TEST REPORT

TIA / EIA 603C

Report Reference No.....:	**TRE12120125 R/C: 42004**
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.....:	Jan 30, 2013
Testing Laboratory Name .....:	**Shenzhen Huatongwei International Inspection Co., Ltd**
Address.....:	Keji Nan No.12 Road, Hi-tech Park, Shenzhen, China
Applicant's name.....:	**QUANZHOU WOUXUN ELECTRONICS CO., LTD.**
Address.....:	NO.928 NANHUAN ROAD, JIANGNAN HIGH TECHNOLOGY INDUSTRY PARK, QUANZHOU, FUJIAN 362000, CHINA.
Test specification:	
Standard .....:	**TIA / EIA 603C:Land mobile FM or PM – Communications equipment- measurement and performancs standards**
TRF Originator.....:	Shenzhen Huatongwei International Inspection CO., Ltd
Master TRF.....:	Dated 2006-06

Test item description .....:	TWO WAY RADIO
Trade Mark .....:	/
Manufacturer .....:	**QUANZHOU WOUXUN ELECTRONICS CO., LTD.**
Model/Type reference.....:	KG-UV6X
Listed Models .....:	/
Ratings.....:	DC 7.40V
Modulation .....:	FM
Channel Separation.....	12.5KHz
Operation Frequency Range	VHF: 136 MHz to 174 MHz UHF: 375MHz to 512 MHz
Result.....:	**Positive**

T E S T R E P O R T

Test Report No. :	**TRE12120125**	Jan 30, 2013 Date of issue

Equipment under Test	:	TWO WAY RADIO
Model /Type	:	KG-UV6X
Listed Models	:	/
Applicant	:	**QUANZHOU WOUXUN ELECTRONICS CO., LTD.**
Address	:	NO.928 NANHUAN ROAD, JIANGNAN HIGH TECHNOLOGY INDUSTRY PARK, QUANZHOU, FUJIAN 362000, CHINA.
Manufacturer	:	**QUANZHOU WOUXUN ELECTRONICS CO., LTD.**
Address	:	NO.928 NANHUAN ROAD, JIANGNAN HIGH TECHNOLOGY INDUSTRY PARK, QUANZHOU, FUJIAN 362000, CHINA.

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:

TIA/EIA 603 C 2004: Land Mobile FM or PM Communications Equipment Measurement and Performance Standards.

2 . SUMMARY

2.1. General Remarks

Date of receipt of test sample	:	Dec 30, 2012
Testing commenced on	:	Dec 30, 2012
Testing concluded on	:	Jan 30, 2013

2.2. Product Description

The QUANZHOU WOUXUN ELECTRONICS CO., LTD.'s Model: KG-UV6X 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	TWO WAY RADIO	
Model Number	KG-UV6X	
Modilation Type	FM for Analog Voice	
	Analog	11K0F3E for 12.5KHz Channel Separation
Channel Separation	Analog Voice	12.5KHz
Antenna Type	External	
Frequency Range	VHF: 136 MHz to 174 MHz UHF: 375MHz to 512 MHz	

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

Test frequency list

Modulation Type	Band	Test Channel	Test Frequency
Analog/FM	VHF	Low	136.5000 MHz
		Middle	155.5000 MHz
		High	173.5000 MHz
	UHF	Low	375.0000 MHz
		Middle	470.0000 MHz
		High	511.0000 MHz

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

136-174 MHz and 375-512 MHz frequency band TWO WAY RADIO.

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. Modifications

No modifications were implemented to meet testing criteria.

2.9. Note

The EUT is Dual Band Two-Way Radio,The functions of the EUT listed as below:

	Test Standards	Reference Report
Radio	TIA/EIA 603 C	TRE12120125

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: Mar 01, 2012. 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 June 01, 2015.

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, 2013.

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, 2013.

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. Discription of Tested Modes

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

3.5. 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	25 Hz	(1)
Transmitter power conducted	0.57 dB	(1)
Transmitter power Radiated	2.20 dB	(1)
Conducted spurious emission 9KHz-12.75 GHz	1.60 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.

3.6. Test Description

Description of Test	Test Result
Freq Stability	Complies
TX Unwanted Emissions	Complies
RX Adjacent Chan Selectivity	Complies
RX Intermod Rejection	Complies
RX Spurious Rejection	Complies
RX Conducted Spurious Emissions	Complies

3.7. Equipments Used during the Test

Transmitter Spurious Emssion				
Name of Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Due**
Ultra-Broadband Antenna	Rohde&Schwarz	HL562	100015	10/27/2013
EMI Test Receiver	Rohde&Schwarz	ESI 26	100009	10/27/2013
RF Test Panel	Rohde&Schwarz	TS / RSP	335015/ 0017	N/A
HORN ANTENNA	Rohde&Schwarz	HF906	100039	10/27/2013
EMI Test Software	Rohde&Schwarz	ES-K1 V1.71	N/A	10/27/2013
RF COMMUNICATION TEST SET	HP	8920A	3813A10206	10/27/2013
Ultra-Broadband Antenna	ShwarzBeck	VULB9163	538	10/27/2013
Ultra-Broadband Antenna	ShwarzBeck	VULB9163	539	10/27/2013
HORN ANTENNA	ShwarzBeck	9120D	1012	10/27/2013
HORN ANTENNA	ShwarzBeck	9120D	1011	10/27/2013
TURNTABLE	MATURO	TT2.0	----	10/27/2013
ANTENNA MAST	MATURO	TAM-4.0-P	----	10/27/2013

Frequency Stability				
Name of Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Due**
Communication Test Set	HP	HP8920B	US35010135	10/27/2013
Signal Generator	Rohde&Schwarz	SMT03	100059	10/27/2013
Climate Chamber	ESPEC	EL-10KA	05107008	10/27/2013

Adjacent Chan Selectivity & Spurious Response & Intermod Rejection				
Test Equipment	Manufacturer	Model No.	Serial No.	**Calibration Due**
Communication Test Set	HP	HP8920B	US35010135	10/27/2013
Signal Generator	Rohde&Schwarz	SMT03	100059	10/27/2013
Signal Generator	IFR	2023A	202304/060	10/27/2013
Signal Generator	IFR	2032	203002/100	10/27/2013
RF COMMUNICATION TEST SET	HP	8920A	3813A10206	10/27/2013

Spurious Emssion On Antenna Port				
Name of Equipment	**Manufacturer**	**Model**	**Serial Number**	**Calibration Due**
Receiver	Rohde&Schwarz	ESI 26	100009	10/27/2013
Attenuator	R&S	ESH3-22	100449	10/27/2013
RF COMMUNICATION TEST SET	HP	8920A	3813A10206	10/27/2013
High-Pass Filter	Anritsu	MP526B	6220875256	10/27/2013
High-Pass Filter	Anritsu	MP526D	6220878392	10/27/2013
Spectrum Analzyer	Aglient	E4407B	MY44210775	10/27/2013
Spectrum Analzyer	Rohde&Schwarz	FSP40	1164.4391.40	10/27/2013

The calibration interval was one year.

4. TEST CONDITIONS AND RESULTS

4.1. Transmitter Radiated Spurious Emssion

TEST APPLICABLE

According to the TIA/EIA 603 C 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:

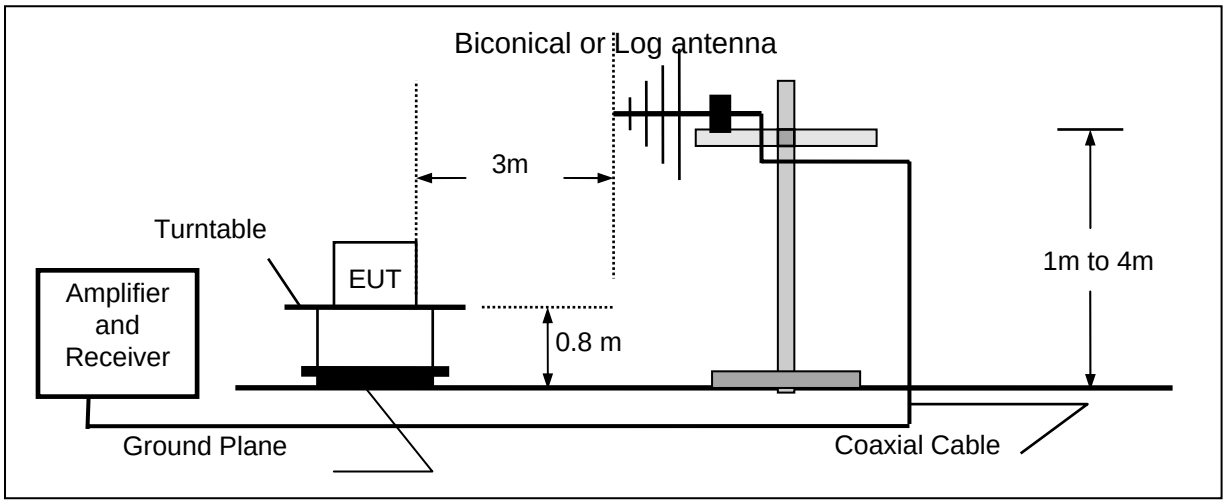
1 On any frequency removed from the center of the authorized bandwidth fo to 5.625 KHz removed from fo: Zero dB
2 On any frequency removed from the center of the authorized bandwidth by a displacement frequency (fd in KHz) fo of more than 5.625 KHz but no more than 12.5 KHz: At least 7.27dB
3 On any 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.

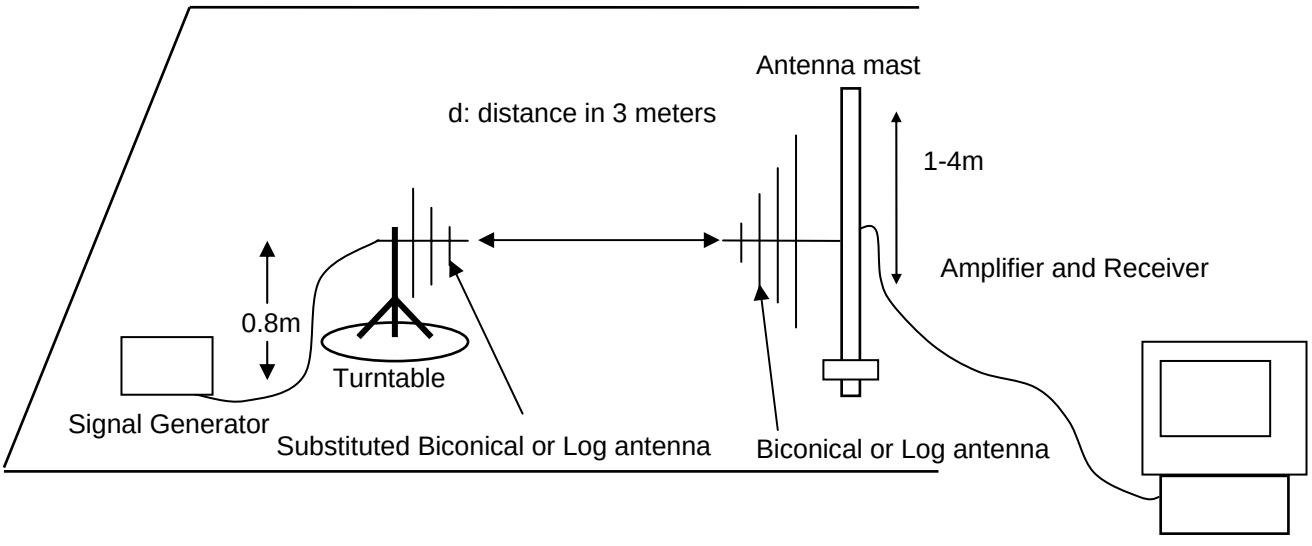
For transmitters designed to transmit with 25 KHz channel separation and equipped with an audio low-pass filter, the power of any emission must be attenuated below the unmodulated carrier power (P) as following:

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.

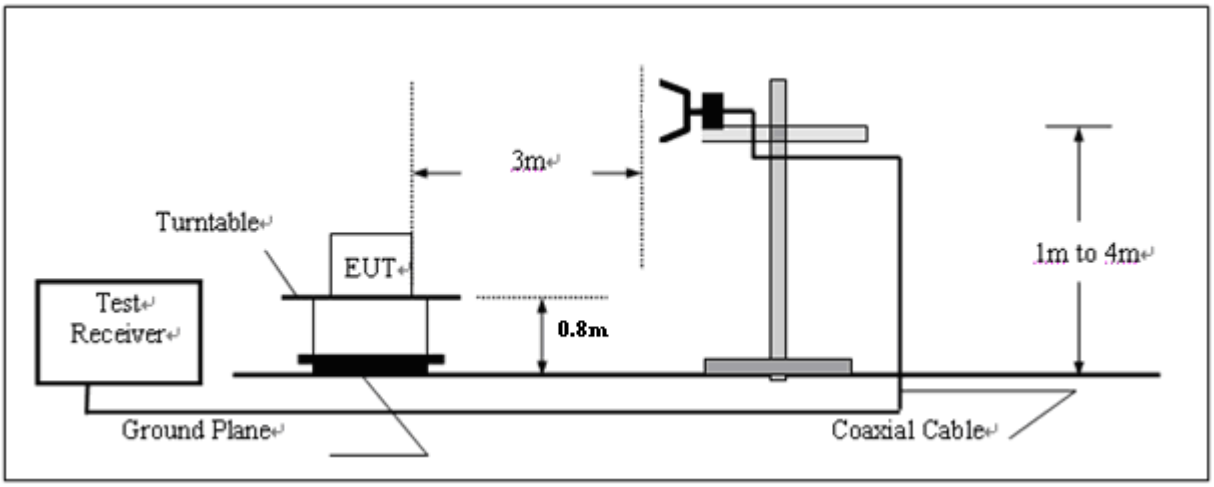
TEST CONFIGURATION

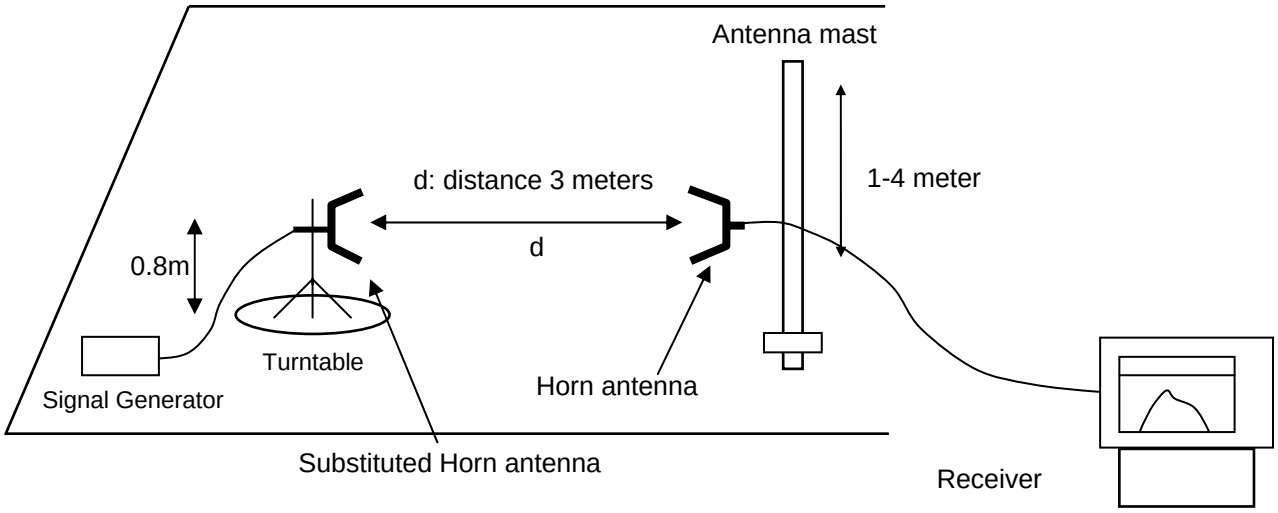
Below 1GHz





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 it's 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 360o 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 (4Watt) 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 (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:
High: 50 + 10 log (Pwatts) = 50 + 10 log (P) =50+ 10 log (P) 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 30+10 log (P) dBm.
Limit (dBm) = -20 dBm

Note: 1. In general, the worse case attenuation requirement shown above was applied.
2. The measurement frequency range from 30 MHz to 6 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**		**12.5KHz**		
Test Channel		**Low Channel**		**Test Frequency**		**136.5000 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)**
273.00	58.27	Peak	H	200	254	-39.73	-20	19.73
546.00	57.11	Peak	H	102	187	-35.22	-20	15.22
1496.00	51.64	Peak	H	100	265	-41.48	-20	21.48
…	…		H					
273.00	59.92	Peak	V	150	189	-38.08	-20	18.08
546.00	56.95	Peak	V	106	07	-35.71	-20	15.71
1496.00	50.58	Peak	V	120	310	-41.98	-20	21.98
…	…		V					

Modulation		FM		Channel Separation		12.5KHz		
Test Channel		Middle Channel		Test Frequency		155.5000 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)
311.00	59.17	Peak	H	100	312	-38.83	-20	18.83
466.50	60.01	Peak	H	125	85	-35.32	-20	15.32
1710.50	49.86	Peak	H	120	165	-43.26	-20	23.26
…	…		H					
311.00	59.19	Peak	V	100	45	-38.81	-20	18.81
466.50	58.81	Peak	V	100	123	-36.85	-20	16.85
1710.50	47.91	Peak	V	120	163	-44.65	-20	24.65
…	…		V					

Modulation		FM		Channel Separation		12.5KHz		
Test Channel		High Channel		Test Frequency		173.5000 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)
347.00	58.21	Peak	H	220	256	-39.79	-20	19.79
694.00	53.82	Peak	H	150	360	-38.51	-20	18.51
1561.50	48.66	Peak	H	210	112	-44.46	-20	24.46
…	…		H					
347.00	57.95	Peak	V	100	258	-40.05	-20	20.05
694.00	53.58	Peak	V	125	125	-39.08	-20	19.08
1561.50	48.57	Peak	V	150	352	-43.99	-20	23.99
…	…		V					

Modulation		FM		Channel Separation		12.5KHz		
Test Channel		Low Channel		Test Frequency		375.0000 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)
750.00	58.80	Peak	H	120	263	-39.20	-20	19.20
11250	58.42	Peak	H	200	212	-36.91	-20	16.91
1500.00	51.64	Peak	H	210	36	-41.48	-20	21.48
…	…		H					
750.00	60.02	Peak	V	110	321	-37.98	-20	17.98
11250	58.22	Peak	V	130	21	-37.44	-20	17.44
1500.00	50.53	Peak	V	150	105	-42.03	-20	22.03
…	…		V					

Modulation		FM		Channel Separation		12.5KHz		
Test Channel		Middle Channel		Test Frequency		470.0000 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)
940.00	58.80	Peak	H	250	145	-39.20	-20	19.20
1410.00	57.68	Peak	H	230	135	-36.65	-20	16.65
1880.00	50.24	Peak	H	110	265	-42.88	-20	22.88
…	…		H					
940.00	60.28	Peak	V	140	325	-25.65	-20	5.65
1410.00	53.38	Peak	V	145	254	-39.73	-20	19.73
1880.00	50.87	Peak	V	120	125	-24.87	-20	4.87
…	…		V					

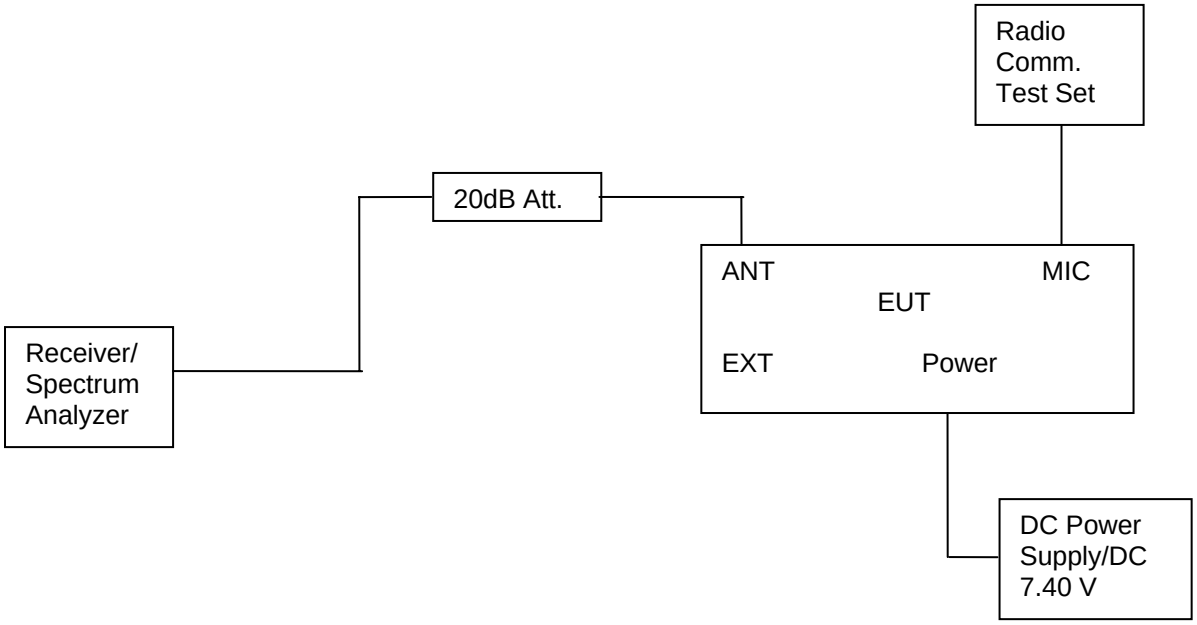
Modulation		FM		Channel Separation		12.5KHz		
Test Channel		High Channel		Test Frequency		511.0000 MHz		
Frequency (MHz)	E-Field Level (dBuv/m)	EMI Detector (Peak/QP)	Antenna Polarization	Antenna Height (cm)	Table Angle (Degree)	ERP measured by Substitution Method (dBm)	Limit (dBm)	Margin (dB)
1022.00	61.30	Peak	H	212	100	-36.70	-20	16.70
1533.00	54.10	Peak	H	112	120	-38.23	-20	18.23
2044.00	52.20	Peak	H	121	126	-40.92	-20	20.92
…	…		H					
1022.00	60.09	Peak	V	161	147	-37.91	-20	17.91
1533.00	53.96	Peak	V	111	200	-38.70	-20	18.70
2044.00	50.47	Peak	V	120	155	-42.09	-20	22.09
…	…		V					

4.2. Spurious Emssion on Antenna Port

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 (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:
High: 50 + 10 log (Pwatts) = 50 + 10 log (P) =50+ 10 log (P) dB
Note: In general, the worse case attenuation requirement shown above was applied.
Calculation: Limit (dBm) =EL-50-10log10 (TP)

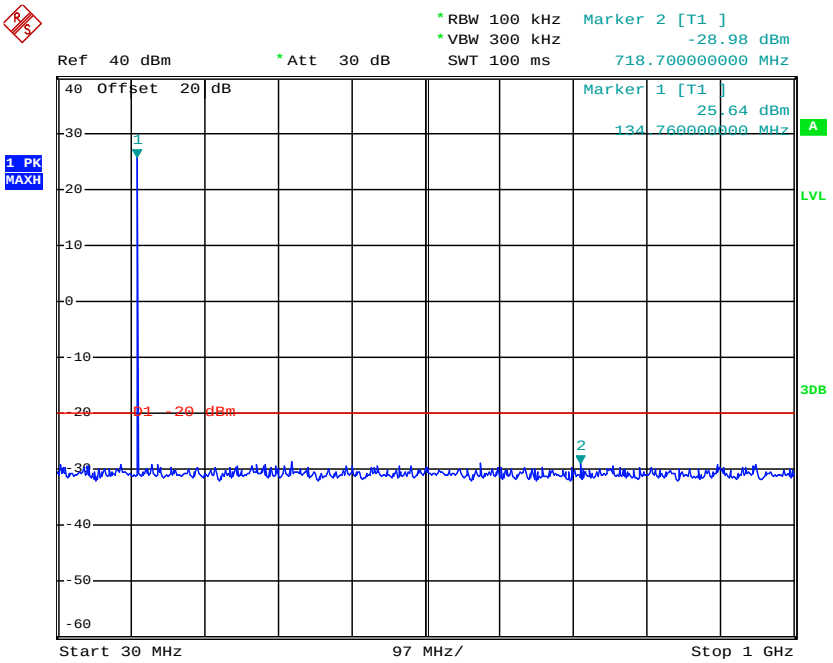
Notes: EL is the emission level of the Output Power expressed in dBm,
In this application, the EL is 30+10 log (P) dBm.
Limit (dBm) = -20 dBm

Note: 1. In general, the worse case attenuation requirement shown above was applied.
2. The measurement frequency range from 30MHz to 6 GHz.

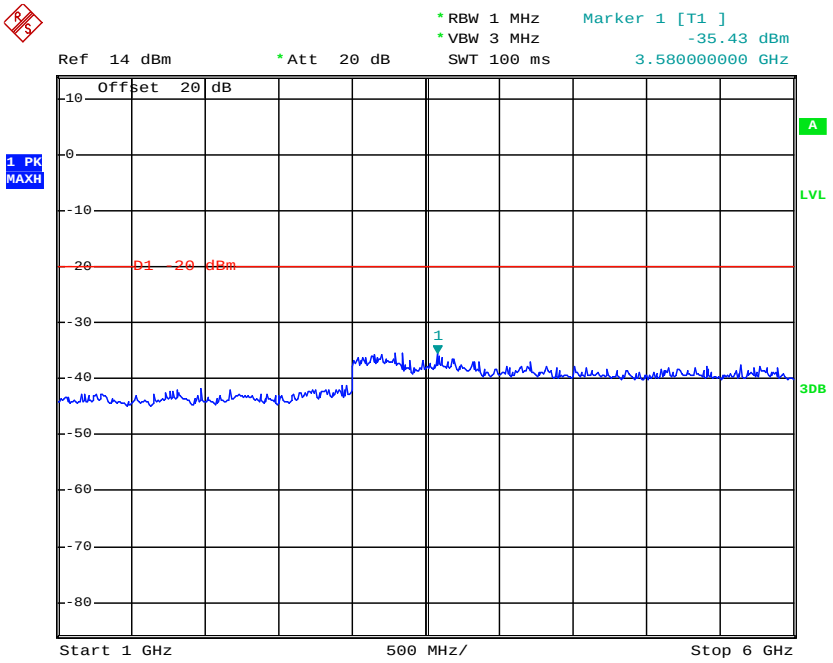
Frequency Band	Channel Sparation	Test Channel	Test Frequency (MHz)	Maximum Conducted Spurious Emissions Below 1GHz		Maximum Conducted Spurious Emissions Above 1GHz	
				Frequency (MHz)	Datum (dBm)	Frequency (MHz)	Datum (dBm)
VHF	12.5KHz	Low	136.5000	718.70	-28.98	3580.00	-35.43
		Middle	155.5000	559.62	-28.80	3190.00	-35.48
		High	173.5000	540.22	-28.82	3150.00	-36.10
UHF	12.5KHz	Low	375.0000	732.28	-29.21	3200.00	-36.21
		Middle	470.0000	941.80	-22.29	1410.00	-35.53
		High	511.0000	957.32	-29.56	1020.00	-26.95
Limit		-20dBm for 12.5KHz Channel Separtion					
Test Results		Compliance					

Plots of Spurious Emission on Antenna Port Measurement

Modulation Type	Channel Sparation	Test Channel	Test Frequency (MHz)	Maximum Conducted Spurious Emissions Below 1GHz		Maximum Conducted Spurious Emissions Above1GHz		Limit
				Frequency (MHz)	Datum (dBm)	Frequency (MHz)	Datum (dBm)	
FM	12.5KHz	Low	136.5000	718.70	-28.98	3580.00	-35.43	-20dBm
Test Results				Compliance				

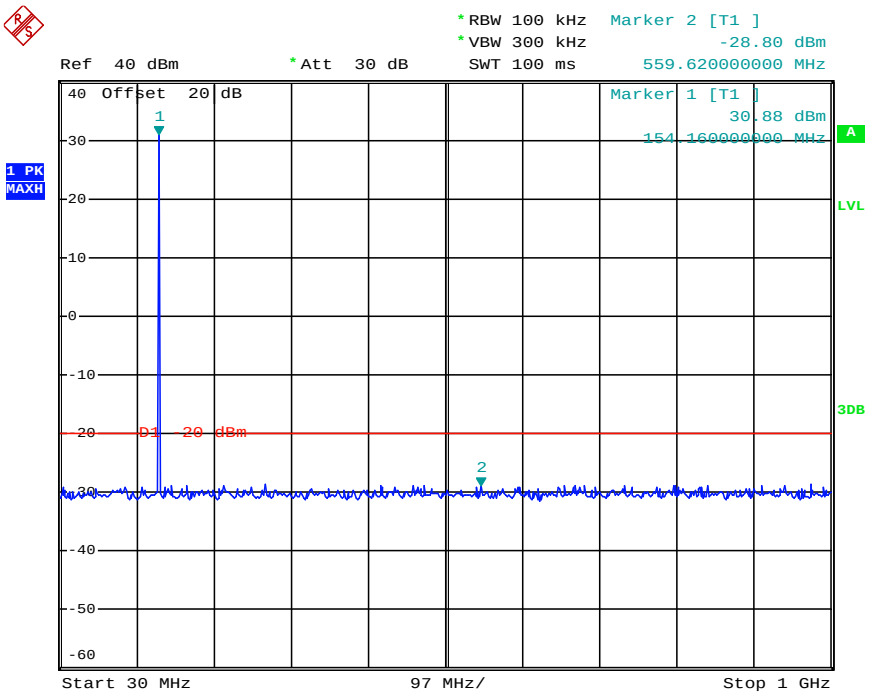


Date: 29.JAN.2013 14:58:09

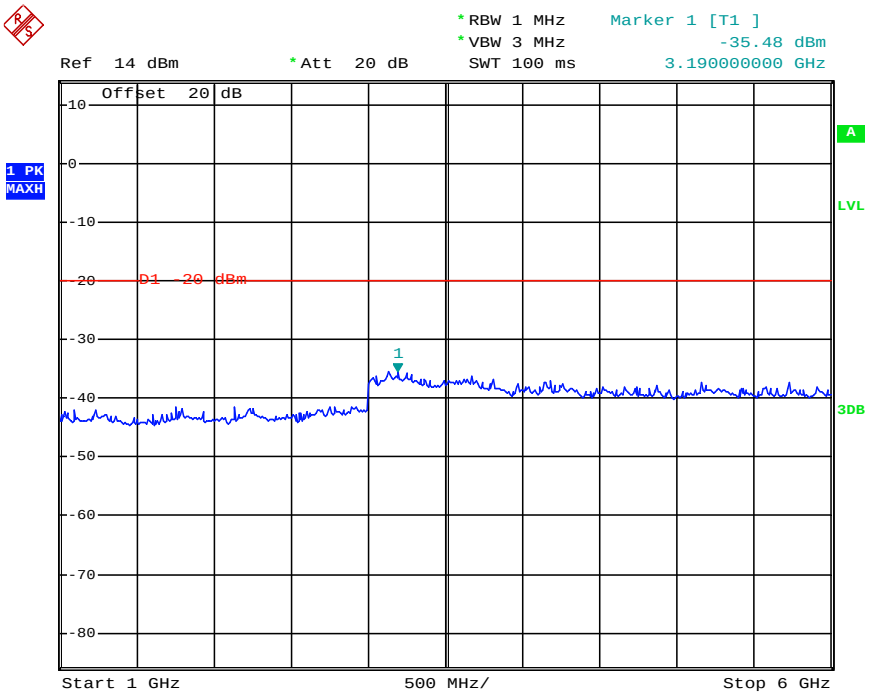


Date: 29.JAN.2013 15:02:43

Modulation Type	Channel Sparation	Test Channel	Test Frequency (MHz)	Maximum Conducted Spurious Emissions Below 1GHz		Maximum Conducted Spurious Emissions Above1GHz		Limit
				Frequency (MHz)	Datum (dBm)	Frequency (MHz)	Datum (dBm)	
FM	12.5KHz	Middle	155.5000	559.62	-28.80	3190.00	-35.48	-20dBm
Test Results				Compliance				

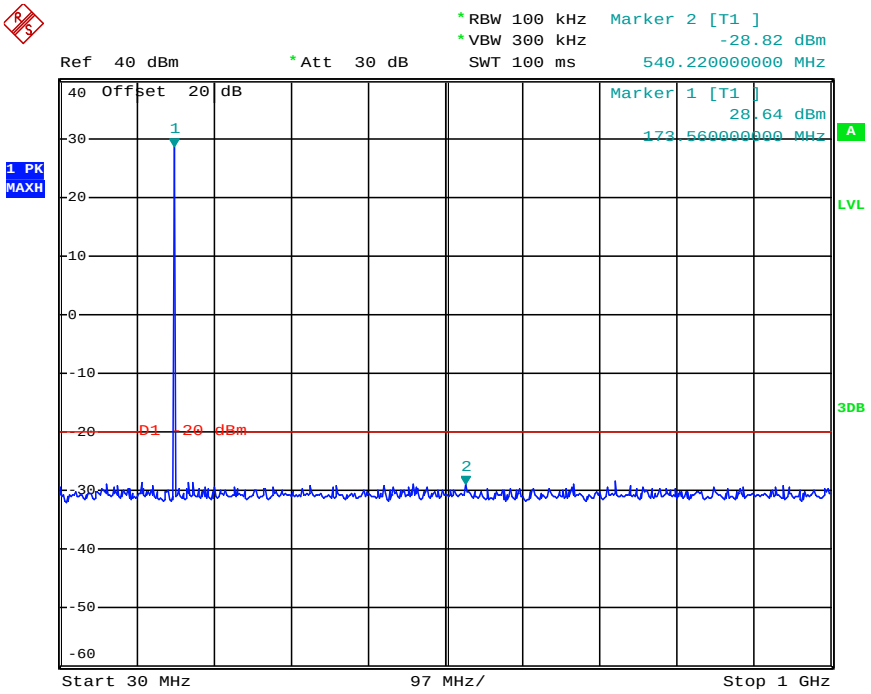


Date: 29.JAN.2013 14:57:38

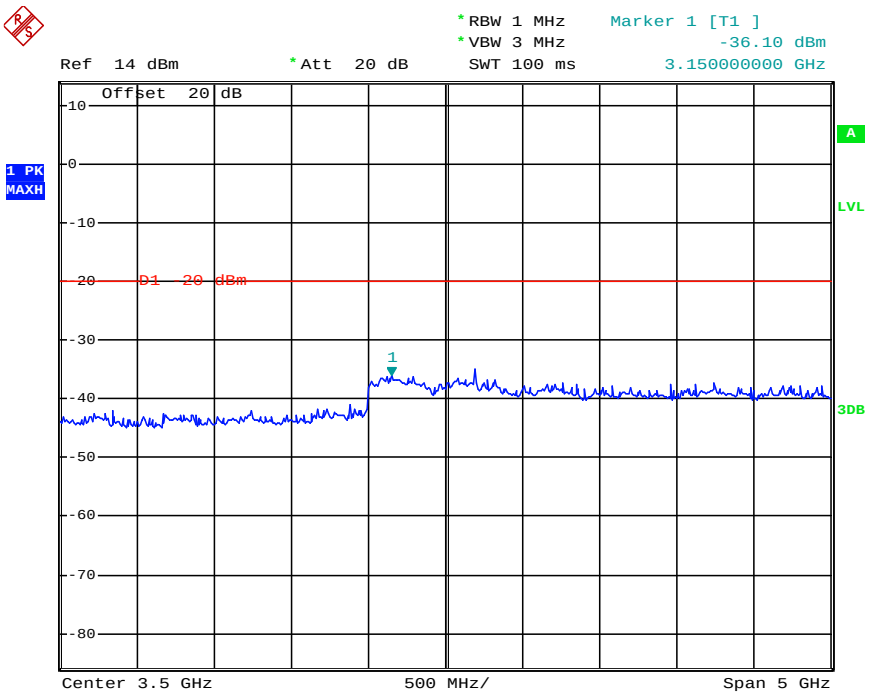


Date: 29.JAN.2013 15:03:10

Modulation Type	Channel Sparation	Test Channel	Test Frequency (MHz)	Maximum Conducted Spurious Emissions Below 1GHz		Maximum Conducted Spurious Emissions Above1GHz		Limit
				Frequency (MHz)	Datum (dBm)	Frequency (MHz)	Datum (dBm)	
FM	12.5KHz	High	173.5000	540.22	-28.82	3150.00	-36.10	-20dBm
Test Results				Compliance				

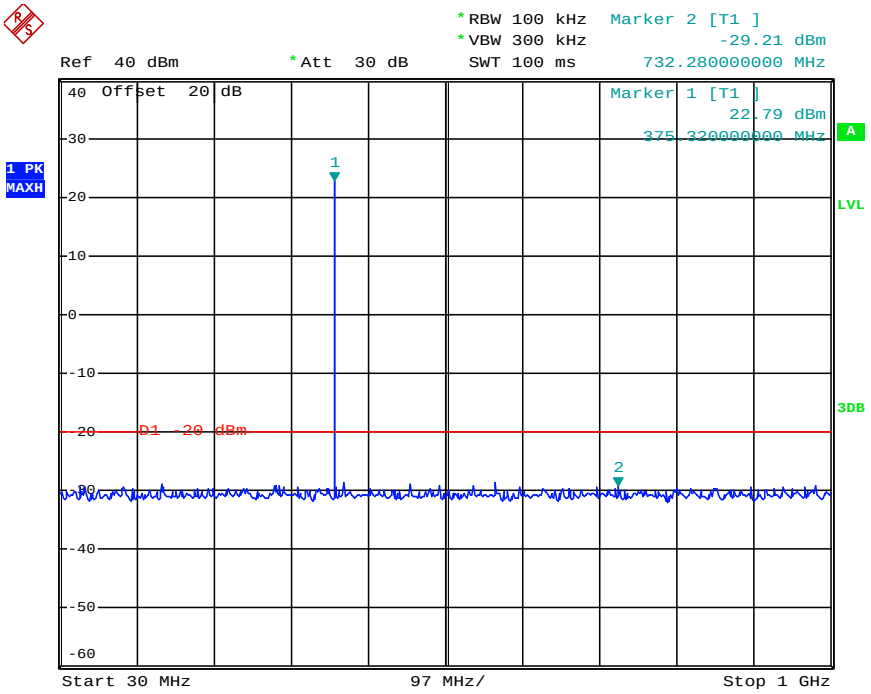


Date: 29.JAN.2013 14:58:48

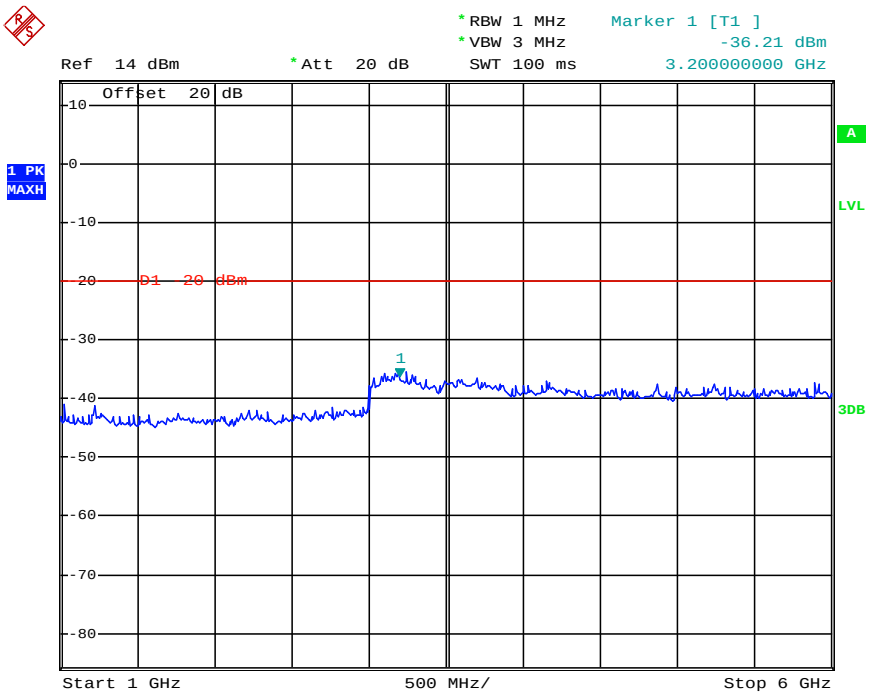


Date: 29.JAN.2013 15:03:45

Modulation Type	Channel Sparation	Test Channel	Test Frequency (MHz)	Maximum Conducted Spurious Emissions Below 1GHz		Maximum Conducted Spurious Emissions Above1GHz		Limit
				Frequency (MHz)	Datum (dBm)	Frequency (MHz)	Datum (dBm)	
FM	12.5KHz	Low	375.0000	732.28	-29.21	3200.00	-36.21	-20dBm
Test Results				Compliance				

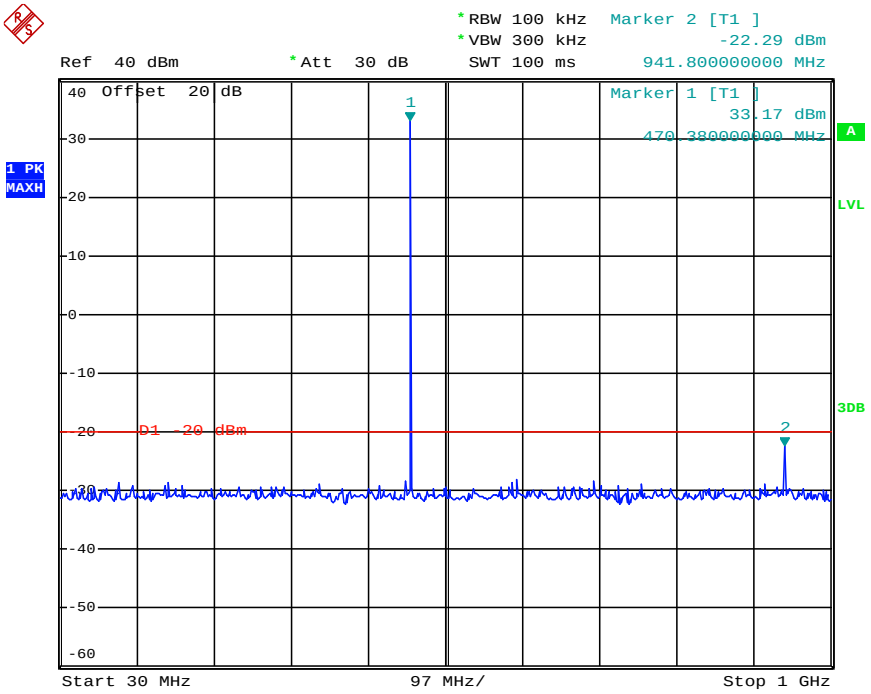


Date: 29.JAN.2013 14:59:18

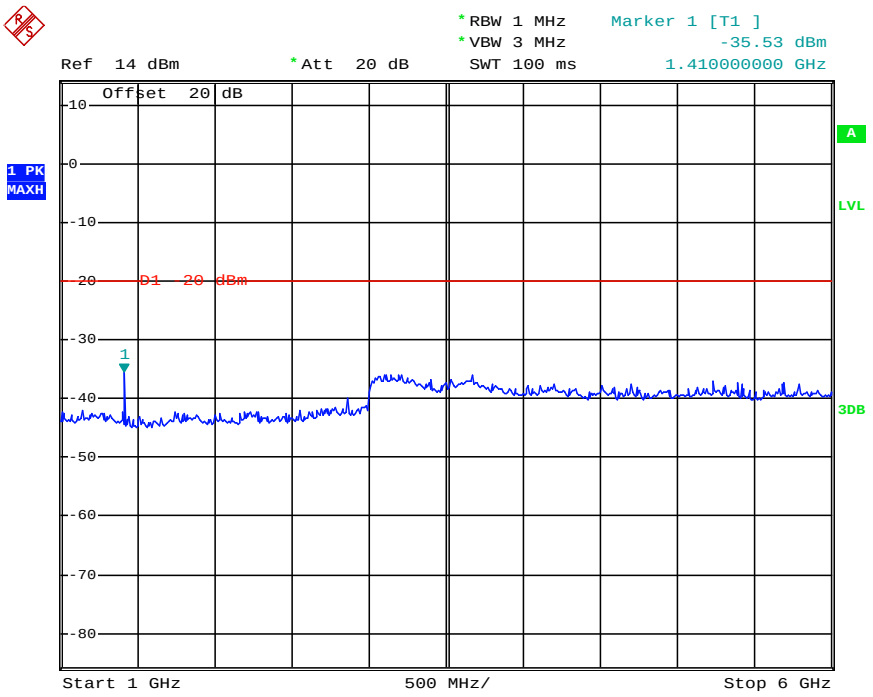


Date: 29.JAN.2013 15:02:21

Modulation Type	Channel Sparation	Test Channel	Test Frequency (MHz)	Maximum Conducted Spurious Emissions Below 1GHz		Maximum Conducted Spurious Emissions Above1GHz		Limit
				Frequency (MHz)	Datum (dBm)	Frequency (MHz)	Datum (dBm)	
FM	12.5KHz	Middle	470.0000	941.80	-22.29	1410.00	-35.53	-20dBm
Test Results				Compliance				

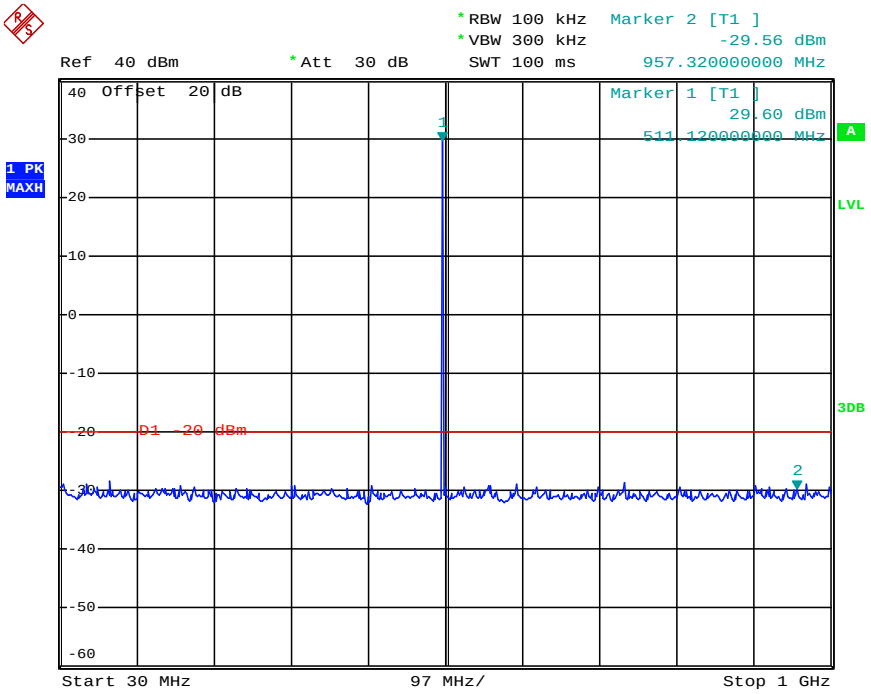


Date: 29.JAN.2013 14:59:43

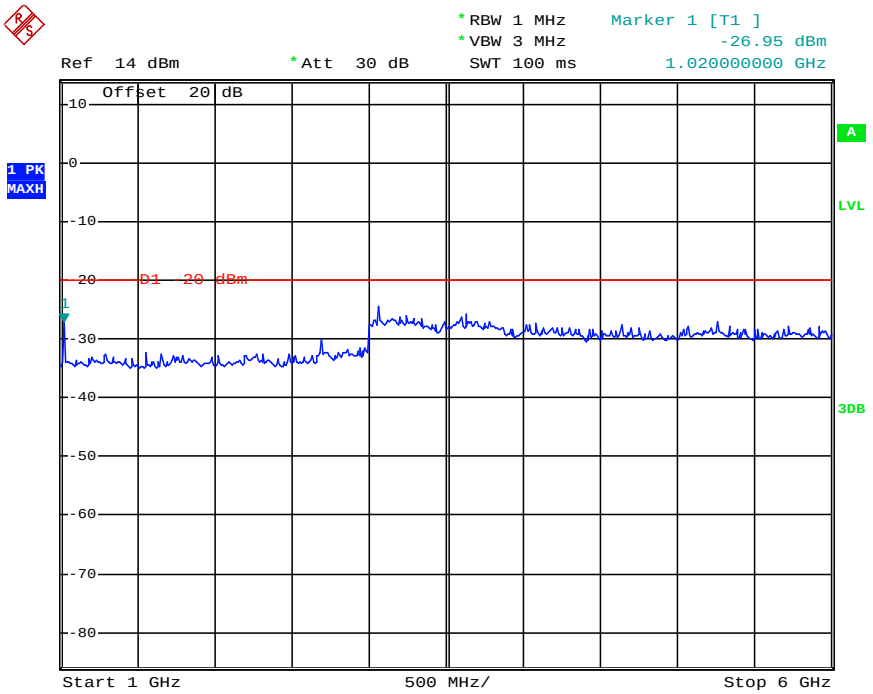


Date: 29.JAN.2013 15:01:49

Modulation Type	Channel Sparation	Test Channel	Test Frequency (MHz)	Maximum Conducted Spurious Emissions Below 1GHz		Maximum Conducted Spurious Emissions Above1GHz		Limit
				Frequency (MHz)	Datum (dBm)	Frequency (MHz)	Datum (dBm)	
FM	12.5KHz	High	511.0000	957.32	-29.56	1020.00	-26.95	-20dBm
Test Results				Compliance				



Date: 29.JAN.2013 15:00:07



Date: 29.JAN.2013 15:01:01

4.3. Frequency Stability Test

TEST APPLICABLE

TIA/EIA 603 C : 2.2.2 which was the ability of the transmitter to maintain an assigned carrier frequency.

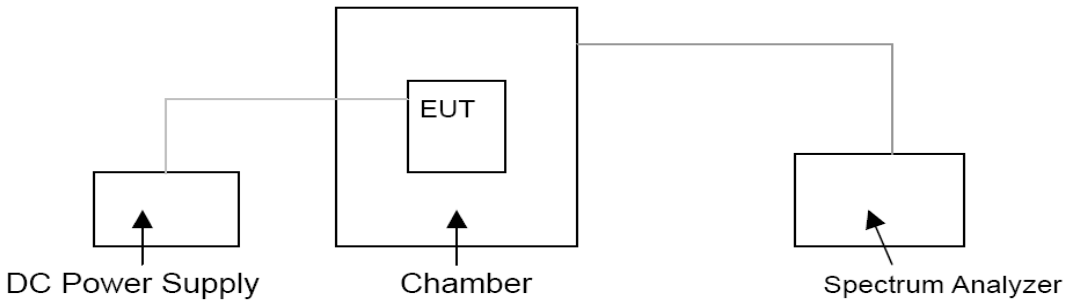
TEST LIMITS

The maximum permissible departure from the assigned frequency shall be as follows:

Assigned Frequency (MHz)	Channel Spacing (KHz)	Mobile Station Stability (PPM)	Base Station Stability (PPM)
25 to 50	20	20	20
138 to 174	25 & 30	5.0	5.0
	12.5 & 15	5.0	2.5
	12.5 (NTIA only)	2.5	1.5
406 to 420 (NTIA only)	25	5.0	5.0
	12.5	2.0	0.5
421 to 512	25	5.0	5.0
	12.5	2.5	1.5
747 to 747 and 762 to 764	25	Not Authorized	1.5[4]
	12.5	Not Authorized	1.0[4]
764 to 776	25	1.5[3]	Not Authorized
	12.5	1.5[3]	Not Authorized
776 to 777 and 792 to 794	25	2.5[4]	Not Authorized
	12.5	1.5[3]	Not Authorized
794 to 806	25	1.5[3]	Not Authorized
	12.5	1.5[3]	Not Authorized
806 to 821	25	2.5	1.5
821 to 824	112.5	1.5	1.0
851 to 866	25	2.5	1.5
866 to 869	12.5	1.5	1.0
896 to 901	12.5	1.5	0.1
929 to 930		Not Authorized	1.5
930 to 940	12.5	1.5	0.1

Note:
1. Paging transmitter operating on paging-only frequencies shall operate with frequency stability of 5ppm in the 150-174MHz band and 2.5ppm in the 421-512MHz band.
2. Control station may operate with the frequency tolerance specified for associated mobile frequencies.
3. Secondary use in public safety band,mobile to mobile operation.
4. Part 27.54 require frequency stability that is sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.TIA recommends frequency stability requirements equivalent to 800MHz band requirement.

TEST CONFIGURATION



TEST PROCEDURE

a) Connect the equipment as illustrated.
b) Operate the equipment in standby conditions for 15 minutes before proceeding;

c) Record the carrier frequency of the transmitter as MCF_{MHz}.
d) Calculate the ppm frequency error by the following:

Ppm error= $\left(\frac{MCF_{MHz}}{ACF_{MHz}}\right)*10^6$

Where
MCF_{MHz} is the measurement Carrier Frequency in MHz
ACF_{MHz} is the Assigned Carrier Frequency in MHz

e) The value recorded in step d) is the carrier frequency stability.

TEST RESULTS

Modulation Type	Channel Separation	Test conditions		Frequency error (ppm)		
		Voltage(V)	Temp(℃)	136.5MHz	155.5 MHz	173.5 MHz
Analog/FM	12.5KHz	7.40	-30	0.94	0.92	0.92
			-20	0.95	0.92	0.85
			-10	0.85	0.80	0.85
			0	0.78	0.70	0.70
			10	0.60	0.70	0.70
			20	0.56	0.50	0.56
			30	0.58	0.66	0.70
			40	0.68	0.66	0.80
			50	0.85	0.85	0.80
		6.67(End point)	20	0.68	0.70	0.69
		6.29 (85% Rated)	20	0.65	0.70	0.69
		8.50(115% Rated)	20	0.65	0.65	0.80
Limit			2.5 ppm			
Conclusion			Complies			

Modulation Type	Channel Separation	Test conditions		Frequency error (ppm)		
		Voltage(V)	Temp(℃)	375.0 MHz	470.0 MHz	511.0 MHz
Analog/FM	12.5KHz	7.40	-30	0.98	0.93	0.86
			-20	0.90	0.90	0.80
			-10	0.90	0.90	0.80
			0	0.70	0.80	0.60
			10	0.70	0.70	0.60
			20	0.66	0.70	0.60
			30	0.55	0.60	0.70
			40	0.80	0.80	0.70
			50	0.86	0.80	0.80
		6.67(End point)	20	0.70	0.70	0.70
		6.29 (85% Rated)	20	0.80	0.80	0.80
		8.50(115% Rated)	20	0.80	0.70	0.80
Limit			2.5 ppm			
Conclusion			Complies			

4.4. Adjacent Channel Rejection

TEST APPLICABLE

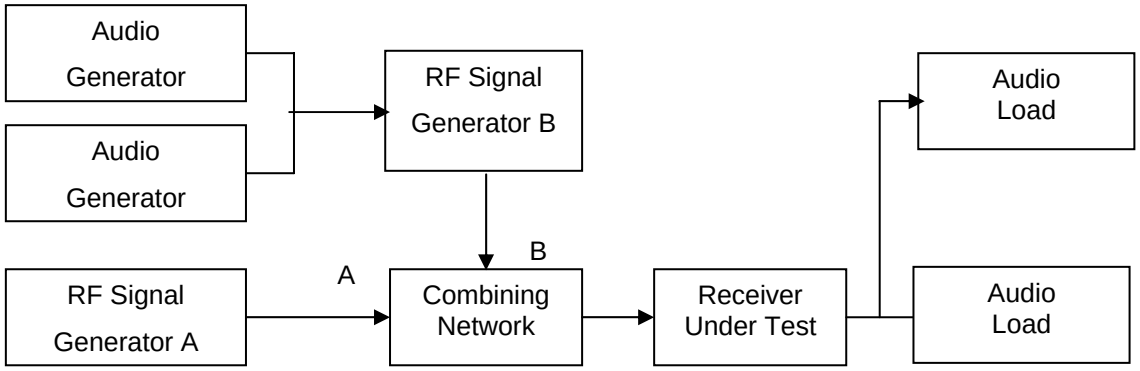
TIA/EIA 603 C : 2.1.6 Adjacent Channel Rejection.which was the ratio of the level of an unwanted adjacent channel input signal to the reference sensitivity.The unwanted signal is of an amplitude that causes the SINAD produced by a signal 3dB in excess of the reference sensitivity to the degraded to the standard SINAD.

TEST LIMITS

The minium adjacent channel rejection shanll meet or exceed the following specified limits:

Channel Bandwidth	Fixed station	Mobile station	Protable station
⩾20.0kHz	75 dB(class A) 70 dB(class B)	75 dB(class A) 70 dB(class B)	70 dB(class A) 60 dB(class B)
15.0kHz	65 dB(class A) 70 dB(class B)	65 dB(class A) 70 dB(class B)	65 dB(class A) 60 dB(class B)
12.5kHz	45 dB(class A) 40 dB(class B)	45 dB(class A) 40 dB(class B)	45 dB(class A) 40 dB(class B)

TEST CONFIGURATION



TEST PROCEDURE

a) Connenct the equipment as illustrated.Connenct a second radio frequency signal generator A(unwanted signal source) to terminal B(3-Combiner) of appropriate matching or combing netwok;
b) In the absence of the unwanted signal,apply the standard input signal to the terminal A of the combining network.Reduce its level(RF Signal Generator A) to obtain reference sensitivity(-118.5 dBm).Recorded this level.
c) Increase the level of the wanted input signal by 3dB(-115.5dBm).
d) Apply an unwanted input signal,modulated simultaneously with two tones,one at 650Hz at a deviation of 50% of the maximum permissible frequency deviation(1.25KHz) and another at 2200Hz at deviation of 50% of the maximum permissible frequency deviation(1.25KHz).The level of each of the two signals should be set to 50% of the RF signal genertor moduator specified input level.The deviation of the RF signal genertor should be set to 100% of the maximum permissible frequency deviation.
e) Adjust the unwanted signal frequnecy(RF Signal Generator B) to the adjacent channel above and below the wanted signal frequency and adjust its level each time as to reestablish the standard SINAD(12dB).Recorded these levles P_{HIGH} and P_{LOW}.
f) Calculate the adjacent channel rejection by the following:
adjacent channel rejection high=P_{HIGH}-P_{REF}
adjacent channel rejection low=P_{LOW}-P_{REF}
The smaller of the above is the adjacent channel rejection.

TEST RESULTS

Test Frequency			136.5000 MHz				
Test Condition		Meas. Position	Sig Gen A Level (dBm)	Sig Gen B Level (dBm)	Sig Gen B-Sig Gen A (dB)	SINAD (dB)	Limit
Temperature (℃)	Voltage (V)						
25℃	7.40 V	High	-115.5	-60.5	58.0	12.0	At least 45dB
		Low	-115.5	-60.1	58.4	12.0	
Result			PASS				

Test Frequency			155.5000 MHz				
Test Condition		Meas. Position	Sig Gen A Level (dBm)	Sig Gen B Level (dBm)	Sig Gen B-Sig Gen A (dB)	SINAD (dB)	Limit
Temperature (℃)	Voltage (V)						
25℃	7.40 V	High	-115.5	-61.0	57.5	12.0	At least 45dB
		Low	-115.5	-60.9	57.6	12.0	
Result			PASS				

Test Frequency			173.5000 MHz				
Test Condition		Meas. Position	Sig Gen A Level (dBm)	Sig Gen B Level (dBm)	Sig Gen B-Sig Gen A (dB)	SINAD (dB)	Limit
Temperature (℃)	Voltage (V)						
25℃	7.40 V	High	-115.5	-60.3	58.2	12.0	At least 45dB
		Low	-115.5	-60.5	58.0	12.0	
Result			PASS				

Test Frequency			375.0000 MHz				
Test Condition		Meas. Position	Sig Gen A Level (dBm)	Sig Gen B Level (dBm)	Sig Gen B-Sig Gen A (dB)	SINAD (dB)	Limit
Temperature (℃)	Voltage (V)						
25℃	7.40 V	High	-115.5	-59.9	58.6	12.0	At least 45dB
		Low	-115.5	-60.2	58.3	12.0	
Result			PASS				

Test Frequency			470.0000 MHz				
Test Condition		Meas. Position	Sig Gen A Level (dBm)	Sig Gen B Level (dBm)	Sig Gen B-Sig Gen A (dB)	SINAD (dB)	Limit
Temperature (℃)	Voltage (V)						
25℃	7.40 V	High	-115.5	-60.6	57.9	12.0	At least 45dB
		Low	-115.5	-60.8	57.7	12.0	
Result			PASS				

Test Frequency			511.0000 MHz				
Test Condition		Meas. Position	Sig Gen A Level (dBm)	Sig Gen B Level (dBm)	Sig Gen B-Sig Gen A (dB)	SINAD (dB)	Limit
Temperature (℃)	Voltage (V)						
25℃	7.40 V	High	-115.5	-60.2	58.3	12.0	At least 45dB
		Low	-115.5	-60.6	57.9	12.0	
Result			PASS				

4.5. Spurious Rejection

TEST APPLICABLE

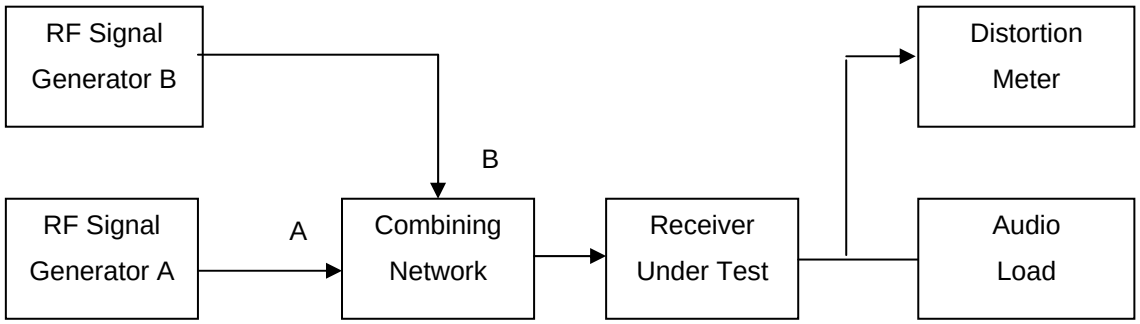
TIA/EIA 603 C : 3.1.8 Spurious Rejection.which was the ability of a receiver to prevent single unwanted signals from causing a receiver to prevent single umwanted signals from causinga degradation to the reception of a desired signal .It is expressed as the ratio of the level of a single unwanted input signals to the reference sensitivity,The unwanted signal is of an amplitude that cause the SINAD produced by a wanted signal 3dB in excess of the reference sensitivity to be degraded to the standard SINAD.

TEST LIMITS

The spurious rejection shanll meet or exceed the following specified limits:

Receiver class	Fixed station	Mobile station	Protable station
A	75 dB	75 dB	70 dB
B	70 dB	70 dB	60 dB

TEST CONFIGURATION



TEST PROCEDURE

a) Connect the equipment as illustrated.Connect a second radio frequency signal generaror B(unwanted signal soure) to terminal B of the apropriate matching or combining network.
b) In the absence of the unwanted signal,apply the standard input signal to terminal A of the combining network,Reduce RF signal genertor A level to obtain reference sensitivity(-118.5dBm),Record this level as P_{REF}.
c) Increase the level of RF signal genertor A of unwated input signal by 3dB(-115.5dBm).
d) Apply an unwanted input signal,modulated with 400Hz at 60% of the maxumum permissible frequency deviation(1.5KHz),to terminal B of the combining network.The level of this genertor shall be adjusted according to the following:
$P_U=P_{REF}+SER+6dB$
Where:
P_U is the level of the unwanted signal genertor in dBm
P_{REF} is the level of reference sensitivity in dBm
SRR is the manufacturer specified limit for spurious response rejection in dB
e) Vary the unwanted signal frequency over a range from one half of the lowest IF frequency in the receiver to twice the receiver frequency or 1000MHz,which is greater,to search for degradation of the SINAD.Exclude the frequency band that is within 100KHz of the receiver frequency.When a response is found,adjust the frequency of the unwanted signal to maximize the degradation.
f) At the frequency of each spurious response,change the level of the unwanted input signal until the standard SINAD is obtained(12dB).Record the frequency of the unwanted signal and record its level as P_{SPUR};
g) Calculate the spurious response rejection for each frequency concerned as follows:
spurious response rejection=$P_{SPUR}-P_{REF}$

TEST RESULTS

The Spurious Response Rejection are performed to each channel from the 100KHz to 1GHz frequency band, the datum recorded below is the worst case.

Test Frequency				136.5000 MHz			
Test Condition		Meas. Frequency Range (MHz)	Sig Gen A Level (dBm)	Sig Gen B Level (dBm)	Sig Gen B-Sig Gen A (dB)	SINAD (dB)	Limit
Temperature (℃)	Voltage (V)						
25℃	7.40 V	0.1-1000	-115.5	-42.9	75.6	12.0	At least 70.0dB
Result				PASS			

Test Frequency				155.5000 MHz			
Test Condition		Meas. Frequency Range (MHz)	Sig Gen A Level (dBm)	Sig Gen B Level (dBm)	Sig Gen B-Sig Gen A (dB)	SINAD (dB)	Limit
Temperature (℃)	Voltage (V)						
25℃	7.40 V	0.1-1000	-115.5	-43.3	75.2	12.0	At least 70.0dB
Result				PASS			

Test Frequency				173.5000 MHz			
Test Condition		Meas. Frequency Range (MHz)	Sig Gen A Level (dBm)	Sig Gen B Level (dBm)	Sig Gen B-Sig Gen A (dB)	SINAD (dB)	Limit
Temperature (℃)	Voltage (V)						
25℃	7.40 V	0.1-1000	-115.5	-42.8	75.7	12.0	At least 70.0dB
Result				PASS			

Test Frequency				375.0000 MHz			
Test Condition		Meas. Frequency Range (MHz)	Sig Gen A Level (dBm)	Sig Gen B Level (dBm)	Sig Gen B-Sig Gen A (dB)	SINAD (dB)	Limit
Temperature (℃)	Voltage (V)						
25℃	7.40 V	0.1-1000	-115.5	-42.7	75.8	12.0	At least 70.0dB
Result				PASS			

Test Frequency				470.0000 MHz			
Test Condition		Meas. Frequency Range (MHz)	Sig Gen A Level (dBm)	Sig Gen B Level (dBm)	Sig Gen B-Sig Gen A (dB)	SINAD (dB)	Limit
Temperature (℃)	Voltage (V)						
25℃	7.40 V	0.1-1000	-115.5	-43.2	75.3	12.0	At least 70.0dB
Result				PASS			

Test Frequency				511.0000 MHz			
Test Condition		Meas. Frequency Range (MHz)	Sig Gen A Level (dBm)	Sig Gen B Level (dBm)	Sig Gen B-Sig Gen A (dB)	SINAD (dB)	Limit
Temperature (℃)	Voltage (V)						
25℃	7.40 V	0.1-1000	-115.5	-42.8	75.7	12.0	At least 70.0dB
Result				PASS			

4.6. Intermodulation Rejection

TEST APPLICABLE

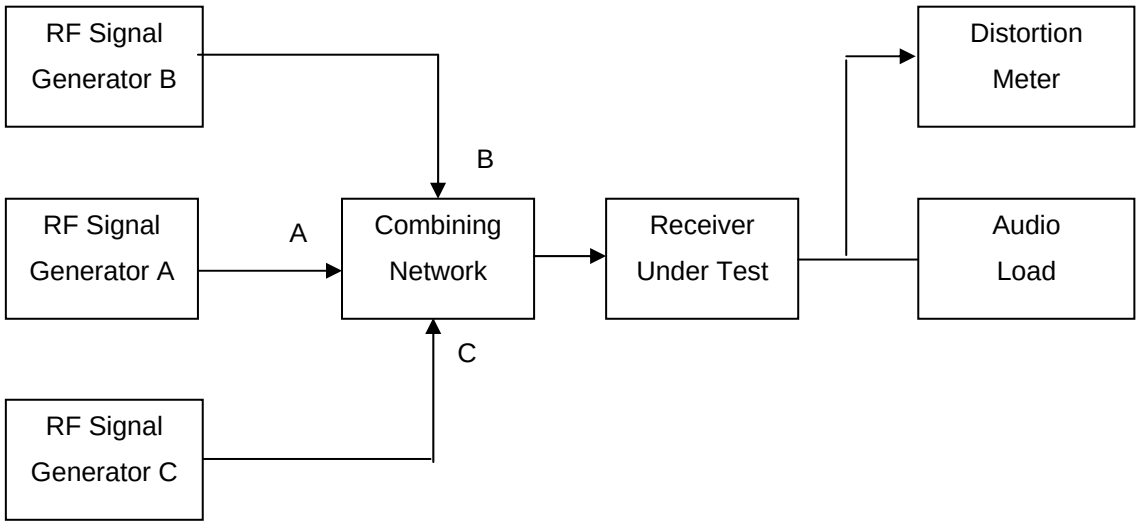
TIA/EIA 603 C : 3.1.9 Intermodulation Rejection.which was the ability of a receiver to prevent two unwanted input signal,with a specific frequency relation to the wanted signal frequency,from causing degradation to the reception of a desired signal.It is expressed as the ratio of the level of two equal level unwanted signals to the reference sensitivity,The unwanted signals are of an amplitude that casue that cause the SINAD produced by the wanted signal 3dB in excess of the reference sensitivity to be degraded to the standard SINAD.

TEST LIMITS

The spurious rejection shanll meet or exceed the following specified limits:

Receiver class	Fixed station	Mobile station	Protable station
A	75 dB	75 dB	70 dB
B	70 dB	70 dB	50 dB

TEST CONFIGURATION



TEST PROCEDURE

a) Connect the equipment as illustrated.Connect two additional signal generators B,C(unwanted signal sources) to terminal B and C of an appropriate matching or combining networ;.
b) In absence of the unwanted signals,apply the standard input signal at terminal A of the combining network and reduce its levels level to obtain refernece sensitivity(-118.5dBm).Record the level P_{REF}.
c) Increase the level of the wanted inout signal by 3dB(-115.5dBm);
d) Apply an unwanted,unmodulated input signal from the genertor connected to terminal B.Adjust this genertor frequency to the wanted frequency plus 50KHz.
e) Apply an unwanted input signal modulated with 400Hz at 60% rated system deviation (1.5KHz) from the genertor connected to terminal C.Adjust this genertor frequency to the wanted frequency plus 100KHz.
f) Simultaneously increase the levels of the two unwanted signals until the SINAD is degraded.
g) Adjust the levels of the unwanted signals to be equal and to produce standard SINAD(12dB).Record this level as P_{HIGH};
h) Repeat the above steps adjusting the frequency of the signal genertor connected to terminal B to the wanted frequency minus 50KHz,and the frequency of the signal genertor connected to terminal C to the wanted frequency minus 100KHz.Record this level as P_{LOW}.
i) Calculate the intermodulation rejection as follows:
intermodulation rejection high=P_{HIGH}-P_{REF}
intermodulation rejection low=P_{LOW}-P_{REF}
The smaller of the above is the intermodulation rejection.

TEST RESULTS

Test Frequency					136.5000 MHz				
Test Condition		Sig Gen A Level (dBm)	Sig Gen B		Sig Gen C		Sig Gen B(C)-Sig Gen A (dB)	SINAD (dB)	Limit
Temperature (℃)	Voltage (V)		Meas. Offset	Level (dBm)	Meas. Offset	Level (dBm)			
25℃	7.40 V	-115.5	-50KHz	-45.9	-100KHz	-45.9	72.6	12.0	At least 70.0dB
		-115.5	50KHz	-46.1	100KHz	-46.1	72.4	12.0	
Result					PASS				

Test Frequency					155.5000 MHz				
Test Condition		Sig Gen A Level (dBm)	Sig Gen B		Sig Gen C		Sig Gen B(C)-Sig Gen A (dB)	SINAD (dB)	Limit
Temperature (℃)	Voltage (V)		Meas. Offset	Level (dBm)	Meas. Offset	Level (dBm)			
25℃	7.40 V	-115.5	-50KHz	-46.5	-100KHz	-46.5	72.0	12.0	At least 70.0dB
		-115.5	50KHz	-46.4	100KHz	-46.4	72.1	12.0	
Result					PASS				

Test Frequency					173.5000 MHz				
Test Condition		Sig Gen A Level (dBm)	Sig Gen B		Sig Gen C		Sig Gen B(C)-Sig Gen A (dB)	SINAD (dB)	Limit
Temperature (℃)	Voltage (V)		Meas. Offset	Level (dBm)	Meas. Offset	Level (dBm)			
25℃	7.40 V	-115.5	-50KHz	-46.3	-100KHz	-46.3	72.2	12.0	At least 70.0dB
		-115.5	50KHz	-46.0	100KHz	-46.0	72.5	12.0	
Result					PASS				

Test Frequency					375.0000 MHz				
Test Condition		Sig Gen A Level (dBm)	Sig Gen B		Sig Gen C		Sig Gen B(C)-Sig Gen A (dB)	SINAD (dB)	Limit
Temperature (℃)	Voltage (V)		Meas. Offset	Level (dBm)	Meas. Offset	Level (dBm)			
25℃	7.40 V	-115.5	-50KHz	-46.0	-100KHz	-46.0	72.5	12.0	At least 70.0dB
		-115.5	50KHz	-46.0	100KHz	-46.0	72.5	12.0	
Result					PASS				

Test Frequency					470.0000 MHz				
Test Condition		Sig Gen A Level (dBm)	Sig Gen B		Sig Gen C		Sig Gen B(C)-Sig Gen A (dB)	SINAD (dB)	Limit
Temperature (℃)	Voltage (V)		Meas. Offset	Level (dBm)	Meas. Offset	Level (dBm)			
25℃	7.40 V	-115.5	-50KHz	-46.4	-100KHz	-46.4	72.1	12.0	At least 70.0dB
		-115.5	50KHz	-46.4	100KHz	-46.4	72.1	12.0	
Result					PASS				

Test Frequency					511.0000 MHz				
Test Condition		Sig Gen A Level (dBm)	Sig Gen B		Sig Gen C		Sig Gen B(C)-Sig Gen A (dB)	SINAD (dB)	Limit
Temperature (℃)	Voltage (V)		Meas. Offset	Level (dBm)	Meas. Offset	Level (dBm)			
25℃	7.40 V	-115.5	-50KHz	-46.0	-100KHz	-46.0	72.5	12.0	At least 70.0dB
		-115.5	50KHz	-46.3	100KHz	-46.3	72.2	12.0	
Result					PASS				

4.7. Receiver Conducted Spurious Emssion

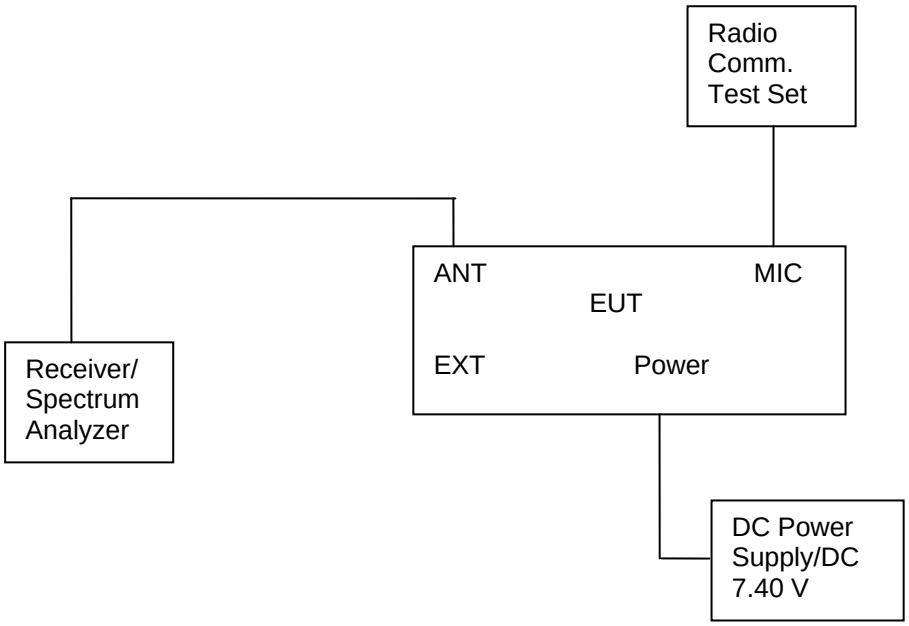
TEST APPLICABLE

The same as Section 4.3.which was the power that is genertated or amplified in a receiver and appears at the receiver's antenna terminals.

TEST PROCEDURE

The spectrum analyzer was connected to the RF output power of the EUT, the EUT was setup in receiving mode; The RBW of the spectrum analyzer was set to 100 kHz and the VBW set to 300 KHz below the test frequency 1GHz. While the RBW of the spectrum analyzer was set to the 1MHz and VBW set to the 3MHz from 1GHz to the 10^{th} harmonic.

TEST CONFIGURATION



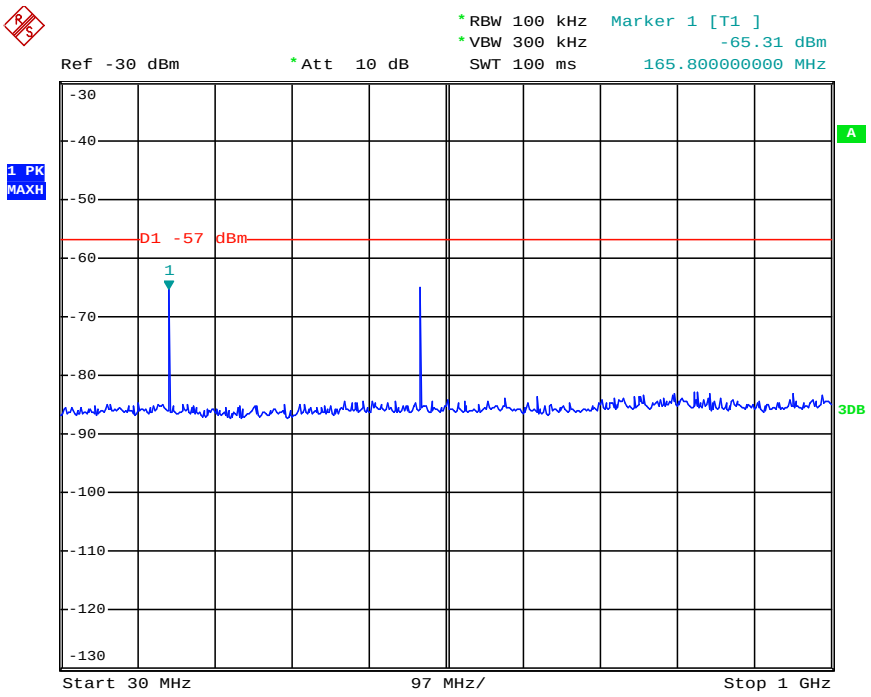
LIMIT

The power at the antenna terminal shall not exceed 2.0 nanowatts (-57dBm).

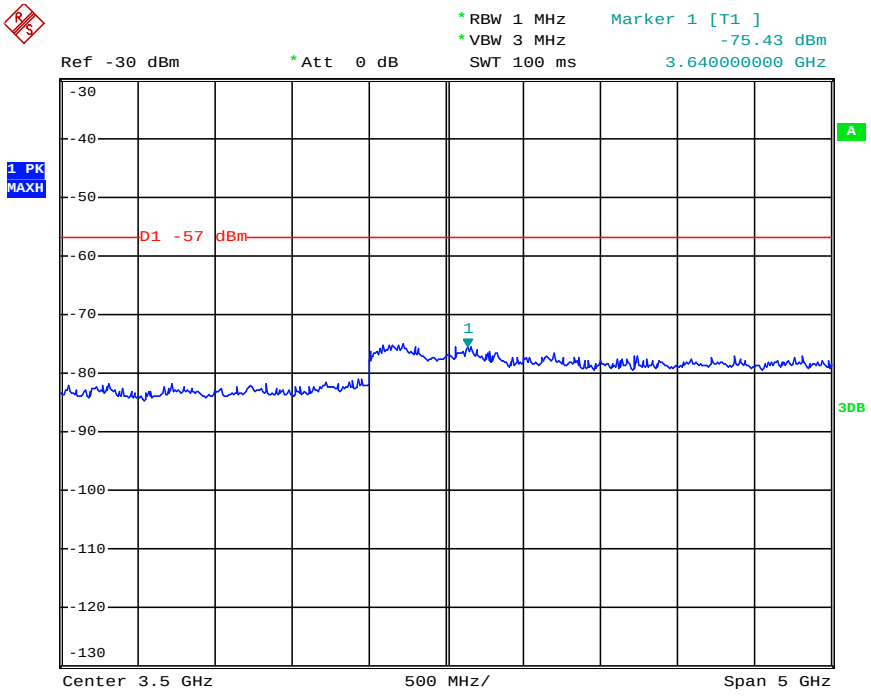
TEST RESULTS

The Receiver Conducted Spurious Emssions Measurement is performed to each channels, the datums recorded below were for each channel; and the EUT shall be scanned from 30 MHz to the 6 GHz.

Modulation Type	Channel Sparation	Test Channel	Test Frequency (MHz)	Maximum Conducted Spurious Emissions Below 1GHz		Maximum Conducted Spurious Emissions Above1GHz		Limit
				Frequency (MHz)	Datum (dBm)	Frequency (MHz)	Datum (dBm)	
FM	12.5KHz	Low	136.5000	165.80	-65.31	3640.00	-75.43	-57dBm
Test Results				Compliance				

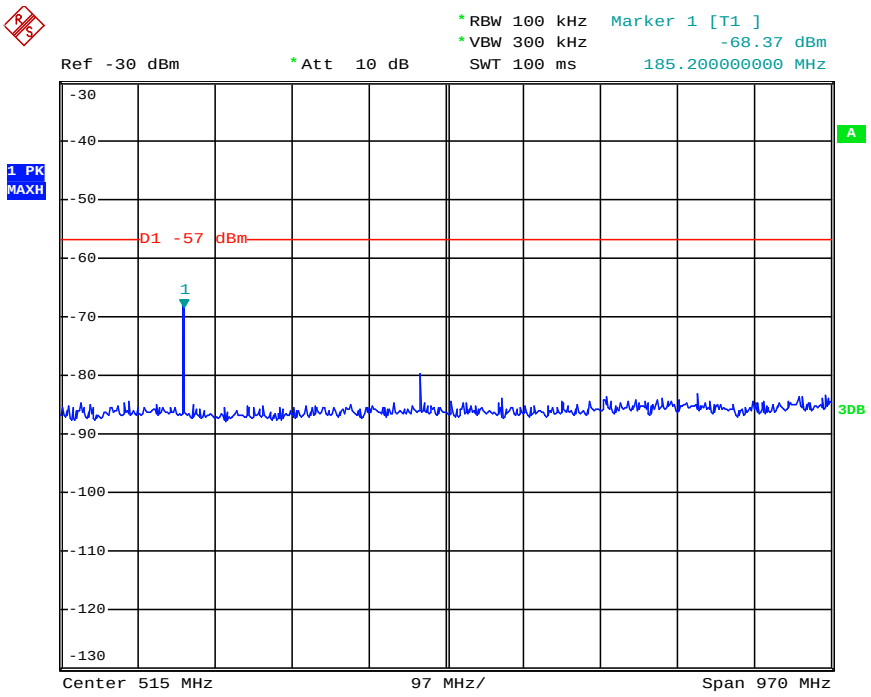


Date: 29.JAN.2013 15:05:29

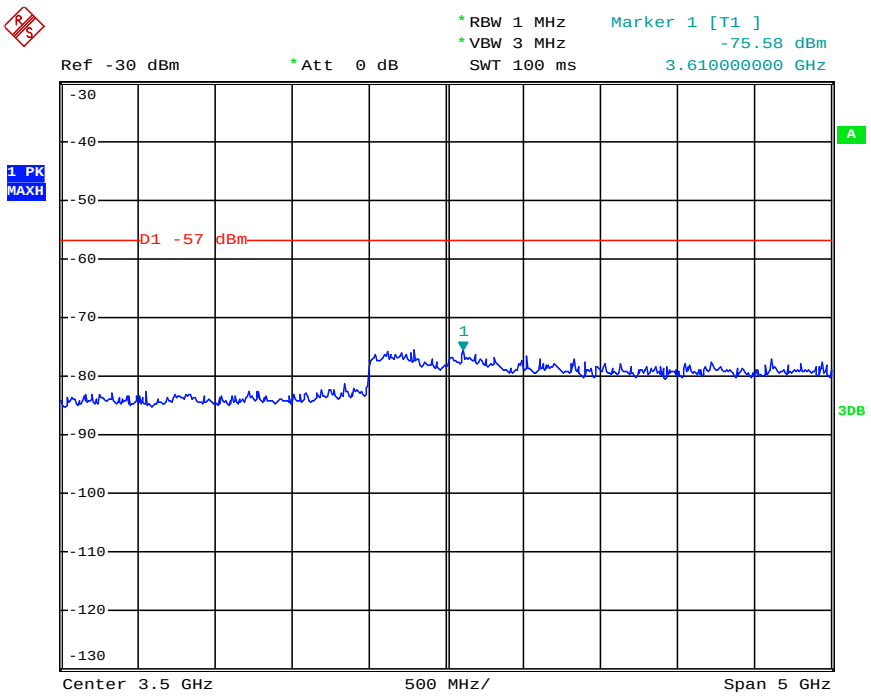


Date: 29.JAN.2013 15:11:32

Modulation Type	Channel Sparation	Test Channel	Test Frequency (MHz)	Maximum Conducted Spurious Emissions Below 1GHz		Maximum Conducted Spurious Emissions Above1GHz		Limit
				Frequency (MHz)	Datum (dBm)	Frequency (MHz)	Datum (dBm)	
FM	12.5KHz	Middle	155.5000	185.20	-68.37	3610.00	-75.58	-57dBm
Test Results				Compliance				

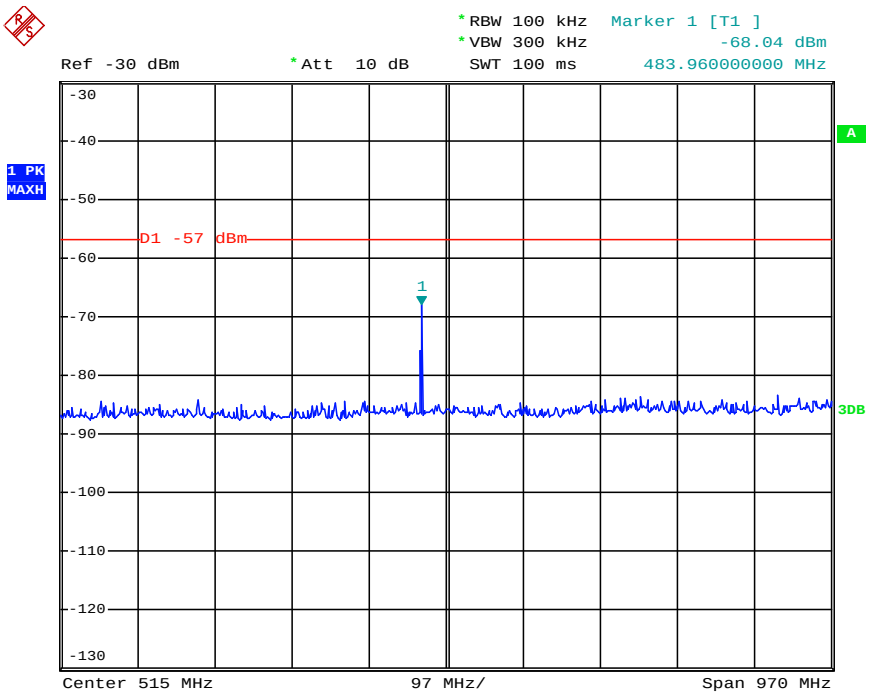


Date: 29.JAN.2013 15:05:52

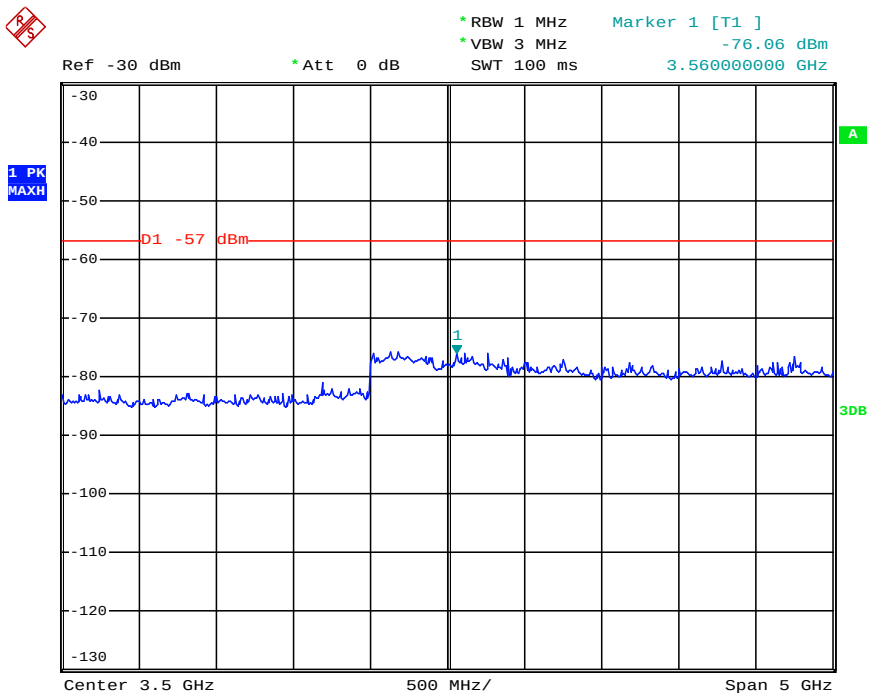


Date: 29.JAN.2013 15:11:57

Modulation Type	Channel Sparation	Test Channel	Test Frequency (MHz)	Maximum Conducted Spurious Emissions Below 1GHz		Maximum Conducted Spurious Emissions Above1GHz		Limit
				Frequency (MHz)	Datum (dBm)	Frequency (MHz)	Datum (dBm)	
FM	12.5KHz	High	173.5000	483.96	-68.04	3560.00	-76.06	-57dBm
Test Results				Compliance				

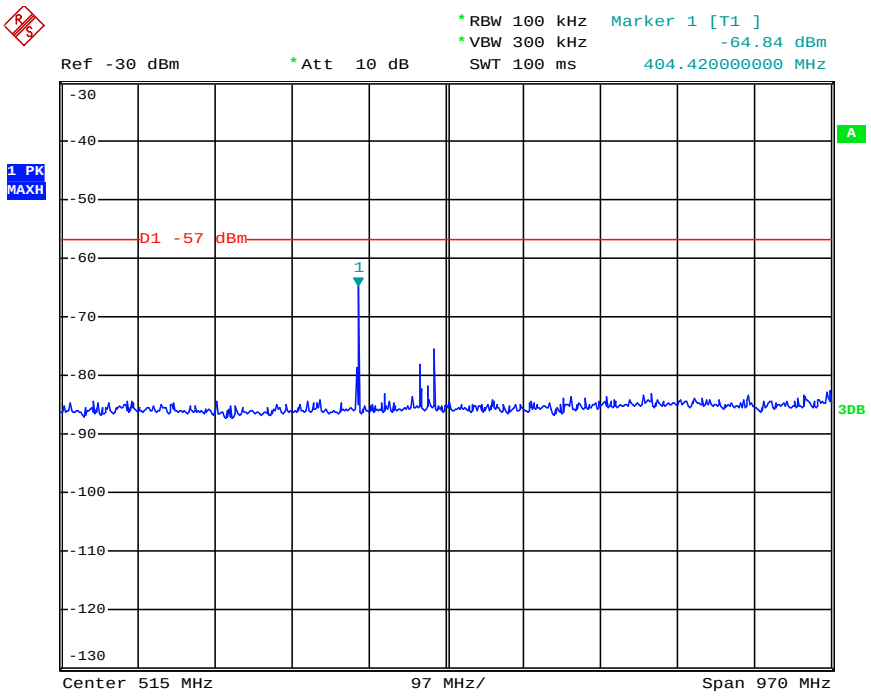


Date: 29.JAN.2013 15:06:13

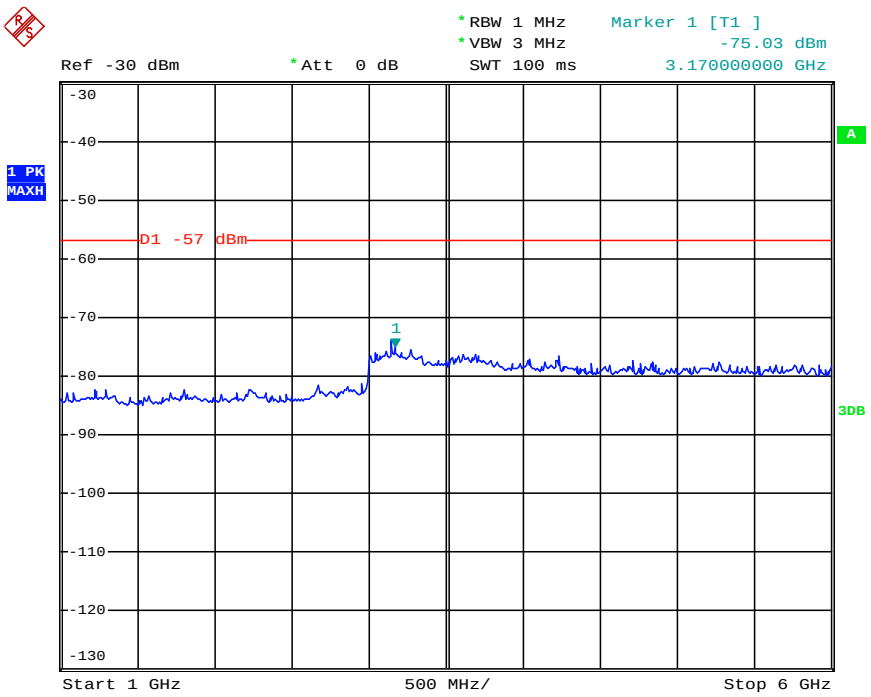


Date: 29.JAN.2013 15:12:16

Modulation Type	Channel Sparation	Test Channel	Test Frequency (MHz)	Maximum Conducted Spurious Emissions Below 1GHz		Maximum Conducted Spurious Emissions Above1GHz		Limit
				Frequency (MHz)	Datum (dBm)	Frequency (MHz)	Datum (dBm)	
FM	12.5KHz	Low	375.0000	404.42	-64.84	3170.00	-75.03	-57dBm
Test Results				Compliance				

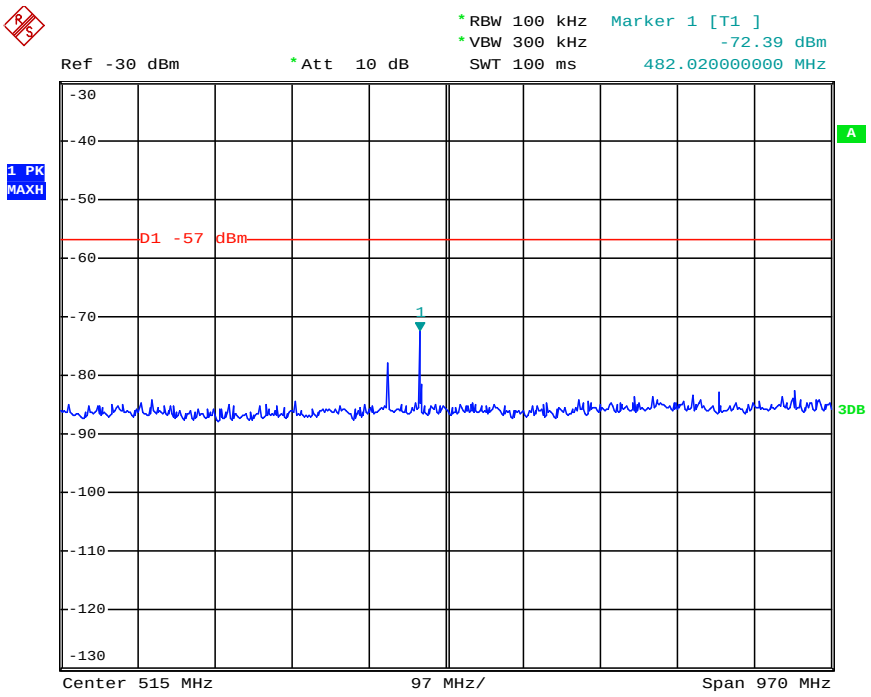


Date: 29.JAN.2013 15:07:16

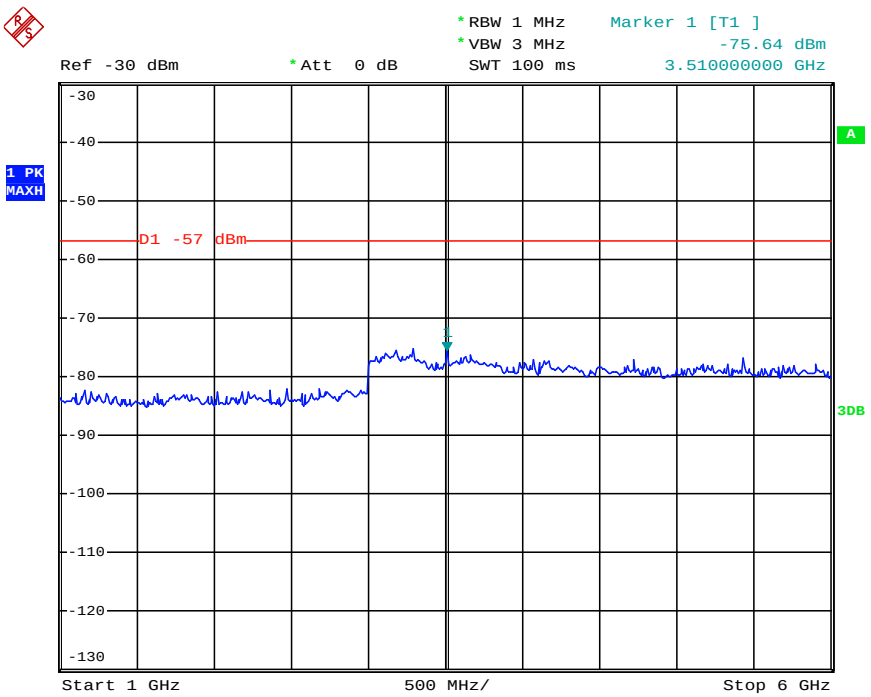


Date: 29.JAN.2013 15:10:11

Modulation Type	Channel Sparation	Test Channel	Test Frequency (MHz)	Maximum Conducted Spurious Emissions Below 1GHz		Maximum Conducted Spurious Emissions Above1GHz		Limit
				Frequency (MHz)	Datum (dBm)	Frequency (MHz)	Datum (dBm)	
FM	12.5KHz	Middle	470.0000	482.02	-72.39	3510.00	-75.64	-57dBm
Test Results				Compliance				

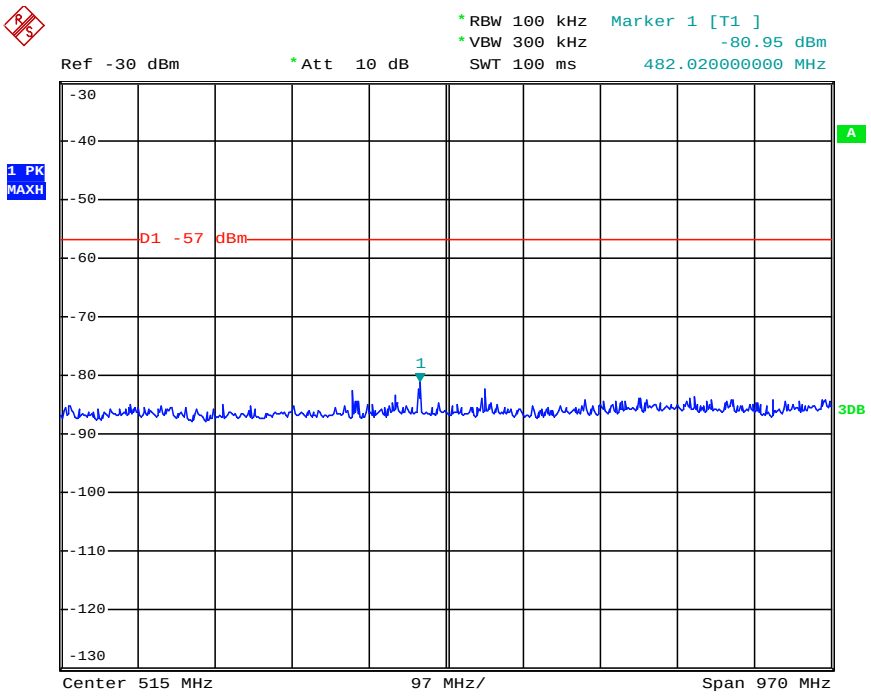


Date: 29.JAN.2013 15:07:47



Date: 29.JAN.2013 15:09:40

Modulation Type	Channel Sparation	Test Channel	Test Frequency (MHz)	Maximum Conducted Spurious Emissions Below 1GHz		Maximum Conducted Spurious Emissions Above1GHz		Limit
				Frequency (MHz)	Datum (dBm)	Frequency (MHz)	Datum (dBm)	
FM	12.5KHz	High	511.0000	482.02	-80.95	3110.00	-75.74	-57dBm
Test Results				Compliance				



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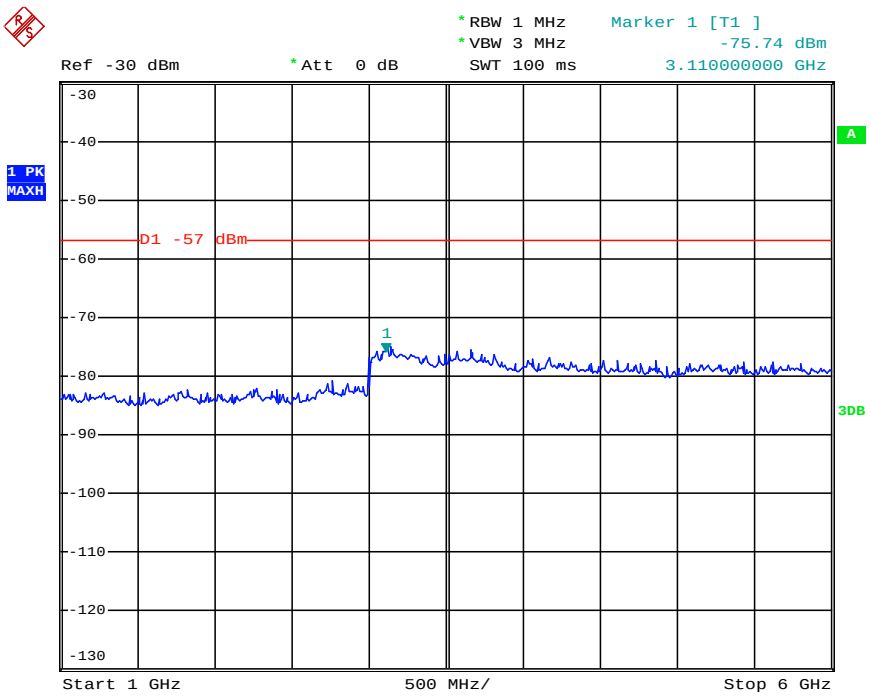

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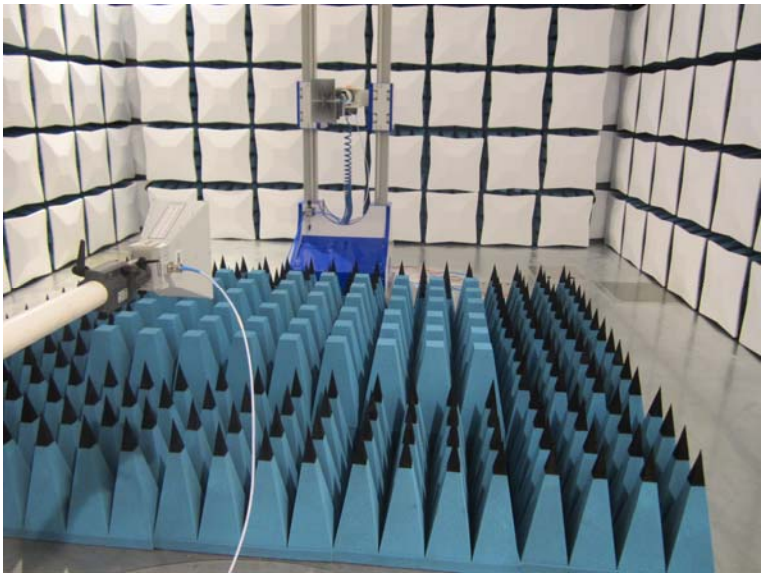
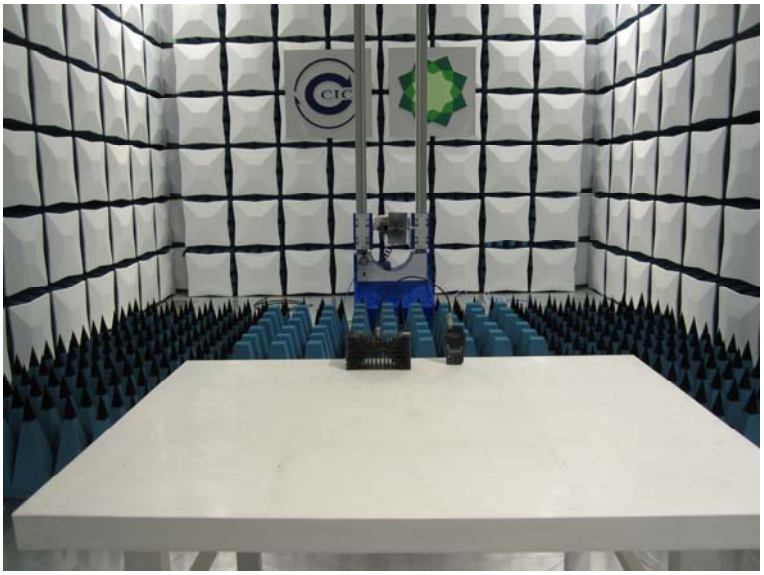
5. Test Setup Photos of the EUT





.....End of Report.....