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CNASL1225

FCC PART 90 TEST REPORT

FCC Part 90

Report Reference No.....:	**TRE12040042**
FCC ID.....:	**YAMPD78XGU5**
Compiled by (position+printed name+signature)..:	File administrators Tim Zhang
Supervised by (position+printed name+signature)..:	Test Engineer Eric Zhang
Approved by (position+printed name+signature)..:	Manager Wenliang Li
Date of issue.....:	Apr 16, 2012
Testing Laboratory Name .....:	**Shenzhen Huatongwei International Inspection Co., Ltd**
Address.....:	Keji Nan No.12 Road, Hi-tech Park, Shenzhen, China
Applicant's name.....:	**Hytera Communications Corporation Ltd.**
Address.....:	HYT Tower,Hi-Tech Industrial Park North,Nanshan District,Shenzhen China.518057
Test specification:	
Standard .....:	**FCC Part 90: PRIVATE LAND MOBILE RADIO SERVICES**
TRF Originator.....:	Shenzhen Huatongwei International Inspection CO., Ltd
Master TRF.....:	Dated 2006-06

Test item description .....:	Digital Portable Radio
Trade Mark .....:	Hytera
Manufacturer .....:	**Hytera Communications Corporation Ltd.**
Model/Type reference.....:	PD782G U(5)/ PD785G U(5)/PD786G U(5)/PD788G U(5)/HD785G U(5)
Listed Models .....:	/
Ratings.....:	DC 7.40 V
Modulation .....:	FM&4FSK
Channel Separation.....	25KHz&12.5KHz
Rated Power	2.5 Watts(33.98dBm)/1 Watts(30.00dBm)
Operation Frequency Range	806-825MHz/851-870MHz/896-902MHz/935-941MHz
Result.....:	**Positive**

T E S T R E P O R T

Test Report No. :	TRE12040042	Apr 16, 2012 Date of issue

Equipment under Test	:	Digital Portable Radio
Model /Type	:	PD782G U(5)/ PD785G U(5)/PD786G U(5)/PD788G U(5)/HD785G U(5)
Listed Models	:	/
Applicant	:	**Hytera Communications Corporation Ltd.**
Address	:	HYT Tower,Hi-Tech Industrial Park North,Nanshan District,Shenzhen China.518057
Manufacturer	:	**Hytera Communications Corporation Ltd.**
Address	:	HYT Tower,Hi-Tech Industrial Park North,Nanshan District,Shenzhen China.518057

Test Result according to the standards on page 4:	**Positive**

The test report merely corresponds to the test sample.
It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

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1. TEST STANDARDS

The tests were performed according to following standards:

FCC Rules Part 90: PRIVATE LAND MOBILE RADIO SERVICES.

TIA/EIA 603: Land Mobile FM or PM Communications Equipment Measurement and Performance Standards.

47 CFR FCC Part 15 Subpart B - Unintentional Radiators

FCC Part 2: FREQUENCY ALLOCA-TIONS AND RADIO TREATY MAT-TERS; GENERAL RULES AND REG-ULATIONS

2 . SUMMARY

2.1. General Remarks

Date of receipt of test sample	:	Apr 01, 2012
Testing commenced on	:	Apr 01, 2012
Testing concluded on	:	Apr 16, 2012

2.2. Product Description

The Hytera Communications Corporation Ltd.'s Model: PD782G U(5)/ PD785G U(5)/PD786G U(5)/PD788G U(5)/HD785G U(5) or the "EUT" as referred to in this report; more general information as follows, for more details, refer to the user's manual of the EUT.

Name of EUT	Digital Portable Radio	
Model Number	PD782G U(5)/ PD785G U(5)/PD786G U(5)/PD788G U(5)/HD785G U(5)	
FCC ID	YAMPD78XGU5	
Rated Output Power	2.5 Watts(33.98dBm)/1 Watts(30.00dBm)	
Support data rate	9.6kbps	
Modilation Type	FM for Analog Voice	
	4FSK for Digital Voice/Digital Data	
	4FSK for Digital Data	
	Analog	16K0F3E for 25KHz Channel Separation
		11K0F3E for 12.5KHz Channel Separation
	Digital	7K60FXD for Digital Data only
		7K60FXW for Digital Data & Digital Voice
Channel Separation	Analog Voice	12.5KHz&25KHz
	Digital Voice/Data	12.5KHz
	Digital Data	12.5KHz
Antenna Type	External	
Frequency Range	806-825MHz/851-870MHz/896-902MHz/935-941MHz	
Maximum Output Power	Analog	2.99 W for 25 KHz Channel Separation
		3.00 W for 12.5 KHz Channel Separation
	Digital	2.98 W for 12.5 KHz Channel Separation

Note: The product has the same digital working characters when operating in both two digitized voice/data mode (7K60FXD and 7K60FXW). So only one set of test results for digital modulation modes are provided in this test report.

2.3. Equipment under Test

Power supply system utilised

Power supply voltage	:	○	120V / 60 Hz	○	115V / 60Hz
		○	12 V DC	○	24 V DC
		●	Other (specified in blank below)		

DC 7.40V from battery

Test frequency list

Frequency Range (MHz)	Modulation Type	Channel Separation (KHz)	Test Channel	Test Frequency (MHz)	
				TX	RX
806-825	Analog/FM	25	Low Channel	806.5000	851.5000
			Middle Channel	817.0000	860.0000
			High Channel	823.5000	868.5000
		12.5	Low Channel	806.5000	851.5000
			Middle Channel	817.0000	860.0000
			High Channel	823.5000	868.5000
	Digital/4FSK	12.5	Low Channel	806.5000	851.5000
			Middle Channel	817.0000	860.0000
			High Channel	823.5000	868.5000
851-870	Analog/FM	25	Low Channel	851.5000	851.5000
			Middle Channel	860.0000	860.0000
			High Channel	868.5000	868.5000
		12.5	Low Channel	851.5000	851.5000
			Middle Channel	860.0000	860.0000
			High Channel	868.5000	868.5000
	Digital/4FSK	12.5	Low Channel	851.5000	851.5000
			Middle Channel	860.0000	860.0000
			High Channel	868.5000	868.5000
896-902	Analog/FM	12.5	Low Channel	896.5000	935.5000
			High Channel	900.5000	939.5000
	Digital/4FSK		Low Channel	896.5000	935.5000
			High Channel	900.5000	939.5000
935-941	Analog/FM	12.5	Low Channel	935.5000	935.5000
			High Channel	939.5000	939.5000
	Digital/4FSK		Low Channel	935.5000	935.5000
			High Channel	939.5000	939.5000

2.4. Short description of the Equipment under Test (EUT)

806-825MHz/851-870MHz/896-902MHz/935-941MHz U frequency band Digital Portable Radio with GPS fucntion (PD782G U(5)/ PD785G U(5)/PD786G U(5)/PD788G U(5)/HD785G U(5)).

For more details, refer to the user's manual of the EUT.

Serial number: Prototype

2.5. EUT Configuration

The EUT configuration for testing is installed on RF field strength measurement to meet the Commission's requirement and operating in a manner which intends to maximize its emission characteristics in a continuous normal application.

2.6. EUT operation mode

The EUT has been tested under typical operating condition and The Transmitter was operated in the normal operating mode. The TX frequency was fixed which was for the purpose of the measurements.

2.7. EUT configuration

The following peripheral devices and interface cables were connected during the measurement:

● - supplied by the manufacturer

○ - supplied by the lab

○	Power Cable	Length (m) :	/
		Shield :	/
		Detachable :	/
○	Multimeter	Manufacturer :	/
		Model No. :	/

2.8. Related Submittal(s) / Grant (s)

This submittal(s) (test report) is intended for FCC ID: **YAMPD78XGU5** filing to comply with FCC Part 90 Rules.

2.9. Modifications

No modifications were implemented to meet testing criteria.

2.10. Note

The EUT is is a U frequency band (806-825MHz/851-870MHz/896-902MHz/935-941MHz) Digital Portable Radio with GPS function, The functions of the EUT listed as below:

	Test Standards	Reference Report
Radio	FCC Part 90	TRE12040042

3. TEST ENVIRONMENT

3.1. Address of the test laboratory

Shenzhen Huatongwei International Inspection Co., Ltd
Keji Nan No.12 Road, Hi-tech Park, Shenzhen, China
Phone: 86-755-26715686 Fax: 86-755-26748089

The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.4 (2009) and CISPR Publication 22.

3.2. Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

CNAS-Lab Code: L1225

Shenzhen Huatongwei International Inspection Co., Ltd has been assessed and proved to be in compliance with CNAS-CL01 Accreditation Criteria for Testing and Calibration Laboratories (identical to ISO/IEC 17025: 2005 General Requirements) for the Competence of Testing and Calibration Laboratories, Date of Registration: August 02, 2007. Valid time is until Feb 28, 2015.

A2LA-Lab Cert. No. 2243.01

Shenzhen Huatongwei International Inspection Co., Ltd, EMC Laboratory has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025: 2005 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing. Valid time is until Sept 30, 2013.

FCC-Registration No.: 662850

Shenzhen Huatongwei International Inspection Co., Ltd, EMC Laboratory has been registered and fully described in a report filed with the FCC (Federal Communications Commission). The acceptance letter from the FCC is maintained in our files. Registration 662850, Renewal date July 01, 2009.

IC-Registration No.: 5377

The 3m Alternate Test Site of Shenzhen Huatongwei International Inspection Co., Ltd has been registered by Certification and Engineering Bureau of Industry Canada for the performance of radiated measurements with Registration No. 5377 on Jan 25, 2011. Valid time is until Jan 24, 2014

ACA

Shenzhen Huatongwei International Inspection Co., Ltd, EMC Laboratory can also perform testing for the Australian C-Tick mark as a result of our A2LA accreditation.

NEMKO-Aut. No.: ELA125

Shenzhen Huatongwei International Inspection Co., Ltd has been assessed the quality assurance system, the testing facilities, qualifications and testing practices of the relevant parts of the organization. The quality assurance system of the Laboratory has been validated against ISO/IEC 17025:2005 or equivalent. The laboratory also fulfils the conditions described in Nemko Document NLA-10; the Authorization is valid through July 07, 2013.

VCCI

The 3m Semi-anechoic chamber (12.2m×7.95m×6.7m) and Shielded Room (8m×4m×3m) of Shenzhen Huatongwei International Inspection Co., Ltd has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-2484. Date of Registration: December 20, 2009. Valid time is until December 19, 2012.

Main Ports Conducted Interference Measurement of Shenzhen Huatongwei International Inspection Co., Ltd has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: C-2726. Date of Registration: December 20, 2009. Valid time is until December 19, 2012.

DNV

Shenzhen Huatongwei International Inspection Co Ltd has been found to comply with the requirements of DNV towards subcontractor of EMC and safety testing services in conjunction with the EMC and Low voltage Directives and in the voluntary field. The acceptance is based on a formal quality Audit and follow-ups according to relevant parts of ISO/IEC Guide 17025(2005), in accordance with the requirements of the DNV Laboratory Quality Manual towards subcontractors. Valid time is until Aug 24, 2013..

3.3. Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

Temperature:	15-35 ° C
Humidity:	30-60 %
Atmospheric pressure:	950-1050mbar

3.4. Configuration of Tested System

Fig. 2-1 Configuration of Tested System

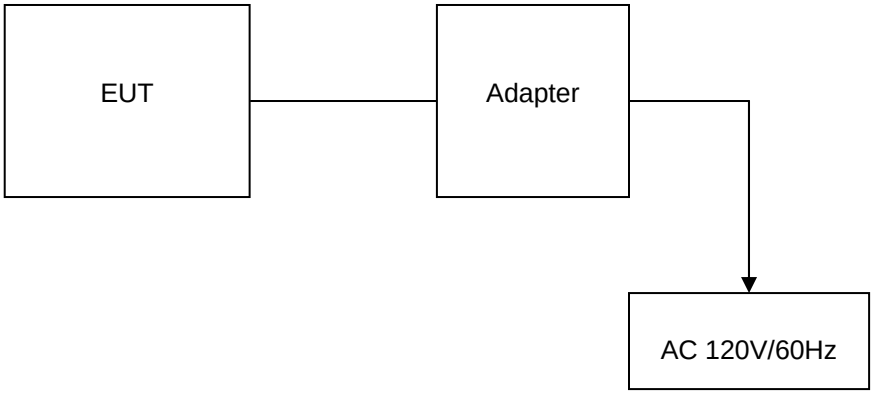


Table 2-1 Equipment Used in Tested System

Adapter: P/N: PS1014
Model: DSA-15P-12 US 120120
Input:100-240V～50/60Hz 0.5A
Output: +12V DC 1A
Power Cable: 180cm
◇ Shielded ◆ Unshielded

3.5. Discription of Tested Modes

The EUT (Didital Portable Radio) has been tested under normal operating condition. Three channels (the high, the middle and the low) are chosen for testing at each channel separation (12.5 KHz&25KHz).

3.6. Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. to CISPR 16 - 4 „Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC Measurements“ and is documented in the Shenzhen Huatongwei International Inspection Co., Ltd quality system acc. to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

Hereafter the best measurement capability for Shenzhen Huatongwei laboratory is reported:

Test Items	Measurement Uncertainty	Notes
Frequency stability	150 Hz	(1)
Transmitter power conducted	0.30 dB	(1)
Transmitter power Radiated	2.20 dB	(1)
Conducted spurious emission 9KHz-12.75 GHz	1.60 dB	(1)
Radiated spurious emission 9KHz-12.75 GHz	2.20 dB	(1)
Conducted Emission 9KHz-30MHz	3.39 dB	(1)
Radiated Emission 30~1000MHz	4.24 dB	(1)
Radiated Emissio 1~18GHz	5.16 dB	(1)
Radiated Emissio 18-40GHz	5.54 dB	(1)
Occupied Bandwidth	---------	(1)
Emission Mask	---------	(1)
Modulation Characteristic	---------	(1)
Transmitter Frequency Behavior	---------	(1)

(1) This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=1.96.

3.7. Test Description

FCC Rules	Description of Test	Test Result
§ 15.107	Conducted Emission	Complies
§ 15.109	Receiver Radiated Spurious Emssion	Complies
§ 15.109	Receiver Conducted Spurious Emssion	Complies
§ 90.205	Maximum Transmitter Power	Complies
§ 90.207	Modulation Characteristic	Complies
§ 90.209	Occupied Bandwidth	Complies
§ 90.210	Emission Mask	Complies
§ 90.213	Frequency Stability	Complies
§ 90.214	Transmitter Frequency Behavior	N/A
§ 90.210	Transmitter Radiated Spurious Emssion	Complies
§ 90.210	Spurious Emssion On Antenna Port	Complies

3.8. Equipments Used during the Test

AC Power Conducted Emission				
Name of Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Due**
Artificial Mains	Rohde&Schwarz	ESH2-Z5	100028	10/23/2012
EMI Test Receiver	Rohde&Schwarz	ESCS 30	100038	10/23/2012
Pulse Limiter	Rohde&Schwarz	ESHSZ2	100044	10/23/2012
EMI Test Software	Rohde&Schwarz	ES-K1 V1.71	N/A	10/23/2012

Modulation Characteristic				
Name of Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Due**
RF COMMUNICATION TEST SET	HP	8920A	3813A10206	10/23/2012

Transmitter Radiated Spurious Emssion & Occupied Bandwidth & Emission Mask & Receiver Radiated Spurious Emssion				
Name of Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Due**
Ultra-Broadband Antenna	Rohde&Schwarz	HL562	100015	10/23/2012
EMI Test Receiver	Rohde&Schwarz	ESI 26	100009	10/23/2012
RF Test Panel	Rohde&Schwarz	TS / RSP	335015/ 0017	N/A
HORN ANTENNA	Rohde&Schwarz	HF906	100039	10/23/2012
Turntable	ETS	2088	2149	N/A
Antenna Mast	ETS	2075	2346	N/A
EMI Test Software	Rohde&Schwarz	ES-K1 V1.71	N/A	10/23/2012
RF COMMUNICATION TEST SET	HP	8920A	3813A10206	10/23/2012
Spectrum Analzyer	Aglient	E4407B	MY44210775	23/10/2012
Spectrum Analzyer	Rohde&Schwarz	FSP40	1164.4391.40	23/10/2012
High pass filter	Compliance Direction systems	BSU-6	34202	23/10/2012

Frequency Stability				
Name of Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Due**
Communication Test Set	HP	HP8920B	US35010135	10/23/2012
Signal Generator	Rohde&Schwarz	SMT03	100059	10/23/2012
Climate Chamber	ESPEC	EL-10KA	05107008	10/23/2012

Maximum Transmitter Power & Spurious Emssion On Antenna Port				
Name of Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Due**
Receiver	Rohde&Schwarz	ESI 26	100009	10/23/2012
Attenuator	R&S	ESH3-22	100449	10/23/2012
RF COMMUNICATION TEST SET	HP	8920A	3813A10206	10/23/2012
High-Pass Filter	Anritsu	MP526B	6220875256	10/23/2012
High-Pass Filter	Anritsu	MP526D	6220878392	10/23/2012
High pass filter	Compliance Direction systems	BSU-6	34202	23/10/2012
Spectrum Analzyer	Rohde&Schwarz	FSP40	1164.4391.40	23/10/2012

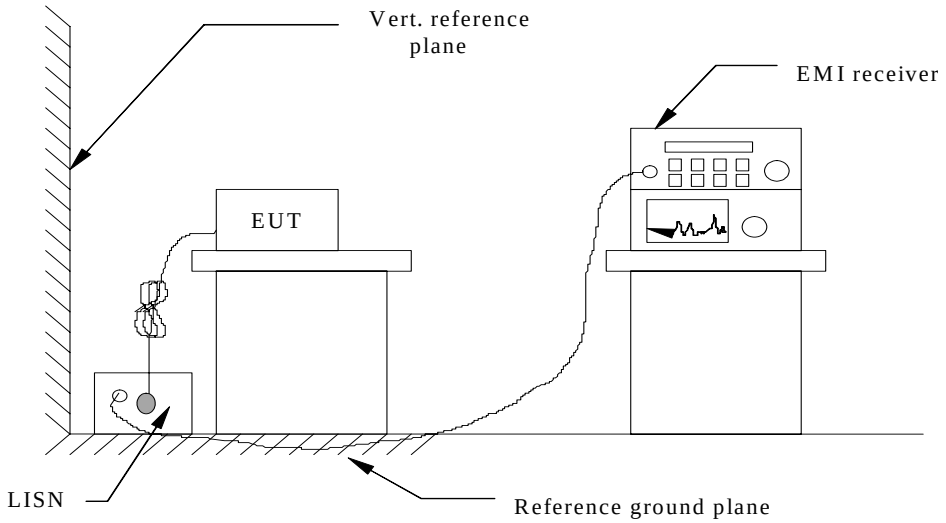
4. TEST CONDITIONS AND RESULTS

4.1. Conducted Emissions Test

TEST APPLICABLE

The EUT was tested according to ANSI C63.4 - 2009. The frequency spectrum from 0.15 MHz to 30 MHz was investigated. The LISN used was 50 ohm / 50 u Henry as specified by section 5.1 of ANSI C63.4 - 2009. Cables and peripherals were moved to find the maximum emission levels for each frequency.

TEST CONFIGURATION



TEST PROCEDURE

1 The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. The EUT is a tabletop system; a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.4-2009.
2 Support equipment, if needed, was placed as per ANSI C63.4-2009.
3 All I/O cables were positioned to simulate typical actual usage as per ANSI C63.4-2009.
4 If a EUT received DC power from the adapter, the adapter received AC120V/60Hz power through a Line Impedance Stabilization Network (LISN) which supplied power source and was grounded to the ground plane.
5 All support equipments received AC power from a second LISN, if any.
6 The EUT test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
7 Analyzer / Receiver scanned from 150 KHz to 30MHz for emissions in each of the test modes.
8 During the above scans, the emissions were maximized by cable manipulation.

Conducted Power Line Emission Limit

For unintentional device, according to § 15.107(a) Line Conducted Emission Limits is as following：

Frequency (MHz)	Maximum RF Line Voltage (dBμV)			
	CLASS A		CLASS B	
	Q.P.	Ave.	Q.P.	Ave.
0.15 - 0.50	79	66	66-56*	56-46*
0.50 - 5.00	73	60	56	46
5.00 - 30.0	73	60	60	50

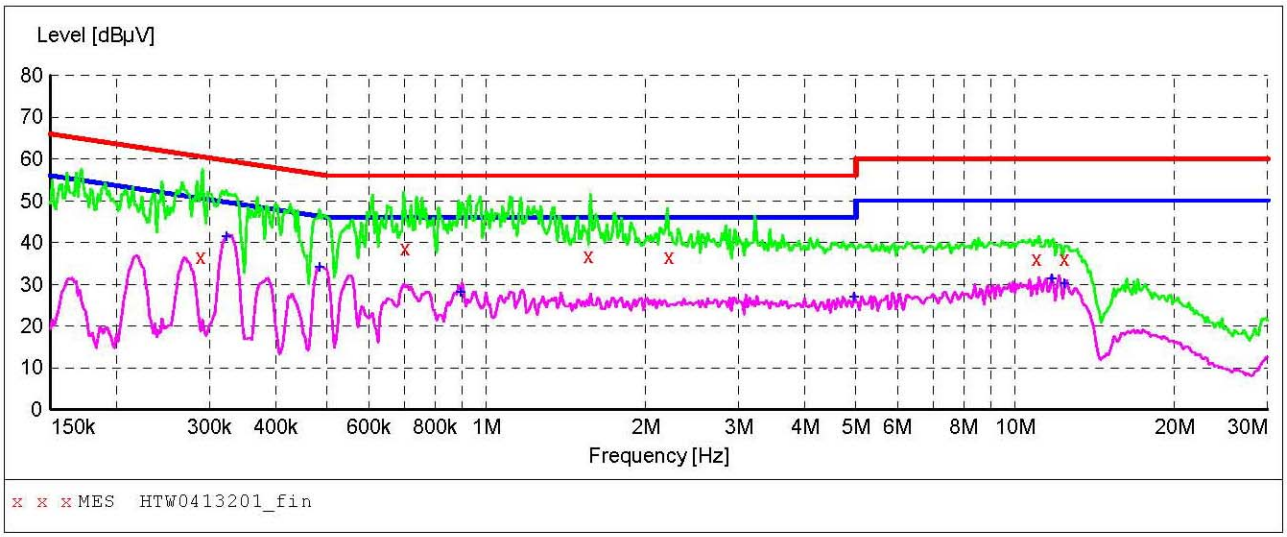
* Decreasing linearly with the logarithm of the frequency

For intentional device, according to §15.207(a) Line Conducted Emission Limit is same as above table.

TEST RESULTS

For FM Mudolation @ 25 KHz

SCAN TABLE: "Voltage (9K-30M)FIN"
Short Description: 150K-30M Voltage



MEASUREMENT RESULT: "HTW0413201_fin"

4/13/2012 9:19PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.288300	36.60	9.7	61	24.0	QP	N	GND
0.703767	38.70	9.8	56	17.3	QP	N	GND
1.561300	36.70	9.9	56	19.3	QP	N	GND
2.216920	36.50	9.8	56	19.5	QP	N	GND
10.998110	36.10	9.7	60	23.9	QP	N	GND
12.394410	36.20	9.7	60	23.8	QP	N	GND

MEASUREMENT RESULT: "HTW0413201_fin2"

4/13/2012 9:19PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.322330	41.30	9.7	50	8.3	AV	N	GND
0.483931	34.00	9.7	46	12.3	AV	N	GND
0.893820	28.00	9.8	46	18.0	AV	N	GND
4.957515	26.90	9.8	46	19.1	AV	N	GND
11.722012	31.20	9.7	50	18.8	AV	N	GND
12.394410	30.20	9.7	50	19.8	AV	N	GND

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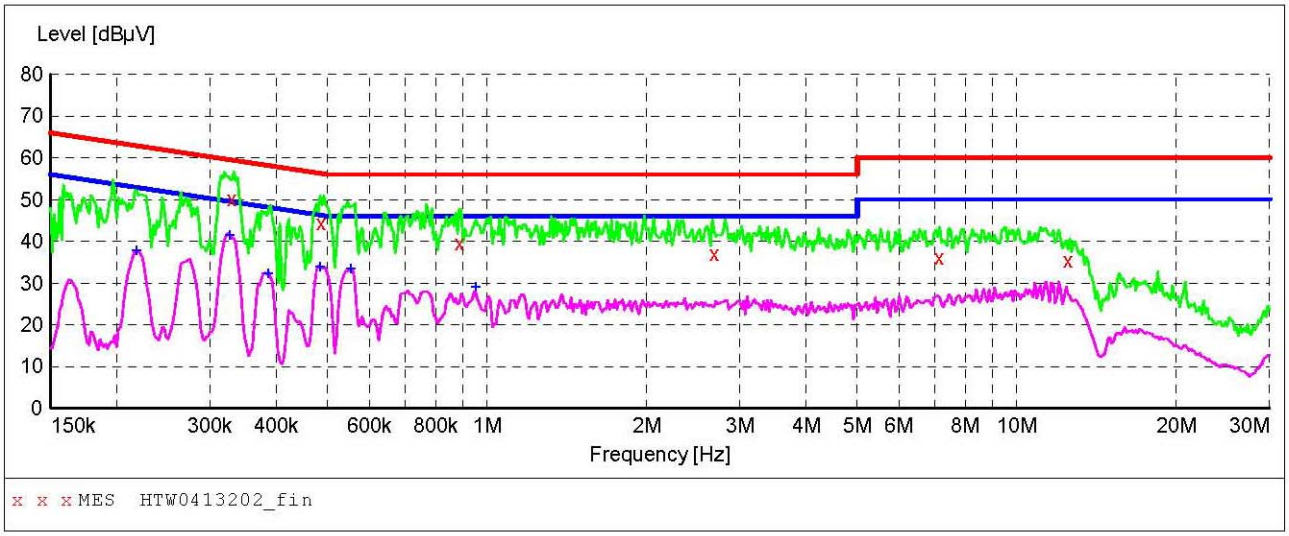
SCAN TABLE: "Voltage (9K-30M)FIN"

Short Description: 150K-30M Voltage



MEASUREMENT RESULT: "HTW0413202_fin"

4/13/2012 9:27PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.330120	50.20	9.7	59	9.2	QP	L1	GND
0.487800	44.40	9.7	56	11.8	QP	L1	GND
0.886720	39.50	9.8	56	16.5	QP	L1	GND
2.684126	37.10	9.8	56	18.9	QP	L1	GND
7.152355	36.10	9.8	60	23.9	QP	L1	GND
12.493570	35.50	9.7	60	24.5	QP	L1	GND

MEASUREMENT RESULT: "HTW0413202_fin2"

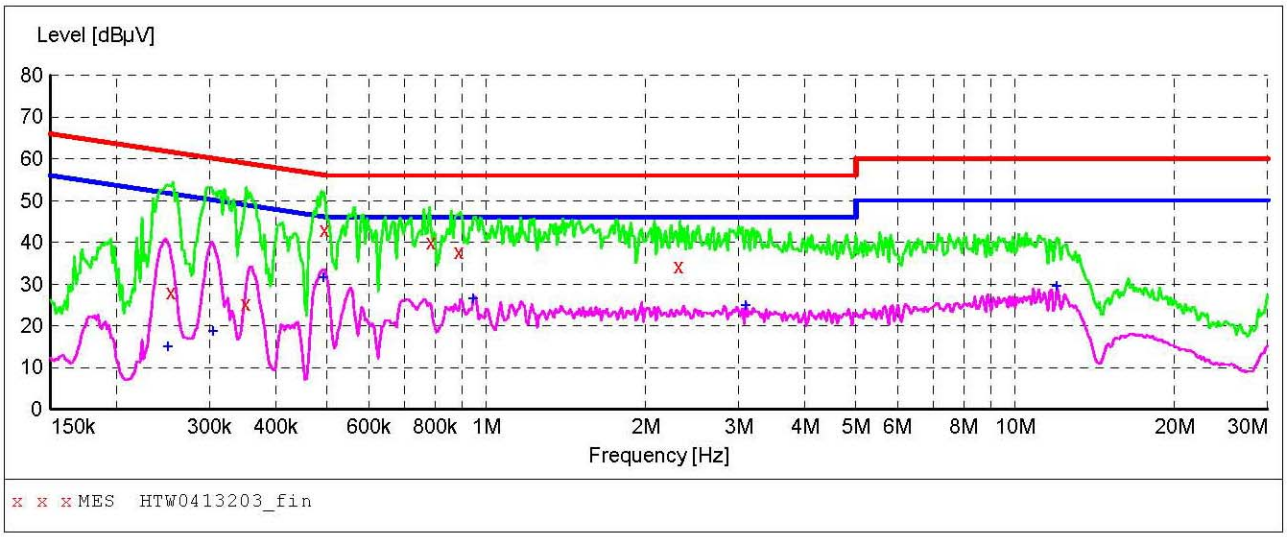
4/13/2012 9:27PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.218139	37.80	9.7	53	15.1	AV	L1	GND
0.327500	41.30	9.7	50	8.2	AV	L1	GND
0.387163	32.10	9.7	48	16.0	AV	L1	GND
0.483930	33.80	9.7	46	12.5	AV	L1	GND
0.554138	33.30	9.8	46	12.7	AV	L1	GND
0.952650	28.90	9.8	46	17.1	AV	L1	GND

Page 1/1 4/13/2012 9:28PM HTW0413202

For FM Mudolation @ 25 KHz

SCAN TABLE: "Voltage (9K-30M)FIN"
Short Description: 150K-30M Voltage



MEASUREMENT RESULT: "HTW0413203_fin"

4/13/2012 9:38PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.253790	28.00	9.7	62	33.6	QP	L1	GND
0.351852	25.20	9.7	59	33.7	QP	L1	GND
0.495640	42.90	9.7	56	13.2	QP	L1	GND
0.786830	39.90	9.8	56	16.1	QP	L1	GND
0.886720	37.70	9.8	56	18.3	QP	L1	GND
2.307030	34.20	9.8	56	21.8	QP	L1	GND

MEASUREMENT RESULT: "HTW0413203_fin2"

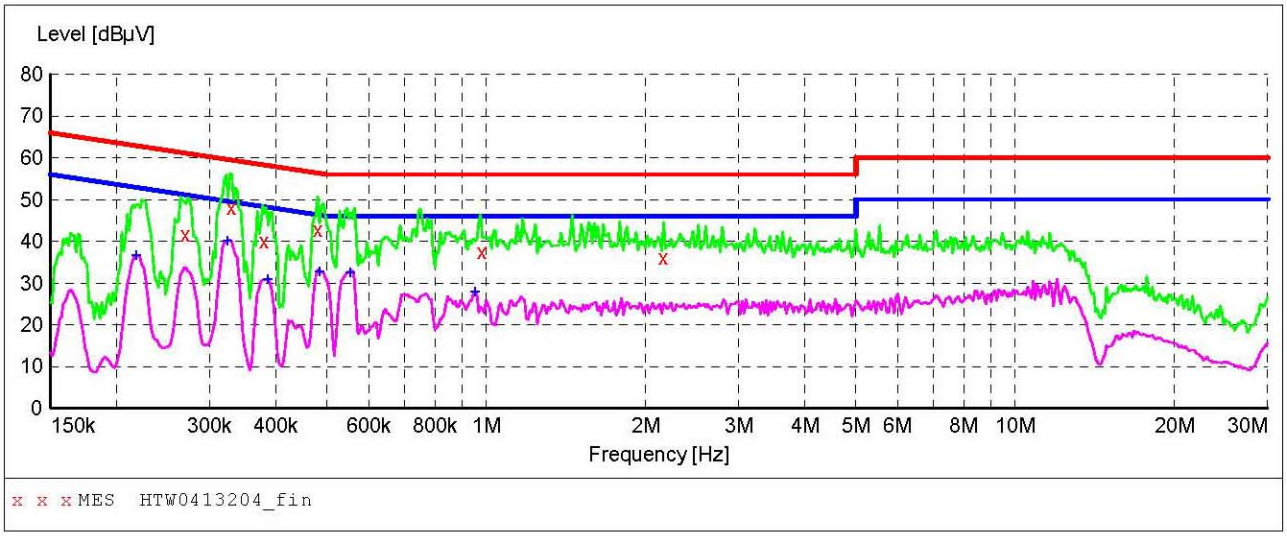
4/13/2012 9:38PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.249779	15.00	9.7	52	36.8	AV	L1	GND
0.304840	18.50	9.7	50	31.6	AV	L1	GND
0.491710	31.50	9.7	46	14.6	AV	L1	GND
0.945090	26.50	9.8	46	19.5	AV	L1	GND
3.098078	24.80	9.8	46	21.2	AV	L1	GND
12.005592	29.40	9.7	50	20.6	AV	L1	GND

Page 1/1 4/13/2012 9:38PM HTW0413203

SCAN TABLE: "Voltage (9K-30M)FIN"

Short Description: 150K-30M Voltage



MEASUREMENT RESULT: "HTW0413204_fin"

4/13/2012 9:45PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.270500	41.60	9.7	61	19.5	QP	N	GND
0.330120	48.00	9.7	59	11.4	QP	N	GND
0.381040	40.10	9.7	58	18.2	QP	N	GND
0.480090	42.70	9.7	56	13.6	QP	N	GND
0.983500	37.40	9.9	56	18.6	QP	N	GND
2.164559	36.00	9.8	56	20.0	QP	N	GND

MEASUREMENT RESULT: "HTW0413204_fin2"

4/13/2012 9:45PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.218131	36.60	9.7	53	16.3	AV	N	GND
0.324900	40.10	9.7	50	9.5	AV	N	GND
0.387163	30.80	9.7	48	17.3	AV	N	GND
0.483931	32.60	9.7	46	13.7	AV	N	GND
0.554130	32.40	9.8	46	13.6	AV	N	GND
0.952651	27.90	9.8	46	18.1	AV	N	GND

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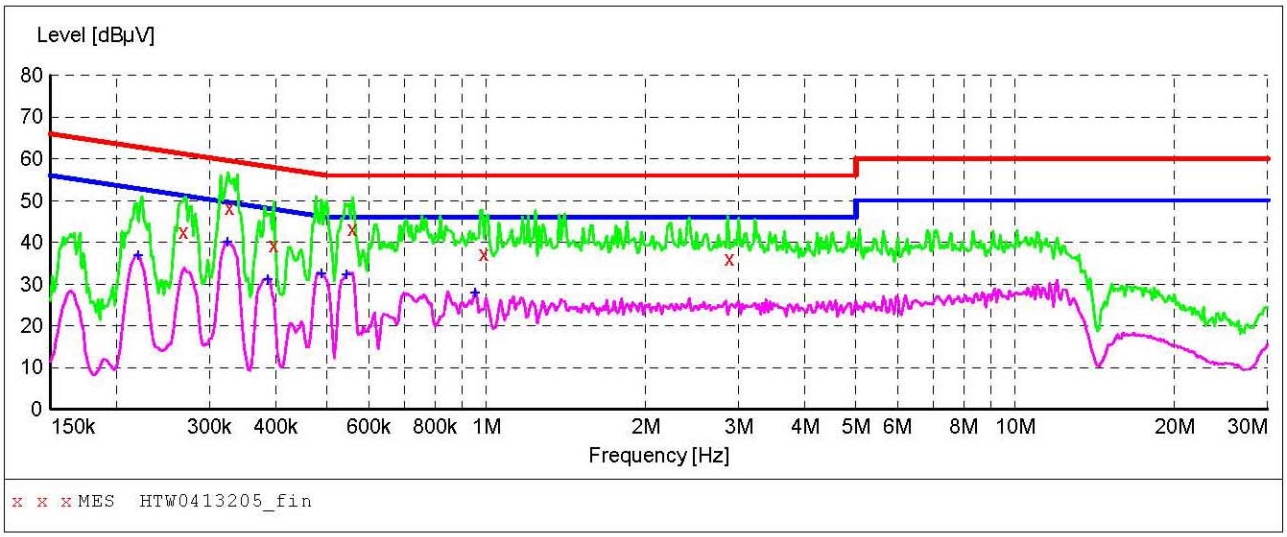
For FSK Mudolation @ 12.5 KHz

SCAN TABLE: "Voltage (9K-30M)FIN"
Short Description: 150K-30M Voltage



MEASUREMENT RESULT: "HTW0413205_fin"

4/13/2012 9:56PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.268350	42.50	9.7	61	18.7	QP	N	GND
0.327500	48.30	9.7	60	11.2	QP	N	GND
0.396527	39.40	9.7	58	18.5	QP	N	GND
0.558563	43.30	9.8	56	12.7	QP	N	GND
0.991370	37.30	9.9	56	18.7	QP	N	GND
2.883690	36.00	9.8	56	20.0	QP	N	GND

MEASUREMENT RESULT: "HTW0413205_fin2"

4/13/2012 9:56PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.219880	36.70	9.7	53	16.1	AV	N	GND
0.324900	40.10	9.7	50	9.5	AV	N	GND
0.387163	31.00	9.7	48	17.1	AV	N	GND
0.487801	32.40	9.7	46	13.8	AV	N	GND
0.545370	32.30	9.7	46	13.7	AV	N	GND
0.952651	27.90	9.8	46	18.1	AV	N	GND

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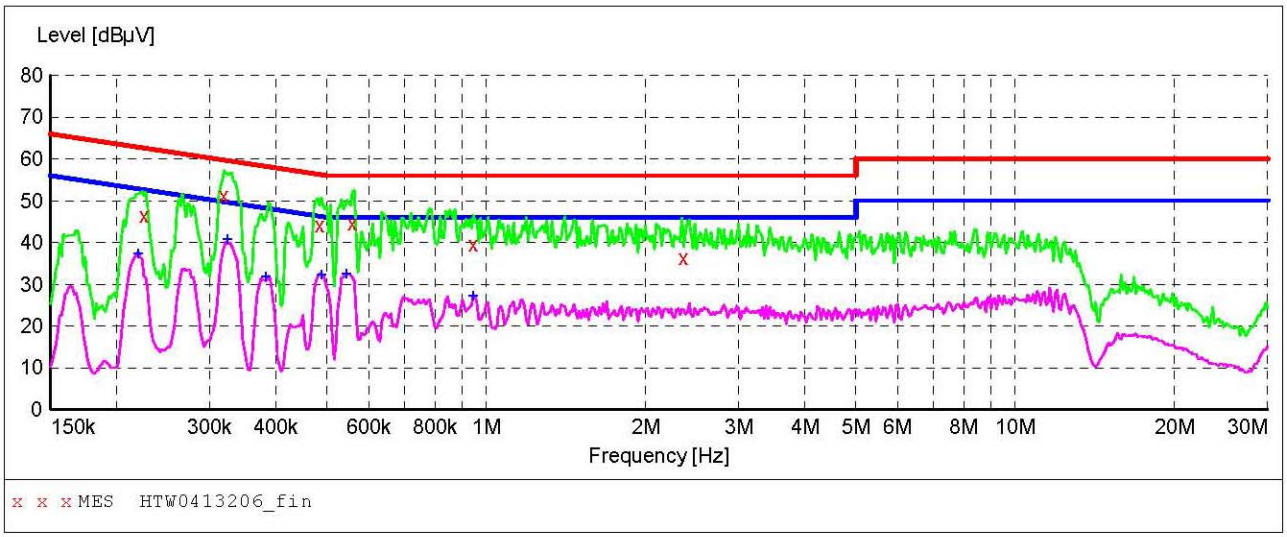
SCAN TABLE: "Voltage (9K-30M)FIN"

Short Description: 150K-30M Voltage



MEASUREMENT RESULT: "HTW0413206_fin"

4/13/2012 10:06PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.225200	46.50	9.7	63	16.1	QP	L1	GND
0.319768	51.20	9.7	60	8.5	QP	L1	GND
0.483930	44.10	9.7	56	12.2	QP	L1	GND
0.558570	44.70	9.8	56	11.3	QP	L1	GND
0.945091	39.50	9.8	56	16.5	QP	L1	GND
2.362837	36.30	9.8	56	19.7	QP	L1	GND

MEASUREMENT RESULT: "HTW0413206_fin2"

4/13/2012 10:06PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.219885	37.30	9.7	53	15.5	AV	L1	GND
0.324900	40.60	9.7	50	9.0	AV	L1	GND
0.384090	31.80	9.7	48	16.4	AV	L1	GND
0.487800	32.30	9.7	46	13.9	AV	L1	GND
0.545370	32.40	9.7	46	13.6	AV	L1	GND
0.945091	27.20	9.8	46	18.8	AV	L1	GND

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4.2. Occupied Bandwidth and Emission Mask Test

TEST APPLICABLE

(a). Occupied Bandwidth: The EUT was connected to the audio signal generator and the spectrum analyzer via the main RF connector, and through an appropriate attenuator. The EUT was controlled to transmit its maximum power. Then the bandwidth of 99% power can be measured by the spectrum analyzer.

(b). Emission Mask B: For transmitters that are equipped with an audio low-pass filter pursuant to §90.211(a), the power of any emission must be below the unmodulated carrier power (P) as follows:

(1) On any frequency removed from the assigned frequency by more than 50 percent, but not more than 100 percent of the authorized bandwidth: At least 25 dB.

(2) On any frequency removed from the assigned frequency by more than 100 percent, but not more than 250 percent of the authorized bandwidth: At least 35 dB.

(3) On any frequency removed from the assigned frequency by more than 250 percent of the authorized bandwidth: At least 43 + 10 log (P) dB.

(c). Emission Mask D, 12.5 kHz channel bandwidth equipment: For transmitters designed to operate with a 12.5 kHz channel bandwidth, any emission must be attenuated below the power (P) of the highest emission contained within the authorized bandwidth as follows:

(1) On any frequency from the center of the authorized bandwidth f0 to 5.625 kHz removed from f0: Zero dB.

(2) On any frequency removed from the center of the authorized bandwidth by a displacement frequency (fd in kHz) of more than 5.625 kHz but no more than 12.5 kHz: At least 7.27(fd -2.88 kHz) dB.

(3) On any frequency removed from the center of the authorized bandwidth by a displacement frequency (fd in kHz) of more than 12.5 kHz: At least 50 + 10 log (P) dB or 70 dB, whichever is the lesser attenuation.

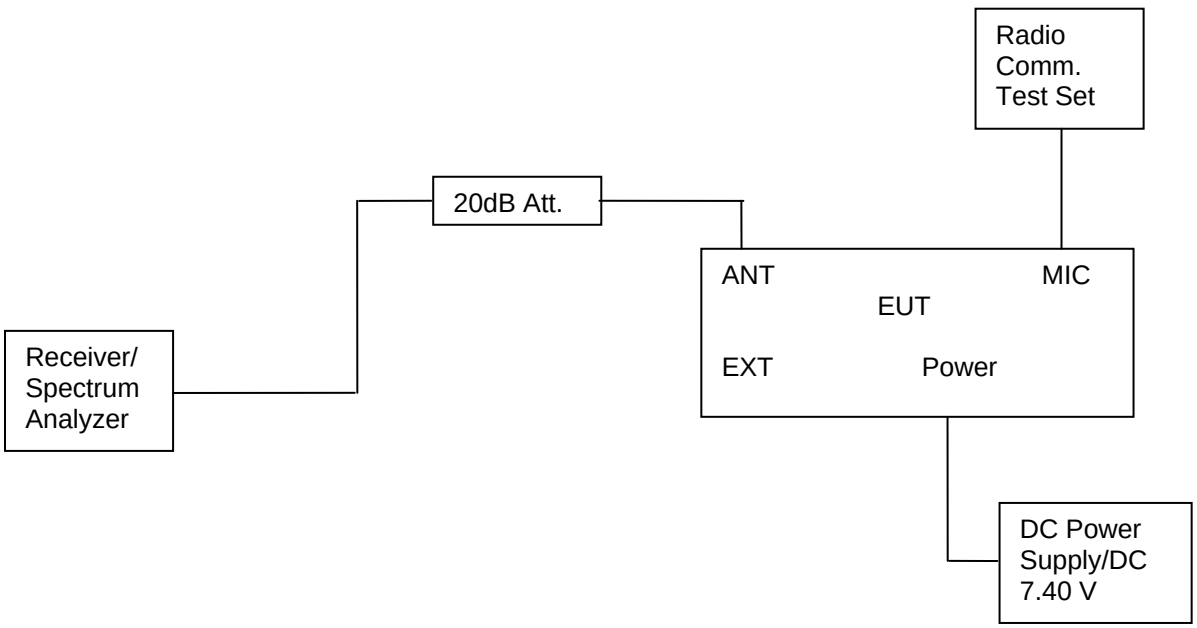
(d). Emission Mask I: For transmitters that are equipped with an audio low-pass filter pursuant to §90.211(a), the power of any emission must be below the unmodulated carrier power (P) as follows:

(1) On any frequency removed from the center of the authorized bandwidth by a displacement frequency of more than 6.8 kHz, but no more than 9.0 kHz: At least 25 dB;

(2) On any frequency removed from the center of the authorized bandwidth by a displacement frequency of more than 9.0 kHz, but no more than 15 kHz: At least 35 dB;

(3) On any frequency removed from the center of the authorized bandwidth by a displacement frequency of more than 15 kHz: At least 43 + 10 log (P) dB, or 70 dB, whichever is the lesser attenuation.

TEST CONFIGURATION



TEST PROCEDURE

1 The EUT was placed on a turn table which is 0.8m above ground plane.

2 The EUT was modulated by 2.5 KHz Sine wave audio signal; the level of the audio signal employed is 16 dB greater than that necessary to produce 50% of rated system deviation. Rated system deviation is 2.5 kHz (12.5 kHz channel spacing) and 5 kHz (25 kHz channel spacing).

3 Set EUT as normal operation.

4 Set SPA Center Frequency = fundamental frequency, RBW=300Hz, VBW= 3 KHz, span =50 KHz.
5 Set SPA Max hold. Mark peak, Set 99% Occupied Bandwidth and 26dB Occupied Bandwidth.
6 Set SPA Center Frequency=fundamental frequency, set =100Hz, VBW=1 KHz, span=50 KHz for 12.5 channel spacing.

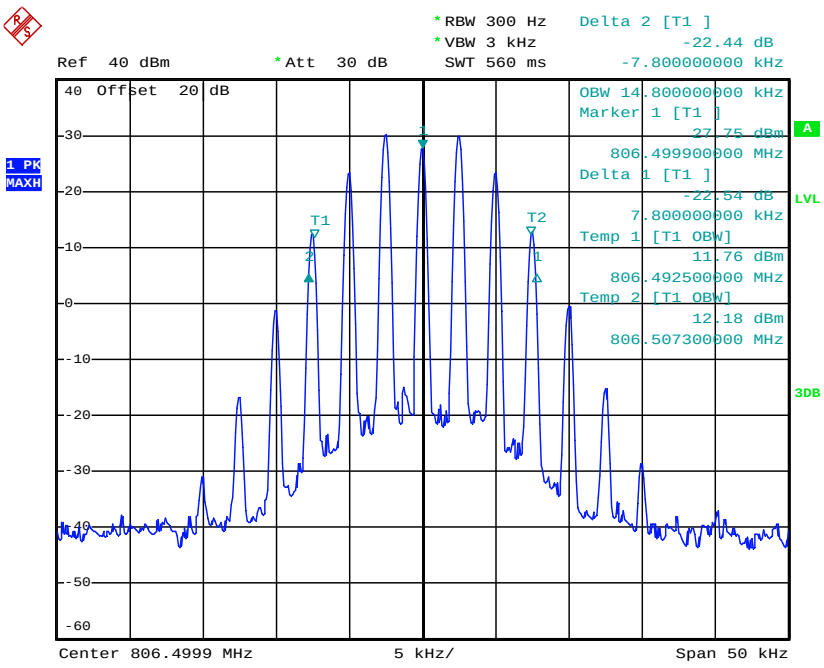
TEST RESULTS

4.2.1 Occupied Bandwidth

Frequency Range (MHz)	Modulation Type	Channel Separation (KHz)	Test Channel	Occupied Bandwidth (KHz)	
				99%	26dB
806-825	Analog/FM	25	Low Channel	14.80	15.60
			Middle Channel	14.80	15.70
			High Channel	14.80	15.70
		12.5	Low Channel	9.80	10.40
			Middle Channel	9.80	10.60
			High Channel	9.80	10.60
	Digital/4FSK	12.5	Low Channel	7.50	9.80
			Middle Channel	7.60	10.00
			High Channel	7.30	10.20
851-870	Analog/FM	25	Low Channel	14.90	15.70
			Middle Channel	14.80	15.80
			High Channel	14.80	15.70
		12.5	Low Channel	9.80	10.50
			Middle Channel	9.80	10.50
			High Channel	9.80	10.50
	Digital/4FSK	12.5	Low Channel	7.50	9.90
			Middle Channel	7.40	9.90
			High Channel	7.50	9.40
896-902	Analog/FM	12.5	Low Channel	9.90	10.50
			High Channel	9.90	10.50
	Digital/4FSK		Low Channel	9.90	10.50
			High Channel	9.90	10.50
935-941	Analog/FM	12.5	Low Channel	7.40	9.50
			High Channel	7.70	10.10
	Digital/4FSK		Low Channel	7.60	9.70
			High Channel	7.60	10.10
Limit	806-825MHz/851-870MHz		11.25KHz for 12.5KHz Channel Separtion 20KHz for 25KHz Channel Separation		
	896-902MHz/935-941MHz		13.6KHz for 12.5KHz Channel Separation		
Test Results	Compliance				

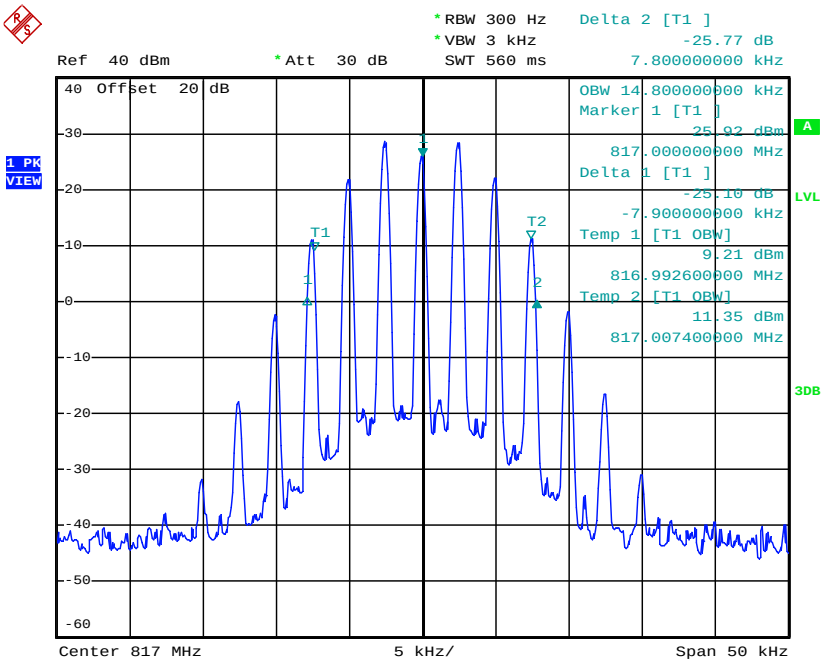
Plots of 99% and 26dB Bandwidth Measurement

Modulation Type	Channel Separation	Freq.(MHz)	99% Bandwidth (KHz)	26dB Bandwidth (KHz)	FCC Limit (KHz)	Results
FM	25 KHz	806.5000	14.80	15.60	20.00	Complicance



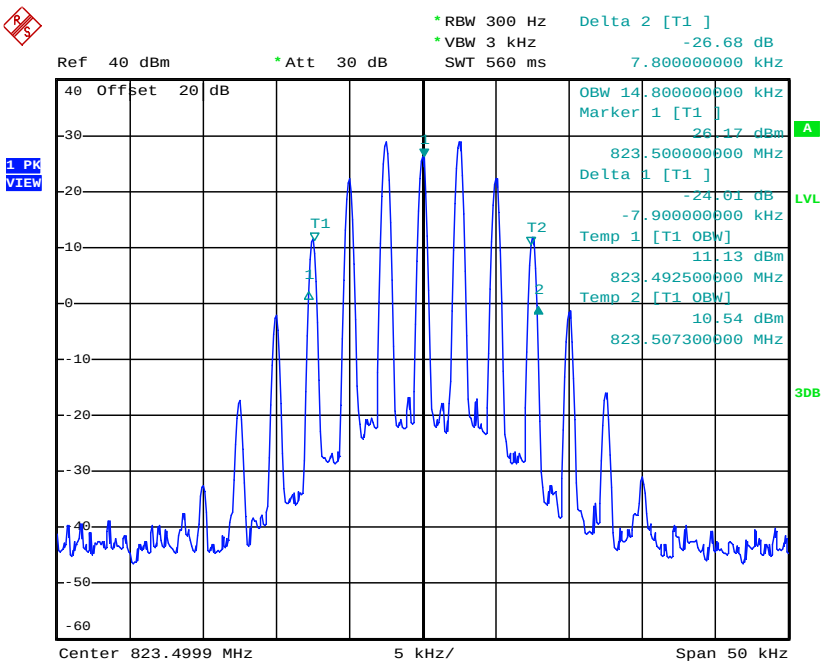
Date: 12.APR.2012 09:23:21

Modulation Type	Channel Separation	Freq.(MHz)	99% Bandwidth (KHz)	26dB Bandwidth (KHz)	FCC Limit (KHz)	Results
FM	25 KHz	817.0000	14.80	15.70	20.00	Complicance



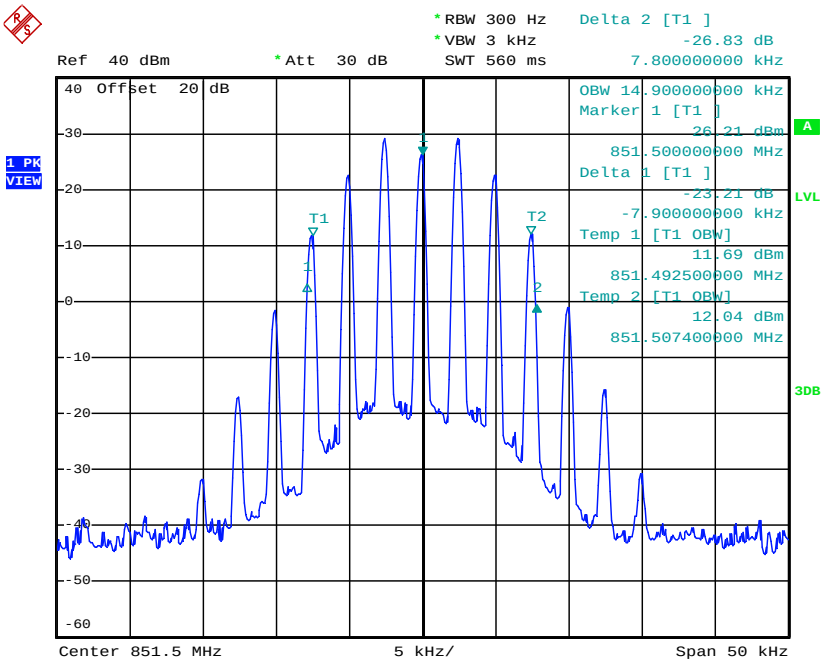
Date: 12.APR.2012 10:31:29

Modulation Type	Channel Separation	Freq.(MHz)	99% Bandwidth (KHz)	26dB Bandwidth (KHz)	FCC Limit (KHz)	Results
FM	25 KHz	823.5000	14.80	15.70	20.00	Complicance



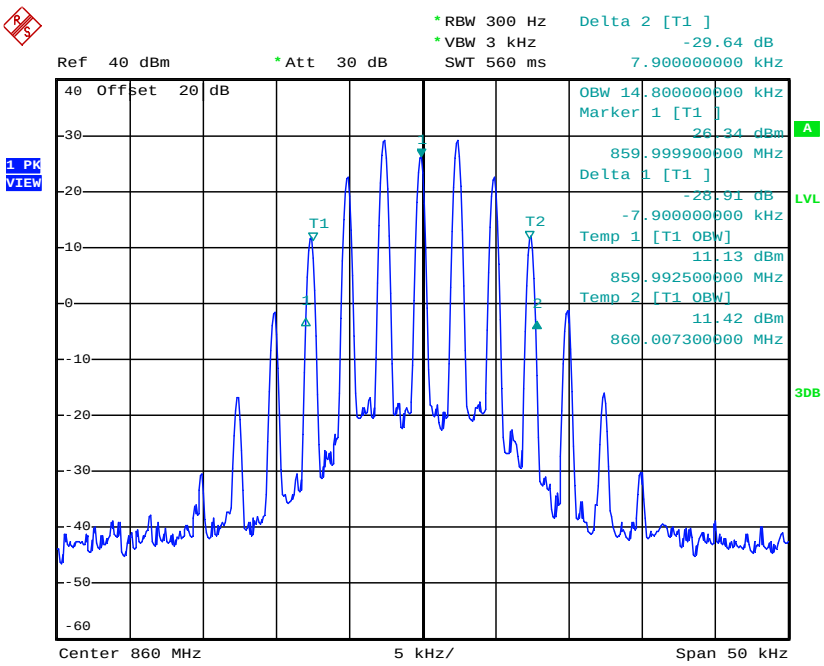
Date: 12.APR.2012 10:39:26

Modulation Type	Channel Separation	Freq.(MHz)	99% Bandwidth (KHz)	26dB Bandwidth (KHz)	FCC Limit (KHz)	Results
FM	25 KHz	851.5000	14.90	15.70	20.00	Complicance



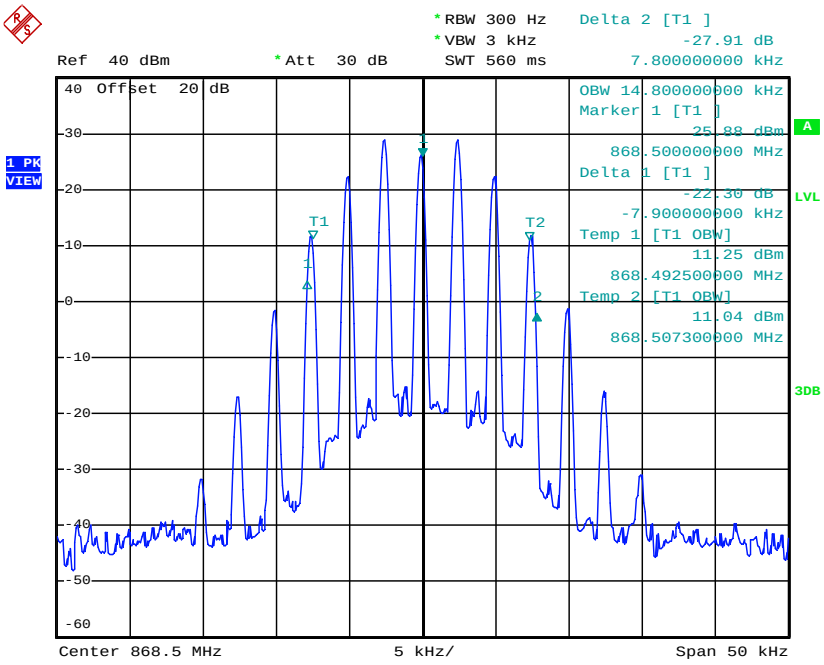
Date: 12.APR.2012 10:40:43

Modulation Type	Channel Separation	Freq.(MHz)	99% Bandwidth (KHz)	26dB Bandwidth (KHz)	FCC Limit (KHz)	Results
FM	25 KHz	860.0000	14.80	15.80	20.00	Complicance



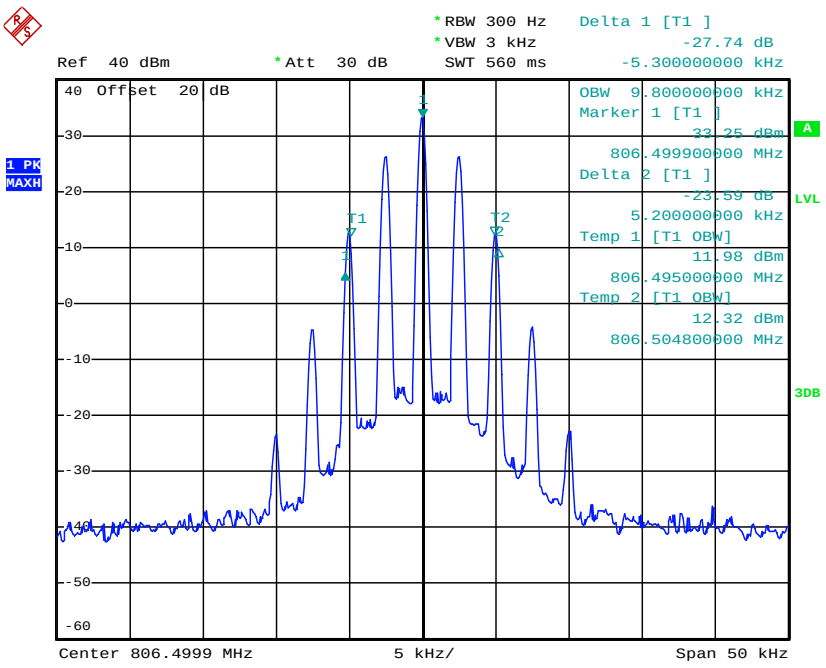
Date: 12.APR.2012 11:02:48

Modulation Type	Channel Separation	Freq.(MHz)	99% Bandwidth (KHz)	26dB Bandwidth (KHz)	FCC Limit (KHz)	Results
FM	25 KHz	868.5000	14.80	15.70	20.00	Complicance



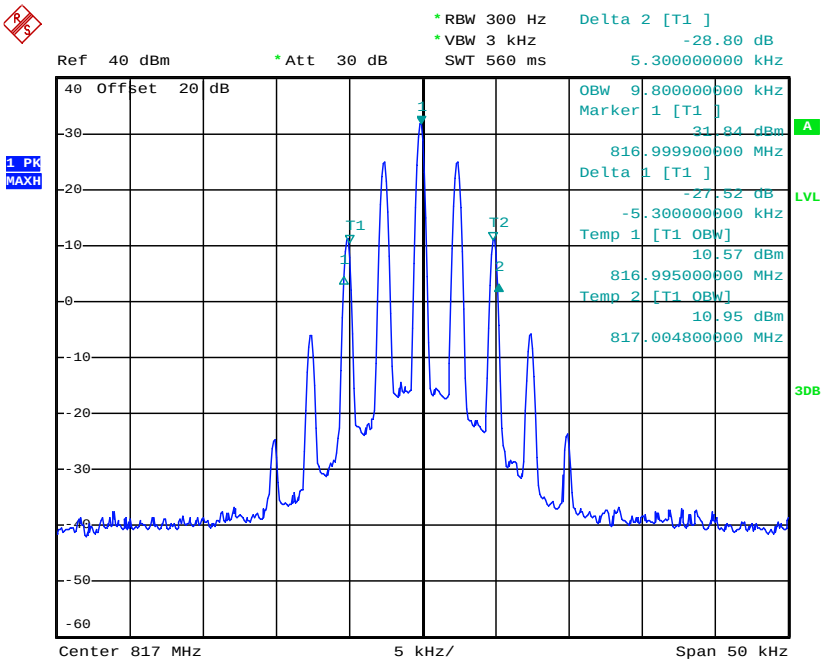
Date: 12.APR.2012 11:04:55

Modulation Type	Channel Separation	Freq.(MHz)	99% Bandwidth (KHz)	26dB Bandwidth (KHz)	FCC Limit (KHz)	Results
FM	12.5 KHz	806.5000	9.80	10.40	11.25	Complicance



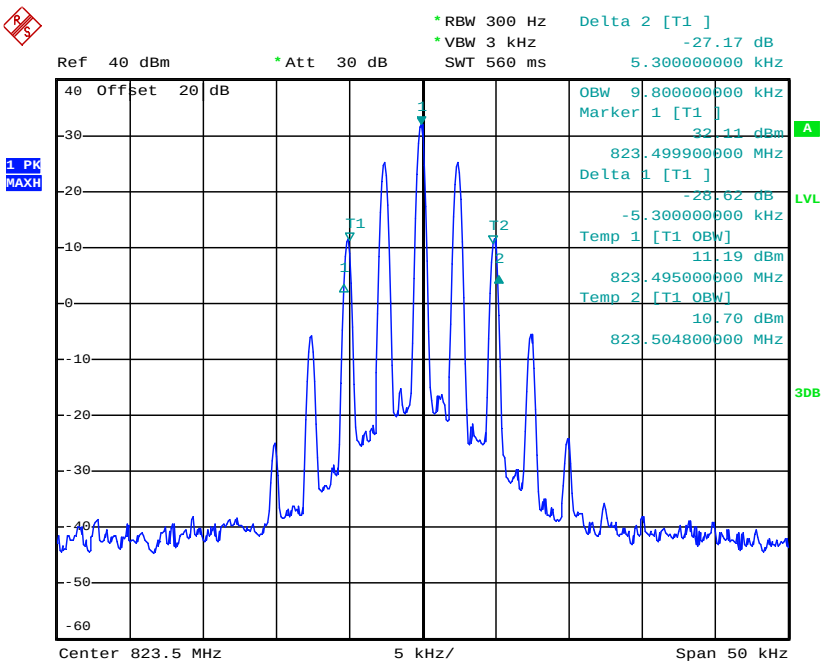
Date: 12.APR.2012 11:18:49

Modulation Type	Channel Separation	Freq.(MHz)	99% Bandwidth (KHz)	26dB Bandwidth (KHz)	FCC Limit (KHz)	Results
FM	12.5 KHz	817.0000	9.80	10.60	11.25	Complicance



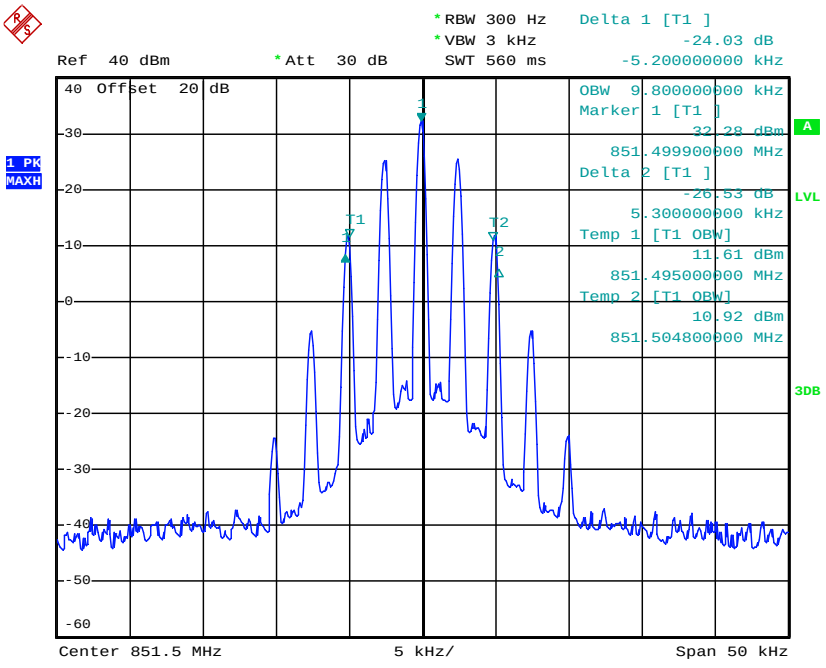
Date: 12.APR.2012 11:21:24

Modulation Type	Channel Separation	Freq.(MHz)	99% Bandwidth (KHz)	26dB Bandwidth (KHz)	FCC Limit (KHz)	Results
FM	12.5 KHz	823.5000	9.80	10.60	11.25	Complicance



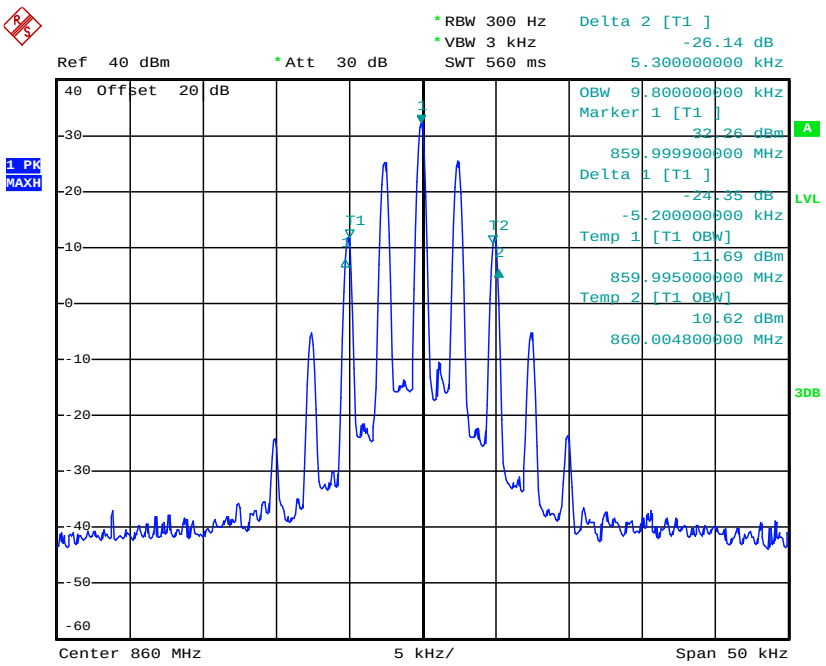
Date: 12.APR.2012 11:22:35

Modulation Type	Channel Separation	Freq.(MHz)	99% Bandwidth (KHz)	26dB Bandwidth (KHz)	FCC Limit (KHz)	Results
FM	12.5 KHz	851.5000	9.80	10.50	11.25	Complicance



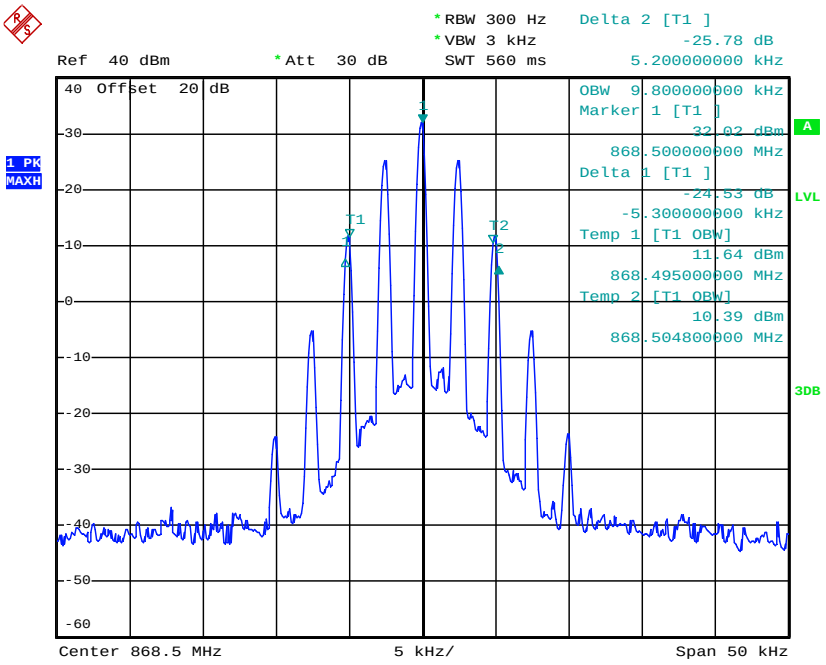
Date: 12.APR.2012 11:23:13

Modulation Type	Channel Separation	Freq.(MHz)	99% Bandwidth (KHz)	26dB Bandwidth (KHz)	FCC Limit (KHz)	Results
FM	12.5 KHz	860.0000	9.80	10.50	11.25	Complicance



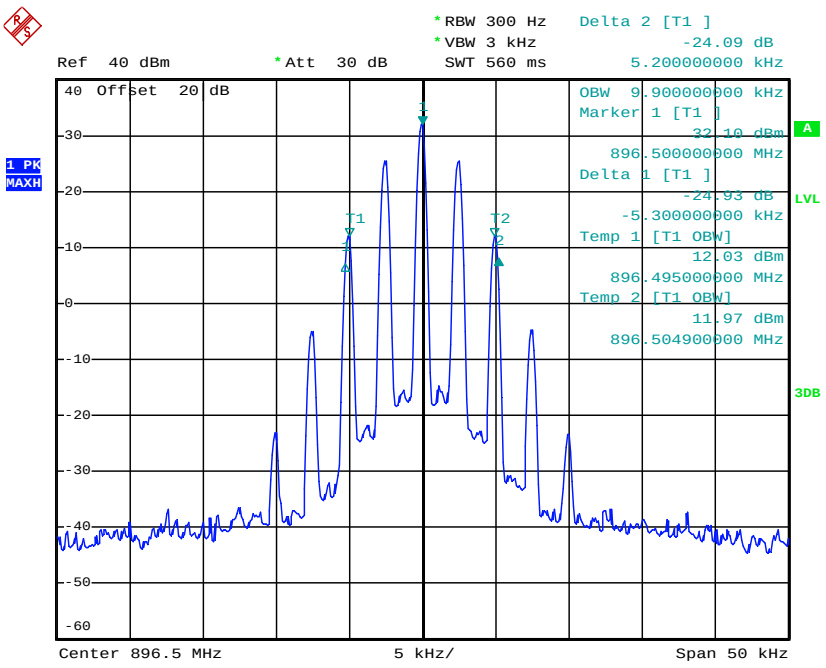
Date: 12.APR.2012 11:23:49

Modulation Type	Channel Separation	Freq.(MHz)	99% Bandwidth (KHz)	26dB Bandwidth (KHz)	FCC Limit (KHz)	Results
FM	12.5 KHz	868.5000	9.80	10.50	11.25	Complicance



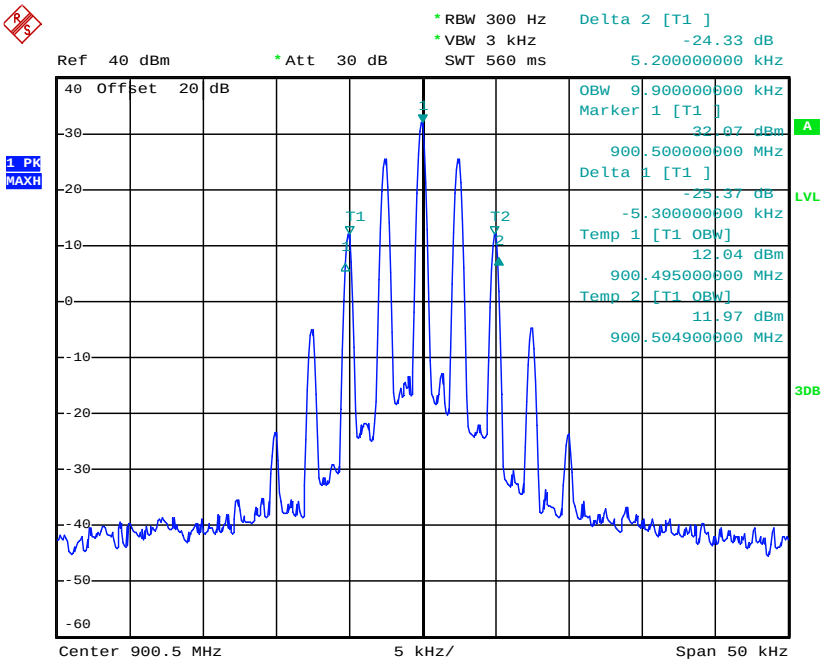
Date: 12.APR.2012 11:24:52

Modulation Type	Channel Separation	Freq.(MHz)	99% Bandwidth (KHz)	26dB Bandwidth (KHz)	FCC Limit (KHz)	Results
FM	12.5 KHz	896.5000	9.90	10.50	13.60	Complicance



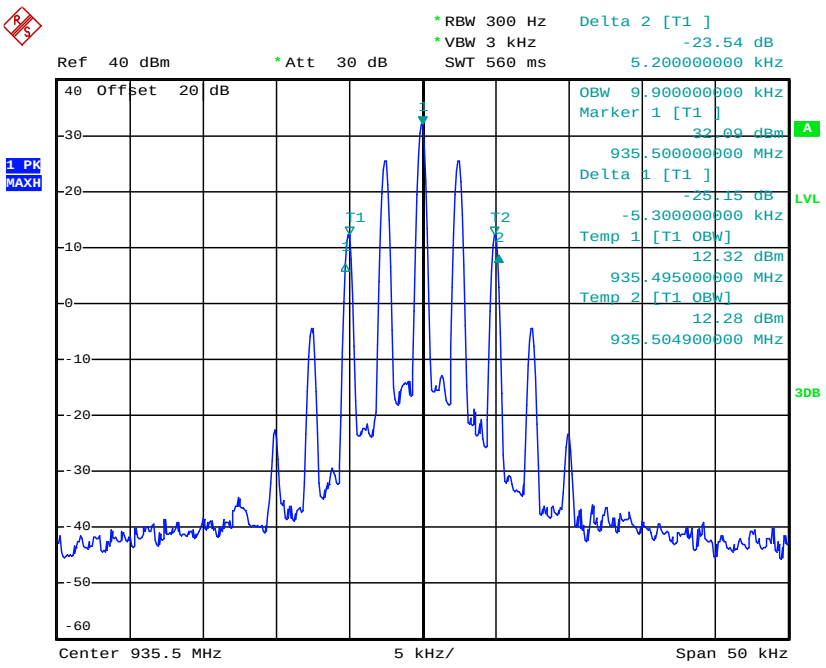
Date: 12.APR.2012 11:25:50

Modulation Type	Channel Separation	Freq.(MHz)	99% Bandwidth (KHz)	26dB Bandwidth (KHz)	FCC Limit (KHz)	Results
FM	12.5 KHz	900.5000	9.90	10.50	13.60	Complicance



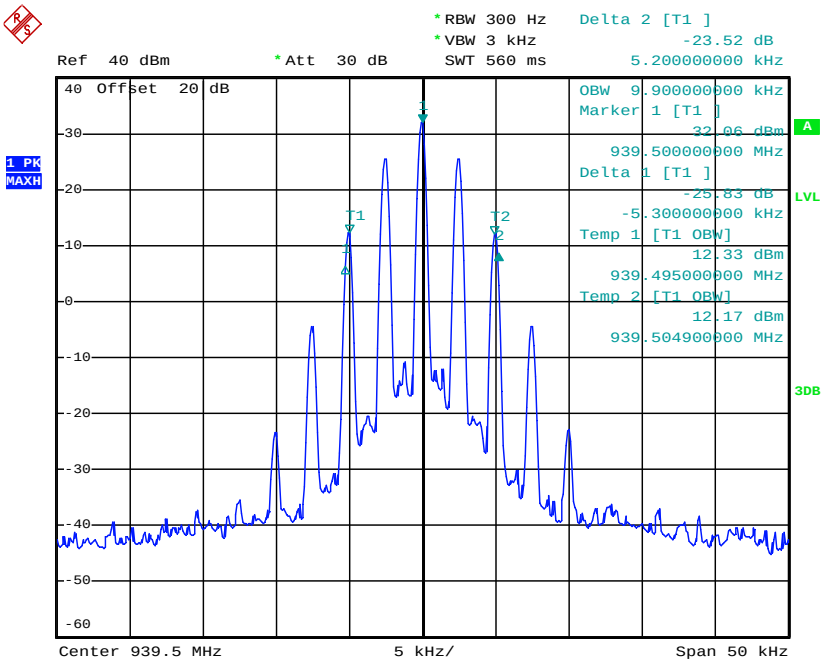
Date: 12.APR.2012 11:26:27

Modulation Type	Channel Separation	Freq.(MHz)	99% Bandwidth (KHz)	26dB Bandwidth (KHz)	FCC Limit (KHz)	Results
FM	12.5 KHz	935.5000	9.90	10.50	13.60	Complicance



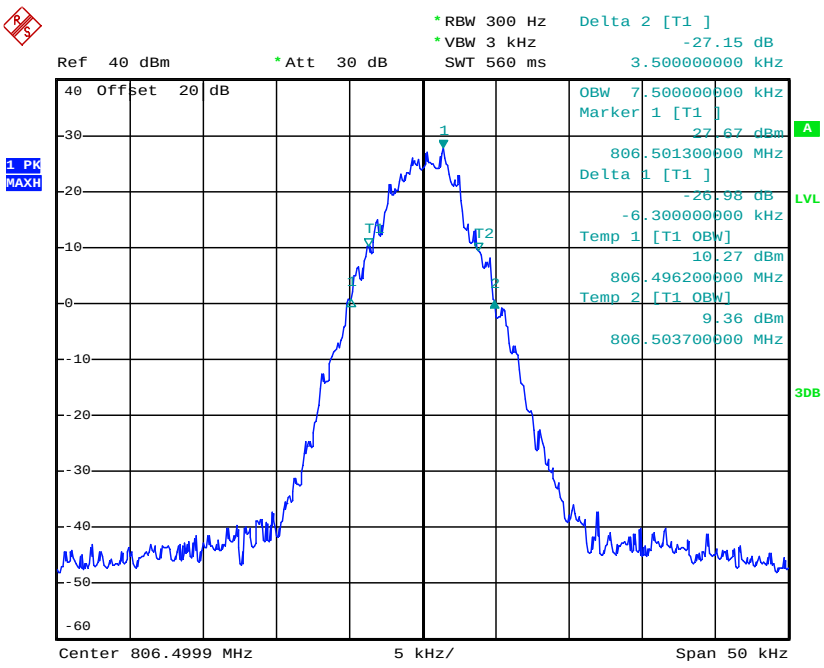
Date: 12.APR.2012 11:27:26

Modulation Type	Channel Separation	Freq.(MHz)	99% Bandwidth (KHz)	26dB Bandwidth (KHz)	FCC Limit (KHz)	Results
FM	12.5 KHz	939.5000	9.90	10.50	13.60	Complicance



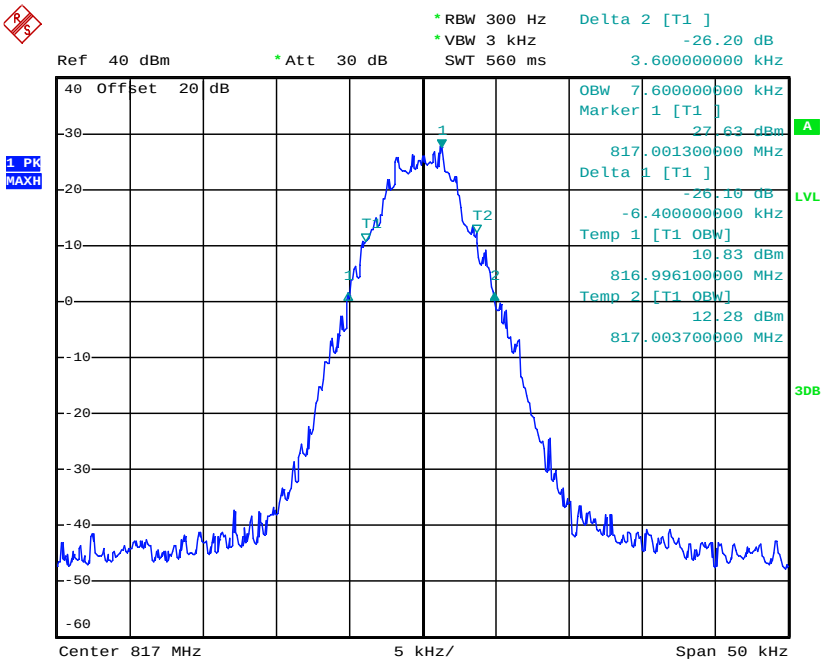
Date: 12.APR.2012 11:28:28

Modulation Type	Channel Separation	Freq.(MHz)	99% Bandwidth (KHz)	26dB Bandwidth (KHz)	FCC Limit (KHz)	Results
4FSK	12.5 KHz	806.5000	7.50	9.80	11.25	Complicance



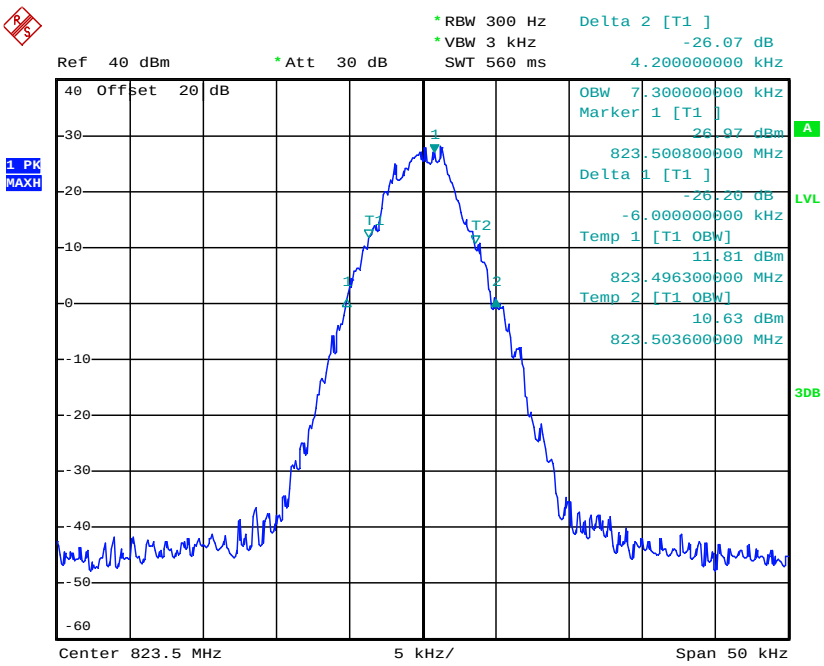
Date: 12.APR.2012 07:20:22

Modulation Type	Channel Separation	Freq.(MHz)	99% Bandwidth (KHz)	26dB Bandwidth (KHz)	FCC Limit (KHz)	Results
4FSK	12.5 KHz	817.0000	7.60	10.00	11.25	Complicance



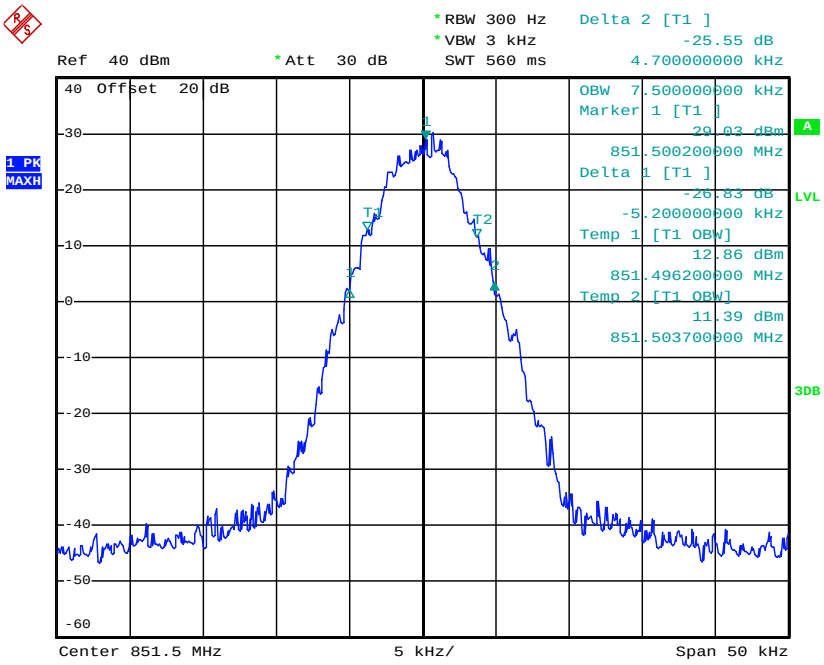
Date: 12.APR.2012 07:21:18

Modulation Type	Channel Separation	Freq.(MHz)	99% Bandwidth (KHz)	26dB Bandwidth (KHz)	FCC Limit (KHz)	Results
4FSK	12.5 KHz	823.5000	7.30	10.20	11.25	Complicance



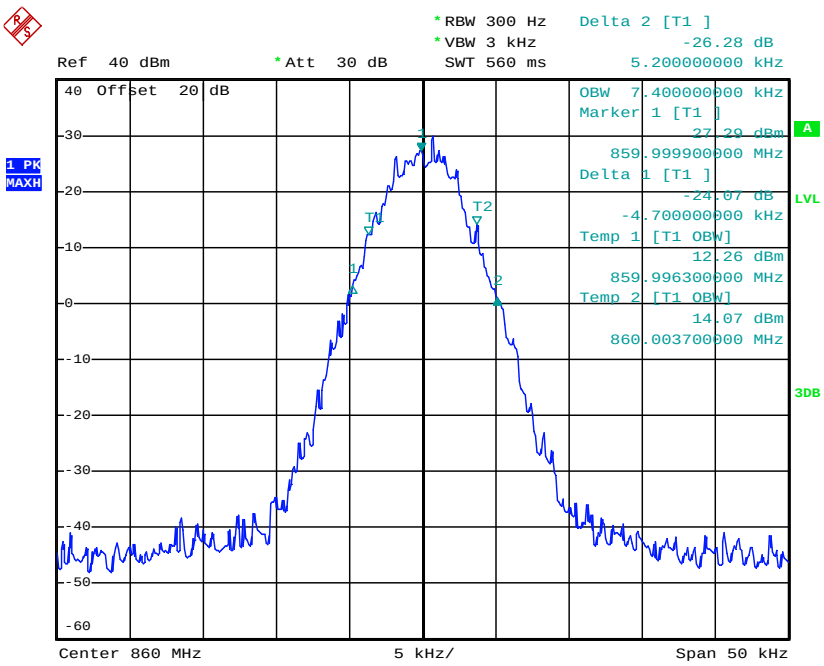
Date: 12.APR.2012 07:22:23

Modulation Type	Channel Separation	Freq.(MHz)	99% Bandwidth (KHz)	26dB Bandwidth (KHz)	FCC Limit (KHz)	Results
4FSK	12.5 KHz	851.5000	7.50	9.90	11.25	Complicance



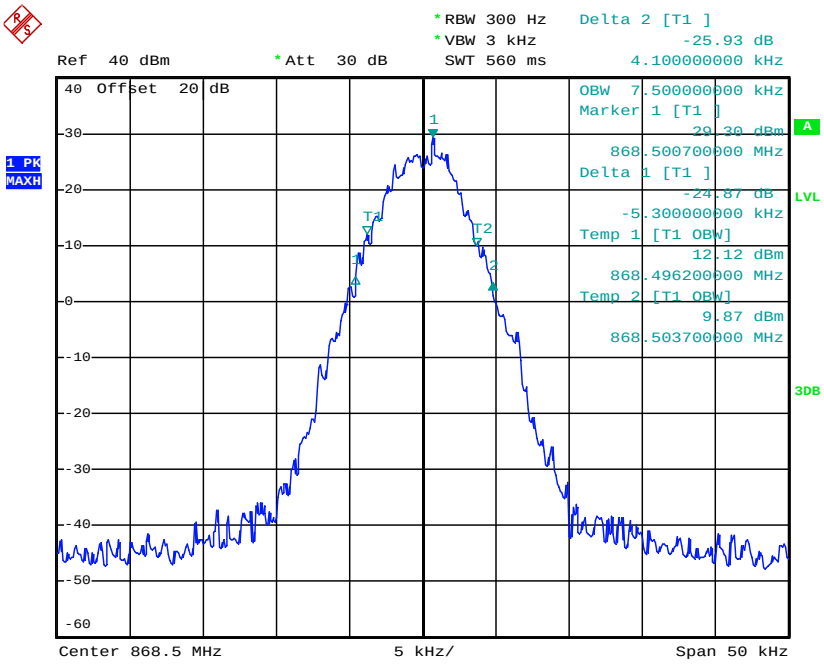
Date: 12.APR.2012 07:25:00

Modulation Type	Channel Separation	Freq.(MHz)	99% Bandwidth (KHz)	26dB Bandwidth (KHz)	FCC Limit (KHz)	Results
4FSK	12.5 KHz	860.0000	7.40	9.90	11.25	Complicance



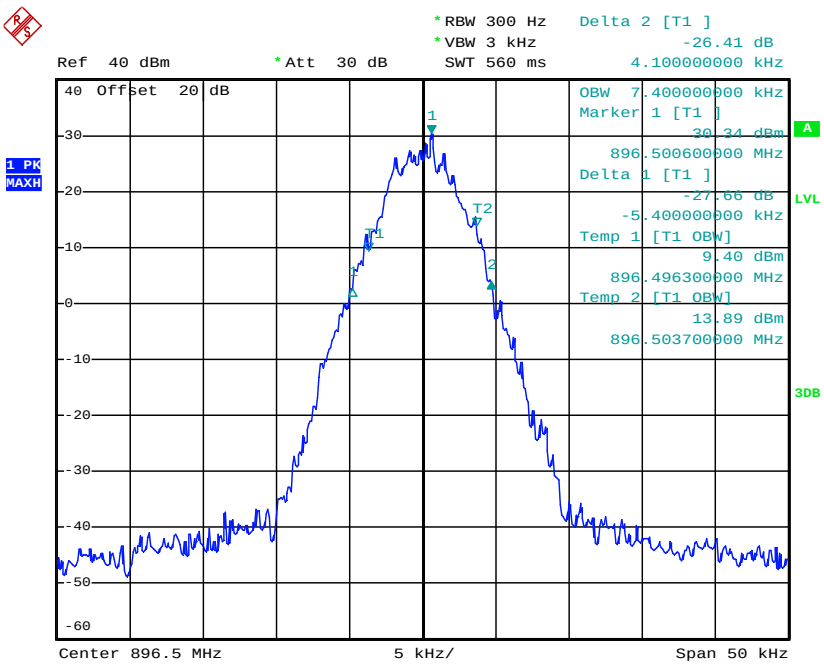
Date: 12.APR.2012 07:26:02

Modulation Type	Channel Separation	Freq.(MHz)	99% Bandwidth (KHz)	26dB Bandwidth (KHz)	FCC Limit (KHz)	Results
4FSK	12.5 KHz	868.5000	7.50	9.40	11.25	Complicance



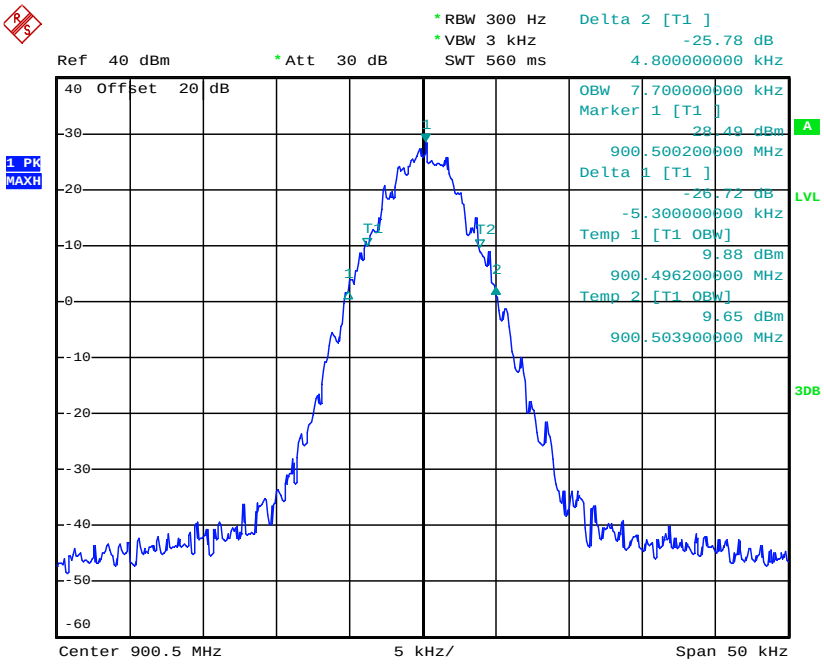
Date: 12.APR.2012 07:26:53

Modulation Type	Channel Separation	Freq.(MHz)	99% Bandwidth (KHz)	26dB Bandwidth (KHz)	FCC Limit (KHz)	Results
4FSK	12.5 KHz	896.5000	7.40	9.50	13.60	Complicance



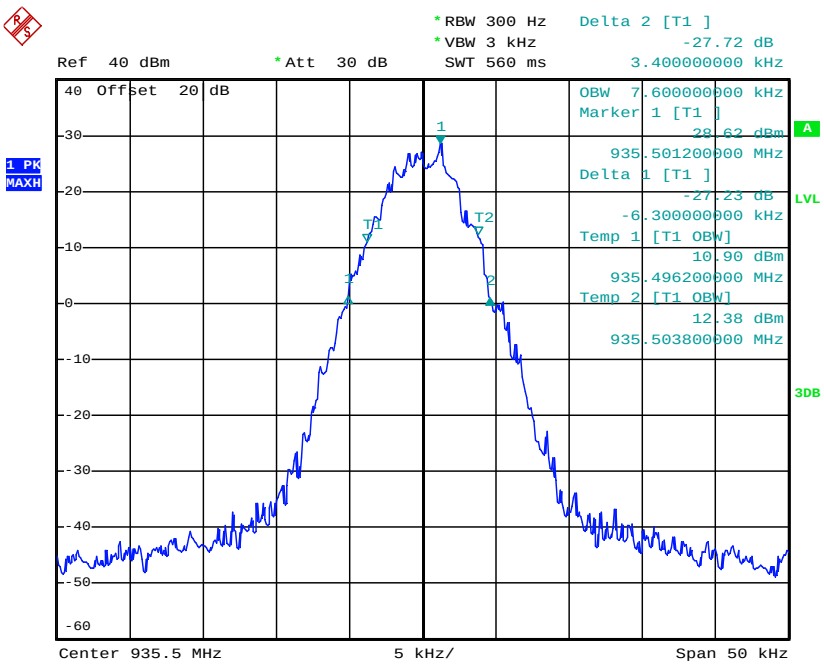
Date: 12.APR.2012 07:27:45

Modulation Type	Channel Separation	Freq.(MHz)	99% Bandwidth (KHz)	26dB Bandwidth (KHz)	FCC Limit (KHz)	Results
4FSK	12.5 KHz	900.5000	7.70	10.10	13.60	Complicance



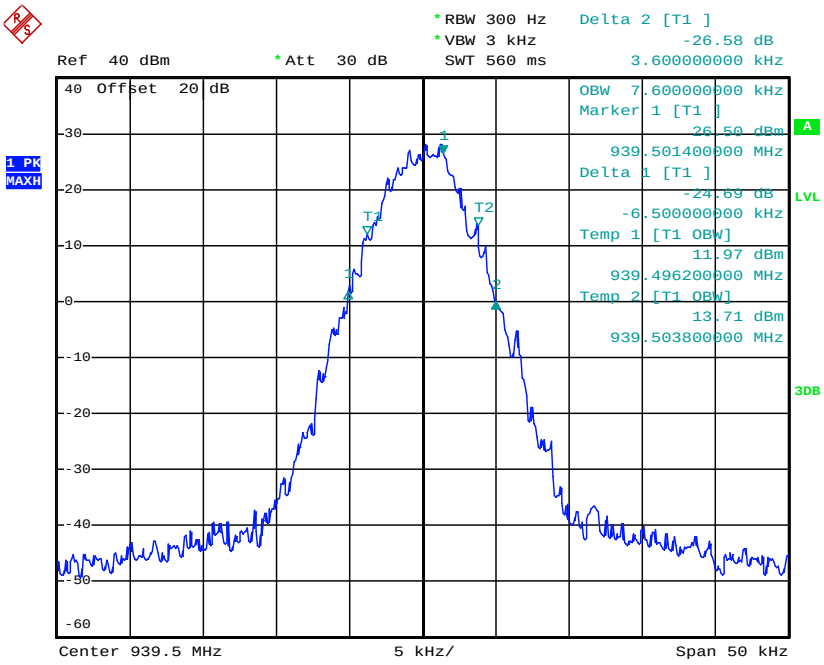
Date: 12.APR.2012 07:28:34

Modulation Type	Channel Separation	Freq.(MHz)	99% Bandwidth (KHz)	26dB Bandwidth (KHz)	FCC Limit (KHz)	Results
4FSK	12.5 KHz	935.5000	7.60	9.70	13.60	Complicance



Date: 12.APR.2012 07:29:29

Modulation Type	Channel Separation	Freq.(MHz)	99% Bandwidth (KHz)	26dB Bandwidth (KHz)	FCC Limit (KHz)	Results
4FSK	12.5 KHz	939.5000	7.60	10.10	13.60	Complicance



Date: 12.APR.2012 07:30:19

4.2.2 Emission Mask

Frequency Range (MHz)	Modulation Type	Channel Separation (KHz)	Test Channel	Test Frequency (MHz)	FCC Applicable Mask	RBW (Hz)
806-825[1]	Analog/FM	25	Low	806.5000	B	300
			Middle	817.0000	B	300
			High	823.5000	B	300
		12.5	Low	806.5000	B	300
			Middle	817.0000	B	300
			High	823.5000	B	300
	Digital/4FSK	12.5	Low	806.5000	B	300
			Middle	817.0000	B	300
			High	823.5000	B	300
851-870[1]	Analog/FM	25	Low	851.5000	B	300
			Middle	860.0000	B	300
			High	868.5000	B	300
		12.5	Low	851.5000	B	300
			Middle	860.0000	B	300
			High	868.5000	B	300
	Digital/4FSK	12.5	Low	851.5000	B	300
			Middle	860.0000	B	300
			High	868.5000	B	300
896-902	Analog/FM	12.5	Low	896.5000	I	300
			High	900.5000	I	300
	Digital/4FSK		Low	896.5000	I	300
			High	900.5000	I	300
935-941	Analog/FM	12.5	Low	935.5000	I	300
			High	939.5000	I	300
	Digital/4FSK		Low	935.5000	I	300
			High	939.5000	I	300
Test Results			Compliance			

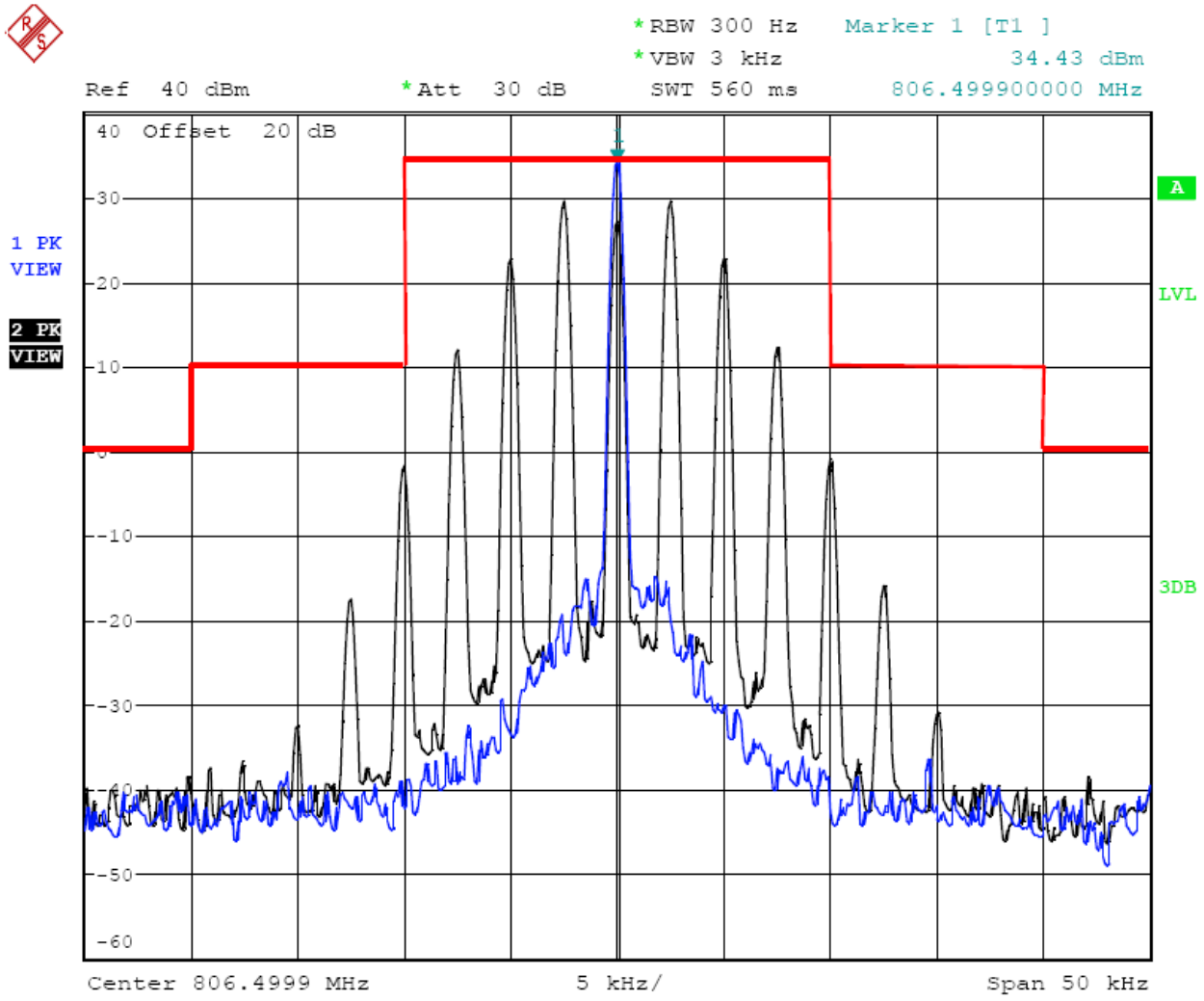
Remark:

[1]. Equipment used in this licensed to EA or non-EA systems shall comply with the emission mask provisions of §90.691.

Plots of Emission Mask Measurement

Referred as the attached plot hereinafter
Note: The dark blue curve represents unmodulated signal.
The black curve represents modulated signal.

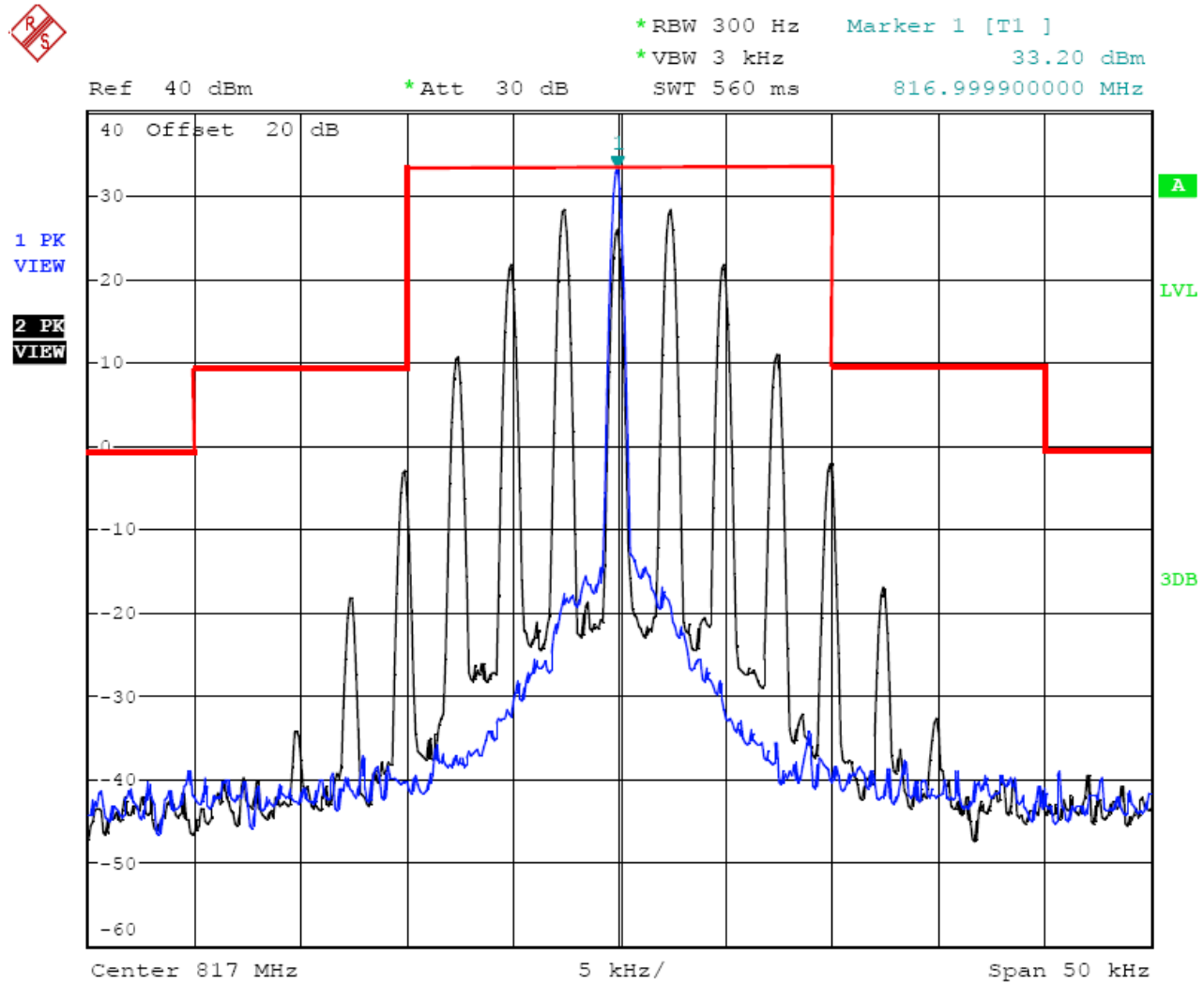
Modulation Type	Channel Separation	Freq.(MHz)	FCC Applicable Mask	RBW	Audio Freq. (KHz)	Results
FM	25 KHz	806.5000	B	300Hz	2.5	Complicance



Date: 12.APR.2012 09:25:28

25 kHz Channel Spacing, 806.5000 MHz, 2500 Hz Audio Modulation Only

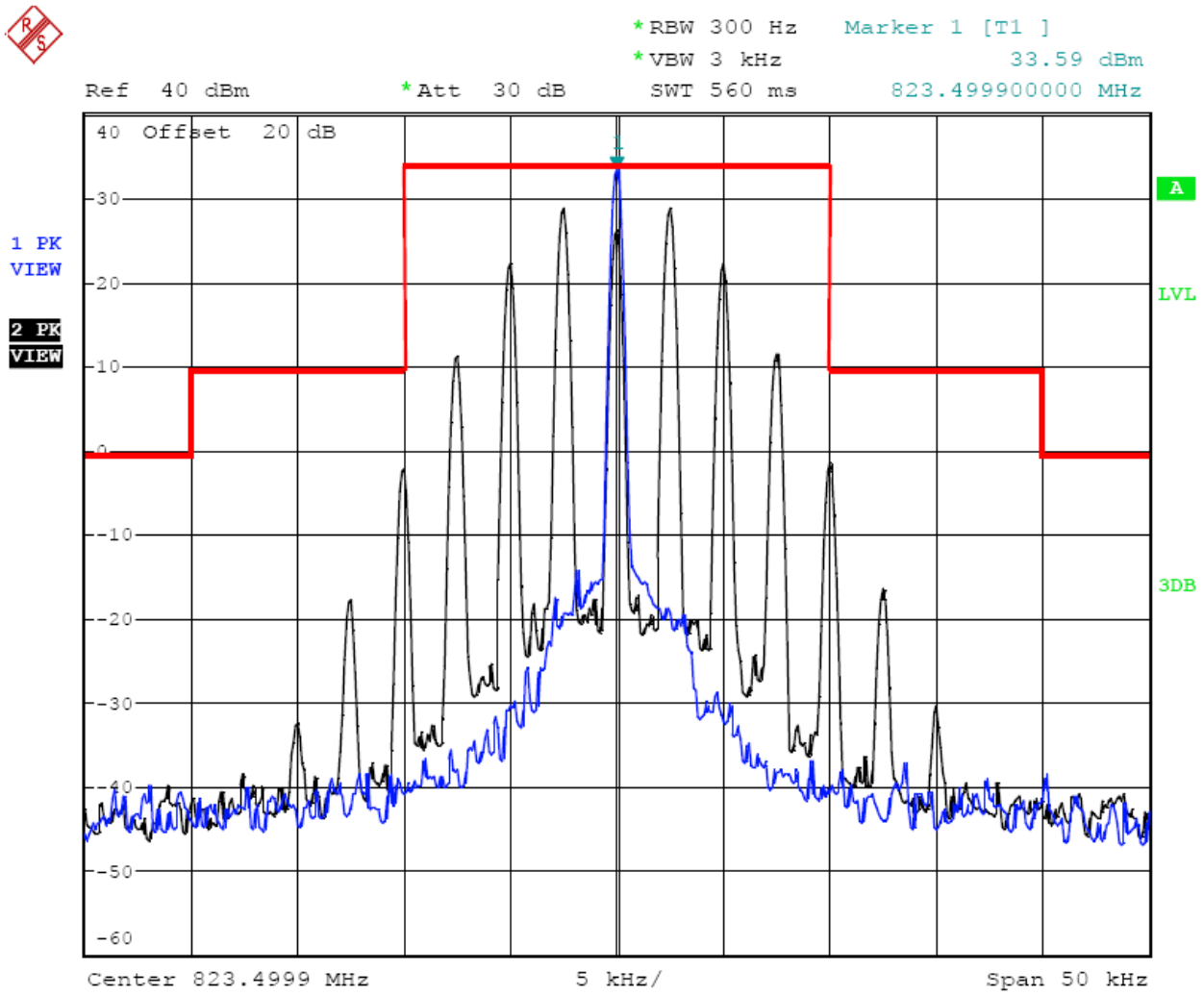
Modulation Type	Channel Separation	Freq.(MHz)	FCC Applicable Mask	RBW	Audio Freq. (KHz)	Results
FM	25 KHz	817.0000	B	300Hz	2.5	Complicance



Date: 12.APR.2012 09:32:03

25 kHz Channel Spacing, 817.0000 MHz, 2500 Hz Audio Modulation Only

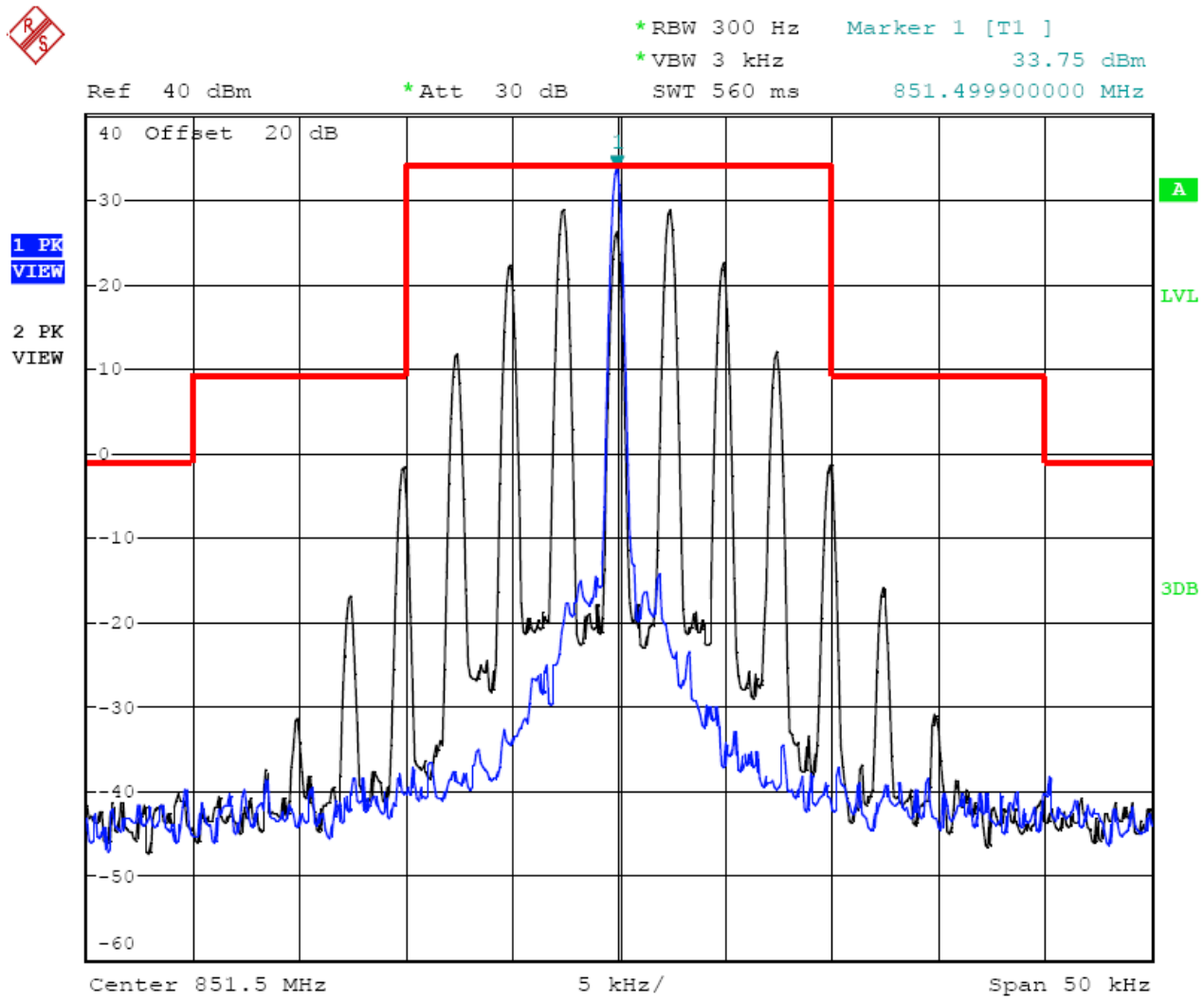
Modulation Type	Channel Separation	Freq.(MHz)	FCC Applicable Mask	RBW	Audio Freq. (KHz)	Results
FM	25 KHz	823.5000	B	300Hz	2.5	Complicance



Date: 12.APR.2012 10:37:15

25 kHz Channel Spacing, 823.5000 MHz, 2500 Hz Audio Modulation Only

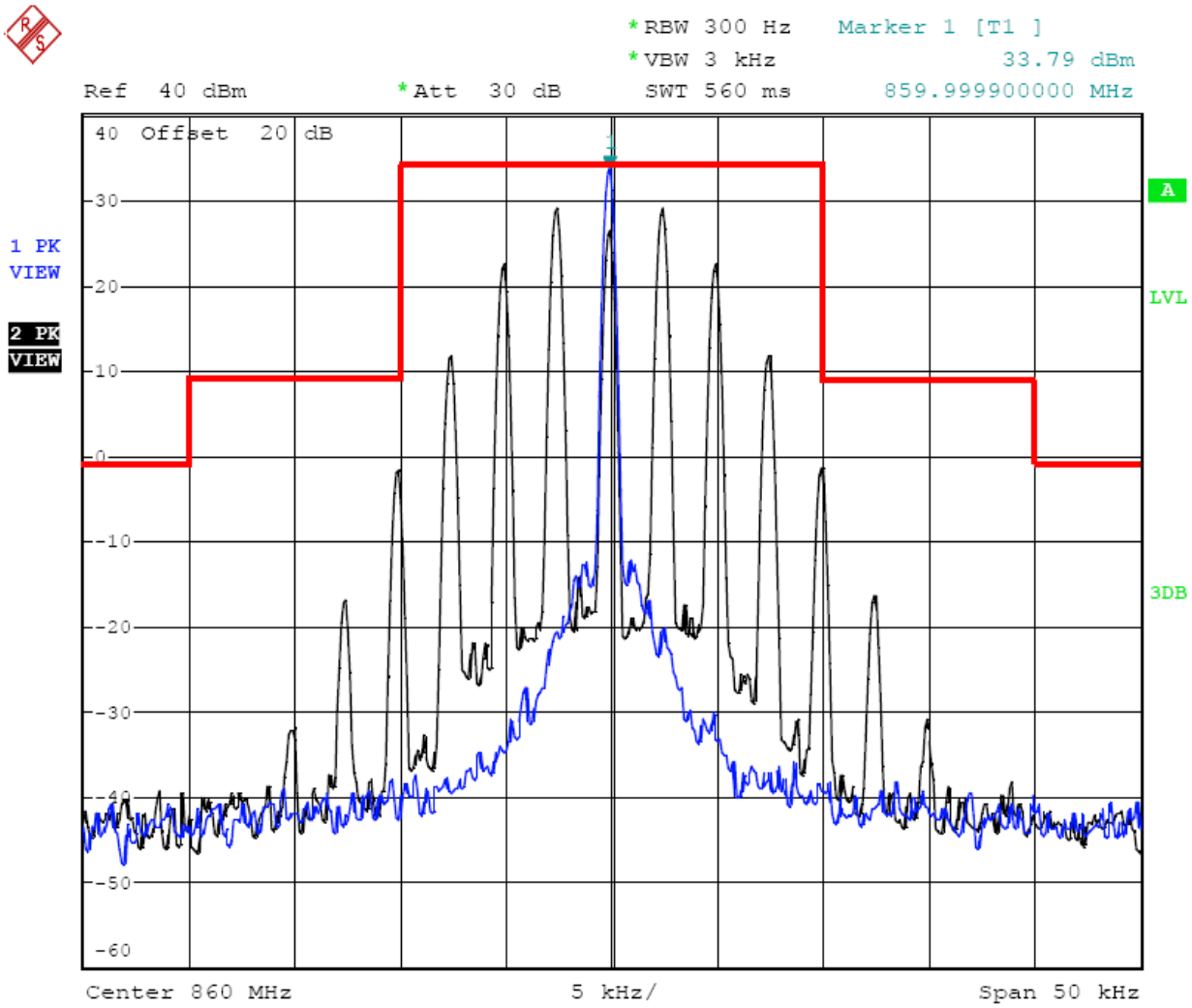
Modulation Type	Channel Separation	Freq.(MHz)	FCC Applicable Mask	RBW	Audio Freq. (KHz)	Results
FM	25 KHz	851.5000	B	300Hz	2.5	Complicance



Date: 12.APR.2012 10:41:30

25 kHz Channel Spacing, 851.5000 MHz, 2500 Hz Audio Modulation Only

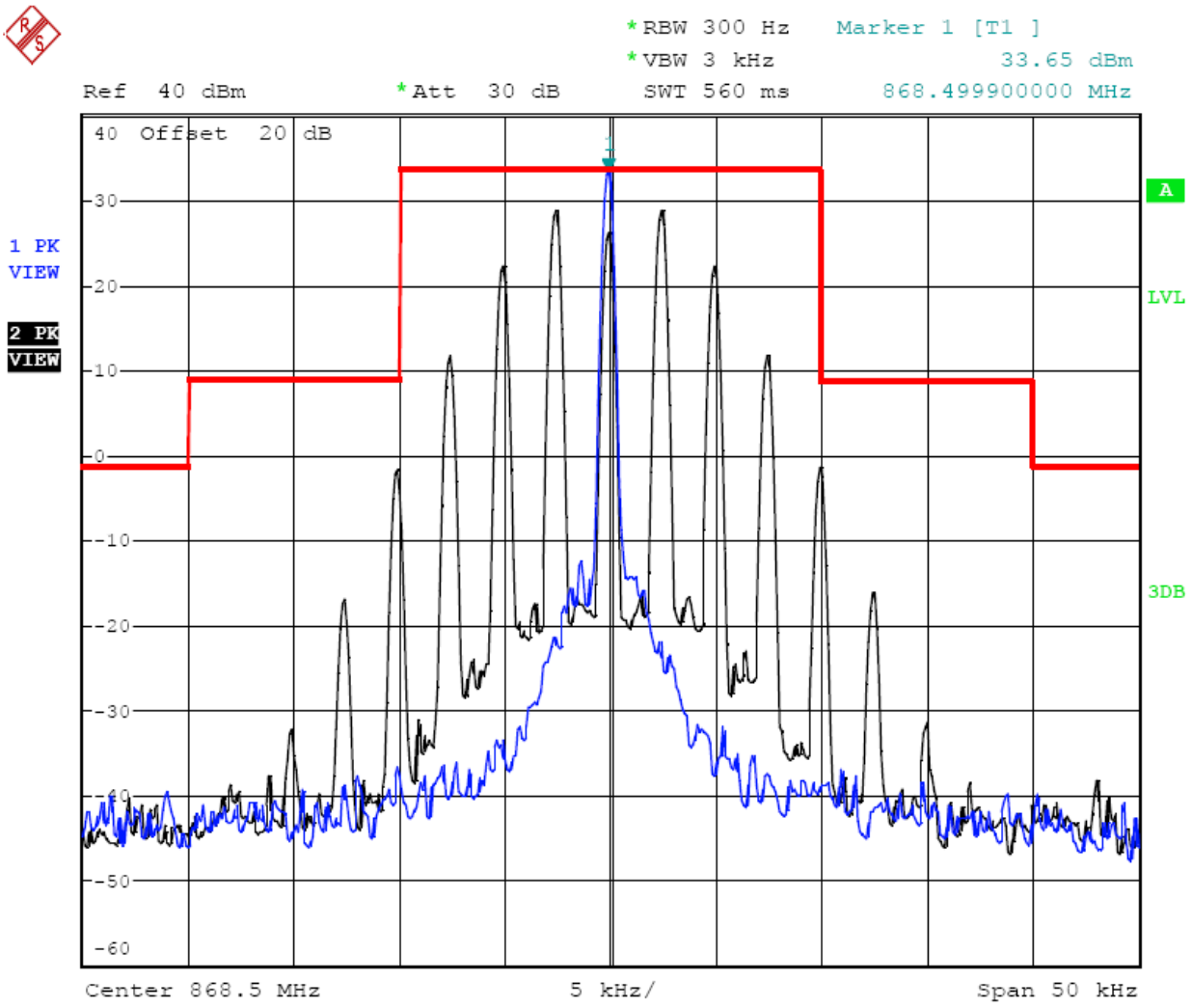
Modulation Type	Channel Separation	Freq.(MHz)	FCC Applicable Mask	RBW	Audio Freq. (KHz)	Results
FM	25 KHz	860.0000	B	300Hz	2.5	Complicance



Date: 12.APR.2012 11:03:55

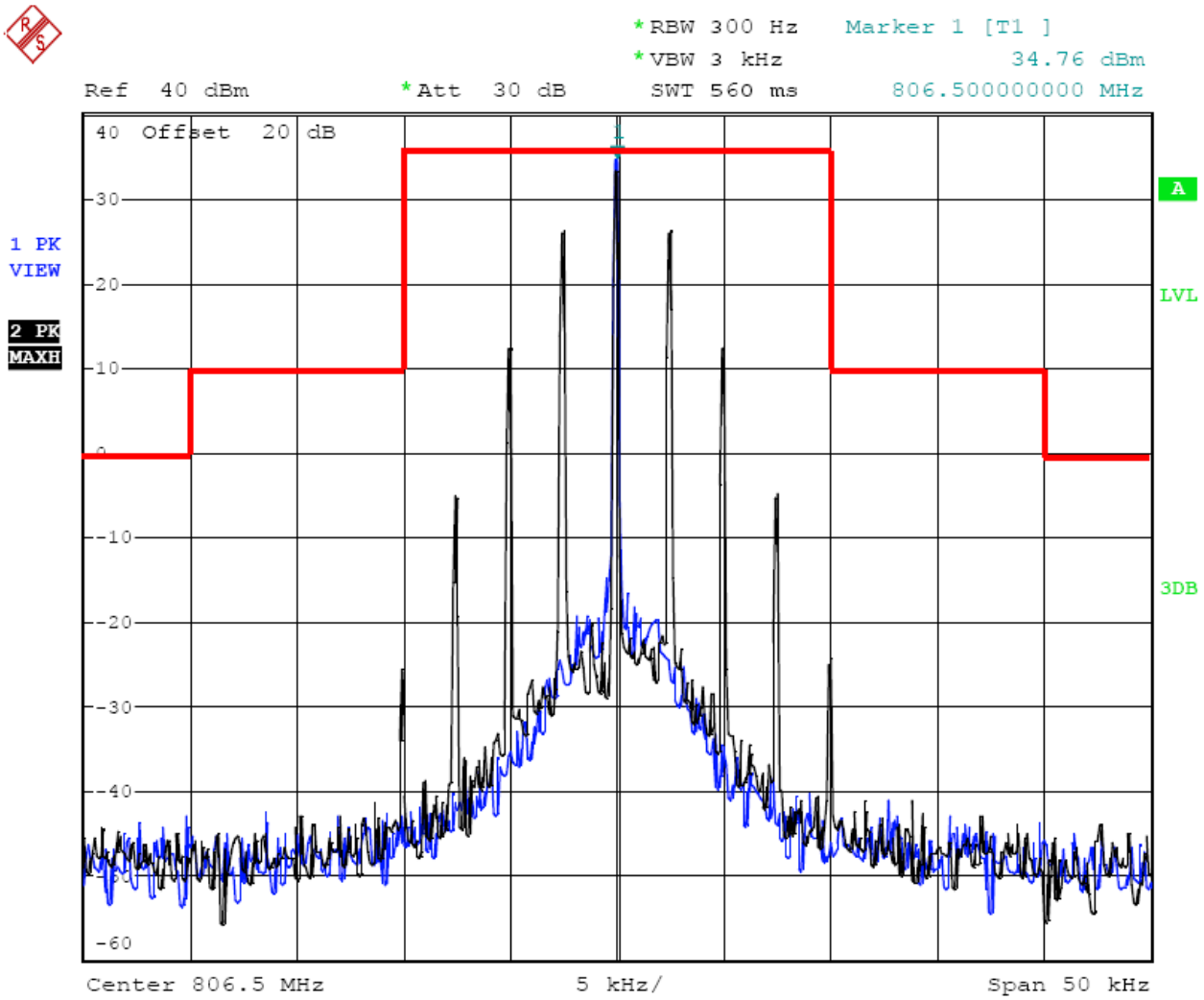
25 kHz Channel Spacing, 860.0000 MHz, 2500 Hz Audio Modulation Only

Modulation Type	Channel Separation	Freq.(MHz)	FCC Applicable Mask	RBW	Audio Freq. (KHz)	Results
FM	25 KHz	868.5000	B	300Hz	2.5	Complicance



25 kHz Channel Spacing, 868.5000 MHz, 2500 Hz Audio Modulation Only

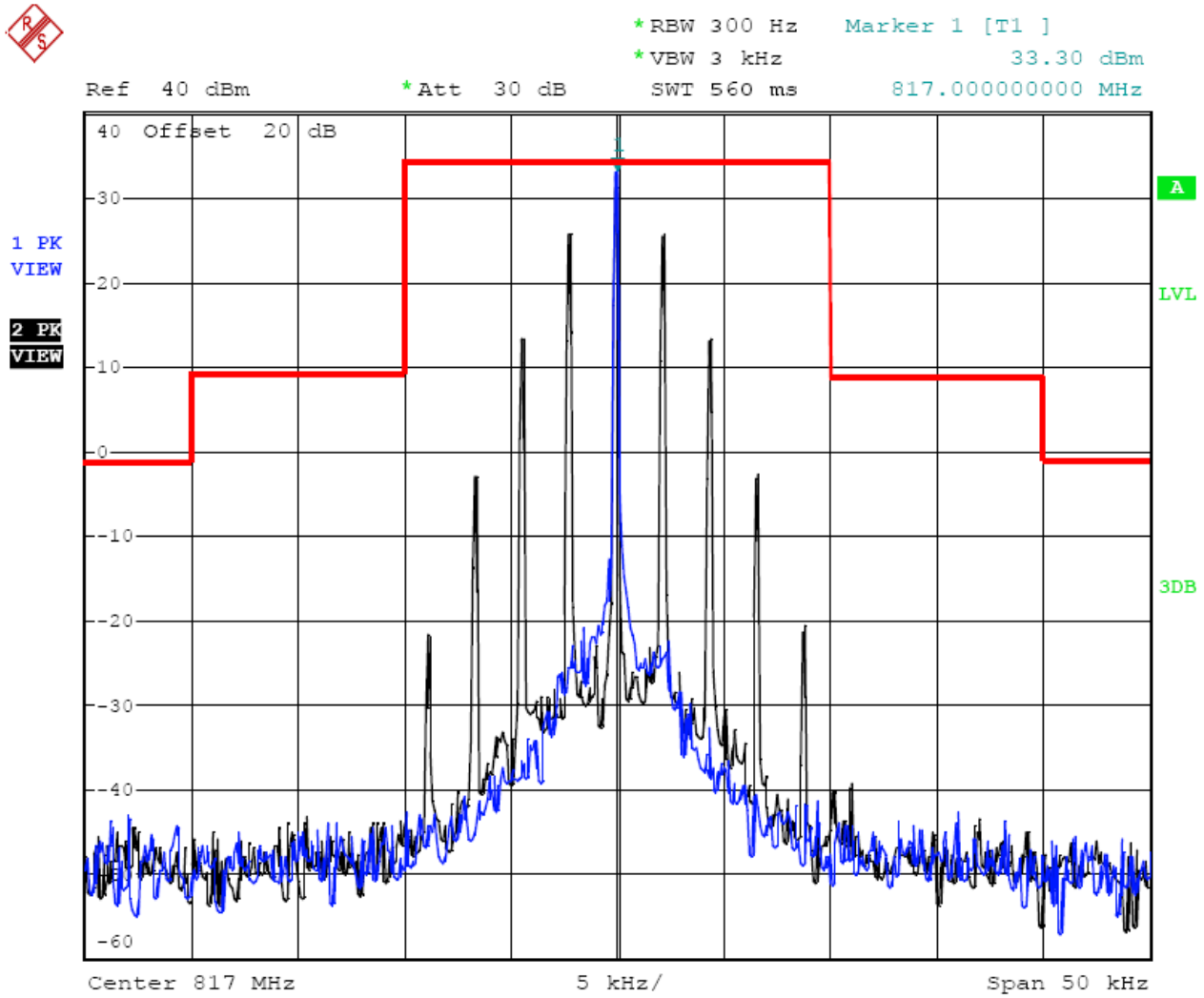
Modulation Type	Channel Separation	Freq.(MHz)	FCC Applicable Mask	RBW	Audio Freq. (KHz)	Results
FM	12.5 KHz	806.5000	B	300Hz	2.5	Complicance



Date: 12.APR.2012 11:31:45

12.5 kHz Channel Spacing, 806.5000 MHz, 2500 Hz Audio Modulation Only

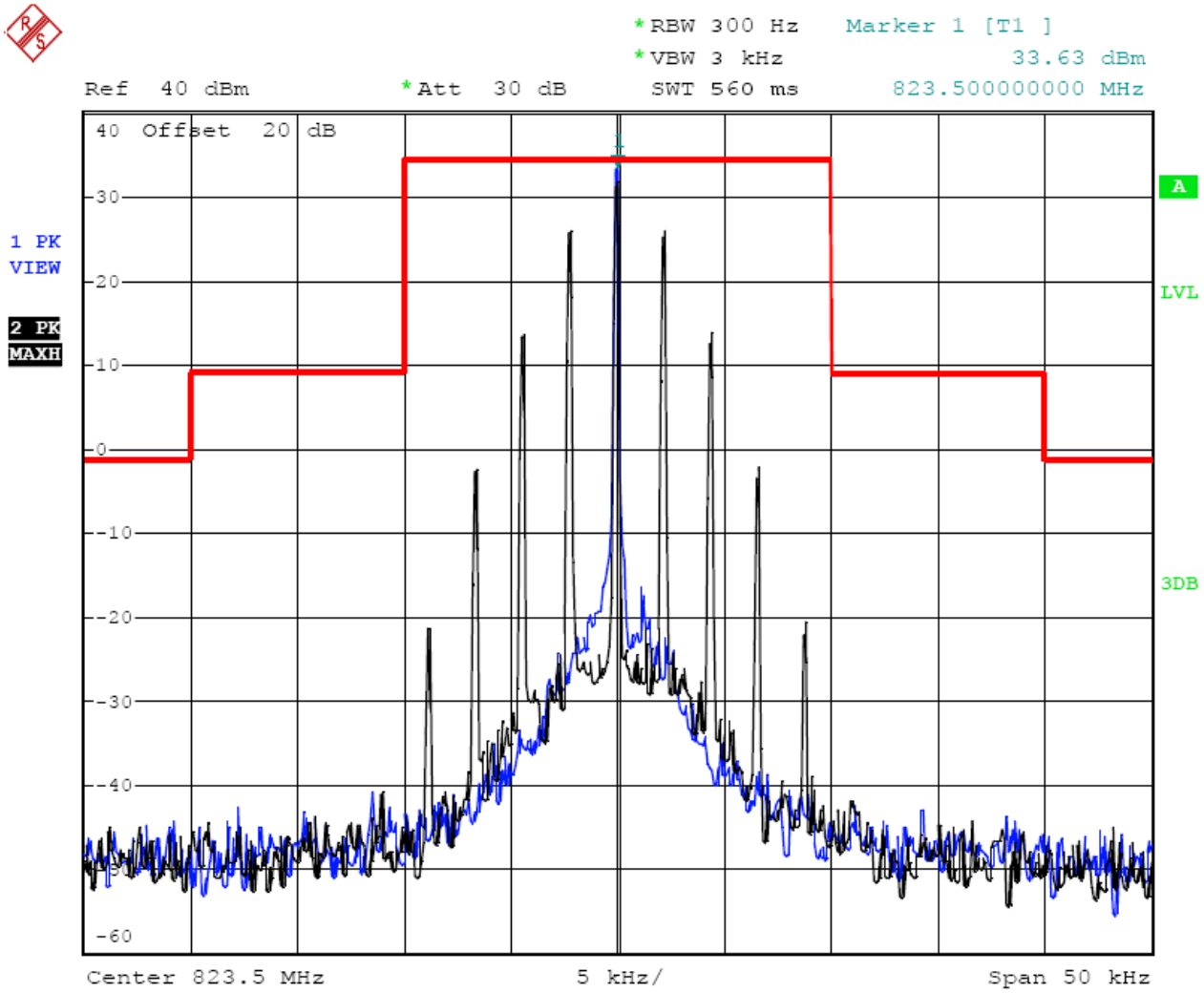
Modulation Type	Channel Separation	Freq.(MHz)	FCC Applicable Mask	RBW	Audio Freq. (KHz)	Results
FM	12.5 KHz	817.0000	B	300Hz	2.5	Complicance



Date: 12.APR.2012 11:32:51

12.5 kHz Channel Spacing, 817.0000 MHz, 2500 Hz Audio Modulation Only

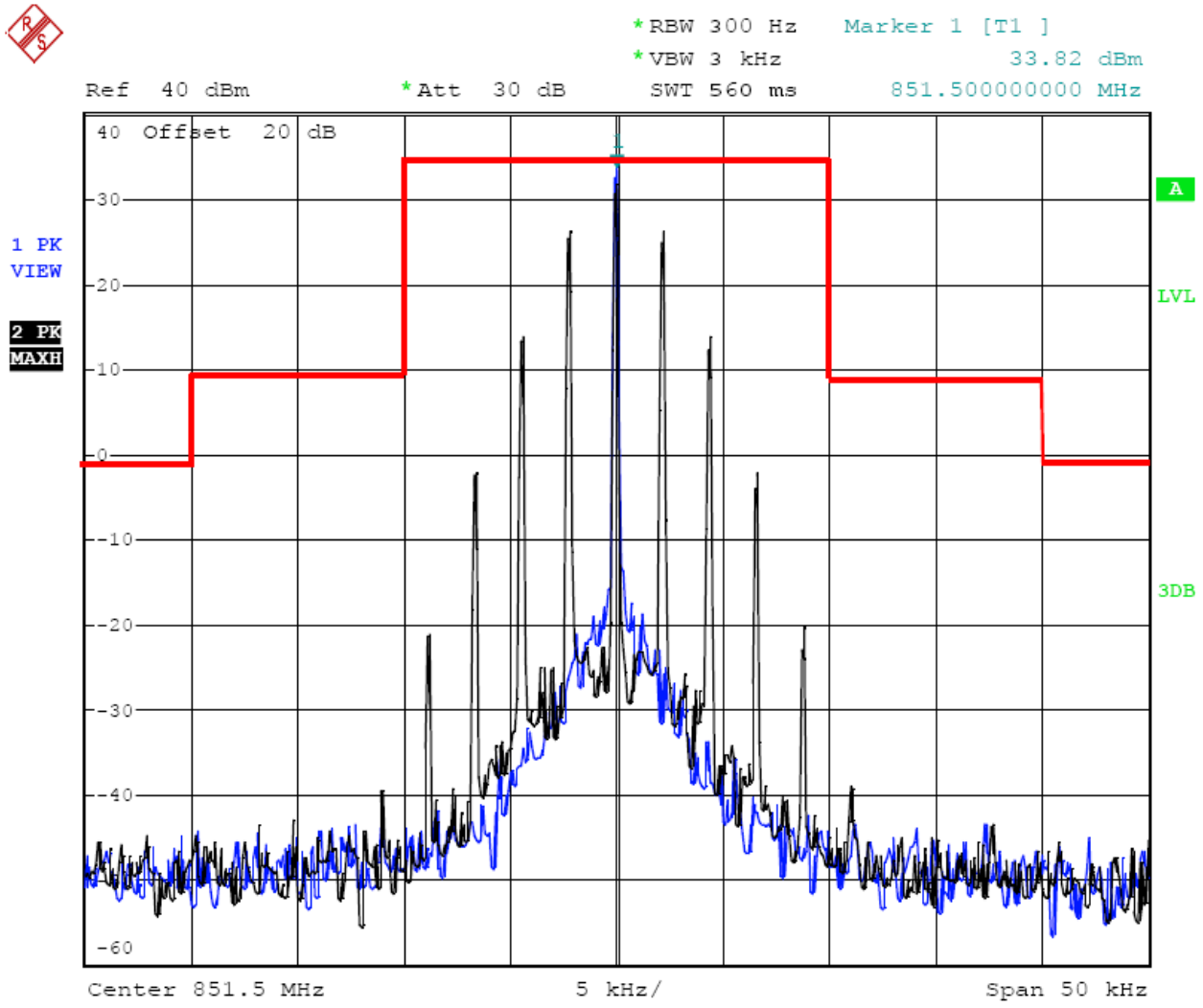
Modulation Type	Channel Separation	Freq.(MHz)	FCC Applicable Mask	RBW	Audio Freq. (KHz)	Results
FM	12.5 KHz	823.5000	B	300Hz	2.5	Complicance



Date: 12.APR.2012 11:33:58

12.5 kHz Channel Spacing, 823.5000 MHz, 2500 Hz Audio Modulation Only

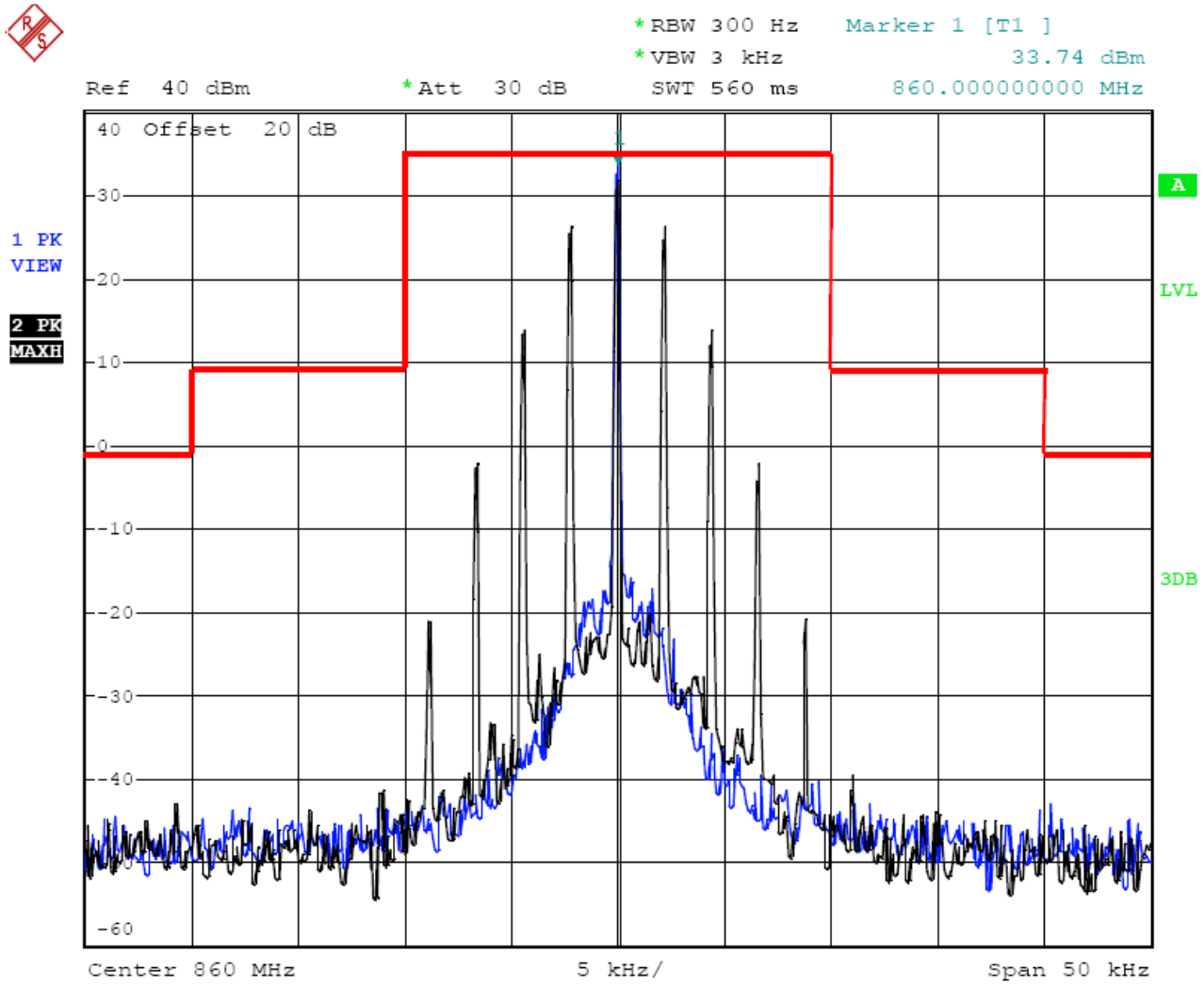
Modulation Type	Channel Separation	Freq.(MHz)	FCC Applicable Mask	RBW	Audio Freq. (KHz)	Results
FM	12.5 KHz	851.5000	B	300Hz	2.5	Complicance



Date: 12.APR.2012 11:34:54

12.5 kHz Channel Spacing, 851.5000 MHz, 2500 Hz Audio Modulation Only

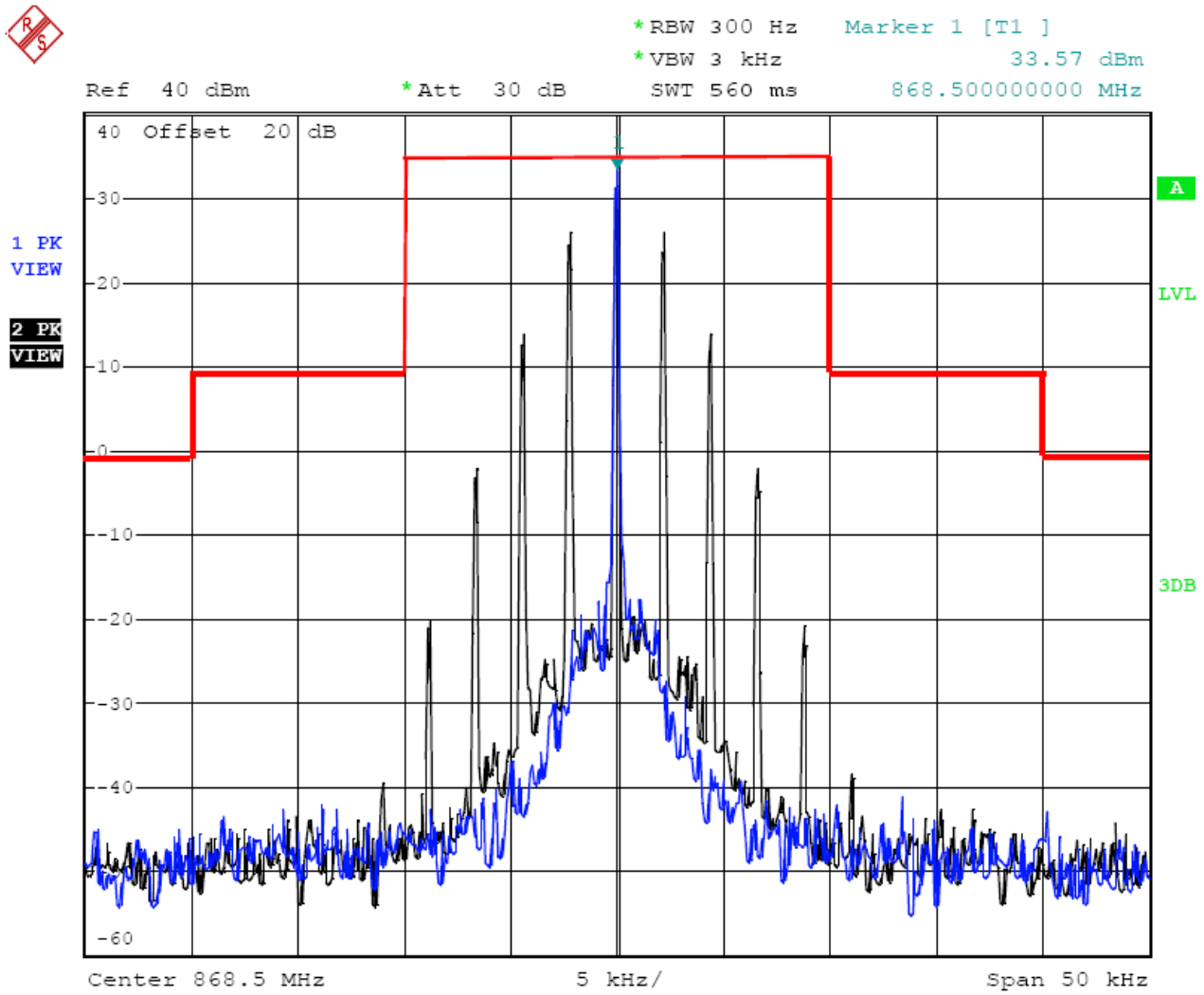
Modulation Type	Channel Separation	Freq.(MHz)	FCC Applicable Mask	RBW	Audio Freq. (KHz)	Results
FM	12.5 KHz	860.0000	B	300Hz	2.5	Complicance



Date: 12.APR.2012 11:35:58

12.5 kHz Channel Spacing, 860.0000 MHz, 2500 Hz Audio Modulation Only

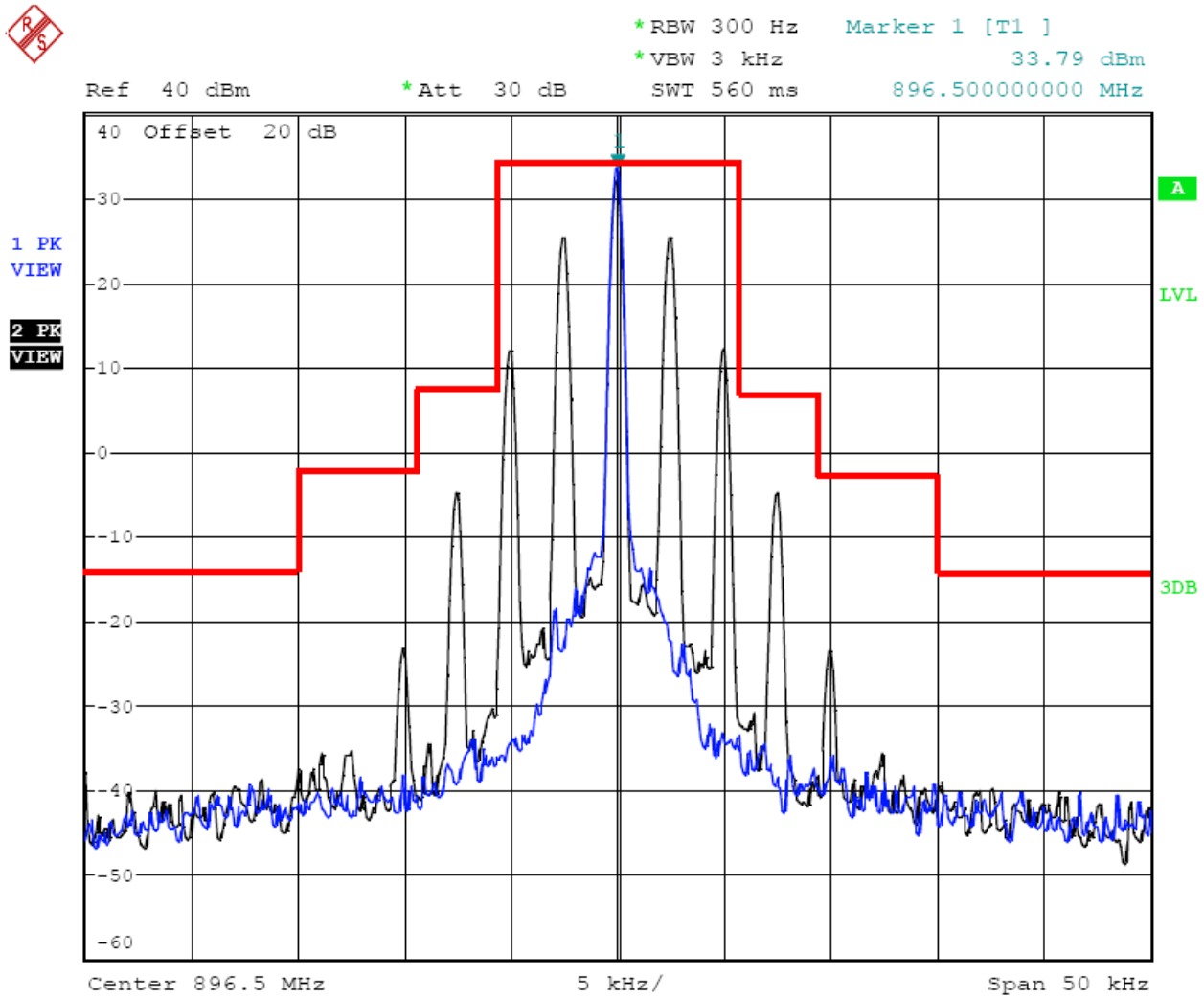
Modulation Type	Channel Separation	Freq.(MHz)	FCC Applicable Mask	RBW	Audio Freq. (KHz)	Results
FM	12.5 KHz	868.5000	B	300Hz	2.5	Complicance



Date: 12.APR.2012 11:36:58

12.5 kHz Channel Spacing, 868.5000 MHz, 2500 Hz Audio Modulation Only

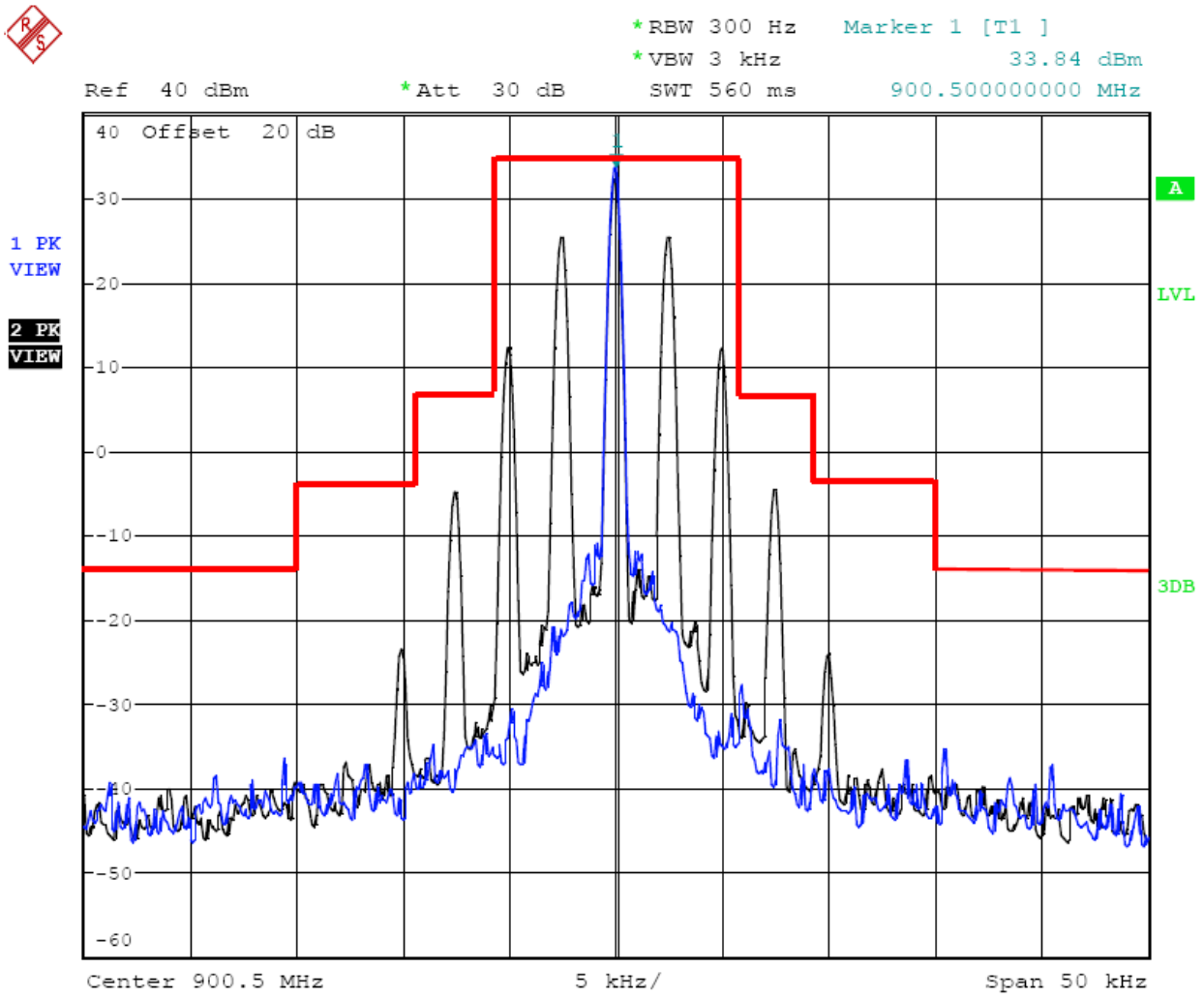
Modulation Type	Channel Separation	Freq.(MHz)	FCC Applicable Mask	RBW	Audio Freq. (KHz)	Results
FM	12.5 KHz	896.5000	I	300Hz	2.5	Complicance



Date: 13.APR.2012 08:37:30

12.5 kHz Channel Spacing, 868.5000 MHz, 2500 Hz Audio Modulation Only

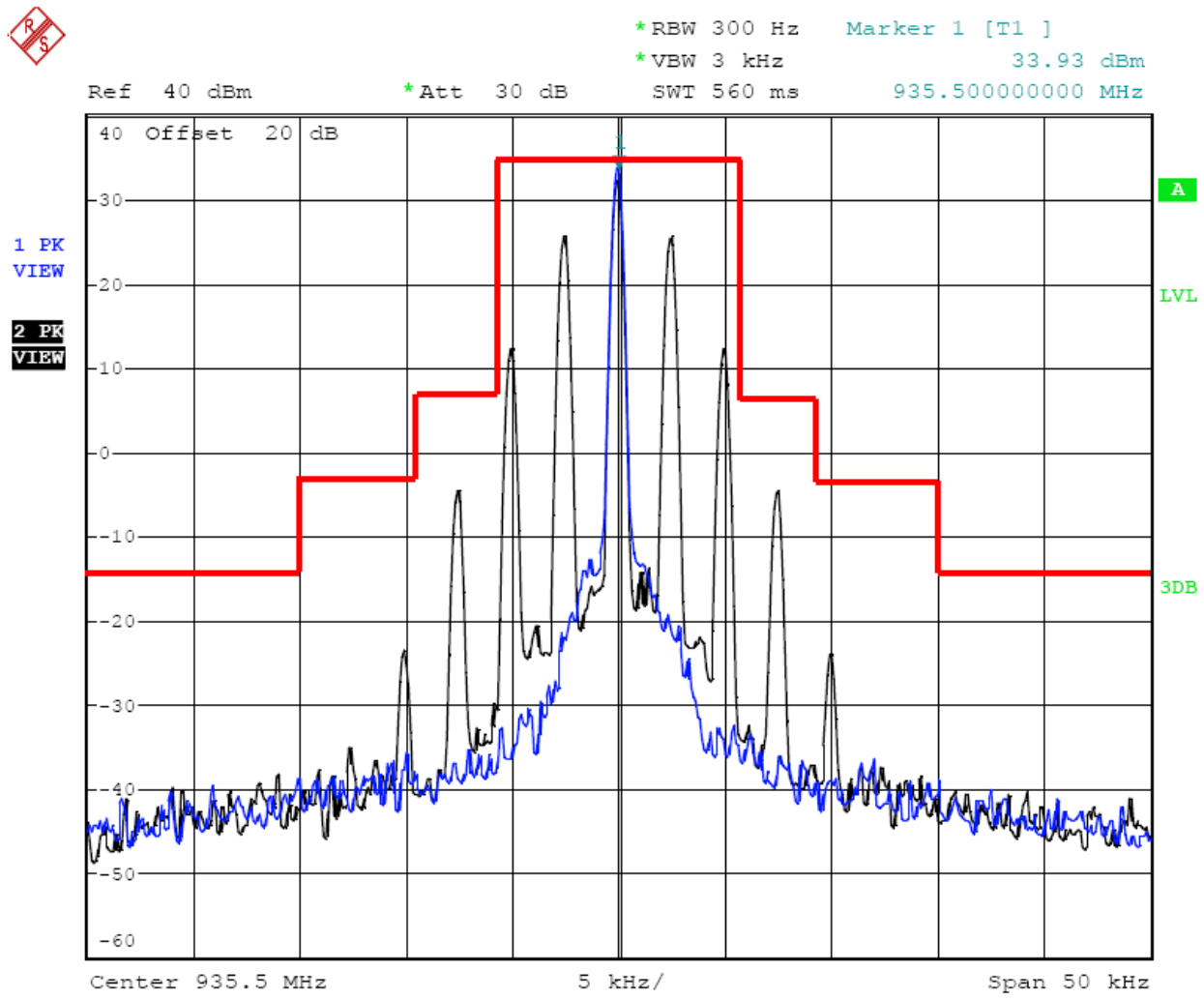
Modulation Type	Channel Separation	Freq.(MHz)	FCC Applicable Mask	RBW	Audio Freq. (KHz)	Results
FM	12.5 KHz	900.5000	I	300Hz	2.5	Complicance



Date: 13.APR.2012 08:38:49

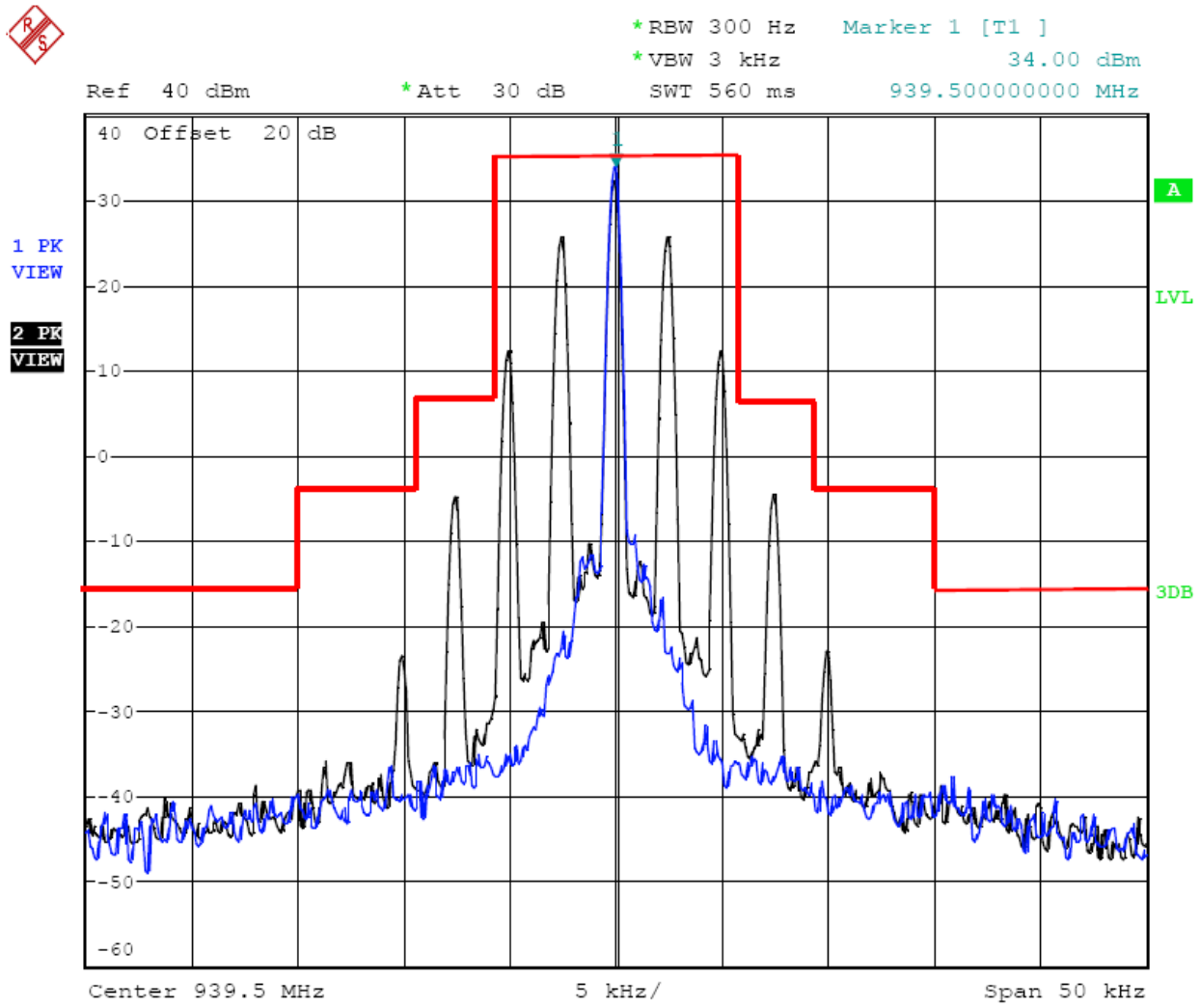
12.5 kHz Channel Spacing, 900.5000 MHz, 2500 Hz Audio Modulation Only

Modulation Type	Channel Separation	Freq.(MHz)	FCC Applicable Mask	RBW	Audio Freq. (KHz)	Results
FM	12.5 KHz	935.5000	I	300Hz	2.5	Complicance



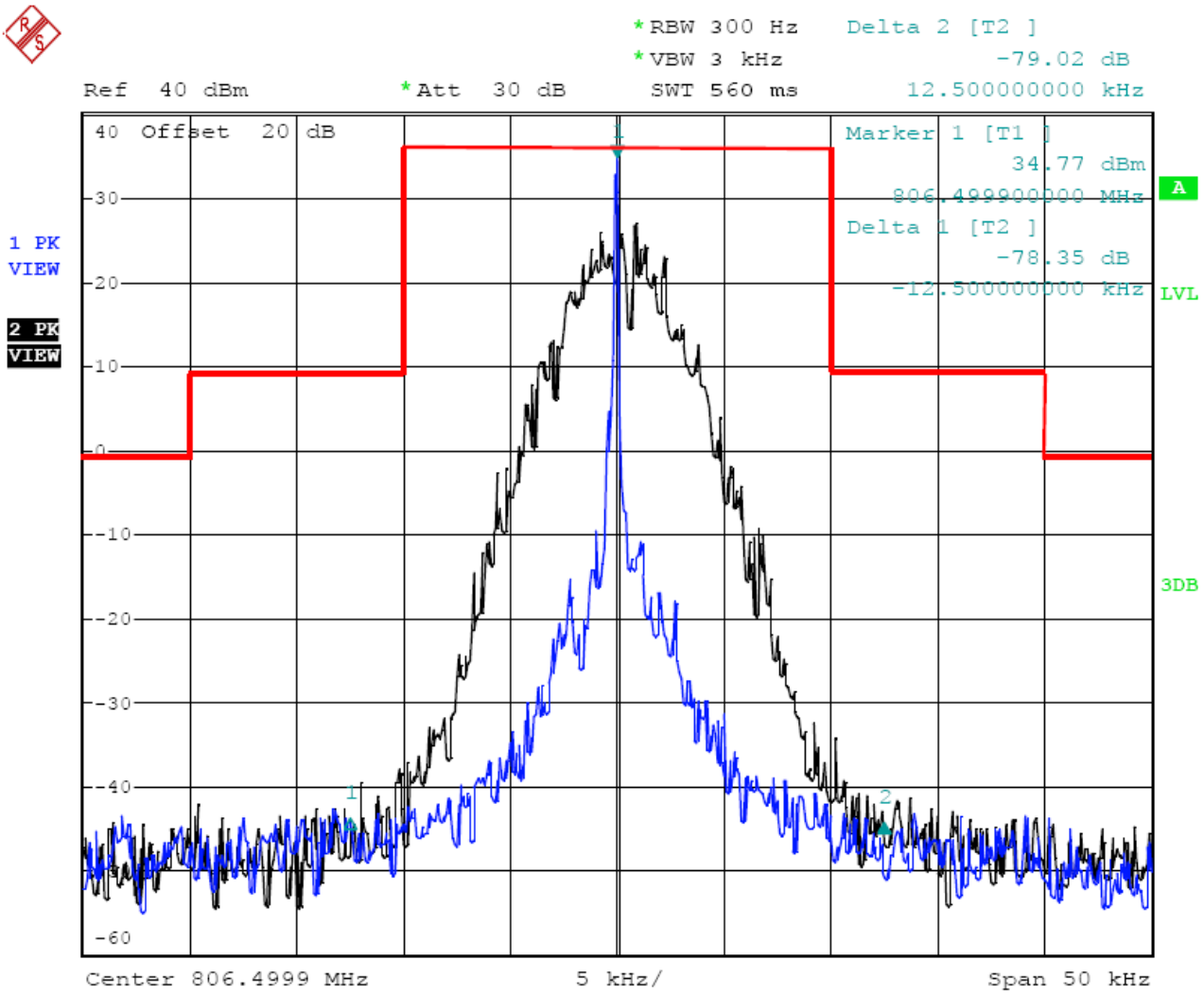
12.5 kHz Channel Spacing, 935.5000 MHz, 2500 Hz Audio Modulation Only

Modulation Type	Channel Separation	Freq.(MHz)	FCC Applicable Mask	RBW	Audio Freq. (KHz)	Results
FM	12.5 KHz	939.5000	I	300Hz	2.5	Complicance



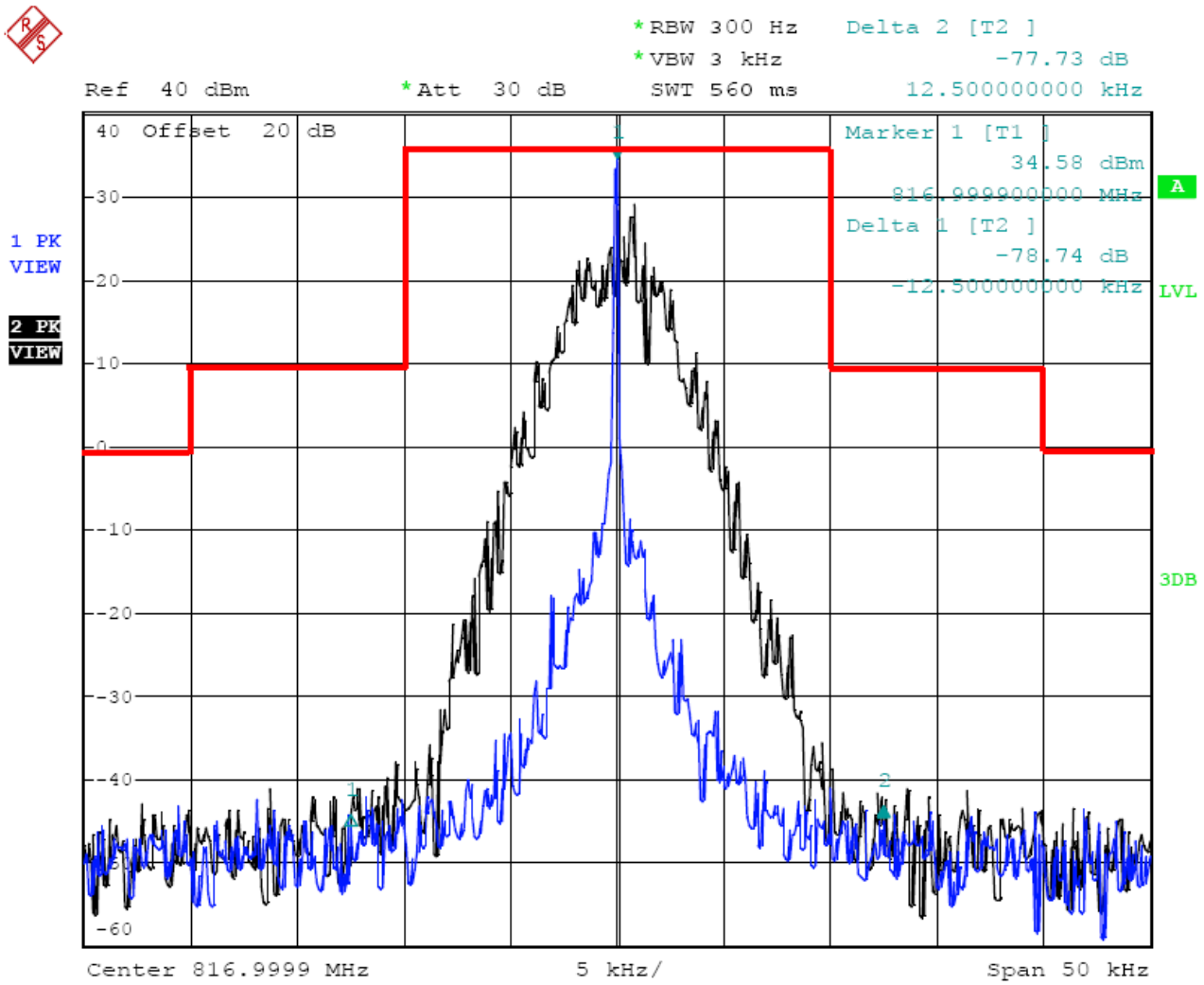
12.5 kHz Channel Spacing, 939.5000 MHz, 2500 Hz Audio Modulation Only

Modulation Type	Channel Separation	Freq.(MHz)	FCC Applicable Mask	RBW	Audio Freq. (KHz)	Results
4FSK	12.5 KHz	806.5000	B	300Hz	2.5	Complicance



12.5 kHz Channel Spacing, 806.5000 MHz, 4FSK Modulation Only

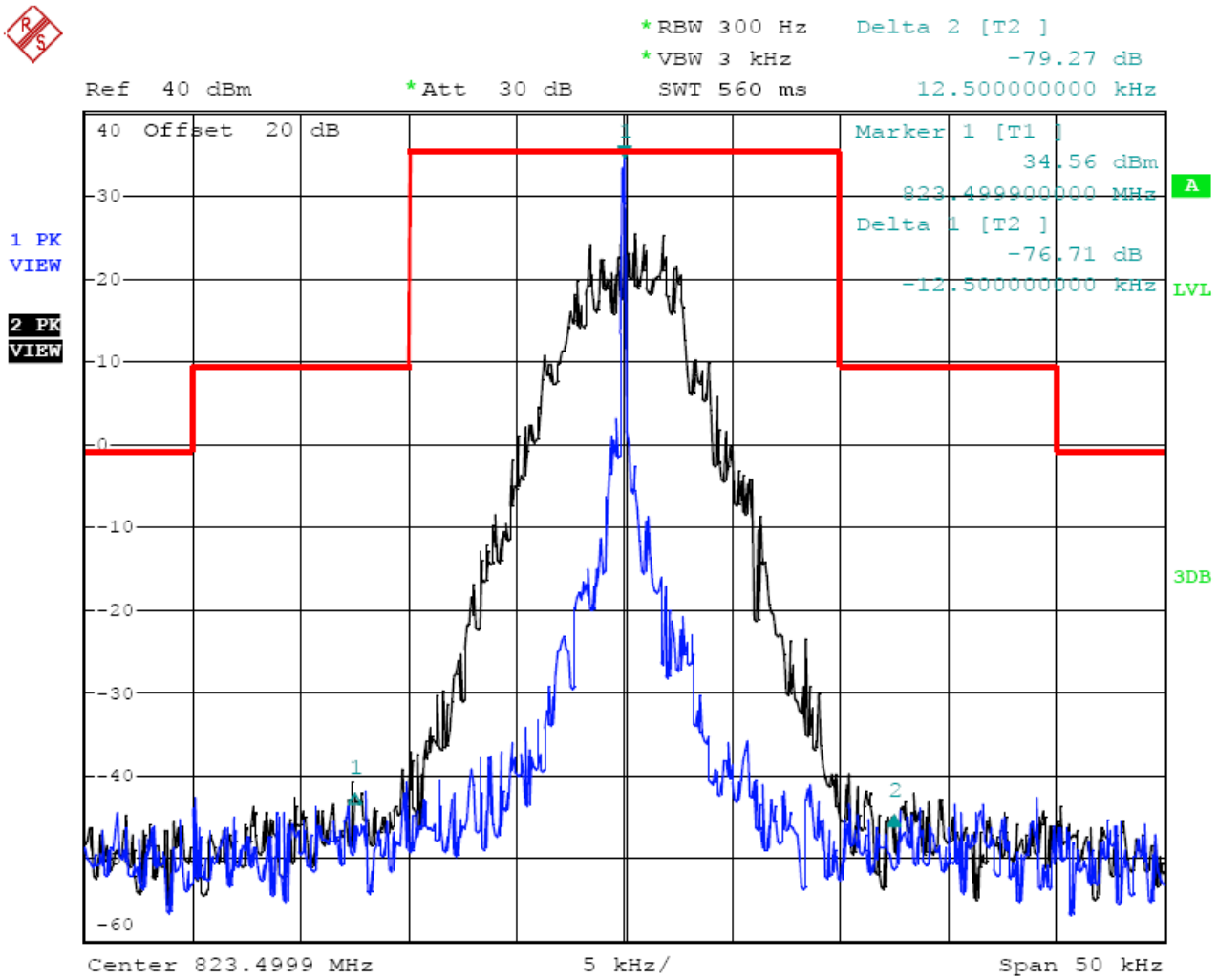
Modulation Type	Channel Separation	Freq.(MHz)	FCC Applicable Mask	RBW	Audio Freq. (KHz)	Results
4FSK	12.5 KHz	817.0000	B	300Hz	/	Complicance



Date: 12.APR.2012 08:53:39

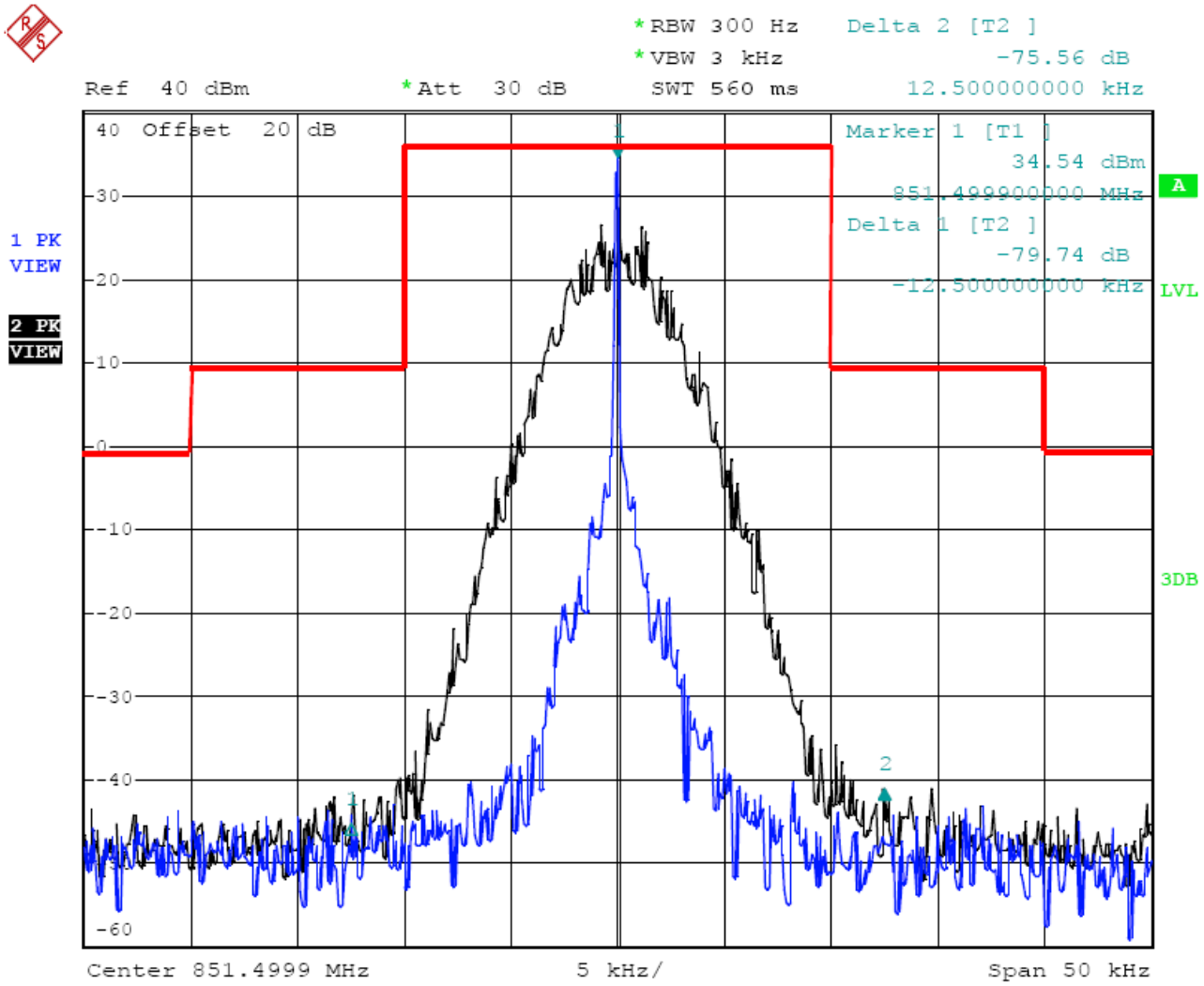
12.5 kHz Channel Spacing, 817.0000 MHz, 4FSK Modulation Only

Modulation Type	Channel Separation	Freq.(MHz)	FCC Applicable Mask	RBW	Audio Freq. (KHz)	Results
4FSK	12.5 KHz	823.5000	B	300Hz	/	Complicance



12.5 kHz Channel Spacing, 435.5000 MHz, 4FSK Modulation Only

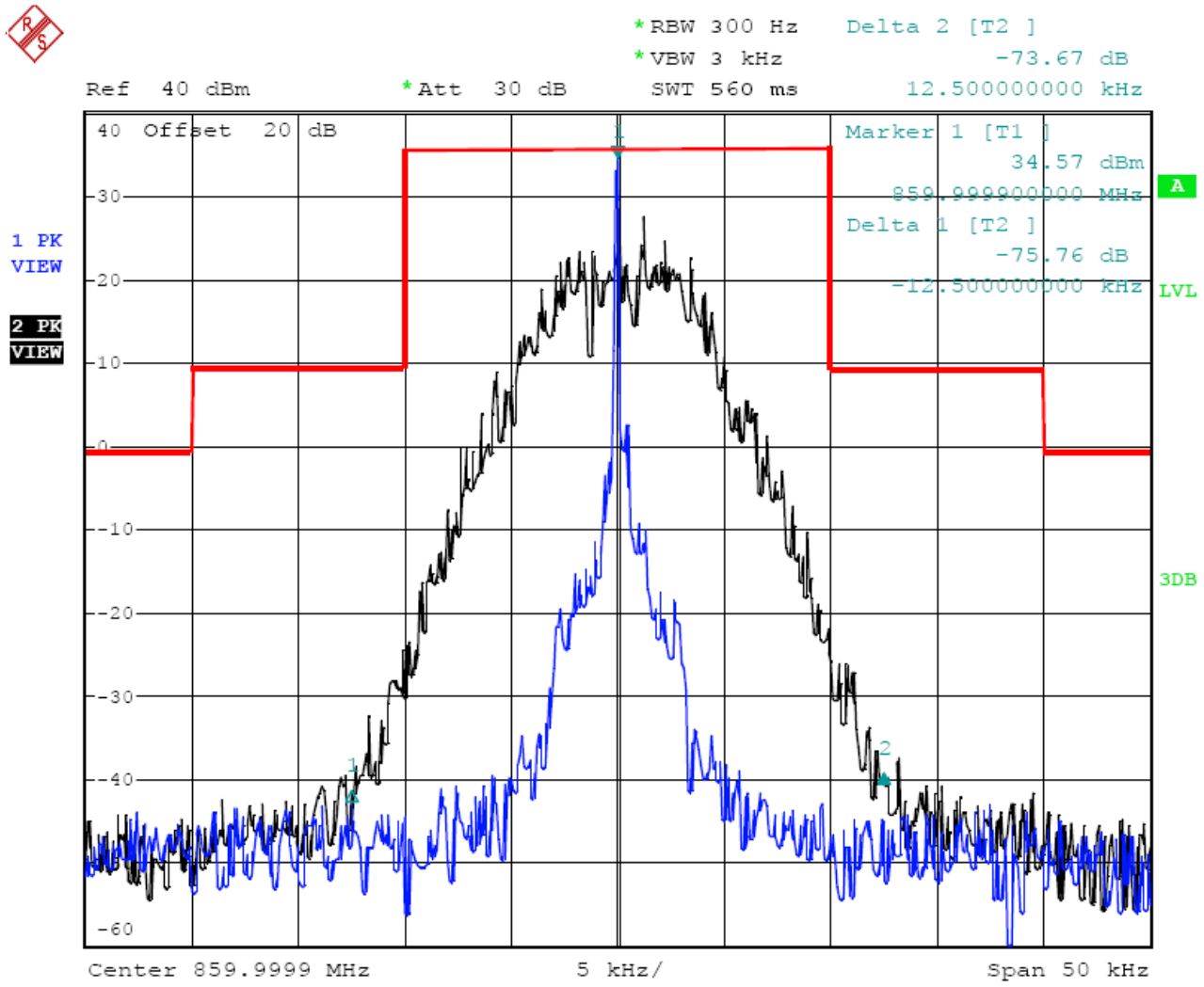
Modulation Type	Channel Separation	Freq.(MHz)	FCC Applicable Mask	RBW	Audio Freq. (KHz)	Results
4FSK	12.5 KHz	851.5000	B	300Hz	/	Complicance



Date: 12.APR.2012 08:59:23

12.5 kHz Channel Spacing, 851.5000 MHz, 4FSK Modulation Only

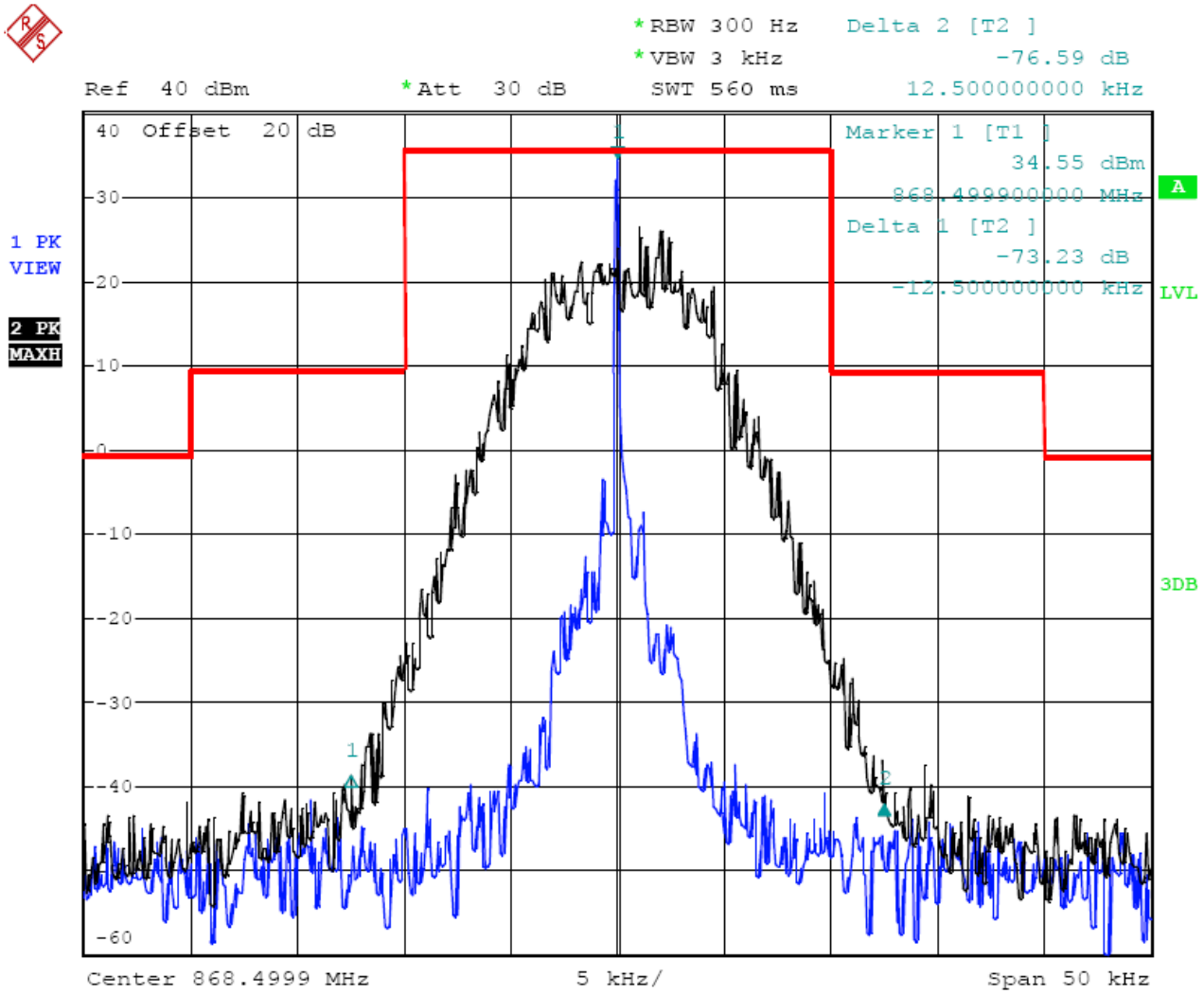
Modulation Type	Channel Separation	Freq.(MHz)	FCC Applicable Mask	RBW	Audio Freq. (KHz)	Results
4FSK	12.5 KHz	860.0000	B	300Hz	/	Complicance



Date: 12.APR.2012 09:03:10

12.5 kHz Channel Spacing, 860.0000 MHz, 4FSK Modulation Only

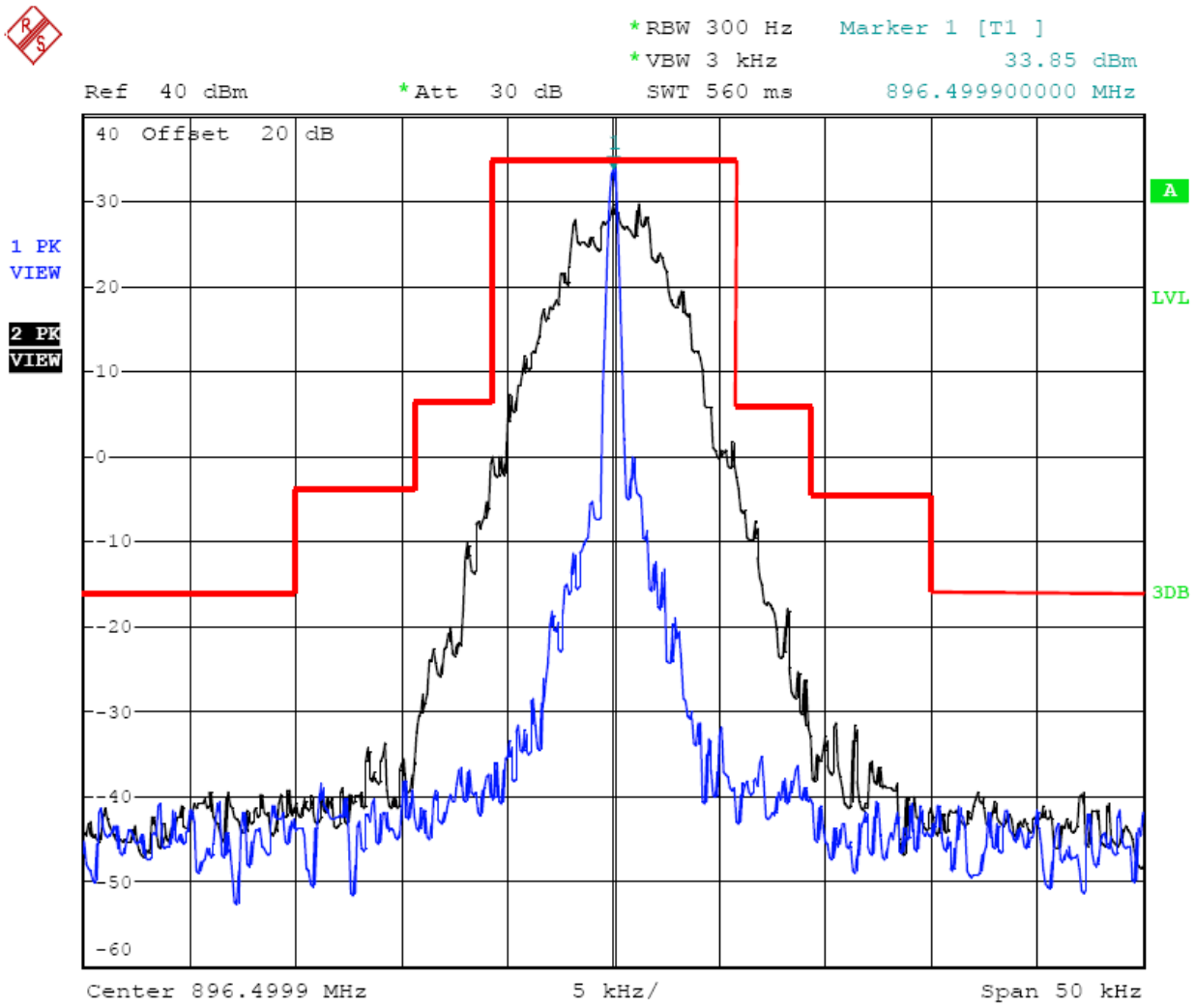
Modulation Type	Channel Separation	Freq.(MHz)	FCC Applicable Mask	RBW	Audio Freq. (KHz)	Results
4FSK	12.5 KHz	868.5000	B	300Hz	/	Complicance



Date: 12.APR.2012 09:06:01

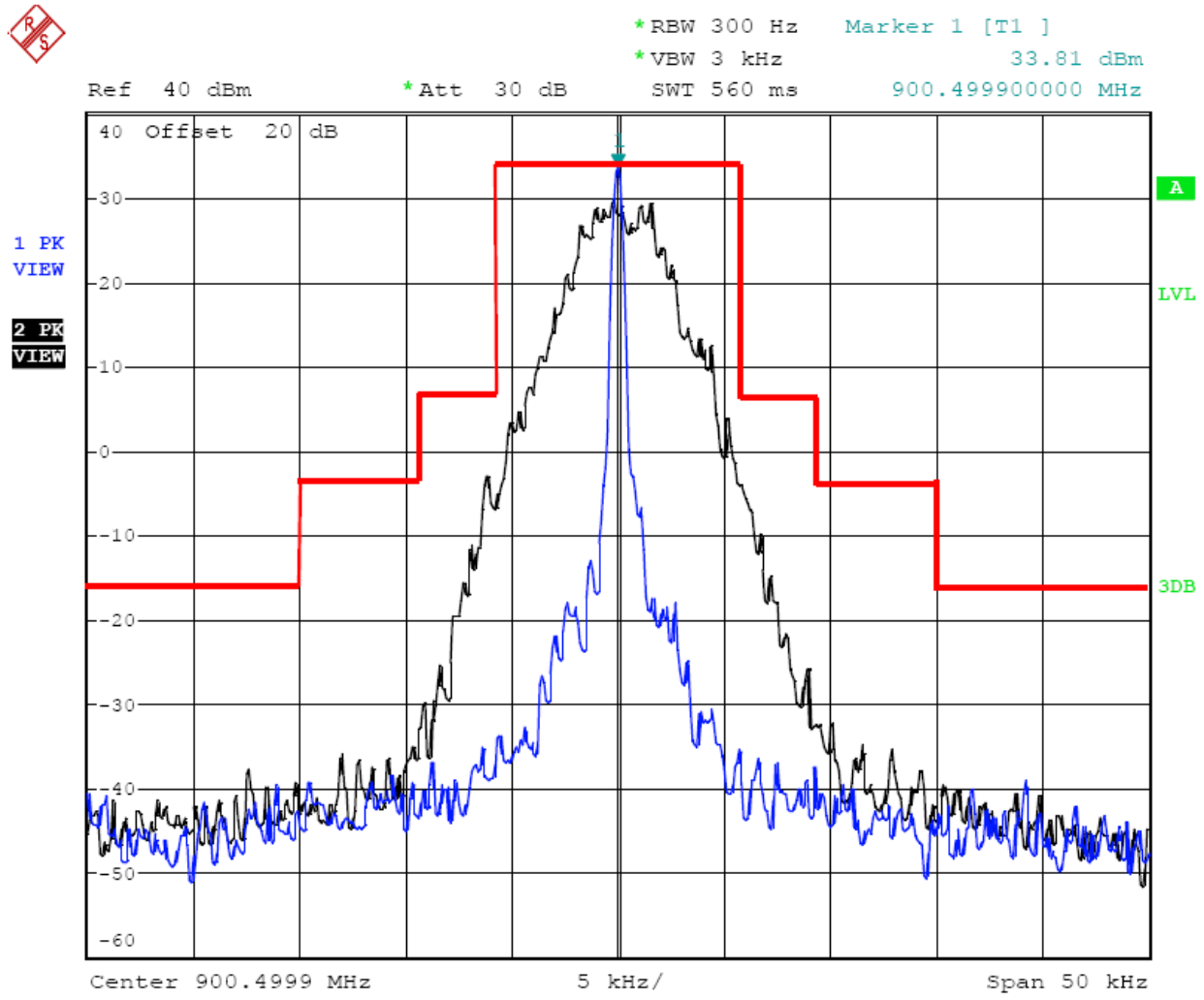
12.5 kHz Channel Spacing, 868.5000 MHz, 4FSK Modulation Only

Modulation Type	Channel Separation	Freq.(MHz)	FCC Applicable Mask	RBW	Audio Freq. (KHz)	Results
4FSK	12.5 KHz	896.5000	I	300Hz	/	Complicance



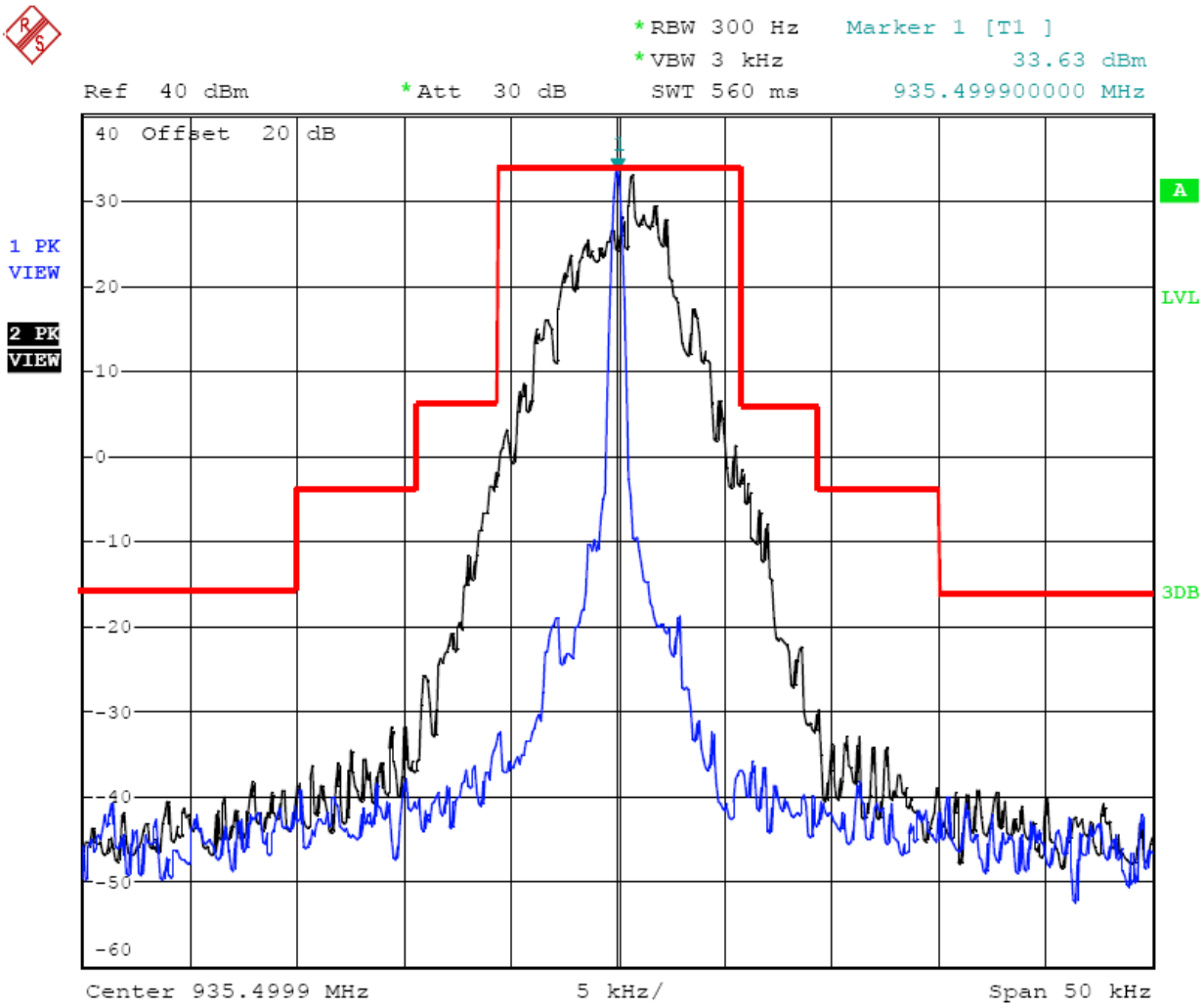
12.5 kHz Channel Spacing, 896.5000 MHz, 4FSK Modulation Only

Modulation Type	Channel Separation	Freq.(MHz)	FCC Applicable Mask	RBW	Audio Freq. (KHz)	Results
4FSK	12.5 KHz	900.5000	I	300Hz	/	Complicance



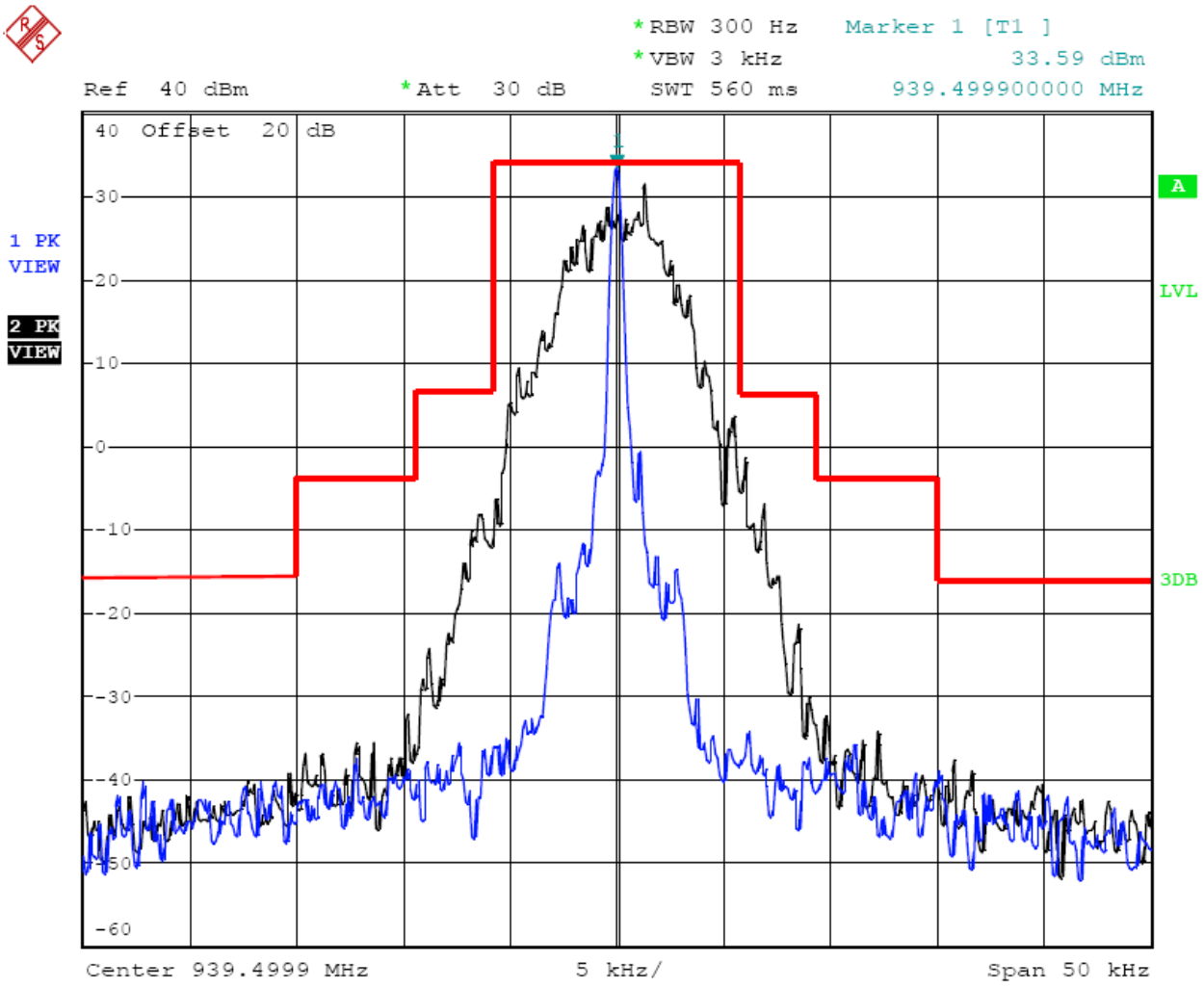
12.5 kHz Channel Spacing, 900.5000 MHz, 4FSK Modulation Only

Modulation Type	Channel Separation	Freq.(MHz)	FCC Applicable Mask	RBW	Audio Freq. (KHz)	Results
4FSK	12.5 KHz	935.5000	I	300Hz	/	Complicance



12.5 kHz Channel Spacing, 935.5000 MHz, 4FSK Modulation Only

Modulation Type	Channel Separation	Freq.(MHz)	FCC Applicable Mask	RBW	Audio Freq. (KHz)	Results
4FSK	12.5 KHz	939.5000	I	300Hz	/	Complicance



12.5 kHz Channel Spacing, 939.5000 MHz, 4FSK Modulation Only

4.3. Transmitter Radiated Spurious Emssion

TEST APPLICABLE

According to the TIA/EIA 603 test method, and according to Section 90.210, the power of each unwanted emission shall be less than Transmitted Power as specified below for transmitters designed to operate with 12.5 KHz channel bandwidth:

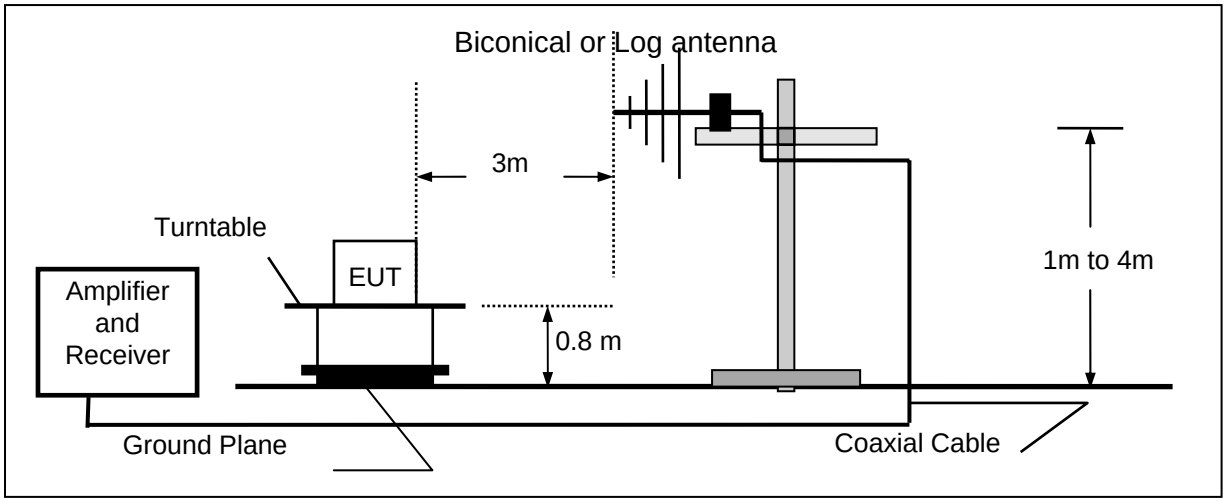
1 On any frequency removed from the center of the authorized bandwidth fo to 5.625 KHz removed from fo: Zero dB
2 On any frequency removed from the center of the authorized bandwidth by a displacement frequency (fd in KHz) fo of more than 5.625 KHz but no more than 12.5 KHz: At least 7.27dB
3 On any frequency removed from the center of the authorized bandwidth by a displacement frequency (fd in KHz) fo of more than 12.5 KHz: At least 50+10 log (P) dB or 70 dB, which ever is lesser attenuation.

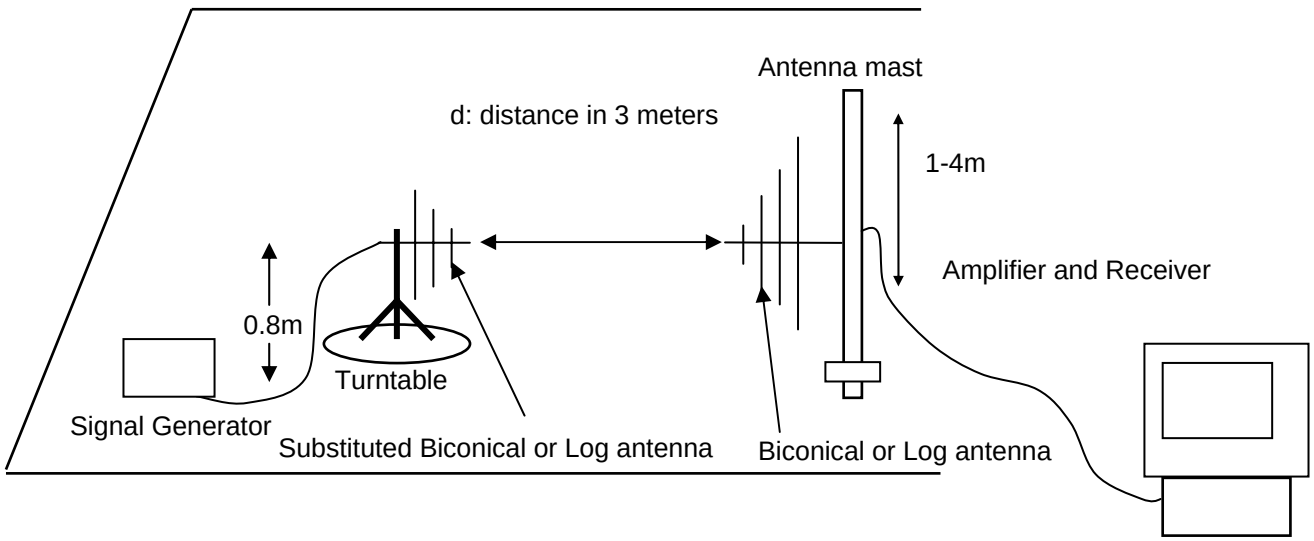
For transmitters designed to transmit with 25 KHz channel separation and equipped with an audio low-pass filter, the power of any emission must be attenuated below the unmodulated carrier power (P) as following:

1 On any frequency removed from the assigned frequency by more than 50 percent, but no more than 100 percent of the authorized bandwidth: At least 25 dB.
2 On any frequency removed from the assigned frequency by more than 100 percent, but no more than 250 percent of the authorized bandwidth: At least 35 dB.
3 On any frequency removed from the assigned frequency by more than 250 percent of the authorized bandwidth: At least 43+10Log (P) dB.

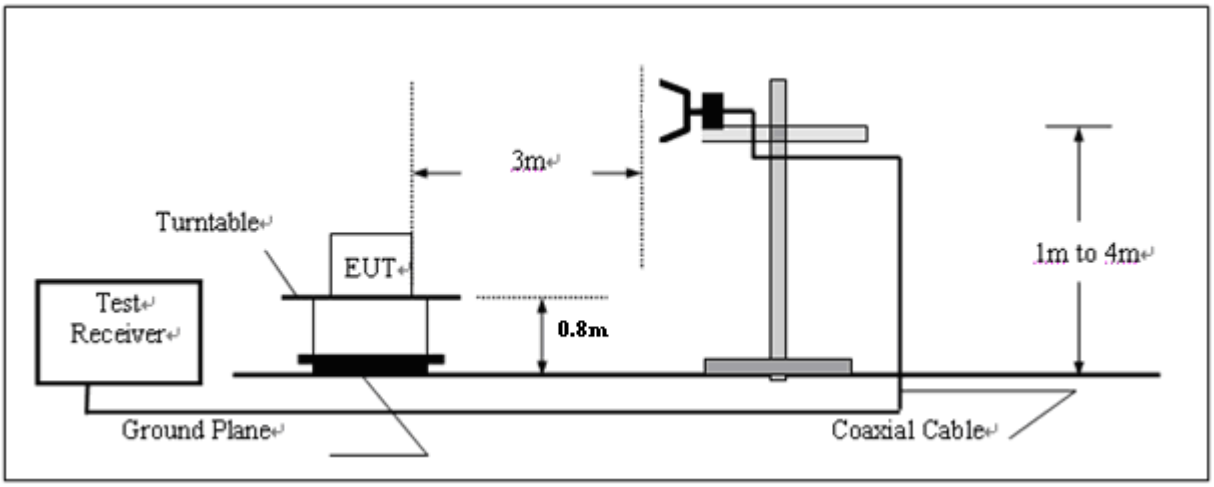
TEST CONFIGURATION

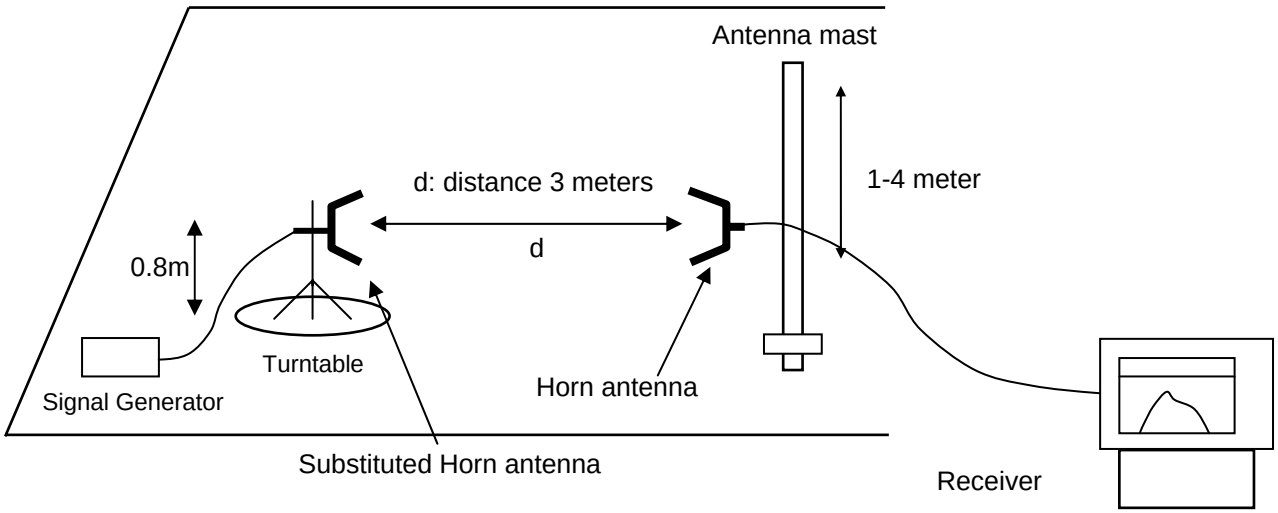
Below 1GHz





Above 1GHz





TEST PROCEDURE

1 Set the EMI Receiver (for measuring E-Field) and Receiver (for measuring EIRP) as follows:
Center Frequency: equal to the signal source
Resolution BW: 100 KHz
Video BW: VBW > RBW
Detector Mode: positive
Average: off
Span: 3 x the signal bandwidth
2 Load an appropriate correction factors file in EMI Receiver for correcting the field strength reading level
Total Correction Factor recorded in the EMI Receiver = Cable Loss + Antenna Factor+Amplifier Gain
E (dBuV/m) = Reading (dBuV) + Total Correction Factor (dB)
3 The transmitter under test was placed at the specified height on a non-conducting turntable (80 cm height)
4 Substitute the EUT by a signal generator and one of the following transmitting antenna (substitution antenna):
DIPOLE antenna for frequency from 30-1000 MHz or
HORN antenna for frequency above 1 GHz}.
5 Mount the transmitting antenna at 1.0 meter high from the ground plane.
6 Use one of the following antenna as a receiving antenna:
DIPOLE antenna for frequency from 30-1000 MHz or
HORN antenna for frequency above 1 GHz}.
7 If the DIPOLE antenna is used, tune its elements to the frequency as specified in the calibration manual.
8 Adjust both transmitting and receiving antenna in a VERTICAL polarization.
9 Tune the EMI Receivers to the test frequency.
10 Lower or raise the test antenna from 1 to 4 meters until the maximum signal level was detected.
11 The transmitter was rotated through 360^{o} about a vertical axis until a higher maximum signal was received.

12 Lower or raise the test antenna from 1 to 4 meters until the maximum signal level was detected.
13 Adjust input signal to the substitution antenna until an equal or a known related level to that detected from the transmitter was obtained in the test receiver.
14 Record the power level read from the Average Power Meter and calculate the ERP/EIRP as follows:
$P = P_1 - L_1 = (P_2 + L_2) – L_1 = P_3 + A + L_2 - L_1$
$EIRP = P + G1 = P_3 + L_2 - L_1 + A + G_1$
$ERP = EIRP – 2.15$ dB
Total Correction factor in EMI Receiver = $L_2 – L_1 + G_1$
Where:
P: Actual RF Power fed into the substitution antenna port after corrected.
P_1: Power output from the signal generator
P_2: Power measured at attenuator A input
P_3: Power reading on the Average Power Meter
EIRP: EIRP after correction
ERP: ERP after correction
15 Adjust both transmitting and receiving antenna in a Horizontal polarization, then repeat step (11) to (14).
16 Repeat step (4) to (16) for different test frequency
17 Repeat steps (3) to (12) with the substitution antenna oriented in horizontal polarization.
18 Actual gain of the EUT's antenna is the difference of the measured EIRP and measured RF power at the RF port. Correct the antenna gain if necessary.

TEST RESULTS

The Transmitter Radiated Spurious Emssion was performed to the Rated high power (2.5Watt) and Rated low power (1Watt) the datum that reported below is the worst case (Rated high power) of the two rated power conditions.

Modulation Type: FM

FCC Part 22.359, 74.462, 80.211 and 90.210 and RSS Gen, RSS 119 Issue 11 (25 kHz bandwidth only):
On any frequency removed from the center of the assigned channel by more than 250 percent at least:
Low: 43 + 10 log (Pwatts) = 43 + 10 log (2.95) =47.70 dB
High: 43 + 10 log (Pwatts) = 43 + 10 log (2.99) =47.76 dB
Calculation: Limit (dBm) =EL-43-10log10 (TP)
Notes: EL is the emission level of the Output Power expressed in dBm,
In this application, the EL is 33.98 dBm.
Limit (dBm) =33.98-43-10log10 (2.99) = -13 dBm

FCC Part 22.359, 74.462, 80.211 and 90.210 and RSS Gen, RSS 119 Issue 11 (12.5 kHz bandwidth only): On any frequency removed from the center of the authorized bandwidth by a displacement frequency (f d in kHz) of more than 12.5 kHz at least:
Low: 50 + 10 log (Pwatts) = 50 + 10 log (2.61) =54.16 dB
High: 50 + 10 log (Pwatts) = 50 + 10 log (3.00) =54.77 dB
Note: In general, the worse case attenuation requirement shown above was applied.
Calculation: Limit (dBm) =EL-50-10log10 (TP)
Notes: EL is the emission level of the Output Power expressed in dBm,
In this application, the EL is 33.98 dBm.
Limit (dBm) =33.98-50-10log10 (3.00) = -20 dBm

Modulation Type: 4FSK

FCC Part 22.359, 74.462, 80.211 and 90.210 and RSS Gen, RSS 119 Issue 11 (12.5 kHz Bandwidth only):
On any frequency removed from the center of the authorized bandwidth by a displacement frequency (f d in kHz) of more than 12.5 kHz at least:
Low: 50 + 10 log (Pwatts) = 50 + 10 log (2.88) =54.60 dB
High: 50 + 10 log (Pwatts) = 50 + 10 log (2.98) =54.74 dB

Note: In general, the worse case attenuation requirement shown above was applied.
Calculation: Limit (dBm) =EL-50-10log10 (TP)
Notes: EL is the emission level of the Output Power expressed in dBm,
In this application, the EL is 33.98 dBm.
Limit (dBm) =33.98-50-10log10 (2.98) = -20 dBm

Note: 1. In general, the worse case attenuation requirement shown above was applied.
2. The measurement frequency range from 30 MHz to 10 GHz.

3. *** means that the emission level is too low to be measured or at least 20 dB down than the limit.

Modulation		FM		Channel Separation		25KHz		
Test Channel		Low Channel		Test Frequency		806.5000 MHz		
Frequency (MHz)	E-Field Level (dBuv/m)	EMI Detector (Peak/QP)	Antenna Polarization	Antenna Height (cm)	Table Angle (Degree)	ERP measured by Substitution Method (dBm)	Limit (dBm)	Margin (dB)
1613.000	66.04	Peak	H	100	235	-31.11	-13	18.11
2419.500	55.56	Peak	H	150	117	-41.00	-13	28.00
4032.5000	49.41	Peak	H	122	56	-46.73	-13	33.73
…	…		H			…		
1613.000	60.31	Peak	V	100	300	-36.69	-13	23.69
2419.500	56.11	Peak	V	100	14	-40.37	-13	27.37
4032.5000	49.42	Peak	V	129	97	-47.72	-13	34.72
…	…		V			…		

Modulation		FM		Channel Separation		25KHz		
Test Channel		Middle Channel		Test Frequency		817.0000 MHz		
Frequency (MHz)	E-Field Level (dBuv/m)	EMI Detector (Peak/QP)	Antenna Polarization	Antenna Height (cm)	Table Angle (Degree)	ERP measured by Substitution Method (dBm)	Limit (dBm)	Margin (dB)
1634.000	67.05	Peak	H	155	200	-28.99	-13	15.99
2451.000	53.31	Peak	H	100	177	-43.44	-13	30.44
3268.000	50.51	Peak	H	100	136	-46.21	-13	33.21
…	…		H			…		
1634.000	65.75	Peak	V	100	360	-31.21	-13	18.21
2451.000	52.04	Peak	V	100	276	-45.10	-13	32.00
3268.000	49.18	Peak	V	100	122	-47.37	-13	34.37
…	…		V			…		

Modulation		FM		Channel Separation		25KHz		
Test Channel		High Channel		Test Frequency		823.5000 MHz		
Frequency (MHz)	E-Field Level (dBuv/m)	EMI Detector (Peak/QP)	Antenna Polarization	Antenna Height (cm)	Table Angle (Degree)	ERP measured by Substitution Method (dBm)	Limit (dBm)	Margin (dB)
1647.000	67.36	Peak	H	124	89	-29.64	-13	16.64
3294.000	53.83	Peak	H	150	172	-42.74	-13	29.74
4117.500	49.98	Peak	H	150	83	-46.09	-13	33.09
…			H			…		
1647.000	67.01	Peak	V	112	89	-29.71	-13	16.71
3294.000	53.22	Peak	V	100	265	-43.99	-13	30.99
4117.500	49.59	Peak	V	150	265	-46.17	-13	33.17
…	…		V			…		

Modulation		FM		Channel Separation		25KHz		
Test Channel		Low Channel		Test Frequency		851.5000 MHz		
Frequency (MHz)	E-Field Level (dBuv/m)	EMI Detector (Peak/QP)	Antenna Polarization	Antenna Height (cm)	Table Angle (Degree)	ERP measured by Substitution Method (dBm)	Limit (dBm)	Margin (dB)
1703.000	65.08	Peak	H	100	317	-31.70	-13	18.70
2554.500	50.93	Peak	H	100	300	-45.08	-13	32.08
4257.500	49.15	Peak	H	100	273	-47.12	-13	34.12
…	…		H			…		
1703.000	69.88	Peak	V	100	176	-27.19	-13	14.19
2554.500	61.92	Peak	V	100	124	-35.20	-13	32.20
4257.500	48.40	Peak	V	100	99	-48.56	-13	35.56
…	…		V			…		

Modulation		FM		Channel Separation		25KHz		
Test Channel		Middle Channel		Test Frequency		860.0000 MHz		
Frequency (MHz)	E-Field Level (dBuv/m)	EMI Detector (Peak/QP)	Antenna Polarization	Antenna Height (cm)	Table Angle (Degree)	ERP measured by Substitution Method (dBm)	Limit (dBm)	Margin (dB)
1720.000	62.51	Peak	H	178	6	-34.07	-13	21.07
2580.000	53.83	Peak	H	154	123	-42.96	-13	29.96
4300.000	49.76	Peak	H	100	271	-47.11	-13	34.11
…	…		H			…		
1720.000	61.05	Peak	V	127	134	-35.47	-13	22.47
2580.000	51.17	Peak	V	100	341	-45.09	-13	32.09
4300.000	48.05	Peak	V	100	127	-48.52	-13	35.52
…	…		V			…		

Modulation		FM		Channel Separation		25KHz		
Test Channel		High Channel		Test Frequency		868.5000 MHz		
Frequency (MHz)	E-Field Level (dBuv/m)	EMI Detector (Peak/QP)	Antenna Polarization	Antenna Height (cm)	Table Angle (Degree)	ERP measured by Substitution Method (dBm)	Limit (dBm)	Margin (dB)
1737.000	62.81	Peak	H	122	233	-33.97	-13	20.97
2605.500	53.44	Peak	H	122	55	-43.55	-13	30.55
4342.500	49.38	Peak	H	100	149	-47.21	-13	34.21
…			H			…		
1737.000	67.33	Peak	V	150	360	-29.40	-13	16.40
2605.500	55.65	Peak	V	100	26	-41.28	-13	28.28
4342.500	48.86	Peak	V	150	111	-47.99	-13	34.99
…	…		V			…		

Modulation		FM		Channel Separation		12.5KHz		
Test Channel		Low Channel		Test Frequency		806.5000 MHz		
Frequency (MHz)	E-Field Level (dBuv/m)	EMI Detector (Peak/QP)	Antenna Polarization	Antenna Height (cm)	Table Angle (Degree)	ERP measured by Substitution Method (dBm)	Limit (dBm)	Margin (dB)
1613.000	65.18	Peak	H	125	36	-30.86	-20	10.86
2419.500	57.69	Peak	H	100	8	-39.12	-20	19.12
4032.5000	51.88	Peak	H	150	277	-44.57	-20	24.57
…	…		H			…		
1613.000	59.98	Peak	V	100	198	-36.69	-20	16.69
2419.500	53.26	Peak	V	129	267	-42.74	-20	22.74
4032.5000	50.87	Peak	V	100	302	-45.82	-20	25.82
…	…		V			…		

Modulation		FM		Channel Separation		12.5KHz		
Test Channel		Middle Channel		Test Frequency		817.0000 MHz		
Frequency (MHz)	E-Field Level (dBuv/m)	EMI Detector (Peak/QP)	Antenna Polarization	Antenna Height (cm)	Table Angle (Degree)	ERP measured by Substitution Method (dBm)	Limit (dBm)	Margin (dB)
1634.000	68.25	Peak	H	145	307	-28.20	-20	8.20
2451.000	55.97	Peak	H	100	146	-40.12	-20	20.12
3268.000	50.08	Peak	H	127	255	-45.93	-20	25.93
…	…		H			…		
1634.000	65.44	Peak	V	100	269	-31.21	-20	11.21
2451.000	55.39	Peak	V	124	25	-41.11	-20	21.11
3268.000	51.19	Peak	V	150	146	-45.57	-20	25.57
…	…		V			…		

Modulation		FM		Channel Separation		12.5KHz		
Test Channel		High Channel		Test Frequency		823.5000 MHz		
Frequency (MHz)	E-Field Level (dBuv/m)	EMI Detector (Peak/QP)	Antenna Polarization	Antenna Height (cm)	Table Angle (Degree)	ERP measured by Substitution Method (dBm)	Limit (dBm)	Margin (dB)
1647.000	68.44	Peak	H	100	266	-28.68	-20	8.68
3294.000	55.68	Peak	H	150	34	-40.93	-20	20.93
4117.500	51.68	Peak	H	150	79	-45.32	-20	25.32
…			H			…		
1647.000	68.10	Peak	V	100	117	-28.83	-20	8.83
3294.000	58.22	Peak	V	124	67	-39.67	-20	19.67
4117.500	50.85	Peak	V	124	132	-46.19	-20	26.19
…	…		V			…		

Modulation		FM		Channel Separation		12.5KHz		
Test Channel		Low Channel		Test Frequency		851.5000 MHz		
Frequency (MHz)	E-Field Level (dBuv/m)	EMI Detector (Peak/QP)	Antenna Polarization	Antenna Height (cm)	Table Angle (Degree)	ERP measured by Substitution Method (dBm)	Limit (dBm)	Margin (dB)
1703.000	65.23	Peak	H	150	128	-31.74	-20	11.74
2554.500	54.49	Peak	H	137	343	-42.56	-20	22.56
4257.500	50.71	Peak	H	124	261	-46.23	-20	26.23
…	…		H			…		
1703.000	70.07	Peak	V	100	72	-26.71	-20	6.71
2554.500	64.45	Peak	V	128	291	-32.40	-20	12.40
4257.500	50.94	Peak	V	124	144	-45.11	-20	25.11
…	…		V			…		

Modulation		FM		Channel Separation		12.5KHz		
Test Channel		Middle Channel		Test Frequency		860.0000 MHz		
Frequency (MHz)	E-Field Level (dBuv/m)	EMI Detector (Peak/QP)	Antenna Polarization	Antenna Height (cm)	Table Angle (Degree)	ERP measured by Substitution Method (dBm)	Limit (dBm)	Margin (dB)
1720.000	62.78	Peak	H	150	347	-33.24	-20	13.24
2580.000	53.35	Peak	H	150	150	-43.33	-20	23.33
4300.000	49.05	Peak	H	100	226	-47.22	-20	27.22
…	…		H			…		
1720.000	69.11	Peak	V	100	312	-27.39	-20	7.39
2580.000	54.77	Peak	V	124	59	-42.09	-20	22.09
4300.000	49.89	Peak	V	127	110	-46.82	-20	26.82
…	…		V			…		

Modulation		FM		Channel Separation		12.5KHz		
Test Channel		High Channel		Test Frequency		868.5000 MHz		
Frequency (MHz)	E-Field Level (dBuv/m)	EMI Detector (Peak/QP)	Antenna Polarization	Antenna Height (cm)	Table Angle (Degree)	ERP measured by Substitution Method (dBm)	Limit (dBm)	Margin (dB)
1737.000	61.82	Peak	H	135	300	-34.74	-20	14.74
2605.500	50.62	Peak	H	100	147	-46.17	-20	26.17
4342.500	47.24	Peak	H	129	283	-49.33	-20	29.33
…			H			…		
1737.000	68.38	Peak	V	100	9	-28.09	-20	8.09
2605.500	52.23	Peak	V	124	136	-44.70	-20	24.70
4342.500	49.20	Peak	V	100	210	-47.82	-20	27.82
…	…		V			…		

Modulation		FM		Channel Separation		12.5KHz		
Test Channel		Low Channel		Test Frequency		896.5000 MHz		
Frequency (MHz)	E-Field Level (dBuv/m)	EMI Detector (Peak/QP)	Antenna Polarization	Antenna Height (cm)	Table Angle (Degree)	ERP measured by Substitution Method (dBm)	Limit (dBm)	Margin (dB)
1793.000	61.82	Peak	H	100	79	-34.57	-20	14.57
2689.500	50.33	Peak	H	124	162	-45.76	-20	25.76
4482.500	48.41	Peak	H	145	344	-48.31	-20	28.31
…	…		H			…		
1793.000	68.82	Peak	V	125	298	-27.76	-20	7.76
2689.500	62.07	Peak	V	100	173	-34.03	-20	14.03
4482.500	49.46	Peak	V	150	222	-47.08	-20	27.08
…	…		V			…		

Modulation		FM		Channel Separation		12.5KHz		
Test Channel		High Channel		Test Frequency		900.5000 MHz		
Frequency (MHz)	E-Field Level (dBuv/m)	EMI Detector (Peak/QP)	Antenna Polarization	Antenna Height (cm)	Table Angle (Degree)	ERP measured by Substitution Method (dBm)	Limit (dBm)	Margin (dB)
1801.000	64.07	Peak	H	108	100	-32.57	-20	12.57
2701.500	51.29	Peak	H	108	74	-45.61	-20	25.61
3602.000	48.66	Peak	H	100	262	-48.16	-20	28.16
…	…		H			…		
1801.000	68.85	Peak	V	150	355	-27.32	-20	7.32
2701.500	60.56	Peak	V	124	274	-35.57	-20	15.57
3602.000	59.27	Peak	V	100	162	-47.33	-20	27.33
…	…		V			…		

Modulation		FM		Channel Separation		12.5KHz		
Test Channel		Low Channel		Test Frequency		935.5000 MHz		
Frequency (MHz)	E-Field Level (dBuv/m)	EMI Detector (Peak/QP)	Antenna Polarization	Antenna Height (cm)	Table Angle (Degree)	ERP measured by Substitution Method (dBm)	Limit (dBm)	Margin (dB)
1871.000	60.65	Peak	H	150	360	-35.89	-20	15.89
2806.500	60.66	Peak	H	125	175	-36.43	-20	16.43
4677.500	49.93	Peak	H	125	122	-46.37	-20	26.37
…	…		H			…		
1871.000	66.51	Peak	V	108	135	-29.82	-20	9.82
2806.500	63.34	Peak	V	124	271	-33.43	-20	13.43
4677.500	51.22	Peak	V	111	300	-45.72	-20	25.72
…	…		V			…		

Modulation		FM		Channel Separation		12.5KHz		
Test Channel		High Channel		Test Frequency		939.5000 MHz		
Frequency (MHz)	E-Field Level (dBuv/m)	EMI Detector (Peak/QP)	Antenna Polarization	Antenna Height (cm)	Table Angle (Degree)	ERP measured by Substitution Method (dBm)	Limit (dBm)	Margin (dB)
1879.000	62.87	Peak	H	100	124	-33.78	-20	13.78
2818.500	56.59	Peak	H	150	268	-40.23	-20	20.23
4697.000	51.19	Peak	H	150	22	-44.97	-20	24.97
…	…		H			…		
1879.000	68.45	Peak	V	122	352	-27.86	-20	7.86
2818.500	62.92	Peak	V	100	112	-34.02	-20	14.02
4697.000	50.44	Peak	V	128	278	-46.00	-20	26.00
…	…		V			…		

Modulation		4FSK		Channel Separation		12.5KHz		
Test Channel		Low Channel		Test Frequency		806.5000 MHz		
Frequency (MHz)	E-Field Level (dBuv/m)	EMI Detector (Peak/QP)	Antenna Polarization	Antenna Height (cm)	Table Angle (Degree)	ERP measured by Substitution Method (dBm)	Limit (dBm)	Margin (dB)
1613.000	66.41	Peak	H	128	350	-30.04	-20	10.04
2419.500	55.22	Peak	H	124	89	-41.27	-20	21.27
4032.5000	51.22	Peak	H	100	143	-45.66	-20	25.66
…	…		H			…		
1613.000	60.58	Peak	V	150	182	-36.01	-20	16.01
2419.500	54.77	Peak	V	114	294	-42.00	-20	22.00
4032.5000	50.55	Peak	V	122	111	-46.56	-20	26.56
…	…		V			…		

Modulation		4FSK		Channel Separation		12.5KHz		
Test Channel		Middle Channel		Test Frequency		817.0000 MHz		
Frequency (MHz)	E-Field Level (dBuv/m)	EMI Detector (Peak/QP)	Antenna Polarization	Antenna Height (cm)	Table Angle (Degree)	ERP measured by Substitution Method (dBm)	Limit (dBm)	Margin (dB)
1634.000	67.38	Peak	H	100	36	-28.91	-20	8.91
2451.000	55.42	Peak	H	108	84	-41.36	-20	21.36
3268.000	50.71	Peak	H	150	319	-45.93	-20	25.93
…	…		H			…		
1634.000	66.14	Peak	V	108	158	-30.26	-20	10.26
2451.000	53.64	Peak	V	100	300	-42.70	-20	22.70
3268.000	52.03	Peak	V	100	188	-44.69	-20	24.69
…	…		V			…		

Modulation		4FSK		Channel Separation		12.5KHz		
Test Channel		High Channel		Test Frequency		823.5000 MHz		
Frequency (MHz)	E-Field Level (dBuv/m)	EMI Detector (Peak/QP)	Antenna Polarization	Antenna Height (cm)	Table Angle (Degree)	ERP measured by Substitution Method (dBm)	Limit (dBm)	Margin (dB)
1647.000	67.33	Peak	H	150	7	-29.07	-20	9.07
3294.000	54.66	Peak	H	150	266	-41.54	-20	21.54
4117.500	51.10	Peak	H	136	180	-46.00	-20	26.00
…	…		H			…		
1647.000	68.22	Peak	V	100	312	-28.10	-20	8.10
3294.000	57.31	Peak	V	108	154	-39.69	-20	19.69
4117.500	51.44	Peak	V	125	173	-45.47	-20	25.47
…	…		V			…		

Modulation		4FSK		Channel Separation		12.5KHz		
Test Channel		Low Channel		Test Frequency		851.5000 MHz		
Frequency (MHz)	E-Field Level (dBuv/m)	EMI Detector (Peak/QP)	Antenna Polarization	Antenna Height (cm)	Table Angle (Degree)	ERP measured by Substitution Method (dBm)	Limit (dBm)	Margin (dB)
1703.000	66.66	Peak	H	150	344	-30.46	-20	10.46
2554.500	53.44	Peak	H	100	129	-42.99	-20	22.99
4257.500	50.38	Peak	H	100	127	-46.41	-20	26.41
…	…		H			…		
1703.000	68.44	Peak	V	128	344	-27.88	-20	7.88
2554.500	63.01	Peak	V	100	27	-33.71	-20	13.71
4257.500	51.48	Peak	V	105	143	-45.10	-20	25.10
…	…		V			…		

Modulation		4FSK		Channel Separation		12.5KHz		
Test Channel		Middle Channel		Test Frequency		860.0000 MHz		
Frequency (MHz)	E-Field Level (dBuv/m)	EMI Detector (Peak/QP)	Antenna Polarization	Antenna Height (cm)	Table Angle (Degree)	ERP measured by Substitution Method (dBm)	Limit (dBm)	Margin (dB)
1720.000	64.04	Peak	H	128	279	-32.67	-20	12.67
2580.000	52.85	Peak	H	124	33	-43.91	-20	23.91
4300.000	49.12	Peak	H	124	185	-47.36	-20	27.36
…	…		H			…		
1720.000	69.33	Peak	V	100	323	-27.00	-20	7.00
2580.000	55.13	Peak	V	100	176	-41.45	-20	21.45
4300.000	50.55	Peak	V	100	277	-46.52	-20	26.52
…	…		V			…		

Modulation		4FSK		Channel Separation		12.5KHz		
Test Channel		High Channel		Test Frequency		868.5000 MHz		
Frequency (MHz)	E-Field Level (dBuv/m)	EMI Detector (Peak/QP)	Antenna Polarization	Antenna Height (cm)	Table Angle (Degree)	ERP measured by Substitution Method (dBm)	Limit (dBm)	Margin (dB)
1737.000	62.81	Peak	H	100	29	-34.11	-20	14.11
2605.500	50.99	Peak	H	124	173	-45.60	-20	25.60
4342.500	48.82	Peak	H	150	263	-48.12	-20	28.12
			H			…		
1737.000	69.52	Peak	V	128	156	-27.56	-20	7.56
2605.500	52.74	Peak	V	105	333	-44.21	-20	24.21
4342.500	50.06	Peak	V	108	50	-47.82	-20	27.82
…	…		V			…		

Modulation		4FSK		Channel Separation		12.5KHz		
Test Channel		Low Channel		Test Frequency		896.5000 MHz		
Frequency (MHz)	E-Field Level (dBuv/m)	EMI Detector (Peak/QP)	Antenna Polarization	Antenna Height (cm)	Table Angle (Degree)	ERP measured by Substitution Method (dBm)	Limit (dBm)	Margin (dB)
1793.000	62.14	Peak	H	150	119	-34.72	-20	14.72
2689.500	52.74	Peak	H	100	265	-44.03	-20	24.03
4482.500	50.00	Peak	H	100	77	-46.17	-20	26.17
…	…		H			…		
1793.000	69.35	Peak	V	129	156	-27.76	-20	7.76
2689.500	60.77	Peak	V	105	155	-35.90	-20	15.90
4482.500	50.71	Peak	V	100	22	-46.32	-20	26.32
…	…		V			…		

Modulation		4FSK		Channel Separation		12.5KHz		
Test Channel		High Channel		Test Frequency		900.5000 MHz		
Frequency (MHz)	E-Field Level (dBuv/m)	EMI Detector (Peak/QP)	Antenna Polarization	Antenna Height (cm)	Table Angle (Degree)	ERP measured by Substitution Method (dBm)	Limit (dBm)	Margin (dB)
1801.000	64.92	Peak	H	136	179	-32.01	-20	12.01
2701.500	52.35	Peak	H	100	34	-44.37	-20	24.37
3602.000	49.11	Peak	H	100	321	-48.00	-20	28.00
…	…		H			…		
1801.000	69.33	Peak	V	150	145	-27.68	-20	7.68
2701.500	61.14	Peak	V	100	266	-35.44	-20	15.44
3602.000	49.41	Peak	V	128	360	-47.00	-20	27.00
…	…		V			…		

Modulation		4FSK		Channel Separation		12.5KHz		
Test Channel		Low Channel		Test Frequency		935.5000 MHz		
Frequency (MHz)	E-Field Level (dBuv/m)	EMI Detector (Peak/QP)	Antenna Polarization	Antenna Height (cm)	Table Angle (Degree)	ERP measured by Substitution Method (dBm)	Limit (dBm)	Margin (dB)
1871.000	61.17	Peak	H	100	236	-35.26	-20	15.26
2806.500	59.96	Peak	H	125	175	-36.91	-20	16.91
4677.500	50.92	Peak	H	128	100	-46.05	-20	26.05
…	…		H			…		
1871.000	67.71	Peak	V	108	91	-29.04	-20	9.04
2806.500	62.29	Peak	V	108	28	-33.98	-20	13.98
4677.500	52.01	Peak	V	150	267	-45.00	-20	25.00
…	…		V			…		

Modulation		4FSK		Channel Separation		12.5KHz		
Test Channel		High Channel		Test Frequency		939.5000 MHz		
Frequency (MHz)	E-Field Level (dBuv/m)	EMI Detector (Peak/QP)	Antenna Polarization	Antenna Height (cm)	Table Angle (Degree)	ERP measured by Substitution Method (dBm)	Limit (dBm)	Margin (dB)
1879.000	64.41	Peak	H	100	350	-32.60	-20	12.60
2818.500	54.34	Peak	H	100	168	-41.89	-20	21.89
4697.000	41.49	Peak	H	150	55	-45.57	-20	25.57
…	…		H			…		
1879.000	68.77	Peak	V	108	198	-28.29	-20	8.29
2818.500	61.82	Peak	V	124	245	-34.93	-20	14.93
4697.000	50.94	Peak	V	128	200	-45.44	-20	25.44
…	…		V			…		

4.4. Spurious Emssion on Antenna Port

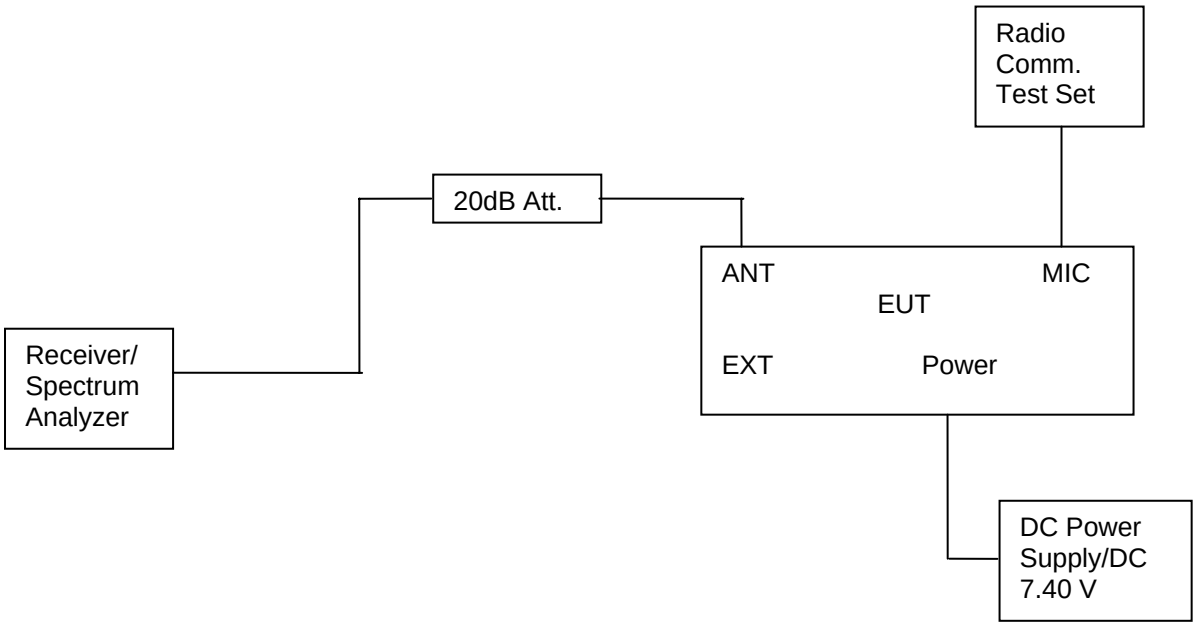
TEST APPLICABLE

The same as Section 4.3

TEST PROCEDURE

The RF output of the EUT was connected to a spectrum analyzer through appropriate attenuation. The resolution bandwidth of the spectrum analyzer was set to 100 kHz. Sufficient scans were taken to show any out of band emission up to 10th. Harmonic for the lower and the highest frequency range. Set RBW 100 kHz, VBW 300 kHz in the frequency band 30MHz to 1GHz,while set RBW=1MHz.VBW=3MHz from the 1GHz to 10^{th} Harmonic.
The audio input was set to 0 to get the unmodulated carrier, the resulting picture is print out for each channel separation.

TEST CONFIGURATION



TEST RESULTS

Modulation Type: FM

FCC Part 22.359, 74.462, 80.211 and 90.210 and RSS Gen, RSS 119 Issue 11 (25 kHz bandwidth only):
On any frequency removed from the center of the assigned channel by more than 250 percent at least:
Low: 43 + 10 log (Pwatts) = 43 + 10 log (2.95) =47.70 dB
High: 43 + 10 log (Pwatts) = 43 + 10 log (2.99) =47.76 dB
Calculation: Limit (dBm) =EL-43-10log10 (TP)
Notes: EL is the emission level of the Output Power expressed in dBm,
In this application, the EL is 33.98 dBm.
Limit (dBm) =33.98-43-10log10 (2.99) = -13 dBm

FCC Part 22.359, 74.462, 80.211 and 90.210 and RSS Gen, RSS 119 Issue 11 (12.5 kHz bandwidth only): On any frequency removed from the center of the authorized bandwidth by a displacement frequency (f d in kHz) of more than 12.5 kHz at least:
Low: 50 + 10 log (Pwatts) = 50 + 10 log (2.61) =54.16 dB
High: 50 + 10 log (Pwatts) = 50 + 10 log (3.00) =54.77 dB
Note: In general, the worse case attenuation requirement shown above was applied.
Calculation: Limit (dBm) =EL-50-10log10 (TP)
Notes: EL is the emission level of the Output Power expressed in dBm,
In this application, the EL is 33.98 dBm.
Limit (dBm) =33.98-50-10log10 (3.00) = -20 dBm

Modulation Type: 4FSK

FCC Part 22.359, 74.462, 80.211 and 90.210 and RSS Gen, RSS 119 Issue 11 (12.5 kHz Bandwidth only):
On any frequency removed from the center of the authorized bandwidth by a displacement frequency (f d in kHz) of more than 12.5 kHz at least:
Low: 50 + 10 log (Pwatts) = 50 + 10 log (2.88) =54.60 dB
High: 50 + 10 log (Pwatts) = 50 + 10 log (2.98) =54.74 dB

Note: In general, the worse case attenuation requirement shown above was applied.
Calculation: Limit (dBm) =EL-50-10log10 (TP)
Notes: EL is the emission level of the Output Power expressed in dBm,
In this application, the EL is 33.98 dBm.
Limit (dBm) =33.98-50-10log10 (2.98) = -20 dBm

Note: 1. In general, the worse case attenuation requirement shown above was applied.
2. The measurement frequency range from 30MHz to 10 GHz.

For Rated High Power (2.5Watt)

Frequency Range (MHz)	Modulation Type	Channel Separation (KHz)	Test Channel	Maximum Conducted Spurious Emissions (dBm)			
				Below 1GHz		Above 1GHz	
				Frequency (MHz)	Datum (dBm)	Frequency (MHz)	Datum (dBm)
806-825	Analog/FM	25	Low	988.36	-27.79	8470.00	-25.45
			Middle	947.62	-30.09	9838.00	-25.40
			High	848.68	-28.24	4132.00	-25.29
		12.5	Low	970.90	-28.48	3142.00	-25.42
			Middle	951.50	-29.28	3304.00	-24.92
			High	943.74	-28.75	3520.00	-24.60
	Digital/4FSK	12.5	Low	947.62	-28.69	3304.00	-25.57
			Middle	858.38	-30.95	8506.00	-25.34
			High	904.94	-29.63	8920.00	-26.06
851-870	Analog/FM	25	Low	935.98	-29.42	3322.00	-24.82
			Middle	899.12	-28.34	3952.00	-26.06
			High	934.04	-29.00	8614.00	-25.36
		12.5	Low	939.86	-29.58	3358.00	-25.57
			Middle	972.84	-29.18	3142.00	-25.31
			High	961.20	-28.12	3160.00	-24.37
	Digital/4FSK	12.5	Low	714.82	-28.08	3016.00	-25.88
			Middle	957.32	-29.75	3070.00	-25.08
			High	961.20	-29.03	3196.00	-24.54
896-902	Analog/FM	12.5	Low	976.72	-29.42	3034.00	-25.08
			High	934.04	-28.72	3232.00	-25.30
	Digital/4FSK		Low	928.22	-29.05	3664.00	-25.80
			High	953.44	-28.39	3646.00	-24.51
935-941	Analog/FM	12.5	Low	765.26	-28.95	3214.00	-24.84
			High	831.22	-29.19	3124.00	-25.44
	Digital/4FSK		Low	986.42	-30.12	3124.00	-25.41
			High	988.36	-28.73	3214.00	-25.86
Limit		-13dBm for 25KHz Channel Separtion					
		-20dBm for 12.5KHz Channel Separtion					
Test Results		Compliance					

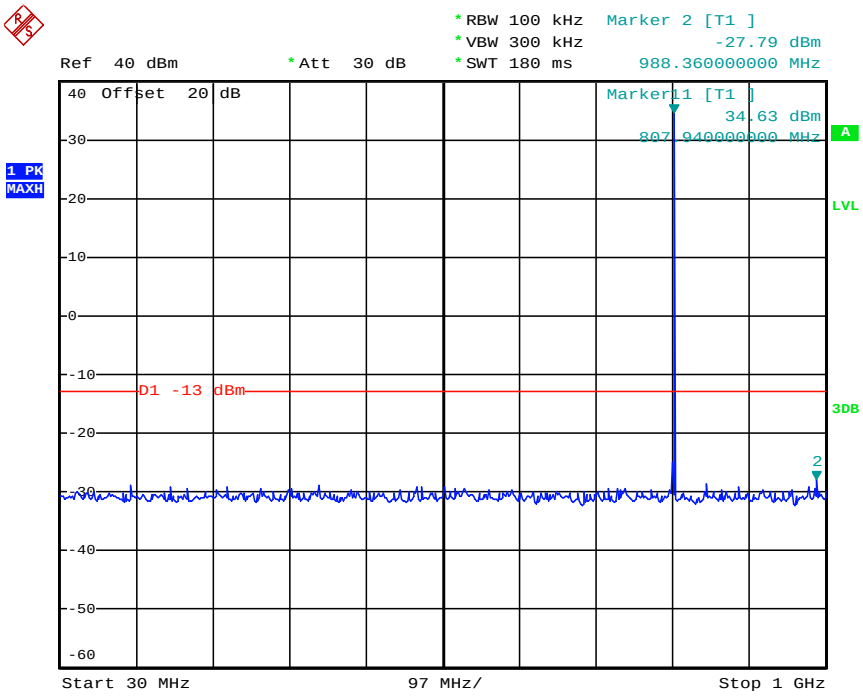
For Rated Low Power (1.0Watt)

Frequency Range (MHz)	Modulation Type	Channel Separation (KHz)	Test Channel	Maximum Conducted Spurious Emissions (dBm)			
				Below 1GHz		Above 1GHz	
				Frequency (MHz)	Datum (dBm)	Frequency (MHz)	Datum (dBm)
806-825	Analog/FM	25	Low	957.32	-30.08	3124.00	-24.61
			Middle	947.62	-29.57	3142.00	-25.42
			High	935.98	-28.08	3106.00	-25.98
		12.5	Low	967.02	-29.69	3106.00	-25.27
			Middle	941.80	-29.25	3124.00	-25.25
			High	951.50	-29.76	3106.00	-25.49
	Digital/4FSK	12.5	Low	879.72	-28.96	8596.00	-25.33
			Middle	858.38	-28.30	8722.00	-26.16
			High	904.94	-28.06	8920.00	-26.06
851-870	Analog/FM	25	Low	924.34	-29.00	3160.00	-25.24
			Middle	930.16	-30.66	3646.00	-25.56
			High	976.72	-28.64	9604.00	-25.33
		12.5	Low	935.98	-29.24	3124.00	-25.35
			Middle	922.40	-28.56	3304.00	-25.49
			High	949.56	-29.80	3160.00	-24.81
	Digital/4FSK	12.5	Low	947.62	-28.87	8002.00	-26.01
			Middle	990.30	-30.01	3016.00	-24.92
			High	916.58	-28.42	3142.00	-24.13
896-902	Analog/FM	12.5	Low	930.16	-29.01	3088.00	-25.13
			High	965.08	-29.69	9244.00	-25.04
	Digital/4FSK		Low	970.90	-29.21	3142.00	-25.47
			High	953.44	-29.53	3304.00	-25.98
935-941	Analog/FM	12.5	Low	833.16	-28.61	3160.00	-24.48
			High	769.14	-28.38	3574.00	-25.13
	Digital/4FSK		Low	976.20	-30.63	3160.00	-25.59
			High	976.72	-29.66	3088.00	-25.57
Limit		-13dBm for 25KHz Channel Separtion					
		-20dBm for 12.5KHz Channel Separtion					
Test Results		Compliance					

Plots of Spurious Emission on Antenna Port Measurement

For Rated High Power (2.5Watt)

Modulation Type	Channel Sparation	Test Channel	Test Frequency (MHz)	Maximum Conducted Spurious Emissions Below 1GHz		Maximum Conducted Spurious Emissions Above1GHz		FCC Limit
				Frequency (MHz)	Datum (dBm)	Frequency (MHz)	Datum (dBm)	
FM	25KHz	Low	806.5000	988.36	-27.79	8470.00	-25.45	-13dBm
Test Results				Compliance				



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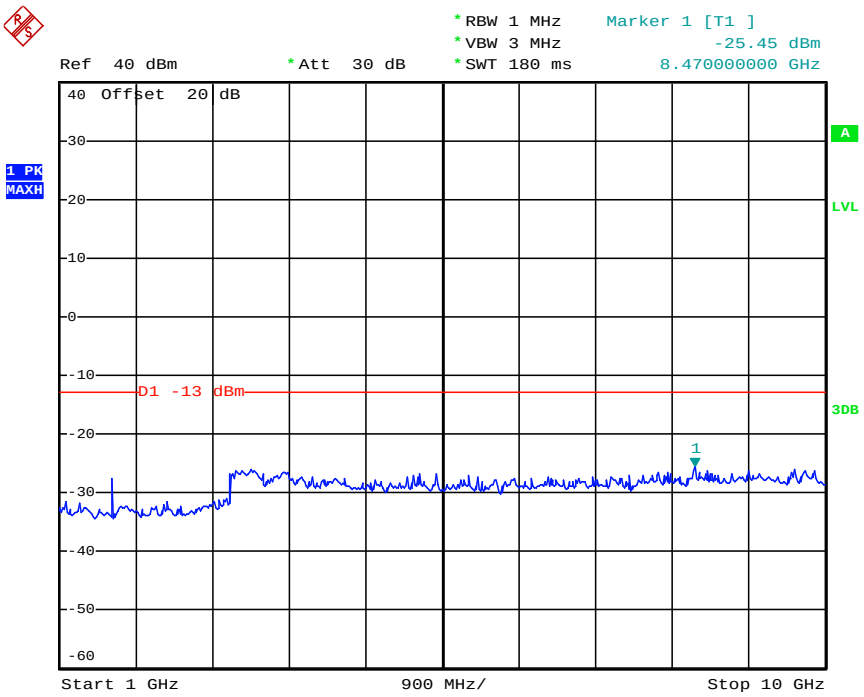

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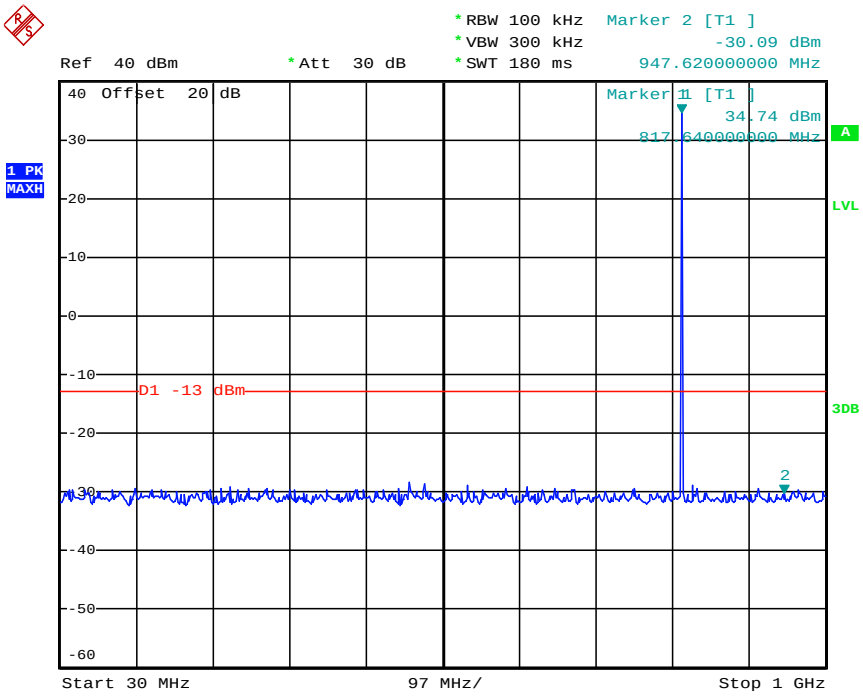
Modulation Type	Channel Sparation	Test Channel	Test Frequency (MHz)	Maximum Conducted Spurious Emissions Below 1GHz		Maximum Conducted Spurious Emissions Above1GHz		FCC Limit
				Frequency (MHz)	Datum (dBm)	Frequency (MHz)	Datum (dBm)	
FM	25KHz	Middle	817.0000	947.62	-30.09	9838.00	-25.40	-13dBm
Test Results				Compliance				



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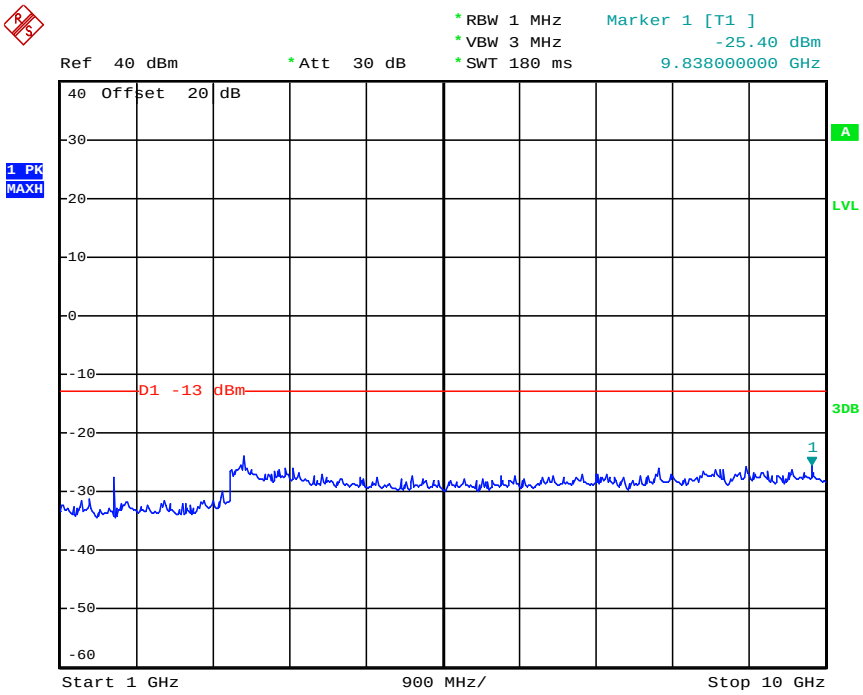

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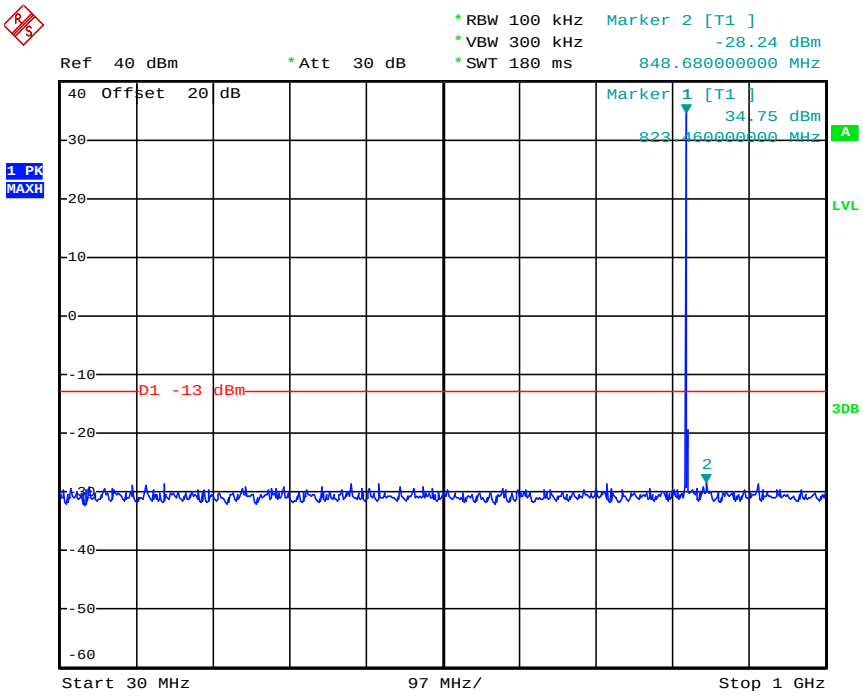
Modulation Type	Channel Sparation	Test Channel	Test Frequency (MHz)	Maximum Conducted Spurious Emissions Below 1GHz		Maximum Conducted Spurious Emissions Above1GHz		FCC Limit
				Frequency (MHz)	Datum (dBm)	Frequency (MHz)	Datum (dBm)	
FM	25KHz	High	823.5000	848.68	-28.24	4132.00	-25.29	-13dBm
Test Results				Compliance				



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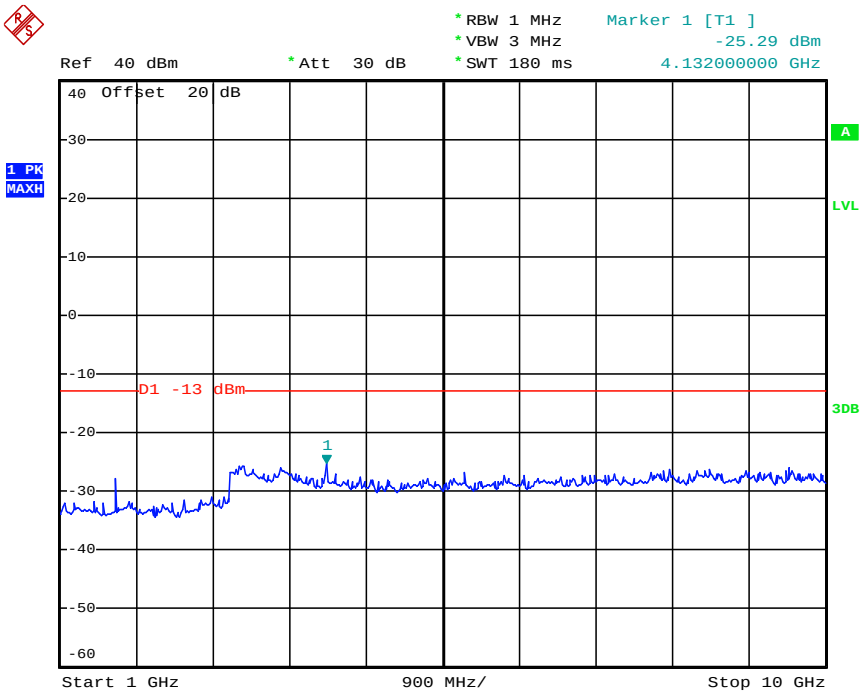

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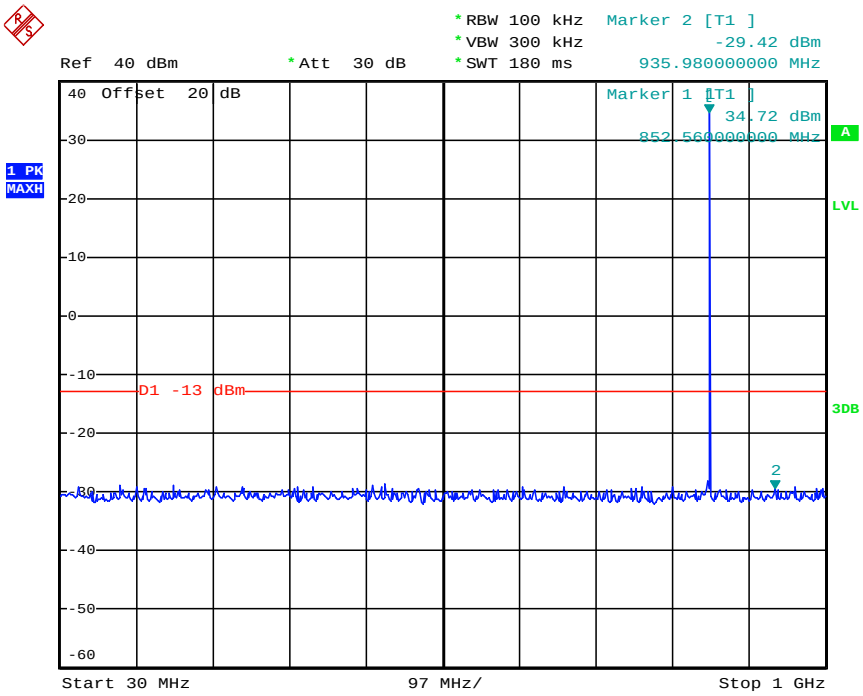
Modulation Type	Channel Sparation	Test Channel	Test Frequency (MHz)	Maximum Conducted Spurious Emissions Below 1GHz		Maximum Conducted Spurious Emissions Above1GHz		FCC Limit
				Frequency (MHz)	Datum (dBm)	Frequency (MHz)	Datum (dBm)	
FM	25KHz	Low	851.5000	935.98	-29.42	3322.00	-24.82	-13dBm
Test Results				Compliance				



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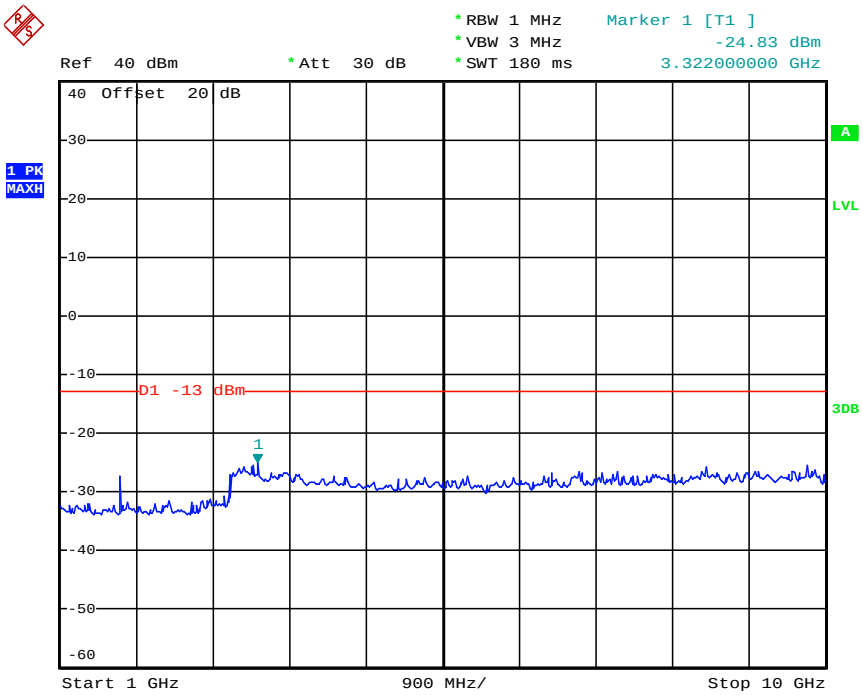

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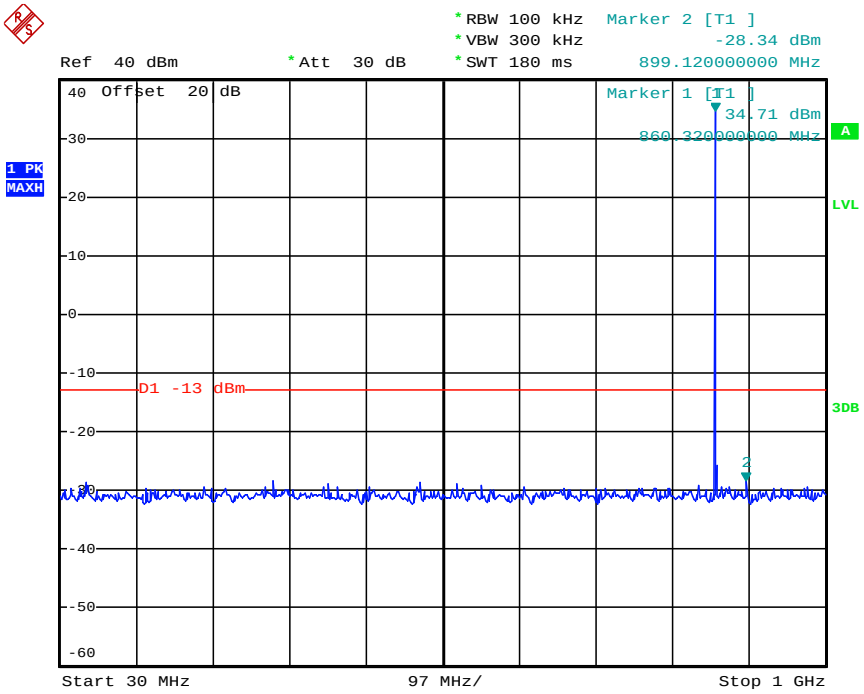
Modulation Type	Channel Sparation	Test Channel	Test Frequency (MHz)	Maximum Conducted Spurious Emissions Below 1GHz		Maximum Conducted Spurious Emissions Above1GHz		FCC Limit
				Frequency (MHz)	Datum (dBm)	Frequency (MHz)	Datum (dBm)	
FM	25KHz	Middle	860.0000	899.12	-28.34	3952.00	-26.06	-13dBm
Test Results				Compliance				



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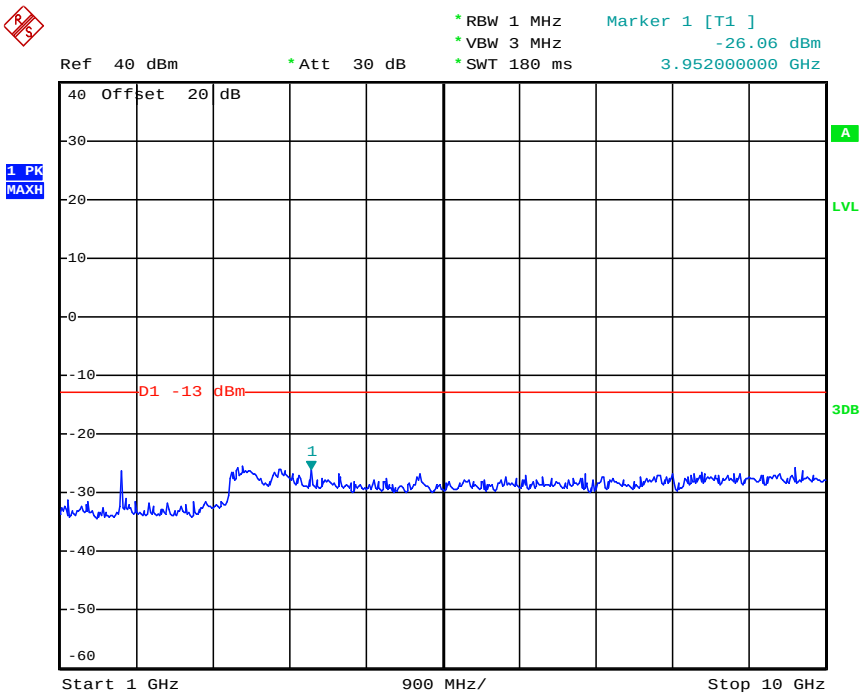
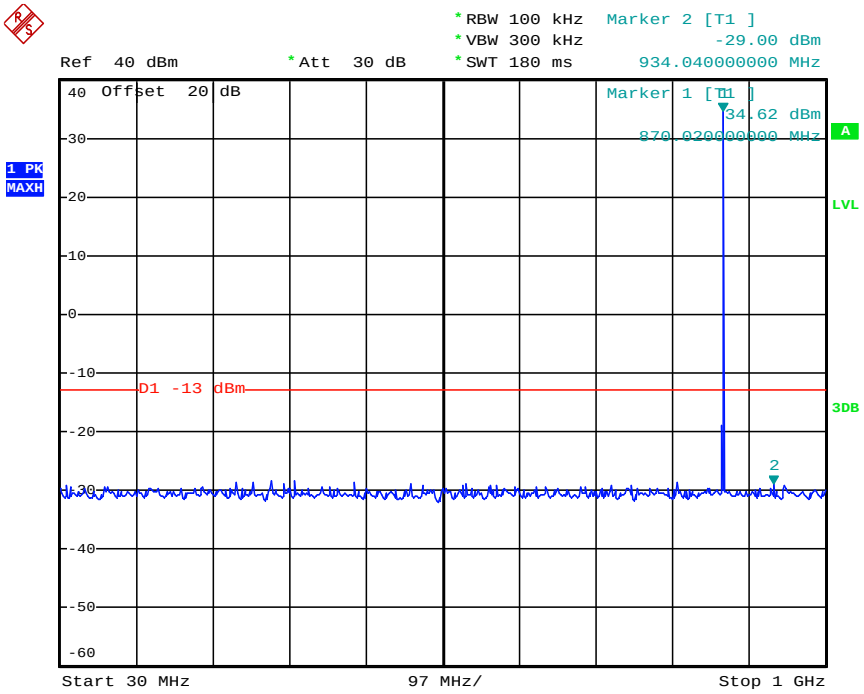


Date: 12.APR.2012 04:01:48

Modulation Type	Channel Sparation	Test Channel	Test Frequency (MHz)	Maximum Conducted Spurious Emissions Below 1GHz		Maximum Conducted Spurious Emissions Above1GHz		FCC Limit
				Frequency (MHz)	Datum (dBm)	Frequency (MHz)	Datum (dBm)	
FM	25KHz	High	868.5000	934.04	-29.00	8614.00	-25.36	-13dBm
Test Results				Compliance				



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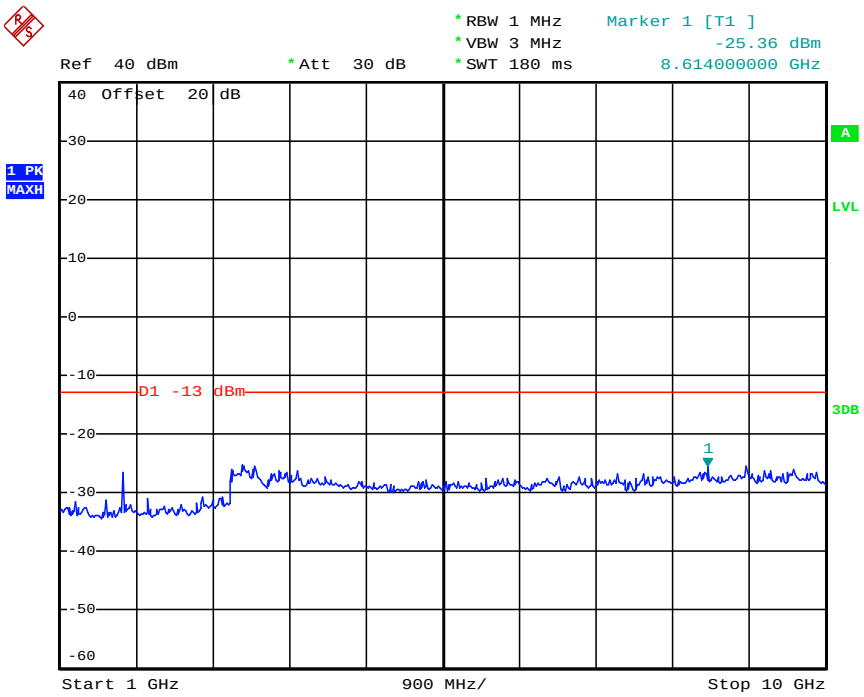

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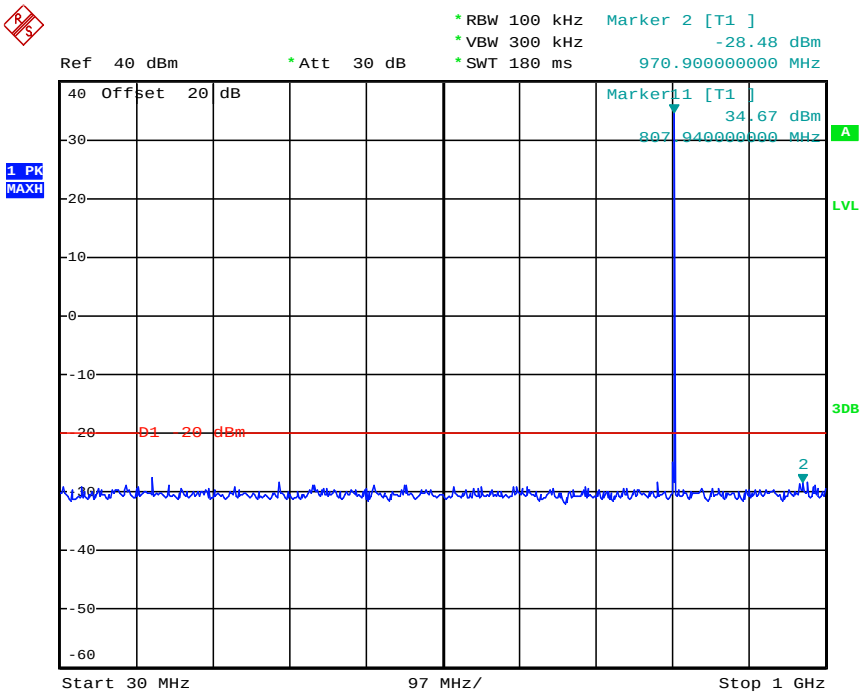
Modulation Type	Channel Sparation	Test Channel	Test Frequency (MHz)	Maximum Conducted Spurious Emissions Below 1GHz		Maximum Conducted Spurious Emissions Above1GHz		FCC Limit
				Frequency (MHz)	Datum (dBm)	Frequency (MHz)	Datum (dBm)	
FM	12.5KHz	Low	806.5000	970.90	-28.48	3142.00	-25.42	-20dBm
Test Results				Compliance				



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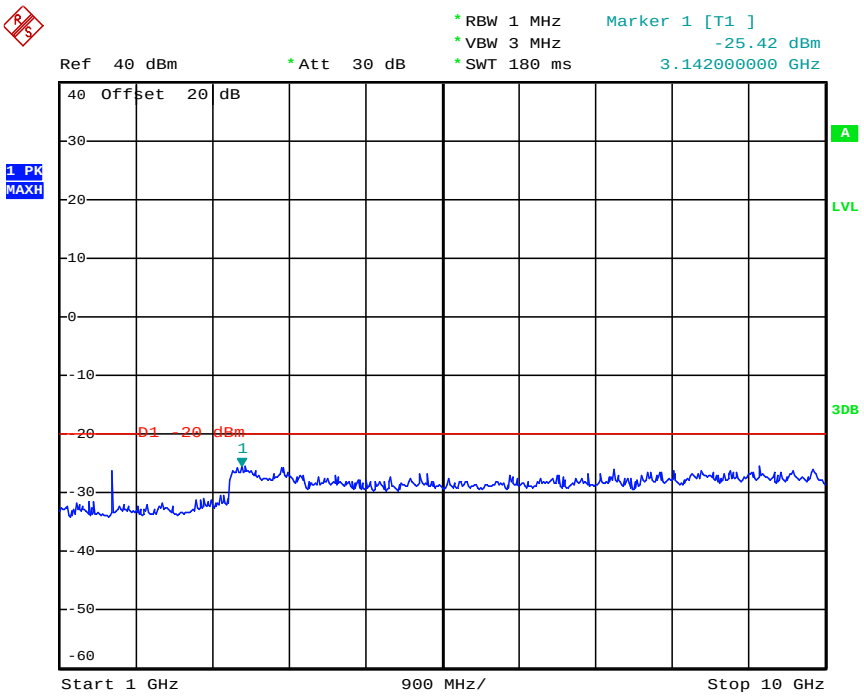

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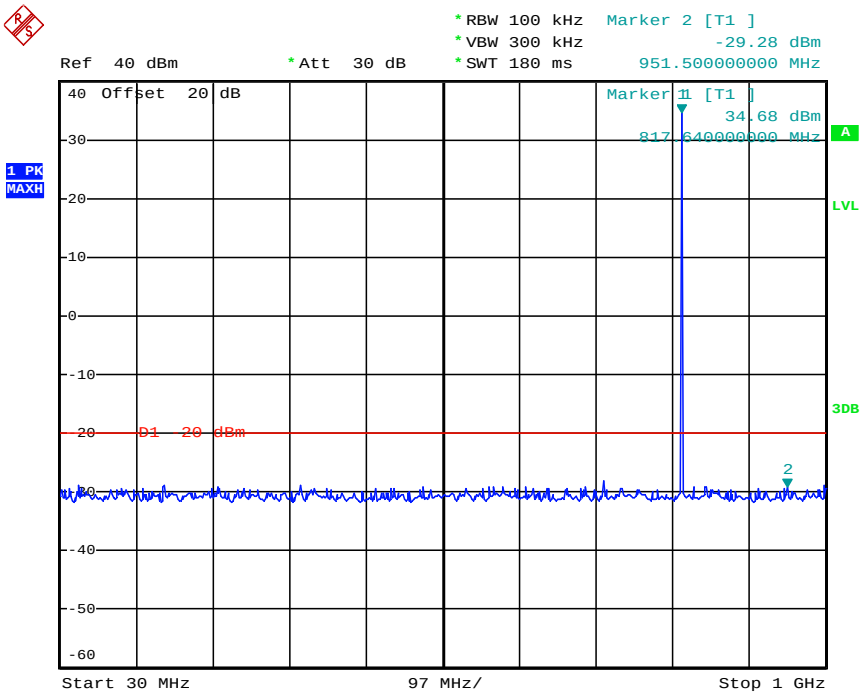
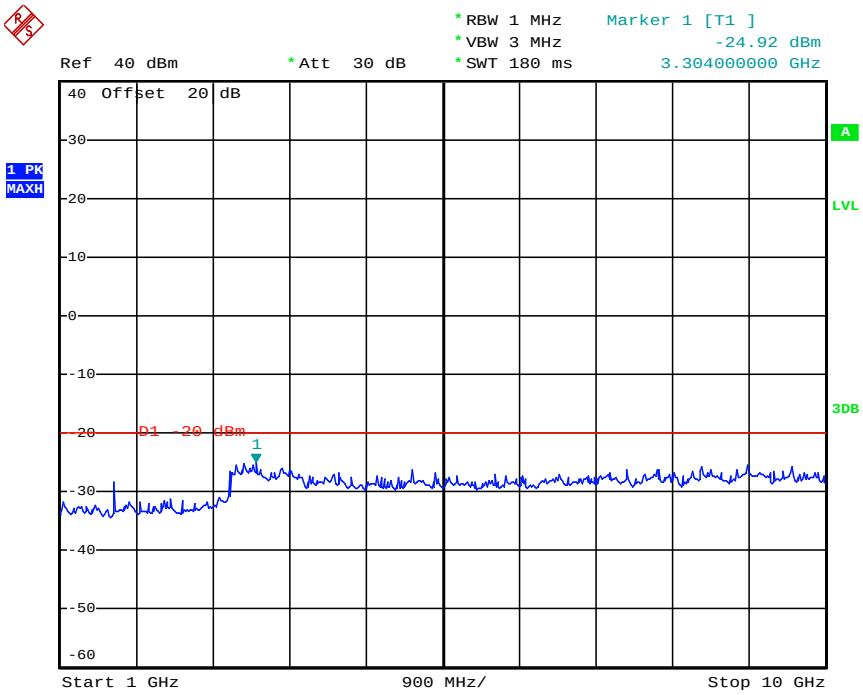
Modulation Type	Channel Sparation	Test Channel	Test Frequency (MHz)	Maximum Conducted Spurious Emissions Below 1GHz		Maximum Conducted Spurious Emissions Above1GHz		FCC Limit
				Frequency (MHz)	Datum (dBm)	Frequency (MHz)	Datum (dBm)	
FM	12.5KHz	Middle	817.0000	951.50	-29.28	3304.00	-24.92	-20dBm
Test Results				Compliance				

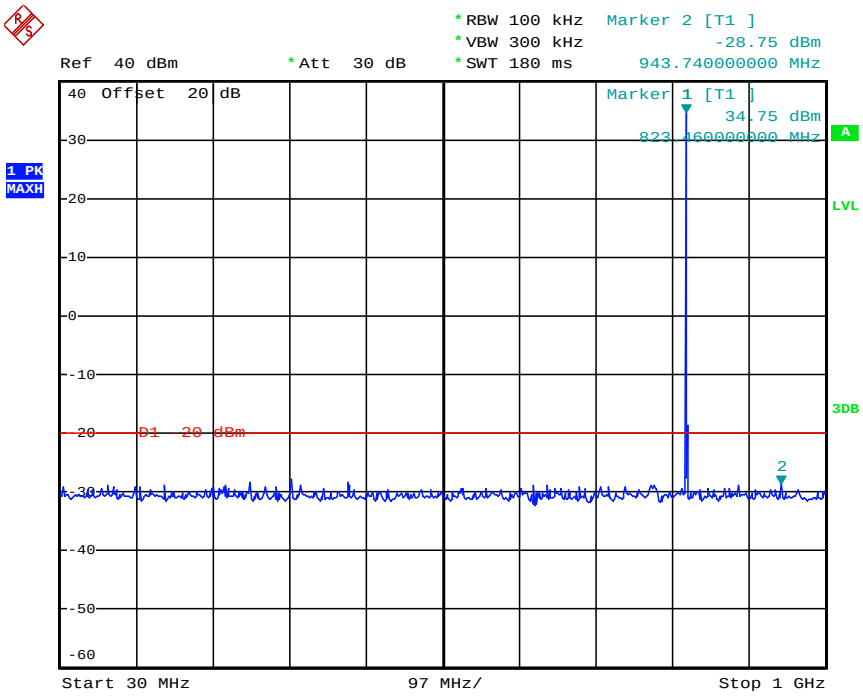


Date: 12.APR.2012 03:42:39

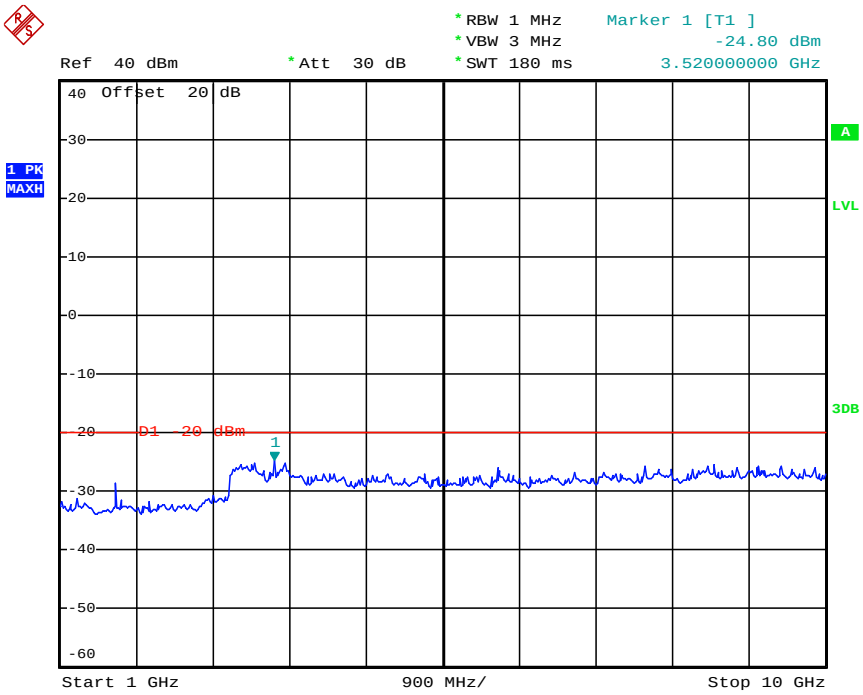


Date: 12.APR.2012 03:38:54

Modulation Type	Channel Sparation	Test Channel	Test Frequency (MHz)	Maximum Conducted Spurious Emissions Below 1GHz		Maximum Conducted Spurious Emissions Above1GHz		FCC Limit
				Frequency (MHz)	Datum (dBm)	Frequency (MHz)	Datum (dBm)	
FM	12.5KHz	High	823.5000	943.74	-28.75	3520.00	-24.60	-20dBm
Test Results				Compliance				

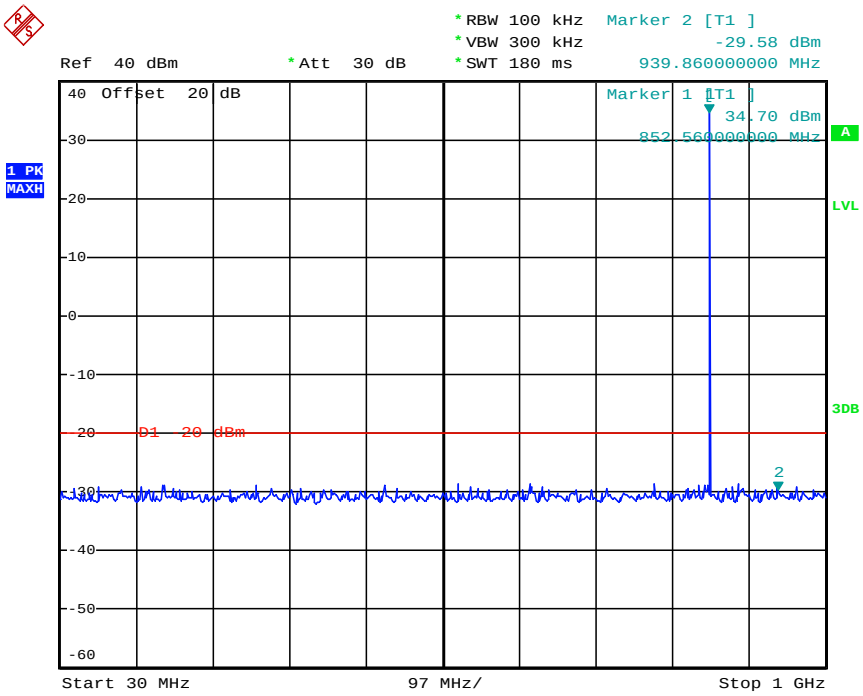


Date: 12.APR.2012 03:43:04

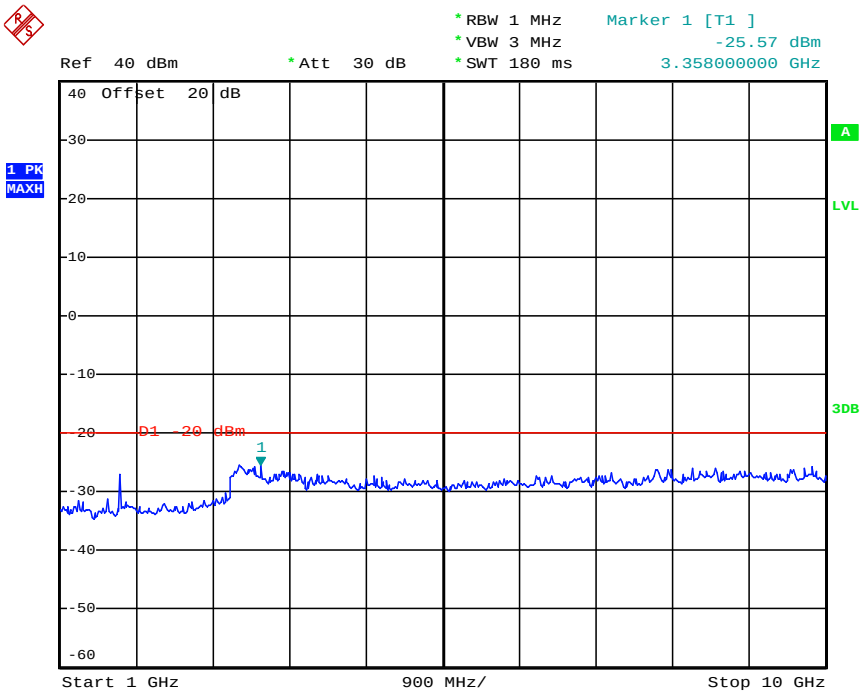


Date: 12.APR.2012 03:32:03

Modulation Type	Channel Sparation	Test Channel	Test Frequency (MHz)	Maximum Conducted Spurious Emissions Below 1GHz		Maximum Conducted Spurious Emissions Above1GHz		FCC Limit
				Frequency (MHz)	Datum (dBm)	Frequency (MHz)	Datum (dBm)	
FM	12.5KHz	Low	851.5000	939.86	-29.58	3358.00	-25.57	-20dBm
Test Results				Compliance				

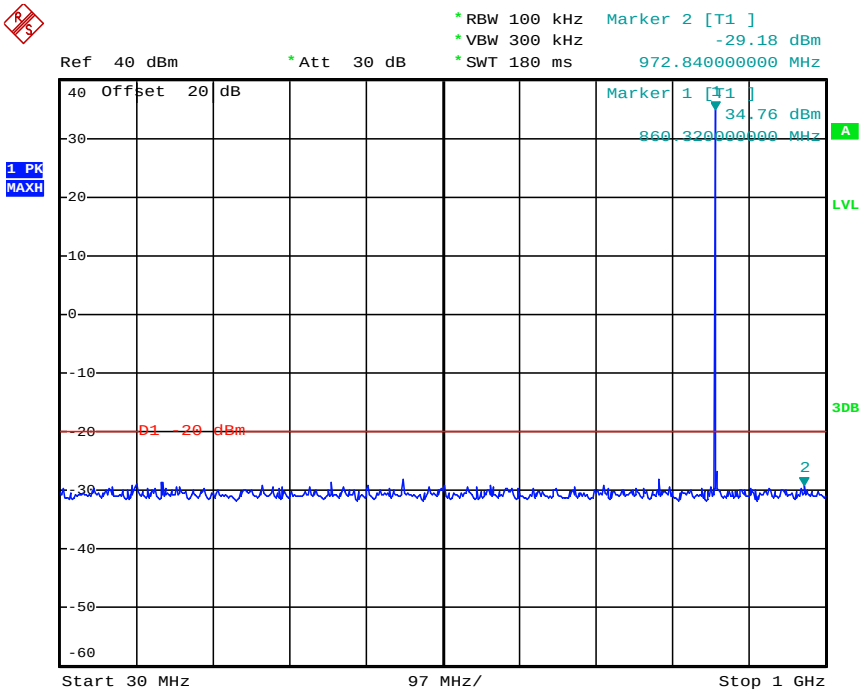


Date: 12.APR.2012 03:44:27

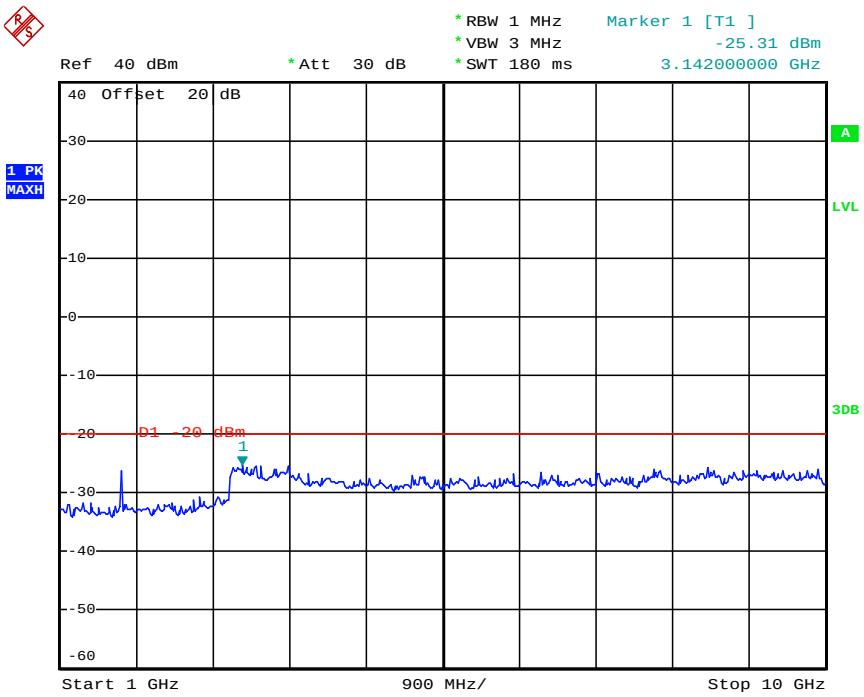


Date: 12.APR.2012 03:30:29

Modulation Type	Channel Sparation	Test Channel	Test Frequency (MHz)	Maximum Conducted Spurious Emissions Below 1GHz		Maximum Conducted Spurious Emissions Above1GHz		FCC Limit
				Frequency (MHz)	Datum (dBm)	Frequency (MHz)	Datum (dBm)	
FM	12.5KHz	Middle	860.0000	972.84	-29.18	3142.00	-25.31	-20dBm
Test Results				Compliance				

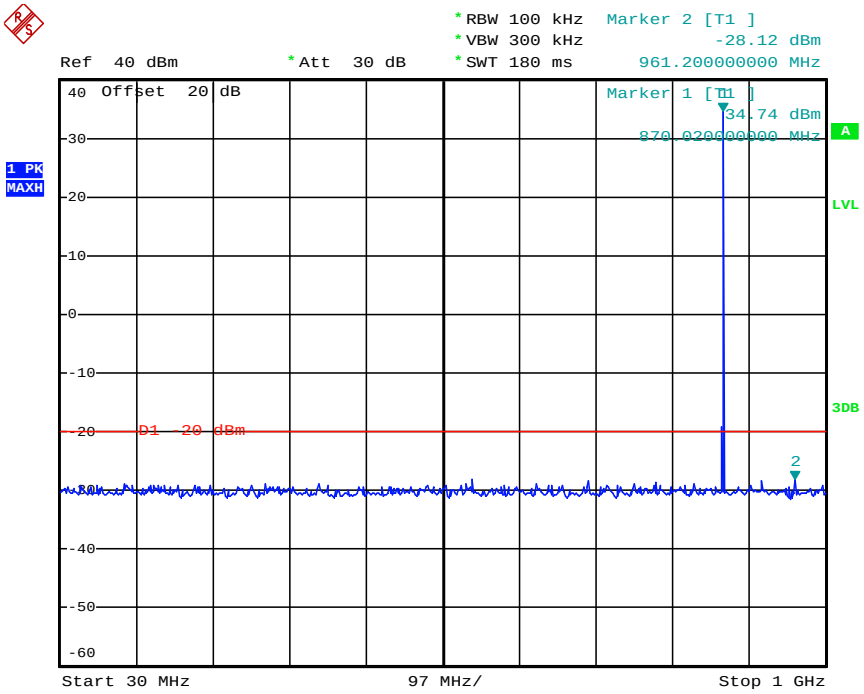


Date: 12.APR.2012 03:44:51

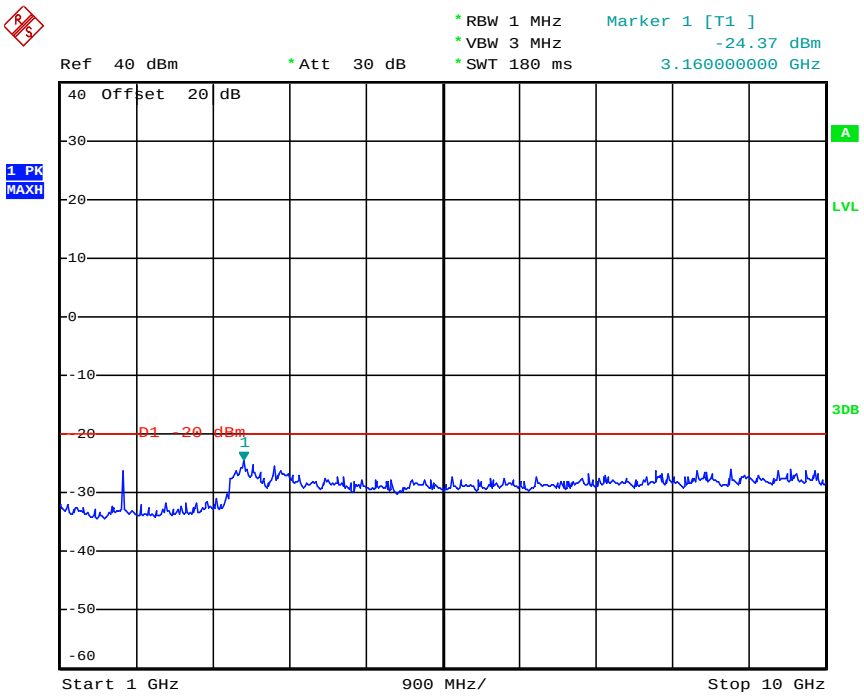


Date: 12.APR.2012 03:30:00

Modulation Type	Channel Sparation	Test Channel	Test Frequency (MHz)	Maximum Conducted Spurious Emissions Below 1GHz		Maximum Conducted Spurious Emissions Above1GHz		FCC Limit
				Frequency (MHz)	Datum (dBm)	Frequency (MHz)	Datum (dBm)	
FM	12.5KHz	High	868.5000	961.20	-28.12	3160.00	-24.37	-20dBm
Test Results				Compliance				

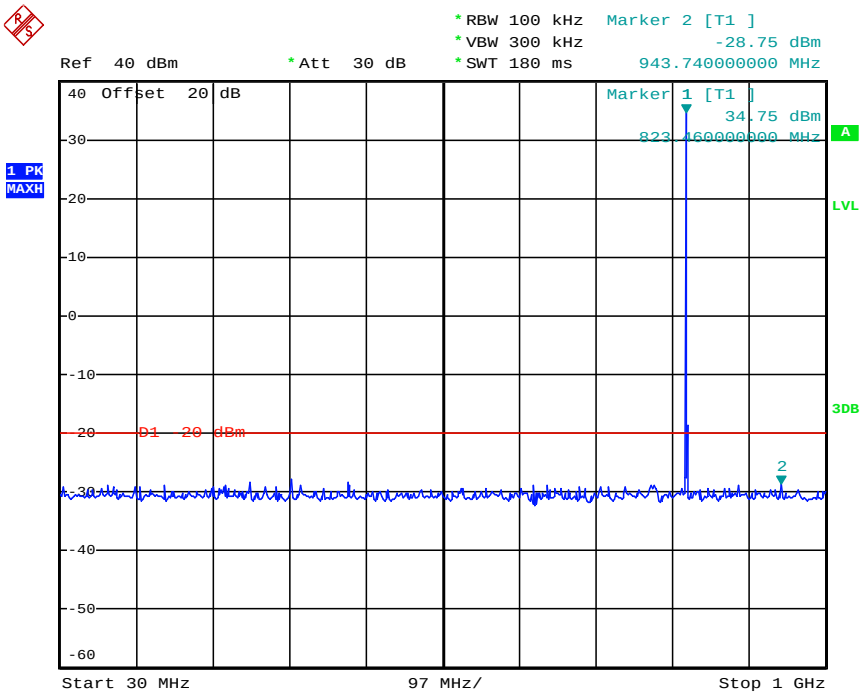


Date: 12.APR.2012 03:46:00

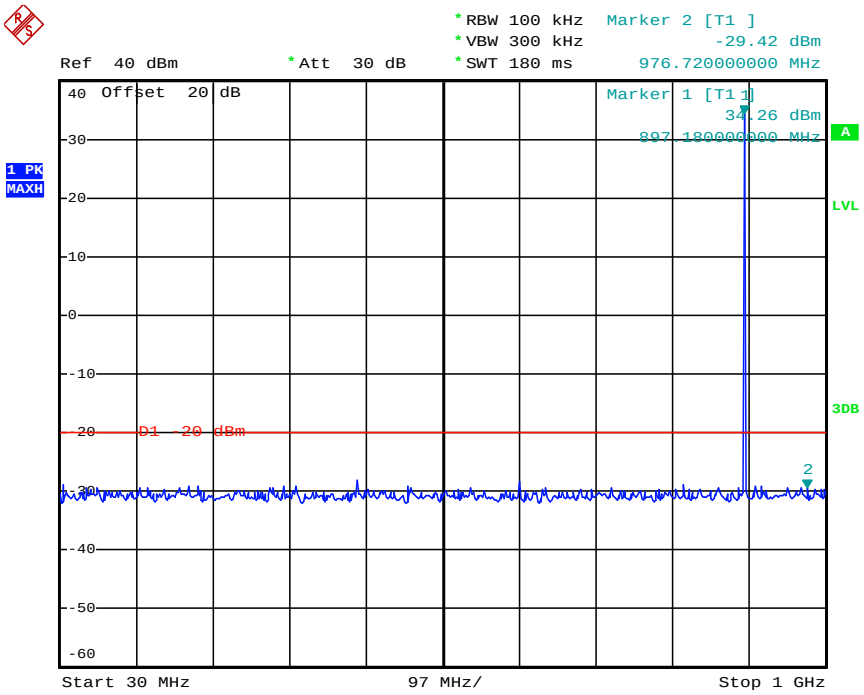


Date: 12.APR.2012 03:29:06

Modulation Type	Channel Sparation	Test Channel	Test Frequency (MHz)	Maximum Conducted Spurious Emissions Below 1GHz		Maximum Conducted Spurious Emissions Above1GHz		FCC Limit
				Frequency (MHz)	Datum (dBm)	Frequency (MHz)	Datum (dBm)	
FM	12.5KHz	Low	896.5000	976.72	-29.42	3034.00	-25.08	-20dBm
Test Results				Compliance				

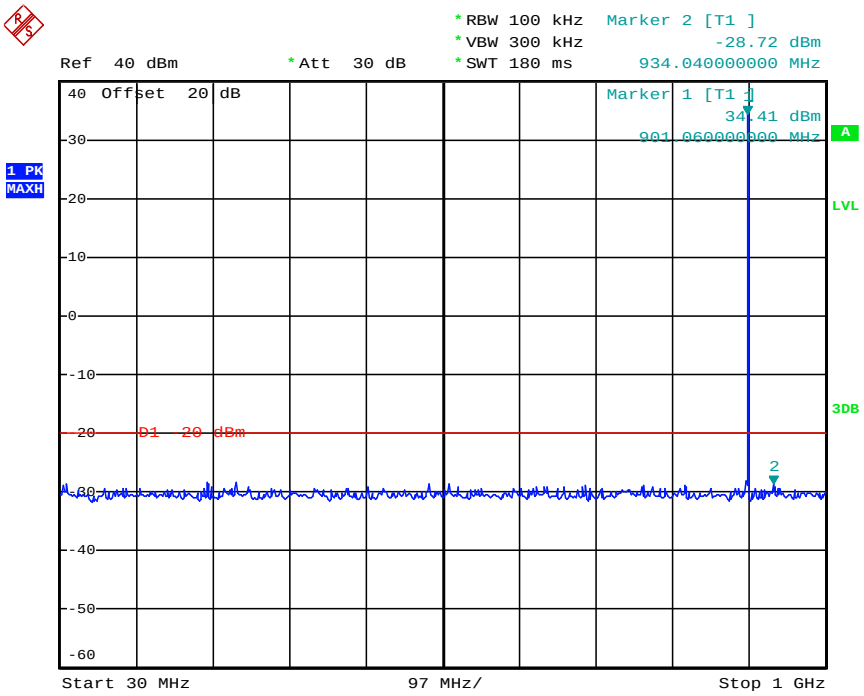


Date: 12.APR.2012 03:43:04

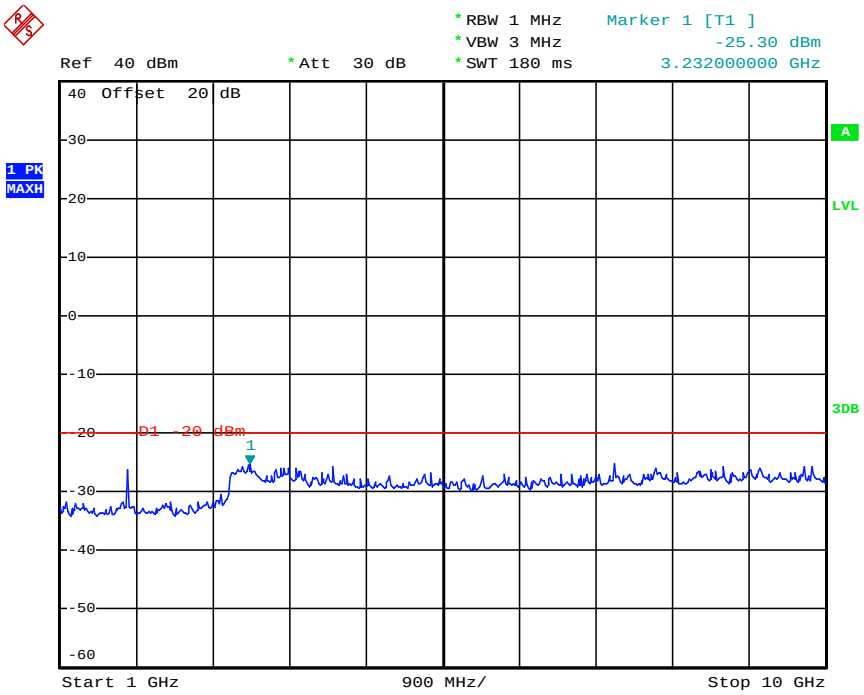


Date: 12.APR.2012 03:46:36

Modulation Type	Channel Sparation	Test Channel	Test Frequency (MHz)	Maximum Conducted Spurious Emissions Below 1GHz		Maximum Conducted Spurious Emissions Above1GHz		FCC Limit
				Frequency (MHz)	Datum (dBm)	Frequency (MHz)	Datum (dBm)	
FM	12.5KHz	High	900.5000	934.04	-28.72	3232.00	-25.30	-20dBm
Test Results				Compliance				

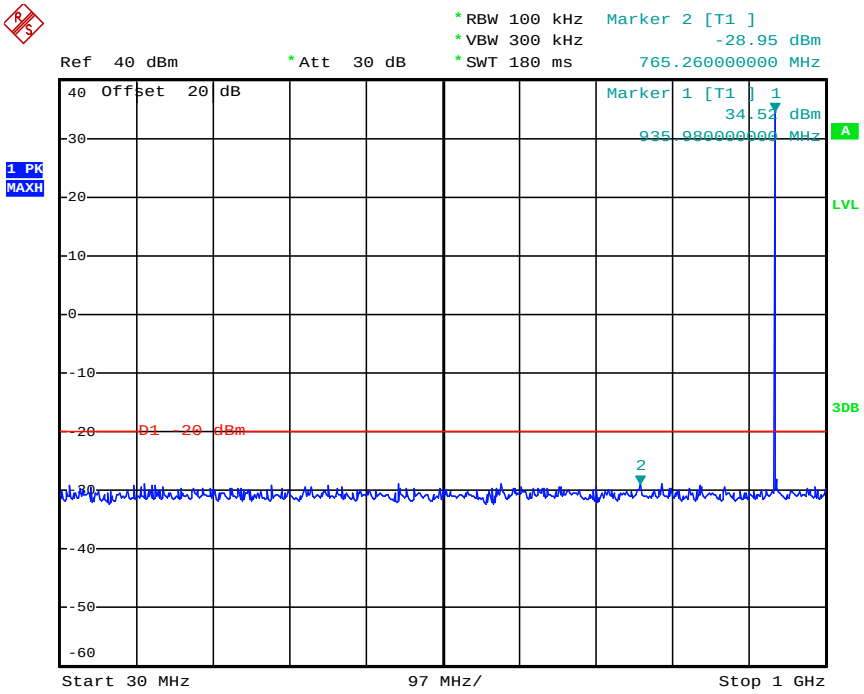


Date: 12.APR.2012 03:48:02

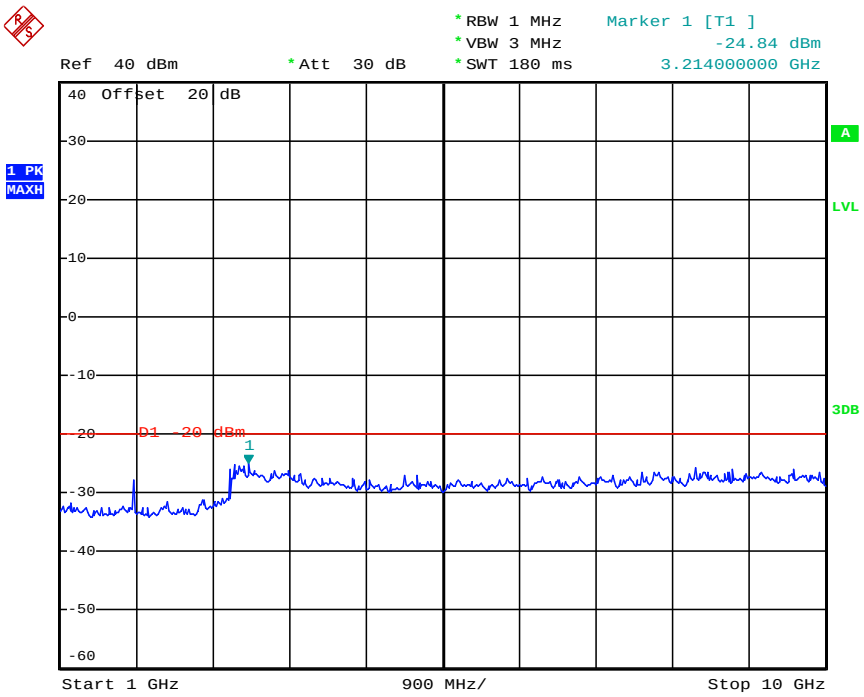


Date: 12.APR.2012 03:27:52

Modulation Type	Channel Sparation	Test Channel	Test Frequency (MHz)	Maximum Conducted Spurious Emissions Below 1GHz		Maximum Conducted Spurious Emissions Above1GHz		FCC Limit
				Frequency (MHz)	Datum (dBm)	Frequency (MHz)	Datum (dBm)	
FM	12.5KHz	Low	935.5000	765.26	-28.95	3214.00	-24.84	-20dBm
Test Results				Compliance				

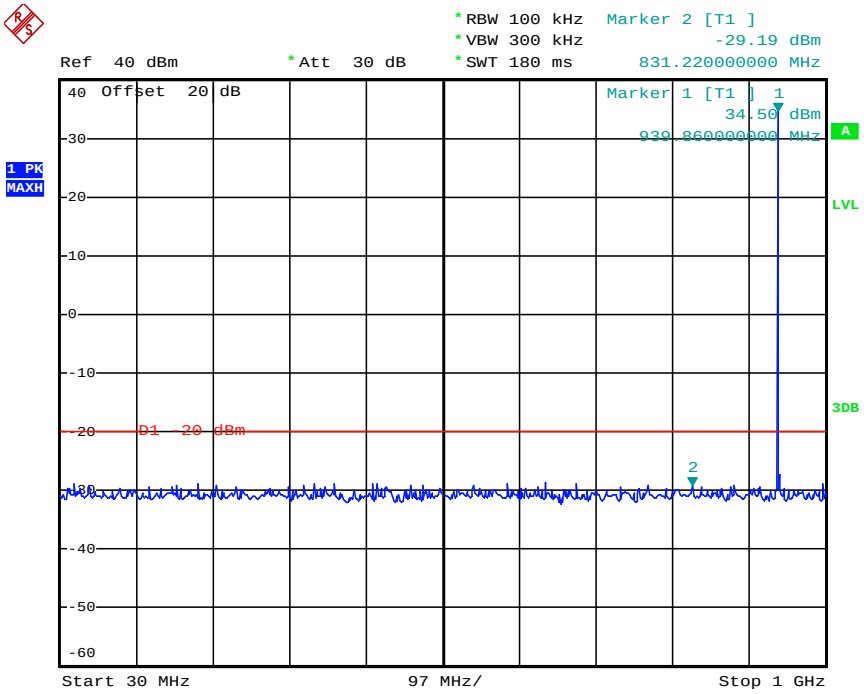


Date: 12.APR.2012 03:48:58

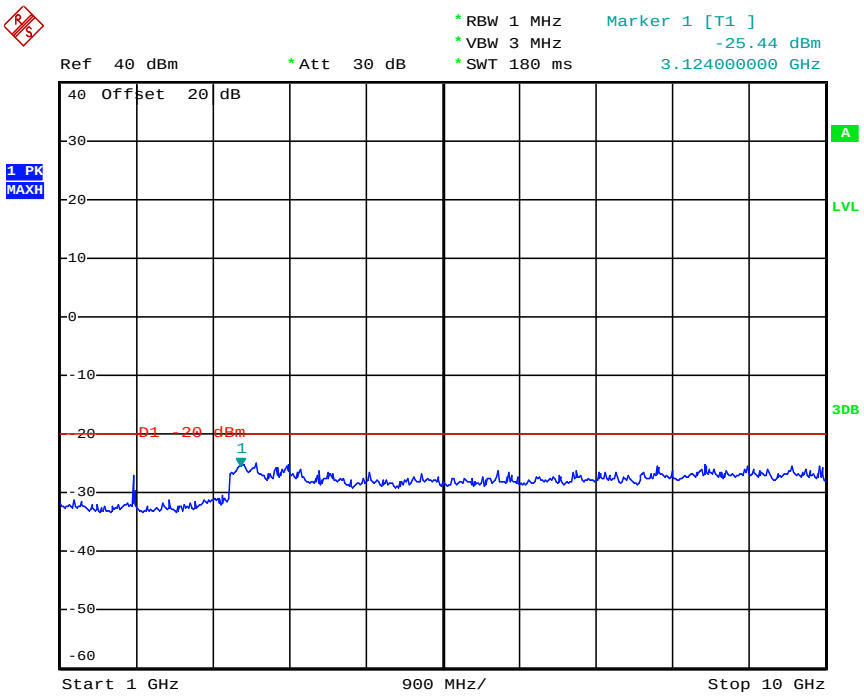


Date: 12.APR.2012 03:27:27

Modulation Type	Channel Sparation	Test Channel	Test Frequency (MHz)	Maximum Conducted Spurious Emissions Below 1GHz		Maximum Conducted Spurious Emissions Above1GHz		FCC Limit
				Frequency (MHz)	Datum (dBm)	Frequency (MHz)	Datum (dBm)	
FM	12.5KHz	High	939.5000	831.22	-29.19	3124.00	-25.44	-20dBm
Test Results				Compliance				

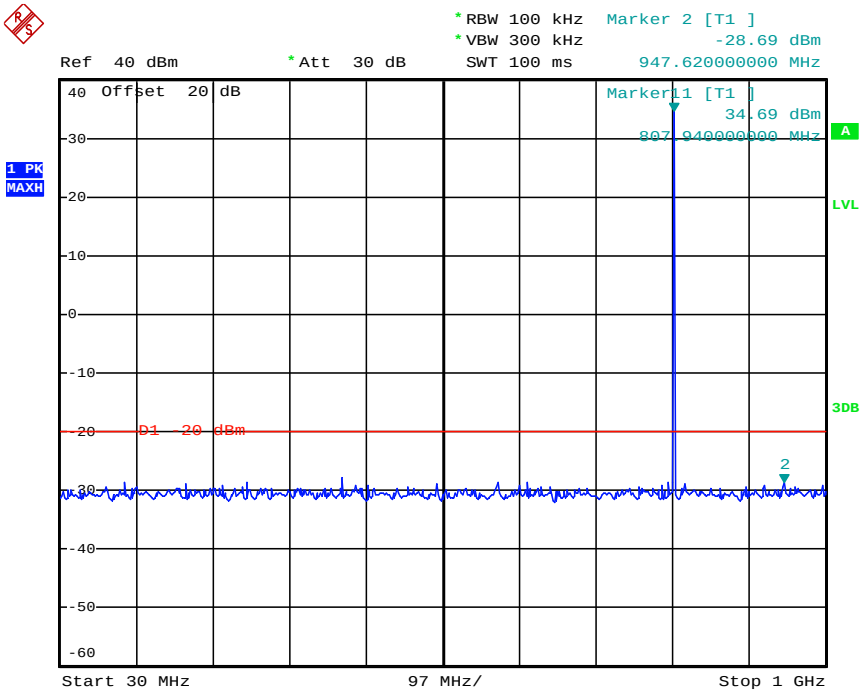


Date: 12.APR.2012 03:50:27

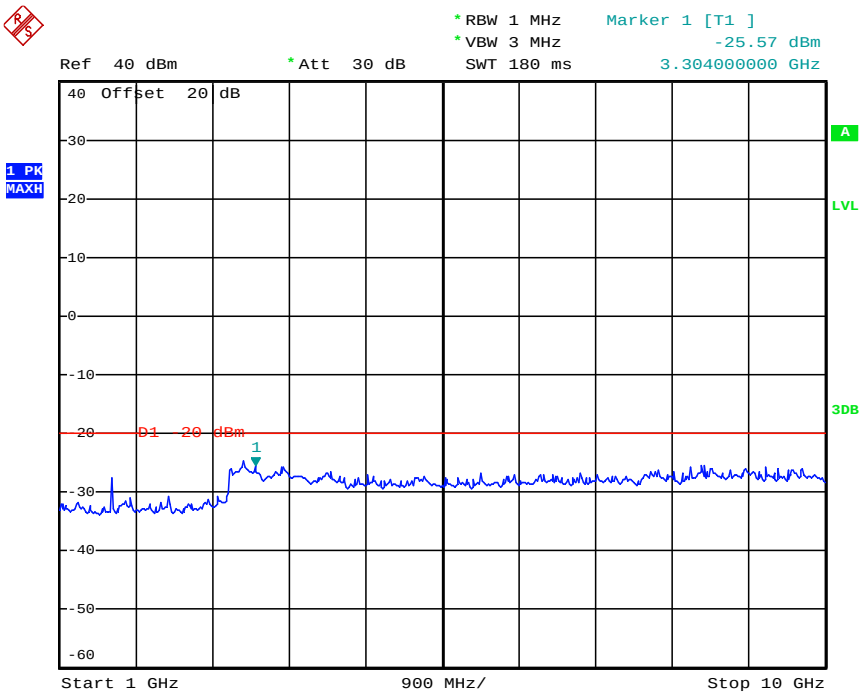


Date: 12.APR.2012 03:26:03

Modulation Type	Channel Sparation	Test Channel	Test Frequency (MHz)	Maximum Conducted Spurious Emissions Below 1GHz		Maximum Conducted Spurious Emissions Above1GHz		FCC Limit
				Frequency (MHz)	Datum (dBm)	Frequency (MHz)	Datum (dBm)	
4FSK	12.5KHz	Low	806.5000	947.62	-28.69	3304.00	-25.57	-20dBm
Test Results				Compliance				

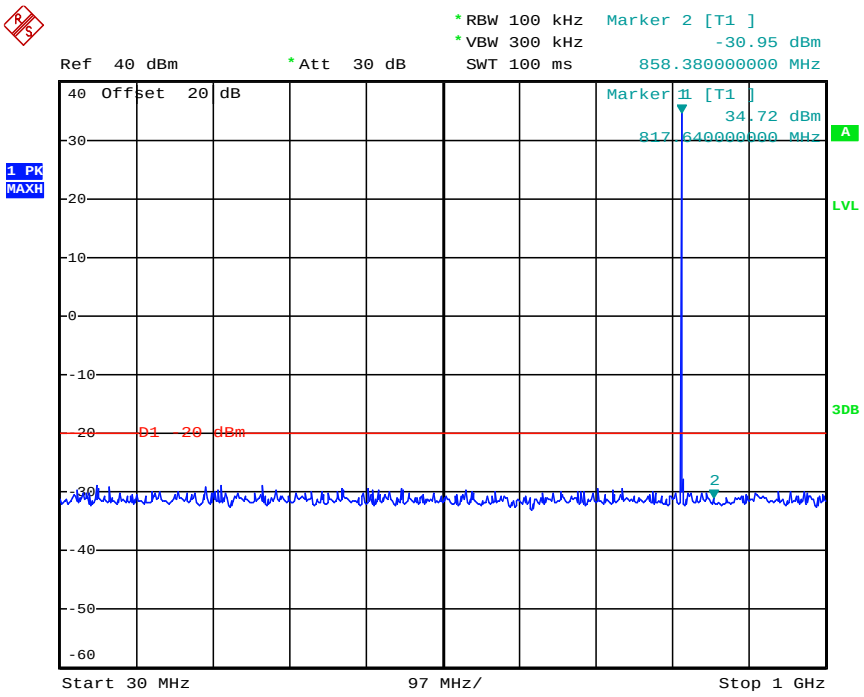


Date: 11.APR.2012 11:13:32

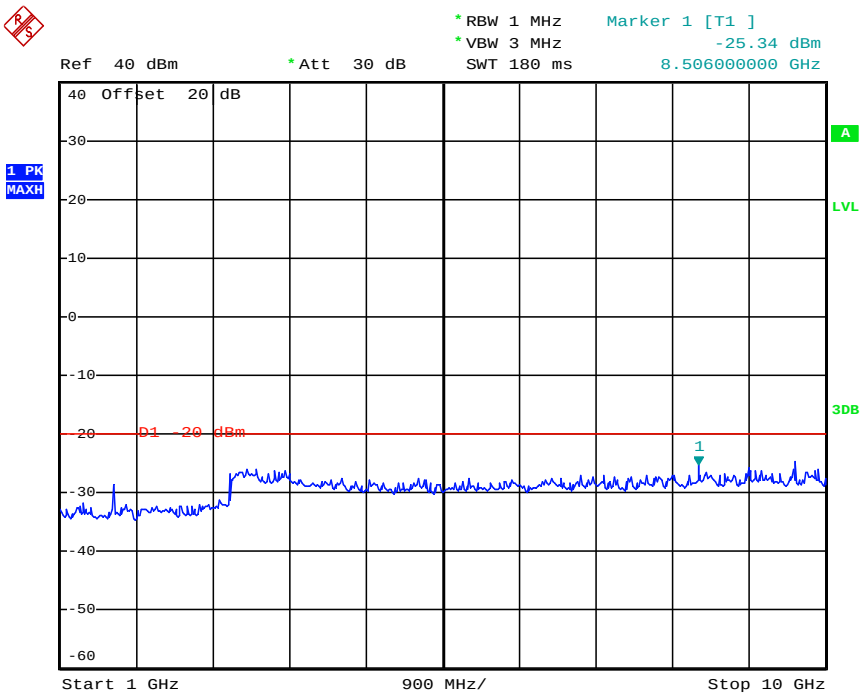


Date: 11.APR.2012 11:14:43

Modulation Type	Channel Sparation	Test Channel	Test Frequency (MHz)	Maximum Conducted Spurious Emissions Below 1GHz		Maximum Conducted Spurious Emissions Above1GHz		FCC Limit
				Frequency (MHz)	Datum (dBm)	Frequency (MHz)	Datum (dBm)	
4FSK	12.5KHz	Middle	817.0000	858.38	-30.95	8506.00	-25.34	-20dBm
Test Results				Compliance				

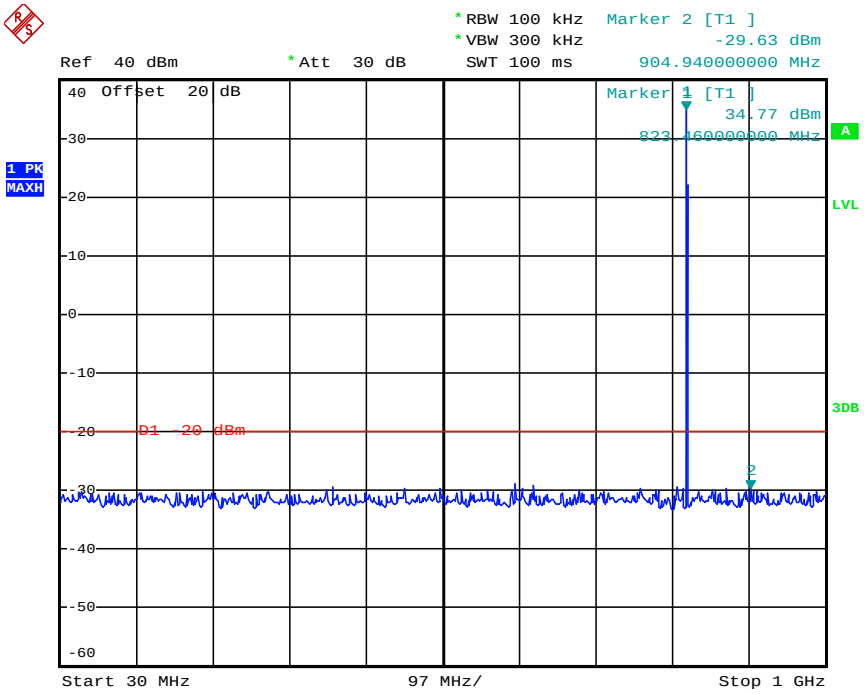


Date: 11.APR.2012 11:12:28

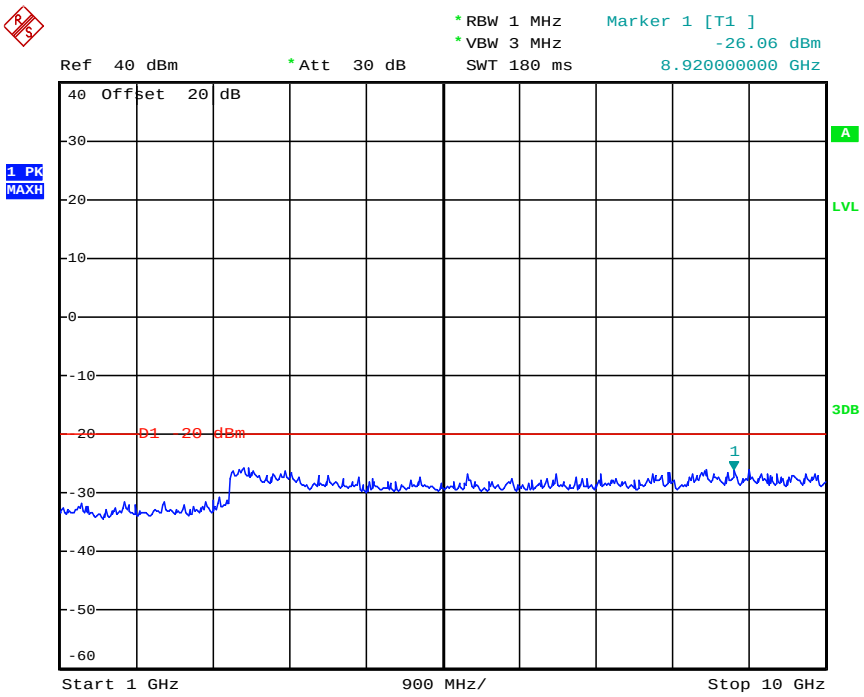


Date: 11.APR.2012 11:15:29

Modulation Type	Channel Sparation	Test Channel	Test Frequency (MHz)	Maximum Conducted Spurious Emissions Below 1GHz		Maximum Conducted Spurious Emissions Above1GHz		FCC Limit
				Frequency (MHz)	Datum (dBm)	Frequency (MHz)	Datum (dBm)	
4FSK	12.5KHz	High	823.5000	904.94	-29.63	8920.00	-26.06	-20dBm
Test Results				Compliance				

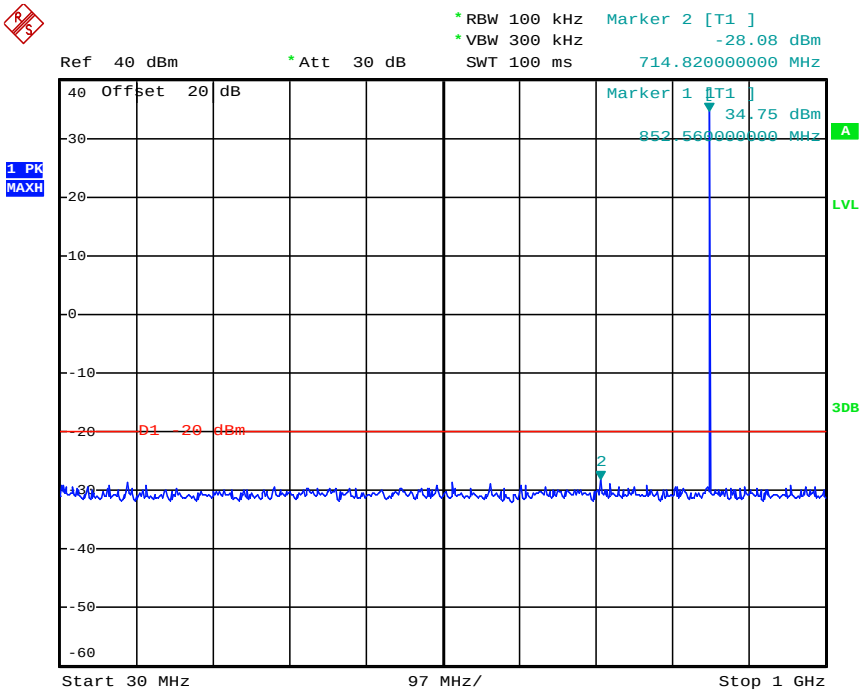


Date: 11.APR.2012 11:11:21

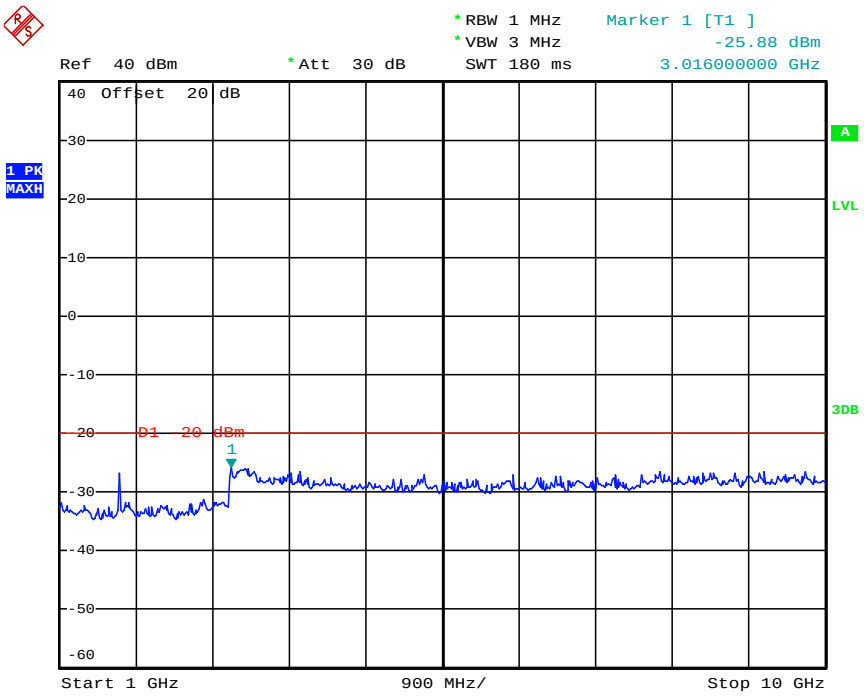


Date: 11.APR.2012 11:15:46

Modulation Type	Channel Sparation	Test Channel	Test Frequency (MHz)	Maximum Conducted Spurious Emissions Below 1GHz		Maximum Conducted Spurious Emissions Above1GHz		FCC Limit
				Frequency (MHz)	Datum (dBm)	Frequency (MHz)	Datum (dBm)	
4FSK	12.5KHz	Low	851.5000	714.82	-28.08	3016.00	-25.88	-20dBm
Test Results				Compliance				

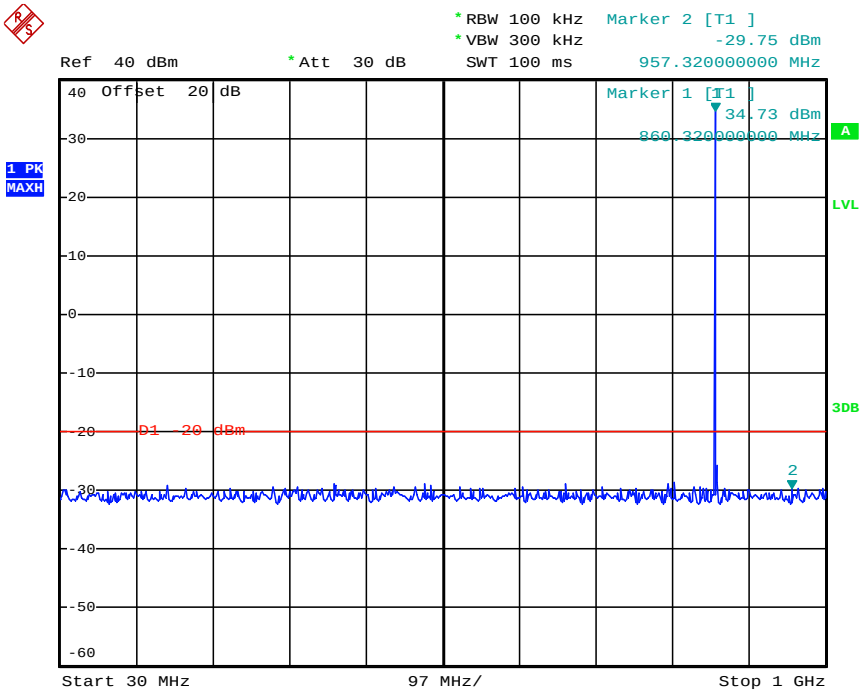


Date: 11.APR.2012 11:10:10

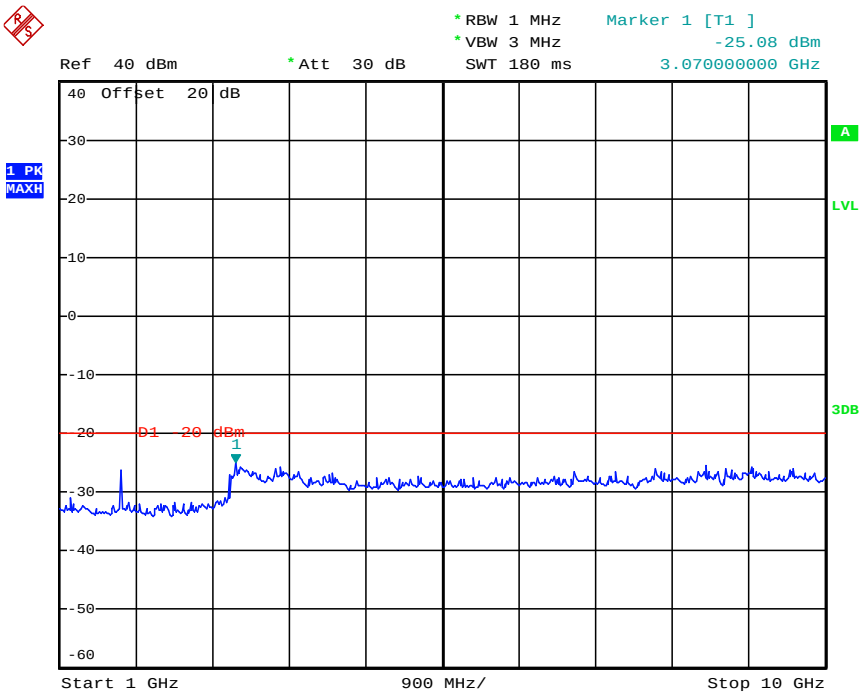


Date: 11.APR.2012 11:16:31

Modulation Type	Channel Sparation	Test Channel	Test Frequency (MHz)	Maximum Conducted Spurious Emissions Below 1GHz		Maximum Conducted Spurious Emissions Above1GHz		FCC Limit
				Frequency (MHz)	Datum (dBm)	Frequency (MHz)	Datum (dBm)	
4FSK	12.5KHz	Middle	860.0000	957.32	-29.75	3070.00	-25.08	-20dBm
Test Results				Compliance				

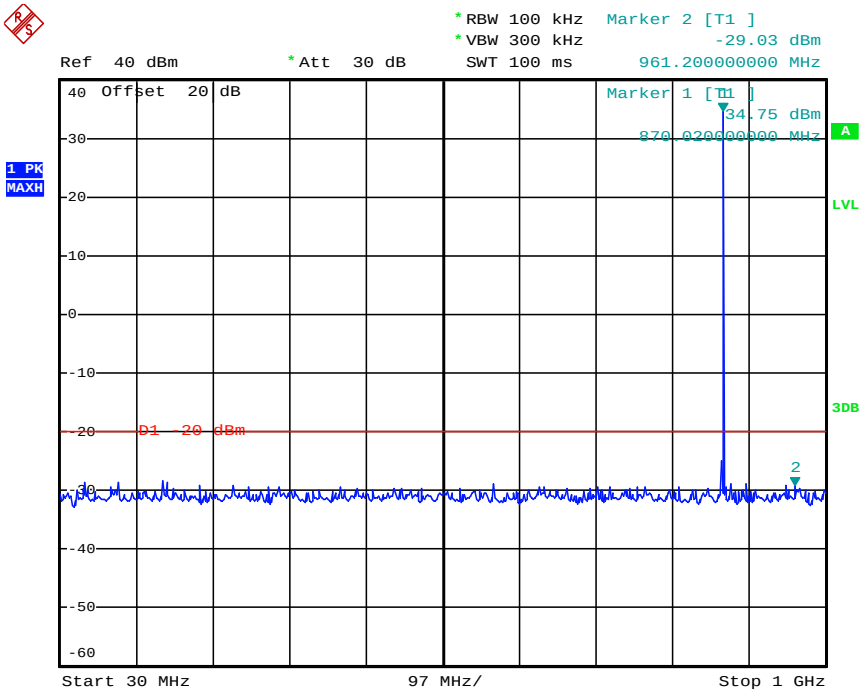


Date: 11.APR.2012 11:08:46

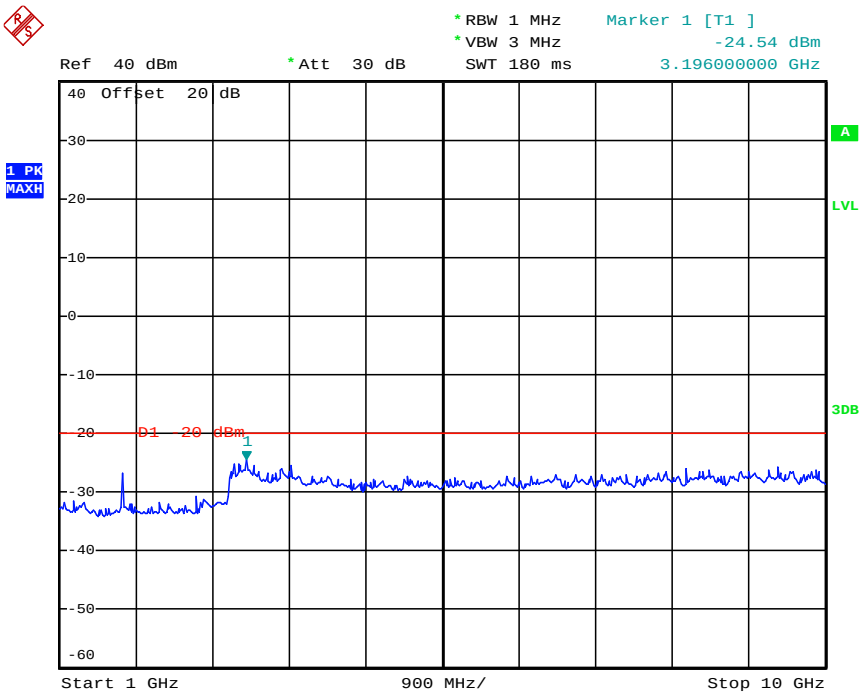


Date: 11.APR.2012 11:17:17

Modulation Type	Channel Sparation	Test Channel	Test Frequency (MHz)	Maximum Conducted Spurious Emissions Below 1GHz		Maximum Conducted Spurious Emissions Above1GHz		FCC Limit
				Frequency (MHz)	Datum (dBm)	Frequency (MHz)	Datum (dBm)	
4FSK	12.5KHz	High	868.5000	961.20	-29.03	3196.00	-24.54	-20dBm
Test Results				Compliance				

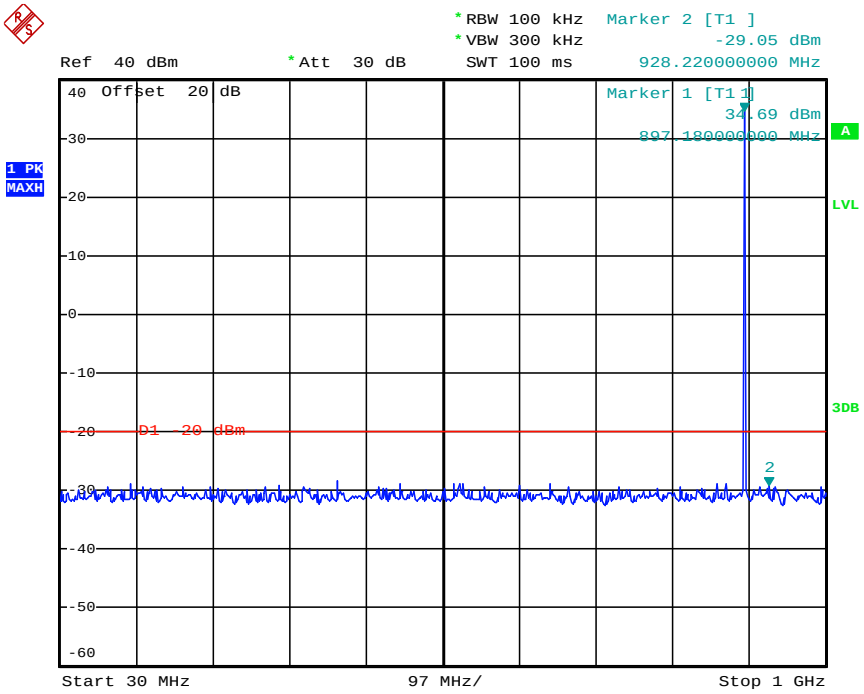


Date: 11.APR.2012 11:07:27

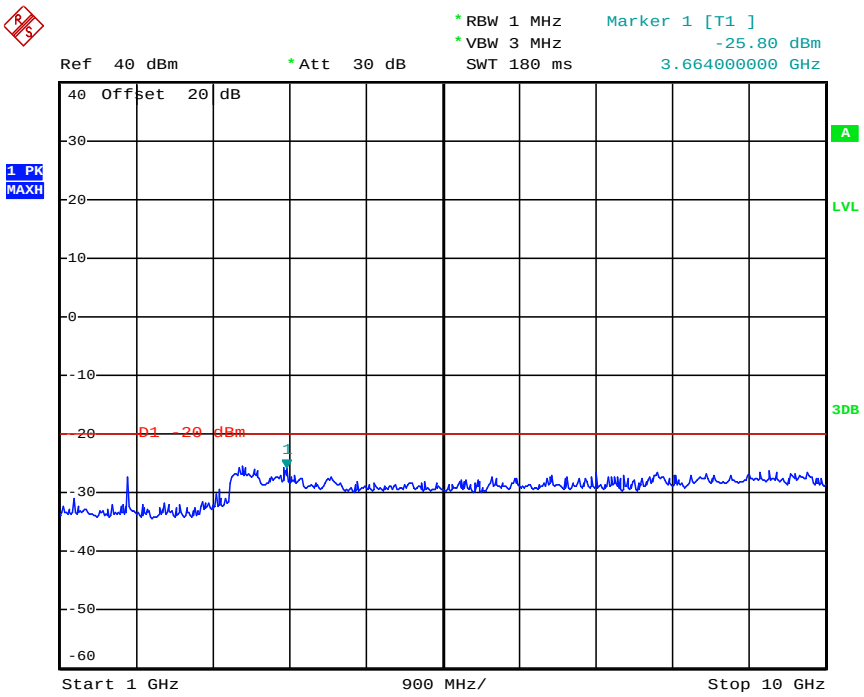


Date: 11.APR.2012 11:17:59

Modulation Type	Channel Sparation	Test Channel	Test Frequency (MHz)	Maximum Conducted Spurious Emissions Below 1GHz		Maximum Conducted Spurious Emissions Above1GHz		FCC Limit
				Frequency (MHz)	Datum (dBm)	Frequency (MHz)	Datum (dBm)	
4FSK	12.5KHz	Low	896.5000	928.22	-29.05	3664.00	-25.80	-20dBm
Test Results				Compliance				

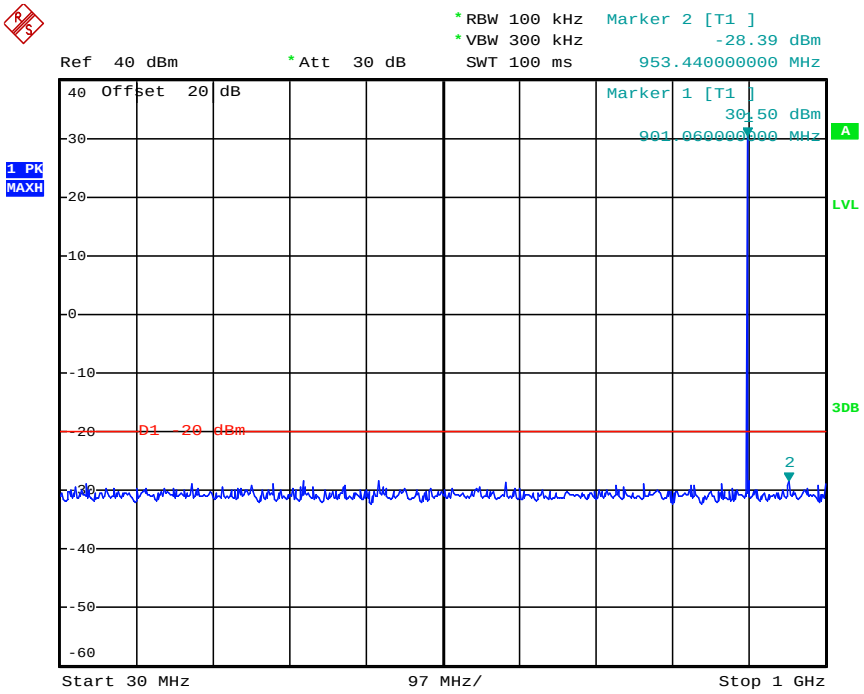


Date: 11.APR.2012 11:05:36

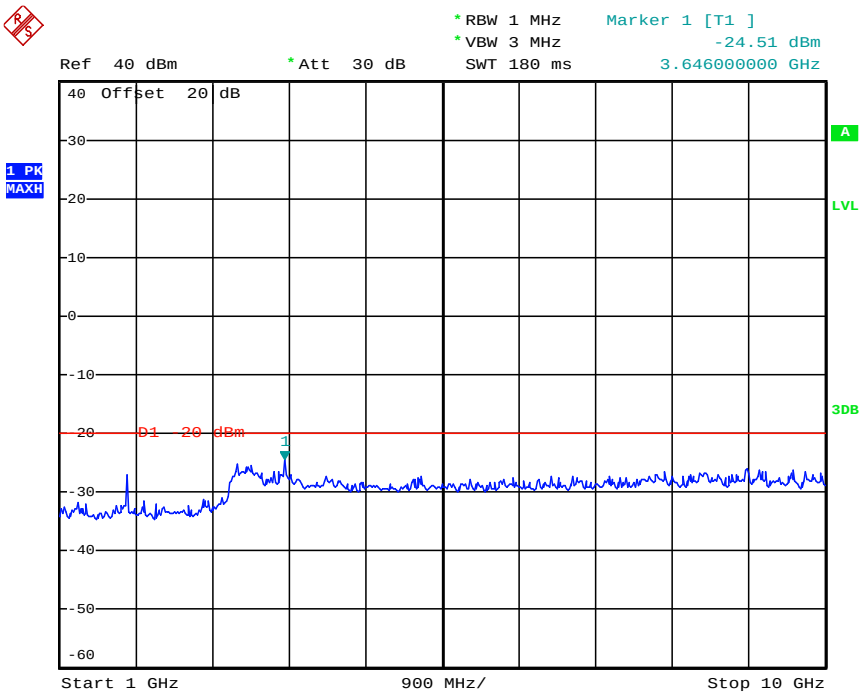


Date: 11.APR.2012 11:18:33

Modulation Type	Channel Sparation	Test Channel	Test Frequency (MHz)	Maximum Conducted Spurious Emissions Below 1GHz		Maximum Conducted Spurious Emissions Above1GHz		FCC Limit
				Frequency (MHz)	Datum (dBm)	Frequency (MHz)	Datum (dBm)	
4FSK	12.5KHz	High	900.5000	953.44	-28.39	3646.00	-24.51	-20dBm
Test Results				Compliance				

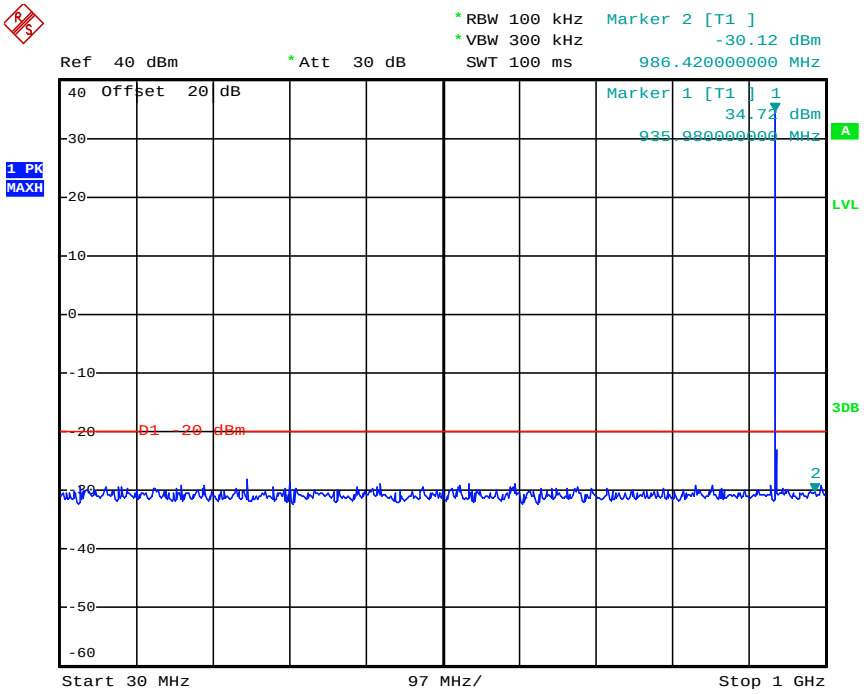


Date: 11.APR.2012 11:03:53

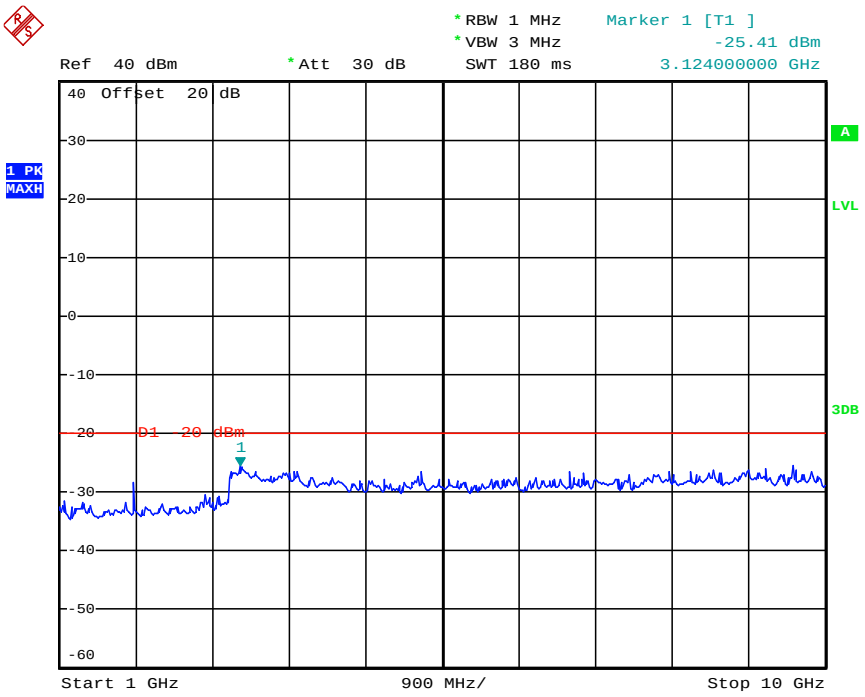


Date: 11.APR.2012 11:19:07

Modulation Type	Channel Sparation	Test Channel	Test Frequency (MHz)	Maximum Conducted Spurious Emissions Below 1GHz		Maximum Conducted Spurious Emissions Above1GHz		FCC Limit
				Frequency (MHz)	Datum (dBm)	Frequency (MHz)	Datum (dBm)	
4FSK	12.5KHz	Low	935.5000	986.42	-30.12	3124.00	-25.41	-20dBm
Test Results				Compliance				

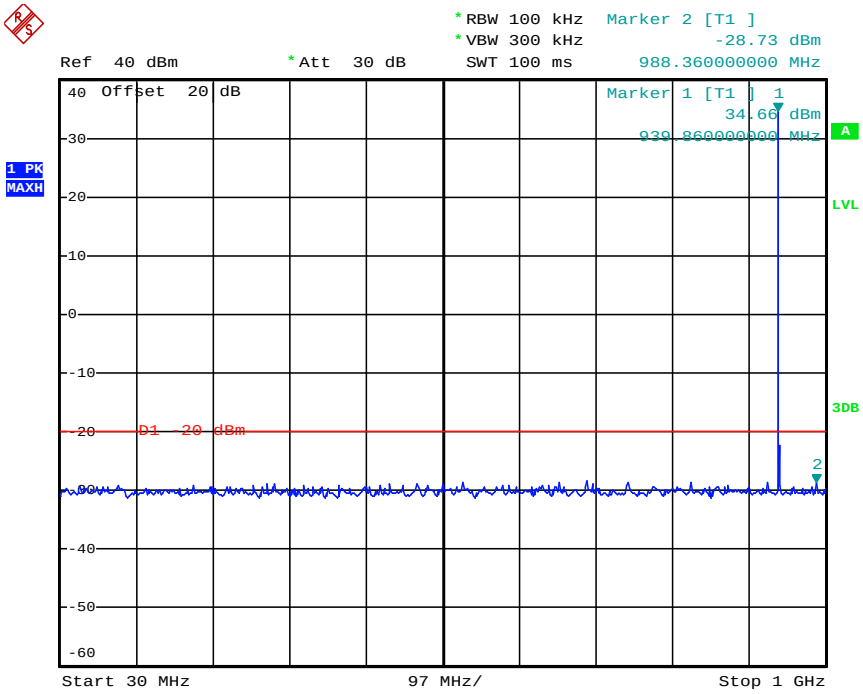


Date: 11.APR.2012 11:03:20

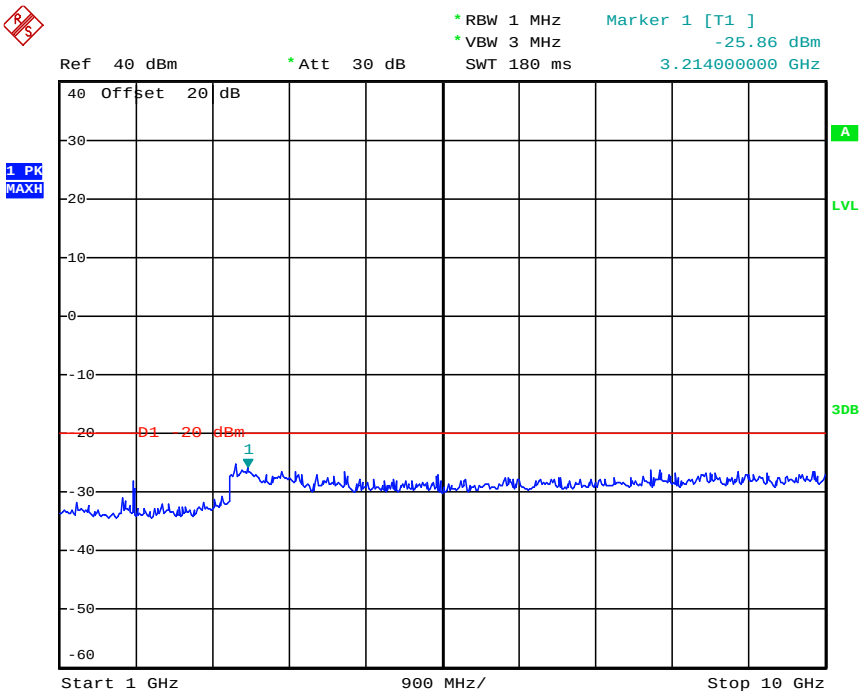


Date: 11.APR.2012 11:19:26

Modulation Type	Channel Sparation	Test Channel	Test Frequency (MHz)	Maximum Conducted Spurious Emissions Below 1GHz		Maximum Conducted Spurious Emissions Above1GHz		FCC Limit
				Frequency (MHz)	Datum (dBm)	Frequency (MHz)	Datum (dBm)	
4FSK	12.5KHz	High	939.5000	988.36	-28.73	3214.00	-25.86	-20dBm
Test Results				Compliance				



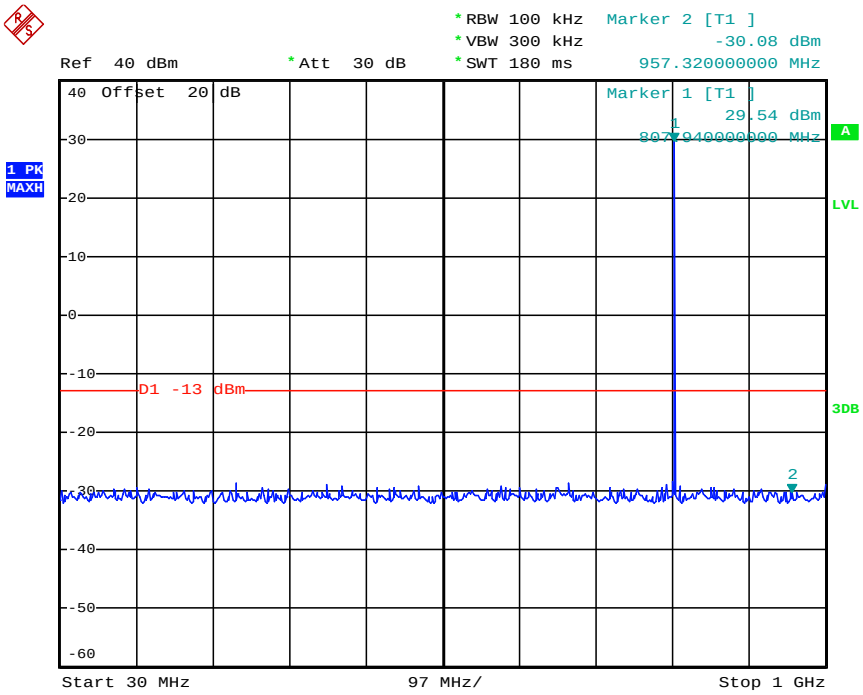
Date: 11.APR.2012 11:01:28



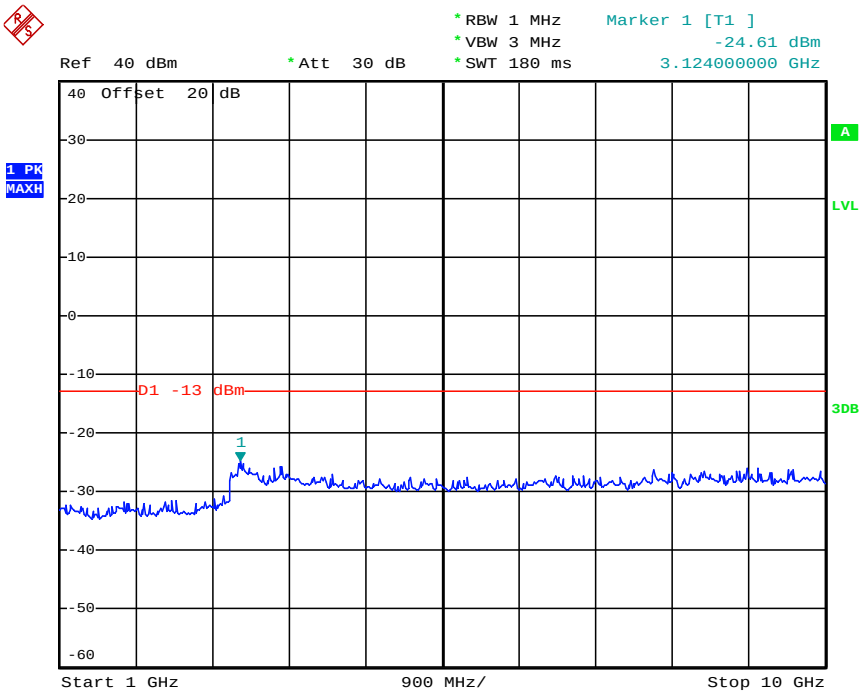
Date: 11.APR.2012 11:20:07

For Rated Low Power (1Watt)

Modulation Type	Channel Sparation	Test Channel	Test Frequency (MHz)	Maximum Conducted Spurious Emissions Below 1GHz		Maximum Conducted Spurious Emissions Above1GHz		FCC Limit
				Frequency (MHz)	Datum (dBm)	Frequency (MHz)	Datum (dBm)	
FM	25KHz	Low	806.5000	957.32	-30.08	3124.00	-24.61	-13dBm
Test Results				Compliance				

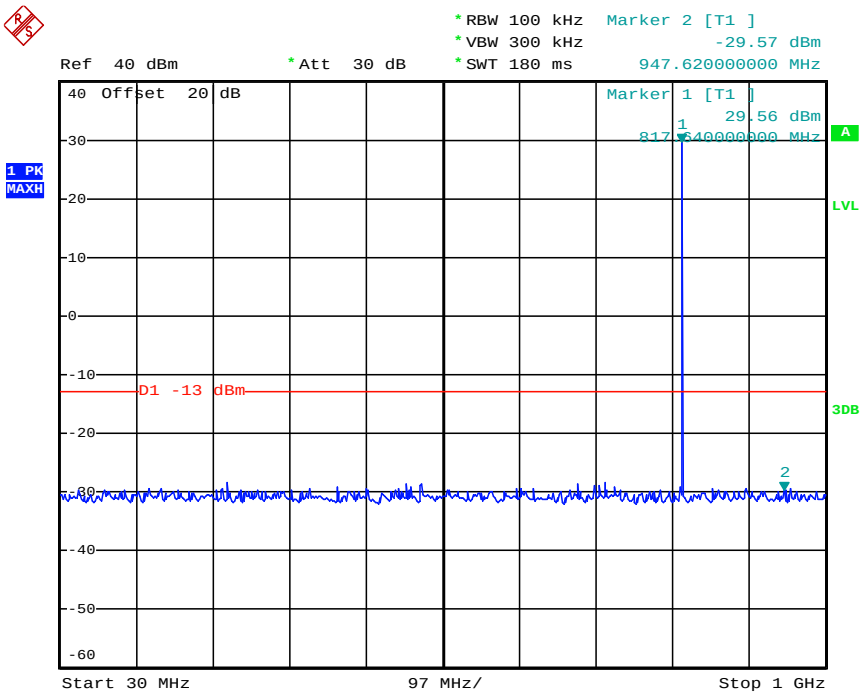


Date: 12.APR.2012 03:52:46

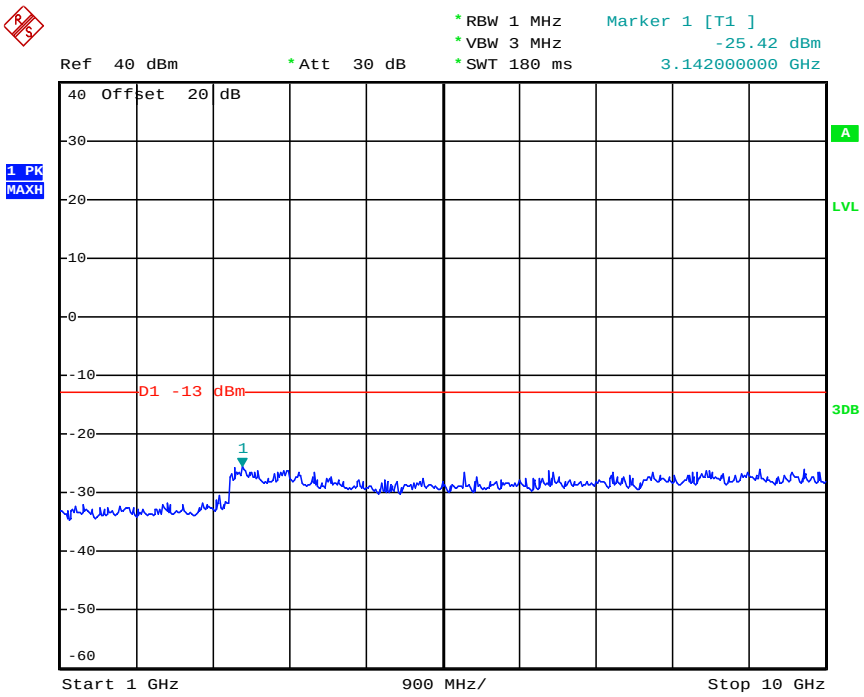


Date: 12.APR.2012 04:04:28

Modulation Type	Channel Sparation	Test Channel	Test Frequency (MHz)	Maximum Conducted Spurious Emissions Below 1GHz		Maximum Conducted Spurious Emissions Above1GHz		FCC Limit
				Frequency (MHz)	Datum (dBm)	Frequency (MHz)	Datum (dBm)	
FM	25KHz	Middle	817.0000	947.62	-29.57	3142.00	-25.42	-13dBm
Test Results				Compliance				

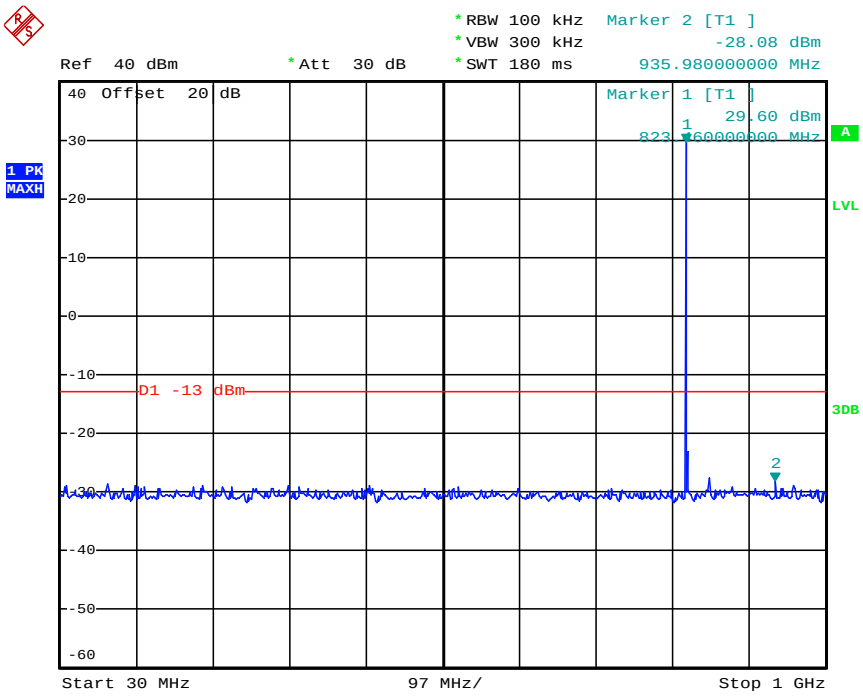


Date: 12.APR.2012 03:53:09

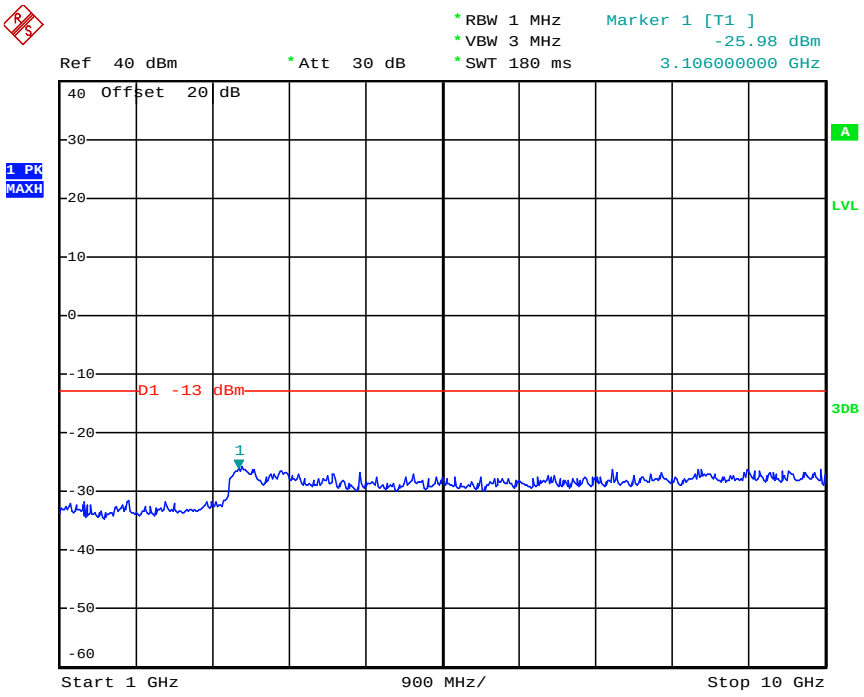


Date: 12.APR.2012 04:03:50

Modulation Type	Channel Sparation	Test Channel	Test Frequency (MHz)	Maximum Conducted Spurious Emissions Below 1GHz		Maximum Conducted Spurious Emissions Above1GHz		FCC Limit
				Frequency (MHz)	Datum (dBm)	Frequency (MHz)	Datum (dBm)	
FM	25KHz	High	823.5000	935.98	-28.08	3106.00	-25.98	-13dBm
Test Results				Compliance				

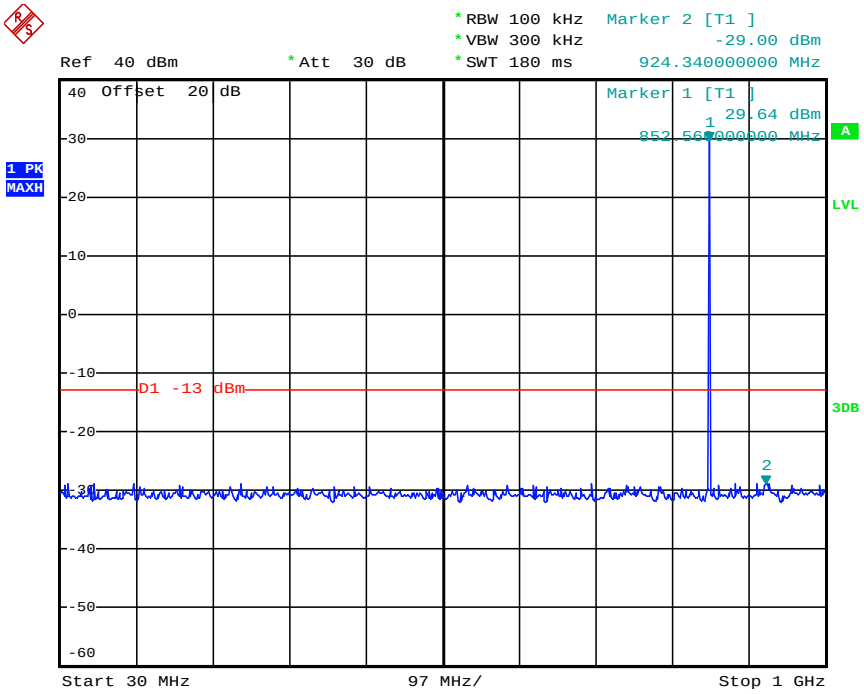


Date: 12.APR.2012 03:56:05

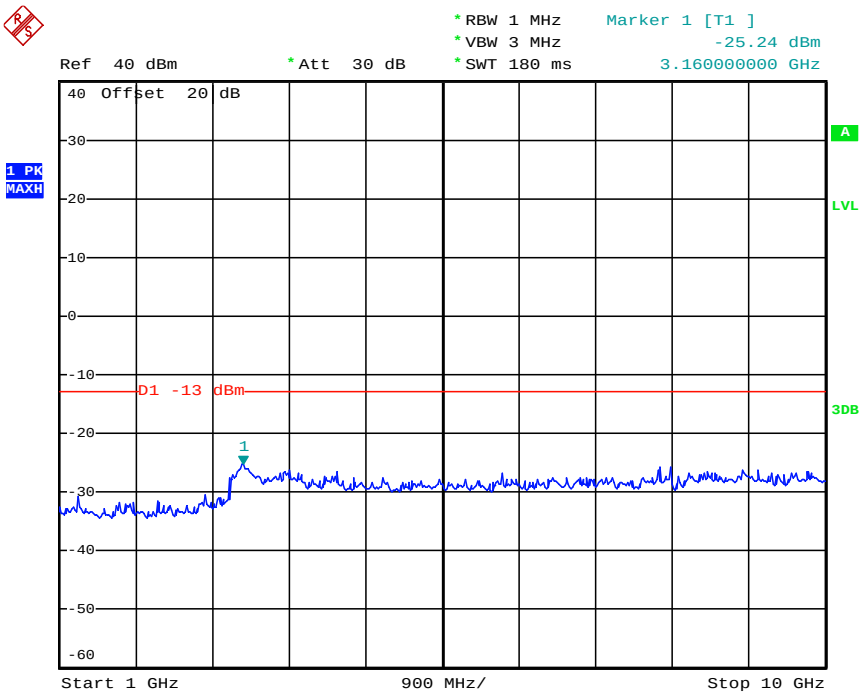


Date: 12.APR.2012 04:03:18

Modulation Type	Channel Sparation	Test Channel	Test Frequency (MHz)	Maximum Conducted Spurious Emissions Below 1GHz		Maximum Conducted Spurious Emissions Above1GHz		FCC Limit
				Frequency (MHz)	Datum (dBm)	Frequency (MHz)	Datum (dBm)	
FM	25KHz	Low	851.5000	924.34	-29.00	3160.00	-25.24	-13dBm
Test Results				Compliance				

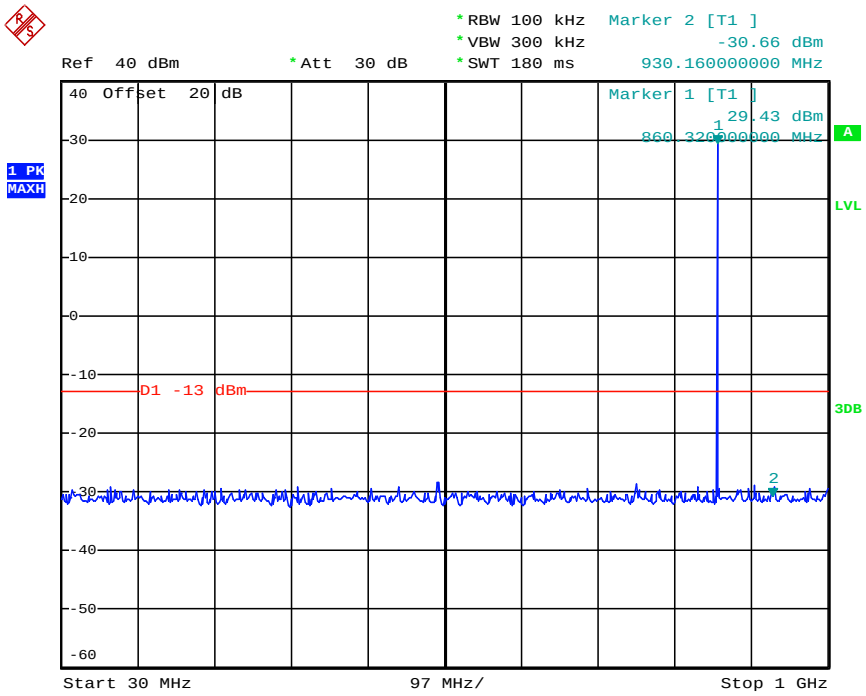


Date: 12.APR.2012 03:57:25

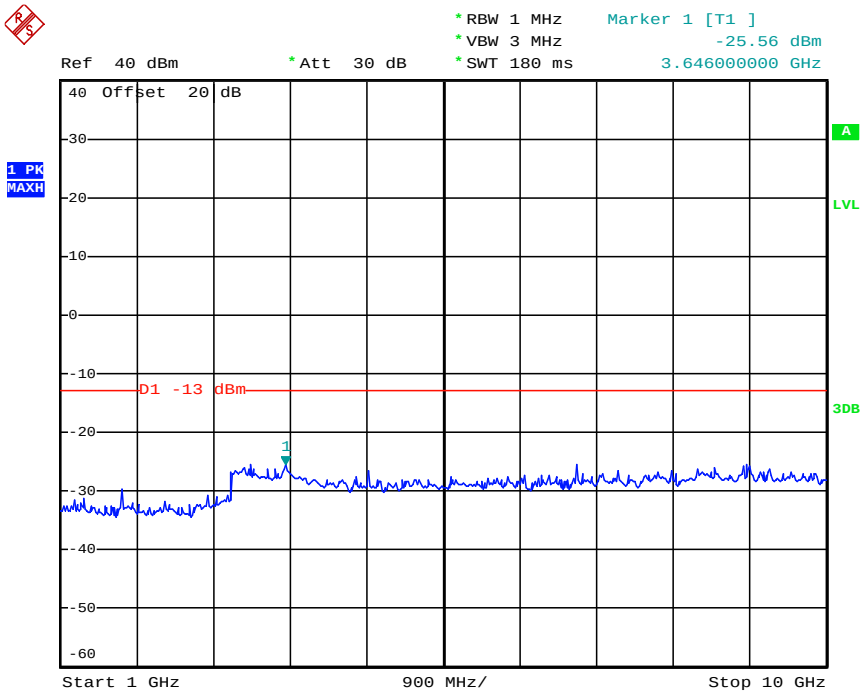


Date: 12.APR.2012 04:02:56

Modulation Type	Channel Sparation	Test Channel	Test Frequency (MHz)	Maximum Conducted Spurious Emissions Below 1GHz		Maximum Conducted Spurious Emissions Above1GHz		FCC Limit
				Frequency (MHz)	Datum (dBm)	Frequency (MHz)	Datum (dBm)	
FM	25KHz	Middle	860.0000	930.16	-30.66	3646.00	-25.56	-13dBm
Test Results				Compliance				

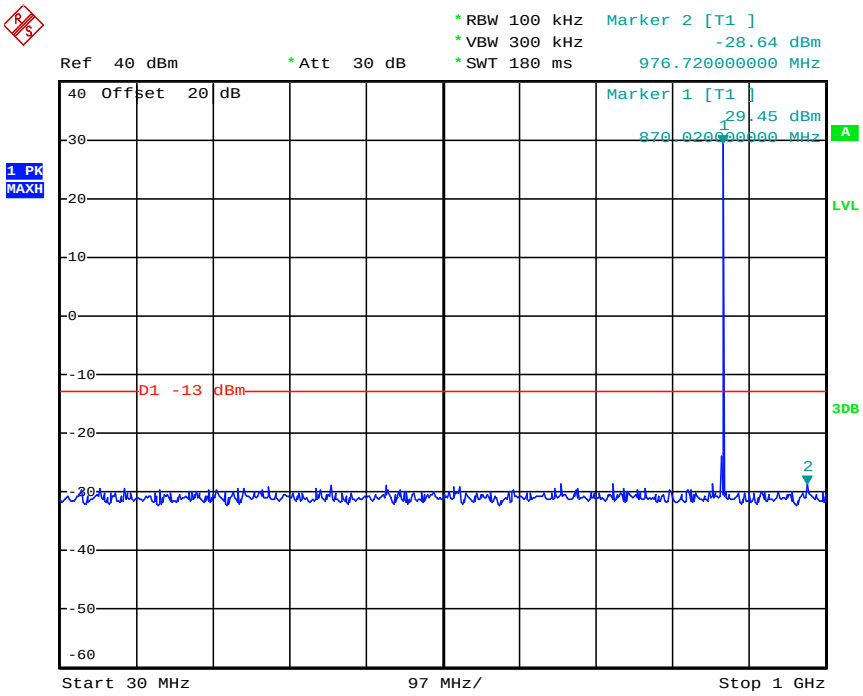


Date: 12.APR.2012 03:58:14

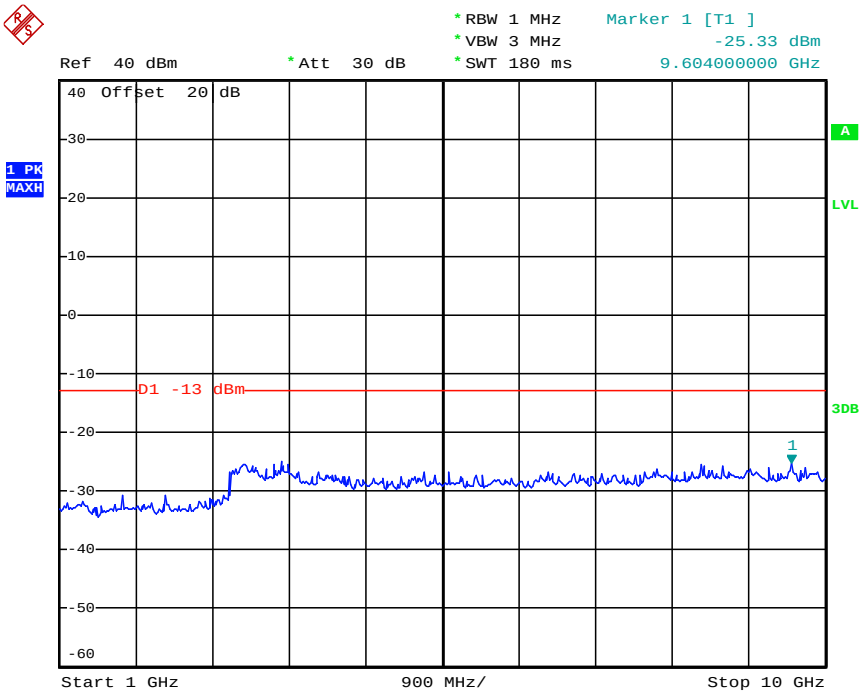


Date: 12.APR.2012 04:01:31

Modulation Type	Channel Sparation	Test Channel	Test Frequency (MHz)	Maximum Conducted Spurious Emissions Below 1GHz		Maximum Conducted Spurious Emissions Above1GHz		FCC Limit
				Frequency (MHz)	Datum (dBm)	Frequency (MHz)	Datum (dBm)	
FM	25KHz	High	868.5000	976.72	-28.64	9604.00	-25.33	-13dBm
Test Results				Compliance				

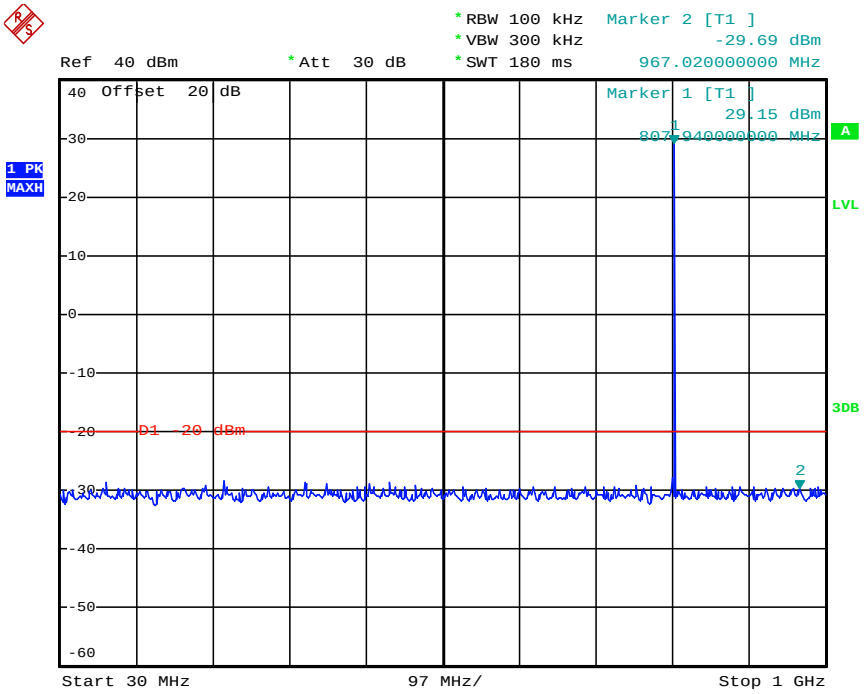


Date: 12.APR.2012 04:00:18

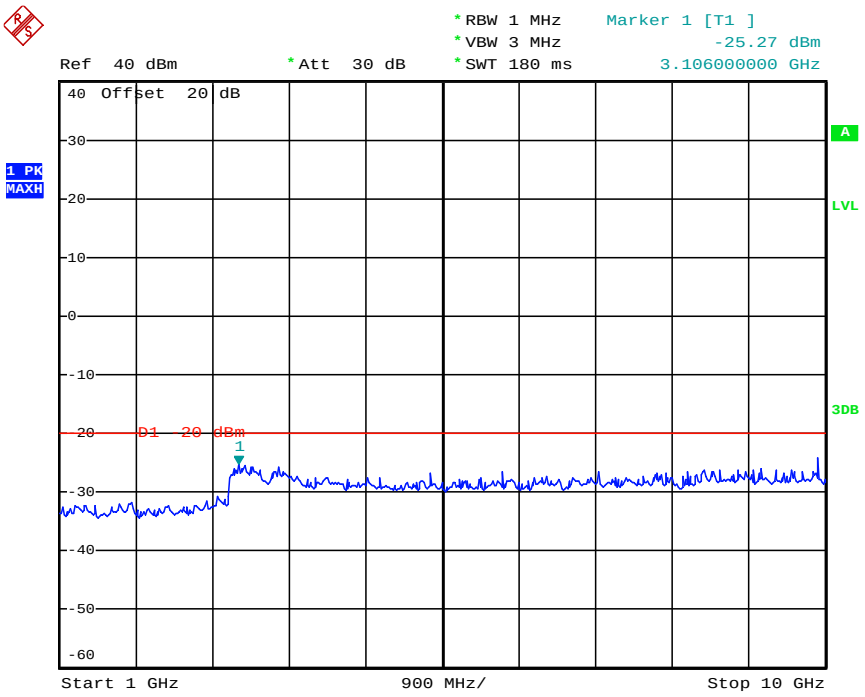


Date: 12.APR.2012 04:00:59

Modulation Type	Channel Sparation	Test Channel	Test Frequency (MHz)	Maximum Conducted Spurious Emissions Below 1GHz		Maximum Conducted Spurious Emissions Above1GHz		FCC Limit
				Frequency (MHz)	Datum (dBm)	Frequency (MHz)	Datum (dBm)	
FM	12.5KHz	Low	806.5000	967.02	-29.69	3106.00	-25.27	-20dBm
Test Results				Compliance				

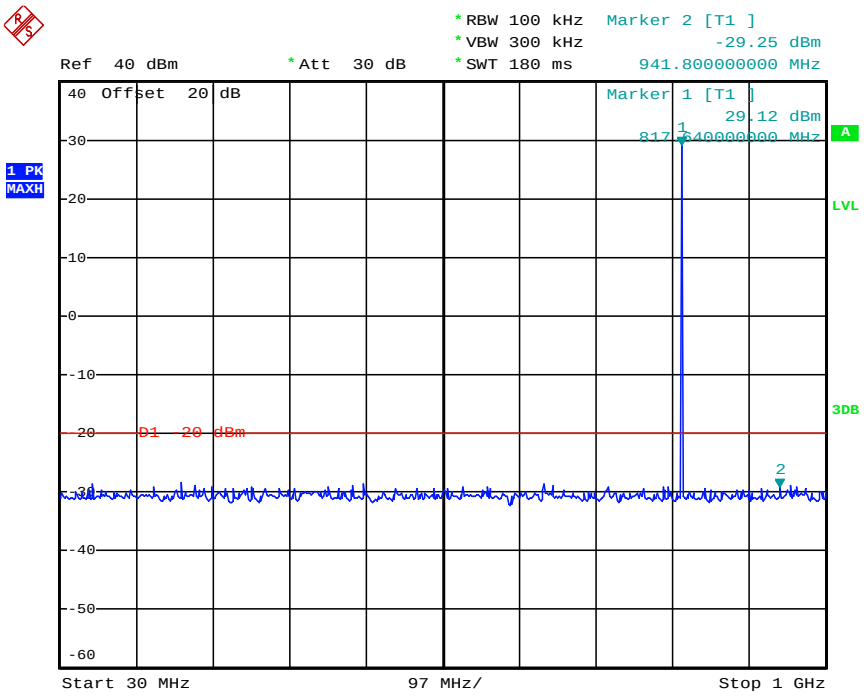


Date: 12.APR.2012 03:41:55

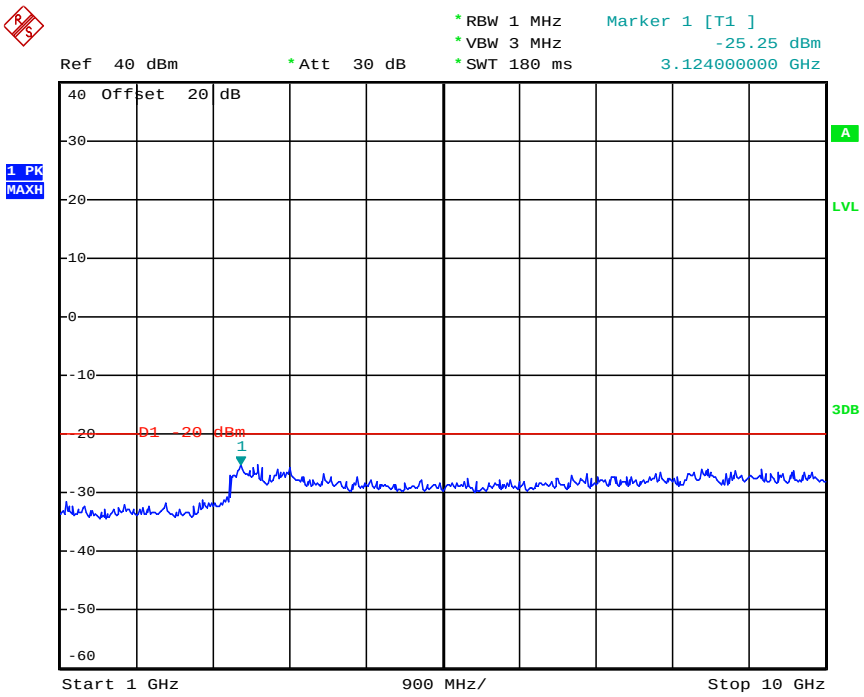


Date: 12.APR.2012 03:32:46

Modulation Type	Channel Sparation	Test Channel	Test Frequency (MHz)	Maximum Conducted Spurious Emissions Below 1GHz		Maximum Conducted Spurious Emissions Above1GHz		FCC Limit
				Frequency (MHz)	Datum (dBm)	Frequency (MHz)	Datum (dBm)	
FM	12.5KHz	Middle	817.0000	941.80	-29.25	3124.00	-25.25	-20dBm
Test Results				Compliance				

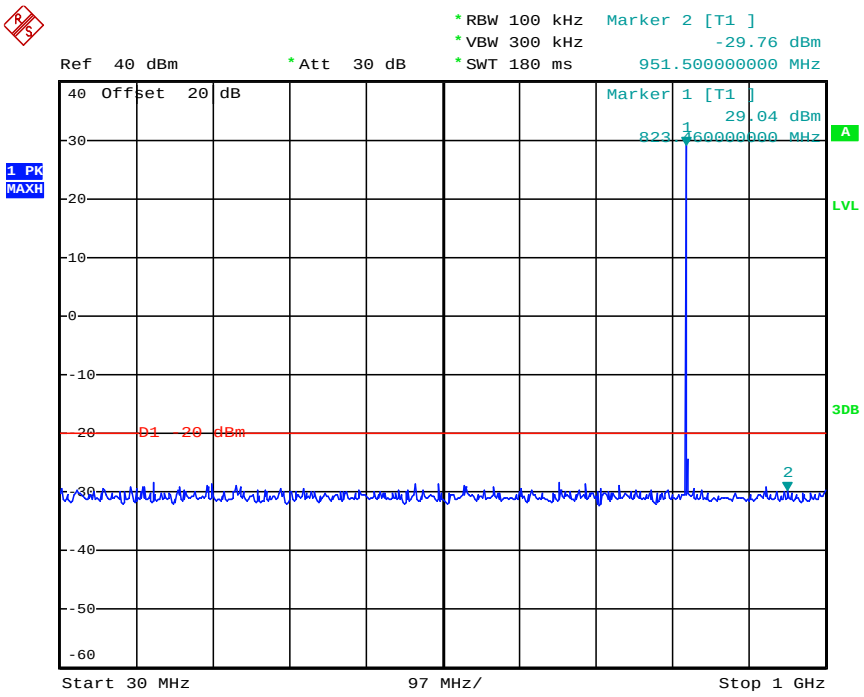


Date: 12.APR.2012 03:42:23



Date: 12.APR.2012 03:39:14

Modulation Type	Channel Sparation	Test Channel	Test Frequency (MHz)	Maximum Conducted Spurious Emissions Below 1GHz		Maximum Conducted Spurious Emissions Above1GHz		FCC Limit
				Frequency (MHz)	Datum (dBm)	Frequency (MHz)	Datum (dBm)	
FM	12.5KHz	High	823.5000	951.50	-29.76	3106.00	-25.49	-20dBm
Test Results				Compliance				



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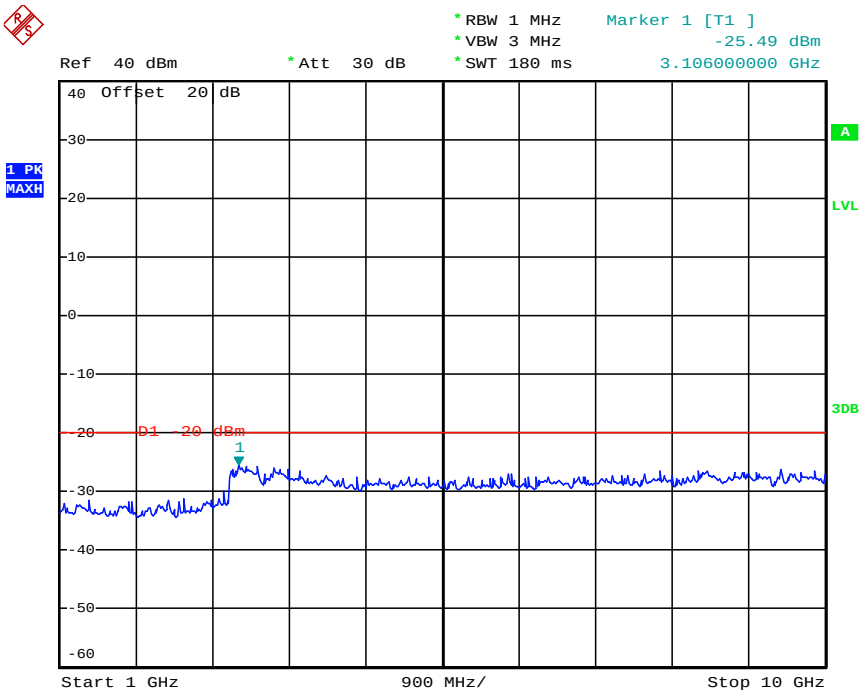
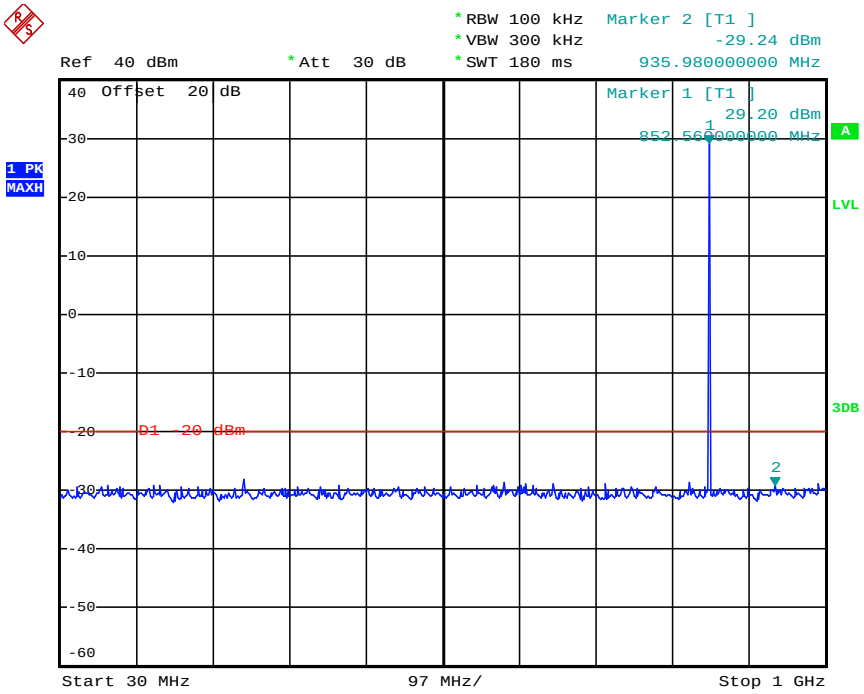
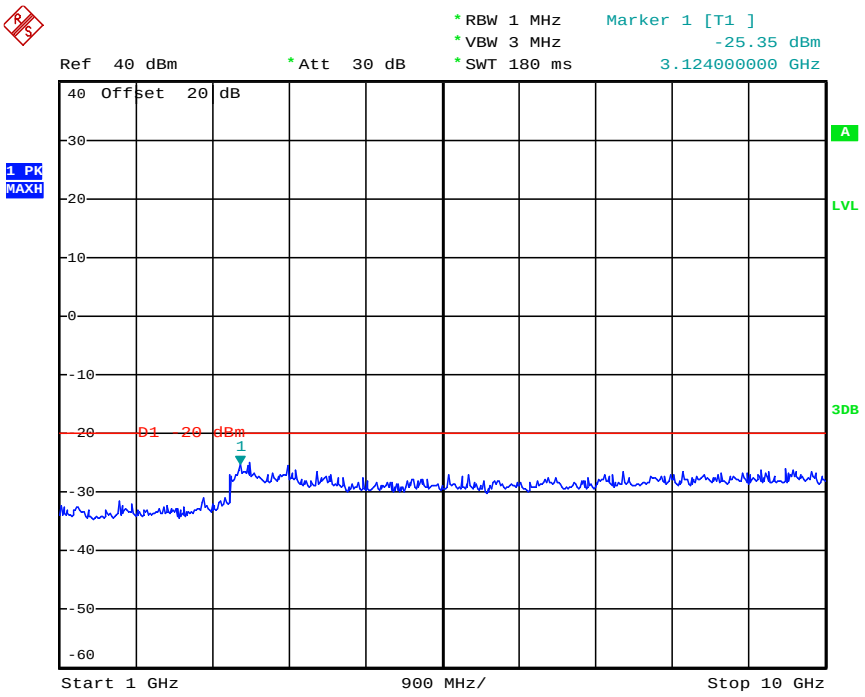


Date: 12.APR.2012 03:30:58

Modulation Type	Channel Sparation	Test Channel	Test Frequency (MHz)	Maximum Conducted Spurious Emissions Below 1GHz		Maximum Conducted Spurious Emissions Above1GHz		FCC Limit
				Frequency (MHz)	Datum (dBm)	Frequency (MHz)	Datum (dBm)	
FM	12.5KHz	Low	851.5000	935.98	-29.24	3124.00	-25.35	-20dBm
Test Results				Compliance				

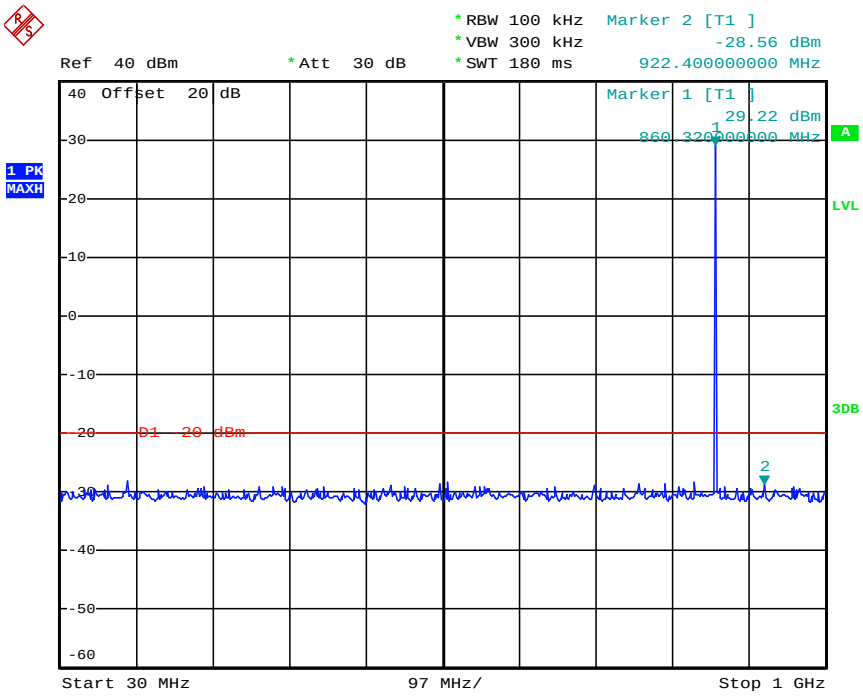


Date: 12.APR.2012 03:44:05

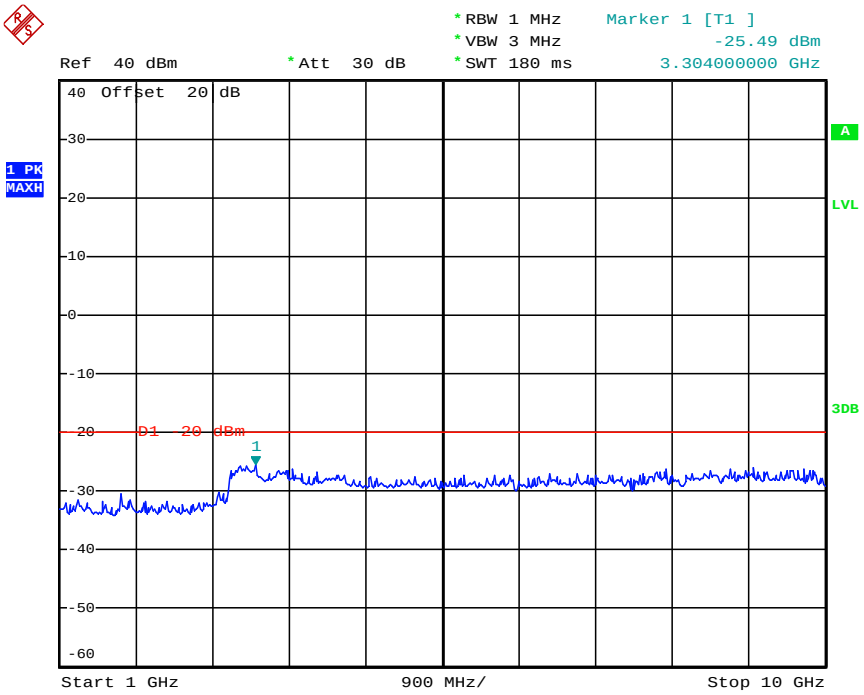


Date: 12.APR.2012 03:30:40

Modulation Type	Channel Sparation	Test Channel	Test Frequency (MHz)	Maximum Conducted Spurious Emissions Below 1GHz		Maximum Conducted Spurious Emissions Above1GHz		FCC Limit
				Frequency (MHz)	Datum (dBm)	Frequency (MHz)	Datum (dBm)	
FM	12.5KHz	Middle	860.0000	922.40	-28.56	3304.00	-25.49	-20dBm
Test Results				Compliance				

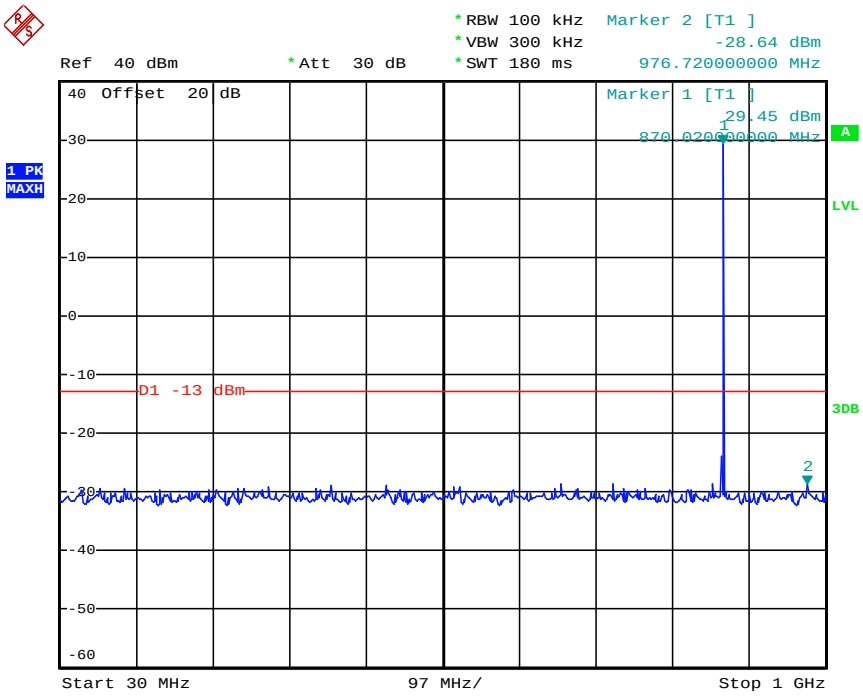


Date: 12.APR.2012 03:45:17

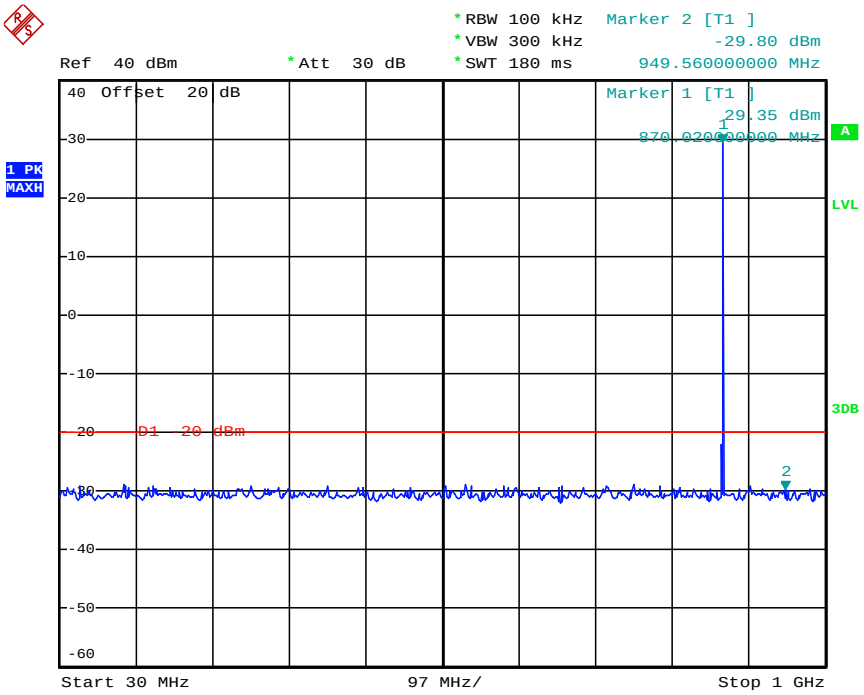


Date: 12.APR.2012 03:29:43

Modulation Type	Channel Sparation	Test Channel	Test Frequency (MHz)	Maximum Conducted Spurious Emissions Below 1GHz		Maximum Conducted Spurious Emissions Above1GHz		FCC Limit
				Frequency (MHz)	Datum (dBm)	Frequency (MHz)	Datum (dBm)	
FM	12.5KHz	High	868.5000	949.56	-29.80	3160.00	-24.81	-20dBm
Test Results				Compliance				

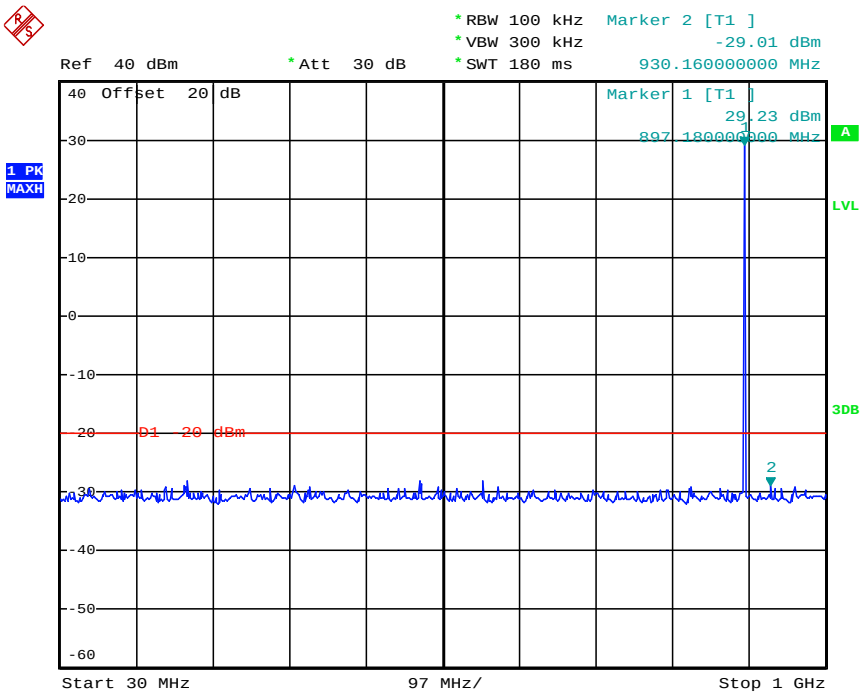


Date: 12.APR.2012 04:00:18

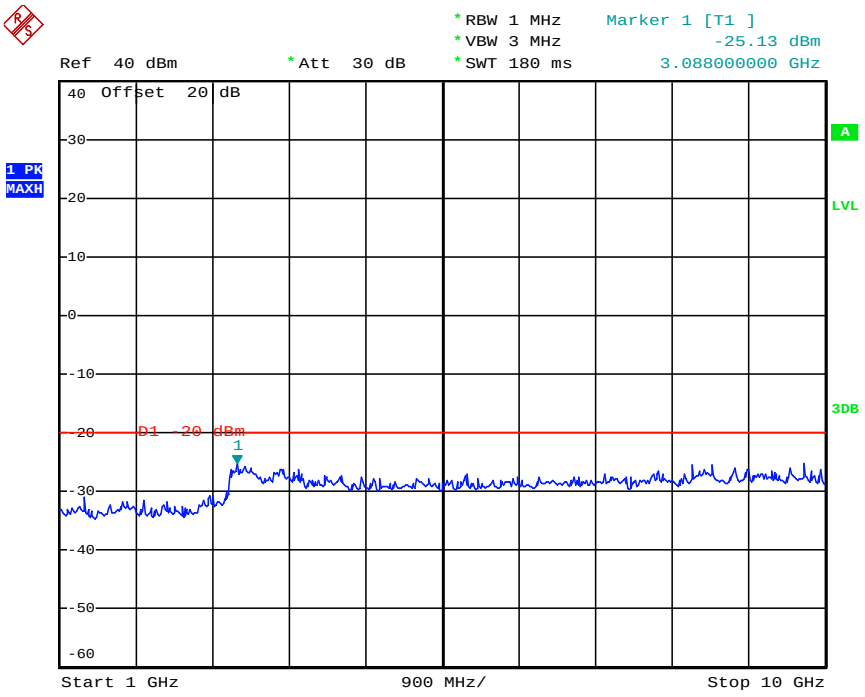


Date: 12.APR.2012 03:45:46

Modulation Type	Channel Sparation	Test Channel	Test Frequency (MHz)	Maximum Conducted Spurious Emissions Below 1GHz		Maximum Conducted Spurious Emissions Above1GHz		FCC Limit
				Frequency (MHz)	Datum (dBm)	Frequency (MHz)	Datum (dBm)	
FM	12.5KHz	Low	896.5000	930.16	-29.01	3088.00	-25.13	-20dBm
Test Results				Compliance				

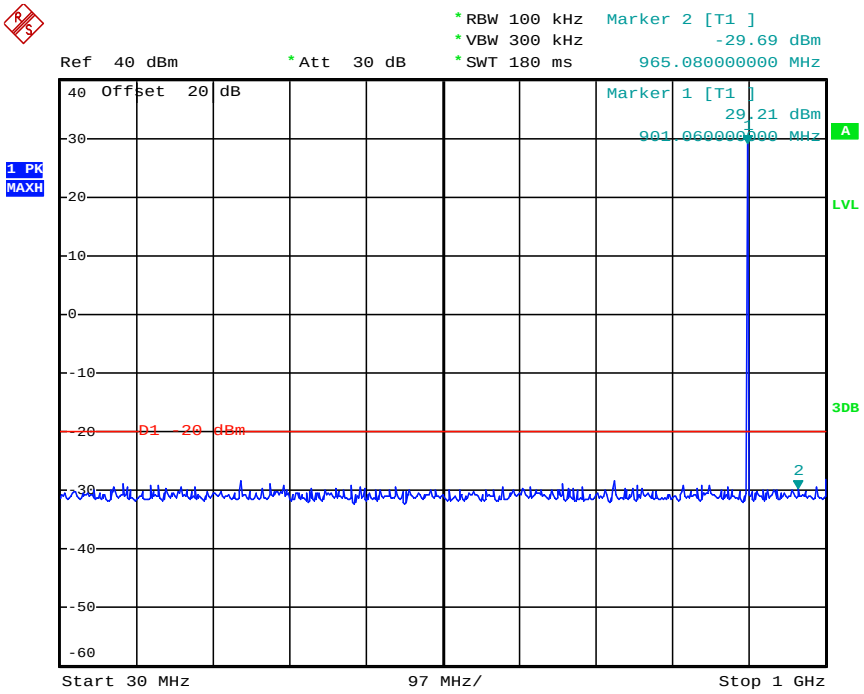


Date: 12.APR.2012 03:47:00



Date: 12.APR.2012 03:28:30

Modulation Type	Channel Sparation	Test Channel	Test Frequency (MHz)	Maximum Conducted Spurious Emissions Below 1GHz		Maximum Conducted Spurious Emissions Above1GHz		FCC Limit
				Frequency (MHz)	Datum (dBm)	Frequency (MHz)	Datum (dBm)	
FM	12.5KHz	High	900.5000	965.08	-29.69	9244.00	-25.04	-20dBm
Test Results				Compliance				



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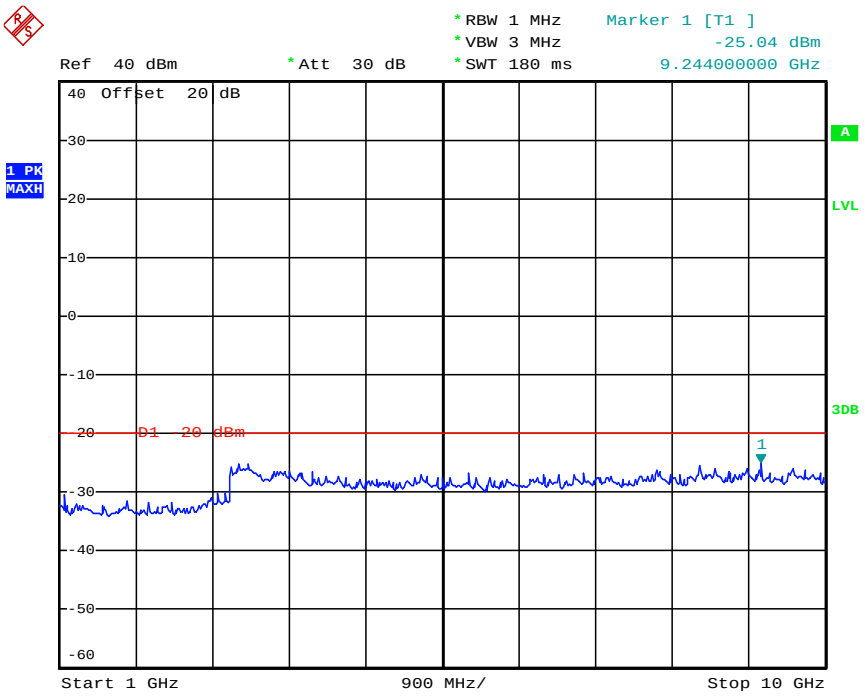
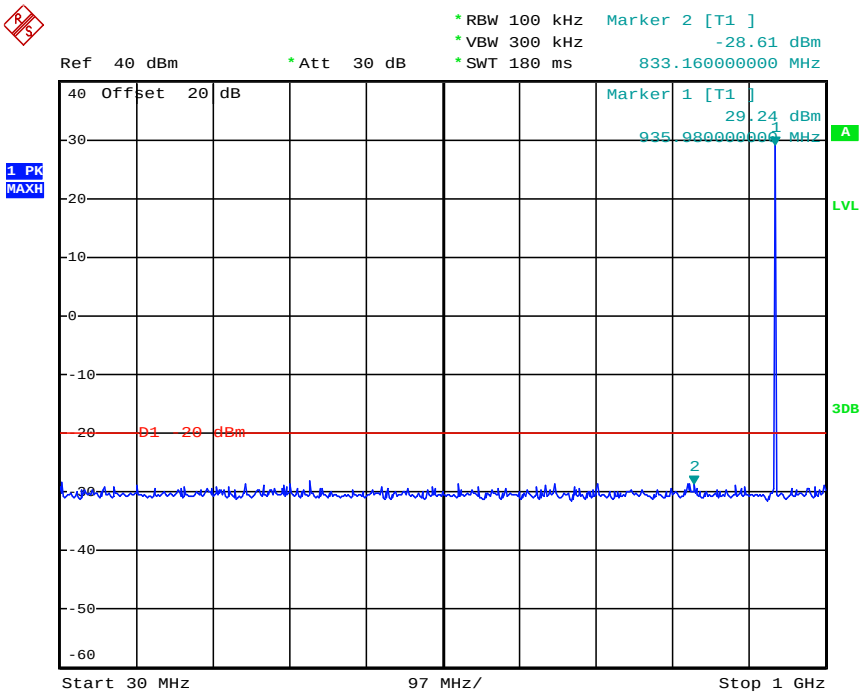


Date: 12.APR.2012 03:28:11

Modulation Type	Channel Sparation	Test Channel	Test Frequency (MHz)	Maximum Conducted Spurious Emissions Below 1GHz		Maximum Conducted Spurious Emissions Above1GHz		FCC Limit
				Frequency (MHz)	Datum (dBm)	Frequency (MHz)	Datum (dBm)	
FM	12.5KHz	Low	935.5000	833.16	-28.61	3160.00	-24.48	-20dBm
Test Results				Compliance				



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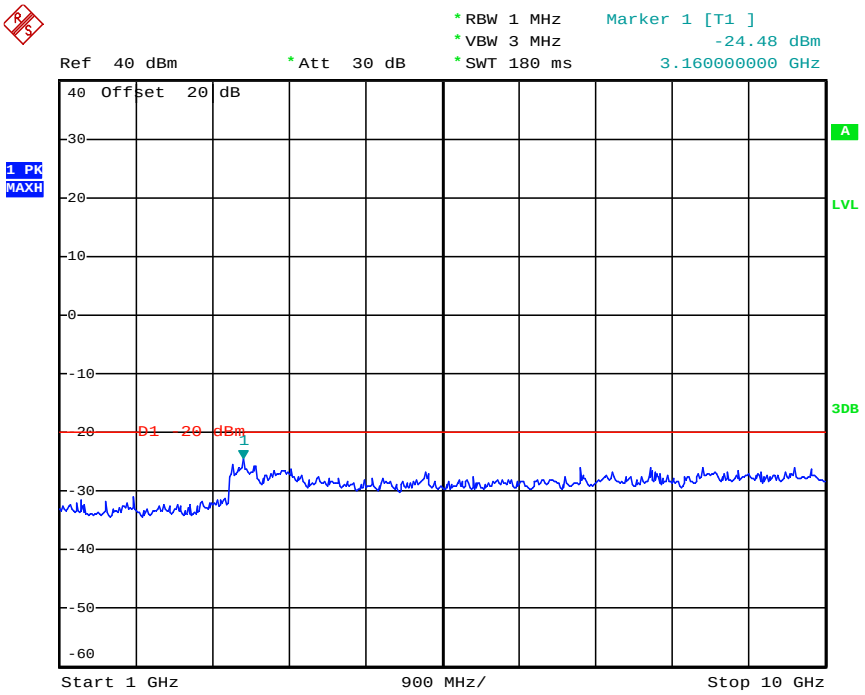
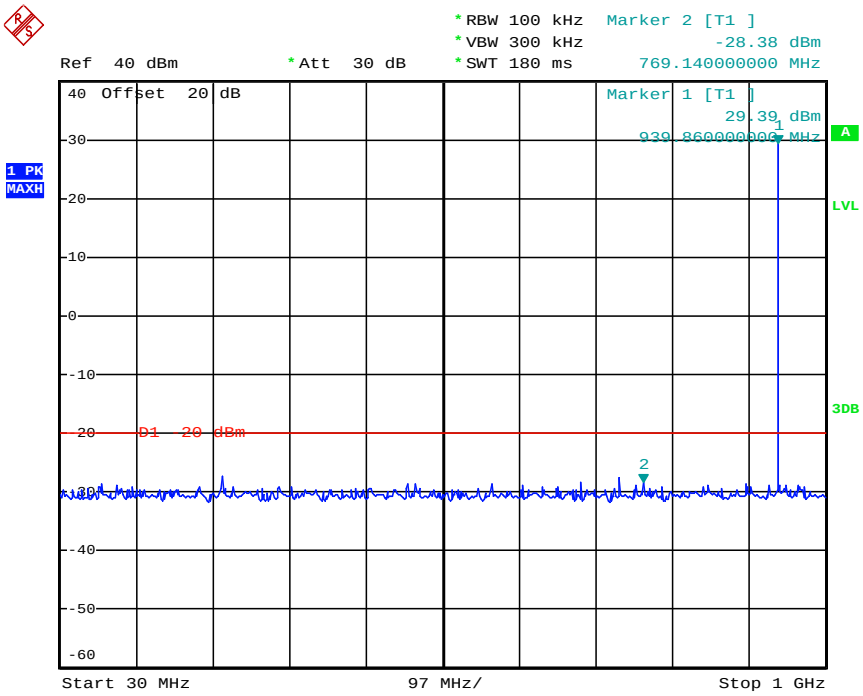


Date: 12.APR.2012 03:27:10

Modulation Type	Channel Sparation	Test Channel	Test Frequency (MHz)	Maximum Conducted Spurious Emissions Below 1GHz		Maximum Conducted Spurious Emissions Above1GHz		FCC Limit
				Frequency (MHz)	Datum (dBm)	Frequency (MHz)	Datum (dBm)	
FM	12.5KHz	High	939.5000	769.14	-28.38	3574.00	-25.13	-20dBm
Test Results				Compliance				



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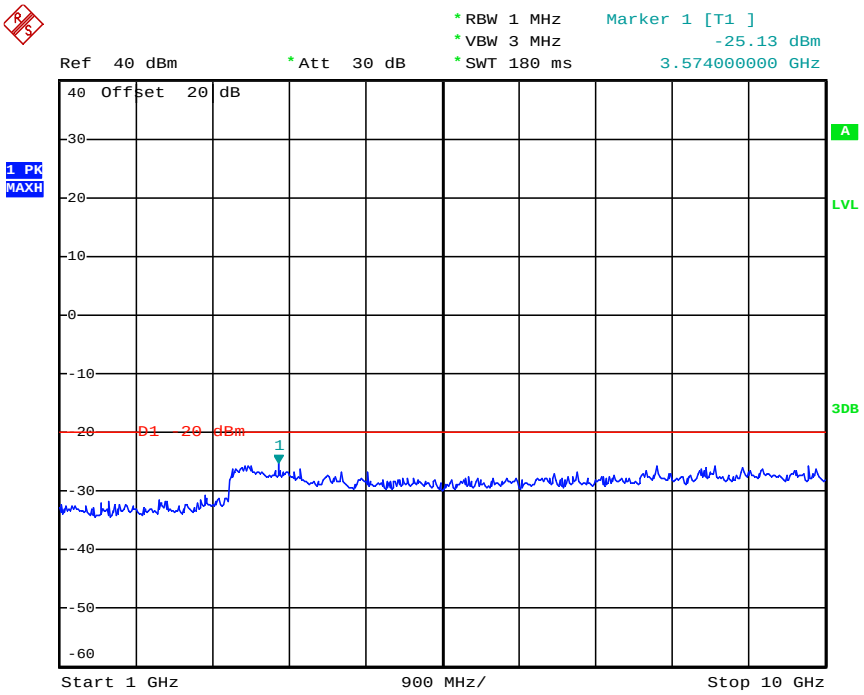
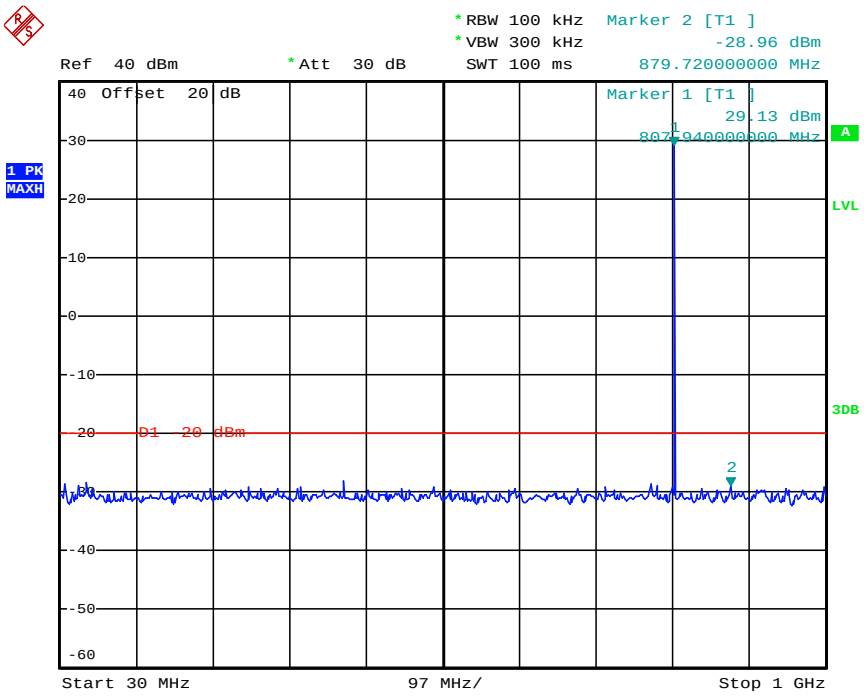
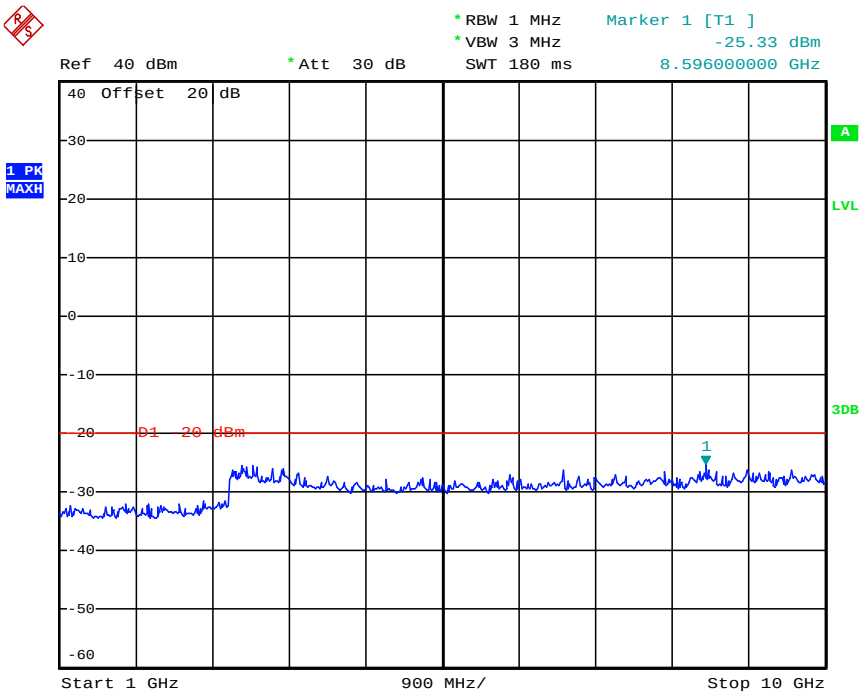


Date: 12.APR.2012 03:26:49

Modulation Type	Channel Sparation	Test Channel	Test Frequency (MHz)	Maximum Conducted Spurious Emissions Below 1GHz		Maximum Conducted Spurious Emissions Above1GHz		FCC Limit
				Frequency (MHz)	Datum (dBm)	Frequency (MHz)	Datum (dBm)	
4FSk	12.5KHz	Low	806.5000	879.72	-28.96	8596.00	-25.33	-20dBm
Test Results				Compliance				

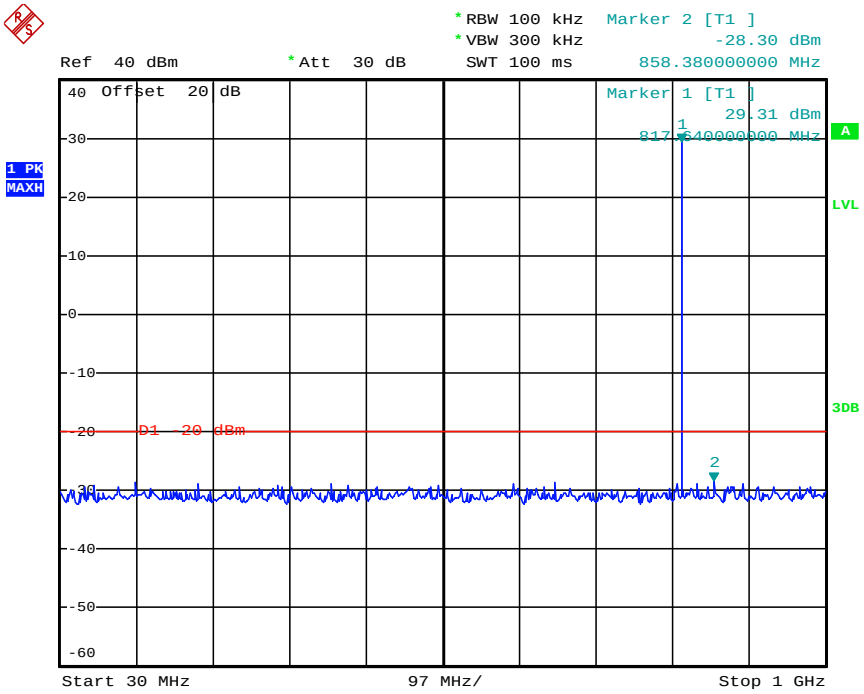


Date: 11.APR.2012 11:13:02

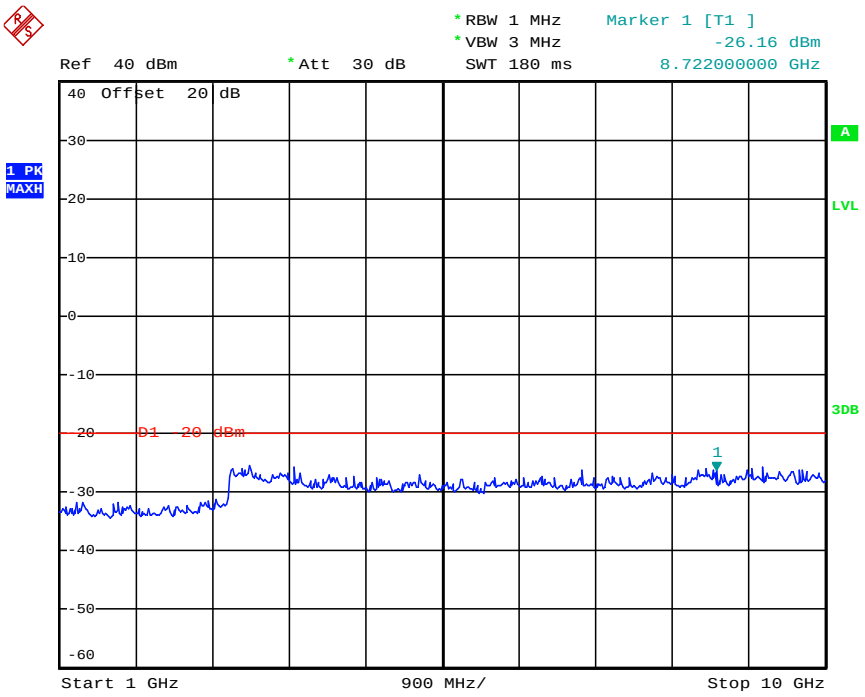


Date: 11.APR.2012 11:14:58

Modulation Type	Channel Sparation	Test Channel	Test Frequency (MHz)	Maximum Conducted Spurious Emissions Below 1GHz		Maximum Conducted Spurious Emissions Above1GHz		FCC Limit
				Frequency (MHz)	Datum (dBm)	Frequency (MHz)	Datum (dBm)	
4FSK	12.5KHz	Middle	817.0000	858.38	-28.30	8722.00	-26.16	-20dBm
Test Results				Compliance				

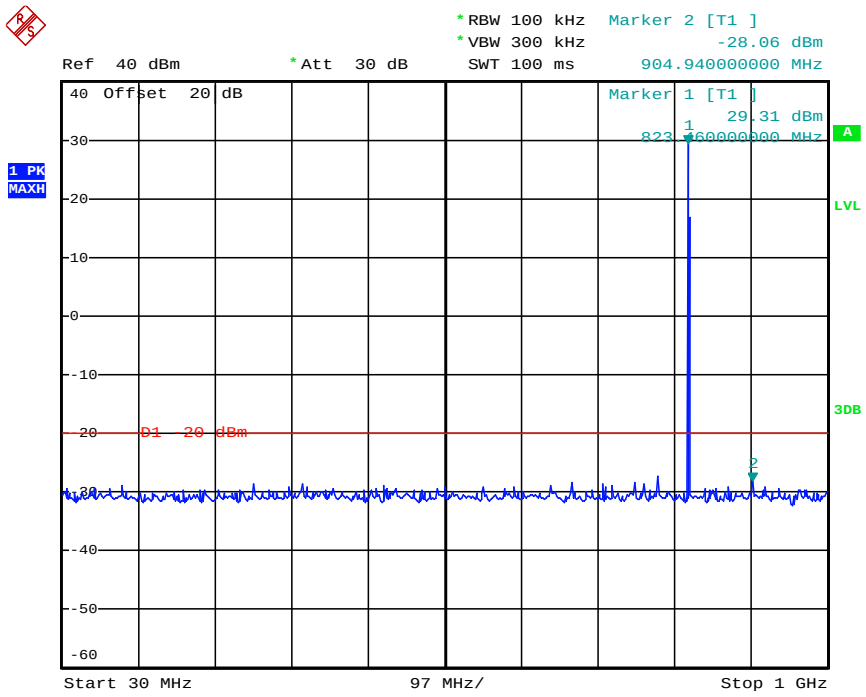


Date: 11.APR.2012 11:12:10

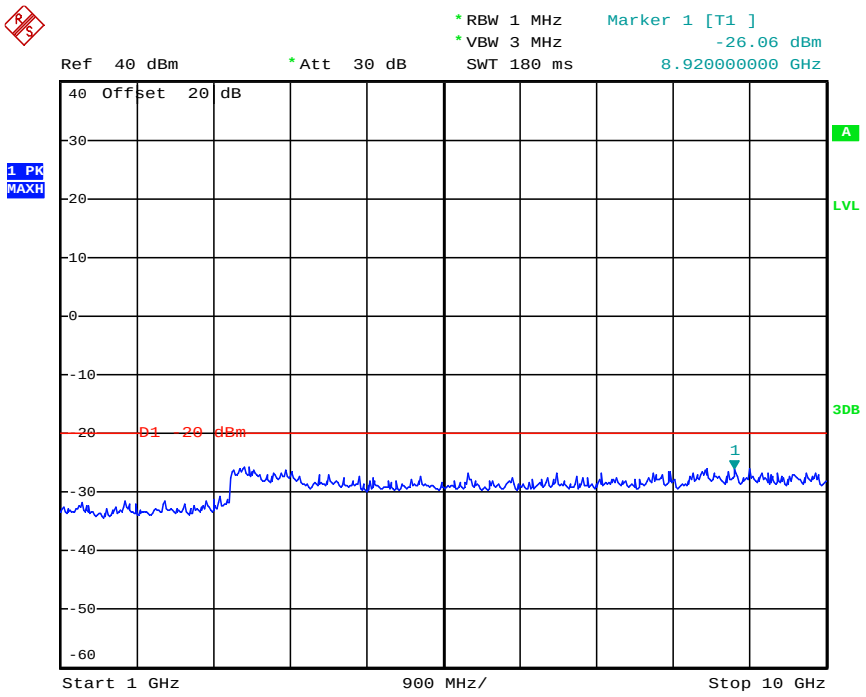


Date: 11.APR.2012 11:15:16

Modulation Type	Channel Sparation	Test Channel	Test Frequency (MHz)	Maximum Conducted Spurious Emissions Below 1GHz		Maximum Conducted Spurious Emissions Above1GHz		FCC Limit
				Frequency (MHz)	Datum (dBm)	Frequency (MHz)	Datum (dBm)	
4FSK	12.5KHz	High	823.5000	904.94	-28.06	8920.00	-26.06	-20dBm
Test Results				Compliance				

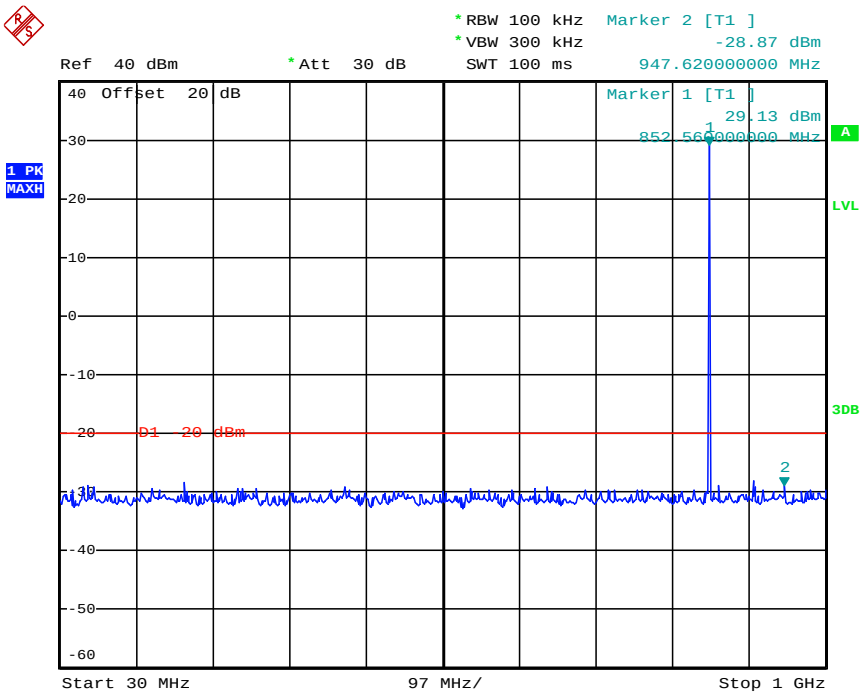


Date: 11.APR.2012 11:11:02

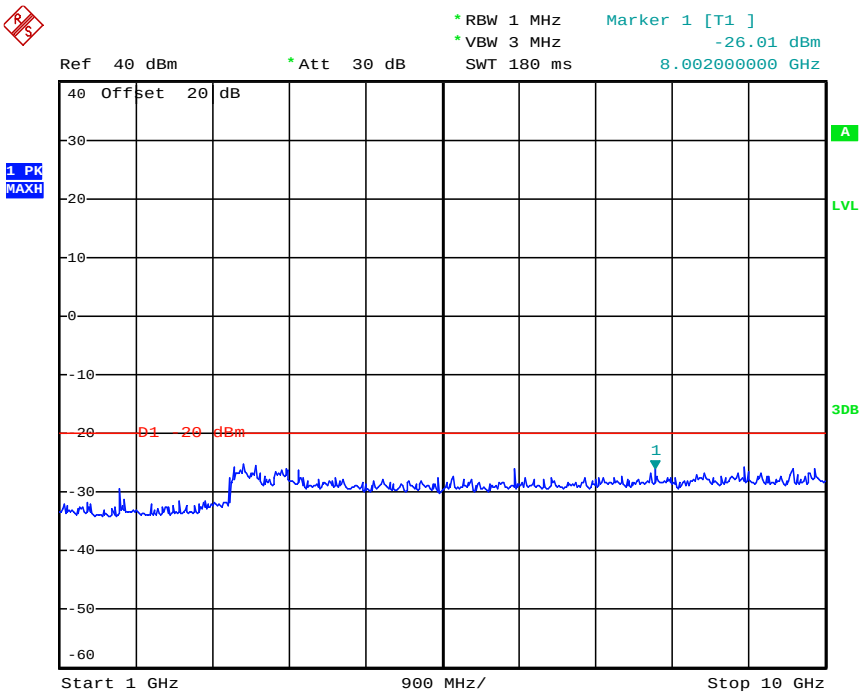


Date: 11.APR.2012 11:15:46

Modulation Type	Channel Sparation	Test Channel	Test Frequency (MHz)	Maximum Conducted Spurious Emissions Below 1GHz		Maximum Conducted Spurious Emissions Above1GHz		FCC Limit
				Frequency (MHz)	Datum (dBm)	Frequency (MHz)	Datum (dBm)	
4FSK	12.5KHz	Low	851.5000	947.62	-28.87	8002.00	-26.01	-20dBm
Test Results				Compliance				

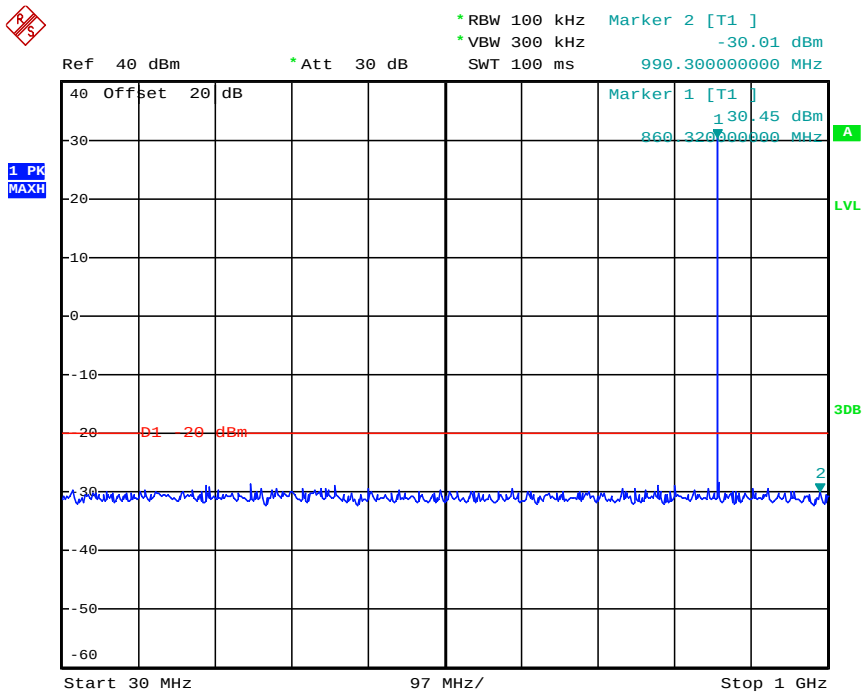


Date: 11.APR.2012 11:09:40

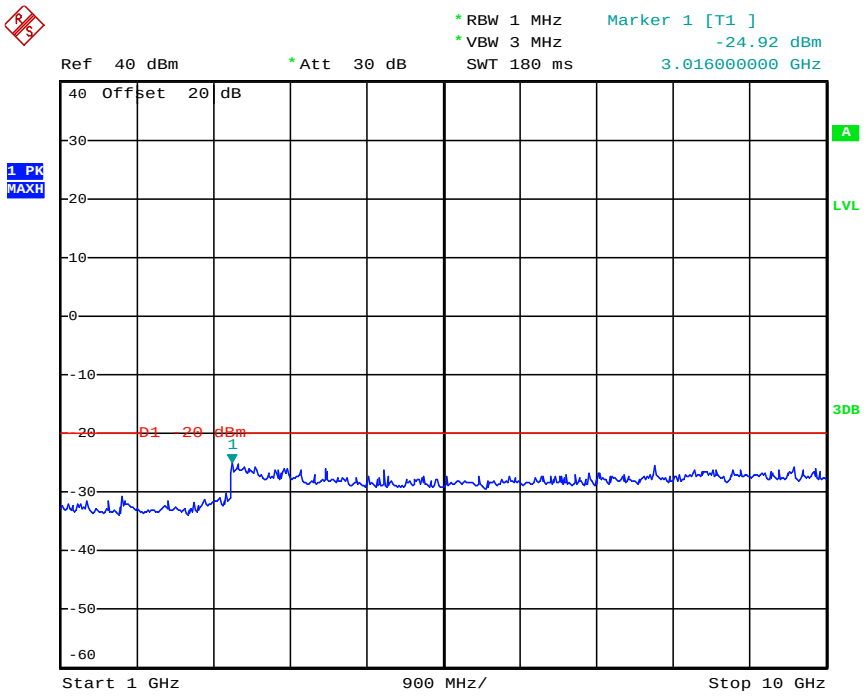


Date: 11.APR.2012 11:16:19

Modulation Type	Channel Sparation	Test Channel	Test Frequency (MHz)	Maximum Conducted Spurious Emissions Below 1GHz		Maximum Conducted Spurious Emissions Above1GHz		FCC Limit
				Frequency (MHz)	Datum (dBm)	Frequency (MHz)	Datum (dBm)	
4FSK	12.5KHz	Middle	860.0000	990.30	-30.01	3016.00	-24.92	-20dBm
Test Results				Compliance				

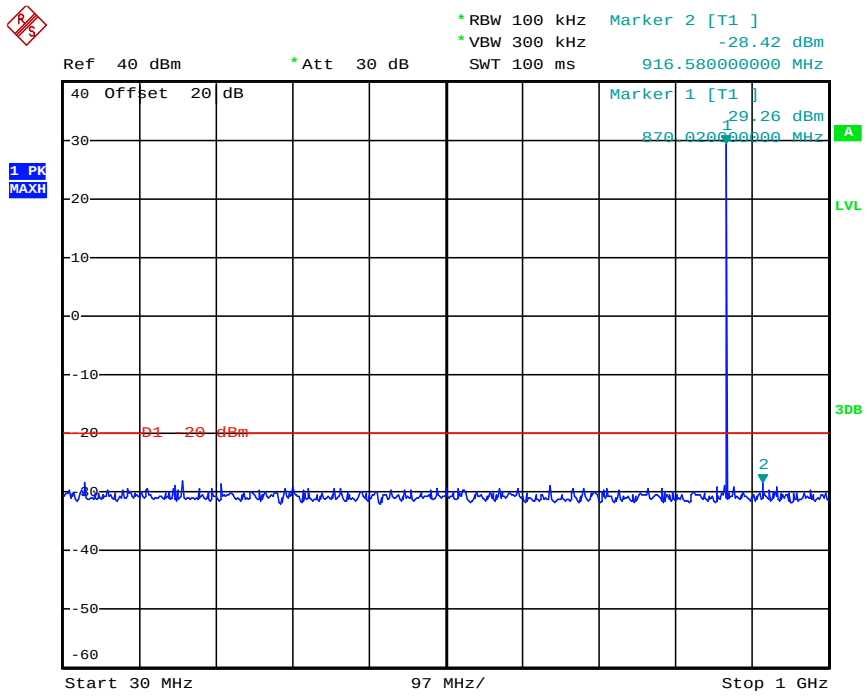


Date: 11.APR.2012 11:08:19

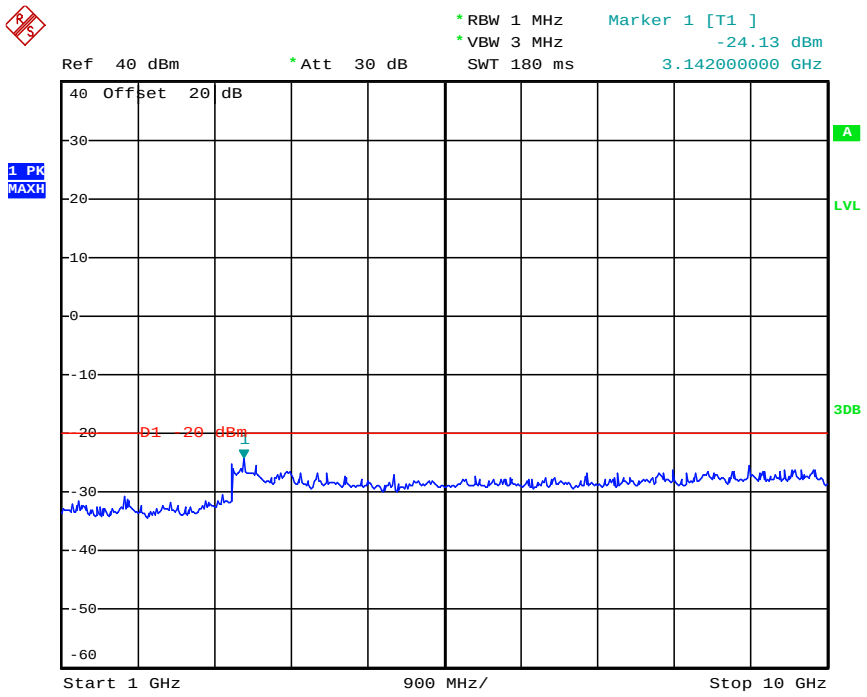


Date: 11.APR.2012 11:16:59

Modulation Type	Channel Sparation	Test Channel	Test Frequency (MHz)	Maximum Conducted Spurious Emissions Below 1GHz		Maximum Conducted Spurious Emissions Above1GHz		FCC Limit
				Frequency (MHz)	Datum (dBm)	Frequency (MHz)	Datum (dBm)	
4FSK	12.5KHz	High	868.5000	916.58	-28.42	3142.00	-24.13	-20dBm
Test Results				Compliance				

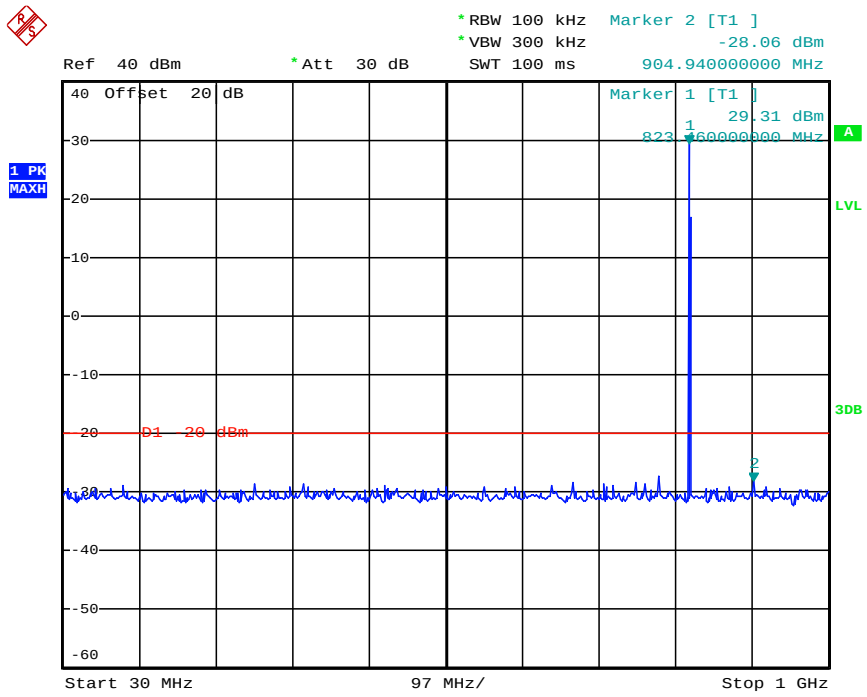


Date: 11.APR.2012 11:06:43

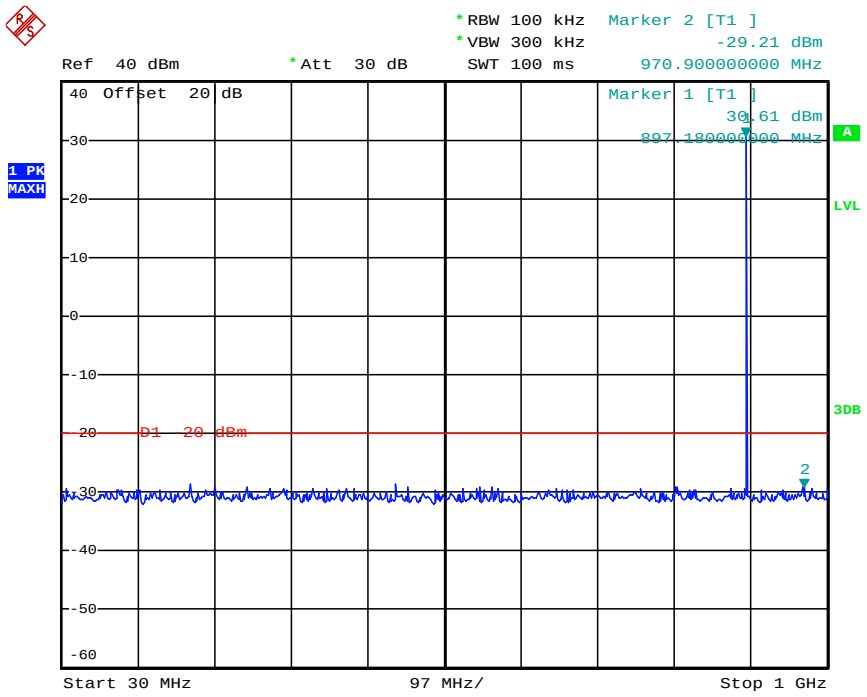


Date: 11.APR.2012 11:17:39

Modulation Type	Channel Sparation	Test Channel	Test Frequency (MHz)	Maximum Conducted Spurious Emissions Below 1GHz		Maximum Conducted Spurious Emissions Above1GHz		FCC Limit
				Frequency (MHz)	Datum (dBm)	Frequency (MHz)	Datum (dBm)	
4FSK	12.5KHz	Low	896.5000	970.90	-29.21	3142.00	-25.47	-20dBm
Test Results				Compliance				

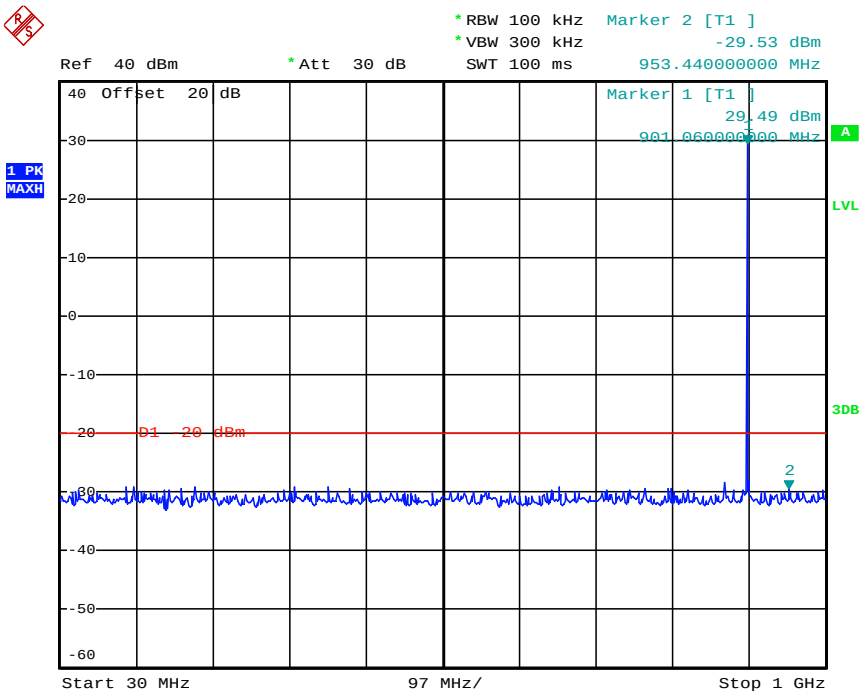


Date: 11.APR.2012 11:11:02

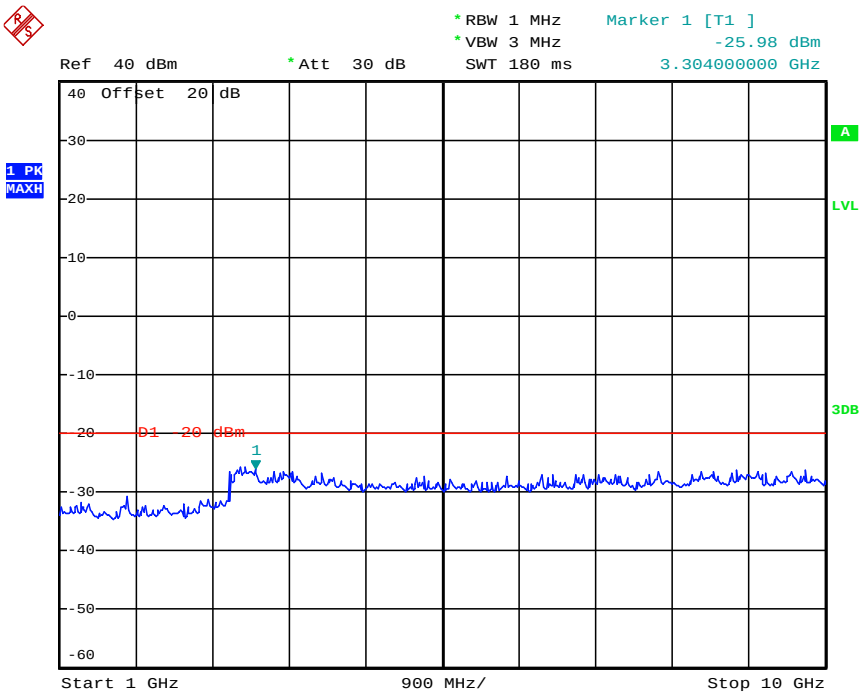


Date: 11.APR.2012 11:04:48

Modulation Type	Channel Sparation	Test Channel	Test Frequency (MHz)	Maximum Conducted Spurious Emissions Below 1GHz		Maximum Conducted Spurious Emissions Above1GHz		FCC Limit
				Frequency (MHz)	Datum (dBm)	Frequency (MHz)	Datum (dBm)	
4FSK	12.5KHz	High	900.5000	953.44	-29.53	3304.00	-25.98	-20dBm
Test Results				Compliance				

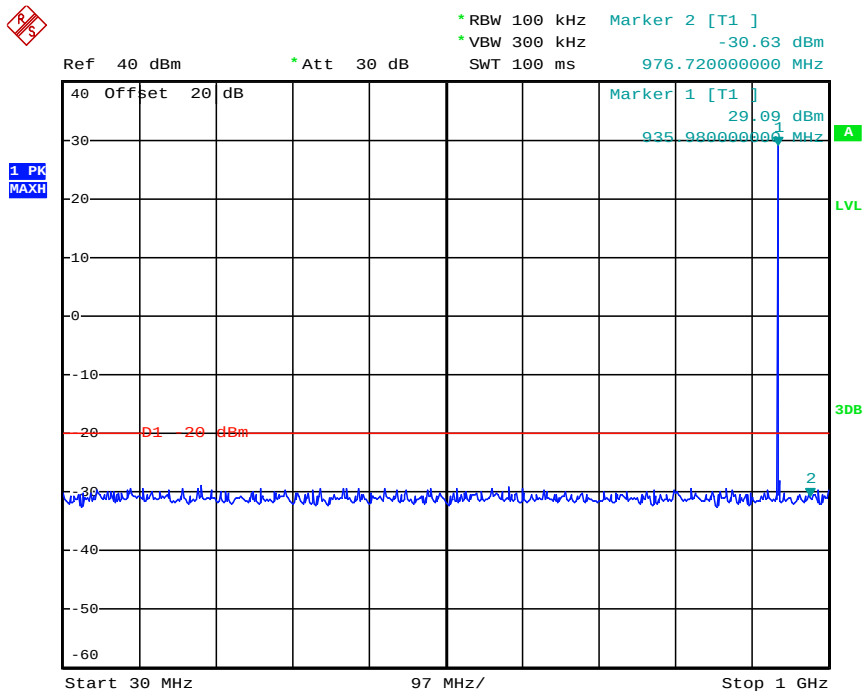


Date: 11.APR.2012 11:04:17

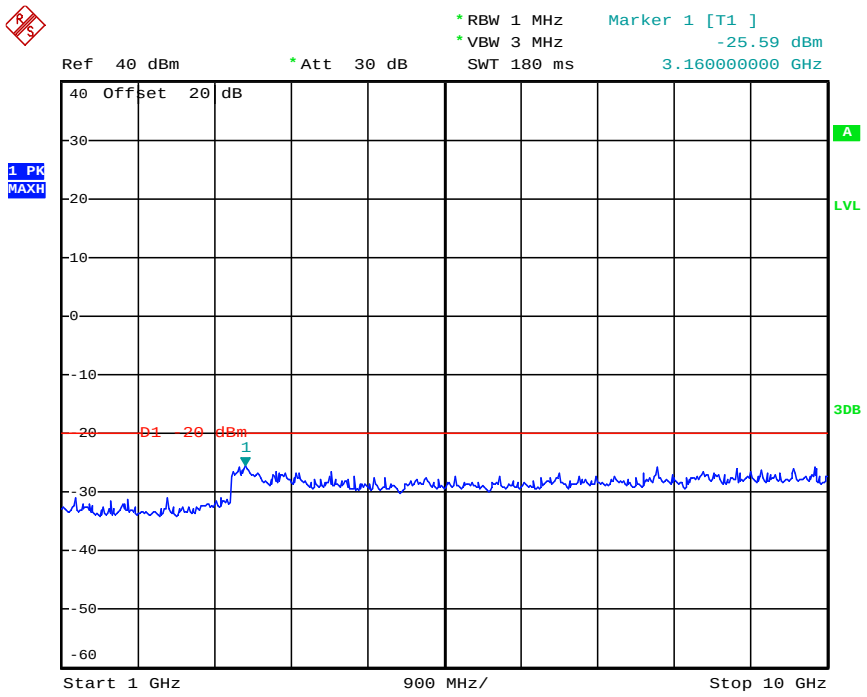


Date: 11.APR.2012 11:18:55

Modulation Type	Channel Sparation	Test Channel	Test Frequency (MHz)	Maximum Conducted Spurious Emissions Below 1GHz		Maximum Conducted Spurious Emissions Above1GHz		FCC Limit
				Frequency (MHz)	Datum (dBm)	Frequency (MHz)	Datum (dBm)	
4FSK	12.5KHz	Low	935.5000	976.20	-30.63	3160.00	-25.59	-20dBm
Test Results				Compliance				

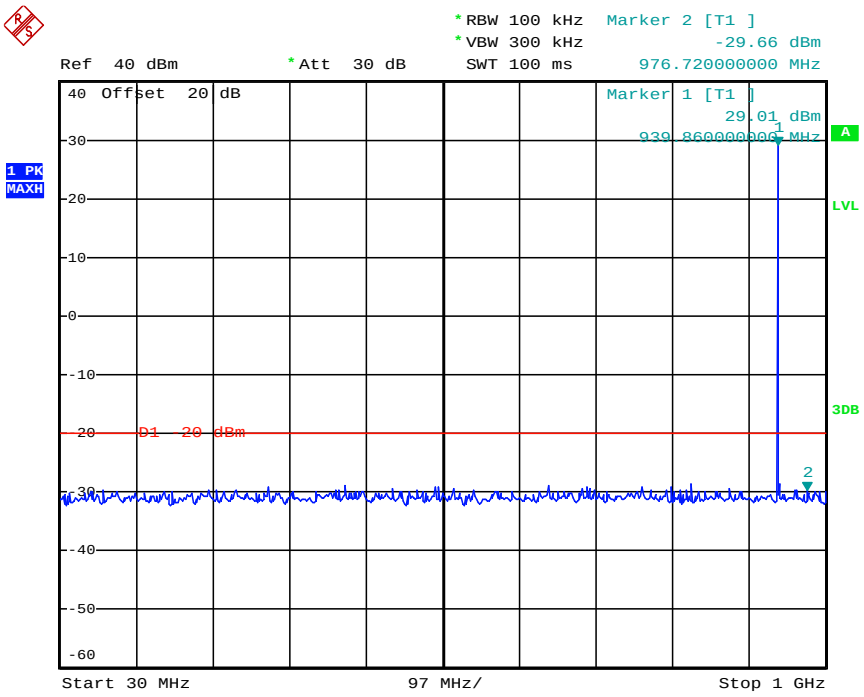


Date: 11.APR.2012 11:02:56



Date: 11.APR.2012 11:19:45

Modulation Type	Channel Sparation	Test Channel	Test Frequency (MHz)	Maximum Conducted Spurious Emissions Below 1GHz		Maximum Conducted Spurious Emissions Above1GHz		FCC Limit
				Frequency (MHz)	Datum (dBm)	Frequency (MHz)	Datum (dBm)	
4FSK	12.5KHz	High	939.5000	976.72	-29.66	3088.00	-25.57	-20dBm
Test Results				Compliance				



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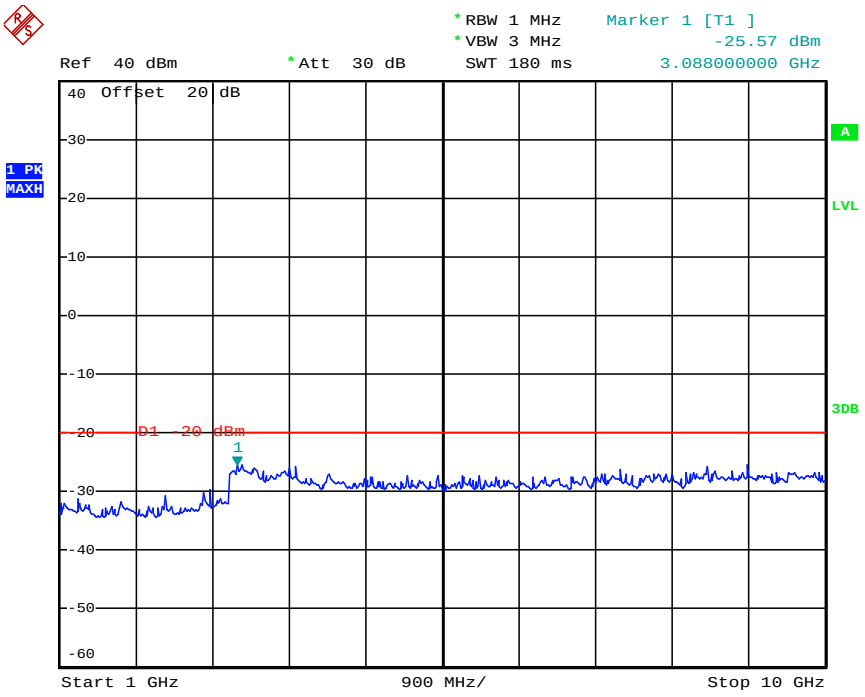

Date: 11.APR.2012 11:20:21