIO NO AUTORIZADO
N/A	TRÁFICO NO AUTORIZADO	N/A	OPERA FUERA DE BANDA
N/A	TRÁFICO EN CLAVE	N/A	EXCEDE ANCHO DE BANDA
N/A	RADIACIONES NO ESENCIALES	N/A	USUARIO NO IDENTIFICADO

OBSERVACIONES

PERIODO DE OBSERVACIÓN DEL 2 DE JUNIO AL 2 DE JUNIO DE 2015
 DETECTÁNDOSE OPERAR A ESTACION (ES) IDENTIFICÁNDOSE COMO: N/A
 TRÁFICO RELATIVO A: RADIODIFUSIÓN SONORA CON CONTENIDO DE MÚSICA Y TEMAS UNIVERSITARIOS
 EQUIPO UTILIZADO: EQUIPO PORTÁTIL MARCA ANRITSU, MODELO MS2713E
 FRECUENCIA MEDIDA EN LA ESTACION (ES) FIJA (S): 90.9 MHz
 FRECUENCIA MEDIDA PARA SUS MOVILES: N/A
 OBSERVACIONES: SE REALIZÓ RADIOMONITOREO A LAS SIGUIENTES EMISIONES DE FM HÍBRIDAS; 90.5, 90.9 Y 91.3 MHz, QUE TRANSMITEN CON EL ESTÁNDAR IBOC (IN BAND ON CHANNEL), MIENTRAS SE MODIFICABAN COMPONENTES DIGITAL Y ANALÓGICO EN LA SEÑAL DE LA ESTACIÓN RADIODIFUSORA IBERO 90.9 MHz. AL TRANSMITIR UN SPOT QUE CONSTABA DE VOZ, MÚSICA, RUIDO Y TONOS. (SE ANEXAN GRÁFICAS)
 UBICACIÓN: UNIVERSIDAD NACIONAL AUTÓNOMA DE MÉXICO, EXTERIOR, CIUDAD UNIVERSITARIA, DEL. COYOACÁN, EDIFICIO DE LA DIRECCIÓN GENERAL DE CÓMPUTO Y DE TECNOLOGÍAS DE INFORMACIÓN Y COMUNICACIÓN
 LATITUD: 19°19'21.55"N y 19°19'20.73"N DOA: N/A OTROS: N/A
 LONGITUD: 99°11'3.58"O y 99°11'4.28"O LPDF: N/A

LUGAR Y FECHA DE ELABORACIÓN: MÉXICO, D.F. A 10 DE JUNIO DE 2015

HORA DE ELABORACIÓN: 13:00 HORAS

ING. JOSUE EFREN ROSAS TREJO

LIC. OSCAR LUNA ALONSO

OPERADOR(ES)

INSTITUTO FEDERAL DE TELECOMUNICACIONES

22 JUN 2015

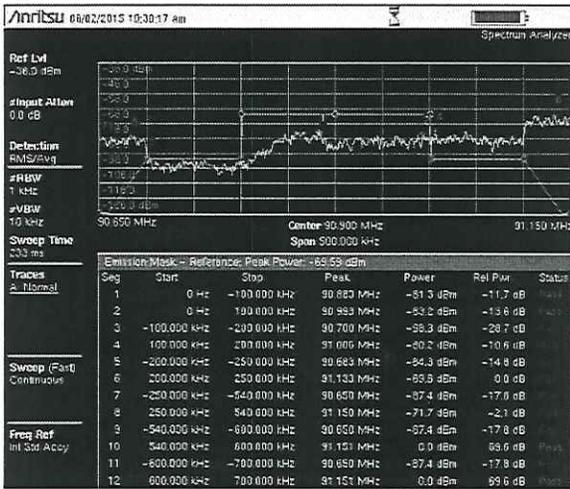
RECIBIDO

HORA:

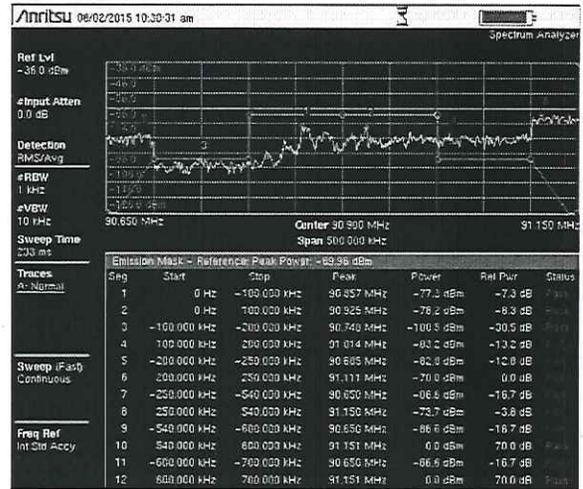
Vo. Bc. ING ROBERTO SALAS GUTIÉRREZ

SUBDIRECTOR DE VIGILANCIA DEL ESPECTRO RADIOELÉCTRICO

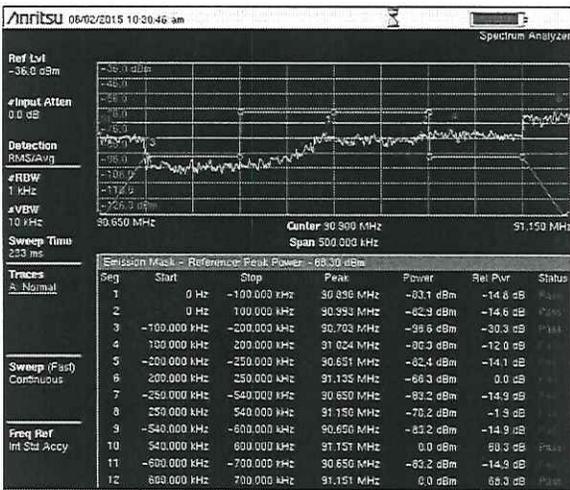
Outdoor – Escenario 1 – Bloque 2



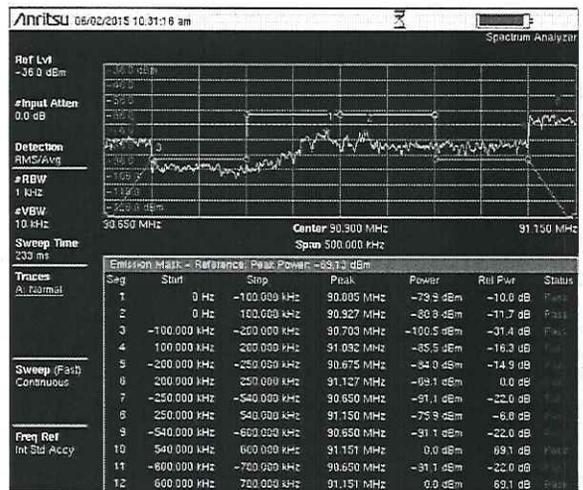
Voz
Medición 1.1 – 15 segundos



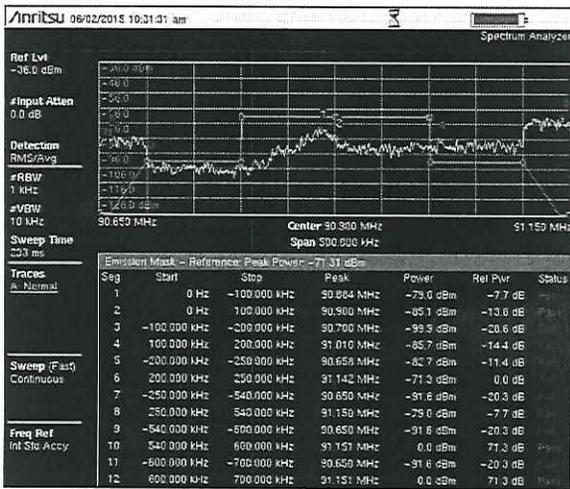
Voz
Medición 1.2 – 30 segundos



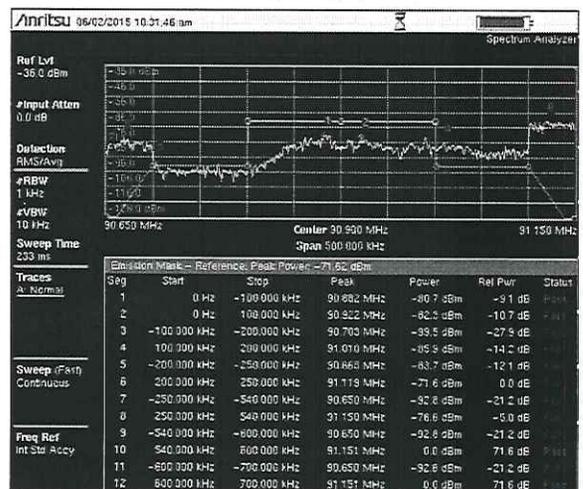
Voz
Medición 1.3 – 45 segundos



Música
Medición 2.1 – 75 segundos

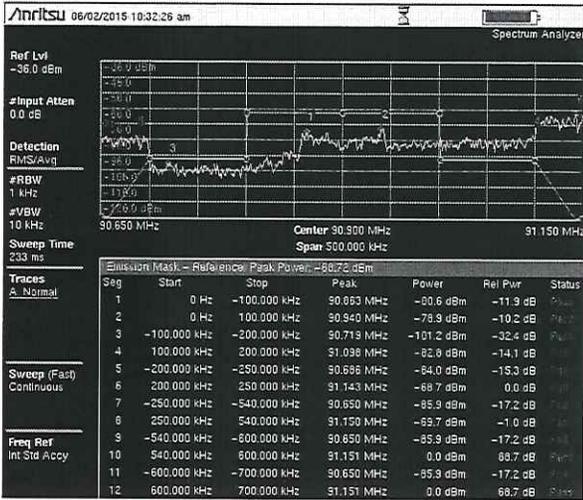


Música
Medición 2.2 – 90 segundos

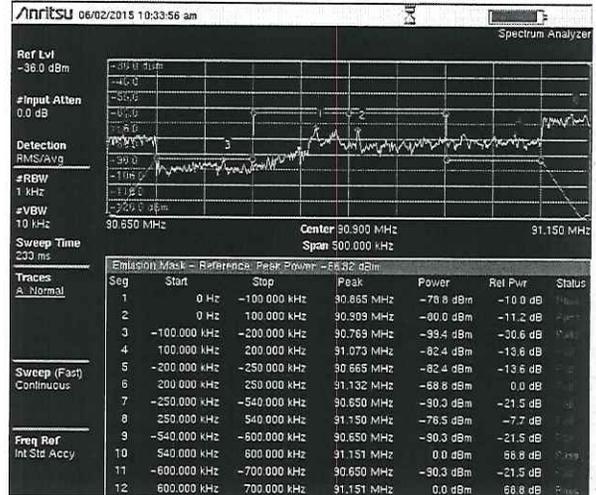


Música
Medición 2.3 – 105 segundos

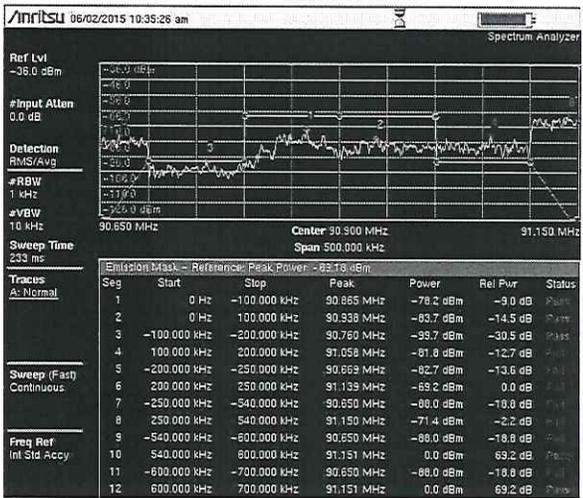
Outdoor – Escenario 1 – Bloque 2



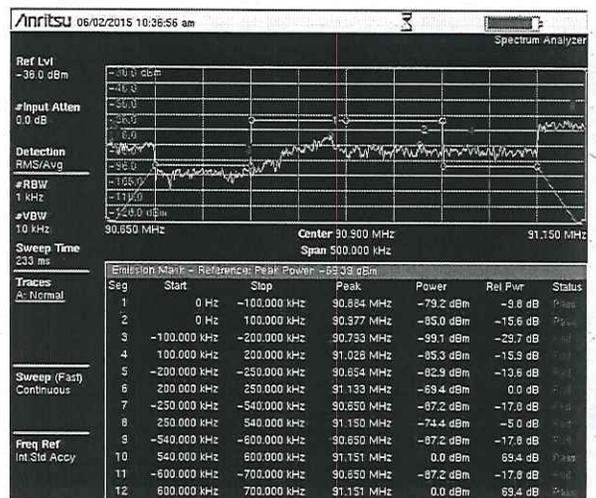
Ruido
Medición 3.2 – 145 segundos



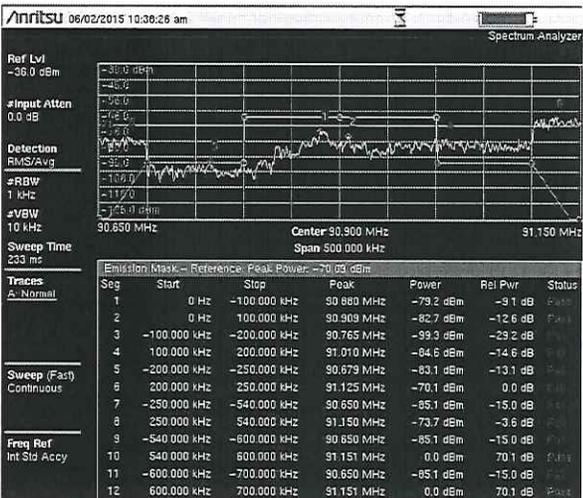
Transmisión convencional
Medición 4.1 – 90 segundos



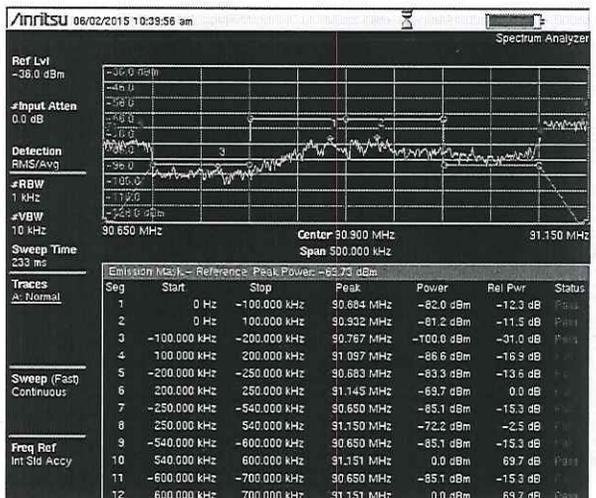
Transmisión convencional
Medición 4.2 – 180 segundos



Transmisión convencional
Medición 4.3 – 270 segundos

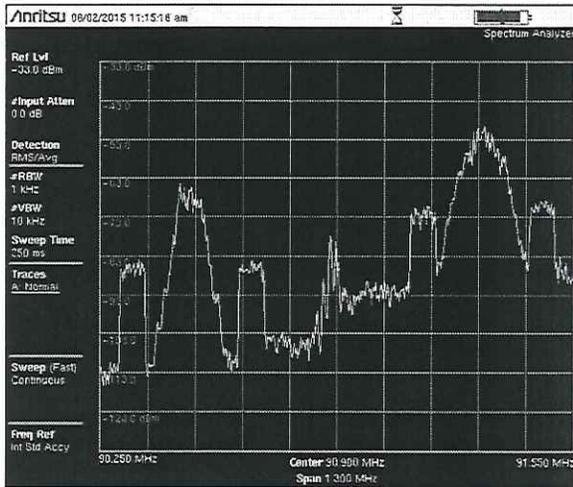


Transmisión convencional
Medición 4.4 – 360 segundos

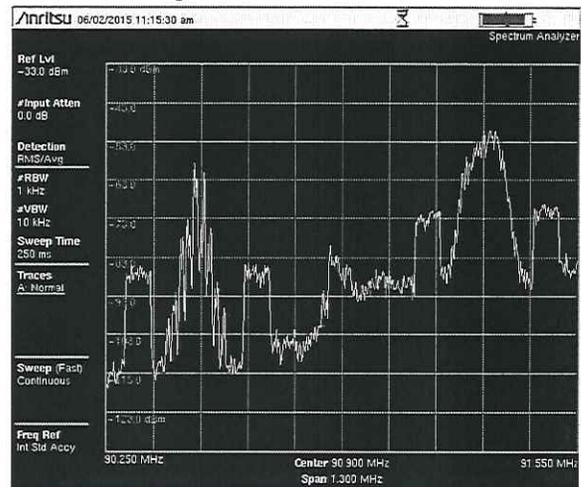


Transmisión convencional
Medición 4.5 – 450 segundos

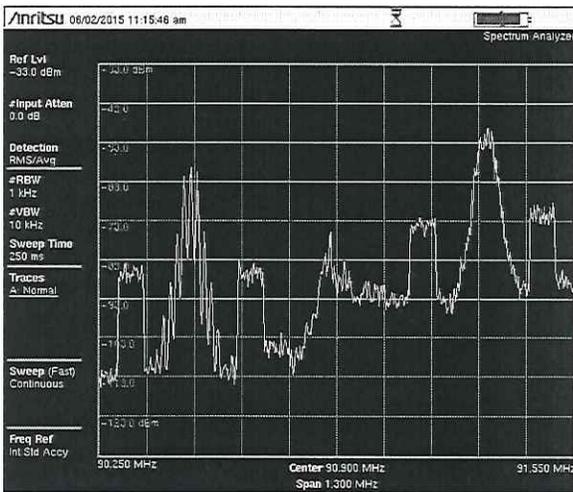
Outdoor – Escenario 2 – Bloque 5



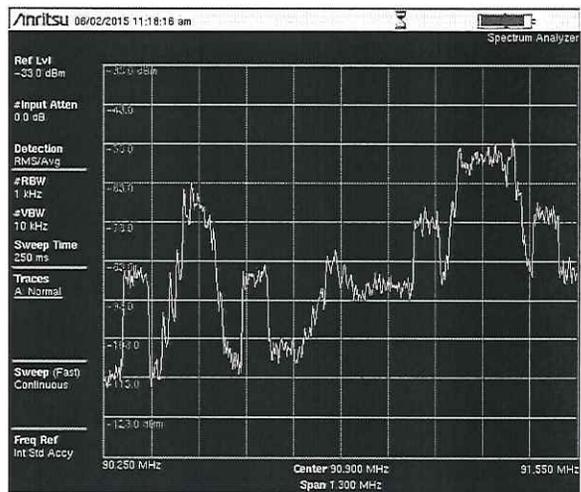
Voz
Medición 1.1 – 15 segundos



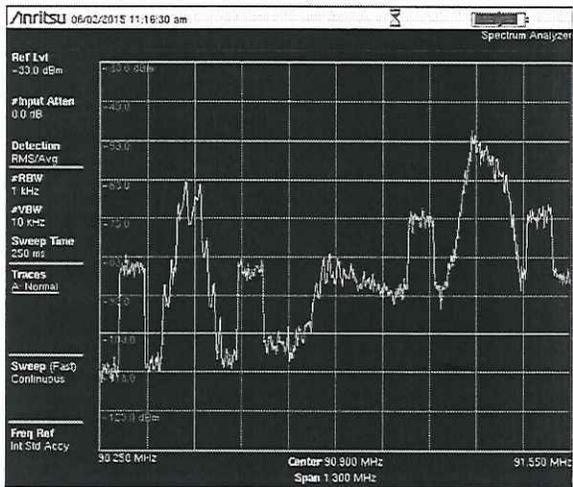
Voz
Medición 1.2 – 30 segundos



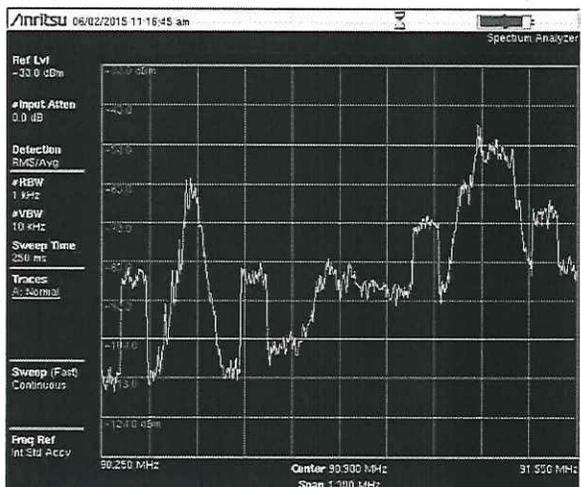
Voz
Medición 1.3 – 45 segundos



Música
Medición 2.1 – 75 segundos

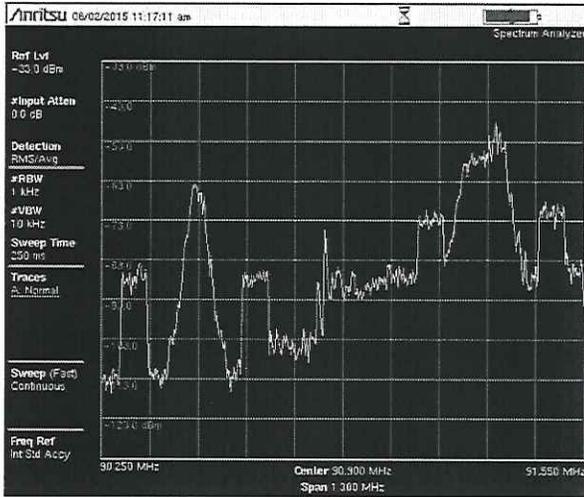


Música
Medición 2.2 – 90 segundos

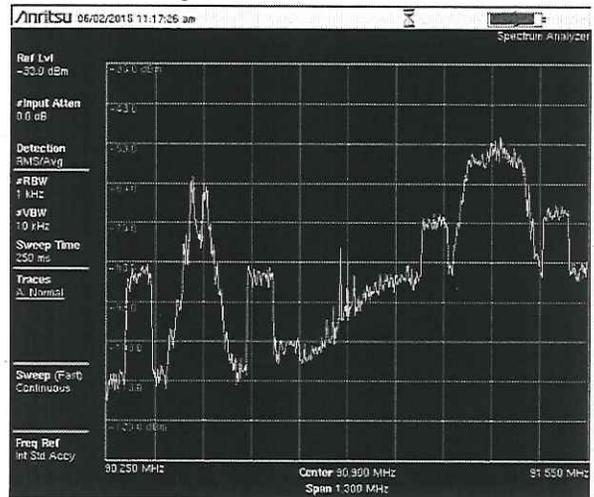


Música
Medición 2.3 – 105 segundos

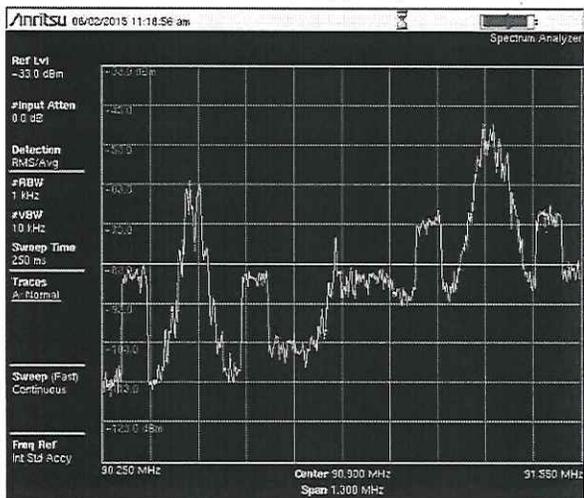
Outdoor – Escenario 2 – Bloque 5



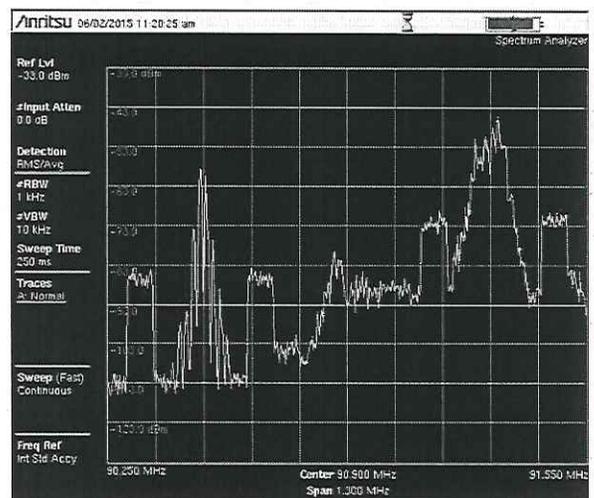
Ruido
Medición 3.1 – 130 segundos



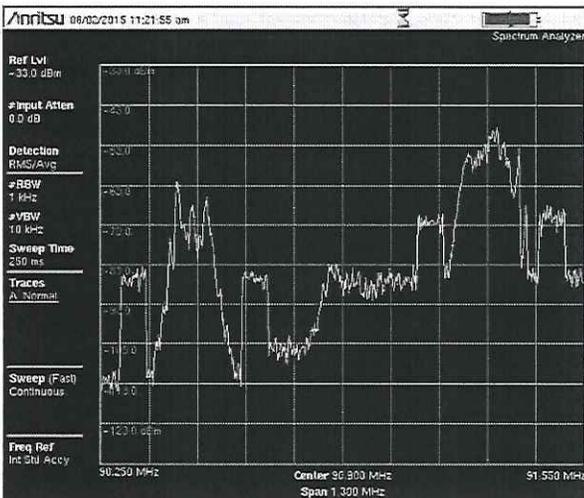
Ruido
Medición 3.2 – 145 segundos



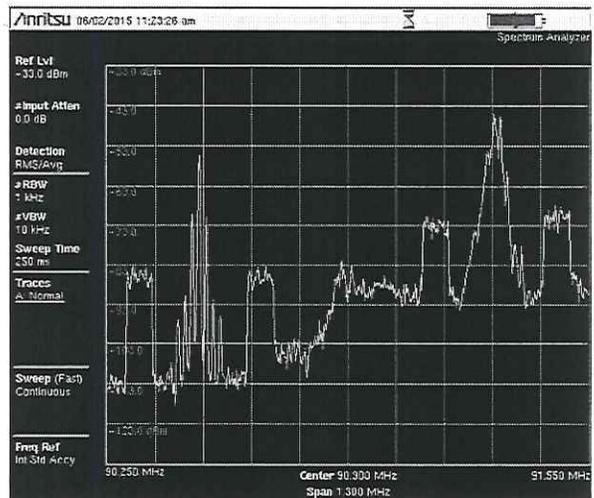
Transmisión convencional
Medición 4.1 – 90 segundos



Transmisión convencional
Medición 4.2 – 180 segundos



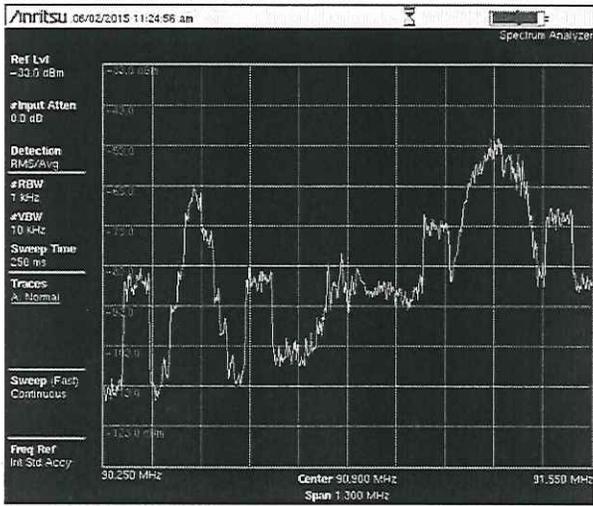
Transmisión convencional
Medición 4.3 – 270 segundos



Transmisión convencional
Medición 4.4 – 360 segundos

Handwritten signature and initials in blue ink.

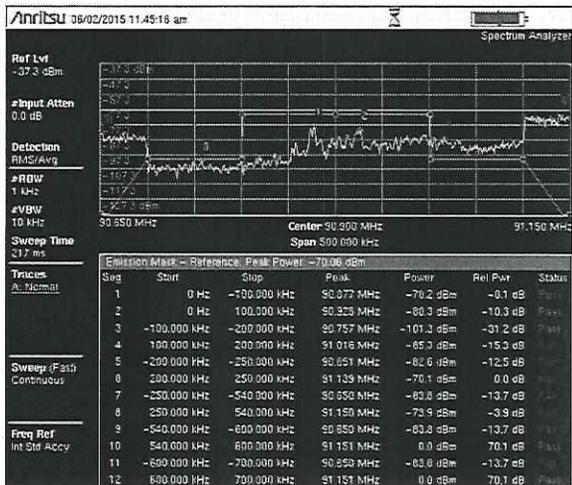
Outdoor – Escenario 2 – Bloque 2



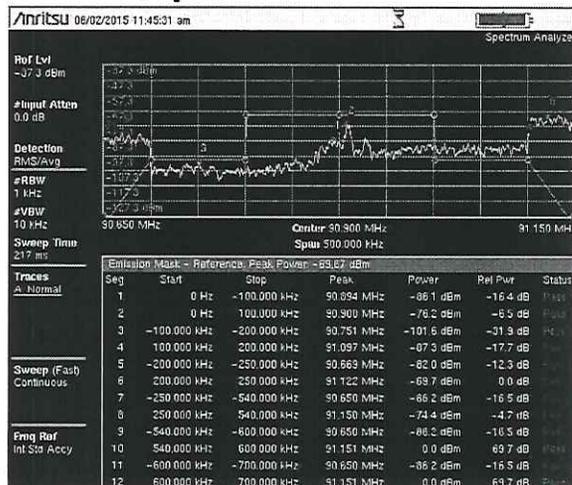
Transmisión convencional
Medición 4.5 – 450 segundos

[Handwritten blue signatures and initials]

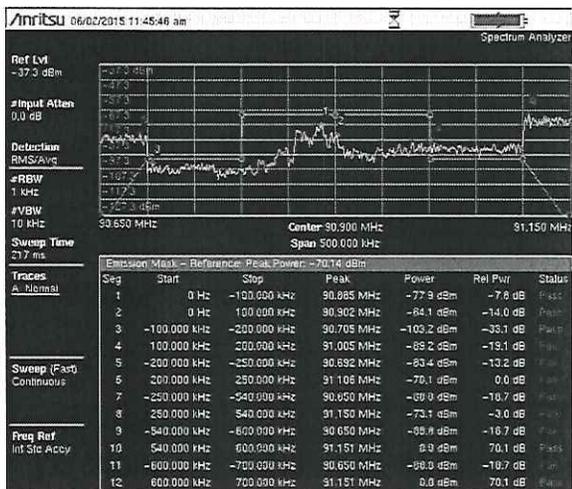
Outdoor – Escenario 2 – Bloque 7



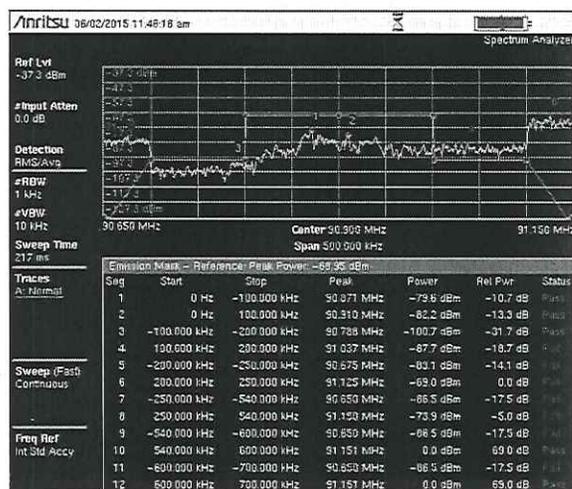
Voz
Medición 1.1 – 15 segundos



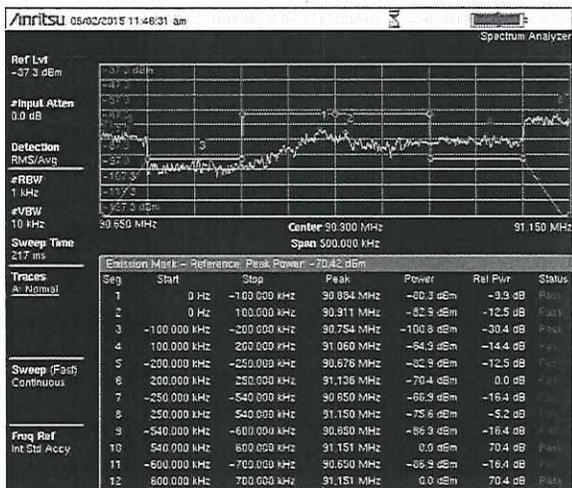
Voz
Medición 1.2 – 30 segundos



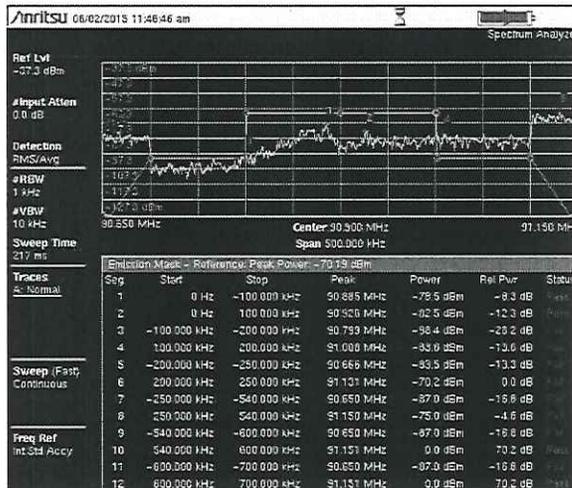
Voz
Medición 1.3 – 45 segundos



Música
Medición 2.1 – 75 segundos

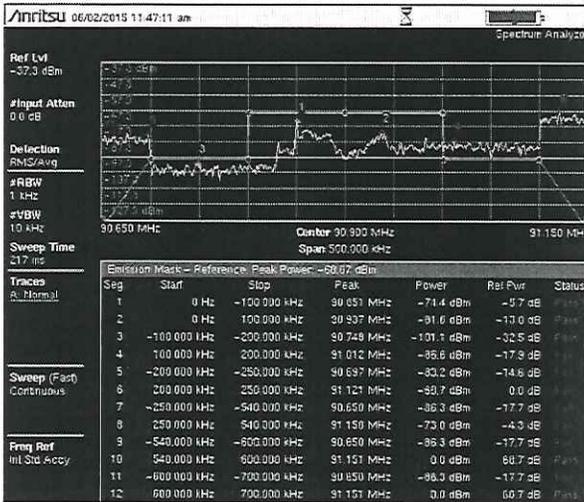


Música
Medición 2.2 – 90 segundos

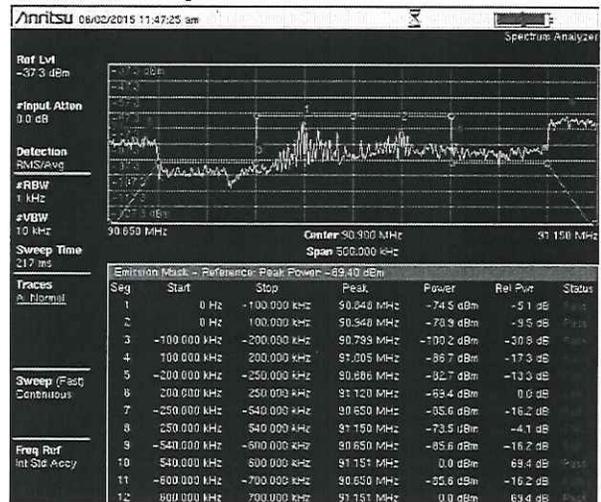


Música
Medición 2.3 – 105 segundos

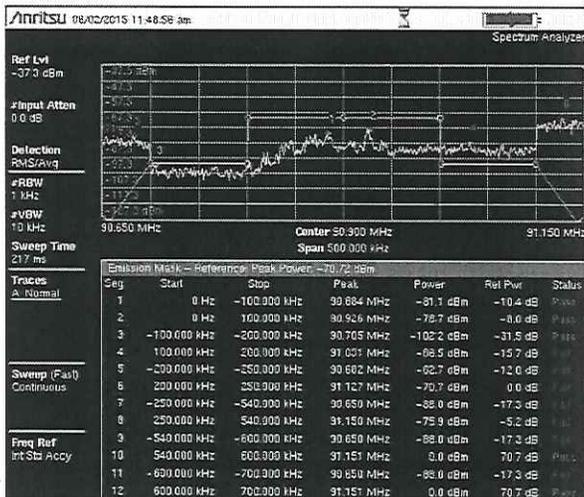
Outdoor – Escenario 2 – Bloque 7



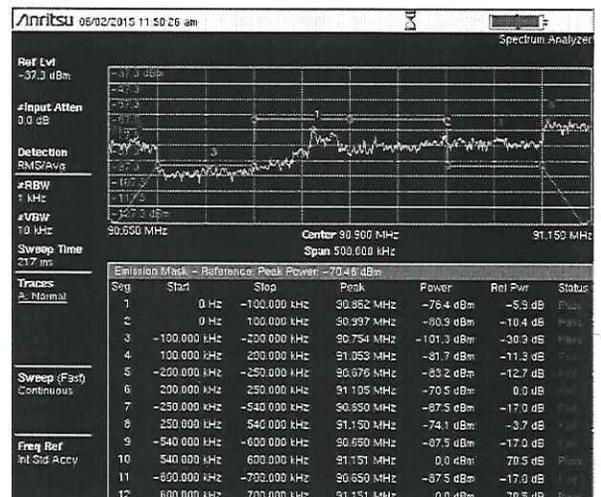
Ruido
Medición 3.1 – 130 segundos



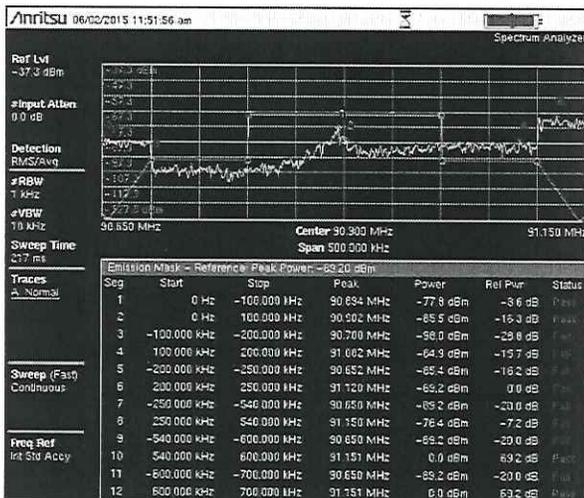
Ruido
Medición 3.2 – 145 segundos



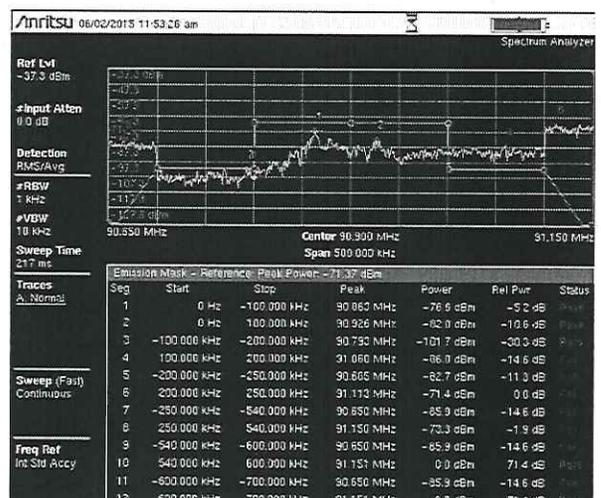
Transmisión convencional
Medición 4.1 – 90 segundos



Transmisión convencional
Medición 4.2 – 180 segundos

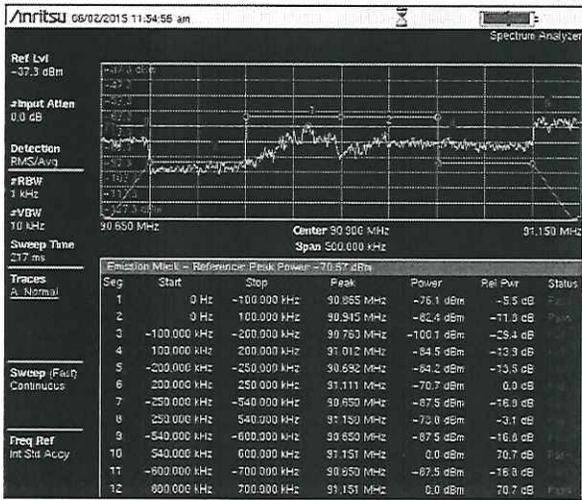


Transmisión convencional
Medición 4.3 – 270 segundos



Transmisión convencional
Medición 4.4 – 360 segundos

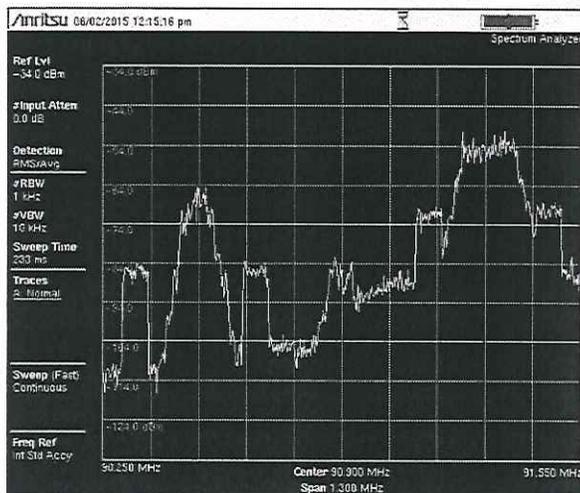
Outdoor – Escenario 2 – Bloque 7



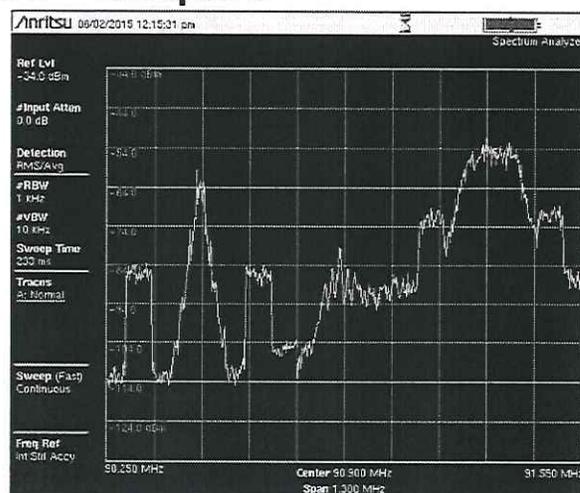
Transmisión convencional
Medición 4.5 – 450 segundos

Handwritten notes:
MIP
g
700

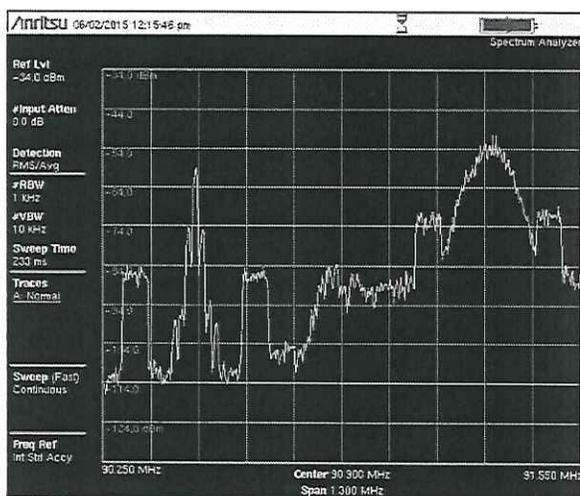
Outdoor – Escenario 3 – Bloque 9



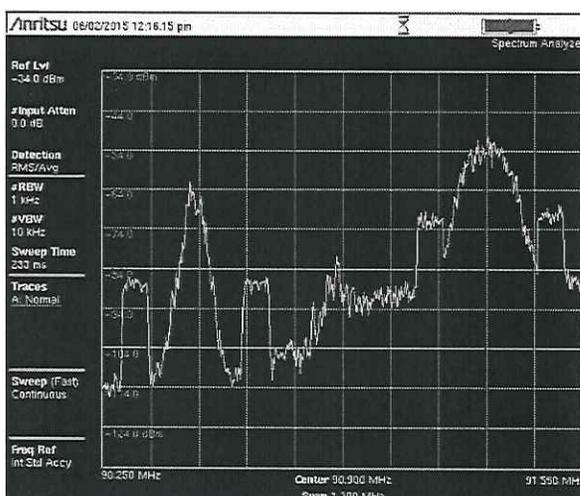
Voz
Medición 1.1 – 15 segundos



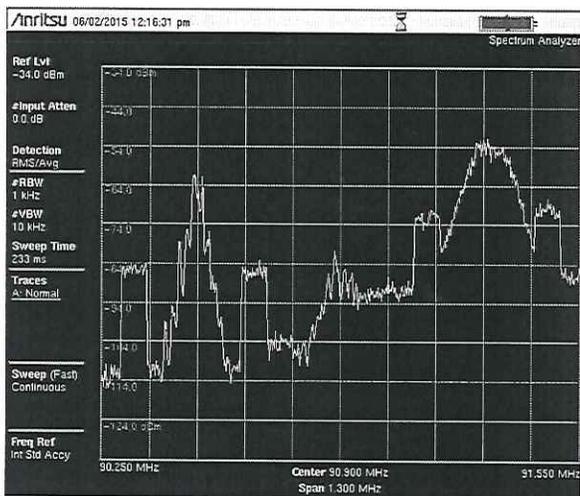
Voz
Medición 1.2 – 30 segundos



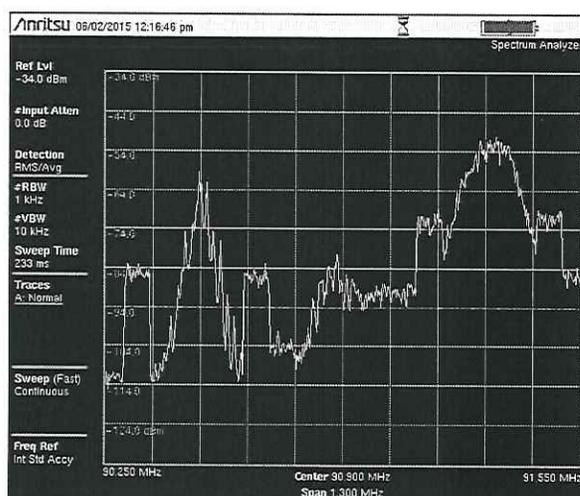
Voz
Medición 1.3 – 45 segundos



Música
Medición 2.1 – 75 segundos



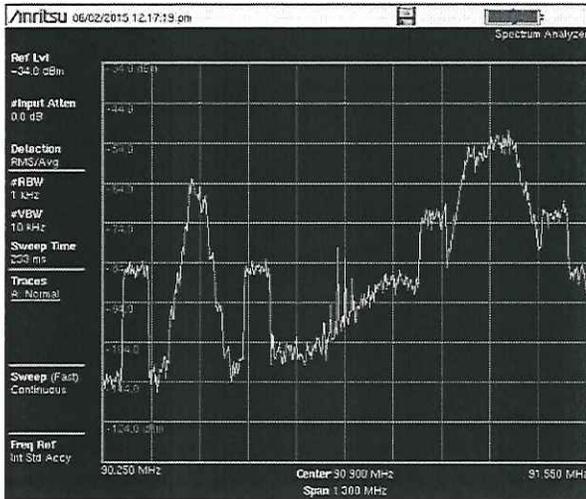
Música
Medición 2.2 – 90 segundos



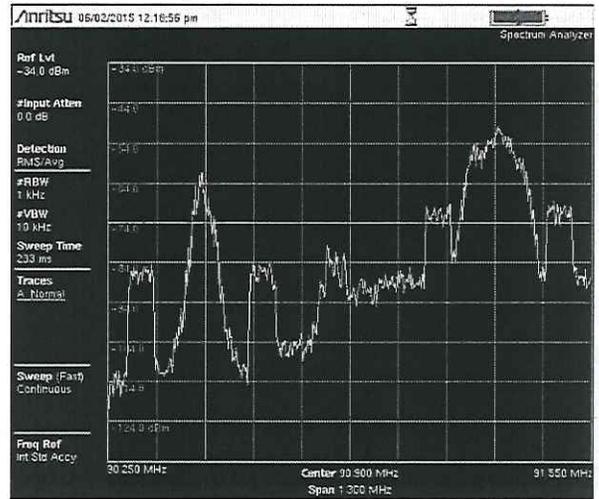
Música
Medición 2.3 – 105 segundos

Handwritten blue annotations on the right side of the page, including an arrow pointing upwards and some illegible scribbles.

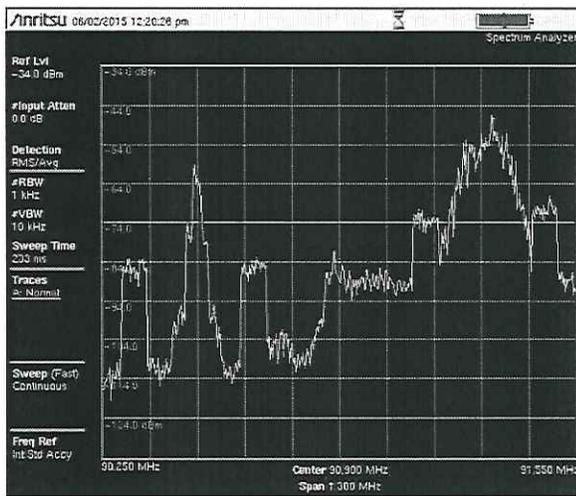
Outdoor – Escenario 3 – Bloque 9



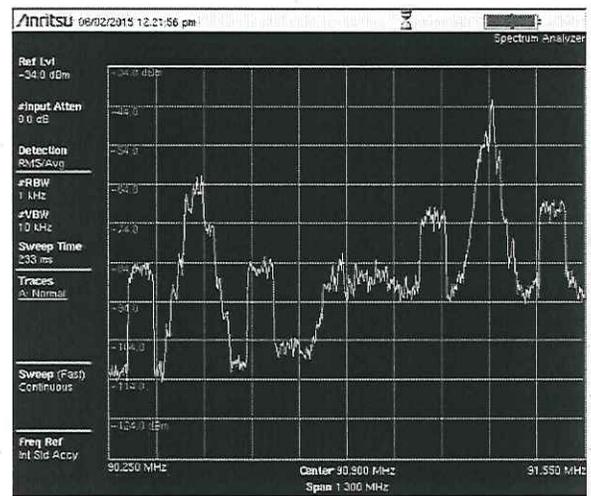
Ruido
Medición 3.1 – 130 segundos



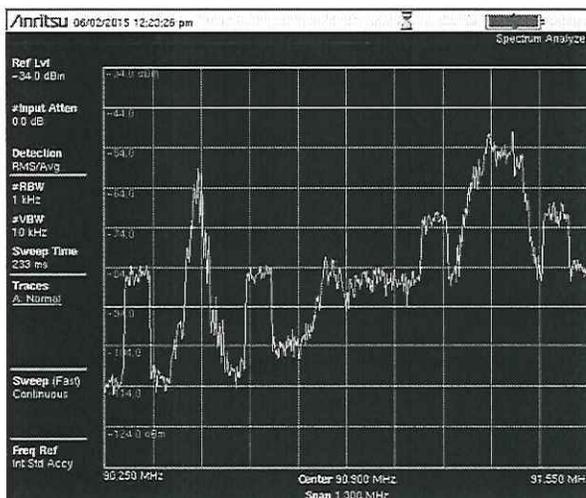
Transmisión convencional
Medición 4.1 – 90 segundos



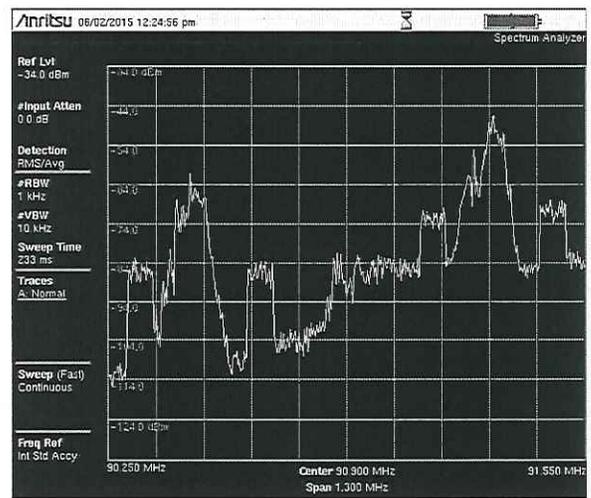
Transmisión convencional
Medición 4.2 – 180 segundos



Transmisión convencional
Medición 4.3 – 270 segundos



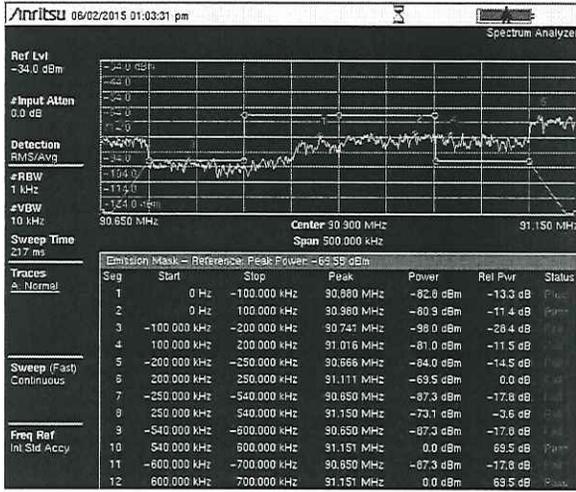
Transmisión convencional
Medición 4.4 – 360 segundos



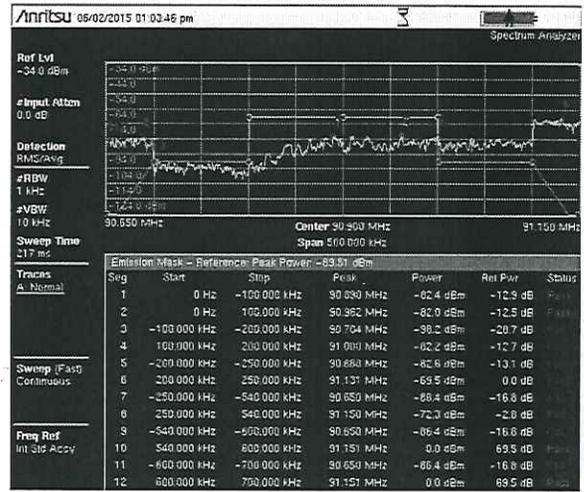
Transmisión convencional
Medición 4.5 – 450 segundos

Handwritten signature in blue ink.

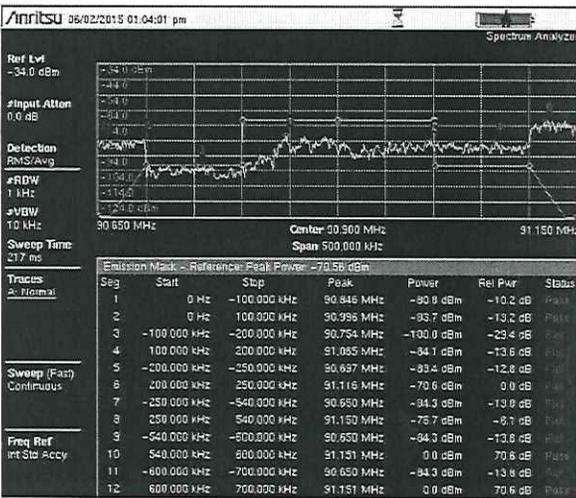
Outdoor – Escenario 3 – Bloque 12



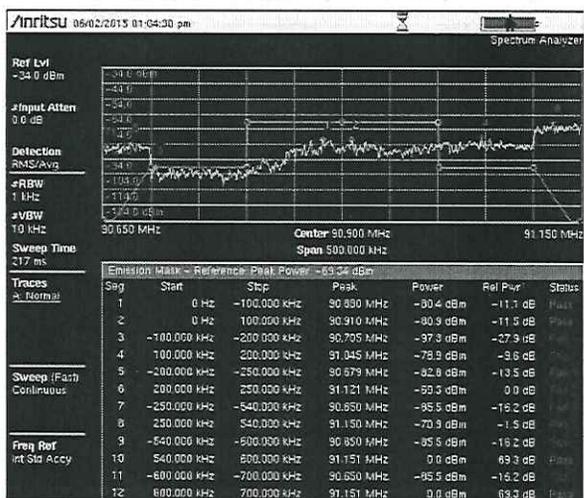
Voz
Medición 1.1 – 15 segundos



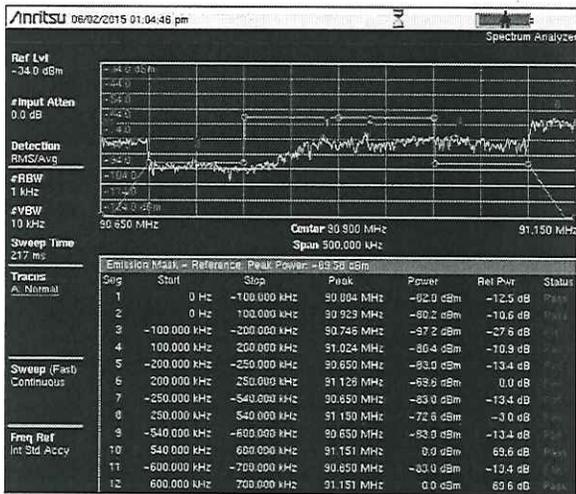
Voz
Medición 1.2 – 30 segundos



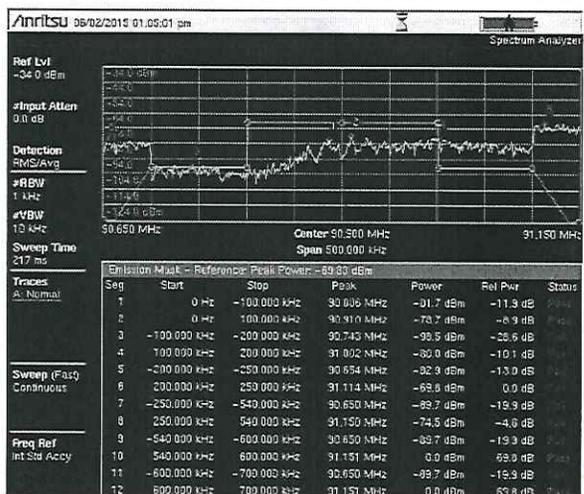
Voz
Medición 1.3 – 45 segundos



Música
Medición 2.1 – 75 segundos



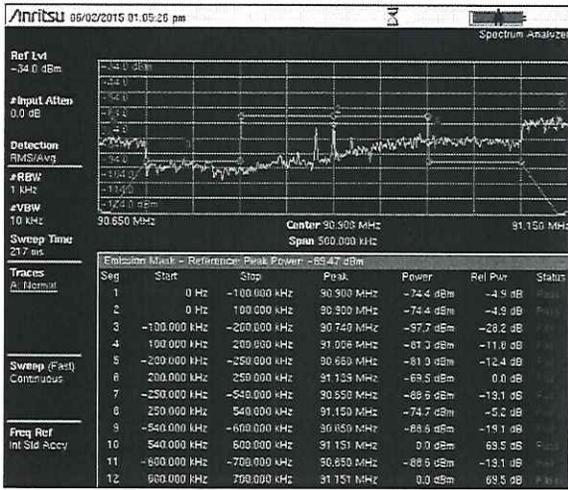
Música
Medición 2.2 – 90 segundos



Música
Medición 2.3 – 105 segundos

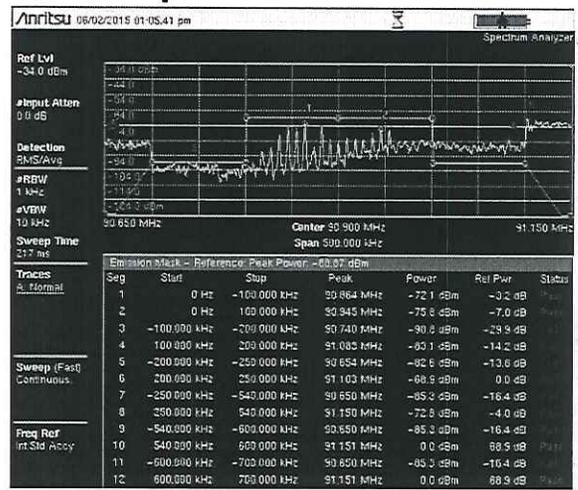
Handwritten signatures and initials:
 [Signature]
 [Signature]
 [Signature]

Outdoor – Escenario 3 – Bloque 12



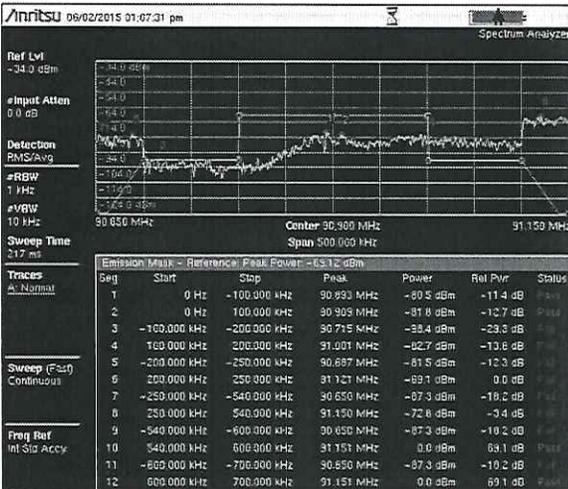
Ruido

Medición 3.1 – 130 segundos

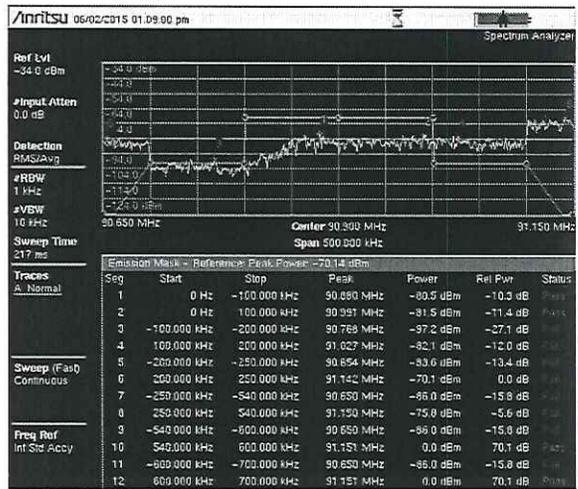


Ruido

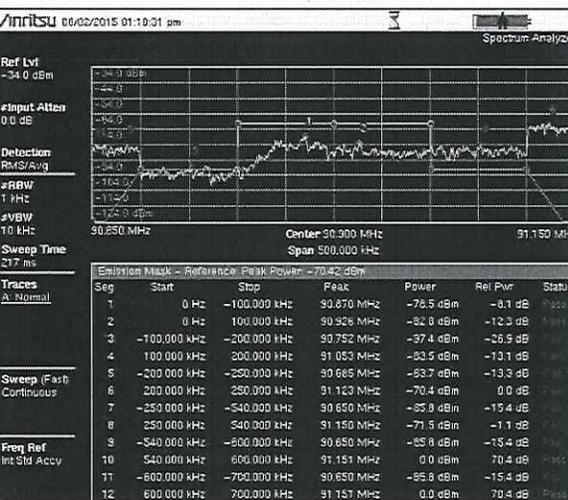
Medición 3.2 – 145 segundos



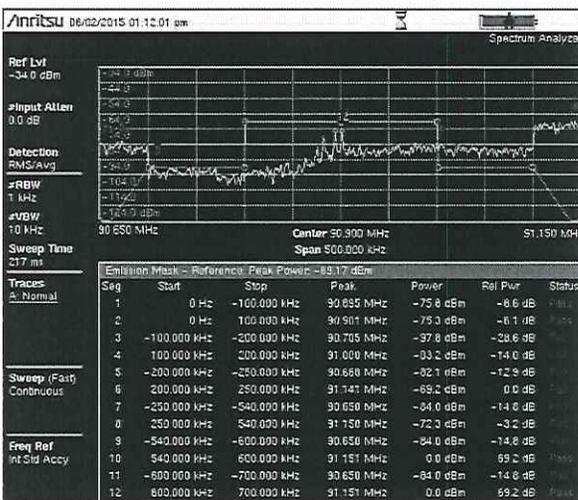
Transmisión convencional
Medición 4.1 – 90 segundos



Transmisión convencional
Medición 4.2 – 180 segundos

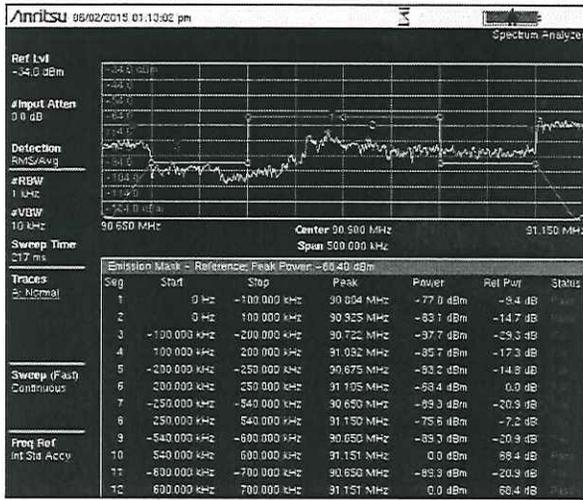


Transmisión convencional
Medición 4.3 – 270 segundos



Transmisión convencional
Medición 4.4 – 360 segundos

Outdoor – Escenario 3 – Bloque 12



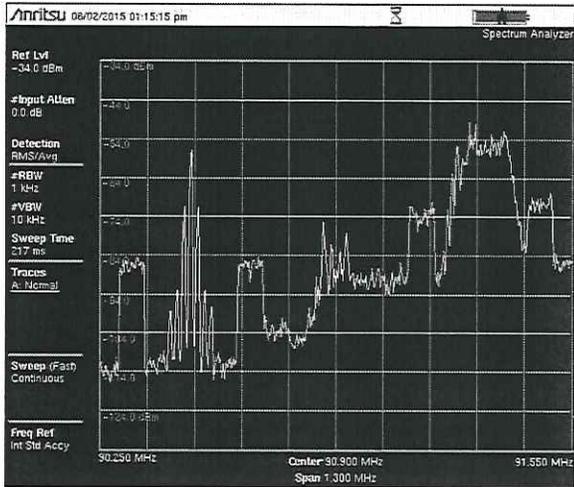
Transmisión convencional
Medición 4.5 – 450 segundos

[Handwritten signature]

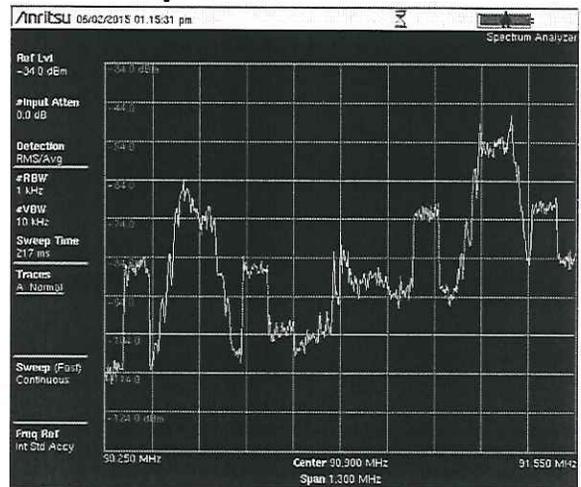
[Handwritten signature]

[Handwritten signature]

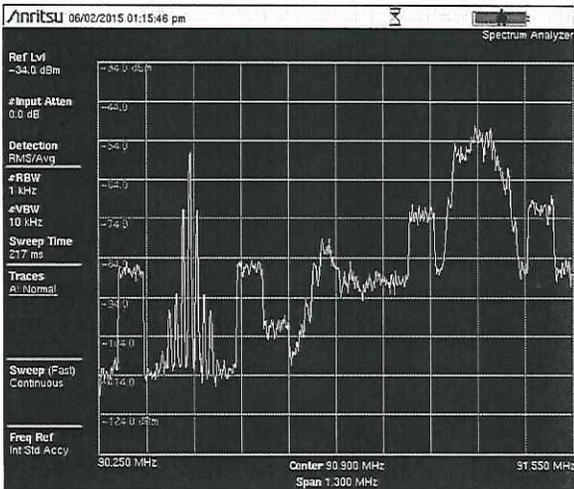
Outdoor – Escenario 4 – Bloque 13



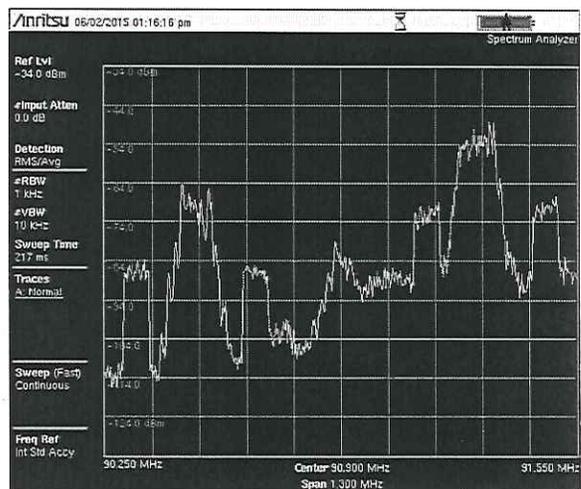
Voz
Medición 1.1 – 15 segundos



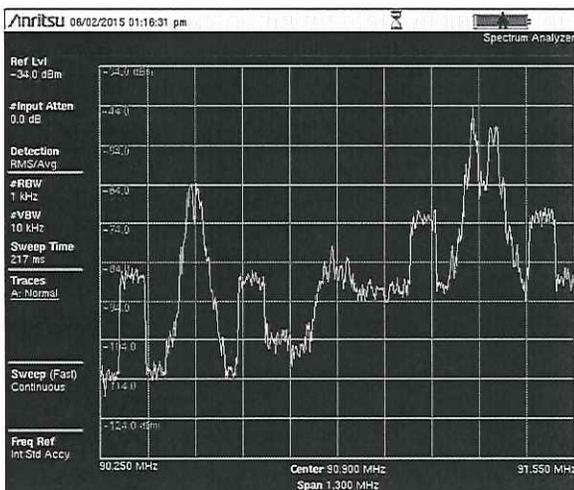
Voz
Medición 1.2 – 30 segundos



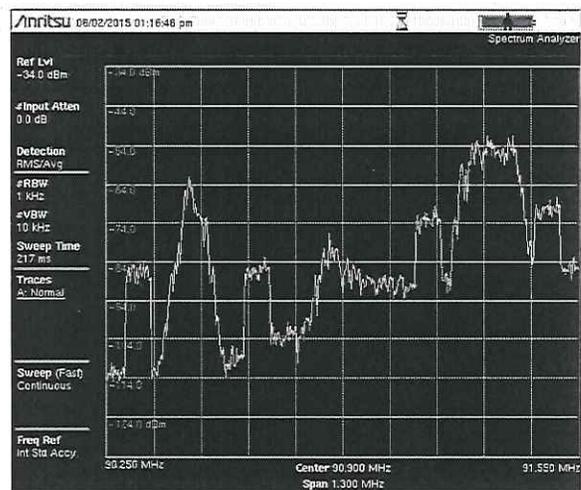
Voz
Medición 1.3 – 45 segundos



Música
Medición 2.1 – 75 segundos



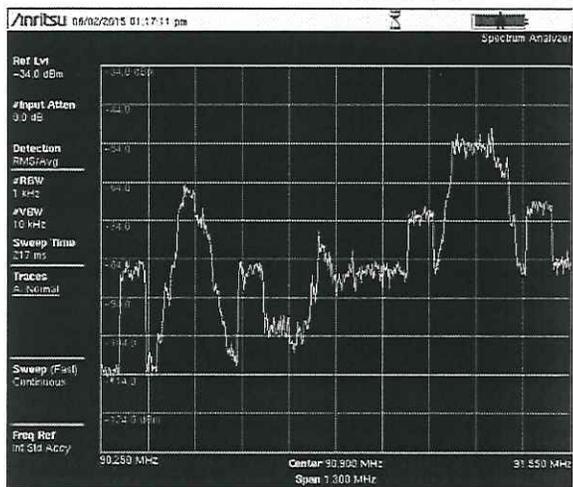
Música
Medición 2.2 – 90 segundos



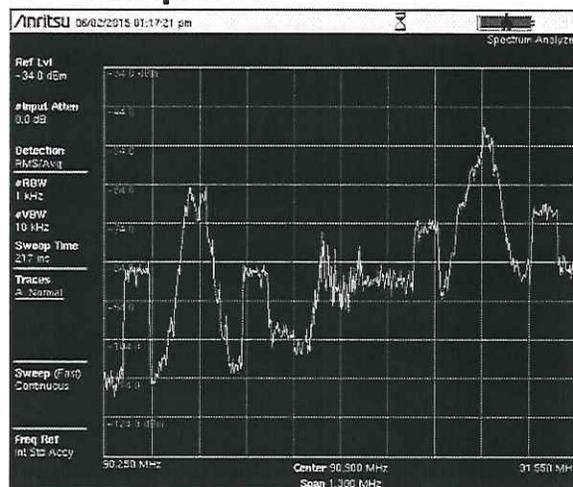
Música
Medición 2.3 – 105 segundos

Handwritten signature in blue ink.

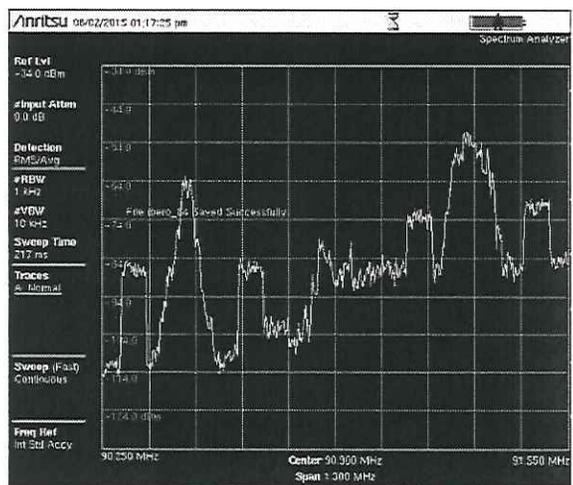
Outdoor – Escenario 4 – Bloque 13



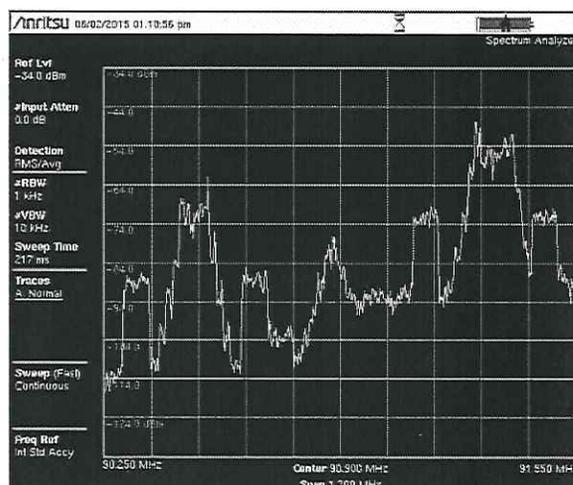
Ruido
Medición 3.1 – 130 segundos



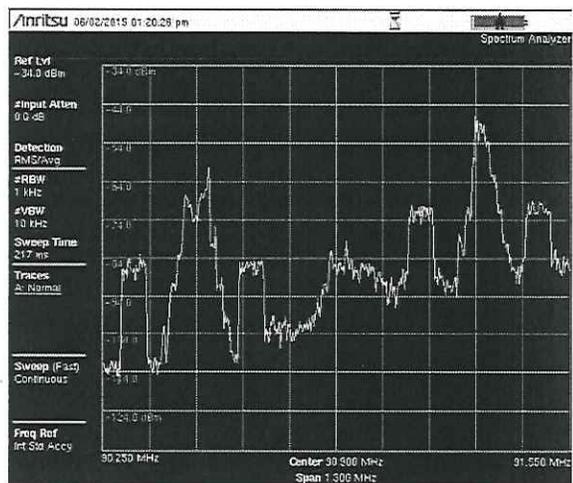
Ruido
Medición 3.2 – 145 segundos



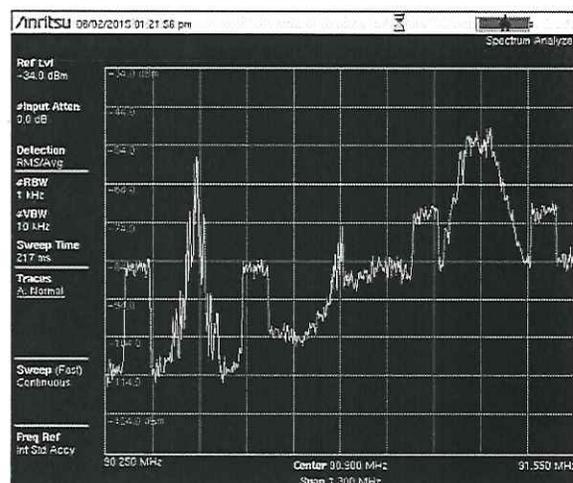
Transmisión convencional
Medición 4.1 – 90 segundos



Transmisión convencional
Medición 4.2 – 180 segundos



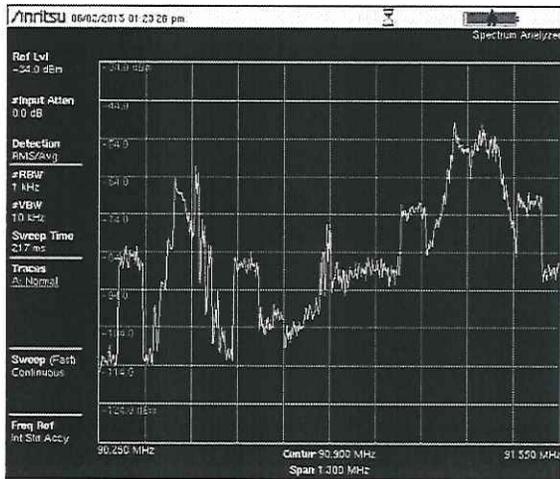
Transmisión convencional
Medición 4.3 – 270 segundos



Transmisión convencional
Medición 4.4 – 360 segundos

Handwritten signatures and initials in blue ink.

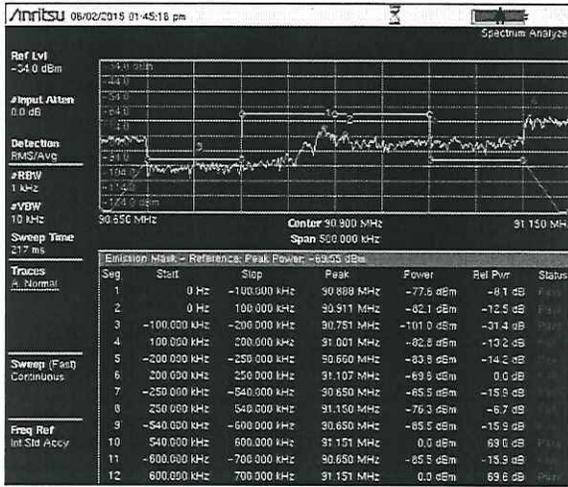
Outdoor – Escenario 4 – Bloque 13



Transmisión convencional
Medición 4.5 – 450 segundos

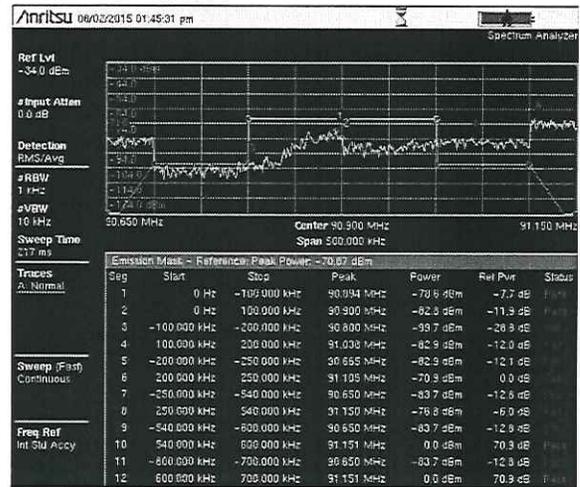
Handwritten blue annotations on the right side of the page, including a large arrow pointing upwards and some illegible scribbles.

Outdoor – Escenario 4 – Bloque 15



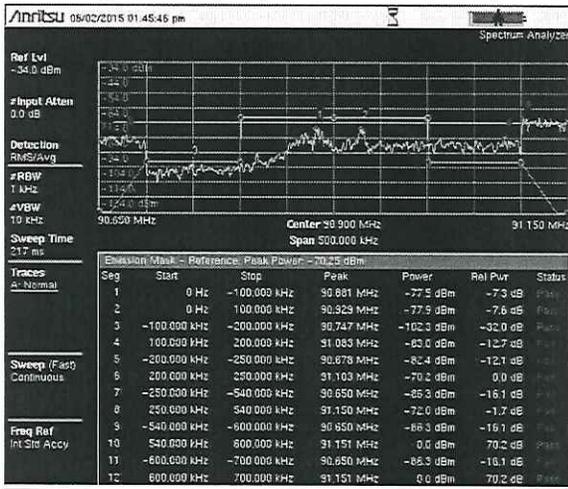
Voz

Medición 1.1 – 15 segundos



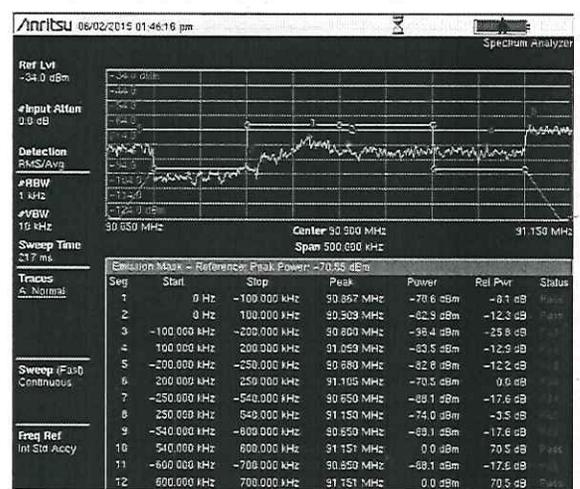
Voz

Medición 1.2 – 30 segundos



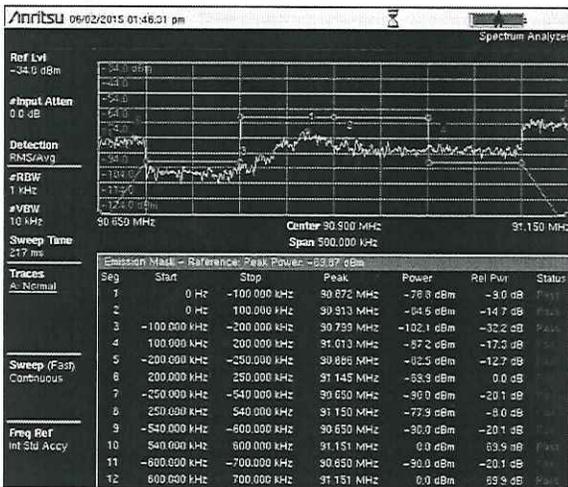
Voz

Medición 1.3 – 45 segundos



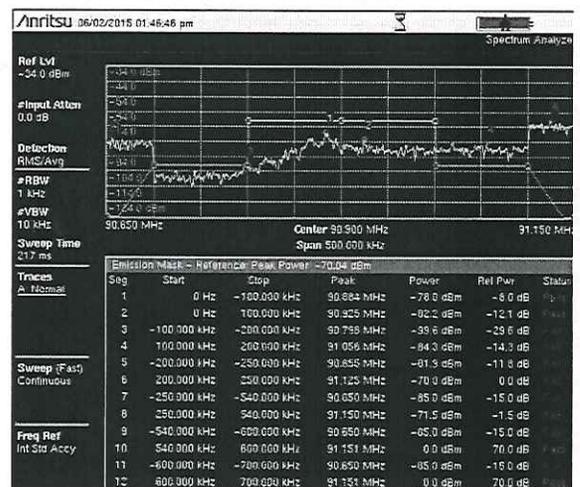
Música

Medición 2.1 – 75 segundos



Música

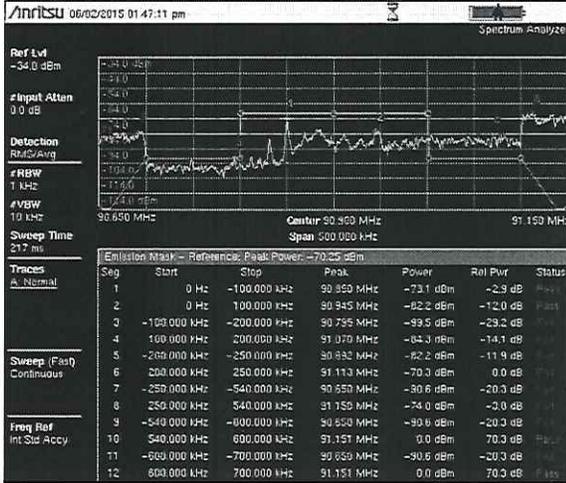
Medición 2.2 – 90 segundos



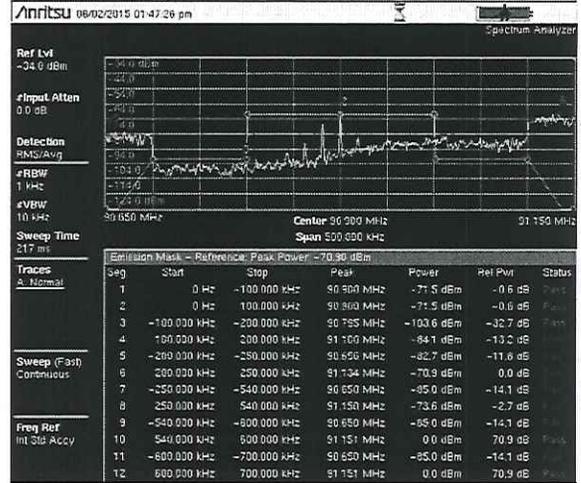
Música

Medición 2.3 – 105 segundos

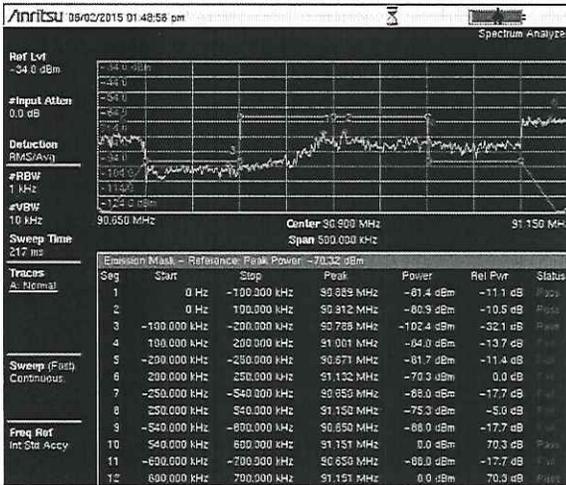
Outdoor – Escenario 4 – Bloque 15



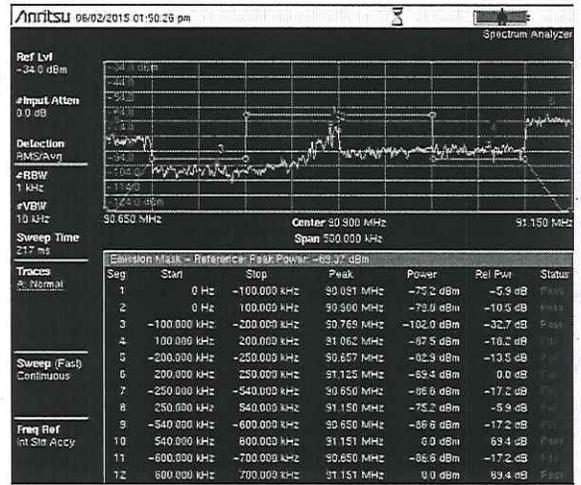
Ruido
Medición 3.1 – 130 segundos



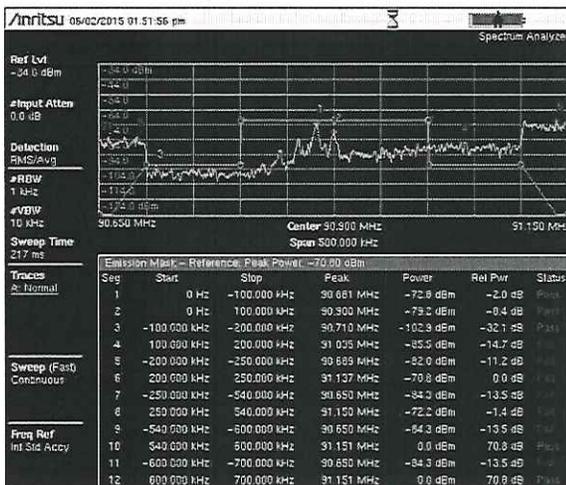
Ruido
Medición 3.2 – 145 segundos



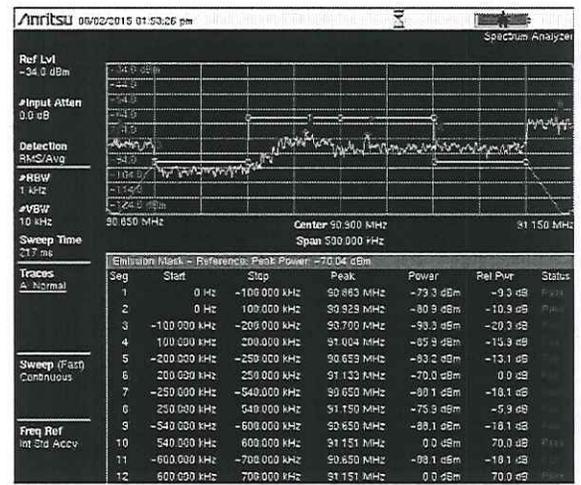
Transmisión convencional
Medición 4.1 – 90 segundos



Transmisión convencional
Medición 4.2 – 180 segundos

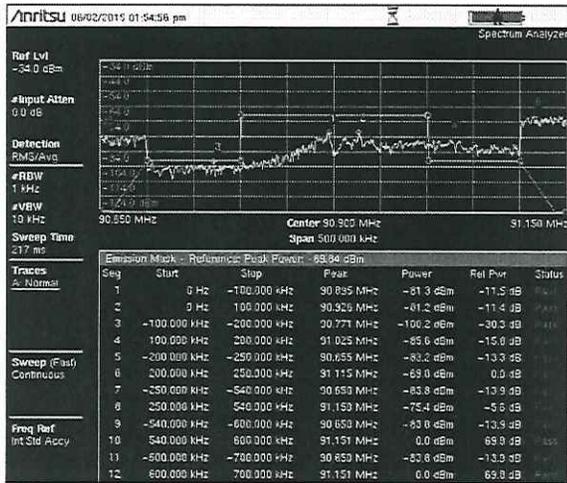


Transmisión convencional
Medición 4.3 – 270 segundos



Transmisión convencional
Medición 4.4 – 360 segundos

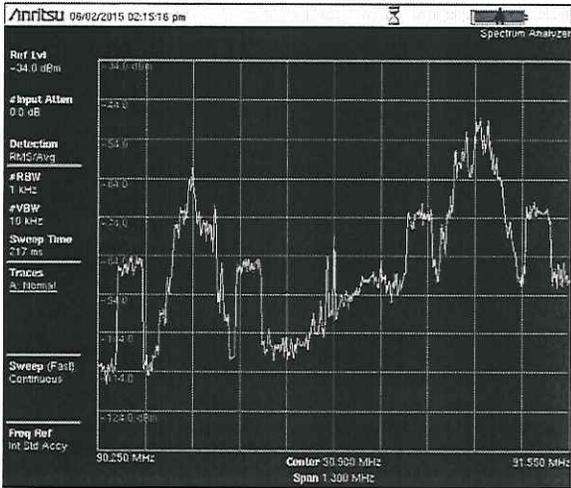
Outdoor – Escenario 4 – Bloque 15



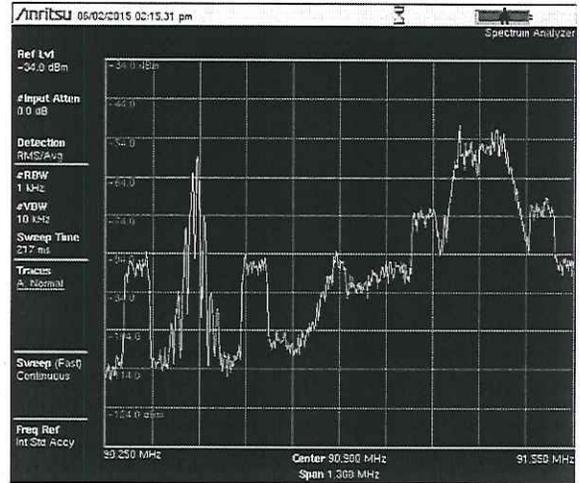
Transmisión convencional
Medición 4.5 – 450 segundos

Handwritten blue ink marks and signatures on the right side of the page.

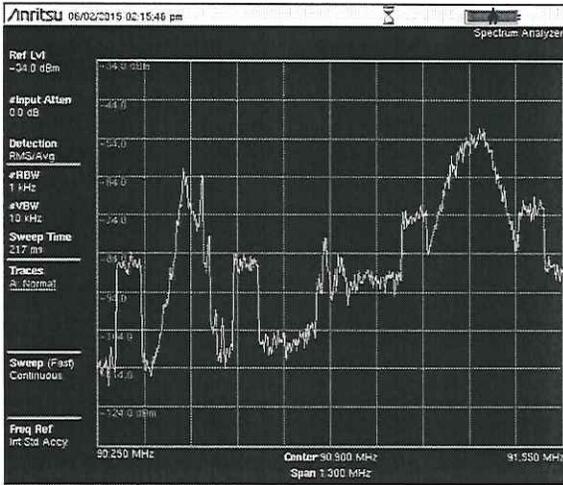
Outdoor – Escenario 5 – Bloque 17



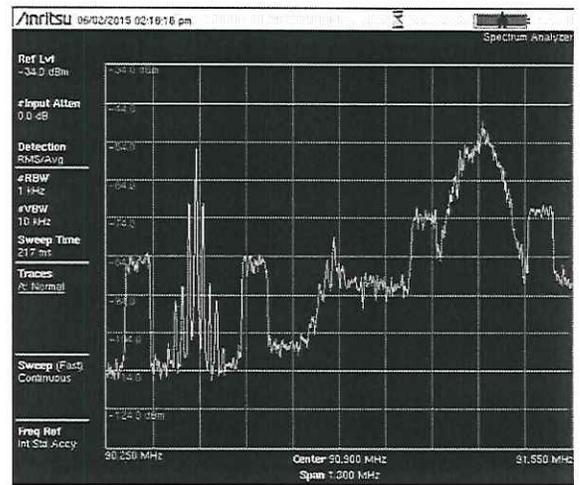
Voz
Medición 1.1 – 15 segundos



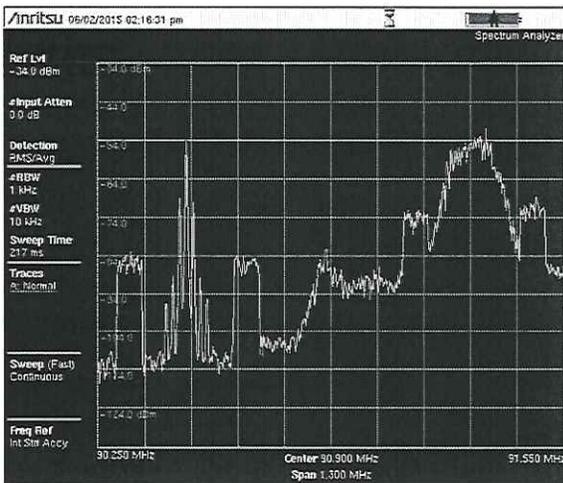
Voz
Medición 1.2 – 30 segundos



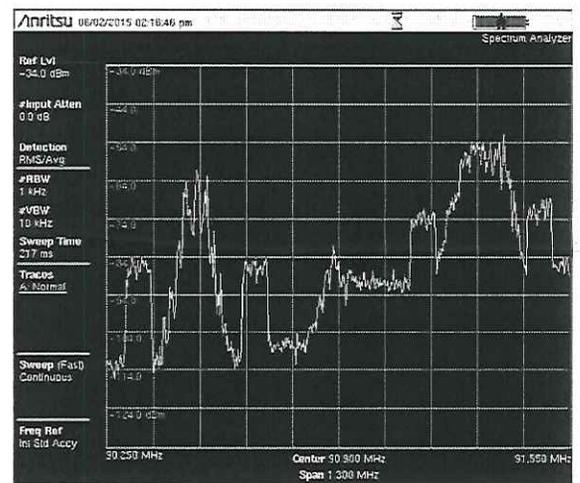
Voz
Medición 1.3 – 45 segundos



Música
Medición 2.1 – 75 segundos



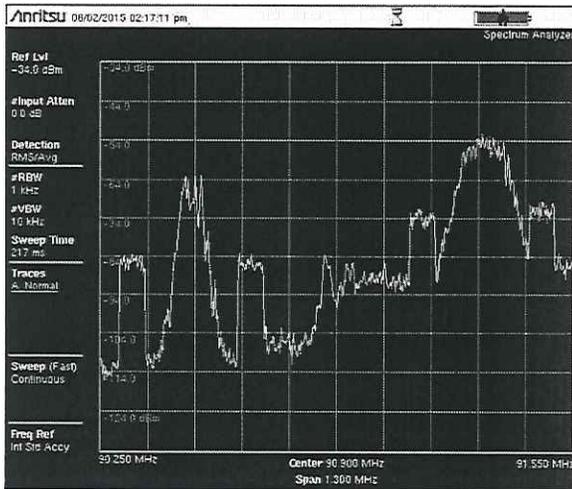
Música
Medición 2.2 – 90 segundos



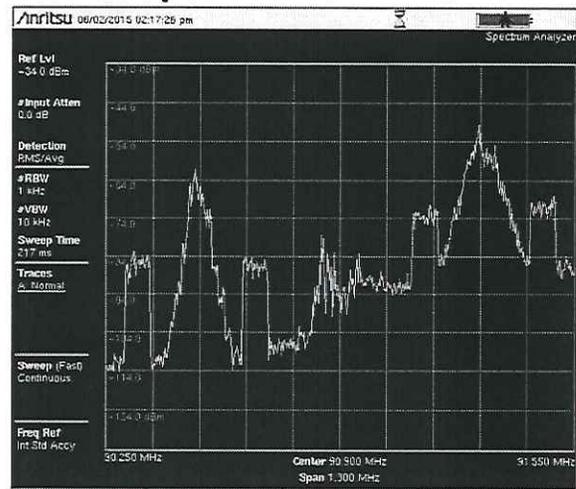
Música
Medición 2.3 – 105 segundos

Handwritten blue ink marks and signatures on the right side of the page.

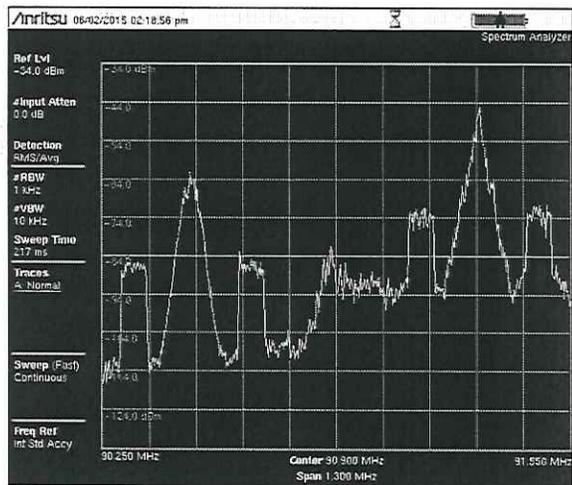
Outdoor – Escenario 5 – Bloque 17



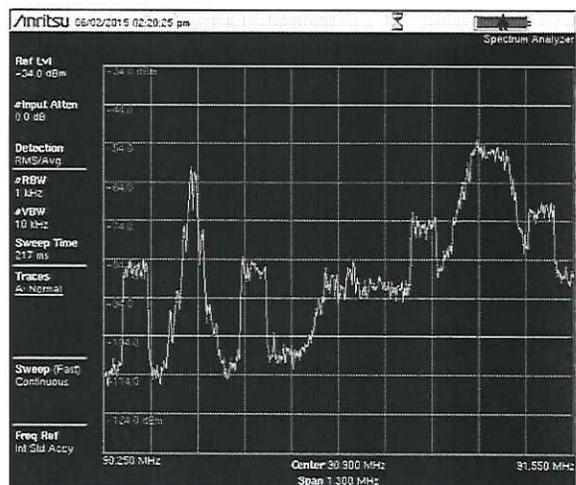
Ruido
Medición 3.1 – 130 segundos



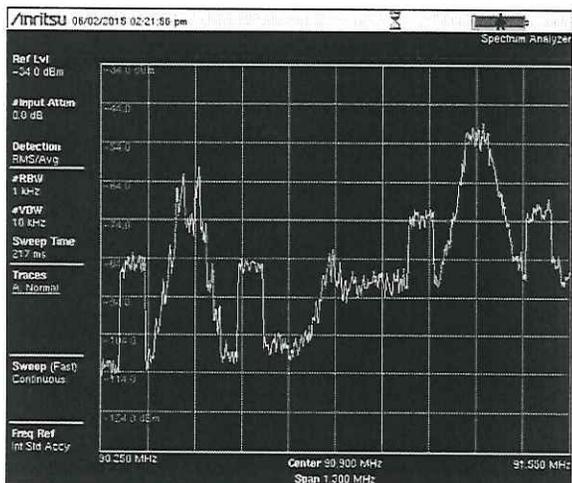
Ruido
Medición 3.2 – 145 segundos



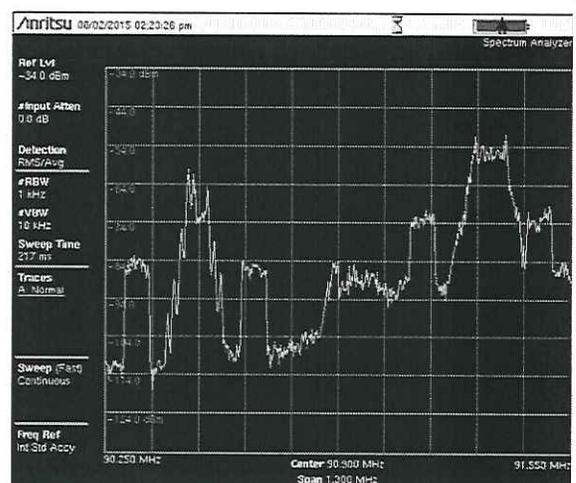
Transmisión convencional
Medición 4.1 – 90 segundos



Transmisión convencional
Medición 4.2 – 180 segundos



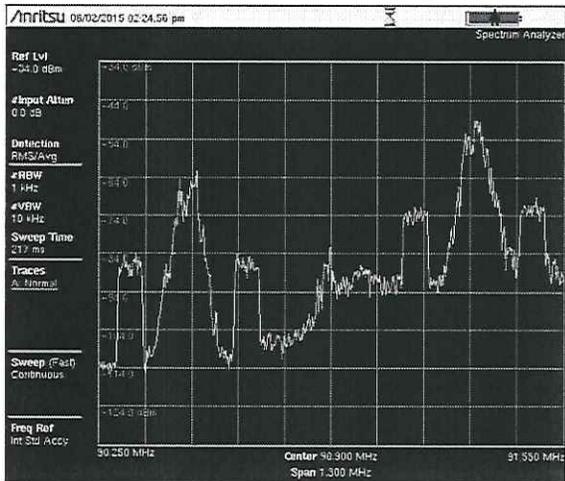
Transmisión convencional
Medición 4.3 – 270 segundos



Transmisión convencional
Medición 4.4 – 360 segundos

Handwritten blue ink marks and signatures on the right side of the page.

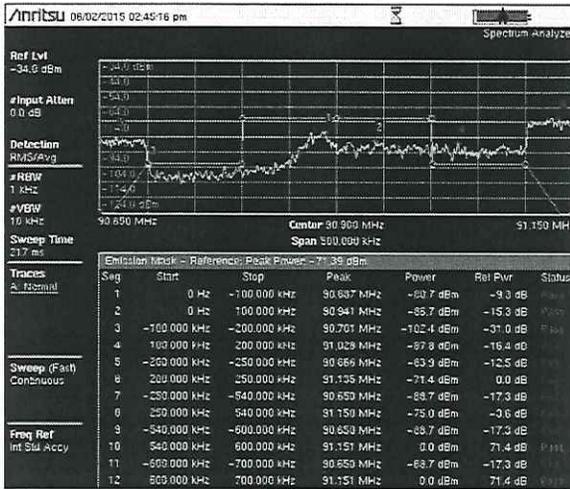
Outdoor – Escenario 5 – Bloque 17



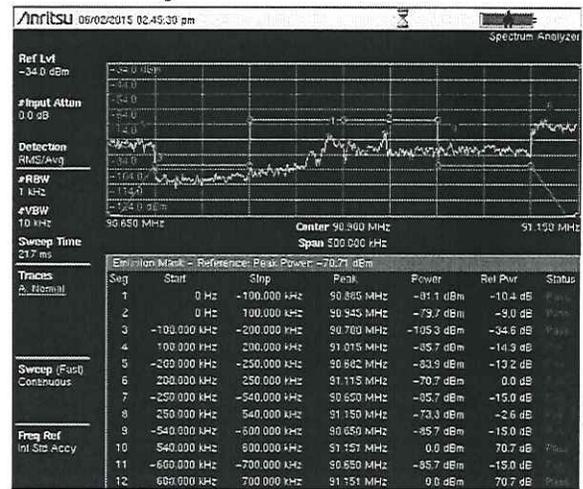
Transmisión convencional
Medición 4.5 – 450 segundos

[Handwritten blue ink marks and signatures]

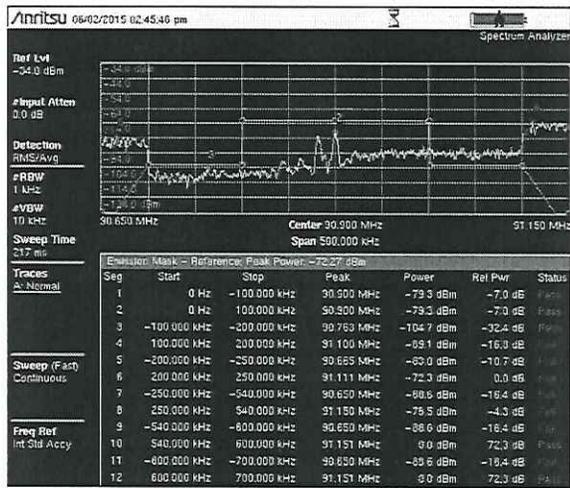
Outdoor – Escenario 5 – Bloque 19



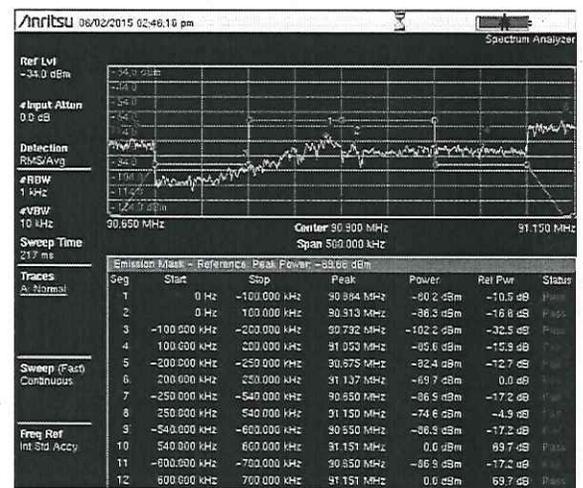
Voz
Medición 1.1 – 15 segundos



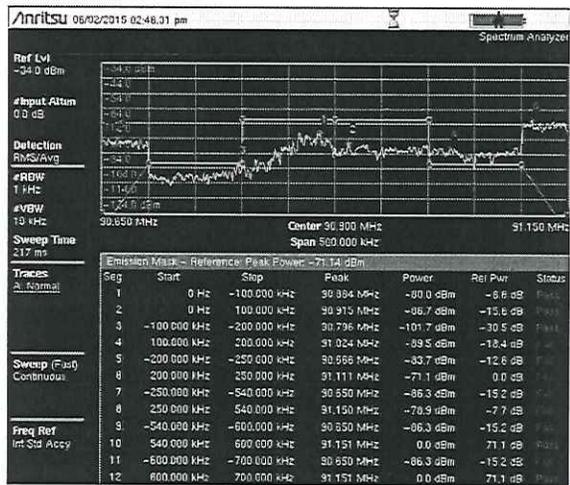
Voz
Medición 1.2 – 30 segundos



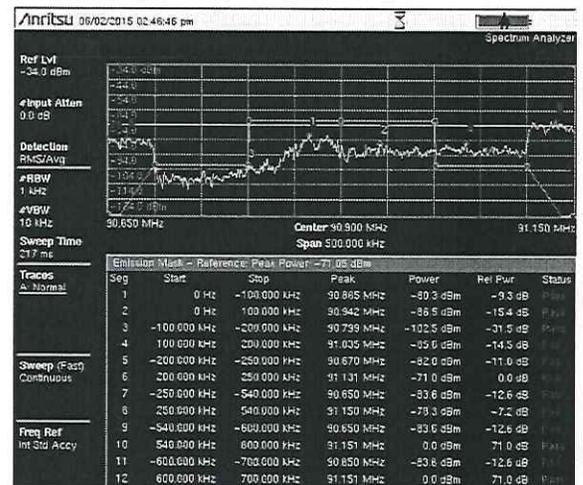
Voz
Medición 1.3 – 45 segundos



Música
Medición 2.1 – 75 segundos



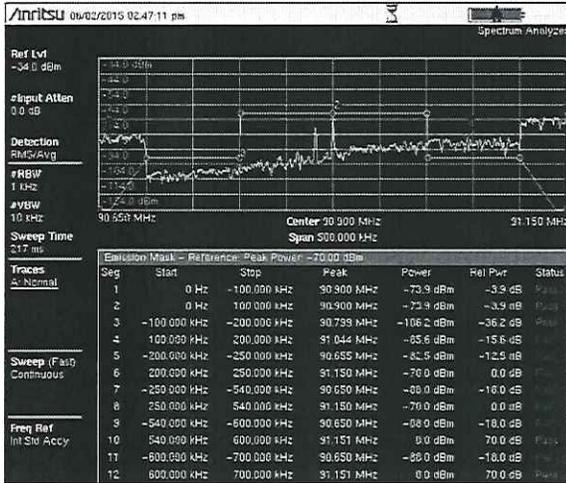
Música
Medición 2.2 – 90 segundos



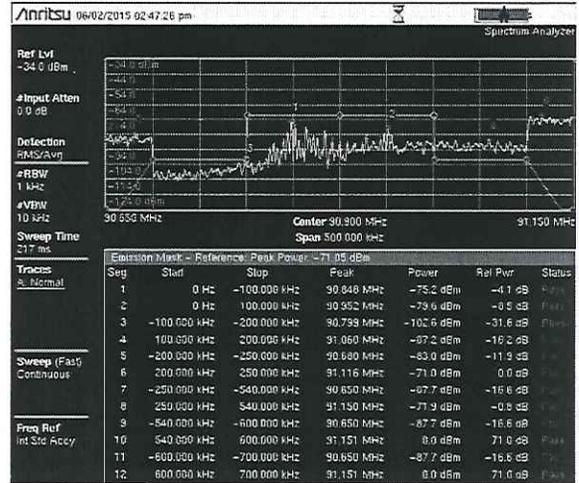
Música
Medición 2.3 – 105 segundos

Handwritten signature and initials in blue ink.

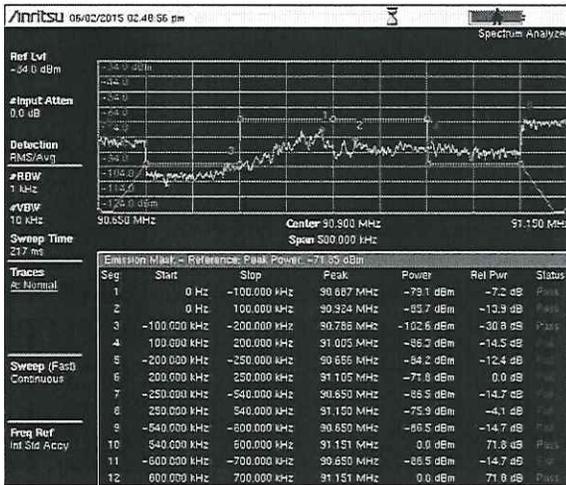
Outdoor – Escenario 5 – Bloque 19



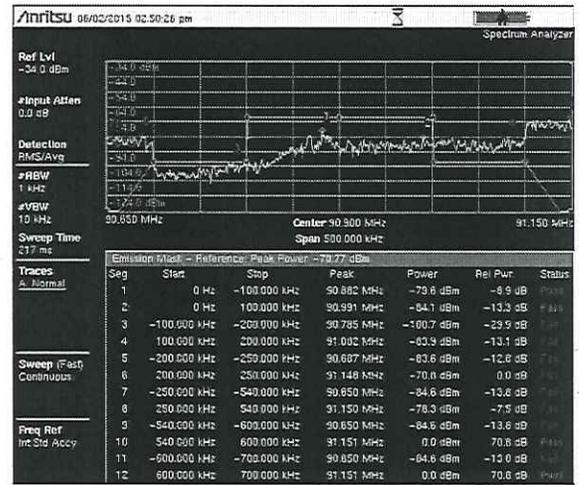
Ruido
Medición 3.1 – 130 segundos



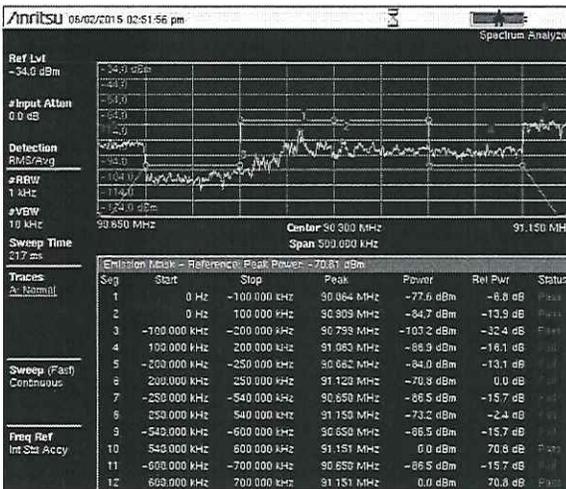
Ruido
Medición 3.2 – 145 segundos



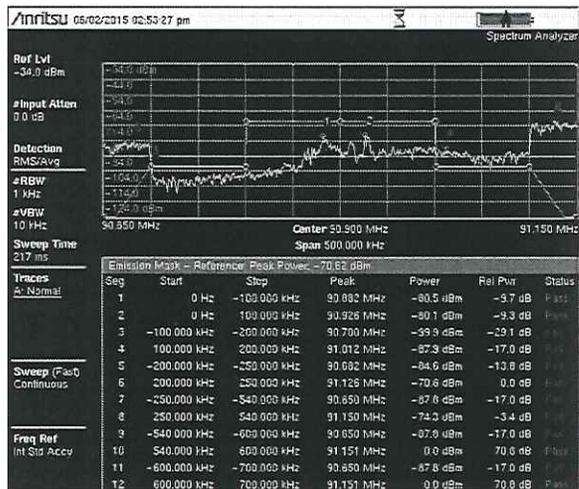
Transmisión convencional
Medición 4.1 – 90 segundos



Transmisión convencional
Medición 4.2 – 180 segundos

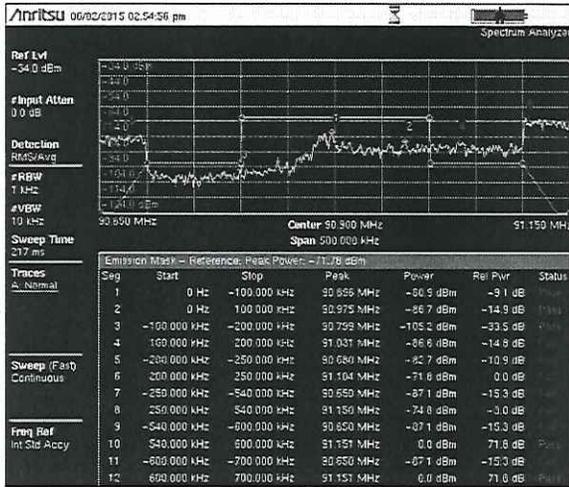


Transmisión convencional
Medición 4.3 – 270 segundos



Transmisión convencional
Medición 4.4 – 360 segundos

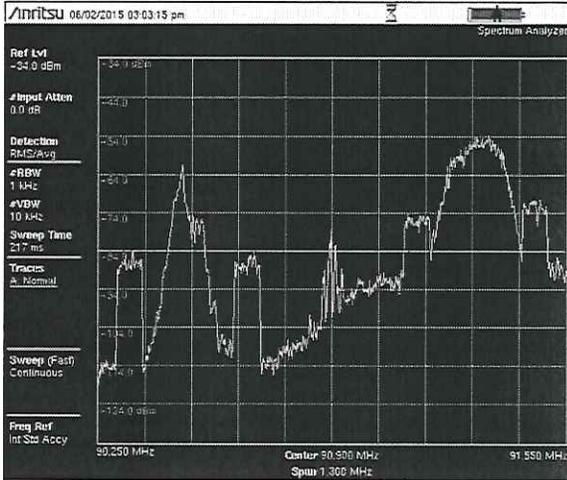
Outdoor – Escenario 5 – Bloque 19



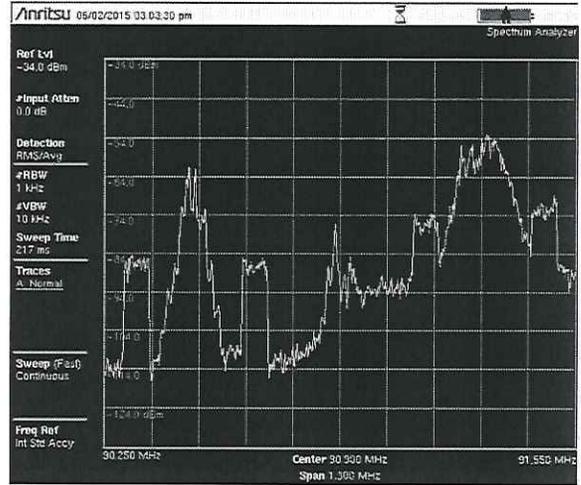
Transmisión convencional
 Medición 4.5 – 450 segundos

Handwritten blue ink marks:
 A vertical scribble on the right side of the page.
 A signature-like mark below the scribble.
 A small mark at the bottom of the scribble.

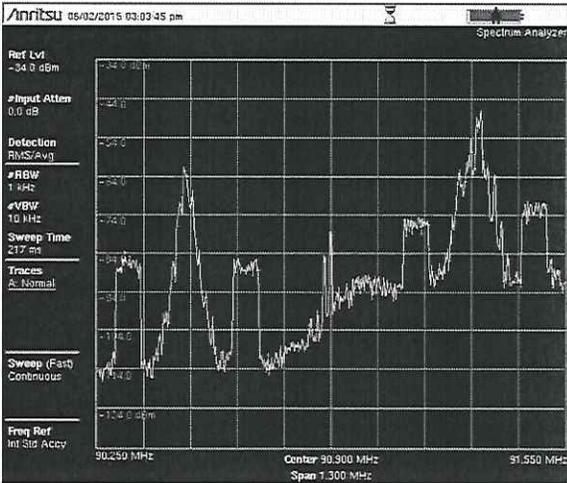
Outdoor – Escenario 5 – Bloque 20



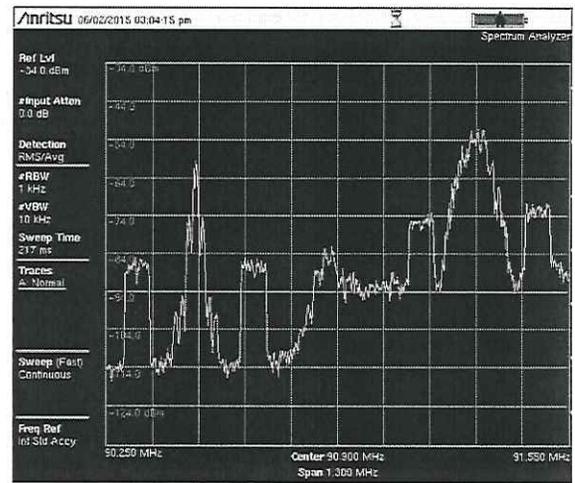
Voz
Medición 1.1 – 15 segundos



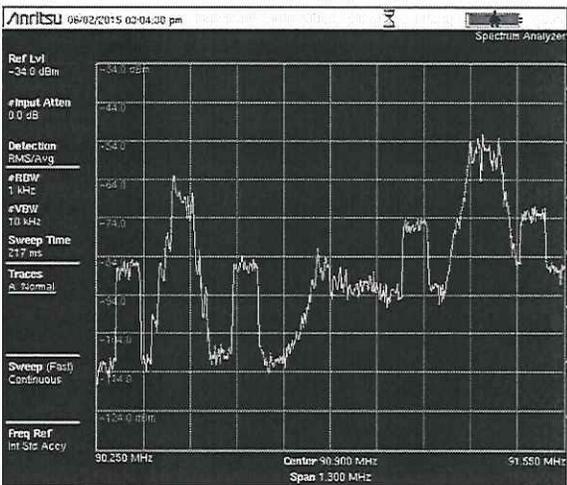
Voz
Medición 1.2 – 30 segundos



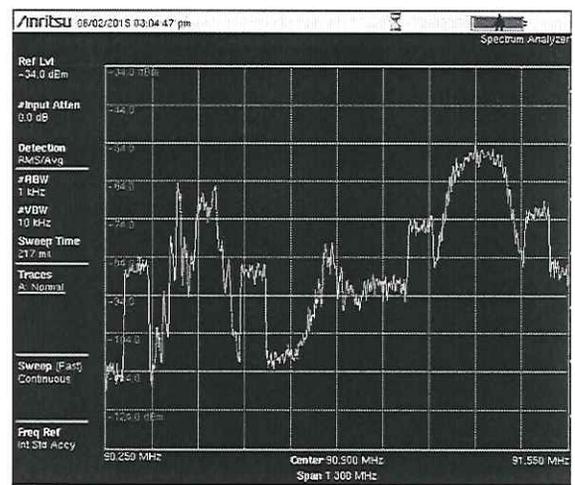
Voz
Medición 1.3 – 45 segundos



Música
Medición 2.1 – 75 segundos



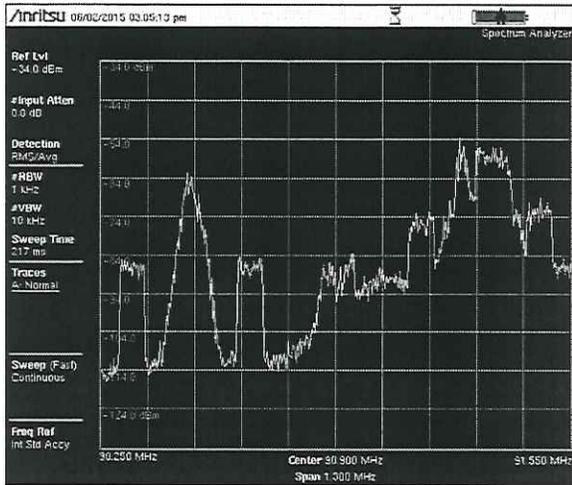
Música
Medición 2.2 – 90 segundos



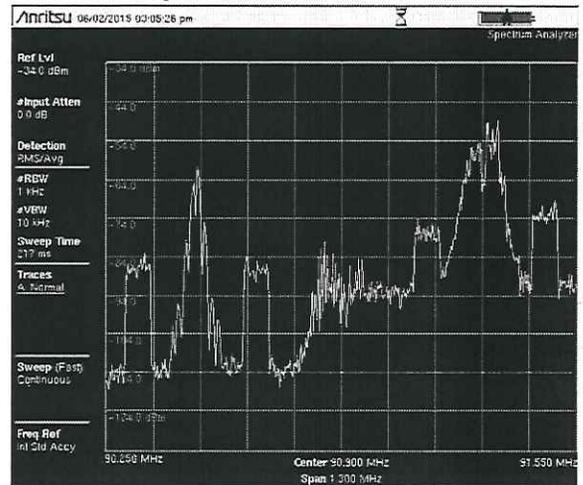
Música
Medición 2.3 – 105 segundos

[Handwritten signature]

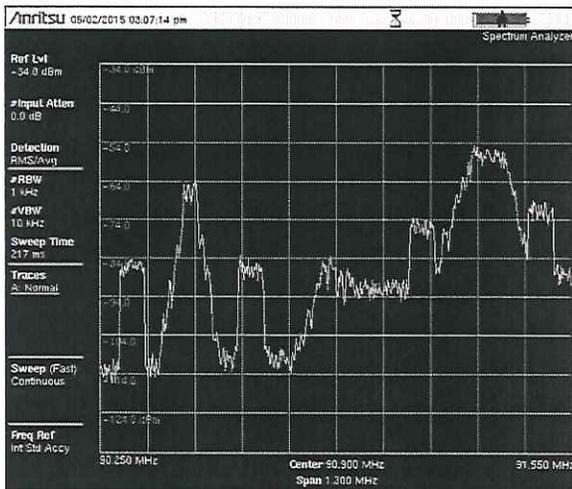
Outdoor – Escenario 5 – Bloque 20



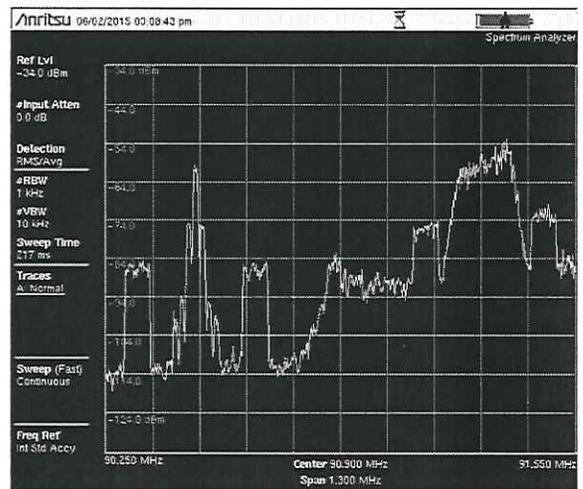
Ruido
Medición 3.1 – 130 segundos



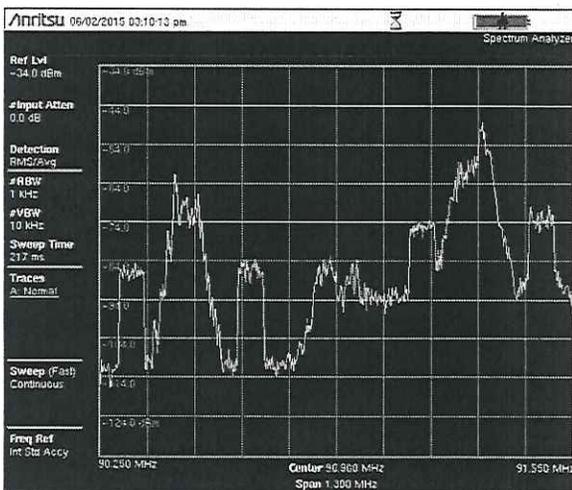
Ruido
Medición 3.2 – 145 segundos



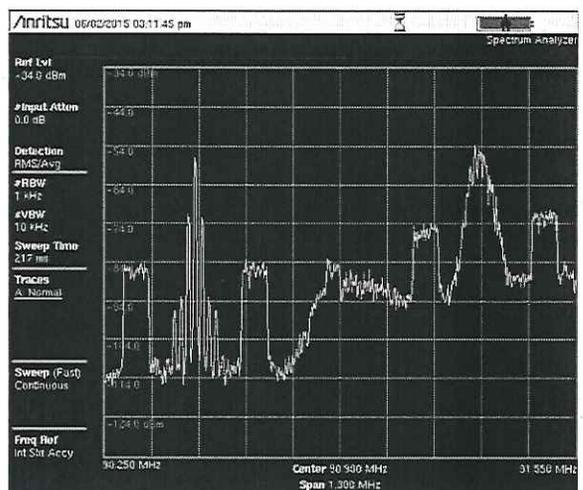
Transmisión convencional
Medición 4.1 – 90 segundos



Transmisión convencional
Medición 4.2 – 180 segundos



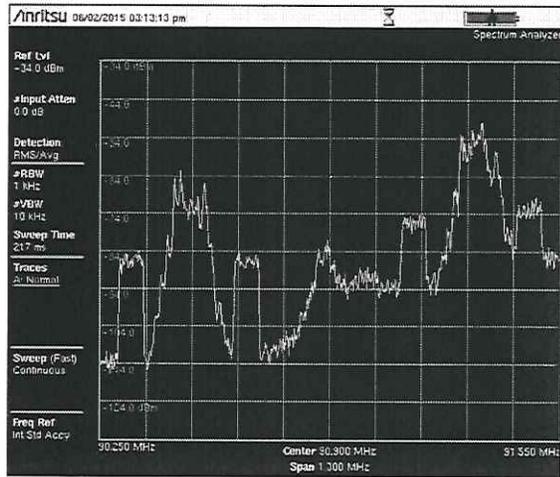
Transmisión convencional
Medición 4.3 – 270 segundos



Transmisión convencional
Medición 4.4 – 360 segundos

Handwritten blue ink marks and signatures.

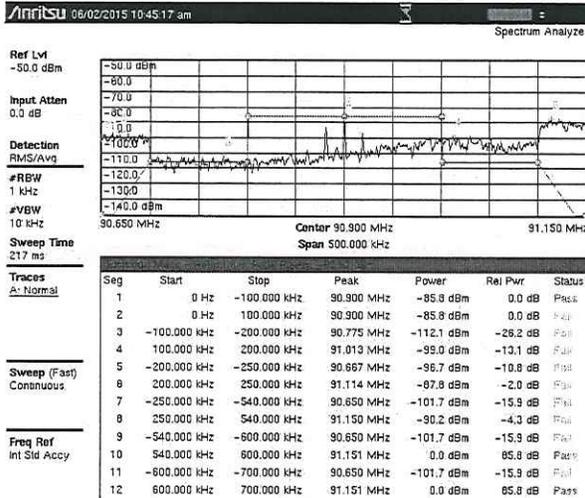
Outdoor – Escenario 5 – Bloque 20



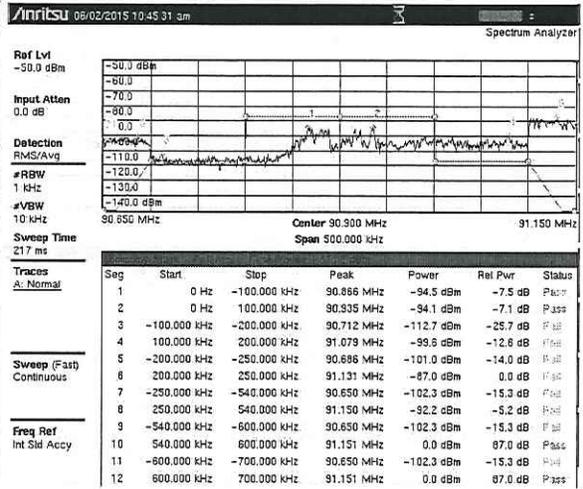
Transmisión convencional
Medición 4.5 – 450 segundos

Handwritten blue ink notes:
MFA
g
A

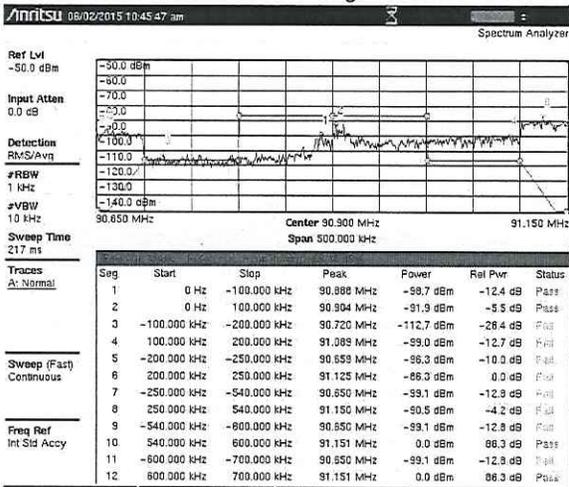
Indoor – Escenario 1 – Bloque 1



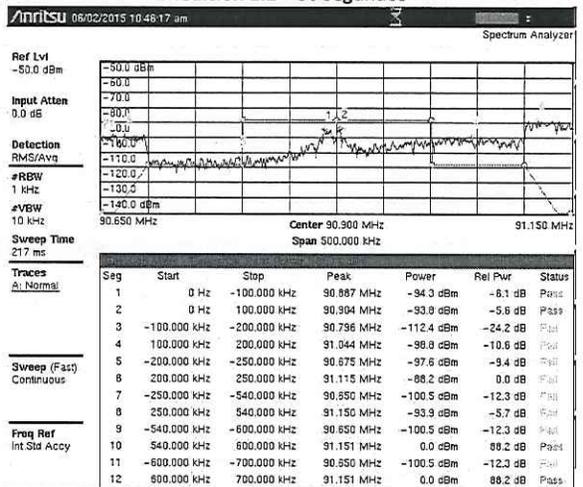
Voz
Medición 1.1 – 15 segundos



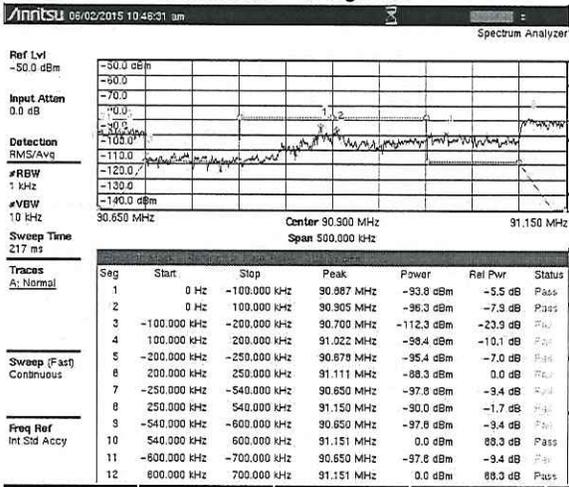
Voz
Medición 1.2 – 30 segundos



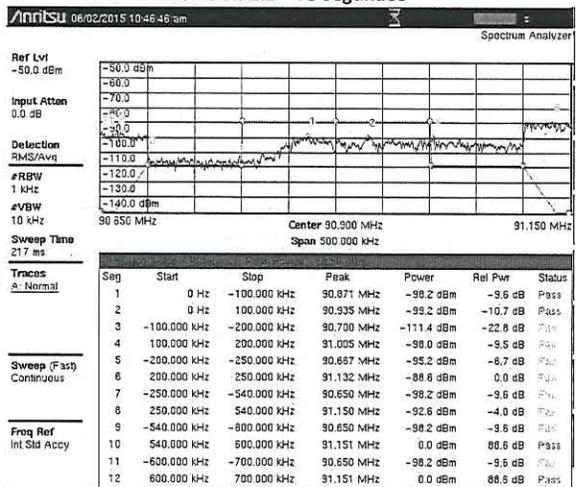
Voz
Medición 1.3 – 45 segundos



Música
Medición 2.1 – 75 segundos



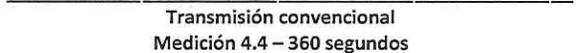
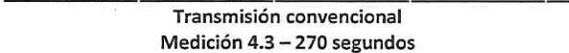
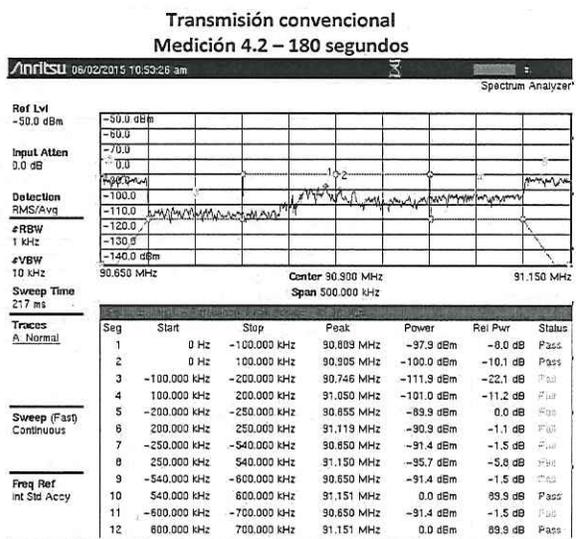
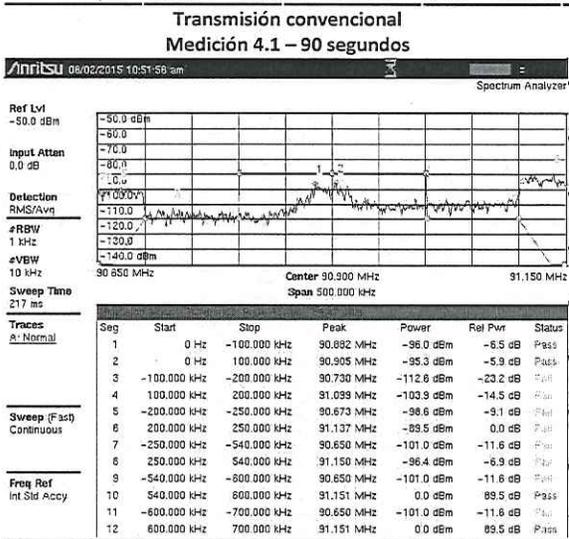
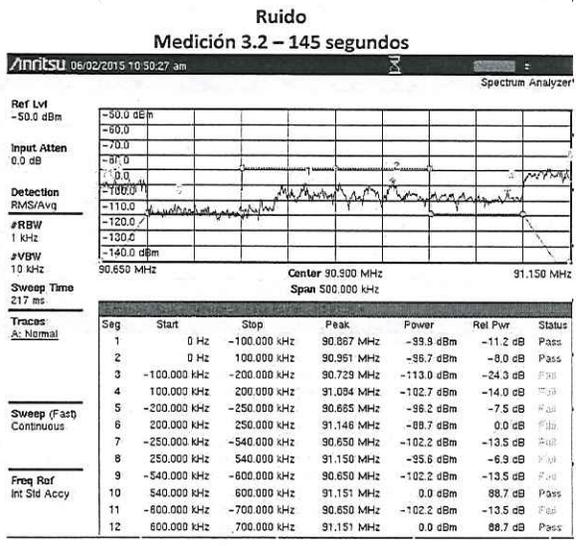
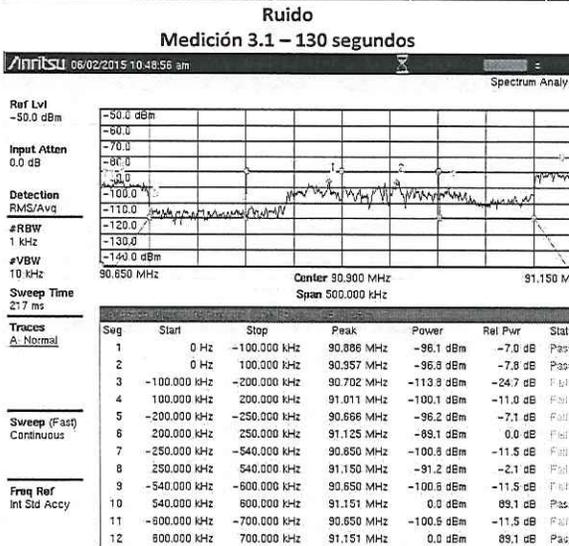
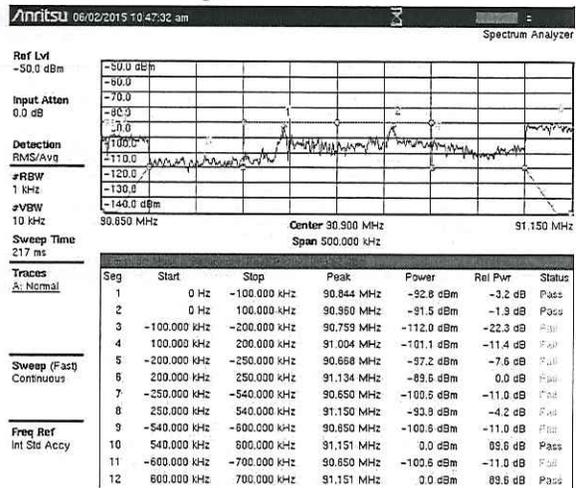
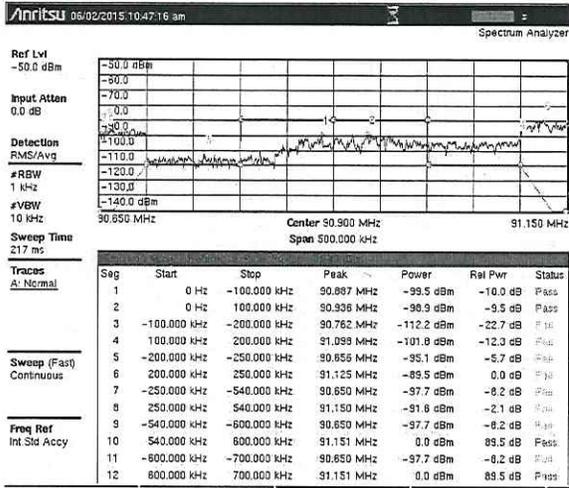
Música
Medición 2.2 – 90 segundos



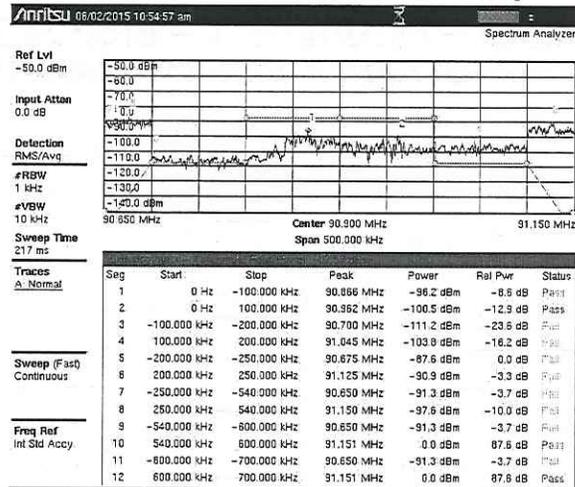
Música
Medición 2.3 – 105 segundos

MTA

Indoor – Escenario 1 – Bloque 1



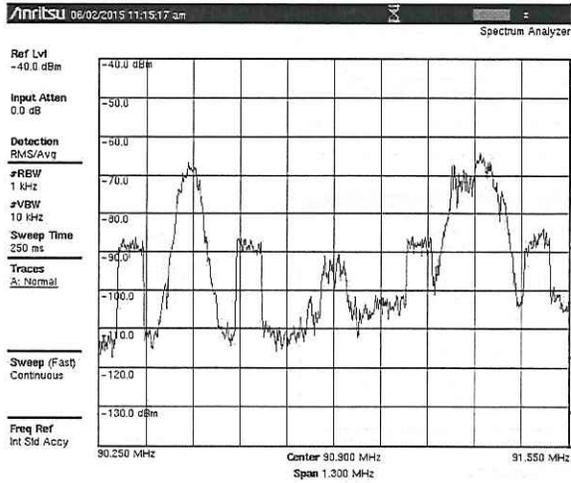
Indoor – Escenario 1 – Bloque 1



Transmisión convencional
 Medición 4.5 – 450 segundos

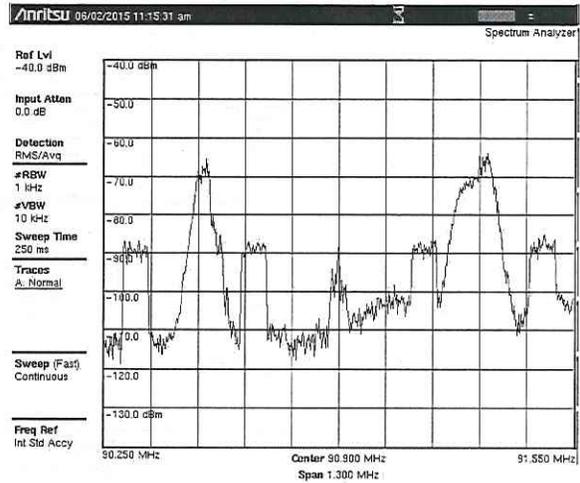
Handwritten blue ink marks and signatures on the right side of the page.

Indoor – Escenario 1 – Bloque 3



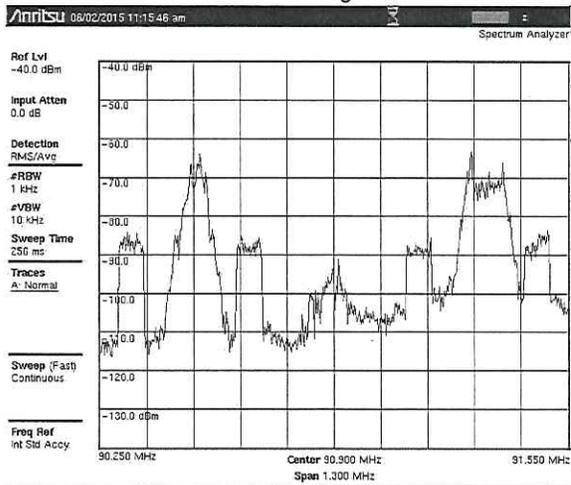
Voz

Medición 1.1 – 15 segundos



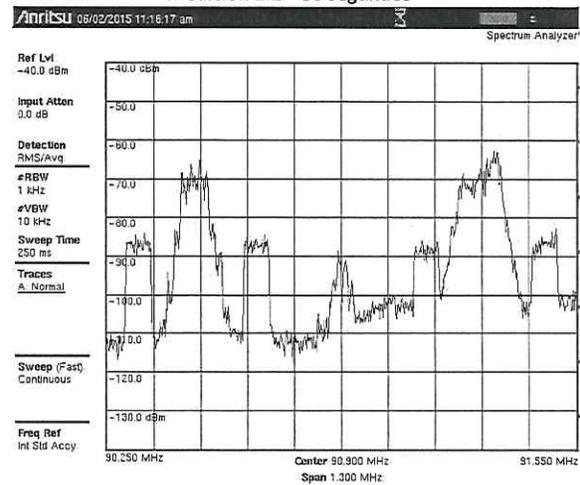
Voz

Medición 1.2 – 30 segundos



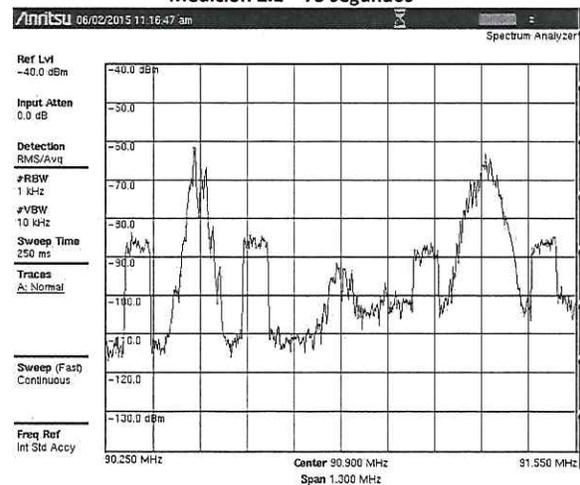
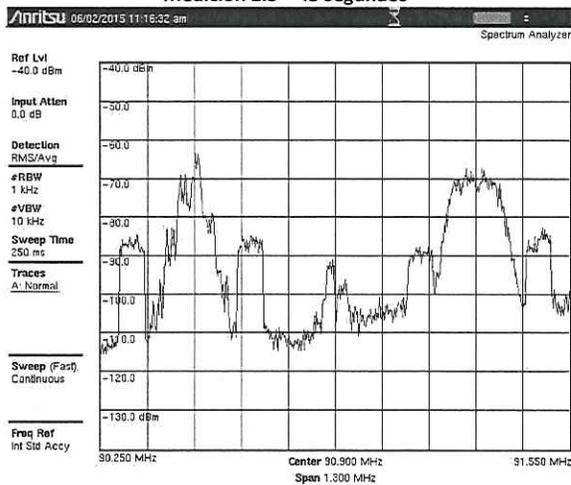
Voz

Medición 1.3 – 45 segundos



Música

Medición 2.1 – 75 segundos

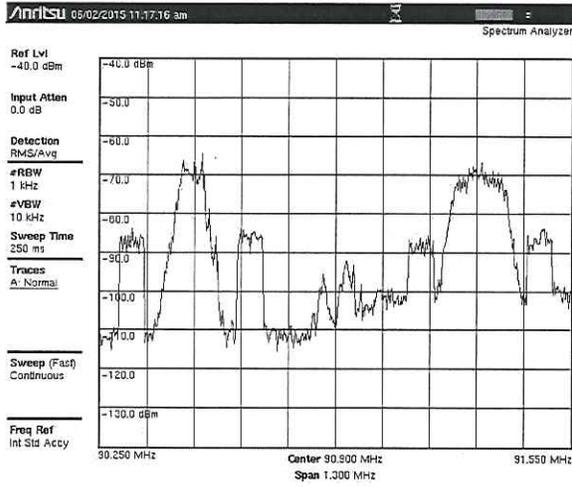


MTA
 AS

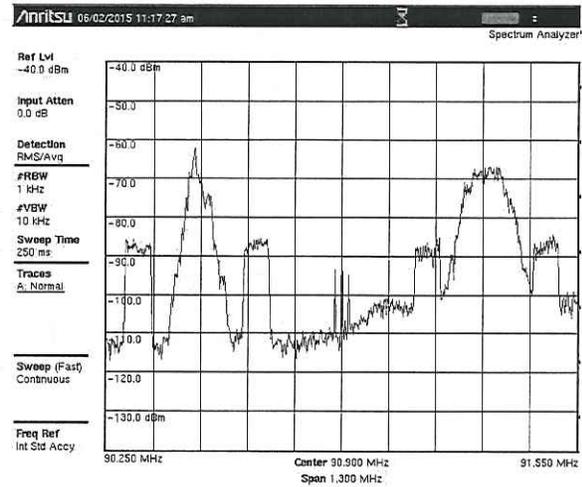
Música
Medición 2.2 – 90 segundos

Música
Medición 2.3 – 105 segundos

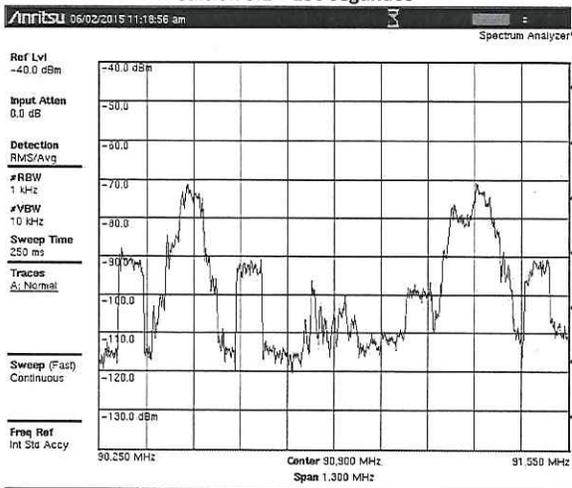
Indoor – Escenario 1 – Bloque 3



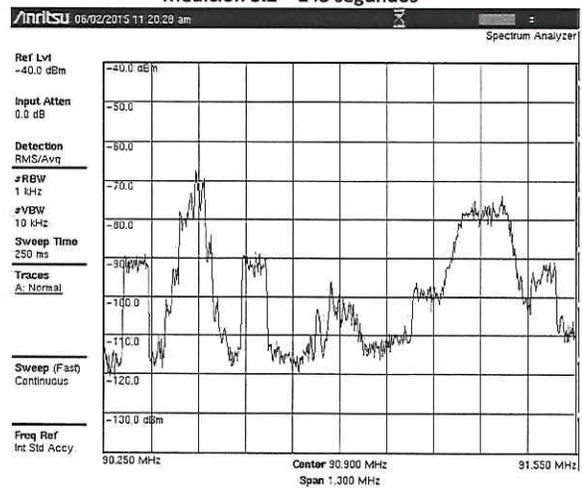
Ruido
Medición 3.1 – 130 segundos



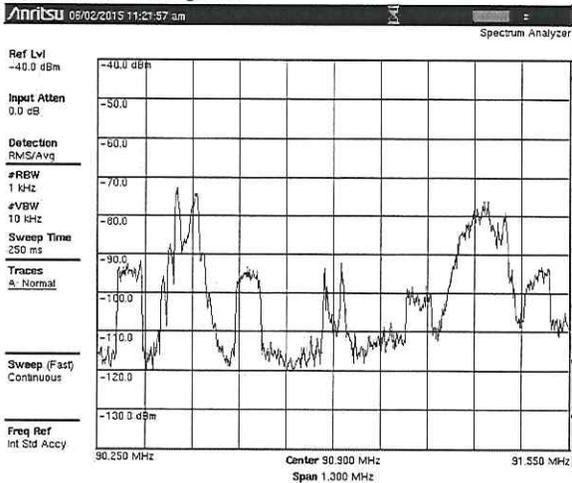
Ruido
Medición 3.2 – 145 segundos



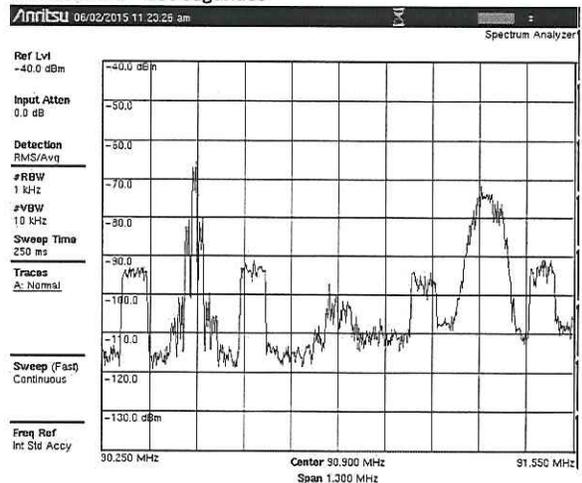
Transmisión convencional
Medición 4.1 – 90 segundos



Transmisión convencional
Medición 4.2 – 180 segundos



Transmisión convencional

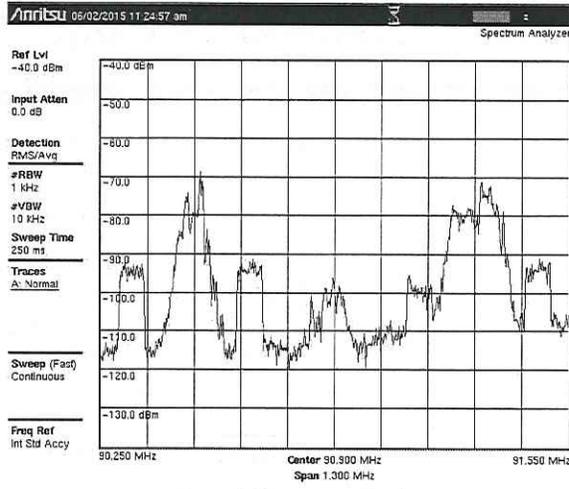


Transmisión convencional

Medición 4.3 – 270 segundos

Medición 4.4 – 360 segundos

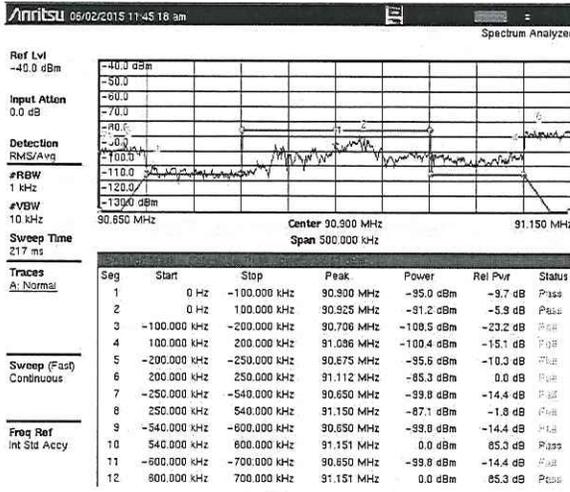
Indoor – Escenario 1 – Bloque 3



Transmisión convencional
Medición 4.5 – 450 segundos

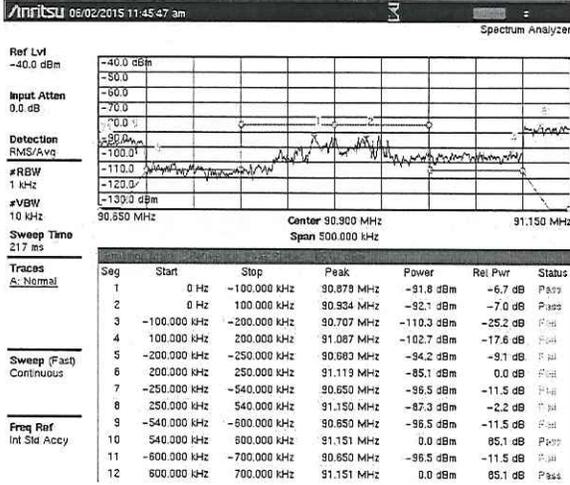
Handwritten blue ink marks, possibly initials or a signature, located on the right side of the page.

Indoor – Escenario 2 – Bloque 5



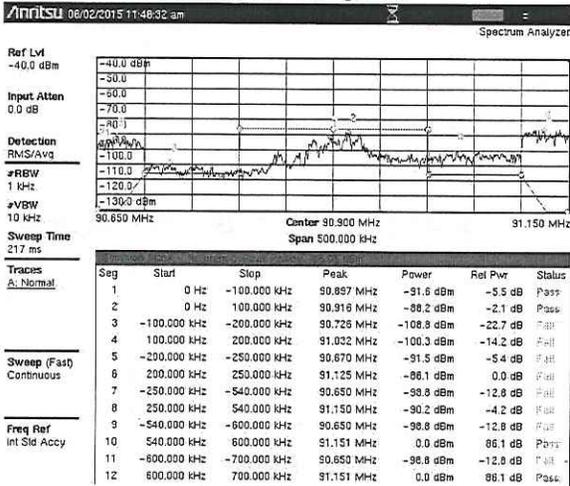
Voz

Medición 1.1 – 15 segundos



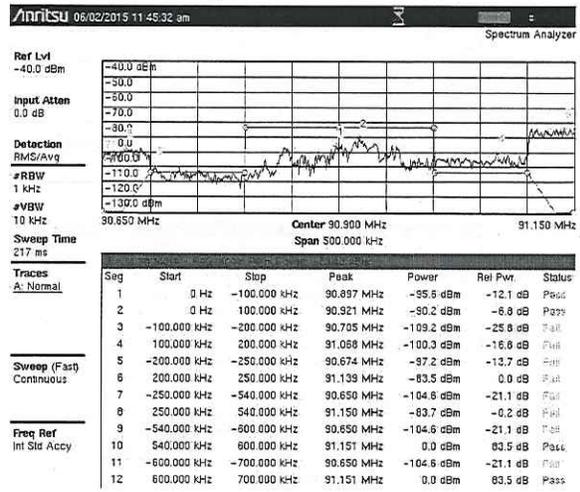
Voz

Medición 1.3 – 45 segundos



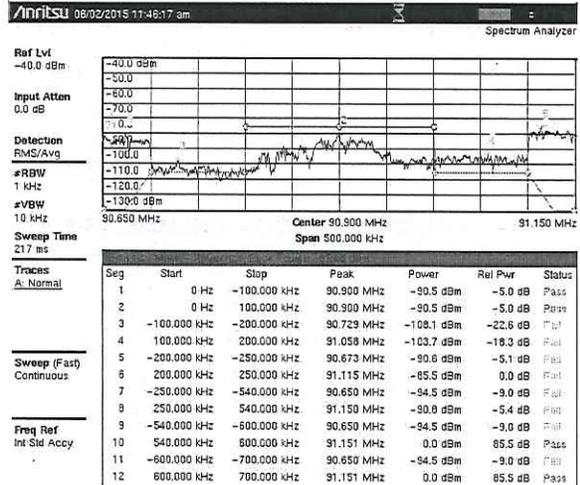
Música

Medición 2.2 – 90 segundos



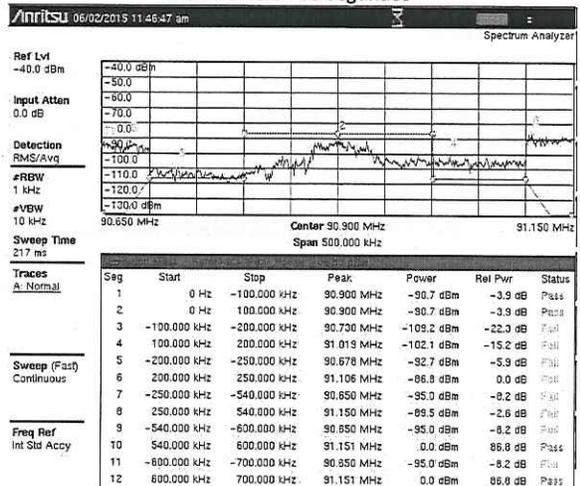
Voz

Medición 1.2 – 30 segundos



Música

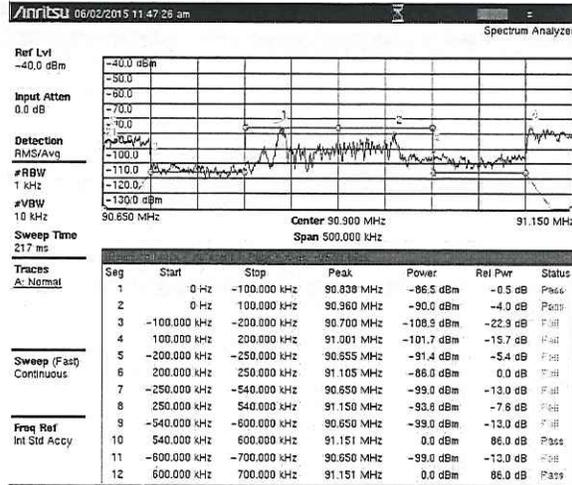
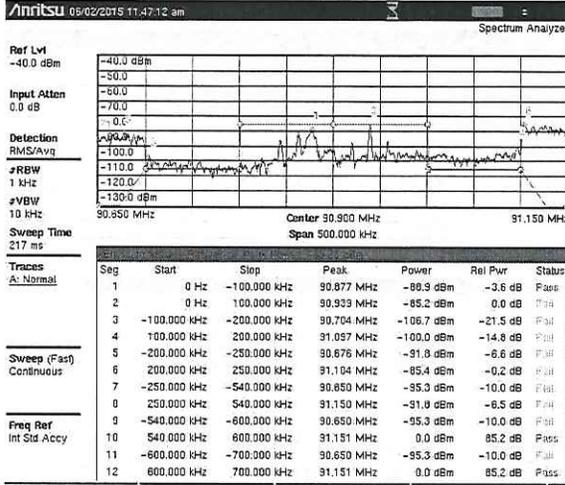
Medición 2.1 – 75 segundos



Música

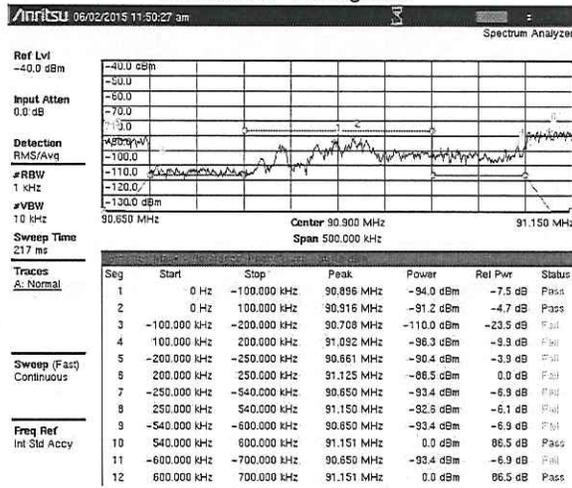
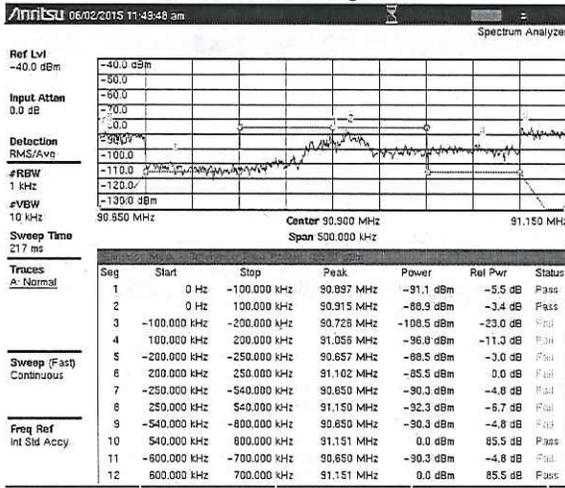
Medición 2.3 – 105 segundos

Indoor – Escenario 2 – Bloque 5



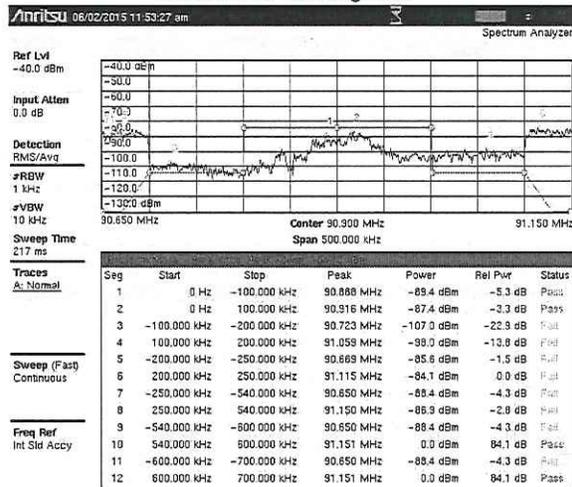
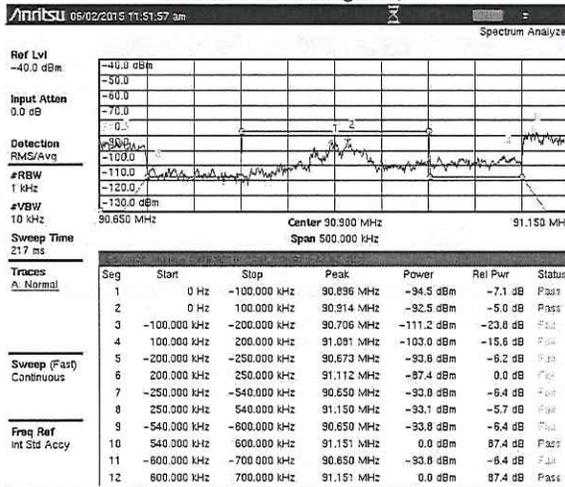
Ruido
Medición 3.1 – 130 segundos

Ruido
Medición 3.2 – 145 segundos



Transmisión convencional
Medición 4.1 – 90 segundos

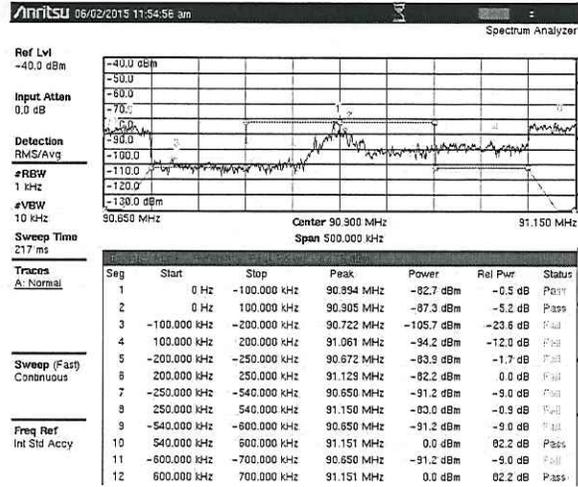
Transmisión convencional
Medición 4.2 – 180 segundos



Transmisión convencional
Medición 4.3 – 270 segundos

Transmisión convencional
Medición 4.4 – 360 segundos

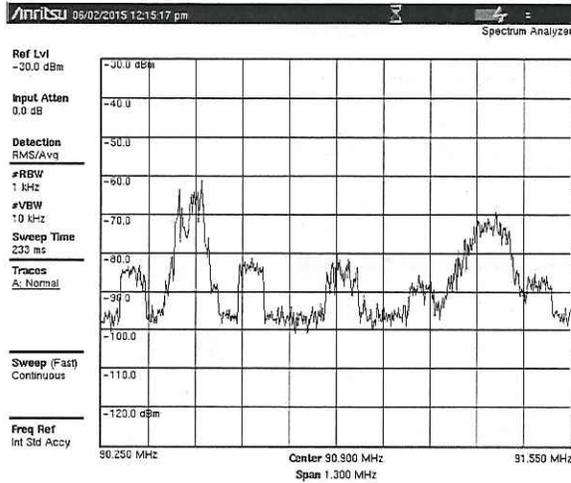
Indoor – Escenario 2 – Bloque 5



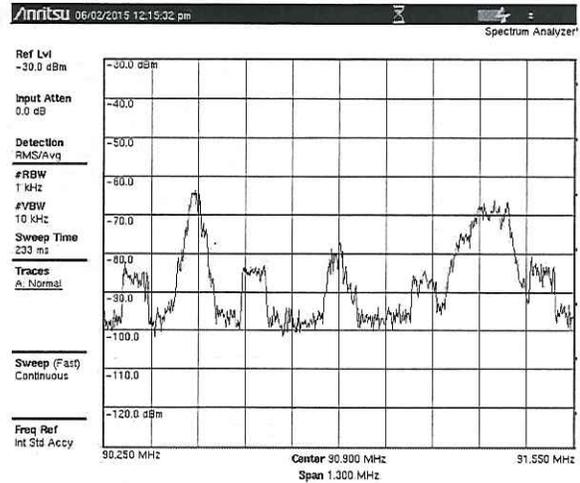
Transmisión convencional
 Medición 4.5 – 450 segundos

Handwritten blue scribbles and initials.

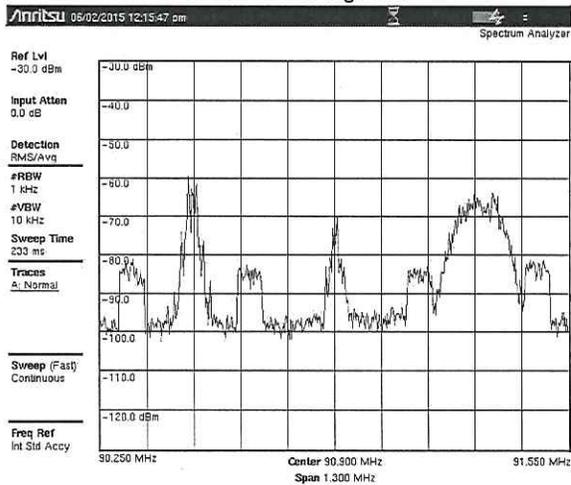
Indoor – Escenario 2 – Bloque 7



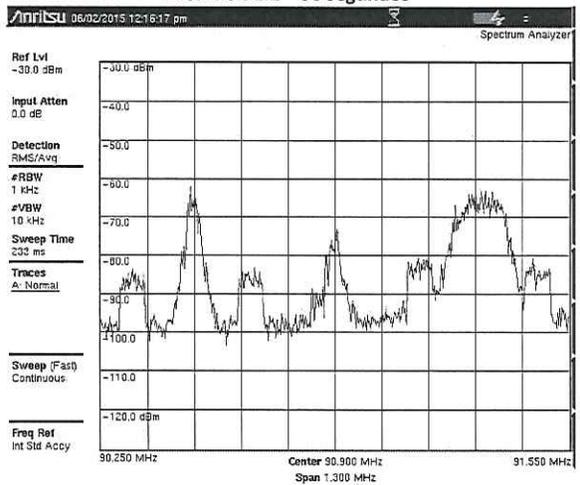
Voz
Medición 1.1 – 15 segundos



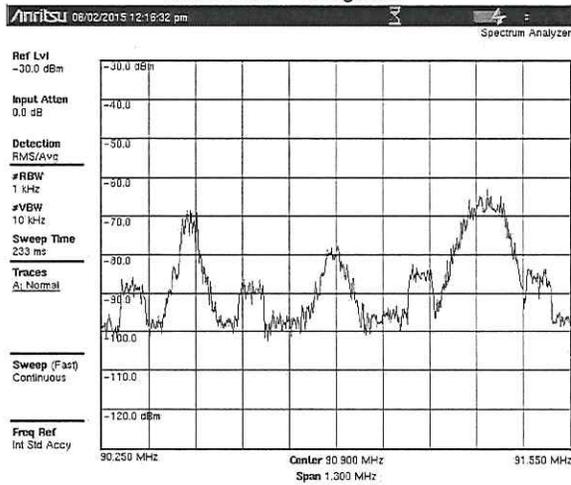
Voz
Medición 1.2 – 30 segundos



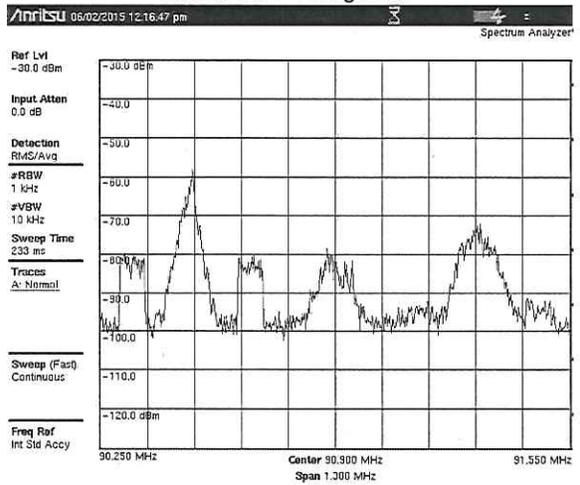
Voz
Medición 1.3 – 45 segundos



Música
Medición 2.1 – 75 segundos



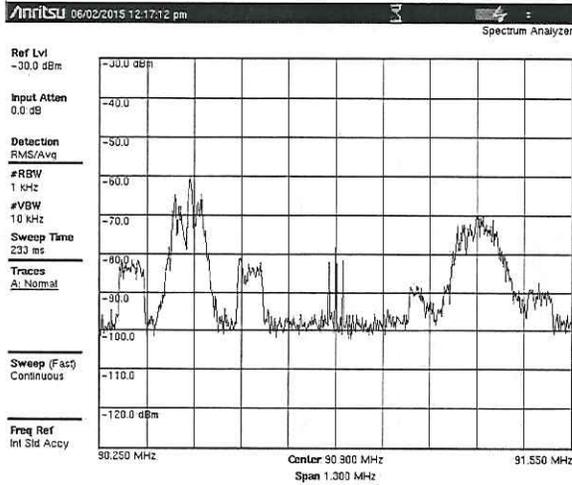
Música
Medición 2.2 – 90 segundos



Música
Medición 2.3 – 105 segundos

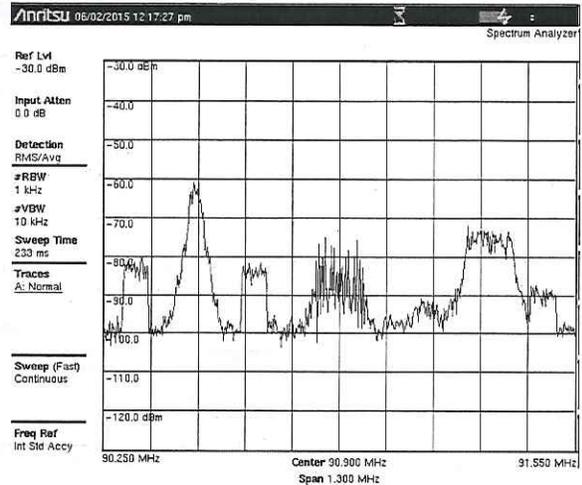
Handwritten blue scribbles and initials.

Indoor – Escenario 2 – Bloque 7



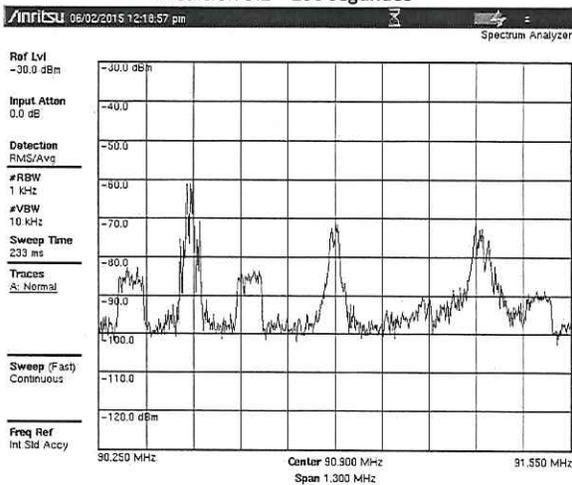
Ruido

Medición 3.1 – 130 segundos



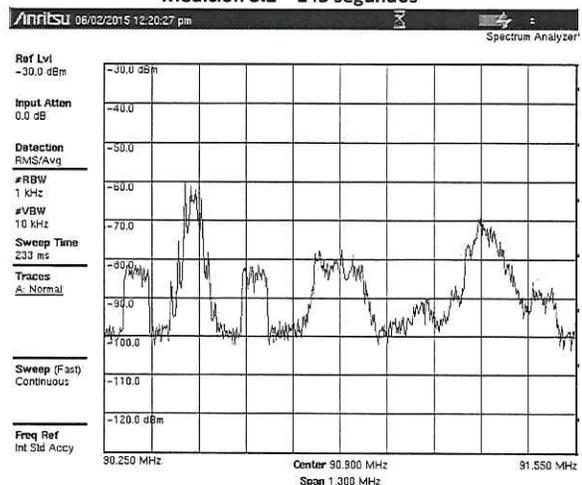
Ruido

Medición 3.2 – 145 segundos



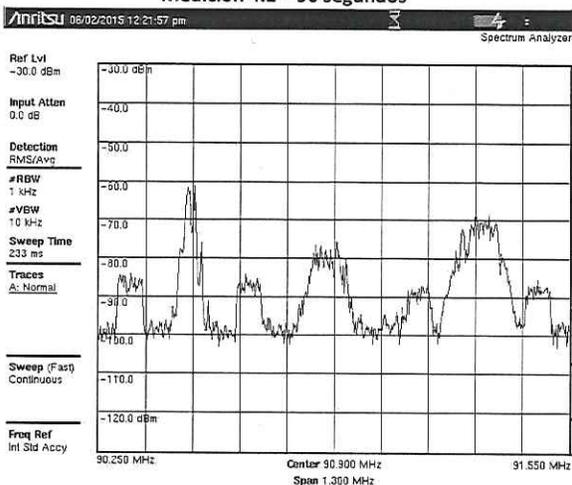
Transmisión convencional

Medición 4.1 – 90 segundos



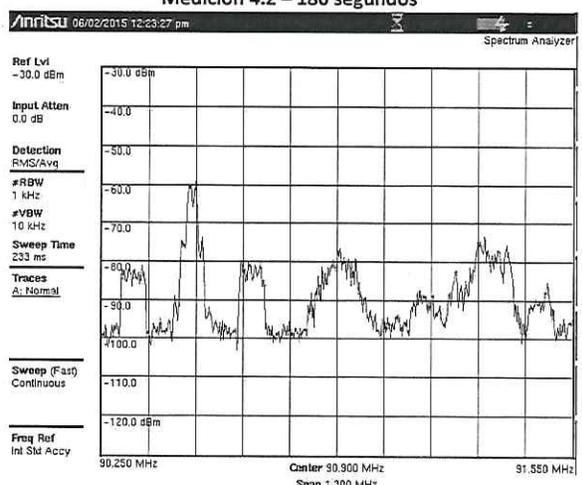
Transmisión convencional

Medición 4.2 – 180 segundos



Transmisión convencional

Medición 4.3 – 270 segundos

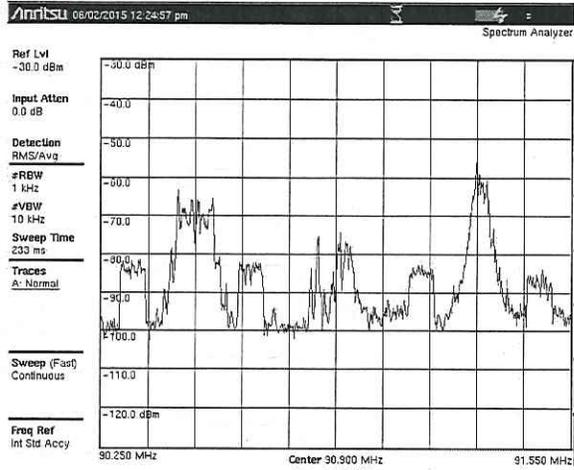


Transmisión convencional

Medición 4.4 – 360 segundos

Handwritten blue signature and initials.

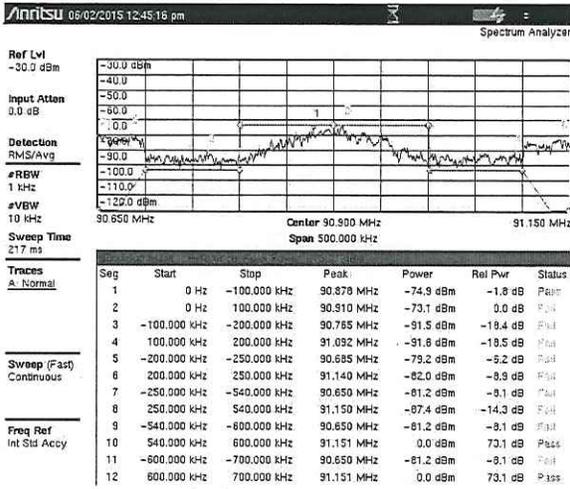
Indoor – Escenario 2 – Bloque 7



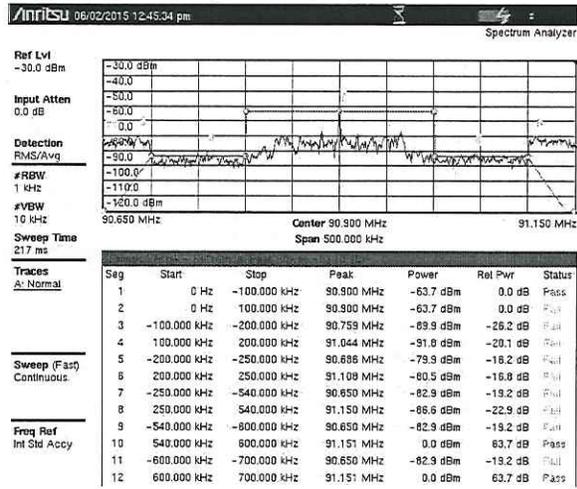
Transmisión convencional
Medición 4.5 – 450 segundos

Handwritten blue annotations on the right side of the page, including a large arrow pointing upwards and some illegible scribbles.

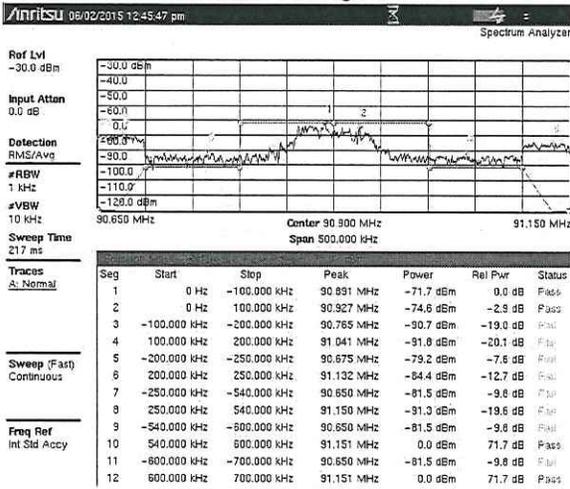
Indoor – Escenario 3 – Bloque 9



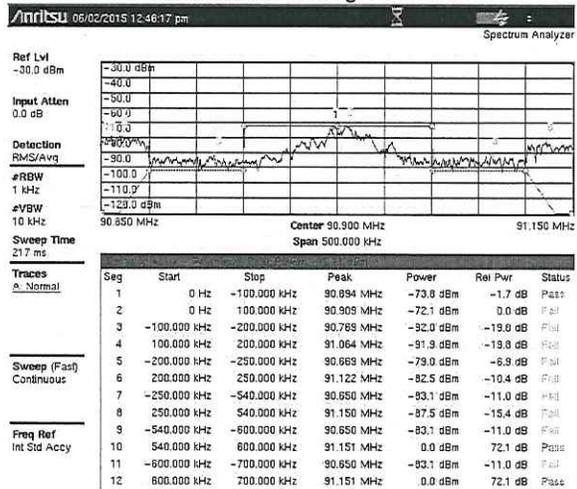
Medición 1.1 – 15 segundos



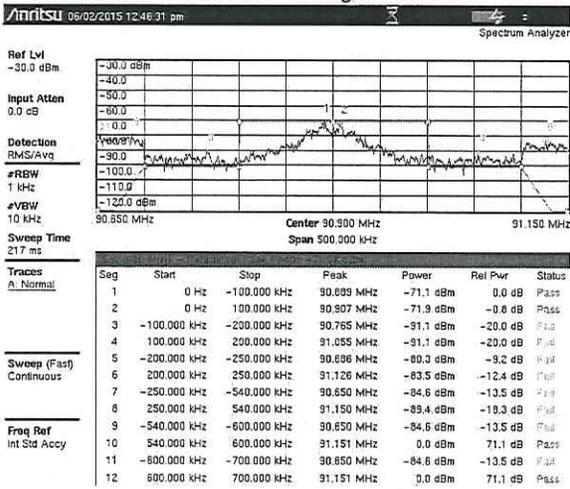
Medición 1.2 – 30 segundos



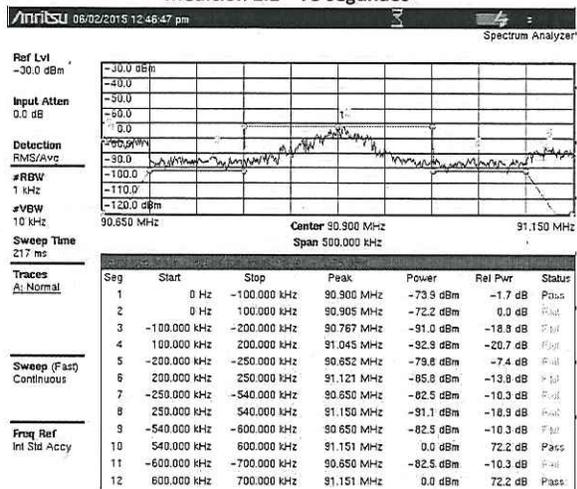
Medición 1.3 – 45 segundos



Medición 2.1 – 75 segundos



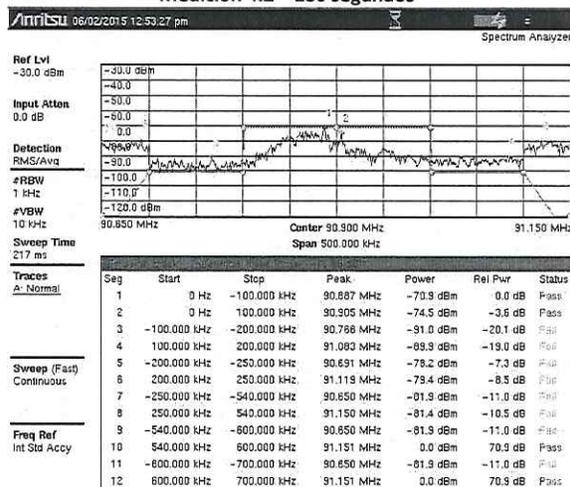
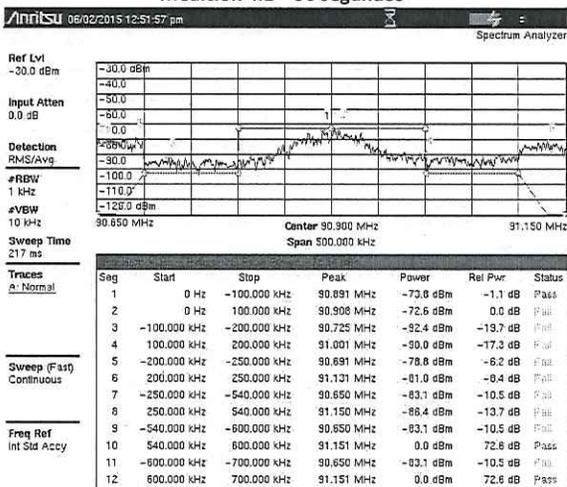
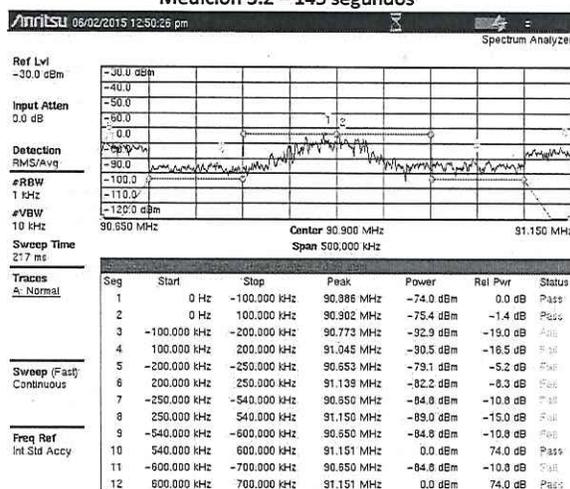
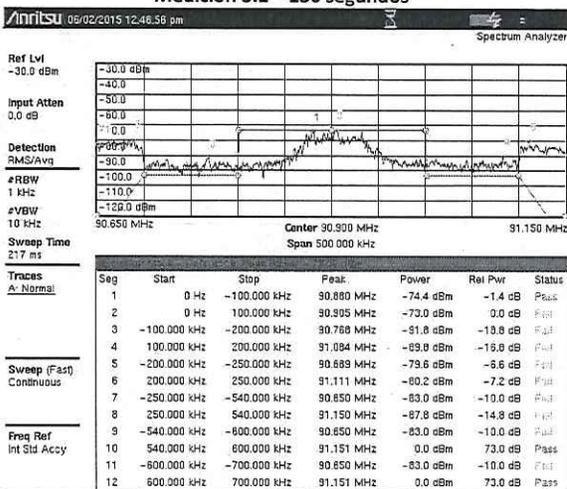
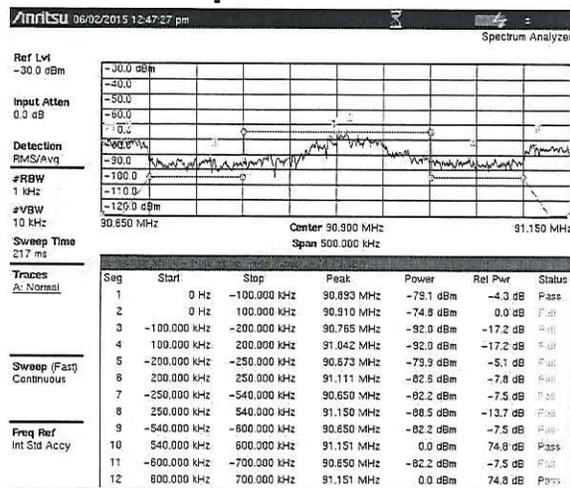
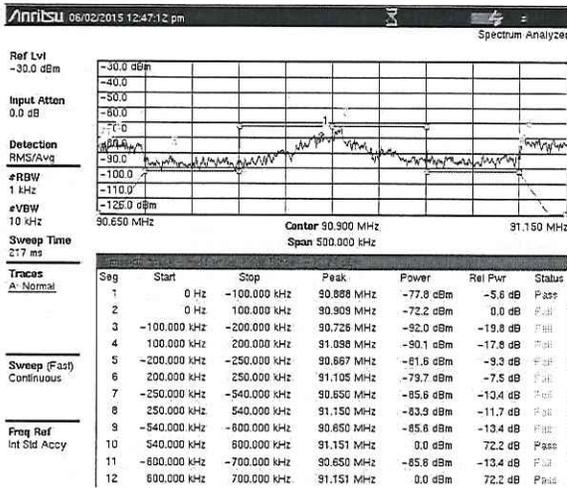
Medición 2.2 – 90 segundos



Medición 2.3 – 105 segundos

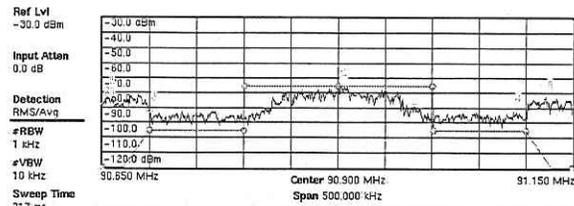
A

Indoor – Escenario 3 – Bloque 9



Indoor – Escenario 3 – Bloque 9

Anritsu 06/02/2015 12:54:57 pm Spectrum Analyzer

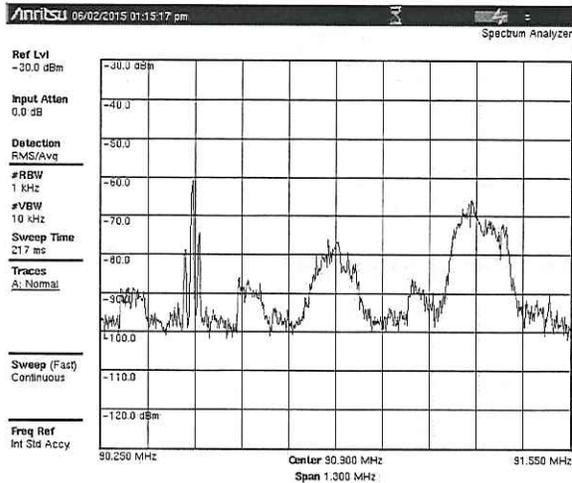


Traces	Seg	Start	Stop	Peak	Power	Rel Pwr	Status
A: Normal	1	0 Hz	-100.000 kHz	90.900 MHz	-76.4 dBm	-0.8 dB	Pass
	2	0 Hz	100.000 kHz	90.903 MHz	-75.6 dBm	0.0 dB	Pass
	3	-100.000 kHz	-200.000 kHz	90.700 MHz	-92.2 dBm	-16.6 dB	Fail
	4	100.000 kHz	200.000 kHz	91.097 MHz	-92.4 dBm	-16.9 dB	Fail
	5	-200.000 kHz	-250.000 kHz	90.655 MHz	-81.6 dBm	-5.0 dB	Fail
	6	200.000 kHz	250.000 kHz	91.121 MHz	-83.6 dBm	-8.0 dB	Fail
	7	-250.000 kHz	-540.000 kHz	90.650 MHz	-89.2 dBm	-12.6 dB	Fail
	8	250.000 kHz	540.000 kHz	91.150 MHz	-89.4 dBm	-14.9 dB	Fail
	9	-540.000 kHz	-600.000 kHz	90.650 MHz	-89.2 dBm	-12.6 dB	Fail
	10	540.000 kHz	600.000 kHz	91.151 MHz	0.0 dBm	75.6 dB	Pass
	11	-600.000 kHz	-700.000 kHz	90.650 MHz	-89.2 dBm	-12.6 dB	Fail
	12	600.000 kHz	700.000 kHz	91.151 MHz	0.0 dBm	75.6 dB	Pass

Transmisión convencional
 Medición 4.5 – 450 segundos

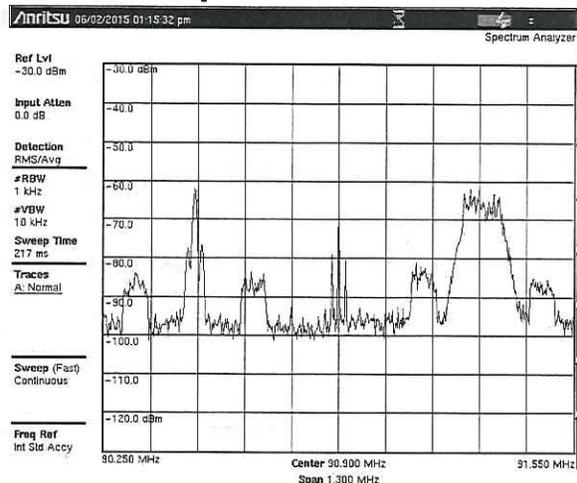
Handwritten blue scribbles and marks on the right side of the page.

Indoor – Escenario 3 – Bloque 11



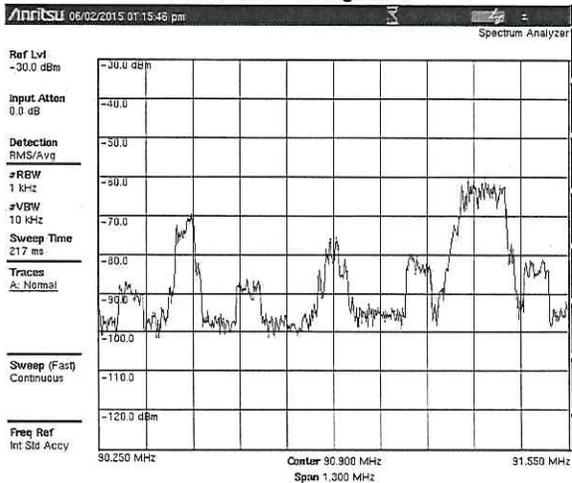
Voz

Medición 1.1 – 15 segundos



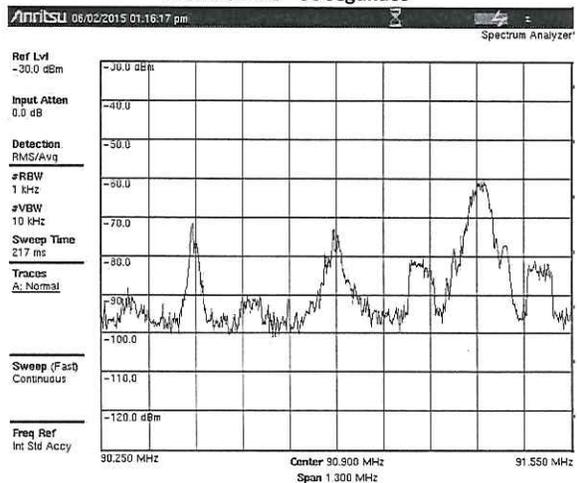
Voz

Medición 1.2 – 30 segundos



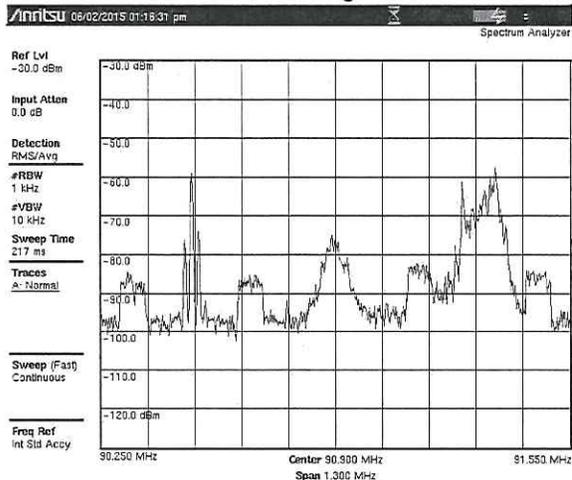
Voz

Medición 1.3 – 45 segundos



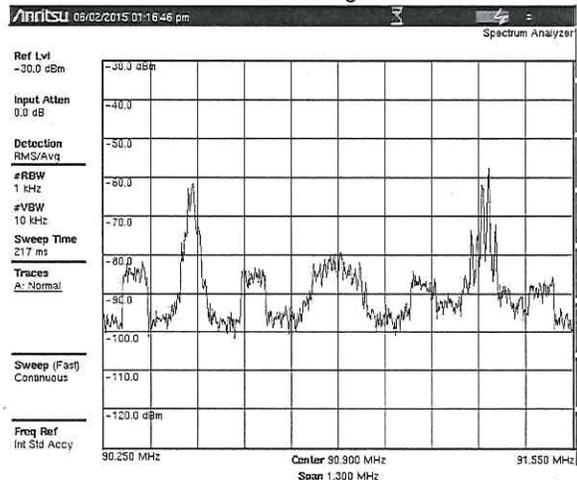
Música

Medición 2.1 – 75 segundos



Música

Medición 2.2 – 90 segundos

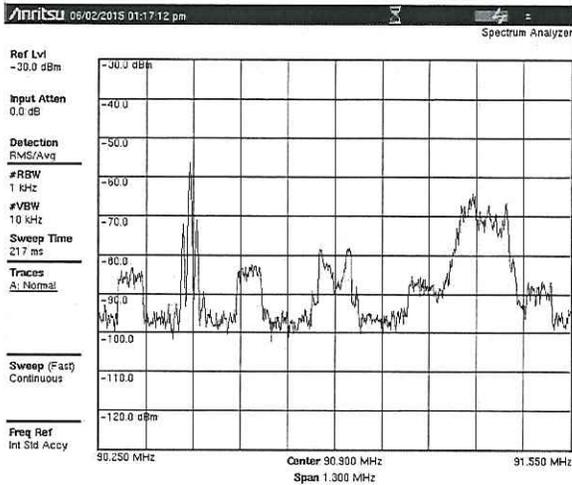


Música

Medición 2.3 – 105 segundos

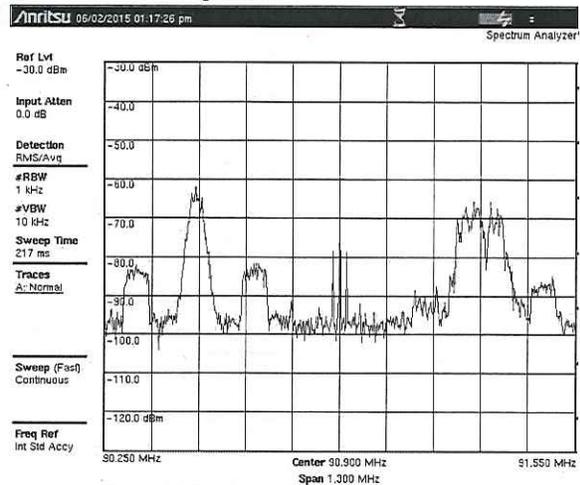
ATA
S
A

Indoor – Escenario 3 – Bloque 11



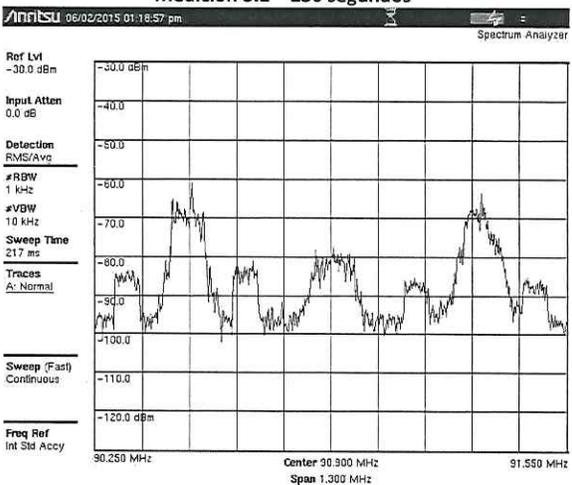
Ruido

Medición 3.1 – 130 segundos



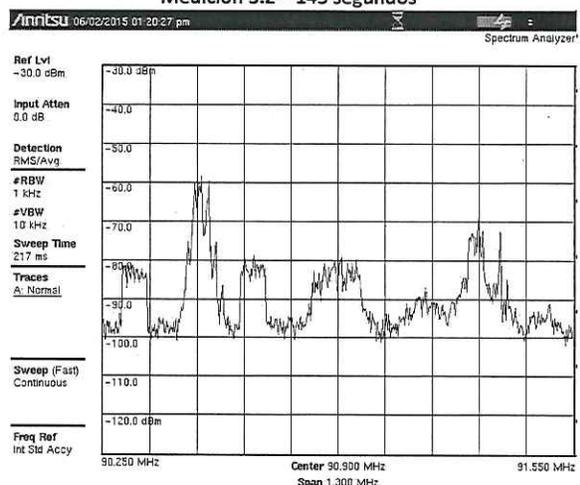
Ruido

Medición 3.2 – 145 segundos



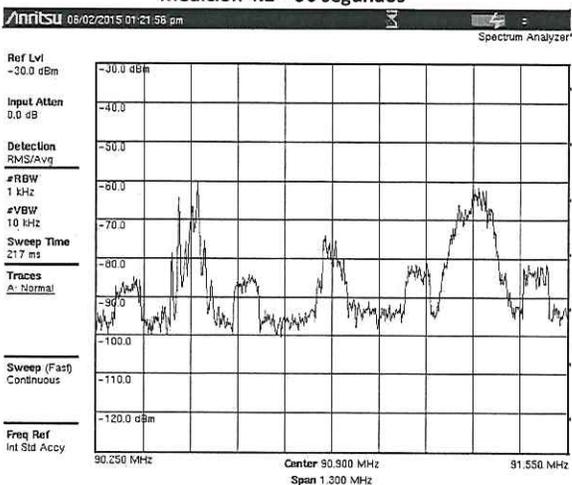
Transmisión convencional

Medición 4.1 – 90 segundos



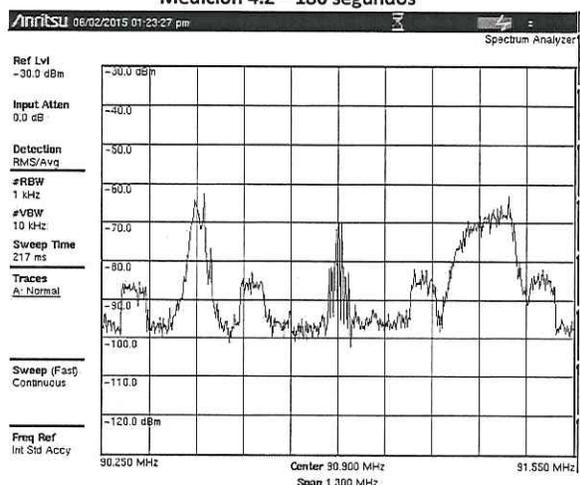
Transmisión convencional

Medición 4.2 – 180 segundos



Transmisión convencional

Medición 4.3 – 270 segundos

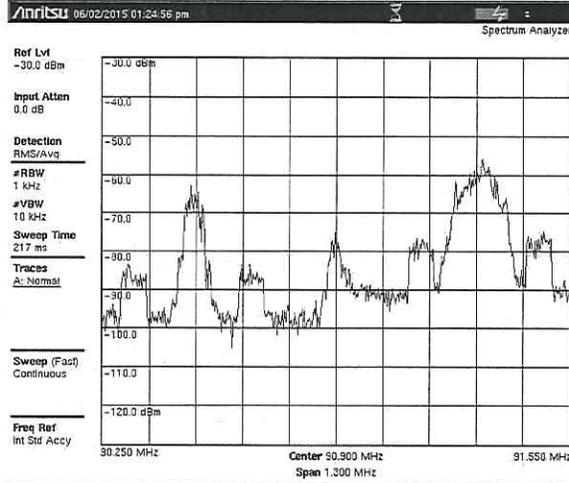


Transmisión convencional

Medición 4.4 – 360 segundos

Handwritten signature in blue ink.

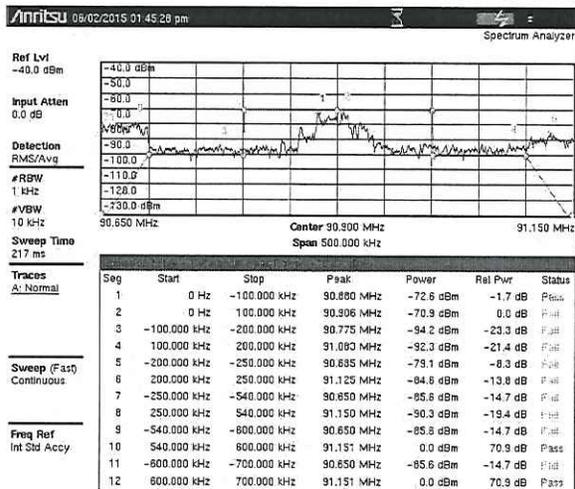
Indoor – Escenario 3 – Bloque 11



Transmisión convencional
Medición 4.5 – 450 segundos

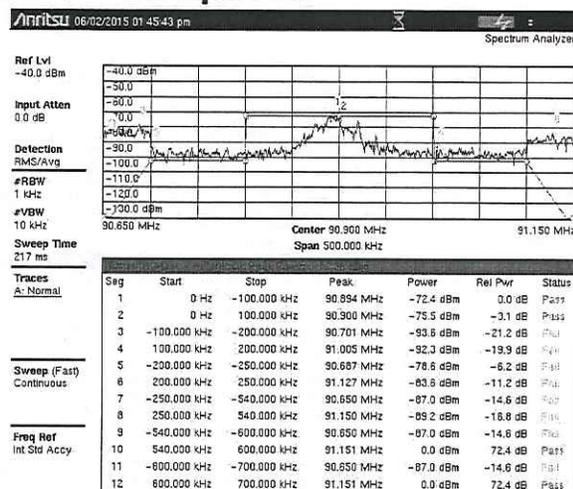
Handwritten signature in blue ink.

Indoor – Escenario 4 – Bloque 13



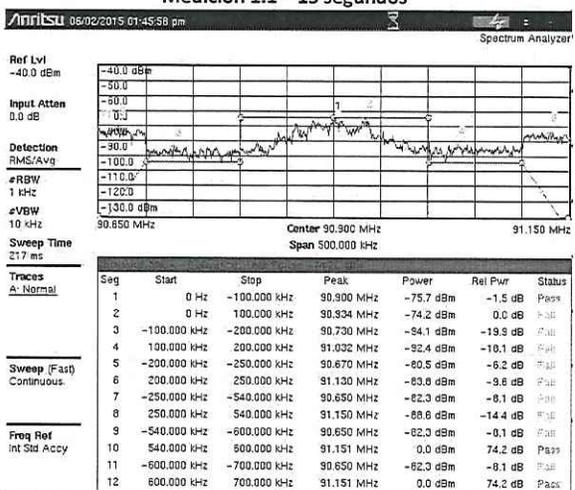
Voz

Medición 1.1 – 15 segundos



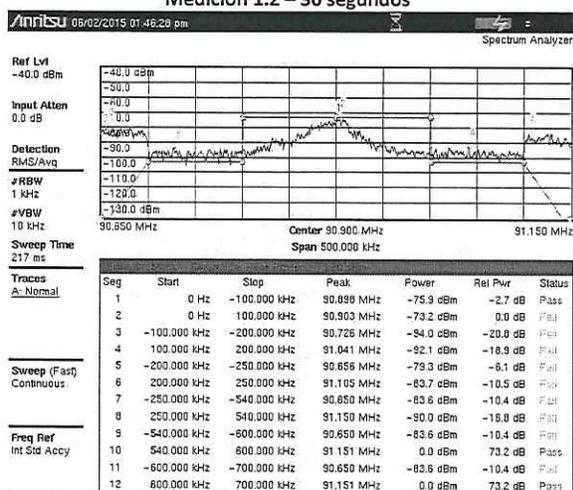
Voz

Medición 1.2 – 30 segundos



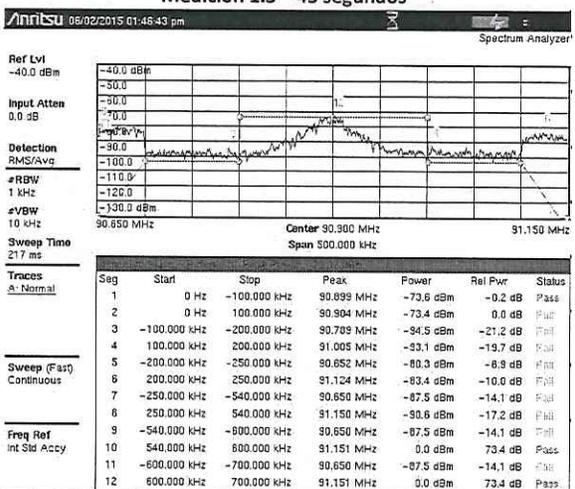
Voz

Medición 1.3 – 45 segundos



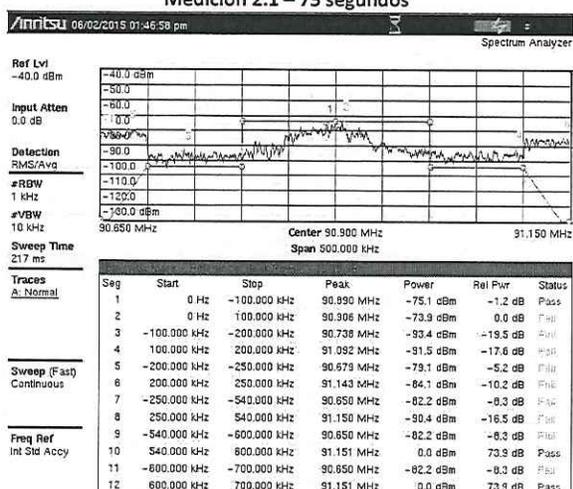
Música

Medición 2.1 – 75 segundos



Música

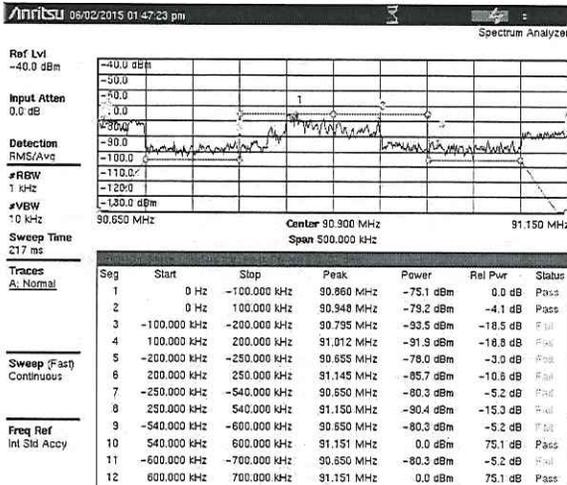
Medición 2.2 – 90 segundos



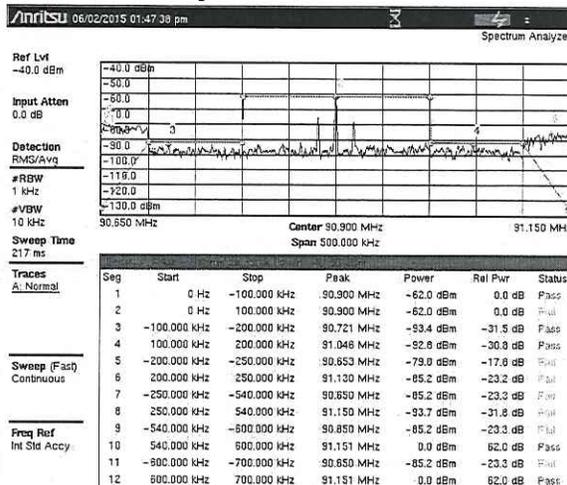
Música

Medición 2.3 – 105 segundos

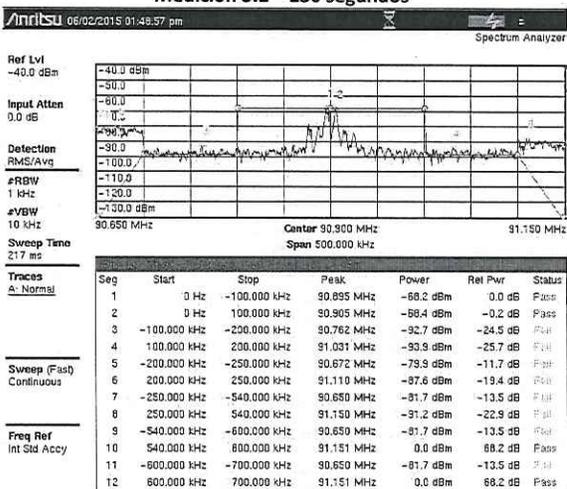
Indoor – Escenario 4 – Bloque 13



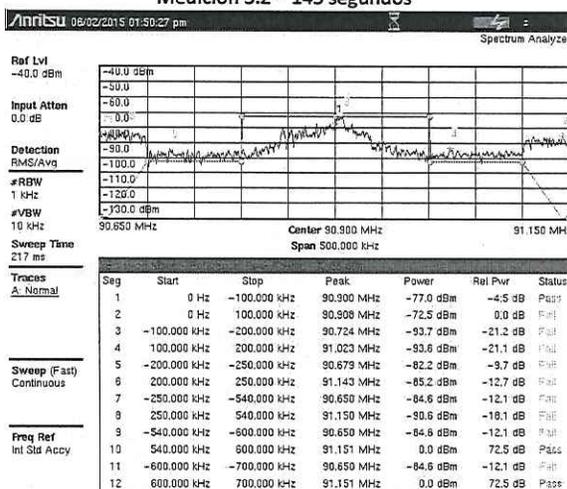
Ruido
Medición 3.1 – 130 segundos



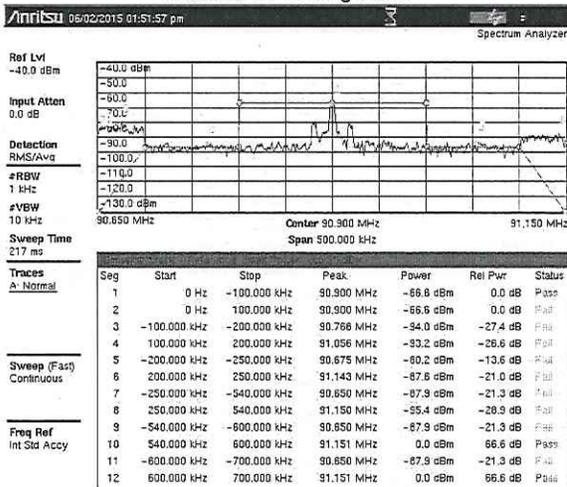
Ruido
Medición 3.2 – 145 segundos



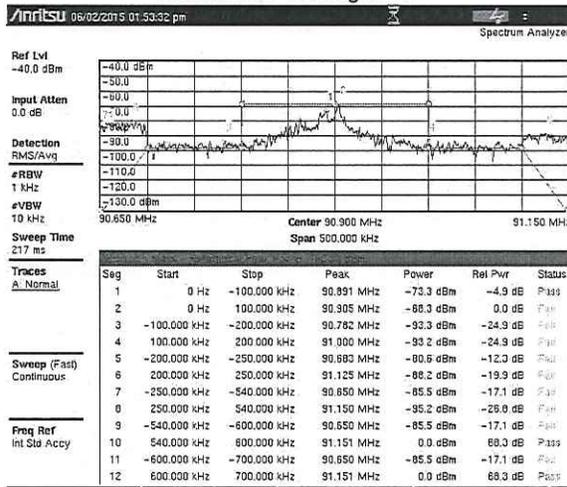
Transmisión convencional
Medición 4.1 – 90 segundos



Transmisión convencional
Medición 4.2 – 180 segundos



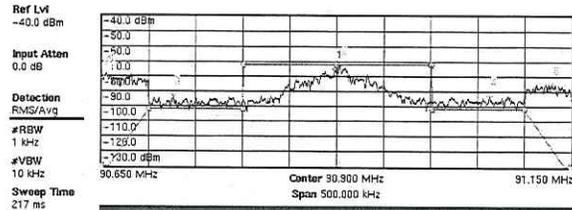
Transmisión convencional
Medición 4.3 – 270 segundos



Transmisión convencional
Medición 4.4 – 360 segundos

Indoor – Escenario 4 – Bloque 13

06/02/2015 01:54:57 pm Spectrum Analyzer

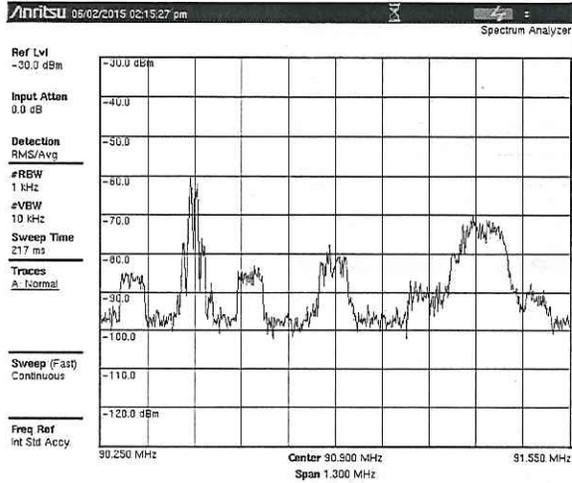


Seg	Start	Stop	Peak	Power	Rel Pwr	Status
1	0 Hz	-100.000 kHz	90.858 MHz	-74.9 dBm	-2.8 dB	Pass
2	0 Hz	100.000 kHz	90.904 MHz	-72.1 dBm	0.0 dB	Fail
3	-100.000 kHz	-200.000 kHz	90.725 MHz	-92.2 dBm	-20.0 dB	Fail
4	100.000 kHz	200.000 kHz	91.063 MHz	-92.6 dBm	-20.7 dB	Fail
5	-200.000 kHz	-250.000 kHz	90.655 MHz	-76.2 dBm	-6.0 dB	Fail
6	200.000 kHz	250.000 kHz	91.129 MHz	-84.7 dBm	-12.9 dB	Fail
7	-250.000 kHz	-540.000 kHz	90.850 MHz	-80.4 dBm	-8.2 dB	Fail
8	250.000 kHz	540.000 kHz	91.150 MHz	-85.1 dBm	-23.0 dB	Fail
9	-540.000 kHz	-600.000 kHz	90.850 MHz	-80.4 dBm	-8.2 dB	Fail
10	540.000 kHz	600.000 kHz	91.151 MHz	0.0 dBm	72.1 dB	Pass
11	-600.000 kHz	-700.000 kHz	90.850 MHz	-80.4 dBm	-8.2 dB	Fail
12	600.000 kHz	700.000 kHz	91.151 MHz	0.0 dBm	72.1 dB	Pass

Transmisión convencional
 Medición 4.5 – 450 segundos

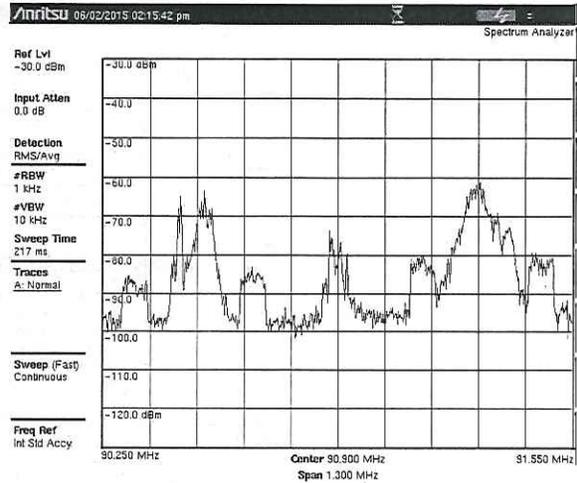
[Handwritten blue scribbles]

Indoor – Escenario 4 – Bloque 15



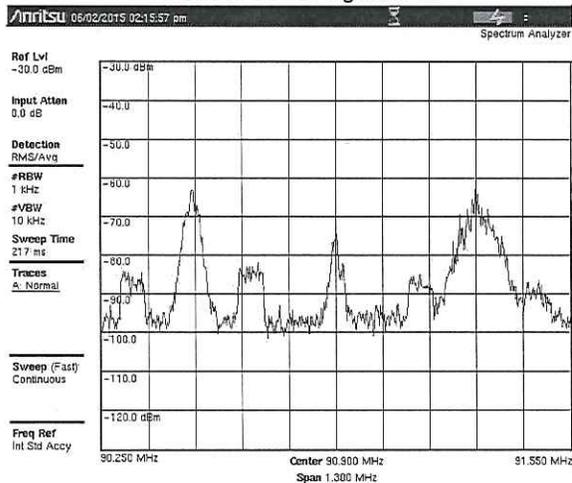
Voz

Medición 1.1 – 15 segundos



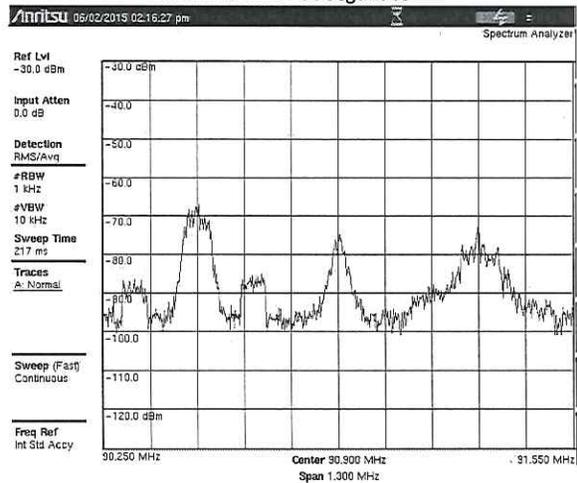
Voz

Medición 1.2 – 30 segundos



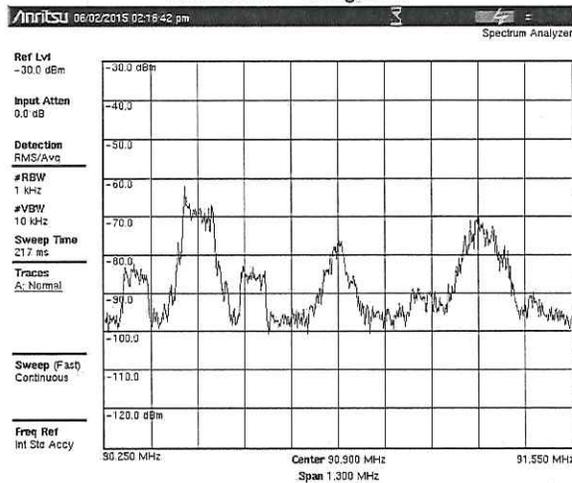
Voz

Medición 1.3 – 45 segundos



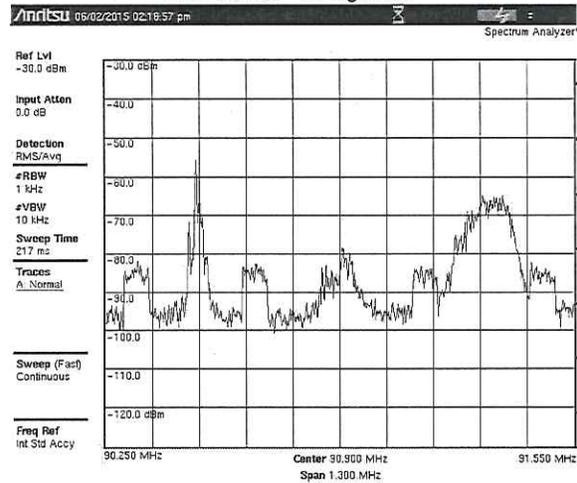
Música

Medición 2.1 – 75 segundos



Música

Medición 2.2 – 90 segundos

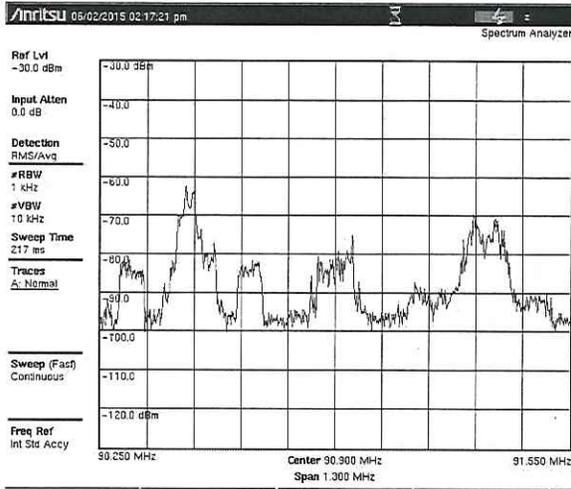


Música

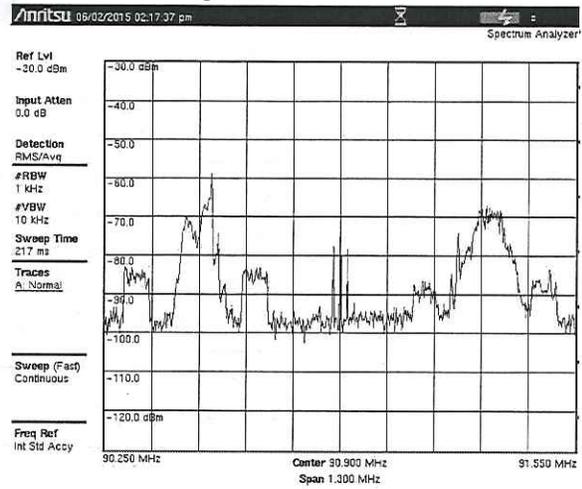
Medición 2.3 – 105 segundos

Handwritten blue scribbles and initials.

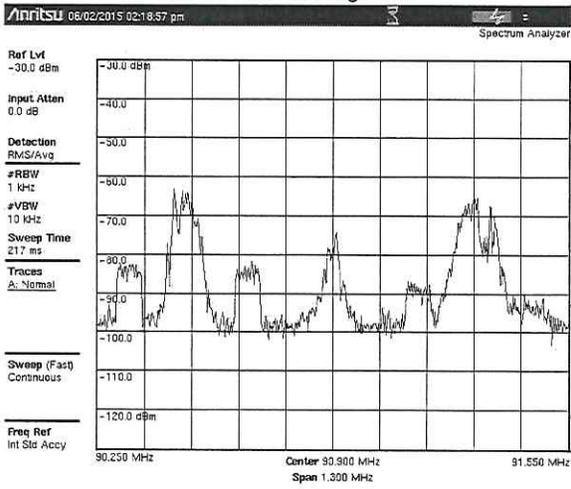
Indoor – Escenario 4 – Bloque 15



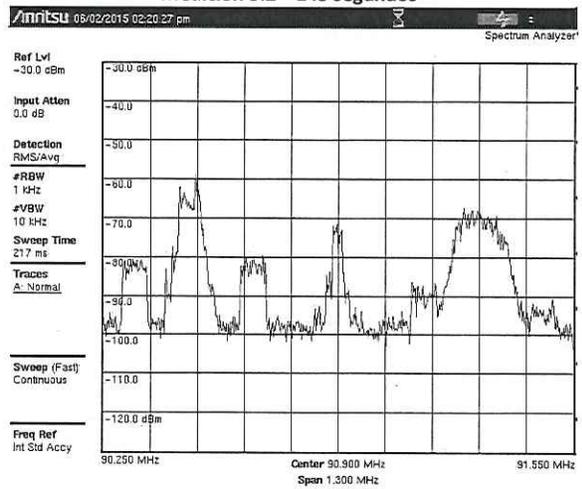
Ruido
Medición 3.1 – 130 segundos



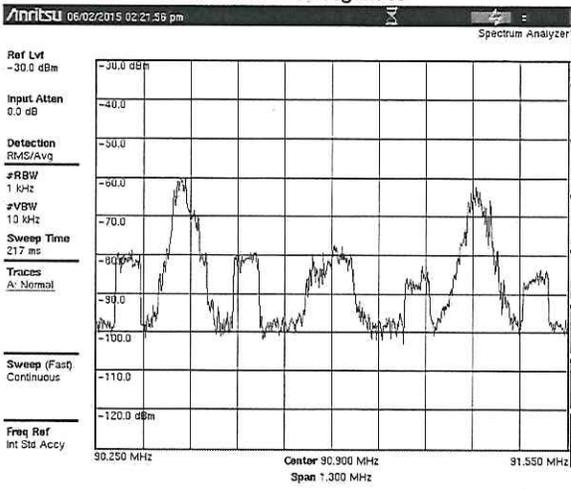
Ruido
Medición 3.2 – 145 segundos



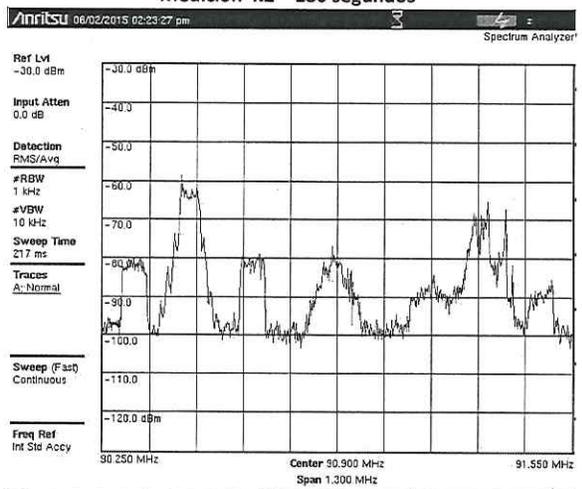
Transmisión convencional
Medición 4.1 – 90 segundos



Transmisión convencional
Medición 4.2 – 180 segundos



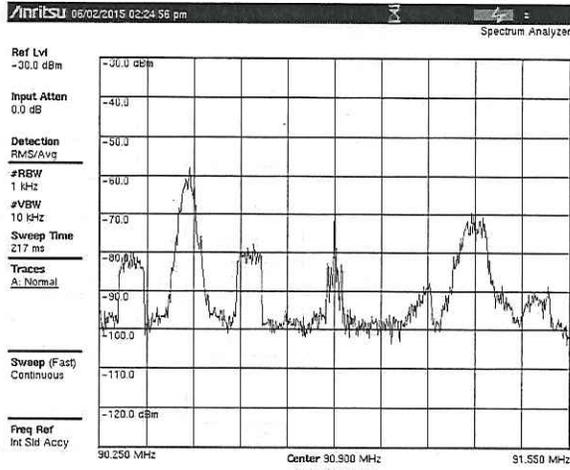
Transmisión convencional
Medición 4.3 – 270 segundos



Transmisión convencional
Medición 4.4 – 360 segundos

Handwritten signature and initials in blue ink.

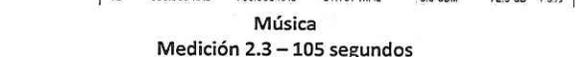
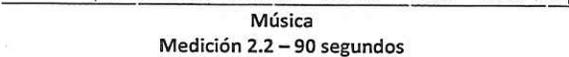
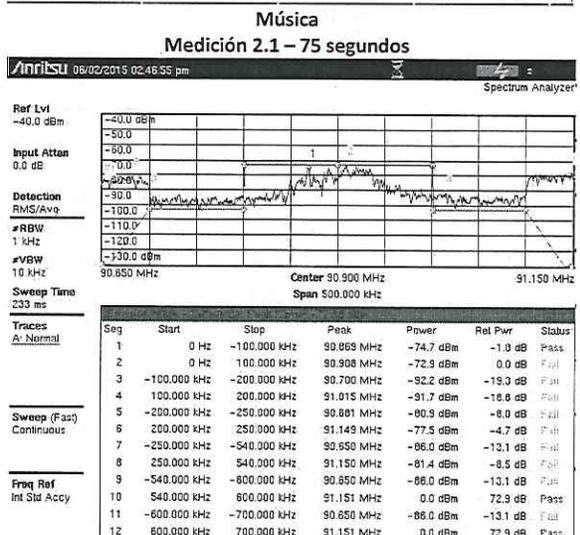
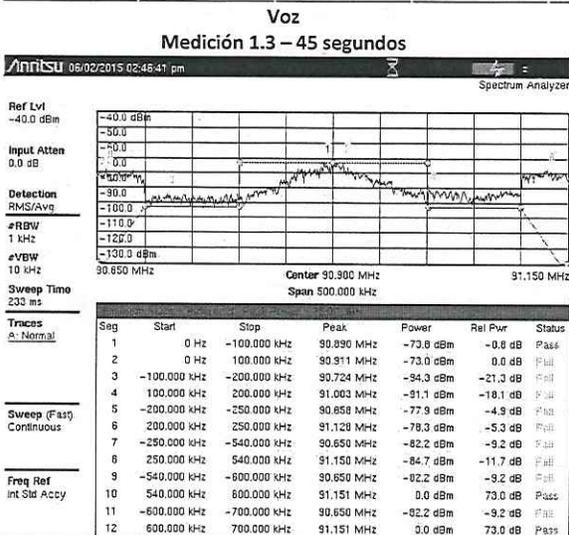
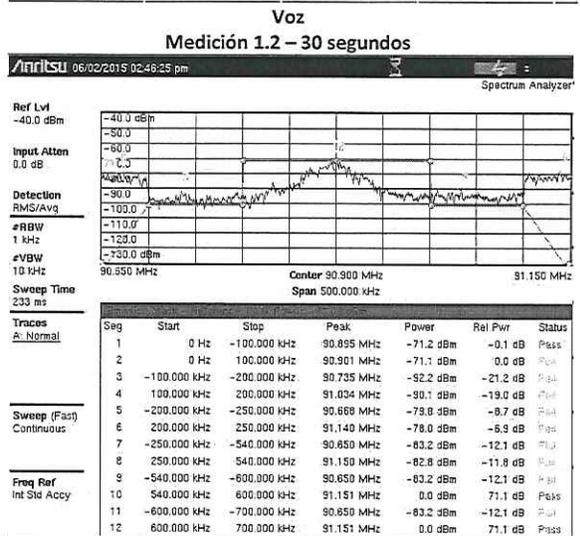
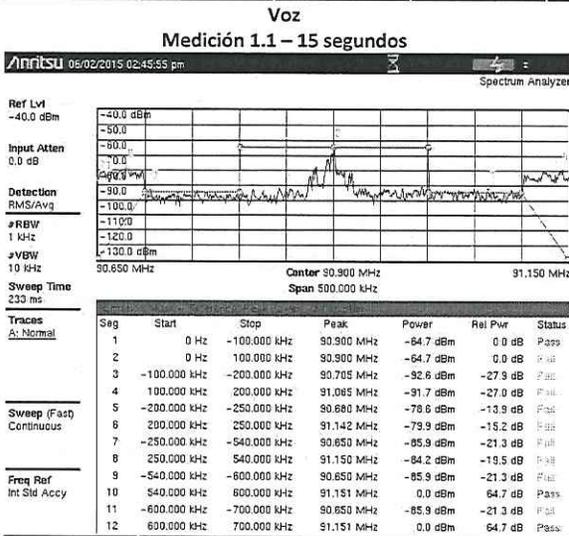
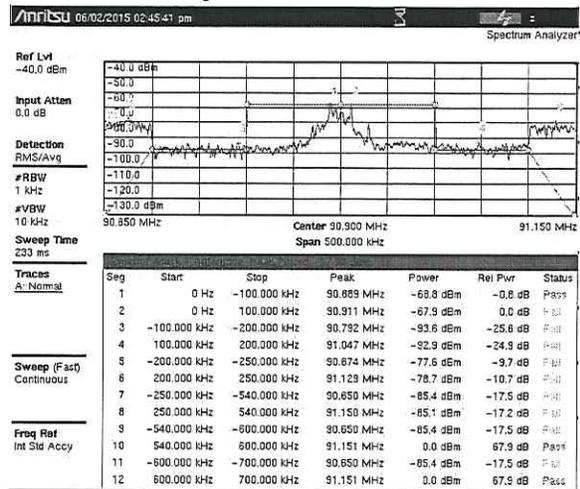
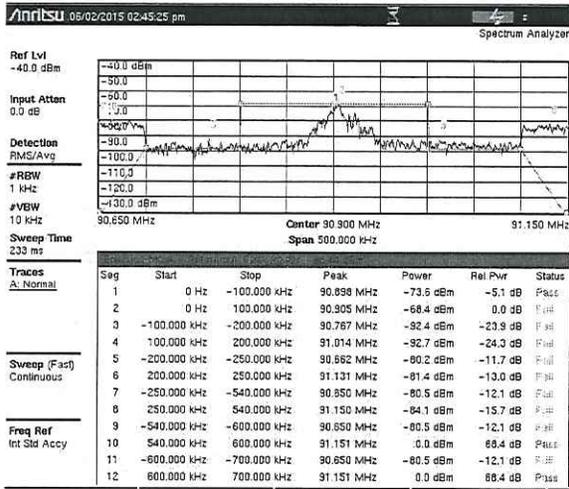
Indoor – Escenario 4 – Bloque 15



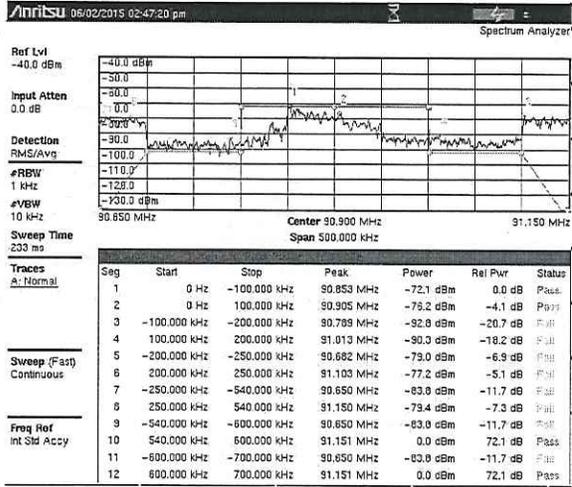
Transmisión convencional
Medición 4.5 – 450 segundos

Handwritten blue annotations on the right side of the page, including a large 'A' and some illegible scribbles.

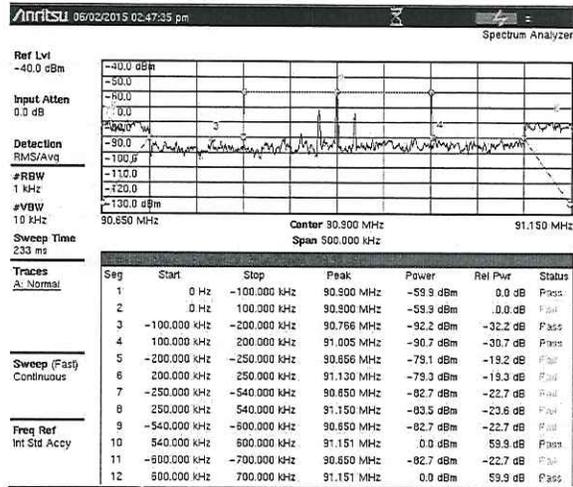
Indoor – Escenario 5 – Bloque 17



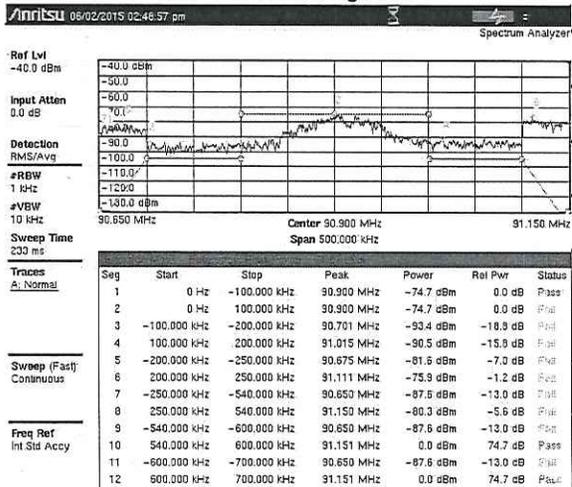
Indoor – Escenario 5 – Bloque 17



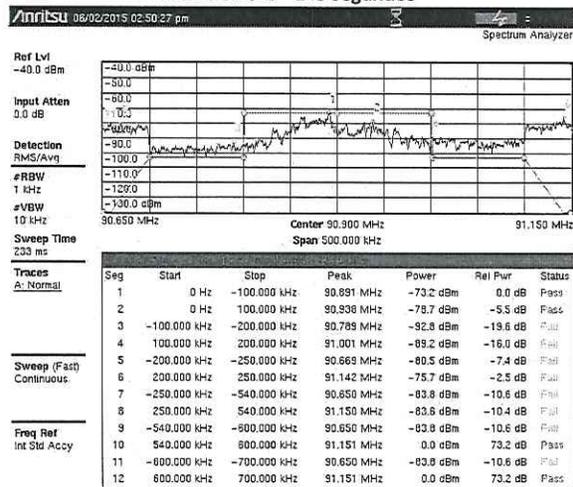
Ruido
Medición 3.1 – 130 segundos



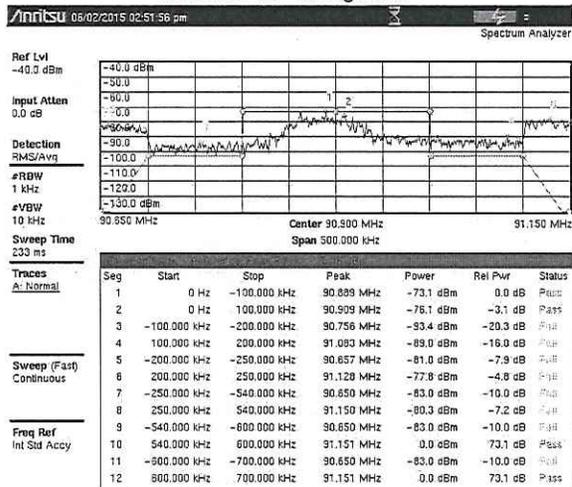
Ruido
Medición 3.2 – 145 segundos



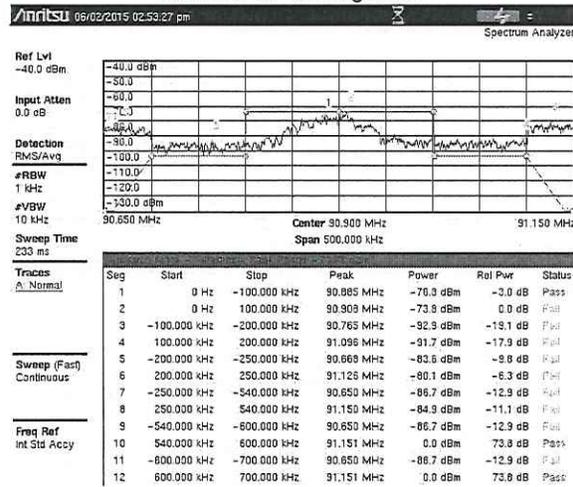
Transmisión convencional
Medición 4.1 – 90 segundos



Transmisión convencional
Medición 4.2 – 180 segundos



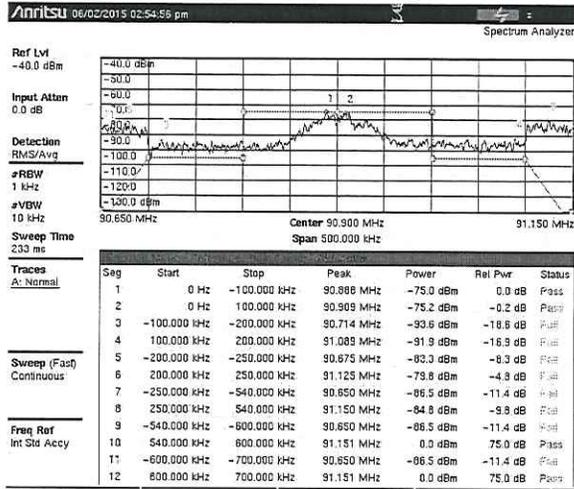
Transmisión convencional
Medición 4.3 – 270 segundos



Transmisión convencional
Medición 4.4 – 360 segundos

Handwritten signature and initials in blue ink.

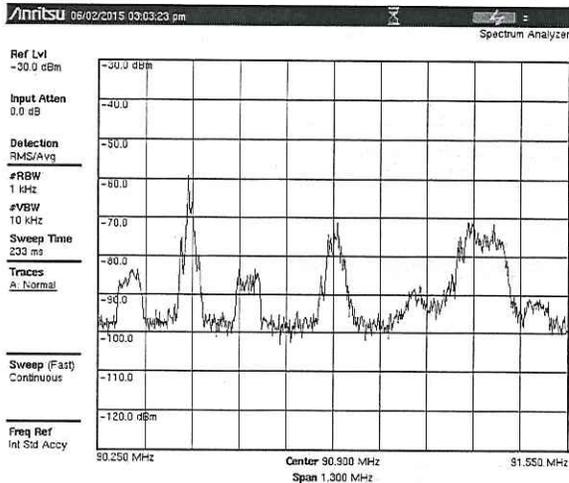
Escenario 5 – Bloque 17



Transmisión convencional
 Medición 4.5 – 450 segundos

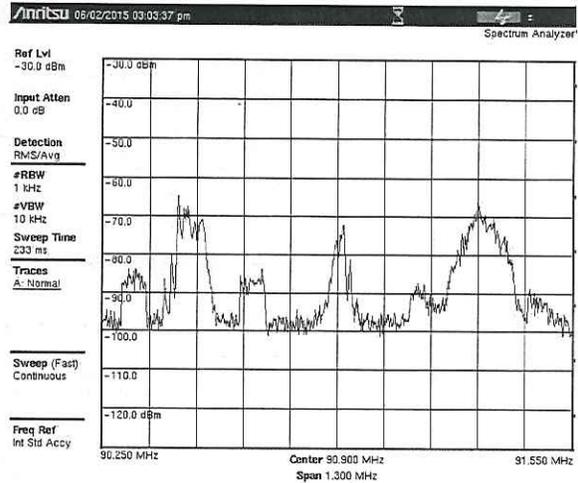
Handwritten signatures and initials in blue ink.

Indoor – Escenario 5 – Bloque 19



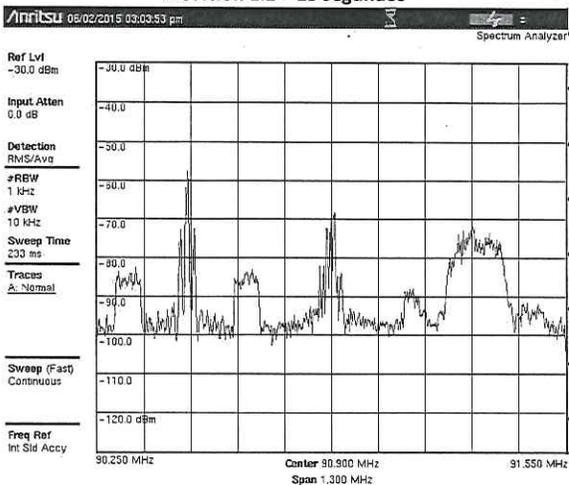
Voz

Medición 1.1 – 15 segundos



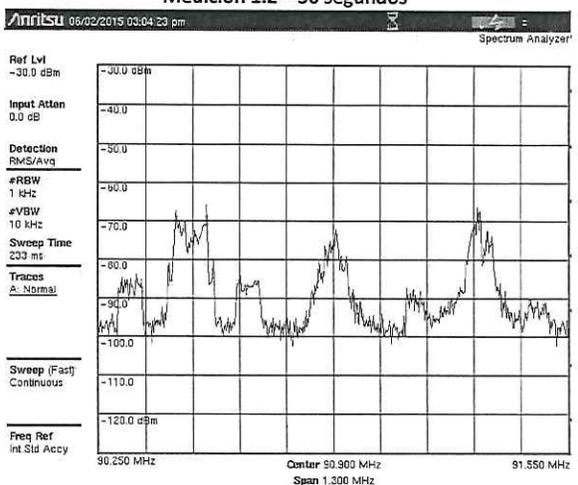
Voz

Medición 1.2 – 30 segundos



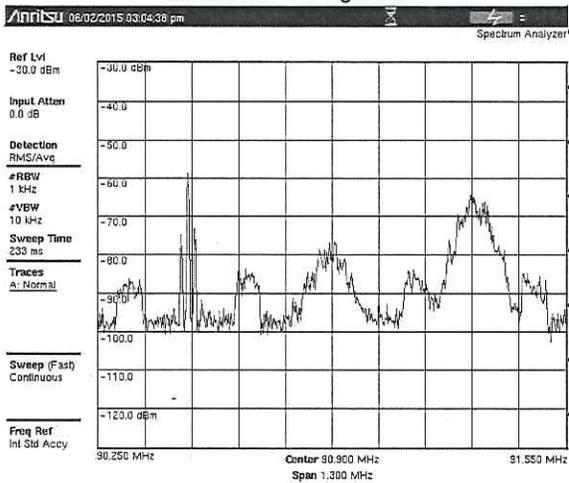
Voz

Medición 1.3 – 45 segundos



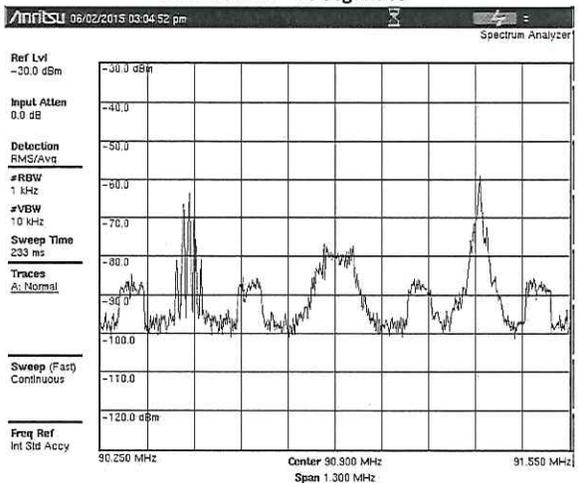
Música

Medición 2.1 – 75 segundos



Música

Medición 2.2 – 90 segundos

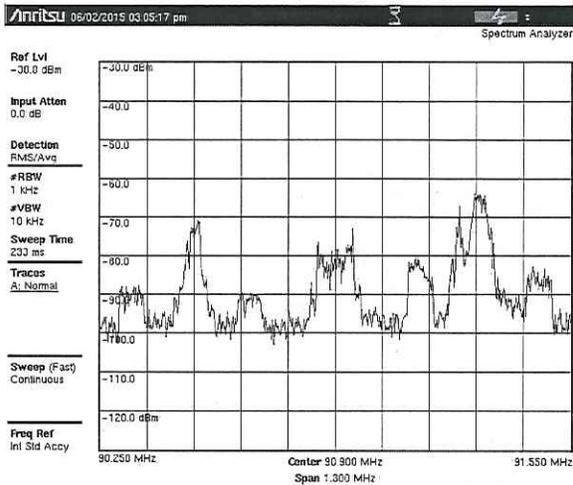


Música

Medición 2.3 – 105 segundos

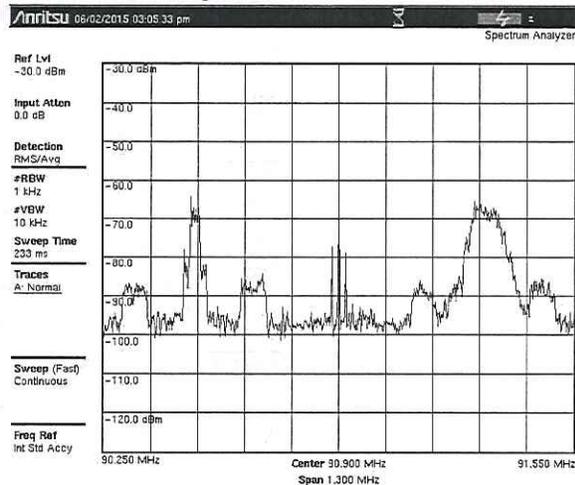
Handwritten signature in blue ink.

Indoor – Escenario 5 – Bloque 19



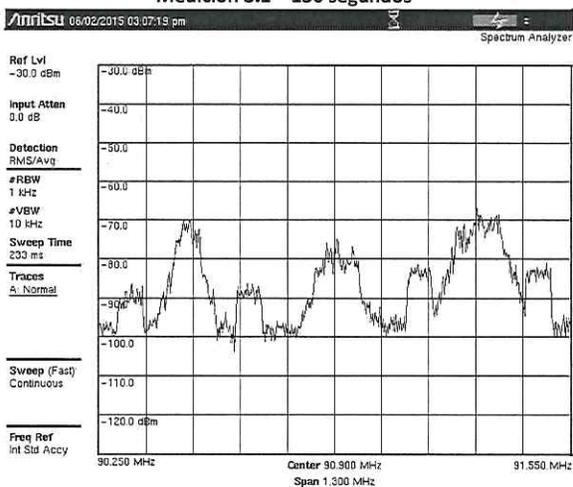
Ruido

Medición 3.1 – 130 segundos



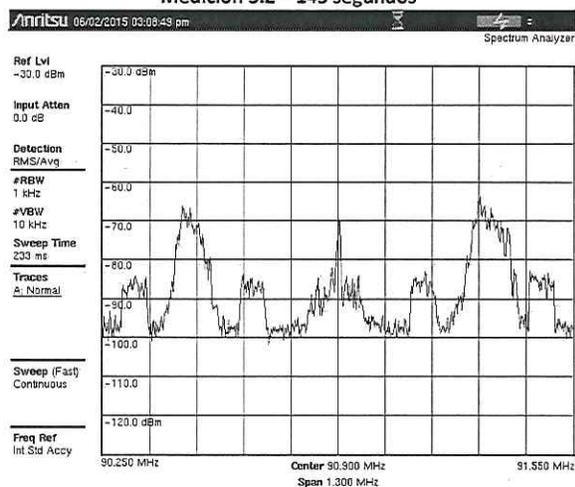
Ruido

Medición 3.2 – 145 segundos



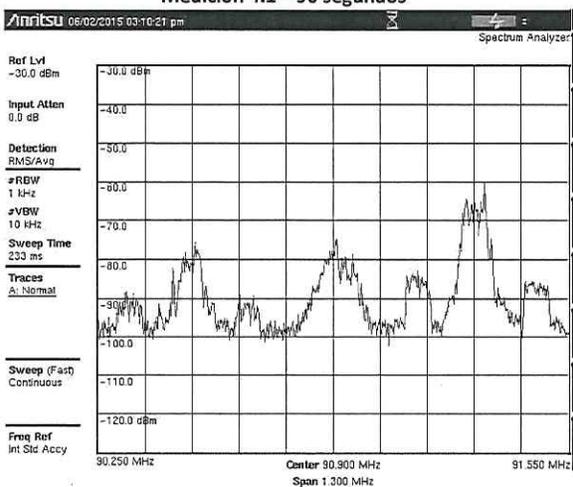
Transmisión convencional

Medición 4.1 – 90 segundos



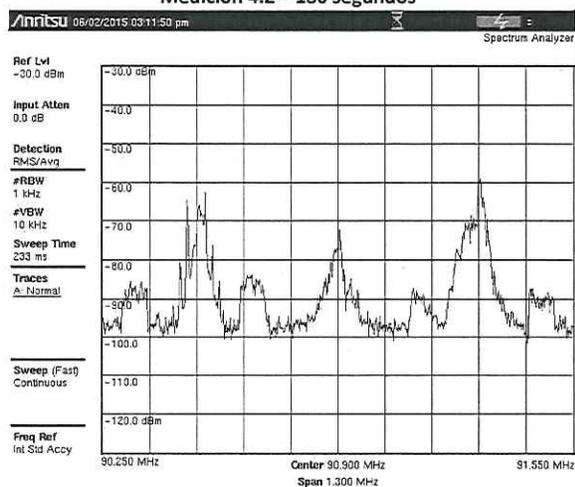
Transmisión convencional

Medición 4.2 – 180 segundos



Transmisión convencional

Medición 4.3 – 270 segundos

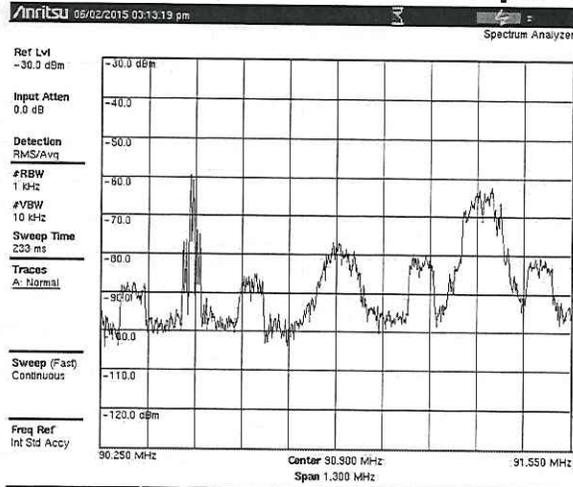


Transmisión convencional

Medición 4.4 – 360 segundos

Handwritten blue marks and signatures on the right side of the page.

Indoor – Escenario 5 – Bloque 19



Transmisión convencional
Medición 4.5 – 450 segundos

[Handwritten signature]

22 JUN 2015

INFORME DE RADIOMONITOREO

RECIBIDO

No. IFT/176/2015

HORA: _____

LUGAR DE ESTUDIO:	_____ Distrito Federal _____
USUARIO:	_____ Radio Ibero, A.C. _____
FRECUENCIA DE REFERENCIA:	_____ 90.9 MHz _____
INDICATIVO :	_____ XHUIA _____
BANDA:	_____ VHF _____ TIPO DE SERVICIO: _____ Radiodifusión en FM _____
MODO DE OPERACION:	_____ Broadcast _____ TIPO DE EMISION: _____ 240K0F3 _____
HORARIO QUE OPERA:	_____ 24 hrs _____

IRREGULARIDADES DETECTADAS

N/A	USUARIO NO AUTORIZADO	N/A	EXCEDE TOLERANCIA EN FRECUENCIA
N/A	NO USA SUS INDICATIVOS	N/A	SOBREMODULA
N/A	FREC. NO AUTORIZADA	N/A	HORARIO NO AUTORIZADO
N/A	TRAFICO NO AUTORIZADO	N/A	OPERA FUERA DE BANDA
N/A	TRAFICO EN CLAVE	N/A	EXCEDE ANCHO DE BANDA
N/A	RADIACIONES NO ESENCIALES	N/A	USUARIO NO IDENTIFICADO

OBSERVACIONES

PERIODO DE OBSERVACION DEL 3 DE junio AL 3 DE junio DEL 20 15

DETECTASE OPERAR A ESTACION (ES) IDENTIFICÁNDOSE COMO: _____ Radio Ibero XHUIA _____

TRAFICO RELATIVO A: _____ Transmisión convencional _____

EQUIPO UTILIZADO: _____ Unidad móvil con sistema Scorpio y equipo portátil Anritsu MS2713E _____

FRECUENCIA MEDIDA EN LA ESTACION (ES) FIJA (S): _____ N/A _____

FRECUENCIA MEDIDA PARA SUS MOVILES: _____ N/A _____

OBSERVACIONES: En atención al apoyo solicitado por la Unidad de Espectro Radioeléctrico se llevaron a cabo mediciones de intensidad de campo a través de una ruta (Drive test) en la portadora analógica de la frecuencia 90.9 MHz. Para dichos fines se utilizó una Estación Móvil Transportable de comprobación técnica del espectro radioeléctrico.

UBICACIÓN: _____ N/A _____

LATITUD: _____ N/A _____ DOA: _____ N/A _____ OTROS: _____ N/A _____

LONG: _____ N/A _____ LPDF: _____ N/A _____

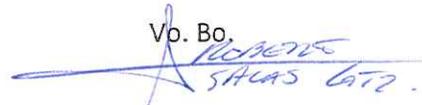
LUGAR Y FECHA DE ELABORACIÓN: México, D.F., a 10 de junio de 2015

HORA DE ELABORACION: 12:00 hrs

OPERADORES


Linda Morales Flores


José Luis Ordaz Vergara

Vp. Bo. 
Ing. Roberto Salas Gutiérrez
SUBDIRECTOR DE VIGILANCIA DEL
ESPECTRO RADIOELÉCTRICO

Objetivo

Realizar mediciones de intensidad de campo en la portadora analógica en la frecuencia 90.9 MHz, XHUIA Radio Ibero, a través de una ruta (Drive test), en el Distrito Federal y el registro de gráficas en diferentes puntos de la misma.

Lugar

Periodo	Lugar
3 de junio de 2015	Ruta trazada en el Distrito Federal

Equipo empleado

- Estación Móvil Transportable equipada con equipo de la marca TCI /sistema Scorpio.
- Analizador de Espectro Anritsu MS2713E.

Desarrollo

El radiomonitorio se desarrolló de la siguiente manera; se realizó el recorrido a bordo de la unidad móvil, en el Distrito Federal, mediante la opción de mapeo de intensidad de campo del sistema Scorpio, considerando diversos puntos de medición donde se obtuvieron gráficas del comportamiento en la frecuencia 90.9 MHz mediante el analizar de espectro Anritsu, con una ventana de visualización de una estación y tres estaciones.

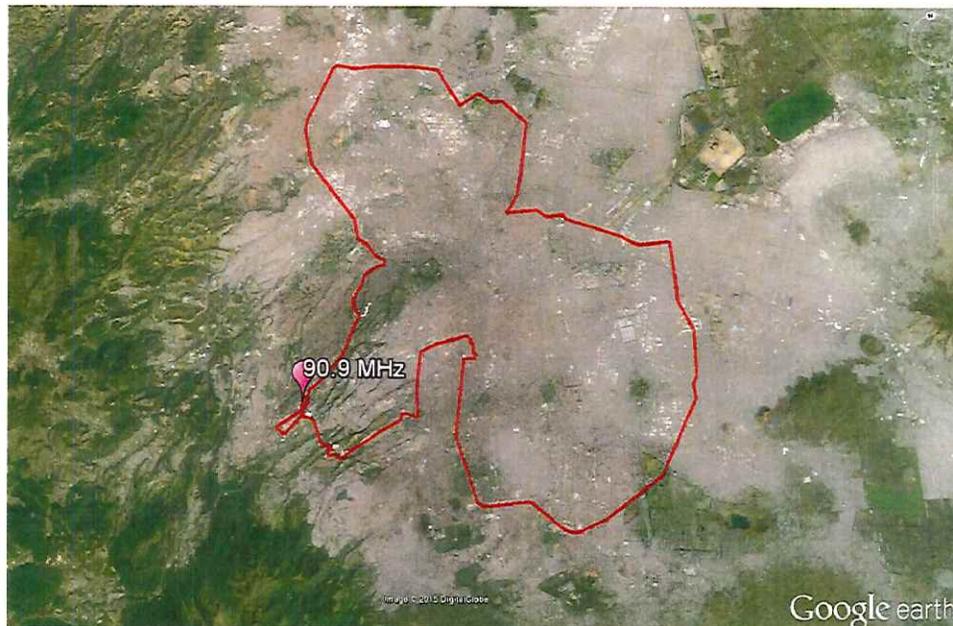
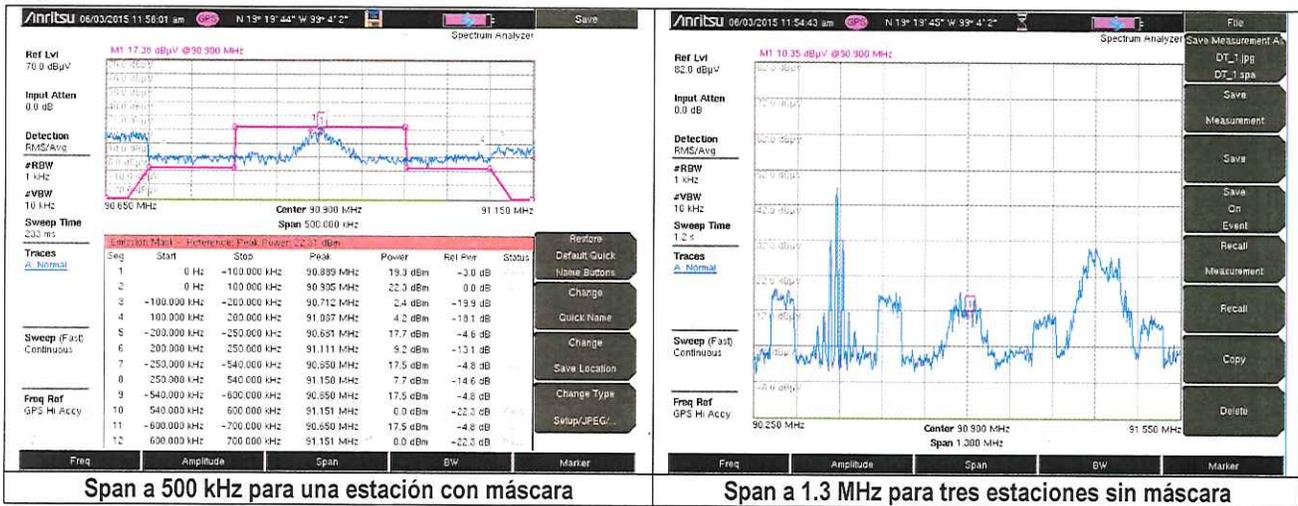


Imagen 1. Mapa donde se realizó el radiomonitorio en la frecuencia 90.9 MHz

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Fecha: 03 de junio de 2015
Lugar de Radiomonitorreo: Avenida Canal de Garay
Coordenadas Geográficas: 19° 19' 44" N, 99° 4' 2" W



Mapa donde se realizó el punto 1 de medición con el analizador de espectro

Lugar de Radiomonitorreo: Rómulo O'Farril
Coordenadas Geográficas: 19° 21' 18" N, 99° 12' 52" W



Span a 500 kHz para una estación con máscara

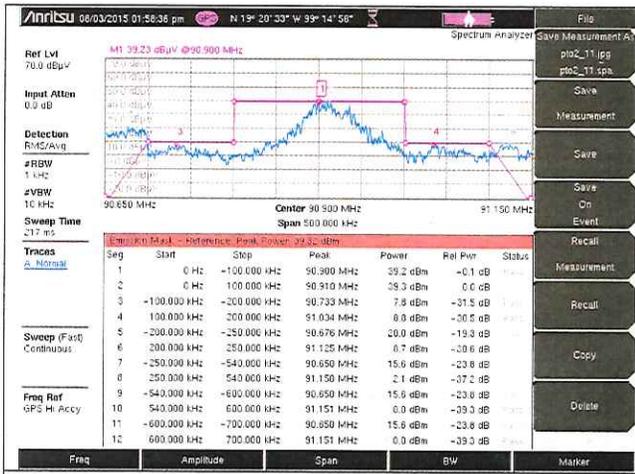


Span a 1.3 MHz para tres estaciones sin máscara

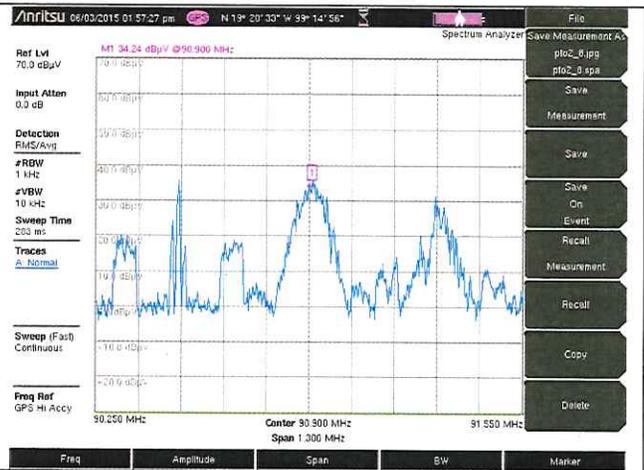


Mapa donde se realizó el punto 2 de medición con el analizador de espectro

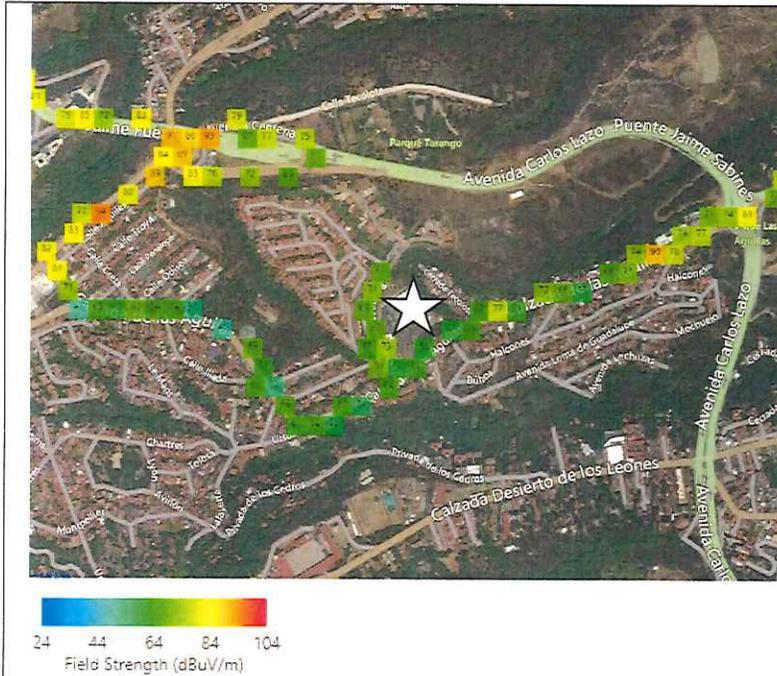
Lugar de Radiomonitorreo: Calle Barranca de Tarango
Coordenadas Geográficas: 19° 20' 33" N, 99° 14' 56" W



Span a 500 kHz para una estación con máscara



Span a 1.3 MHz para tres estaciones sin máscara



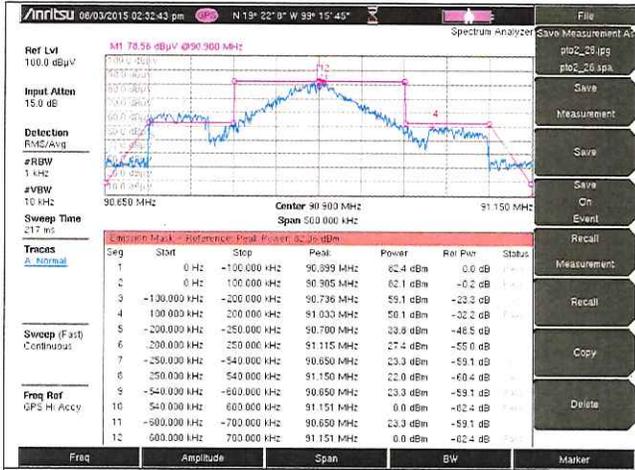
Mapa donde se realizó el punto 3 de medición con el analizador de espectro

Lugar de Radiomonitorreo: Avenida de los Poetas
Coordenadas Geográficas: 19° 20' 44" N, 99° 21' 39" W

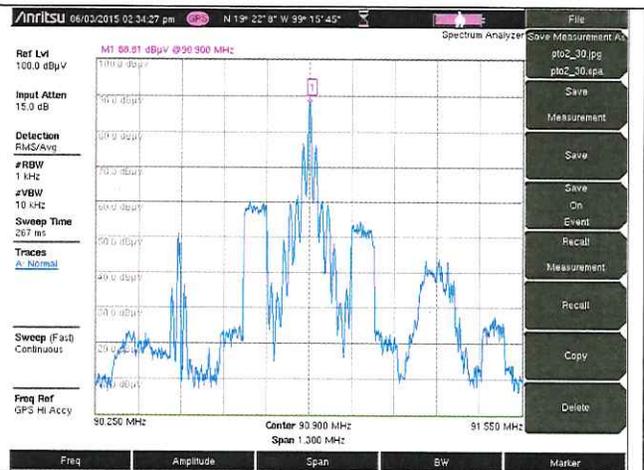


Mapa donde se realizó el punto 4 de medición con el analizador de espectro

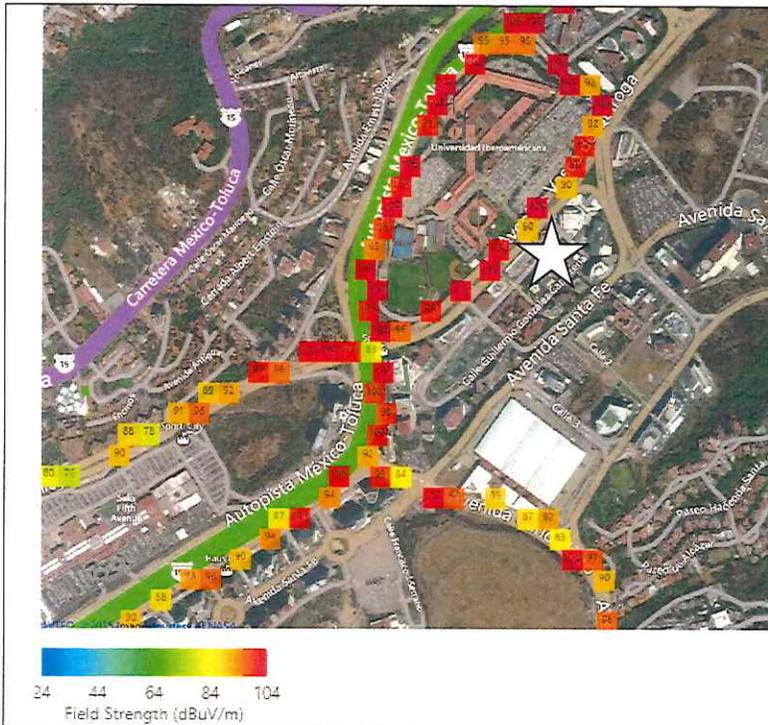
Lugar de Radiomonitorreo: Avenida Vasco de Quiroga
Coordenadas Geográficas: 19° 22' 6" N, 99° 15' 45" W



Span a 500 kHz para una estación con máscara



Span a 1.3 MHz para tres estaciones sin máscara

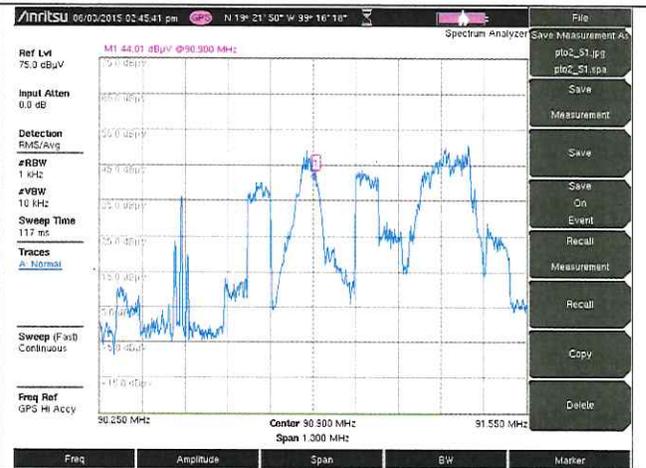


Mapa donde se realizó el punto 5 de medición con el analizador de espectro

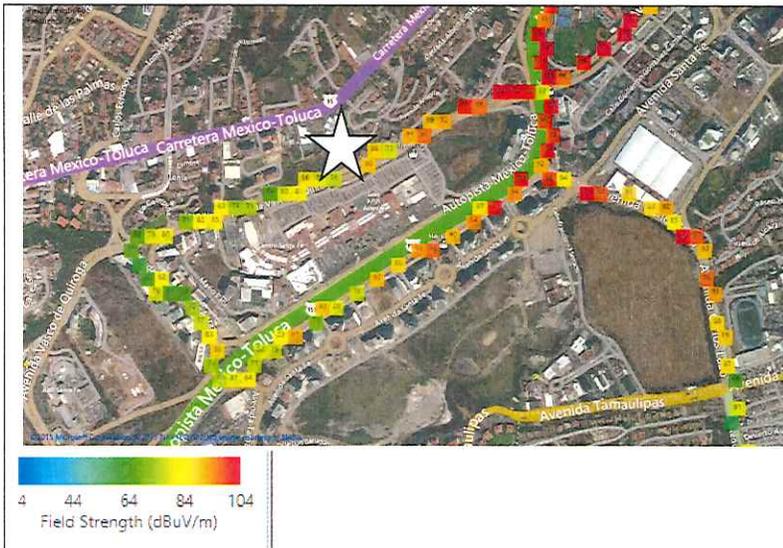
Lugar de Radiomonitorreo: Vasco de Quiroga
Coordenadas Geográficas: 19° 21' 50" N, 99° 16' 18" W



Span a 500 kHz para una estación con máscara

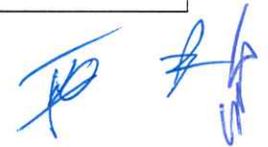


Span a 1.3 MHz para tres estaciones sin máscara



Mapa donde se realizó el punto 6 de medición con el analizador de espectro

AA

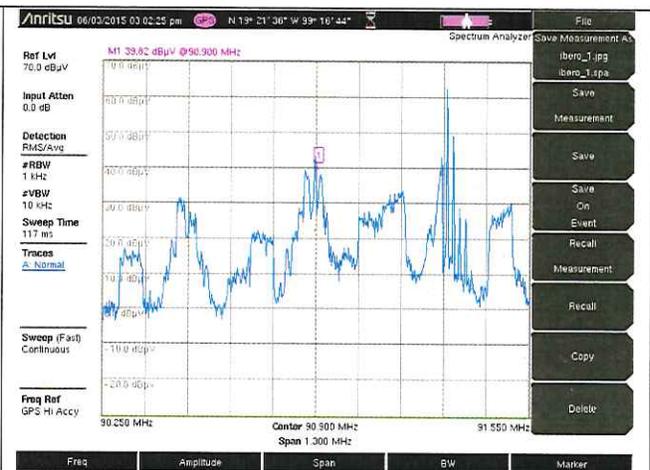


Lugar de Radiomonitorreo:
Coordenadas Geográficas:

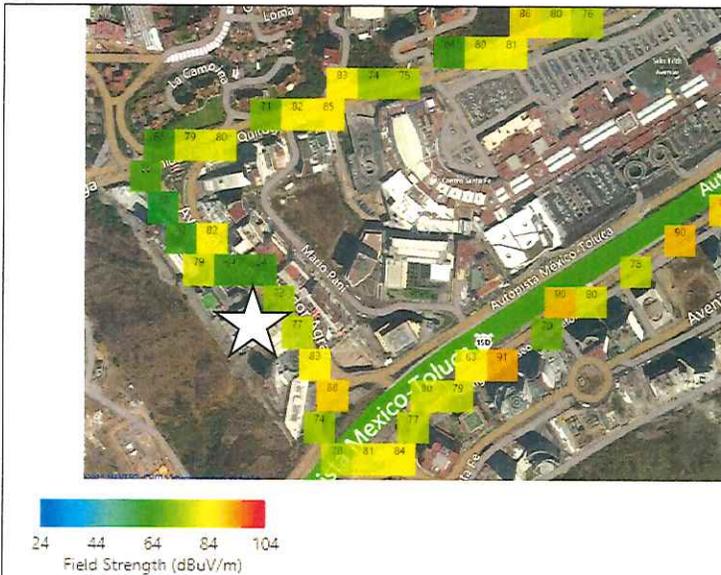
Juan Salvador Agraz
19° 21' 35" N, 99° 16' 44" W



Span a 500 kHz para una estación con máscara

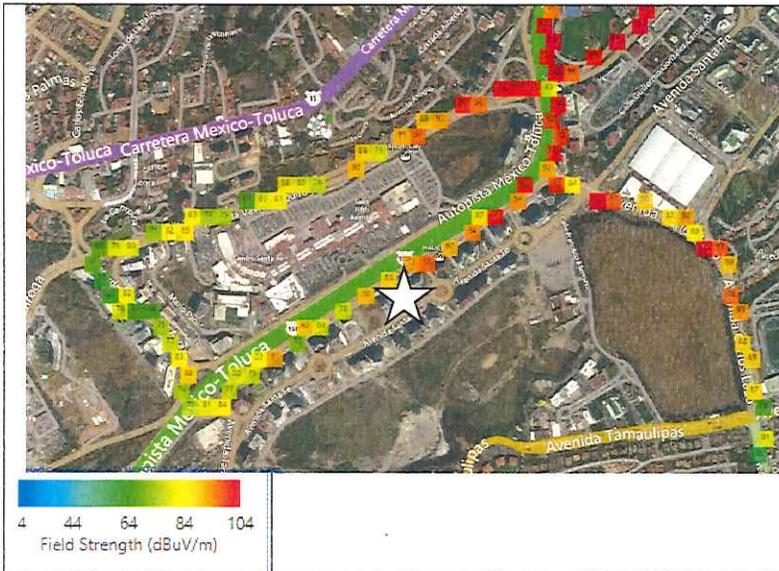
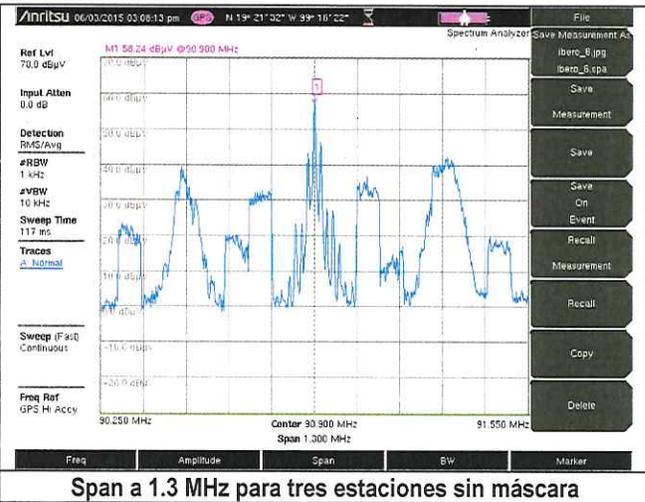


Span a 1.3 MHz para tres estaciones sin máscara

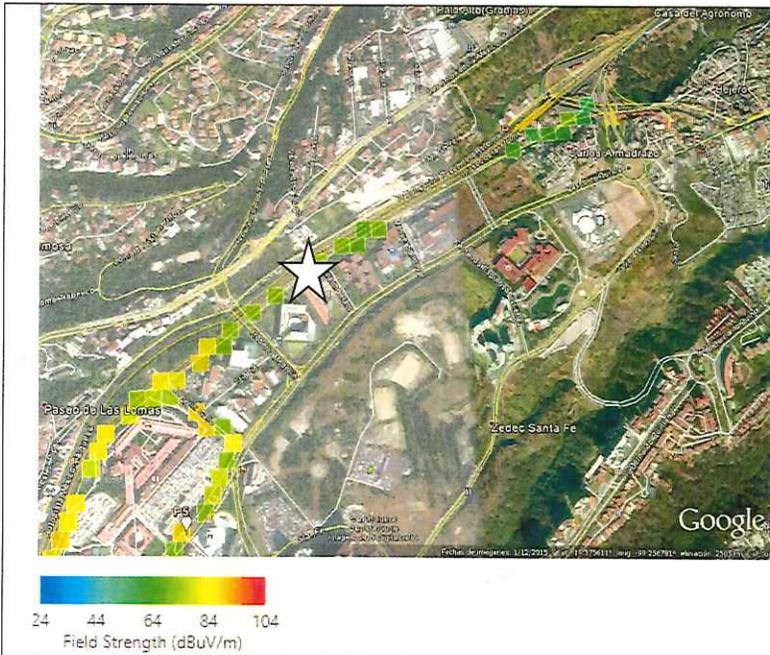
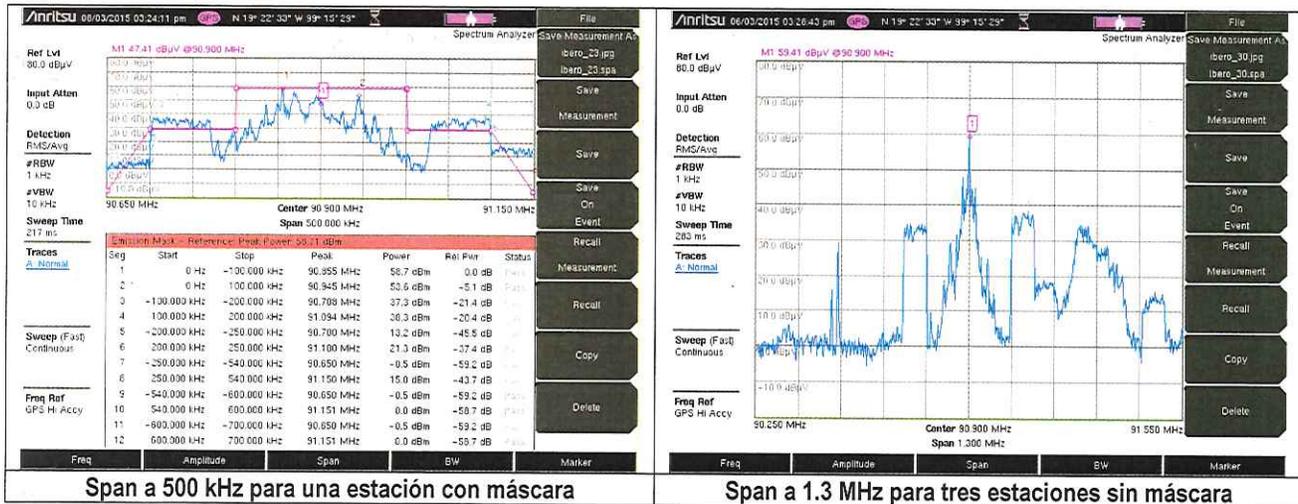


Mapa donde se realizó el punto 7 de medición con el analizador de espectro

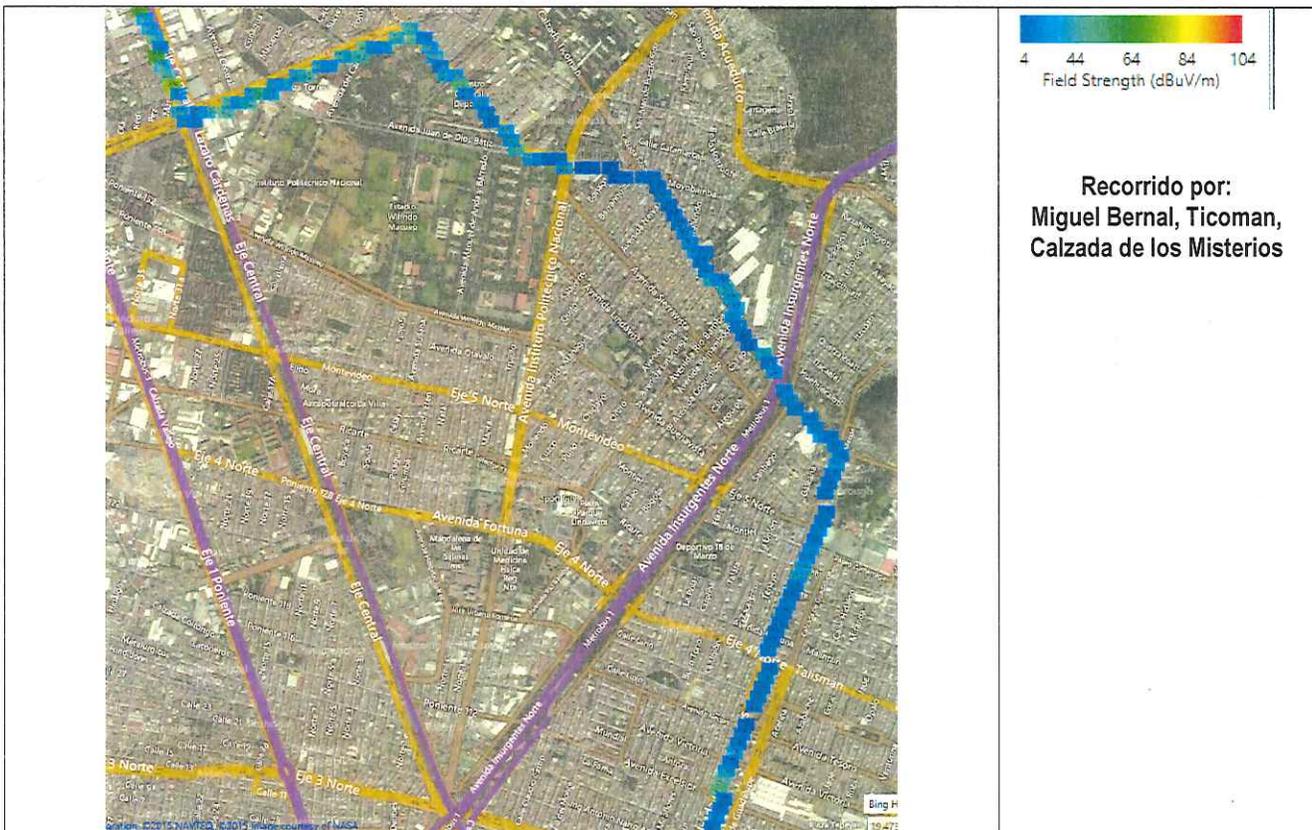
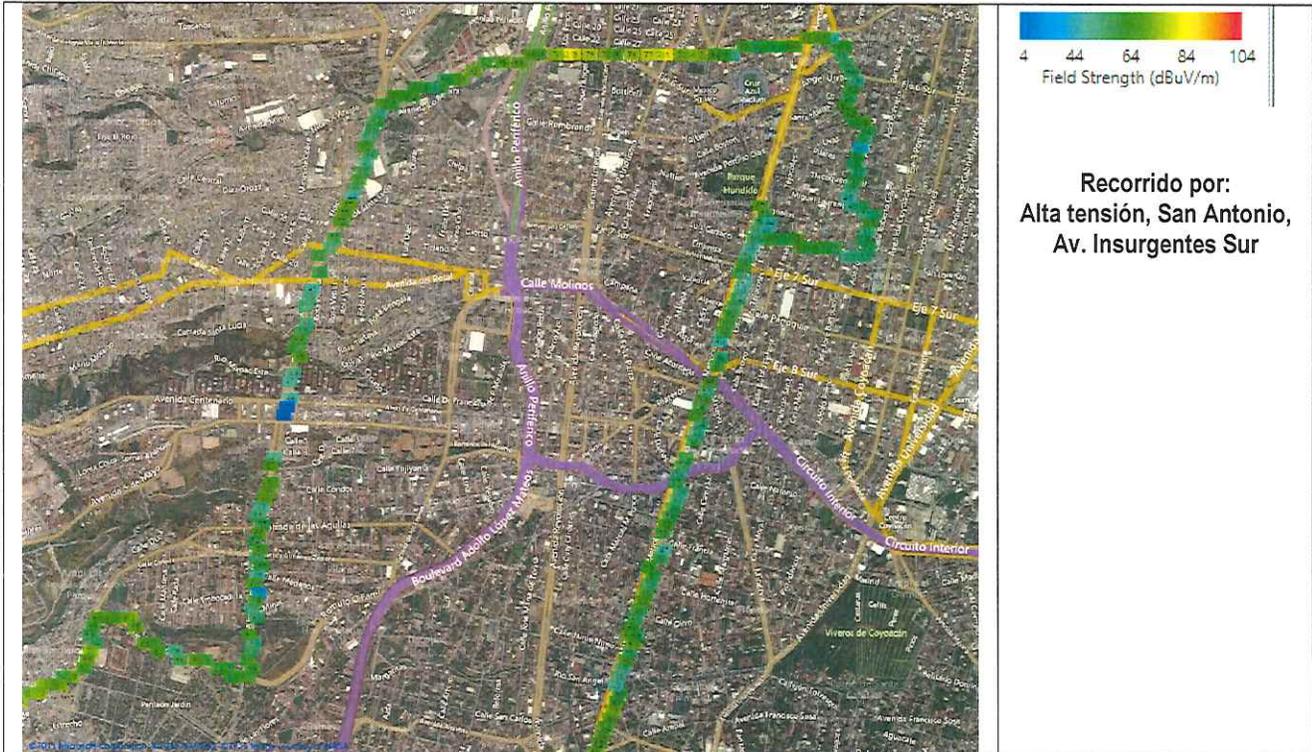
Lugar de Radiomonitorreo: Autopista México-Marquesa
Coordenadas Geográficas: 19° 21' 33" N, 99° 16' 22" W



Lugar de Radiomonitorreo: Paseo de la Reforma
Coordenadas Geográficas: 19° 22' 33" N, 99° 15' 29" W

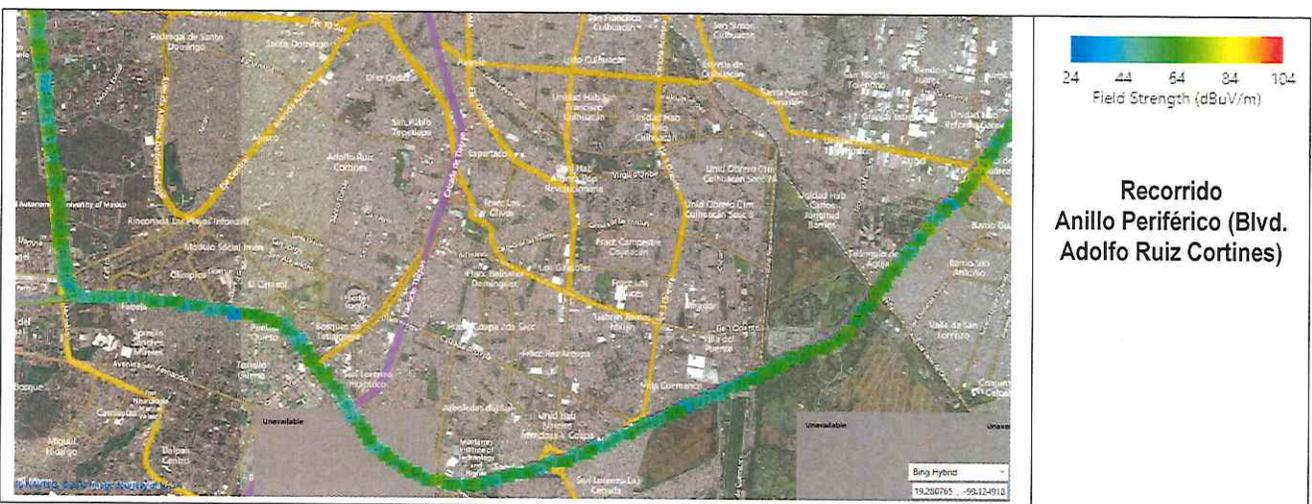
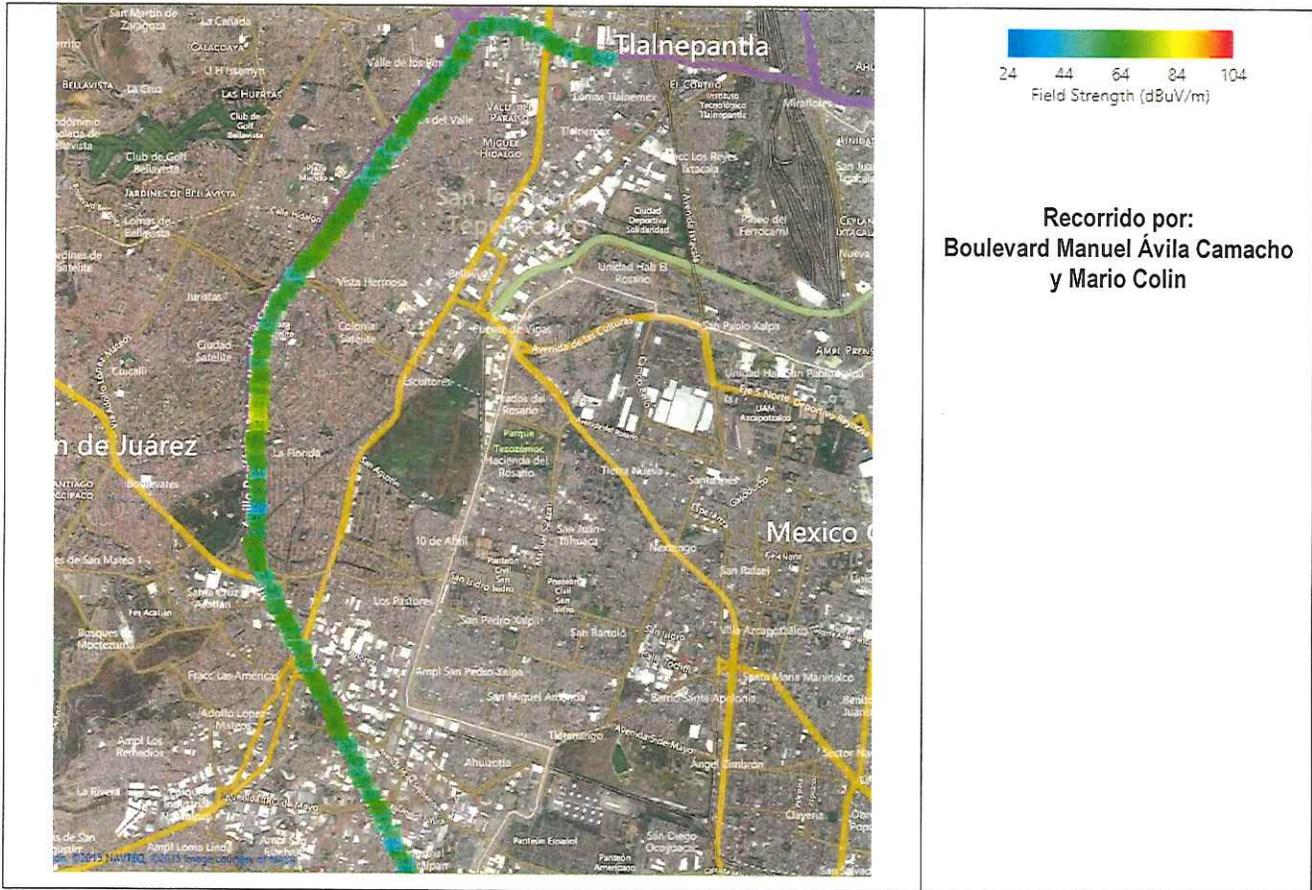


Mapas de diferentes zonas del recorrido realizado en la frecuencia 90.9 MHz



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No es óbice señalar que el estudio de radiomonitorio es circunstancial, es decir, pueden realizarse mediciones durante un periodo de tiempo determinado y encontrar ocupada la frecuencia monitoreada; sin embargo, en fechas posteriores podría desaparecer o aparecer emisiones nuevas.

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INFORME DE RADIOMONITOREO

No. IFT/196/2015

LUGAR DE ESTUDIO: _____ Distrito Federal _____
 USUARIO: _____ Radio Ibero, A.C. _____
 FRECUENCIA DE REFERENCIA: _____ 90.9 MHz _____
 INDICATIVO : _____ XHUIA _____
 BANDA: _____ VHF _____ TIPO DE SERVICIO: _____ Radiodifusión en FM _____
 MODO DE OPERACION: _____ Broadcast _____ TIPO DE EMISION: _____ 240K0F3 _____
 HORARIO QUE OPERA: _____ 24 hrs _____

IRREGULARIDADES DETECTADAS

N/A	USUARIO NO AUTORIZADO	N/A	EXCEDE TOLERANCIA EN FRECUENCIA
N/A	NO USA SUS INDICATIVOS	N/A	SOBREMODULA
N/A	FREC. NO AUTORIZADA	N/A	HORARIO NO AUTORIZADO
N/A	TRAFICO NO AUTORIZADO	N/A	OPERA FUERA DE BANDA
N/A	TRAFICO EN CLAVE	N/A	EXCEDE ANCHO DE BANDA
N/A	RADIACIONES NO ESENCIALES	N/A	USUARIO NO IDENTIFICADO

OBSERVACIONES

PERIODO DE OBSERVACION DEL 3 DE junio AL 3 DE junio DEL 20 15
 DETECTASE OPERAR A ESTACION (ES) IDENTIFICÁNDOSE COMO: _____ Radio Ibero XHUIA _____
 TRAFICO RELATIVO A: _____ Transmisión convencional _____
 EQUIPO UTILIZADO: _____ Unidad móvil con sistema Scorpio y equipo portátil Anritsu MS2713E _____
 FRECUENCIA MEDIDA EN LA ESTACION (ES) FIJA (S): _____ N/A _____
 FRECUENCIA MEDIDA PARA SUS MOVILES: _____ N/A _____
 OBSERVACIONES: En atención al apoyo solicitado por la Unidad de Espectro Radioeléctrico se llevaron a cabo mediciones de intensidad de campo a lo largo de una ruta (Drive Test) en la portadora digital inferior de la frecuencia 90.9 MHz. Para dicho fin se utilizó una Estación Móvil Transportable de comprobación técnica del espectro radioeléctrico (Jeep Cherokee 773-ZZE).
 UBICACIÓN: _____ N/A _____
 LATITUD: _____ N/A _____ DOA: _____ N/A _____ OTROS: _____ N/A _____
 LONG: _____ N/A _____ LPDF: _____ N/A _____

LUGAR Y FECHA DE ELABORACIÓN: México, D.F., a 12 de junio de 2015

HORA DE ELABORACION: 12:00 hrs

OPERADORES



Roberto Salas Gutiérrez
SUBDIRECTOR DE VIGILANCIA DEL ESPECTRO
RADIOELÉCTRICO

INSTITUTO FEDERAL DE
TELECOMUNICACIONES

22 JUN 2015

RECIBIDO

HORA: _____
PAGINA 1 DE 14

Epigmenio Martínez Bejarano

Eduardo de Jesús Sánchez Magaña

Objetivo

Realizar mediciones de intensidad de campo de la portadora digital inferior de la frecuencia 90.9 MHz, XHUIA Radio Ibero, a través de una ruta (Drive Test), en el Distrito Federal y registrar el comportamiento de la señal mediante el analizador de espectro.

Lugar

Periodo	Lugar
3 de junio de 2015	Ruta trazada en el Distrito Federal

Equipo empleado

- Estación Móvil Transportable, equipada con equipo de la marca TCI, utilizando el Sistema Scorpio TCI
- Analizador de Espectro Anritsu MS2713E

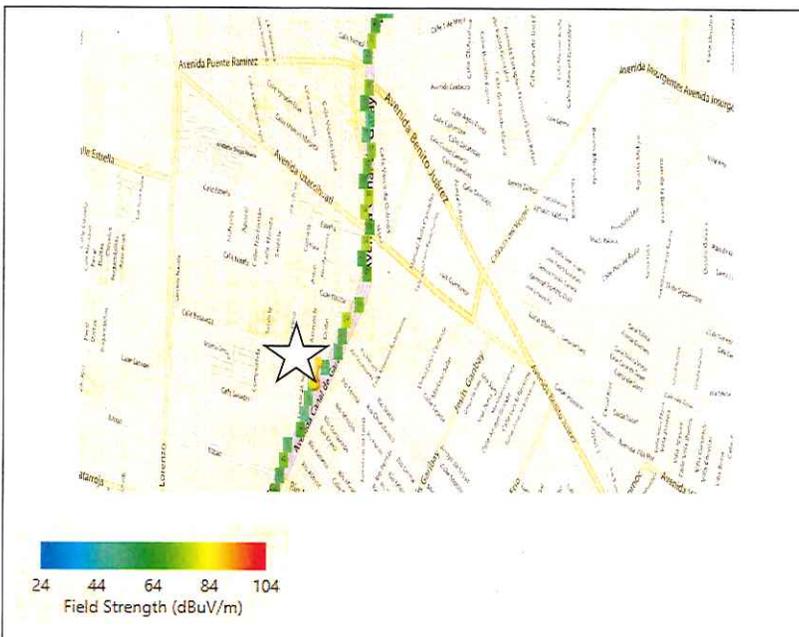
Desarrollo

El radiomonitorio se desarrolló de la siguiente manera; se realizó el recorrido a bordo de la unidad móvil, en el Distrito Federal, mediante la opción de mapeo de intensidad de campo del sistema Scorpio, considerando diversos puntos de medición donde se obtuvieron gráficas del comportamiento en la frecuencia 90.9 MHz mediante el analizador de espectro Anritsu, con una ventana de visualización para una estación y para tres estaciones. Es preciso mencionar que se presentó una eventualidad en el equipo de medición, por lo que se realizó el Drive Test en dos secciones, lo anterior no afecta el desarrollo de la medición, ya que no hubo discontinuidades en la toma de mediciones.



Imagen 1. Ruta donde se realizó el radiomonitorio en la frecuencia 90.9 MHz

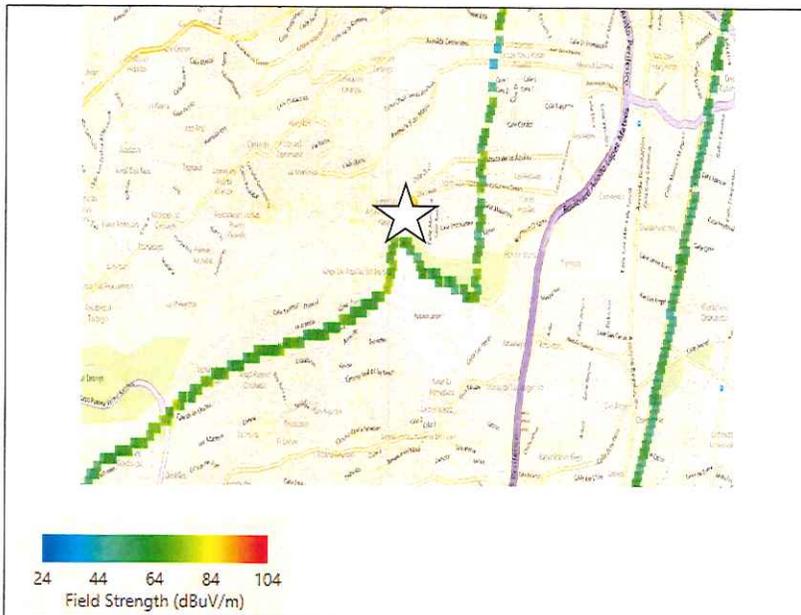
Fecha: 03 de junio de 2015
Lugar de Radiomonitorio: Avenida Canal de Garay
Coordenadas Geográficas: 19° 19' 45" N, 99° 4' 2" W



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Lugar de Radiomonitorio: Rómulo O'Farril
Coordenadas Geográficas: 19° 21' 18" N, 99° 12' 52" W

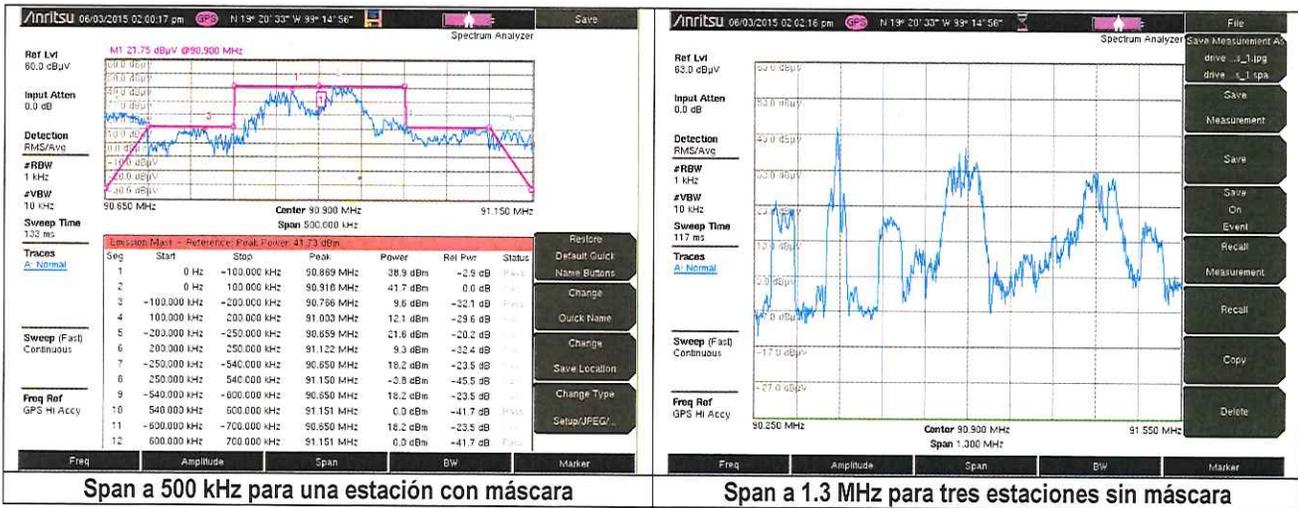


Mapa donde se realizó el punto 2 de medición con el analizador de espectro

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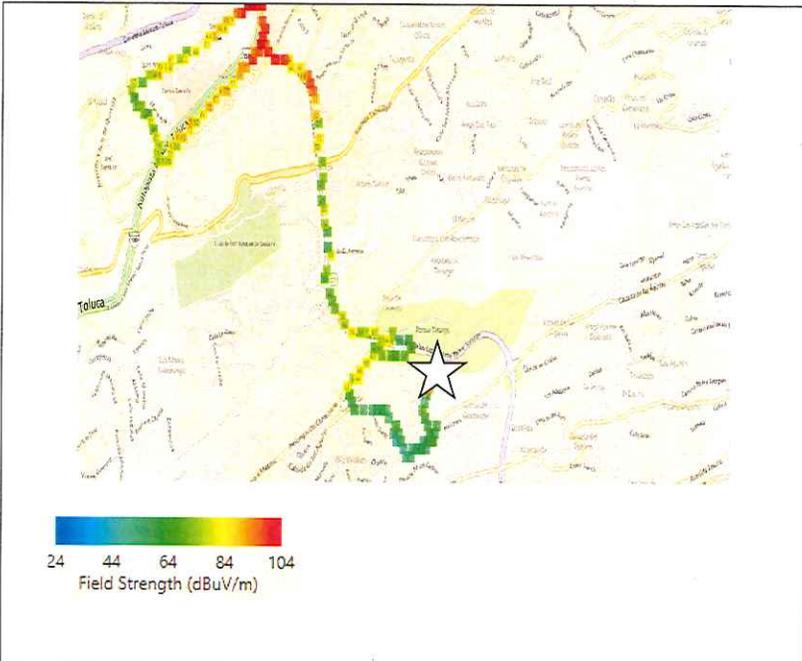
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Lugar de Radiomonitorreo: Calle Barranca de Tarango
Coordenadas Geográficas: 19° 20' 33" N, 99° 14' 56" W



Span a 500 kHz para una estación con máscara

Span a 1.3 MHz para tres estaciones sin máscara

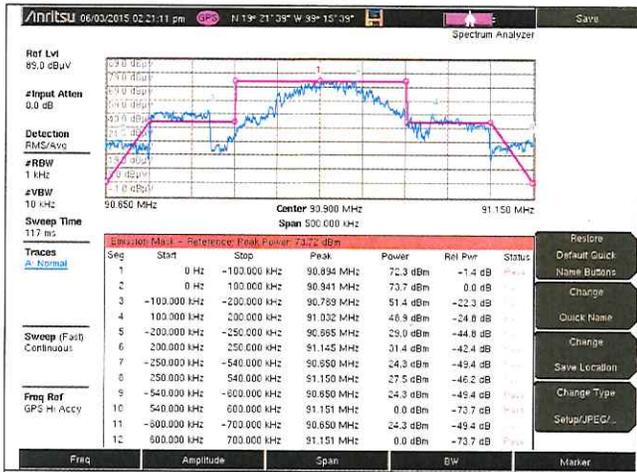


Mapa donde se realizó el punto 3 de medición con el analizador de espectro

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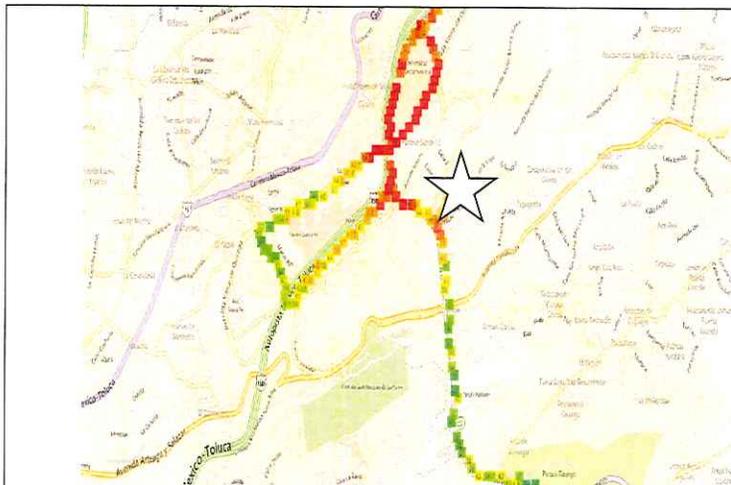
Lugar de Radiomonitorreo: Avenida de los Poetas
Coordenadas Geográficas: 19° 21' 39" N, 99° 15' 39" W



Span a 500 kHz para una estación con máscara



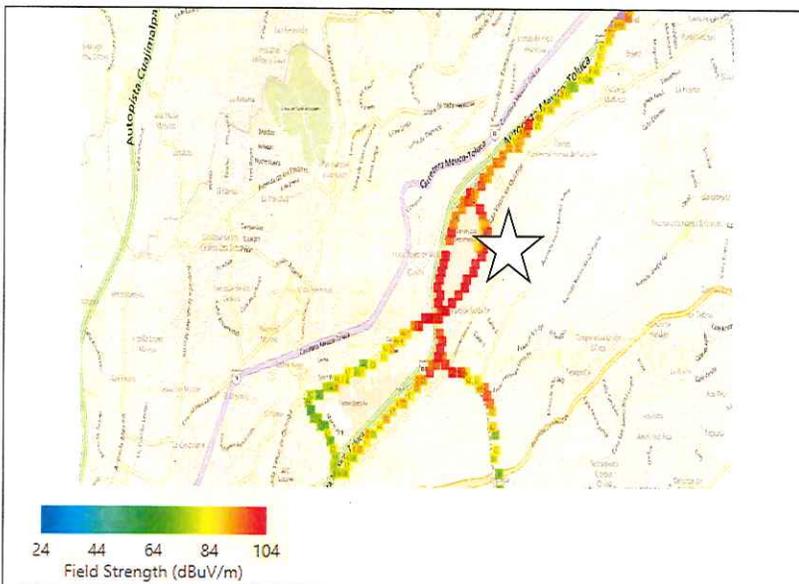
Span a 1.3 MHz para tres estaciones sin máscara



24 44 64 84 104
Field Strength (dBuV/m)

Mapa donde se realizó el punto 4 de medición con el analizador de espectro

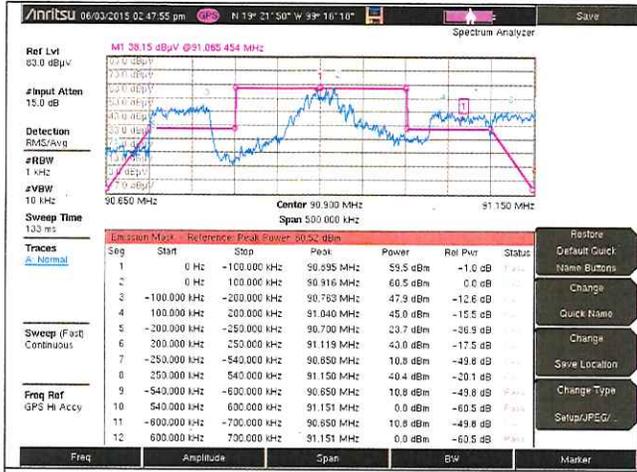
Lugar de Radiomonitorreo: Vasco de Quiroga
Coordenadas Geográficas: 19° 22' 08" N, 99° 15' 45" W



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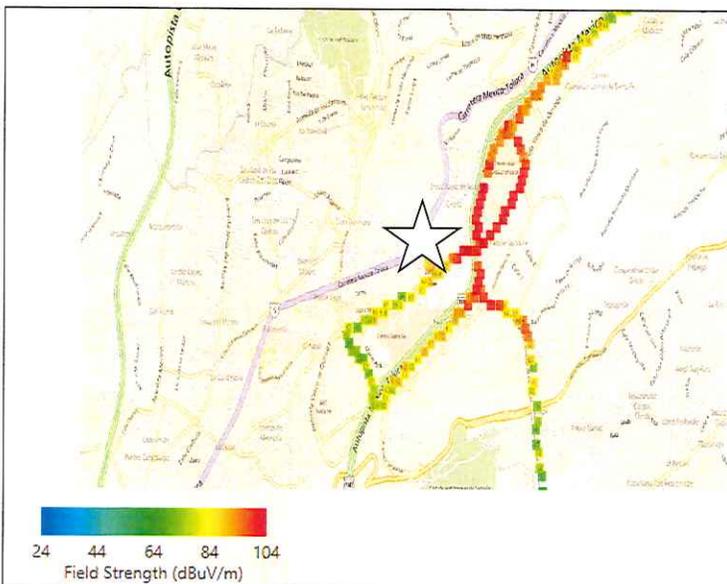
Lugar de Radiomonitorreo: Vasco de Quiroga
Coordenadas Geográficas: 19° 21' 50" N, 99° 16' 18" W



Span a 500 kHz para una estación con máscara

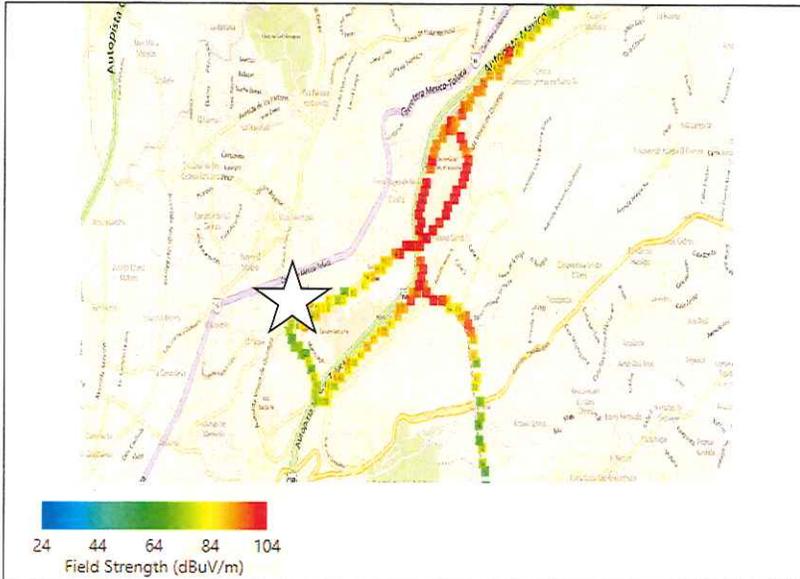


Span a 1.3 MHz para tres estaciones sin máscara

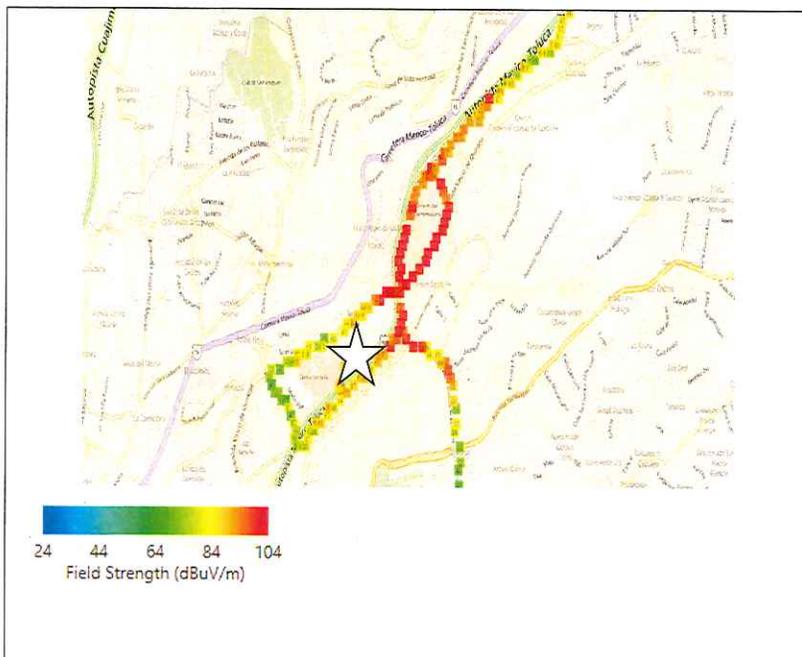
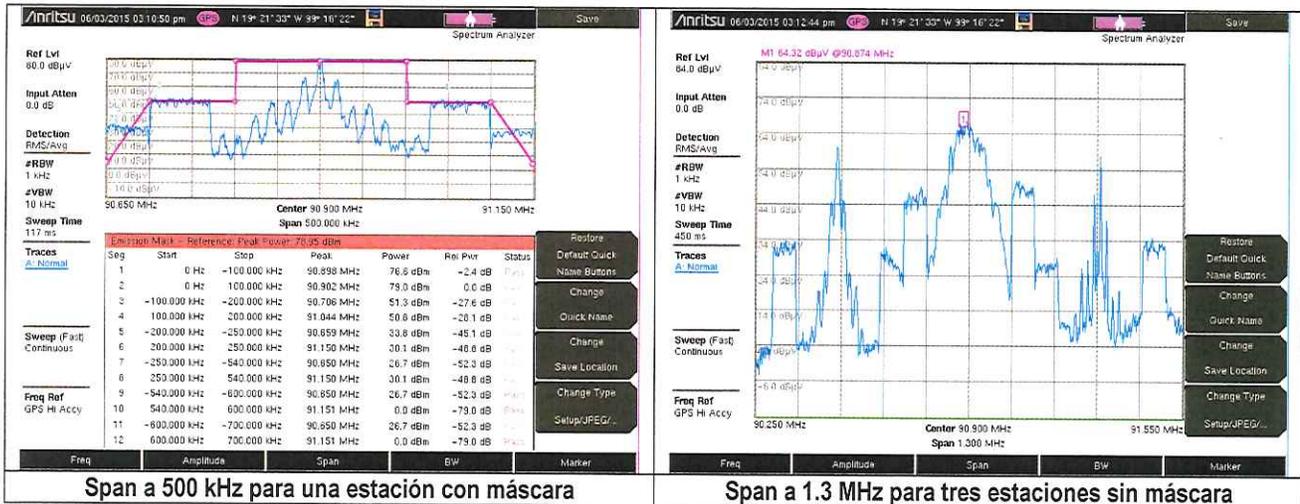


Mapa donde se realizó el punto 6 de medición con el analizador de espectro

Lugar de Radiomonitorreo: Juan Salvador Agraz
Coordenadas Geográficas: 19° 21' 37" N, 99° 16' 43" W

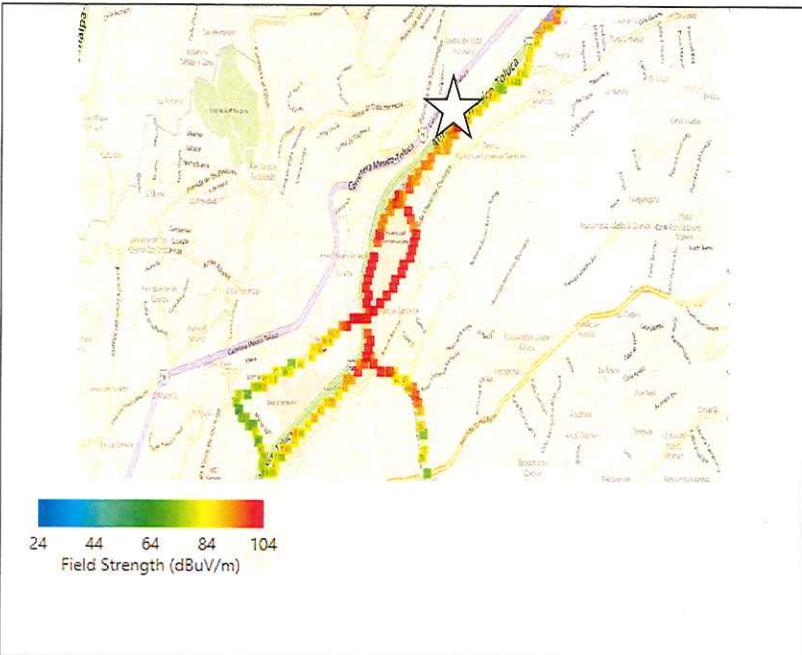
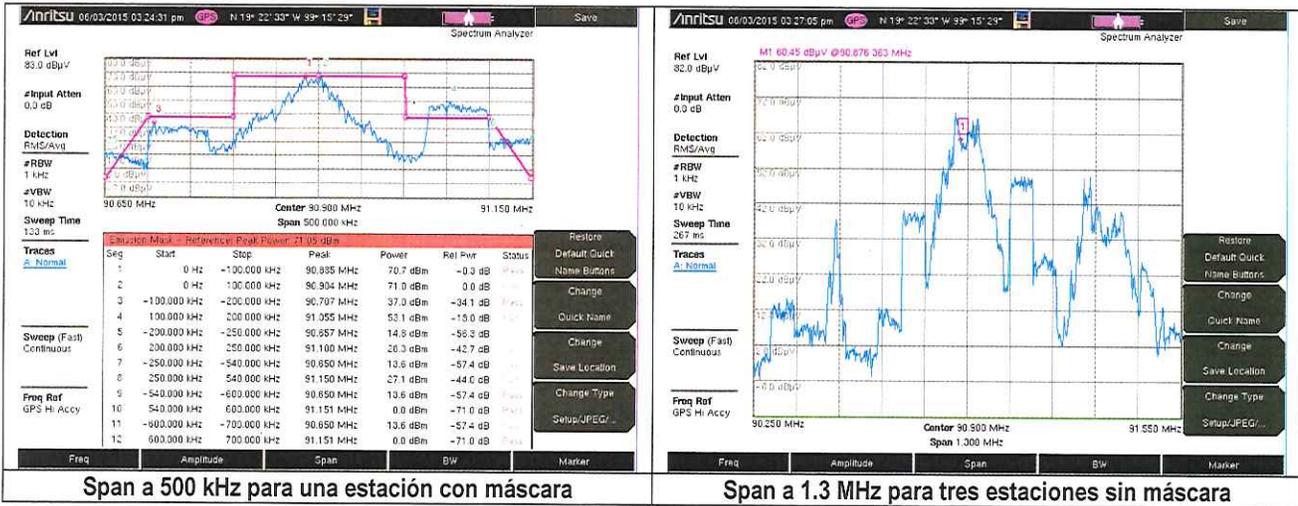


Lugar de Radiomonitorreo: Autopista México-Marquesa
Coordenadas Geográficas: 19° 21' 33" N, 99° 16' 22" W



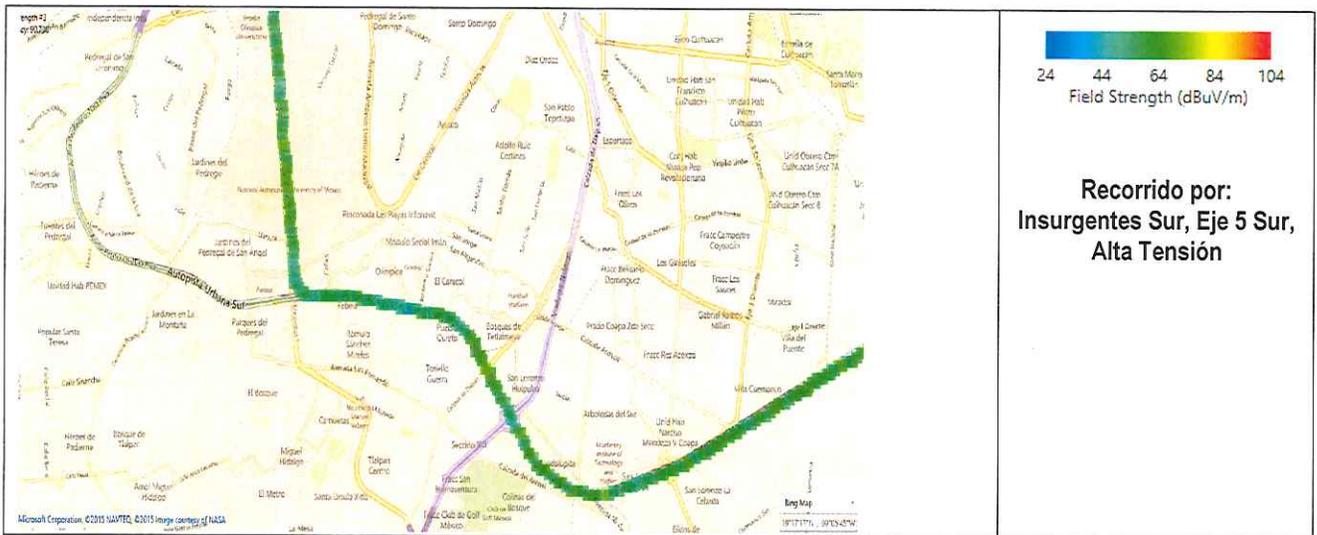
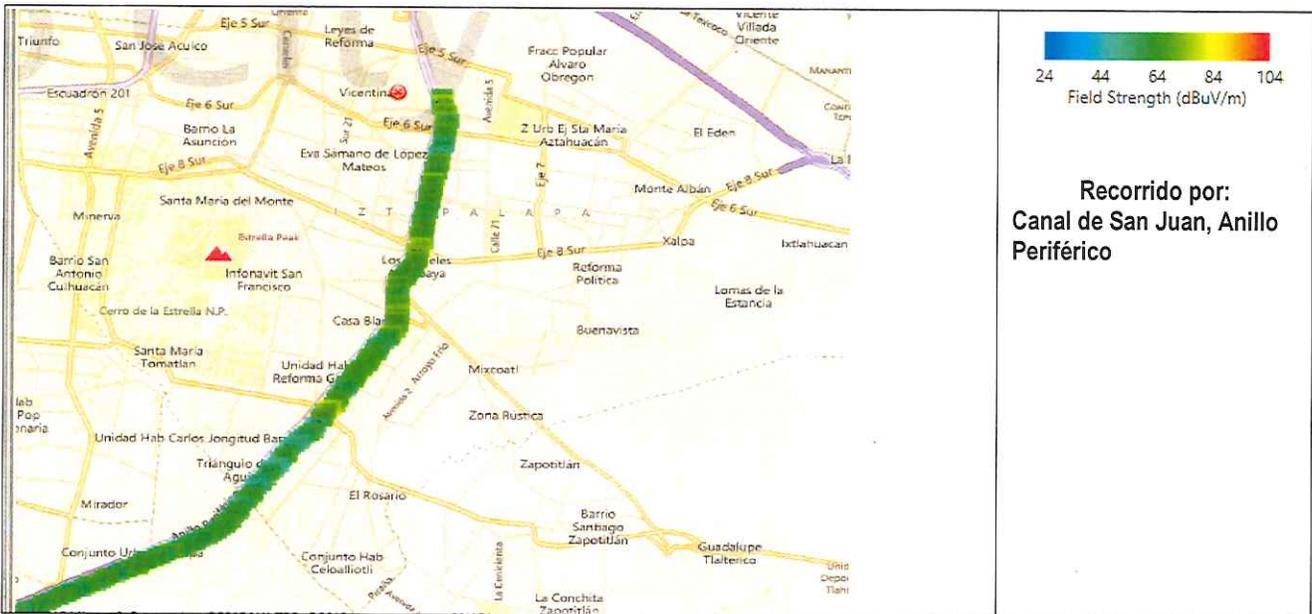
Mapa donde se realizó el punto 8 de medición con el analizador de espectro

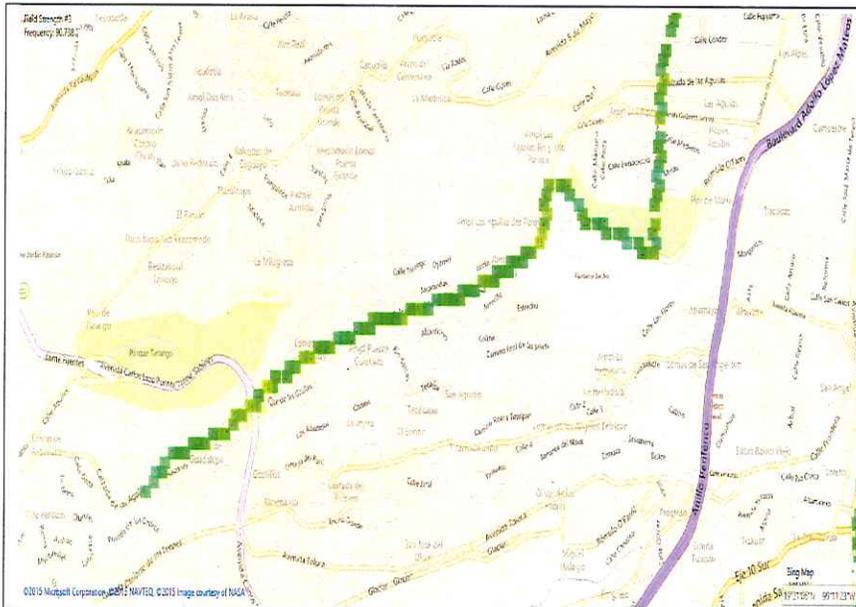
Lugar de Radiomonitorreo: Paseo de la Reforma
Coordenadas Geográficas: 19° 22' 33" N, 99° 15' 29" W



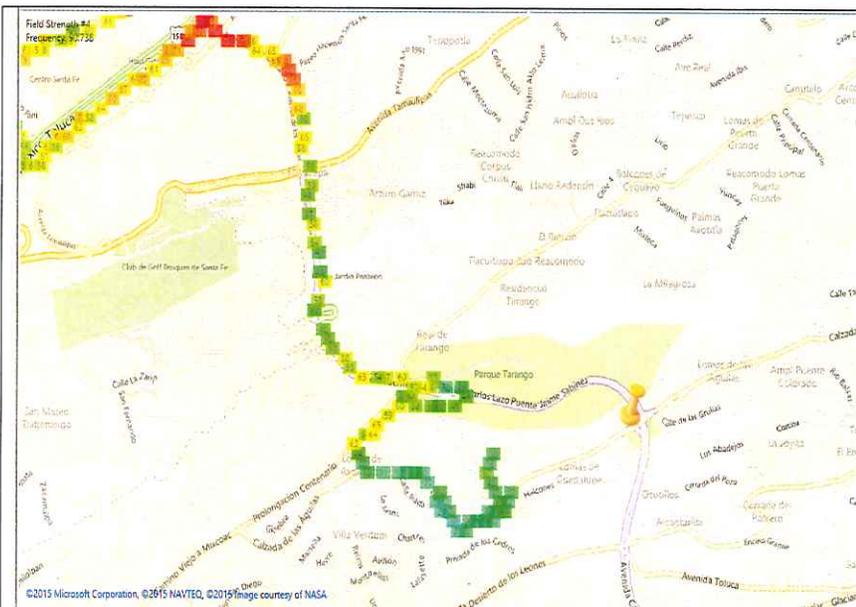
Mapa donde se realizó el punto 9 de medición con el analizador de espectro

Mapas de diferentes zonas del recorrido realizado en la frecuencia 90.9 MHz



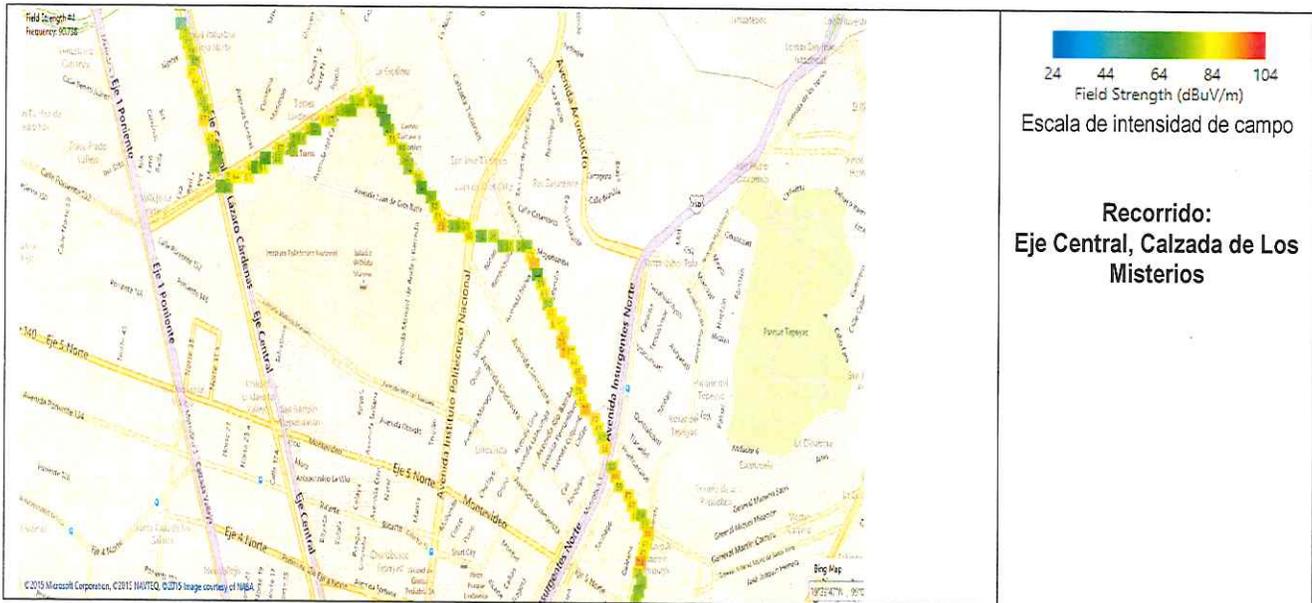


Recorrido por:
Prolongación Rómulo
O'Farril, Calzada de las
Águilas



Escala de intensidad de campo

Recorrido:
Calzada De Las Águilas,
Prolongación Centenario,
Avenida De Los Poetas



No es óbito señalar que el estudio de radiomonitorio es circunstancial, es decir, pueden realizarse mediciones durante un periodo de tiempo determinado y encontrar ocupada la frecuencia monitoreada; sin embargo, en fechas posteriores podría desaparecer o aparecer emisiones nuevas.

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