INSTITUTO FEDERAL DE TELECOMUNICACIONES

ANEXO 3

REPORTES DE LA DIRECCIÓN GENERAL ADJUNTA DE VIGILANCIA DEL ESPECTRO RADIOELÉCTRICO

INSTITUTO FEDERAL DE TELECOMUNICACIONES

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

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..

TRÁFICO 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.

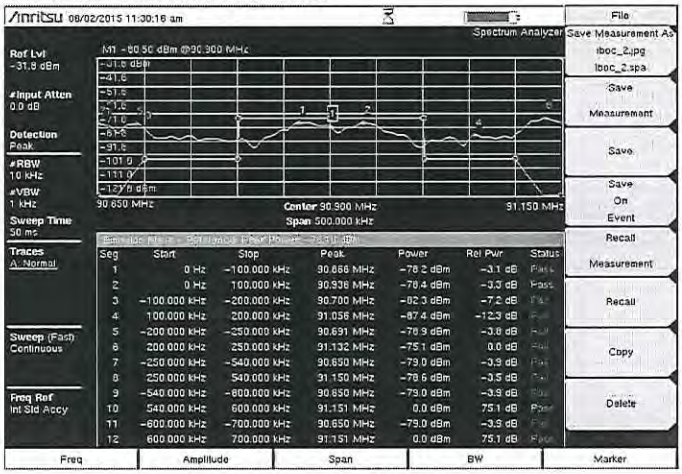
ING. EPIGMENIO MARTÍNEZ BEJARANO
OPERADOR(ES)

INSTITUTO FEDERAL DE TELECOMUNICACIONES
22 JUN 2015

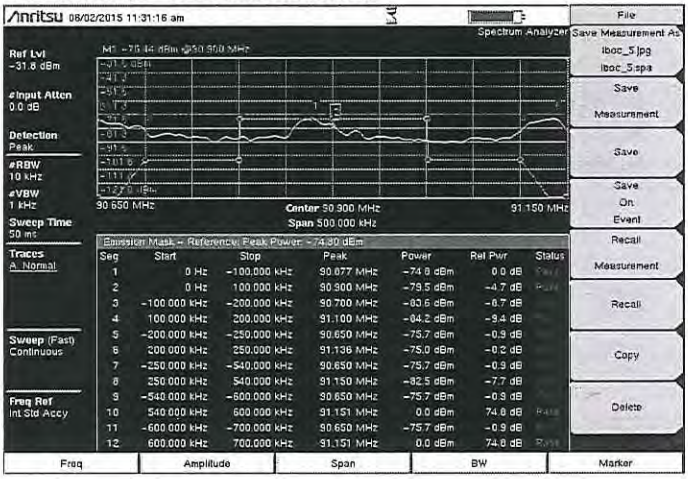
Vo. Bo. ING ROBERTO SALAS GUTIÉRREZ
SUBDIRECTOR DE VIGILANCIA DEL ESPECTRO RADIOELÉCTRICO

NOTA: inicio 11:30 a.m.

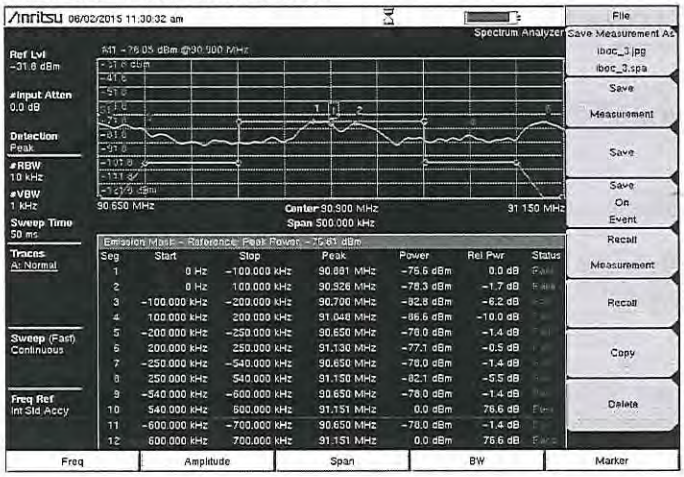
1.1 Voz: 11:30:16 hrs. a.m.



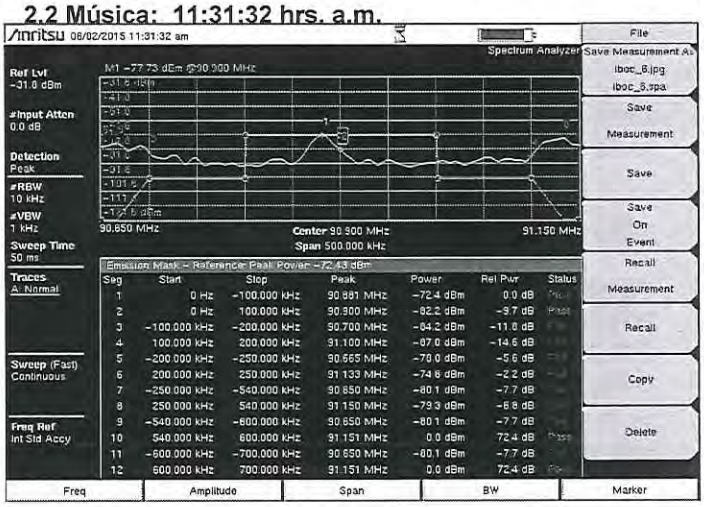
2.1 Música: 11:30:16 hrs. a.m.



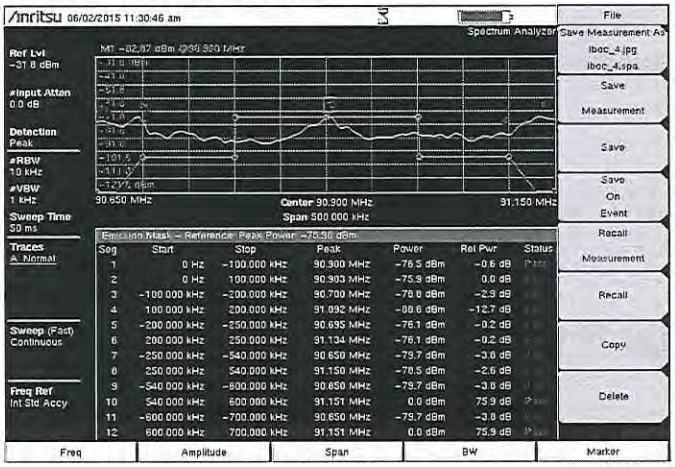
1.2 Voz: 11:30:32 hrs. a.m.



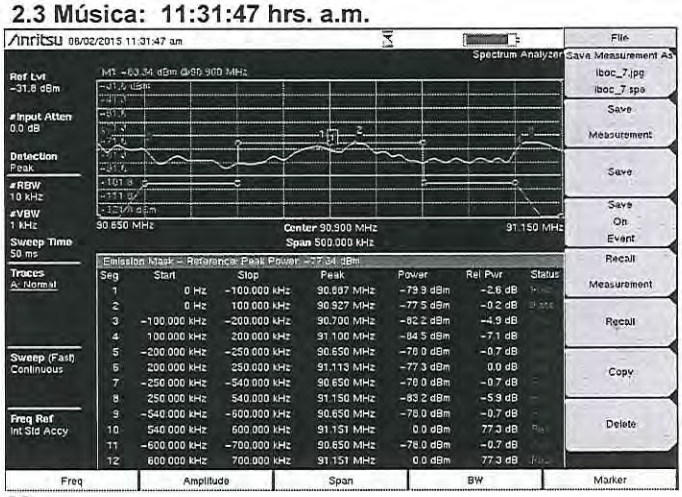
2.2 Música: 11:31:32 hrs. a.m.



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

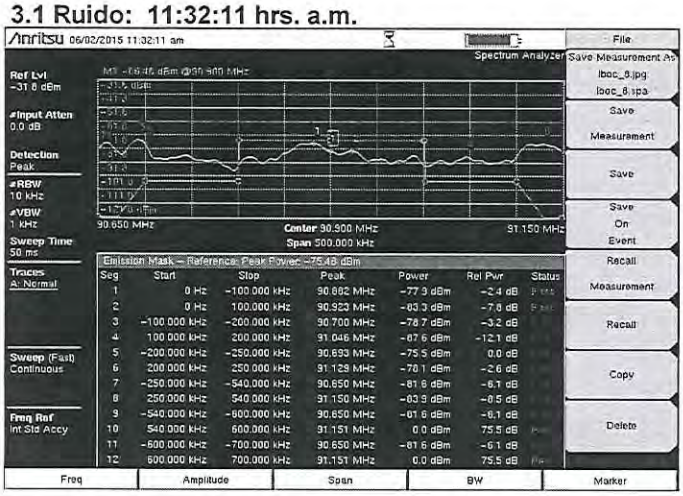


2.3 Música: 11:31:47 hrs. a.m.

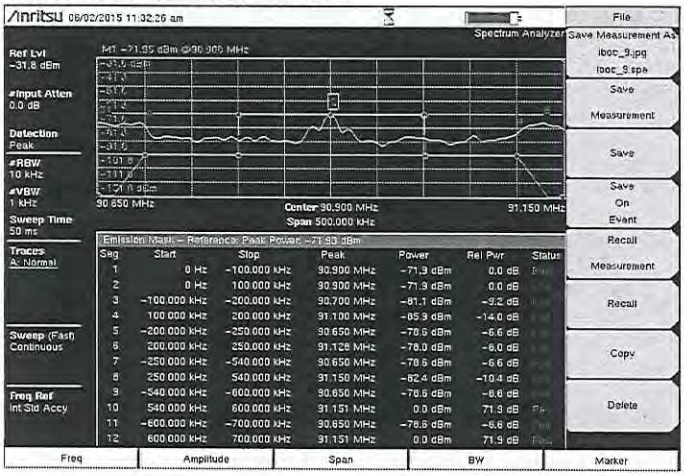


NOTA:

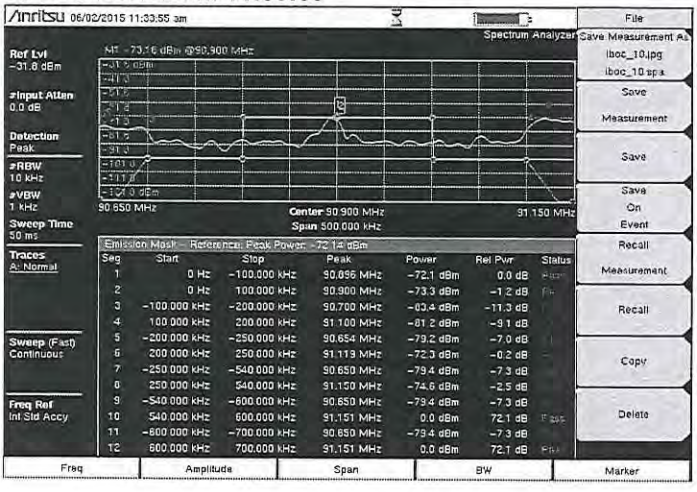
3.1 Ruido: 11:32:11 hrs. a.m.



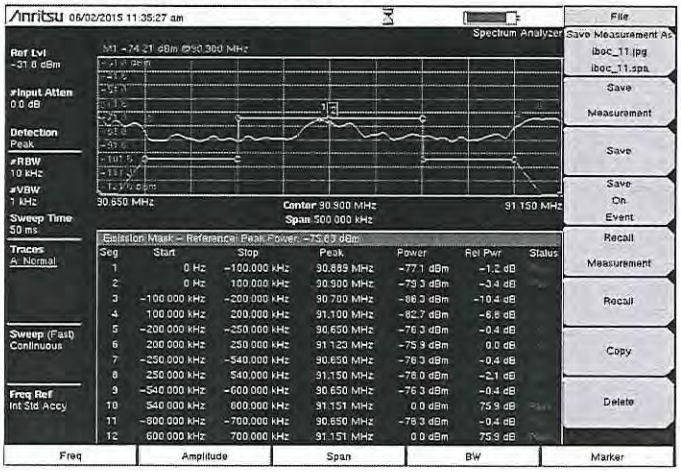
3.2 Ruido: 11:32:26 hrs. a.m.



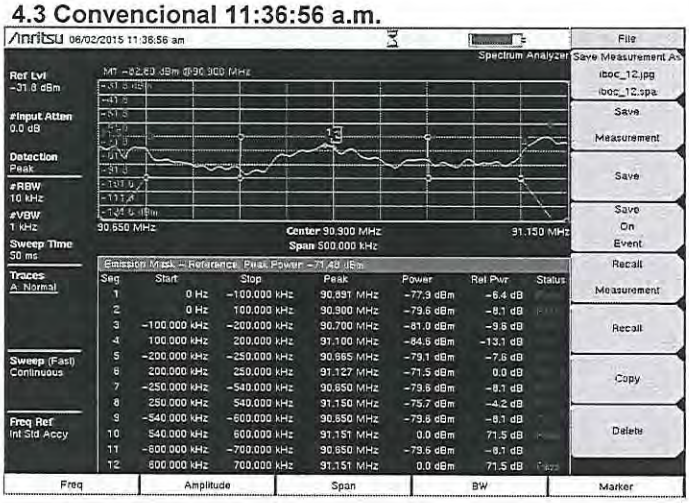
4.1 Convencional 11:33:55



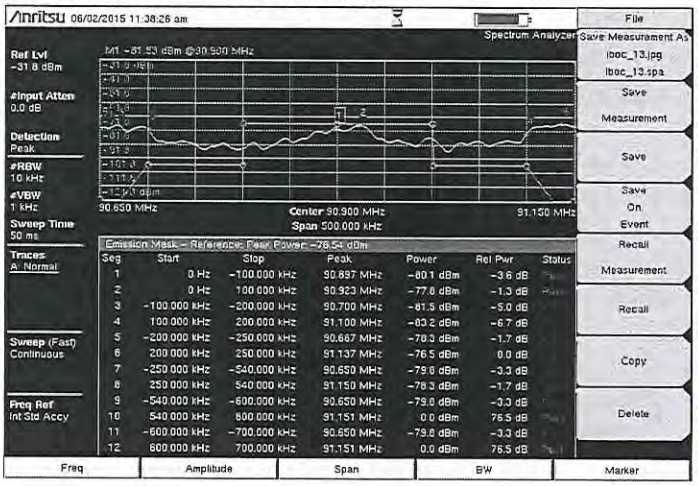
4.2 Convencional 11:35:27 a.m.



4.3 Convencional 11:36:56 a.m.

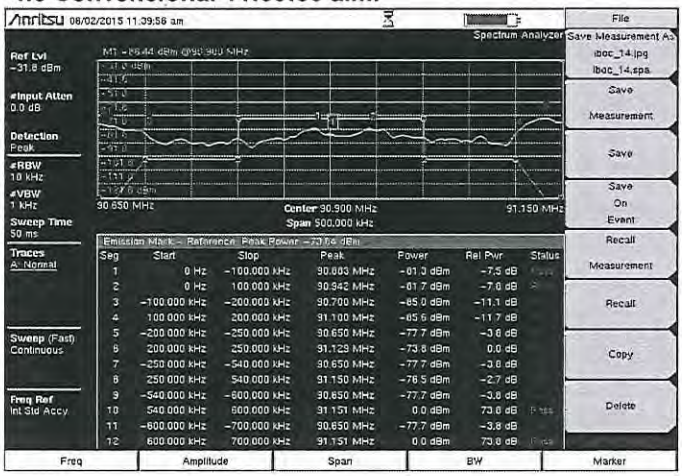


4.4 Convencional 11:38:26 a.m.

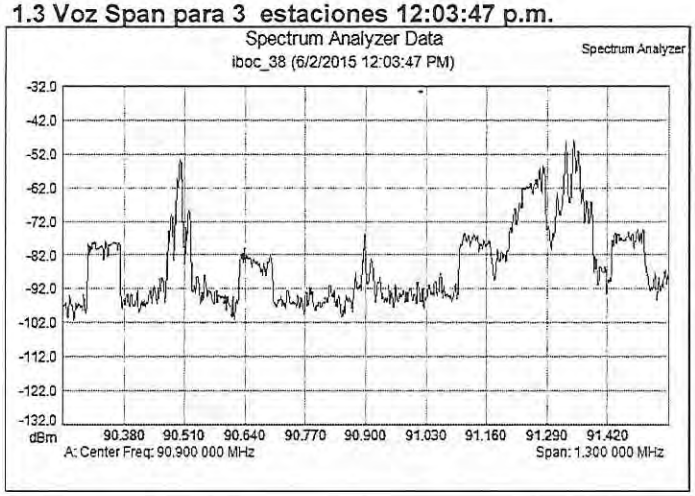


NOTA:

4.5 Convencional 11:39:56 a.m.

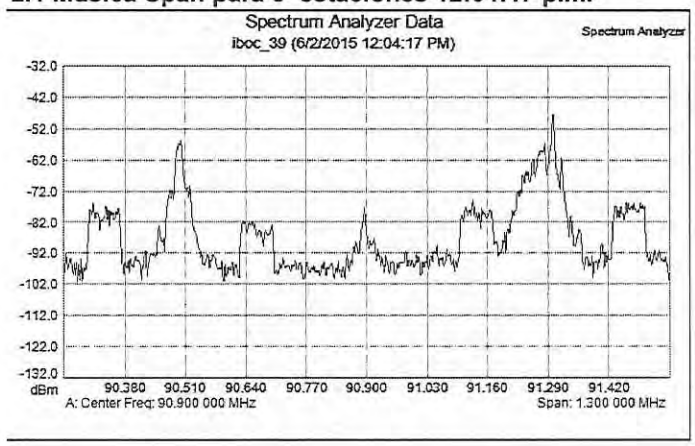


1.3 Voz Span para 3 estaciones 12:03:47 p.m.

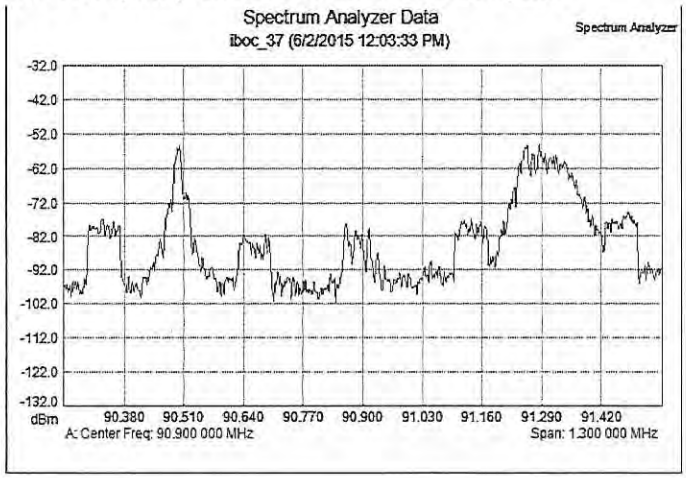


1.1 Voz Span para 3 estaciones 12:03:17 p.m.

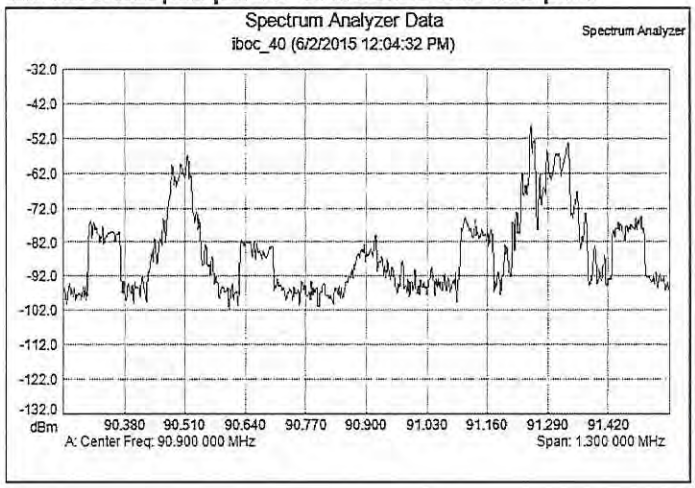
2.1 Música Span para 3 estaciones 12:04:17 p.m.



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

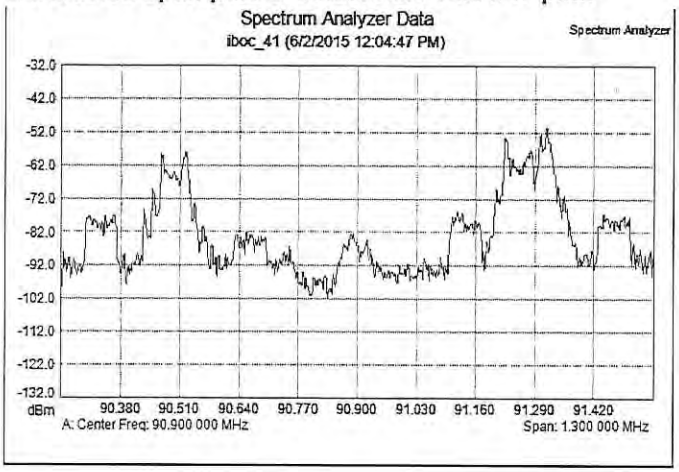


2.2 Música Span para 3 estaciones 12:04:32 p.m.

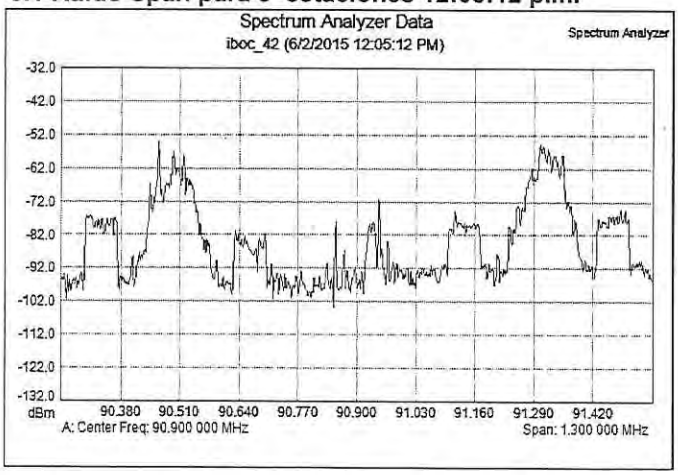


NOTA:

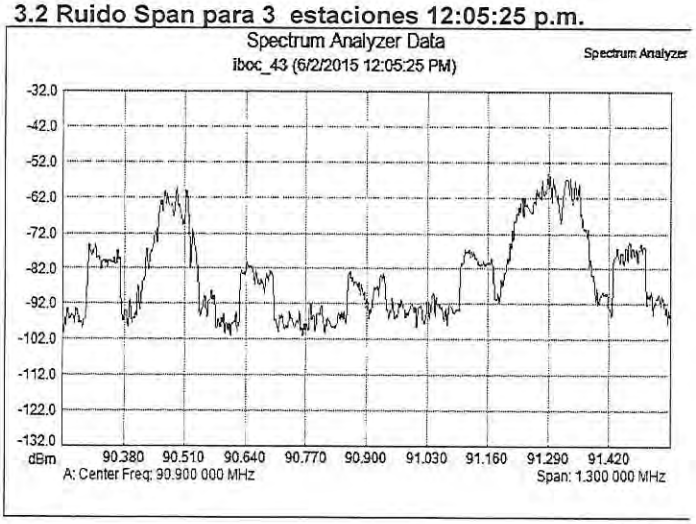
2.3 Música Span para 3 estaciones 12:04:47 p.m.



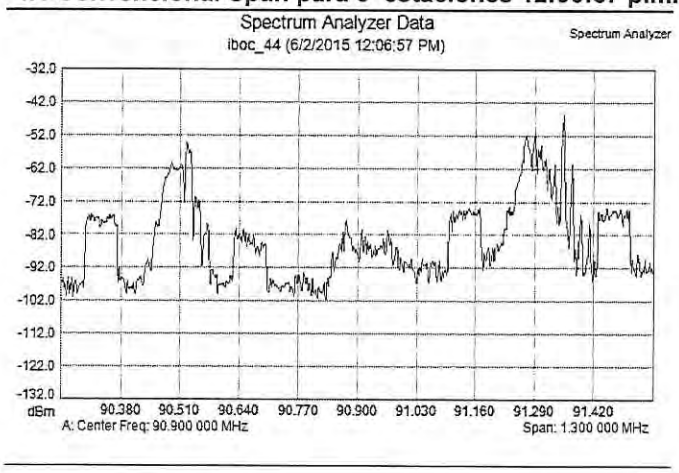
3.1 Ruido Span para 3 estaciones 12:05:12 p.m.



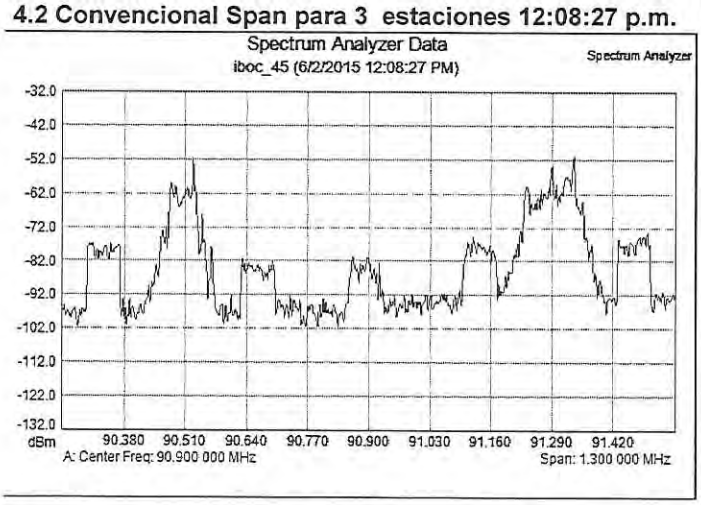
3.2 Ruido Span para 3 estaciones 12:05:25 p.m.



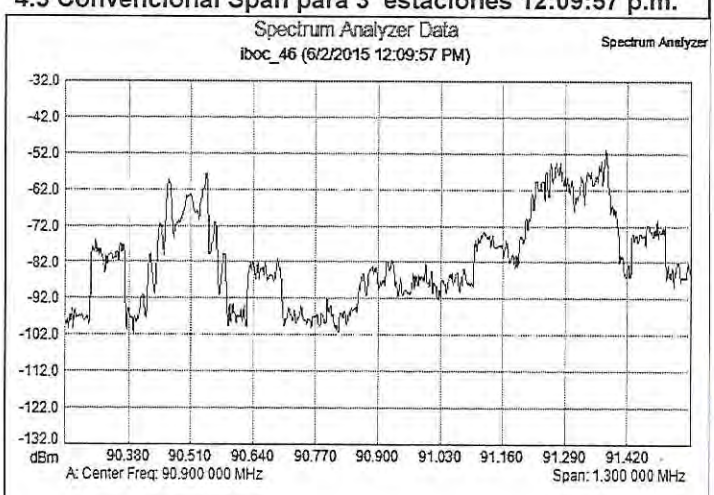
4.1 Convencional Span para 3 estaciones 12:06:57 p.m.



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

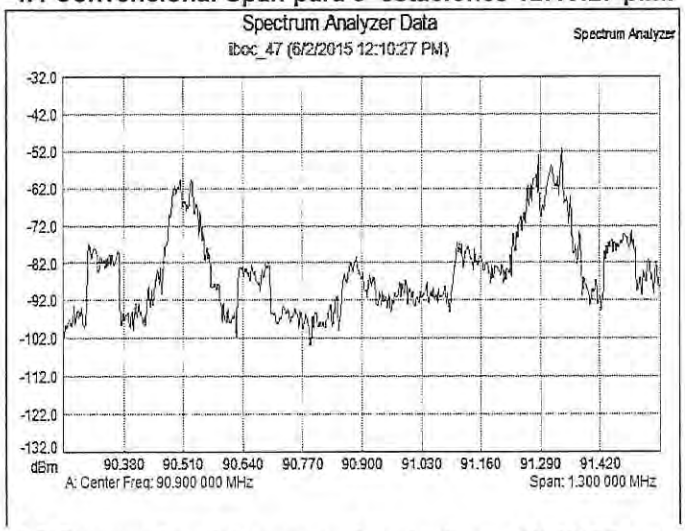


4.3 Convencional Span para 3 estaciones 12:09:57 p.m.

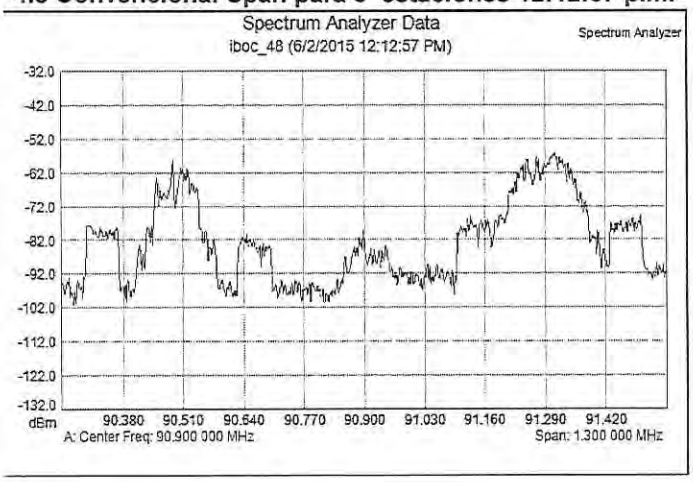


NOTA:

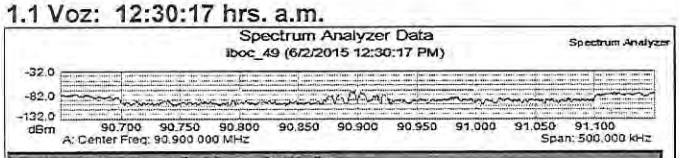
4.4 Convencional Span para 3 estaciones 12:10:27 p.m.



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



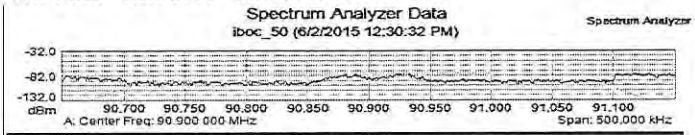
1.1 Voz: 12:30:17 hrs. a.m.



Seg	Start	Stop	Peak	Power Rel Pwr	Status
1	0.000MHz	0.100MHz	0.091GHz	8.108dBm	0dB	Pass
3	0.000MHz	0.100MHz	0.091GHz	5.36dBm	1.252dB	Pass
5	0.100MHz	0.200MHz	0.091GHz	2.452dBm	5.344dB	Fail
7	0.200MHz	0.250MHz	0.091GHz	1.256dBm	4.148dB	Fail
9	0.250MHz	0.540MHz	0.091GHz	0.236dBm	5.128dB	Fail
11	0.540MHz	0.600MHz	0.091GHz	0dBm	4.108dB	Pass

Measurement Parameters			
		Stop Frequency	91.150 000 MHz
Trace Mode	Normal	Frequency Span	500.000 000 kHz
Preamp	OFF	Reference Level	-32.000 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 12:30:17 PM
Start Frequency	90.650 000 MHz	Device Name	

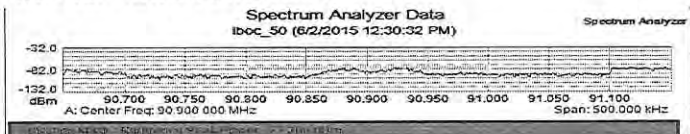
1.2 Voz: 12:30:17 hrs. a.m.



Seg	Start	Stop	Peak	Power Rel Pwr	Status
1	0.000MHz	0.100MHz	0.091GHz	8.468dBm	1.072dB	Pass
3	0.000MHz	0.100MHz	0.091GHz	6.396dBm	0dB	Fail
5	0.100MHz	0.200MHz	0.091GHz	3.544dBm	12.148dB	Fail
7	0.200MHz	0.250MHz	0.091GHz	2.804dBm	1.408dB	Fail
9	0.250MHz	0.540MHz	0.091GHz	1.424dBm	6.028dB	Fail
11	0.540MHz	0.600MHz	0.091GHz	0dBm	7.396dB	Pass

Measurement Parameters			
		Stop Frequency	91.150 000 MHz
Trace Mode	Normal	Frequency Span	500.000 000 kHz
Preamp	OFF	Reference Level	-32.000 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 12:30:32 PM
Start Frequency	90.650 000 MHz	Device Name	

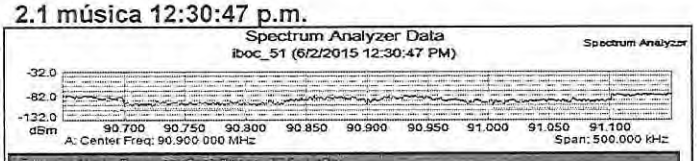
1.3 Voz: 12:30:32 hrs. a.m.



Seg	Start	Stop	Peak	Power Rel Pwr	Status
1	0.000MHz	0.100MHz	0.091GHz	8.468dBm	1.072dB	Pass
3	0.000MHz	0.100MHz	0.091GHz	6.396dBm	0dB	Fail
5	0.100MHz	0.200MHz	0.091GHz	3.544dBm	12.148dB	Fail
7	0.200MHz	0.250MHz	0.091GHz	2.804dBm	1.408dB	Fail
9	0.250MHz	0.540MHz	0.091GHz	1.424dBm	6.028dB	Fail
11	0.540MHz	0.600MHz	0.091GHz	0dBm	7.396dB	Pass

Measurement Parameters			
		Stop Frequency	91.150 000 MHz
Trace Mode	Normal	Frequency Span	500.000 000 kHz
Preamp	OFF	Reference Level	-32.000 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 12:30:32 PM
Start Frequency	90.650 000 MHz	Device Name	

2.1 música 12:30:47 p.m.

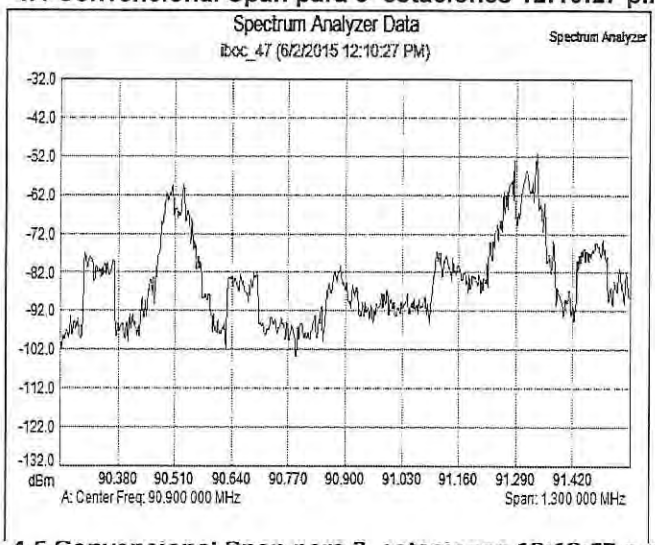


Seg	Start	Stop	Peak	Power Rel Pwr	Status
1	0.000MHz	0.100MHz	0.091GHz	2.18dBm	4.236dB	Pass
3	0.000MHz	0.100MHz	0.091GHz	1.68dBm	3.736dB	Pass
5	0.100MHz	0.200MHz	0.091GHz	0.516dBm	8.572dB	Fail
7	0.200MHz	0.250MHz	0.091GHz	0.944dBm	0dB	Fail
9	0.250MHz	0.540MHz	0.091GHz	0.068dBm	2.124dB	Fail
11	0.540MHz	0.600MHz	0.091GHz	0dBm	7.944dB	Pass

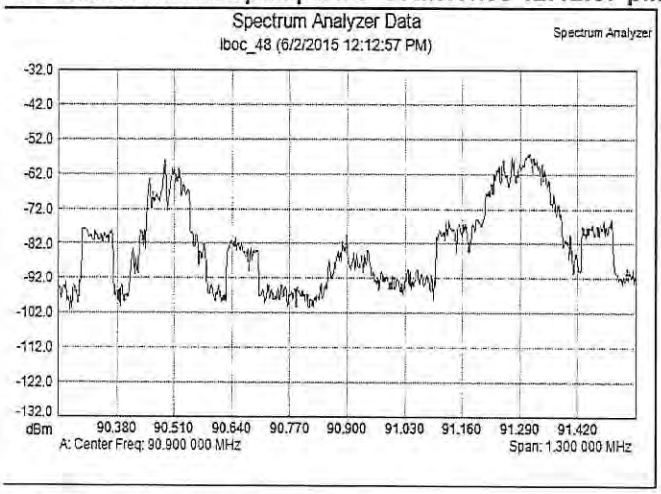
Measurement Parameters			
		Stop Frequency	91.150 000 MHz
Trace Mode	Normal	Frequency Span	500.000 000 kHz
Preamp	OFF	Reference Level	-32.000 dBm
Min Sweep Time	0.001 S	Scale	10.0 dB/div
Reference Level Offset	0 dB	Serial Number	1444097
Input Attenuation	0.0 dB	Base Ver.	V5.07
RBW	1.0 kHz	App Ver.	V6.45
VBW	10.0 kHz	Model	MS2713E
Detection	Peak	Options	9, 25, 31, 431, 509
Center Frequency	90.900 000 MHz	Date	6/2/2015 12:30:47 PM
Start Frequency	90.650 000 MHz	Device Name	

NOTA:

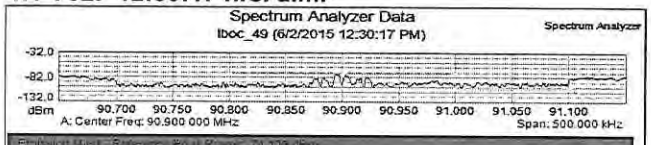
4.4 Convencional Span para 3 estaciones 12:10:27 p.m.



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



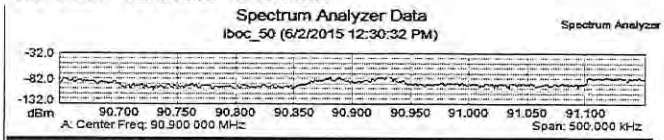
1.1 Voz: 12:30:17 hrs. a.m.



Seg	Start	Stop	Peak	Power	Rel Pwr	Status
1	0.000MHz	0.100MHz	0.091GHz	8.108dBm	0dB	Pass
3	0.000MHz	0.100MHz	0.091GHz	5.36dBm	1.252dB	Pass
5	0.100MHz	0.200MHz	0.091GHz	8.452dBm	15.344dB	Fail
7	0.200MHz	0.250MHz	0.091GHz	8.256dBm	4.148dB	Fail
9	0.250MHz	0.540MHz	0.091GHz	8.236dBm	5.128dB	Fail
11	0.540MHz	0.600MHz	0.091GHz	0dBm	4.108dB	Pass

Measurement Parameters			
		Stop Frequency	91.150 000 MHz
Trace Mode	Normal	Frequency Span	500.000 000 kHz
Preamp	OFF	Reference Level	-32.000 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 12:30:17 PM
Start Frequency	90.650 000 MHz	Device Name	

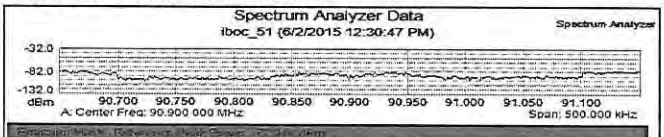
1.2 Voz: 12:30:17 hrs. a.m.



Seg	Start	Stop	Peak	Power	Rel Pwr	Status
1	0.000MHz	0.100MHz	0.091GHz	8.458dBm	1.072dB	Pass
3	0.000MHz	0.100MHz	0.091GHz	8.396dBm	0dB	Fail
5	0.100MHz	0.200MHz	0.091GHz	8.544dBm	12.148dB	Fail
7	0.200MHz	0.250MHz	0.091GHz	8.804dBm	1.408dB	Fail
9	0.250MHz	0.540MHz	0.091GHz	8.424dBm	6.028dB	Fail
11	0.540MHz	0.600MHz	0.091GHz	0dBm	7.396dB	Pass

Measurement Parameters			
		Stop Frequency	91.150 000 MHz
Trace Mode	Normal	Frequency Span	500.000 000 kHz
Preamp	OFF	Reference Level	-32.000 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 12:30:32 PM
Start Frequency	90.650 000 MHz	Device Name	

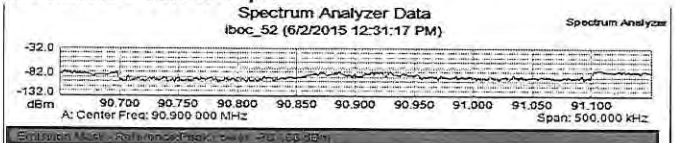
1.3 Voz: 12:30:47 hrs. a.m.



Seg	Start	Stop	Peak	Power	Rel Pwr	Status
1	0.000MHz	0.100MHz	0.091GHz	2.18dBm	4.236dB	Pass
3	0.000MHz	0.100MHz	0.091GHz	1.68dBm	3.736dB	Pass
5	0.100MHz	0.200MHz	0.091GHz	8.516dBm	8.572dB	Fail
7	0.200MHz	0.250MHz	0.091GHz	2.944dBm	0dB	Fail
9	0.250MHz	0.540MHz	0.091GHz	0.068dBm	2.124dB	Fail
11	0.540MHz	0.600MHz	0.091GHz	0dBm	7.944dB	Pass

Measurement Parameters			
		Stop Frequency	91.150 000 MHz
Trace Mode	Normal	Frequency Span	500.000 000 kHz
Preamp	OFF	Reference Level	-32.000 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 12:30:47 PM
Start Frequency	90.650 000 MHz	Device Name	

2.1 música 12:31:17 p.m.

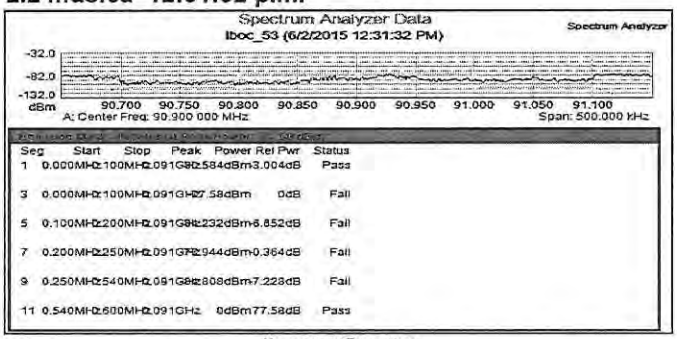


Seg	Start	Stop	Peak	Power	Rel Pwr	Status
1	0.000MHz	0.100MHz	0.091GHz	8.488dBm	4.02dB	Pass
3	0.000MHz	0.100MHz	0.091GHz	8.688dBm	4.22dB	Pass
5	0.100MHz	0.200MHz	0.091GHz	8.476dBm	1.008dB	Fail
7	0.200MHz	0.250MHz	0.091GHz	8.468dBm	0dB	Fail
9	0.250MHz	0.540MHz	0.091GHz	8.524dBm	6.056dB	Fail
11	0.540MHz	0.600MHz	0.091GHz	0dBm	6.468dB	Pass

Measurement Parameters			
		Stop Frequency	91.150 000 MHz
Trace Mode	Normal	Frequency Span	500.000 000 kHz
Preamp	OFF	Reference Level	-32.000 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 12:31:17 PM
Start Frequency	90.650 000 MHz	Device Name	

NOTA:

2.2 música 12:31:32 p.m.

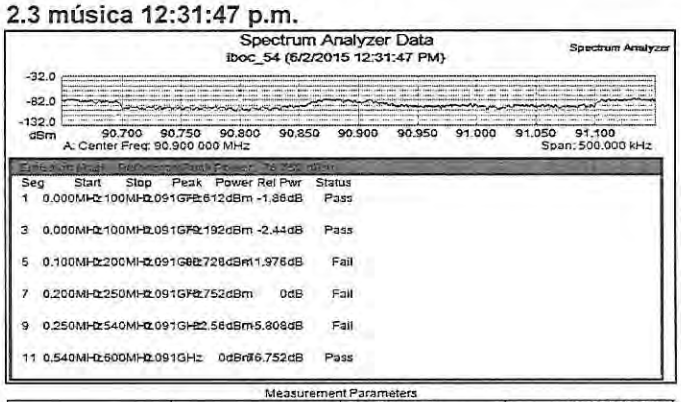


Seg	Start	Stop	Peak	Power Rel Pwr	Status
1	0.000MHz	0.100MHz	0.091GHz	584dBm	3.004dB	Pass
3	0.000MHz	0.100MHz	0.091GHz	7.58dBm	0dB	Fail
5	0.100MHz	0.200MHz	0.091GHz	232dBm	6.852dB	Fail
7	0.200MHz	0.250MHz	0.091GHz	944dBm	0.364dB	Fail
9	0.250MHz	0.540MHz	0.091GHz	808dBm	7.228dB	Fail
11	0.540MHz	0.600MHz	0.091GHz	0dBm	77.58dB	Pass

Measurement Parameters

		Stop Frequency	91.150 000 MHz
Trace Mode	Normal	Frequency Span	500.000 000 kHz
Preamp	OFF	Reference Level	-32.000 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 12:31:32 PM
Start Frequency	90.650 000 MHz	Device Name	

2.3 música 12:31:47 p.m.

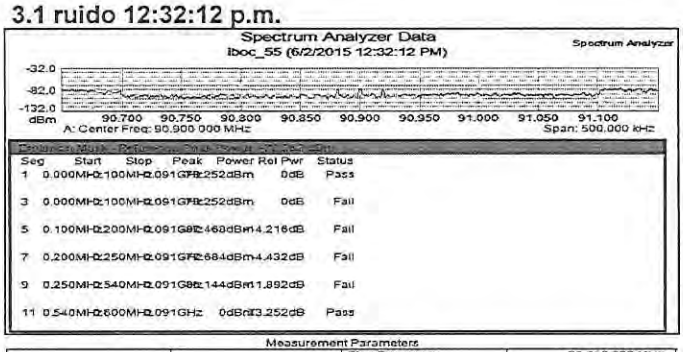


Seg	Start	Stop	Peak	Power Rel Pwr	Status
1	0.000MHz	0.100MHz	0.091GHz	612dBm	-1.86dB	Pass
3	0.000MHz	0.100MHz	0.091GHz	192dBm	-2.44dB	Pass
5	0.100MHz	0.200MHz	0.091GHz	728dBm	1.976dB	Fail
7	0.200MHz	0.250MHz	0.091GHz	752dBm	0dB	Fail
9	0.250MHz	0.540MHz	0.091GHz	2.56dBm	5.808dB	Fail
11	0.540MHz	0.600MHz	0.091GHz	0dBm	6.752dB	Pass

Measurement Parameters

		Stop Frequency	91.150 000 MHz
Trace Mode	Normal	Frequency Span	500.000 000 kHz
Preamp	OFF	Reference Level	-32.000 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 12:31:47 PM
Start Frequency	90.650 000 MHz	Device Name	

3.1 ruido 12:32:12 p.m.

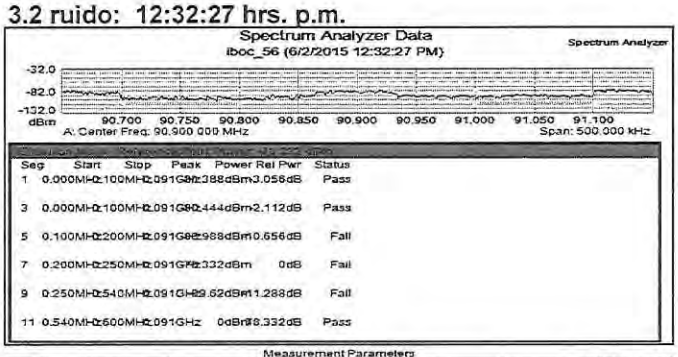


Seg	Start	Stop	Peak	Power Rel Pwr	Status
1	0.000MHz	0.100MHz	0.091GHz	252dBm	0dB	Pass
3	0.000MHz	0.100MHz	0.091GHz	252dBm	0dB	Fail
5	0.100MHz	0.200MHz	0.091GHz	460dBm	4.216dB	Fail
7	0.200MHz	0.250MHz	0.091GHz	684dBm	4.432dB	Fail
9	0.250MHz	0.540MHz	0.091GHz	144dBm	1.892dB	Fail
11	0.540MHz	0.600MHz	0.091GHz	0dBm	3.252dB	Pass

Measurement Parameters

		Stop Frequency	91.150 000 MHz
Trace Mode	Normal	Frequency Span	500.000 000 kHz
Preamp	OFF	Reference Level	-32.000 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 12:32:12 PM
Start Frequency	90.650 000 MHz	Device Name	

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

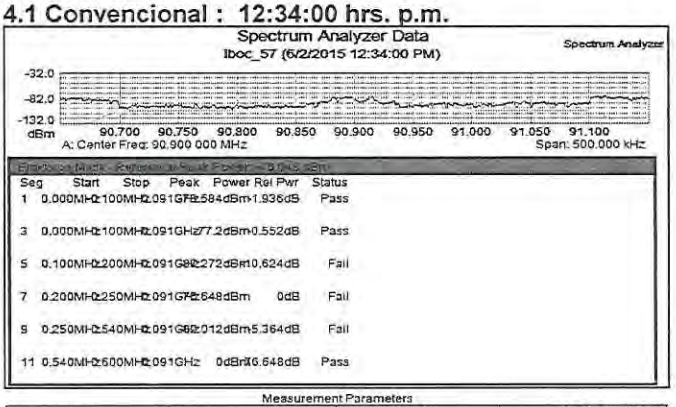


Seg	Start	Stop	Peak	Power Rel Pwr	Status
1	0.000MHz	0.100MHz	0.091GHz	388dBm	3.056dB	Pass
3	0.000MHz	0.100MHz	0.091GHz	444dBm	2.112dB	Pass
5	0.100MHz	0.200MHz	0.091GHz	988dBm	0.656dB	Fail
7	0.200MHz	0.250MHz	0.091GHz	332dBm	0dB	Fail
9	0.250MHz	0.540MHz	0.091GHz	29.62dBm	1.288dB	Fail
11	0.540MHz	0.600MHz	0.091GHz	0dBm	8.332dB	Pass

Measurement Parameters

		Stop Frequency	91.150 000 MHz
Trace Mode	Normal	Frequency Span	500.000 000 kHz
Preamp	OFF	Reference Level	-32.000 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 12:32:27 PM
Start Frequency	90.650 000 MHz	Device Name	

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

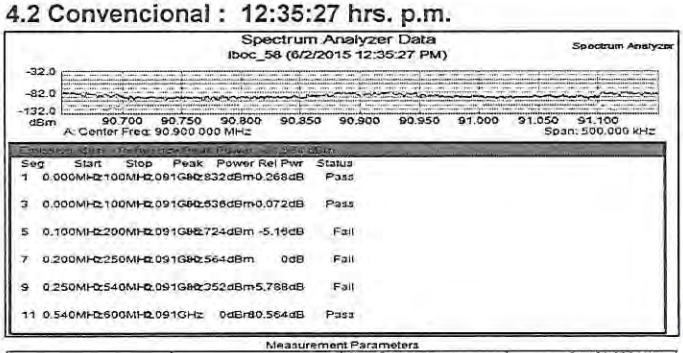


Seg	Start	Stop	Peak	Power Rel Pwr	Status
1	0.000MHz	0.100MHz	0.091GHz	584dBm	1.936dB	Pass
3	0.000MHz	0.100MHz	0.091GHz	77.2dBm	0.552dB	Pass
5	0.100MHz	0.200MHz	0.091GHz	272dBm	10.624dB	Fail
7	0.200MHz	0.250MHz	0.091GHz	648dBm	0dB	Fail
9	0.250MHz	0.540MHz	0.091GHz	012dBm	5.364dB	Fail
11	0.540MHz	0.600MHz	0.091GHz	0dBm	6.648dB	Pass

Measurement Parameters

		Stop Frequency	91.150 000 MHz
Trace Mode	Normal	Frequency Span	500.000 000 kHz
Preamp	OFF	Reference Level	-32.000 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 12:34:00 PM
Start Frequency	90.650 000 MHz	Device Name	

4.2 Convencional : 12:35:27 hrs. p.m.



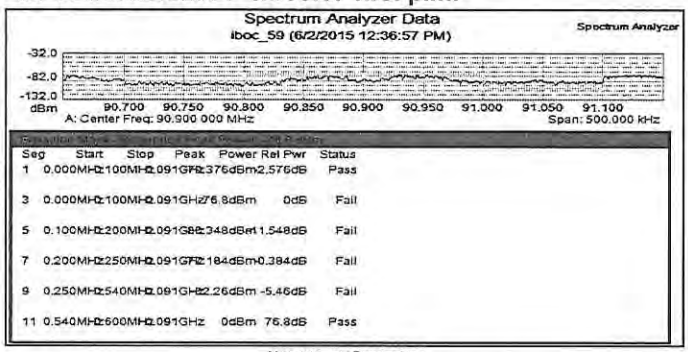
Seg	Start	Stop	Peak	Power Rel Pwr	Status
1	0.000MHz	0.100MHz	0.091GHz	832dBm	0.268dB	Pass
3	0.000MHz	0.100MHz	0.091GHz	536dBm	0.072dB	Pass
5	0.100MHz	0.200MHz	0.091GHz	724dBm	-5.16dB	Fail
7	0.200MHz	0.250MHz	0.091GHz	564dBm	0dB	Fail
9	0.250MHz	0.540MHz	0.091GHz	252dBm	5.788dB	Fail
11	0.540MHz	0.600MHz	0.091GHz	0dBm	0.564dB	Pass

Measurement Parameters

		Stop Frequency	91.150 000 MHz
Trace Mode	Normal	Frequency Span	500.000 000 kHz
Preamp	OFF	Reference Level	-32.000 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 12:35:27 PM
Start Frequency	90.650 000 MHz	Device Name	

NOTA:

4.3 Convencional : 12:36:57 hrs. p.m.

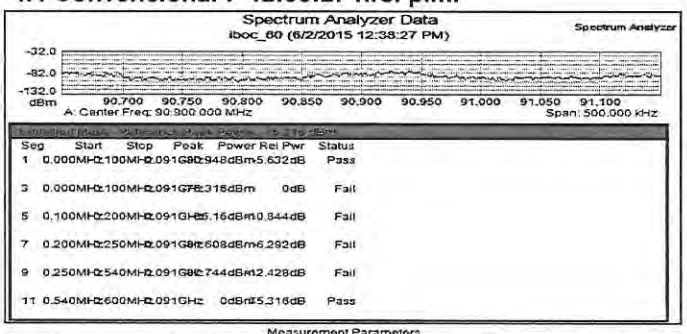


Seg	Start	Stop	Peak	Power Rel Pwr	Status
1	0.000MHz	100MHz	2.091GHz	376dBm	2.576dB	Pass
3	0.000MHz	100MHz	2.091GHz	76.8dBm	0dB	Fail
5	0.100MHz	200MHz	2.091GHz	348dBm	1.548dB	Fail
7	0.200MHz	250MHz	2.091GHz	184dBm	0.384dB	Fail
9	0.250MHz	540MHz	2.091GHz	2.26dBm	-5.46dB	Fail
11	0.540MHz	600MHz	2.091GHz	0dBm	76.8dB	Pass

Measurement Parameters

		Stop Frequency	91.150 000 MHz
Trace Mode	Normal	Frequency Span	500.000 000 kHz
Preamp	OFF	Reference Level	-32.000 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 12:36:57 PM
Start Frequency	90.650 000 MHz	Device Name	

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

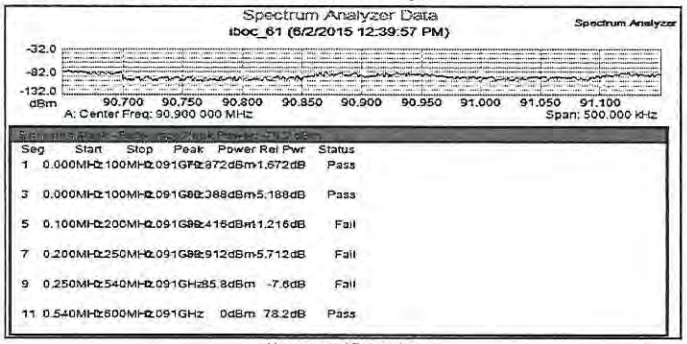


Seg	Start	Stop	Peak	Power Rel Pwr	Status
1	0.000MHz	100MHz	2.091GHz	948dBm	5.632dB	Pass
3	0.000MHz	100MHz	2.091GHz	316dBm	0dB	Fail
5	0.100MHz	200MHz	2.091GHz	5.16dBm	10.844dB	Fail
7	0.200MHz	250MHz	2.091GHz	608dBm	6.292dB	Fail
9	0.250MHz	540MHz	2.091GHz	744dBm	12.428dB	Fail
11	0.540MHz	600MHz	2.091GHz	0dBm	5.316dB	Pass

Measurement Parameters

		Stop Frequency	91.150 000 MHz
Trace Mode	Normal	Frequency Span	500.000 000 kHz
Preamp	OFF	Reference Level	-32.000 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 12:38:27 PM
Start Frequency	90.650 000 MHz	Device Name	

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

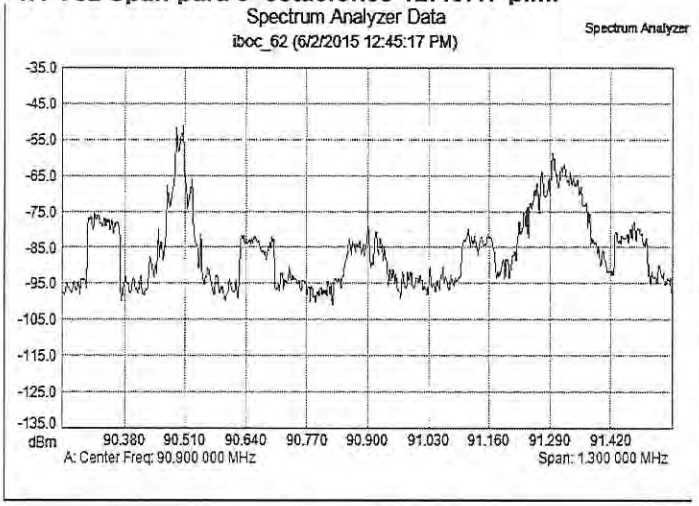


Seg	Start	Stop	Peak	Power Rel Pwr	Status
1	0.000MHz	100MHz	2.091GHz	872dBm	1.672dB	Pass
3	0.000MHz	100MHz	2.091GHz	388dBm	5.188dB	Pass
5	0.100MHz	200MHz	2.091GHz	416dBm	11.216dB	Fail
7	0.200MHz	250MHz	2.091GHz	912dBm	5.712dB	Fail
9	0.250MHz	540MHz	2.091GHz	85.8dBm	-7.6dB	Fail
11	0.540MHz	600MHz	2.091GHz	0dBm	78.2dB	Pass

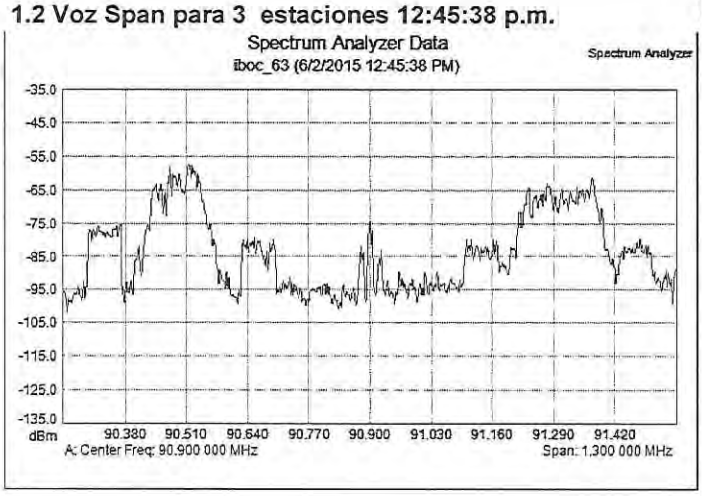
Measurement Parameters

		Stop Frequency	91.150 000 MHz
Trace Mode	Normal	Frequency Span	500.000 000 kHz
Preamp	OFF	Reference Level	-32.000 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 12:39:57 PM
Start Frequency	90.650 000 MHz	Device Name	

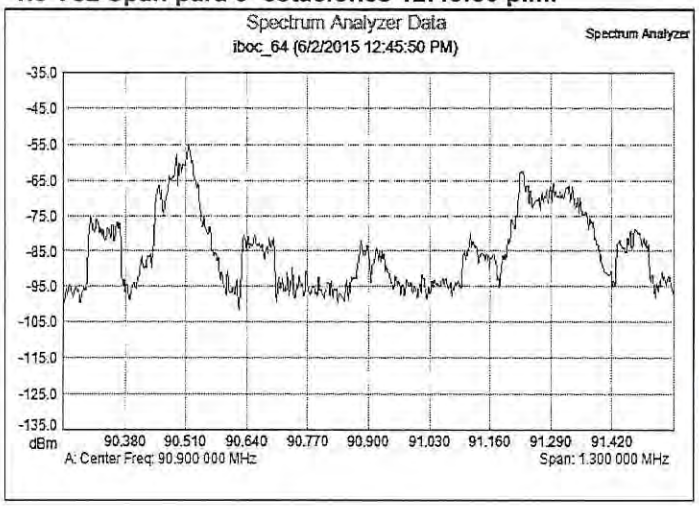
1.1 Voz Span para 3 estaciones 12:45:17 p.m.



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

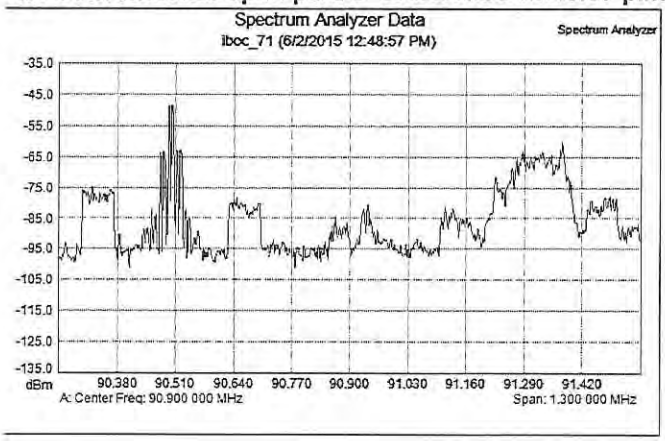


1.3 Voz Span para 3 estaciones 12:45:50 p.m.

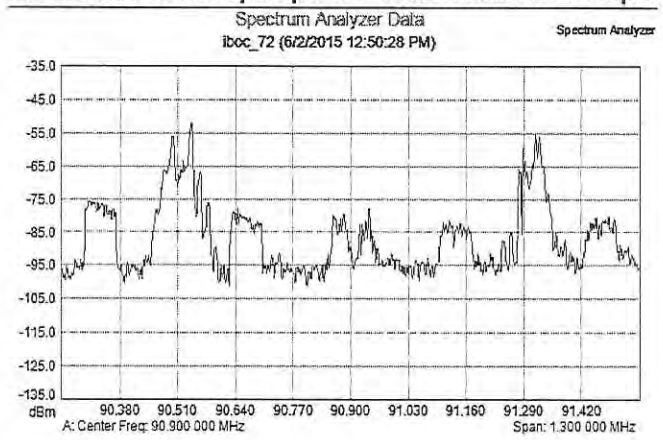


NOTA:

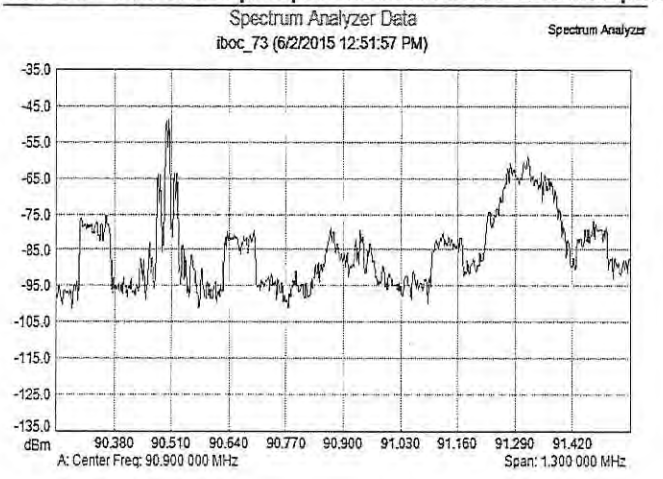
4.1 Convencional Span para 3 estaciones 12:48:57 p.m.



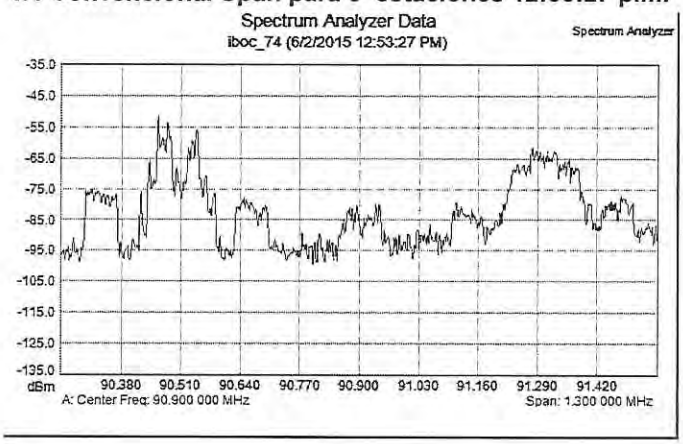
4.2 Convencional Span para 3 estaciones 12:50:28 p.m.



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

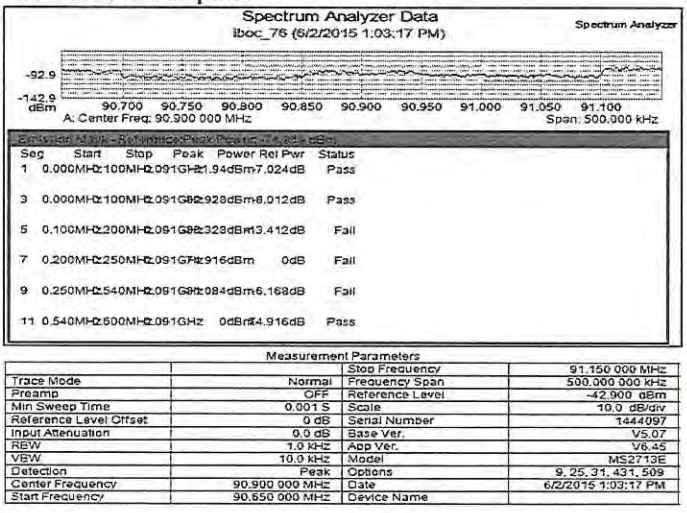


4.4 Convencional Span para 3 estaciones 12:53:27 p.m.



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

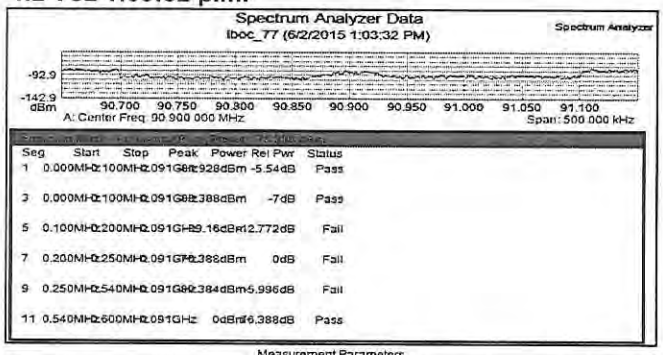
1.1 Voz 1:03:17 p.m.



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 1:03:17 PM
Start Frequency	90.650 000 MHz	Device Name	

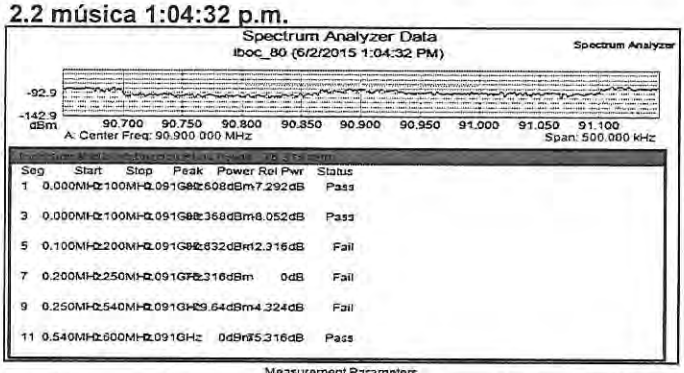
NOTA:

1.2 Voz 1:03:32 p.m.



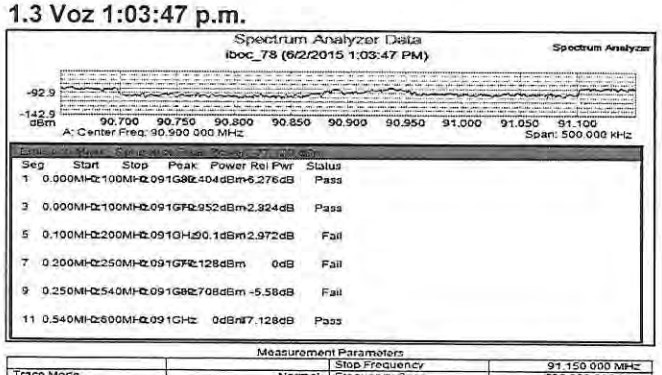
Measurement Parameters			
		Stop Frequency	91.150 000 MHz
Trace Mode	Normal	Frequency Span	500.000 000 kHz
Preamp	OFF	Reference Level	-42.900 dBm
Min Sweep Time	0.001 S	Scale	10.0 dB/div
Reference Level Offset	0 dB	Serial Number	1444097
Input Attenuation	0.0 dB	Base Ver.	V5.07
RBW	1.0 kHz	App Ver.	V6.45
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.



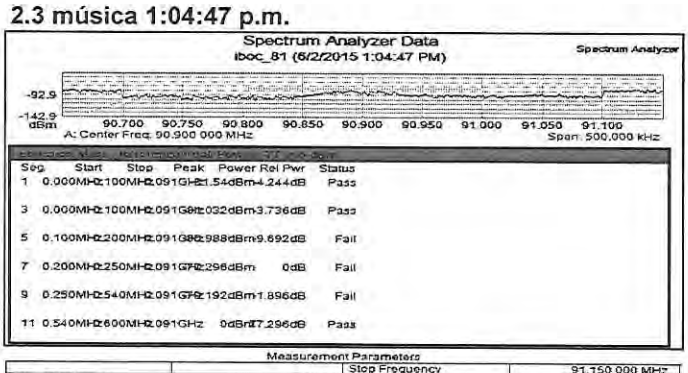
Measurement Parameters			
		Stop Frequency	91.150 000 MHz
Trace Mode	Normal	Frequency Span	500.000 000 kHz
Preamp	OFF	Reference Level	-42.900 dBm
Min Sweep Time	0.001 S	Scale	10.0 dB/div
Reference Level Offset	0 dB	Serial Number	1444097
Input Attenuation	0.0 dB	Base Ver.	V5.07
RBW	1.0 kHz	App Ver.	V6.45
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.



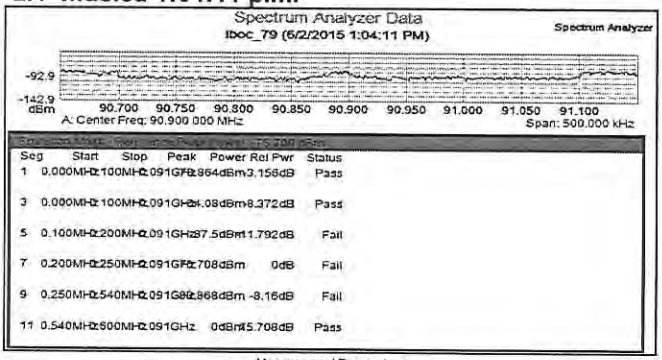
Measurement Parameters			
		Stop Frequency	91.150 000 MHz
Trace Mode	Normal	Frequency Span	500.000 000 kHz
Preamp	OFF	Reference Level	-42.900 dBm
Min Sweep Time	0.001 S	Scale	10.0 dB/div
Reference Level Offset	0 dB	Serial Number	1444097
Input Attenuation	0.0 dB	Base Ver.	V5.07
RBW	1.0 kHz	App Ver.	V6.45
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.



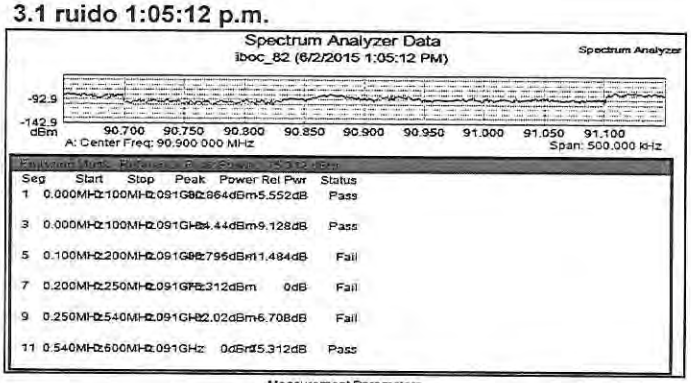
Measurement Parameters			
		Stop Frequency	91.150 000 MHz
Trace Mode	Normal	Frequency Span	500.000 000 kHz
Preamp	OFF	Reference Level	-42.900 dBm
Min Sweep Time	0.001 S	Scale	10.0 dB/div
Reference Level Offset	0 dB	Serial Number	1444097
Input Attenuation	0.0 dB	Base Ver.	V5.07
RBW	1.0 kHz	App Ver.	V6.45
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	

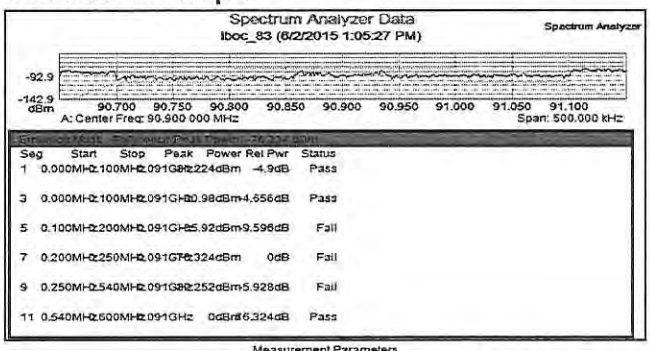
3.1 ruido 1:05:12 p.m.



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.

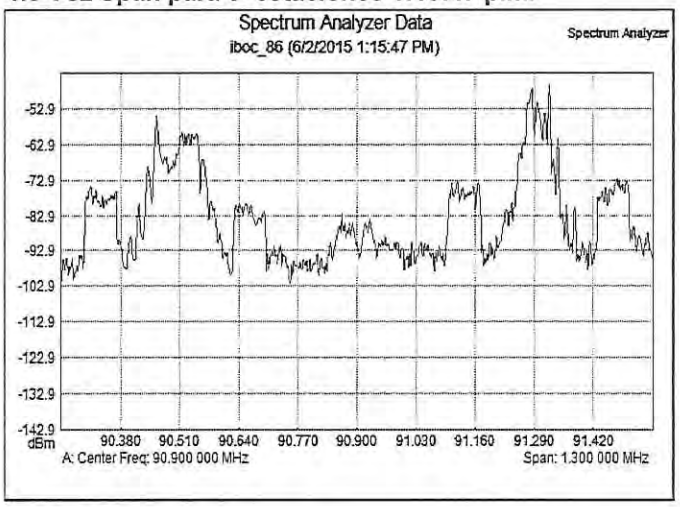


Seg	Start	Stop	Peak	Power Rel Pwr	Status
1	0.000MHz	0.100MHz	0.091GHz	0.224dBm -4.9dB	Pass
3	0.000MHz	0.100MHz	0.091GHz	0.98dBm -4.656dB	Pass
5	0.100MHz	0.200MHz	0.091GHz	5.92dBm 9.596dB	Fail
7	0.200MHz	0.250MHz	0.091GHz	0.324dBm 0dB	Fail
9	0.250MHz	0.540MHz	0.091GHz	0.252dBm 5.928dB	Fail
11	0.540MHz	0.600MHz	0.091GHz	0dBm 6.324dB	Pass

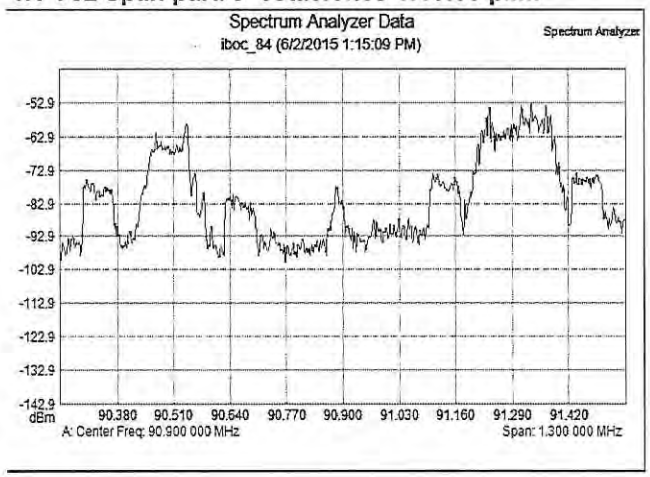
Measurement Parameters

		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 1:05:27 PM
Start Frequency	90.650 000 MHz	Device Name	

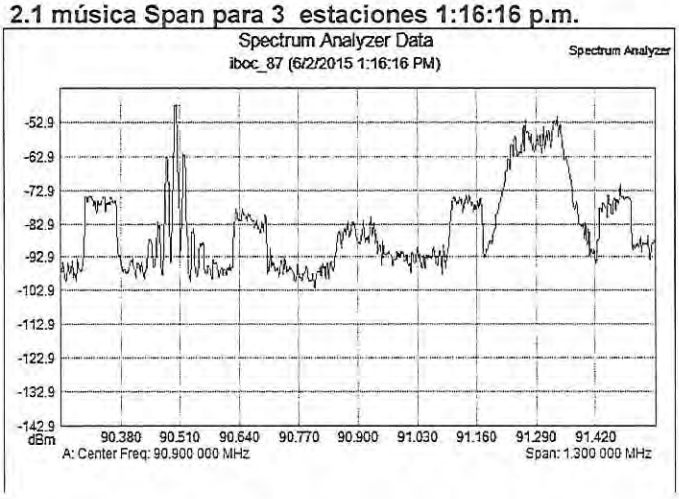
1.3 Voz Span para 3 estaciones 1:15:47 p.m.



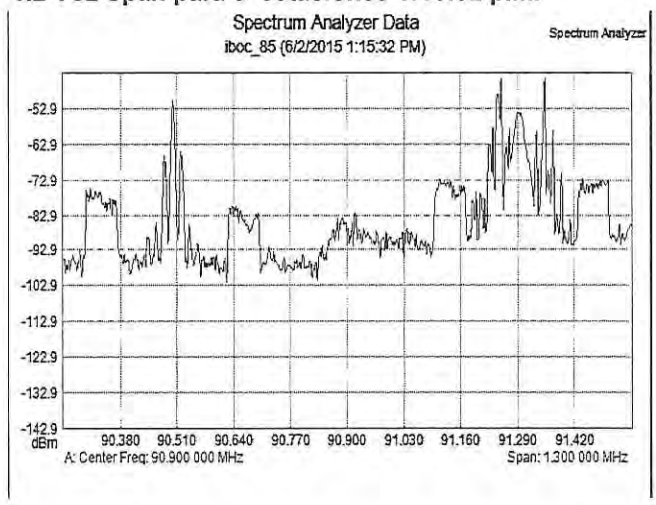
1.1 Voz Span para 3 estaciones 1:15:09 p.m.



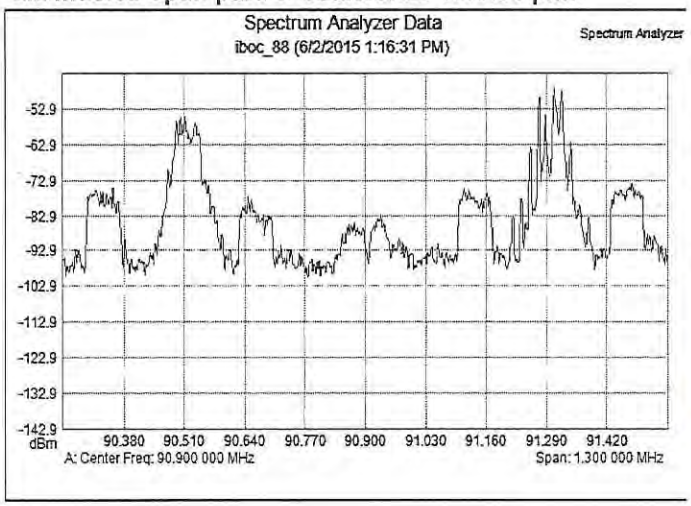
2.1 música Span para 3 estaciones 1:16:16 p.m.



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

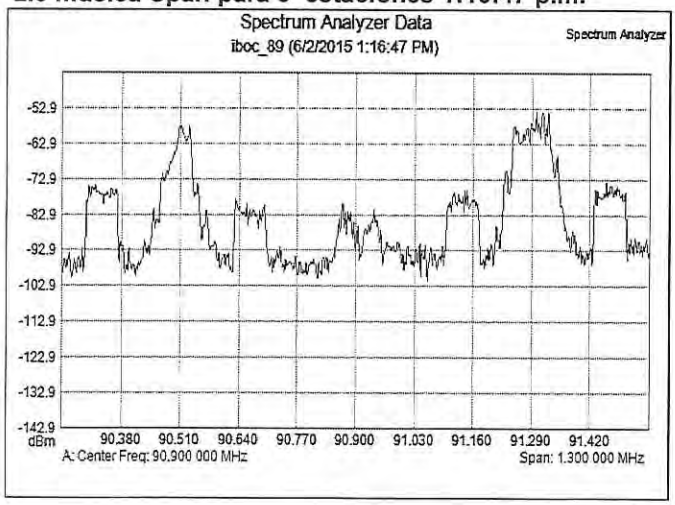


2.2 música Span para 3 estaciones 1:16:31 p.m.

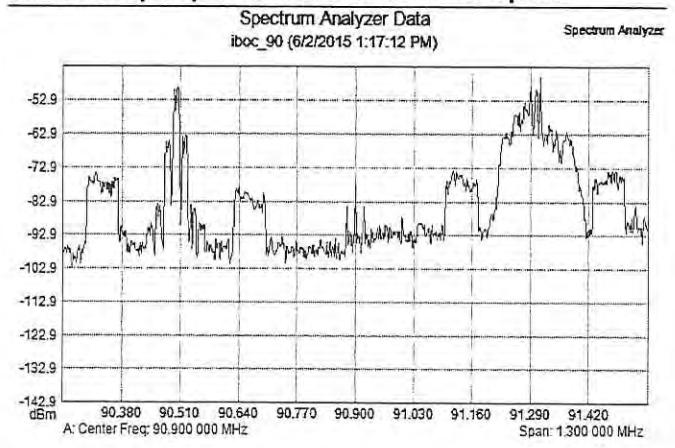


NOTA: debido a la interrupciones de una dama de la PBI (hubo que explicarle nuestra presencia ahí) se omitieron las convencionales para tres estaciones

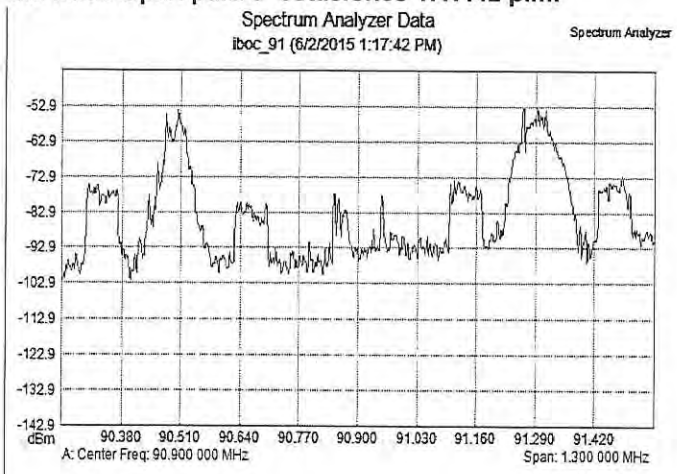
2.3 música Span para 3 estaciones 1:16:47 p.m.



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

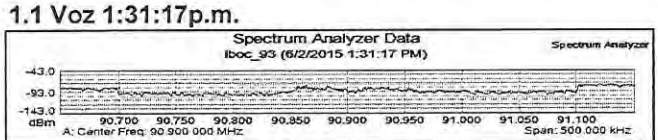


3.2 ruido Span para 3 estaciones 1:17:42 p.m.



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

1.1 Voz 1:31:17p.m.

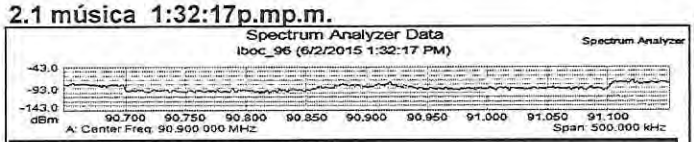


Seg	Start	Stop	Peak	Power Rel Pwr	Status
1	0.000MHz	100MHz	2.091GHz	8.944dBm -1.04dB	Pass
3	0.000MHz	100MHz	2.091GHz	2.516dBm-6.612dB	Pass
5	0.100MHz	200MHz	2.091GHz	0.924dBm-13.02dB	Fail
7	0.200MHz	250MHz	2.091GHz	0.904dBm 0dB	Fail
9	0.250MHz	540MHz	2.091GHz	0.94dBm-5.036dB	Fail
11	0.540MHz	600MHz	2.091GHz	0dBm 5.904dB	Pass

Measurement Parameters

		Stop Frequency	91.150 000 MHz
Trace Mode	Normal	Frequency Span	500.000 000 kHz
Preamp	OFF	Reference Level	-43.000 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 1:31:17 PM
Start Frequency	90.650 000 MHz	Device Name	

2.1 música 1:32:17p.mp.m.

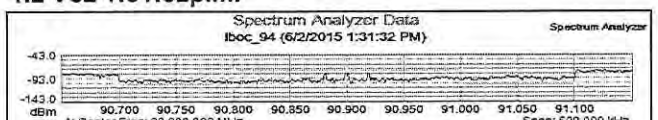


Seg	Start	Stop	Peak	Power Rel Pwr	Status
1	0.000MHz	100MHz	2.091GHz	8.804dBm 8.696dB	Pass
3	0.000MHz	100MHz	2.091GHz	7.78dBm-4.672dB	Pass
5	0.100MHz	200MHz	2.091GHz	0.904dBm-14.796dB	Fail
7	0.200MHz	250MHz	2.091GHz	0.108dBm 0dB	Fail
9	0.250MHz	540MHz	2.091GHz	0.06dBm-6.952dB	Fail
11	0.540MHz	600MHz	2.091GHz	0dBm 3.108dB	Pass

Measurement Parameters

		Stop Frequency	91.150 000 MHz
Trace Mode	Normal	Frequency Span	500.000 000 kHz
Preamp	OFF	Reference Level	-43.000 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 1:32:17 PM
Start Frequency	90.650 000 MHz	Device Name	

1.2 Voz 1:31:32p.m.

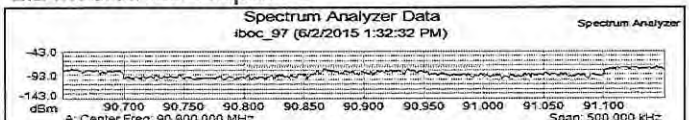


Seg	Start	Stop	Peak	Power Rel Pwr	Status
1	0.000MHz	100MHz	2.091GHz	9.108dBm 0dB	Pass
3	0.000MHz	100MHz	2.091GHz	9.108dBm 0dB	Fail
5	0.100MHz	200MHz	2.091GHz	0.492dBm-12.384dB	Fail
7	0.200MHz	250MHz	2.091GHz	0.432dBm-0.324dB	Fail
9	0.250MHz	540MHz	2.091GHz	0.096dBm 2.988dB	Fail
11	0.540MHz	600MHz	2.091GHz	0dBm 5.108dB	Pass

Measurement Parameters

		Stop Frequency	91.150 000 MHz
Trace Mode	Normal	Frequency Span	500.000 000 kHz
Preamp	OFF	Reference Level	-43.000 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 1:31:32 PM
Start Frequency	90.650 000 MHz	Device Name	

2.2 música 1:32:32p.m.

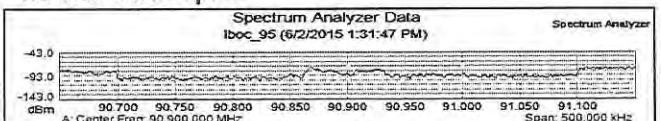


Seg	Start	Stop	Peak	Power Rel Pwr	Status
1	0.000MHz	100MHz	2.091GHz	9.42dBm 4.236dB	Pass
3	0.000MHz	100MHz	2.091GHz	8.696dBm 5.512dB	Pass
5	0.100MHz	200MHz	2.091GHz	0.508dBm-13.424dB	Fail
7	0.200MHz	250MHz	2.091GHz	0.184dBm 0dB	Fail
9	0.250MHz	540MHz	2.091GHz	0.464dBm -8.28dB	Fail
11	0.540MHz	600MHz	2.091GHz	0dBm 5.184dB	Pass

Measurement Parameters

		Stop Frequency	91.150 000 MHz
Trace Mode	Normal	Frequency Span	500.000 000 kHz
Preamp	OFF	Reference Level	-43.000 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 1:32:32 PM
Start Frequency	90.650 000 MHz	Device Name	

1.3 Voz 1:31:47p.m.

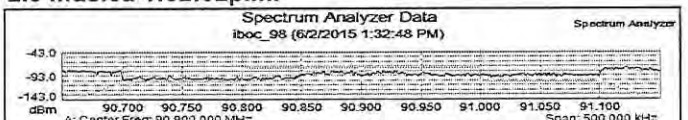


Seg	Start	Stop	Peak	Power Rel Pwr	Status
1	0.000MHz	100MHz	2.091GHz	9.072dBm 0dB	Pass
3	0.000MHz	100MHz	2.091GHz	8.212dBm -6.14dB	Pass
5	0.100MHz	200MHz	2.091GHz	8.56dBm-14.488dB	Fail
7	0.200MHz	250MHz	2.091GHz	8.124dBm 2.052dB	Fail
9	0.250MHz	540MHz	2.091GHz	8.196dBm-4.124dB	Fail
11	0.540MHz	600MHz	2.091GHz	0dBm 4.072dB	Pass

Measurement Parameters

		Stop Frequency	91.150 000 MHz
Trace Mode	Normal	Frequency Span	500.000 000 kHz
Preamp	OFF	Reference Level	-43.000 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 1:31:47 PM
Start Frequency	90.650 000 MHz	Device Name	

2.3 música 1:32:32p.m.



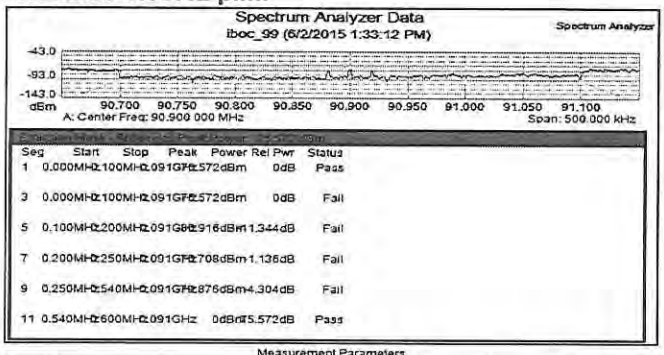
Seg	Start	Stop	Peak	Power Rel Pwr	Status
1	0.000MHz	100MHz	2.091GHz	2.72dBm 6.776dB	Pass
3	0.000MHz	100MHz	2.091GHz	2.78dBm 6.836dB	Pass
5	0.100MHz	200MHz	2.091GHz	0.716dBm-11.772dB	Fail
7	0.200MHz	250MHz	2.091GHz	0.944dBm 0dB	Fail
9	0.250MHz	540MHz	2.091GHz	0.552dBm-8.608dB	Fail
11	0.540MHz	600MHz	2.091GHz	0dBm 5.944dB	Pass

Measurement Parameters

		Stop Frequency	91.150 000 MHz
Trace Mode	Normal	Frequency Span	500.000 000 kHz
Preamp	OFF	Reference Level	-43.000 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 1:32:48 PM
Start Frequency	90.650 000 MHz	Device Name	

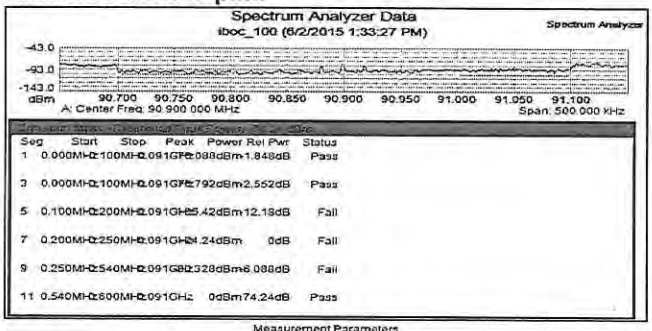
NOTA:

3.1 ruido 1:33:12 p.m.



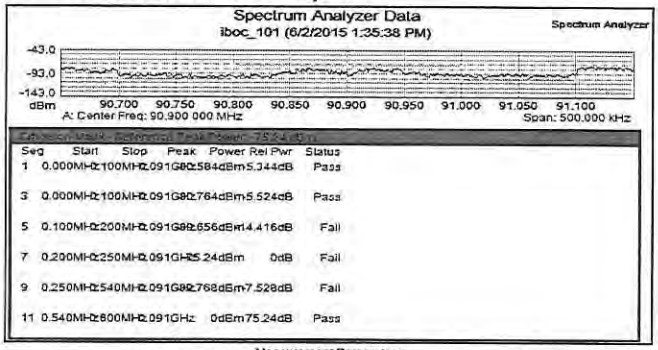
Measurement Parameters			
		Stop Frequency	91.150 000 MHz
Trace Mode	Normal	Frequency Span	500.000 000 kHz
Preamp	OFF	Reference Level	-43.000 dBm
Min Sweep Time	0.001 S	Scale	10.0 dB/div
Reference Level Offset	0 dB	Serial Number	1444097
Input Attenuation	0.0 dB	Base Ver.	V5.07
RBW	1.0 kHz	App Ver.	V6.45
VBW	10.0 kHz	Model	MS2713E
Detection	Peak	Options	9, 25, 31, 431, 509
Center Frequency	90.900 000 MHz	Date	6/2/2015 1:33:12 PM
Start Frequency	90.650 000 MHz	Device Name	

3.2 ruido 1:33:27 p.m.



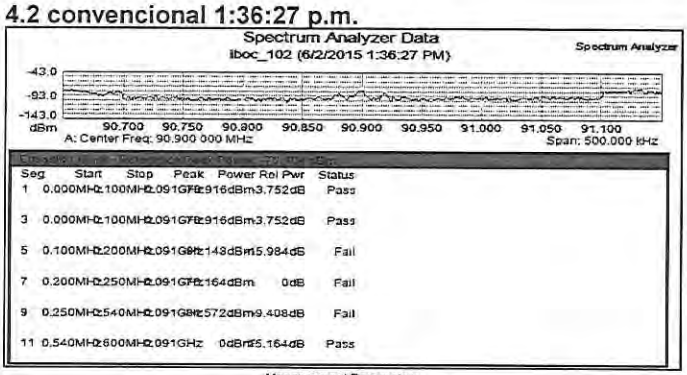
Measurement Parameters			
		Stop Frequency	91.150 000 MHz
Trace Mode	Normal	Frequency Span	500.000 000 kHz
Preamp	OFF	Reference Level	-43.000 dBm
Min Sweep Time	0.001 S	Scale	10.0 dB/div
Reference Level Offset	0 dB	Serial Number	1444097
Input Attenuation	0.0 dB	Base Ver.	V5.07
RBW	1.0 kHz	App Ver.	V6.45
VBW	10.0 kHz	Model	MS2713E
Detection	Peak	Options	9, 25, 31, 431, 509
Center Frequency	90.900 000 MHz	Date	6/2/2015 1:33:27 PM
Start Frequency	90.650 000 MHz	Device Name	

4.1 convencional 1:35:38p.m.



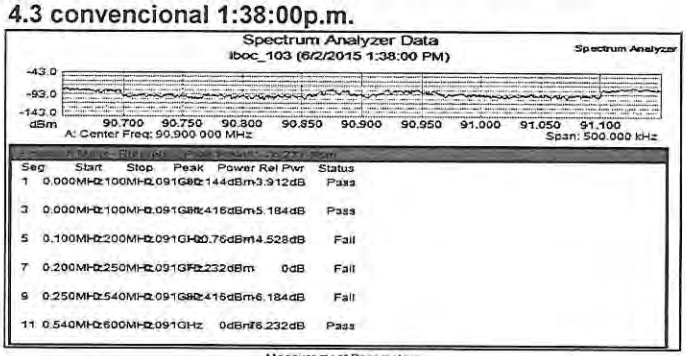
Measurement Parameters			
		Stop Frequency	91.150 000 MHz
Trace Mode	Normal	Frequency Span	500.000 000 kHz
Preamp	OFF	Reference Level	-43.000 dBm
Min Sweep Time	0.001 S	Scale	10.0 dB/div
Reference Level Offset	0 dB	Serial Number	1444097
Input Attenuation	0.0 dB	Base Ver.	V5.07
RBW	1.0 kHz	App Ver.	V6.45
VBW	10.0 kHz	Model	MS2713E
Detection	Peak	Options	9, 25, 31, 431, 509
Center Frequency	90.900 000 MHz	Date	6/2/2015 1:35:38 PM
Start Frequency	90.650 000 MHz	Device Name	

4.2 convencional 1:36:27 p.m.



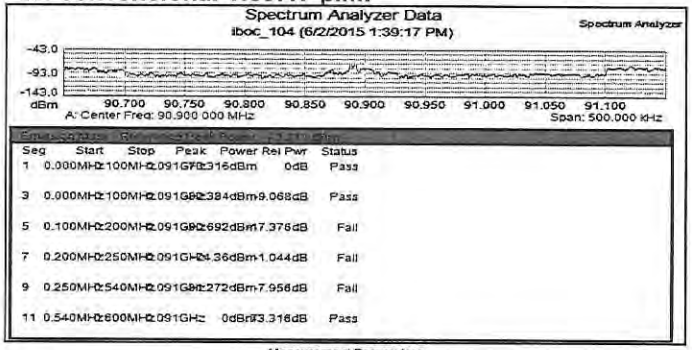
Measurement Parameters			
		Stop Frequency	91.150 000 MHz
Trace Mode	Normal	Frequency Span	500.000 000 kHz
Preamp	OFF	Reference Level	-43.000 dBm
Min Sweep Time	0.001 S	Scale	10.0 dB/div
Reference Level Offset	0 dB	Serial Number	1444097
Input Attenuation	0.0 dB	Base Ver.	V5.07
RBW	1.0 kHz	App Ver.	V6.45
VBW	10.0 kHz	Model	MS2713E
Detection	Peak	Options	9, 25, 31, 431, 509
Center Frequency	90.900 000 MHz	Date	6/2/2015 1:36:27 PM
Start Frequency	90.650 000 MHz	Device Name	

4.3 convencional 1:38:00p.m.



Measurement Parameters			
		Stop Frequency	91.150 000 MHz
Trace Mode	Normal	Frequency Span	500.000 000 kHz
Preamp	OFF	Reference Level	-43.000 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 1:38:00 PM
Start Frequency	90.650 000 MHz	Device Name	

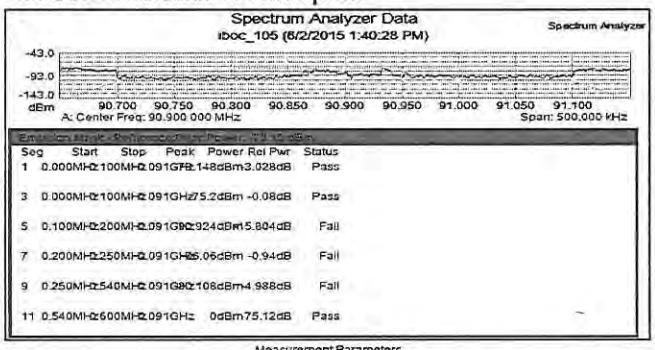
4.4 convencional 1:39:17 p.m.



Measurement Parameters			
		Stop Frequency	91.150 000 MHz
Trace Mode	Normal	Frequency Span	500.000 000 kHz
Preamp	OFF	Reference Level	-43.000 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 1:39:17 PM
Start Frequency	90.650 000 MHz	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.

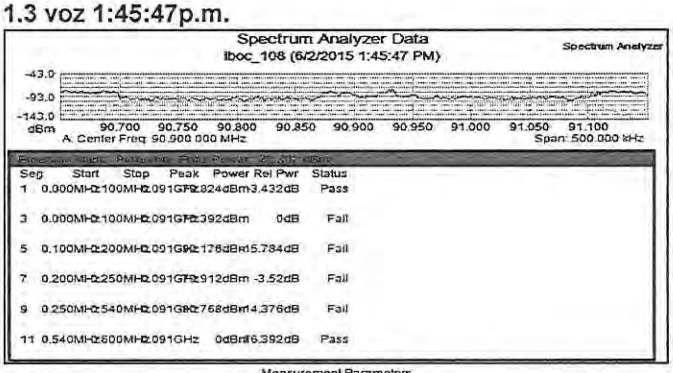


Seg	Start	Stop	Peak	Power Rel Pwr	Status
1	0.000MHz	100MHz	0.091GHz	8.148dBm	3.028dB Pass
3	0.000MHz	100MHz	0.091GHz	75.2dBm	-0.08dB Pass
5	0.100MHz	200MHz	0.091GHz	0.924dBm	5.804dB Fail
7	0.200MHz	250MHz	0.091GHz	5.06dBm	-0.94dB Fail
9	0.250MHz	540MHz	0.091GHz	0.108dBm	4.988dB Fail
11	0.540MHz	600MHz	0.091GHz	0dBm	75.12dB Pass

Measurement Parameters

		Stop Frequency	91.150 000 MHz
Trace Mode	Normal	Frequency Span	500.000 000 kHz
Preamp	OFF	Reference Level	-43.000 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 1:40:28 PM
Start Frequency	90.650 000 MHz	Device Name	

1.3 voz 1:45:47p.m.

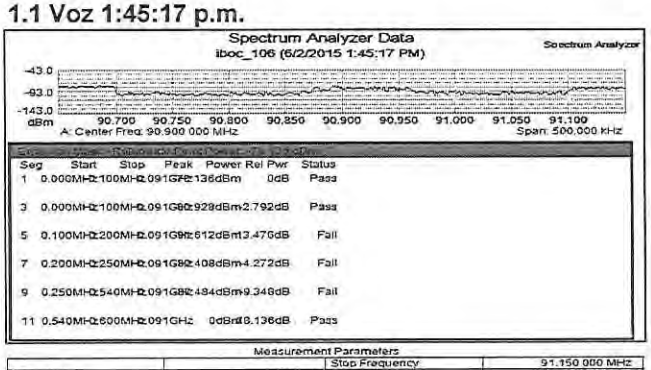


Seg	Start	Stop	Peak	Power Rel Pwr	Status
1	0.000MHz	100MHz	0.091GHz	2.824dBm	3.432dB Pass
3	0.000MHz	100MHz	0.091GHz	72.392dBm	0dB Fail
5	0.100MHz	200MHz	0.091GHz	0.176dBm	5.784dB Fail
7	0.200MHz	250MHz	0.091GHz	2.912dBm	-3.52dB Fail
9	0.250MHz	540MHz	0.091GHz	0.768dBm	4.376dB Fail
11	0.540MHz	600MHz	0.091GHz	0dBm	76.392dB Pass

Measurement Parameters

		Stop Frequency	91.150 000 MHz
Trace Mode	Normal	Frequency Span	500.000 000 kHz
Preamp	OFF	Reference Level	-43.000 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 1:45:47 PM
Start Frequency	90.650 000 MHz	Device Name	

1.1 Voz 1:45:17 p.m.

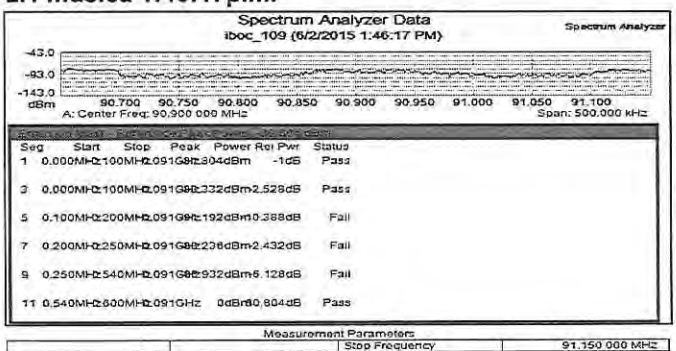


Seg	Start	Stop	Peak	Power Rel Pwr	Status
1	0.000MHz	100MHz	0.091GHz	6.136dBm	0dB Pass
3	0.000MHz	100MHz	0.091GHz	0.928dBm	2.792dB Pass
5	0.100MHz	200MHz	0.091GHz	0.612dBm	13.476dB Fail
7	0.200MHz	250MHz	0.091GHz	0.408dBm	4.272dB Fail
9	0.250MHz	540MHz	0.091GHz	0.484dBm	9.348dB Fail
11	0.540MHz	600MHz	0.091GHz	0dBm	78.136dB Pass

Measurement Parameters

		Stop Frequency	91.150 000 MHz
Trace Mode	Normal	Frequency Span	500.000 000 kHz
Preamp	OFF	Reference Level	-43.000 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 1:45:17 PM
Start Frequency	90.650 000 MHz	Device Name	

2.1 música 1:46:17p.m.

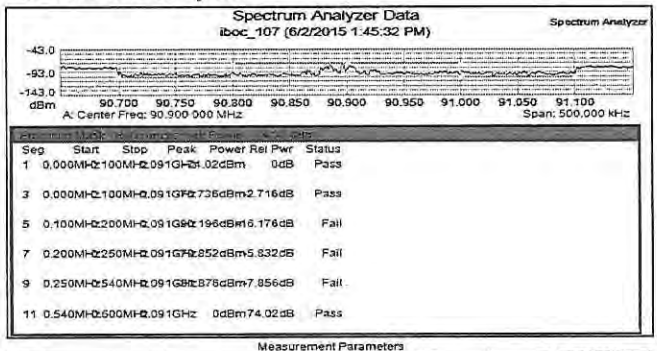


Seg	Start	Stop	Peak	Power Rel Pwr	Status
1	0.000MHz	100MHz	0.091GHz	8.304dBm	-1dB Pass
3	0.000MHz	100MHz	0.091GHz	0.332dBm	2.528dB Pass
5	0.100MHz	200MHz	0.091GHz	0.192dBm	10.388dB Fail
7	0.200MHz	250MHz	0.091GHz	0.236dBm	2.432dB Fail
9	0.250MHz	540MHz	0.091GHz	0.932dBm	6.128dB Fail
11	0.540MHz	600MHz	0.091GHz	0dBm	80.804dB Pass

Measurement Parameters

		Stop Frequency	91.150 000 MHz
Trace Mode	Normal	Frequency Span	500.000 000 kHz
Preamp	OFF	Reference Level	-43.000 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 1:46:17 PM
Start Frequency	90.650 000 MHz	Device Name	

1.2 Voz 1:45:32 p.m.

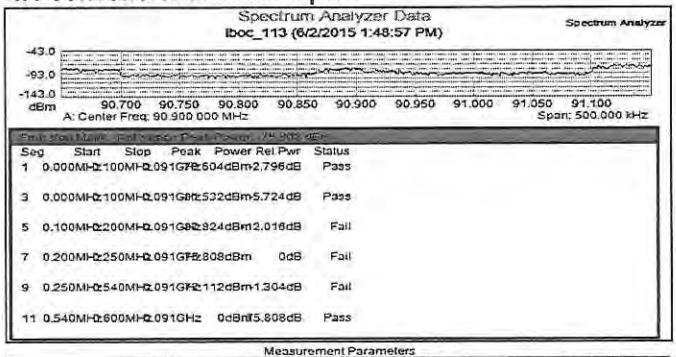


Seg	Start	Stop	Peak	Power Rel Pwr	Status
1	0.000MHz	100MHz	0.091GHz	1.02dBm	0dB Pass
3	0.000MHz	100MHz	0.091GHz	0.736dBm	2.716dB Pass
5	0.100MHz	200MHz	0.091GHz	0.196dBm	16.176dB Fail
7	0.200MHz	250MHz	0.091GHz	0.852dBm	5.832dB Fail
9	0.250MHz	540MHz	0.091GHz	0.876dBm	7.856dB Fail
11	0.540MHz	600MHz	0.091GHz	0dBm	74.02dB Pass

Measurement Parameters

		Stop Frequency	91.150 000 MHz
Trace Mode	Normal	Frequency Span	500.000 000 kHz
Preamp	OFF	Reference Level	-43.000 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 1:45:32 PM
Start Frequency	90.650 000 MHz	Device Name	

4.1 convencional 1:48:57 p.m.



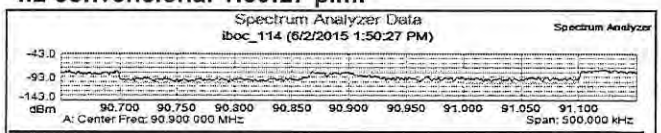
Seg	Start	Stop	Peak	Power Rel Pwr	Status
1	0.000MHz	100MHz	0.091GHz	4.604dBm	2.796dB Pass
3	0.000MHz	100MHz	0.091GHz	0.532dBm	5.724dB Pass
5	0.100MHz	200MHz	0.091GHz	0.824dBm	2.016dB Fail
7	0.200MHz	250MHz	0.091GHz	0.808dBm	0dB Fail
9	0.250MHz	540MHz	0.091GHz	0.112dBm	1.304dB Fail
11	0.540MHz	600MHz	0.091GHz	0dBm	75.808dB Pass

Measurement Parameters

		Stop Frequency	91.150 000 MHz
Trace Mode	Normal	Frequency Span	500.000 000 kHz
Preamp	OFF	Reference Level	-43.000 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 1:48:57 PM
Start Frequency	90.650 000 MHz	Device Name	

NOTA:

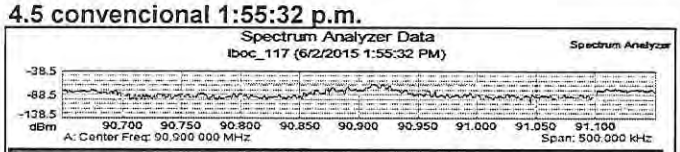
4.2 convencional 1:50:27 p.m.



Seg	Start	Stop	Peak	Power Rel Pwr	Status
1	0.000MHz	0.100MHz	0.091GHz	1.24dBm	4.524dB Pass
3	0.000MHz	0.100MHz	0.091GHz	2.72dBm	6.004dB Pass
5	0.100MHz	0.200MHz	0.091GHz	0.424dBm	5.708dB Fail
7	0.200MHz	0.250MHz	0.091GHz	0.716dBm	0dB Fail
9	0.250MHz	0.540MHz	0.091GHz	0.764dBm	6.048dB Fail
11	0.540MHz	0.600MHz	0.091GHz	0dBm	6.716dB Pass

Measurement Parameters			
		Stop Frequency	91.150 000 MHz
Trace Mode	Normal	Frequency Span	500.000 000 kHz
Preamp	OFF	Reference Level	-43.000 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 1:50:27 PM
Start Frequency	90.650 000 MHz	Device Name	

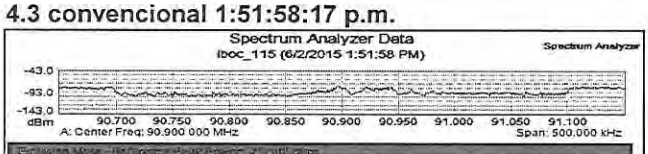
4.5 convencional 1:55:32 p.m.



Seg	Start	Stop	Peak	Power Rel Pwr	Status
1	0.000MHz	0.100MHz	0.091GHz	0.48dBm	6.112dB Pass
3	0.000MHz	0.100MHz	0.091GHz	6.368dBm	0dB Fail
5	0.100MHz	0.200MHz	0.091GHz	0.812dBm	1.444dB Fail
7	0.200MHz	0.250MHz	0.091GHz	0.044dBm	10.676dB Fail
9	0.250MHz	0.540MHz	0.091GHz	82.2dBm	7.832dB Fail
11	0.540MHz	0.600MHz	0.091GHz	0dBm	4.368dB Pass

Measurement Parameters			
		Stop Frequency	91.150 000 MHz
Trace Mode	Normal	Frequency Span	500.000 000 kHz
Preamp	OFF	Reference Level	-38.500 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 1:55:32 PM
Start Frequency	90.650 000 MHz	Device Name	

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

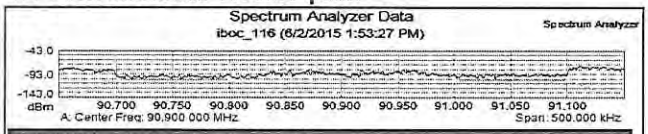


Seg	Start	Stop	Peak	Power Rel Pwr	Status
1	0.000MHz	0.100MHz	0.091GHz	2.592dBm	-2dB Pass
3	0.000MHz	0.100MHz	0.091GHz	2.592dBm	0dB Fail
5	0.100MHz	0.200MHz	0.091GHz	90.7dBm	15.108dB Fail
7	0.200MHz	0.250MHz	0.091GHz	7.48dBm	1.888dB Fail
9	0.250MHz	0.540MHz	0.091GHz	82.34dBm	8.748dB Fail
11	0.540MHz	0.600MHz	0.091GHz	0dBm	5.592dB Pass

Measurement Parameters			
		Stop Frequency	91.150 000 MHz
Trace Mode	Normal	Frequency Span	500.000 000 kHz
Preamp	OFF	Reference Level	-43.000 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 1:51:58 PM
Start Frequency	90.650 000 MHz	Device Name	

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

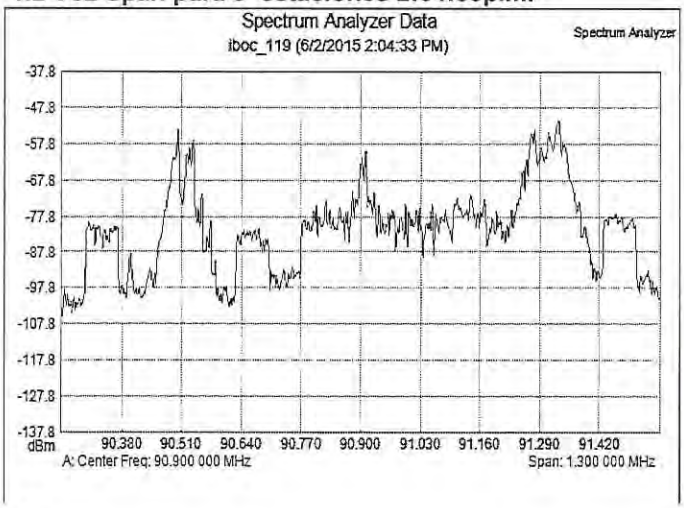
4.4 convencional 1:53:27 p.m.



Seg	Start	Stop	Peak	Power Rel Pwr	Status
1	0.000MHz	0.100MHz	0.091GHz	2.44dBm	8.764dB Pass
3	0.000MHz	0.100MHz	0.091GHz	8.948dBm	8.272dB Pass
5	0.100MHz	0.200MHz	0.091GHz	0.076dBm	-15.4dB Fail
7	0.200MHz	0.250MHz	0.091GHz	0.676dBm	0dB Fail
9	0.250MHz	0.540MHz	0.091GHz	0.972dBm	6.296dB Fail
11	0.540MHz	0.600MHz	0.091GHz	0dBm	4.676dB Pass

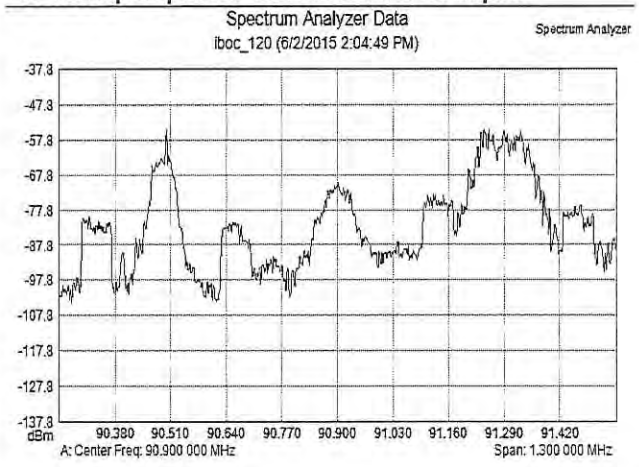
Measurement Parameters			
		Stop Frequency	91.150 000 MHz
Trace Mode	Normal	Frequency Span	500.000 000 kHz
Preamp	OFF	Reference Level	-43.000 dBm
Min Sweep Time	0.001 S	Scale	10.0 dB/div
Reference Level Offset	0 dB	Serial Number	1444097
Input Attenuation	0.0 dB	Base Ver.	V5.07
RBW	1.0 kHz	App Ver.	V6.45
VBW	10.0 kHz	Model	MS2713E
Detection	Peak	Options	9, 25, 31, 431, 509
Center Frequency	90.900 000 MHz	Date	6/2/2015 1:53:27 PM
Start Frequency	90.650 000 MHz	Device Name	

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

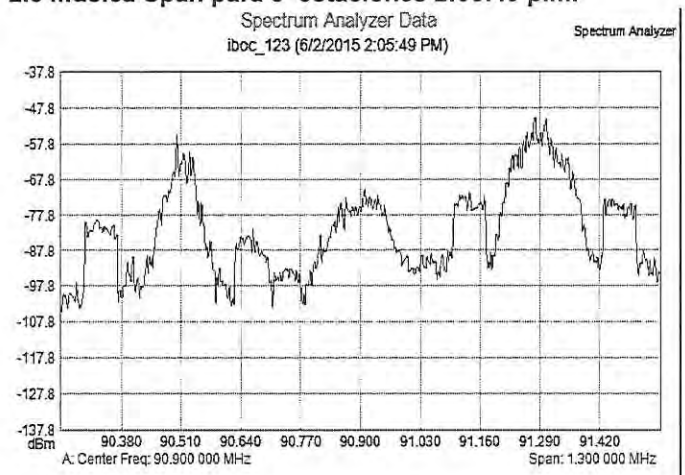


NOTA:

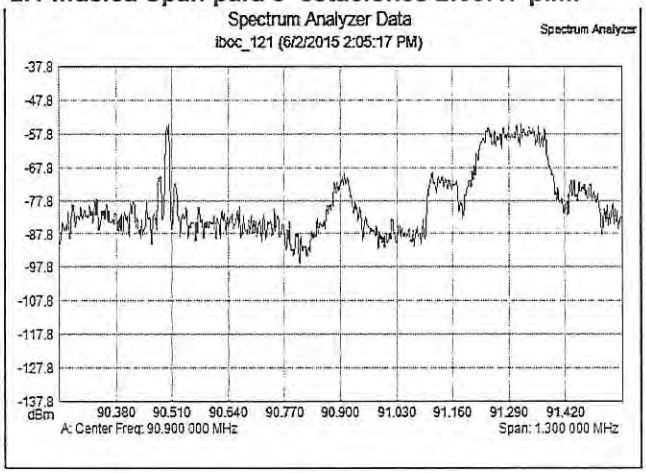
1.3 Voz Span para 3 estaciones 2:04:49 p.m.



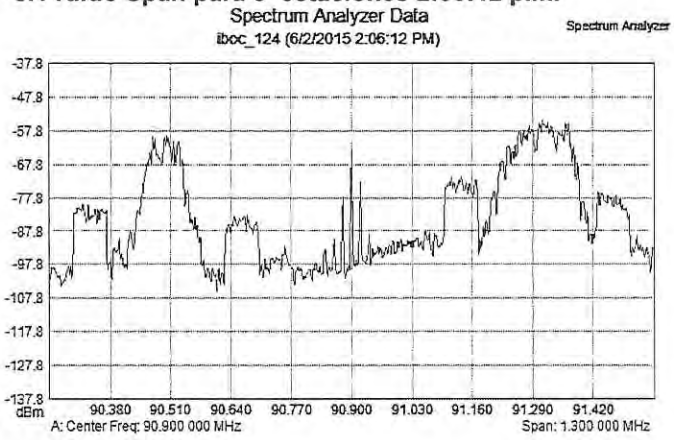
2.3 música Span para 3 estaciones 2:05:49 p.m.



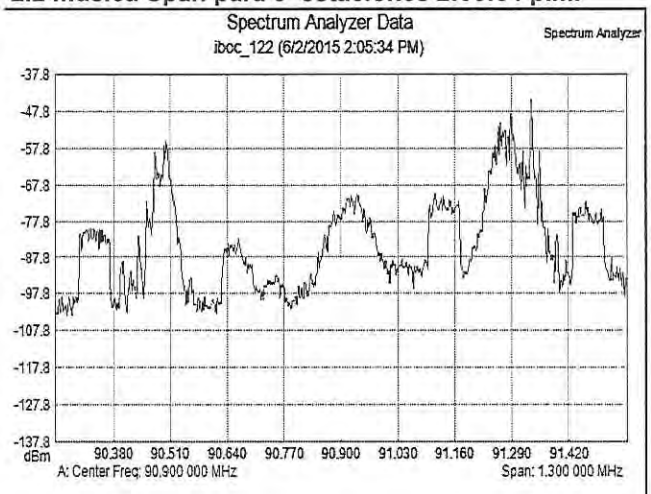
2.1 música Span para 3 estaciones 2:05:17 p.m.



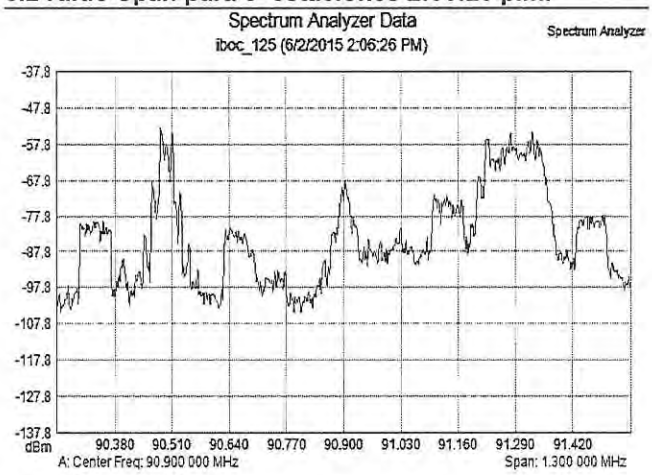
3.1 ruido Span para 3 estaciones 2:06:12 p.m.



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

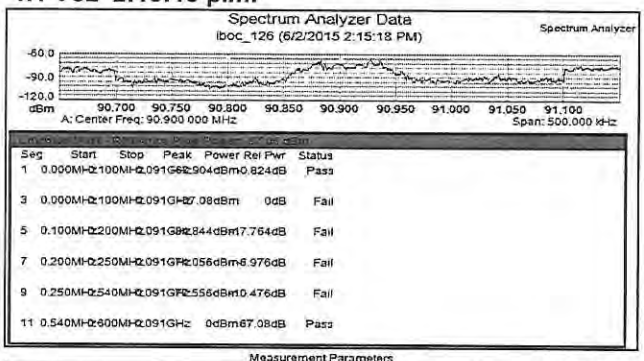


3.2 ruido Span para 3 estaciones 2:06:26 p.m.



NOTA:

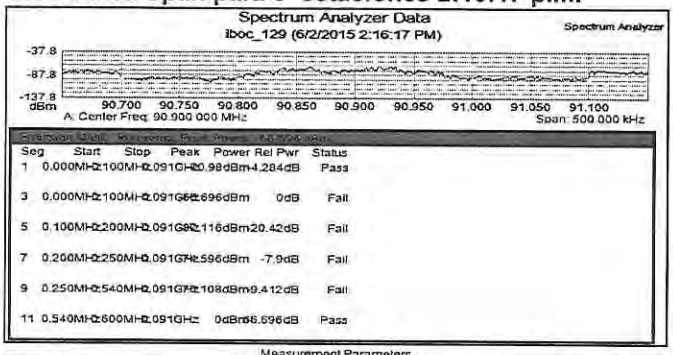
1.1 Voz 2:15:18 p.m.



Seg	Start	Stop	Peak	Power Rel Pwr	Status
1	0.000MHz	0.100MHz	0.091GHz	-62.904dBm	0.824dB	Pass
3	0.000MHz	0.100MHz	0.091GHz	-27.08dBm	0dB	Fail
5	0.100MHz	0.200MHz	0.091GHz	-62.844dBm	17.764dB	Fail
7	0.200MHz	0.250MHz	0.091GHz	-62.056dBm	8.976dB	Fail
9	0.250MHz	0.540MHz	0.091GHz	-62.556dBm	10.476dB	Fail
11	0.540MHz	0.600MHz	0.091GHz	0dBm	67.08dB	Pass

Measurement Parameters			
		Stop Frequency	91.150 000 MHz
Trace Mode	Normal	Frequency Span	500.000 000 kHz
Preamp	OFF	Reference Level	-37.800 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 2:15:18 PM
Start Frequency	90.650 000 MHz	Device Name	

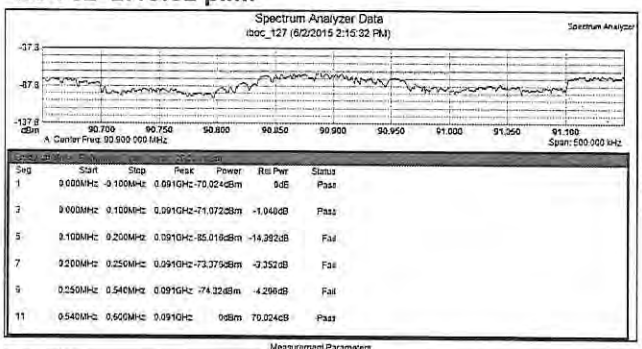
2.1 música Span para 3 estaciones 2:16:17 p.m.



Seg	Start	Stop	Peak	Power Rel Pwr	Status
1	0.000MHz	0.100MHz	0.091GHz	-20.98dBm	-4.284dB	Pass
3	0.000MHz	0.100MHz	0.091GHz	-16.696dBm	0dB	Fail
5	0.100MHz	0.200MHz	0.091GHz	-2.116dBm	20.42dB	Fail
7	0.200MHz	0.250MHz	0.091GHz	-8.596dBm	-7.9dB	Fail
9	0.250MHz	0.540MHz	0.091GHz	-7.108dBm	9.412dB	Fail
11	0.540MHz	0.600MHz	0.091GHz	0dBm	66.696dB	Pass

Measurement Parameters			
		Stop Frequency	91.150 000 MHz
Trace Mode	Normal	Frequency Span	500.000 000 kHz
Preamp	OFF	Reference Level	-37.800 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 2:16:17 PM
Start Frequency	90.650 000 MHz	Device Name	

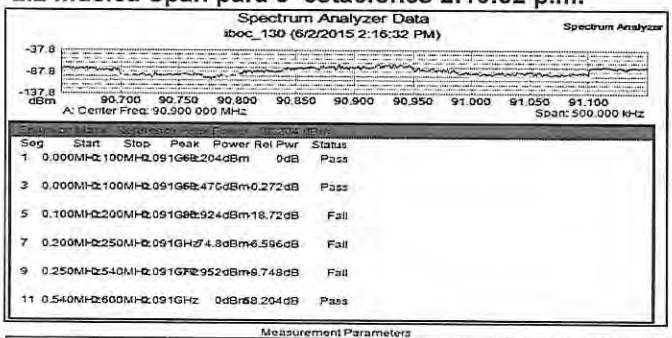
1.2 Voz 2:15:32 p.m.



Seg	Start	Stop	Peak	Power	Rel Pwr	Status
1	0.000MHz	0.100MHz	0.091GHz	-70.024dBm	0dB	Pass
3	0.000MHz	0.100MHz	0.091GHz	-71.072dBm	-1.048dB	Pass
5	0.100MHz	0.200MHz	0.091GHz	-85.018dBm	-14.992dB	Fail
7	0.200MHz	0.250MHz	0.091GHz	-73.379dBm	-3.352dB	Fail
9	0.250MHz	0.540MHz	0.091GHz	-74.32dBm	-4.296dB	Fail
11	0.540MHz	0.600MHz	0.091GHz	0dBm	70.024dB	Pass

Measurement Parameters			
		Stop Frequency	91.150 000 MHz
Trace Mode	Normal	Frequency Span	500.000 000 kHz
Preamp	OFF	Reference Level	-37.800 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 2:15:32 PM
Start Frequency	90.650 000 MHz	Device Name	

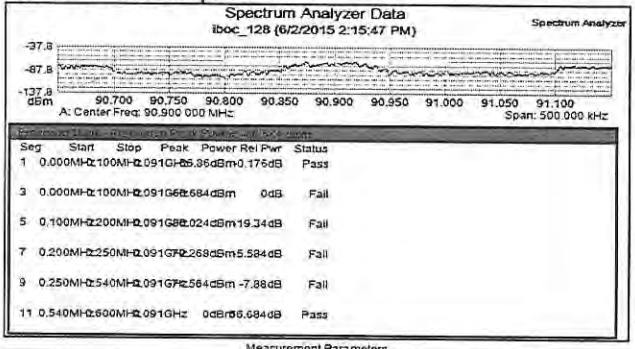
2.2 música Span para 3 estaciones 2:16:32 p.m.



Seg	Start	Stop	Peak	Power Rel Pwr	Status
1	0.000MHz	0.100MHz	0.091GHz	-62.204dBm	0dB	Pass
3	0.000MHz	0.100MHz	0.091GHz	-62.476dBm	0.272dB	Pass
5	0.100MHz	0.200MHz	0.091GHz	-62.924dBm	18.72dB	Fail
7	0.200MHz	0.250MHz	0.091GHz	-74.8dBm	6.596dB	Fail
9	0.250MHz	0.540MHz	0.091GHz	-62.952dBm	9.748dB	Fail
11	0.540MHz	0.600MHz	0.091GHz	0dBm	68.204dB	Pass

Measurement Parameters			
		Stop Frequency	91.150 000 MHz
Trace Mode	Normal	Frequency Span	500.000 000 kHz
Preamp	OFF	Reference Level	-37.800 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 2:16:32 PM
Start Frequency	90.650 000 MHz	Device Name	

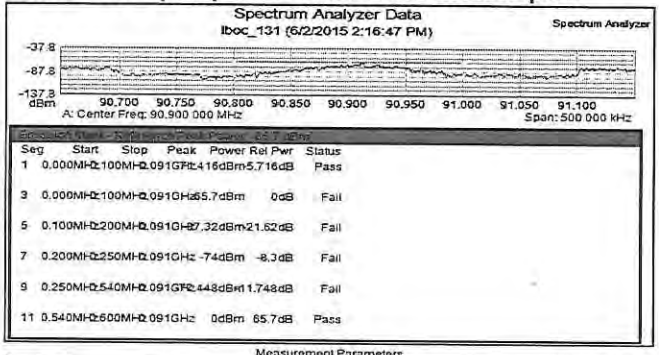
1.3 Voz 2:15:47 p.m.



Seg	Start	Stop	Peak	Power Rel Pwr	Status
1	0.000MHz	0.100MHz	0.091GHz	-65.86dBm	0.176dB	Pass
3	0.000MHz	0.100MHz	0.091GHz	-65.684dBm	0dB	Fail
5	0.100MHz	0.200MHz	0.091GHz	-85.024dBm	19.34dB	Fail
7	0.200MHz	0.250MHz	0.091GHz	-71.268dBm	5.584dB	Fail
9	0.250MHz	0.540MHz	0.091GHz	-73.564dBm	-7.88dB	Fail
11	0.540MHz	0.600MHz	0.091GHz	0dBm	65.684dB	Pass

Measurement Parameters			
		Stop Frequency	91.150 000 MHz
Trace Mode	Normal	Frequency Span	500.000 000 kHz
Preamp	OFF	Reference Level	-37.800 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 2:15:47 PM
Start Frequency	90.650 000 MHz	Device Name	

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

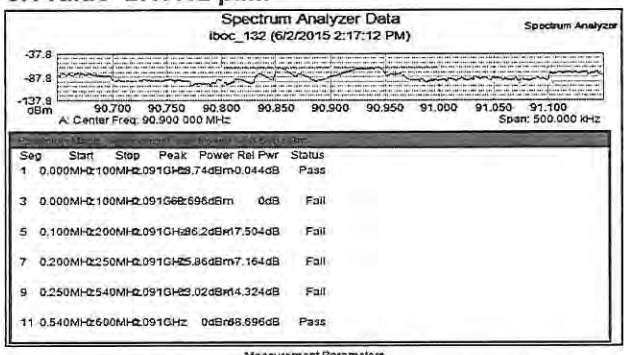


Seg	Start	Stop	Peak	Power Rel Pwr	Status
1	0.000MHz	0.100MHz	0.091GHz	-71.416dBm	-5.716dB	Pass
3	0.000MHz	0.100MHz	0.091GHz	-65.7dBm	0dB	Fail
5	0.100MHz	0.200MHz	0.091GHz	-87.32dBm	-21.62dB	Fail
7	0.200MHz	0.250MHz	0.091GHz	-74dBm	-8.3dB	Fail
9	0.250MHz	0.540MHz	0.091GHz	-72.448dBm	11.748dB	Fail
11	0.540MHz	0.600MHz	0.091GHz	0dBm	65.7dB	Pass

Measurement Parameters			
		Stop Frequency	91.150 000 MHz
Trace Mode	Normal	Frequency Span	500.000 000 kHz
Preamp	OFF	Reference Level	-37.800 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 2:16:47 PM
Start Frequency	90.650 000 MHz	Device Name	

NOTA:

3.1 ruido 2:17:12 p.m.

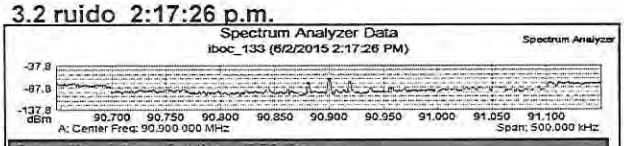


Seg	Start	Stop	Peak	Power Rel Pwr	Status
1	0.000MHz	0.100MHz	0.091GHz	28.74dBm	0.044dB	Pass
3	0.000MHz	0.100MHz	0.091GHz	6.696dBm	0dB	Fail
5	0.100MHz	0.200MHz	0.091GHz	6.2dBm	17.504dB	Fail
7	0.200MHz	0.250MHz	0.091GHz	5.86dBm	7.164dB	Fail
9	0.250MHz	0.540MHz	0.091GHz	3.02dBm	14.324dB	Fail
11	0.540MHz	0.600MHz	0.091GHz	0dBm	8.696dB	Pass

Measurement Parameters

		Stop Frequency	91.150 000 MHz
Trace Mode	Normal	Frequency Span	500.000 000 kHz
Preamp	OFF	Reference Level	-37.800 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 2:17:12 PM
Start Frequency	90.650 000 MHz	Device Name	

3.2 ruido 2:17:26 p.m.

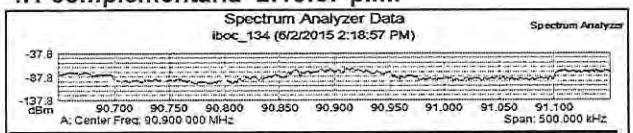


Seg	Start	Stop	Peak	Power Rel Pwr	Status
1	0.000MHz	0.100MHz	0.091GHz	0.932dBm	0dB	Pass
3	0.000MHz	0.100MHz	0.091GHz	0.932dBm	0dB	Fail
5	0.100MHz	0.200MHz	0.091GHz	6.46dBm	15.528dB	Fail
7	0.200MHz	0.250MHz	0.091GHz	6.76dBm	3.828dB	Fail
9	0.250MHz	0.540MHz	0.091GHz	3.256dBm	8.324dB	Fail
11	0.540MHz	0.600MHz	0.091GHz	0dBm	0.932dB	Pass

Measurement Parameters

		Stop Frequency	91.150 000 MHz
Trace Mode	Normal	Frequency Span	500.000 000 kHz
Preamp	OFF	Reference Level	-37.800 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 2:17:26 PM
Start Frequency	90.650 000 MHz	Device Name	

4.1 complementaria 2:18:57 p.m.

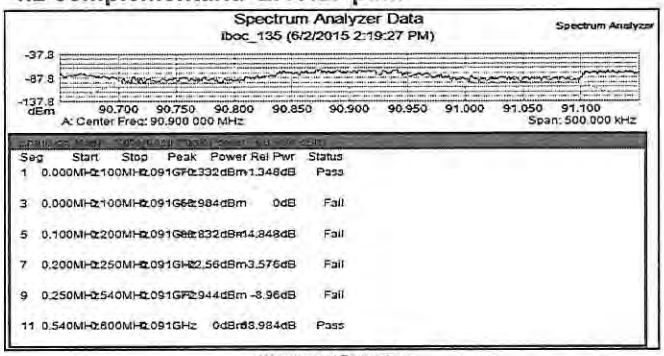


Seg	Start	Stop	Peak	Power Rel Pwr	Status
1	0.000MHz	0.100MHz	0.091GHz	1.34dBm	2.652dB	Pass
3	0.000MHz	0.100MHz	0.091GHz	688dBm	0dB	Fail
5	0.100MHz	0.200MHz	0.091GHz	916dBm	18.228dB	Fail
7	0.200MHz	0.250MHz	0.091GHz	756dBm	5.068dB	Fail
9	0.250MHz	0.540MHz	0.091GHz	896dBm	8.208dB	Fail
11	0.540MHz	0.600MHz	0.091GHz	0dBm	8.588dB	Pass

Measurement Parameters

		Stop Frequency	91.150 000 MHz
Trace Mode	Normal	Frequency Span	500.000 000 kHz
Preamp	OFF	Reference Level	-37.800 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 2:18:57 PM
Start Frequency	90.650 000 MHz	Device Name	

4.2 complementaria 2:19:27 p.m.

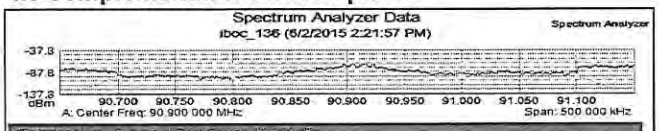


Seg	Start	Stop	Peak	Power Rel Pwr	Status
1	0.000MHz	0.100MHz	0.091GHz	0.332dBm	1.348dB	Pass
3	0.000MHz	0.100MHz	0.091GHz	984dBm	0dB	Fail
5	0.100MHz	0.200MHz	0.091GHz	832dBm	14.848dB	Fail
7	0.200MHz	0.250MHz	0.091GHz	2.56dBm	3.576dB	Fail
9	0.250MHz	0.540MHz	0.091GHz	2.944dBm	-8.96dB	Fail
11	0.540MHz	0.600MHz	0.091GHz	0dBm	8.984dB	Pass

Measurement Parameters

		Stop Frequency	91.150 000 MHz
Trace Mode	Normal	Frequency Span	500.000 000 kHz
Preamp	OFF	Reference Level	-37.800 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 2:19:27 PM
Start Frequency	90.650 000 MHz	Device Name	

4.3 complementaria 2:21:57 p.m.

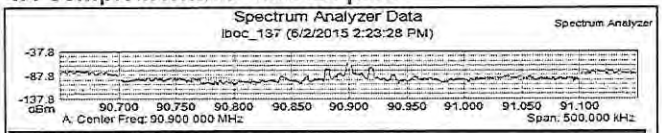


Seg	Start	Stop	Peak	Power Rel Pwr	Status
1	0.000MHz	0.100MHz	0.091GHz	0.984dBm	1.088dB	Pass
3	0.000MHz	0.100MHz	0.091GHz	896dBm	0dB	Fail
5	0.100MHz	0.200MHz	0.091GHz	096dBm	-16.2dB	Fail
7	0.200MHz	0.250MHz	0.091GHz	576dBm	-3.68dB	Fail
9	0.250MHz	0.540MHz	0.091GHz	668dBm	5.772dB	Fail
11	0.540MHz	0.600MHz	0.091GHz	0dBm	8.896dB	Pass

Measurement Parameters

		Stop Frequency	91.150 000 MHz
Trace Mode	Normal	Frequency Span	500.000 000 kHz
Preamp	OFF	Reference Level	-37.800 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 2:21:57 PM
Start Frequency	90.650 000 MHz	Device Name	

4.4 complementaria 2:23:28 p.m.



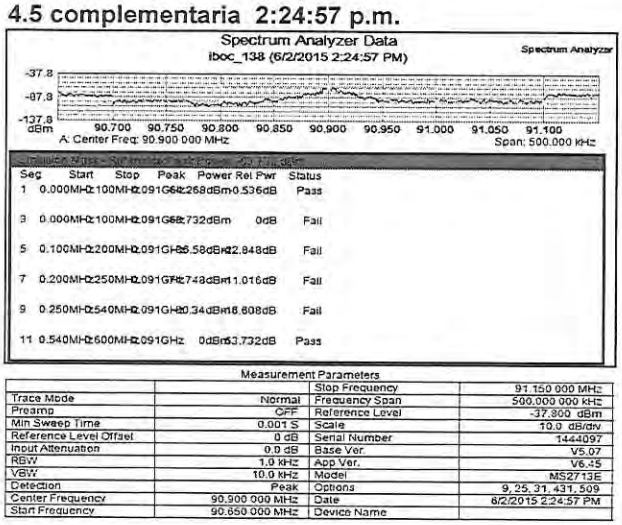
Seg	Start	Stop	Peak	Power Rel Pwr	Status
1	0.000MHz	0.100MHz	0.091GHz	0.228dBm	0.516dB	Pass
3	0.000MHz	0.100MHz	0.091GHz	712dBm	0dB	Fail
5	0.100MHz	0.200MHz	0.091GHz	396dBm	17.684dB	Fail
7	0.200MHz	0.250MHz	0.091GHz	992dBm	17.28dB	Fail
9	0.250MHz	0.540MHz	0.091GHz	348dBm	21.636dB	Fail
11	0.540MHz	0.600MHz	0.091GHz	0dBm	21.712dB	Pass

Measurement Parameters

		Stop Frequency	91.150 000 MHz
Trace Mode	Normal	Frequency Span	500.000 000 kHz
Preamp	OFF	Reference Level	-37.800 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 2:23:28 PM
Start Frequency	90.650 000 MHz	Device Name	

NOTA:

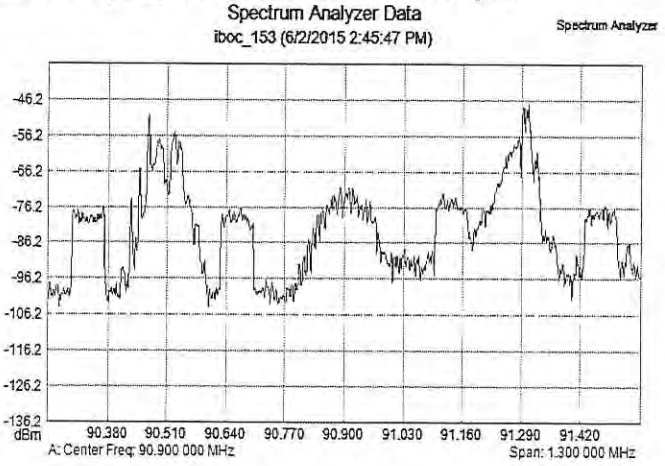
4.5 complementaria 2:24:57 p.m.



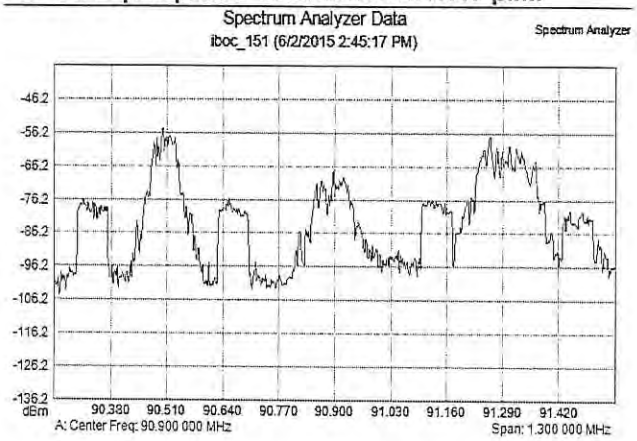
Measurement Parameters

		Stop Frequency	91.150 000 MHz
Trace Mode	Normal	Frequency Span	500.000 000 kHz
Preamp	OFF	Reference Level	-37.300 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 2:24:57 PM
Start Frequency	90.650 000 MHz	Device Name	

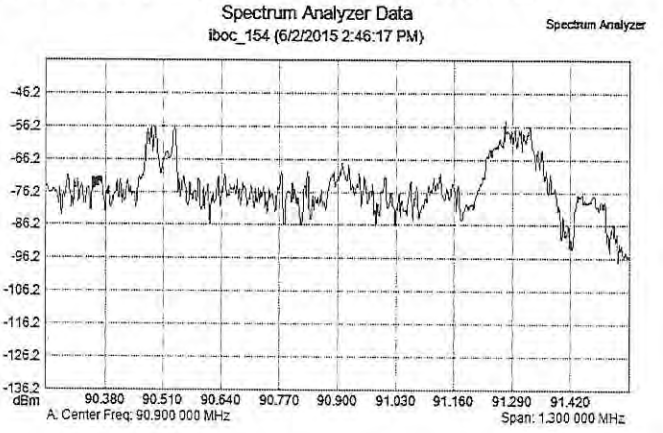
1.3 Voz Span para 3 estaciones 2:45:47 p.m



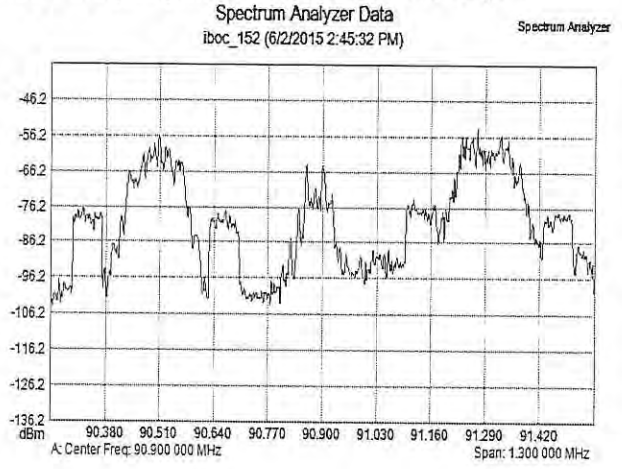
1.1 Voz Span para 3 estaciones 2:45:17 p.m.



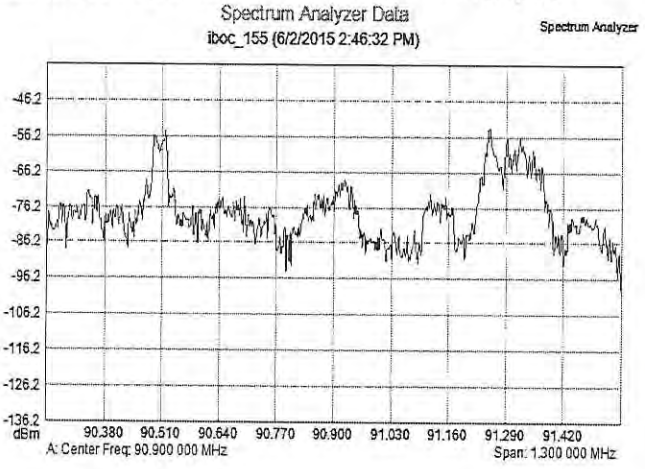
2.1 música Span para 3 estaciones 2:46:17 p.m



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

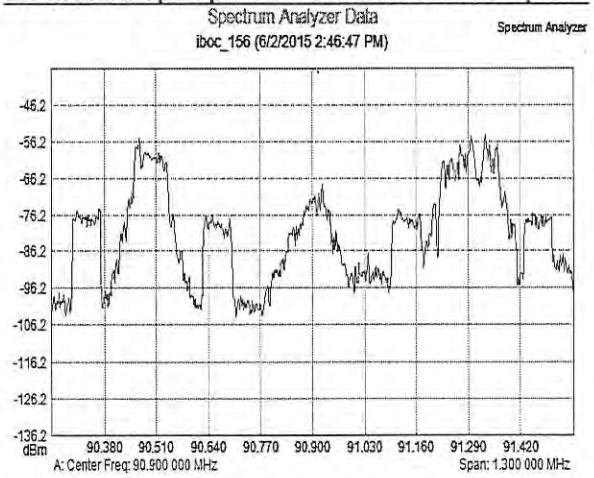


2.2 música Span para 3 estaciones 2:46:32 p.m

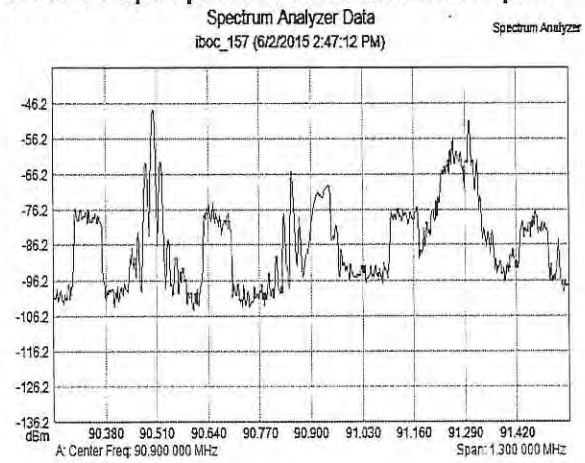


NOTA: En este momento llegó un PBI a solicitarme mi permiso para permanecer en las instalaciones, lo cual me impidió tomar las mediciones complementarias, y aunque volví a ingresar minutos después, se le bajó la batería al analizador.

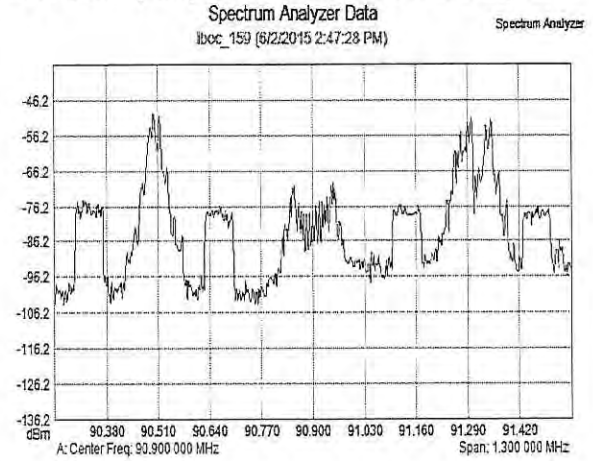
2.3 música Span para 3 estaciones 2:46:47 p.m



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



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



INSTITUTO FEDERAL DE TELECOMUNICACIONES

UNIDAD DE CUMPLIMIENTO
DIRECCIÓN GENERAL ADJUNTA DE
VIGILANCIADEL ESPECTRO RADIOELÉCTRICO
CENTRO DE CONTROL

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 desfasamientos 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.

OPERADOR (ES)

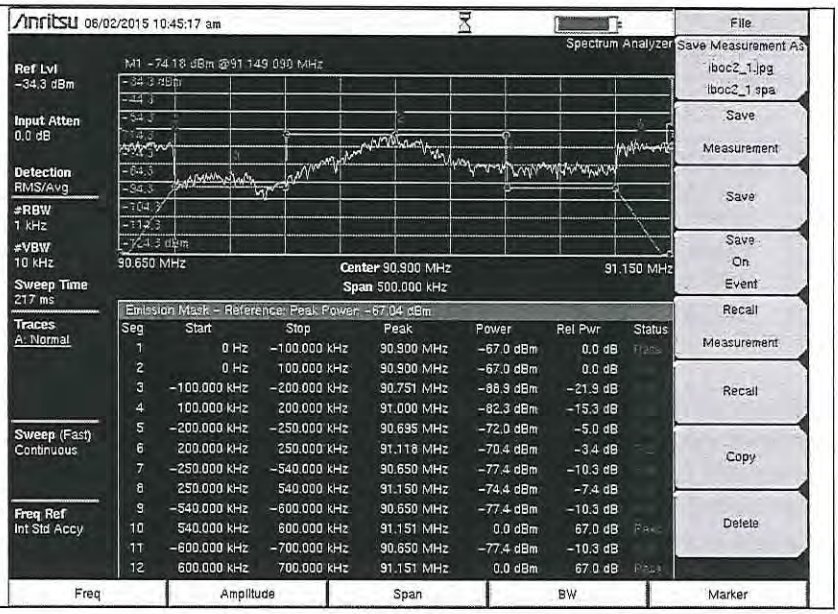
Fernando Ramírez Suárez
Jefe de Departamento de Vigilancia del Espectro Radioeléctrico

TELECOMUNICACIONES
22 JUN 2015
RECIBIDO
HORA:

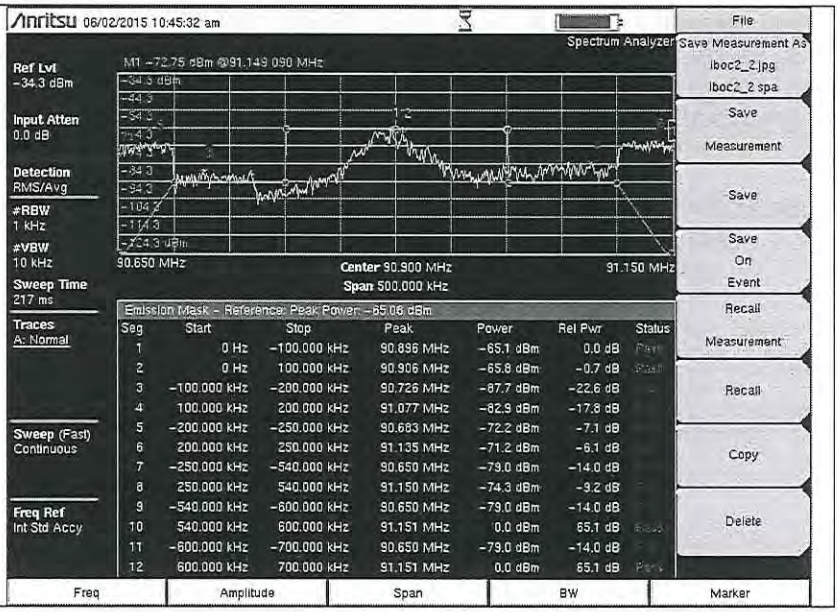
Vo. Bo. C. Roberto Salas Gutierrez
Subdirector de Vigilancia del Espectro Radioeléctrico

GRÁFICAS

Escenario	1- Potencia Nominal
Bloque	*3*
Medición	1.1
VOZ	

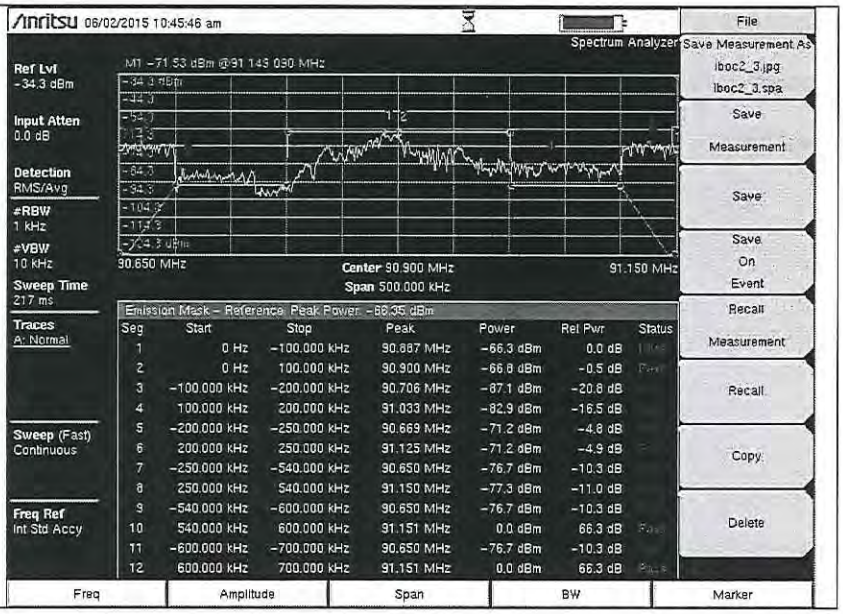


Escenario	1- Potencia Nominal
Bloque	*3*
Medición	1.2
VOZ	



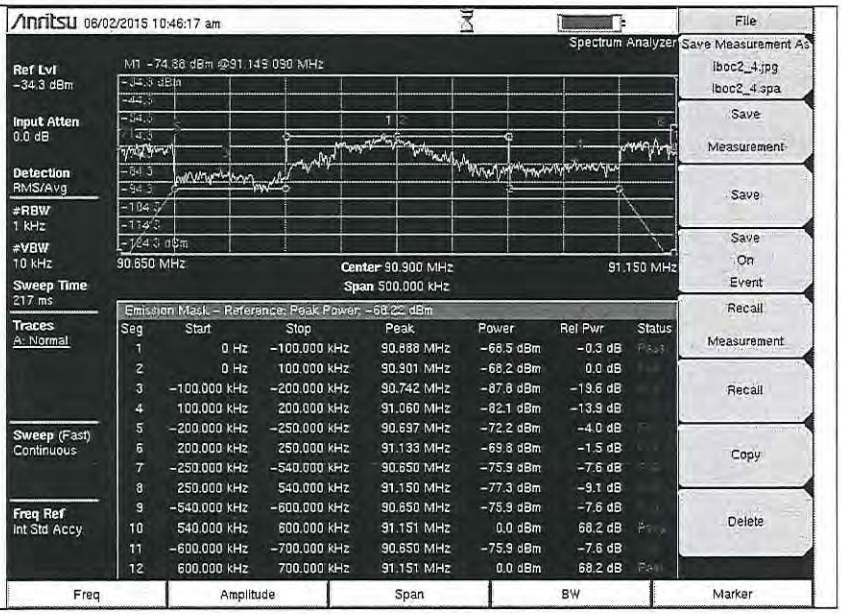
Escenario	1- Potencia Nominal
Bloque	*3*
Medición	1.3

VOZ

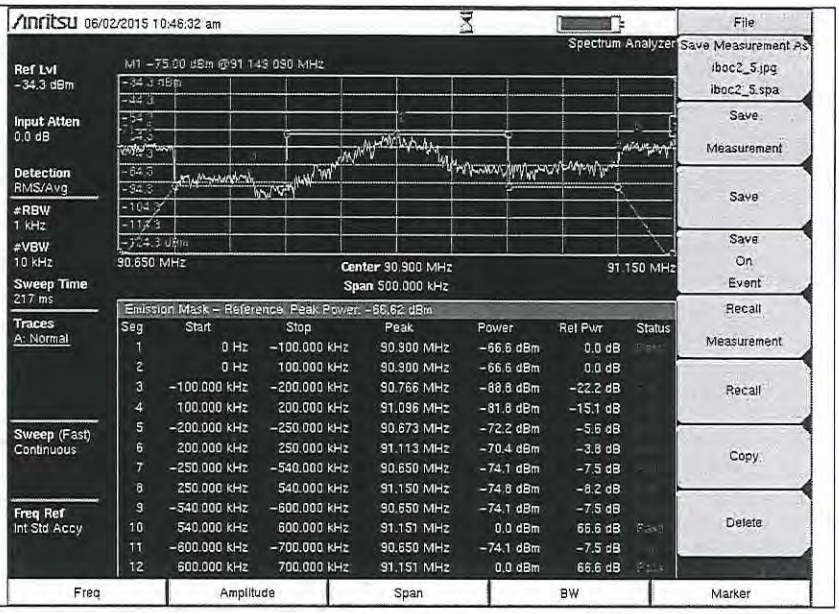


Escenario	1- Potencia Nominal
Bloque	*3*
Medición	2.1

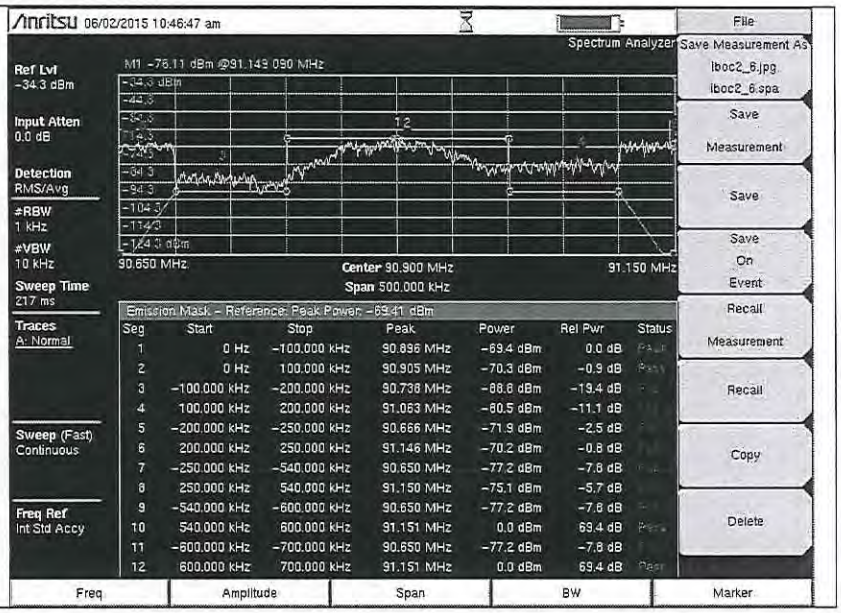
MUSICA



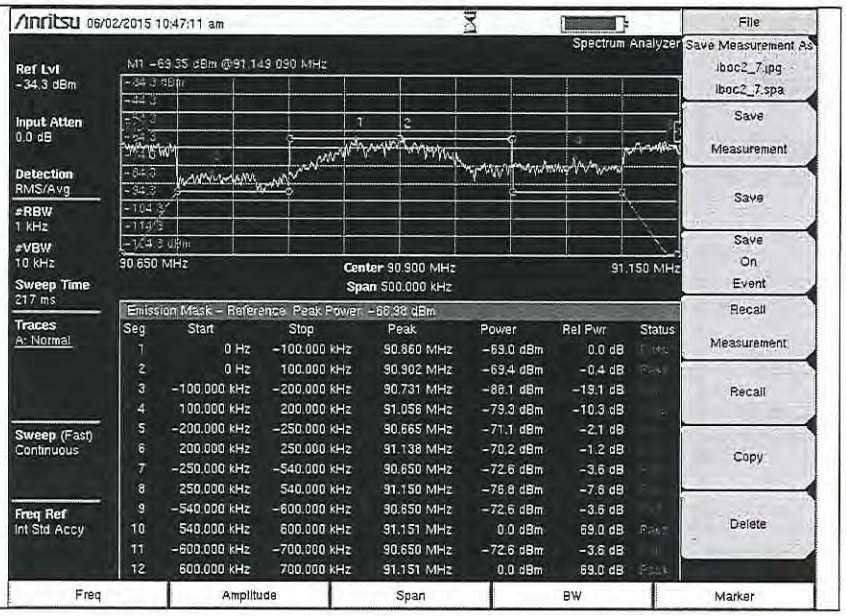
Escenario	1- Potencia Nominal
Bloque	3
Medición	2.2
MUSICA	



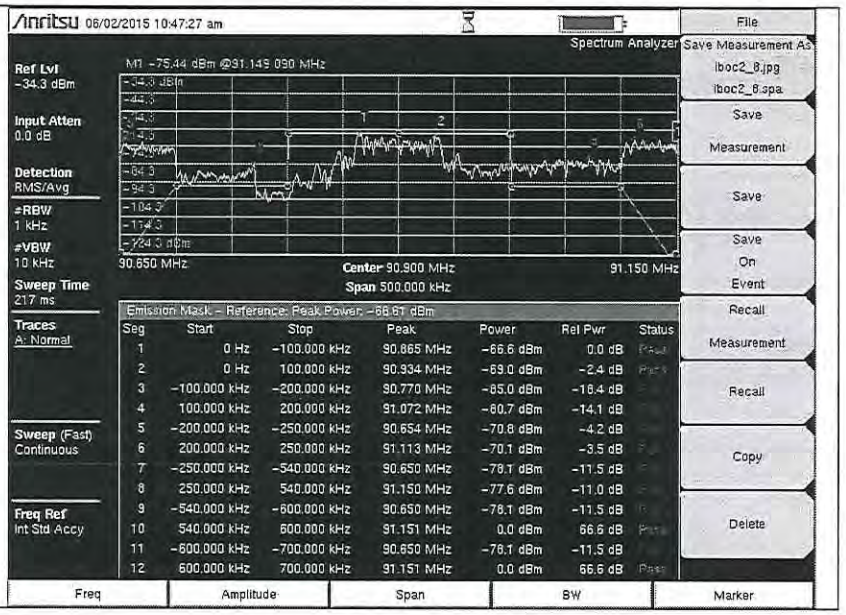
Escenario	1- Potencia Nominal
Bloque	3
Medición	2.3
MUSICA	



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		

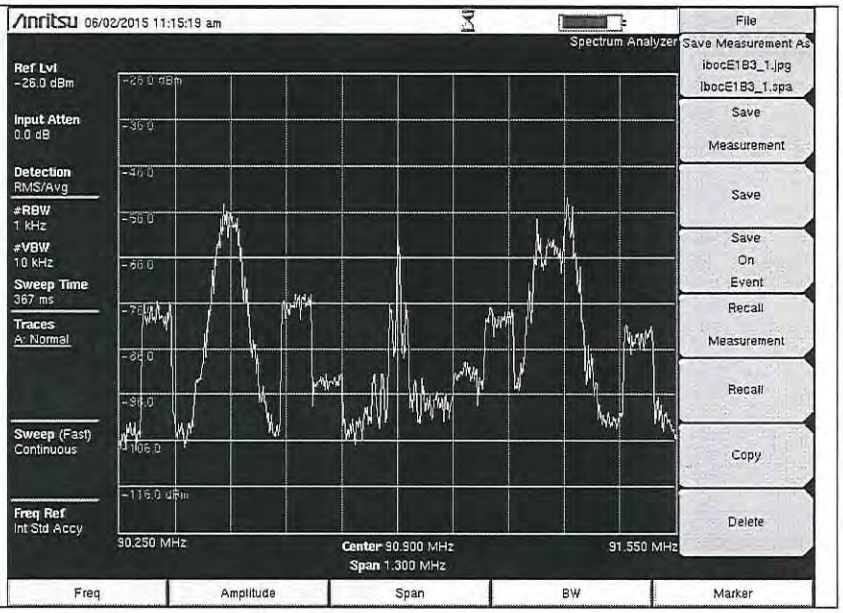
Escenario	1- Potencia Nominal	FUE NECESARIO RESETEAR EL ANALIZADOR DE ESPECTRO
Bloque	*3*	
Medición	4.2	
TRANSMISIÓN CONVENCIONAL		

Escenario	1- Potencia Nominal	FUE NECESARIO RESETEAR EL ANALIZADOR DE ESPECTRO
Bloque	*3*	
Medición	4.3	
TRANSMISIÓN CONVENCIONAL		

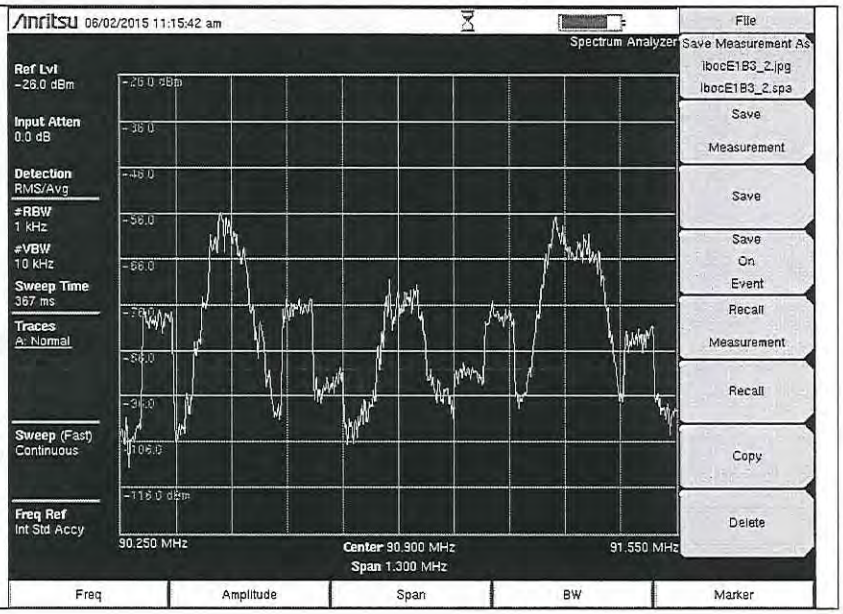
Escenario	1- Potencia Nominal	FUE NECESARIO RESETEAR EL ANALIZADOR DE ESPECTRO
Bloque	*3*	
Medición	4.4	
TRANSMISIÓN CONVENCIONAL		

Escenario	1- Potencia Nominal	FUE NECESARIO RESETEAR EL ANALIZADOR DE ESPECTRO
Bloque	*3*	
Medición	4.5	
TRANSMISIÓN CONVENCIONAL		

Escenario	1- Potencia Nominal
Bloque	*4*
Medición	1.1
VOZ	

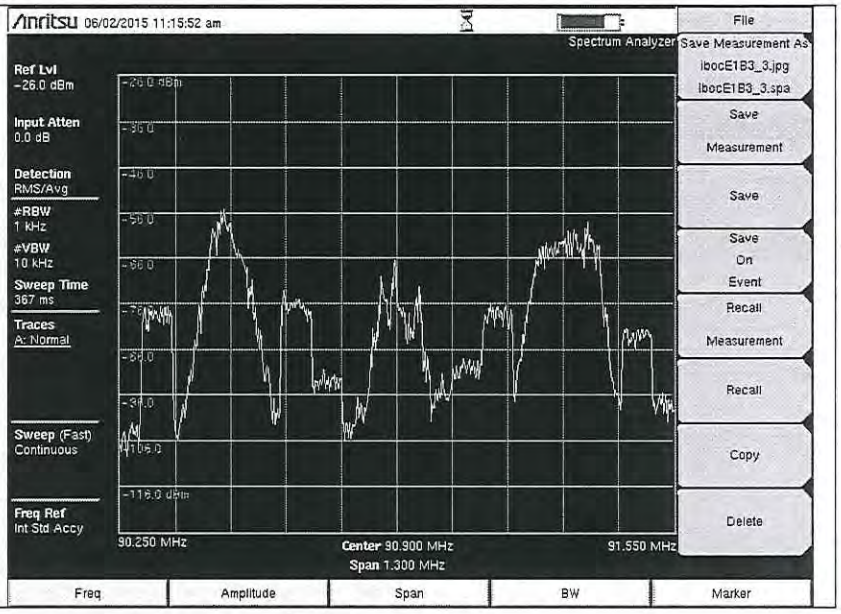


Escenario	1- Potencia Nominal
Bloque	*4*
Medición	1.2
VOZ	



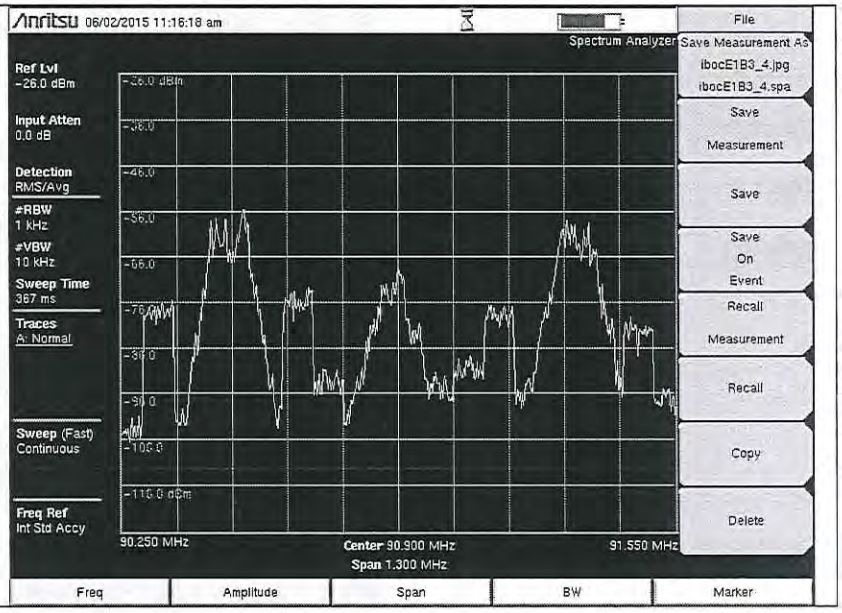
Escenario	1- Potencia Nominal
Bloque	*4*
Medición	1.3

VOZ

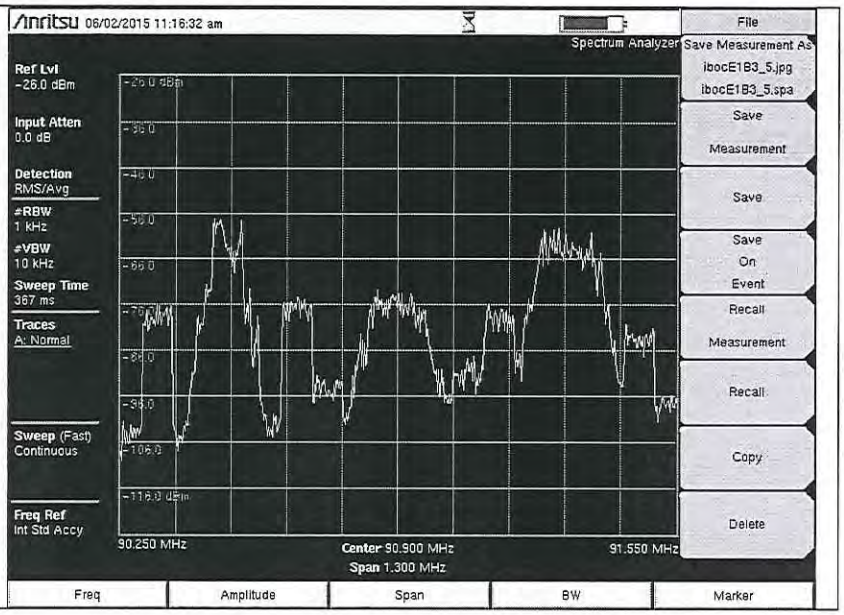


Escenario	1- Potencia Nominal
Bloque	*4*
Medición	2.1

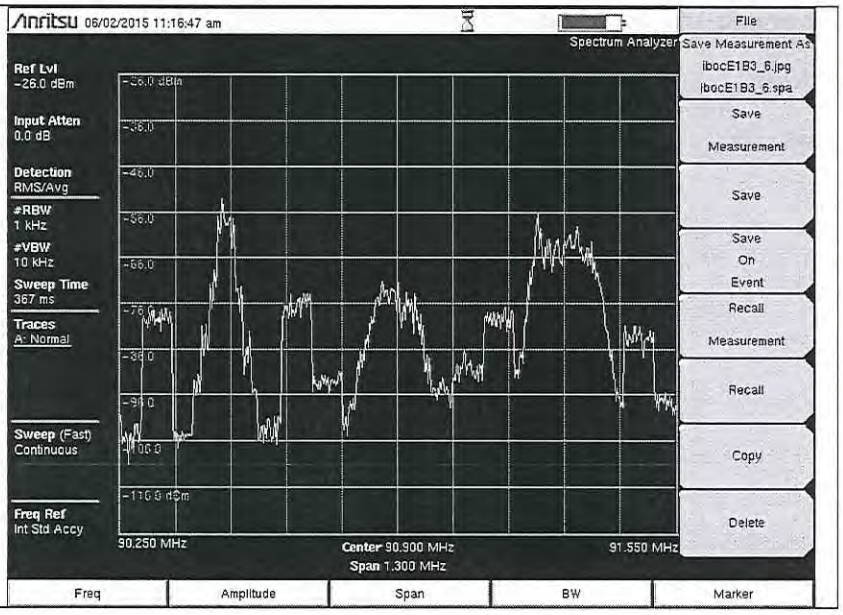
MUSICA



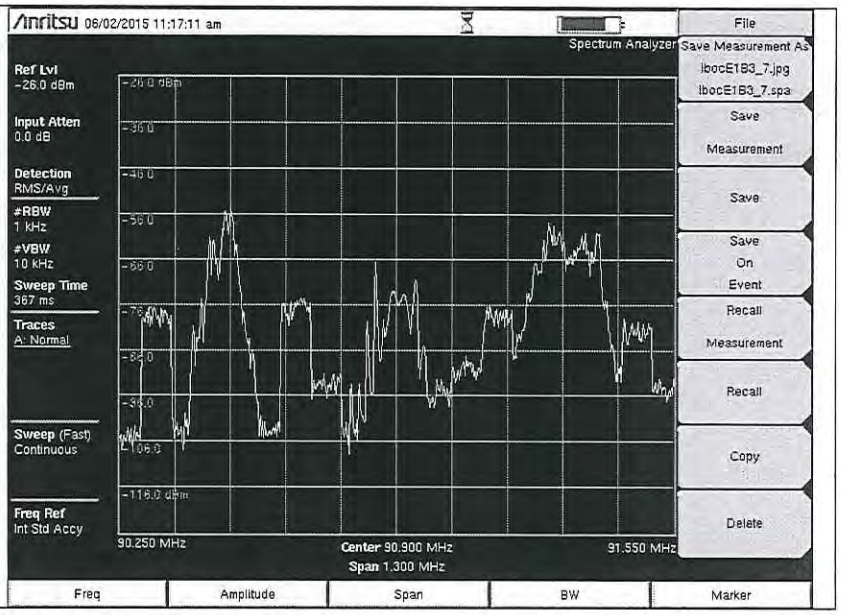
Escenario	1- Potencia Nominal
Bloque	*4*
Medición	2.2
MUSICA	



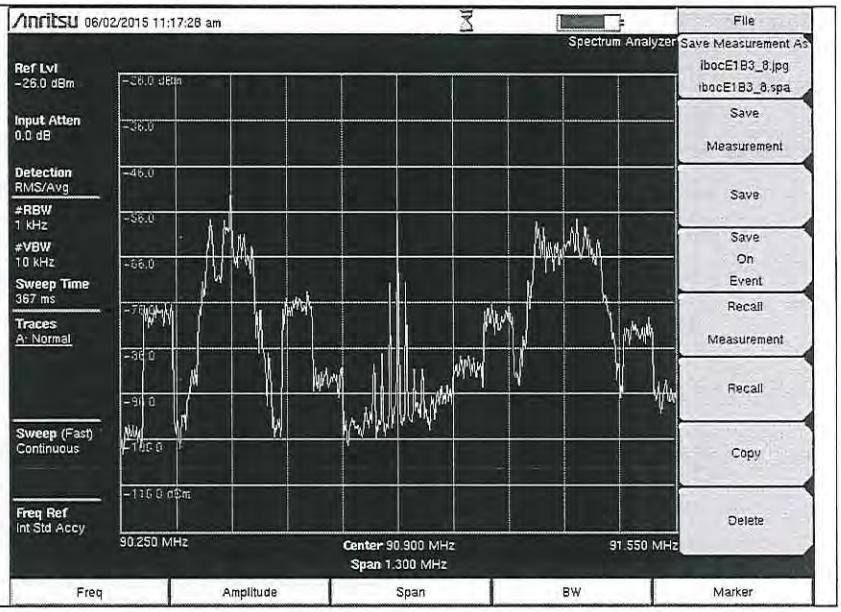
Escenario	1- Potencia Nominal
Bloque	*4*
Medición	2.3
MUSICA	



Escenario	1- Potencia Nominal
Bloque	*4*
Medición	3.1
RUIDO	



Escenario	1- Potencia Nominal
Bloque	*4*
Medición	3.2
RUIDO	



Escenario	1- Potencia Nominal
Bloque	*4*
Medición	4.1
TRANSMISIÓN CONVENCIONAL	

FUE NECESARIO RESETEAR EL ANALIZADOR DE ESPECTRO

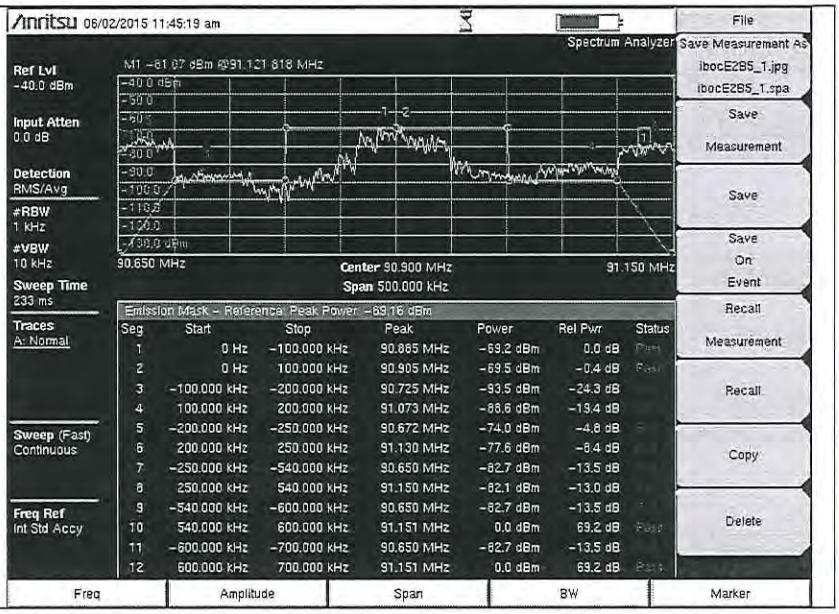
Escenario	1- Potencia Nominal	FUE NECESARIO RESETEAR EL ANALIZADOR DE ESPECTRO
Bloque	*4*	
Medición	4.2	
TRANSMISIÓN CONVENCIONAL		

Escenario	1- Potencia Nominal	FUE NECESARIO RESETEAR EL ANALIZADOR DE ESPECTRO
Bloque	*4*	
Medición	4.3	
TRANSMISIÓN CONVENCIONAL		

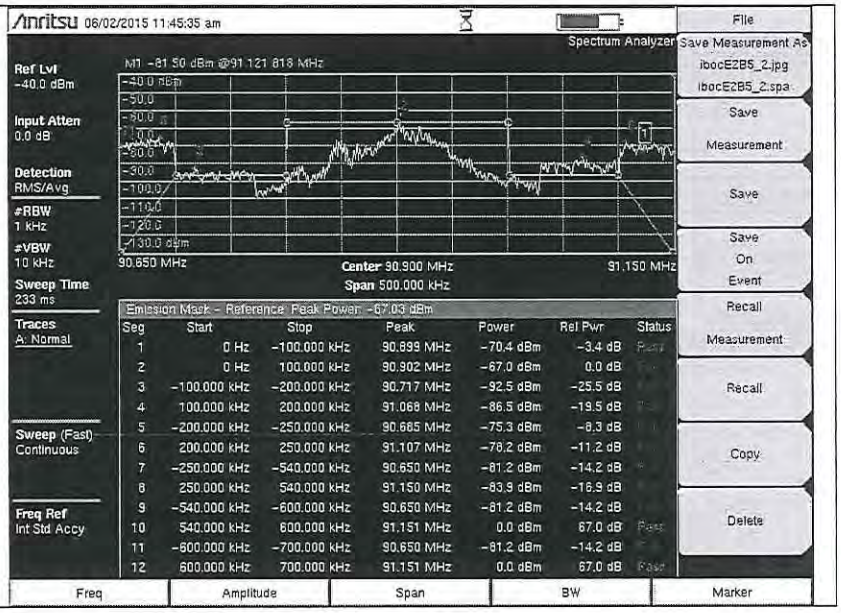
Escenario	1- Potencia Nominal	FUE NECESARIO RESETEAR EL ANALIZADOR DE ESPECTRO
Bloque	*4*	
Medición	4.4	
TRANSMISIÓN CONVENCIONAL		

Escenario	1- Potencia Nominal	FUE NECESARIO RESETEAR EL ANALIZADOR DE ESPECTRO
Bloque	*4*	
Medición	4.5	
TRANSMISIÓN CONVENCIONAL		

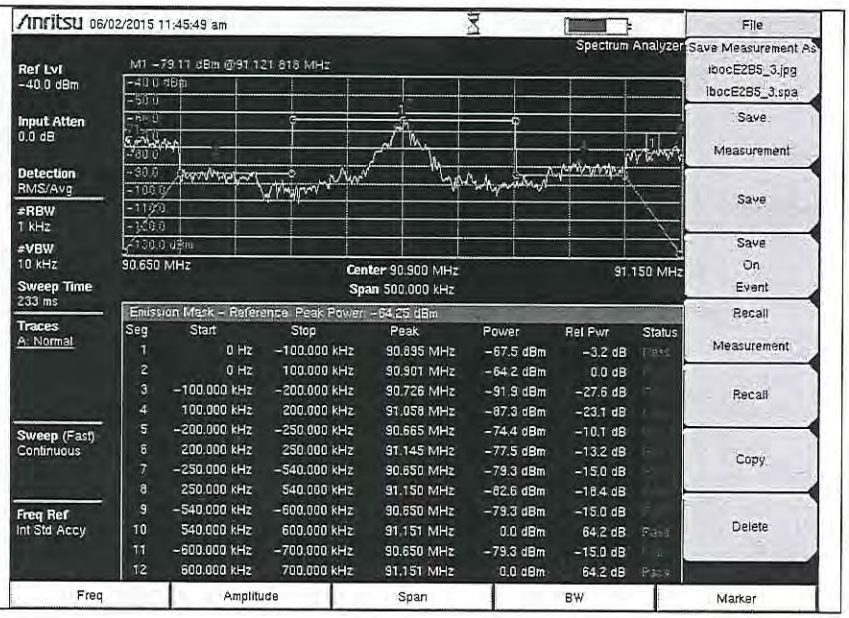
Escenario	**2- Disminución de potencia de portadora digital**
Bloque	***7***
Medición	**1.1**
VOZ	



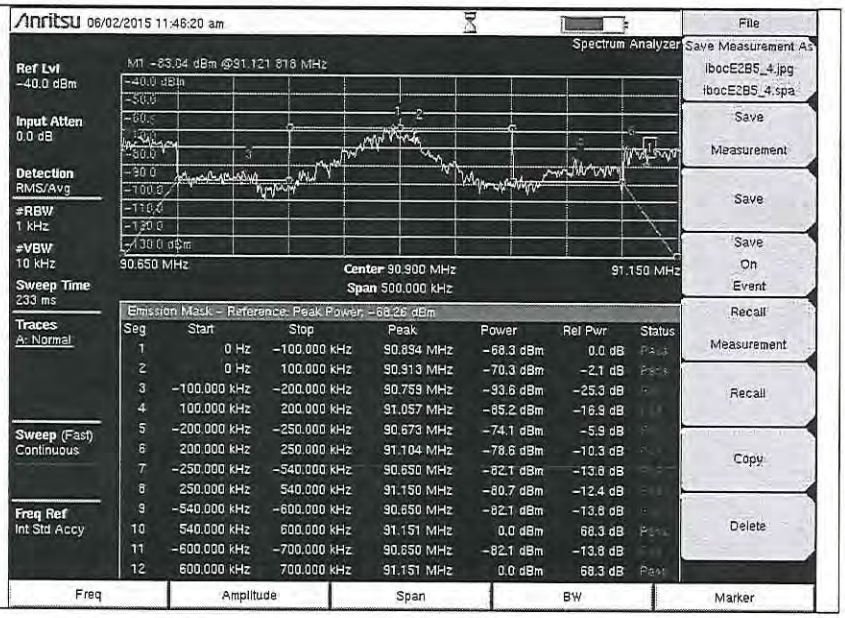
Escenario	**2- Disminución de potencia de portadora digital**
Bloque	***7***
Medición	**1.2**
VOZ	



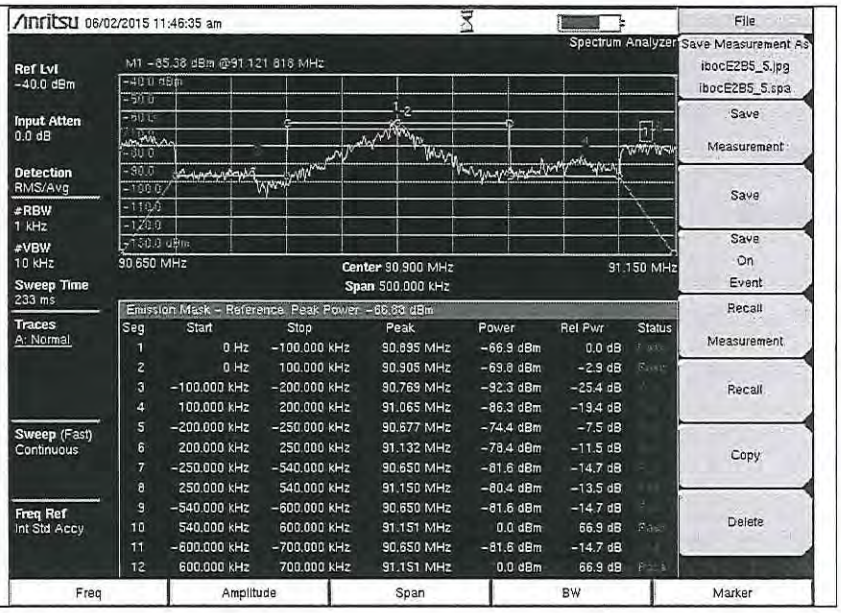
Escenario	2- Disminución de potencia de portadora digital
Bloque	*7*
Medición	1.3
VOZ	



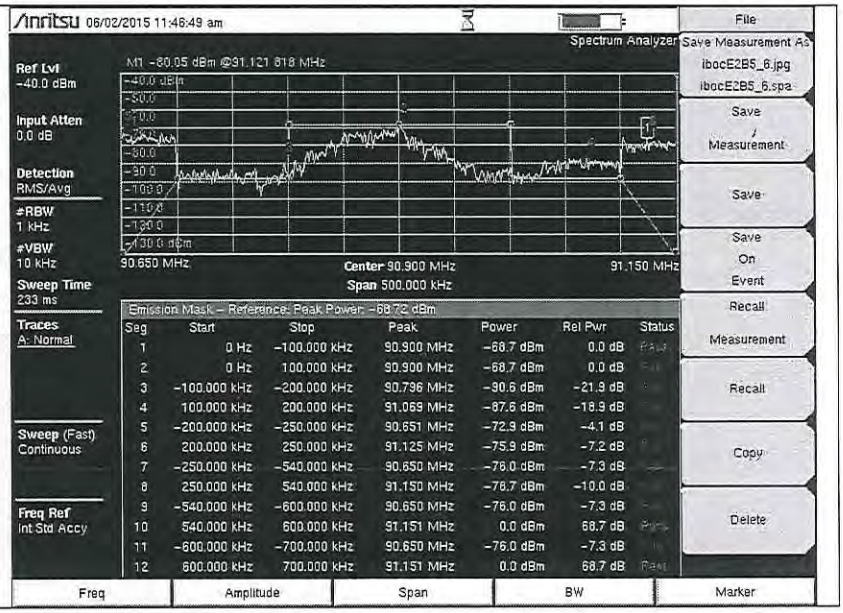
Escenario	2- Disminución de potencia de portadora digital
Bloque	*7*
Medición	2.1
MUSICA	



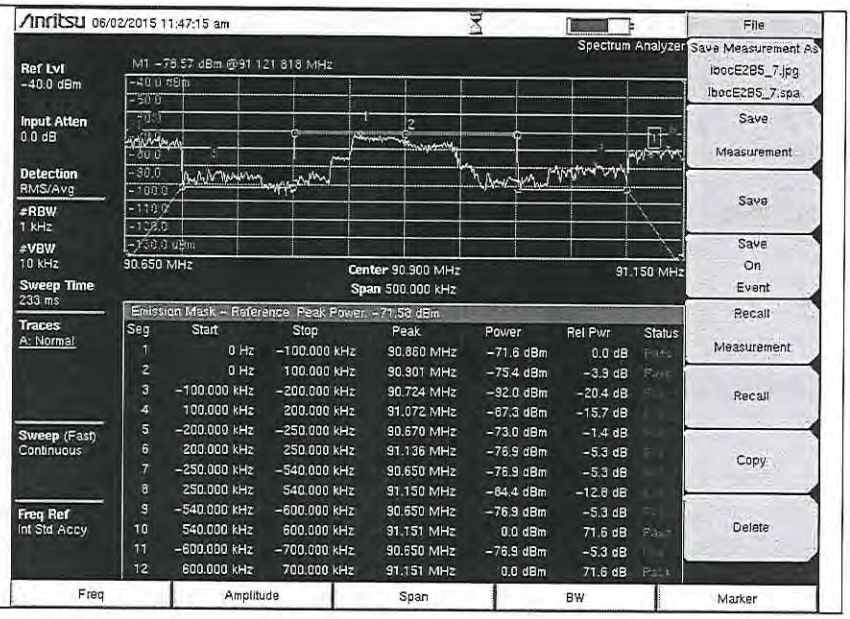
Escenario	2- Disminución de potencia de portadora digital
Bloque	*7*
Medición	2.2
MUSICA	



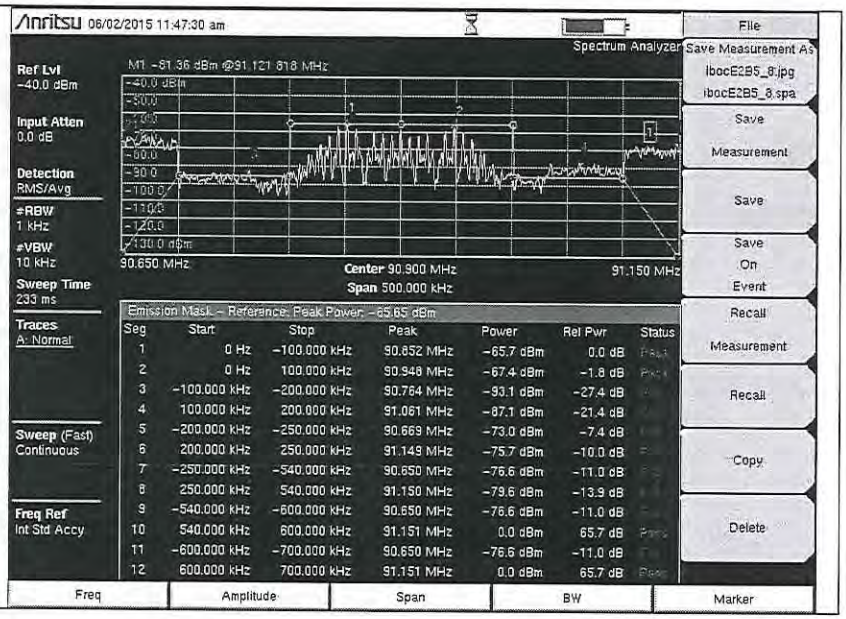
Escenario	2- Disminución de potencia de portadora digital
Bloque	*7*
Medición	2.3
MUSICA	



Escenario	2- Disminución de potencia de portadora digital
Bloque	7
Medición	3.1
RUIDO	

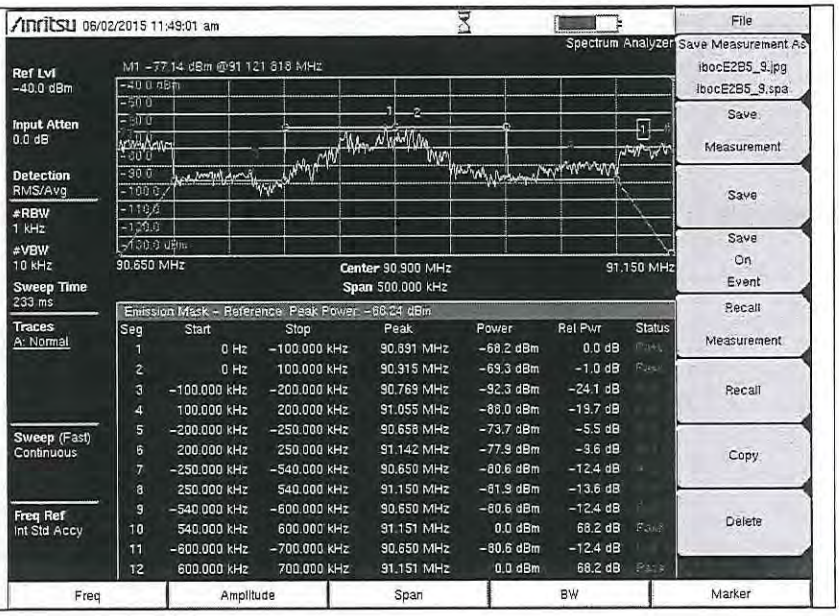


Escenario	2- Disminución de potencia de portadora digital
Bloque	7
Medición	3.2
RUIDO	



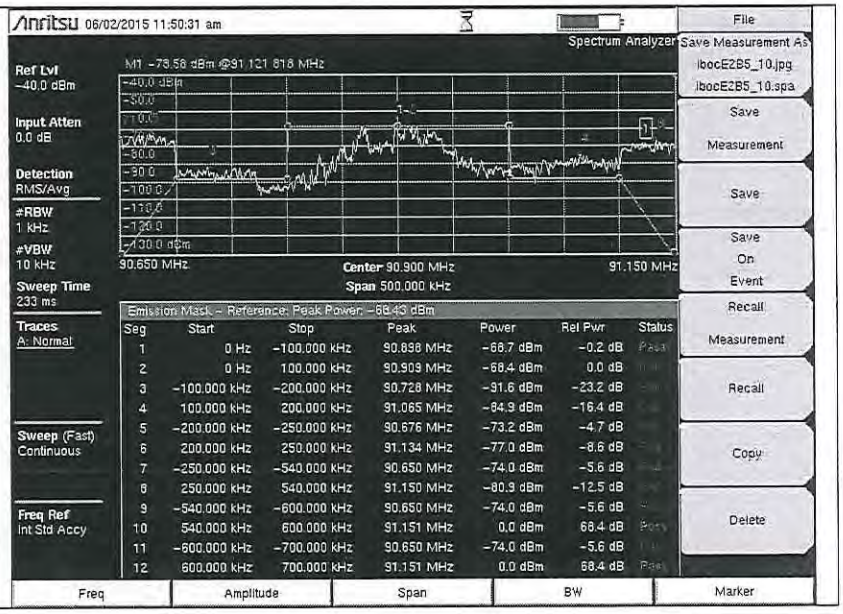
Escenario	2- Disminución de potencia de portadora digital
Bloque	*7*
Medición	4.1

TRANSMISIÓN CONVENCIONAL

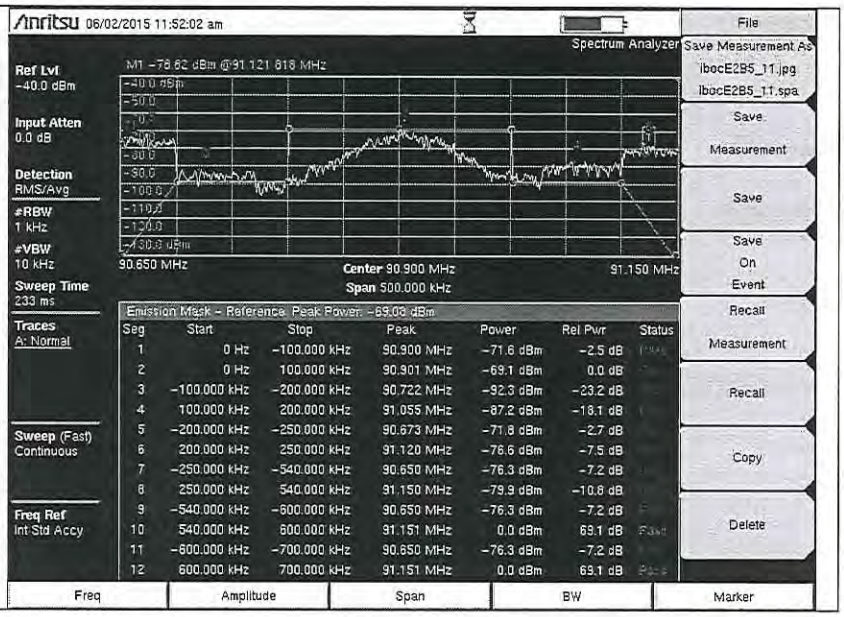


Escenario	2- Disminución de potencia de portadora digital
Bloque	*7*
Medición	4.2

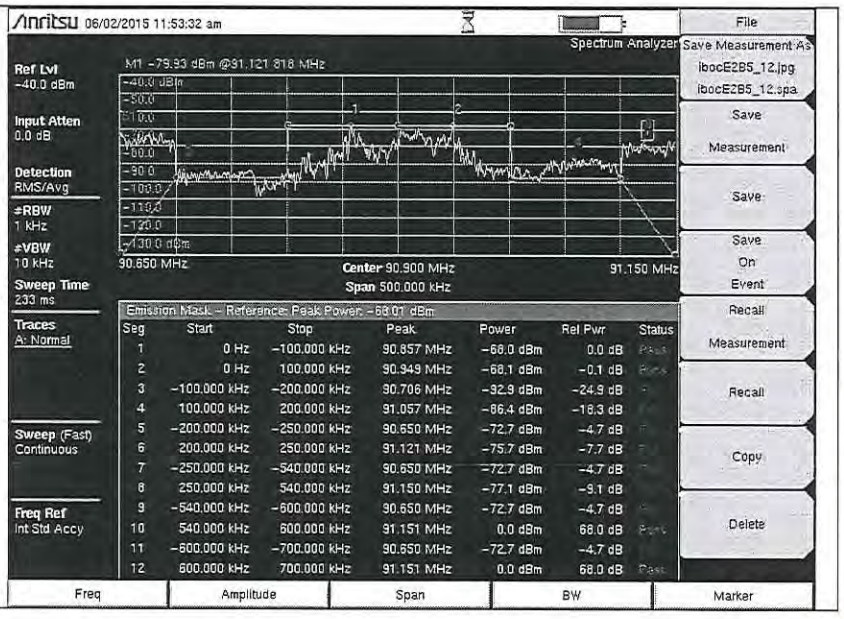
TRANSMISIÓN CONVENCIONAL



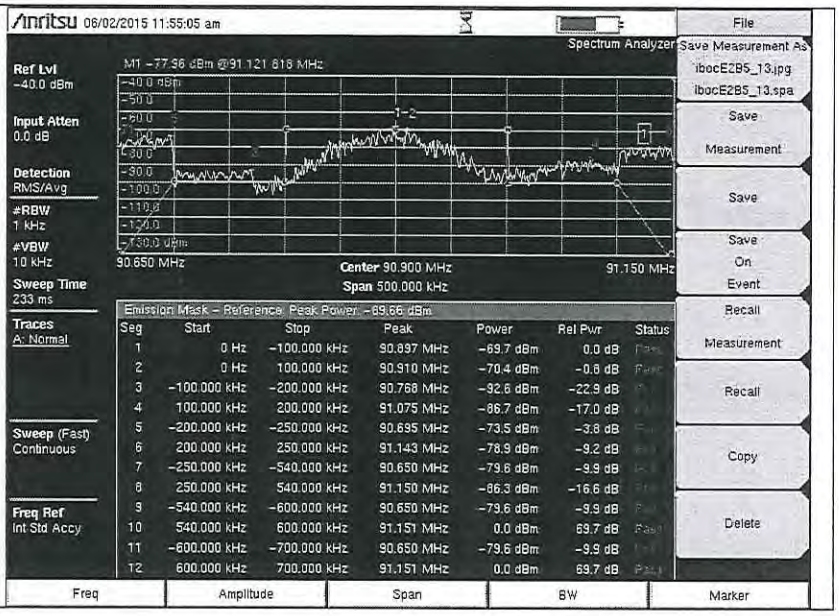
Escenario	2- Disminución de potencia de portadora digital
Bloque	*7*
Medición	4.3
TRANSMISIÓN CONVENCIONAL	



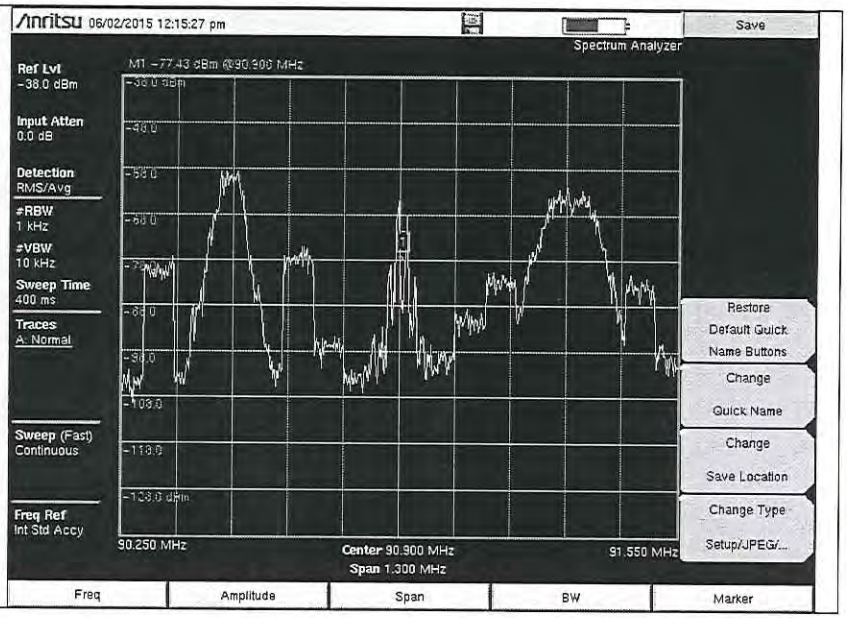
Escenario	2- Disminución de potencia de portadora digital
Bloque	*7*
Medición	4.4
TRANSMISIÓN CONVENCIONAL	



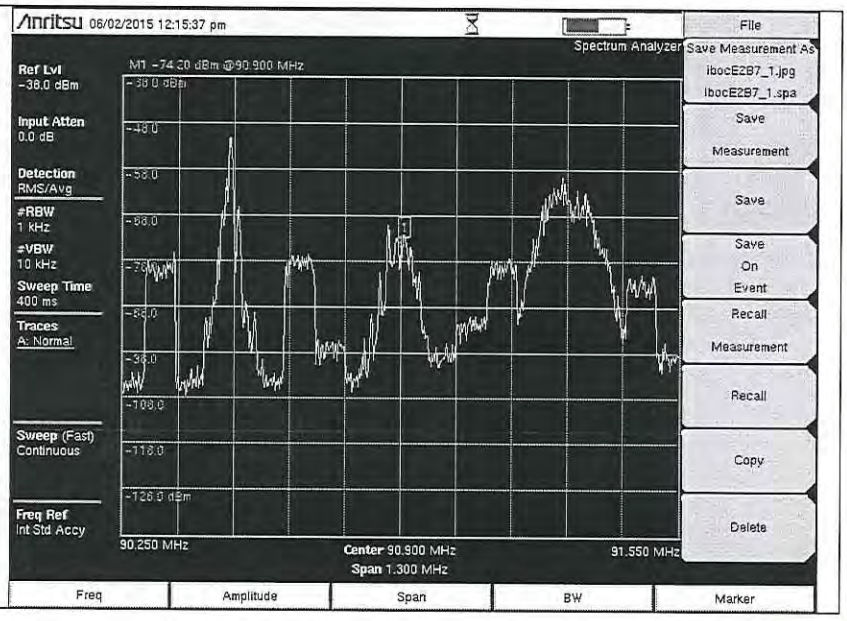
Escenario	**2- Disminución de potencia de portadora digital**
Bloque	***7***
Medición	**4.5**
TRANSMISIÓN CONVENCIONAL	



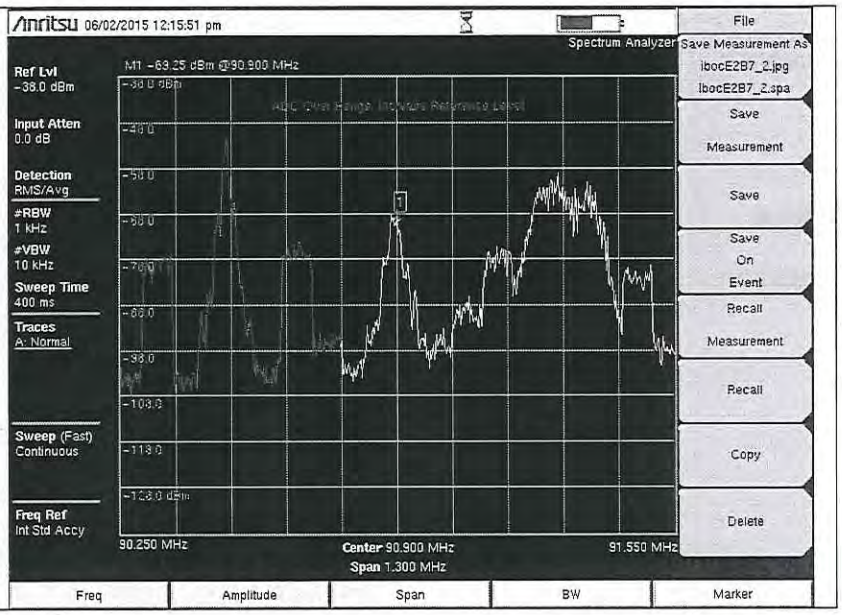
Escenario	3- Disminución de potencia de portadora digital derecha
Bloque	9
Medición	1.1
VOZ	



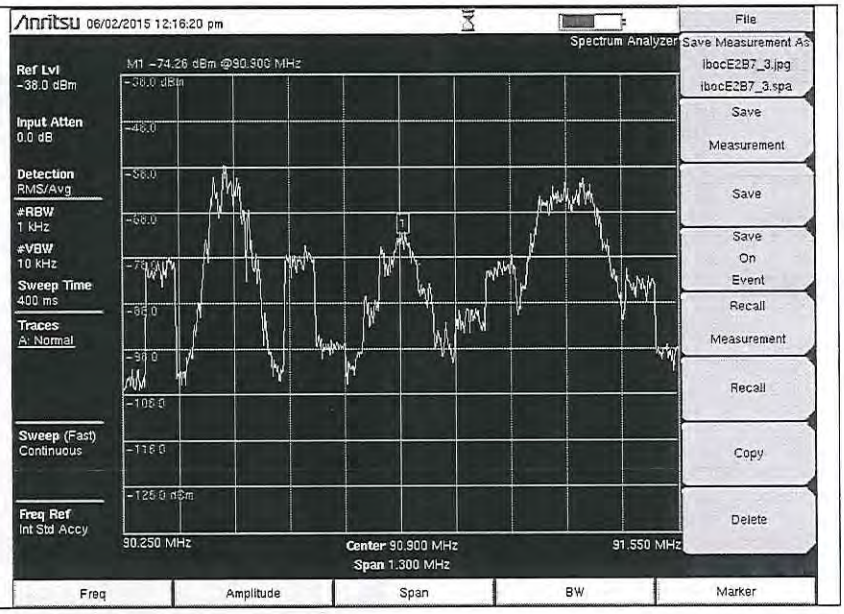
Escenario	3- Disminución de potencia de portadora digital derecha
Bloque	9
Medición	1.2
VOZ	



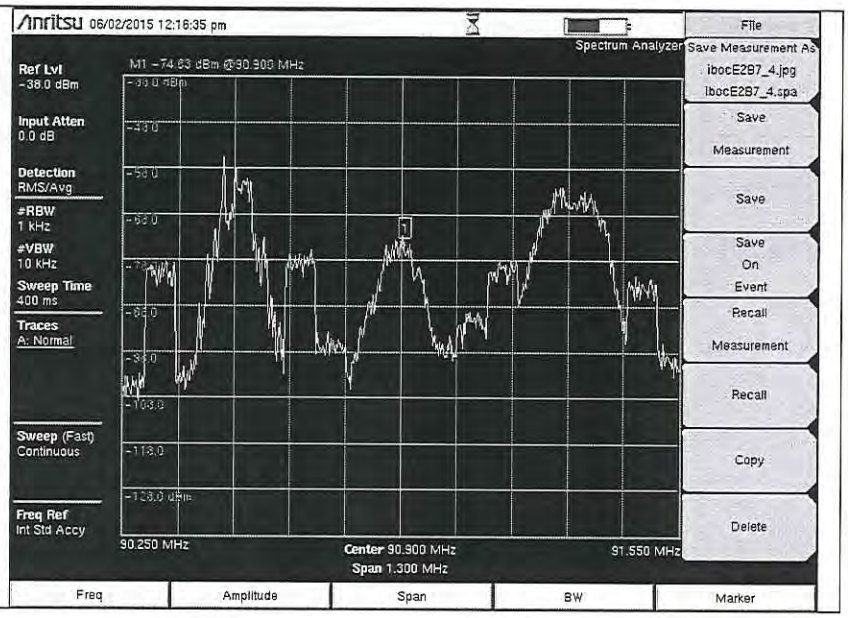
Escenario	**3- Disminución de potencia de portadora digital derecha**
Bloque	**9**
Medición	**1.3**
VOZ	



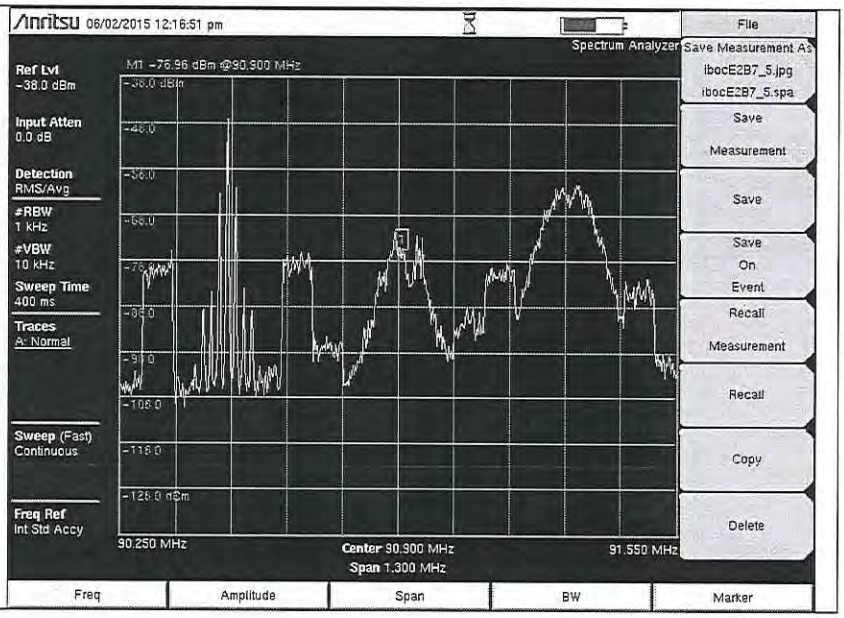
Escenario	**3- Disminución de potencia de portadora digital derecha**
Bloque	**9**
Medición	**2.1**
MUSICA	



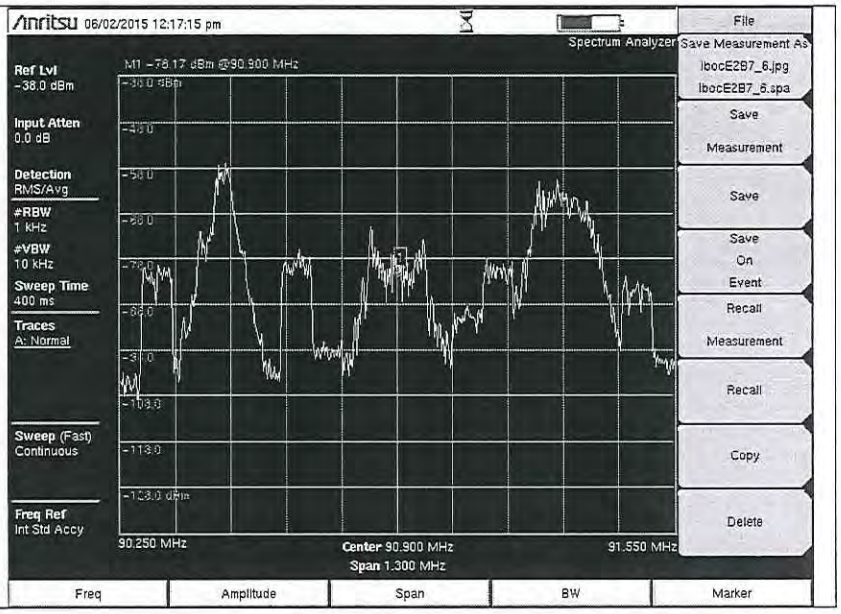
Escenario	**3- Disminución de potencia de portadora digital derecha**
Bloque	**9**
Medición	**2.2**
MUSICA	



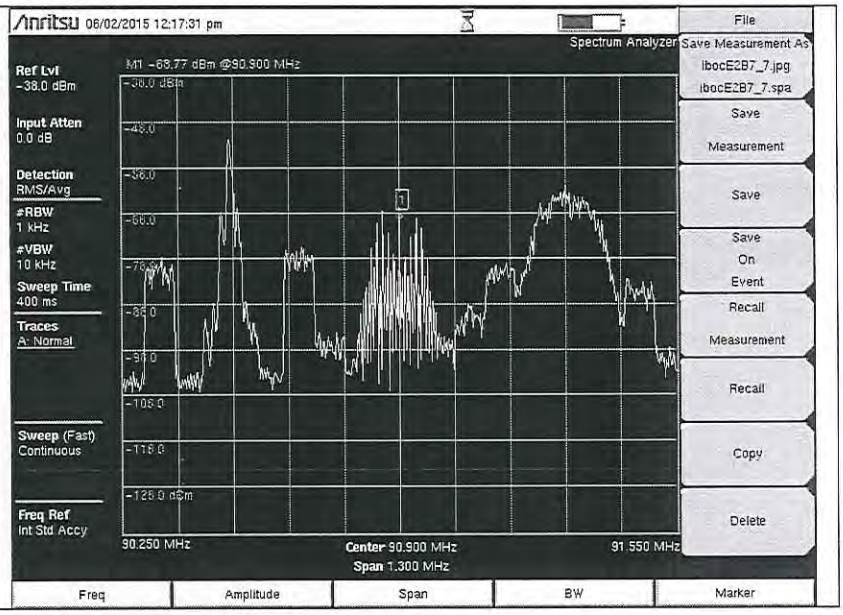
Escenario	**3- Disminución de potencia de portadora digital derecha**
Bloque	**9**
Medición	**2.3**
MUSICA	



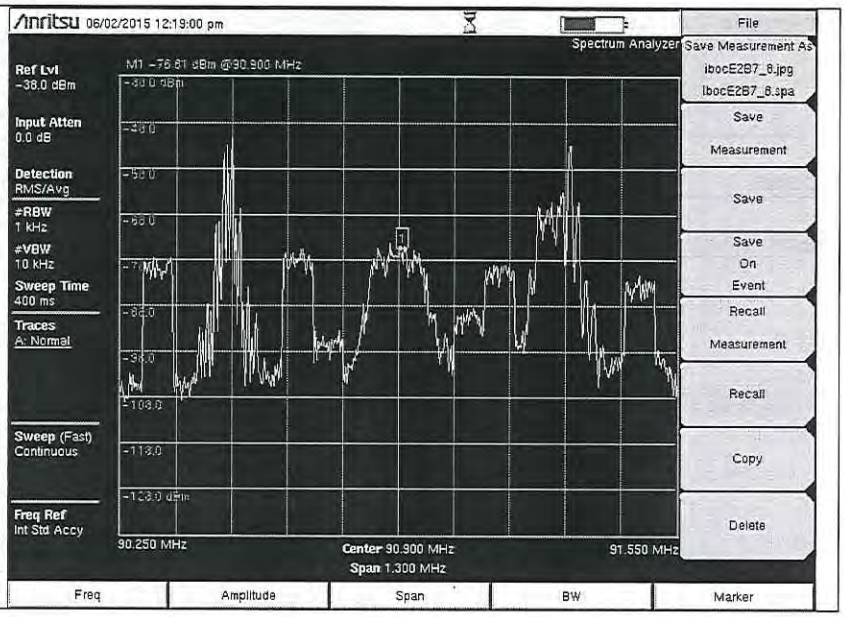
Escenario	3- Disminución de potencia de portadora digital derecha
Bloque	9
Medición	3.1
RUIDO	



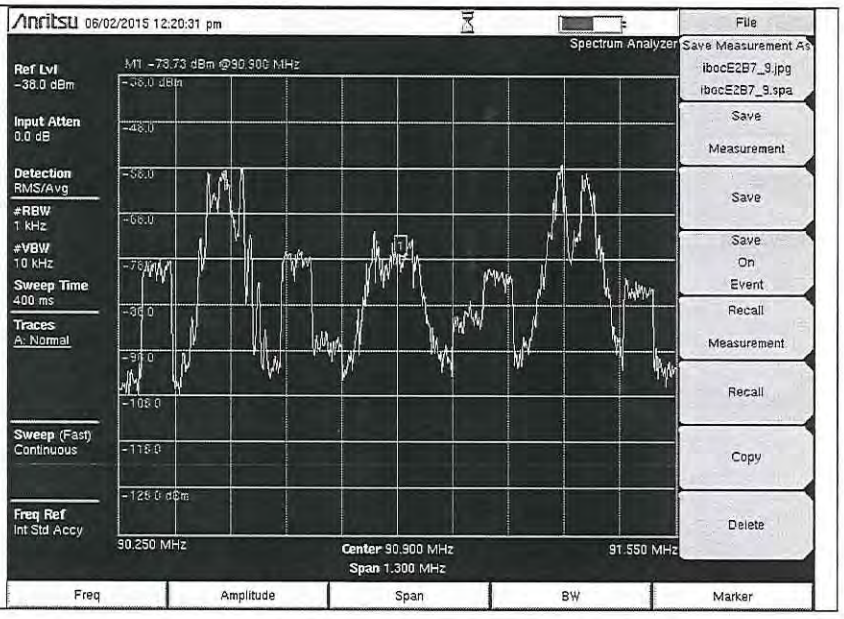
Escenario	3- Disminución de potencia de portadora digital derecha
Bloque	9
Medición	3.2
RUIDO	



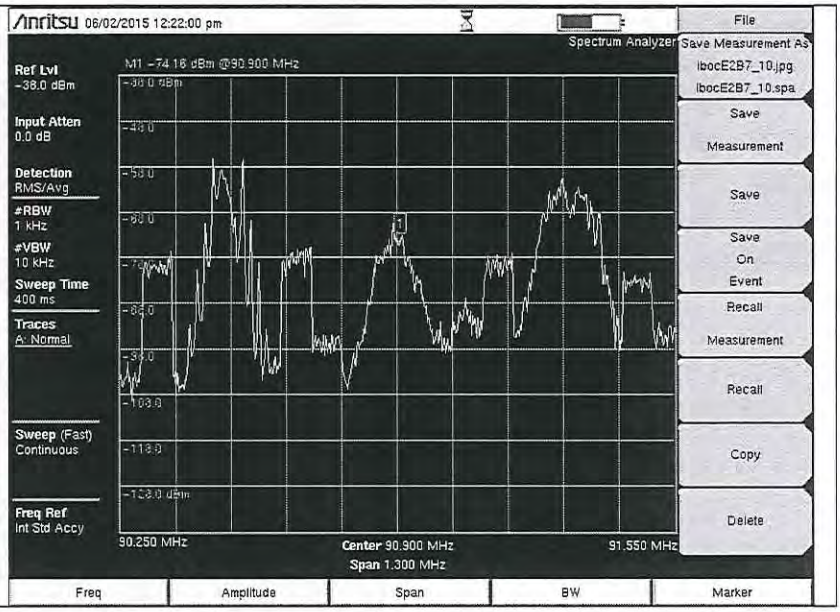
Escenario	**3- Disminución de potencia de portadora digital derecha**
Bloque	**9**
Medición	**4.1**
TRANSMISIÓN CONVENCIONAL	



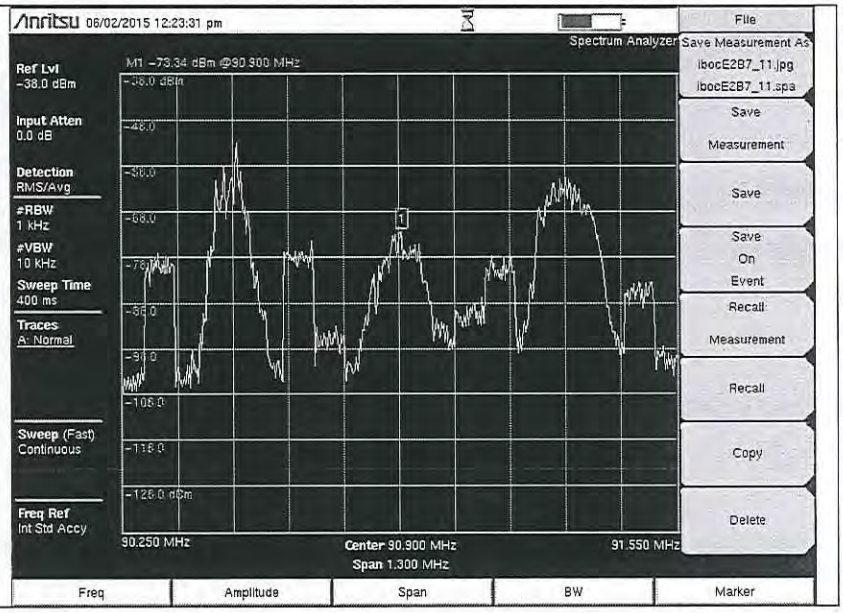
Escenario	**3- Disminución de potencia de portadora digital derecha**
Bloque	**9**
Medición	**4.2**
TRANSMISIÓN CONVENCIONAL	



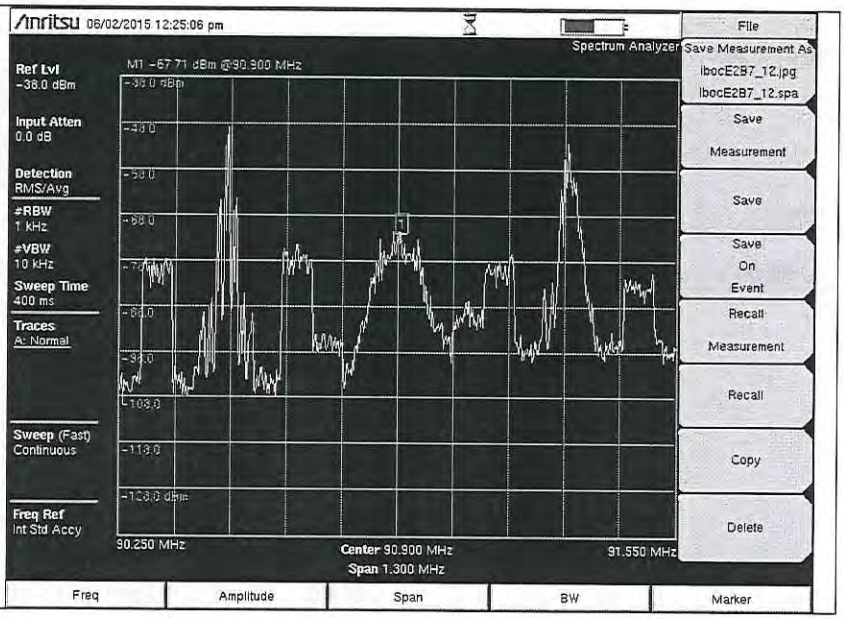
Escenario	**3- Disminución de potencia de portadora digital derecha**
Bloque	***9***
Medición	**4.3**
TRANSMISIÓN CONVENCIONAL	



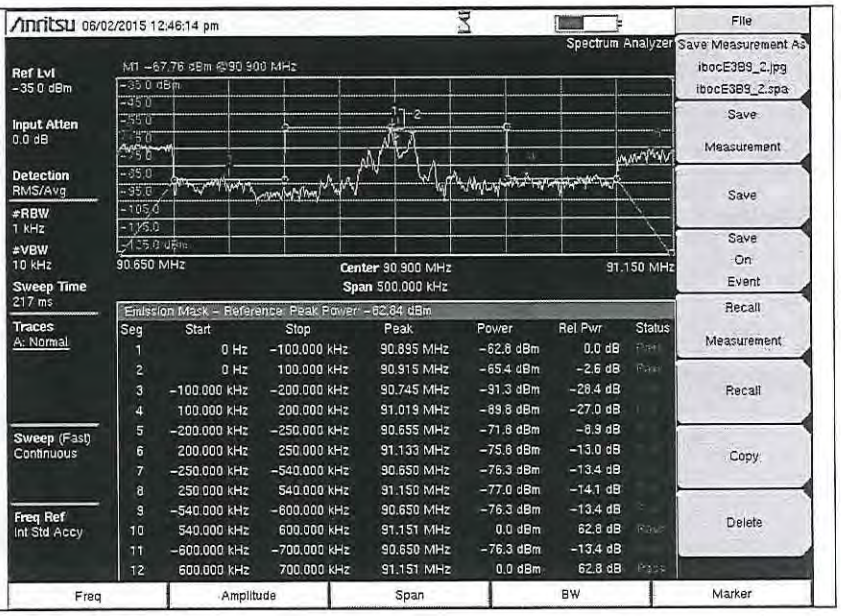
Escenario	**3- Disminución de potencia de portadora digital derecha**
Bloque	***9***
Medición	**4.4**
TRANSMISIÓN CONVENCIONAL	



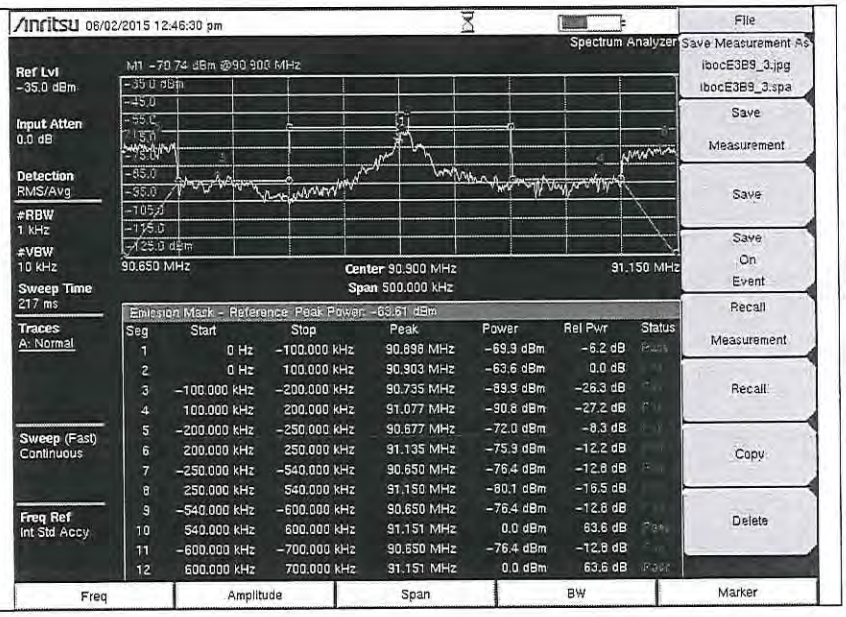
Escenario	**3- Disminución de potencia de portadora digital derecha**
Bloque	**9**
Medición	**4.5**
TRANSMISIÓN CONVENCIONAL	



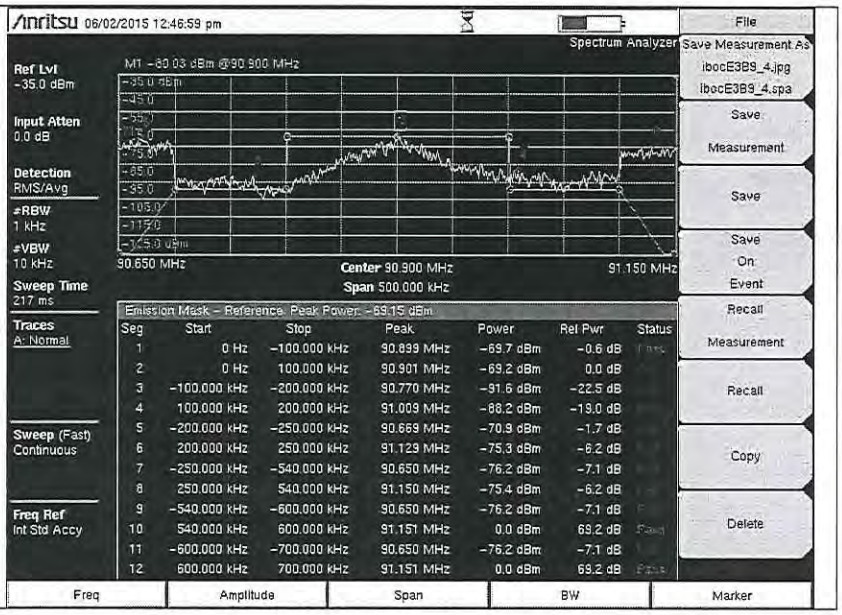
Escenario	3- Disminución de potencia de portadora digital derecha
Bloque	*11*
Medición	1.1
VOZ	



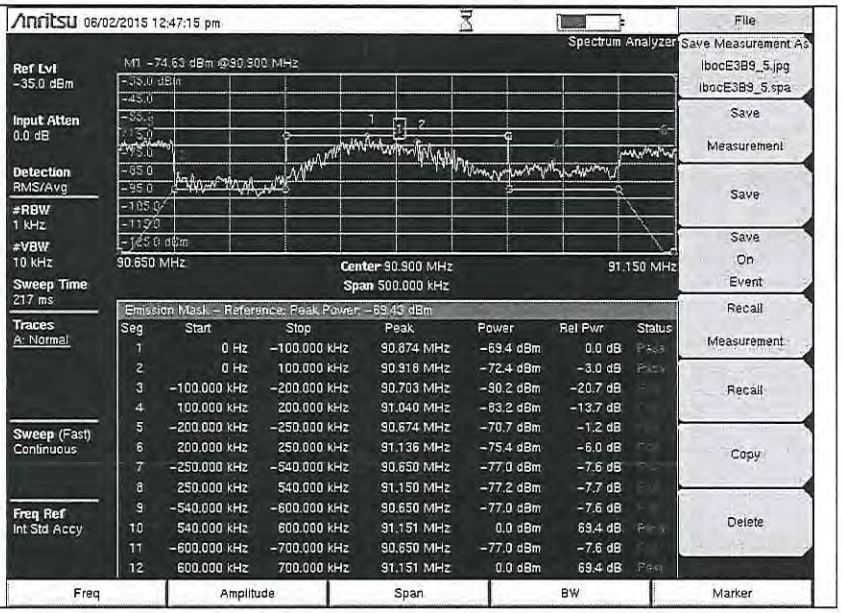
Escenario	3- Disminución de potencia de portadora digital derecha
Bloque	*11*
Medición	1.2
VOZ	



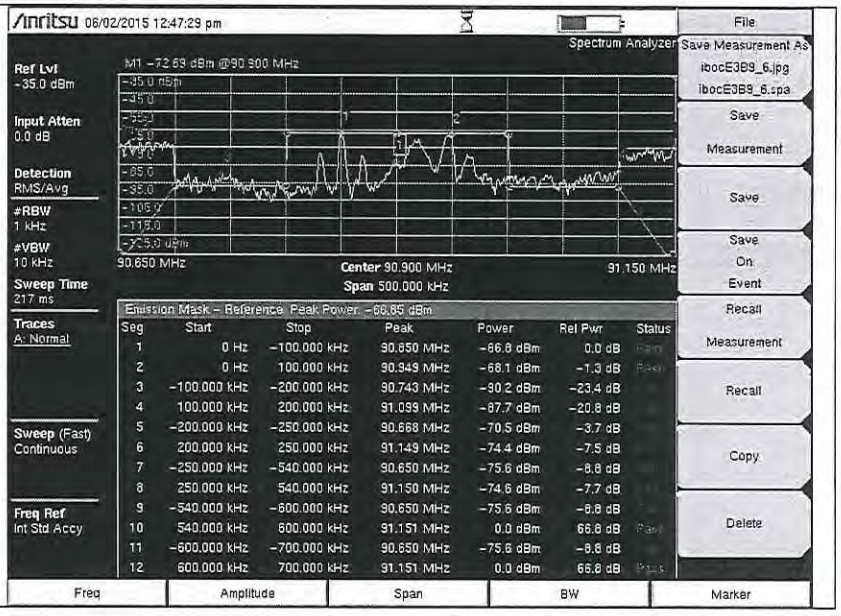
Escenario	**3- Disminución de potencia de portadora digital derecha**
Bloque	***11***
Medición	**1.3**
VOZ	



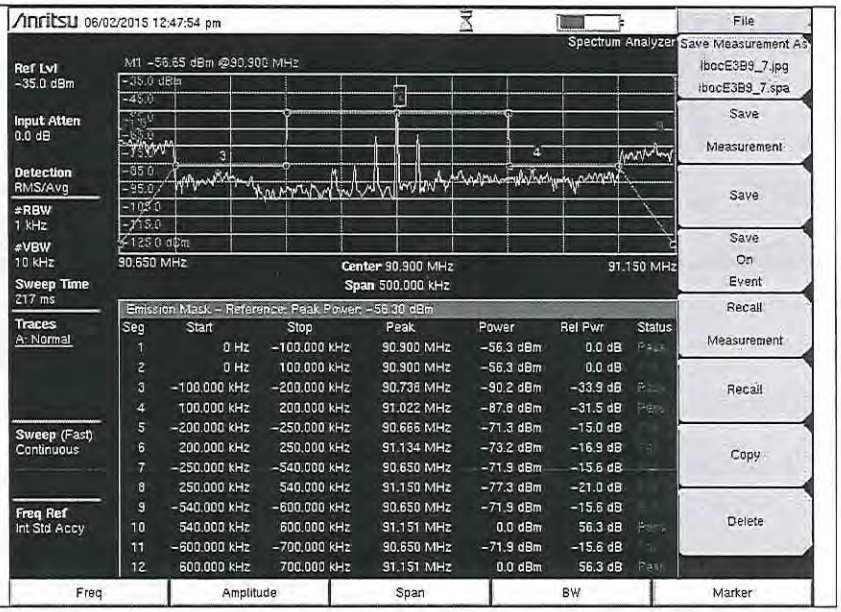
Escenario	**3- Disminución de potencia de portadora digital derecha**
Bloque	***11***
Medición	**2.1**
MUSICA	



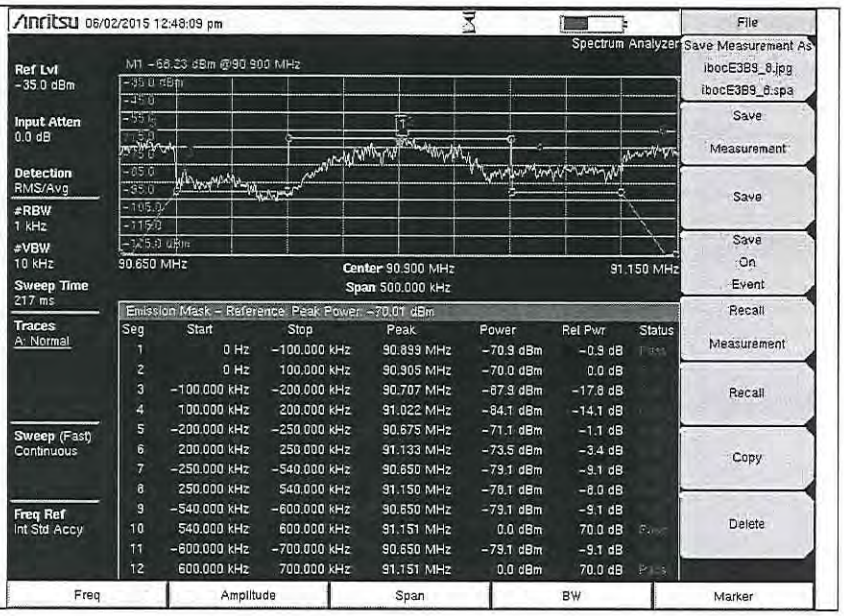
Escenario	**3- Disminución de potencia de portadora digital derecha**
Bloque	***11***
Medición	**2.2**
MUSICA	



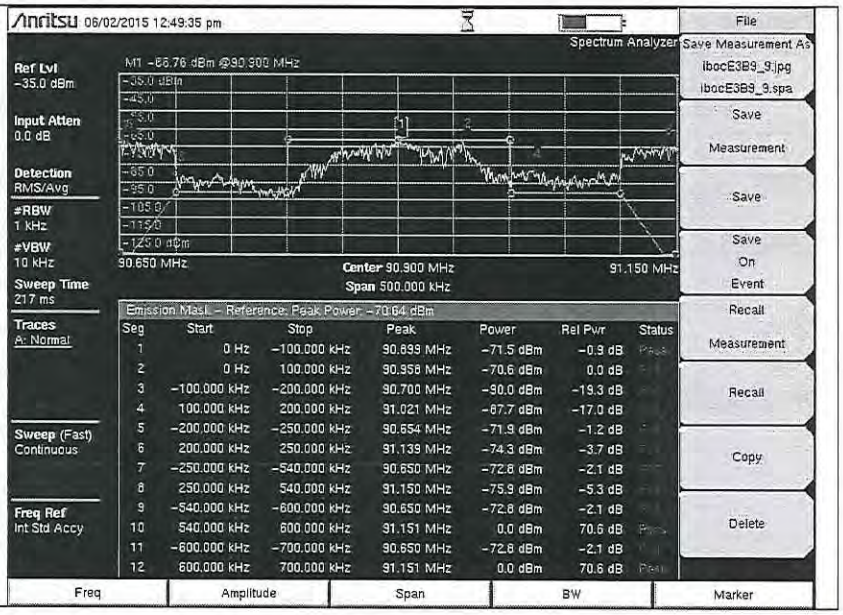
Escenario	**3- Disminución de potencia de portadora digital derecha**
Bloque	***11***
Medición	**2.3**
MUSICA	



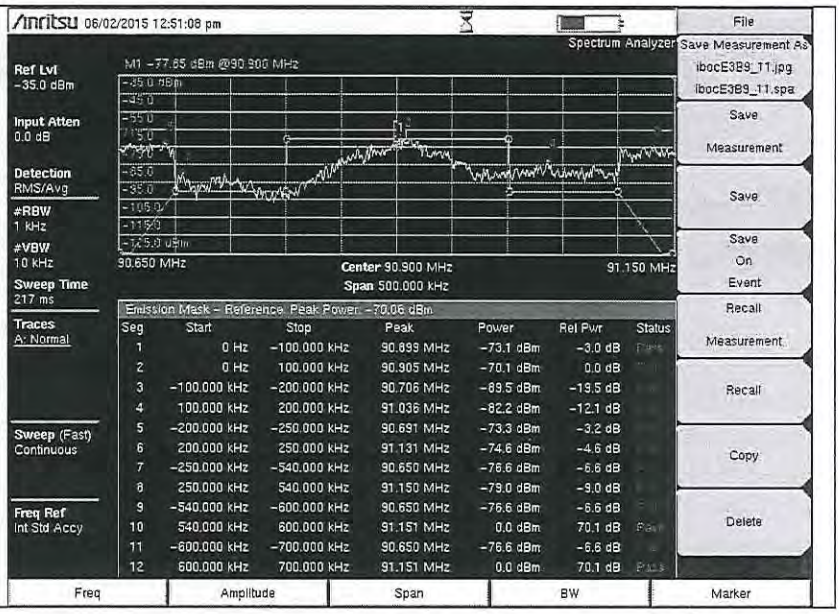
Escenario	**3- Disminución de potencia de portadora digital derecha**
Bloque	***11***
Medición	**3.1**
RUIDO	



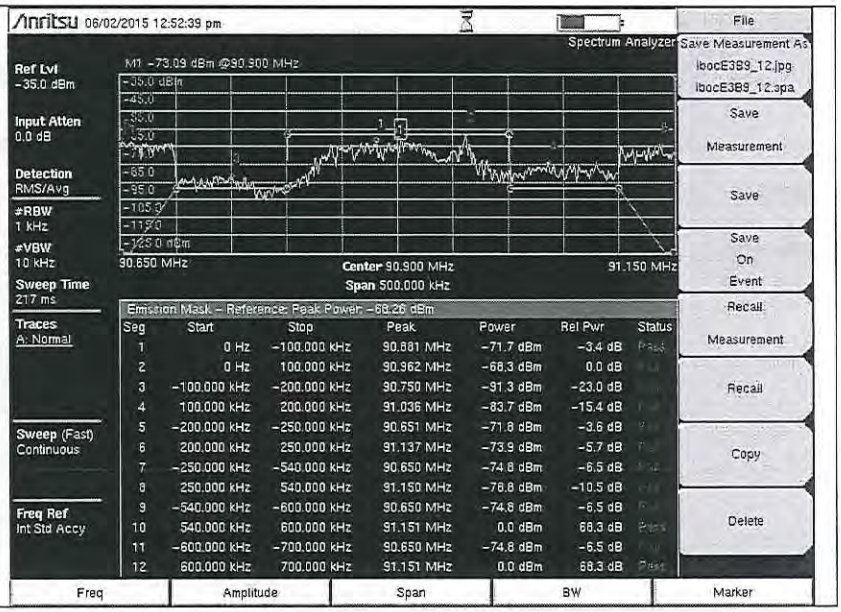
Escenario	**3- Disminución de potencia de portadora digital derecha**
Bloque	***11***
Medición	**3.2**
RUIDO	



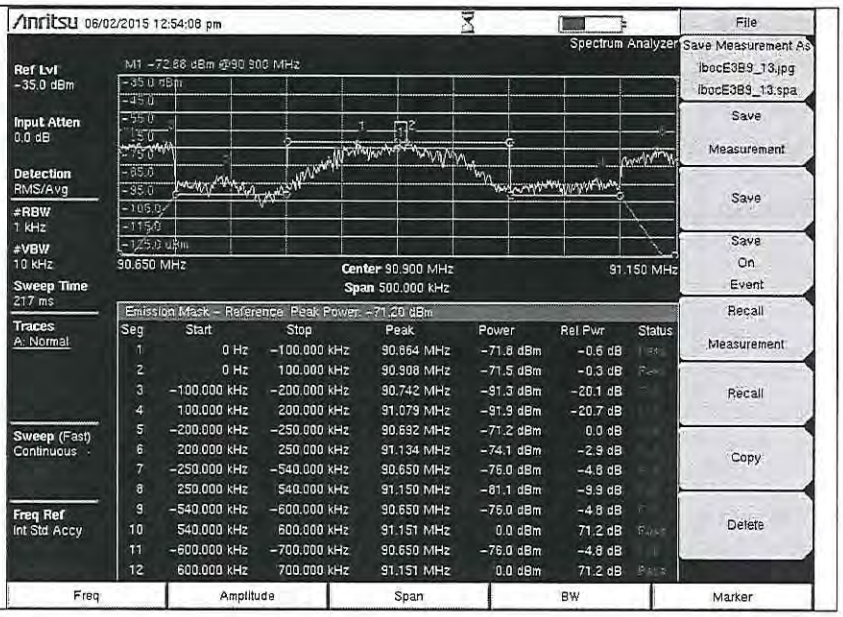
Escenario	**3- Disminución de potencia de portadora digital derecha**
Bloque	***11***
Medición	**4.1**
TRANSMISIÓN CONVENCIONAL	



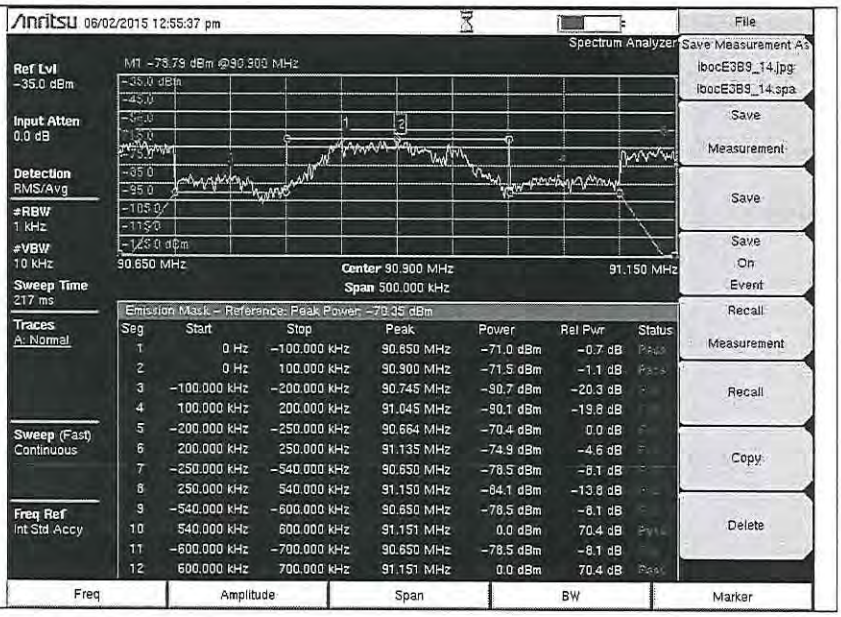
Escenario	**3- Disminución de potencia de portadora digital derecha**
Bloque	***11***
Medición	**4.2**
TRANSMISIÓN CONVENCIONAL	



Escenario	**3- Disminución de potencia de portadora digital derecha**
Bloque	***11***
Medición	**4.3**
TRANSMISIÓN CONVENCIONAL	

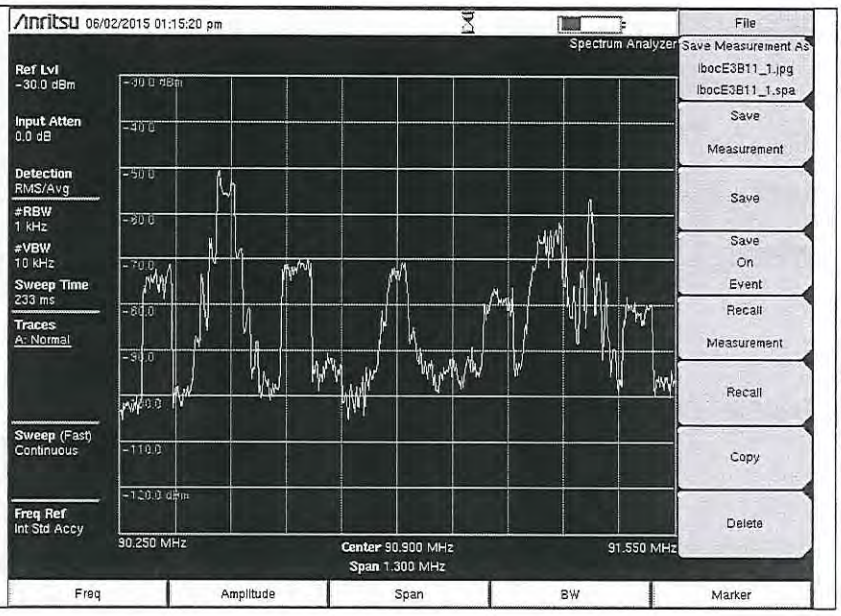


Escenario	**3- Disminución de potencia de portadora digital derecha**
Bloque	***11***
Medición	**4.4**
TRANSMISIÓN CONVENCIONAL	

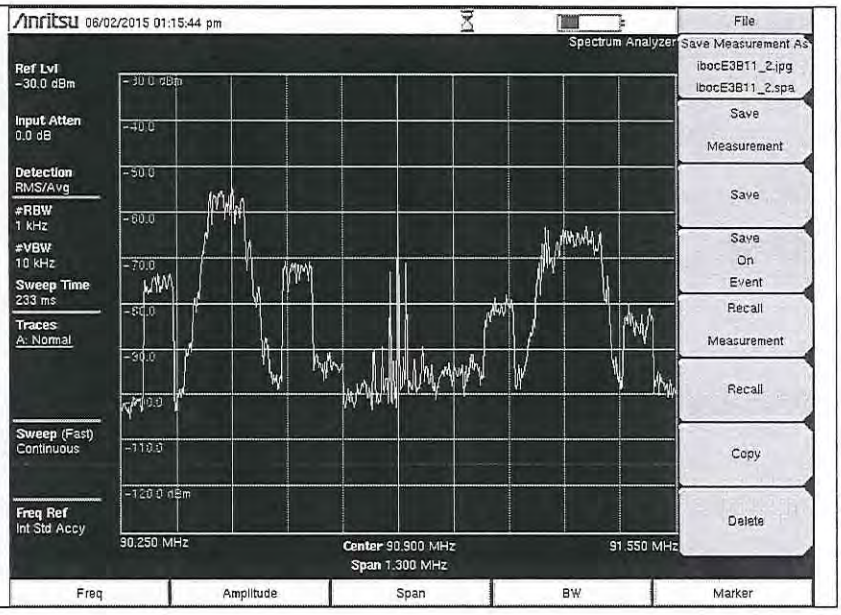


Escenario	**3- Disminución de potencia de portadora digital derecha**
Bloque	***11***
Medición	**4.5**
TRANSMISIÓN CONVENCIONAL	**FUE NECESARIO RESETEAR EL ANALIZADOR DE ESPECTRO**

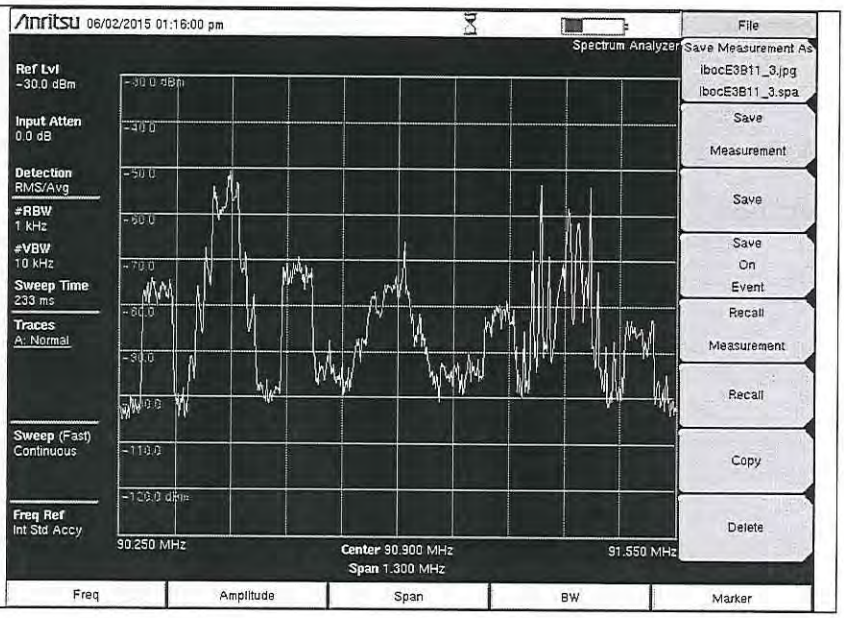
Escenario	4- Disminución de potencia de ambas portadoras
Bloque	*13*
Medición	1.1
VOZ	



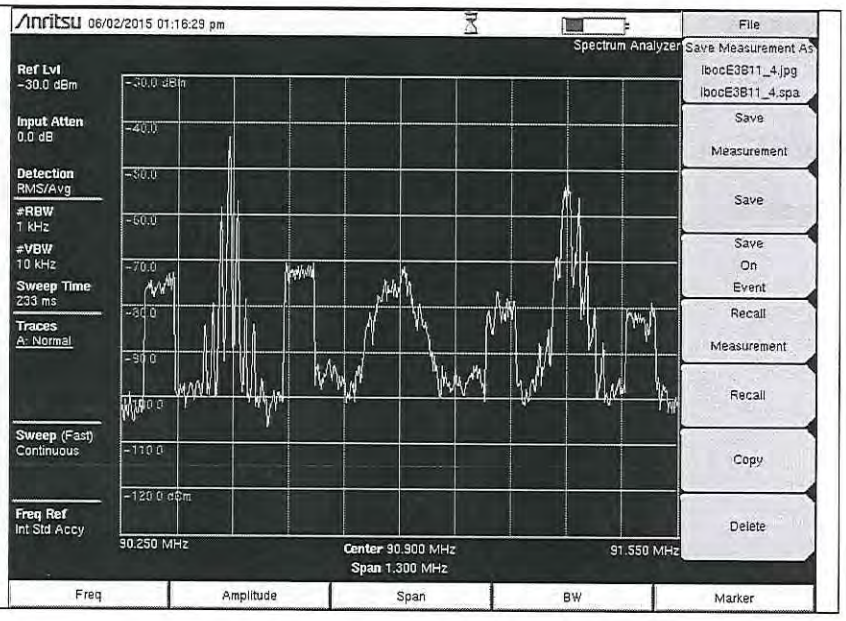
Escenario	4- Disminución de potencia de ambas portadoras
Bloque	*13*
Medición	1.2
VOZ	



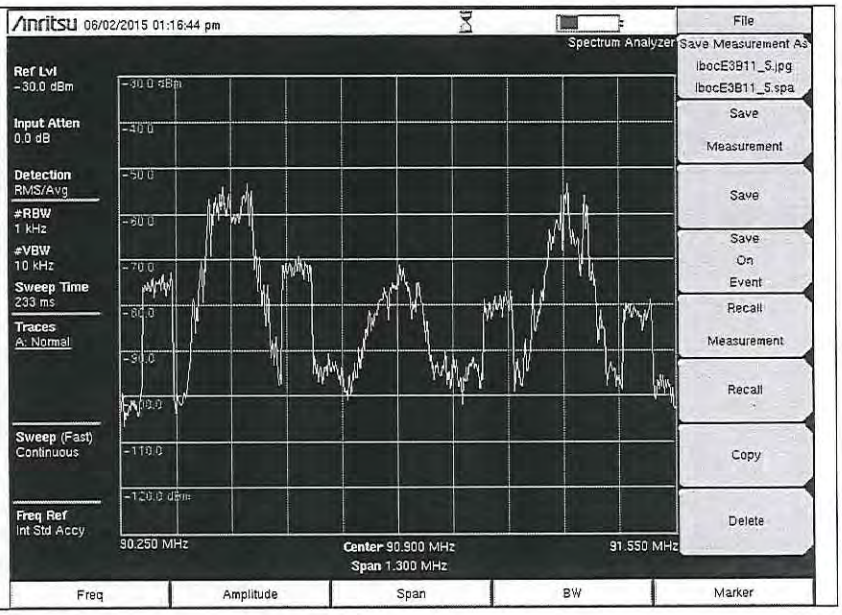
Escenario	4- Disminución de potencia de ambas portadoras
Bloque	*13*
Medición	1.3
VOZ	



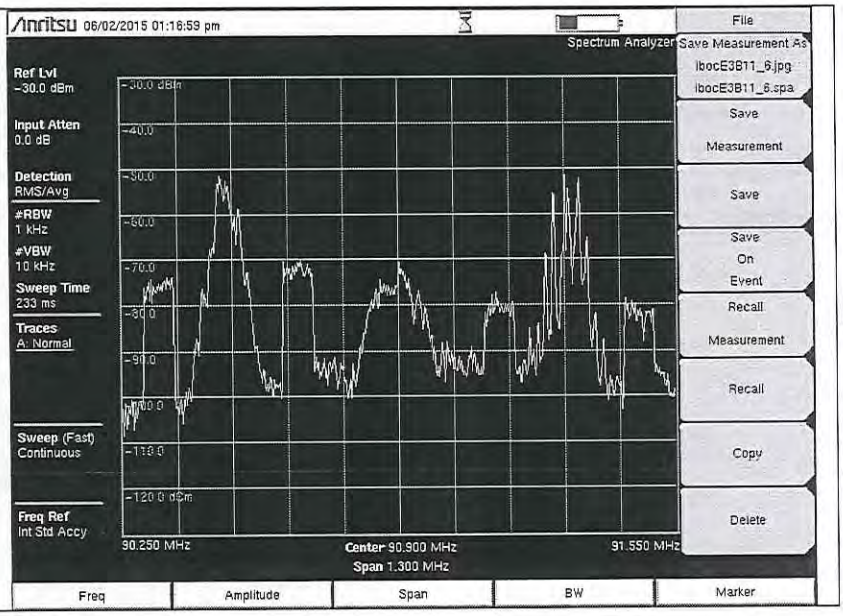
Escenario	4- Disminución de potencia de ambas portadoras
Bloque	*13*
Medición	2.1
MUSICA	



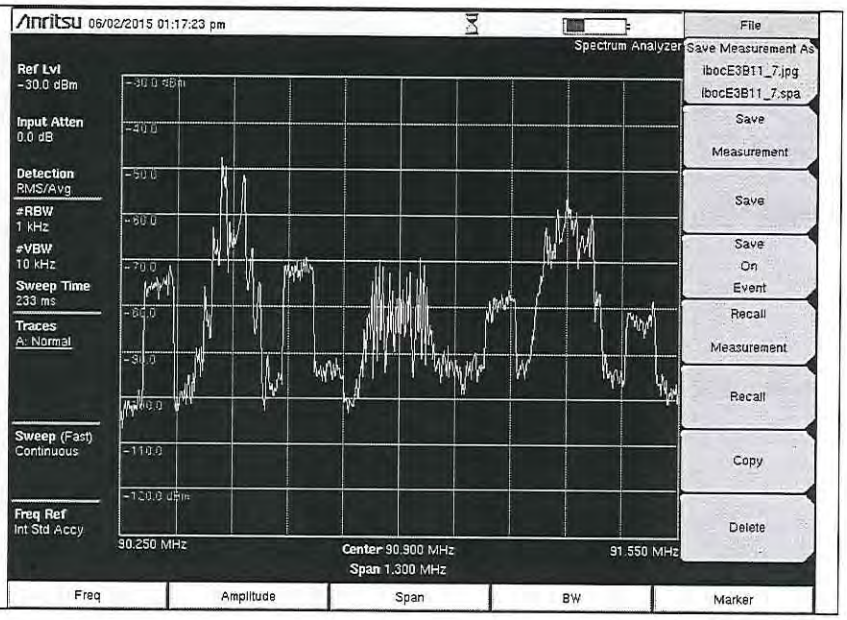
Escenario	4- Disminución de potencia de ambas portadoras
Bloque	*13*
Medición	2.2
MUSICA	



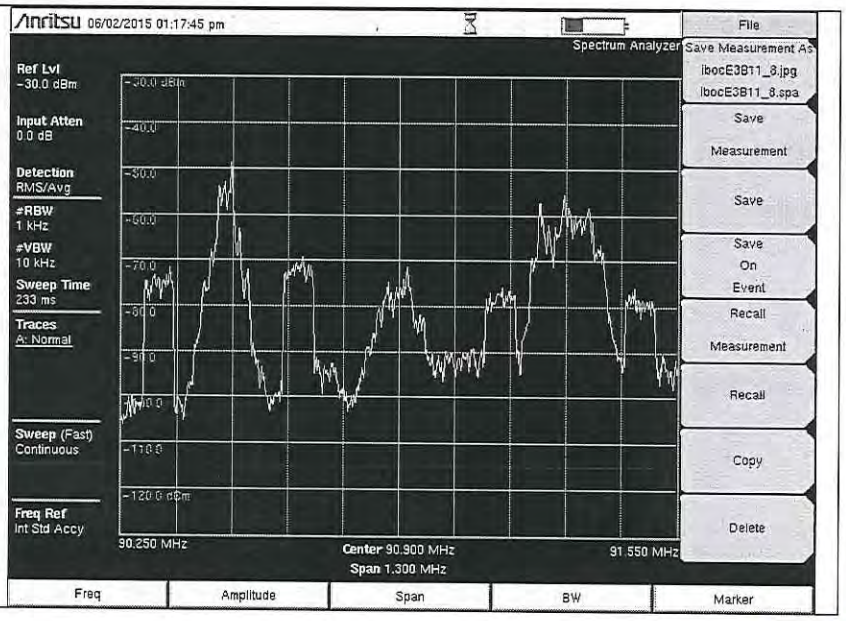
Escenario	4- Disminución de potencia de ambas portadoras
Bloque	*13*
Medición	2.3
MUSICA	



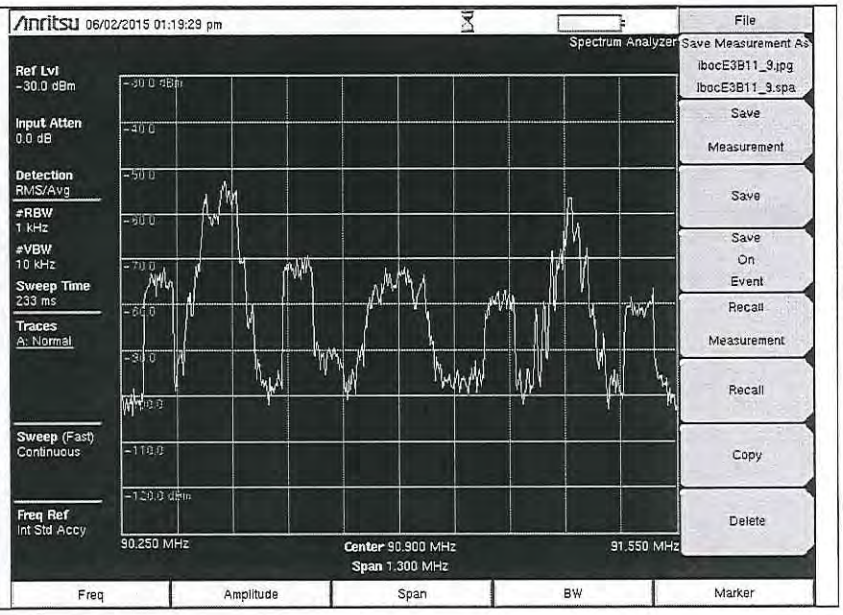
Escenario	4- Disminución de potencia de ambas portadoras
Bloque	*13*
Medición	3.1
RUIDO	



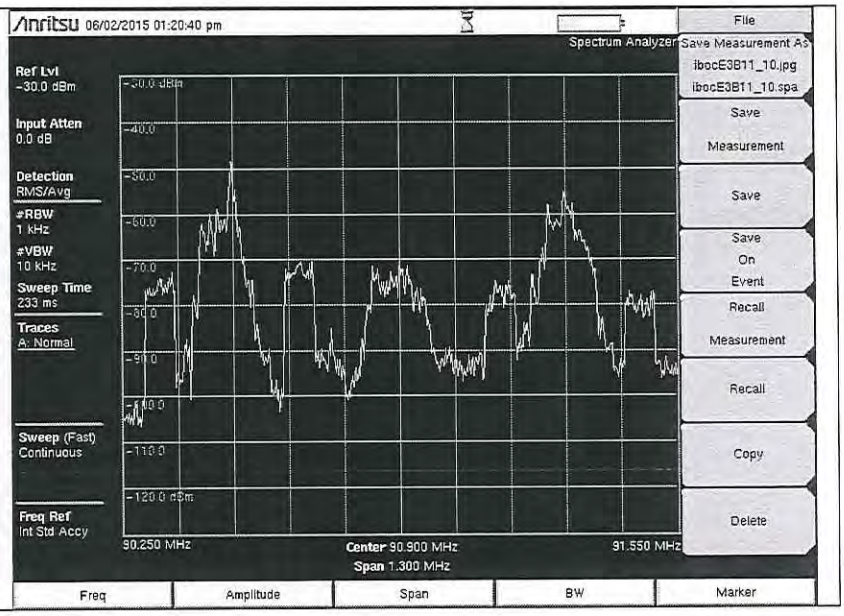
Escenario	4- Disminución de potencia de ambas portadoras
Bloque	*13*
Medición	3.2
RUIDO	



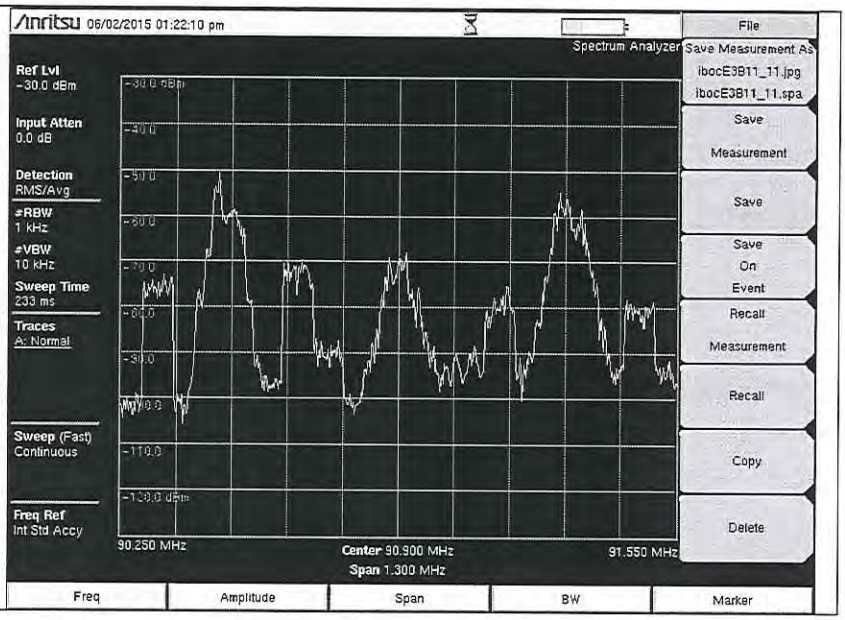
Escenario	4- Disminución de potencia de ambas portadoras
Bloque	13
Medición	4.1
TRANSMISIÓN CONVENCIONAL	



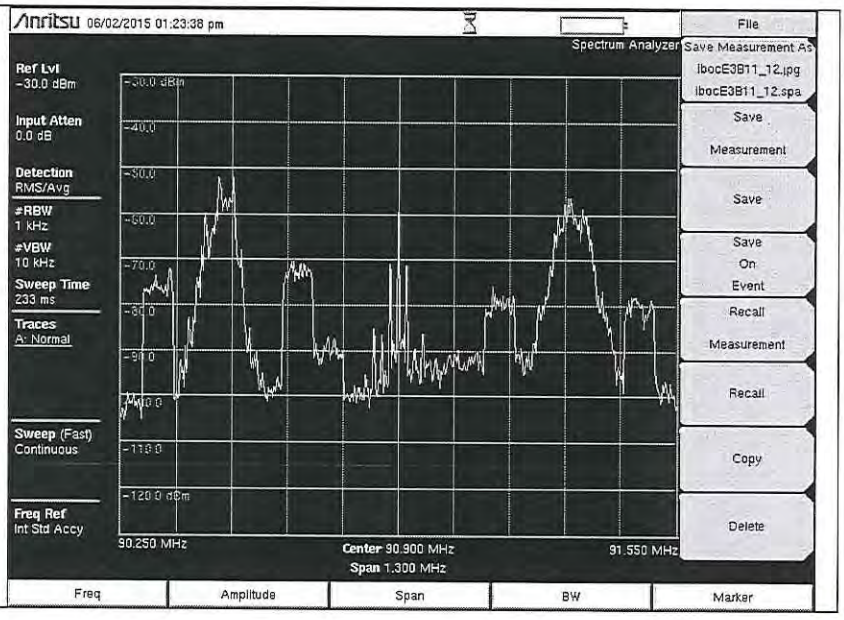
Escenario	4- Disminución de potencia de ambas portadoras
Bloque	13
Medición	4.2
TRANSMISIÓN CONVENCIONAL	



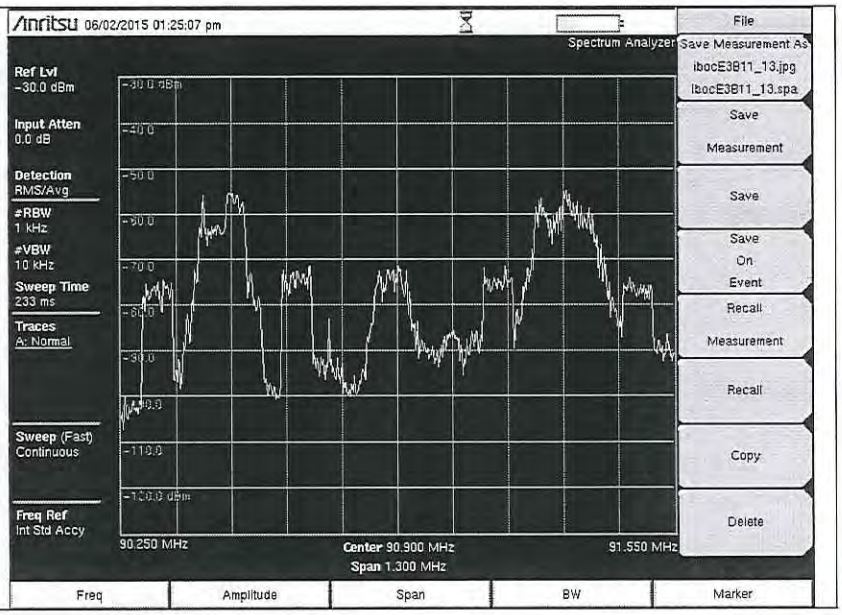
Escenario	4- Disminución de potencia de ambas portadoras
Bloque	*13*
Medición	4.3
TRANSMISIÓN CONVENCIONAL	



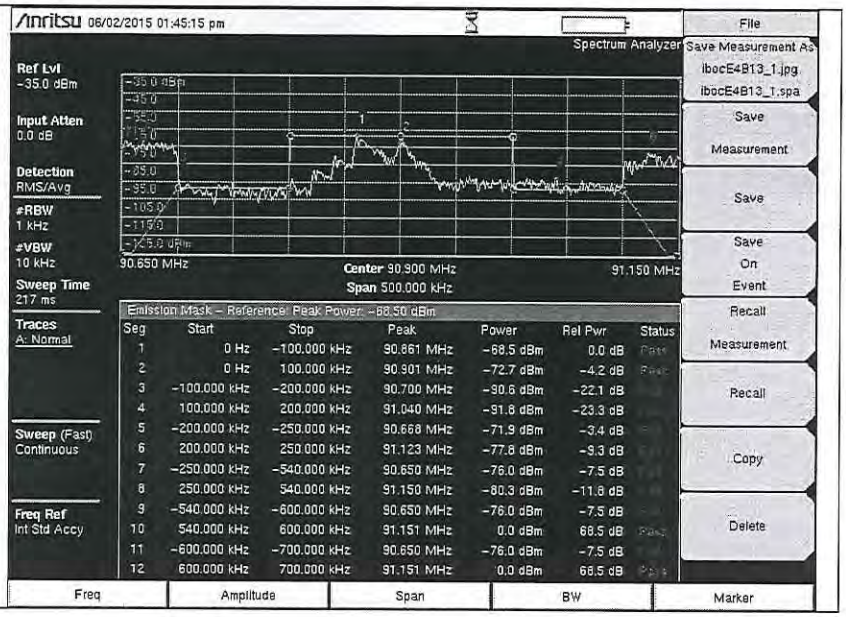
Escenario	4- Disminución de potencia de ambas portadoras
Bloque	*13*
Medición	4.4
TRANSMISIÓN CONVENCIONAL	



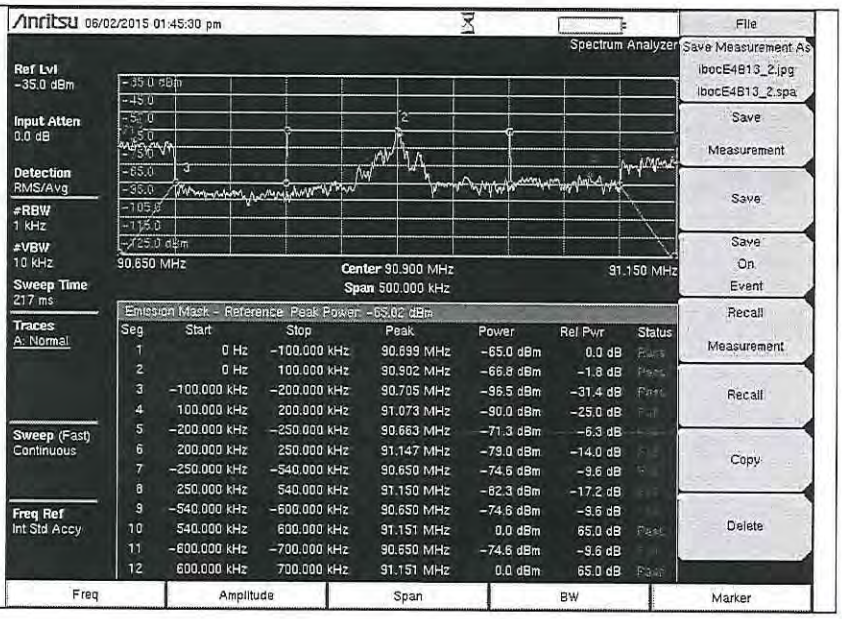
Escenario	**4- Disminución de potencia de ambas portadoras**
Bloque	***13***
Medición	**4.5**
TRANSMISIÓN CONVENCIONAL	



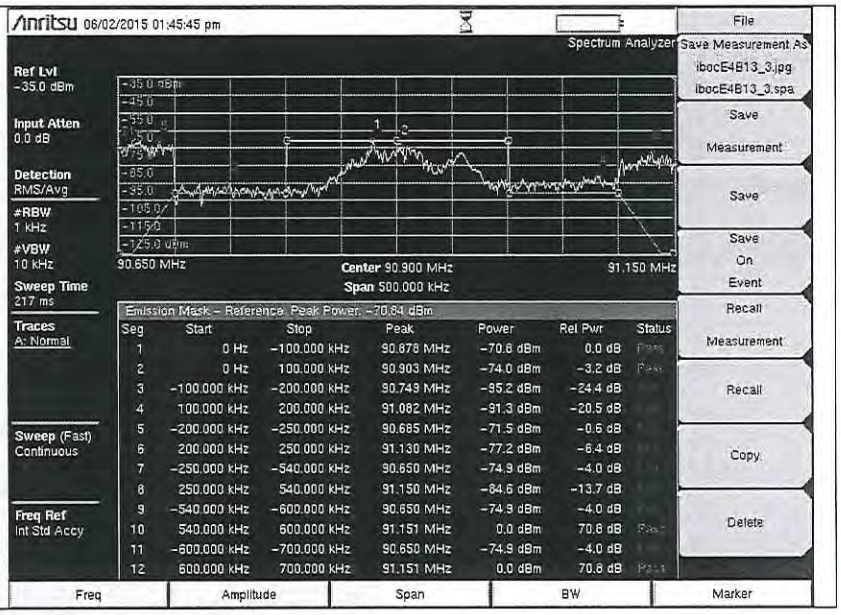
Escenario	4- Disminución de potencia de ambas portadoras
Bloque	*15*
Medición	1.1
VOZ	



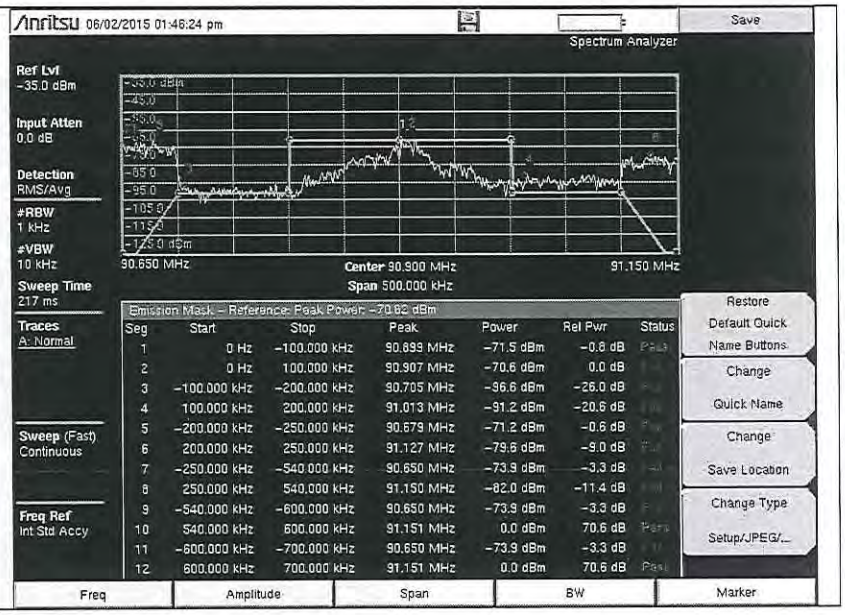
Escenario	4- Disminución de potencia de ambas portadoras
Bloque	*15*
Medición	1.2
VOZ	



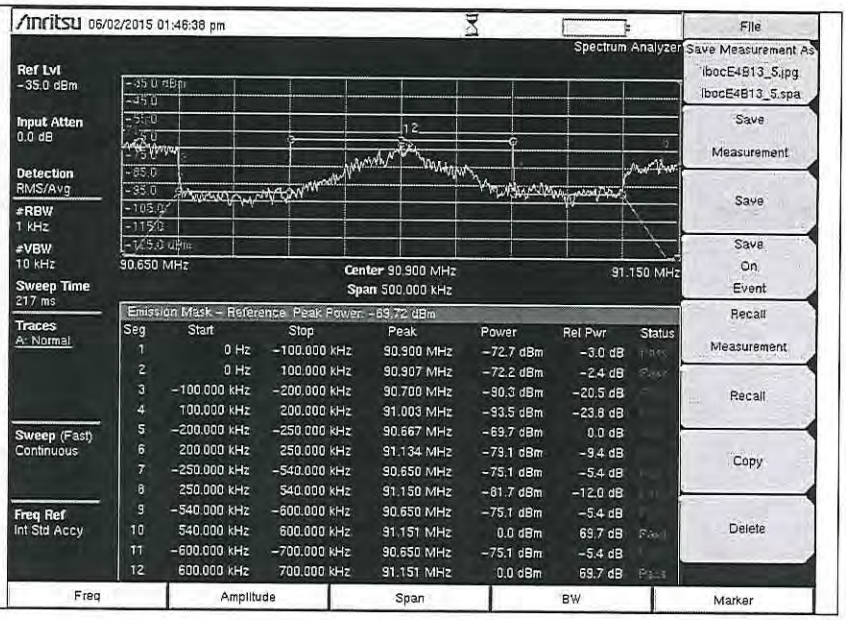
Escenario	4- Disminución de potencia de ambas portadoras
Bloque	*15*
Medición	1.3
VOZ	



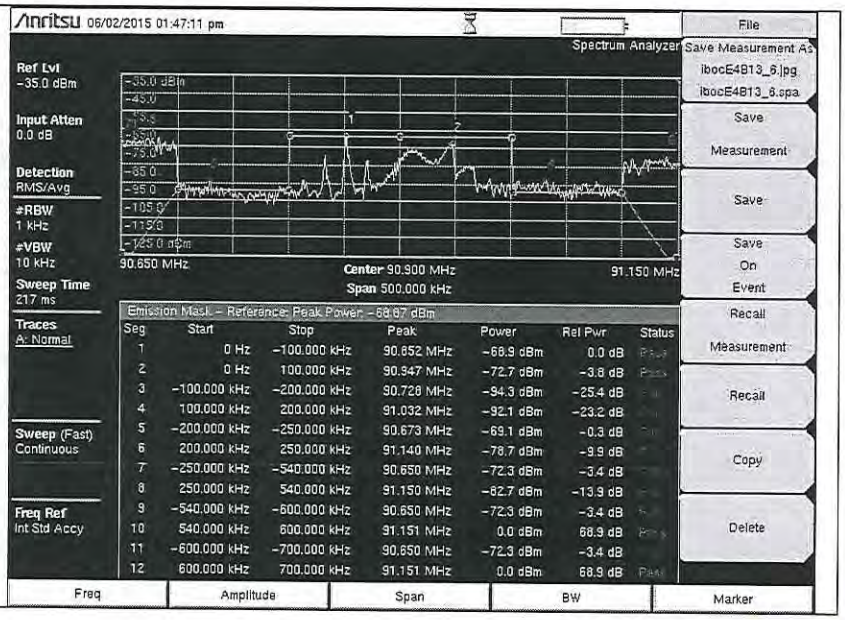
Escenario	4- Disminución de potencia de ambas portadoras
Bloque	*15*
Medición	2.1
MUSICA	



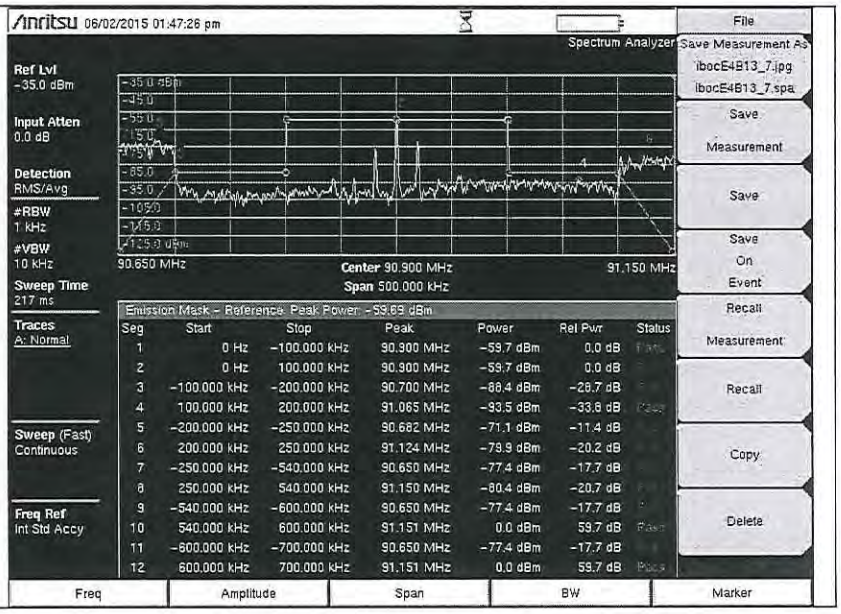
Escenario	4- Disminución de potencia de ambas portadoras
Bloque	*15*
Medición	2.2
MUSICA	



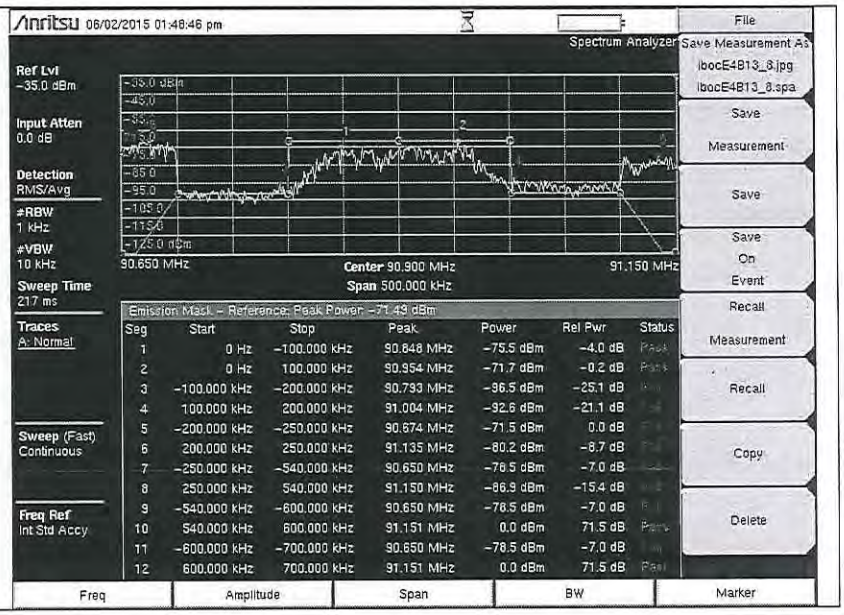
Escenario	4- Disminución de potencia de ambas portadoras
Bloque	*15*
Medición	2.3
MUSICA	



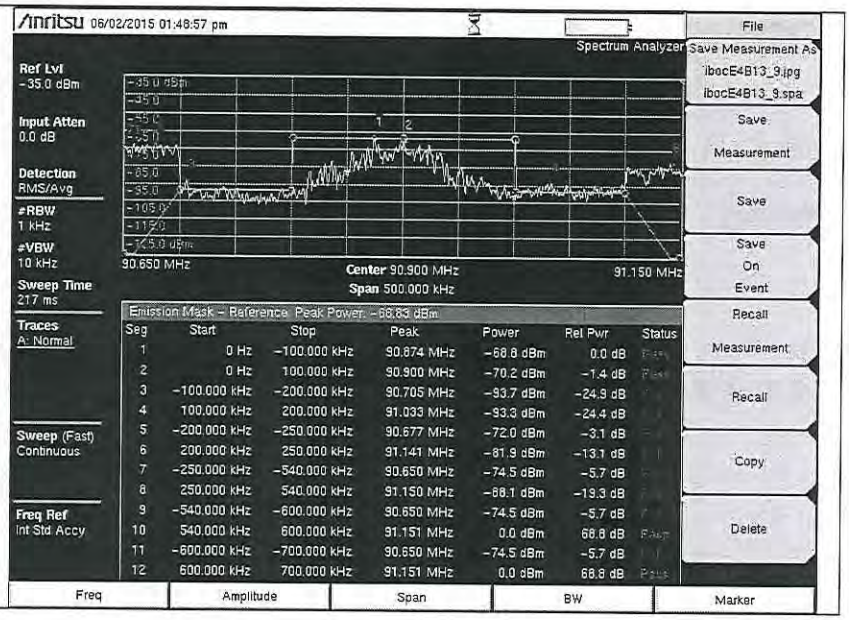
Escenario	4- Disminución de potencia de ambas portadoras
Bloque	*15*
Medición	3.1
RUIDO	



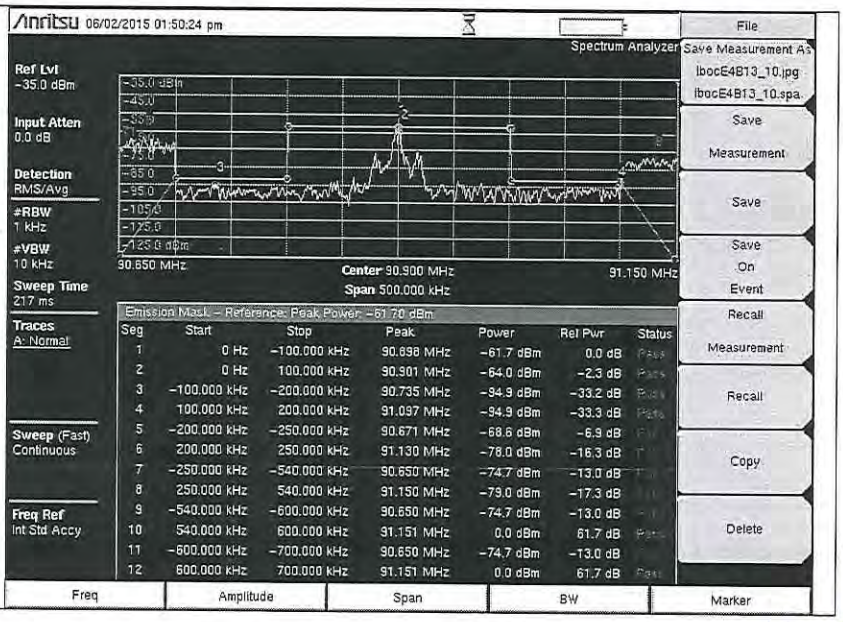
Escenario	4- Disminución de potencia de ambas portadoras
Bloque	*15*
Medición	3.2
RUIDO	



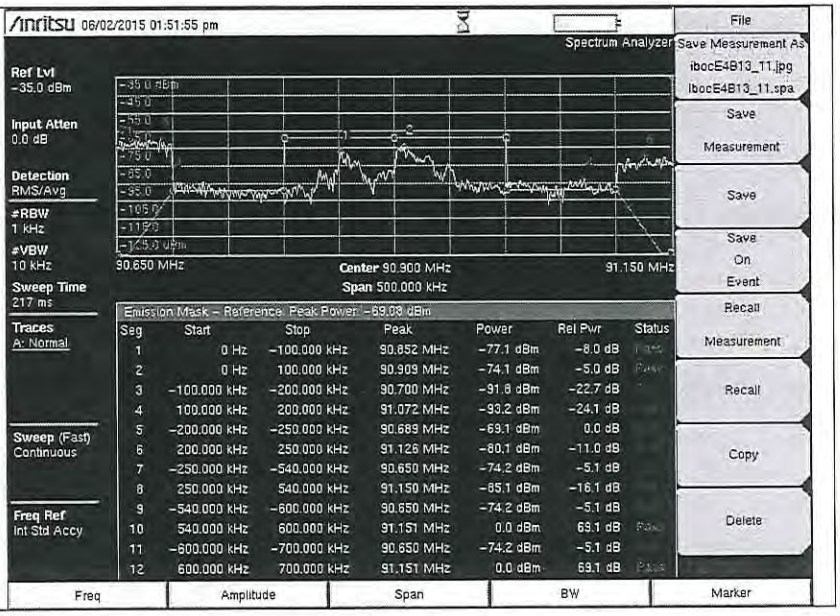
Escenario	4- Disminución de potencia de ambas portadoras
Bloque	*15*
Medición	4.1
TRANSMISIÓN CONVENCIONAL	



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



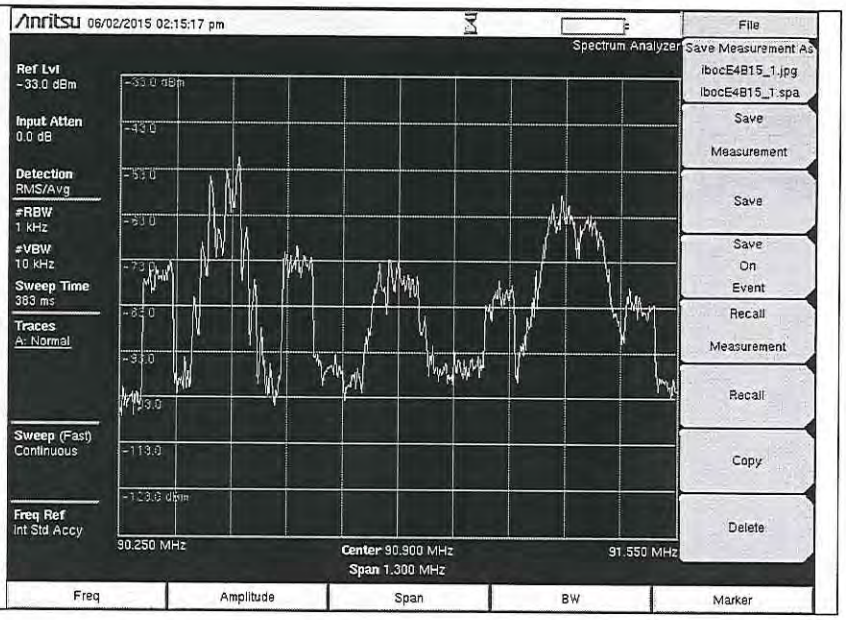
Escenario	4- Disminución de potencia de ambas portadoras
Bloque	*15*
Medición	4.3
TRANSMISIÓN CONVENCIONAL	



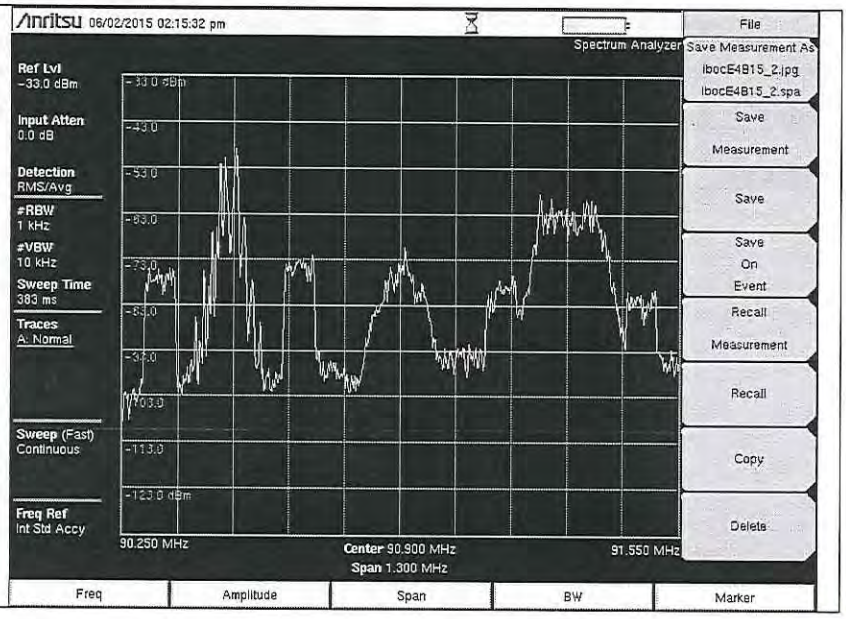
Escenario	4- Disminución de potencia de ambas portadoras	FUE NECESARIO RESETEAR EL ANALIZADOR DE ESPECTRO
Bloque	*15*	
Medición	4.4	
TRANSMISIÓN CONVENCIONAL		

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

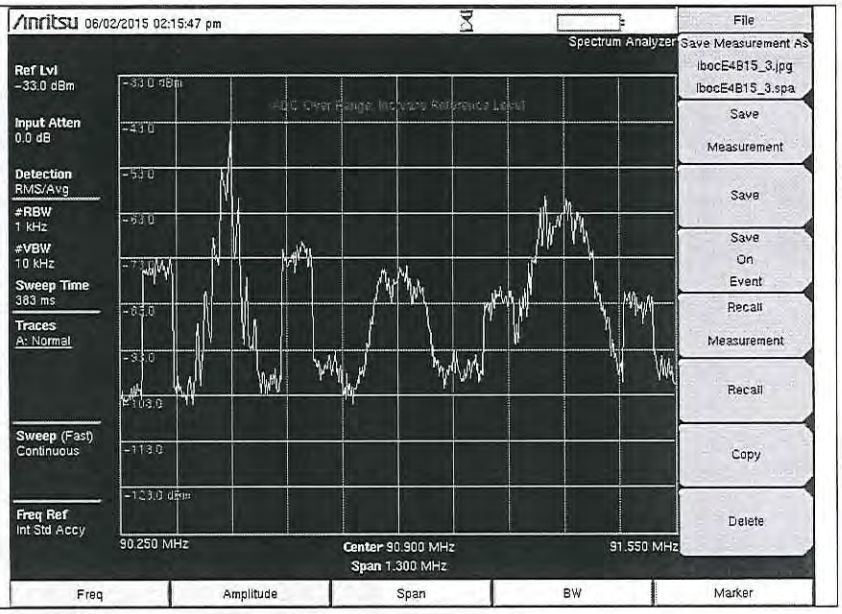
Escenario	5 – Eliminación de ambas portadoras digitales
Bloque	*17*
Medición	1.1
VOZ	



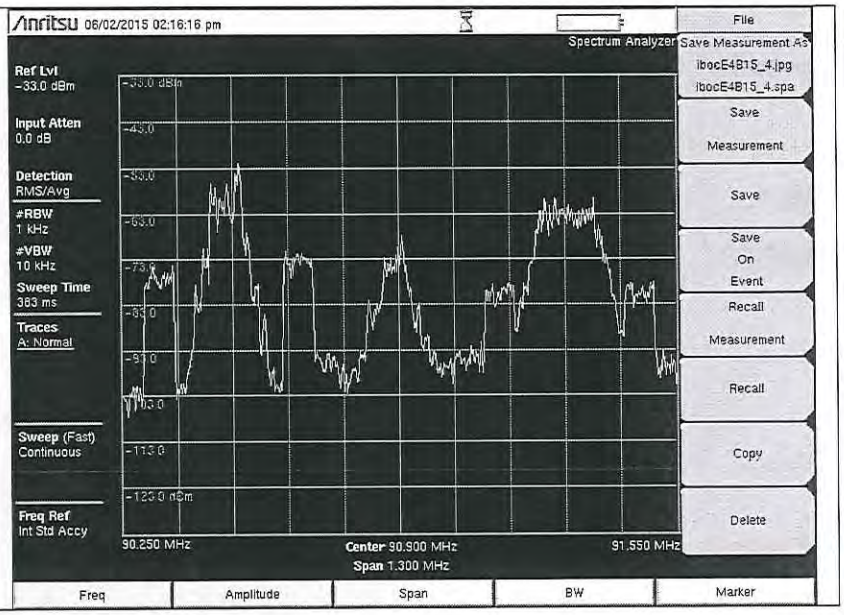
Escenario	5 – Eliminación de ambas portadoras digitales
Bloque	*17*
Medición	1.2
VOZ	



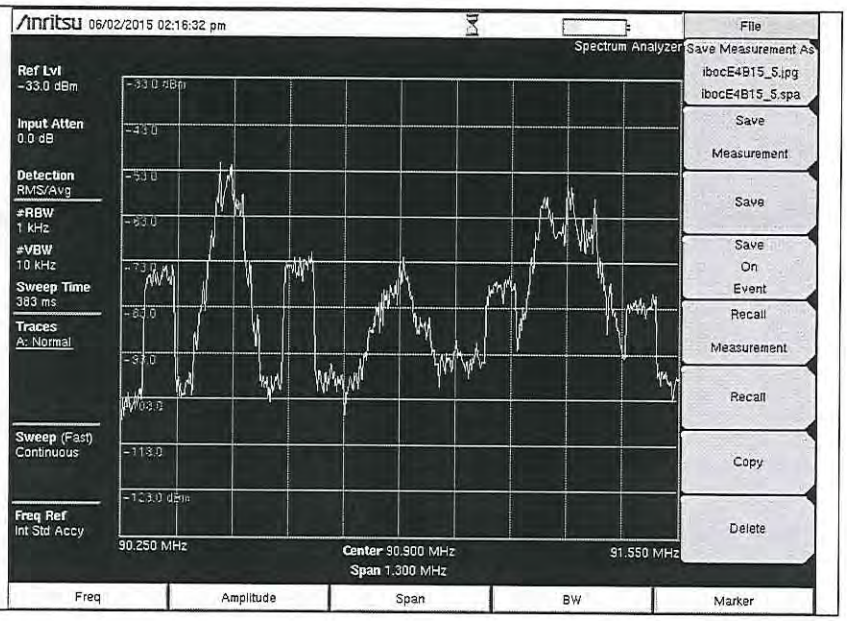
Escenario	5 – Eliminación de ambas portadoras digitales
Bloque	*17*
Medición	1.3
VOZ	



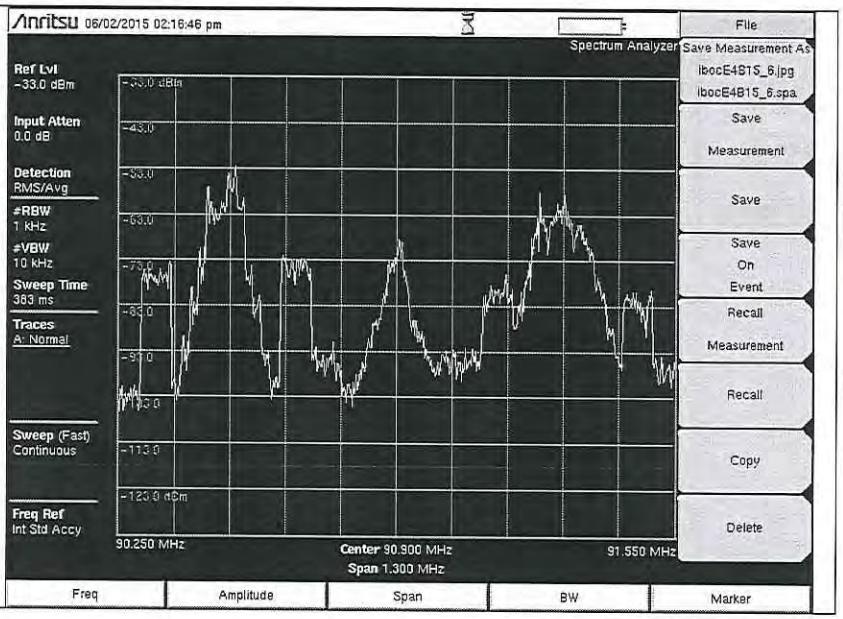
Escenario	5 – Eliminación de ambas portadoras digitales
Bloque	*17*
Medición	2.1
MUSICA	



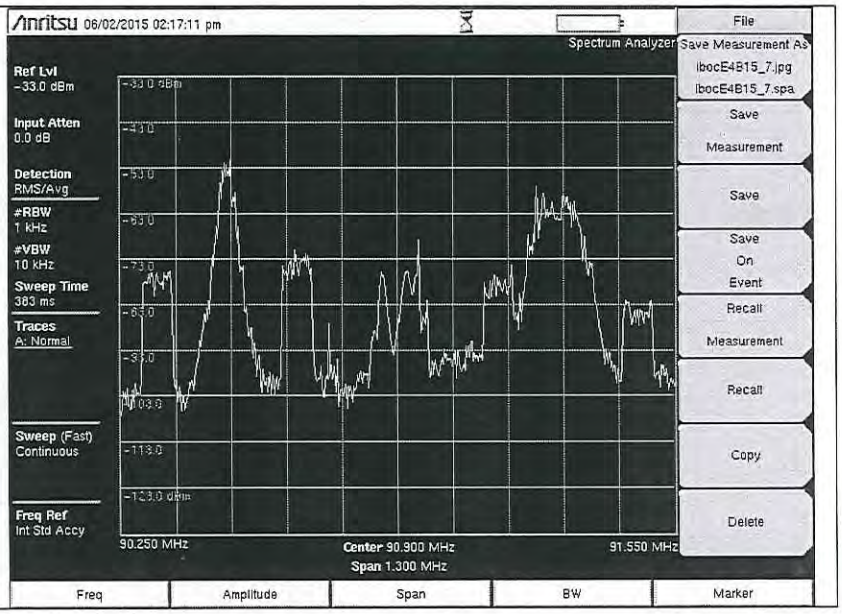
Escenario	**5 – Eliminación de ambas portadoras digitales**
Bloque	***17***
Medición	**2.2**
MUSICA	



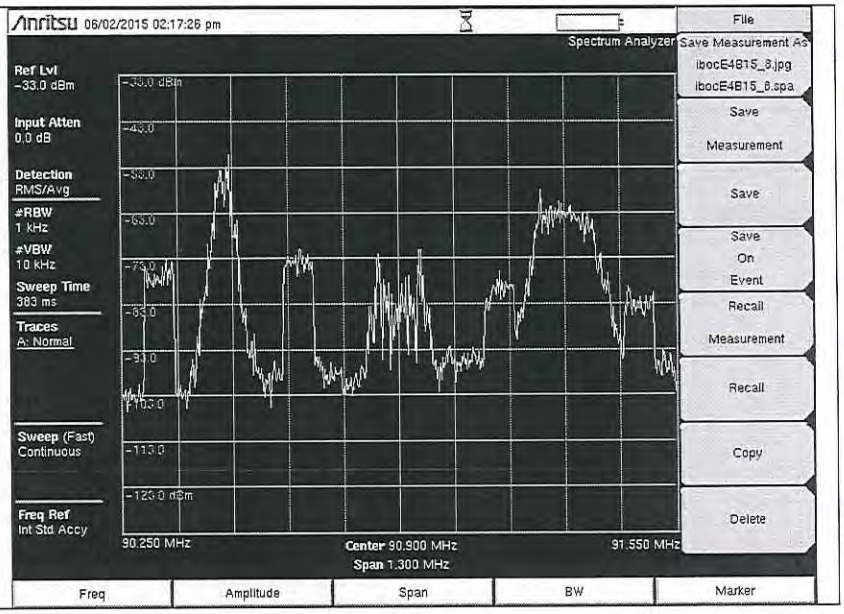
Escenario	**5 – Eliminación de ambas portadoras digitales**
Bloque	***17***
Medición	**2.3**
MUSICA	



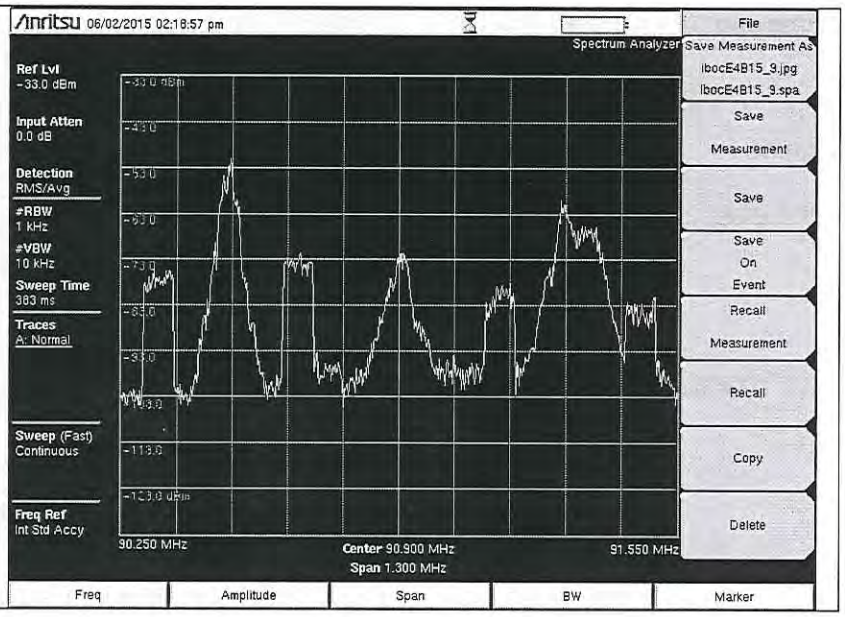
Escenario	5 – Eliminación de ambas portadoras digitales
Bloque	*17*
Medición	3.1
RUIDO	



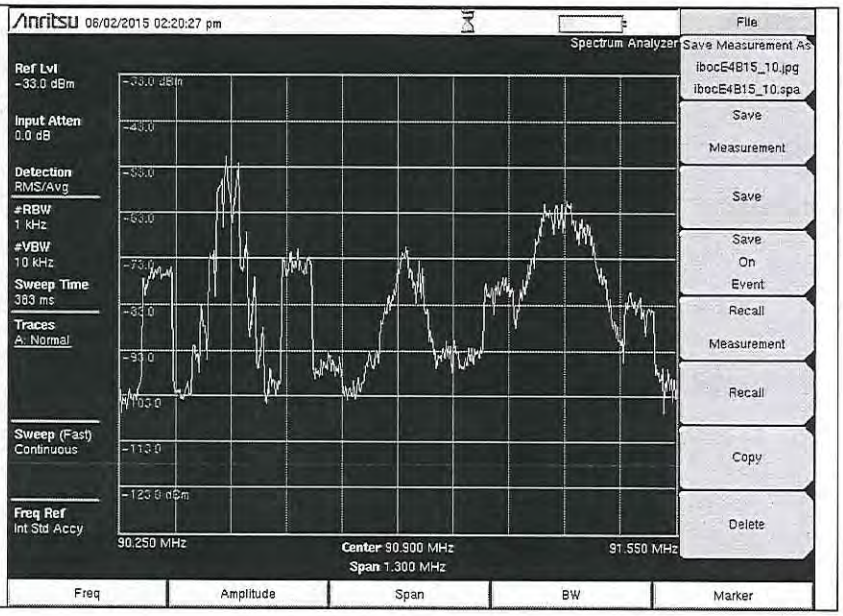
Escenario	5 – Eliminación de ambas portadoras digitales
Bloque	*17*
Medición	3.2
RUIDO	



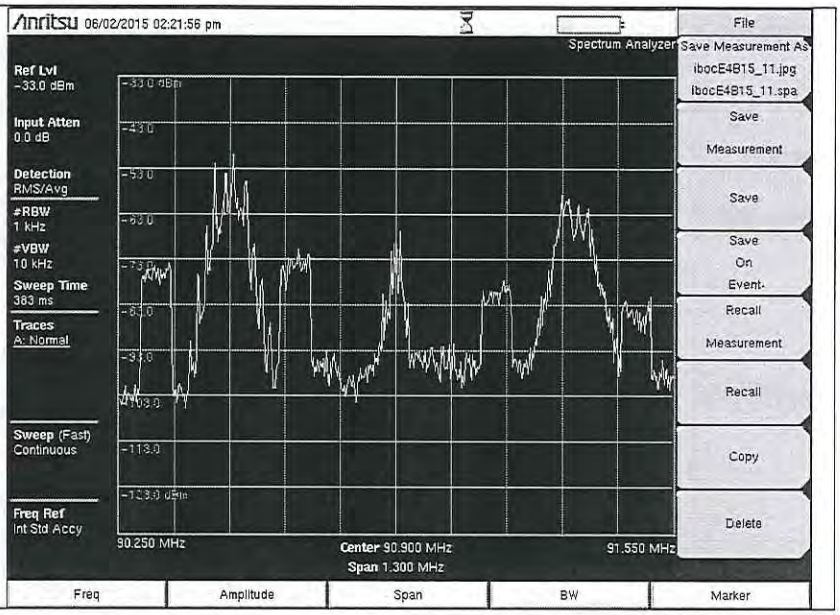
Escenario	**5 – Eliminación de ambas portadoras digitales**
Bloque	***17***
Medición	**4.1**
TRANSMISIÓN CONVENCIONAL	



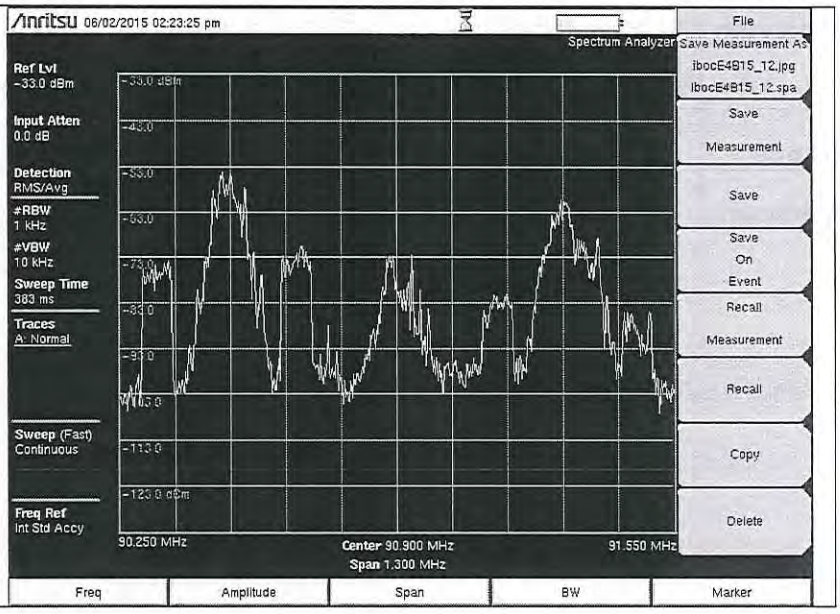
Escenario	**5 – Eliminación de ambas portadoras digitales**
Bloque	***17***
Medición	**4.2**
TRANSMISIÓN CONVENCIONAL	



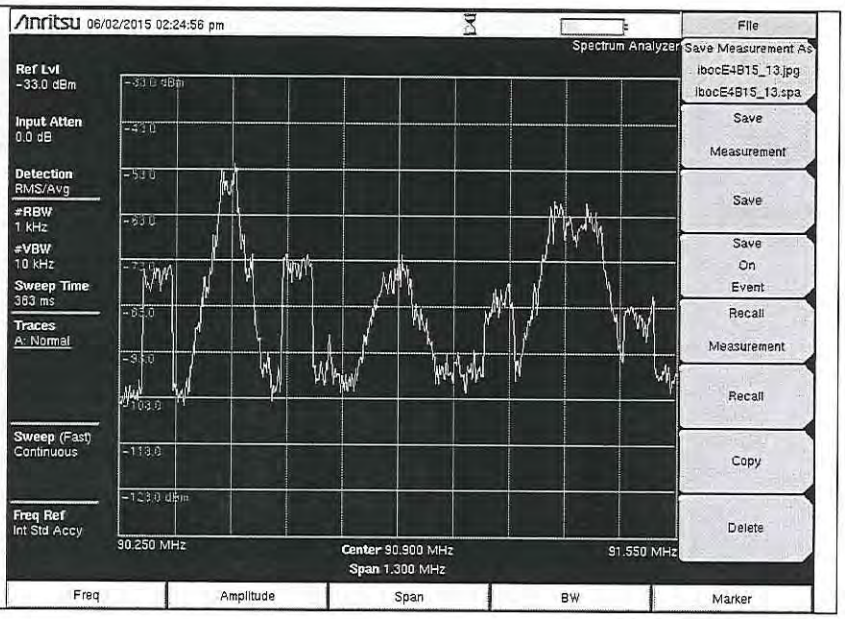
Escenario	5 – Eliminación de ambas portadoras digitales
Bloque	*17*
Medición	4.3
TRANSMISIÓN CONVENCIONAL	



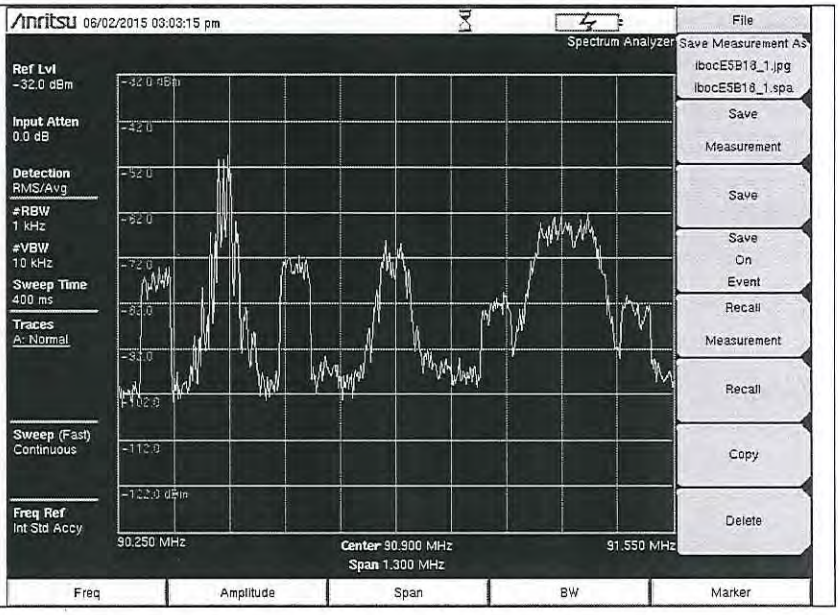
Escenario	5 – Eliminación de ambas portadoras digitales
Bloque	*17*
Medición	4.4
TRANSMISIÓN CONVENCIONAL	



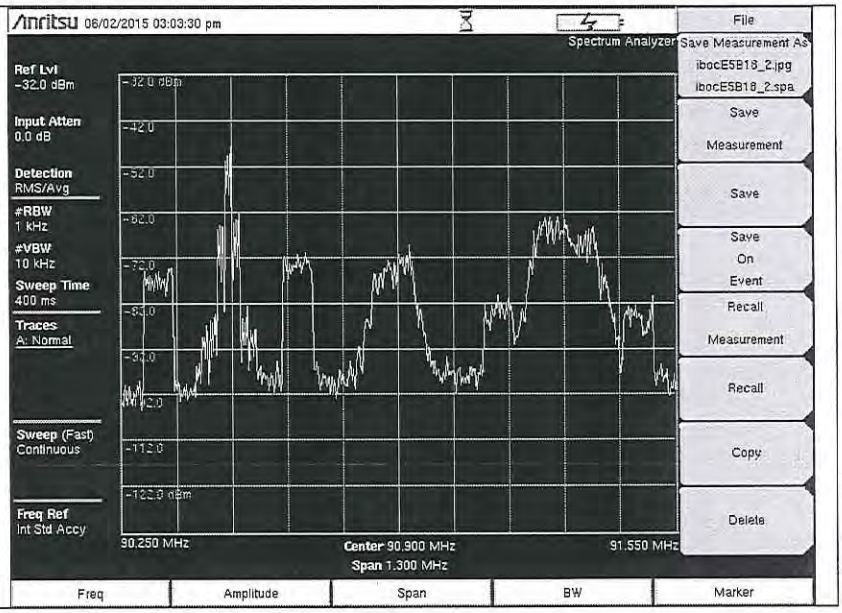
Escenario	**5 – Eliminación de ambas portadoras digitales**
Bloque	***17***
Medición	**4.5**
TRANSMISIÓN CONVENCIONAL	



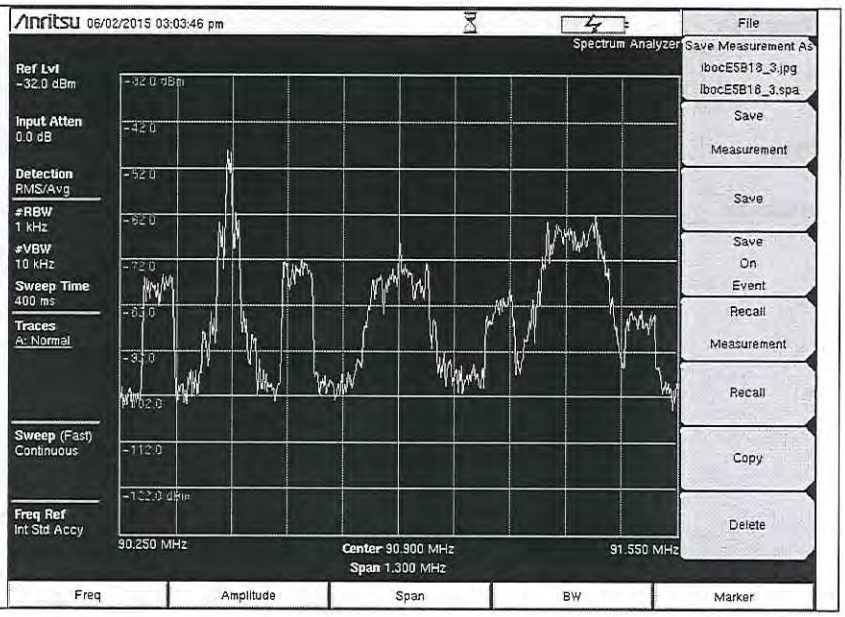
Escenario	5 – Eliminación de ambas portadoras digitales
Bloque	*20*
Medición	1.1
VOZ	



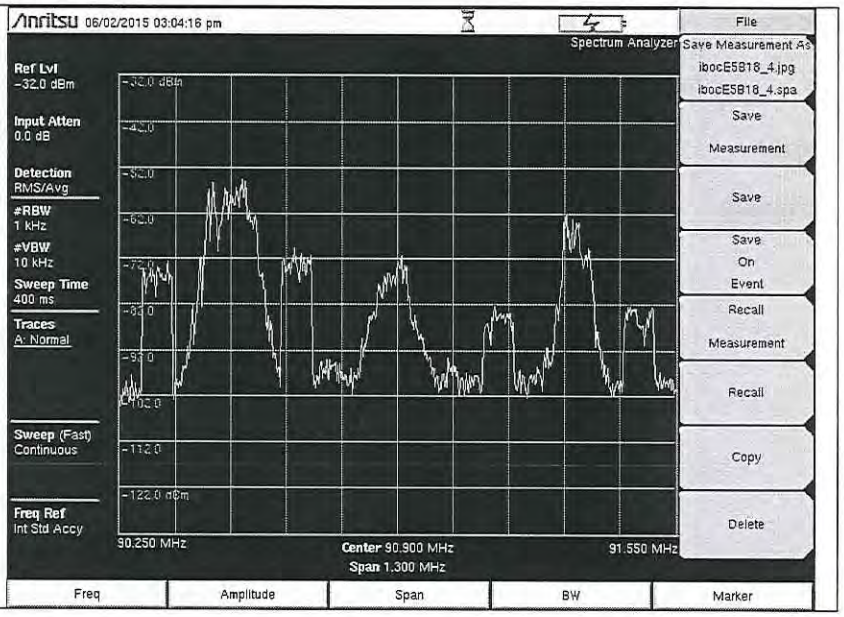
Escenario	5 – Eliminación de ambas portadoras digitales
Bloque	*20*
Medición	1.2
VOZ	



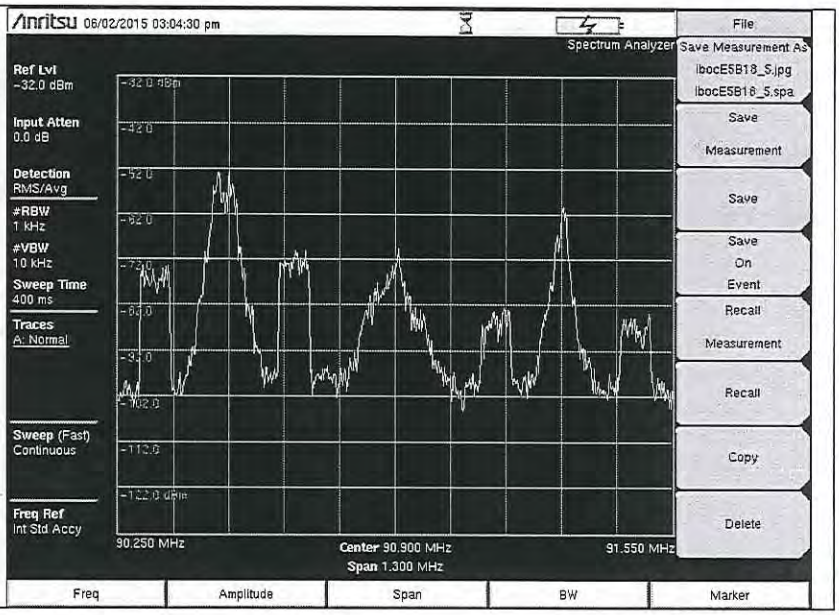
Escenario	5 – Eliminación de ambas portadoras digitales
Bloque	*20*
Medición	1.3
VOZ	



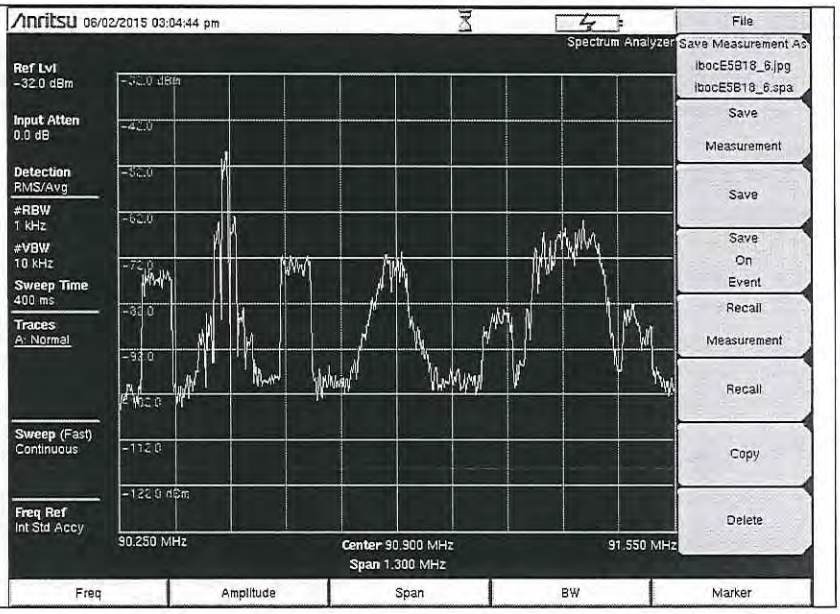
Escenario	5 – Eliminación de ambas portadoras digitales
Bloque	*20*
Medición	2.1
MUSICA	



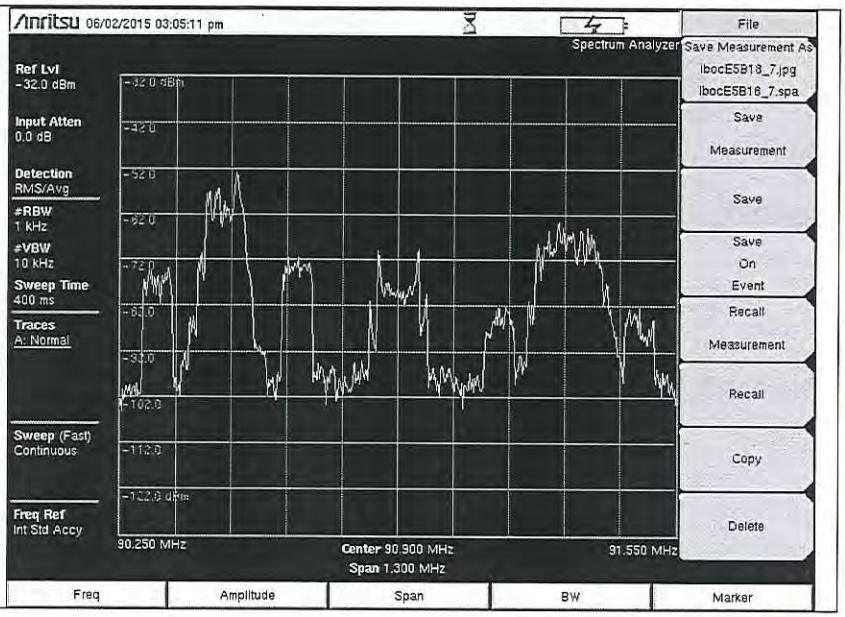
Escenario	**5 – Eliminación de ambas portadoras digitales**
Bloque	***20***
Medición	**2.2**
MUSICA	



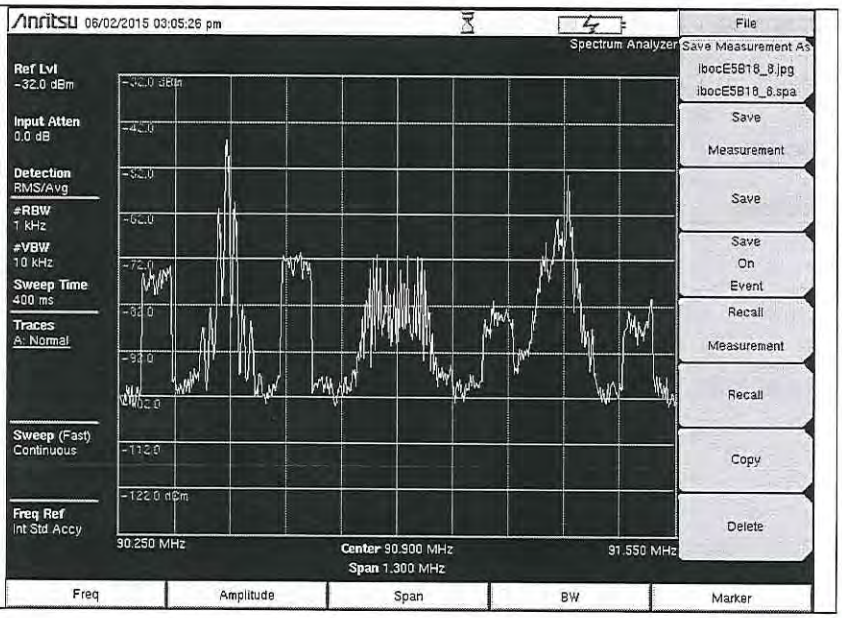
Escenario	**5 – Eliminación de ambas portadoras digitales**
Bloque	***20***
Medición	**2.3**
MUSICA	



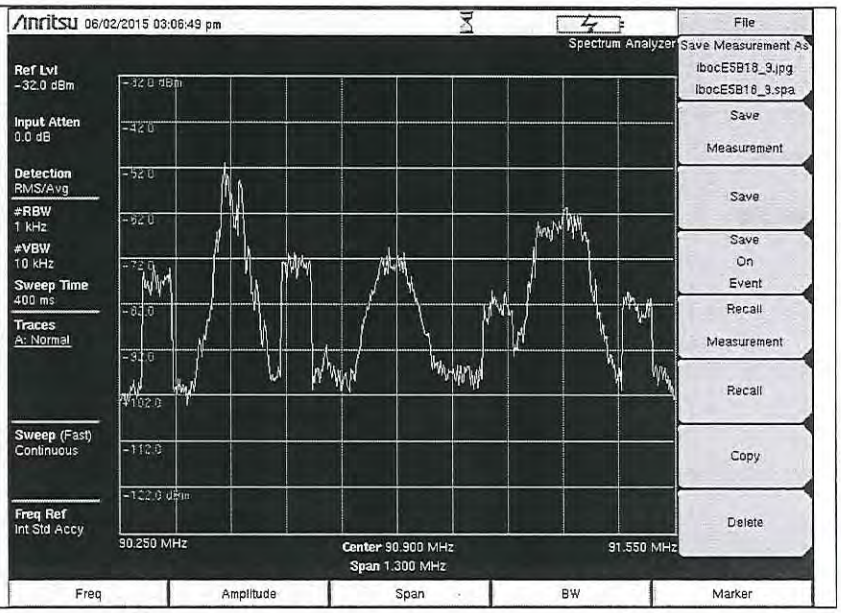
Escenario	5 – Eliminación de ambas portadoras digitales
Bloque	*20*
Medición	3.1
RUIDO	



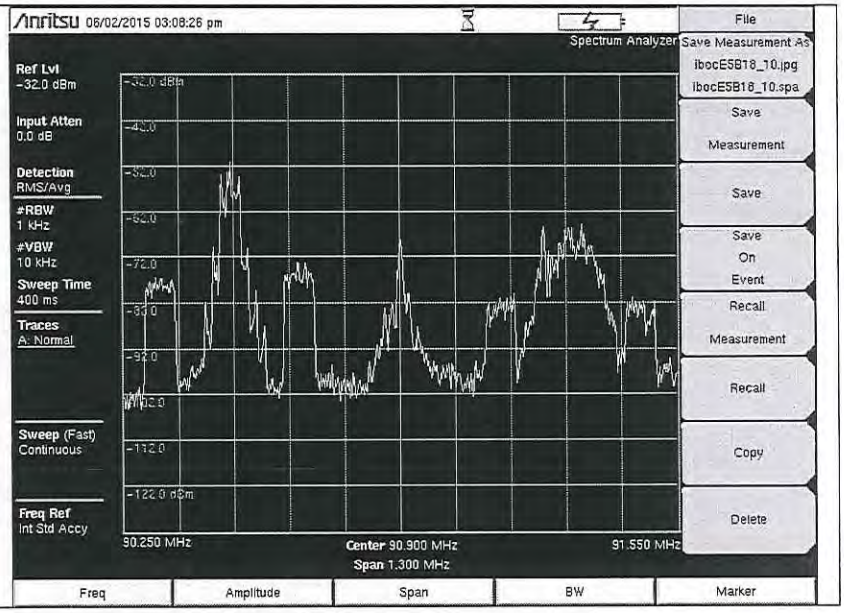
Escenario	5 – Eliminación de ambas portadoras digitales
Bloque	*20*
Medición	3.2
RUIDO	



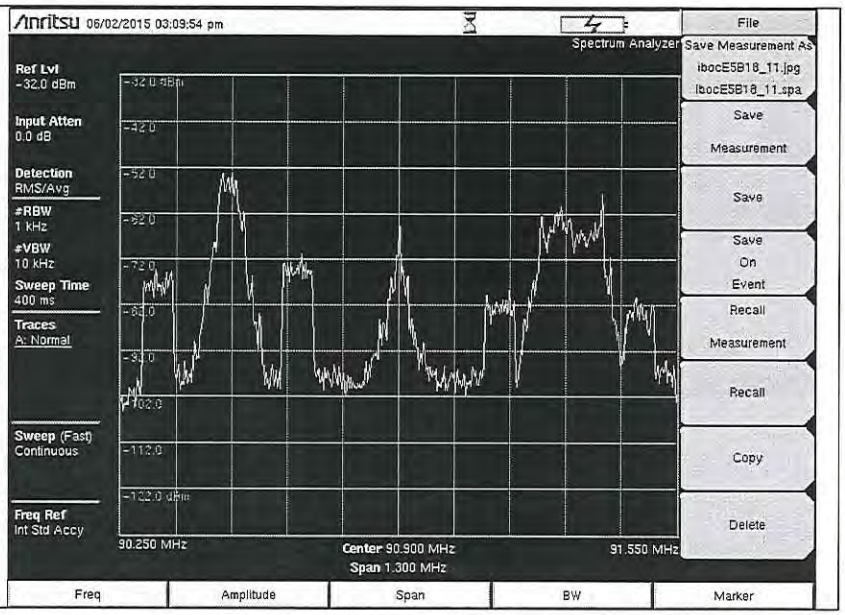
Escenario	5 – Eliminación de ambas portadoras digitales
Bloque	*20*
Medición	4.1
TRANSMISIÓN CONVENCIONAL	



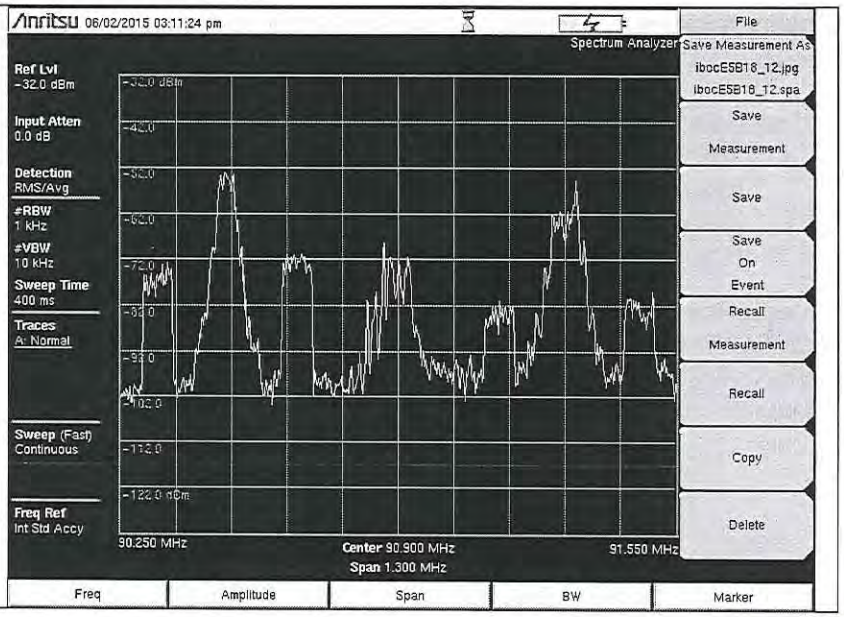
Escenario	5 – Eliminación de ambas portadoras digitales
Bloque	*20*
Medición	4.2
TRANSMISIÓN CONVENCIONAL	



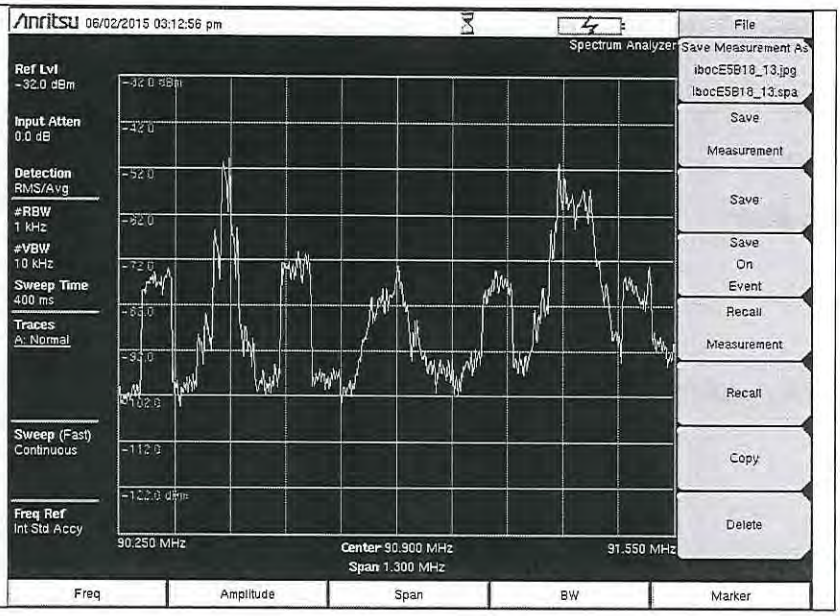
Escenario	**5 – Eliminación de ambas portadoras digitales**
Bloque	***20***
Medición	**4.3**
TRANSMISIÓN CONVENCIONAL	



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



Escenario	**5 – Eliminación de ambas portadoras digitales**
Bloque	***20***
Medición	**4.5**
TRANSMISIÓN CONVENCIONAL	



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 radiomonitoreo 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.

INSTITUTO FEDERAL DE TELECOMUNICACIONES

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

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

OPERADORES

Eduardo de Jesús Sánchez Magaña
INGENIERO TITULAR C

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 radiomonitoreo 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 limites 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.

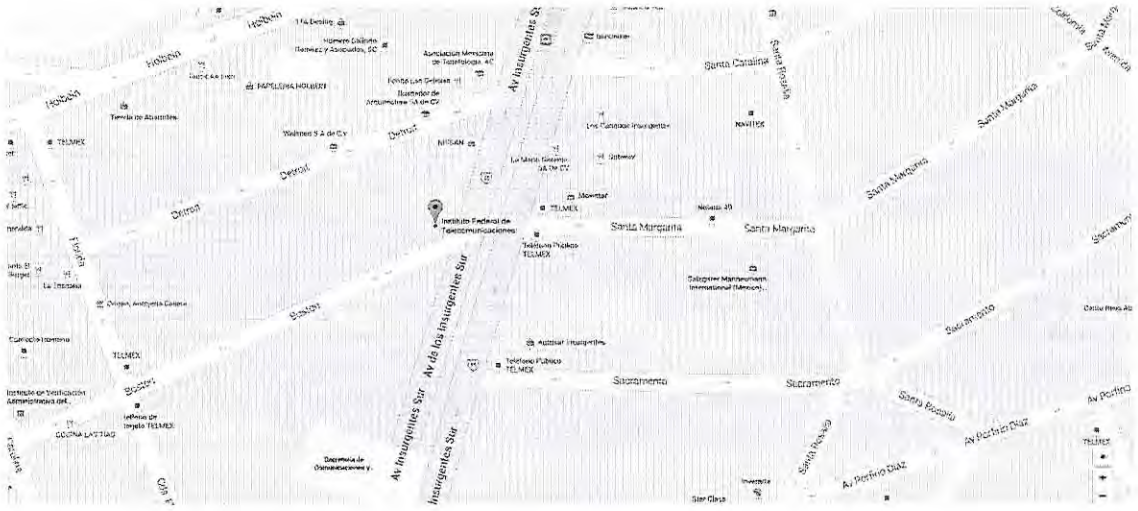
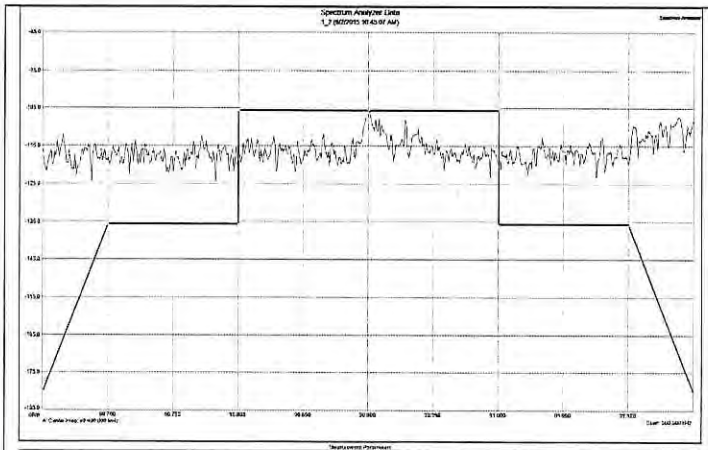


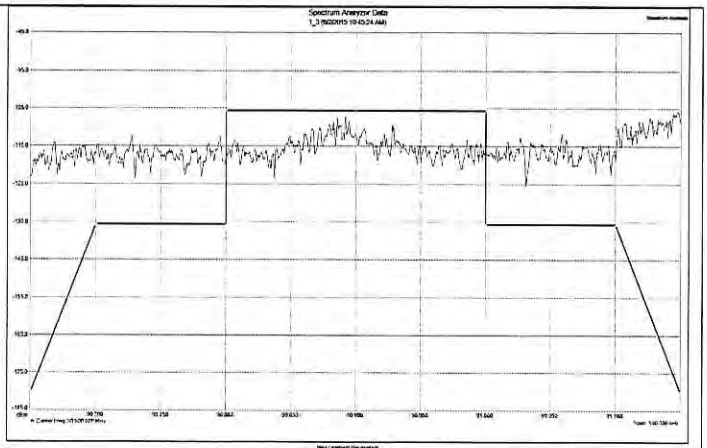
Imagen 1. Ubicación del edificio sede del IFT, donde se realizó el radiomonitoreo en la frecuencia 90.9 MHz

ESCENARIO 1.- POTENCIA NOMINAL

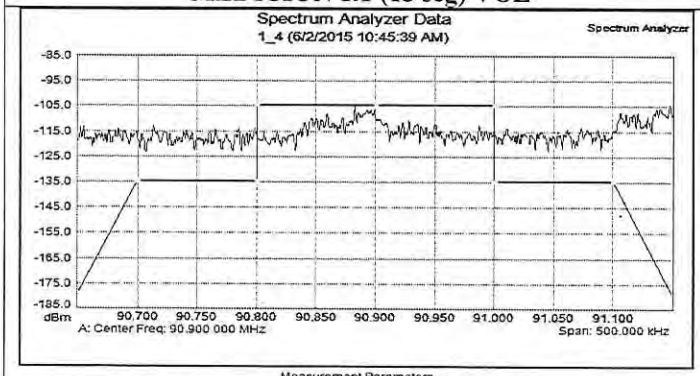
Bloque 1-SPAN PARA 1 ESTACIÓN



MEDICIÓN 1.1 (15 seg) VOZ



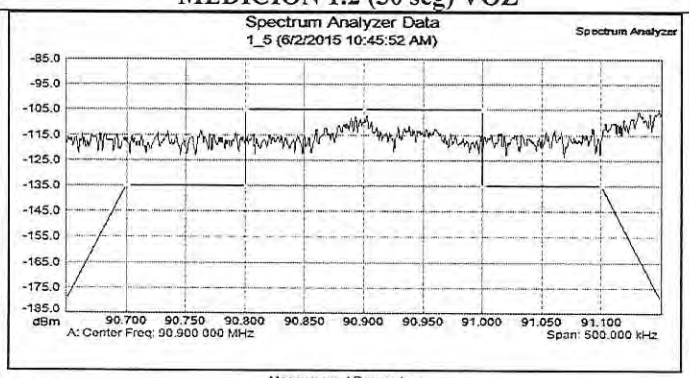
MEDICIÓN 1.2 (30 seg) VOZ



Measurement Parameters

		Stop Frequency	91.150 000 MHz
Trace Mode	Normal	Frequency Span	500.000 000 kHz
Preamp	OFF	Reference Level	-85.000 dBm
Min Sweep Time	0.001 S	Scale	10.0 dB/div
Reference Level Offset	0 dB	Serial Number	1444026
Input Attenuation	0.0 dB	Base Ver.	V5.07
RBW	1.0 kHz	App Ver.	V6.45
VBW	10.0 kHz	Model	MS2713E
Detection	RMS	Options	9, 25, 31, 431, 509
Center Frequency	90.900 000 MHz	Date	6/2/2015 10:45:39 AM
Start Frequency	90.650 000 MHz	Device Name	

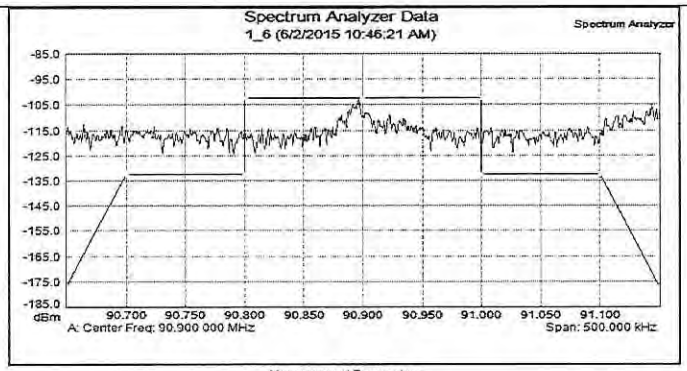
MEDICIÓN 1.3 (45 seg) VOZ



Measurement Parameters

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

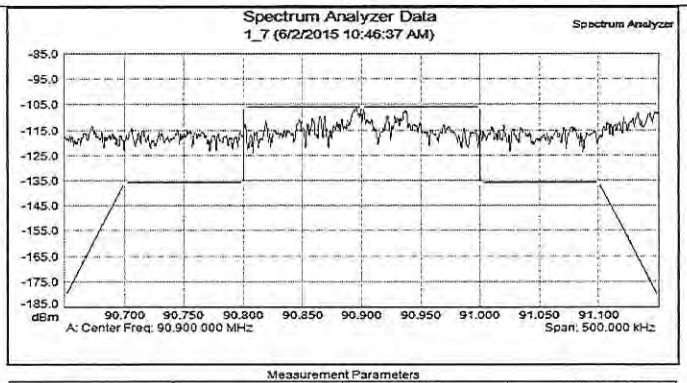
MEDICIÓN 2.1 (75 seg) MUSICA



Measurement Parameters

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

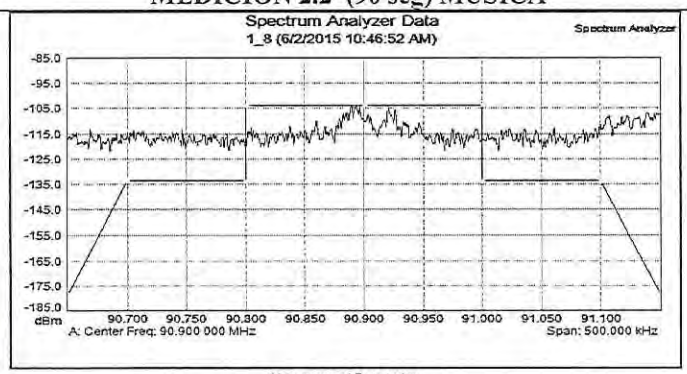
MEDICIÓN 2.2 (90 seg) MUSICA



Measurement Parameters

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

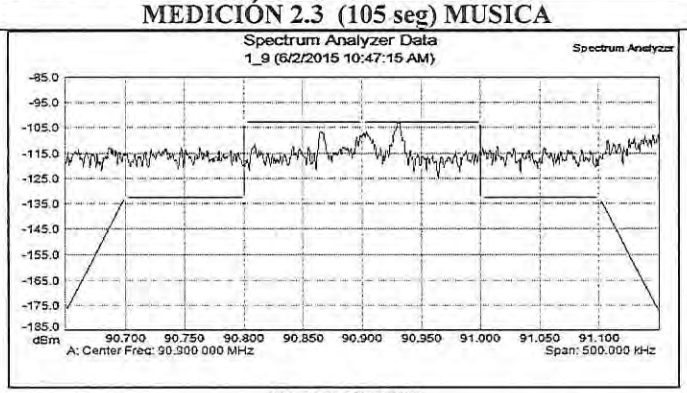
MEDICIÓN 2.3 (105 seg) MUSICA



Measurement Parameters

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

MEDICIÓN 3.1 (130 seg) RUIDO



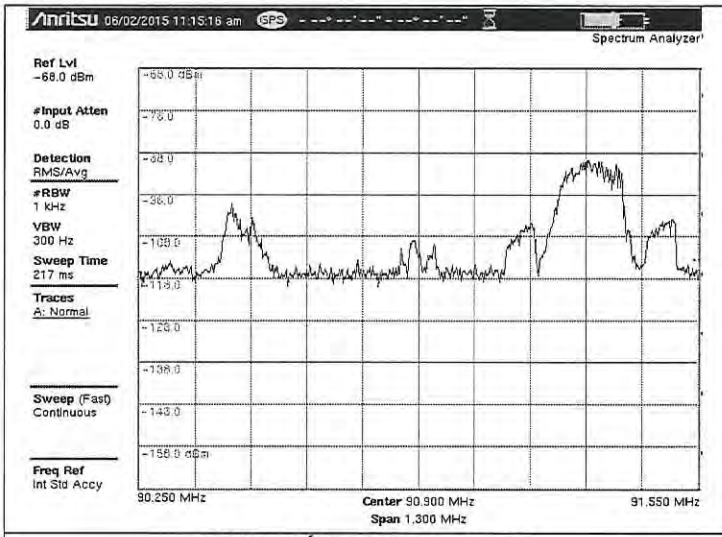
Measurement Parameters

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

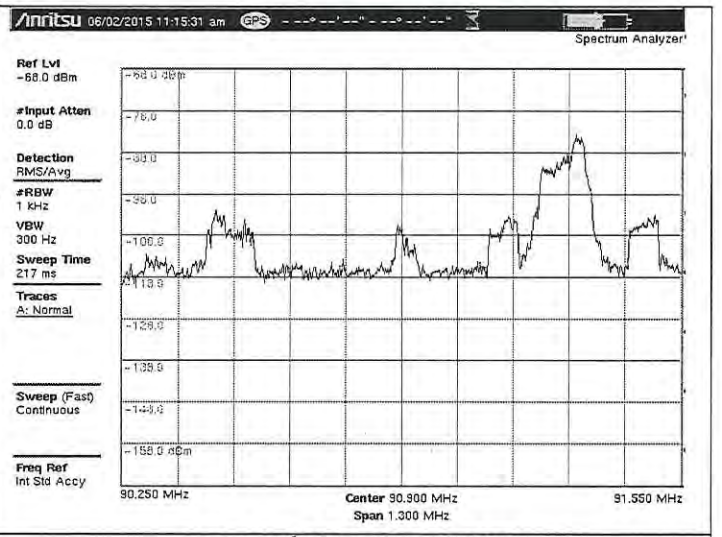
MEDICIÓN 3.2 (145 seg) RUIDO

ESCENARIO 1.- POTENCIA NOMINAL

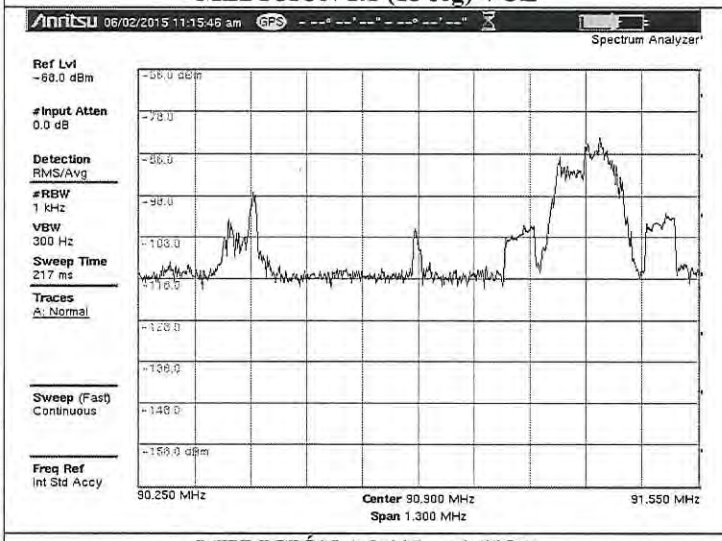
Bloque 3- SPAN PARA 3 ESTACIÓN



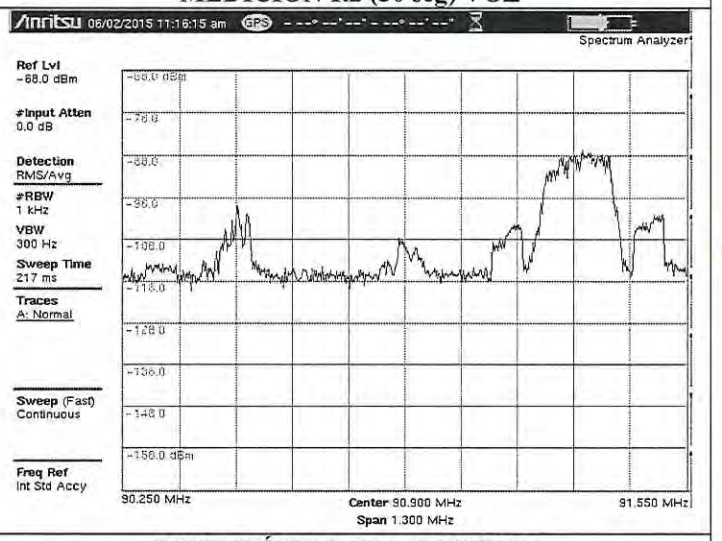
MEDICIÓN 1.1 (15 seg) VOZ



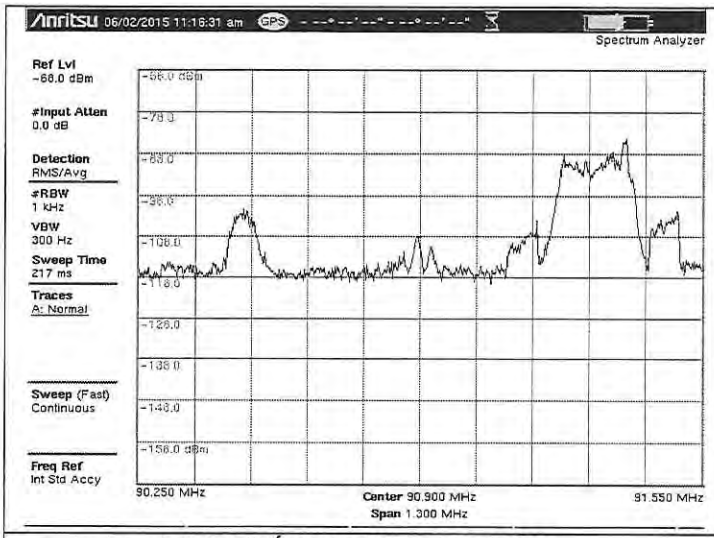
MEDICIÓN 1.2 (30 seg) VOZ



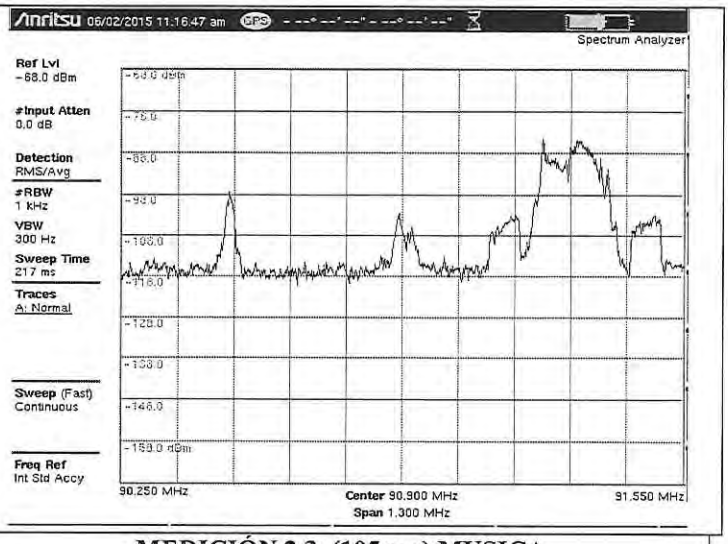
MEDICIÓN 1.3 (45 seg) VOZ



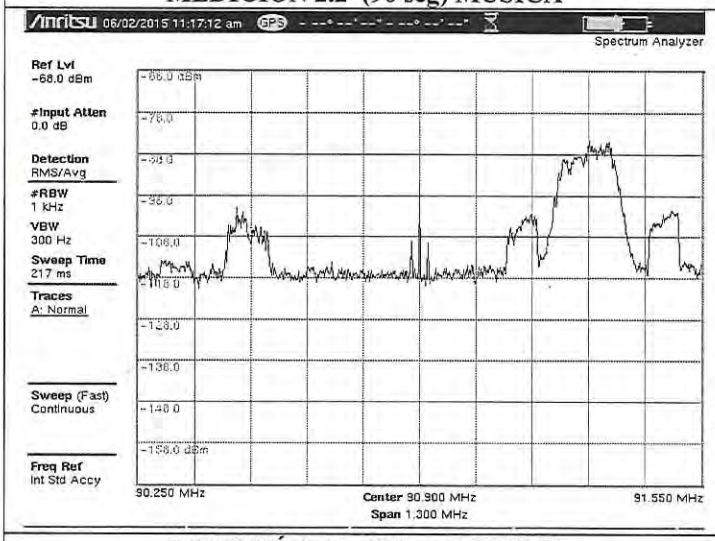
MEDICIÓN 2.1 (75 seg) MUSICA



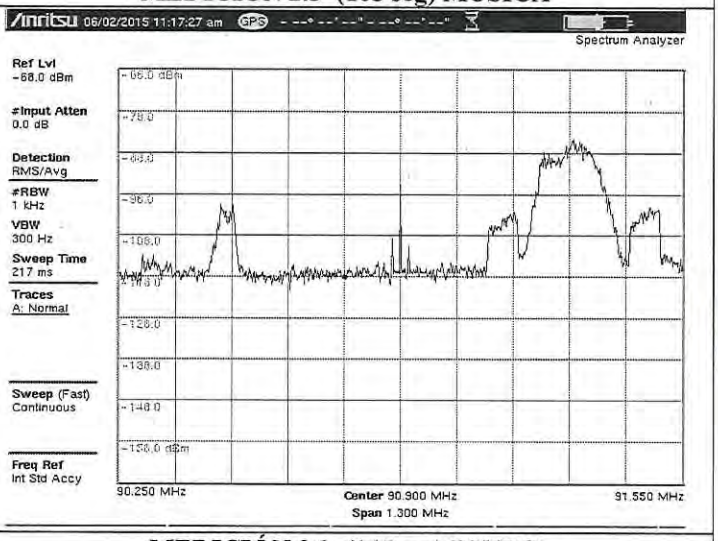
MEDICIÓN 2.2 (90 seg) MUSICA



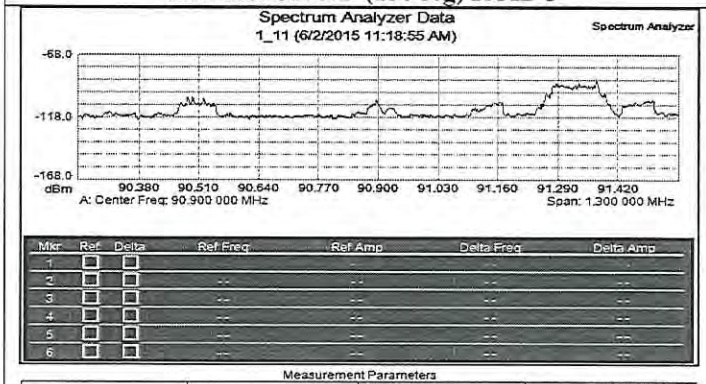
MEDICIÓN 2.3 (105 seg) MUSICA



MEDICIÓN 3.1 (130 seg) RUIDO



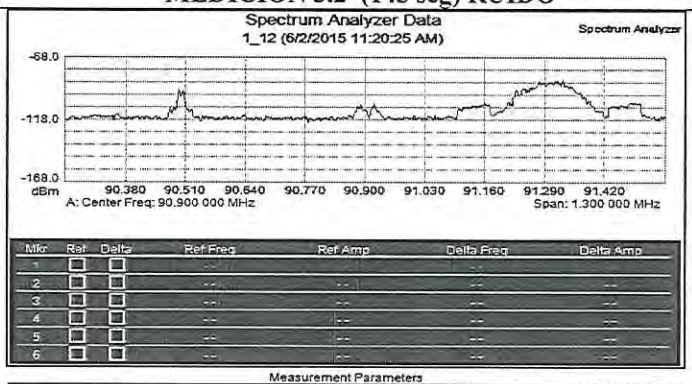
MEDICIÓN 3.2 (145 seg) RUIDO



Measurement Parameters

		Stop Frequency	91.550 000 MHz
Trace Mode	Normal	Frequency Span	1.300 000 MHz
Preamp	OFF	Reference Level	-68.000 dBm
Min Sweep Time	0.001 S	Scale	10.0 dB/div
Reference Level Offset	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	

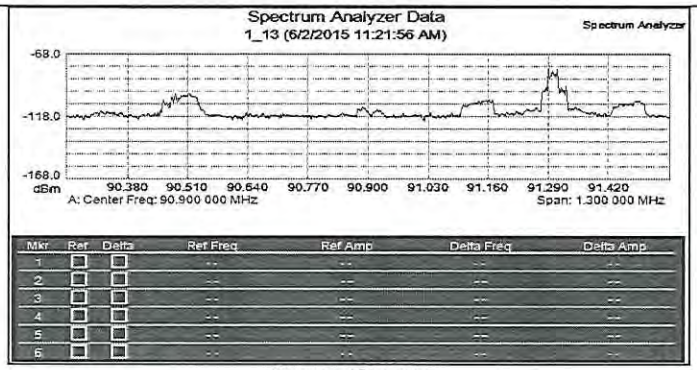
***T.C. MEDICIÓN 4.1 90 seg/ 1.5 min**



Measurement Parameters

		Stop Frequency	91.550 000 MHz
Trace Mode	Normal	Frequency Span	1.300 000 MHz
Preamp	OFF	Reference Level	-68.000 dBm
Min Sweep Time	0.001 S	Scale	10.0 dB/div
Reference Level Offset	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	

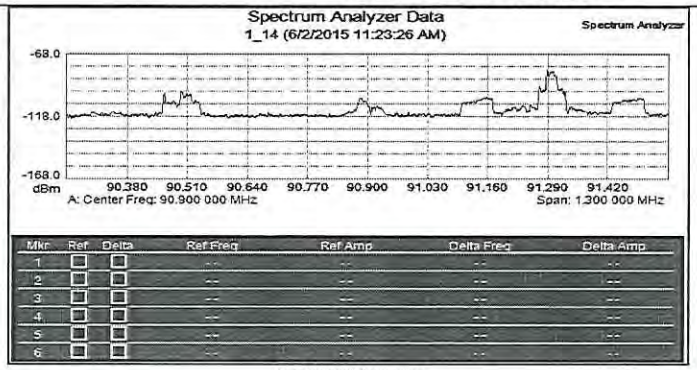
***T.C. MEDICIÓN 4.2 180 seg/ 3 min**



Measurement Parameters

		Stop Frequency	91.550 000 MHz
Trace Mode	Normal	Frequency Span	1.300 000 MHz
Preamp	OFF	Reference Level	-68.000 dBm
Min Sweep Time	0.001 S	Scale	10.0 dB/div
Reference Level Offset	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 11:22:29 AM
Start Frequency	90.250 000 MHz	Device Name	

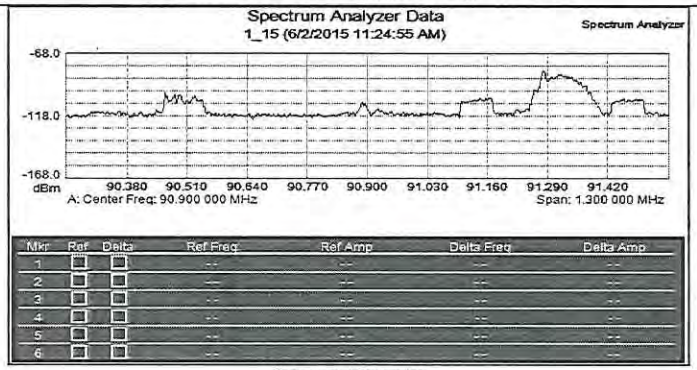
***T.C. MEDICIÓN 4.3_270 seg/ 4.5 min**



Measurement Parameters

		Stop Frequency	91.550 000 MHz
Trace Mode	Normal	Frequency Span	1.300 000 MHz
Preamp	OFF	Reference Level	-68.000 dBm
Min Sweep Time	0.001 S	Scale	10.0 dB/div
Reference Level Offset	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 11:23:59 AM
Start Frequency	90.250 000 MHz	Device Name	

***T.C. MEDICIÓN_4.4 360 seg/ 6 min**



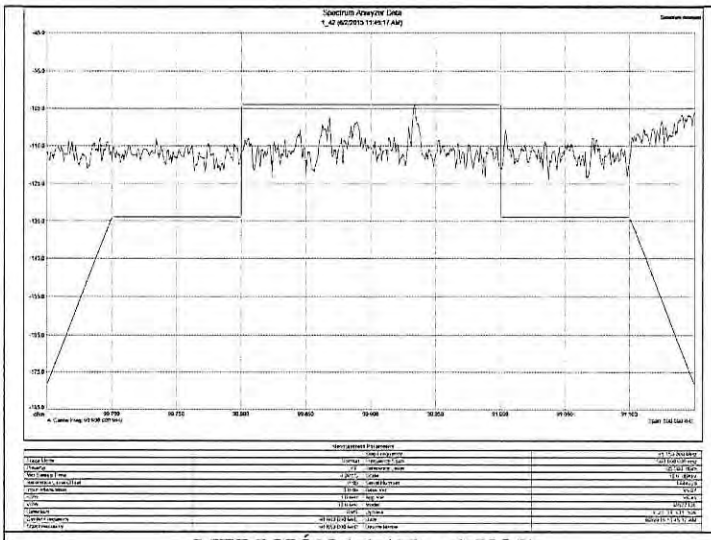
Measurement Parameters

		Stop Frequency	91.550 000 MHz
Trace Mode	Normal	Frequency Span	1.300 000 MHz
Preamp	OFF	Reference Level	-68.000 dBm
Min Sweep Time	0.001 S	Scale	10.0 dB/div
Reference Level Offset	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 11:25:30 AM
Start Frequency	90.250 000 MHz	Device Name	

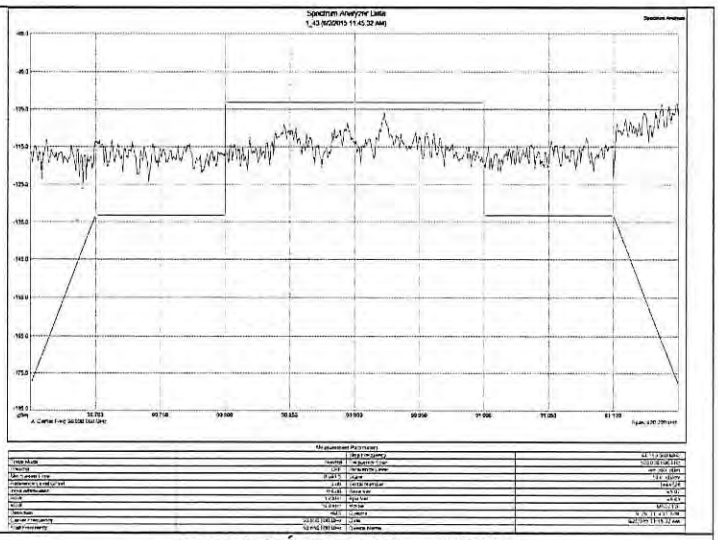
***T.C. MEDICIÓN 4.5_450 seg/ 7.5 min**

ESCENARIO 2.- DISMINUCIÓN DE POTENCIA EN PORTADORA DIGITAL IZQUIERDA

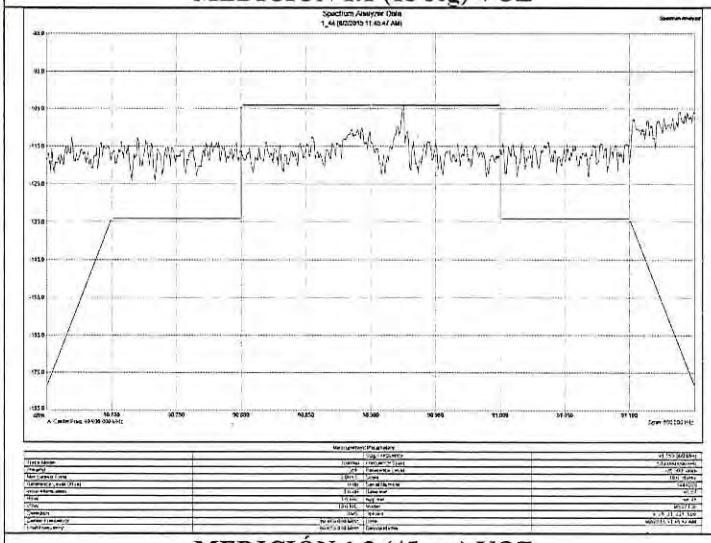
Bloque 5- SPAN PARA 1 ESTACIÓN



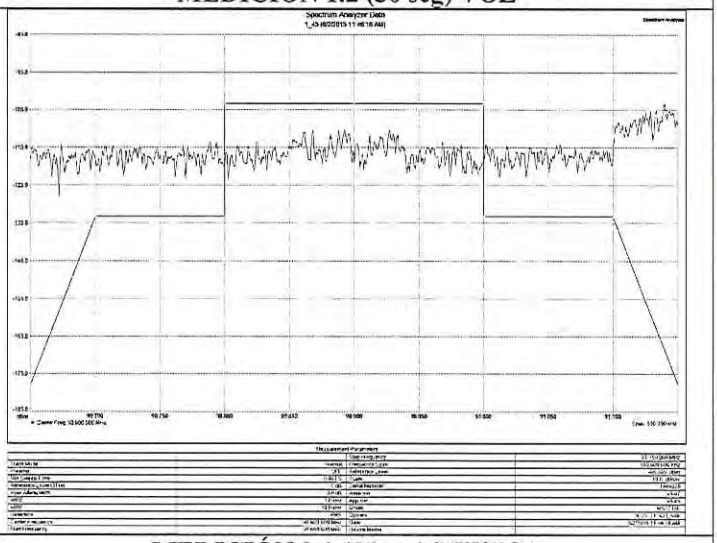
MEDICIÓN 1.1 (15 seg) VOZ



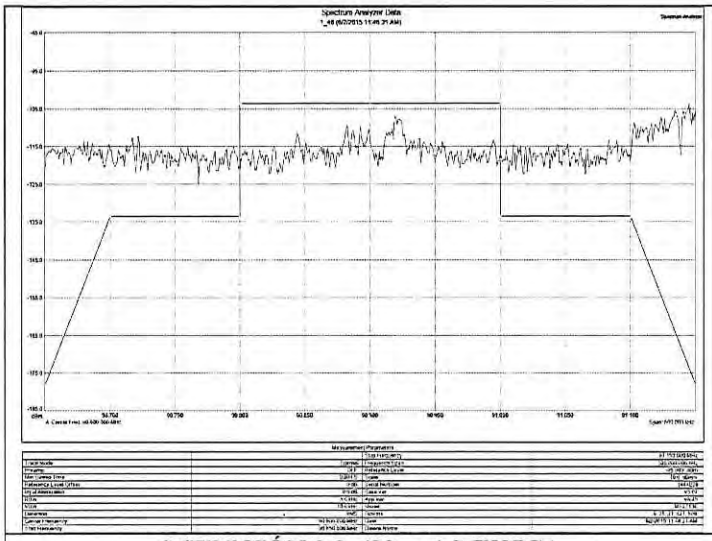
MEDICIÓN 1.2 (30 seg) VOZ



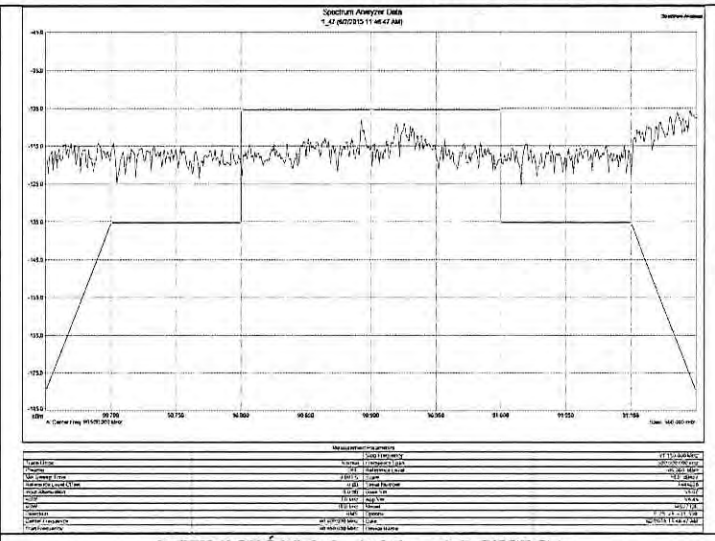
MEDICIÓN 1.3 (45 seg) VOZ



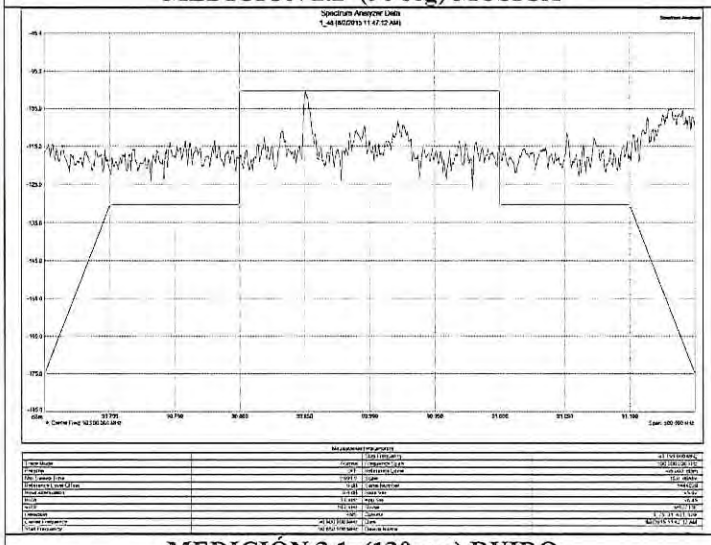
MEDICIÓN 2.1 (75 seg) MUSICA



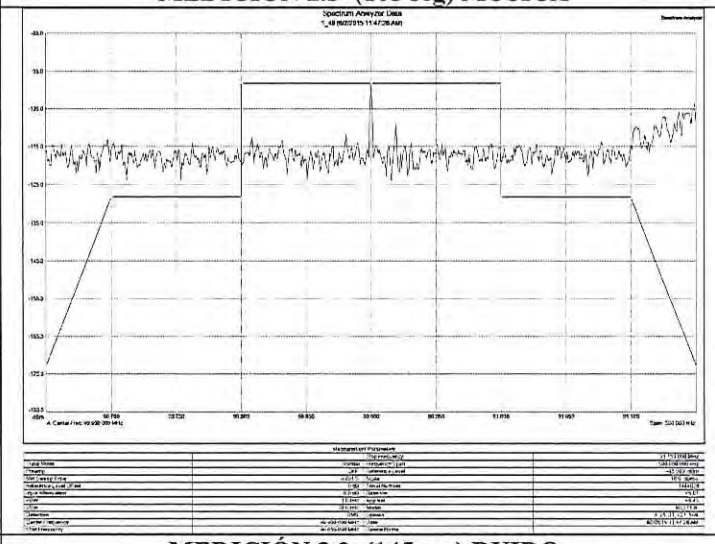
MEDICIÓN 2.2 (90 seg) MUSICA



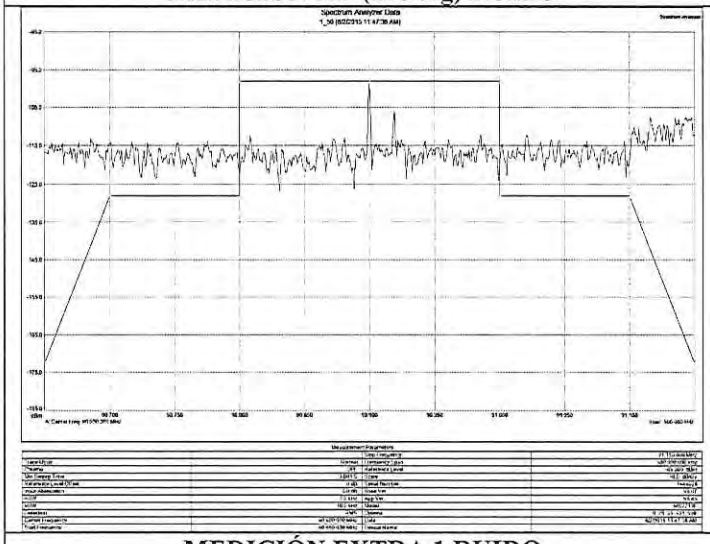
MEDICIÓN 2.3 (105 seg) MUSICA



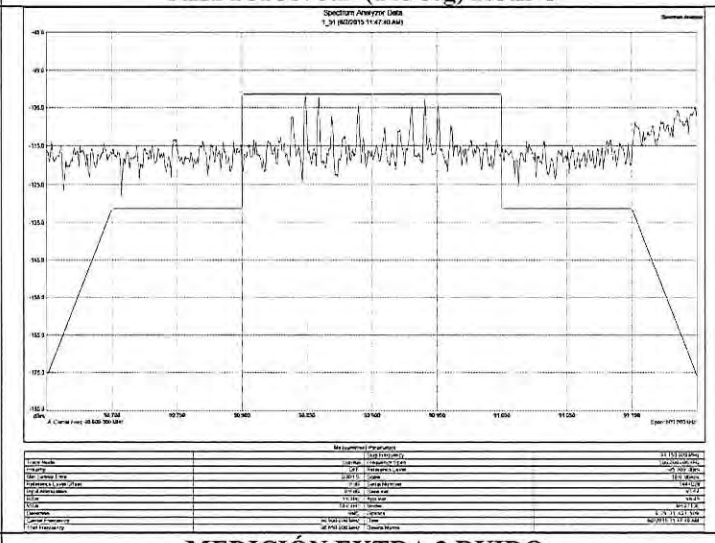
MEDICIÓN 3.1 (130 seg) RUIDO



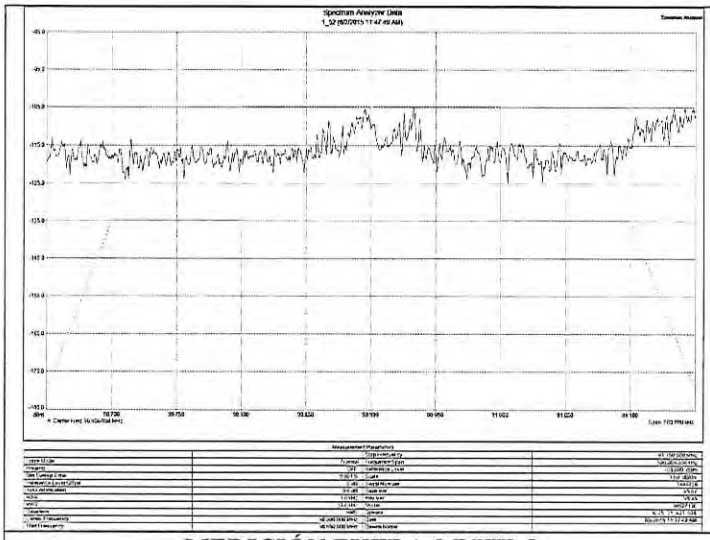
MEDICIÓN 3.2 (145 seg) RUIDO



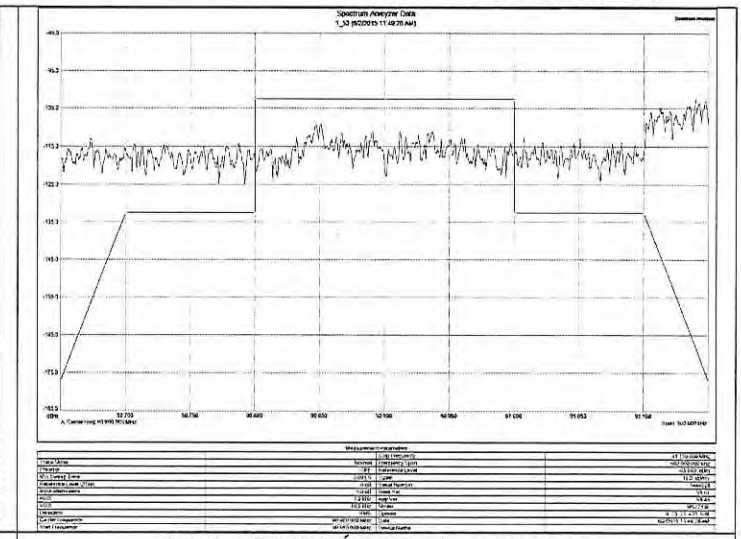
MEDICIÓN EXTRA 1 RUIDO



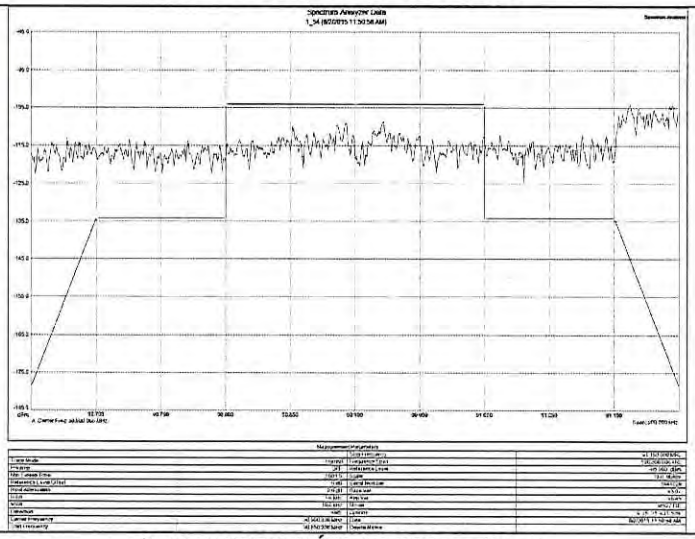
MEDICIÓN EXTRA 2 RUIDO



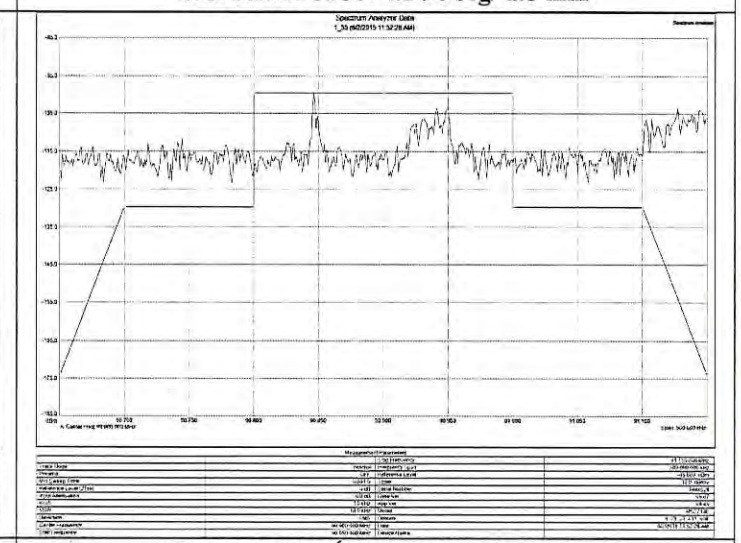
MEDICIÓN EXTRA 3 RUIDO



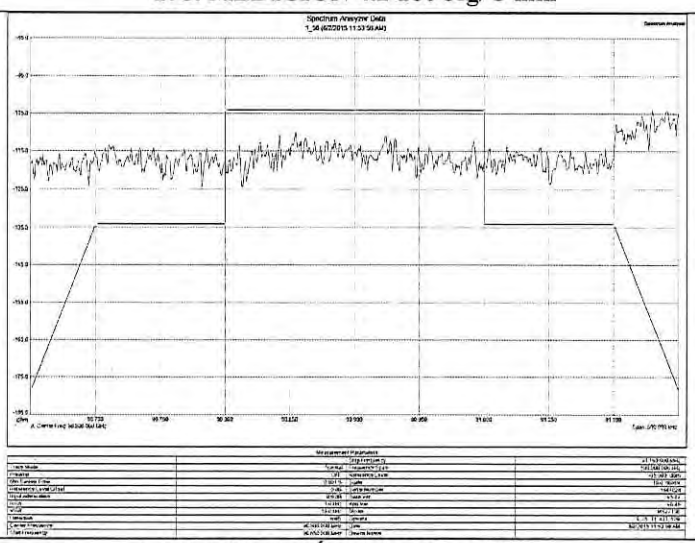
***T.C. MEDICIÓN 4.1 90 seg/ 1.5 min**



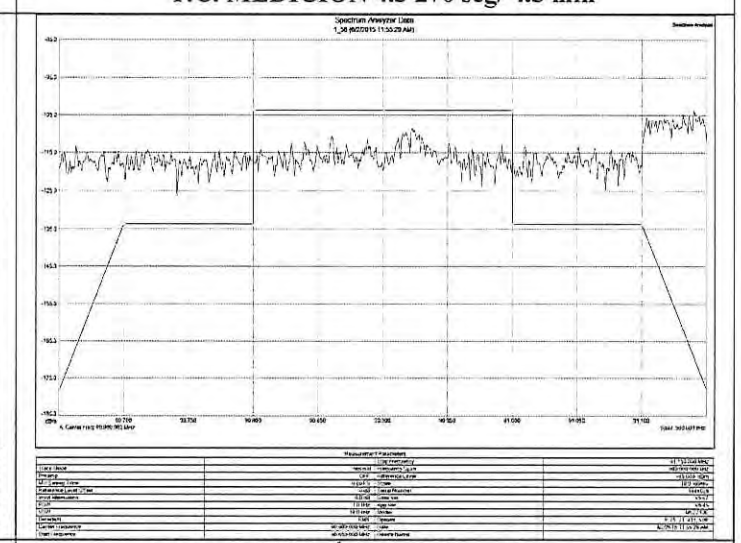
***T.C. MEDICIÓN 4.2 180 seg/ 3 min**



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



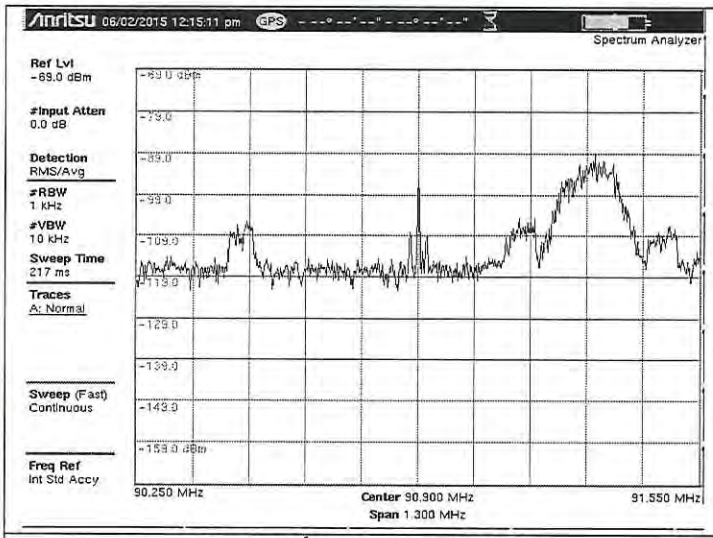
***T.C. MEDICIÓN 4.4 360 seg/ 6 min**



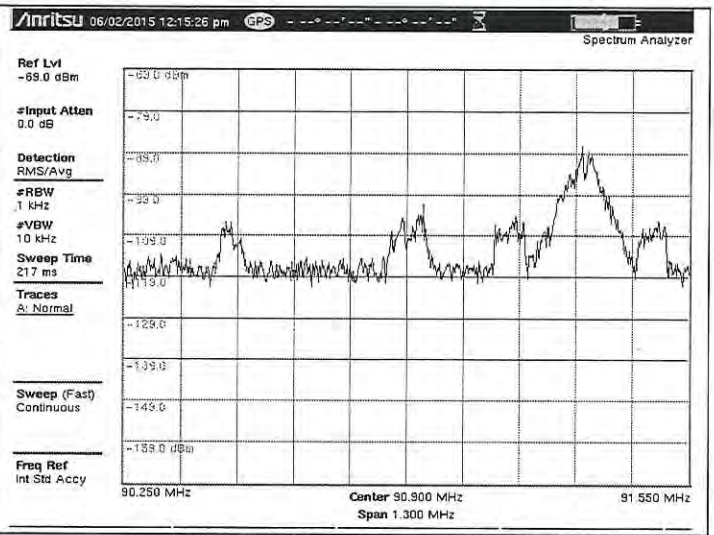
***T.C. MEDICIÓN 4.5 450 seg/ 7.5 min**

ESCENARIO 2.- DISMINUCIÓN DE POTENCIA EN PORTADORA DIGITAL IZQUIERDA

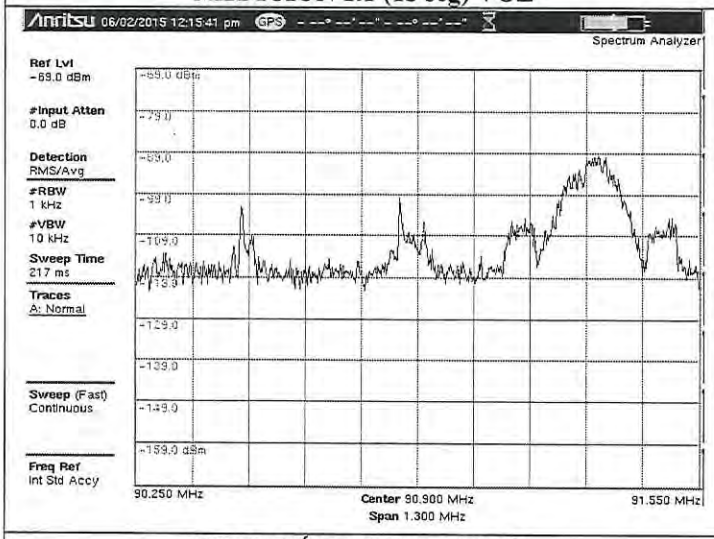
Bloque 7- SPAN PARA 3 ESTACIÓN



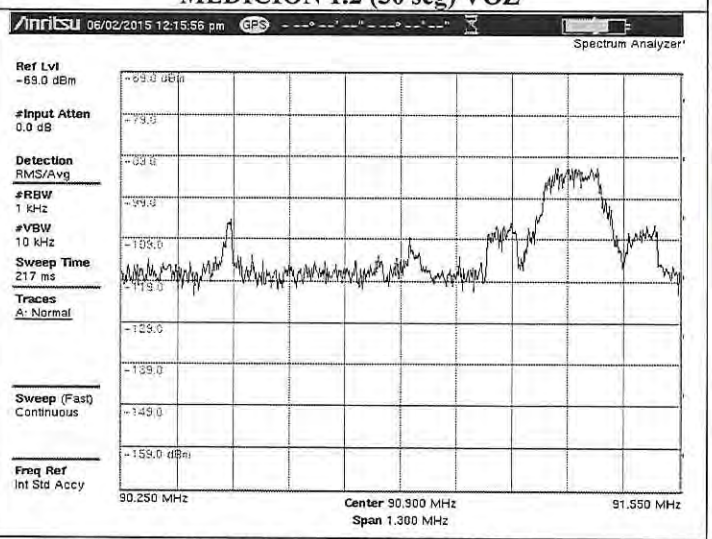
MEDICIÓN 1.1 (15 seg) VOZ



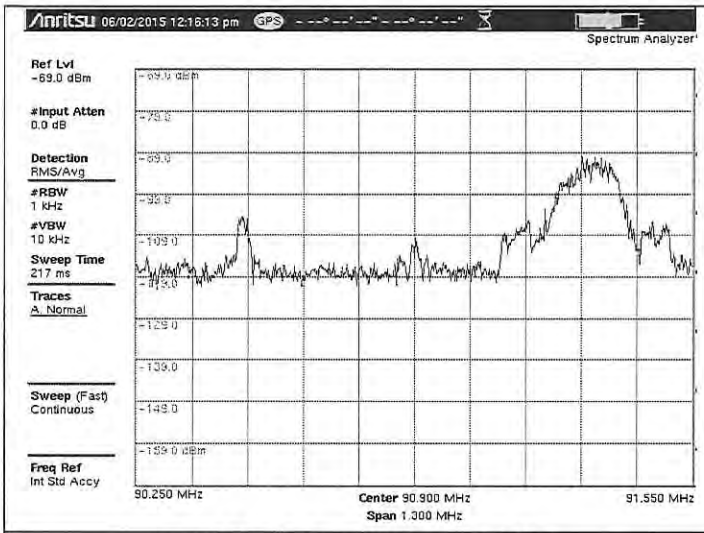
MEDICIÓN 1.2 (30 seg) VOZ



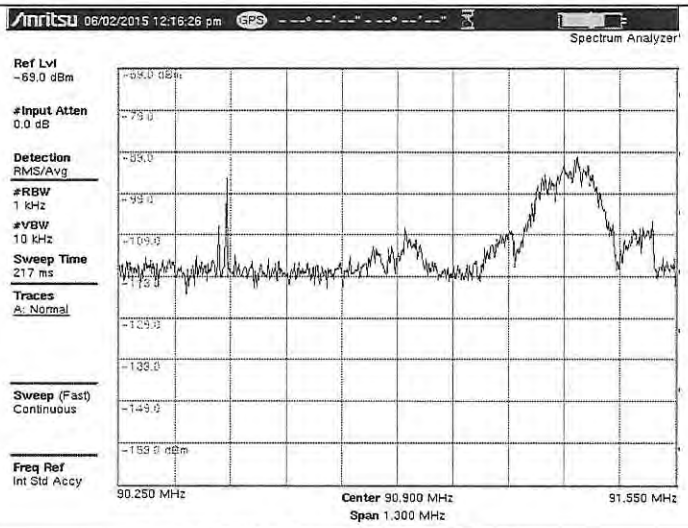
MEDICIÓN 1.3 (45 seg) VOZ



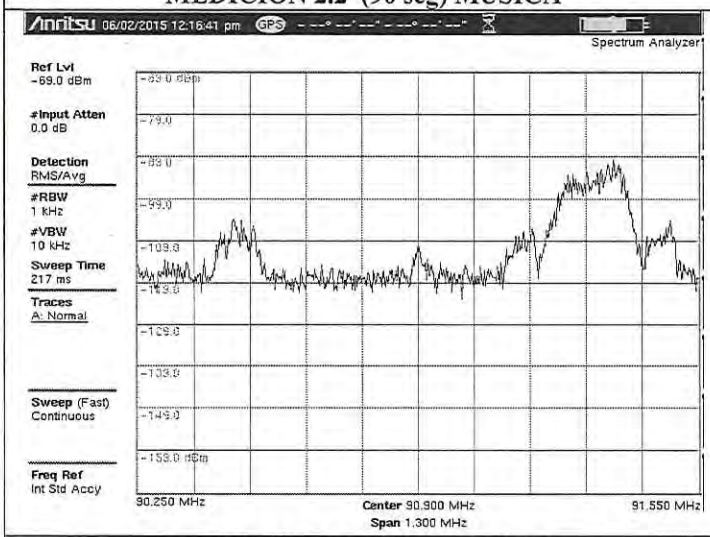
MEDICIÓN 2.1 (75 seg) MUSICA



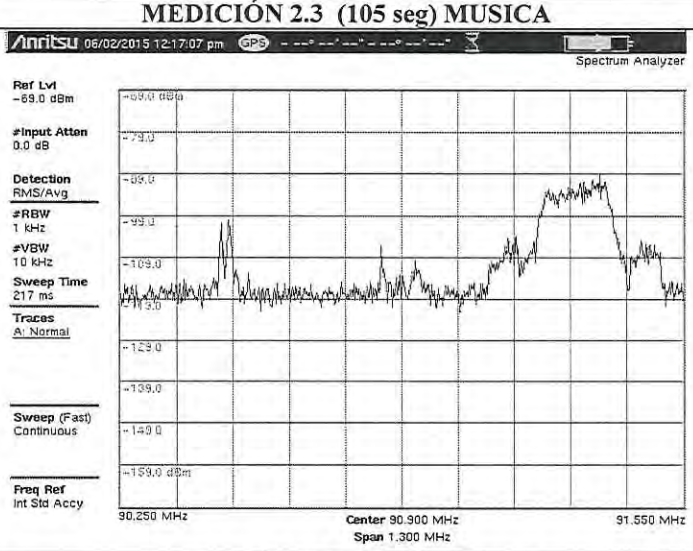
MEDICIÓN 2.2 (90 seg) MUSICA



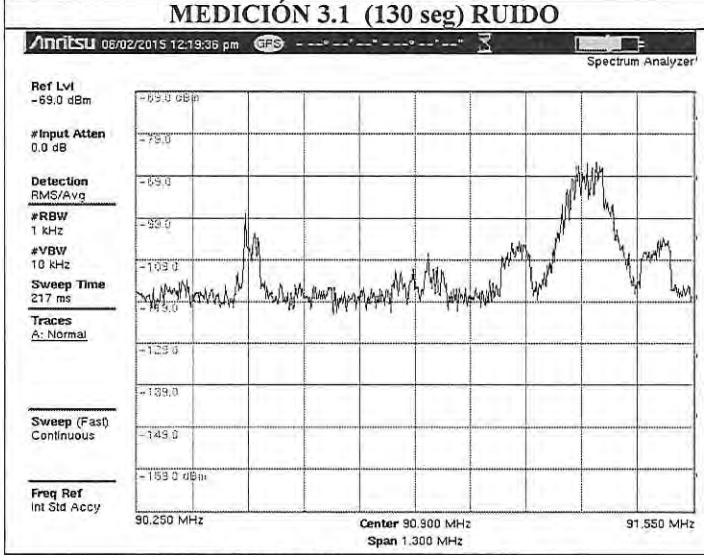
MEDICIÓN 2.3 (105 seg) MUSICA



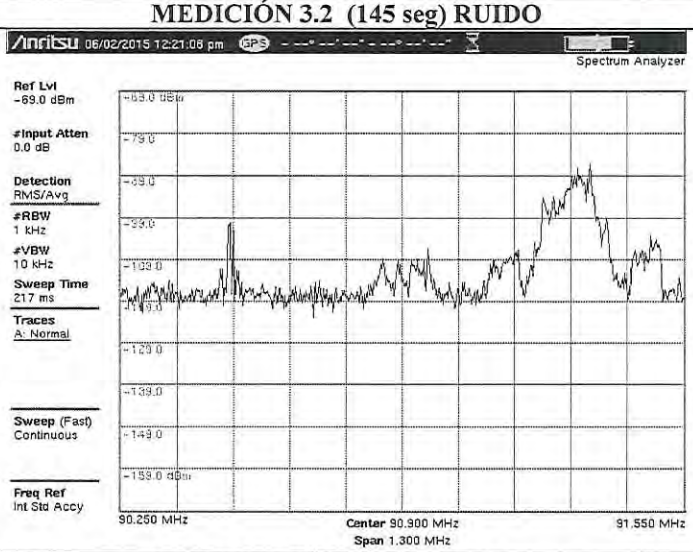
MEDICIÓN 3.1 (130 seg) RUIDO



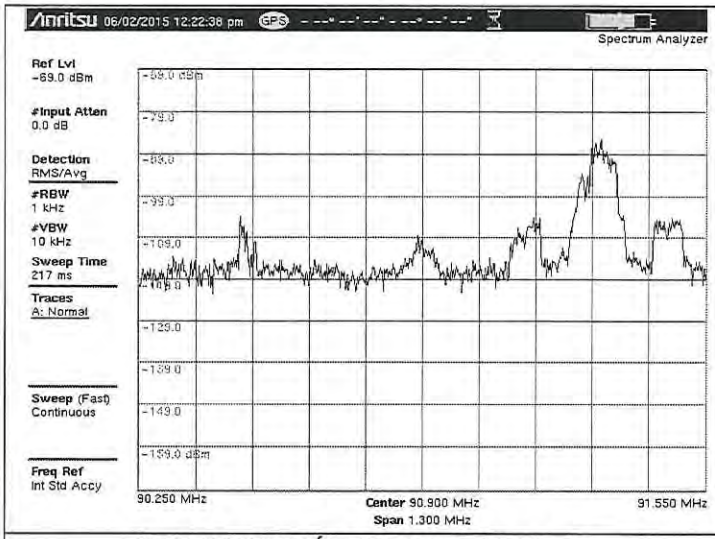
MEDICIÓN 3.2 (145 seg) RUIDO



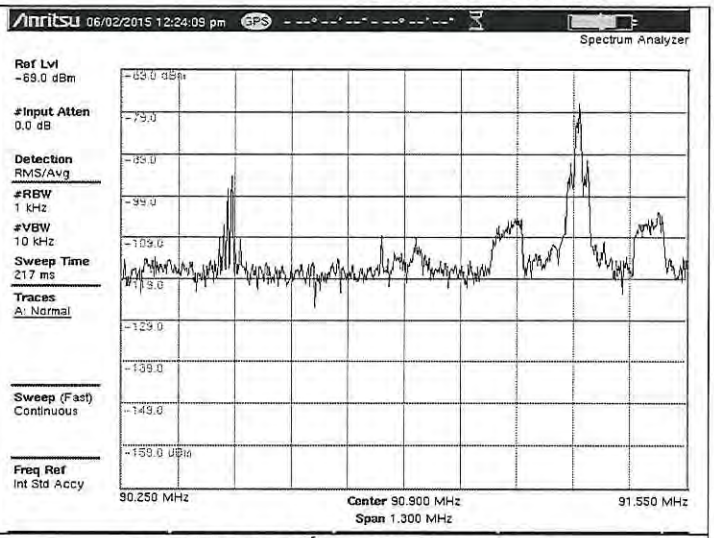
***T.C. MEDICIÓN 4.1 (90 seg)/ 1.5 min**



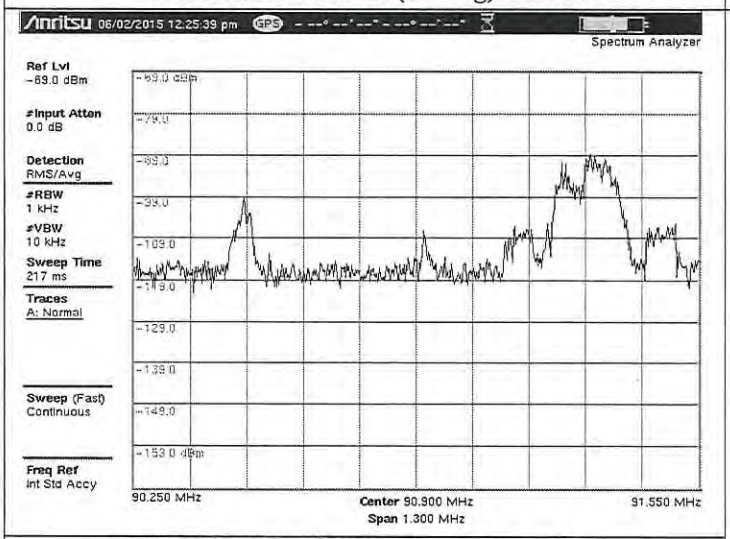
***T.C. MEDICIÓN 4.2 (180seg)/ 3 min**



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



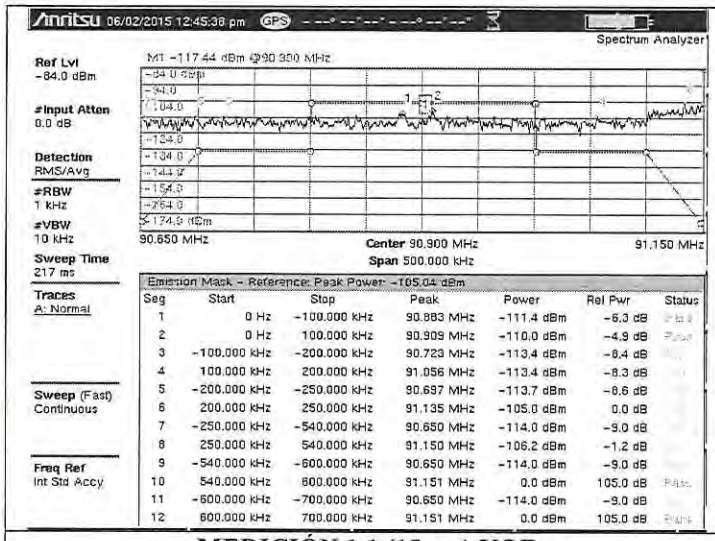
***T.C. MEDICIÓN 4.4 (360 seg)/ 6 min**



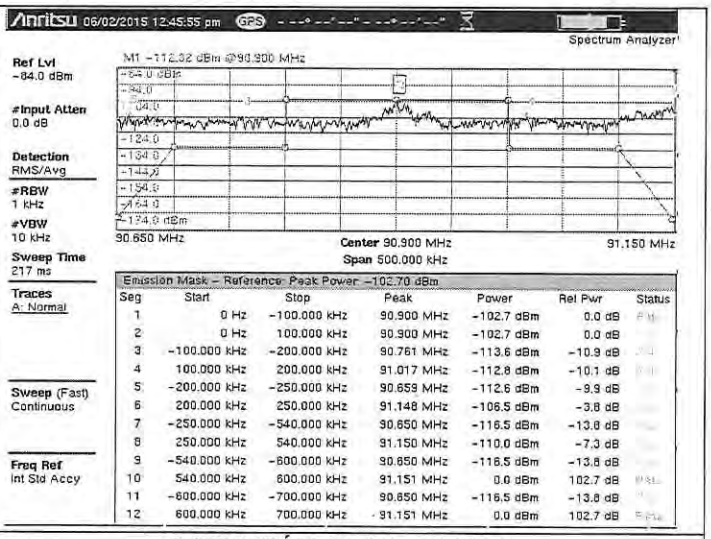
***T.C. MEDICIÓN 4.5 (450 seg)/ 7.5 min**

ESCENARIO 3.- DISMINUCIÓN DE POTENCIA EN PORTADORA DIGITAL DERECHA

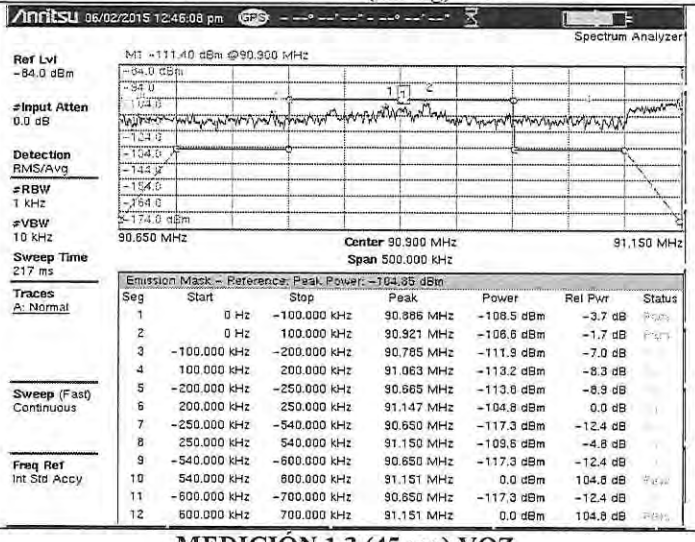
Bloque 9- SPAN PARA 1 ESTACIÓN



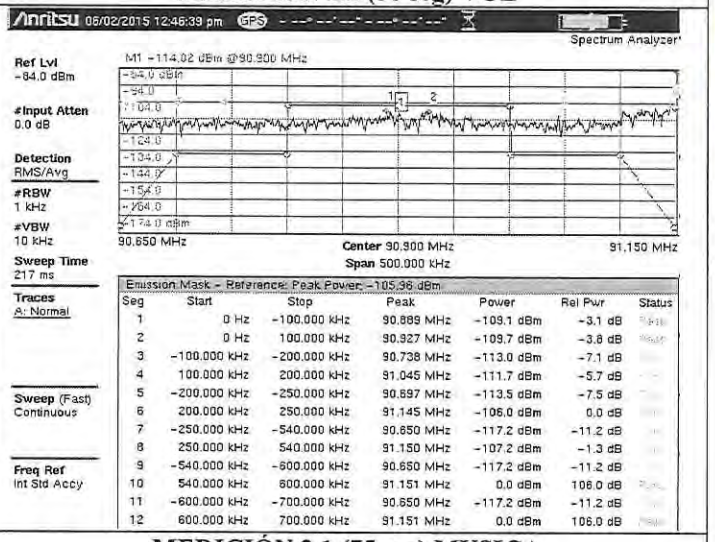
MEDICIÓN 1.1 (15 seg) VOZ



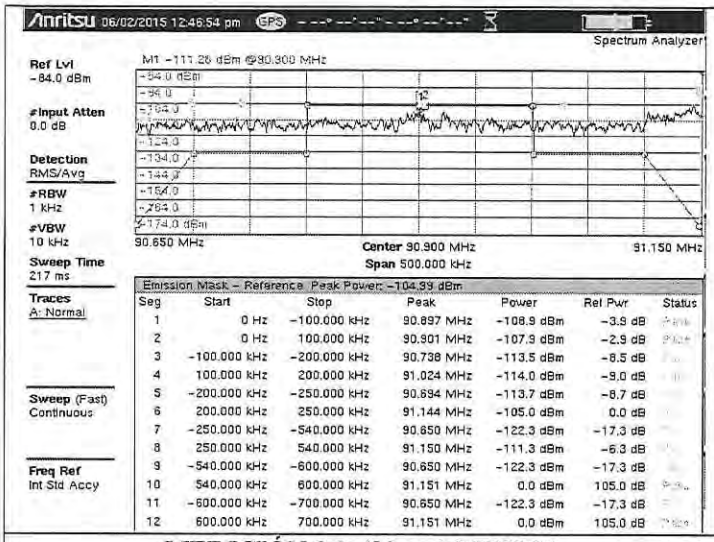
MEDICIÓN 1.2 (30 seg) VOZ



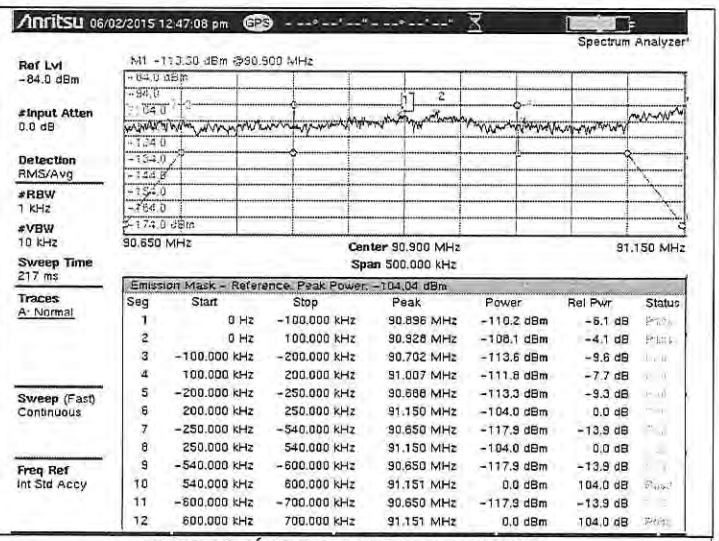
MEDICIÓN 1.3 (45 seg) VOZ



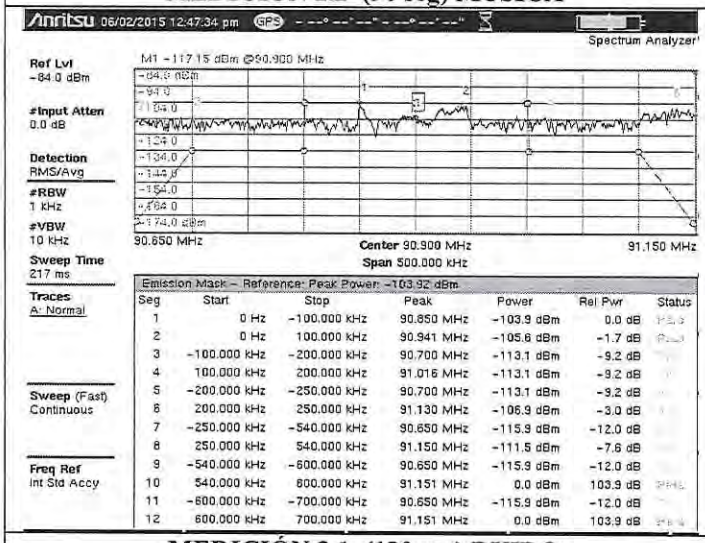
MEDICIÓN 2.1 (75 seg) MUSICA



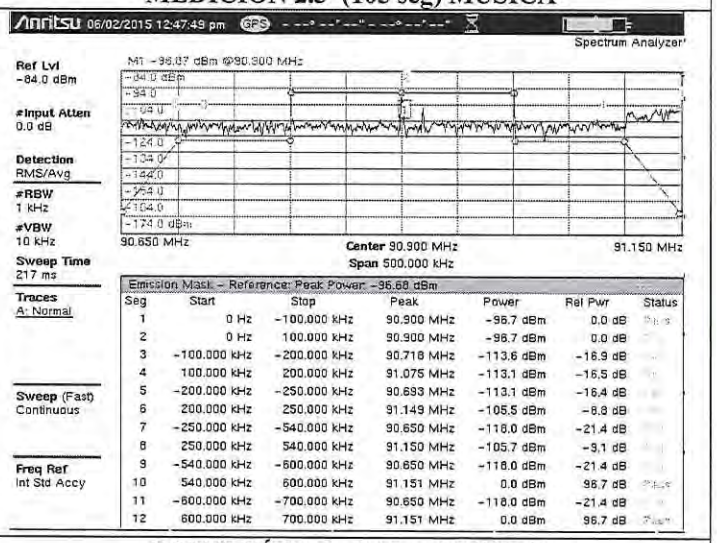
MEDICIÓN 2.2 (90 seg) MUSICA



MEDICIÓN 2.3 (105 seg) MUSICA

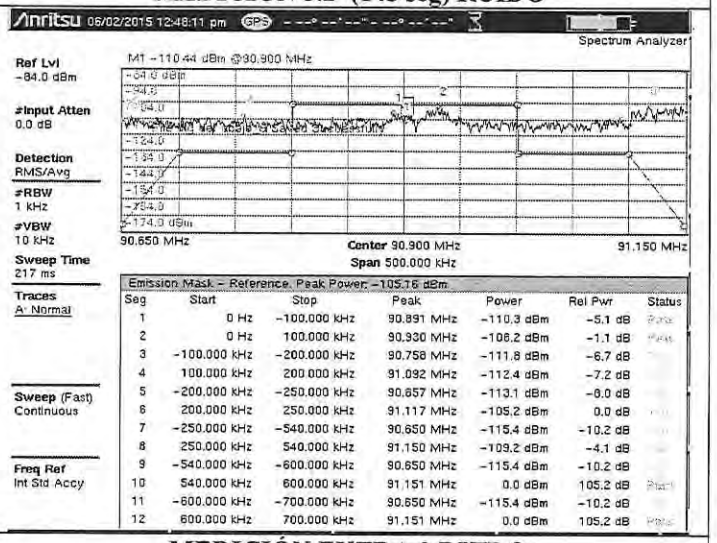


MEDICIÓN 3.1 (130 seg) RUIDO

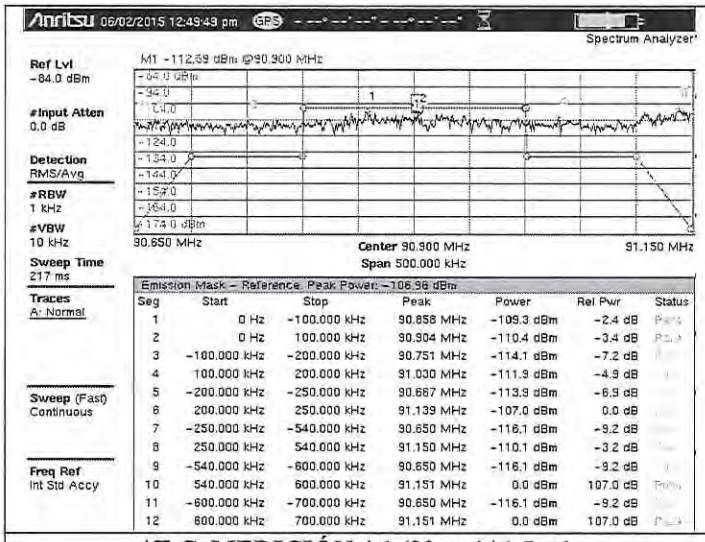


MEDICIÓN 3.2 (145 seg) RUIDO

MEDICIÓN EXTRA 1 RUIDO

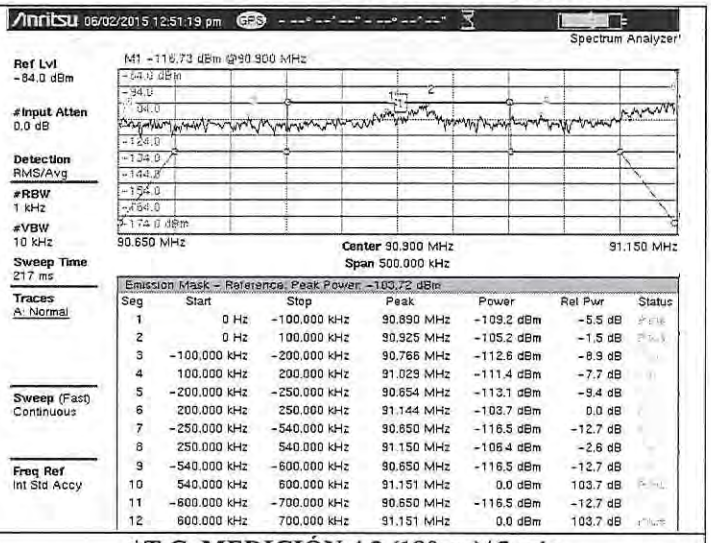


MEDICIÓN EXTRA 2 RUIDO



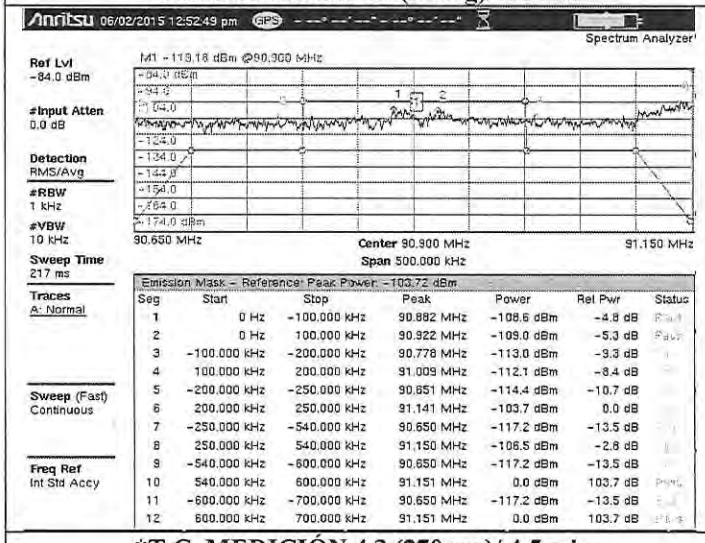
Seg	Start	Stop	Peak	Power	Rel Pwr	Status
1	0 Hz	-100.000 kHz	90.858 MHz	-109.3 dBm	-2.4 dB	Pass
2	0 Hz	100.000 kHz	90.904 MHz	-110.4 dBm	-3.4 dB	Pass
3	-100.000 kHz	-200.000 kHz	90.751 MHz	-114.1 dBm	-7.2 dB	
4	100.000 kHz	200.000 kHz	91.030 MHz	-111.9 dBm	-4.9 dB	
5	-200.000 kHz	-250.000 kHz	90.667 MHz	-113.9 dBm	-6.9 dB	
6	200.000 kHz	250.000 kHz	91.139 MHz	-107.0 dBm	0.0 dB	
7	-250.000 kHz	-540.000 kHz	90.650 MHz	-116.1 dBm	-9.2 dB	
8	250.000 kHz	540.000 kHz	91.150 MHz	-110.1 dBm	-3.2 dB	
9	-540.000 kHz	-600.000 kHz	90.650 MHz	-116.1 dBm	-9.2 dB	
10	540.000 kHz	600.000 kHz	91.151 MHz	0.0 dBm	107.0 dB	Pass
11	-600.000 kHz	-700.000 kHz	90.650 MHz	-116.1 dBm	-9.2 dB	
12	600.000 kHz	700.000 kHz	91.151 MHz	0.0 dBm	107.0 dB	Pass

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



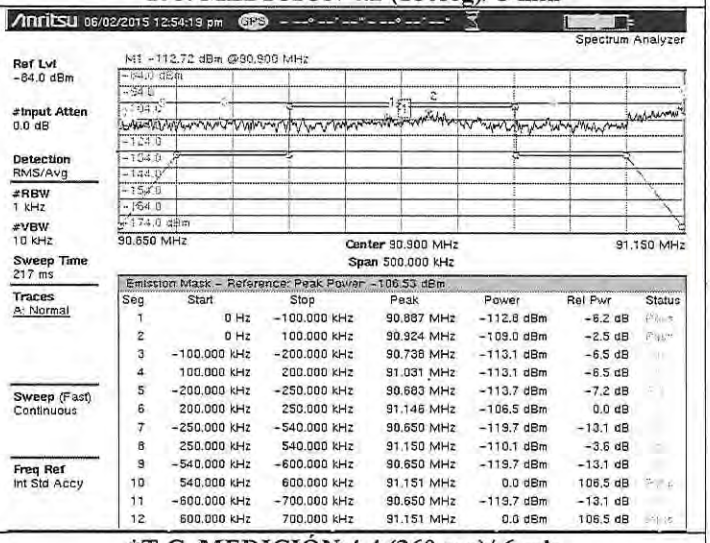
Seg	Start	Stop	Peak	Power	Rel Pwr	Status
1	0 Hz	-100.000 kHz	90.890 MHz	-109.2 dBm	-5.5 dB	Pass
2	0 Hz	100.000 kHz	90.925 MHz	-105.2 dBm	-1.5 dB	Pass
3	-100.000 kHz	-200.000 kHz	90.766 MHz	-112.6 dBm	-8.9 dB	
4	100.000 kHz	200.000 kHz	91.029 MHz	-111.4 dBm	-7.7 dB	
5	-200.000 kHz	-250.000 kHz	90.654 MHz	-113.1 dBm	-9.4 dB	
6	200.000 kHz	250.000 kHz	91.144 MHz	-103.7 dBm	0.0 dB	
7	-250.000 kHz	-540.000 kHz	90.650 MHz	-116.5 dBm	-12.7 dB	
8	250.000 kHz	540.000 kHz	91.150 MHz	-106.4 dBm	-2.6 dB	
9	-540.000 kHz	-600.000 kHz	90.650 MHz	-116.5 dBm	-12.7 dB	
10	540.000 kHz	600.000 kHz	91.151 MHz	0.0 dBm	103.7 dB	Pass
11	-600.000 kHz	-700.000 kHz	90.650 MHz	-116.5 dBm	-12.7 dB	
12	600.000 kHz	700.000 kHz	91.151 MHz	0.0 dBm	103.7 dB	Pass

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



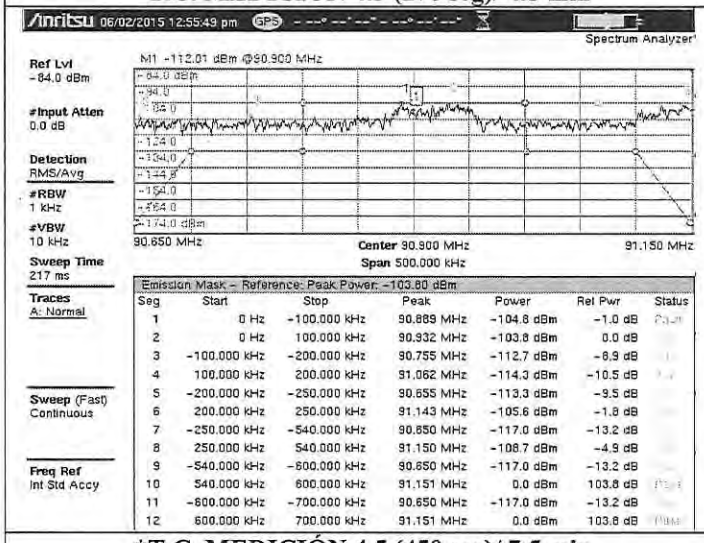
Seg	Start	Stop	Peak	Power	Rel Pwr	Status
1	0 Hz	-100.000 kHz	90.882 MHz	-108.6 dBm	-4.8 dB	Pass
2	0 Hz	100.000 kHz	90.922 MHz	-109.0 dBm	-5.3 dB	Pass
3	-100.000 kHz	-200.000 kHz	90.778 MHz	-113.0 dBm	-9.3 dB	
4	100.000 kHz	200.000 kHz	91.009 MHz	-112.1 dBm	-8.4 dB	
5	-200.000 kHz	-250.000 kHz	90.651 MHz	-114.4 dBm	-10.7 dB	
6	200.000 kHz	250.000 kHz	91.141 MHz	-103.7 dBm	0.0 dB	
7	-250.000 kHz	-540.000 kHz	90.650 MHz	-117.2 dBm	-13.5 dB	
8	250.000 kHz	540.000 kHz	91.150 MHz	-106.5 dBm	-2.8 dB	
9	-540.000 kHz	-600.000 kHz	90.650 MHz	-117.2 dBm	-13.5 dB	
10	540.000 kHz	600.000 kHz	91.151 MHz	0.0 dBm	103.7 dB	Pass
11	-600.000 kHz	-700.000 kHz	90.650 MHz	-117.2 dBm	-13.5 dB	
12	600.000 kHz	700.000 kHz	91.151 MHz	0.0 dBm	103.7 dB	Pass

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



Seg	Start	Stop	Peak	Power	Rel Pwr	Status
1	0 Hz	-100.000 kHz	90.887 MHz	-112.8 dBm	-6.2 dB	Pass
2	0 Hz	100.000 kHz	90.924 MHz	-109.0 dBm	-2.5 dB	Pass
3	-100.000 kHz	-200.000 kHz	90.738 MHz	-113.1 dBm	-6.5 dB	
4	100.000 kHz	200.000 kHz	91.031 MHz	-113.1 dBm	-6.5 dB	
5	-200.000 kHz	-250.000 kHz	90.663 MHz	-113.7 dBm	-7.2 dB	
6	200.000 kHz	250.000 kHz	91.146 MHz	-106.5 dBm	0.0 dB	
7	-250.000 kHz	-540.000 kHz	90.650 MHz	-119.7 dBm	-13.1 dB	
8	250.000 kHz	540.000 kHz	91.150 MHz	-110.1 dBm	-3.6 dB	
9	-540.000 kHz	-600.000 kHz	90.650 MHz	-119.7 dBm	-13.1 dB	
10	540.000 kHz	600.000 kHz	91.151 MHz	0.0 dBm	106.5 dB	Pass
11	-600.000 kHz	-700.000 kHz	90.650 MHz	-119.7 dBm	-13.1 dB	
12	600.000 kHz	700.000 kHz	91.151 MHz	0.0 dBm	106.5 dB	Pass

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

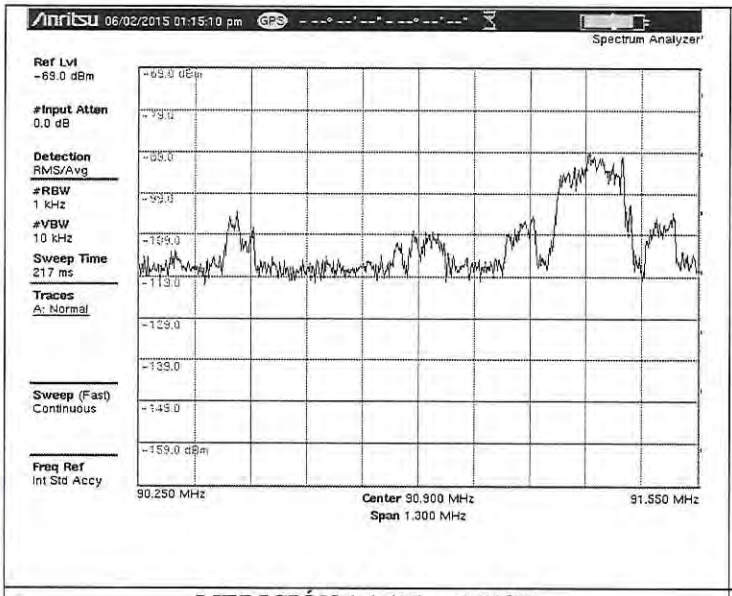


Seg	Start	Stop	Peak	Power	Rel Pwr	Status
1	0 Hz	-100.000 kHz	90.889 MHz	-104.8 dBm	-1.0 dB	Pass
2	0 Hz	100.000 kHz	90.932 MHz	-103.8 dBm	0.0 dB	
3	-100.000 kHz	-200.000 kHz	90.755 MHz	-112.7 dBm	-8.9 dB	
4	100.000 kHz	200.000 kHz	91.062 MHz	-114.3 dBm	-10.5 dB	
5	-200.000 kHz	-250.000 kHz	90.655 MHz	-113.3 dBm	-9.5 dB	
6	200.000 kHz	250.000 kHz	91.143 MHz	-105.6 dBm	-1.8 dB	
7	-250.000 kHz	-540.000 kHz	90.650 MHz	-117.0 dBm	-13.2 dB	
8	250.000 kHz	540.000 kHz	91.150 MHz	-108.7 dBm	-4.9 dB	
9	-540.000 kHz	-600.000 kHz	90.650 MHz	-117.0 dBm	-13.2 dB	
10	540.000 kHz	600.000 kHz	91.151 MHz	0.0 dBm	103.8 dB	Pass
11	-600.000 kHz	-700.000 kHz	90.650 MHz	-117.0 dBm	-13.2 dB	
12	600.000 kHz	700.000 kHz	91.151 MHz	0.0 dBm	103.8 dB	Pass

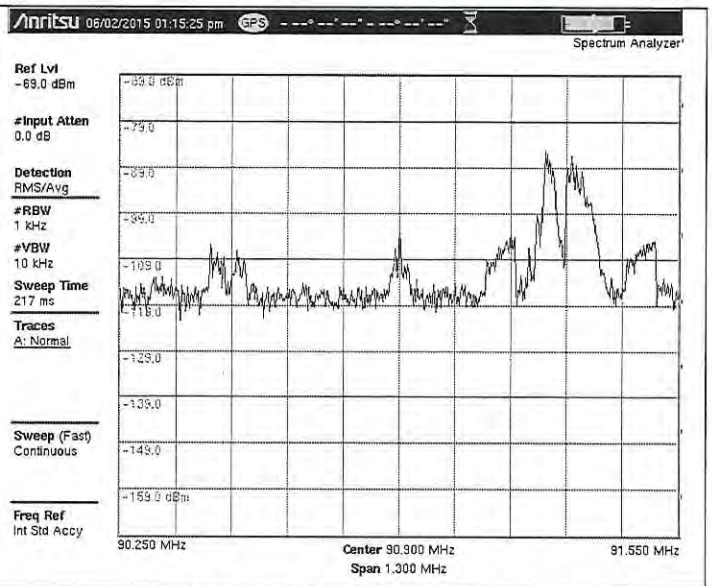
***T.C. MEDICIÓN 4.5 (450 seg)/ 7.5 min**

ESCENARIO 3.- DISMINUCIÓN DE POTENCIA EN PORTADORA DIGITAL DERECHA

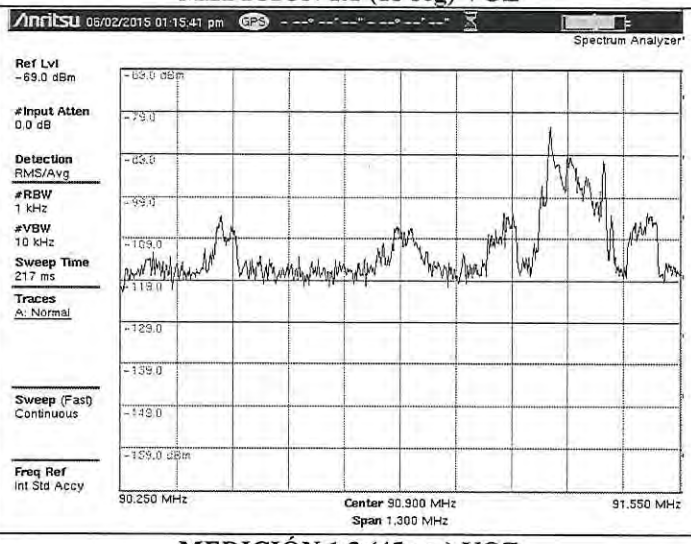
Bloque 11- SPAN PARA 3 ESTACIÓNES



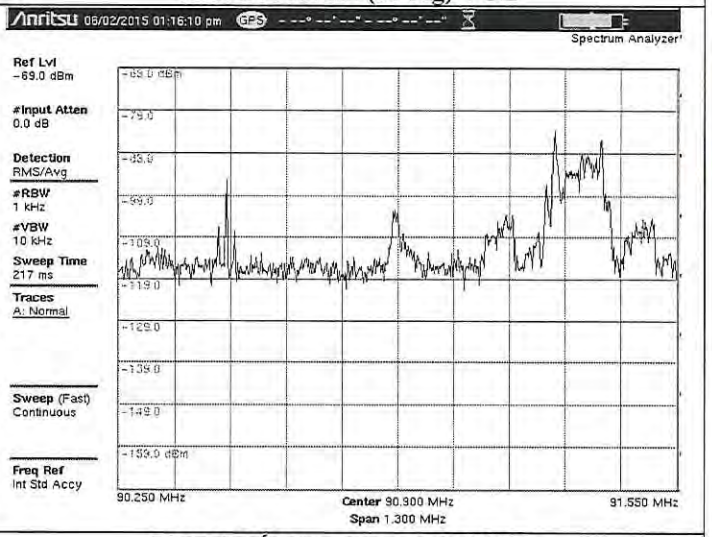
MEDICIÓN 1.1 (15 seg) VOZ



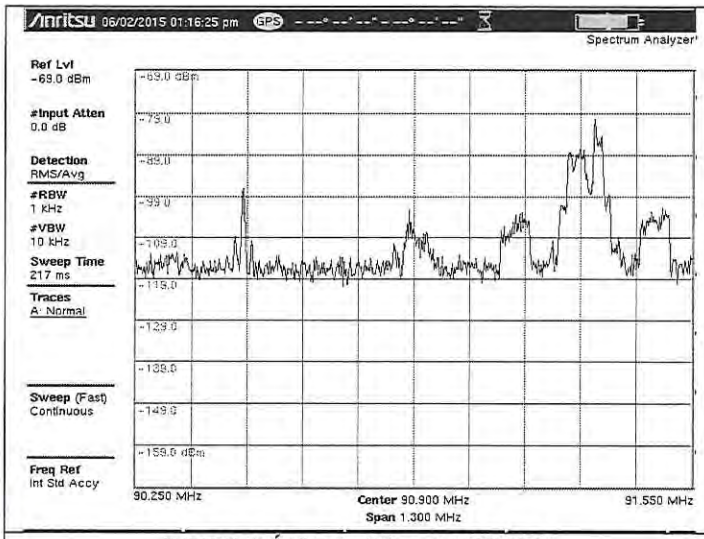
MEDICIÓN 1.2 (30 seg) VOZ



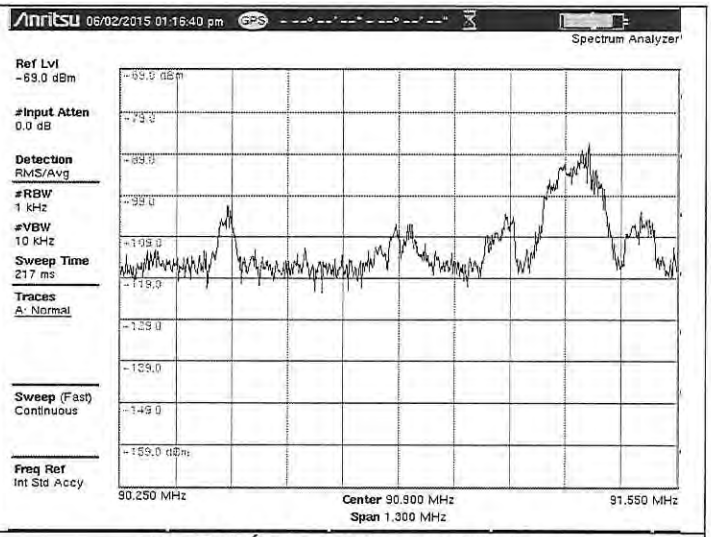
MEDICIÓN 1.3 (45 seg) VOZ



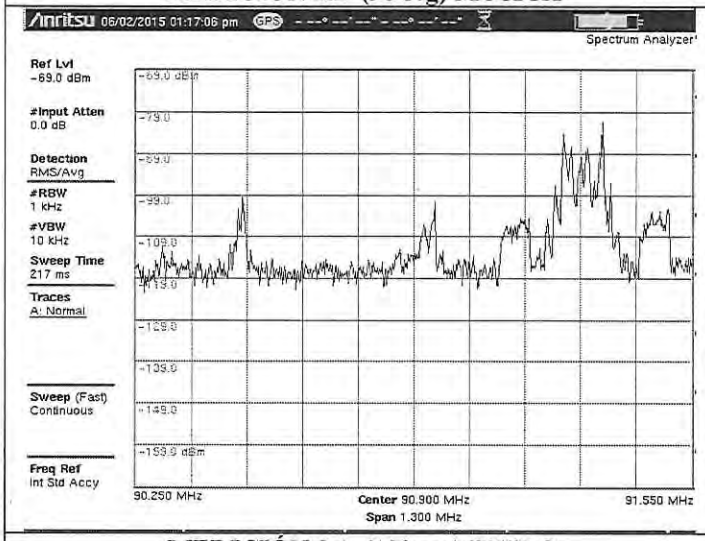
MEDICIÓN 2.1 (75 seg) MUSICA



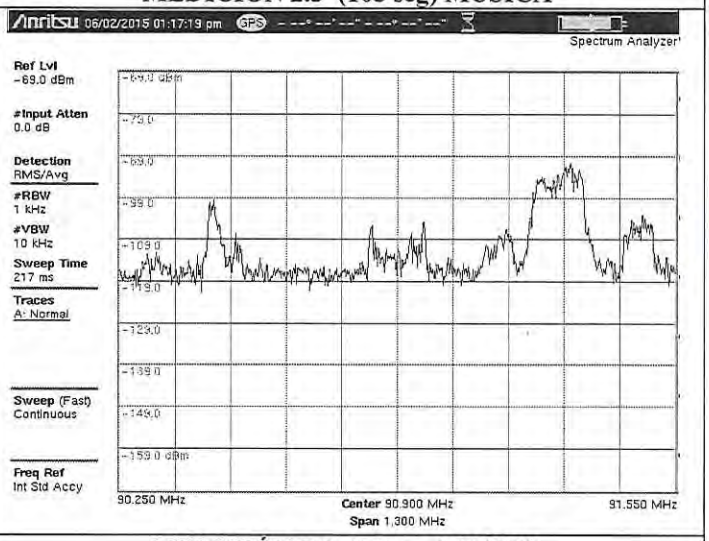
MEDICIÓN 2.2 (90 seg) MUSICA



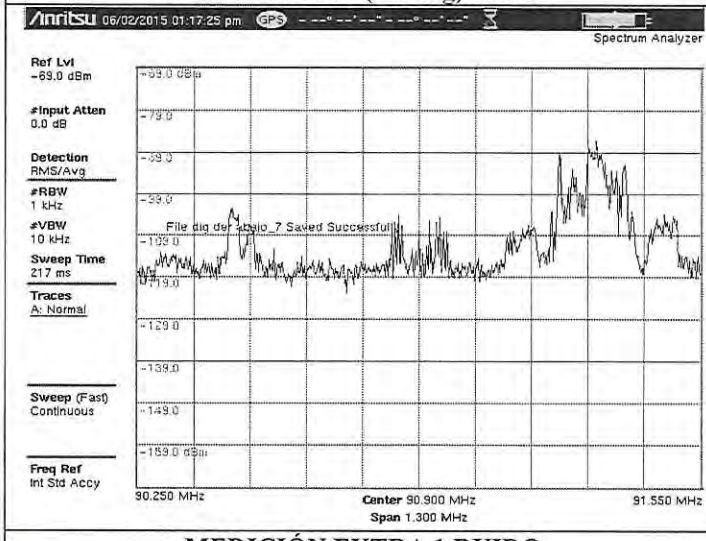
MEDICIÓN 2.3 (105 seg) MUSICA



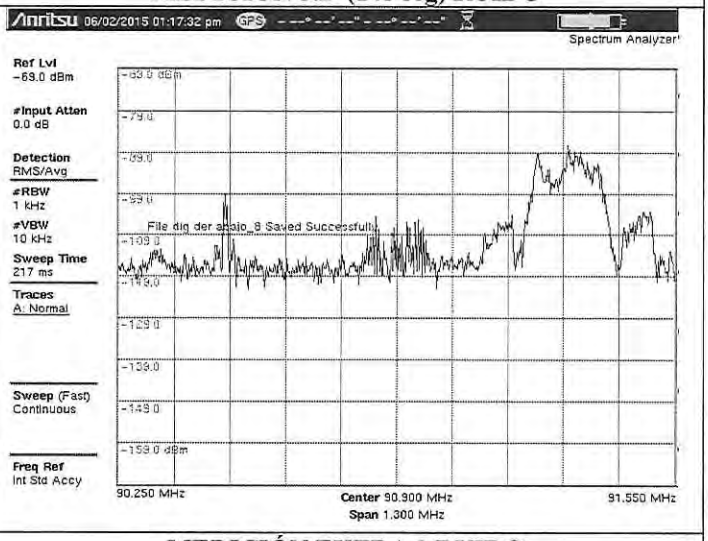
MEDICIÓN 3.1 (130 seg) RUIDO



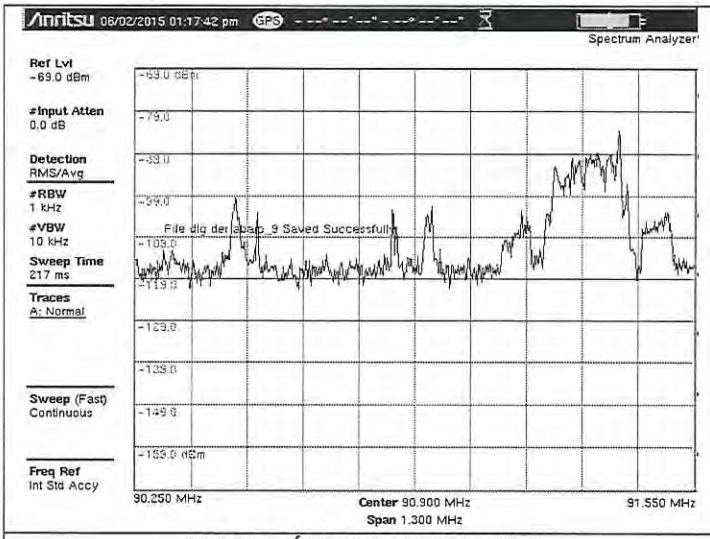
MEDICIÓN 3.2 (145 seg) RUIDO



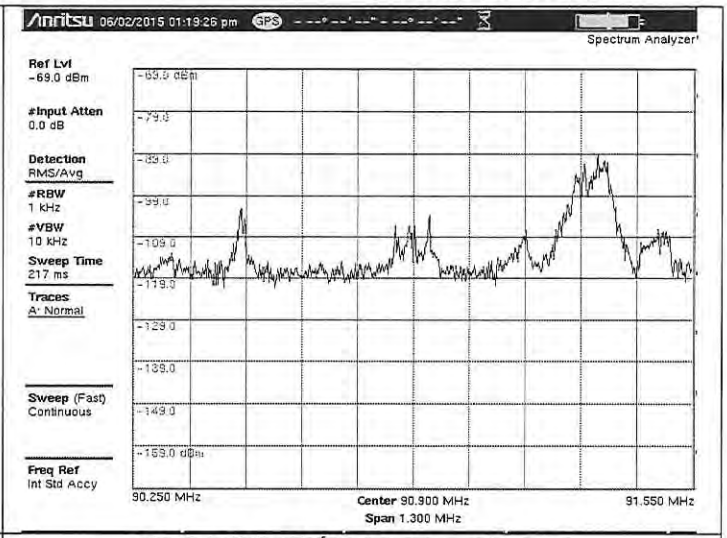
MEDICIÓN EXTRA 1 RUIDO



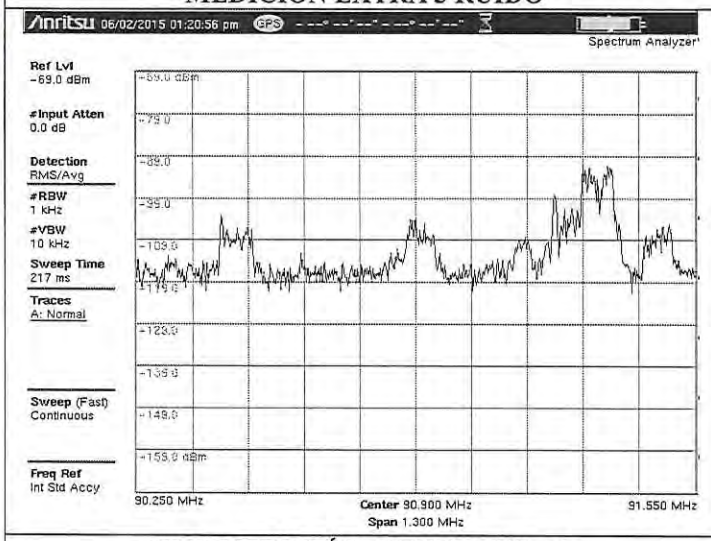
MEDICIÓN EXTRA 2 RUIDO



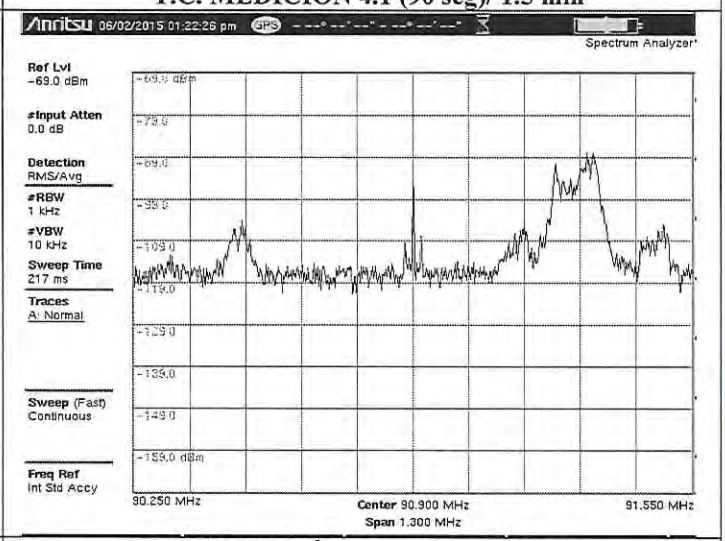
MEDICIÓN EXTRA 3 RUIDO



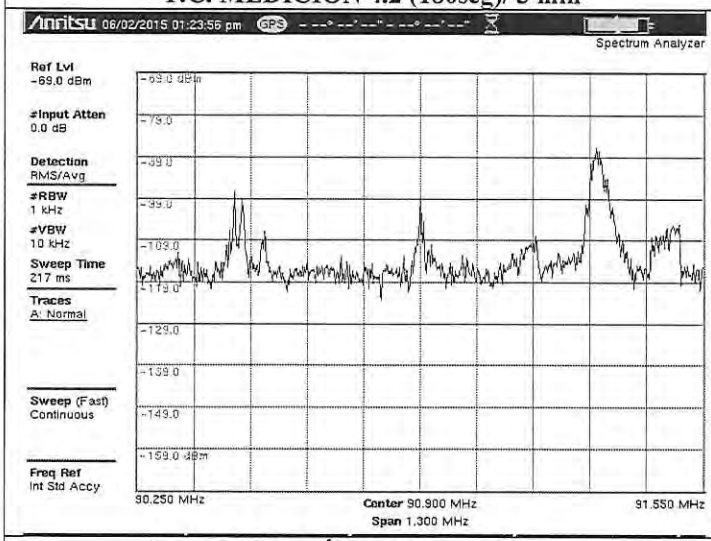
***T.C. MEDICIÓN 4.1 (90 seg)/ 1.5 min**



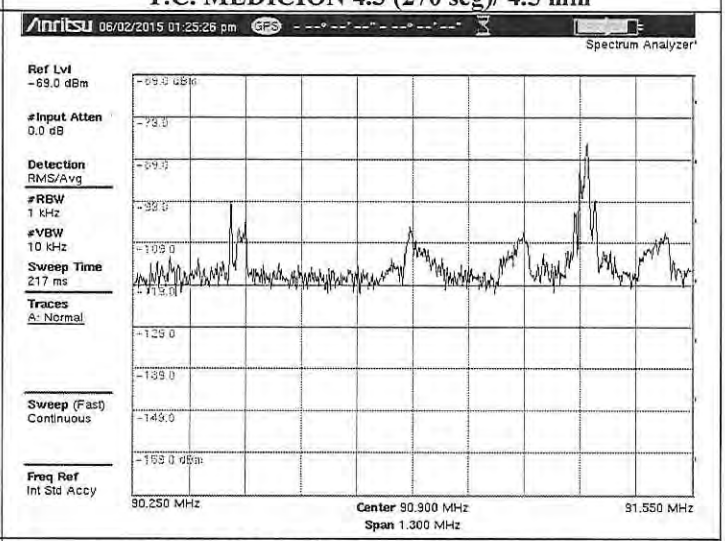
***T.C. MEDICIÓN 4.2 (180seg)/ 3 min**



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



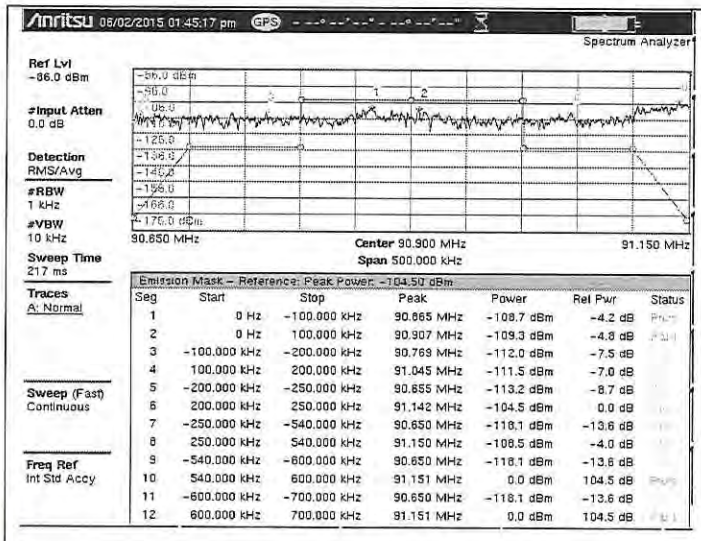
***T.C. MEDICIÓN 4.4 (360 seg)/ 6 min**



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

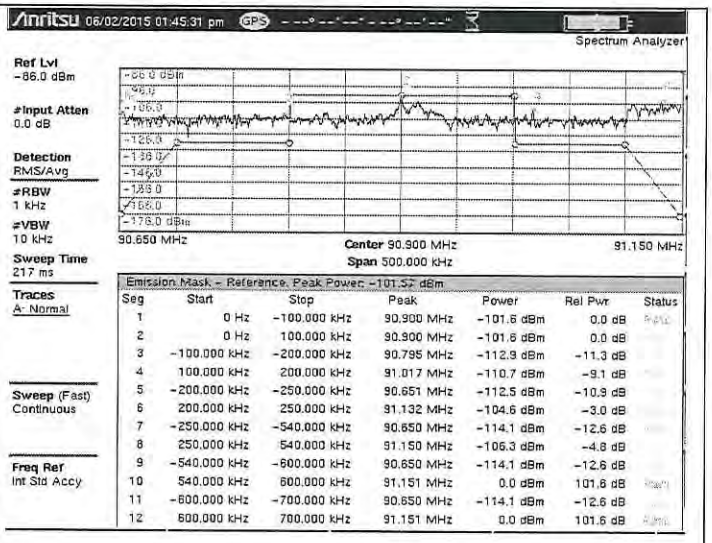
ESCENARIO 4.- DISMINUCIÓN DE POTENCIA DE AMBAS PORTADORAS

BLOQUE 13- SPAN PARA 1 ESTACIÓN



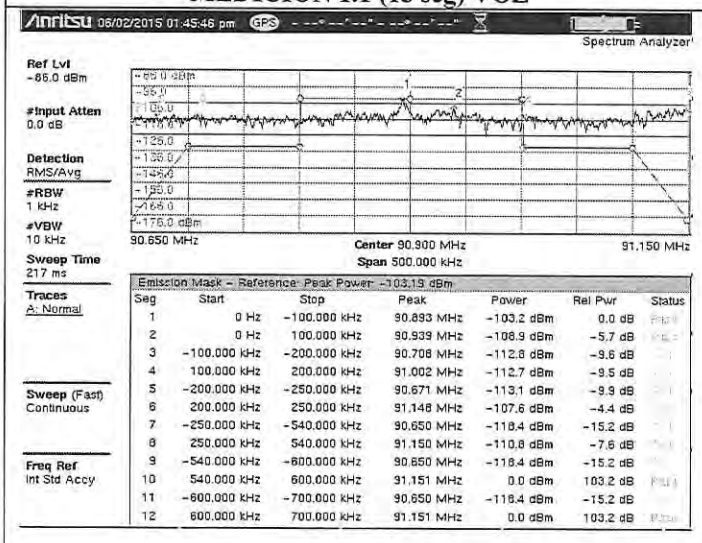
Seg	Start	Stop	Peak	Power	Rel Pwr	Status
1	0 Hz	-100.000 kHz	90.865 MHz	-108.7 dBm	-4.2 dB	
2	0 Hz	100.000 kHz	90.907 MHz	-109.3 dBm	-4.8 dB	
3	-100.000 kHz	-200.000 kHz	90.769 MHz	-112.0 dBm	-7.5 dB	
4	100.000 kHz	200.000 kHz	91.045 MHz	-111.5 dBm	-7.0 dB	
5	-200.000 kHz	-250.000 kHz	90.655 MHz	-113.2 dBm	-8.7 dB	
6	200.000 kHz	250.000 kHz	91.142 MHz	-104.5 dBm	0.0 dB	
7	-250.000 kHz	-540.000 kHz	90.650 MHz	-118.1 dBm	-13.6 dB	
8	250.000 kHz	540.000 kHz	91.150 MHz	-108.5 dBm	-4.0 dB	
9	-540.000 kHz	-600.000 kHz	90.650 MHz	-118.1 dBm	-13.6 dB	
10	540.000 kHz	600.000 kHz	91.151 MHz	0.0 dBm	104.5 dB	
11	-600.000 kHz	-700.000 kHz	90.650 MHz	-118.1 dBm	-13.6 dB	
12	600.000 kHz	700.000 kHz	91.151 MHz	0.0 dBm	104.5 dB	

MEDICIÓN 1.1 (15 seg) VOZ



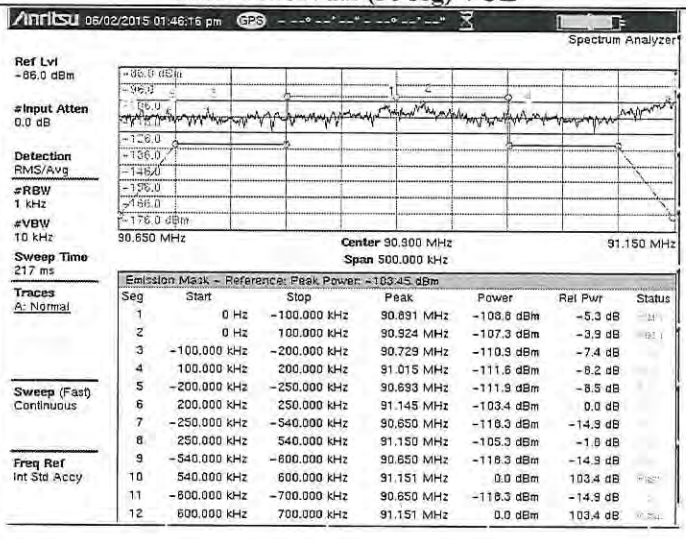
Seg	Start	Stop	Peak	Power	Rel Pwr	Status
1	0 Hz	-100.000 kHz	90.900 MHz	-101.6 dBm	0.0 dB	
2	0 Hz	100.000 kHz	90.900 MHz	-101.6 dBm	0.0 dB	
3	-100.000 kHz	-200.000 kHz	90.795 MHz	-112.9 dBm	-11.3 dB	
4	100.000 kHz	200.000 kHz	91.017 MHz	-110.7 dBm	-9.1 dB	
5	-200.000 kHz	-250.000 kHz	90.651 MHz	-112.5 dBm	-10.9 dB	
6	200.000 kHz	250.000 kHz	91.132 MHz	-104.6 dBm	-3.0 dB	
7	-250.000 kHz	-540.000 kHz	90.650 MHz	-114.1 dBm	-12.6 dB	
8	250.000 kHz	540.000 kHz	91.150 MHz	-105.3 dBm	-4.8 dB	
9	-540.000 kHz	-600.000 kHz	90.650 MHz	-114.1 dBm	-12.6 dB	
10	540.000 kHz	600.000 kHz	91.151 MHz	0.0 dBm	101.6 dB	
11	-600.000 kHz	-700.000 kHz	90.650 MHz	-114.1 dBm	-12.6 dB	
12	600.000 kHz	700.000 kHz	91.151 MHz	0.0 dBm	101.6 dB	

MEDICIÓN 1.2 (30 seg) VOZ



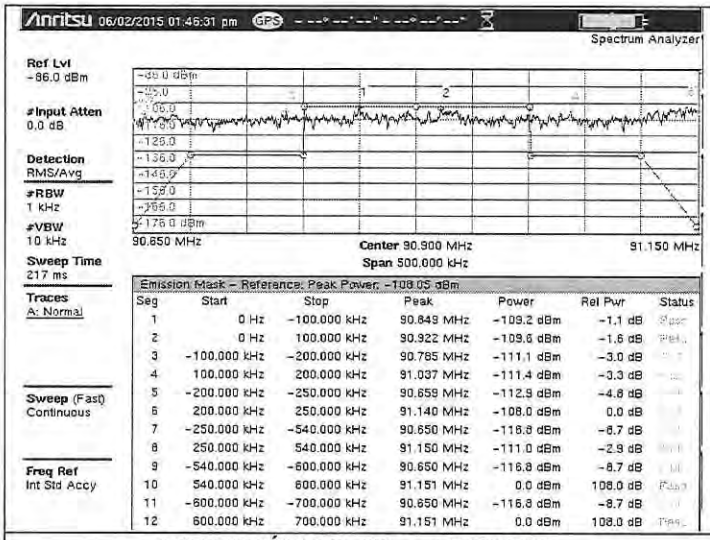
Seg	Start	Stop	Peak	Power	Rel Pwr	Status
1	0 Hz	-100.000 kHz	90.893 MHz	-103.2 dBm	0.0 dB	
2	0 Hz	100.000 kHz	90.939 MHz	-108.9 dBm	-5.7 dB	
3	-100.000 kHz	-200.000 kHz	90.708 MHz	-112.8 dBm	-9.6 dB	
4	100.000 kHz	200.000 kHz	91.002 MHz	-112.7 dBm	-9.5 dB	
5	-200.000 kHz	-250.000 kHz	90.671 MHz	-113.1 dBm	-9.9 dB	
6	200.000 kHz	250.000 kHz	91.148 MHz	-107.6 dBm	-4.4 dB	
7	-250.000 kHz	-540.000 kHz	90.650 MHz	-118.4 dBm	-15.2 dB	
8	250.000 kHz	540.000 kHz	91.150 MHz	-110.8 dBm	-7.6 dB	
9	-540.000 kHz	-600.000 kHz	90.650 MHz	-118.4 dBm	-15.2 dB	
10	540.000 kHz	600.000 kHz	91.151 MHz	0.0 dBm	103.2 dB	
11	-600.000 kHz	-700.000 kHz	90.650 MHz	-118.4 dBm	-15.2 dB	
12	600.000 kHz	700.000 kHz	91.151 MHz	0.0 dBm	103.2 dB	

MEDICIÓN 1.3 (45 seg) VOZ

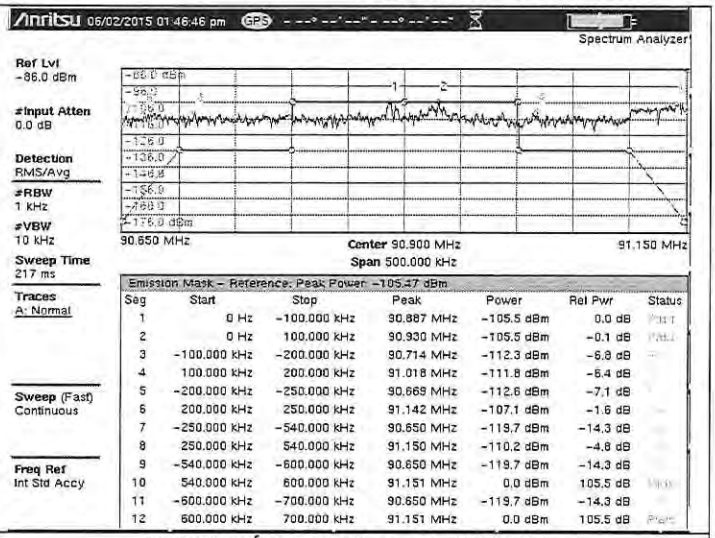


Seg	Start	Stop	Peak	Power	Rel Pwr	Status
1	0 Hz	-100.000 kHz	90.891 MHz	-108.8 dBm	-5.3 dB	
2	0 Hz	100.000 kHz	90.924 MHz	-107.3 dBm	-3.9 dB	
3	-100.000 kHz	-200.000 kHz	90.729 MHz	-110.9 dBm	-7.4 dB	
4	100.000 kHz	200.000 kHz	91.015 MHz	-111.6 dBm	-8.2 dB	
5	-200.000 kHz	-250.000 kHz	90.693 MHz	-111.9 dBm	-8.5 dB	
6	200.000 kHz	250.000 kHz	91.145 MHz	-103.4 dBm	0.0 dB	
7	-250.000 kHz	-540.000 kHz	90.650 MHz	-118.3 dBm	-14.9 dB	
8	250.000 kHz	540.000 kHz	91.150 MHz	-105.3 dBm	-1.8 dB	
9	-540.000 kHz	-600.000 kHz	90.650 MHz	-118.3 dBm	-14.9 dB	
10	540.000 kHz	600.000 kHz	91.151 MHz	0.0 dBm	103.4 dB	
11	-600.000 kHz	-700.000 kHz	90.650 MHz	-118.3 dBm	-14.9 dB	
12	600.000 kHz	700.000 kHz	91.151 MHz	0.0 dBm	103.4 dB	

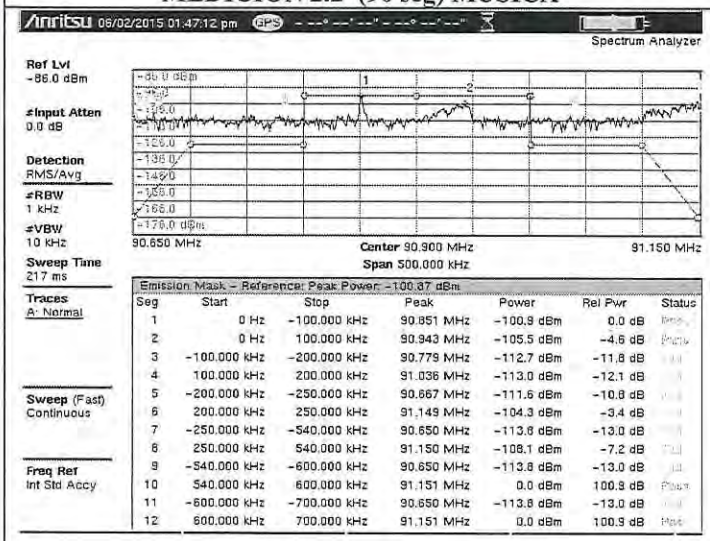
MEDICIÓN 2.1 (75 seg) MUSICA



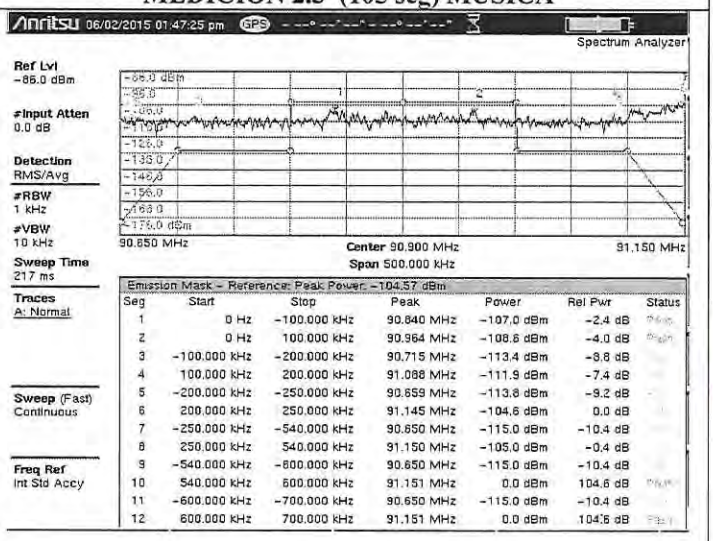
MEDICIÓN 2.2 (90 seg) MUSICA



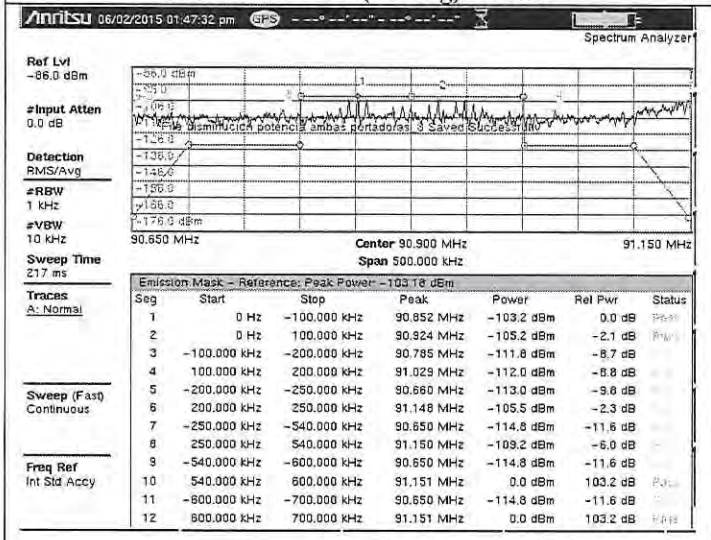
MEDICIÓN 2.3 (105 seg) MUSICA



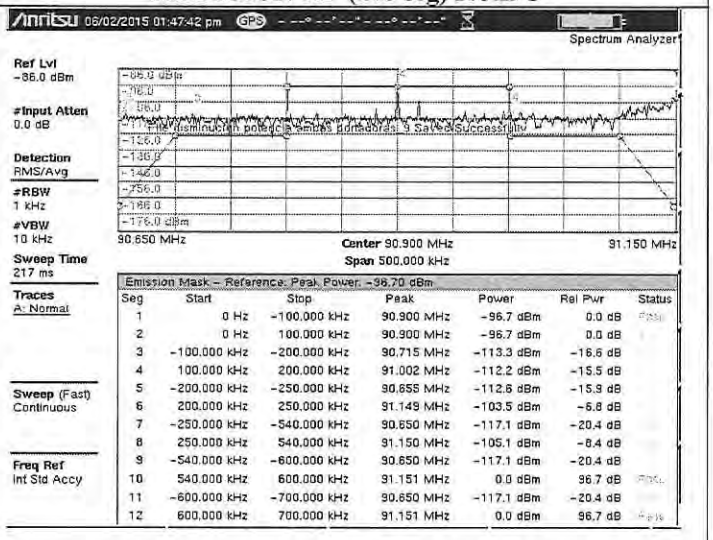
MEDICIÓN 3.1 (130 seg) RUIDO



MEDICIÓN 3.2 (145 seg) RUIDO



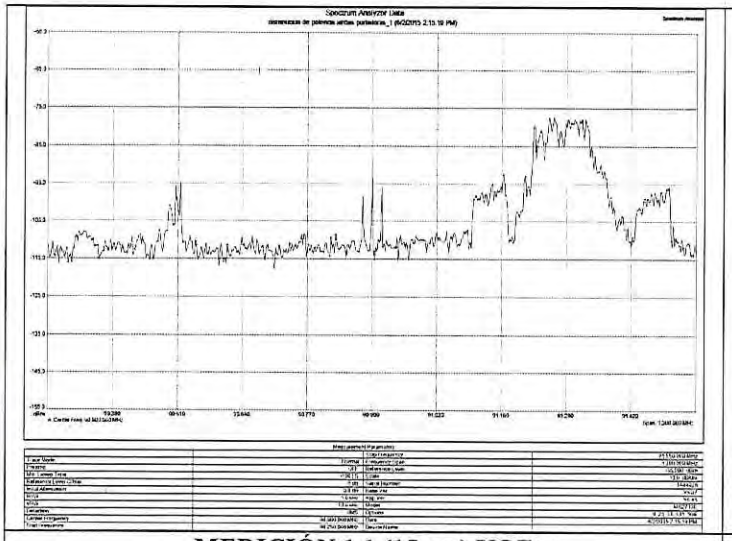
MEDICIÓN EXTRA 9



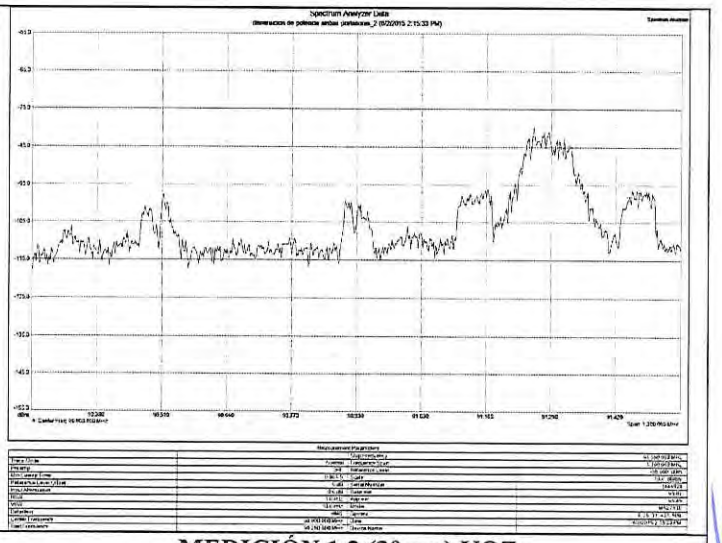
MEDICIÓN EXTRA 10

ESCENARIO 4.- DISMINUCIÓN DE POTENCIA DE AMBAS PORTADORAS

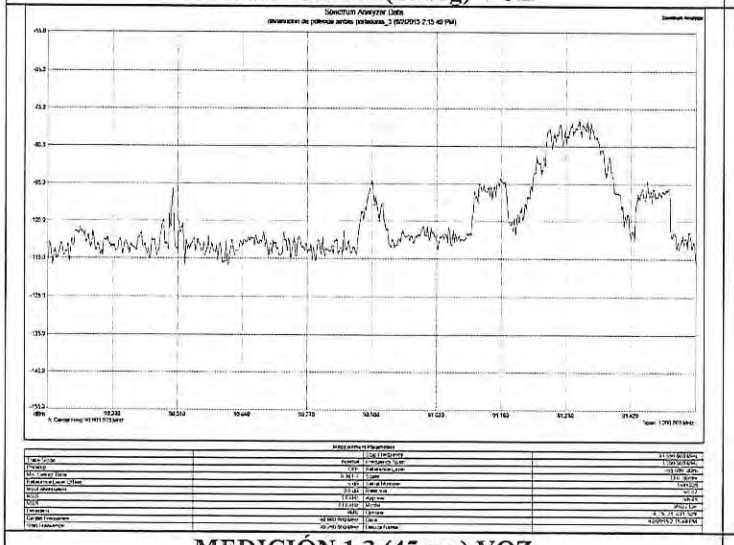
BLOQUE 15- SPAN PARA 3 ESTACIONES



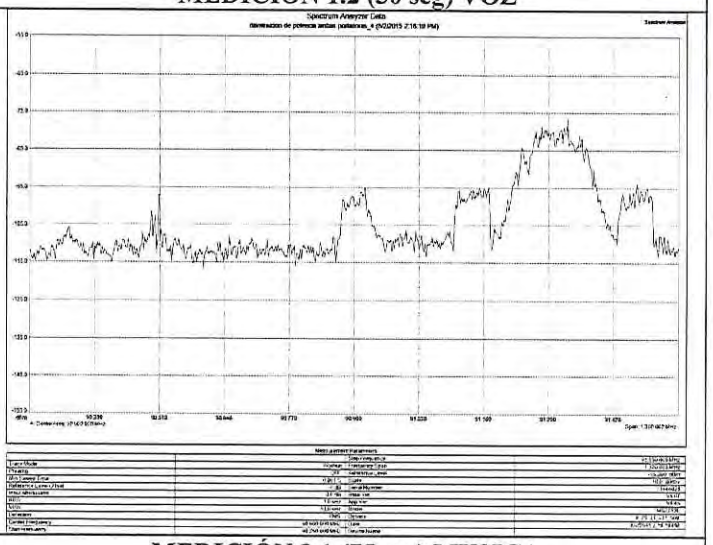
MEDICIÓN 1.1 (15 seg) VOZ



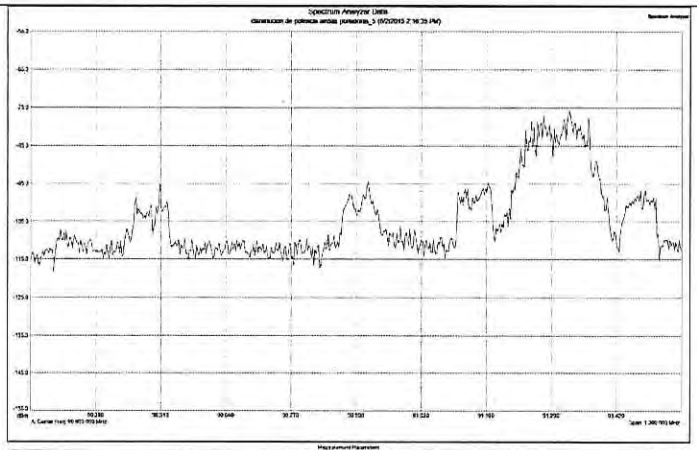
MEDICIÓN 1.2 (30 seg) VOZ



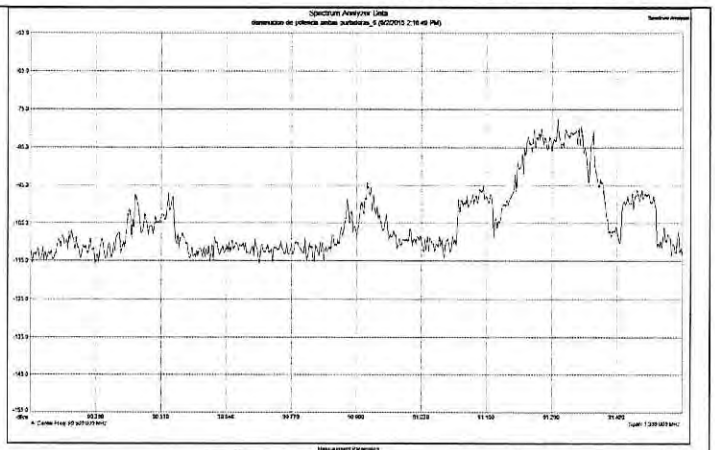
MEDICIÓN 1.3 (45 seg) VOZ



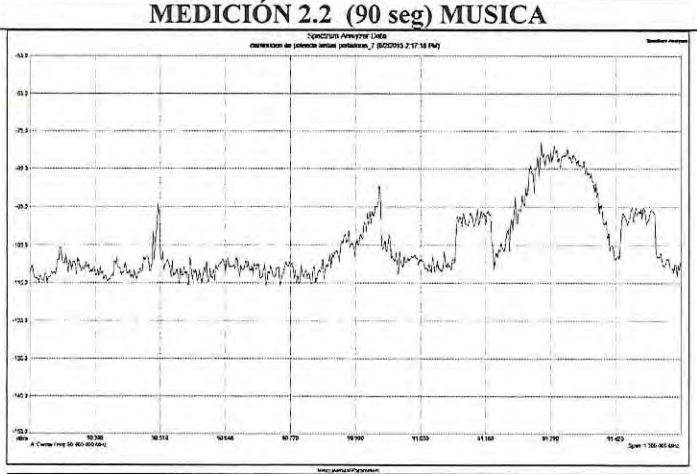
MEDICIÓN 2.1 (75 seg) MUSICA



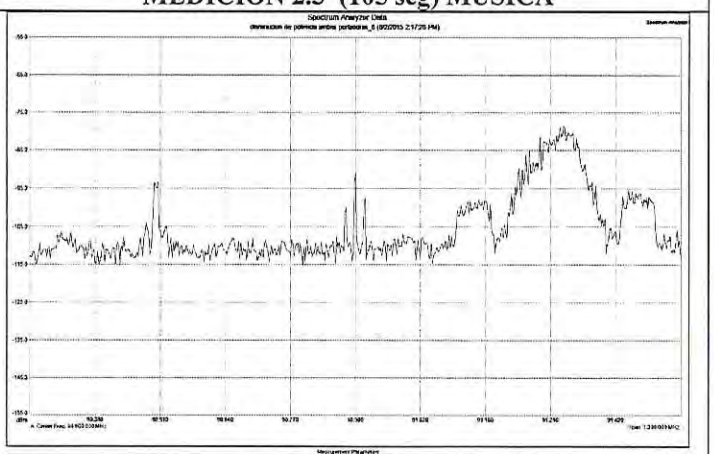
MEDICIÓN 2.2 (90 seg) MUSICA



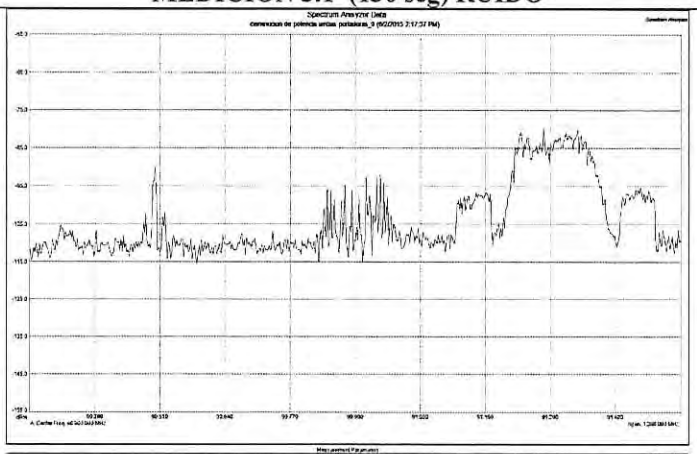
MEDICIÓN 2.3 (105 seg) MUSICA



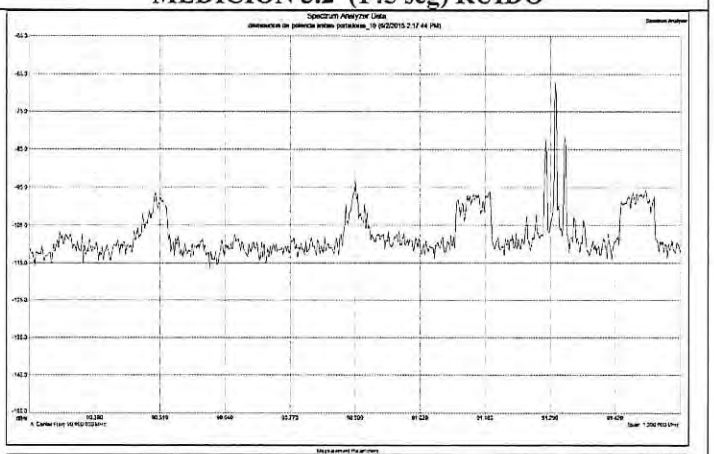
MEDICIÓN 3.1 (130 seg) RUIDO



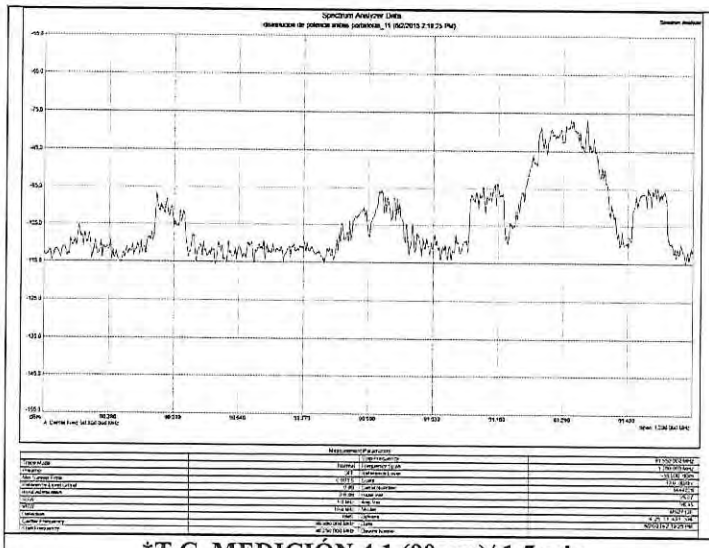
MEDICIÓN 3.2 (145 seg) RUIDO



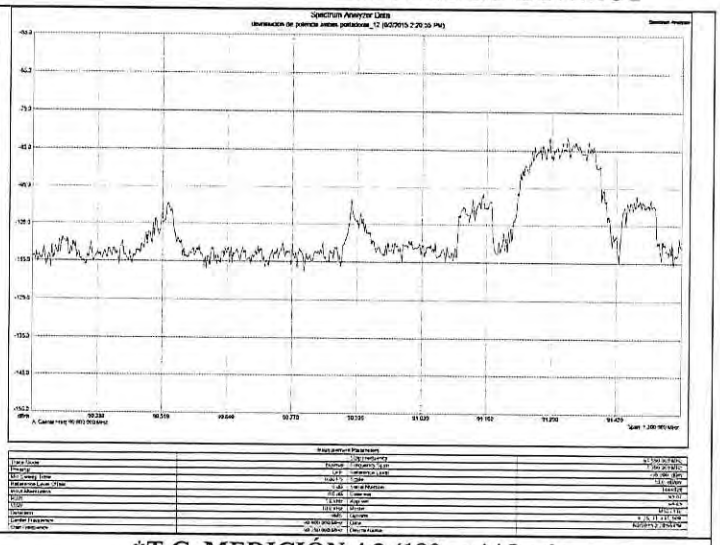
MEDICION EXTRA RUIDO 1



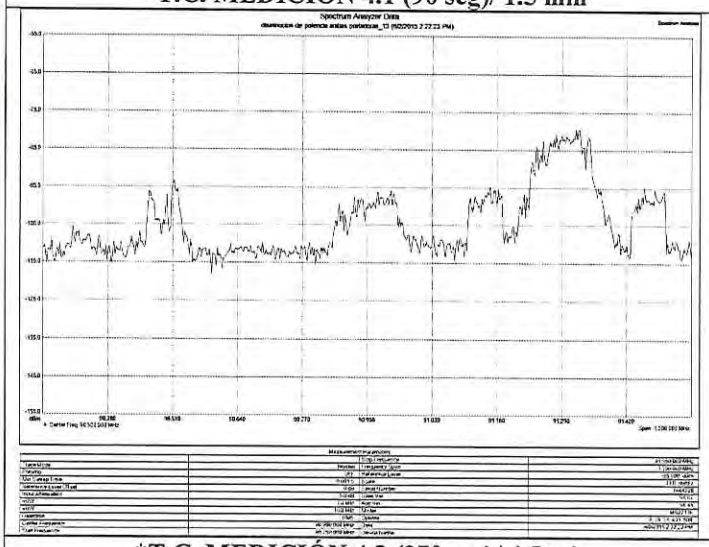
MEDICION EXTRA RUIDO 2



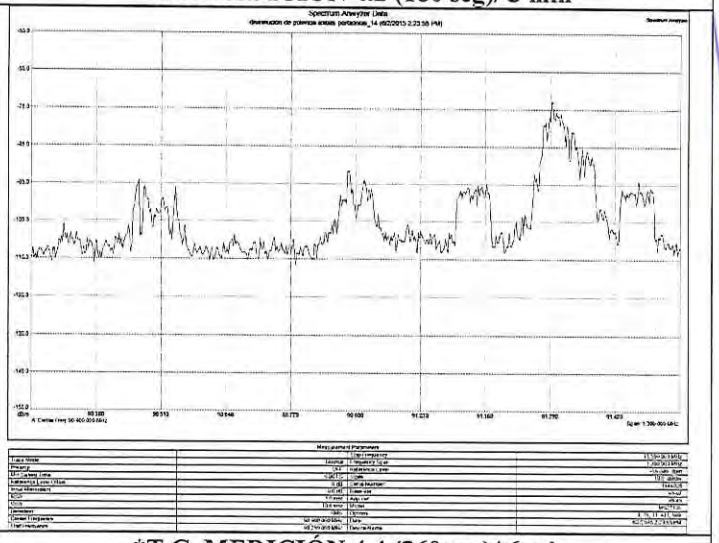
*T.C. MEDICIÓN 4.1 (90 seg)/ 1.5 min



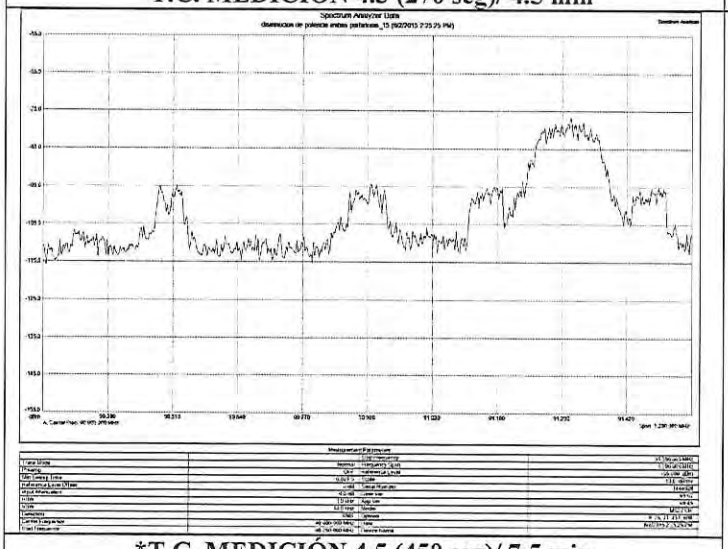
*T.C. MEDICIÓN 4.2 (180 seg)/ 3 min



*T.C. MEDICIÓN 4.3 (270 seg)/ 4.5 min



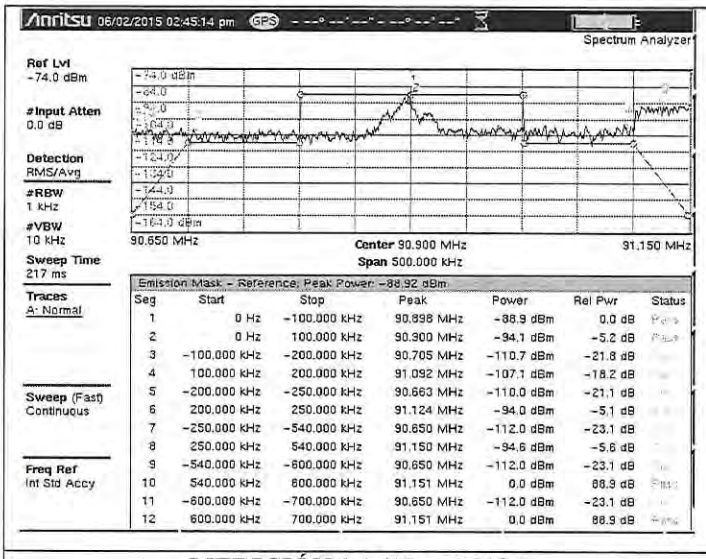
*T.C. MEDICIÓN 4.4 (360 seg)/ 6 min



*T.C. MEDICIÓN 4.5 (450 seg)/ 7.5 min

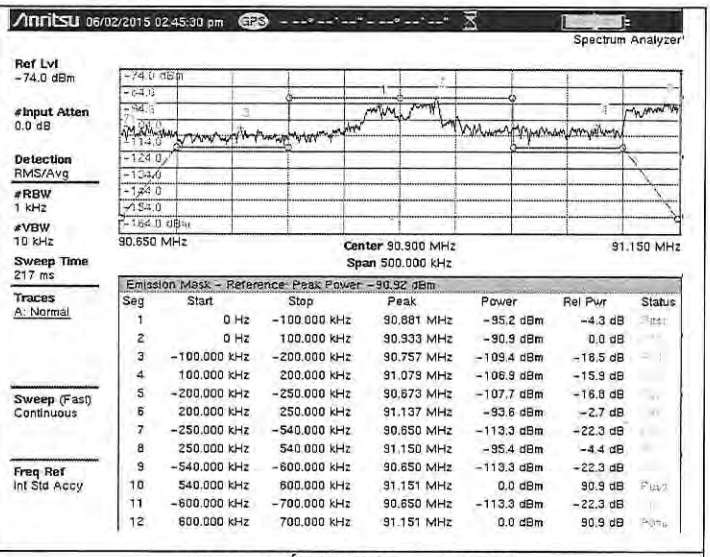
ESCENARIO 5.- ELIMINACIÓN DE AMBAS PORTADORAS DIGITALES

BLOQUE 17- SPAN PARA 1 ESTACIÓN



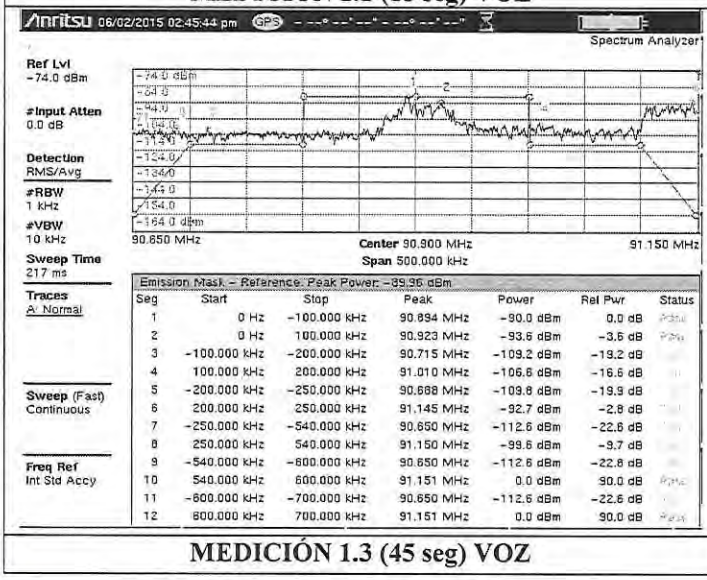
Seg	Start	Stop	Peak	Power	Rel Pwr	Status
1	0 Hz	-100.000 kHz	90.898 MHz	-88.9 dBm	0.0 dB	Pass
2	0 Hz	100.000 kHz	90.900 MHz	-94.1 dBm	-5.2 dB	Pass
3	-100.000 kHz	-200.000 kHz	90.705 MHz	-110.7 dBm	-21.8 dB	
4	100.000 kHz	200.000 kHz	91.092 MHz	-107.1 dBm	-18.2 dB	
5	-200.000 kHz	-250.000 kHz	90.663 MHz	-110.0 dBm	-21.1 dB	
6	200.000 kHz	250.000 kHz	91.124 MHz	-94.0 dBm	-5.1 dB	
7	-250.000 kHz	-540.000 kHz	90.650 MHz	-112.0 dBm	-23.1 dB	
8	250.000 kHz	540.000 kHz	91.150 MHz	-94.6 dBm	-5.6 dB	
9	-540.000 kHz	-600.000 kHz	90.650 MHz	-112.0 dBm	-23.1 dB	
10	540.000 kHz	600.000 kHz	91.151 MHz	0.0 dBm	88.9 dB	Pass
11	-600.000 kHz	-700.000 kHz	90.650 MHz	-112.0 dBm	-23.1 dB	
12	600.000 kHz	700.000 kHz	91.151 MHz	0.0 dBm	88.9 dB	Pass

MEDICIÓN 1.1 (15 seg) VOZ



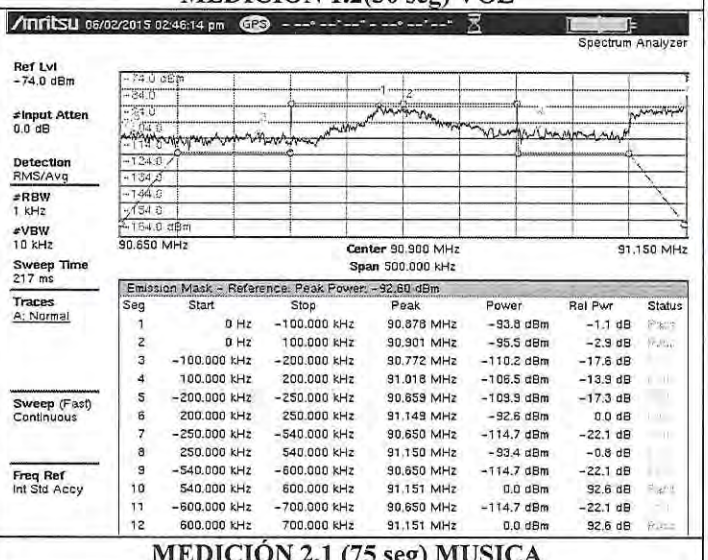
Seg	Start	Stop	Peak	Power	Rel Pwr	Status
1	0 Hz	-100.000 kHz	90.881 MHz	-95.2 dBm	-4.3 dB	Pass
2	0 Hz	100.000 kHz	90.933 MHz	-90.9 dBm	0.0 dB	Pass
3	-100.000 kHz	-200.000 kHz	90.757 MHz	-109.4 dBm	-18.5 dB	
4	100.000 kHz	200.000 kHz	91.079 MHz	-106.9 dBm	-15.9 dB	
5	-200.000 kHz	-250.000 kHz	90.673 MHz	-107.7 dBm	-16.8 dB	
6	200.000 kHz	250.000 kHz	91.137 MHz	-93.6 dBm	-2.7 dB	
7	-250.000 kHz	-540.000 kHz	90.650 MHz	-113.3 dBm	-22.3 dB	
8	250.000 kHz	540.000 kHz	91.150 MHz	-95.4 dBm	-4.4 dB	
9	-540.000 kHz	-600.000 kHz	90.650 MHz	-113.3 dBm	-22.3 dB	
10	540.000 kHz	600.000 kHz	91.151 MHz	0.0 dBm	90.9 dB	Pass
11	-600.000 kHz	-700.000 kHz	90.650 MHz	-113.3 dBm	-22.3 dB	
12	600.000 kHz	700.000 kHz	91.151 MHz	0.0 dBm	90.9 dB	Pass

MEDICIÓN 1.2(30 seg) VOZ



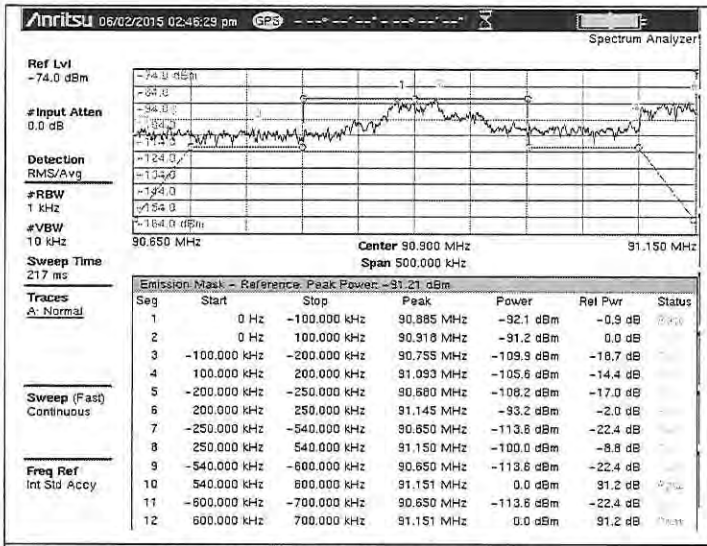
Seg	Start	Stop	Peak	Power	Rel Pwr	Status
1	0 Hz	-100.000 kHz	90.894 MHz	-90.0 dBm	0.0 dB	Pass
2	0 Hz	100.000 kHz	90.923 MHz	-93.6 dBm	-3.6 dB	Pass
3	-100.000 kHz	-200.000 kHz	90.715 MHz	-109.2 dBm	-19.2 dB	
4	100.000 kHz	200.000 kHz	91.010 MHz	-106.6 dBm	-16.6 dB	
5	-200.000 kHz	-250.000 kHz	90.668 MHz	-109.8 dBm	-19.9 dB	
6	200.000 kHz	250.000 kHz	91.145 MHz	-92.7 dBm	-2.8 dB	
7	-250.000 kHz	-540.000 kHz	90.650 MHz	-112.6 dBm	-22.6 dB	
8	250.000 kHz	540.000 kHz	91.150 MHz	-99.6 dBm	-9.7 dB	
9	-540.000 kHz	-600.000 kHz	90.650 MHz	-112.6 dBm	-22.6 dB	
10	540.000 kHz	600.000 kHz	91.151 MHz	0.0 dBm	90.0 dB	Pass
11	-600.000 kHz	-700.000 kHz	90.650 MHz	-112.6 dBm	-22.6 dB	
12	600.000 kHz	700.000 kHz	91.151 MHz	0.0 dBm	90.0 dB	Pass

MEDICIÓN 1.3 (45 seg) VOZ



Seg	Start	Stop	Peak	Power	Rel Pwr	Status
1	0 Hz	-100.000 kHz	90.878 MHz	-93.8 dBm	-1.1 dB	Pass
2	0 Hz	100.000 kHz	90.901 MHz	-95.5 dBm	-2.9 dB	Pass
3	-100.000 kHz	-200.000 kHz	90.772 MHz	-110.2 dBm	-17.6 dB	
4	100.000 kHz	200.000 kHz	91.018 MHz	-106.5 dBm	-13.9 dB	
5	-200.000 kHz	-250.000 kHz	90.659 MHz	-109.9 dBm	-17.3 dB	
6	200.000 kHz	250.000 kHz	91.149 MHz	-92.6 dBm	0.0 dB	
7	-250.000 kHz	-540.000 kHz	90.650 MHz	-114.7 dBm	-22.1 dB	
8	250.000 kHz	540.000 kHz	91.150 MHz	-93.4 dBm	-0.8 dB	
9	-540.000 kHz	-600.000 kHz	90.650 MHz	-114.7 dBm	-22.1 dB	
10	540.000 kHz	600.000 kHz	91.151 MHz	0.0 dBm	92.6 dB	Pass
11	-600.000 kHz	-700.000 kHz	90.650 MHz	-114.7 dBm	-22.1 dB	
12	600.000 kHz	700.000 kHz	91.151 MHz	0.0 dBm	92.6 dB	Pass

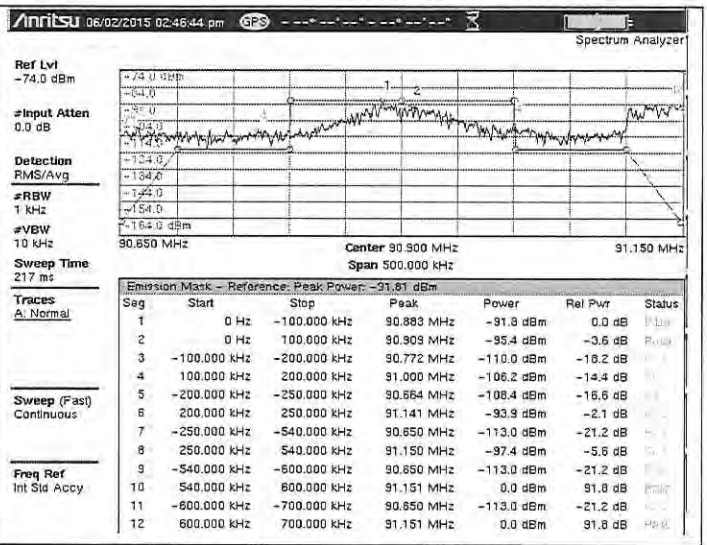
MEDICIÓN 2.1 (75 seg) MUSICA



Emission Mask – Reference: Peak Power: -91.21 dBm

Seg	Start	Stop	Peak	Power	Rel Pwr	Status
1	0 Hz	-100.000 kHz	90.885 MHz	-92.1 dBm	-0.9 dB	Pass
2	0 Hz	100.000 kHz	90.918 MHz	-91.2 dBm	0.0 dB	
3	-100.000 kHz	-200.000 kHz	90.755 MHz	-109.9 dBm	-18.7 dB	
4	100.000 kHz	200.000 kHz	91.093 MHz	-105.6 dBm	-14.4 dB	
5	-200.000 kHz	-250.000 kHz	90.680 MHz	-108.2 dBm	-17.0 dB	
6	200.000 kHz	250.000 kHz	91.145 MHz	-93.2 dBm	-2.0 dB	
7	-250.000 kHz	-540.000 kHz	90.650 MHz	-113.6 dBm	-22.4 dB	
8	250.000 kHz	540.000 kHz	91.150 MHz	-100.0 dBm	-8.8 dB	
9	-540.000 kHz	-600.000 kHz	90.650 MHz	-113.6 dBm	-22.4 dB	
10	540.000 kHz	600.000 kHz	91.151 MHz	0.0 dBm	91.2 dB	Pass
11	-600.000 kHz	-700.000 kHz	90.650 MHz	-113.6 dBm	-22.4 dB	
12	600.000 kHz	700.000 kHz	91.151 MHz	0.0 dBm	91.2 dB	Pass

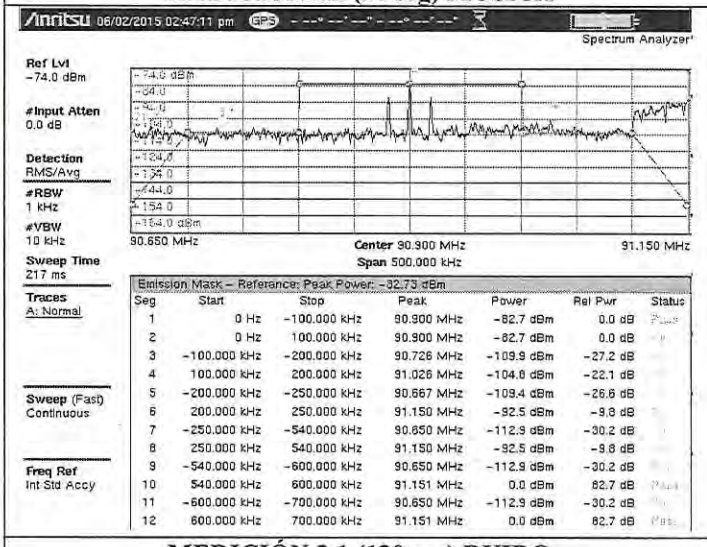
MEDICIÓN 2.2 (90 seg) MUSICA



Emission Mask – Reference: Peak Power: -91.81 dBm

Seg	Start	Stop	Peak	Power	Rel Pwr	Status
1	0 Hz	-100.000 kHz	90.883 MHz	-91.8 dBm	0.0 dB	Pass
2	0 Hz	100.000 kHz	90.909 MHz	-95.4 dBm	-3.6 dB	Pass
3	-100.000 kHz	-200.000 kHz	90.772 MHz	-110.0 dBm	-18.2 dB	
4	100.000 kHz	200.000 kHz	91.000 MHz	-106.2 dBm	-14.4 dB	
5	-200.000 kHz	-250.000 kHz	90.664 MHz	-108.4 dBm	-16.6 dB	
6	200.000 kHz	250.000 kHz	91.141 MHz	-93.9 dBm	-2.1 dB	
7	-250.000 kHz	-540.000 kHz	90.650 MHz	-113.0 dBm	-21.2 dB	
8	250.000 kHz	540.000 kHz	91.150 MHz	-97.4 dBm	-5.6 dB	
9	-540.000 kHz	-600.000 kHz	90.650 MHz	-113.0 dBm	-21.2 dB	
10	540.000 kHz	600.000 kHz	91.151 MHz	0.0 dBm	91.8 dB	Pass
11	-600.000 kHz	-700.000 kHz	90.650 MHz	-113.0 dBm	-21.2 dB	
12	600.000 kHz	700.000 kHz	91.151 MHz	0.0 dBm	91.8 dB	Pass

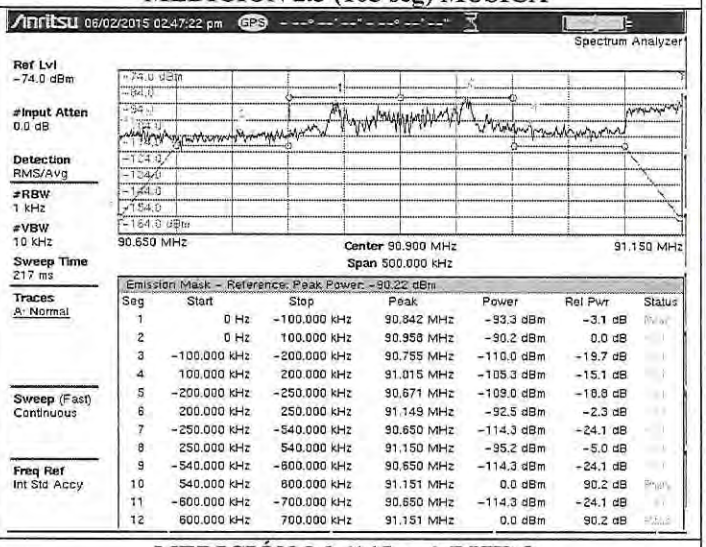
MEDICIÓN 2.3 (105 seg) MUSICA



Emission Mask – Reference: Peak Power: -92.73 dBm

Seg	Start	Stop	Peak	Power	Rel Pwr	Status
1	0 Hz	-100.000 kHz	90.900 MHz	-82.7 dBm	0.0 dB	Pass
2	0 Hz	100.000 kHz	90.900 MHz	-82.7 dBm	0.0 dB	
3	-100.000 kHz	-200.000 kHz	90.726 MHz	-109.9 dBm	-27.2 dB	
4	100.000 kHz	200.000 kHz	91.026 MHz	-104.8 dBm	-22.1 dB	
5	-200.000 kHz	-250.000 kHz	90.667 MHz	-109.4 dBm	-26.6 dB	
6	200.000 kHz	250.000 kHz	91.150 MHz	-92.5 dBm	-9.8 dB	
7	-250.000 kHz	-540.000 kHz	90.650 MHz	-112.9 dBm	-30.2 dB	
8	250.000 kHz	540.000 kHz	91.150 MHz	-92.5 dBm	-9.8 dB	
9	-540.000 kHz	-600.000 kHz	90.650 MHz	-112.9 dBm	-30.2 dB	
10	540.000 kHz	600.000 kHz	91.151 MHz	0.0 dBm	82.7 dB	Pass
11	-600.000 kHz	-700.000 kHz	90.650 MHz	-112.9 dBm	-30.2 dB	
12	600.000 kHz	700.000 kHz	91.151 MHz	0.0 dBm	82.7 dB	Pass

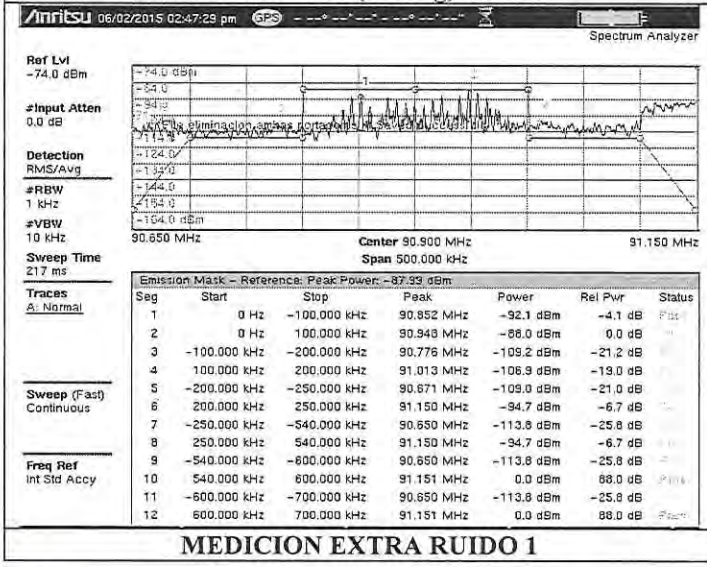
MEDICIÓN 3.1 (130 seg) RUIDO



Emission Mask – Reference: Peak Power: -90.22 dBm

Seg	Start	Stop	Peak	Power	Rel Pwr	Status
1	0 Hz	-100.000 kHz	90.842 MHz	-93.3 dBm	-3.1 dB	Pass
2	0 Hz	100.000 kHz	90.958 MHz	-90.2 dBm	0.0 dB	
3	-100.000 kHz	-200.000 kHz	90.755 MHz	-110.0 dBm	-19.7 dB	
4	100.000 kHz	200.000 kHz	91.015 MHz	-105.3 dBm	-15.1 dB	
5	-200.000 kHz	-250.000 kHz	90.671 MHz	-109.0 dBm	-18.8 dB	
6	200.000 kHz	250.000 kHz	91.149 MHz	-92.5 dBm	-2.3 dB	
7	-250.000 kHz	-540.000 kHz	90.650 MHz	-114.3 dBm	-24.1 dB	
8	250.000 kHz	540.000 kHz	91.150 MHz	-95.2 dBm	-5.0 dB	
9	-540.000 kHz	-600.000 kHz	90.650 MHz	-114.3 dBm	-24.1 dB	
10	540.000 kHz	600.000 kHz	91.151 MHz	0.0 dBm	90.2 dB	Pass
11	-600.000 kHz	-700.000 kHz	90.650 MHz	-114.3 dBm	-24.1 dB	
12	600.000 kHz	700.000 kHz	91.151 MHz	0.0 dBm	90.2 dB	Pass

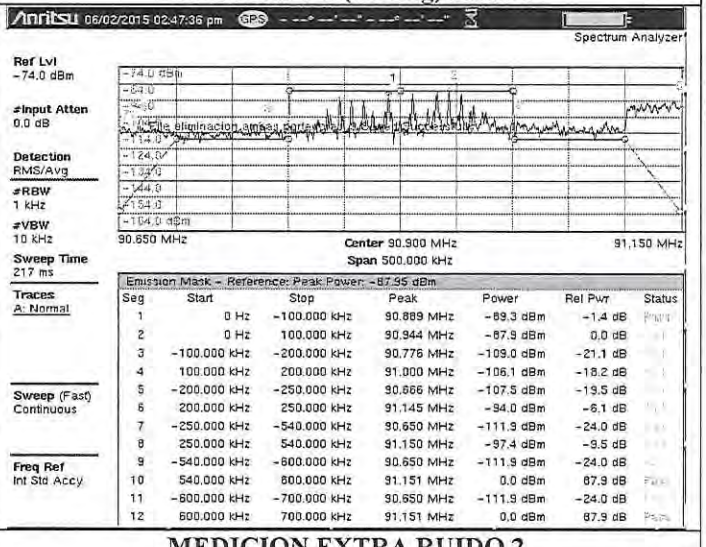
MEDICIÓN 3.2 (145 seg) RUIDO



Emission Mask – Reference: Peak Power: -87.99 dBm

Seg	Start	Stop	Peak	Power	Rel Pwr	Status
1	0 Hz	-100.000 kHz	90.852 MHz	-92.1 dBm	-4.1 dB	Pass
2	0 Hz	100.000 kHz	90.948 MHz	-88.0 dBm	0.0 dB	
3	-100.000 kHz	-200.000 kHz	90.776 MHz	-109.2 dBm	-21.2 dB	
4	100.000 kHz	200.000 kHz	91.013 MHz	-106.9 dBm	-19.0 dB	
5	-200.000 kHz	-250.000 kHz	90.671 MHz	-109.0 dBm	-21.0 dB	
6	200.000 kHz	250.000 kHz	91.150 MHz	-94.7 dBm	-6.7 dB	
7	-250.000 kHz	-540.000 kHz	90.650 MHz	-113.8 dBm	-25.8 dB	
8	250.000 kHz	540.000 kHz	91.150 MHz	-94.7 dBm	-6.7 dB	
9	-540.000 kHz	-600.000 kHz	90.650 MHz	-113.8 dBm	-25.8 dB	
10	540.000 kHz	600.000 kHz	91.151 MHz	0.0 dBm	88.0 dB	Pass
11	-600.000 kHz	-700.000 kHz	90.650 MHz	-113.8 dBm	-25.8 dB	
12	600.000 kHz	700.000 kHz	91.151 MHz	0.0 dBm	88.0 dB	Pass

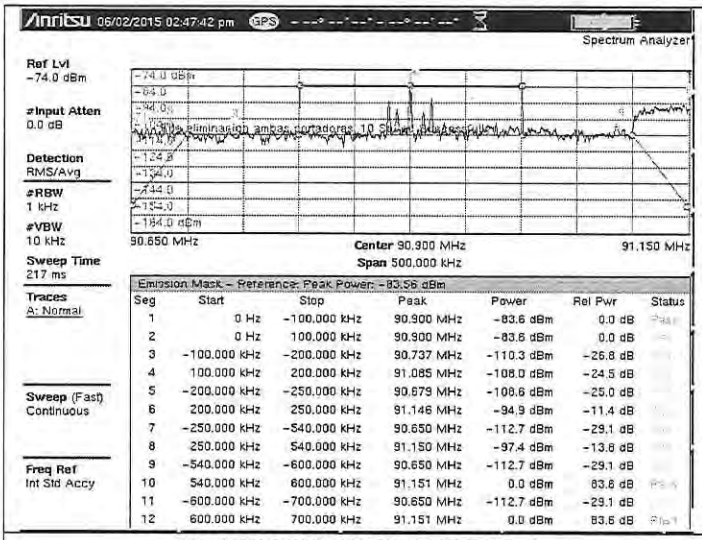
MEDICION EXTRA RUIDO 1



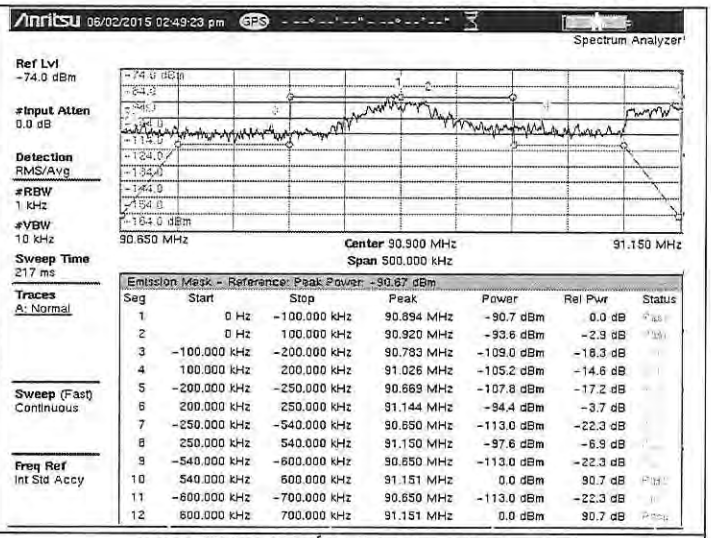
Emission Mask – Reference: Peak Power: -87.95 dBm

Seg	Start	Stop	Peak	Power	Rel Pwr	Status
1	0 Hz	-100.000 kHz	90.869 MHz	-89.3 dBm	-1.4 dB	Pass
2	0 Hz	100.000 kHz	90.944 MHz	-87.9 dBm	0.0 dB	
3	-100.000 kHz	-200.000 kHz	90.776 MHz	-109.0 dBm	-21.1 dB	
4	100.000 kHz	200.000 kHz	91.000 MHz	-106.1 dBm	-18.2 dB	
5	-200.000 kHz	-250.000 kHz	90.666 MHz	-107.5 dBm	-19.5 dB	
6	200.000 kHz	250.000 kHz	91.145 MHz	-94.0 dBm	-6.1 dB	
7	-250.000 kHz	-540.000 kHz	90.650 MHz	-111.9 dBm	-24.0 dB	
8	250.000 kHz	540.000 kHz	91.150 MHz	-97.4 dBm	-9.5 dB	
9	-540.000 kHz	-600.000 kHz	90.650 MHz	-111.9 dBm	-24.0 dB	
10	540.000 kHz	600.000 kHz	91.151 MHz	0.0 dBm	87.9 dB	Pass
11	-600.000 kHz	-700.000 kHz	90.650 MHz	-111.9 dBm	-24.0 dB	
12	600.000 kHz	700.000 kHz	91.151 MHz	0.0 dBm	87.9 dB	Pass

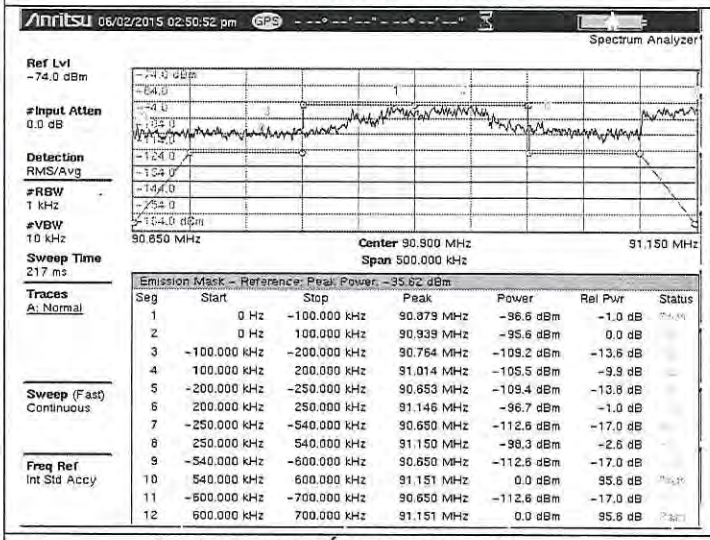
MEDICION EXTRA RUIDO 2



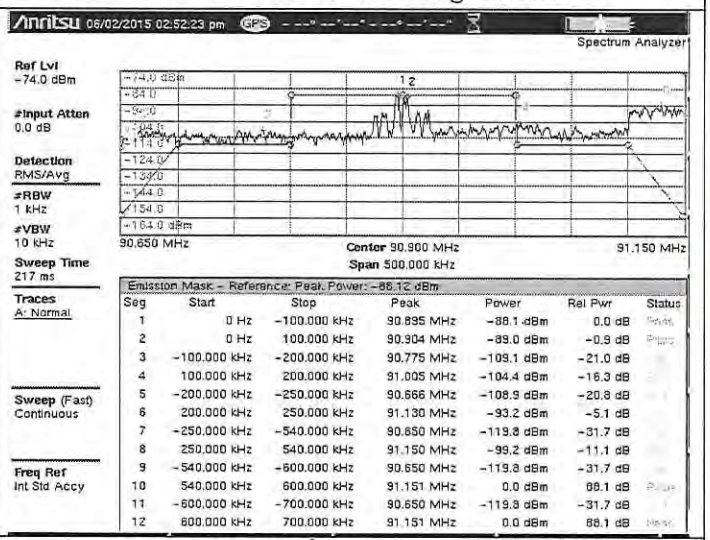
MEDICION EXTRA RUIDO 3



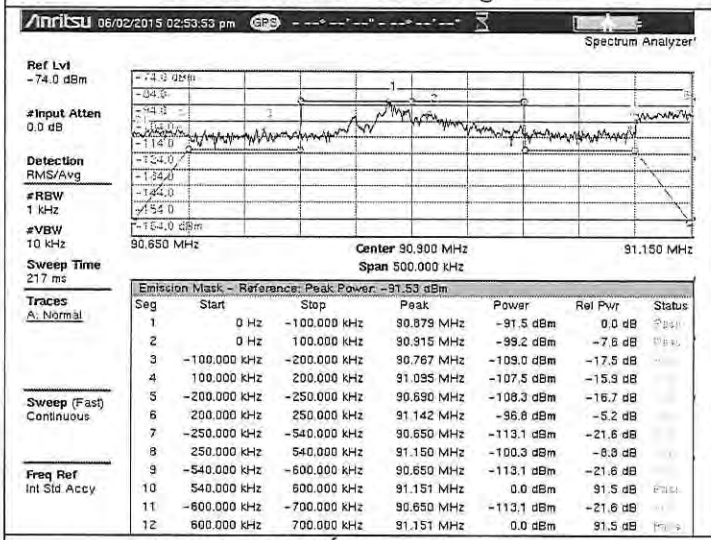
***T.C. MEDICIÓN 4.1 90 seg/ 1.5 min**



***T.C. MEDICIÓN 4.2 180 seg/ 3 min**



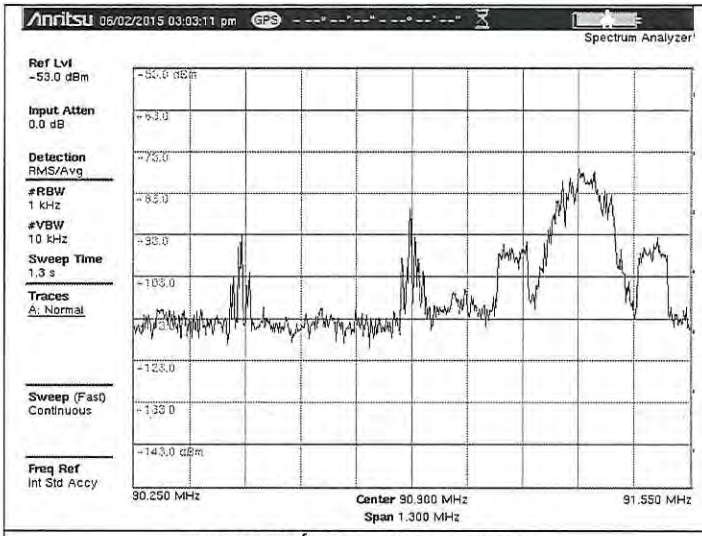
***T.C. MEDICIÓN 4.3 270 seg/ 4.5 min**



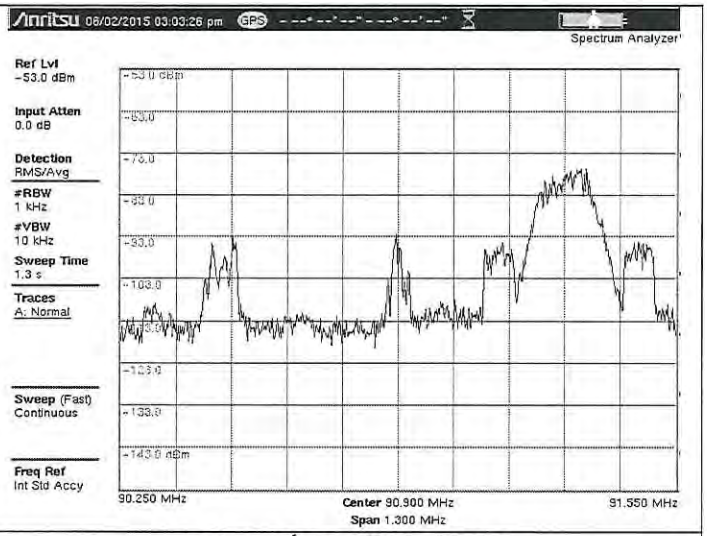
***T.C. MEDICIÓN 4.4 360 seg/ 6 min**

ESCENARIO 5.- ELIMINACIÓN DE AMBAS PORTADORAS DIGITALES

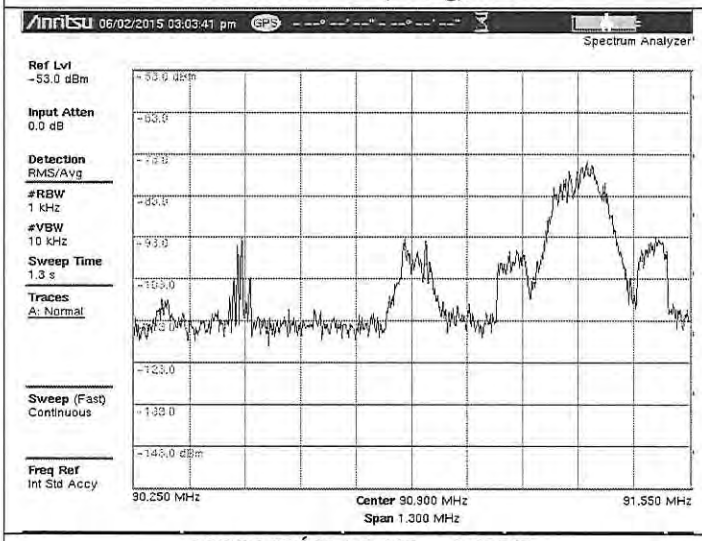
BLOQUE 19- SPAN PARA 3 ESTACIONES



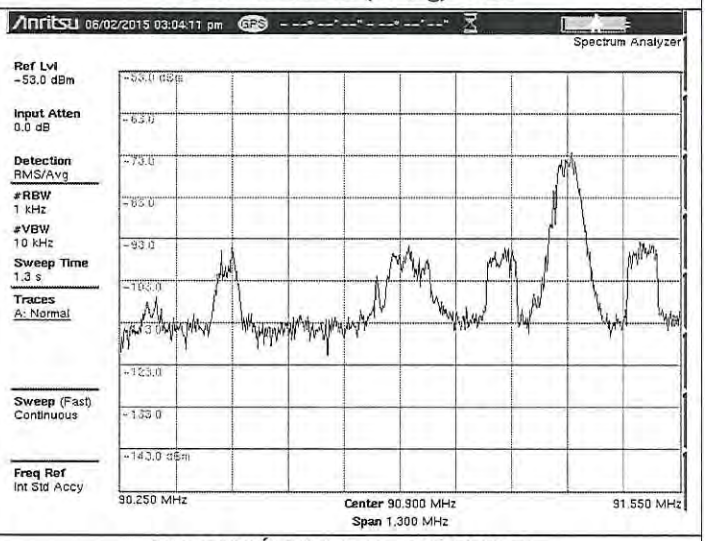
MEDICIÓN 1.1 (15 seg) VOZ



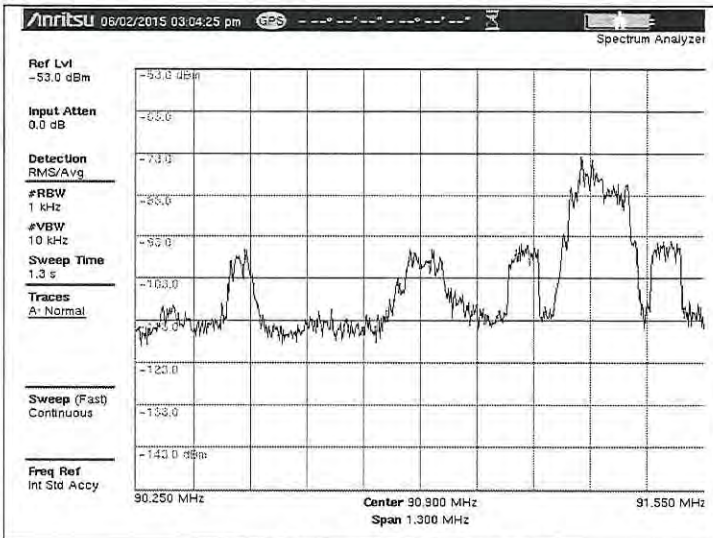
MEDICIÓN 1.2(30 seg) VOZ



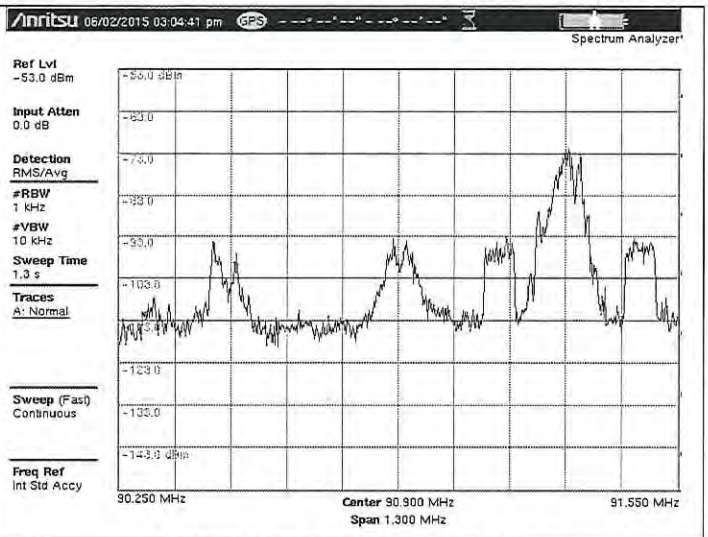
MEDICIÓN 1.3 (45 seg) VOZ



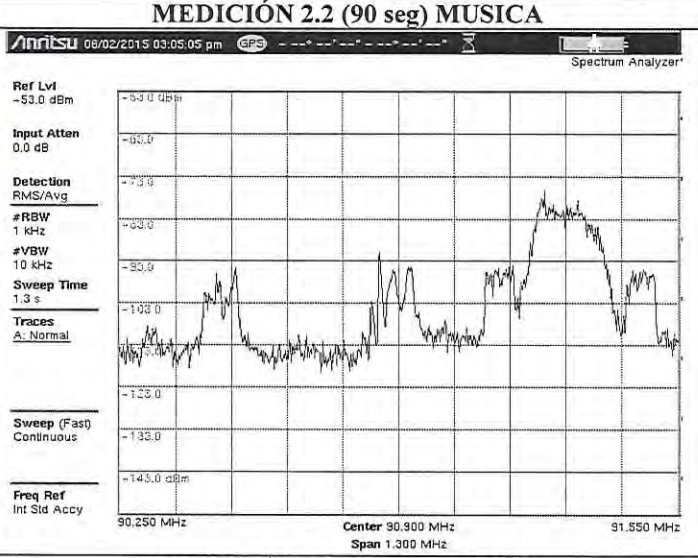
MEDICIÓN 2.1 (75 seg) MUSICA



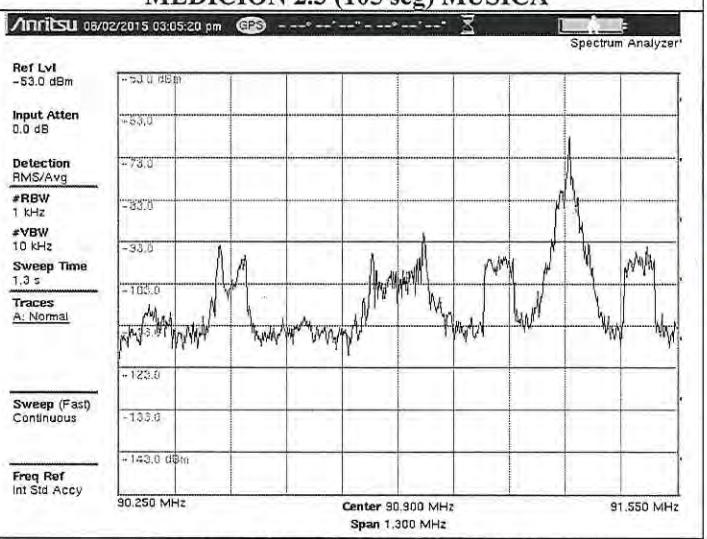
MEDICIÓN 2.2 (90 seg) MUSICA



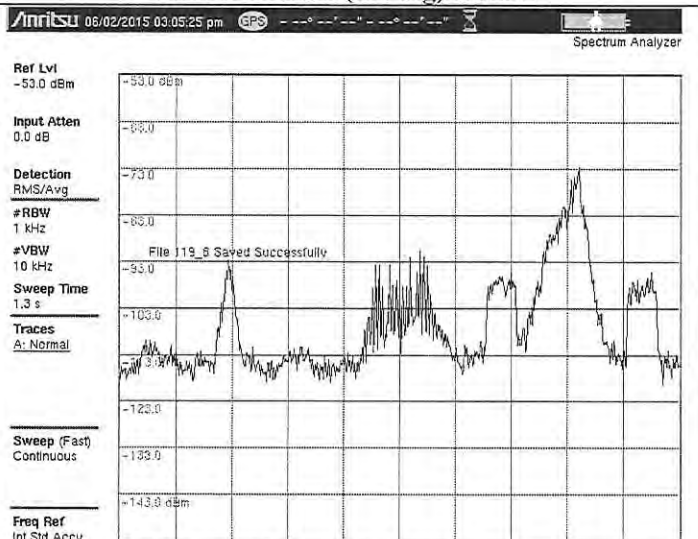
MEDICIÓN 2.3 (105 seg) MUSICA



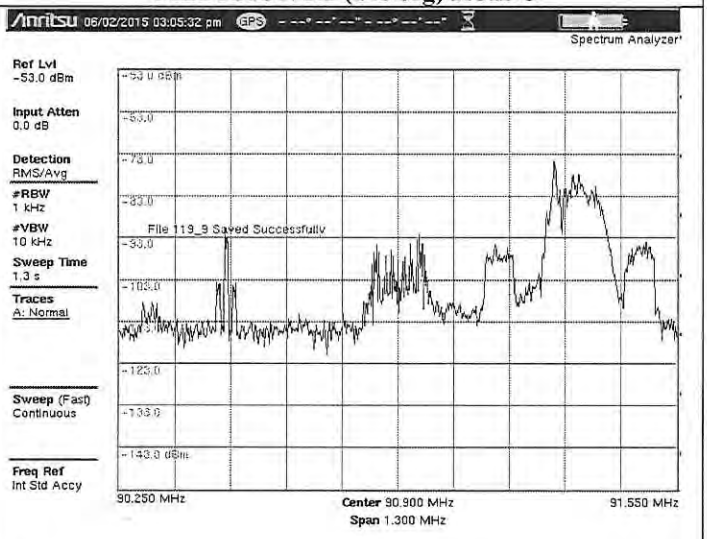
MEDICIÓN 3.1 (130 seg) RUIDO



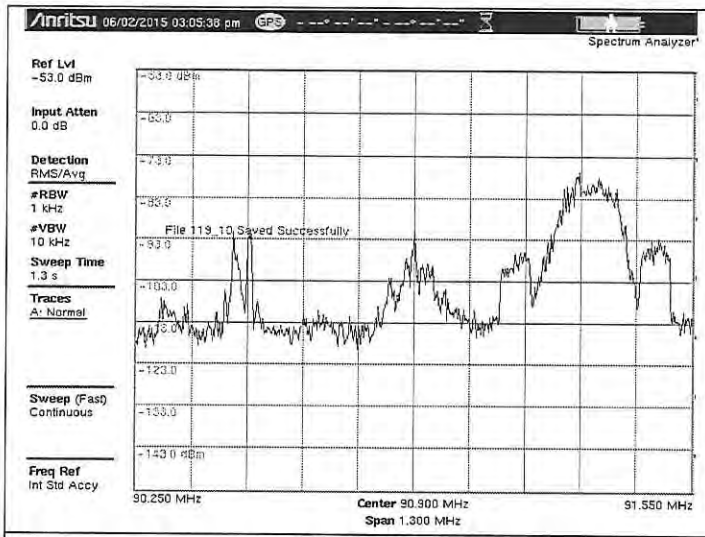
MEDICIÓN 3.2 (145 seg) RUIDO



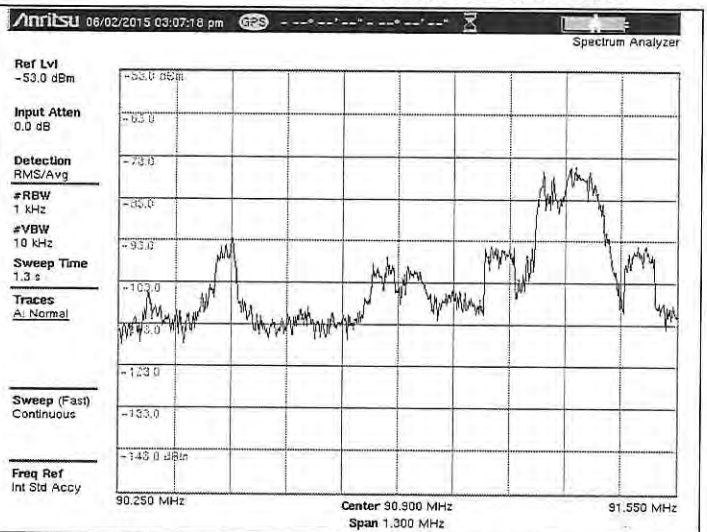
MEDICION EXTRA RUIDO 1



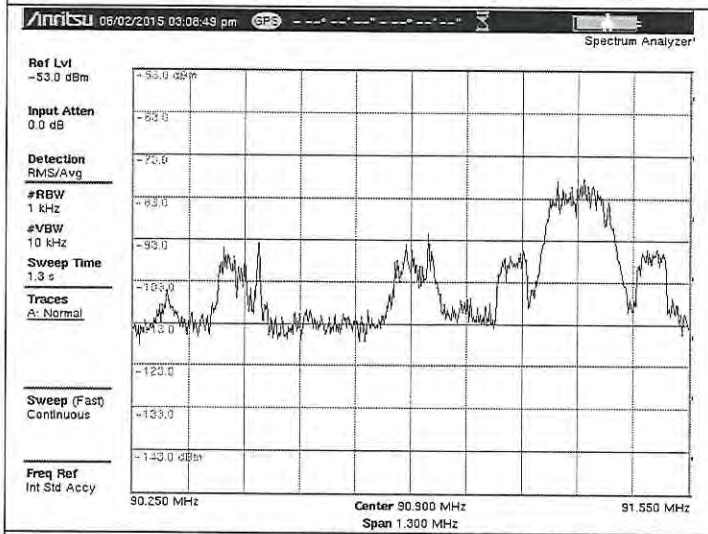
MEDICION EXTRA RUIDO 2



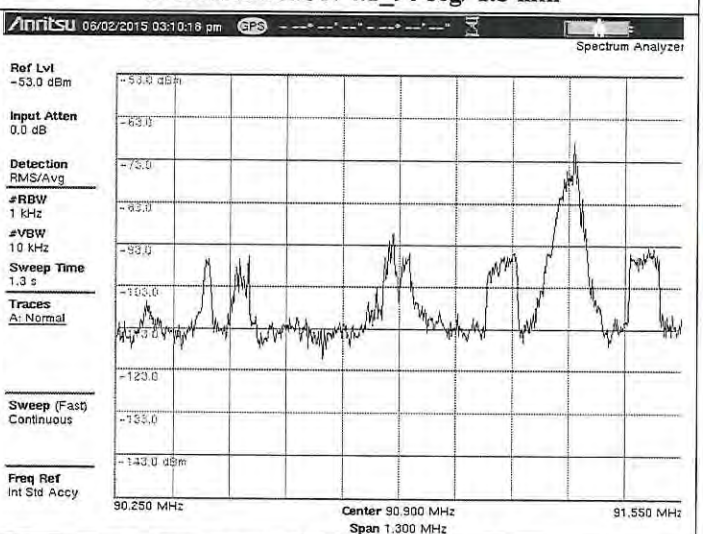
MEDICION EXTRA RUIDO 3



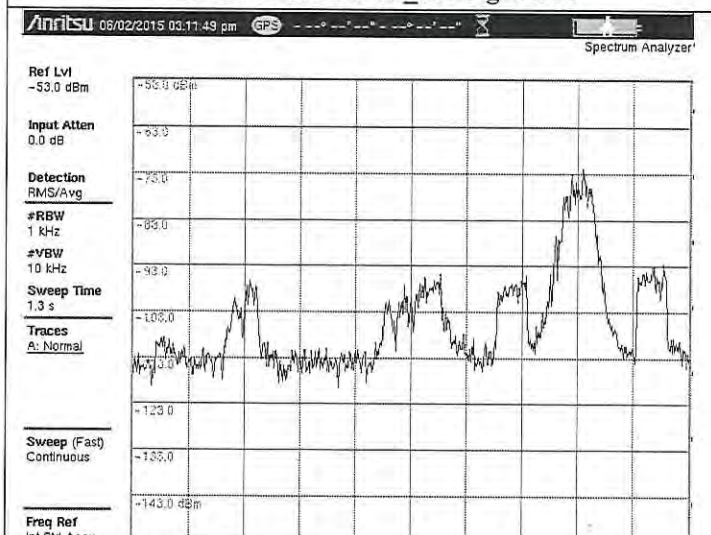
***T.C. MEDICIÓN 4.1_90 seg/ 1.5 min**



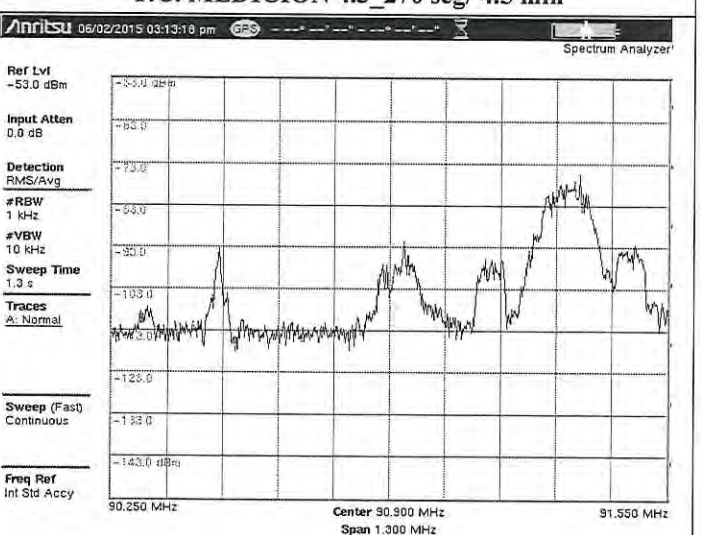
***T.C. MEDICIÓN 4.2_180 seg/ 3 min**



***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 radiomonitoreo 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.

INSTITUTO FEDERAL DE TELECOMUNICACIONES

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

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

Linda Morales Flores

INSTITUTO FEDERAL DE TELECOMUNICACIONES

22 JUN 2015

Ing. Roberto Salas Gutiérrez
SUBDIRECTOR DE VIGILANCIA DELL
ESPECTRO RADIOELÉCTRICO

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 radiomonitoreo 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 radiomonitoreo en la frecuencia 90.9 MHz

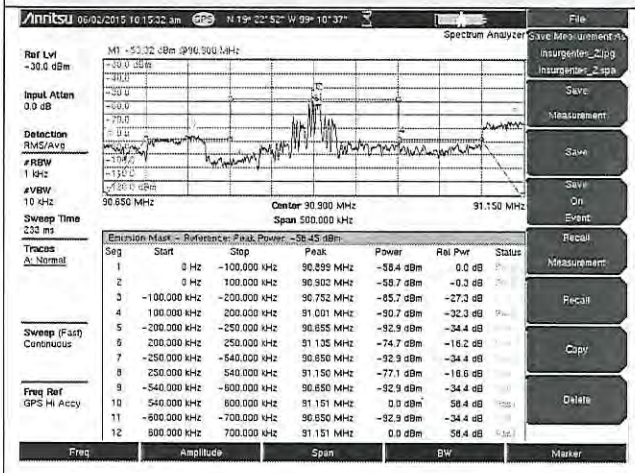
Fecha: 02 de junio de 2015
Lugar de Radiomonitoreo: Exterior del edificio del IFT
Coordenadas Geográficas: 19° 22' 53" N, 99° 10' 37" O

ESCENARIO 1.- POTENCIA NOMINAL (10:45)

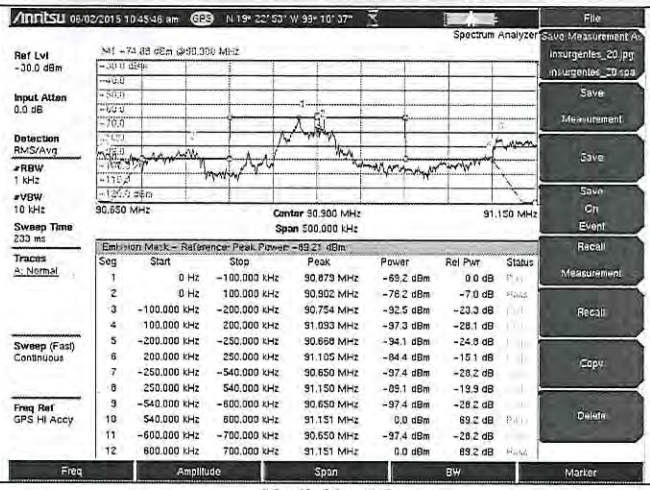
SPAN PARA UNA ESTACIÓN

BLOQUE 1

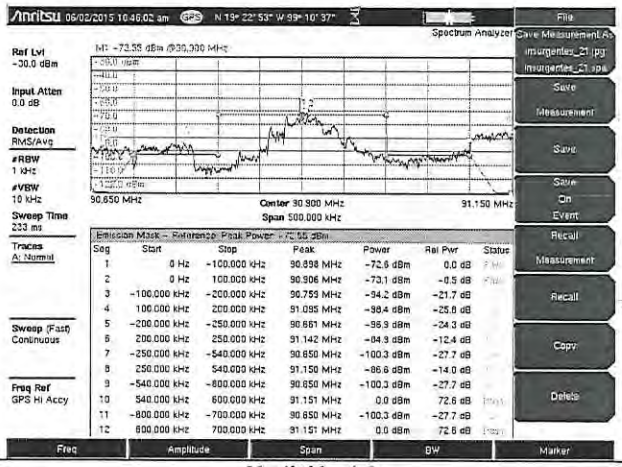
Voz



Medición 1.1
Se obtuvo de la primer transmisión que se realizó, la cual por problemas en una brigada no se considero



Medición 1.2



Medición 1.3