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**FCC PART 73.801
LOW POWER FM BROADCAST STATIONS (LPFM)
TEST REPORT**

APPLICANT	DB ELETTRONICA TELECOMUNICAZIONI SPA RIVIERA MAESTRI DEL LAVORO 20/1 PADOVA ITALY
FCC ID	2ACBVMOZART50
MODEL NUMBER	MOZART 50
PRODUCT DESCRIPTION	50W FM Broadcast Transmitter
DATE SAMPLE RECEIVED	March/12/2014
DATE TESTED	March 24 th , 2014
REPORT ISSUE DATE	March 31 st , 2014
TESTED BY	Mario de Aranzeta
APPROVED BY	Mario de Aranzeta
TIMCO REPORT NO.	364AUT14TestReport.docx
TEST RESULTS	☒ PASS ☐ FAIL

**THE ATTACHED REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL
WITHOUT THE WRITTEN APPROVAL OF TIMCO ENGINEERING, INC.**

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GENERAL REMARKS

The attached report shall not be reproduced except in full without the written permission of Timco Engineering Inc.

Summary

The device under test does:

- ☒ fulfill the general approval requirements as identified in this test report
☐ not fulfill the general approval requirements as identified in this test report

Attestations

This equipment has been tested in accordance with the standards identified in this test report. To the best of my knowledge and belief, these tests were performed using the measurement procedures described in this report.

All instrumentation and accessories used to test products for compliance to the indicated standards are calibrated regularly in accordance with ISO 17025: 2010 requirements.

I attest that the necessary measurements were made, under my supervision, at:

Timco Engineering Inc.
849 NW State Road 45
Newberry, FL 32669

Authorized Signatory Name:

A circular purple ink stamp containing the signature of Mario de Aranzeta. The signature is written in a cursive style and is surrounded by the text 'TIMCO ENGINEERING INC.' and a small star at the bottom.

Mario de Aranzeta
Engineering Project Manager

Date: March 26th, 2014

GENERAL INFORMATION

DUT Specification

DUT Description	50W FM BROADCAST TRANSMITTER
FCC ID	2ACBVMOZART50
Model Number	MOZART 50
Operating Frequency	88.1 to 107.9 MHz
Type of Emission	180K0F3E, 180K0F8E
Modulation	FM
Output power	50W
DUT Power Source	☐ 110–120Vac/50– 60Hz
	☐ DC Power 12V
	☐ Battery Operated Exclusively
Test Item	☐ Prototype
	☐ Pre-Production
	☐ Production
Type of Equipment	☐ Fixed
	☐ Mobile
	☐ Portable
Test Conditions	The temperature was 26°C Relative humidity of 50%.
Modification to the DUT	None
Test Exercise	The DUT was placed in continuous transmit mode.
Applicable Standards	ANSI/TIA 603-C:2004, FCC CFR 47 Part 73
Test Facility	Timco Engineering Inc. at 849 NW State Road 45 Newberry, FL 32669 USA.

TEST PROCEDURE

Bandwidth 20 dB: The measurements were made with the spectrum analyzer's resolution bandwidth (RBW) = 10 kHz and the video bandwidth (VBW) = 100 kHz and the span set as shown on plot.

Power Output: The RF power output was measured at the antenna feed point using a spectrum analyzer.

Antenna Conducted Emissions: The RBW = 100 kHz, VBW = 300 kHz and the span set to 10 MHz and the spectrum was scanned from 30 MHz to the 10th harmonic of the fundamental. Above 1 GHz the resolution bandwidth was 1 MHz and the VBW = 3 MHz and the span to 50 MHz.

Radiation Interference: The test procedure used was ANSI/TIA 603-D: 2010, using an Agilent spectrum receiver with pre-selector. The bandwidth (RBW) of the spectrum ANSI/TIA 603-D: 2010, receiver was 100 kHz up to 1 GHz and 1 MHz above 1 GHz with an appropriate sweep speed. The VBW above 1 GHz was 3 MHz. The analyzer was calibrated in dB above a microvolt at the output of the antenna.

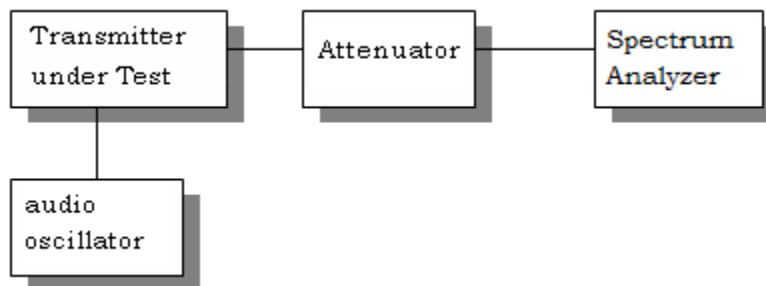
RF POWER OUTPUT

Rule Part No.: Part 2.1046, Part 73.267 (b)(2)

Test Requirements:

Method of Measurement: RF power was measured by using a spectrum analyzer.
ANSI/TIA 603-D: 2010

Test Setup Diagram:



Test Data:

OUTPUT POWER: HIGH – 50.0 Watts
LOW - 1.0 Watts

Part 2.1033 (C)(8) DC Input into the final amplifier

FOR LOW POWER SETTING INPUT POWER 10.4 V at 1 A = 10.4 W
FOR HIGH POWER SETTING INPUT POWER: 13.6 V at 4.4A = 60 W

MODULATION CHARACTERISTICS

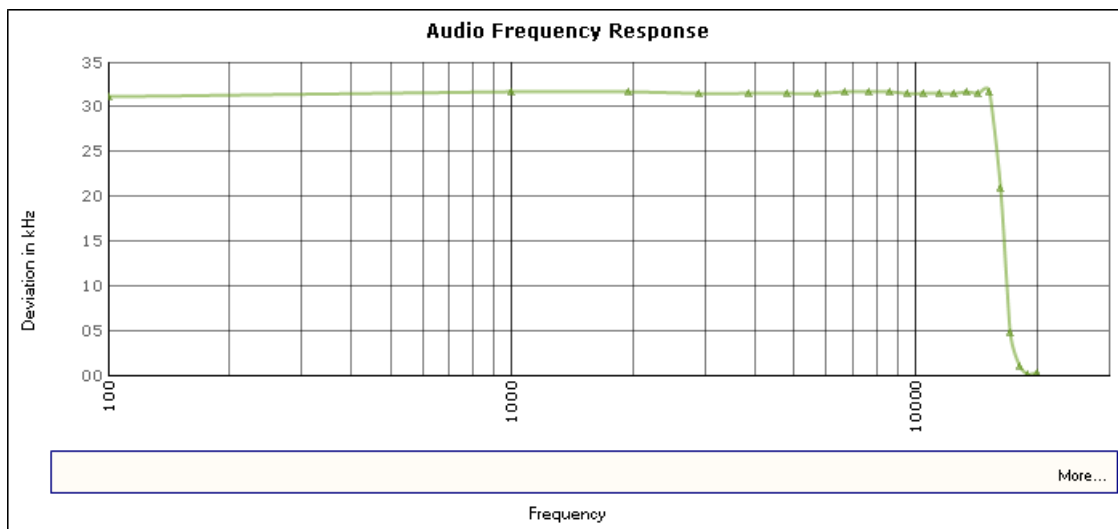
Rule Part No.: Part 2.1047(a)(b)

Method of Measurement:

Audio frequency response

The audio frequency response was measured in accordance with ANSI/TIA 603-D: 2010. The audio frequency response curve is shown below.

AUDIO FREQUENCY RESPONSE PLOT



AUDIO INPUT VERSUS MODULATION

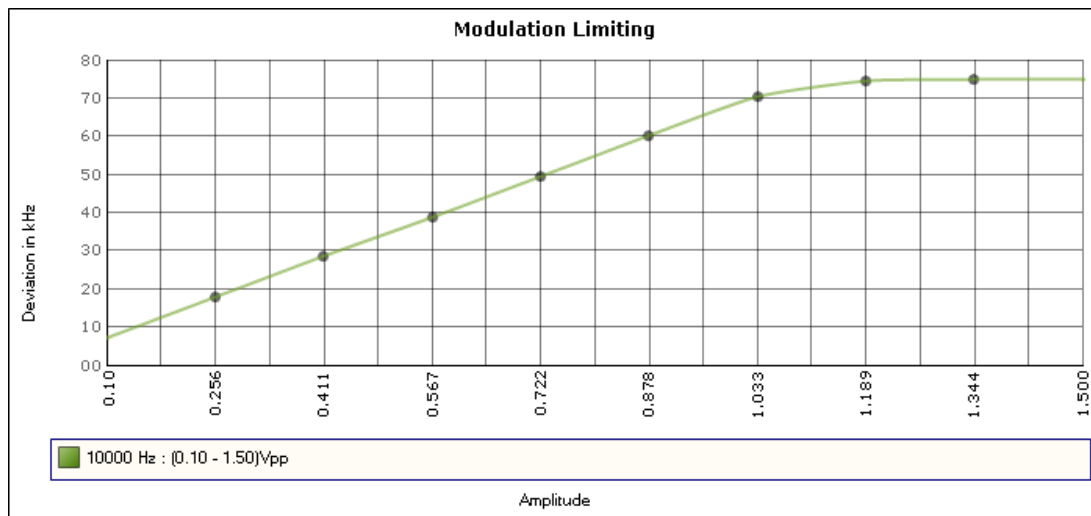
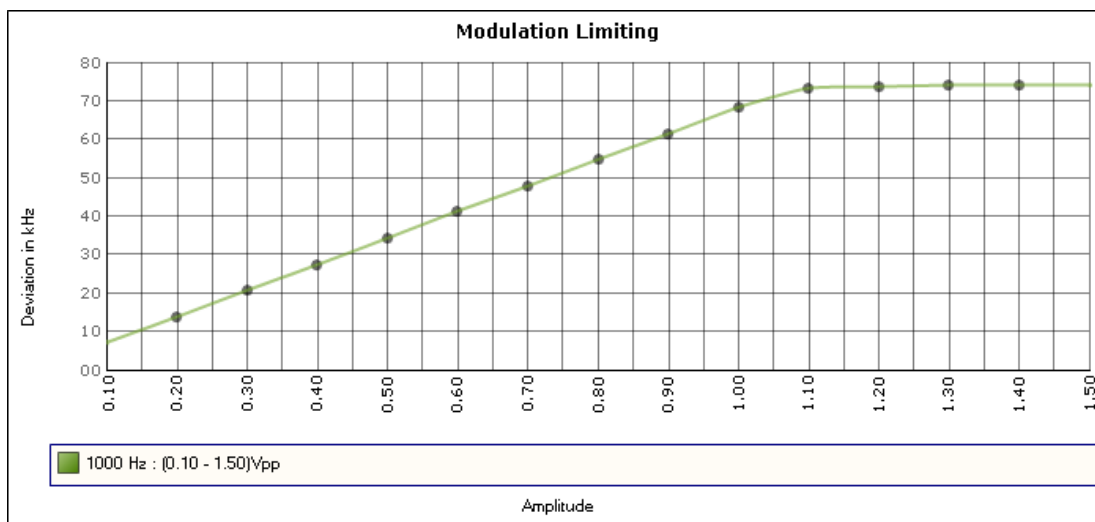
Rule Part No.: Part 2.1047(b) & 90

Test Requirements:

Method of Measurement:

Modulation shall not exceed 100%, The audio input level needed for a particular percentage of modulation was measured in accordance with ANSI/TIA 603-D: 2010. The audio input curves versus modulation are shown below. Curves are provided for audio input frequencies of 1000, and 10,000 Hz.

Test data:



OTHER MODULATION CHARACTERISTICS

Part 2.1033(c) (4) Type of Emission: 180KF3E, 180KF8E

$$B_n = 2M + 2DK$$

$$M = 15000$$

$$D = 75 \text{ kHz (Peak Deviation)}$$

$$B_n = 2(15K) + 2(75K)(1) = 180K$$

ALLOWED AUTHORIZED BANDWIDTH = 200 kHz.

OCCUPIED BANDWIDTH

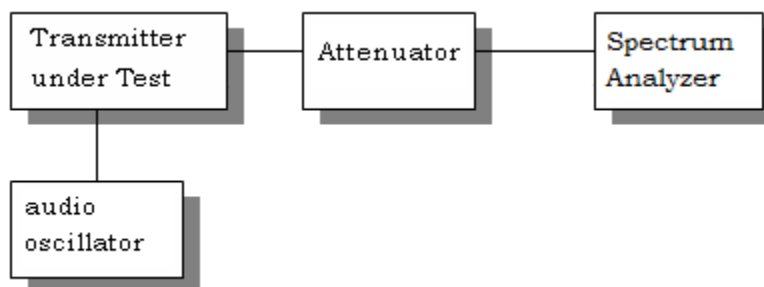
Part 2.1049(c) EMISSION BANDWIDTH:

Part 73.317(b-d)

Any emission appearing on the frequency removed from the carrier between 120 kHz and 240 kHz inclusive must be attenuated at least 25 dB below the level of the un-modulated carrier. Compliance with this requirement will be deemed to show occupied bandwidth to be 240 kHz or less. Any emission appearing on the frequency removed from the carrier by more than 240 kHz and up to and including 600 kHz must be attenuated at least 35 dB below the level of the un-modulated carrier. Any emission appearing on the frequency removed from the carrier by more than 600 kHz must be attenuated at least $43 + 10 \log(P)$ dB below the level of the un-modulated carrier, or 80 dB, whichever is the lesser attenuation.

Method of Measurement: ANSI / TIA 603-D: 2010

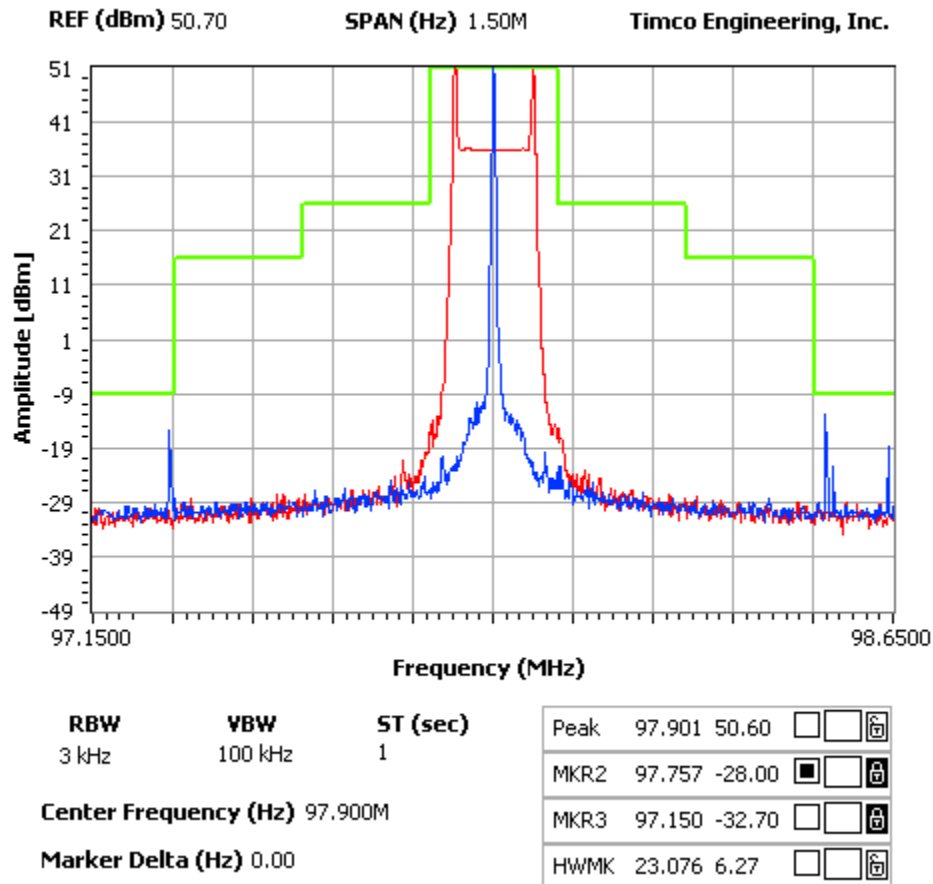
Test Setup Diagram:



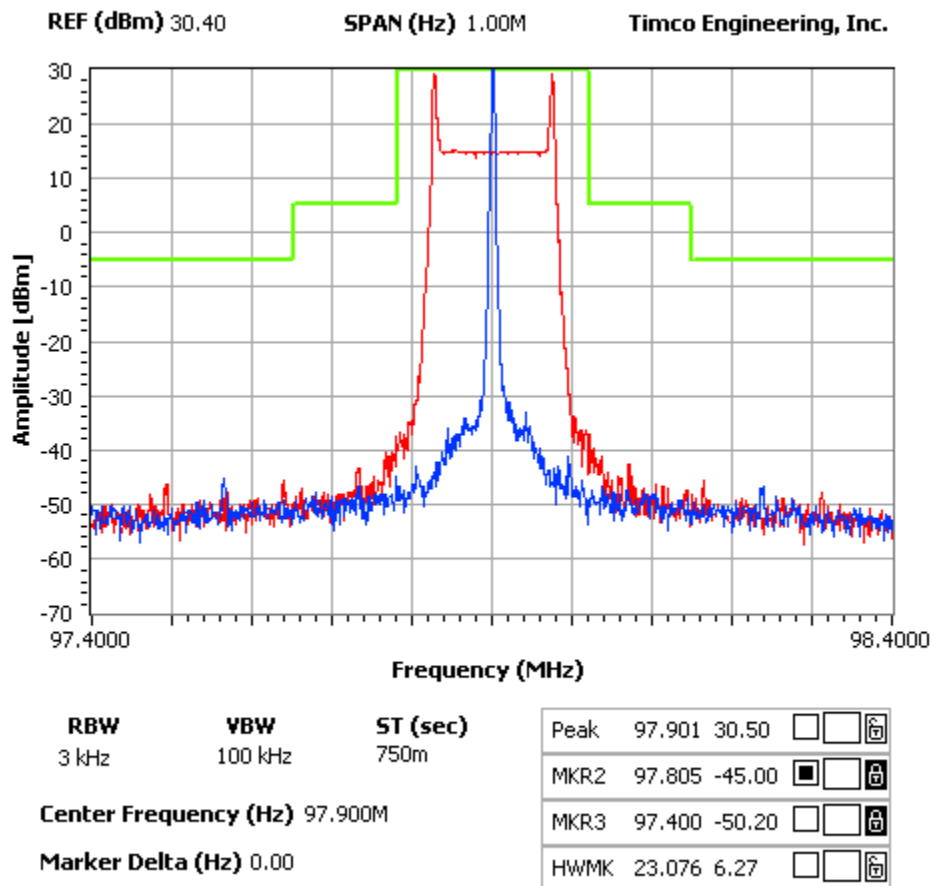
REQUIREMENT: PART 73: 200 kHz EMISSION BANDWIDTH.

Test Data: See the plots below

OCCUPIED BANDWIDTH PLOT



50 Watts output



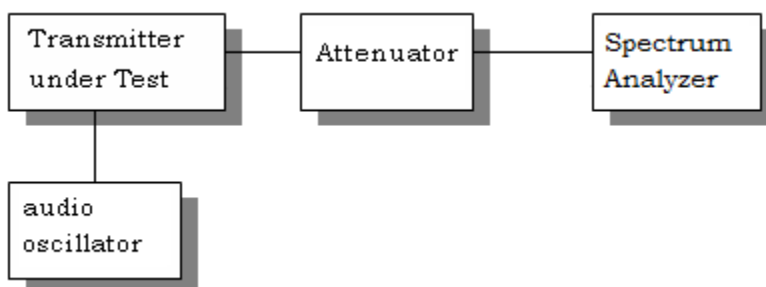
Low Power (1 Watt)

SPURIOUS EMISSIONS AT ANTENNA TERMINALS (CONDUCTED)

Rule Part No.: Part 2.1051(a)

Data on the following page shows the level of conducted spurious responses. The carrier was modulated 100% using 1000 Hz tone. The spectrum was scanned from the lowest frequency generated or 9 kHz to at least the 10th harmonic of the fundamental. The measurements were made in accordance with standard ANSI/TIA-603-D: 2010.

Method of Measuring Conducted Spurious Emissions



REQUIREMENTS: Emissions must be $43 + 10\log(P_o)$ dB below the mean power output of the transmitter.

Limits:

$$43 + 10\log(50) = 60 \text{ dB}$$

Low power

$$43 + 10\log(1) = 43 \text{ dB}$$

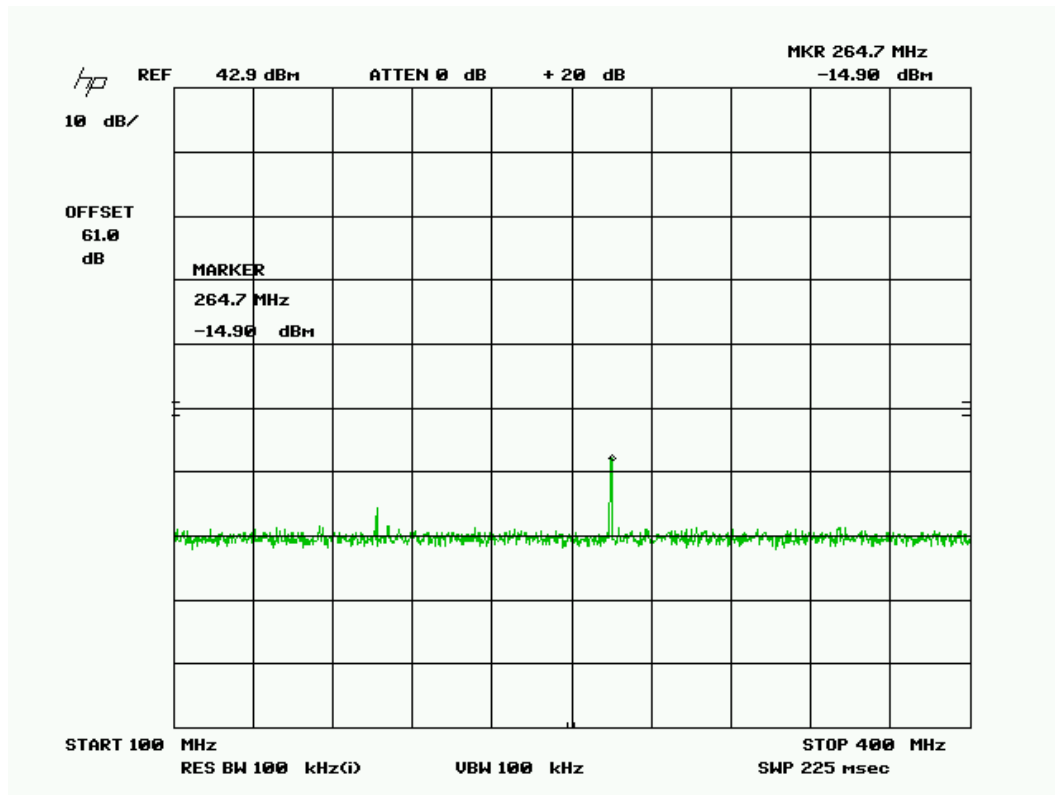
TF HIGH POWER	EF	dB below carrier		TF LOW POWER	EF	dB below carrier
88.1				88.1		
	176.2	69.8			176.2	59.7
	264.3	61.9			264.3	64.8
	352.4	72*			352.4	71.6
	440.5	72*			440.5	71.4
	528.6	72*			528.6	77.2
	616.7	72*			616.7	85*
	704.8				704.8	
	792.9				792.9	
	881				881	

TF HIGH POWER	EF	dB below carrier		TF LOW POWER	EF	dB below carrier
97.9				97.9		
	195.8	68.8			195.8	70.5
	293.7	65.3			293.7	69.6
	391.6	72*			391.6	80.3
	489.5	72*			489.5	73.6
	587.4	72*			587.4	85*
	685.3	72*			685.3	85*
	783.2				783.2	
	881.1				881.1	
	979				979	

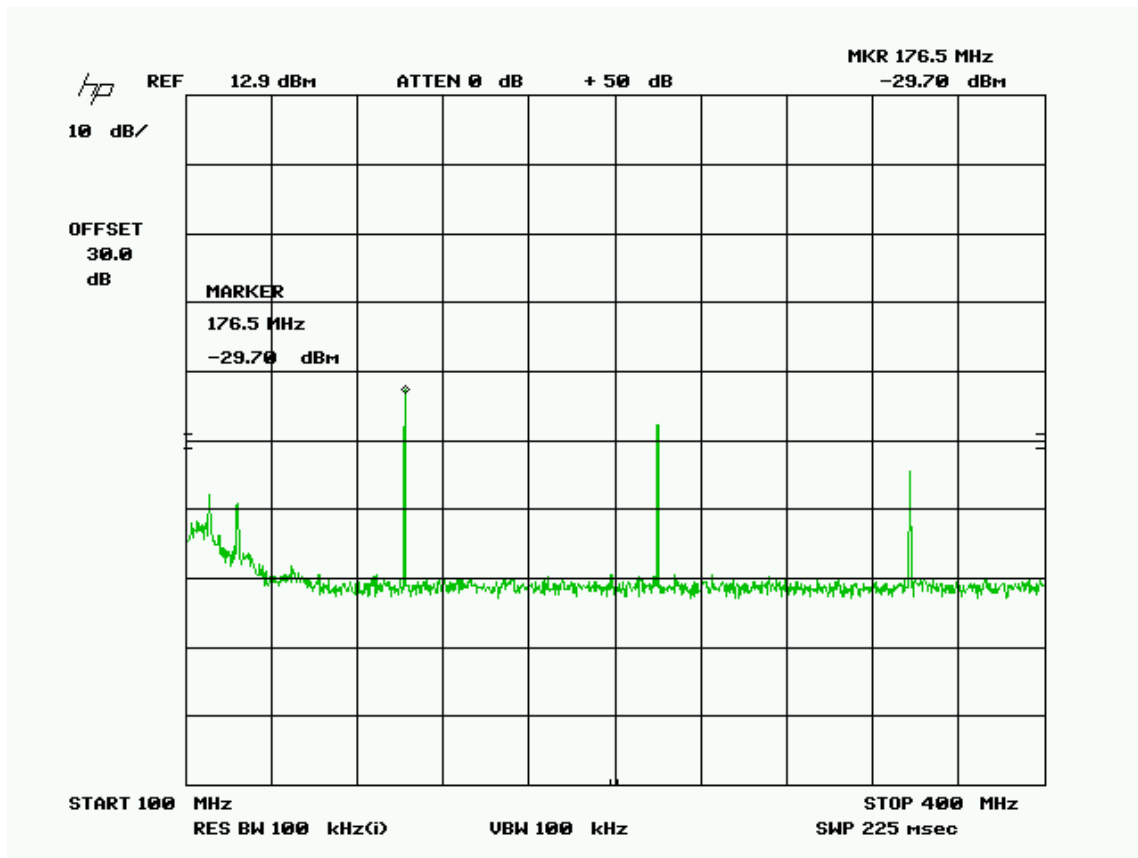
TF HIGH POWER	EF	dB below carrier		TF LOW POWER	EF	dB below carrier
107.9				107.9		
	215.8	66.2			215.8	74.7
	323.7	63.4			323.7	61.7
	431.6	72*			431.6	81.7
	539.5	72*			539.5	55.5
	647.4	72*			647.4	82
	755.3	72*			755.3	81.9
	863.2	72*			863.2	
	971.1				971.1	
	1079				1079	

* Is Noise Floor

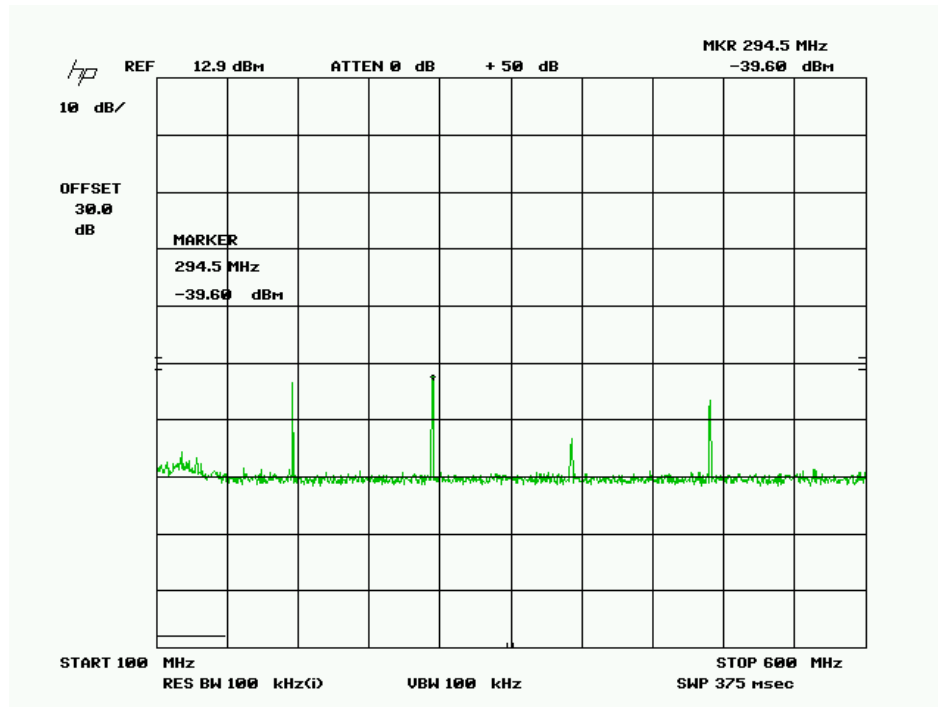
Test Data: 88.1 MHz



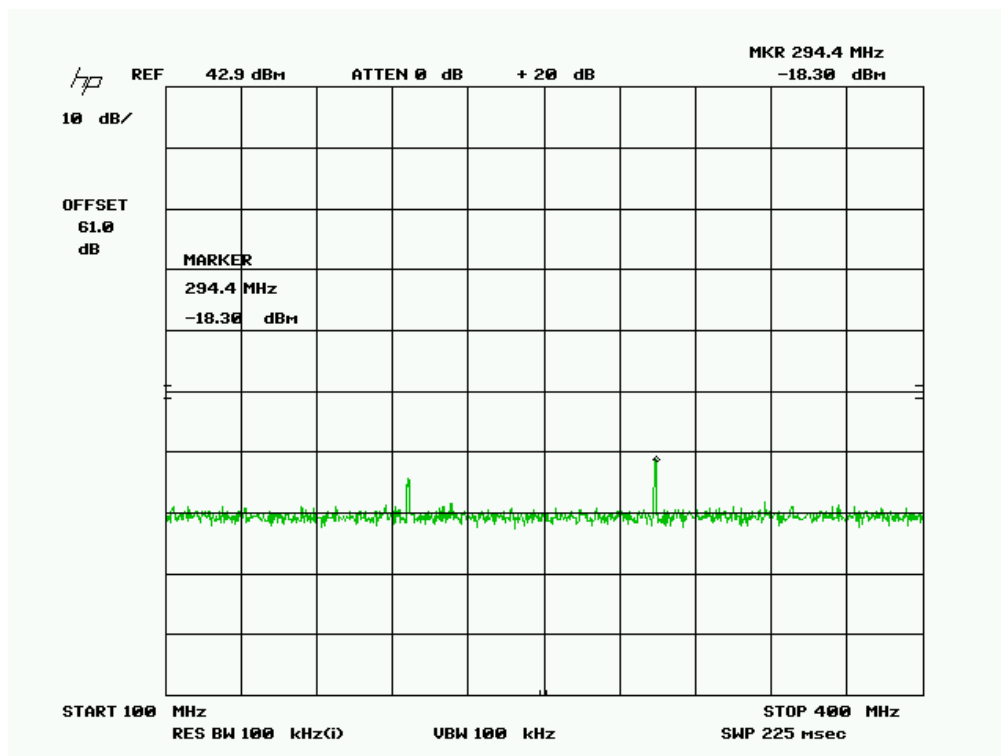
High Power 88.1 MHz



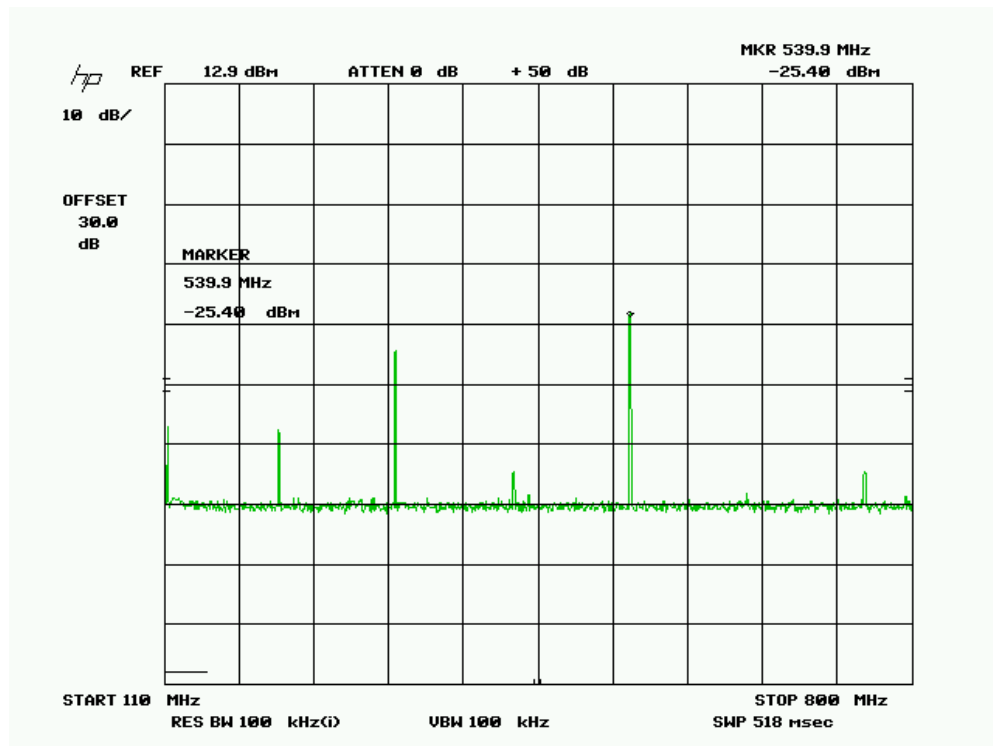
Low Power 88.1 MHz



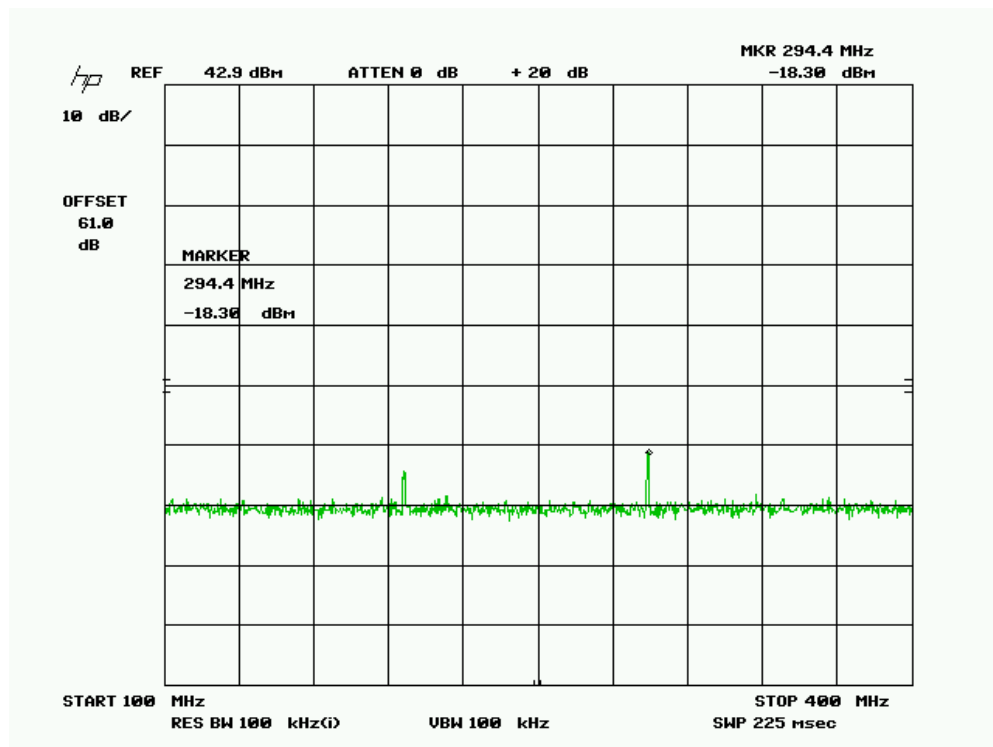
Low Power 97.9 Hz



High Power 97.9 MHz



Low Power 107.9 MHz



High Power 107.9 MHz

FIELD STRENGTH OF SPURIOUS EMISSIONS

Rule Parts. No.: Part 2.1053

Requirements: Any emission appearing on a frequency removed from the carrier by more than 600 kHz must be attenuated at least $43 + 10\log(P)$ dB below the level of the unmodulated carrier, or 80 dB, whichever is the lesser attenuation.

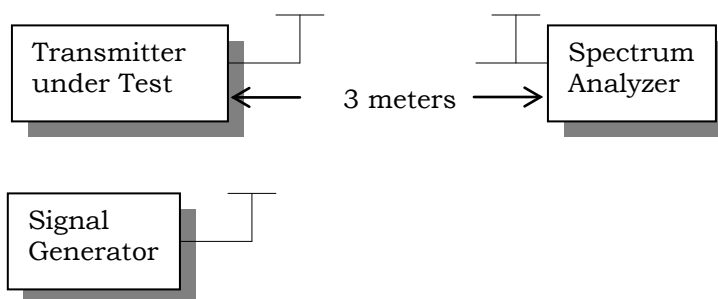
Data on the following page shows the level of cabinet radiation spurious responses. The carrier was modulated 100% using 400 Hz tone. The spectrum was scanned from the lowest frequency generated or 9 kHz to at least the 10th harmonic of the fundamental. The measurements were made in accordance with standard ANSI/TIA-603-D: 2010.

$$43 + 10\log(50) = 60 \text{ dB}$$

Low power

$$43 + 10\log(1) = 43 \text{ dB}$$

Test Setup Diagram:



Test Data:

Limits:

$$43 + 10\log(50) = 60 \text{ dB}$$

Low power

$$43 + 10\log(1) = 43 \text{ dB}$$

88.1 MHz High 50 W

Emission Frequency MHz	Ant. Polarity	dB Below Carrier (dBc)
88.10		
176.20	H	116.5
264.30	H	94.8
352.40	H*	117.2
440.50	H	97.0
528.60	V*	112.3
616.70	V*	126.1
704.80		
792.90	V	92.4
881.00		

Low 1 W

Emission Frequency MHz	Ant. Polarity	dB Below Carrier (dBc)
88.10		
176.20	V	100.1
264.30	H	93.8
352.40	H	96.8
440.50	H	87.5
528.60	V*	95.8
616.70	V*	95.6
704.80		
792.90		
881.00		

* is noise floor

97.9 MHz High 50 W

Emission Frequency MHz	Ant. Polarity	dB Below Carrier (dBc)
97.90		
195.80	V	111.2
293.70	H	107.9
391.60		
489.50	V	106.0
587.40	H	111.9
685.30		
783.20		
881.10	V	90.5
979.00	V	96.0

Low 1 W

Emission Frequency MHz	Ant. Polarity	dB Below Carrier (dBc)
97.90		
195.80	V	94.7
293.70	V*	100.8
391.60	V*	99.0
489.50	V	90.1
587.40	V	94.9
685.30	V*	93.8
783.20	V*	94.7
881.10		
979.00		

107.9 MHz High 50 W

Emission Frequency MHz	Ant. Polarity	dB Below Carrier (dBc)
107.90		
215.80	H	96.3
323.70	H	97.8
431.60	V	112.5
539.50	H	104.0
647.40		
755.30		
863.20	V	102.0
971.10		
1079.00	V	89.7

Low 1 W

Emission Frequency MHz	Ant. Polarity	dB Below Carrier (dBc)
107.90		
215.80		
323.70	H	91.6
431.60		
539.50	H	85.1
647.40	V*	95.8
755.30	V*	90.6
863.20	V	83.7
971.10		
1079.00	H	73.4

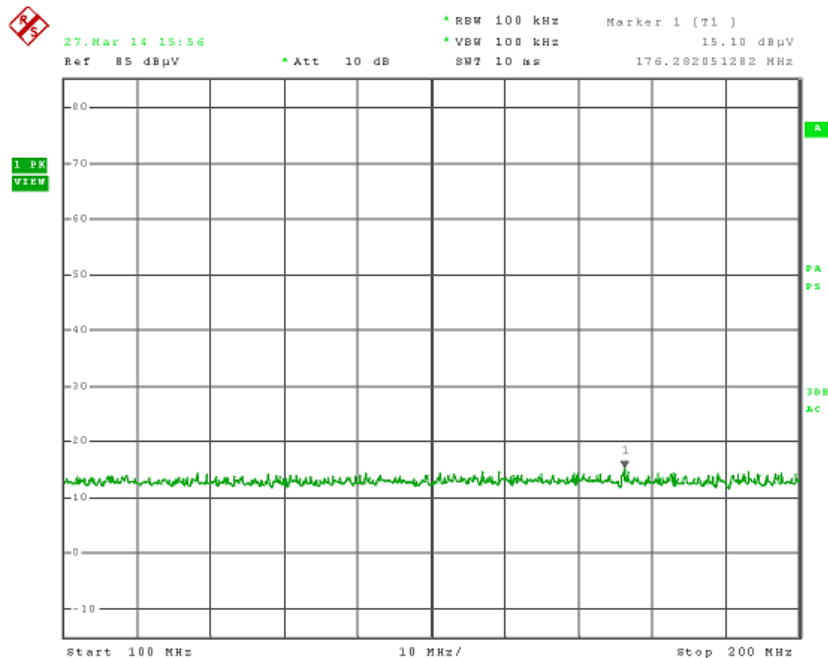
88.1 MHz High Power



RADIATED SPURIOUS EMISSIONS

27.Mar 14 15:56

Antenna Polarity Horizontal
Detectors Used Peak
EUT Mode Transmit
Job # 364AUT14
Operator Mario de Aranzeta
EUT Description FM transmitter





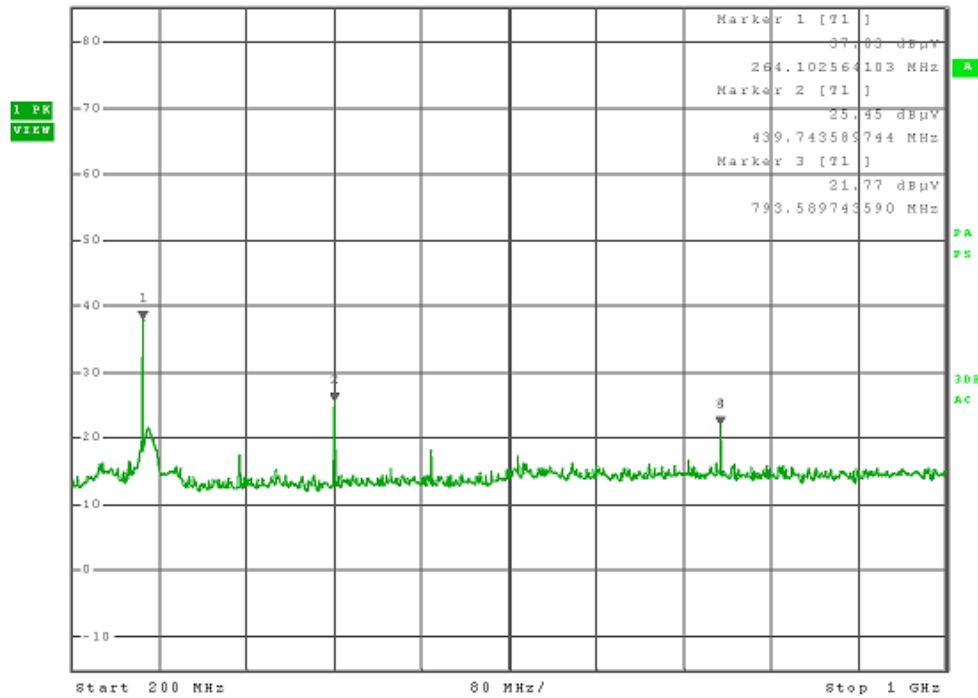
RADIATED SPURIOUS EMISSIONS

27.Mar 14 16:07

Antenna Polarity Horizontal
Detectors Used Peak
EUT Mode Transmit
Job # 364AUT14
Operator Mario de Aranzeta
EUT Description FM transmitter



27.Mar 14 16:07
Ref 85 dBμV
Att 10 dB
RBW 100 kHz
VBW 100 kHz
SWT 80 Hz
Marker 4 [71]
21.77 dBμV
793.589743590 MHz



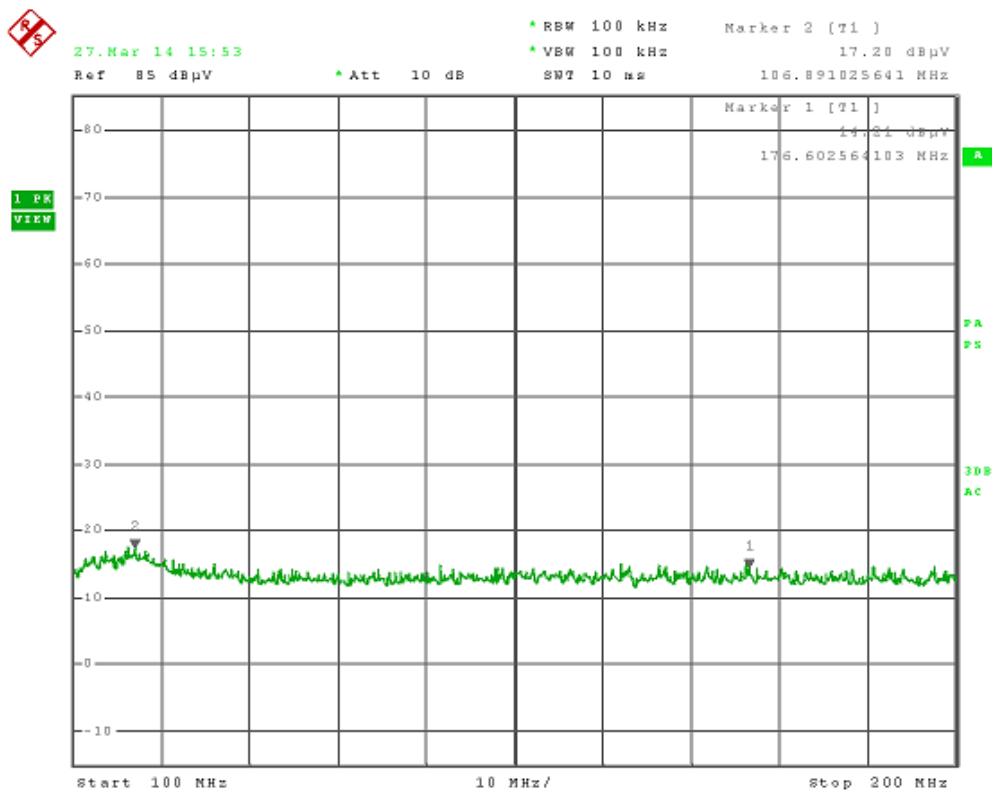
200 MHz to 1GHz



RADIATED SPURIOUS EMISSIONS

27.Mar 14 15:54

Antenna Polarity Vertical
Detectors Used Peak
EUT Mode Transmit
Job # 364AUT14
Operator Mario de Aranzeta
EUT Description FM transmitter



Below 200 MHz

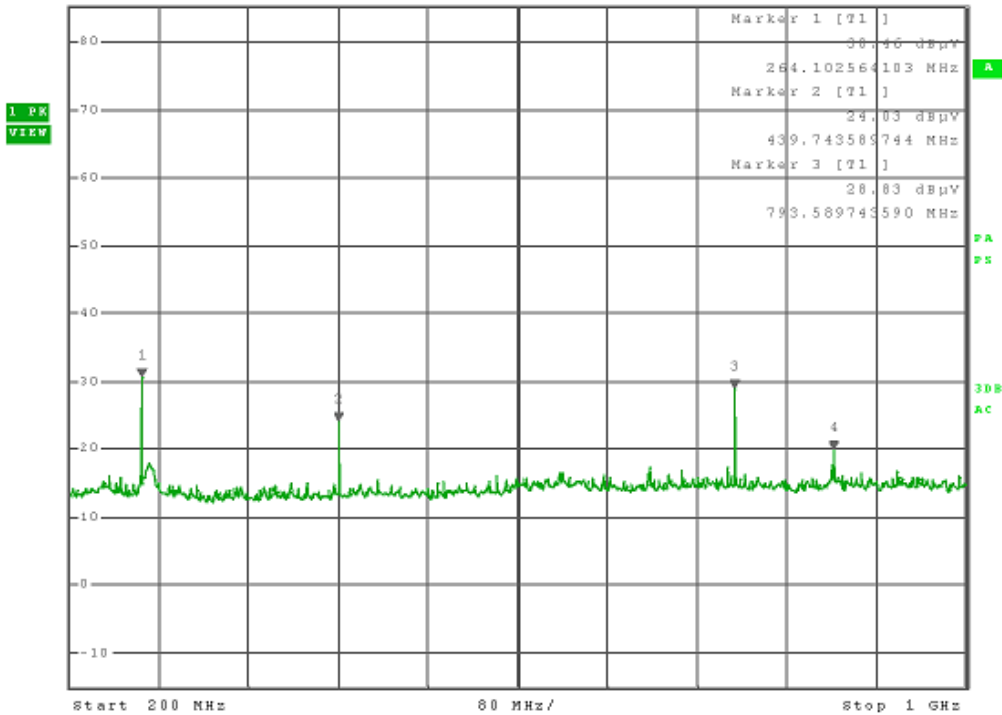
RADIATED SPURIOUS EMISSIONS

27.Mar 14 16:10

Antenna Polarity Vertical
Detectors Used Peak
EUT Mode Transmit
Job # 364AUT14
Operator Mario de Aranzeta
EUT Description FM transmitter



27.Mar 14 16:10
Ref 85 dBµV * Att 10 dB
* RBW 100 kHz Marker 4 [T1] 19.69 dBµV
* VBW 100 kHz
SWT 80 Hz 882.051282051 MHz



200 MHz to 1 GHz

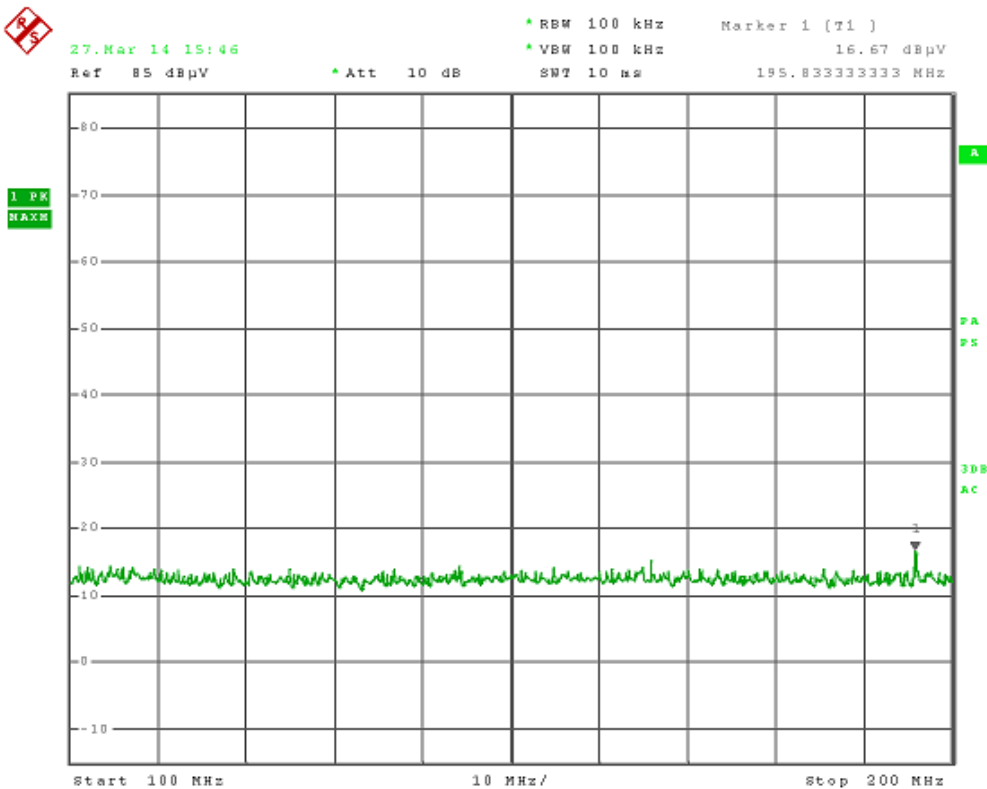
97.9 MHz High Power



RADIATED SPURIOUS EMISSIONS

27.Mar 14 15:46

Antenna Polarity Horizontal
Detectors Used Peak
EUT Mode Transmit
Job # 364AUT14
Operator Mario de Aranzeta
EUT Description FM transmitter



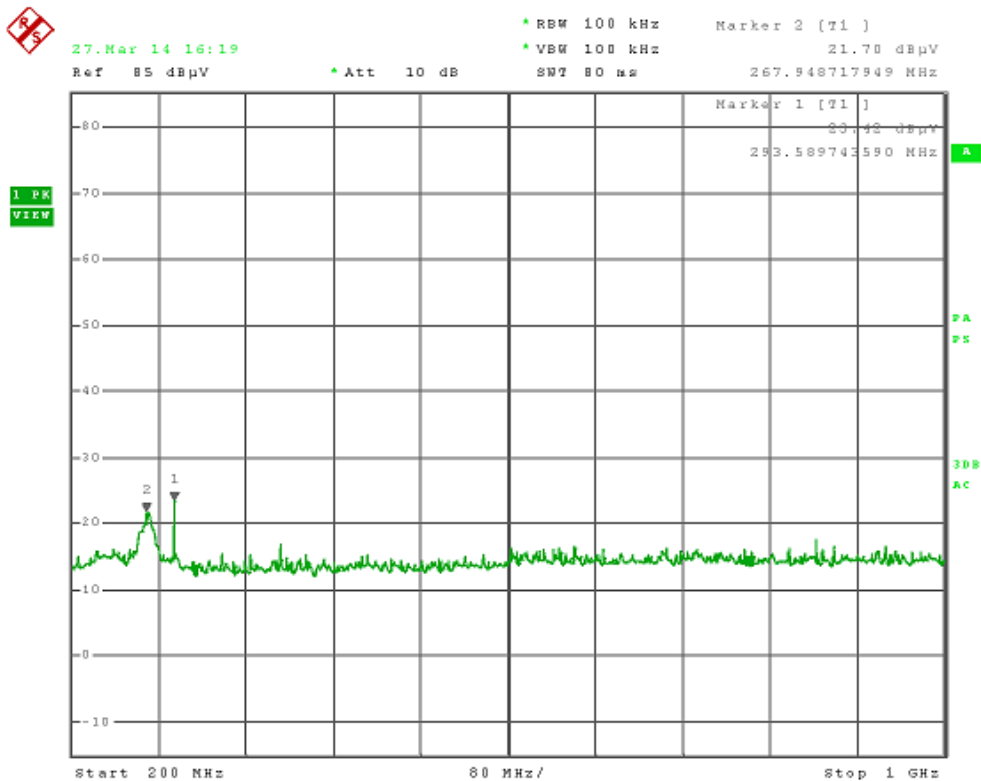
Below 200 MHz



RADIATED SPURIOUS EMISSIONS

27.Mar 14 16:19

Antenna Polarity Horizontal
Detectors Used Peak
EUT Mode Transmit
Job # 364AUT14
Operator Mario de Aranzeta
EUT Description FM transmitter

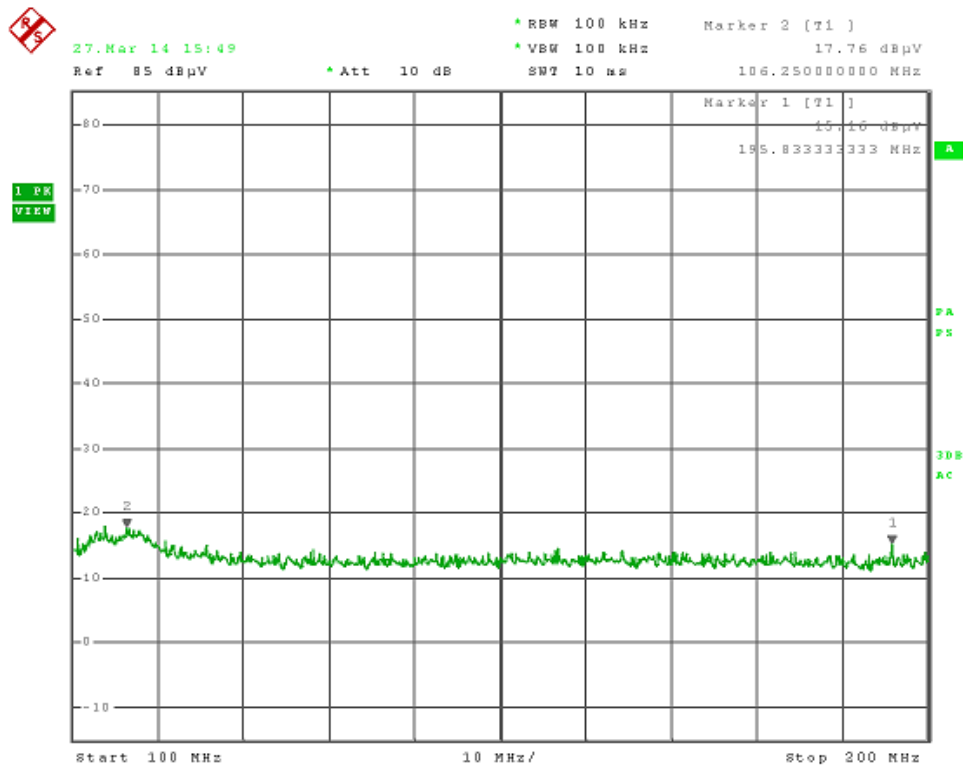


200 MHz to 1 GHz

RADIATED SPURIOUS EMISSIONS

27.Mar 14 15:49

Antenna Polarity Vertical
Detectors Used Peak
EUT Mode Transmit
Job # 364AUT14
Operator Mario de Aranzeta
EUT Description FM transmitter

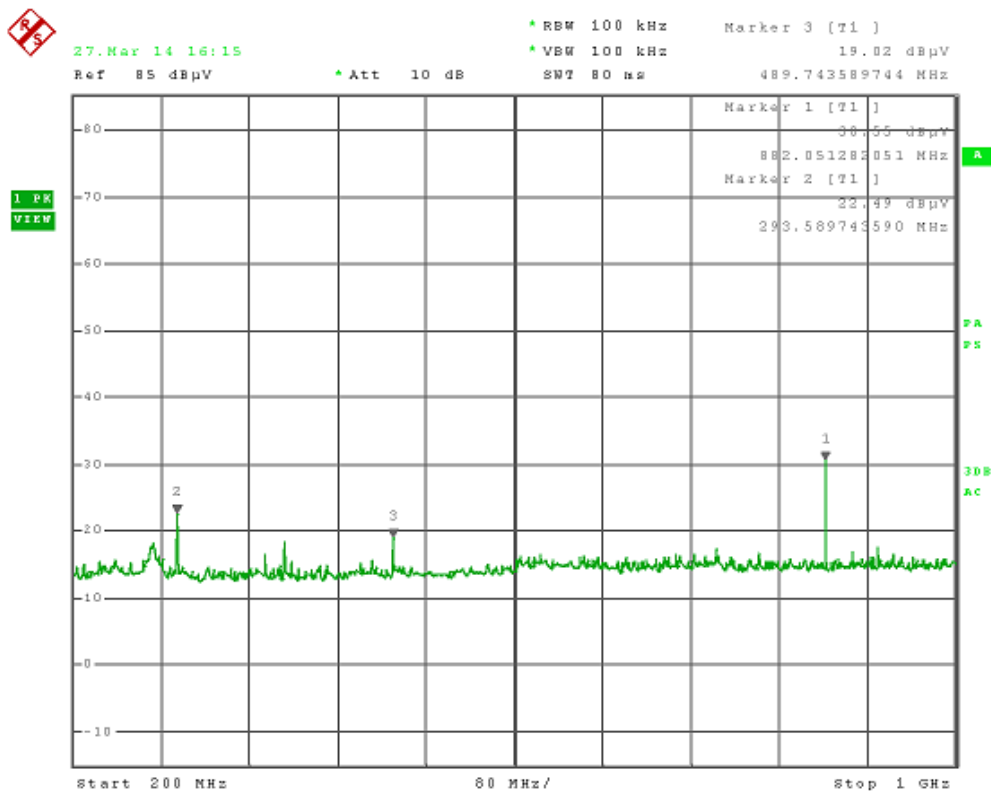


Below 200 MHz

RADIATED SPURIOUS EMISSIONS

27.Mar 14 16:15

Antenna Polarity Vertical
Detectors Used Peak
EUT Mode Transmit
Job # 364AUT14
Operator Mario de Aranzeta
EUT Description FM transmitter



200 MHz to 1 GHz

107.9 MHz High Power



RADIATED SPURIOUS EMISSIONS

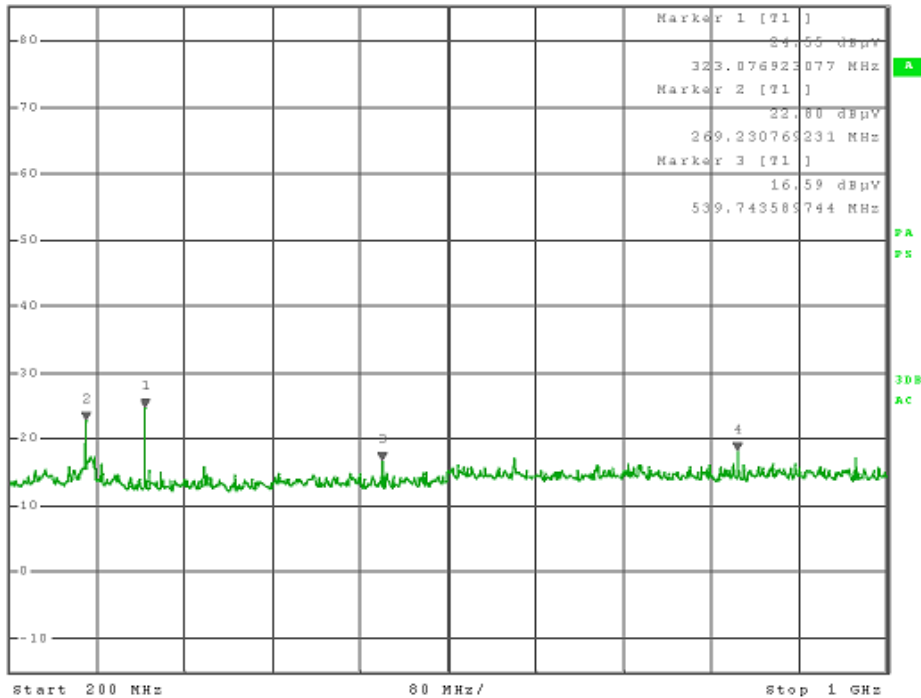
27.Mar 14 16:39

Antenna Polarity Vertical
Detectors Used Peak
EUT Mode Transmit
Job # 364AUT14
Operator Mario de Aranzeta
EUT Description FM transmitter



27.Mar 14 16:39
Ref 85 dBµV Att 10 dB RBW 100 kHz Marker 4 [T1] 18.11 dBµV
SWT 80 Hz 864.102564103 MHz

1 PR
VIEW



200 to 1000 MHz



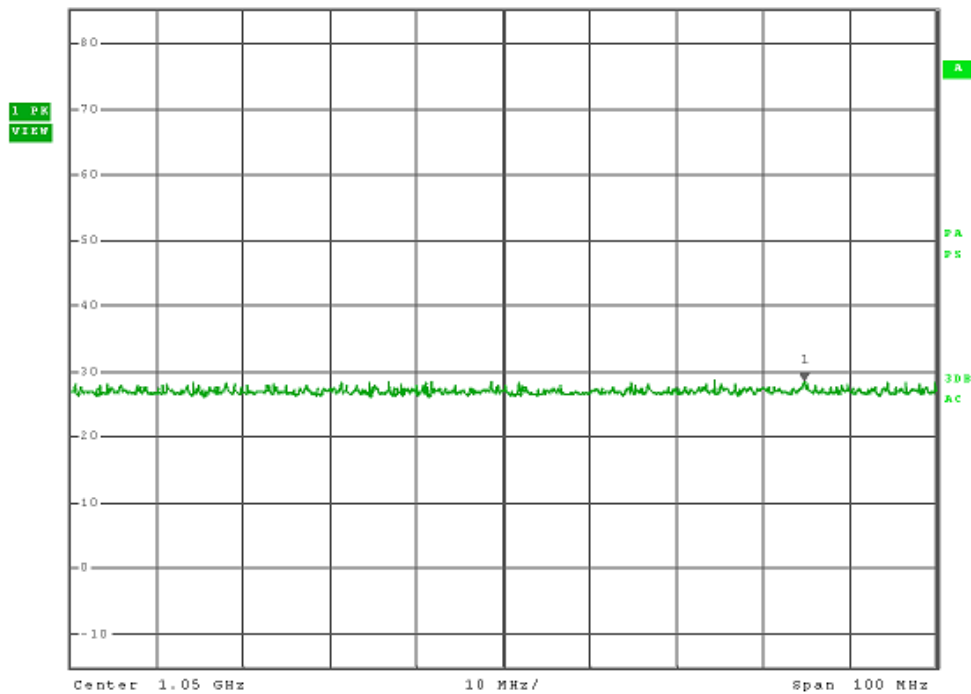
RADIATED SPURIOUS EMISSIONS

27.Mar 14 16:47

Antenna Polarity Vertical
Detectors Used Peak
EUT Mode Transmit
Job # 364AUT14
Operator Mario de Aranzeta
EUT Description FM transmitter



27.Mar 14 16:47
Ref 85 dBµV
Att 10 dB
RBW 1 MHz
VBW 2 MHz
SWT 2.5 us
Marker 1 (T1)
28.44 dBµV
1.084775641 GHz



Above 1 GHz



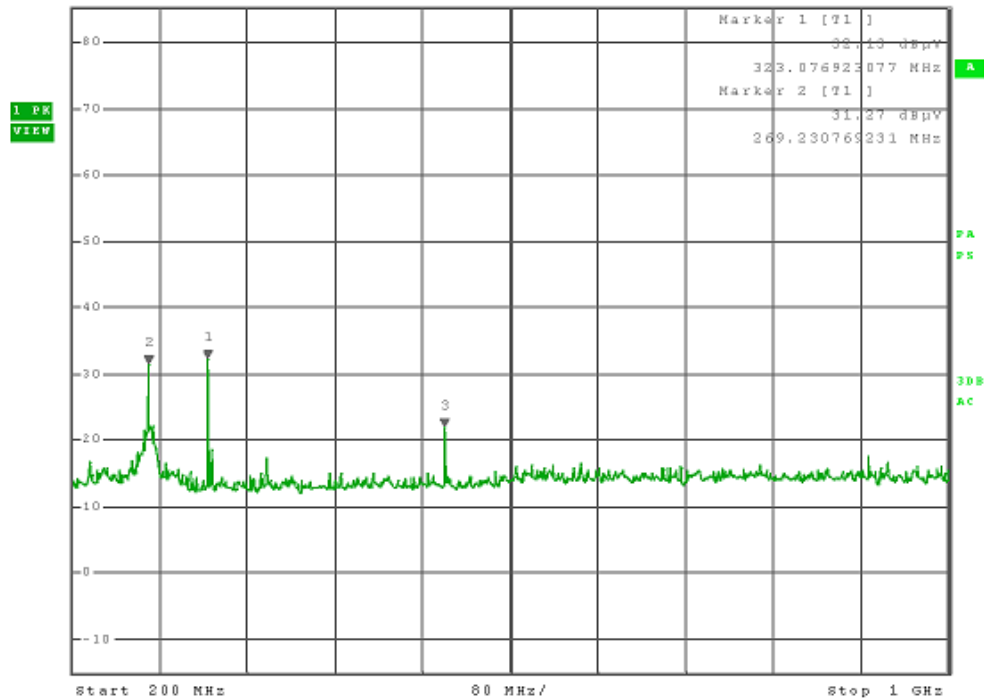
RADIATED SPURIOUS EMISSIONS

27.Mar 14 16:35

Antenna Polarity Horizontal
Detectors Used Peak
EUT Mode Transmit
Job # 364AUT14
Operator Mario de Aranzeta
EUT Description FM transmitter



27.Mar 14 16:35
Ref 85 dBuV
Att 10 dB
RBW 100 kHz
VBW 100 kHz
SWT 80 Hz
Marker 3 [T1]
21.88 dBuV
539.743589744 MHz

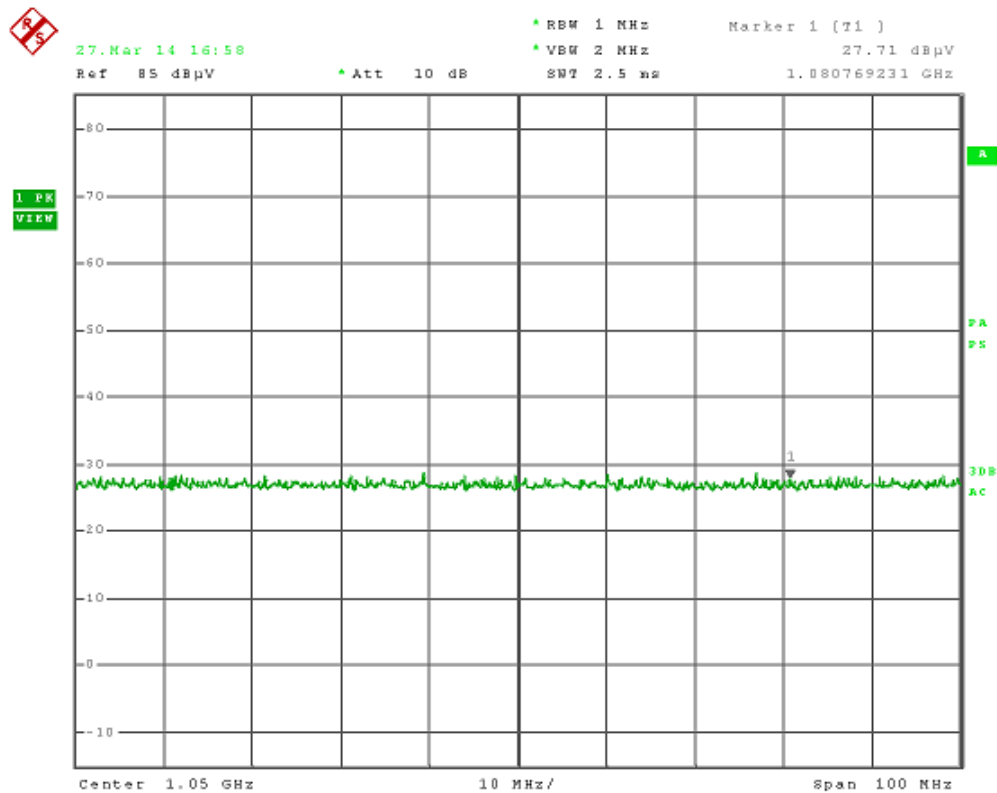


200 MHz to 1 GHz

RADIATED SPURIOUS EMISSIONS

27.Mar 14 16:58

Antenna Polarity	Horizontal
Detectors Used	Peak
EUT Mode	Transmit
Job #	364AUT14
Operator	Mario de Aranzeta
EUT Description	FM transmitter



Above 1 GHz

881 MHz Low Power (1 W)



RADIATED SPURIOUS EMISSIONS

27.Mar 14 14:50

Antenna Polarity Horizontal
Detectors Used Peak
EUT Mode Transmit
Job # 364AUT14
Operator Mario de Aranzeta
EUT Description FM transmitter



27.Mar 14 14:50

* RBW 100 kHz

Marker 1 [T1]

* VBW 100 kHz

13.25 dBµV

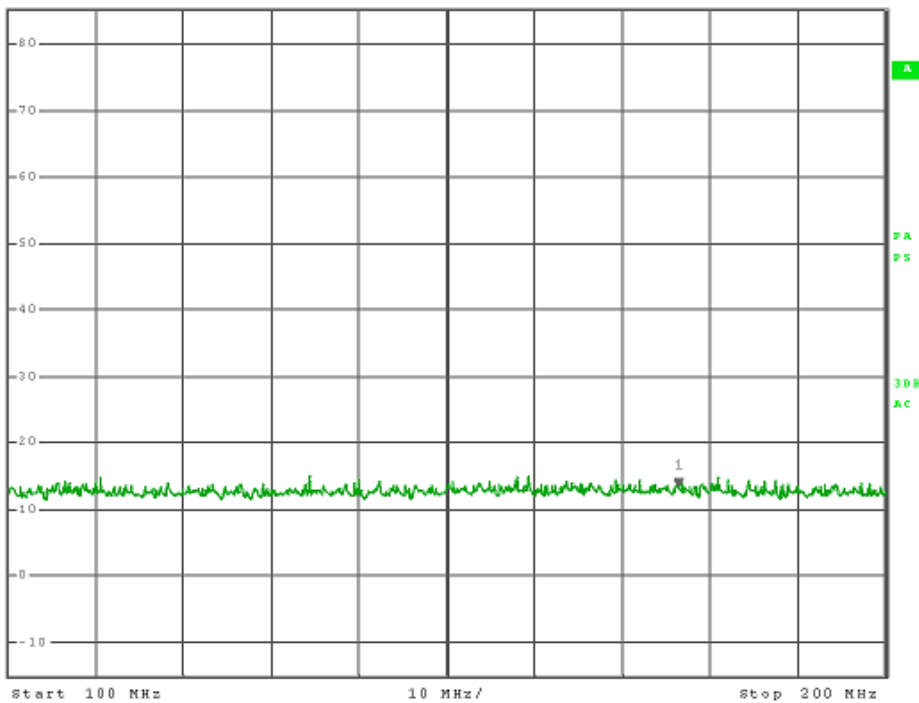
Ref 85 dBµV

* Att 10 dB

SWT 10 Hz

176.442307692 MHz

1 PR
VIEW

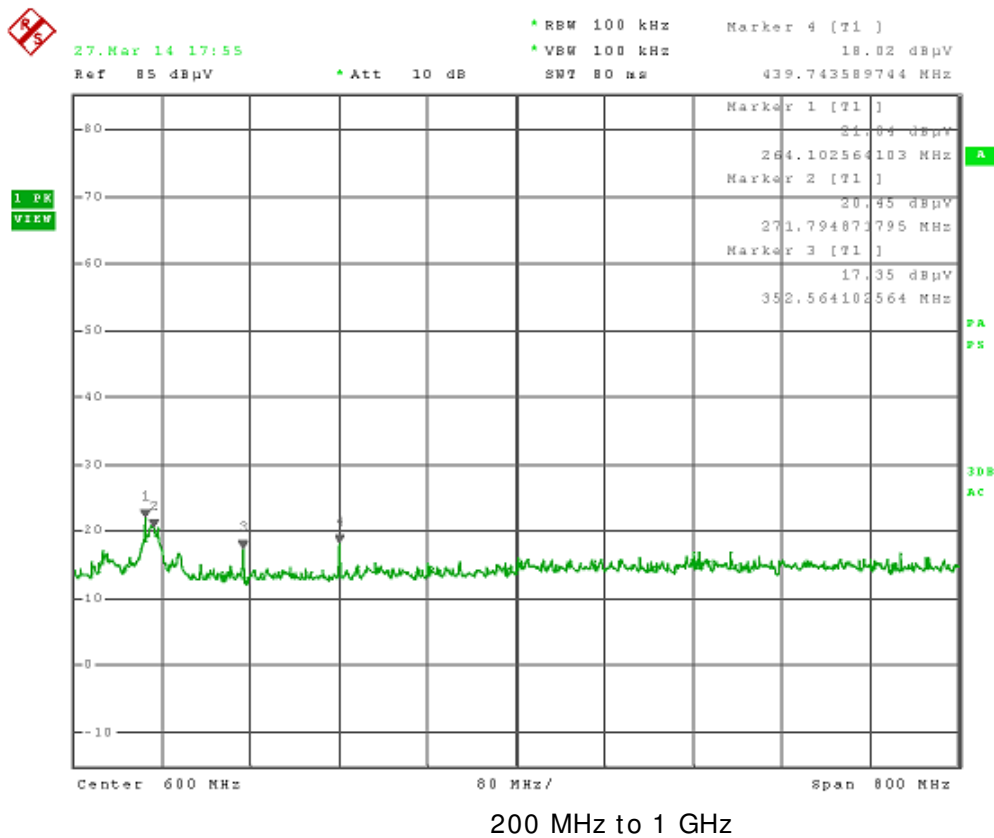


Below 200 MHz

RADIATED SPURIOUS EMISSIONS

27.Mar 14 17:55

Antenna Polarity Horizontal
Detectors Used Peak
EUT Mode Transmit
Job # 364AUT14
Operator Mario de Aranzeta
EUT Description FM transmitter

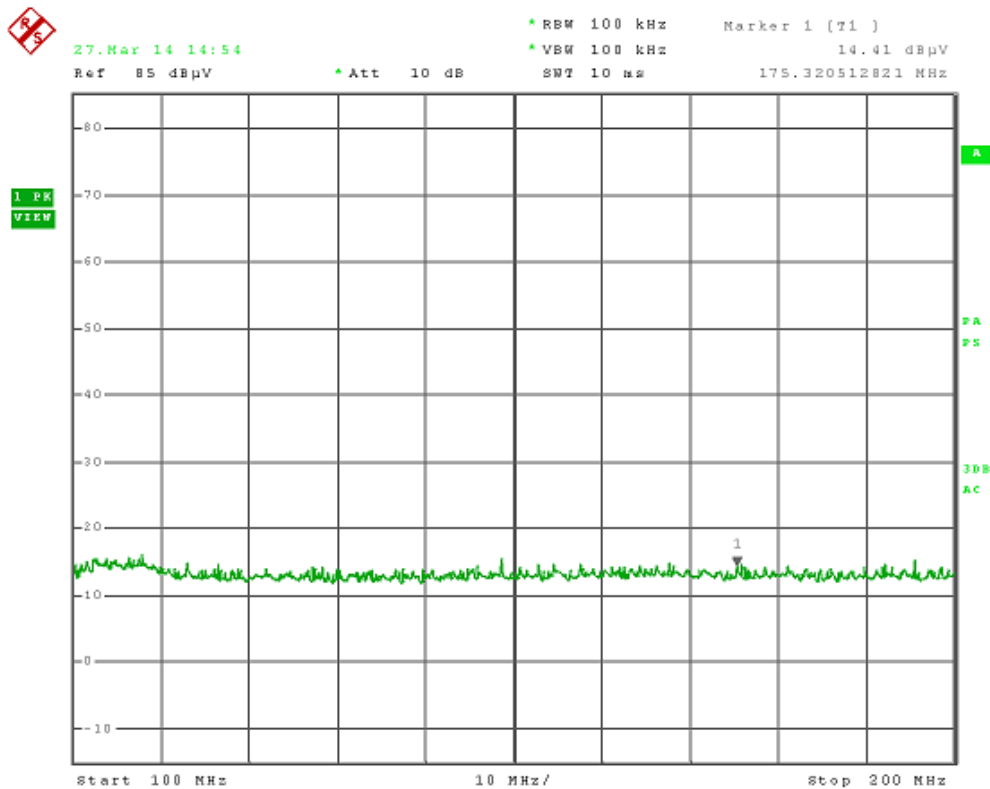




RADIATED SPURIOUS EMISSIONS

27.Mar 14 14:54

Antenna Polarity Vertical
Detectors Used Peak
EUT Mode Transmit
Job # 364AUT14
Operator Mario de Aranzeta
EUT Description FM transmitter



Below 200 MHz



RADIATED SPURIOUS EMISSIONS

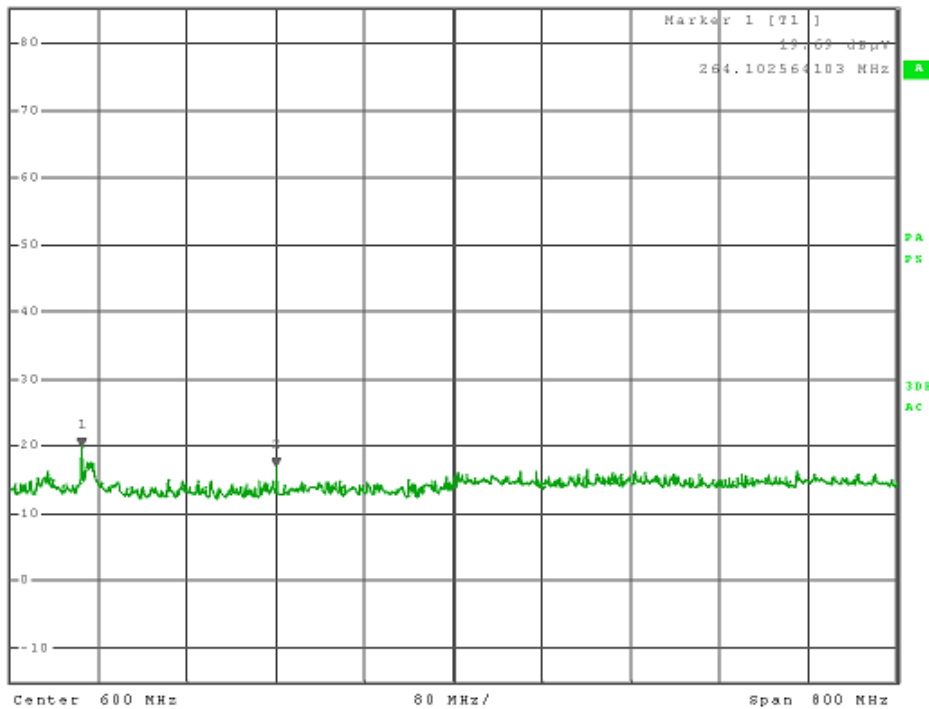
27.Mar 14 17:57

Antenna Polarity Vertical
Detectors Used Peak
EUT Mode Transmit
Job # 364AUT14
Operator Mario de Aranzeta
EUT Description FM transmitter



27.Mar 14 17:57
Ref 85 dBμV
Att 10 dB
RBW 100 kHz
VBW 100 kHz
Marker 2 [T1]
16.74 dBμV
439.743589744 MHz

1 PK
VIEW



200 MHz to 1 GHz

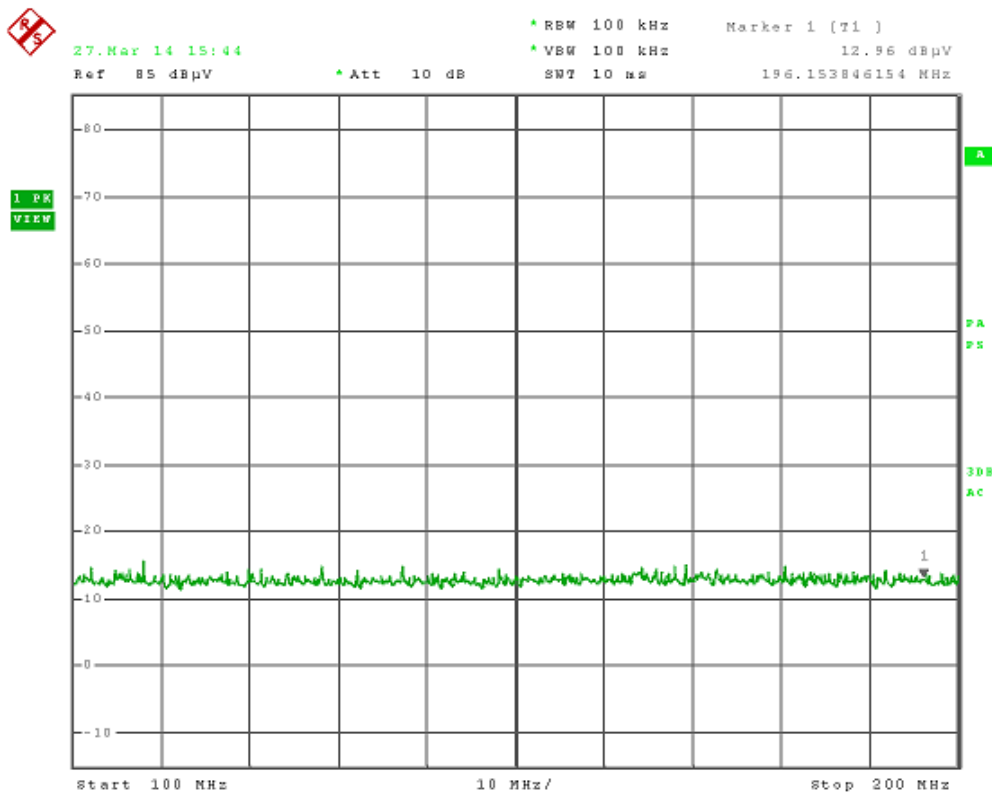
97.9 MHz Low Power (1 W)



RADIATED SPURIOUS EMISSIONS

27.Mar 14 15:44

Antenna Polarity Horizontal
Detectors Used Peak
EUT Mode Transmit
Job # 364AUT14
Operator Mario de Aranzeta
EUT Description FM transmitter



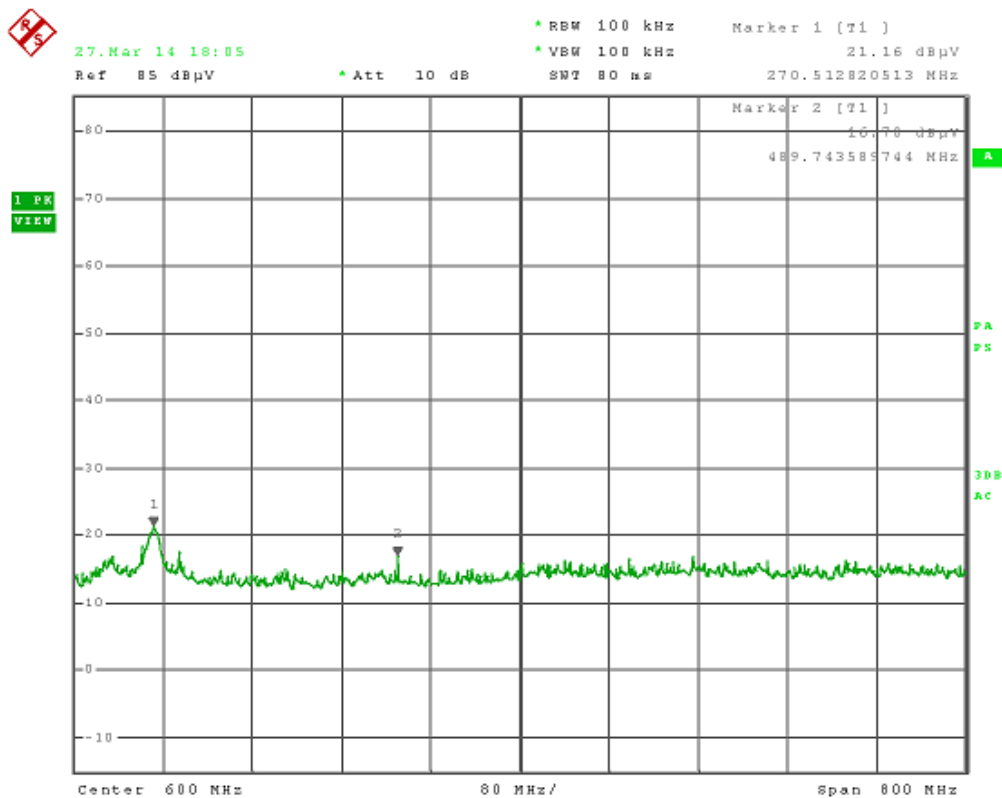
Below 200 MHz



RADIATED SPURIOUS EMISSIONS

27.Mar 14 18:05

Antenna Polarity Horizontal
Detectors Used Peak
EUT Mode Transmit
Job # 364AUT14
Operator Mario de Aranzeta
EUT Description FM transmitter



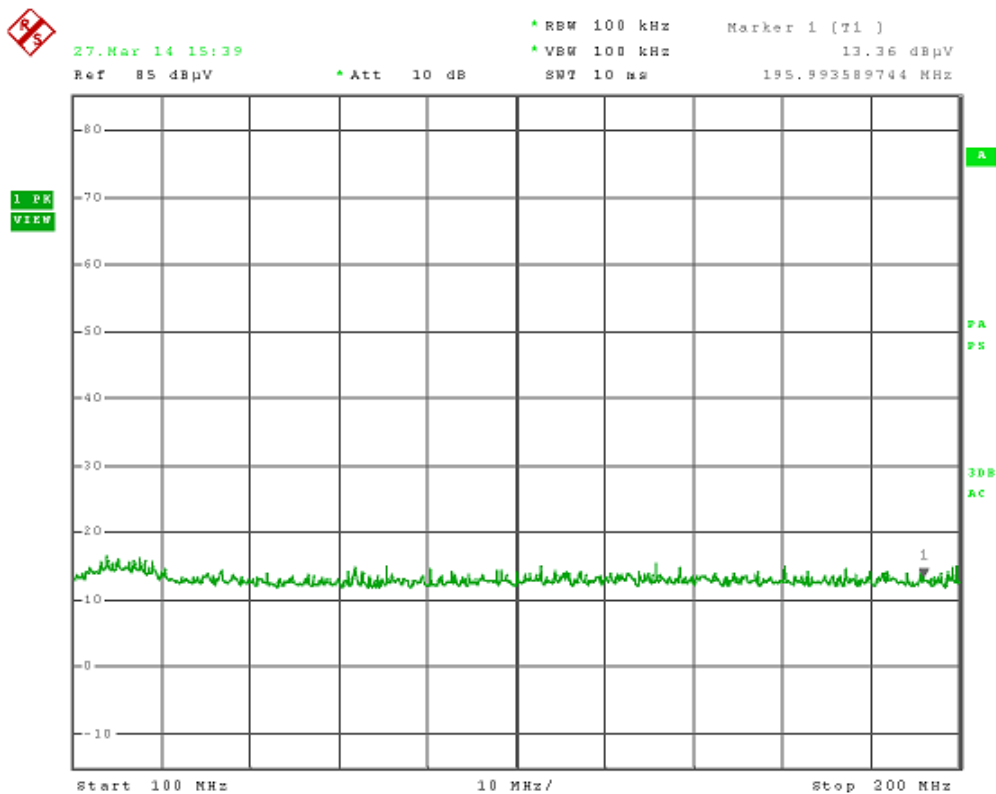
200 MHz to 1 GHz



RADIATED SPURIOUS EMISSIONS

27.Mar 14 15:39

Antenna Polarity Vertical
Detectors Used Peak
EUT Mode Transmit
Job # 364AUT14
Operator Mario de Aranzeta
EUT Description FM transmitter



Below 200 MHz



RADIATED SPURIOUS EMISSIONS

27.Mar 14 18:03

Antenna Polarity Vertical
Detectors Used Peak
EUT Mode Transmit
Job # 364AUT14
Operator Mario de Aranzeta
EUT Description FM transmitter



27.Mar 14 18:03

Ref 85 dBμV

* Att 10 dB

* RBW 100 kHz

* VBW 100 kHz

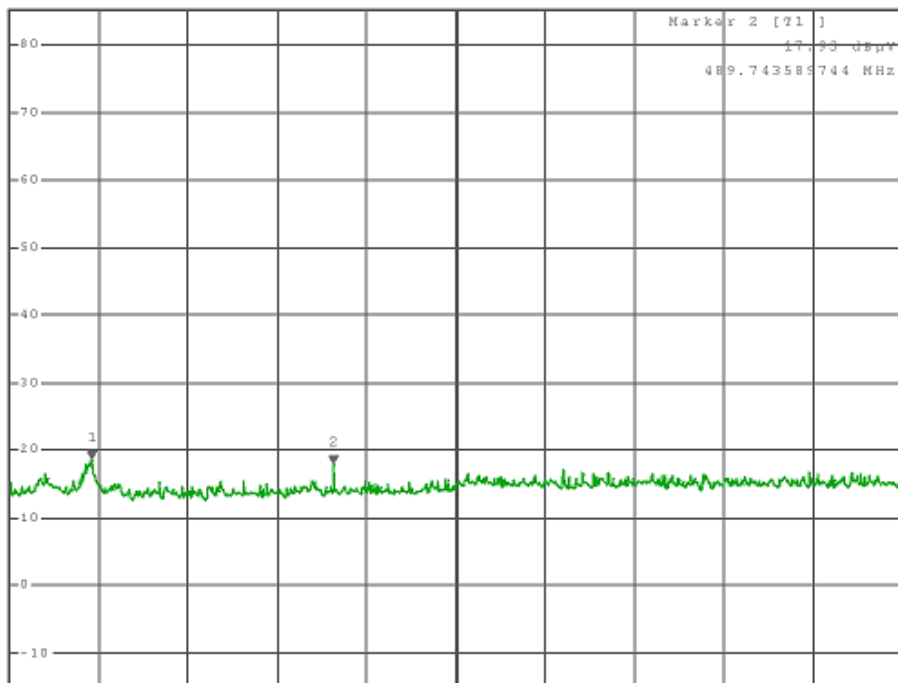
SWT 80 Hz

Marker 1 [T1]

18.47 dBμV

273.076923077 MHz

1 PK
VIEW



Center 600 MHz

80 MHz/

Span 800 MHz

200 MHz to 1 GHz

107.9 MHz Low Power (1 W)



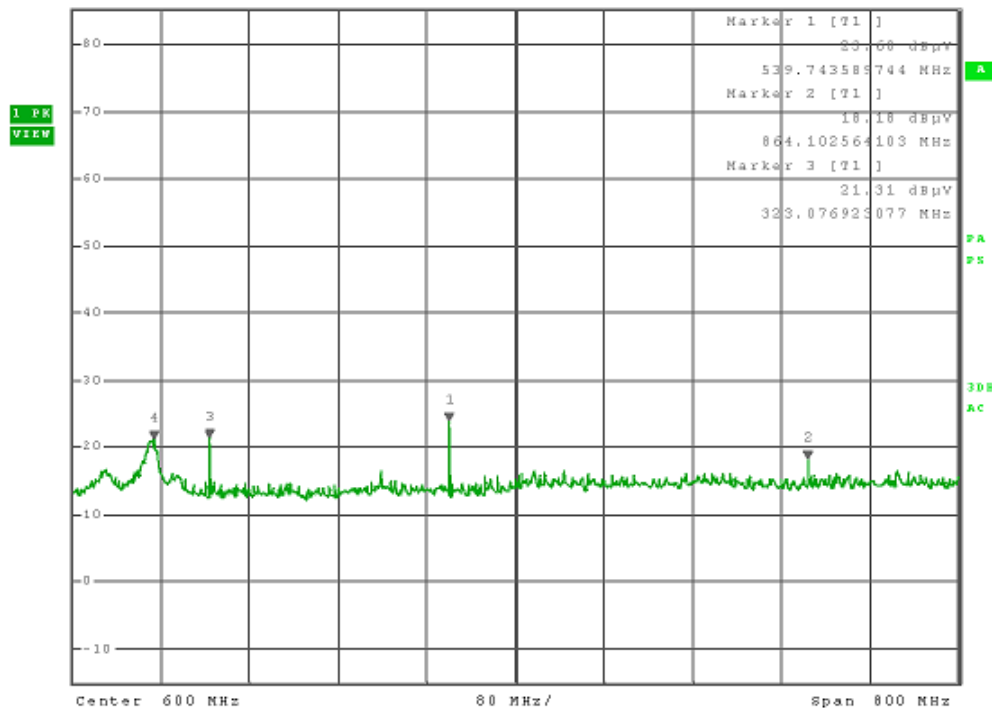
RADIATED SPURIOUS EMISSIONS

27.Mar 14 17:47

Antenna Polarity Horizontal
Detectors Used Peak
EUT Mode Transmit
Job # 364AUT14
Operator Mario de Aranzeta
EUT Description FM transmitter



27.Mar 14 17:47
Ref 85 dBμV
Att 10 dB
RBW 100 kHz
VBW 100 kHz
SWT 80 Hz
Marker 4 [T1]
21.09 dBμV
273.076923077 MHz

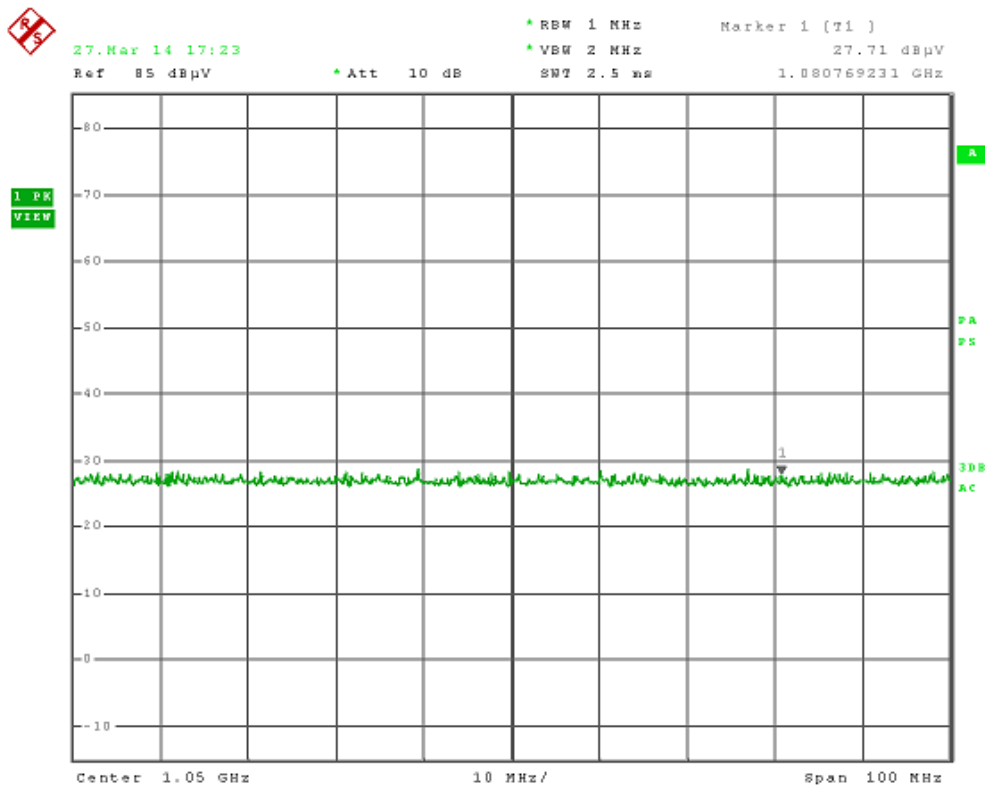


200 MHz to 1 GHz

RADIATED SPURIOUS EMISSIONS

27.Mar 14 17:23

Antenna Polarity Horizontal
Detectors Used Peak
EUT Mode Transmit
Job # 364AUT14
Operator Mario de Aranzeta
EUT Description FM transmitter



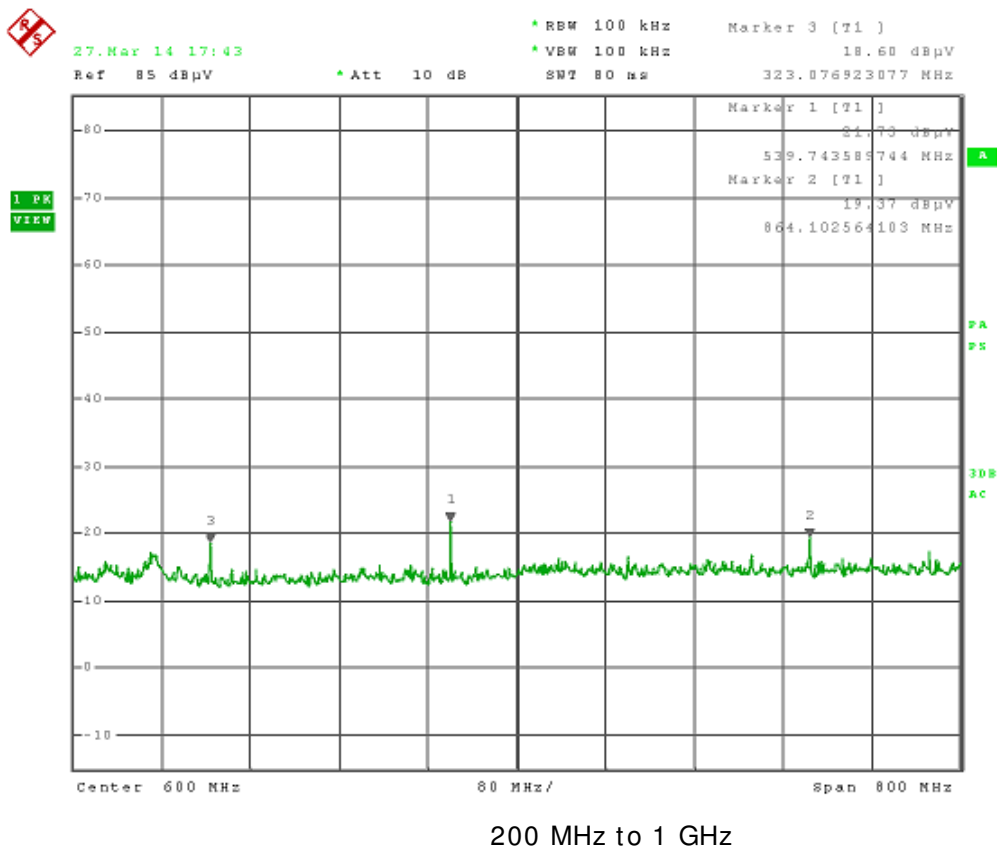
Above 1 GHz



RADIATED SPURIOUS EMISSIONS

27.Mar 14 17:43

Antenna Polarity Vertical
Detectors Used Peak
EUT Mode Transmit
Job # 364AUT14
Operator Mario de Aranzeta
EUT Description FM transmitter





RADIATED SPURIOUS EMISSIONS

27.Mar 14 17:26

Antenna Polarity Vertical
Detectors Used Peak
EUT Mode Transmit
Job # 364AUT14
Operator Mario de Aranzeta
EUT Description FM transmitter



27.Mar 14 17:26

Ref 85 dBμV

Att 10 dB

* RBW 1 MHz

* VBW 2 MHz

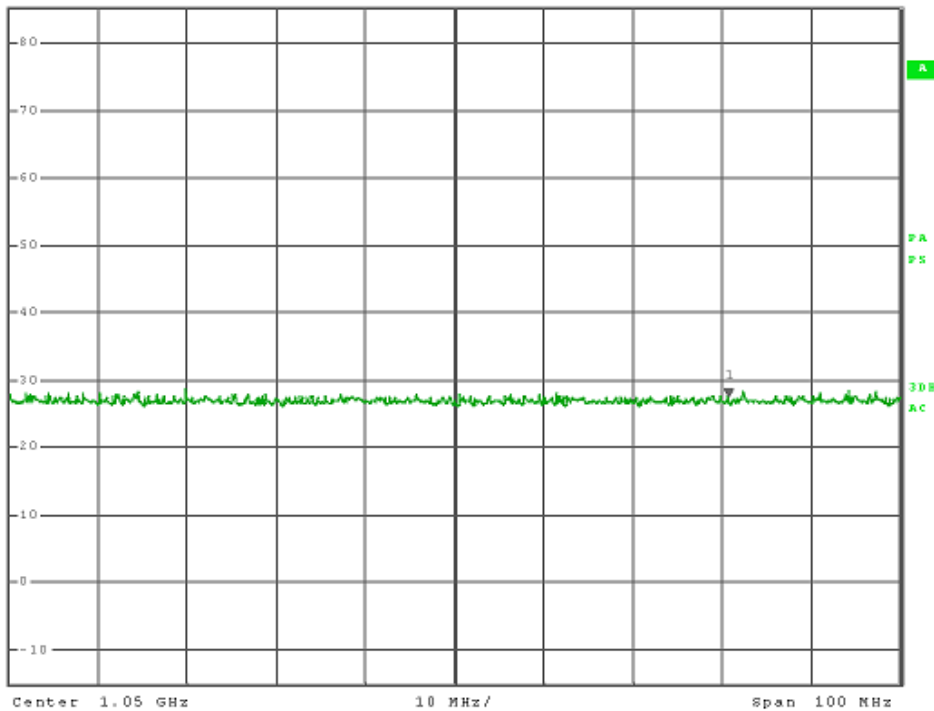
SWT 2.5 us

Marker 1 [T1]

27.42 dBμV

1.080769231 GHz

1 PR
VIEW



Above 1 GHz

FREQUENCY STABILITY

Rule Parts. No.: Part 2.1055, Part 73.1545

Requirements: Temperature and voltage tests were performed to verify that the frequency remains within the 2000Hz, specification limit.
The test was conducted as follows: The transmitter was placed in the temperature chamber at 25° C and allowed to stabilize for one hour. The temperature was then reduced to -30° C after which the transmitter was again allowed to stabilize for one hour. The transmitter was ON continuously because that is how it is used and frequency readings were noted at 15-second intervals. The worst-case number was recorded for temperature plotting. This procedure was repeated in 10 degree increments up to + 50° C.

Method of Measurements: ANSI/TIA 603-D: 2010.

Test Data:

Assigned Frequency (Ref. Frequency) (MHz)		98.500230
Temperature (° C)	Frequency (MHz)	Frequency Stability (PPM)
-30	98.500144	-0.87
-20	98.500190	-0.41
-10	98.500200	-0.30
0	98.500230	0.00
+10	98.500238	0.08
+20	98.500233	0.03
+30	98.500226	-0.04
+40	98.500226	-0.04
+50	98.500226	-0.04

Assigned Frequency (Ref. Frequency) (MHz)		
AC mains %	Frequency (MHz)	Frequency Stability (PPM)
-15%	98.500230	0.0
0	98.500230	0.0
+15%	98.500230	0.0

EQUIPMENT LIST

Device	Manufacturer	Model	Serial Number	Cal/ Char Date	Due Date
3-Meter Semi-Anechoic Chamber	Panashield	N/A	N/A	12/31/13	12/31/15
Antenna: Active Loop	ETS-Lindgren	6502	00062529	10/09/13	10/09/15
Antenna: Biconnical	Eaton	94455-1	1096	05/10/13	05/10/15
Antenna: Biconnical	Electro-Metrics	BIA-25	1171	06/13/12	06/13/14
Antenna: Double-Ridged Horn/ETS Horn 2	ETS-Lindgren	3117	00041534	10/05/12	10/05/14
Antenna: Log-Periodic	Eaton	96005	1243	05/31/13	05/31/15
Antenna: Log-Periodic	Electro-Metrics	LPA-25	1122	05/09/13	05/09/15
Audio Generator	B&K Precision	3010	8739686	09/11/12	09/11/14
Coaxial Cable - Chamber 3 cable set	Semiflex	Unknown	Chamber 3 cable set	01/26/14	01/26/16
Coaxial Cable # 174	Semiflex	Unknown	30288-0332	06/25/13	06/25/15
Coaxial Cable # 175	Semiflex	Unknown	102280-0333	06/24/13	06/24/15
Digital Multimeter	Fluke	FLUKE-77-3	79510405	06/20/13	06/20/15
Frequency Counter	HP	5385A	2730A03025	08/22/13	08/22/15
Frequency Counter	HP	5385A	3242A07460	06/16/13	06/16/15
Function Generator	SRS	DS340	25200	08/29/13	08/29/15
Function Generator	SRS	DS345/12	38435	06/19/13	06/19/15
High Pass Filter	Microlab	HA-10N		05/17/13	05/17/15
High Pass Filter	Microlab	HA-20N		05/17/13	05/17/15
High Power Attenuator	Bird	8329-300	4980	02/26/13	02/26/15
Hygro-Thermometer	Extech	445703	0602	06/20/13	06/20/15

Measuring Tape-7.5M	Kraftixx	7.5M PROFI		05/20/13	05/20/15
Modulation Analyzer	HP	8901A	3050A05856	09/26/12	09/26/14
Oscilloscope	LeCroy	LT364	00414	08/22/13	08/22/15
RF Power Meter	Boonton	4531		01/19/13	01/19/15
Sensor	Boonton	51072A	34647	01/19/13	01/19/15
Signal Generator	HP	8648C	3847A04696	09/18/13	09/18/15
Temperature Chamber	Tenney Engineering	TTRC	11717-7	07/03/12	07/03/14
Temperature Chamber	Thermotron Corp.	S1.2 Mini Max	25-1420-09	07/03/12	07/03/14
Waverunner Digital Scope	Lecroy	LT364L	00543	06/22/13	06/22/15
EMI Test Receiver	Rhode & Schwarz	ESU 40	100320	03/21/13	03/21/15
Software: Field Strength Program	Timco	N/A	Version 4.0	12/12/99	12/12/99
Hygro-Thermometer	Extech	445703	0602	06/20/13	06/20/15
Analyzer Silver Tower Quasi-Peak Adapter	HP	85650A	2811A01175	06/05/13	06/05/15
Analyzer Silver Tower RF Preselector	HP	85685A	2926A00983	06/05/13	06/05/15
Analyzer Silver Tower Spectrum Analyzer	HP	8566B Opt 462	3552A22064 3638A08608	06/05/13	06/05/15
Temperature Chamber	Tenney Engineering	TTRC	11717-7	07/03/12	07/03/14

Manufacturer	Model	Receiver Firmware	BIOS Ver
Rohde & Schwarz	ESU40	4.43 SP3	V5.1-24-3
Rohde & Schwarz	ESIB40	4.34.3	3.3