



Test Report

Product Name : IN-Band MMDS Two-Way Transceiver
Model No. : TRX-200
FCC ID. : OUP960400101

Applicant : TRANSYSTEM INC.
Address : No.1-2, Li-Hsin Rd. 1, Science-Based Industrial
Park, Hsinchu, Taiwan R.O.C.

Date of Receipt : 2008/08/21
Issued Date : 2008/09/22
Report No. : 088323R-RFUSP21V01
Version : V1.0

The test results relate only to the samples tested.
The test report shall not be reproduced except in full without the written approval of QuieTek Corporation.

Test Report Certification

Issued Date : 2008/09/19

Report No. : 088323R-RFUSP21V01



Product Name : IN-Band MMDS Two-Way Transceiver
 Applicant : TRANSYSTEM INC.
 Address : No.1-2, Li-Hsin Rd. 1, Science-Based Industrial Park,
 Hsinchu, Taiwan R.O.C.
 Manufacturer : TRANSYSTEM INC.
 Model No. : TRX-200
 FCC ID. : OUP960400101
 Rated Voltage : AC 120V / 60Hz
 EUT Voltage : AC 120V / 60Hz
 Trade Name : TSI
 Applicable Standard : FCC CFR Title 47 Part 2 and Part 27
 Test Result : Complied

The test results relate only to the samples tested.

The test report shall not be reproduced except in full without the written approval of QuieTek Corporation.

Documented By : Carol Tsai
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 (Lucia Lu / Assistant Engineer)

Approved By : Roy Wang
 (Roy Wang / Manager)

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1. General Information

1.1. EUT Description

Product Name	IN-Band MMDS Two-Way Transceiver
Trade Name	TSI
Model No.	TRX-200
Frequency Range	2500-2530 MHz
Modulation Type	QPSK, 16QAM
Antenna Gain	1.97dBi
Channel Control	AUTO
Antenna Type	Dipole
Normal operation dc voltages	DC Voltages: 15V
DC Currents	DC Current: 350mA

Upstream Symbol Rate (ksps)	QPSK Data Rate (kbps)	16QAM Data Rate (kbps)	Bandwidth Used (kHz)
160	320	640	200
320	640	1280	400
640	1280	2560	800
1280	2560	5120	1600
2560	5120	10240	3200

Note:

1. This device is a IN-Band MMDS Two-Way Transceiver included a 2.5GHz receiving function, and 2.5GHz transmitting function.
2. These tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with Part 27 for MMDS (Microwave Multipoint Distribution Systems) devices.
3. Regards to the frequency band operation; the highest rate that was included the lowest , middle and highest frequency of channel were selected to perform the test, and then shown on this report.
4. This device is a composite device in accordance with Part 15 regulations. The function receiving was measured and made a test report that the report number is 088323R-RFUSP01V02 under Declaration of Conformity.

1.3. Test Mode

QuieTek has verified the construction and function in typical operation. All the test modes were evaluated with the EUT in normal operation, which was shown in this test report and defined as below:

Evaluated Mode (Uplink)		
	Bandwidth(kHz)	Modulation
Mode 1: Transmit	200	QPSK
		16QAM
Mode 2: Transmit	3200	QPSK
		16QAM
Mode 3: Transmit	400	QPSK
		16QAM
Mode 4: Transmit	800	QPSK
		16QAM
Mode 5: Transmit	1600	QPSK
		16QAM

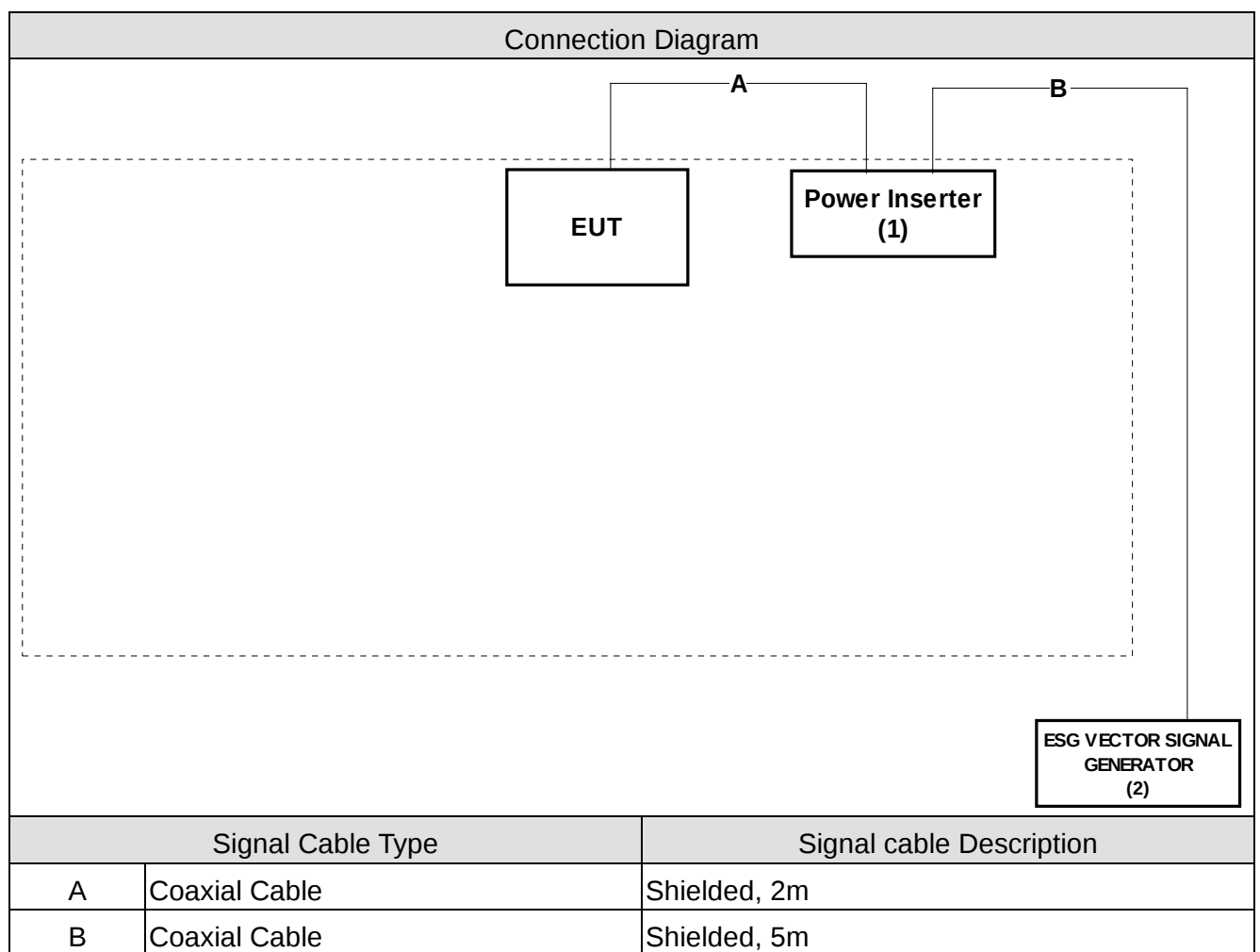
Final Test Mode & Test Item (Uplink)		
Test Item	QPSK	16 QAM
Peak Output Power	MODE 1 、MODE 2	MODE 1 、MODE 2
Band Edge	--	MODE 1 、MODE 2
Occupied Bandwidth	MODE 1 、MODE 2 MODE 3 、MODE 4 MODE 5	MODE 1 、MODE 2 MODE 3 、MODE 4 MODE 5
Conducted Spurious Emission	--	MODE 1 、MODE 2
Radiated Spurious Emission	--	MODE 1 、MODE 2
Frequency Stability Over Temperatures Variation	Carrier Frequency	
Frequency Stability Over Voltage Variation	Carrier Frequency	
AC Conducted Emission	--	MODE 1 、MODE 2

1.4. Tested System Details

The types for all equipments, plus descriptions of all cables used in the tested system (including inserted cards) are:

Product	Manufacturer	Model No.	Serial No.	FCC ID	Power Cord
1 Power Inserter	TRANSYSTEM INC.	M7-9103R	N/A	DoC	N/A
2 ESG VECTOR SIGNAL GENERATOR	Agilent	E4438C	N/A	DoC	N/A

1.5. Configuration of tested System



1.6. EUT Exercise Software

1	Setup the EUT and VSG (Modulation Source) as shown on 1.5.
2	Turn on the power of EUT and VSG.
3	Data will transmit continuously from VSG to EUT.
4	All the peripheral will be retrieved during the test
5	Repeat the above procedure (3) to (4)

1.7. Test Facility

Ambient conditions in the laboratory:

Items	Test Item	Required (IEC 68-1)	Actual
Temperature (°C)	FCC PART 2.1046 and PART 27.50(h)(2) Peak Output Power	15 - 35	22
Humidity (%RH)		25 - 75	50
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 2.1049 and PART 27.53(l)(6) Occupied Bandwidth	15 - 35	25
Humidity (%RH)		25 - 75	50
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 2.1051 and PART 27.53(l)(4)(6) Band Edge	15 - 35	25
Humidity (%RH)		25 - 75	50
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 2.1051 and PART 27.53(l)(4)(6) Conducted Spurious Emission	15 - 35	25
Humidity (%RH)		25 - 75	50
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 2.1053 and PART 27.53(l)(4)(6) Radiated Spurious Emission	15 - 35	25
Humidity (%RH)		25 - 75	50
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 2.1055(a)(l) and PART 27.54 Frequency Stability Over Temperature Variation	15 - 35	25
Humidity (%RH)		25 - 75	50
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 2.1055(d) and PART 27.54 Frequency Stability Over Voltage Variation	15 - 35	22
Humidity (%RH)		25 - 75	50
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 15 C 15.207 AC Conducted Emission	15 - 35	25
Humidity (%RH)		25 - 75	50
Barometric pressure (mbar)		860 - 1060	950-1000

Site Description:

January 24, 2005 File on
Federal Communications Commission
Laboratory Division
7435 Oakland Mills Road
Columbia, MD 21046
Registration Number: 365520



Accredited by TAF
Accreditation Number: 1313
Effective through: December 27, 2010



Accredited by NVLAP
NVLAP Lab Code: 200347-0
Effective through: September 30, 2008



Site Name: Quietek Corporation
Site Address: No.75-1, Wang-Yeh Valley, Yung-Hsing,
Chiung-Lin, Hsin-Chu County,
Taiwan, R.O.C.
TEL : 886-3-592-8858 / FAX : 886-3-592-8859
E-Mail : service@quietek.com

2. Peak Output Power

2.1. Test Equipment

The following test equipments are used during the test:

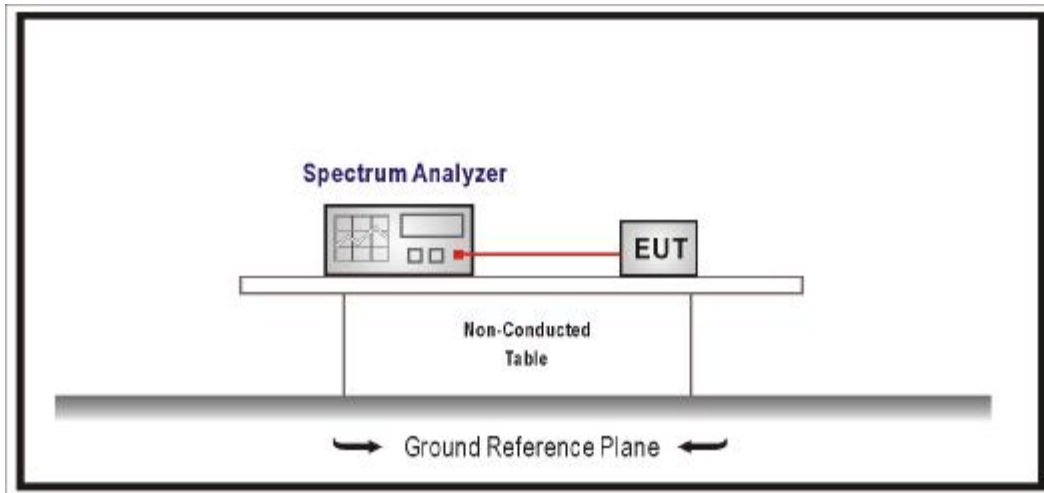
RF Conducted Measurement:					
Item	Equipment		Manufacturer	Model No. / Serial No.	Last Cal.
1	Spectrum Analyzer		R & S	FSP / 100561	Jan., 2008
2	No.7 Shielding Room				Sep., 2008
RF Radiated Measurement:					
Item	Equipment		Manufacturer	Model No. / Serial No.	Last Cal.
1	X	Spectrum Analyzer	R & S	FSP40 / 100005	Aug., 2008
2	X	Pre-Amplifier	HP	8449B / 3008A01123	Feb., 2008
3		Loop Antenna	R & S	HFH2-Z2 / 833799/004	Sep., 2008
4		BiconiLog Antenna	Schwarzbeck	VULB 9166 / 1061	Sep., 2008
5		Bilog Antenna	Chase	CBL6112B / 2455	Sep., 2008
6	X	Horn Antenna	Schwarzbeck	BBHA 9120D / BBHA9120D312	Sep., 2008
7	X	Horn Antenna	Schwarzbeck	BBHA 9120 / 9120D-639	Aug., 2008
8	X	Singal Generator	MG3694A	041902	Nov., 2007
9	No.1 OATS				Sep., 2008

Note: 1. All equipments that need to calibrate are with calibration period of 1 year.

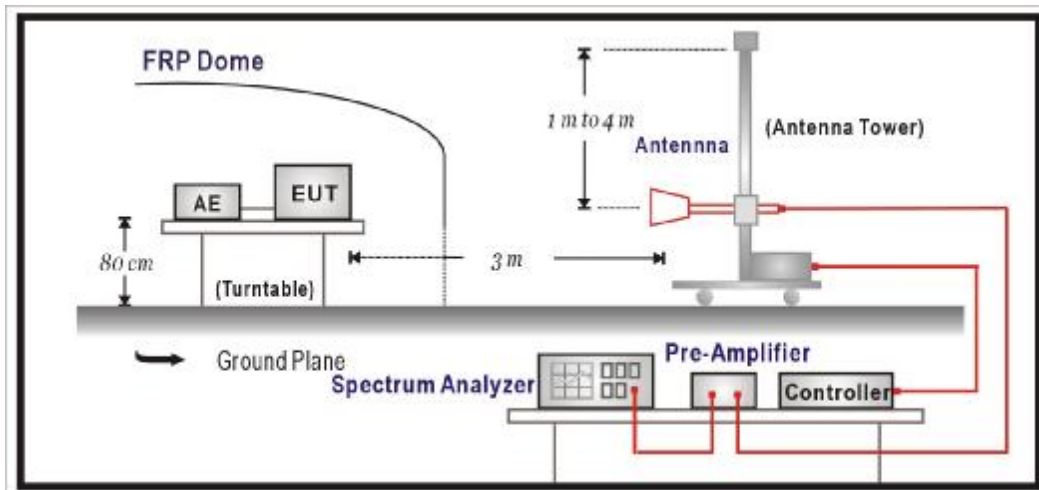
2. Mark "X" test instruments are used to measure the final test results.

2.2. Test Setup

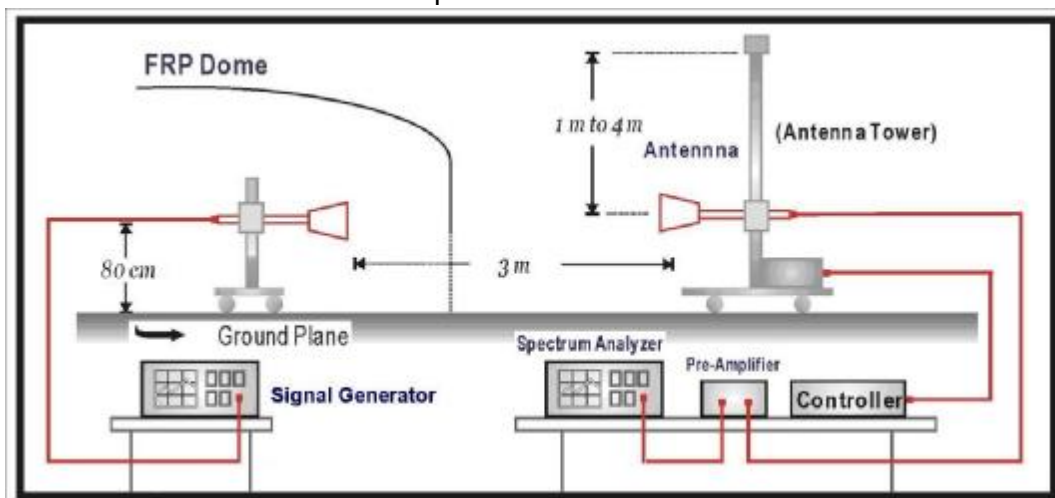
RF Conducted Measurement:



RF Radiated Measurement:



Substitution Measurement Setup:



2.3. Limits

(1) Main, Booster and Base Stations: Maximum E.I.R.P shall not exceed $33 \text{ dBW} + 10\log(X/Y)$ dBW, where X is the actual channel width in MHz and Y is either 6 MHz if prior to transition or the station is in the MBS following transition or 5.5 MHz if the station is in the LBS and UBS following transition.

(2) Mobile and Other User Stations: 2.0 Watts EIRP.

2.4. Test Procedure

The conducted peak output power is measured using R&S Spectrum Analyzer. The EUT was set up for the rated peak power. All measurements were done at 3 channels: low, middle and high operational frequency range.

For measuring E.I.R.P peak power, EUT was placed on the turn-table which was rotated around 360 degrees to search the maximum radiation power and receiver antenna was rotated vertical and horizontal polarization to find the maximum polarization radiated power.

The EUT is replaced by a horn antenna connected to a signal generator tuned to the frequency of emission and level of signal generator adjusted to same level of emission. Both horizontal and vertical polarization of the antenna are set on measurement.

The radiated E.I.R.P power was calculated via the Correct factor, Reading Level, and Antenna gain as follows:

$$\text{E.I.R.P} = \text{Reading Level} + \text{Correct Factor} = \text{S.G.} - \text{Cable Loss} + \text{Antenna Gain}$$

2.5. Uncertainty

The measurement uncertainty is defined as $\pm 1.27 \text{ dB}$

2.6. Test Result

Product	IN-Band MMDS Two-Way Transceiver		
Test Item	Peak Output Power		
Test Mode	Transmit		
Date of Test	2008/08/28	Test Site	SR7

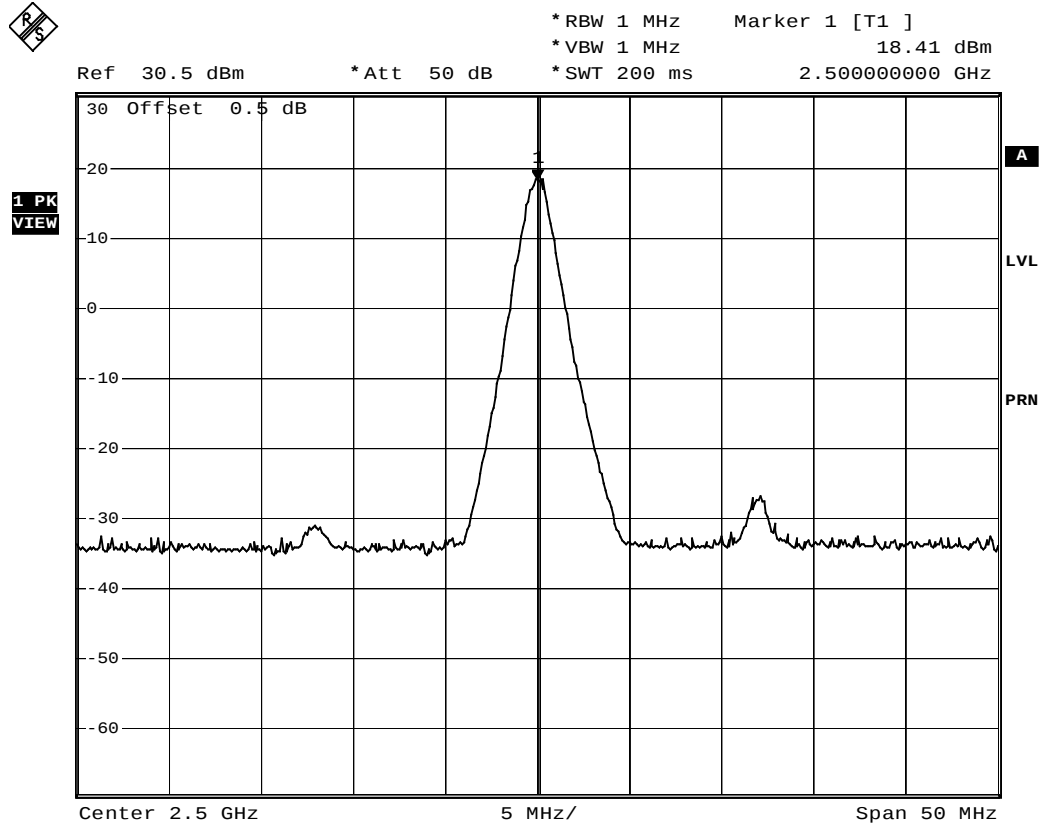
Upstream Symbol Rate (ksps)	Test Mode	QPSK			16QAM		
		2500MHz	2515MHz	2530MHz	2500MHz	2515MHz	2530MHz
160	Mode 1	17.38dBm	19.49dBm	17.77dBm	18.41dBm	20.81dBm	18.99dBm
320	Mode 3	17.50dBm	19.44dBm	17.56dBm	18.87dBm	21.18dBm	19.17dBm
640	Mode 4	17.05dBm	19.36dBm	17.60dBm	18.83dBm	20.67dBm	19.23dBm
1280	Mode 5	17.74dBm	20.03dBm	18.31dBm	19.95dBm	21.19dBm	19.31dBm
2560	Mode 2	17.89dBm	20.06dBm	18.35dBm	18.98dBm	21.27dBm	19.44dBm

Test Mode: Mode 1

Modulation Type: 16QAM

2500 MHz

Upstream Symbol Rate: 160 ksps



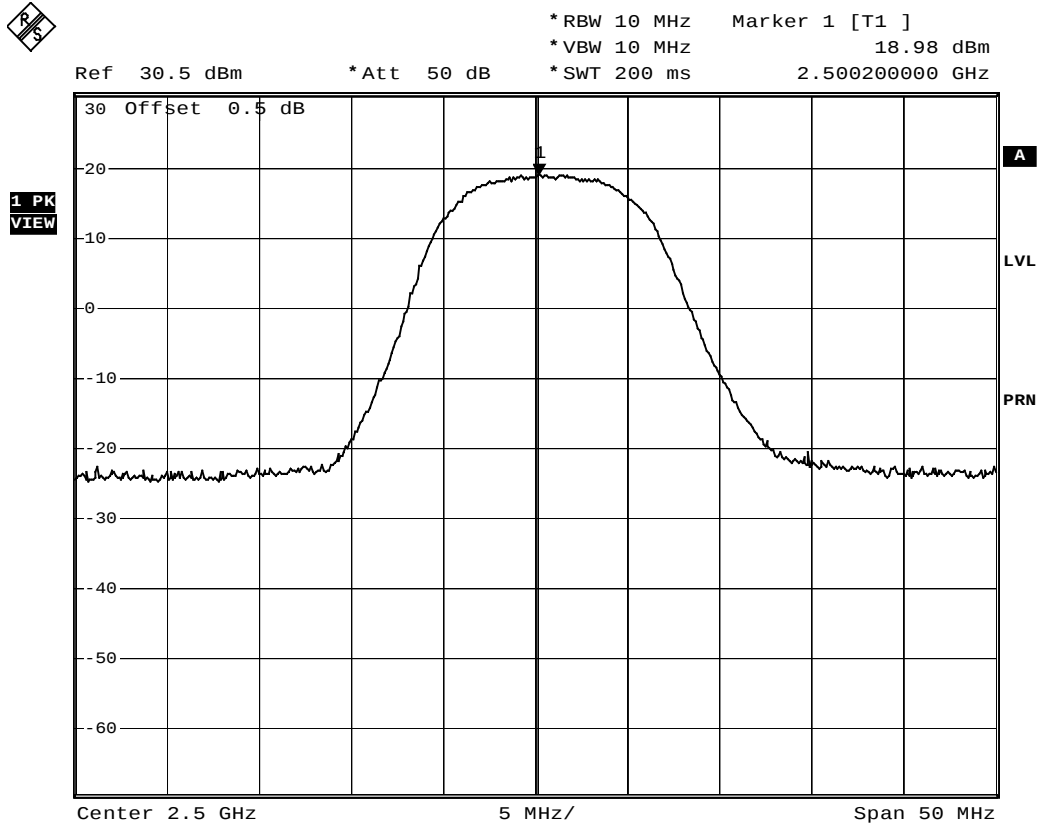
Date: 28.AUG.2008 14:55:57

Test Mode: Mode 2

Modulation Type: 16QAM

2500 MHz

Upstream Symbol Rate: 2560 ksps



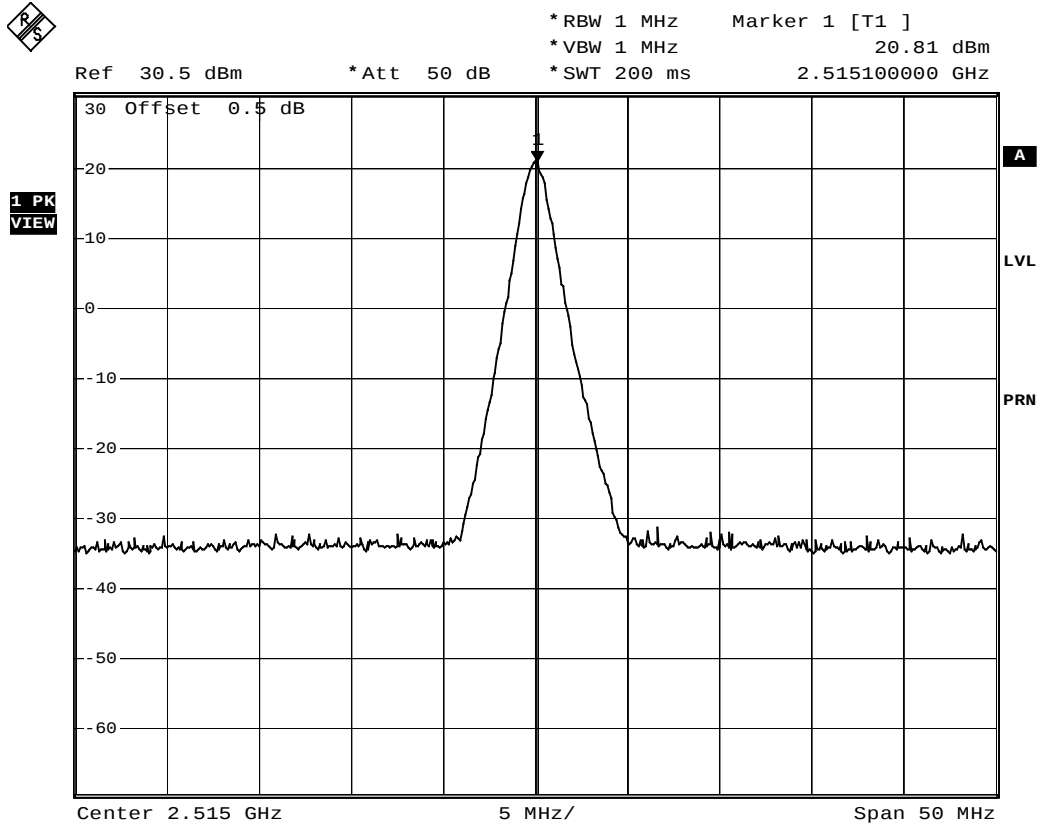
Date: 28.AUG.2008 14:50:30

Test Mode: Mode 1

Modulation Type: 16QAM

2515 MHz

Upstream Symbol Rate: 160 ksps



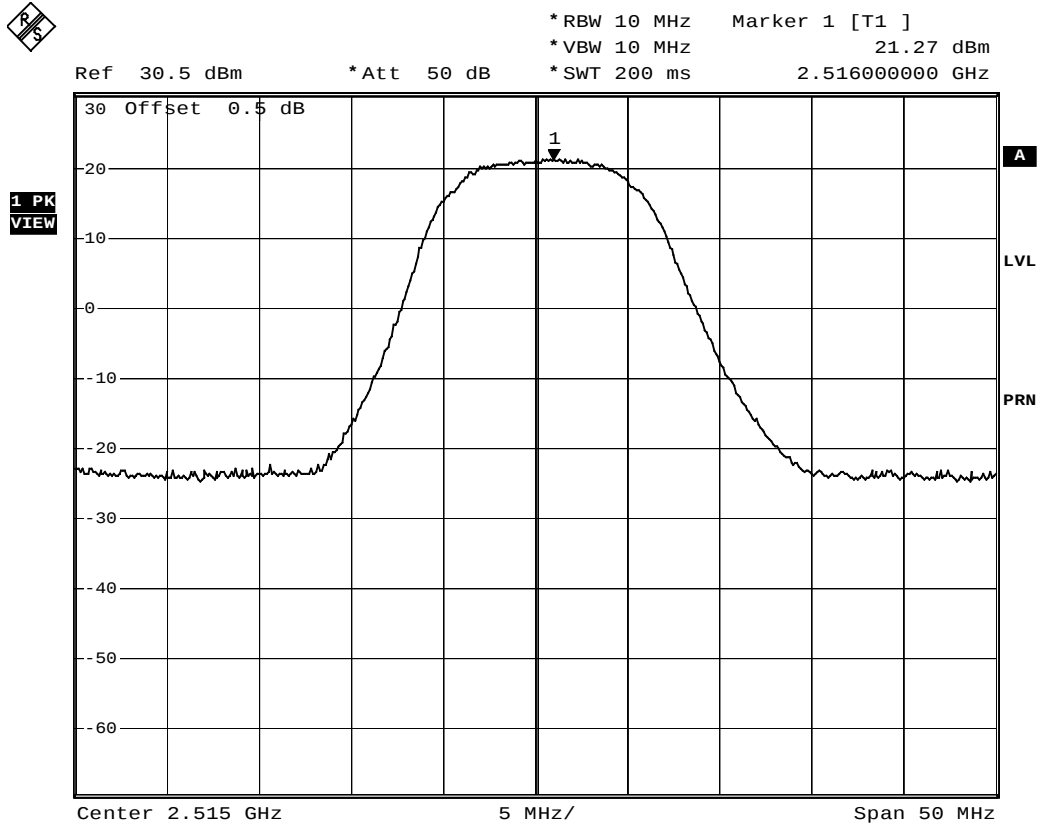
Date: 28.AUG.2008 14:55:18

Test Mode: Mode 2

Modulation Type: 16QAM

2515 MHz

Upstream Symbol Rate: 2560 ksps



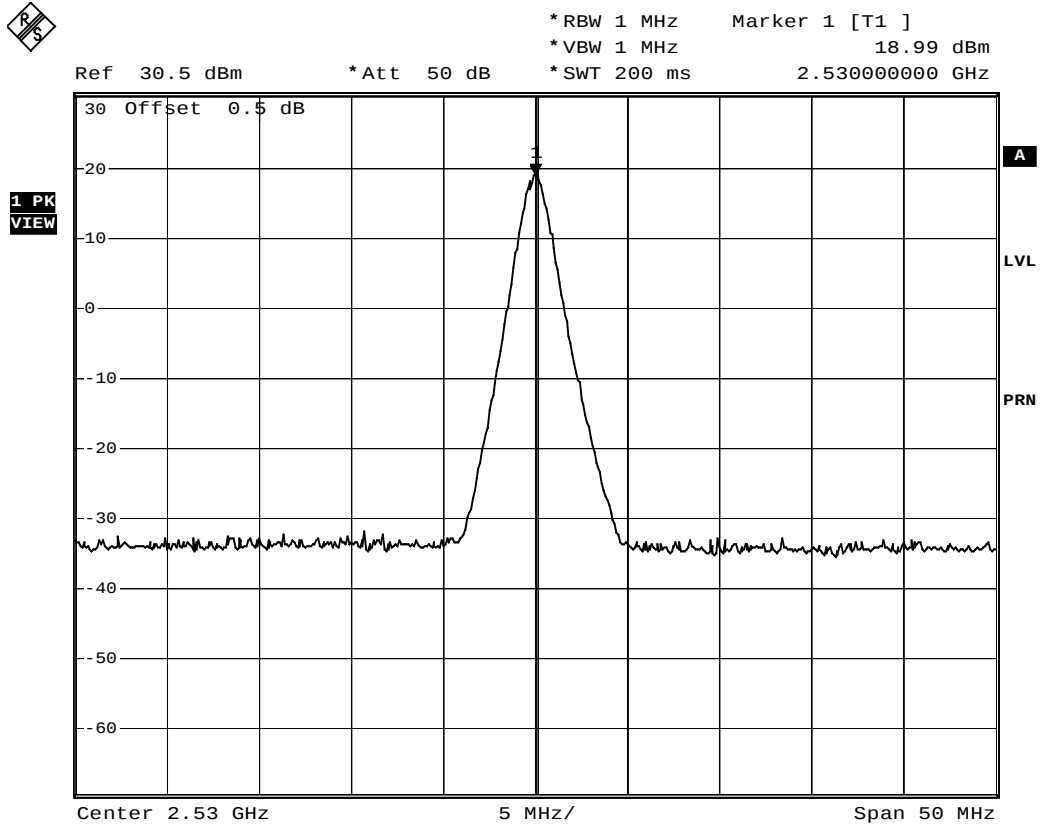
Date: 28.AUG.2008 14:51:08

Test Mode: Mode 1

Modulation Type: 16QAM

2530 MHz

Upstream Symbol Rate: 160 ksps



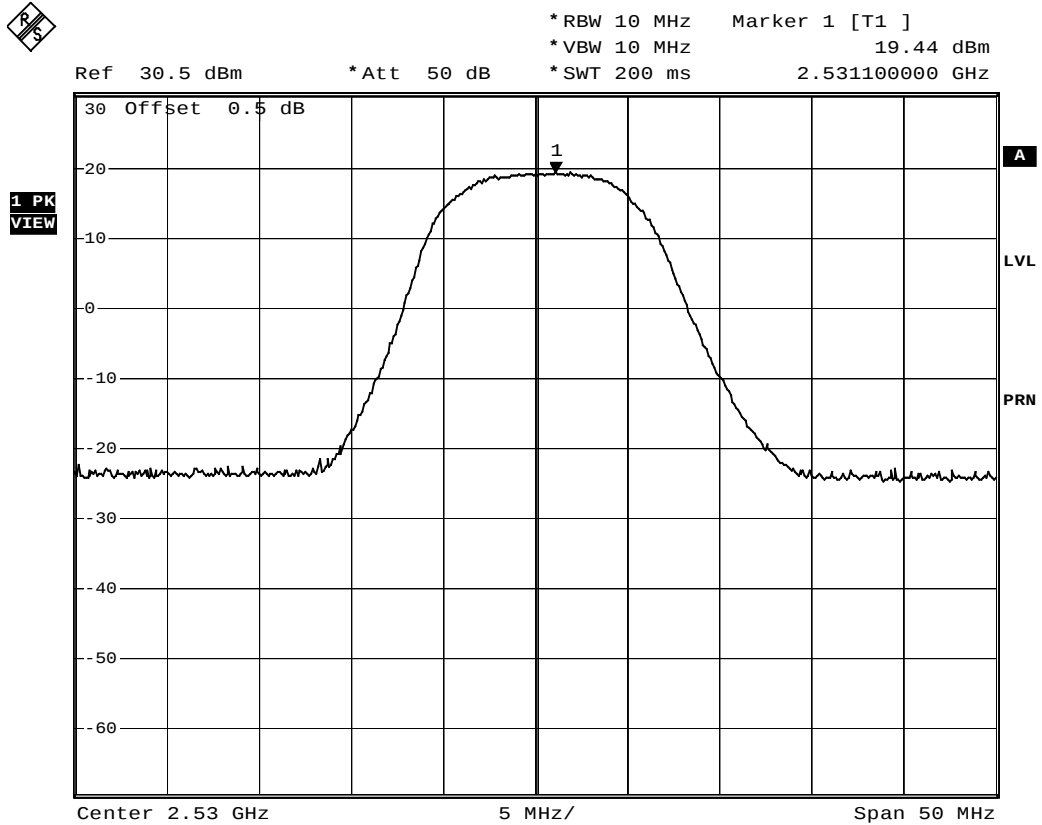
Date: 28.AUG.2008 14:54:34

Test Mode: Mode 2

Modulation Type: 16QAM

2530 MHz

Upstream Symbol Rate: 2560 ksps



Date: 28.AUG.2008 14:51:49

E.I.R.P Power (Mode1: 16QAM-200KHz)					
Channel	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	E.I.R.P (dBm)	E.I.R.P (mW)
Low	2500	46.015	-24.75	20.264	106.27
Middle	2515	46.029	-24.14	21.889	154.49
High	2530	46.04	-25.48	20.56	113.76

E.I.R.P = Reading Level + Correct Factor = S.G. – Cable Loss + Antenna Gain

E.I.R.P Power (Mode2: 16QAM-3200KHz)					
Channel	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	E.I.R.P (dBm)	E.I.R.P (mW)
Low	2500	46.015	-25.316	20.698	117.44
Middle	2515	46.03	-25.38	22.301	169.86
High	2530	46.04	-24.351	21.689	147.54

E.I.R.P = Reading Level + Correct Factor = S.G. – Cable Loss + Antenna Gain

E.I.R.P Power (Mode3: 16QAM-400KHz)					
Channel	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	E.I.R.P (dBm)	E.I.R.P (mW)
Low	2500	45.86	-25.488	20.372	108.94
Middle	2515	45.605	-23.613	21.992	158.20
High	2530	45.34	-24.498	20.842	121.39

E.I.R.P = Reading Level + Correct Factor = S.G. – Cable Loss + Antenna Gain

E.I.R.P Power (Mode4: 16QAM-800KHz)					
Channel	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	E.I.R.P (dBm)	E.I.R.P (mW)
Low	2500	45.86	-25.379	20.481	111.71
Middle	2515	45.605	-23.51	22.095	161.99
High	2530	45.34	-24.216	21.124	129.54

E.I.R.P = Reading Level + Correct Factor = S.G. – Cable Loss + Antenna Gain

E.I.R.P Power (Mode5: 16QAM-1600KHz)					
Channel	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	E.I.R.P (dBm)	E.I.R.P (mW)
Low	2500	45.86	-25.271	20.589	114.52
Middle	2515	45.605	-23.407	22.198	165.88
High	2530	45.34	-23.934	21.406	138.23

E.I.R.P = Reading Level + Correct Factor = S.G. – Cable Loss + Antenna Gain

3. Occupied Bandwidth

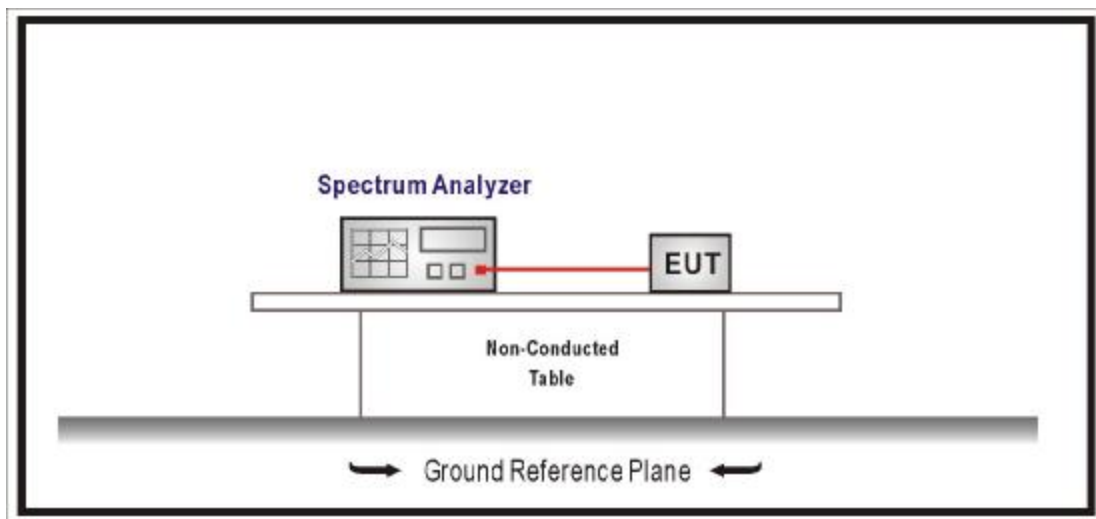
3.1. Test Equipment

The following test equipments are used during the test:

Item	Equipment	Manufacturer	Model No. / Serial No.	Last Cal.
1	Spectrum Analyzer	R & S	FSP / 100561	Jan., 2008
2	No.7 Shielding Room			Sep., 2008

Note: 1. All equipments that need to calibrate are with calibration period of 1 year.

3.2. Test Setup



3.3. Limits

The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

3.4. Test Procedure

The occupied bandwidth is measured using R&S Spectrum Analyzer with a resolution bandwidth of 100 kHz, video bandwidth of 300 kHz and span of 10 MHz. The EUT was set up for the rated peak power under transmission mode and specific channel frequency. The standards required a measurement bandwidth is the fundamental emission below 26dB bandwidth.

3.5. Uncertainty

The measurement uncertainty is defined as ± 50 KHz

3.6. Test Result

Product	IN-Band MMDS Two-Way Transceiver		
Test Item	Occupied Bandwidth		
Test Mode	Transmit		
Date of Test	2008/08/28	Test Site	SR7

Test Mode: Mode 1	
Occupied Bandwidth (QPSK-160)	
Frequency (MHz)	-26 dBc Bandwidth (MHz)
2500	0.206
2515	0.208
2530	0.208

Test Mode: Mode 2	
Occupied Bandwidth (QPSK-2560)	
Frequency (MHz)	-26 dBc Bandwidth (MHz)
2500	3.21
2515	3.22
2530	3.20

Test Mode: Mode 3	
Occupied Bandwidth (QPSK-320)	
Frequency (MHz)	-26 dBc Bandwidth (MHz)
2500	0.406
2515	0.404
2530	0.408

Test Mode: Mode 4	
Occupied Bandwidth (QPSK-640)	
Frequency (MHz)	-26 dBc Bandwidth (MHz)
2500	0.760
2515	0.764
2530	0.764

Test Mode: Mode 5	
Occupied Bandwidth (QPSK-1280)	
Frequency (MHz)	-26 dBc Bandwidth (MHz)
2500	1.59
2515	1.58
2530	1.58

Test Mode: Mode 1	
Occupied Bandwidth (16QAM-160)	
Frequency (MHz)	-26 dBc Bandwidth (MHz)
2500	0.206
2515	0.208
2530	0.204

Test Mode: Mode 2	
Occupied Bandwidth (16QAM-2560)	
Frequency (MHz)	-26 dBc Bandwidth (MHz)
2500	3.20
2515	3.22
2530	3.22

Test Mode: Mode 3	
Occupied Bandwidth (16QAM-320)	
Frequency (MHz)	-26 dBc Bandwidth (MHz)
2500	0.404
2515	0.406
2530	0.404

Test Mode: Mode 4	
Occupied Bandwidth (16QAM-640)	
Frequency (MHz)	-26 dBc Bandwidth (MHz)
2500	0.760
2515	0.760
2530	0.756

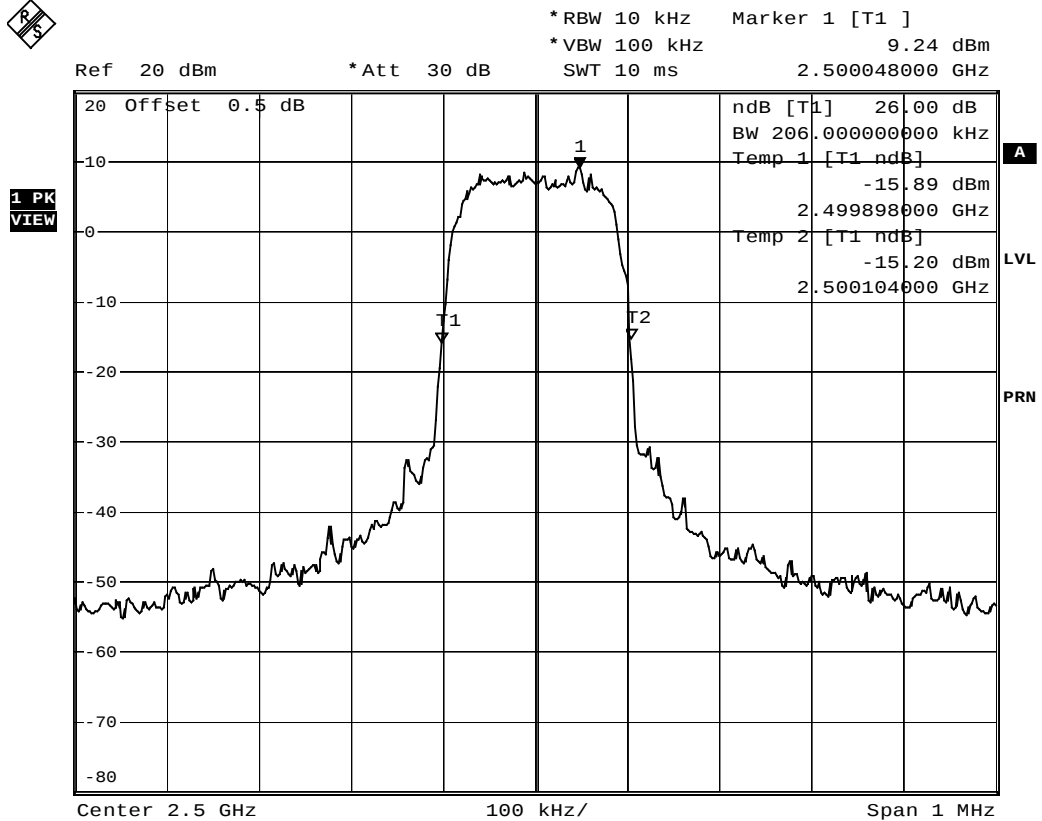
Test Mode: Mode 5	
Occupied Bandwidth (16QAM-1280)C	
Frequency (MHz)	-26 dBc Bandwidth (MHz)
2500	1.580
2515	1.580
2530	1.580

Test Mode: Mode 1

Modulation Type: QPSK

2500 MHz

Upstream Symbol Rate: 160 ksps



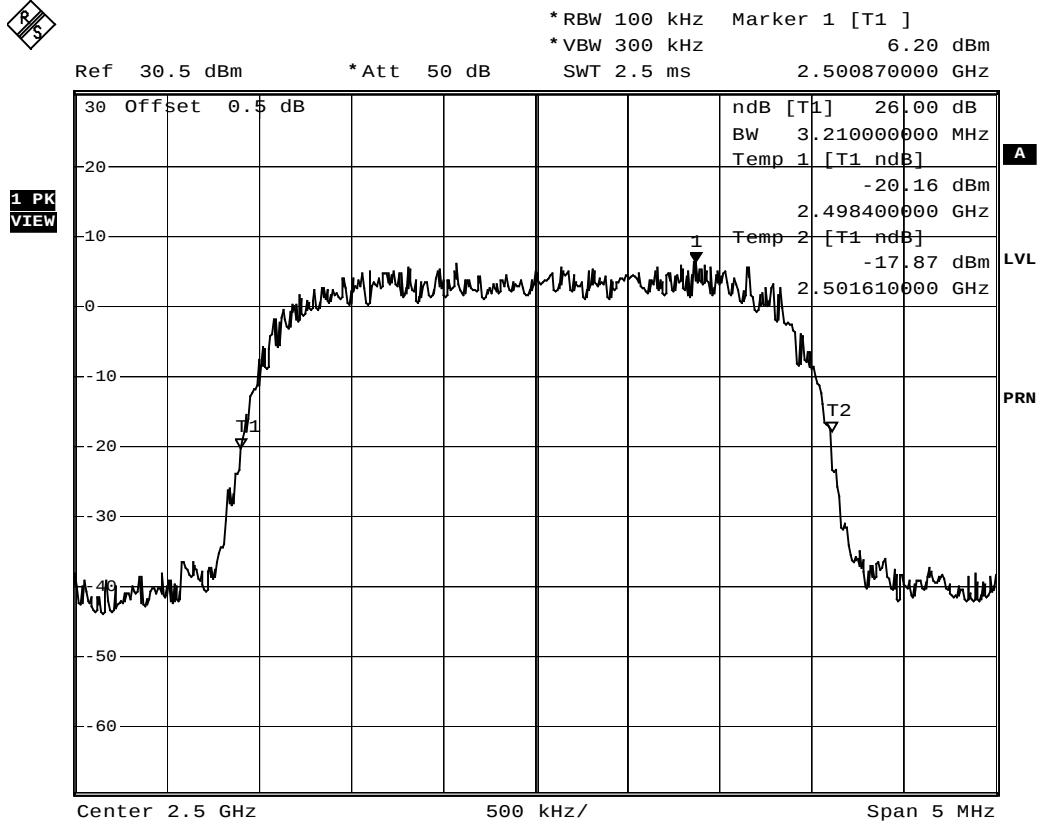
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Test Mode: Mode 2

Modulation Type: QPSK

2500 MHz

Upstream Symbol Rate: 2560 ksps



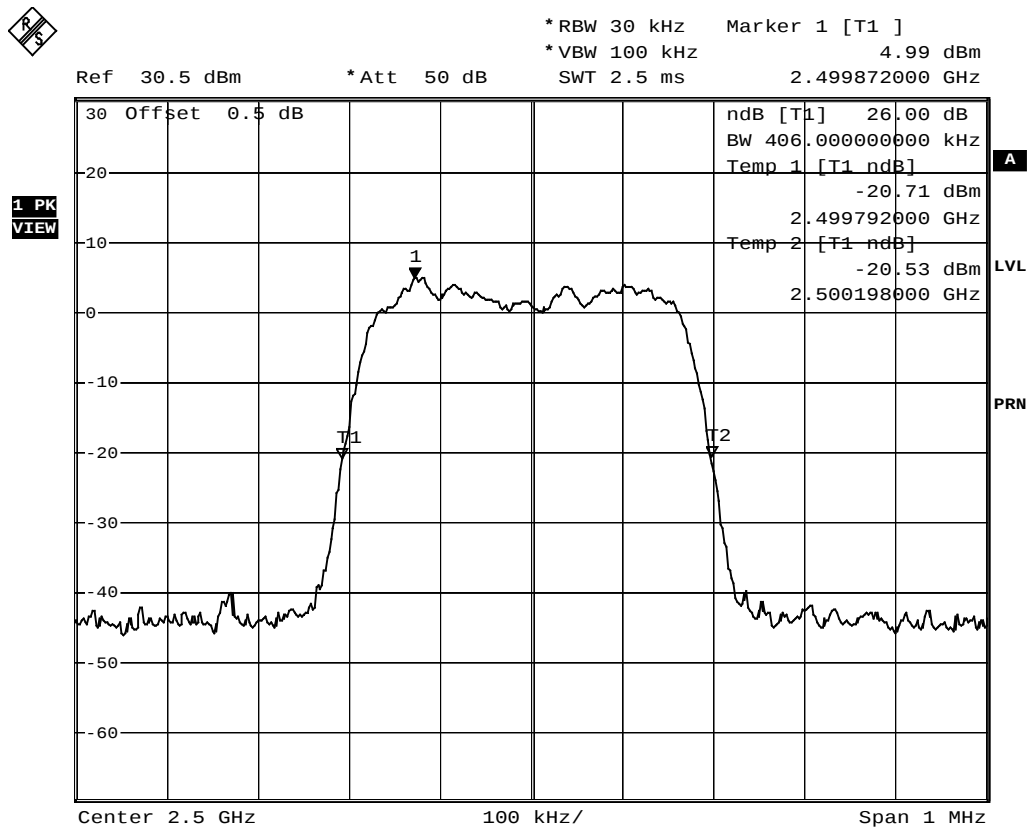
Date: 28.AUG.2008 11:38:47

Test Mode: Mode 3

Modulation Type: QPSK

2500 MHz

Upstream Symbol Rate: 320 ksps



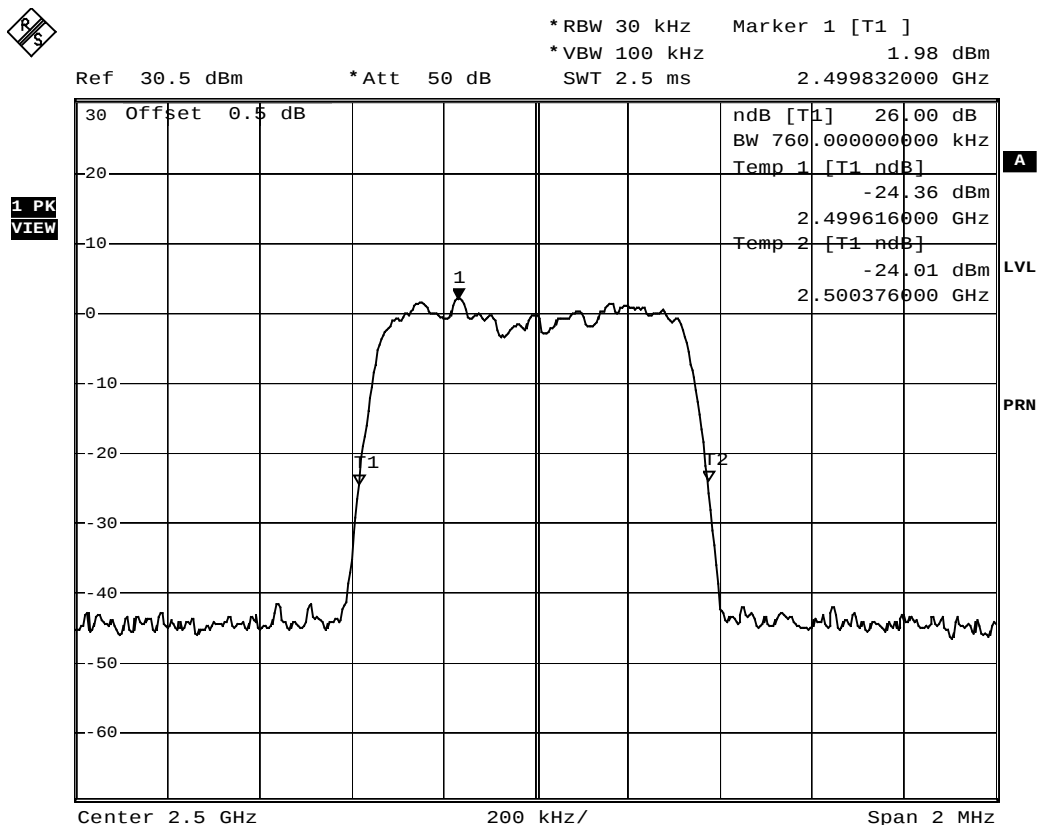
Date: 1.OCT.2008 19:40:50

Test Mode: Mode 4

Modulation Type: QPSK

2500 MHz

Upstream Symbol Rate: 640 ksps



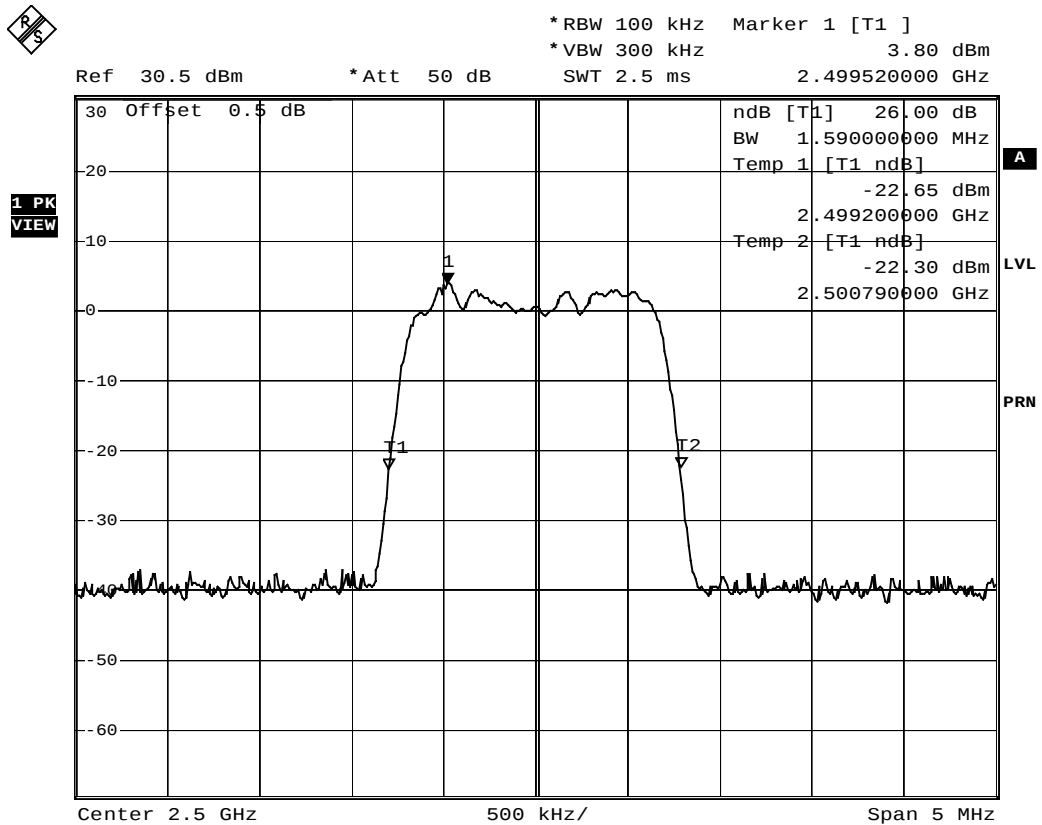
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Test Mode: Mode 5

Modulation Type: QPSK

2500 MHz

Upstream Symbol Rate: 1280 ksps



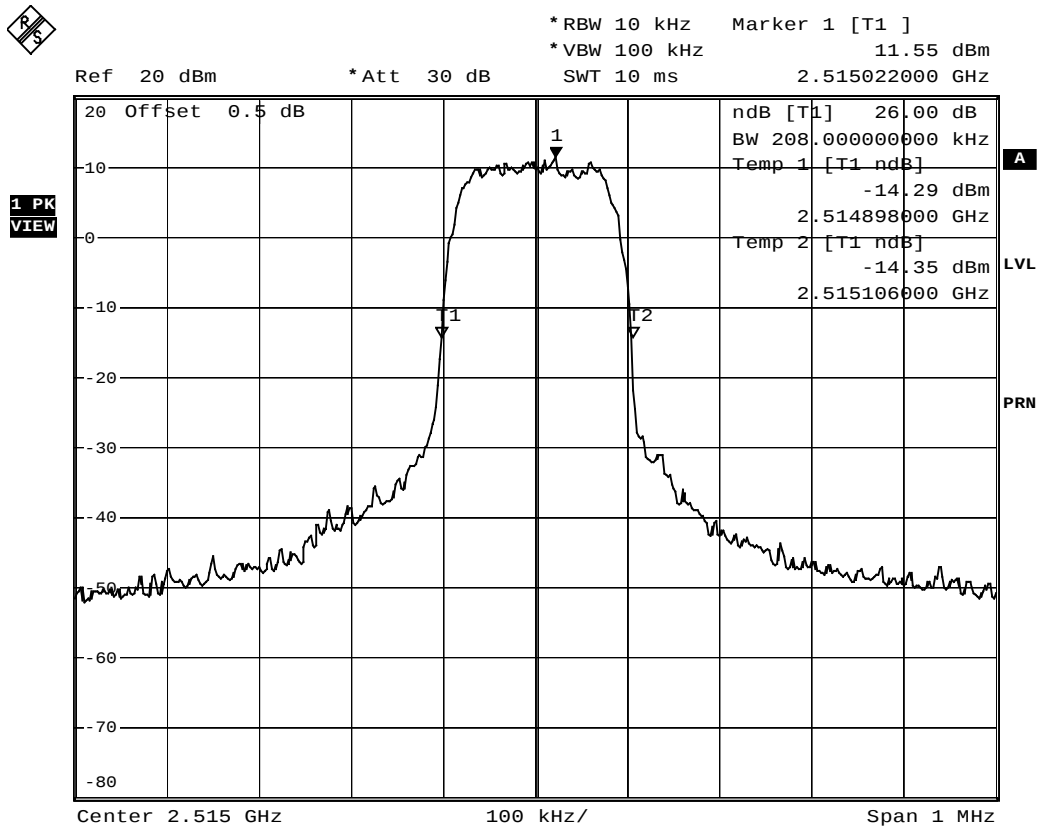
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Test Mode: Mode 1

Modulation Type: QPSK

2515 MHz

Upstream Symbol Rate: 160 ksps



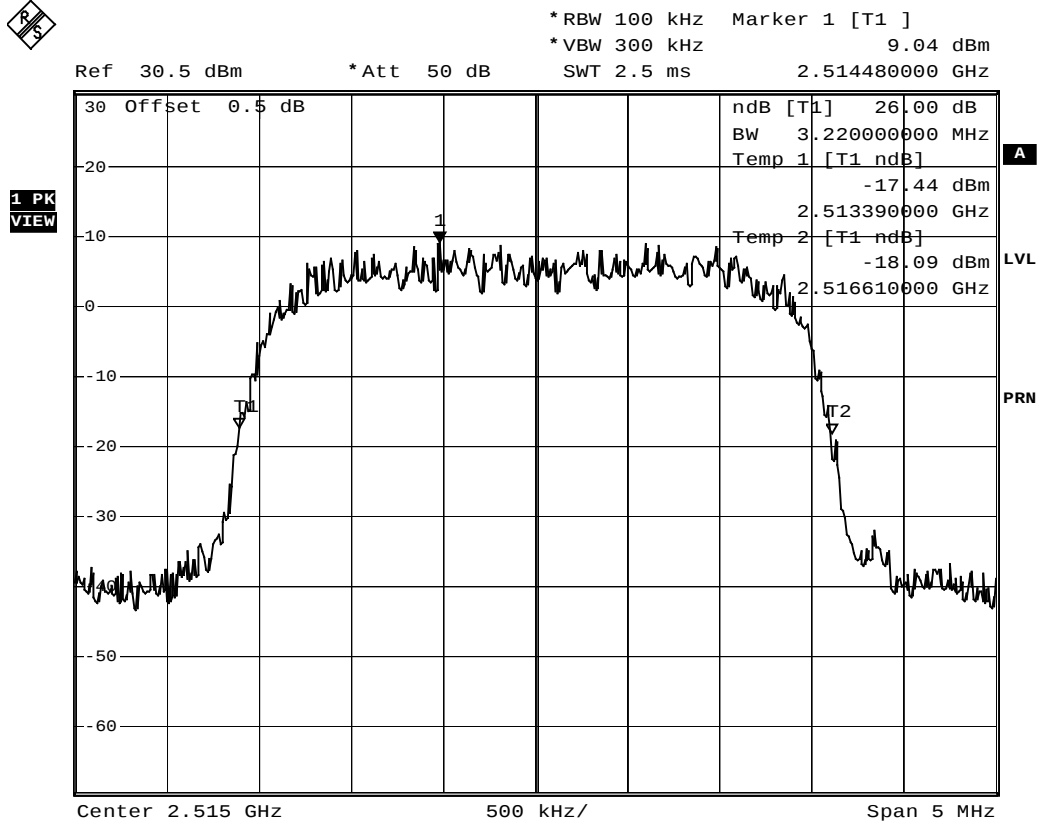
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Test Mode: Mode 2

Modulation Type: QPSK

2515 MHz

Upstream Symbol Rate: 2560 kps



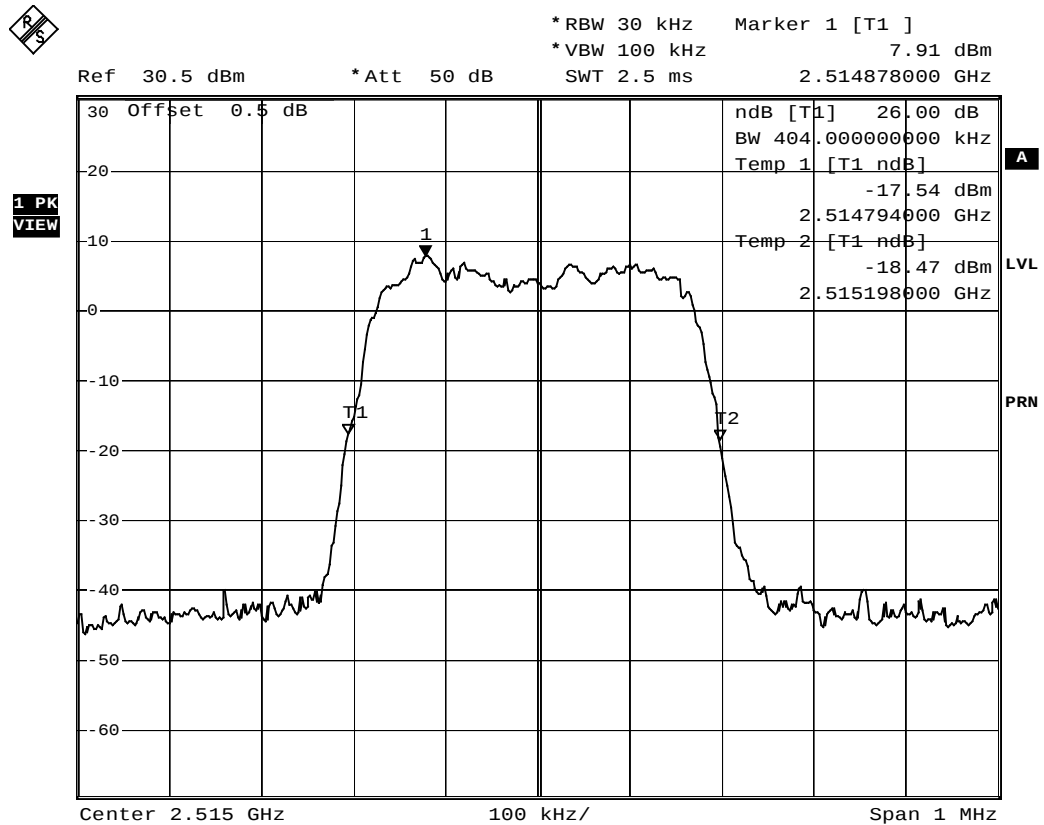
Date: 28.AUG.2008 11:37:59

Test Mode: Mode 3

Modulation Type: QPSK

2515 MHz

Upstream Symbol Rate: 320 ksps



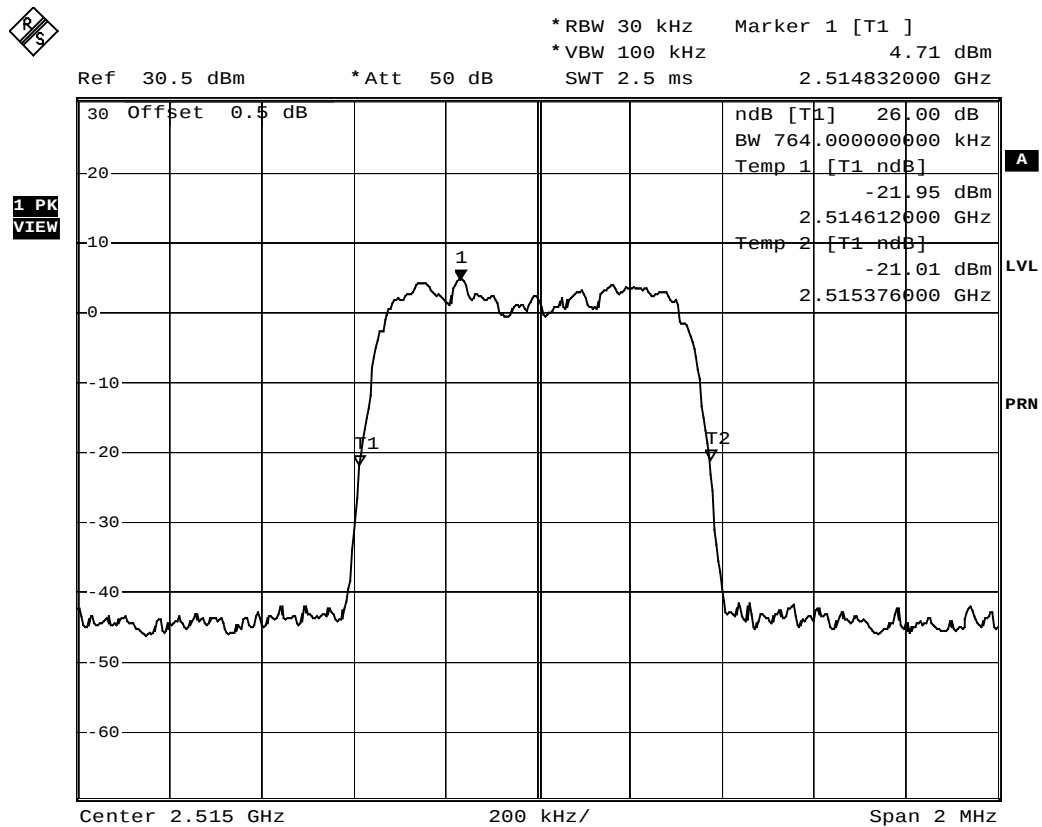
Date: 1.OCT.2008 19:24:55

Test Mode: Mode 4

Modulation Type: QPSK

2515 MHz

Upstream Symbol Rate: 640 ksps



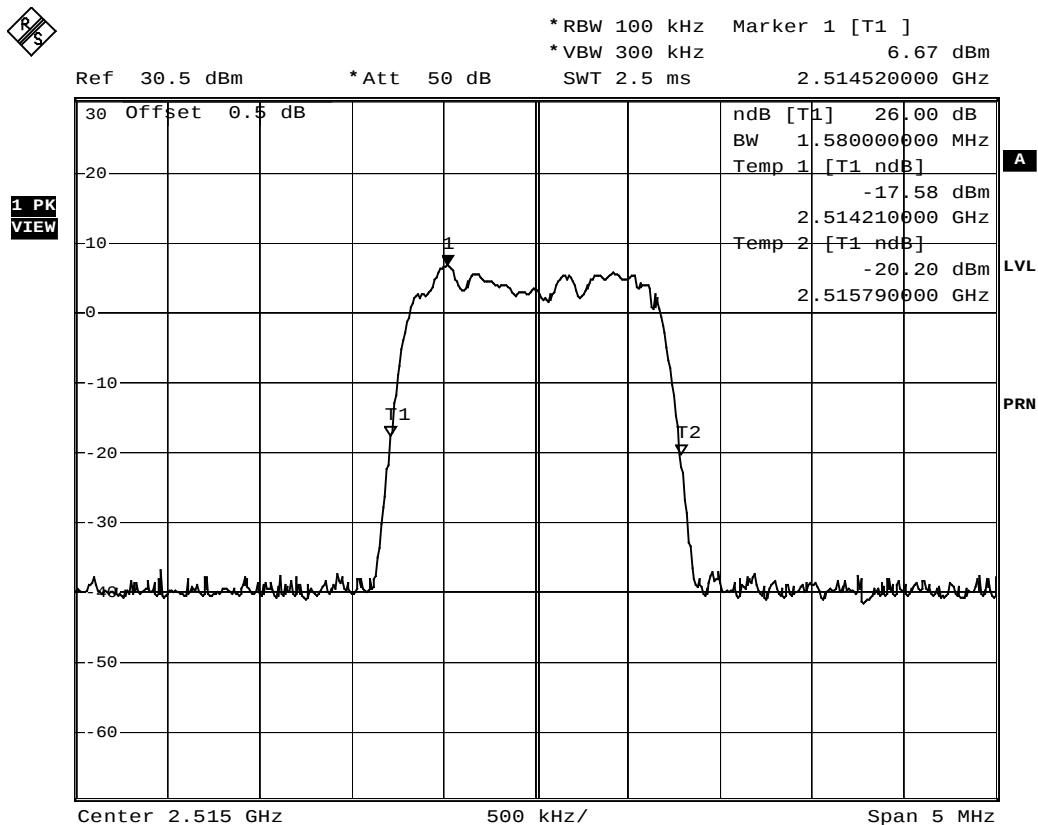
Date: 1.OCT.2008 19:29:42

Test Mode: Mode 5

Modulation Type: QPSK

2515 MHz

Upstream Symbol Rate: 1280 ksps



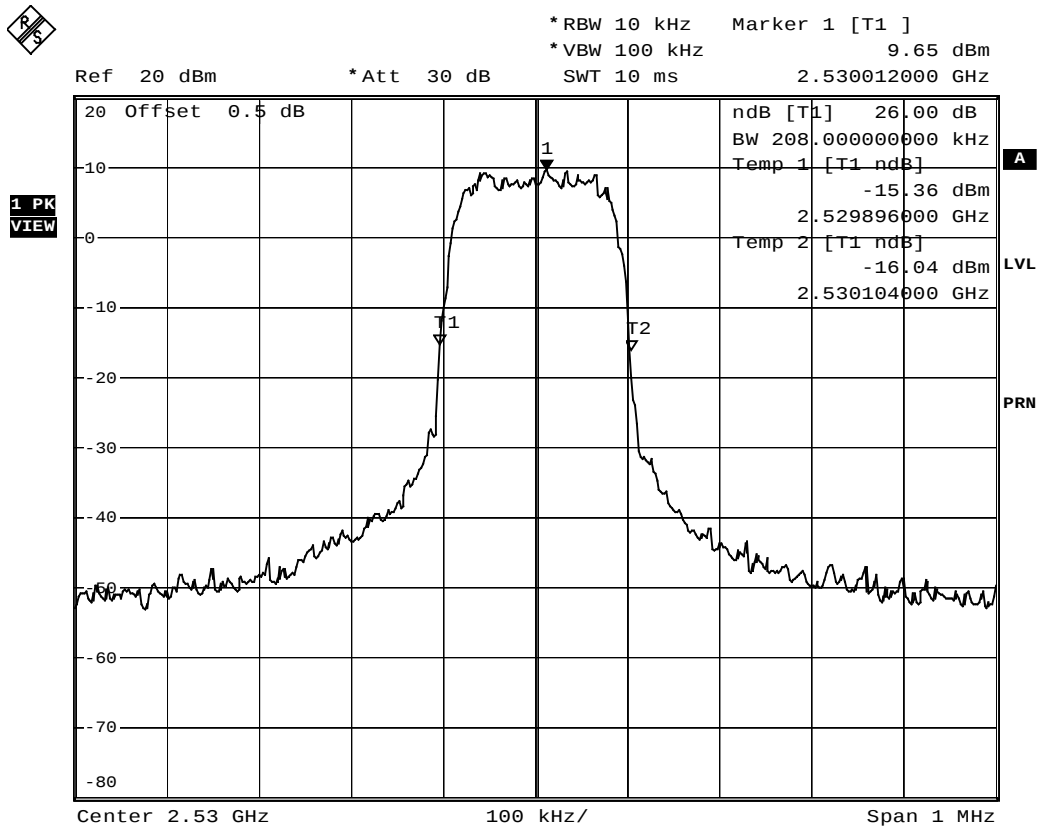
Date: 1.OCT.2008 20:03:08

Test Mode: Mode 1

Modulation Type: QPSK

2530 MHz

Upstream Symbol Rate: 160 kbps



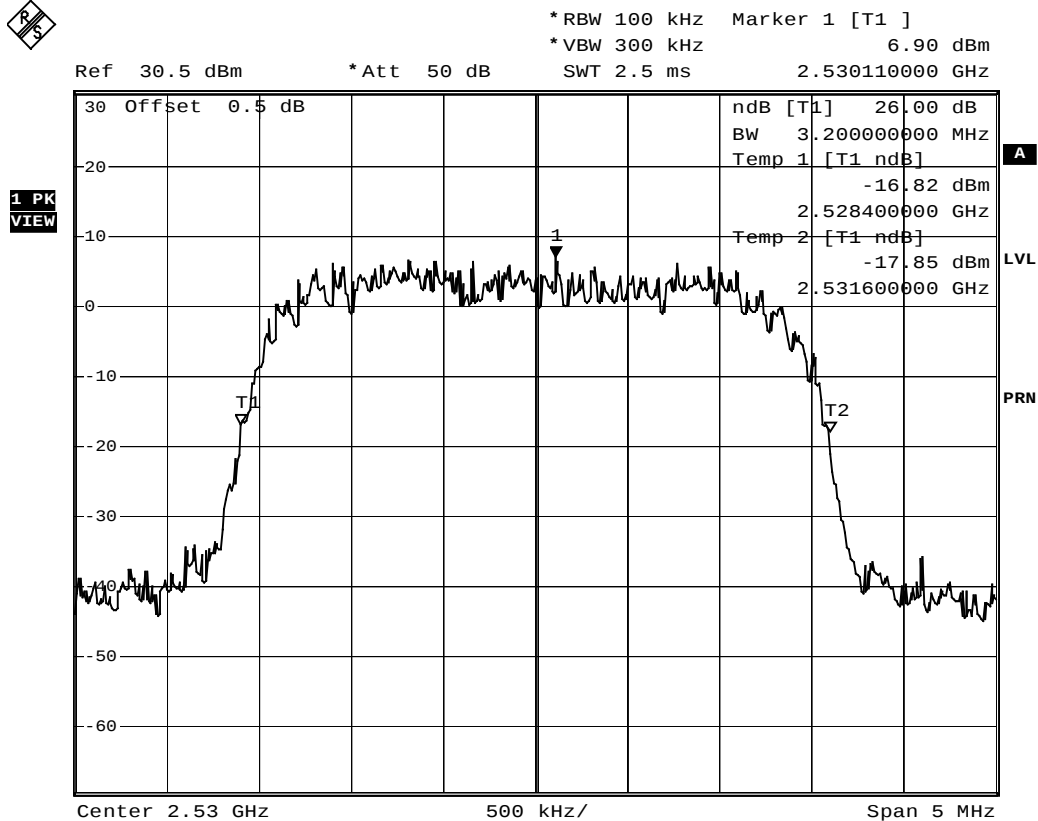
Date: 28.AUG.2008 14:36:01

Test Mode: Mode 2

Modulation Type: QPSK

2530 MHz

Upstream Symbol Rate: 2560 ksps



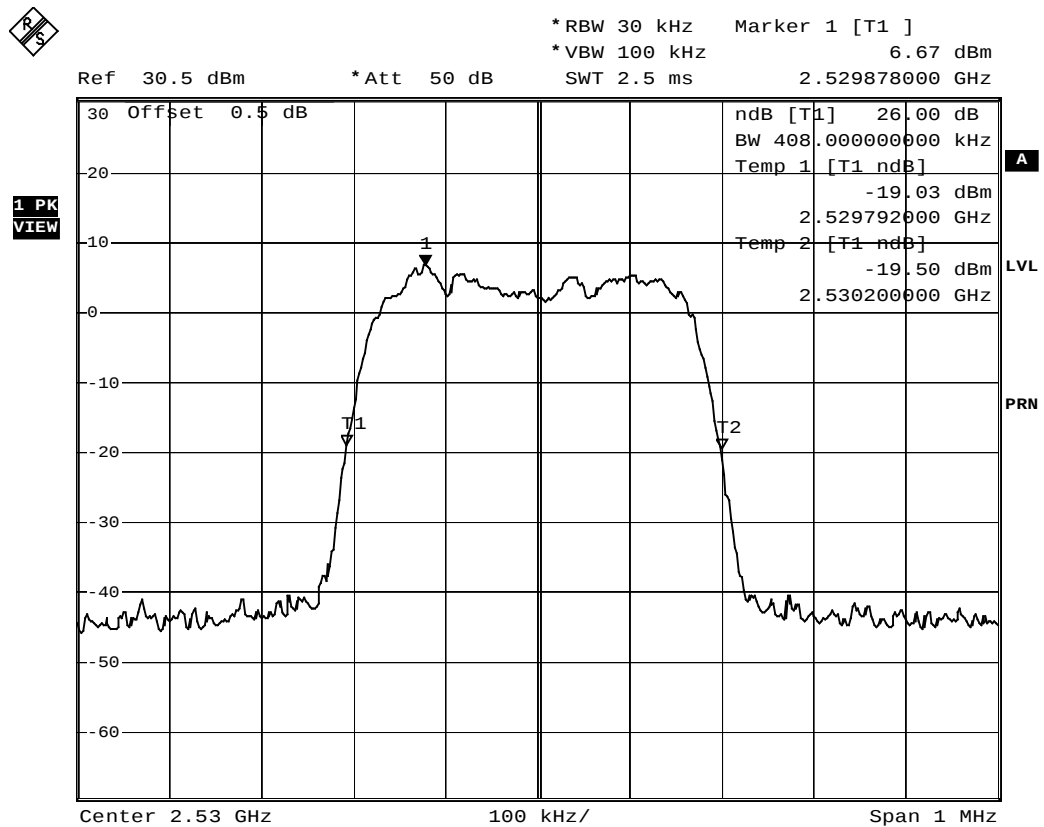
Date: 28.AUG.2008 11:36:55

Test Mode: Mode 3

Modulation Type: QPSK

2515 MHz

Upstream Symbol Rate: 320 ksps



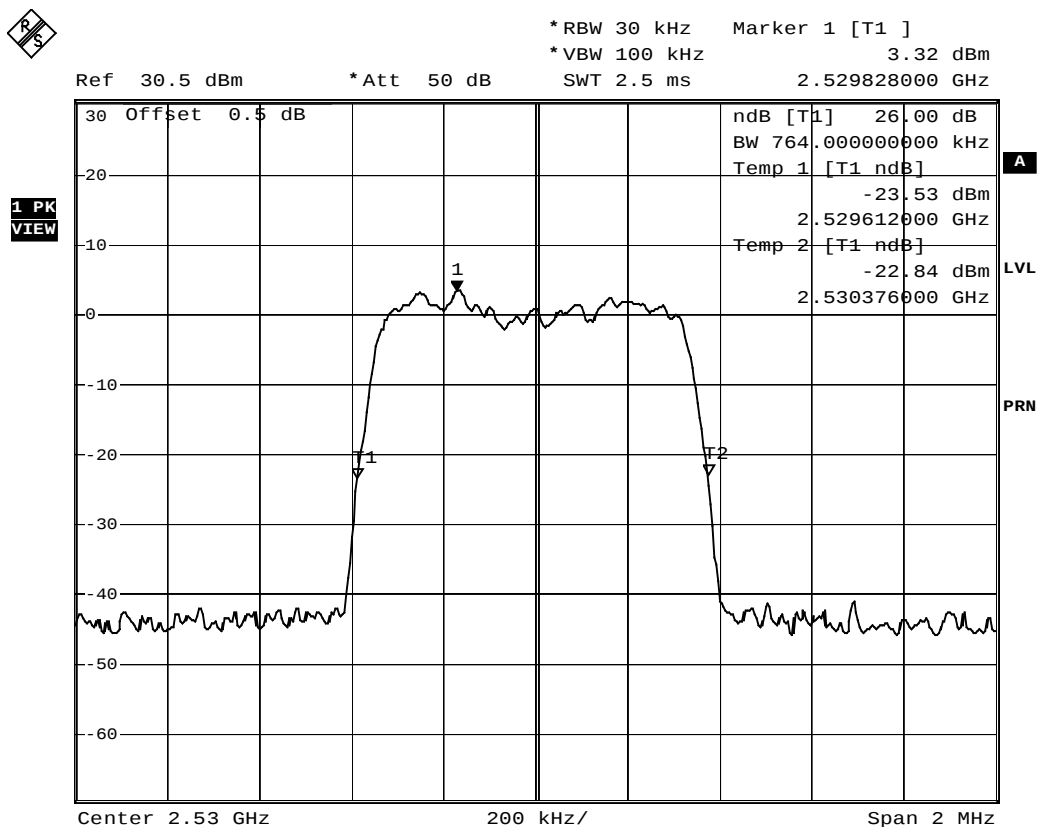
Date: 1.OCT.2008 19:24:23

Test Mode: Mode 4

Modulation Type: QPSK

2515 MHz

Upstream Symbol Rate: 640 ksps



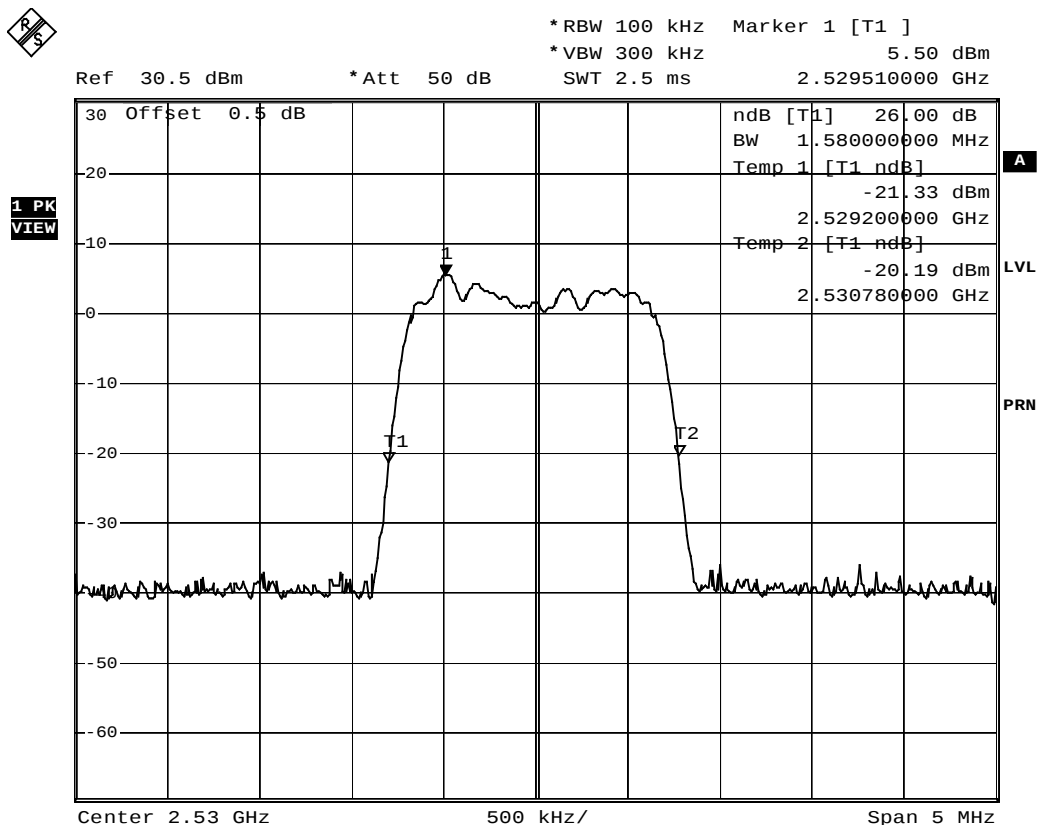
Date: 1.OCT.2008 19:30:27

Test Mode: Mode 5

Modulation Type: QPSK

2515 MHz

Upstream Symbol Rate: 1280 ksps



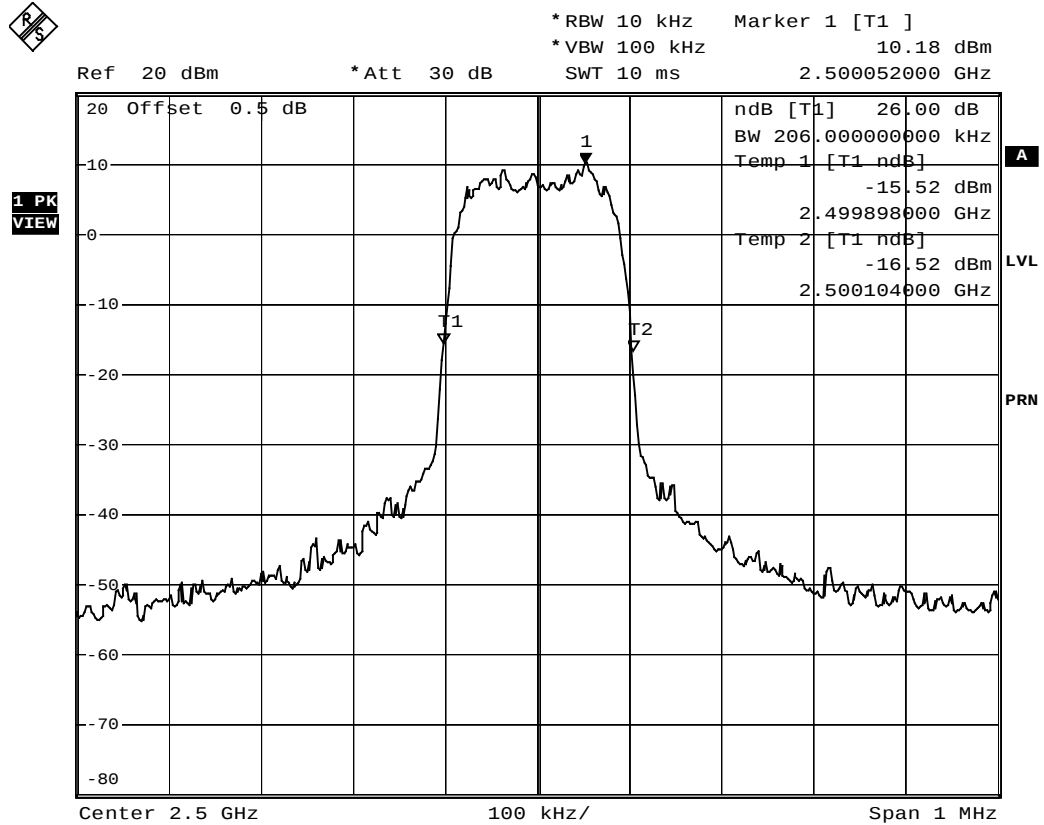
Date: 1.OCT.2008 20:02:37

Test Mode: Mode 1

Modulation Type: 16QAM

2500 MHz

Upstream Symbol Rate: 160 ksps



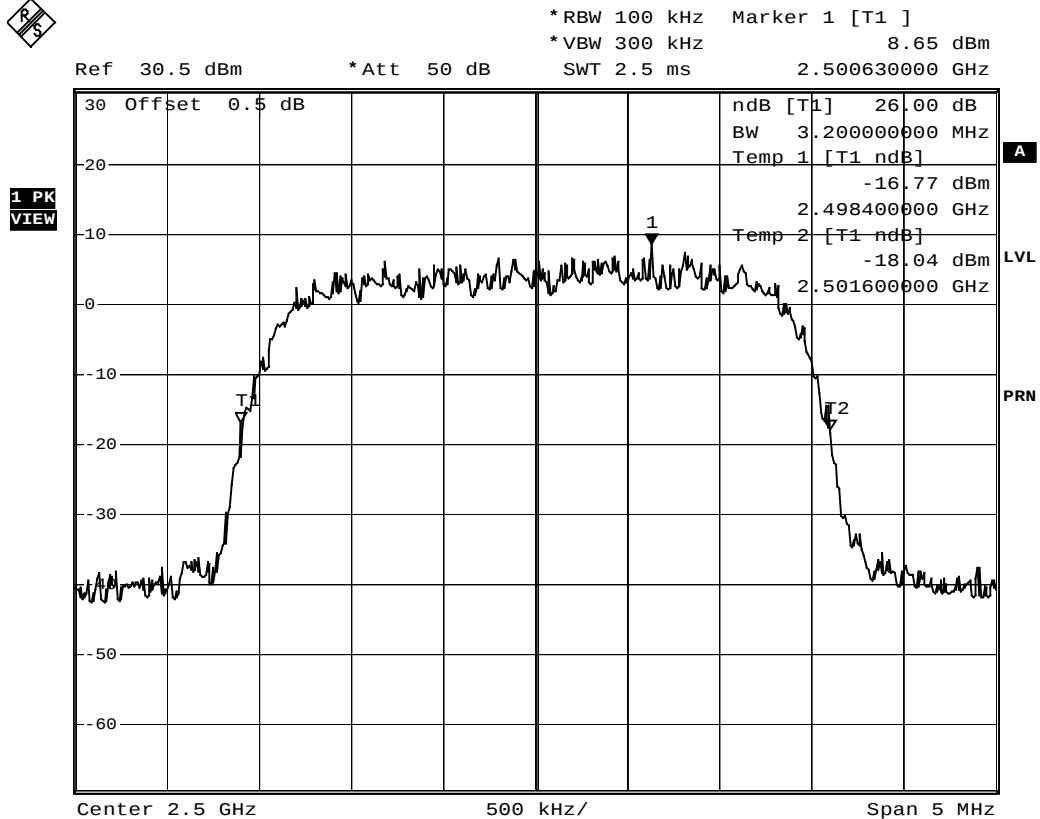
Date: 28.AUG.2008 14:39:08

Test Mode: Mode 2

Modulation Type: 16QAM

2500 MHz

Upstream Symbol Rate: 2560 kbps



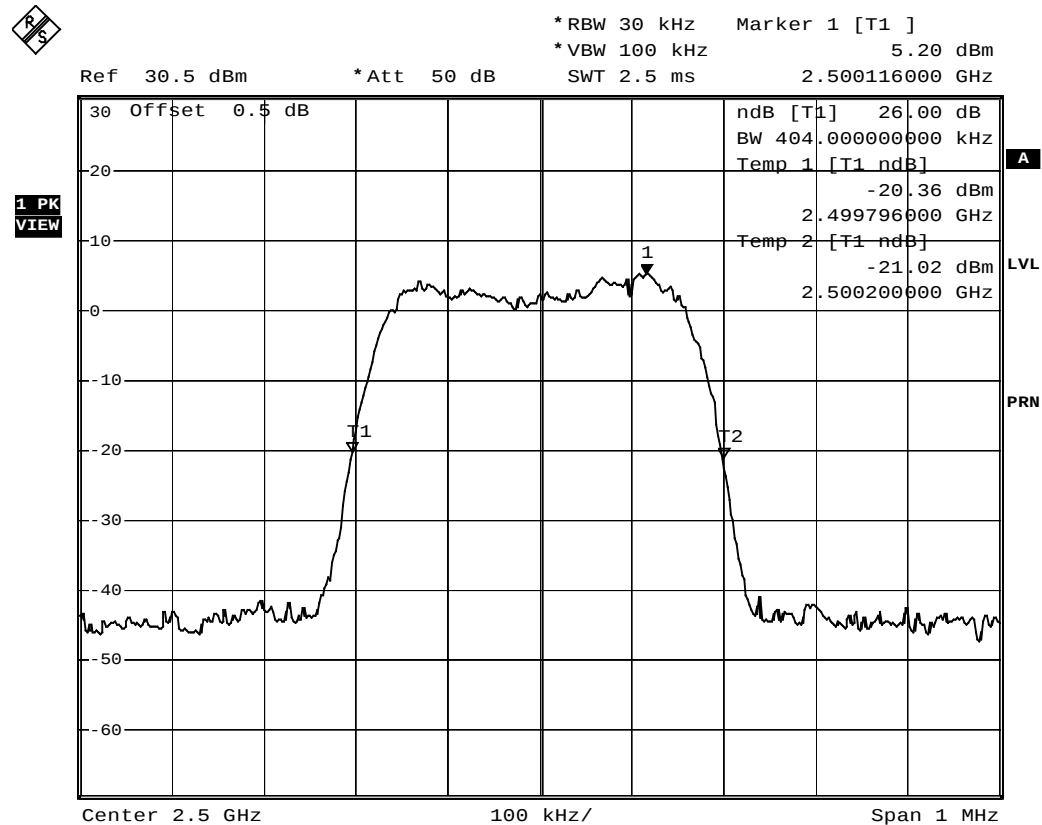
Date: 28.AUG.2008 11:40:58

Test Mode: Mode 3

Modulation Type: 16QAM

2500 MHz

Upstream Symbol Rate: 320 ksps



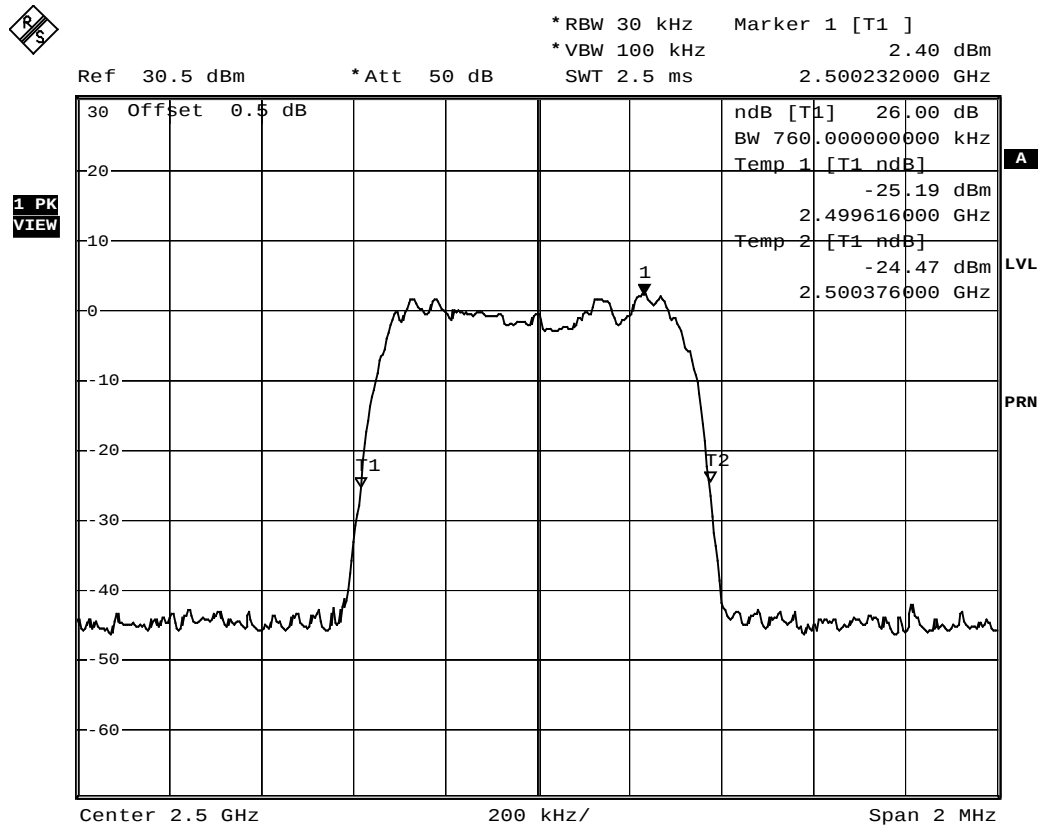
Date: 1.OCT.2008 19:17:09

Test Mode: Mode 4

Modulation Type: 16QAM

2500 MHz

Upstream Symbol Rate: 640 ksps



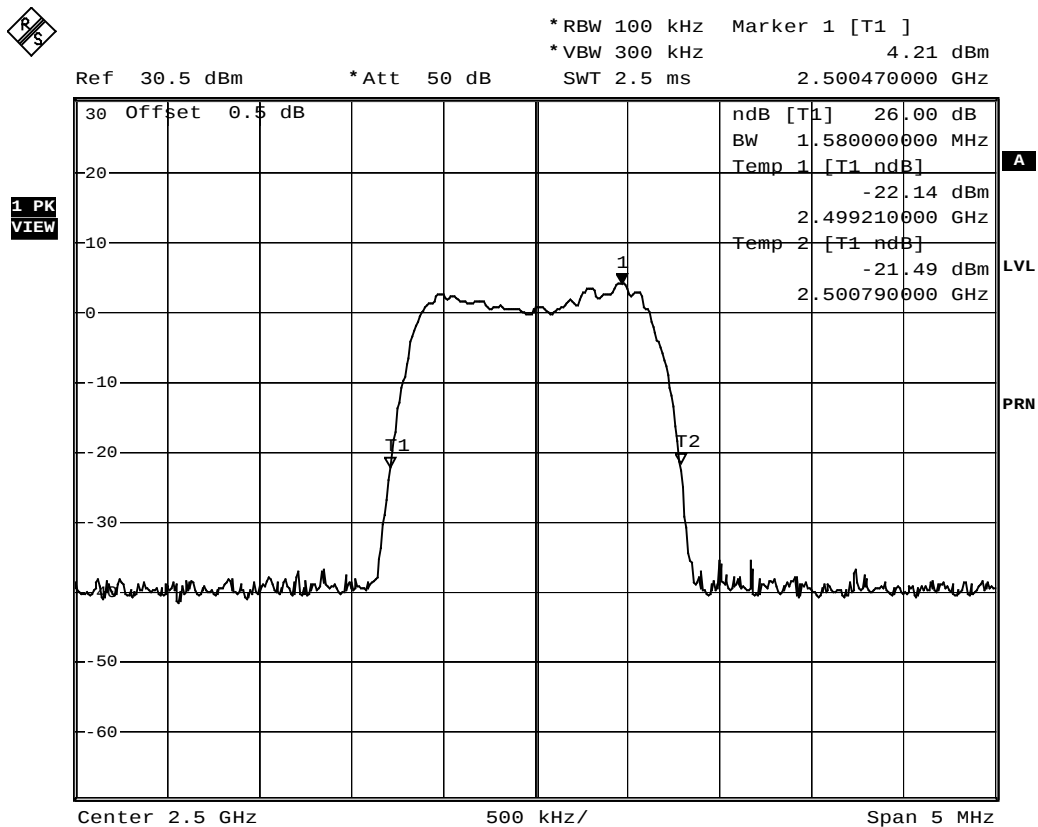
Date: 1.OCT.2008 19:49:05

Test Mode: Mode 5

Modulation Type: 16QAM

2500 MHz

Upstream Symbol Rate: 1280 ksps



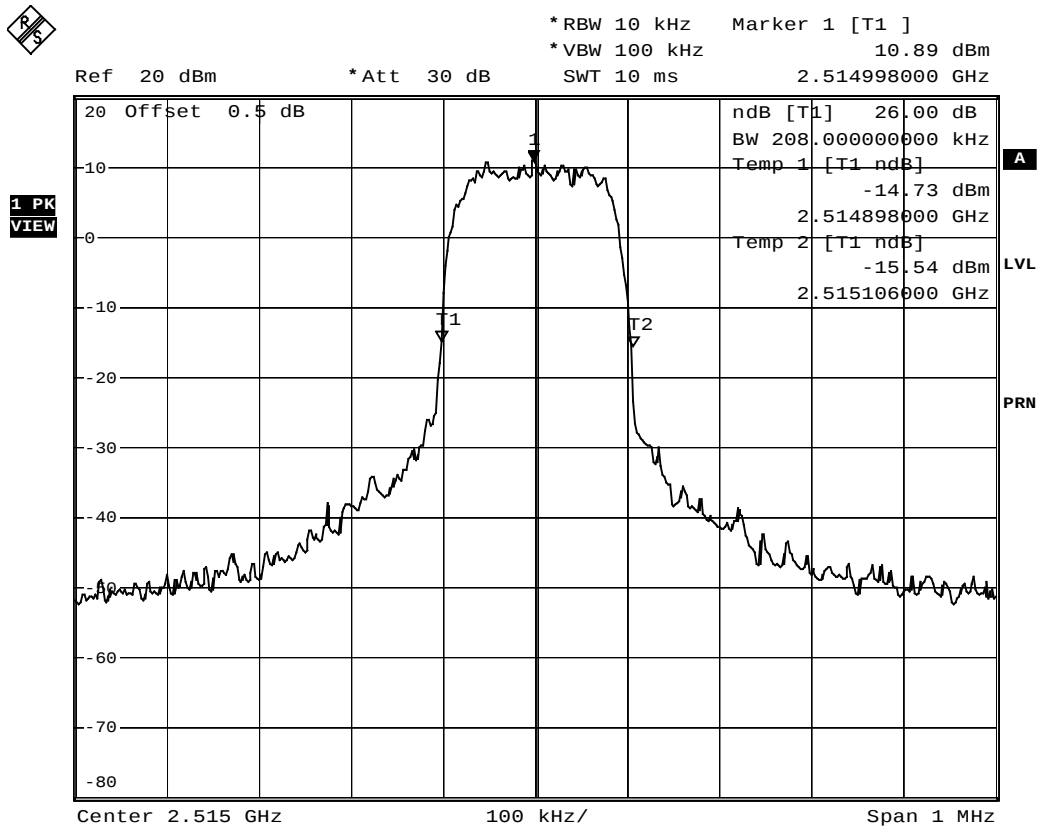
Date: 1.OCT.2008 19:54:37

Test Mode: Mode 1

Modulation Type: 16QAM

2515 MHz

Upstream Symbol Rate: 160 ksps



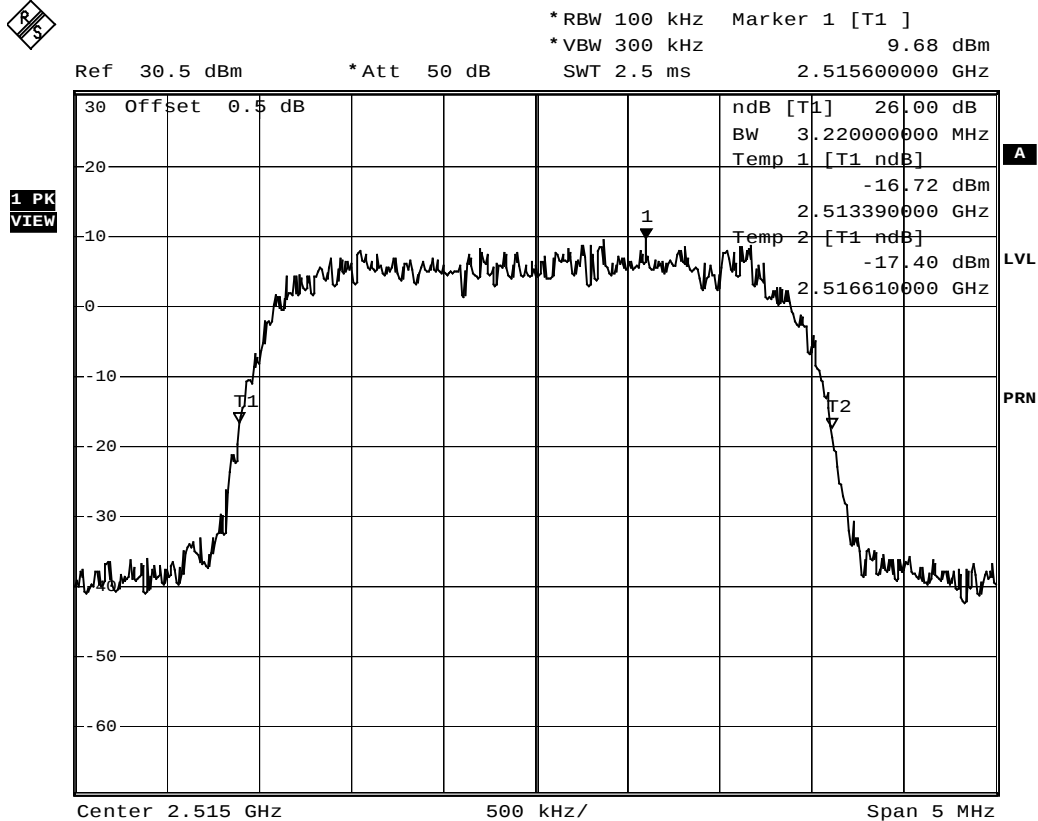
Date: 28.AUG.2008 14:39:47

Test Mode: Mode 2

Modulation Type: 16QAM

2515 MHz

Upstream Symbol Rate: 2560 kps



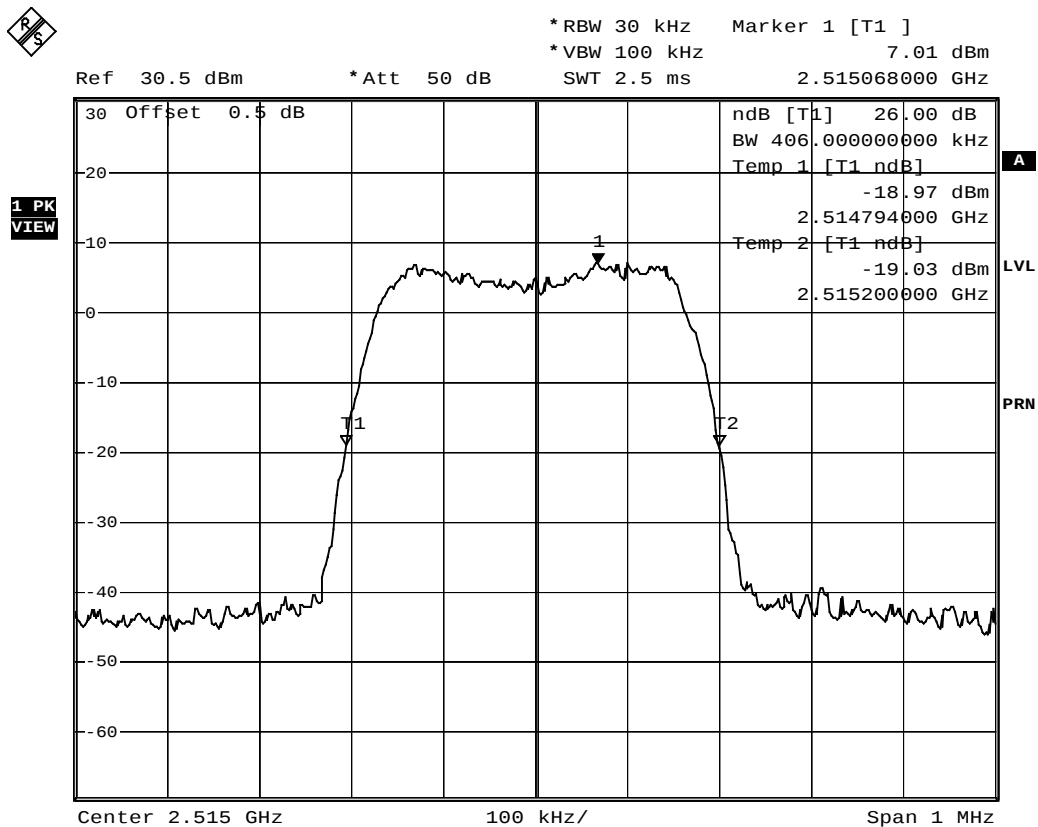
Date: 28.AUG.2008 11:41:43

Test Mode: Mode 3

Modulation Type: 16QAM

2515 MHz

Upstream Symbol Rate: 320 ksps



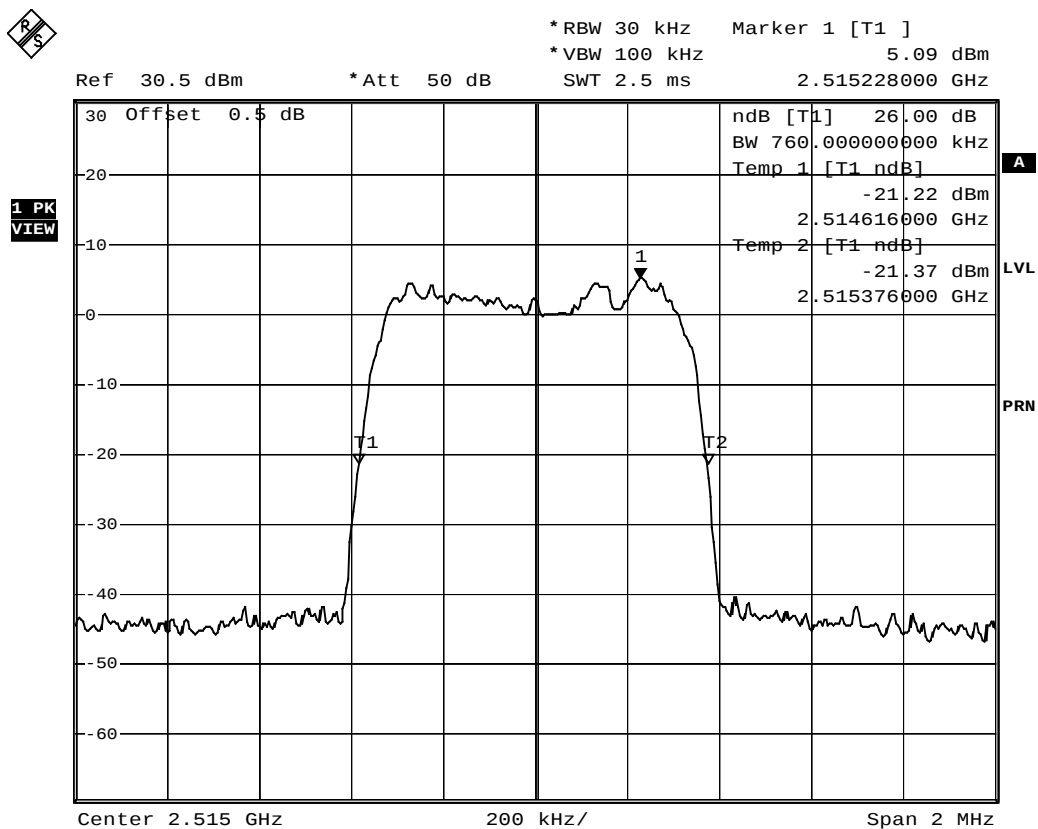
Date: 1.OCT.2008 19:19:20

Test Mode: Mode 4

Modulation Type: 16QAM

2515 MHz

Upstream Symbol Rate: 640 ksps



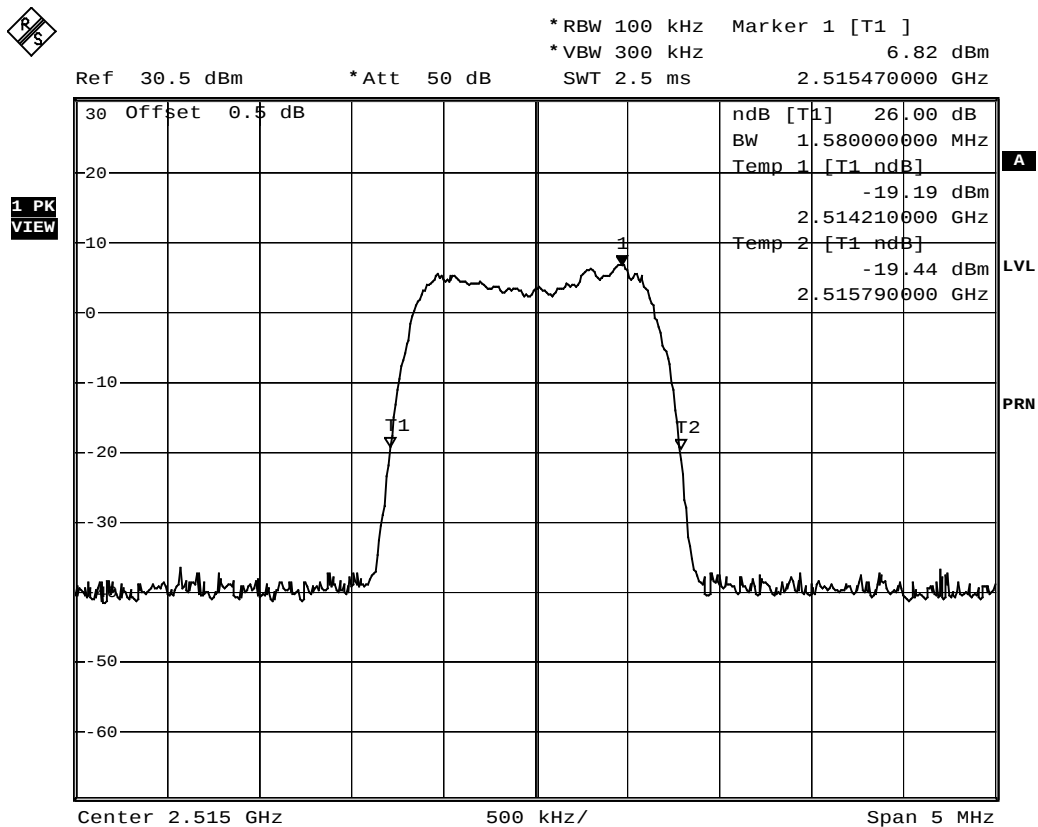
Date: 1.OCT.2008 19:48:13

Test Mode: Mode 5

Modulation Type: 16QAM

2515 MHz

Upstream Symbol Rate: 1280 ksps



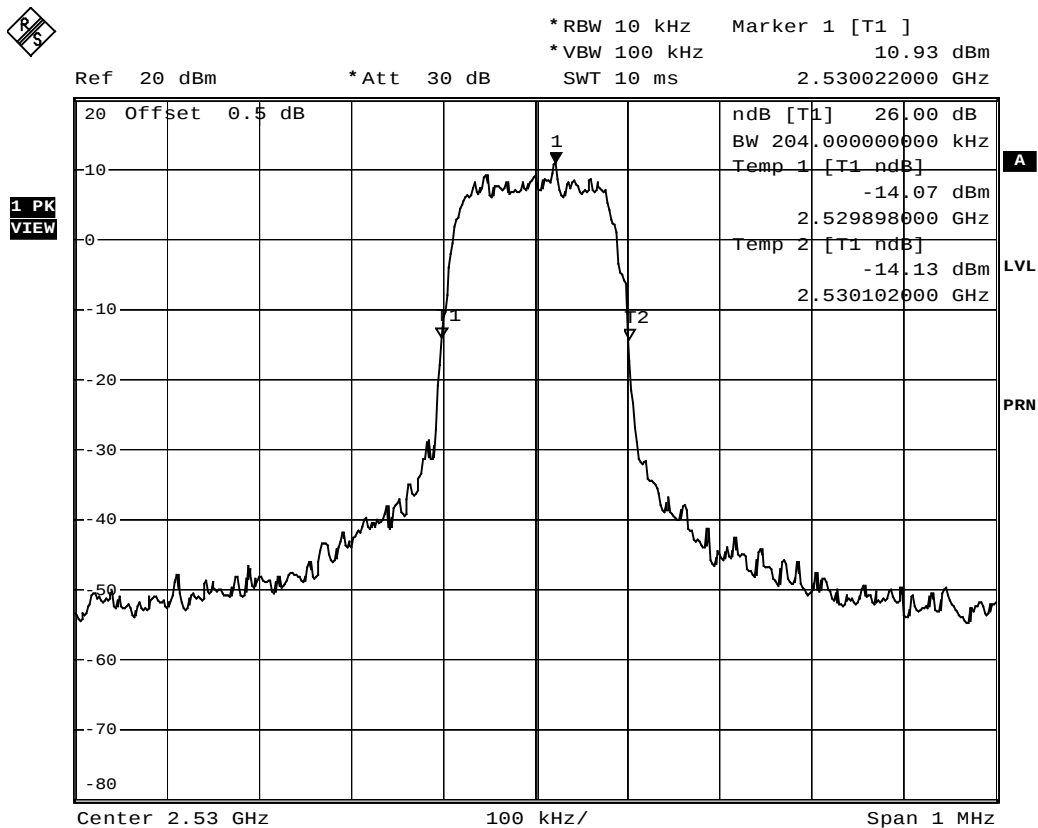
Date: 1.OCT.2008 19:55:17

Test Mode: Mode 1

Modulation Type: 16QAM

2530 MHz

Upstream Symbol Rate: 160 ksps



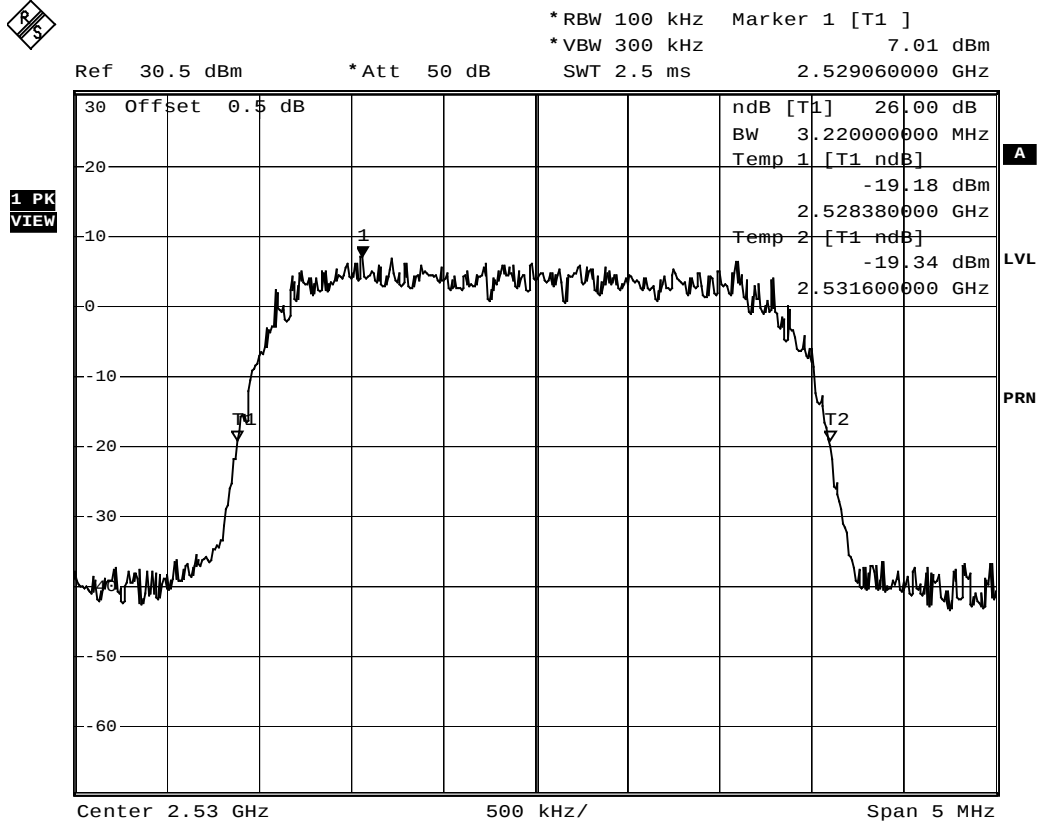
Date: 28.AUG.2008 14:40:26

Test Mode: Mode 2

Modulation Type: 16QAM

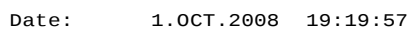
2530 MHz

Upstream Symbol Rate: 2560 ksps



Date: 28.AUG.2008 11:42:26

Upstream Symbol Rate: 320 ksps

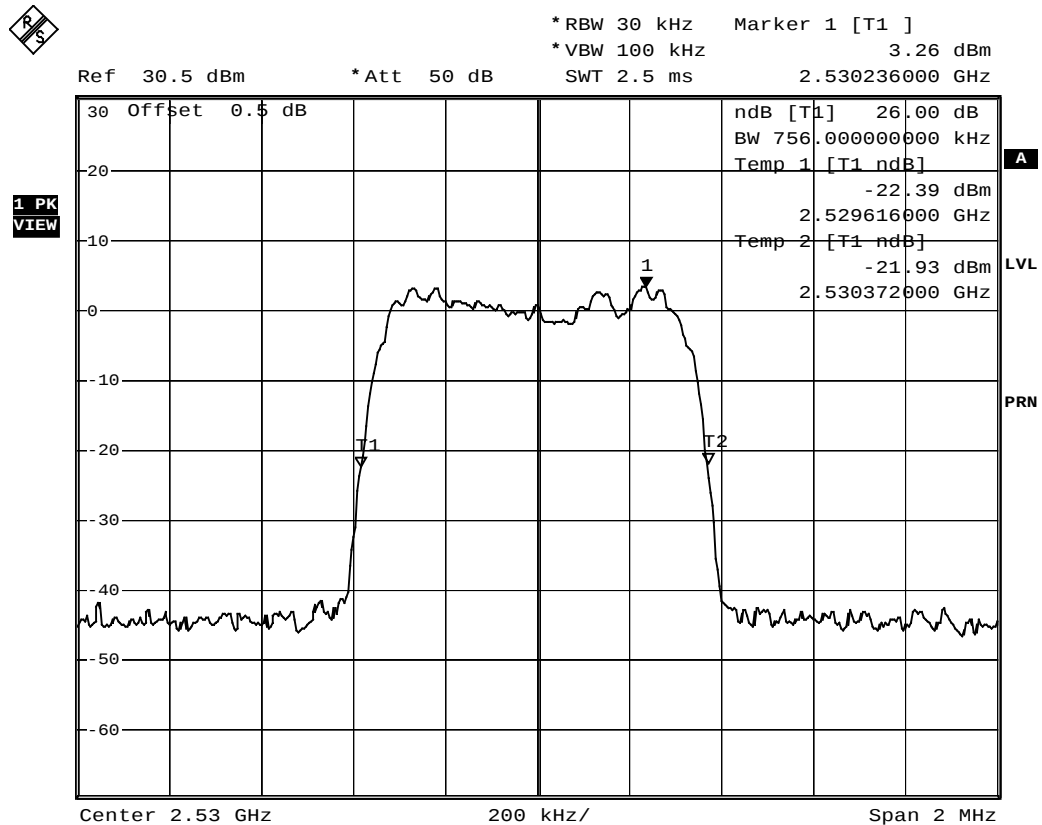


Test Mode: Mode 4

Modulation Type: 16QAM

2530 MHz

Upstream Symbol Rate: 640 ksps



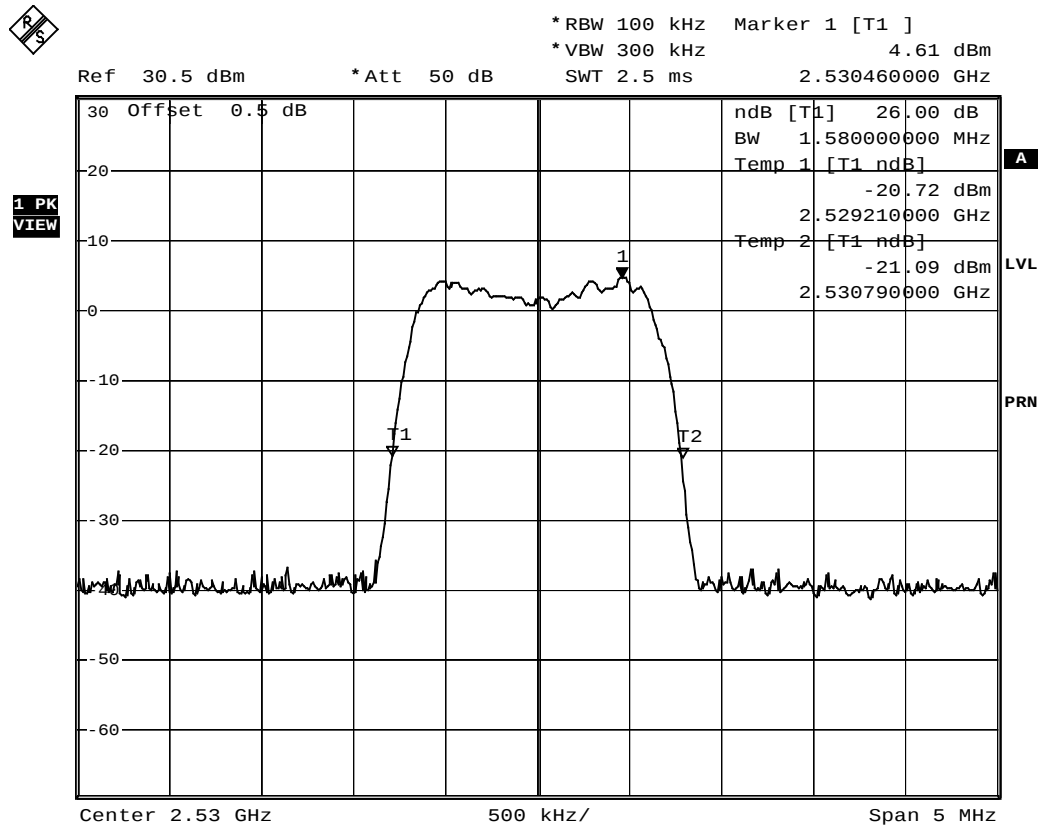
Date: 1.OCT.2008 19:47:43

Test Mode: Mode 5

Modulation Type: 16QAM

2530 MHz

Upstream Symbol Rate: 1280 ksps



Date: 1.OCT.2008 19:55:56

4. Band Edge

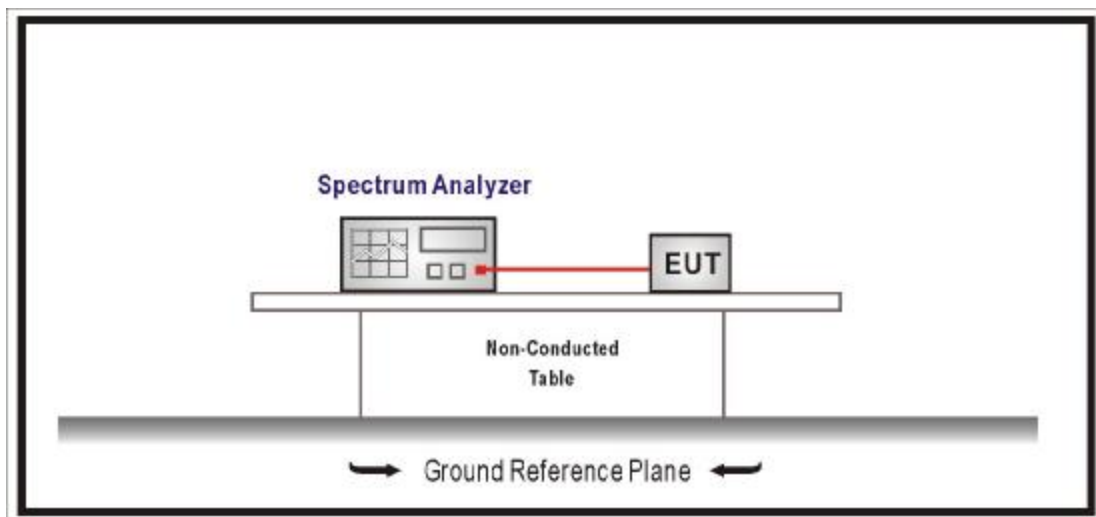
4.1. Test Equipment

The following test equipments are used during the test:

RF Conducted Measurement:				
Item	Equipment	Manufacturer	Model No. / Serial No.	Last Cal.
1	Spectrum Analyzer	R & S	FSP / 100561	Jan., 2008
2	No.7 Shielding Room			Sep., 2008

4.2. Test Setup

RF Conducted Measurement:



4.3. Limits

- (1) Fixed and Temporary Fixed Digital Stations: not less than $43 + \log (P)$ dB
- (2) Mobile Digital Stations: not less than $43 + \log (P)$ dB at the channel edge and $55 + \log (P)$ dB at 5.5 MHz from the channel edges

Sample Calculation:

Assume the EUT Output Power is 2 W = 33 dBm

$$43 + \log (P) \text{ dB}$$

$$43 + \log (2) = 46 \text{ dB}$$

$$33 \text{ dBm} - 46 \text{ dB} = -13 \text{ dBm}$$

$$55 + \log (2) = 58 \text{ dB}$$

$$33 \text{ dBm} - 58 \text{ dB} = -25 \text{ dBm}$$

4.4. Test Procedure

The EUT was set up for the rated peak power. The band edge was measured with Spectrum Analyzer with a resolution bandwidth of 100 kHz and video bandwidth of 300 kHz. All measurements were done at 2 channels: low and high operational frequency range.

The center frequency of spectrum is the band edge frequency and span is 7.5 MHz for test mode 1 (5 MHz bandwidth) and 15 MHz for test mode 2 (10 MHz bandwidth). The resolution bandwidth of spectrum is 100 kHz and video bandwidth of spectrum is 300 kHz.

Record the max trace plot into the test report.

4.5. Uncertainty

The measurement uncertainty

Conducted is defined as $\pm 1.27\text{dB}$

Radiated is defined as $\pm 3.9\text{dB}$

4.6. Test Result

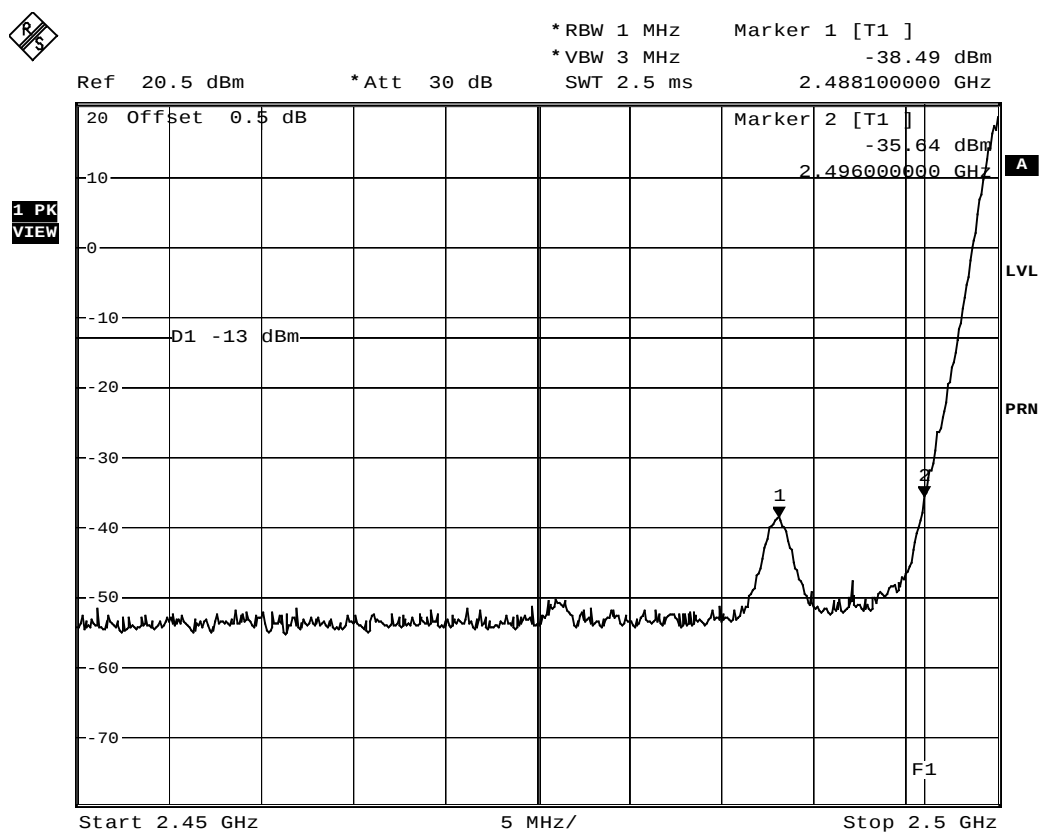
Product	IN-Band MMDS Two-Way Transceiver		
Test Item	Band Edge		
Test Mode	Transmit		
Date of Test	2008/08/28	Test Site	SR7

Test Mode: Mode 1

Modulation Type: 16QAM

2500 MHz

Upstream Symbol Rate: 160 kps



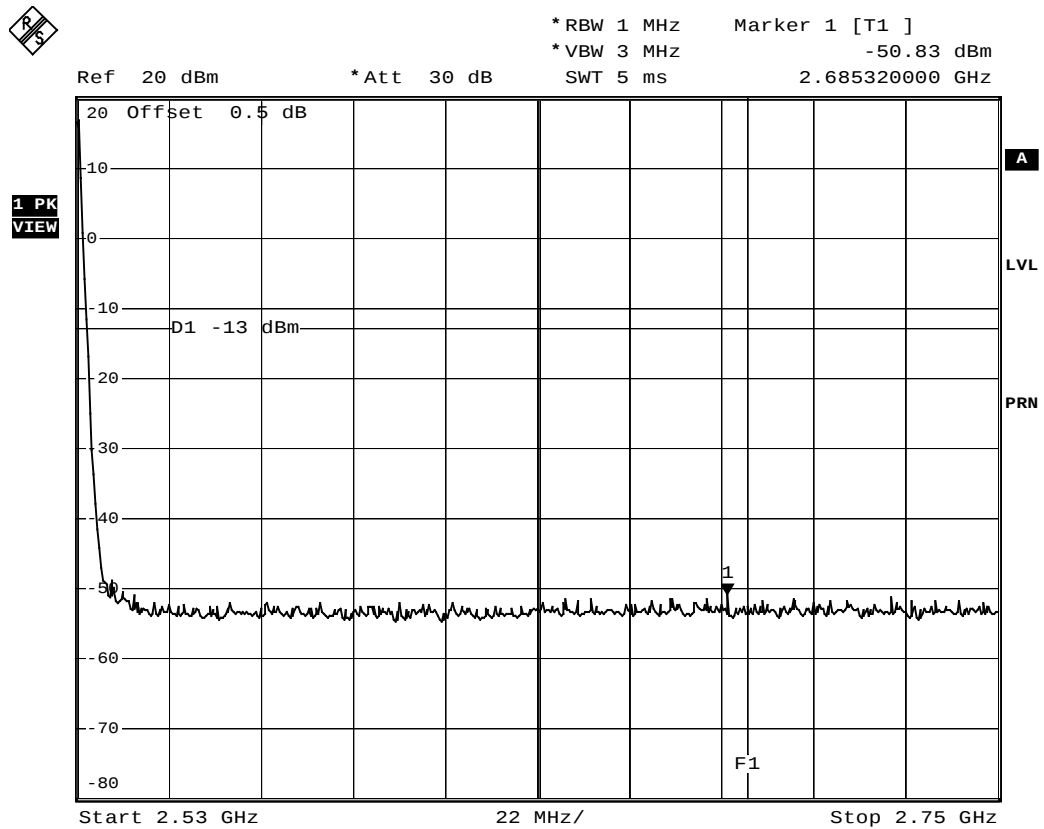
Date: 28.AUG.2008 16:48:32

Test Mode: Mode 1

Modulation Type: 16QAM

2530 MHz

Upstream Symbol Rate: 160 ksps



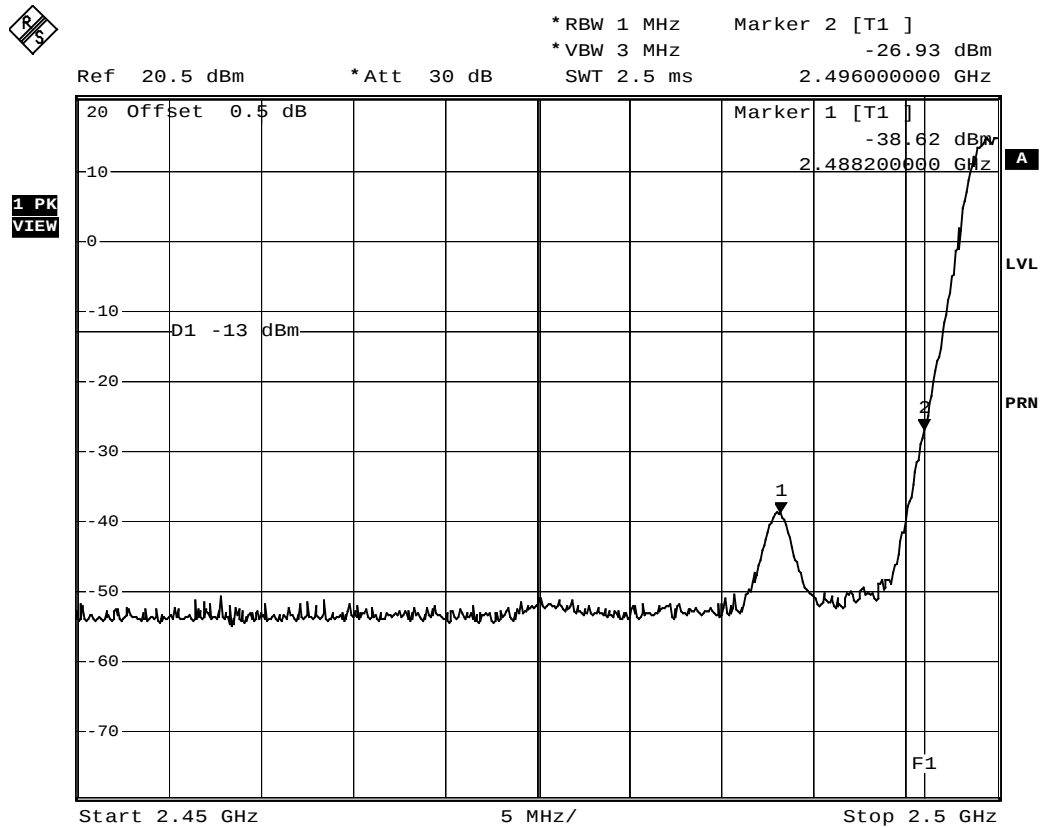
Date: 28.AUG.2008 14:06:22

Test Mode: Mode 2

Modulation Type: 16QAM

2500 MHz

Upstream Symbol Rate: 2560 ksps



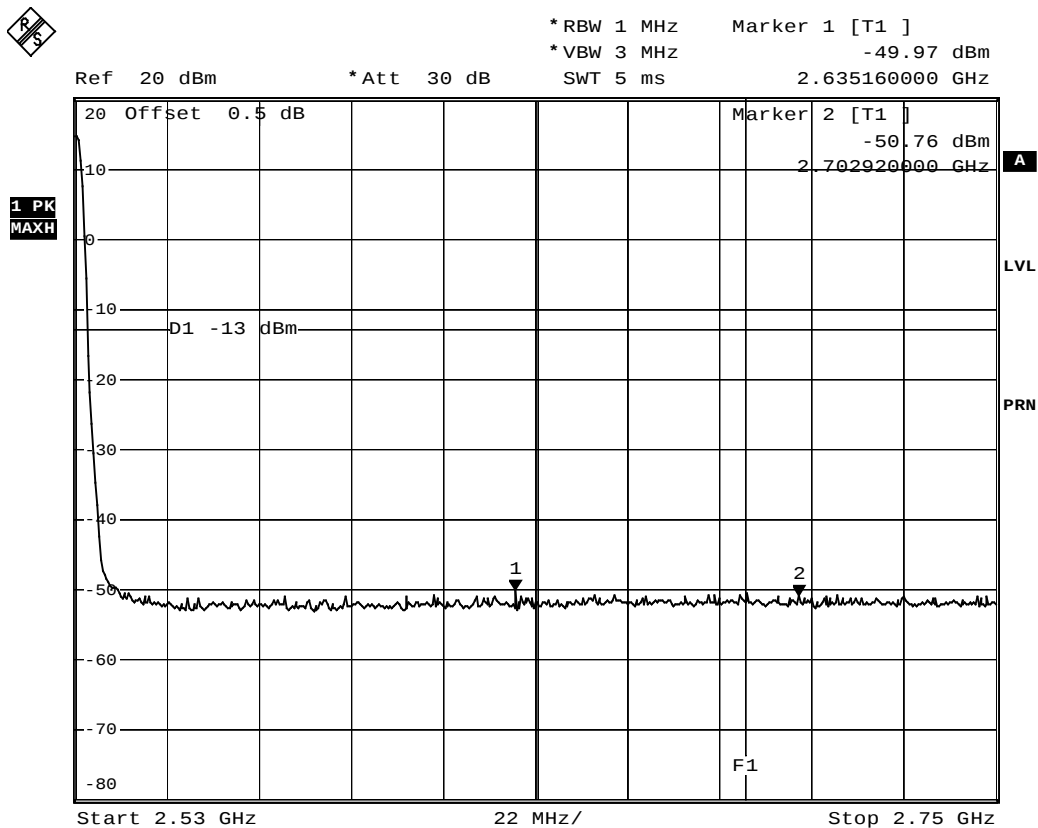
Date: 28.AUG.2008 16:47:19

Test Mode: Mode 2

Modulation Type: 16QAM

2530 MHz

Upstream Symbol Rate: 2560 kpsps



Date: 28.AUG.2008 13:45:58

5. Conducted Spurious Emission

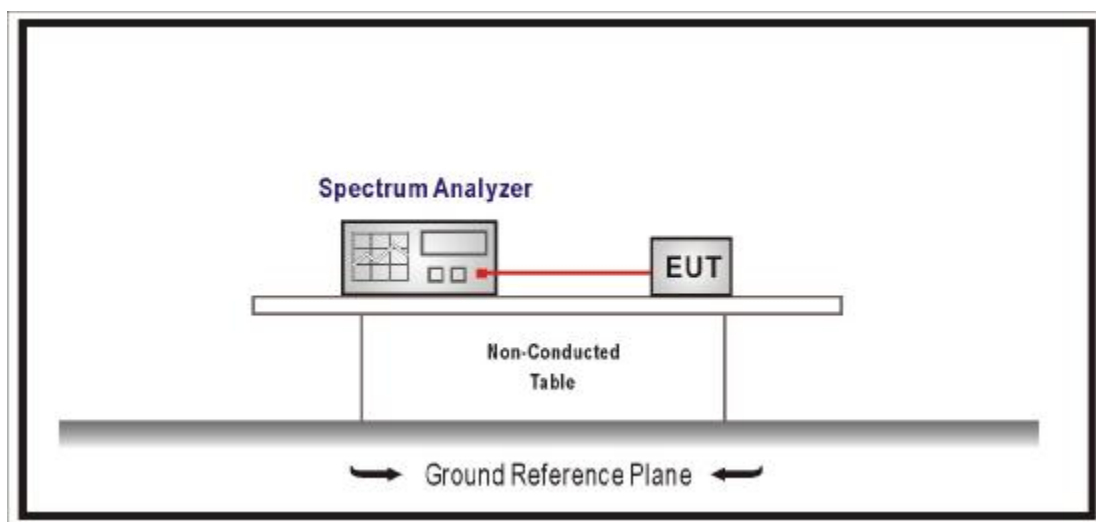
5.1. Test Equipment

The following test equipments are used during the test:

Item	Equipment	Manufacturer	Model No. / Serial No.	Last Cal.
1	Spectrum Analyzer	R & S	FSP40 / 100005	Nov., 2007
2	No.7 Shielding Room			Sep., 2008

Note: All equipment upon which need to calibrated are with calibration period of 1 year.

5.2. Test Setup



5.3. Limits

- (1) Fixed and Temporary Fixed Digital Stations: not less than $43 + \log (P)$ dB
- (2) Mobile Digital Stations: not less than $43 + \log (P)$ dB at the channel edge and $55 + \log (P)$ dB at 5.5 MHz from the channel edges

Sample Calculation:

Assume the EUT Output Power is 2 W = 33 dBm

$$43 + \log (P) \text{ dB}$$

$$43 + \log (2) = 46 \text{ dB}$$

$$33 \text{ dBm} - 46 \text{ dB} = -13 \text{ dBm}$$

$$55 + \log (2) = 58 \text{ dB}$$

$$33 \text{ dBm} - 58 \text{ dB} = -25 \text{ dBm}$$

5.4. Test Procedure

The EUT was set up for the rated peak power. The power was measured with R&S Spectrum Analyzer. All measurements were done at 3 channels: low, middle and high operational frequency range.

When the spectrum scanned from 30MHz to 27GHz, it connected to the 10dB attenuator to the carried frequency. The spectrum set RBW = 1MHz, VBW = 3MHz. and using peak detection mode.

5.5. Uncertainty

The measurement uncertainty is defined as ± 1.27 dB

5.6. Test Result

Product	IN-Band MMDS Two-Way Transceiver		
Test Item	Conducted Spurious Emission		
Test Mode	Transmit		
Date of Test	2008/08/28	Test Site	SR7

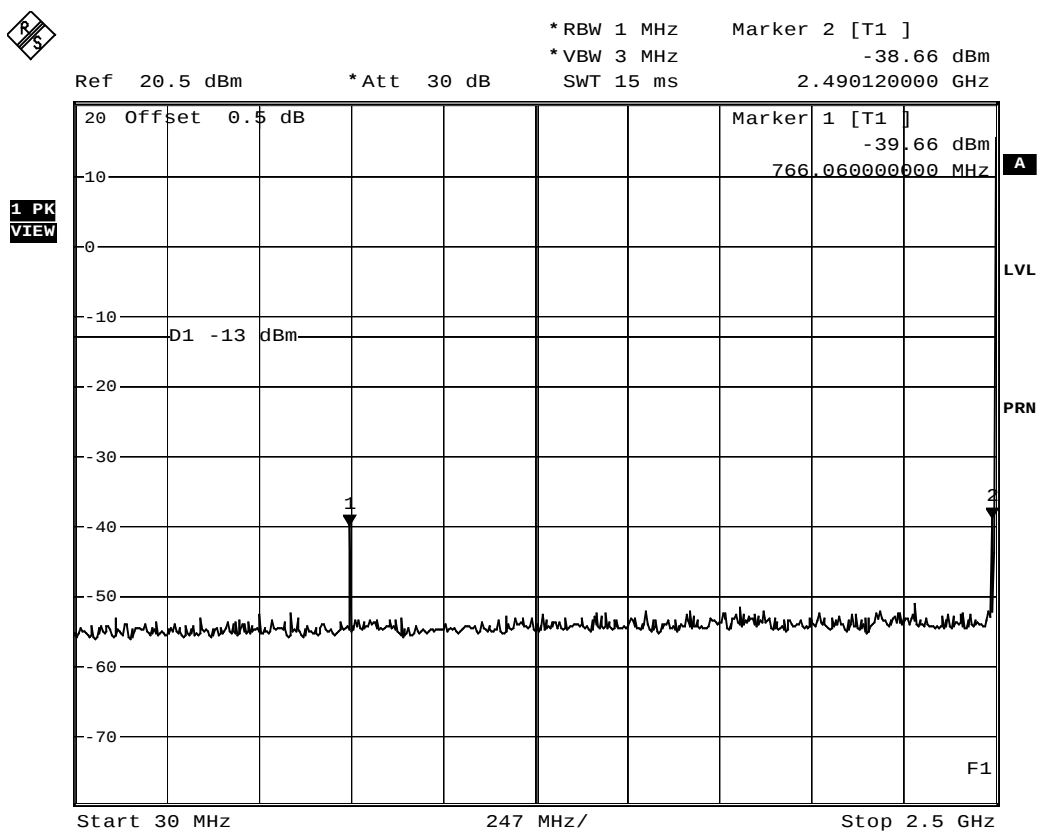
Test Mode: Mode 1

Modulation Type: 16QAM

2500 MHz

Upstream Symbol Rate: 160 kps

30MHz-2500MHz



Date: 28.AUG.2008 15:43:39

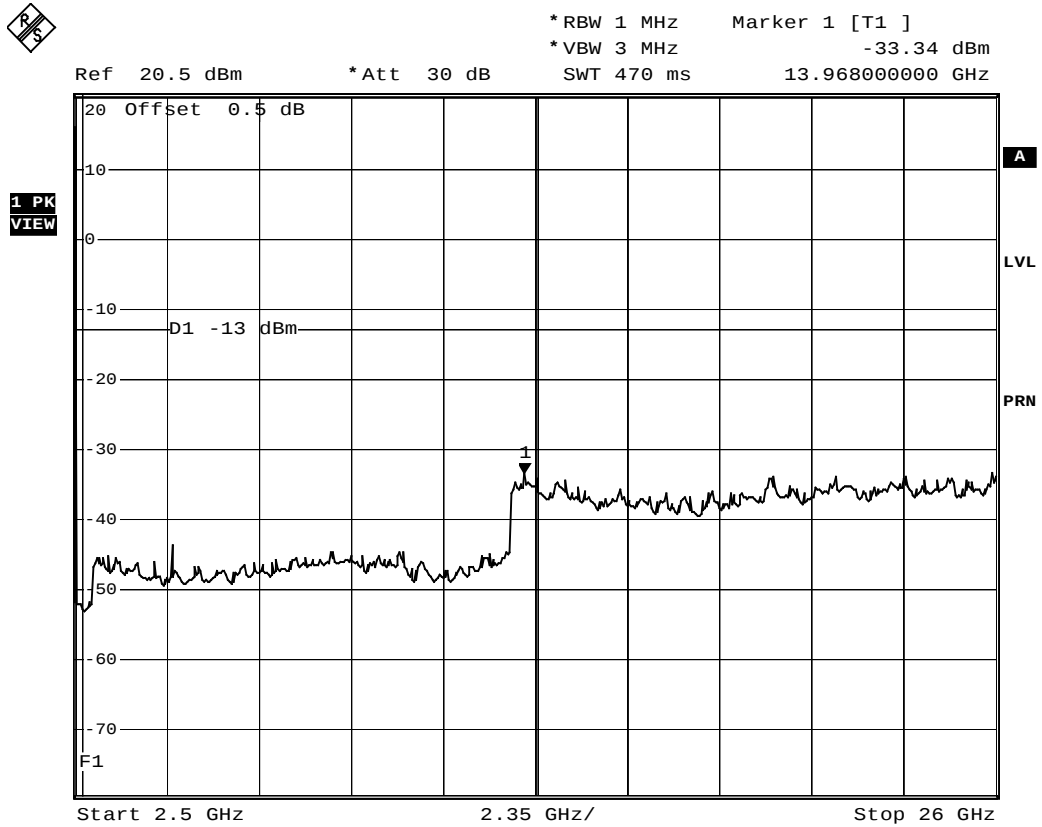
Test Mode: Mode 1

Modulation Type: 16QAM

2500 MHz

Upstream Symbol Rate: 160 ksps

2500MHz-26000MHz



Date: 28.AUG.2008 15:47:53

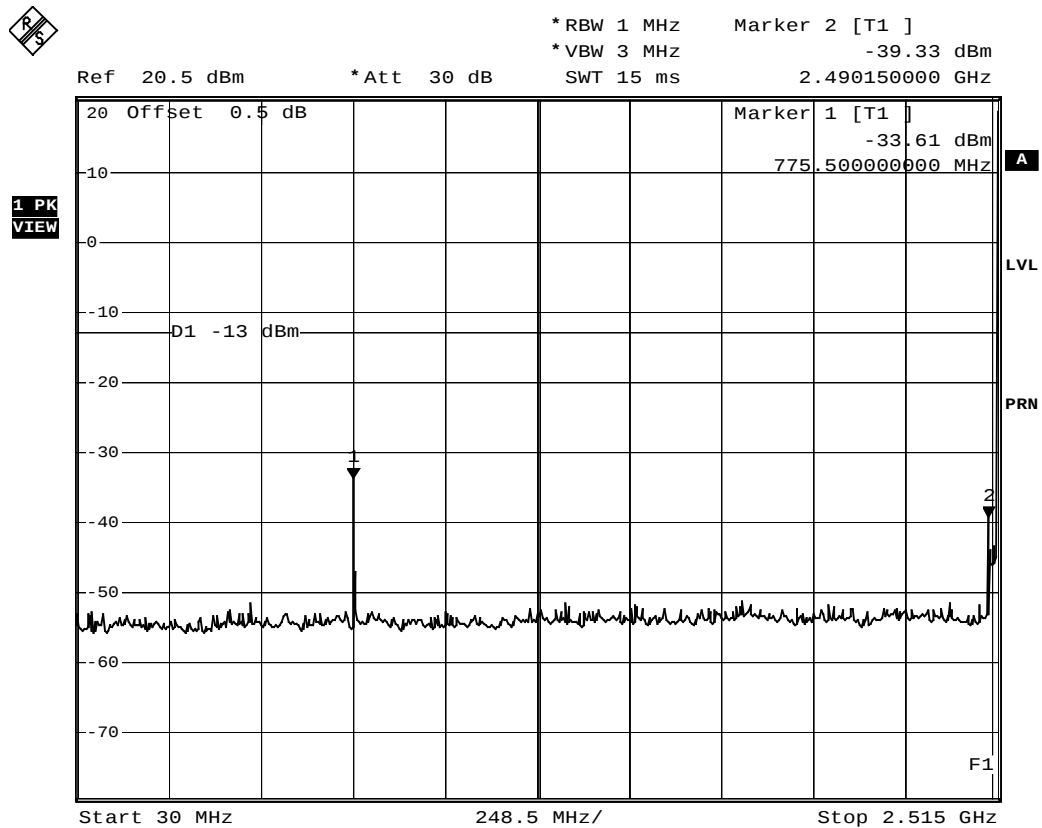
Test Mode: Mode 1

Modulation Type: 16QAM

2515 MHz

Upstream Symbol Rate: 160 ksps

30MHz-2515MHz



Date: 28.AUG.2008 16:17:17

Test Mode: Mode 1

Modulation Type: 16QAM

2515 MHz

Upstream Symbol Rate: 160 ksps

2515MHz-26000MHz



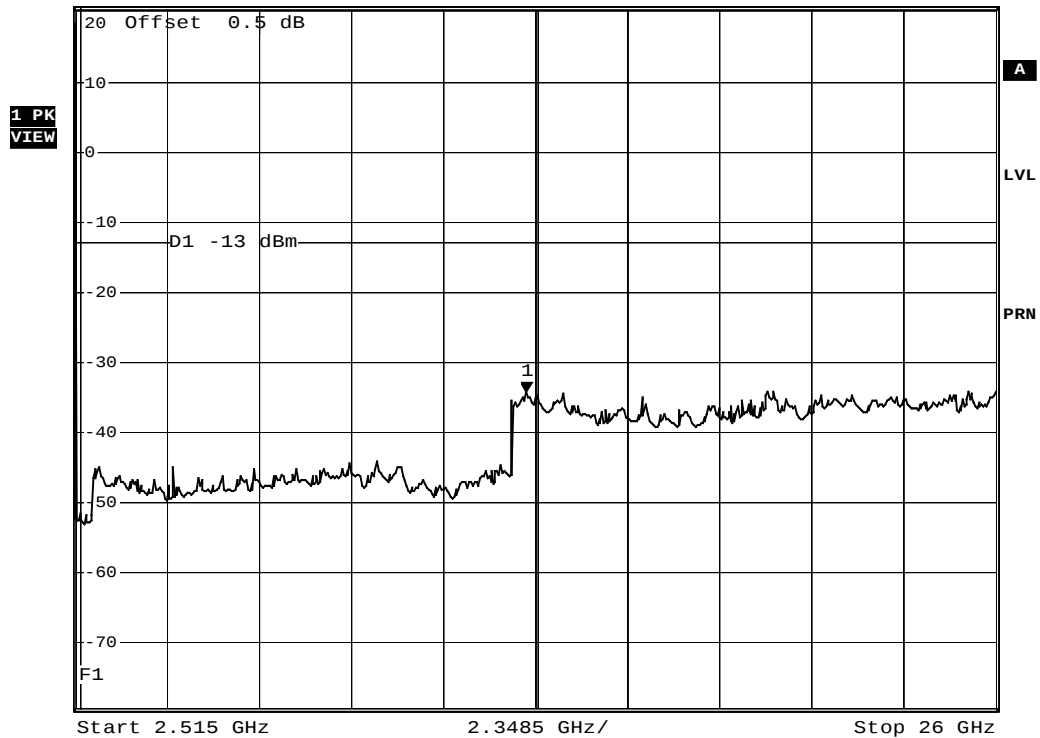
*RBW 1 MHz Marker 1 [T1]
 *VBW 3 MHz -34.10 dBm
 SWT 470 ms 14.022650000 GHz

Ref 20.5 dBm

*Att 30 dB

SWT 470 ms

14.022650000 GHz



Date: 28.AUG.2008 16:18:59

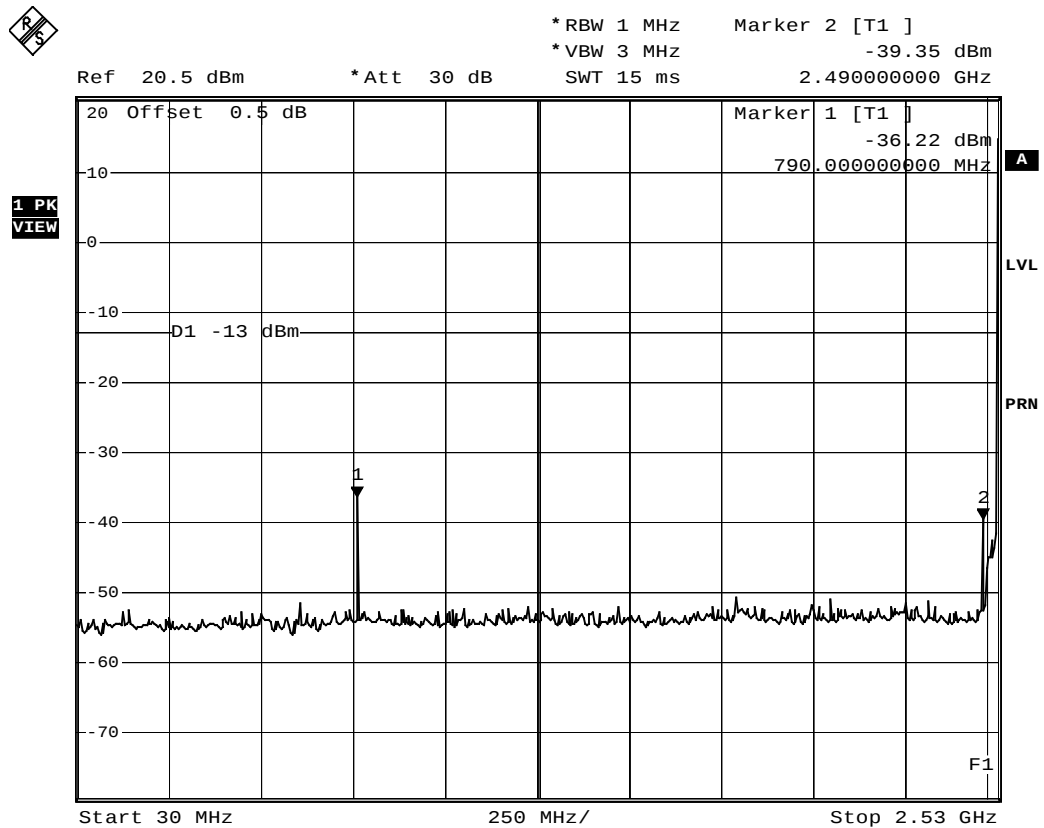
Test Mode: Mode 1

Modulation Type: 16QAM

2530 MHz

Upstream Symbol Rate: 160 ksps

30MHz-2530MHz



Date: 28.AUG.2008 15:59:46

Test Mode: Mode 1

Modulation Type: 16QAM

2530 MHz

Upstream Symbol Rate: 160 ksps

2530MHz-26000MHz



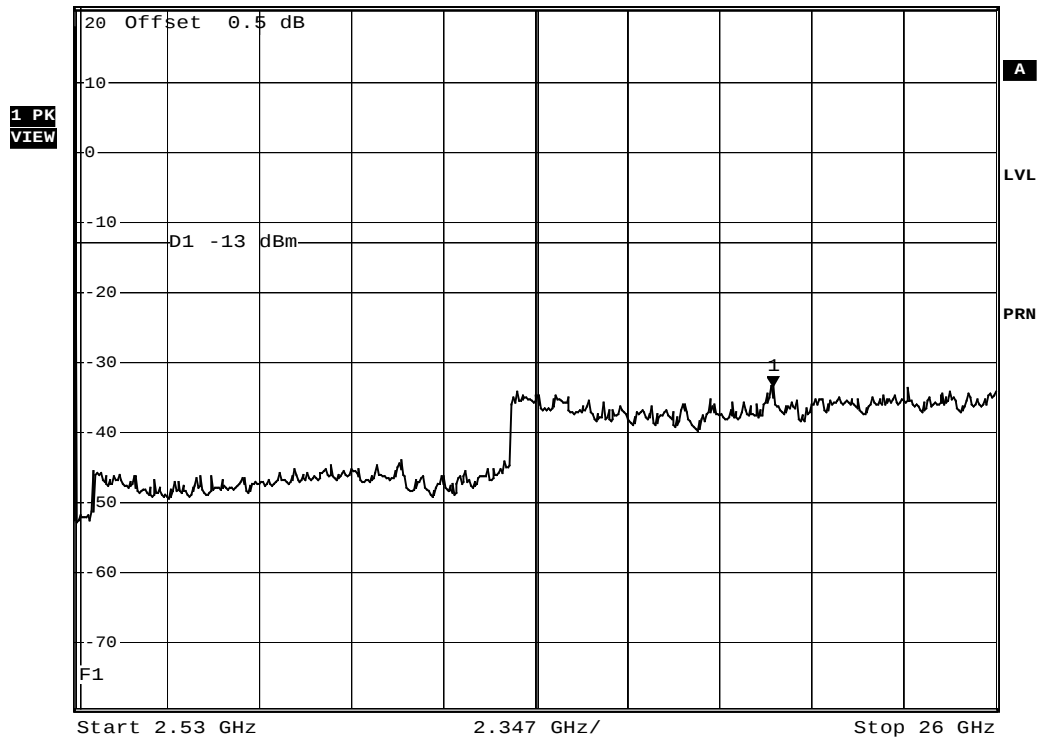
*RBW 1 MHz Marker 1 [T1]
 *VBW 3 MHz -33.37 dBm
 SWT 470 ms 20.320260000 GHz

Ref 20.5 dBm

*Att 30 dB

SWT 470 ms

20.320260000 GHz



Date: 28.AUG.2008 15:57:21

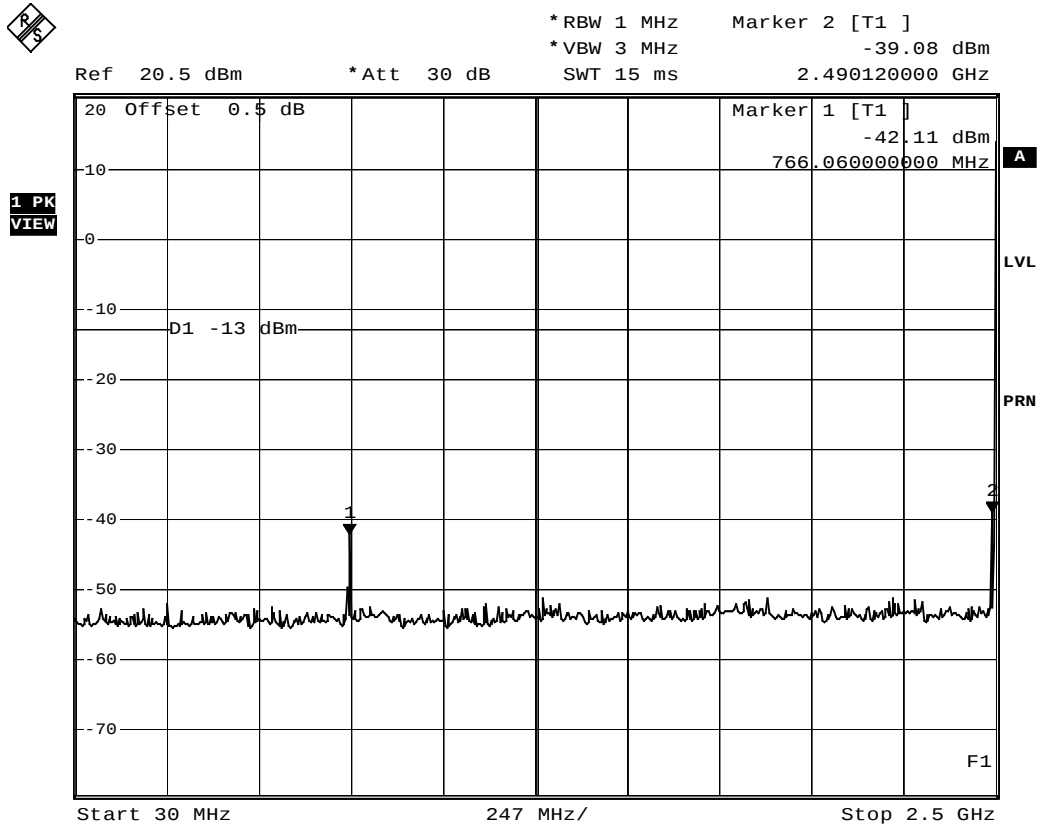
Test Mode: Mode 2

Modulation Type: 16QAM

2500 MHz

Upstream Symbol Rate: 2560 ksps

30MHz-2500MHz



Date: 28.AUG.2008 16:23:01

Test Mode: Mode 2

Modulation Type: 16QAM

2500 MHz

Upstream Symbol Rate: 2560 ksps

2500MHz-26000MHz

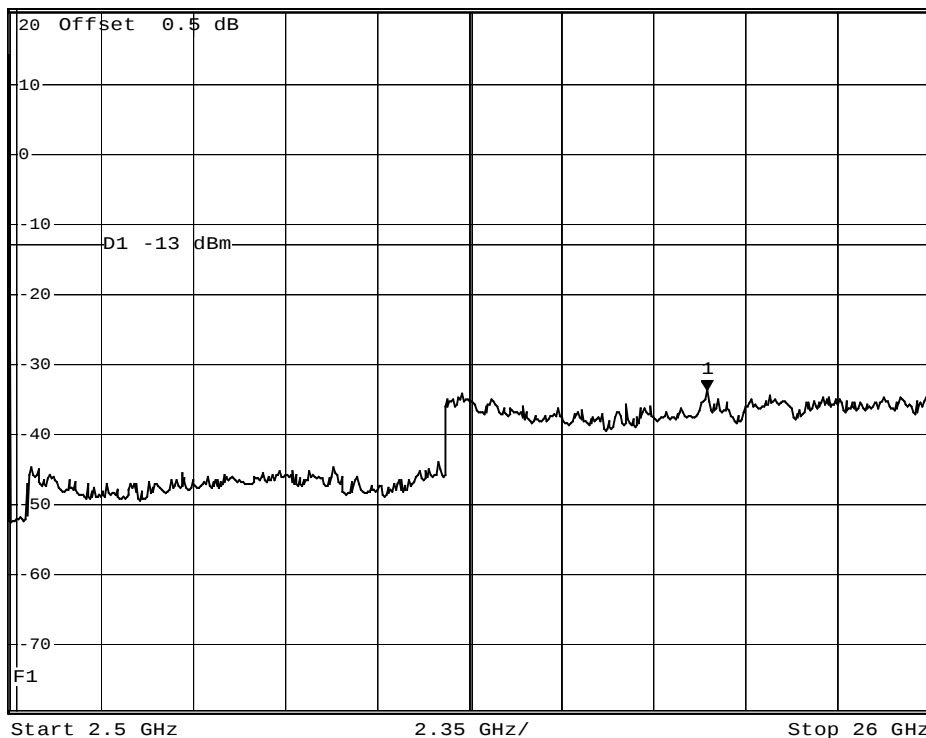


*RBW 1 MHz Marker 1 [T1]
 *VBW 3 MHz -33.70 dBm
 SWT 470 ms 20.313000000 GHz

Ref 20.5 dBm

*Att 30 dB

1 PK
VIEW



Date: 28.AUG.2008 16:24:20

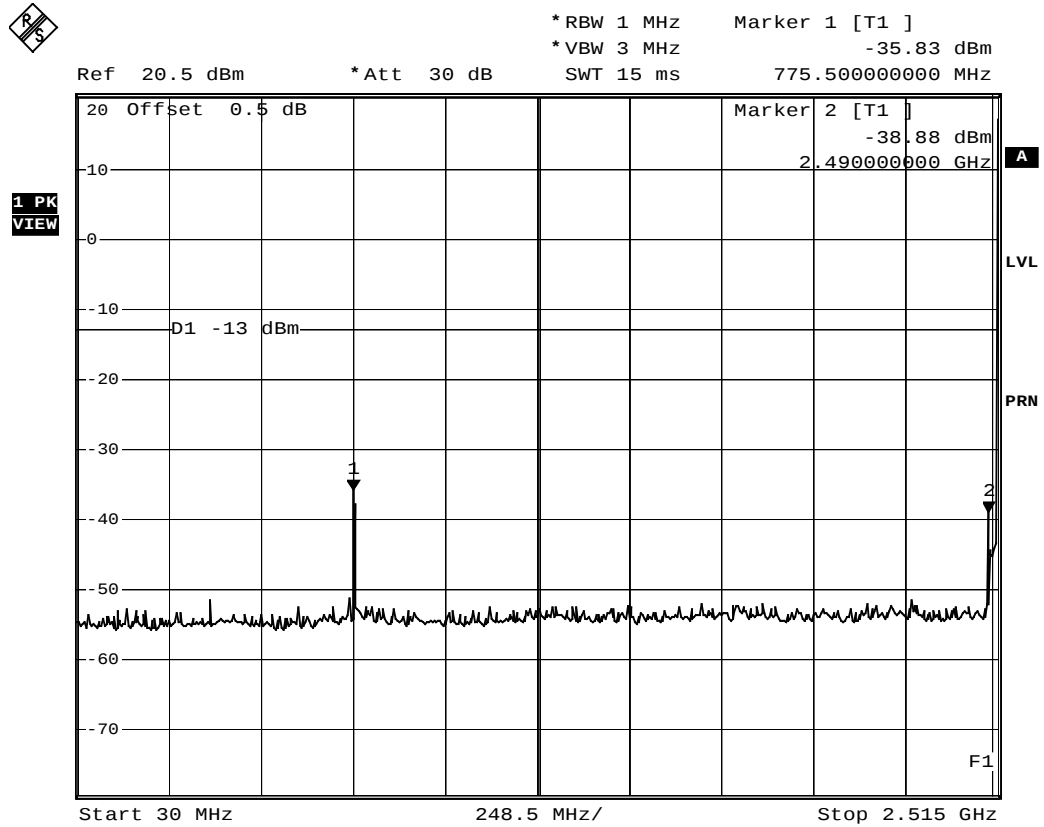
Test Mode: Mode 2

Modulation Type: 16QAM

2515 MHz

Upstream Symbol Rate: 2560 ksps

30MHz-2515MHz



Date: 28.AUG.2008 16:29:32

Test Mode: Mode 2

Modulation Type: 16QAM

2515 MHz

Upstream Symbol Rate: 2560 ksps

2515MHz-26000MHz

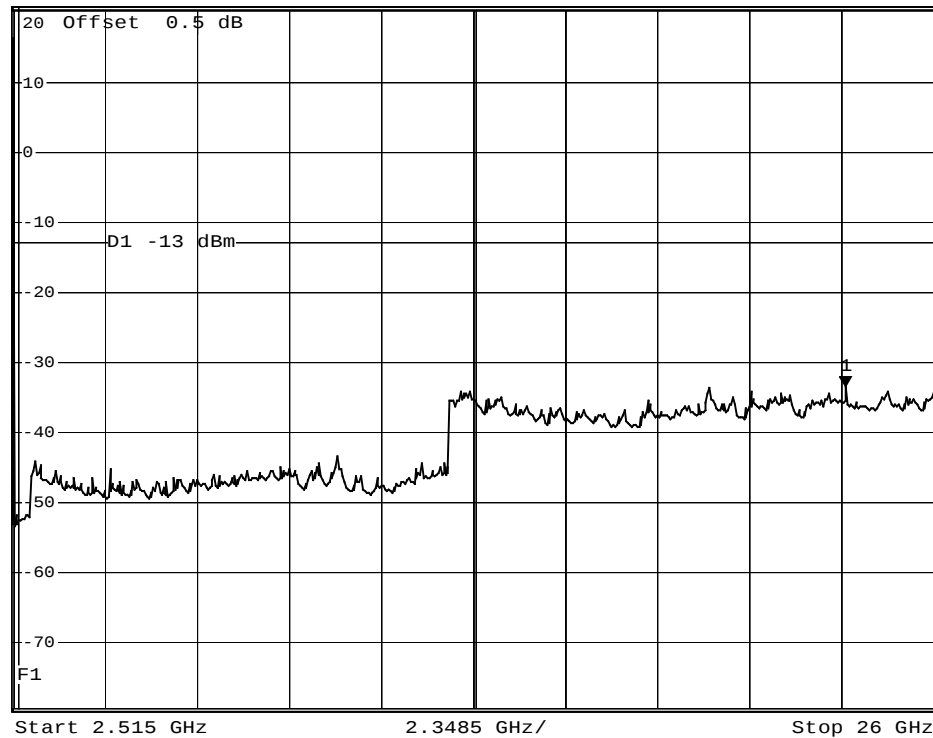


*RBW 1 MHz Marker 1 [T1]
 *VBW 3 MHz -33.55 dBm
 SWT 470 ms 23.745440000 GHz

Ref 20.5 dBm

*Att 30 dB

1 PK
VIEW



Date: 28.AUG.2008 16:25:47

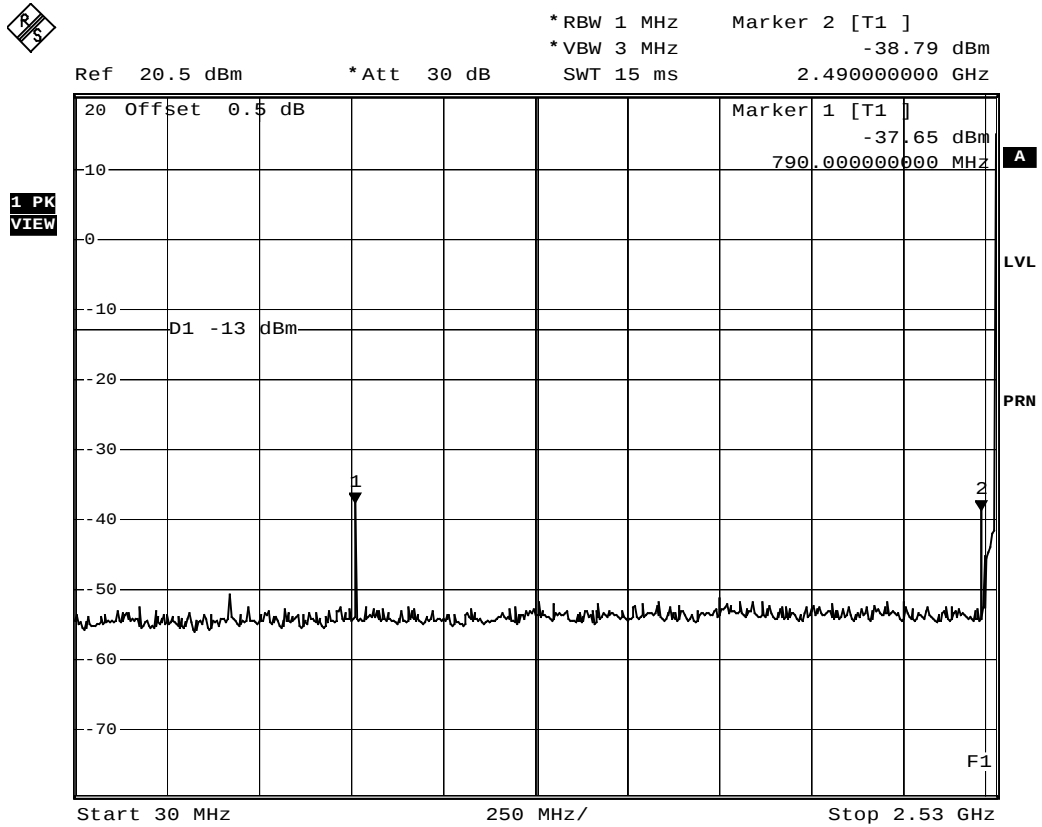
Test Mode: Mode 2

Modulation Type: 16QAM

2530 MHz

Upstream Symbol Rate: 2560 ksps

30MHz-2530MHz



Date: 28.AUG.2008 16:28:31

Test Mode: Mode 2

Modulation Type: 16QAM

2530 MHz

Upstream Symbol Rate: 2560 ksps

2530MHz-26000MHz

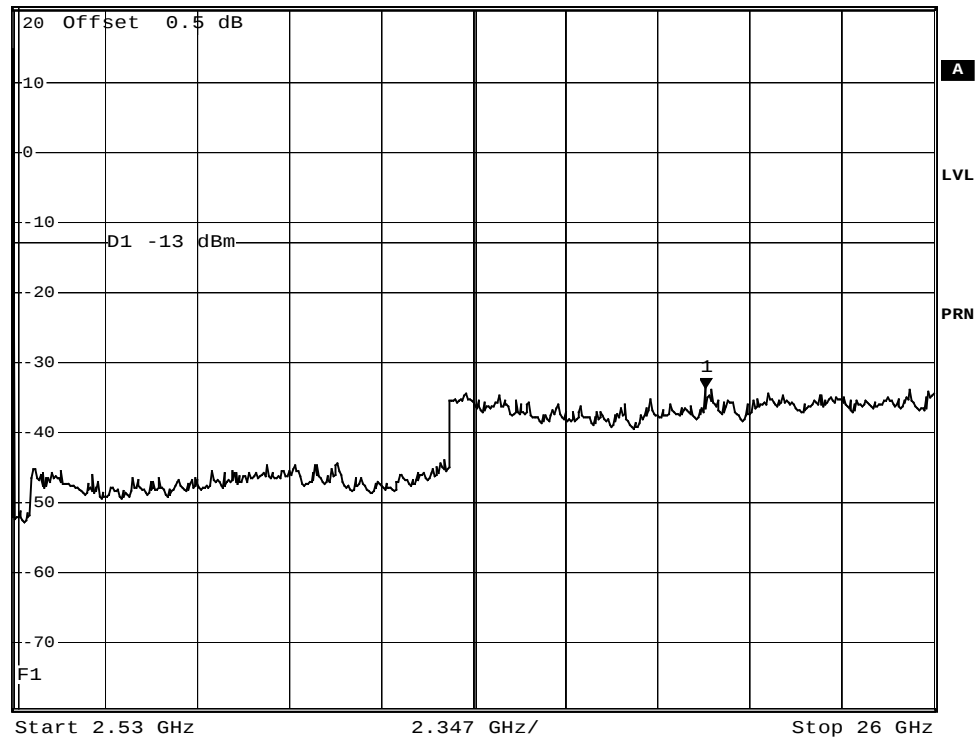


*RBW 1 MHz Marker 1 [T1]
 *VBW 3 MHz -33.69 dBm
 SWT 470 ms 20.179440000 GHz

Ref 20.5 dBm

*Att 30 dB

1 PK
VIEW



Date: 28.AUG.2008 16:26:46

6. Radiated Spurious Emission

6.1. Test Equipment

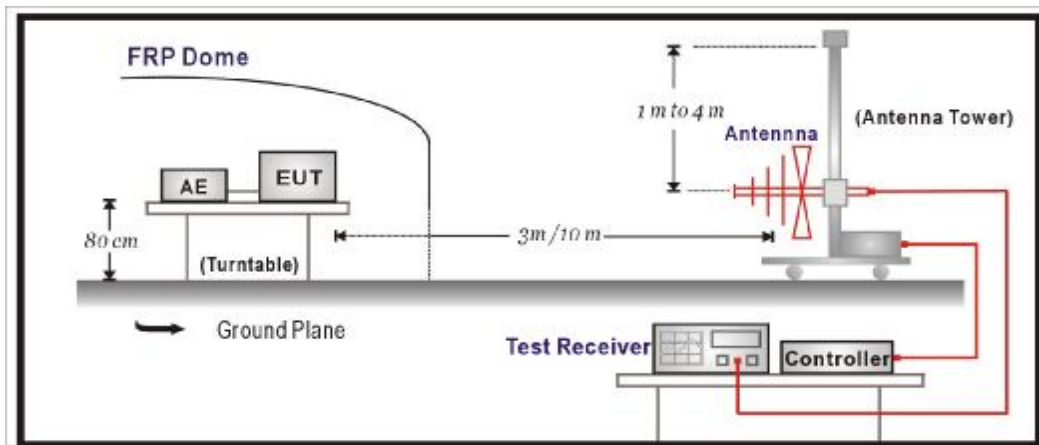
The following test equipments are used during the test:

Item		Equipment	Manufacturer	Model No. / Serial No.	Last Cal.
1	X	Test Receiver	R & S	ESCS 30 / 825442/017	Jan., 2008
2	X	Spectrum Analyzer	Advantest	R3261C / 81720266	N/A
3	X	Pre-Amplifier	HP	8447D / 2944A09276	N/A
4	X	Bilog Antenna	Chase	CBL6112B / 2455	Sep., 2008
5	X	Spectrum Analyzer	R & S	FSP40 / 100005	Aug., 2008
6	X	Pre-Amplifier	HP	8449B / 3008A01123	Feb., 2008
7	X	Horn Antenna	Schwarzbeck	BBHA 9120D / BBHA9120D312	Jul., 2008
8	X	Horn Antenna	Schwarzbeck	BBHA 9120 / 9120D-639	Aug., 2008
9	X	Singal Generator	MG3694A	041902	Nov., 2007
10		No.1 OATS			Sep., 2008

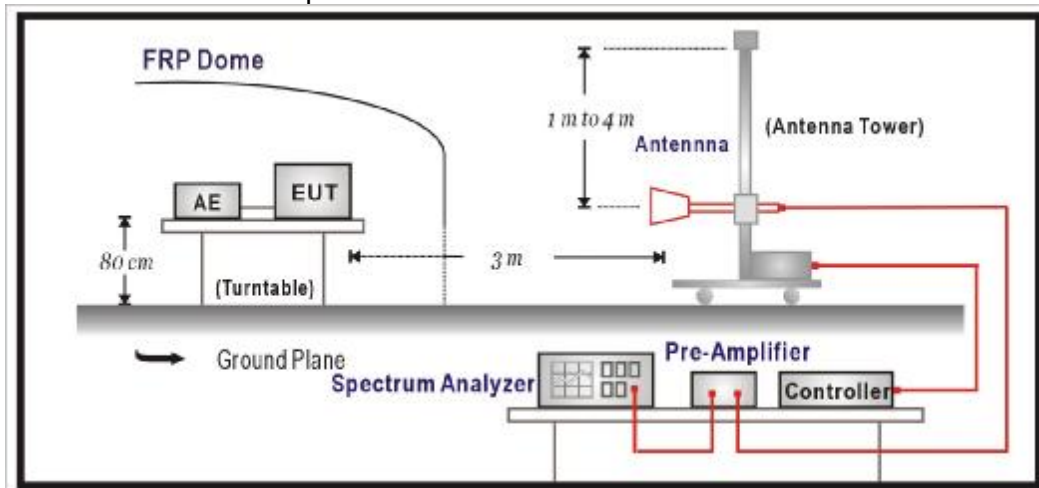
- Note:
1. All equipments that need to calibrate are with calibration period of 1 year.
 2. "N/A" Ca1.Date is used to Pre-test, not final test.

6.2. Test Setup

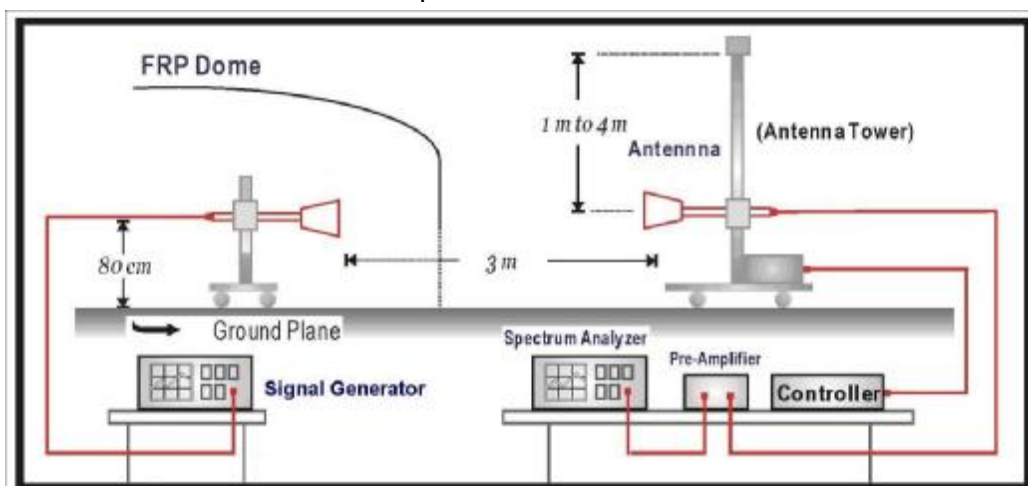
Under 1GHz Test Setup:



Above 1GHz Test Setup:



Substitution Measurement Setup:



Measure Level = Signal Generator-Cable Loss + Antenna Gain

6.3. Limits

- (1) Fixed and Temporary Fixed Digital Stations: not less than $43 + \log (P)$ dB.
- (2) Mobile Digital Stations: not less than $43 + \log (P)$ dB at the channel edge and $55 + \log (P)$ dB at 5.5 MHz from the channel edges.

Sample Calculation:

Assume the EUT Output Power is $2\text{ W} = 33\text{ dBm}$

$43 + \log (P)$ dB

$43 + \log (2) = 46\text{ dB}$

$33\text{ dBm} - 46\text{ dB} = -13\text{ dBm}$

$55 + \log (2) = 58\text{ dB}$

$33\text{ dBm} - 58\text{ dB} = -25\text{ dBm}$

6.4. Test Procedure

For measuring E.I.R.P peak power, EUT was placed on the turn-table which was rotated around 360 degrees to search the maximum radiation power and receiver antenna was rotated vertical and horizontal polarization to find the maximum polarization radiated power.

The EUT is replaced by a horn antenna connected to a signal generator tuned to the frequency of emission and level of signal generator adjusted to same level of emission. Both horizontal and vertical polarization of the antenna are set on measurement.

On any frequency, the limits shown are based on measuring equipment employing a peak detector function. The resolution bandwidth of spectrum analyzer is 1MHz. and video bandwidth is 3MHz.

The radiated E.I.R.P power was calculated via the Correct factor, Reading Level, and Antenna gain as follows:

$\text{E.I.R.P} = \text{Reading Level} + \text{Correct Factor} = \text{S.G.} - \text{Cable Loss} + \text{Antenna Gain}$

6.5. Uncertainty

The measurement uncertainty

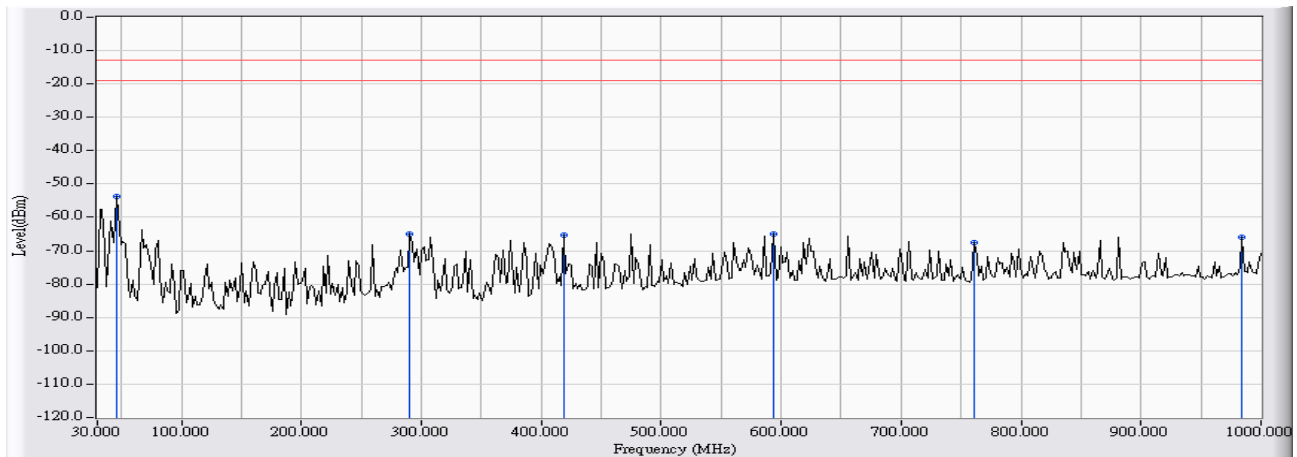
30MHz~1GHz as $\pm 3.19\text{ dB}$

1GHz~27GHz as $\pm 3.9\text{ dB}$

6.6. Test Result

30 MHz – 1 GHz Spurious:

Site : Site 1	Time : 2008/08/30 - 11:10
Limit : PART27(Fixed_station)_00M_PK	Margin : 6
Probe : FCC_30-1G(2008-8) - HORIZONTAL	Power : AC 120V/60Hz
EUT : IN-Band MMDS Two-Way Transceiver	Note : Mode 1: Transmit

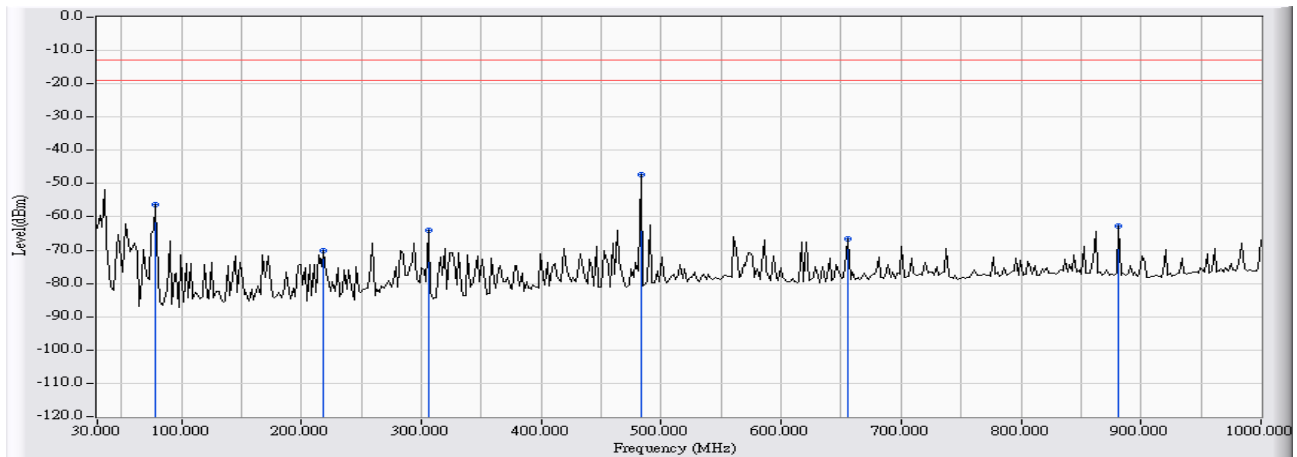


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	Measure Level (dBm)	Margin (dB)	Limit (dBm)	Detector Type
1	*	45.551	-14.227	-39.612	-53.838	-40.838	-13.000	PEAK
2		290.481	-12.994	-52.052	-65.046	-52.046	-13.000	PEAK
3		418.778	-13.656	-51.777	-65.433	-52.433	-13.000	PEAK
4		593.727	-9.188	-55.725	-64.913	-51.913	-13.000	PEAK
5		760.902	-9.896	-57.683	-67.579	-54.579	-13.000	PEAK
6		984.449	-11.849	-54.120	-65.969	-52.969	-13.000	PEAK

Note:

1. All Reading Levels are Peak value.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Site : Site 1	Time : 2008/08/30 - 11:14
Limit : PART27(Fixed_station)_00M_PK	Margin : 6
Probe : FCC_30-1G(2008-8) - VERTICAL	Power : AC 120V/60Hz
EUT : IN-Band MMDS Two-Way Transceiver	Note : Mode 1: Transmit

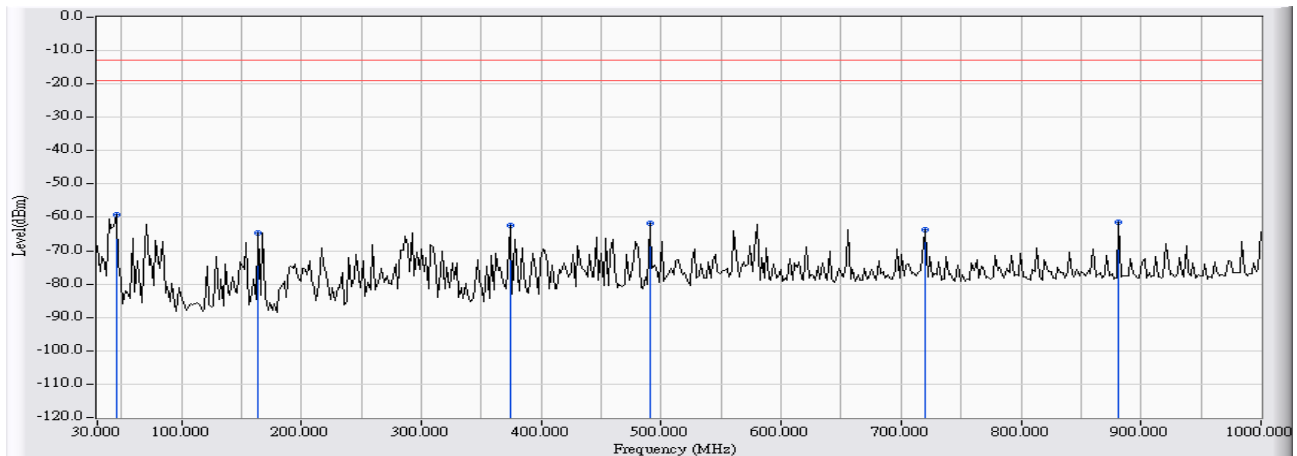


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	Measure Level (dBm)	Margin (dB)	Limit (dBm)	Detector Type
1		78.597	-17.399	-38.932	-56.332	-43.332	-13.000	PEAK
2		218.557	-13.391	-56.659	-70.050	-57.050	-13.000	PEAK
3		306.032	-15.595	-48.273	-63.869	-50.869	-13.000	PEAK
4	*	482.926	-10.638	-36.530	-47.168	-34.168	-13.000	PEAK
5		655.932	-10.822	-55.731	-66.553	-53.553	-13.000	PEAK
6		881.423	-11.948	-50.628	-62.577	-49.577	-13.000	PEAK

Note:

1. All Reading Levels are Peak value.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Site : Site 1	Time : 2008/08/30 - 11:01
Limit : PART27(Fixed_station)_00M_PK	Margin : 6
Probe : FCC _30-1G(2008-8) - HORIZONTAL	Power : AC 120V/60Hz
EUT : IN-Band MMDS Two-Way Transceiver	Note : Mode 2: Transmit

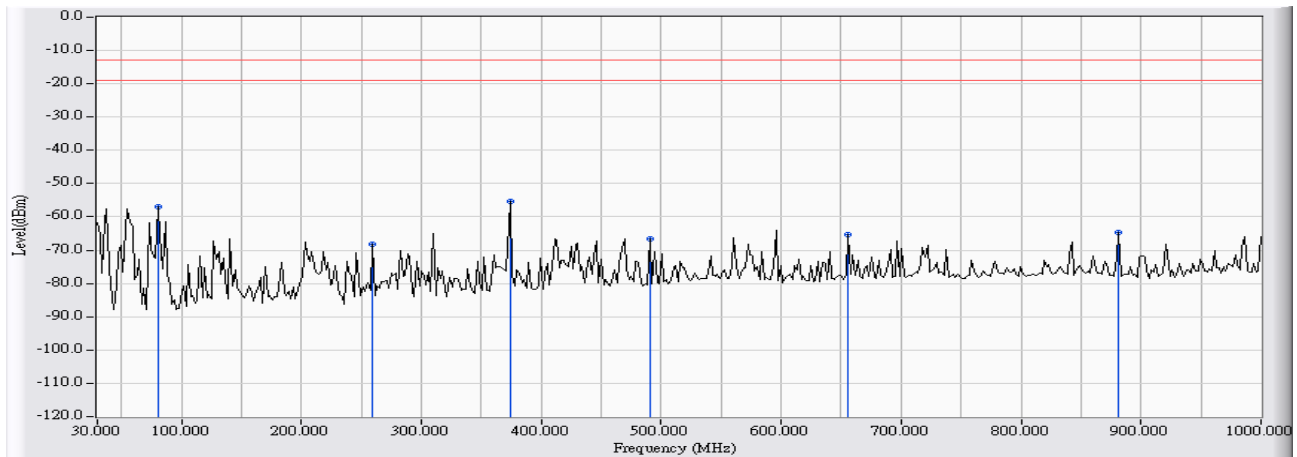


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	Measure Level (dBm)	Margin (dB)	Limit (dBm)	Detector Type
1	*	45.551	-14.227	-44.873	-59.099	-46.099	-13.000	PEAK
2		164.128	-17.396	-47.299	-64.695	-51.695	-13.000	PEAK
3		374.068	-11.109	-51.350	-62.459	-49.459	-13.000	PEAK
4		490.701	-10.641	-50.978	-61.618	-48.618	-13.000	PEAK
5		720.080	-7.469	-56.117	-63.587	-50.587	-13.000	PEAK
6		881.423	-13.114	-48.427	-61.542	-48.542	-13.000	PEAK

Note:

1. All Reading Levels are Peak value.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Site : Site 1	Time : 2008/08/30 - 11:04
Limit : PART27(Fixed_station)_00M_PK	Margin : 6
Probe : FCC _30-1G(2008-8) - VERTICAL	Power : AC 120V/60Hz
EUT : IN-Band MMDS Two-Way Transceiver	Note : Mode 2: Transmit



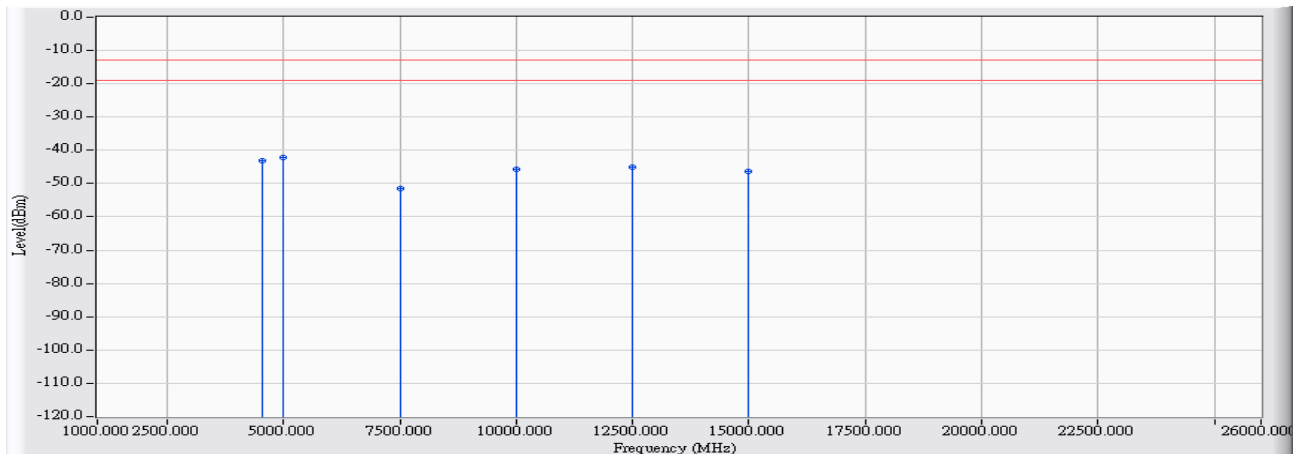
	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	Measure Level (dBm)	Margin (dB)	Limit (dBm)	Detector Type
1	80.541	-16.913	-40.024	-56.937	-43.937	-13.000	PEAK
2	259.379	-12.482	-55.826	-68.308	-55.308	-13.000	PEAK
3	* 374.068	-9.238	-46.119	-55.357	-42.357	-13.000	PEAK
4	490.701	-10.151	-56.374	-66.524	-53.524	-13.000	PEAK
5	655.932	-10.822	-54.417	-65.239	-52.239	-13.000	PEAK
6	881.423	-11.948	-52.562	-64.511	-51.511	-13.000	PEAK

Note:

1. All Reading Levels are Peak value.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

1 GHz – 26 GHz Spurious:

Site : Site 1	Time : 2008/08/30 - 11:41
Limit : PART27(Fixed_station)_00M_PK	Margin : 6
Probe : FCC _1-18G(2008) - HORIZONTAL	Power : AC 120V/60Hz
EUT : IN-Band MMDS Two-Way Transceiver	Note : : Mode 1: Transmit –CH1

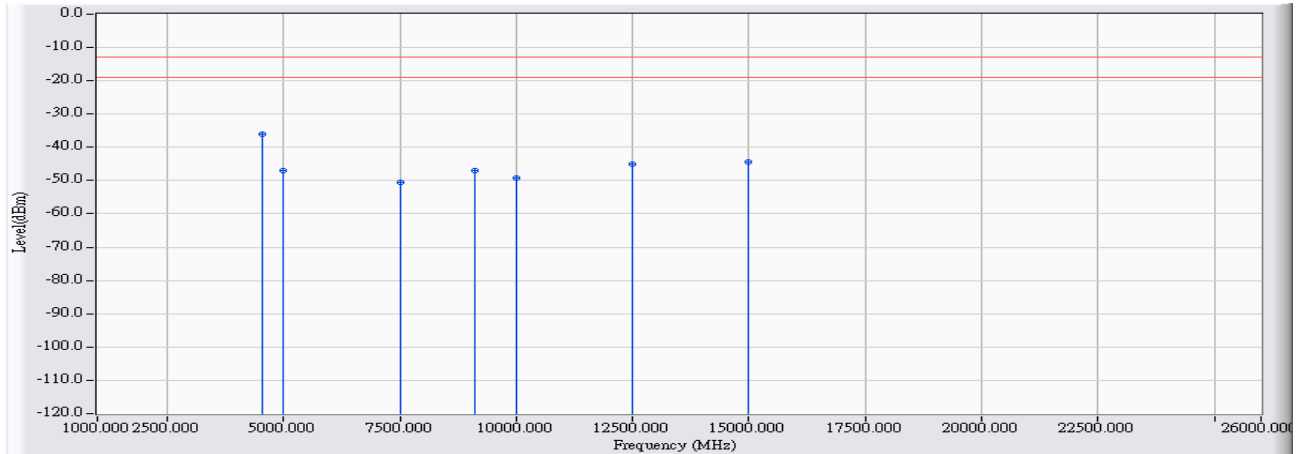


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	Measure Level (dBm)	Margin (dB)	Limit (dBm)	Detector Type
1		4556.160	16.310	-59.410	-43.100	-30.100	-13.000	PEAK
2	*	5000.160	17.851	-60.020	-42.169	-29.169	-13.000	PEAK
3		7499.930	20.631	-72.150	-51.520	-38.520	-13.000	PEAK
4		10000.120	26.284	-71.970	-45.686	-32.686	-13.000	PEAK
5		12500.020	29.104	-74.060	-44.956	-31.956	-13.000	PEAK
6		15000.080	29.424	-75.870	-46.445	-33.445	-13.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : Site 1	Time : 2008/08/30 - 11:50
Limit : PART27(Fixed_station)_00M_PK	Margin : 6
Probe : FCC _1-18G(2008) - VERTICAL	Power : AC 120V/60Hz
EUT : IN-Band MMDS Two-Way Transceiver	Note : Mode 1: Transmit -CH1

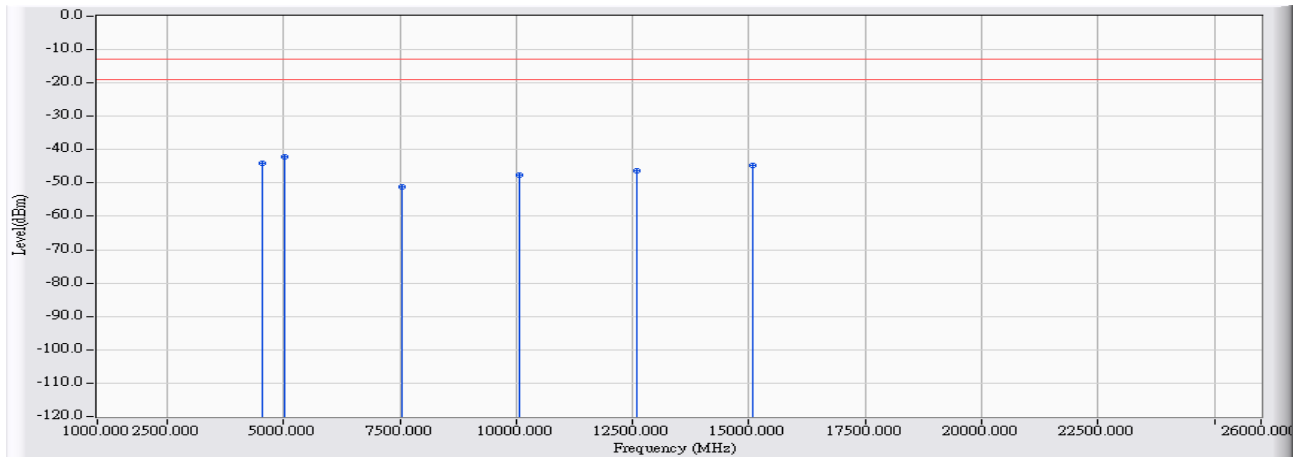


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	Measure Level (dBm)	Margin (dB)	Limit (dBm)	Detector Type
1	*	4556.120	17.645	-53.540	-35.895	-22.895	-13.000	PEAK
2		4999.960	17.273	-64.090	-46.818	-33.818	-13.000	PEAK
3		7499.960	21.618	-72.080	-50.462	-37.462	-13.000	PEAK
4		9112.000	23.615	-70.490	-46.875	-33.875	-13.000	PEAK
5		10000.060	24.083	-73.150	-49.067	-36.067	-13.000	PEAK
6		12500.000	28.354	-73.480	-45.126	-32.126	-13.000	PEAK
7		14999.980	30.240	-74.590	-44.349	-31.349	-13.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : Site 1	Time : 2008/08/30 - 12:03
Limit : PART27(Fixed_station)_00M_PK	Margin : 6
Probe : FCC _1-18G(2008) - HORIZONTAL	Power : AC 120V/60Hz
EUT : IN-Band MMDS Two-Way Transceiver	Note : : Mode 1: Transmit -CH15

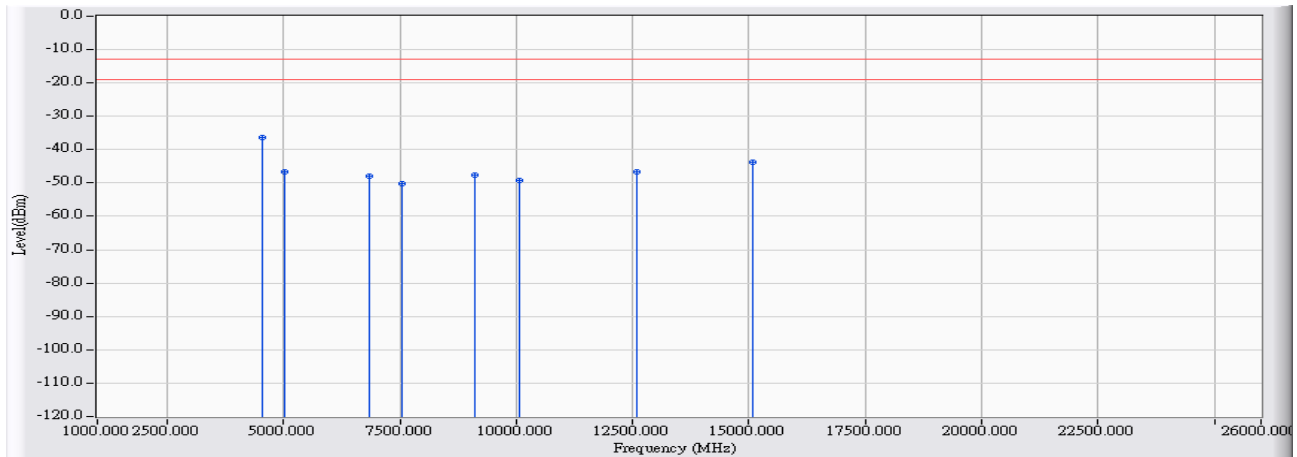


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	Measure Level (dBm)	Margin (dB)	Limit (dBm)	Detector Type
1		4556.060	16.309	-60.470	-44.161	-31.161	-13.000	PEAK
2	*	5029.970	17.690	-59.770	-42.080	-29.080	-13.000	PEAK
3		7545.040	20.730	-72.000	-51.270	-38.270	-13.000	PEAK
4		10060.060	26.247	-73.730	-47.483	-34.483	-13.000	PEAK
5		12574.970	29.100	-75.340	-46.240	-33.240	-13.000	PEAK
6		15090.040	29.925	-74.600	-44.675	-31.675	-13.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : Site 1	Time : 2008/08/30 - 12:11
Limit : PART27(Fixed_station)_00M_PK	Margin : 6
Probe : FCC _1-18G(2008) - VERTICAL	Power : AC 120V/60Hz
EUT : IN-Band MMDS Two-Way Transceiver	Note : : Mode 1: Transmit -CH15

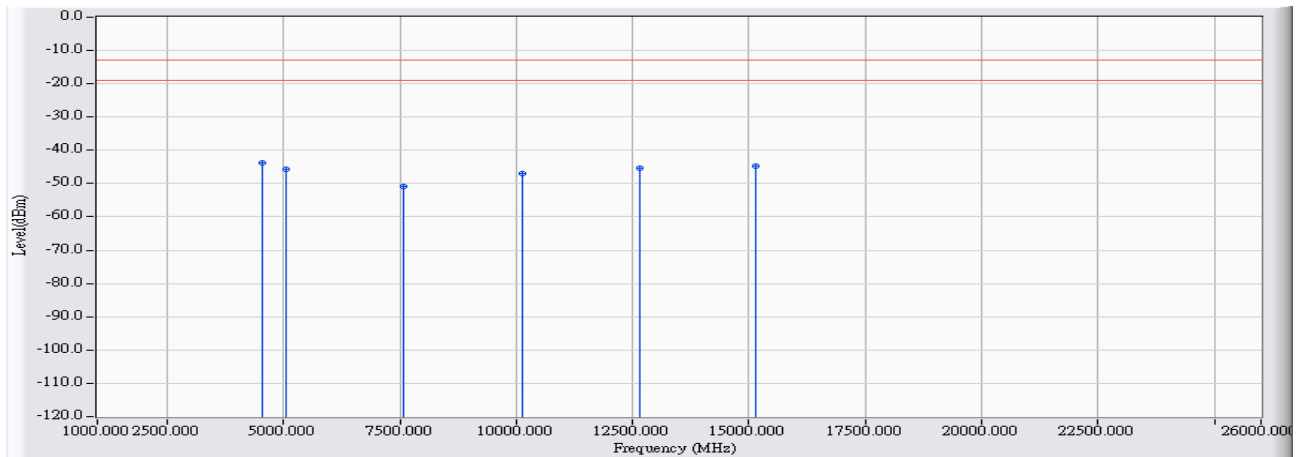


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	Measure Level (dBm)	Margin (dB)	Limit (dBm)	Detector Type
1	*	4556.090	17.645	-53.890	-36.245	-23.245	-13.000	PEAK
2		5029.950	17.135	-63.830	-46.695	-33.695	-13.000	PEAK
3		6834.140	21.286	-69.340	-48.054	-35.054	-13.000	PEAK
4		7545.010	21.680	-72.010	-50.330	-37.330	-13.000	PEAK
5		9112.050	23.615	-71.230	-47.615	-34.615	-13.000	PEAK
6		10060.020	24.237	-73.580	-49.343	-36.343	-13.000	PEAK
7		12574.990	28.257	-74.920	-46.663	-33.663	-13.000	PEAK
8		15090.080	30.732	-74.340	-43.608	-30.608	-13.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : Site 1	Time : 2008/08/30 - 12:24
Limit : PART27(Fixed_station)_00M_PK	Margin : 6
Probe : FCC _1-18G(2008) - HORIZONTAL	Power : AC 120V/60Hz
EUT : IN-Band MMDS Two-Way Transceiver	Note : Mode 1: Transmit -CH30

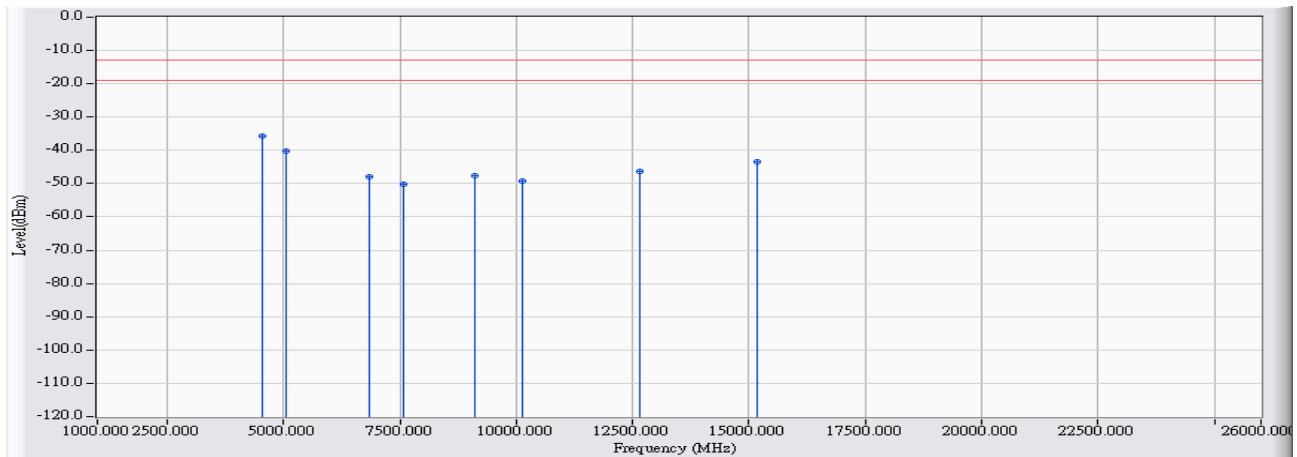


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	Measure Level (dBm)	Margin (dB)	Limit (dBm)	Detector Type
1	*	4556.100	16.309	-60.200	-43.891	-30.891	-13.000	PEAK
2		5060.020	17.493	-63.210	-45.718	-32.718	-13.000	PEAK
3		7590.120	20.843	-71.640	-50.797	-37.797	-13.000	PEAK
4		10120.060	26.194	-73.260	-47.067	-34.067	-13.000	PEAK
5		12650.100	29.080	-74.310	-45.230	-32.230	-13.000	PEAK
6		15150.080	30.247	-74.840	-44.593	-31.593	-13.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : Site 1	Time : 2008/08/30 - 12:32
Limit : PART27(Fixed_station)_00M_PK	Margin : 6
Probe : FCC _1-18G(2008) - VERTICAL	Power : AC 120V/60Hz
EUT : IN-Band MMDS Two-Way Transceiver	Note : Mode 1: Transmit -CH30

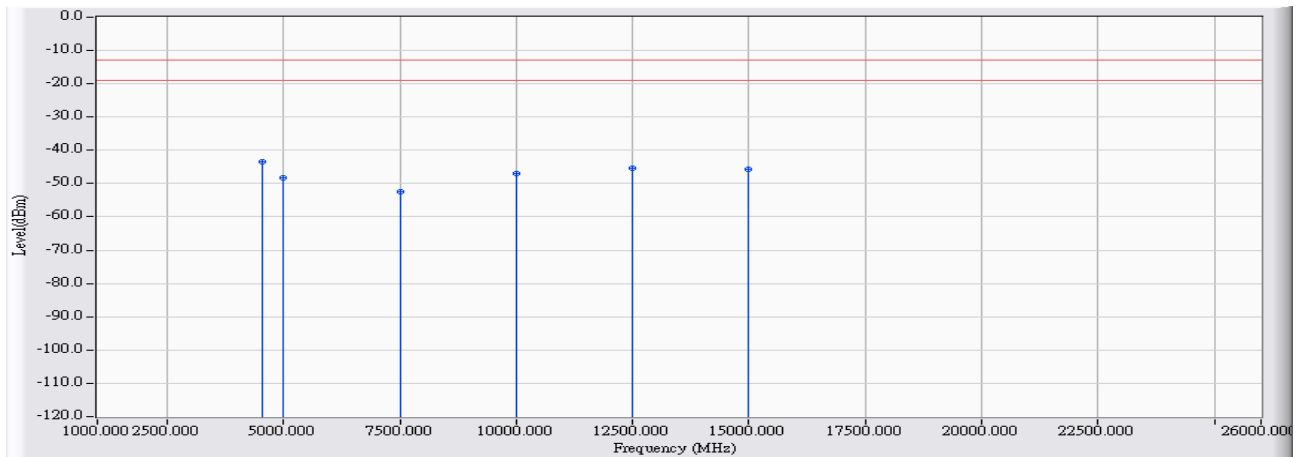


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	Measure Level (dBm)	Margin (dB)	Limit (dBm)	Detector Type
1	*	4556.090	17.645	-53.440	-35.795	-22.795	-13.000	PEAK
2		5059.970	16.977	-57.150	-40.174	-27.174	-13.000	PEAK
3		6834.120	21.285	-69.140	-47.854	-34.854	-13.000	PEAK
4		7590.150	21.750	-72.040	-50.290	-37.290	-13.000	PEAK
5		9111.890	23.616	-71.120	-47.505	-34.505	-13.000	PEAK
6		10120.030	24.408	-73.780	-49.372	-36.372	-13.000	PEAK
7		12650.060	28.142	-74.390	-46.248	-33.248	-13.000	PEAK
8		15180.090	31.209	-74.600	-43.391	-30.391	-13.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : Site 1	Time : 2008/08/30 - 12:44
Limit : PART27(Fixed_station)_00M_PK	Margin : 6
Probe : FCC _1-18G(2008) - HORIZONTAL	Power : AC 120V/60Hz
EUT : IN-Band MMDS Two-Way Transceiver	Note : : Mode 2: Transmit -CH1

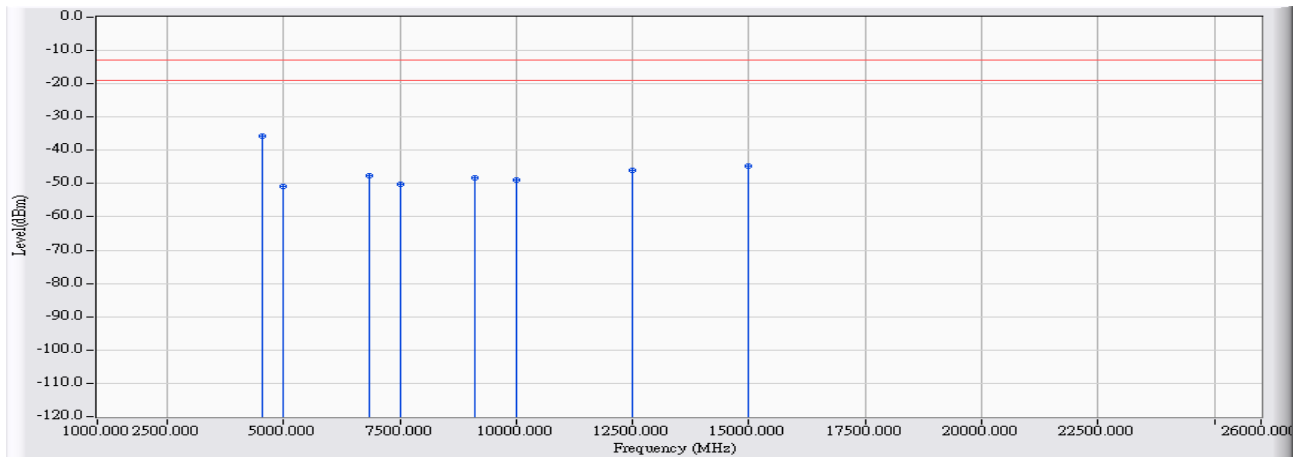


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	Measure Level (dBm)	Margin (dB)	Limit (dBm)	Detector Type
1	*	4556.090	16.309	-59.900	-43.591	-30.591	-13.000	PEAK
2		5000.150	17.851	-66.030	-48.179	-35.179	-13.000	PEAK
3		7499.960	20.630	-72.970	-52.339	-39.339	-13.000	PEAK
4		10000.080	26.284	-73.140	-46.856	-33.856	-13.000	PEAK
5		12500.010	29.104	-74.570	-45.466	-32.466	-13.000	PEAK
6		15000.040	29.424	-74.960	-45.535	-32.535	-13.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : Site 1	Time : 2008/08/30 - 12:52
Limit : PART27(Fixed_station)_00M_PK	Margin : 6
Probe : FCC _1-18G(2008) - VERTICAL	Power : AC 120V/60Hz
EUT : IN-Band MMDS Two-Way Transceiver	Note : : Mode 2: Transmit -CH1

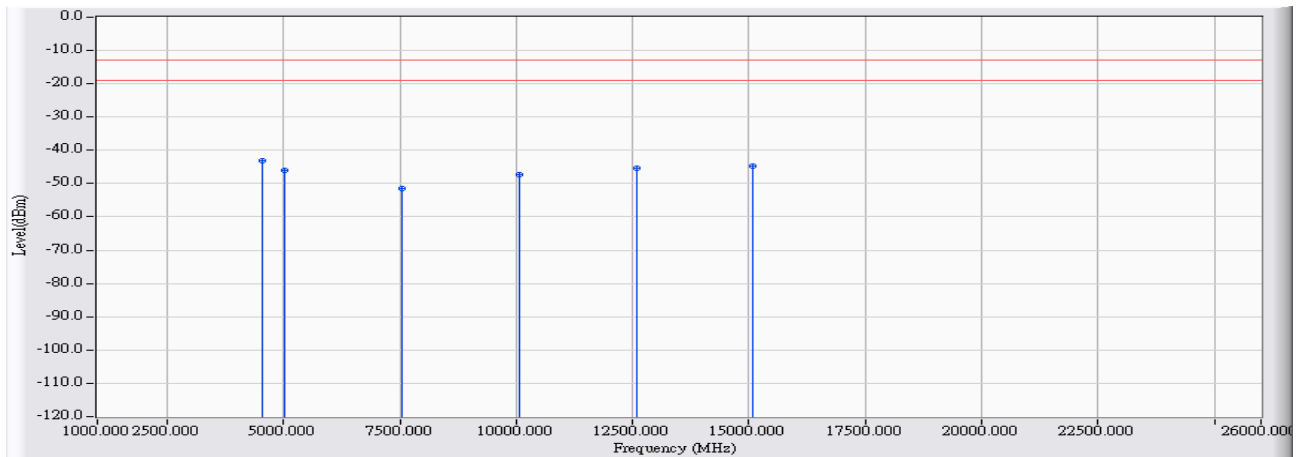


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	Measure Level (dBm)	Margin (dB)	Limit (dBm)	Detector Type
1	*	4556.040	17.645	-53.370	-35.725	-22.725	-13.000	PEAK
2		5000.010	17.272	-67.990	-50.718	-37.718	-13.000	PEAK
3		6834.120	21.285	-68.980	-47.694	-34.694	-13.000	PEAK
4		7500.020	21.618	-71.700	-50.082	-37.082	-13.000	PEAK
5		9112.060	23.615	-71.750	-48.135	-35.135	-13.000	PEAK
6		10000.040	24.083	-73.010	-48.927	-35.927	-13.000	PEAK
7		12499.970	28.354	-74.340	-45.986	-32.986	-13.000	PEAK
8		15000.020	30.240	-74.910	-44.669	-31.669	-13.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : Site 1	Time : 2008/08/30 - 13:02
Limit : PART27(Fixed_station)_00M_PK	Margin : 6
Probe : FCC _1-18G(2008) - HORIZONTAL	Power : AC 120V/60Hz
EUT : IN-Band MMDS Two-Way Transceiver	Note : Mode 2: Transmit -CH15

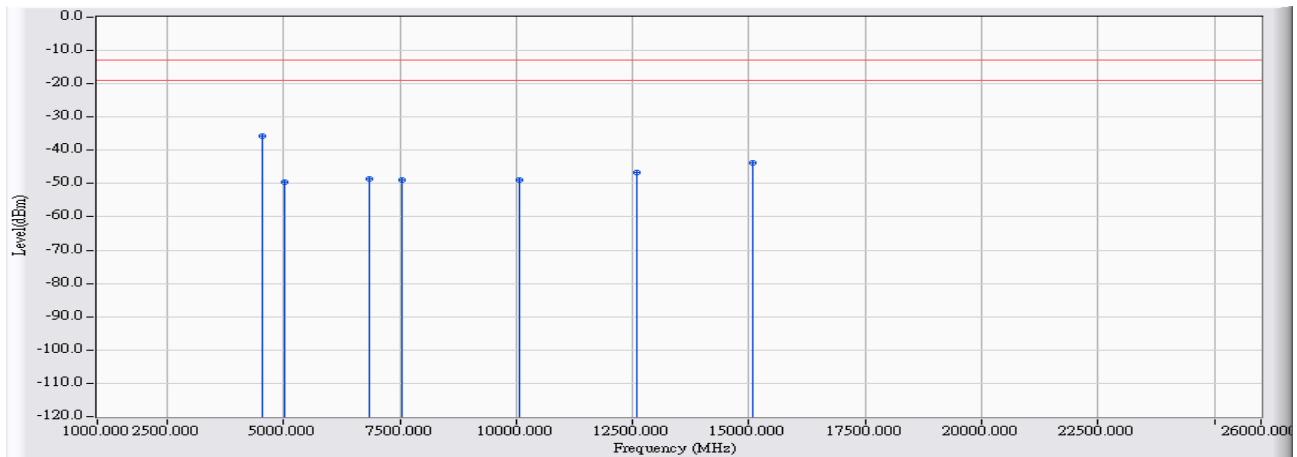


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	Measure Level (dBm)	Margin (dB)	Limit (dBm)	Detector Type
1	*	4556.030	16.309	-59.570	-43.261	-30.261	-13.000	PEAK
2		5029.990	17.690	-63.840	-46.151	-33.151	-13.000	PEAK
3		7545.020	20.730	-72.240	-51.510	-38.510	-13.000	PEAK
4		10060.010	26.247	-73.570	-47.323	-34.323	-13.000	PEAK
5		12574.970	29.100	-74.570	-45.470	-32.470	-13.000	PEAK
6		15090.000	29.924	-74.620	-44.695	-31.695	-13.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : Site 1	Time : 2008/08/30 - 13:10
Limit : PART27(Fixed_station)_00M_PK	Margin : 6
Probe : FCC _1-18G(2008) - VERTICAL	Power : AC 120V/60Hz
EUT : IN-Band MMDS Two-Way Transceiver	Note : Mode 2: Transmit -CH15

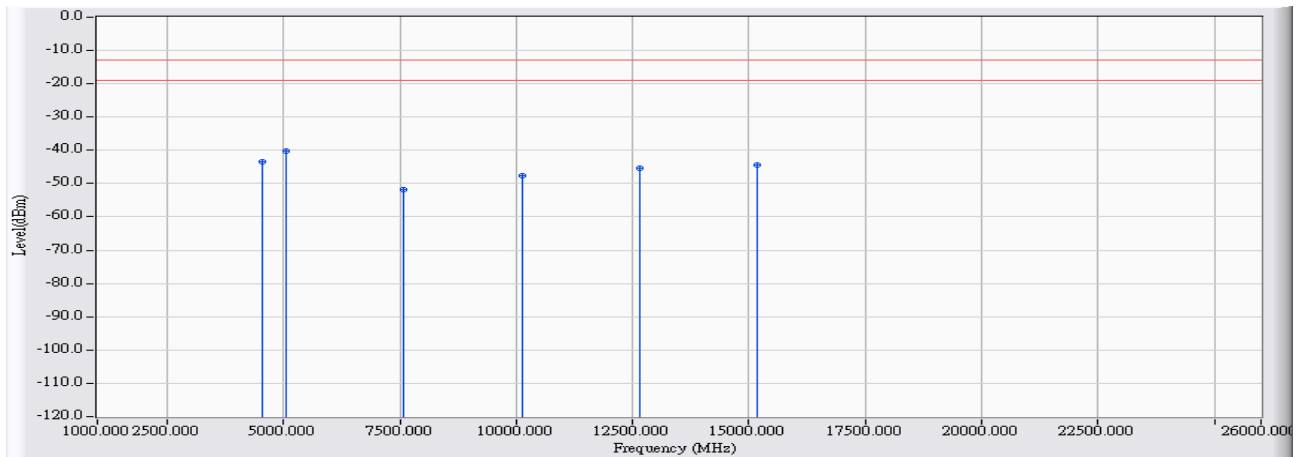


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	Measure Level (dBm)	Margin (dB)	Limit (dBm)	Detector Type
1	*	4556.080	17.645	-53.270	-35.625	-22.625	-13.000	PEAK
2		5030.020	17.134	-66.810	-49.675	-36.675	-13.000	PEAK
3		6834.100	21.285	-69.730	-48.445	-35.445	-13.000	PEAK
4		7545.060	21.680	-70.710	-49.030	-36.030	-13.000	PEAK
5		10060.010	24.237	-73.160	-48.924	-35.924	-13.000	PEAK
6		12575.030	28.257	-74.910	-46.653	-33.653	-13.000	PEAK
7		15089.970	30.731	-74.560	-43.828	-30.828	-13.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : Site 1	Time : 2008/08/30 - 13:19
Limit : PART27(Fixed_station)_00M_PK	Margin : 6
Probe : FCC _1-18G(2008) - HORIZONTAL	Power : AC 120V/60Hz
EUT : IN-Band MMDS Two-Way Transceiver	Note : Mode 2: Transmit -CH30

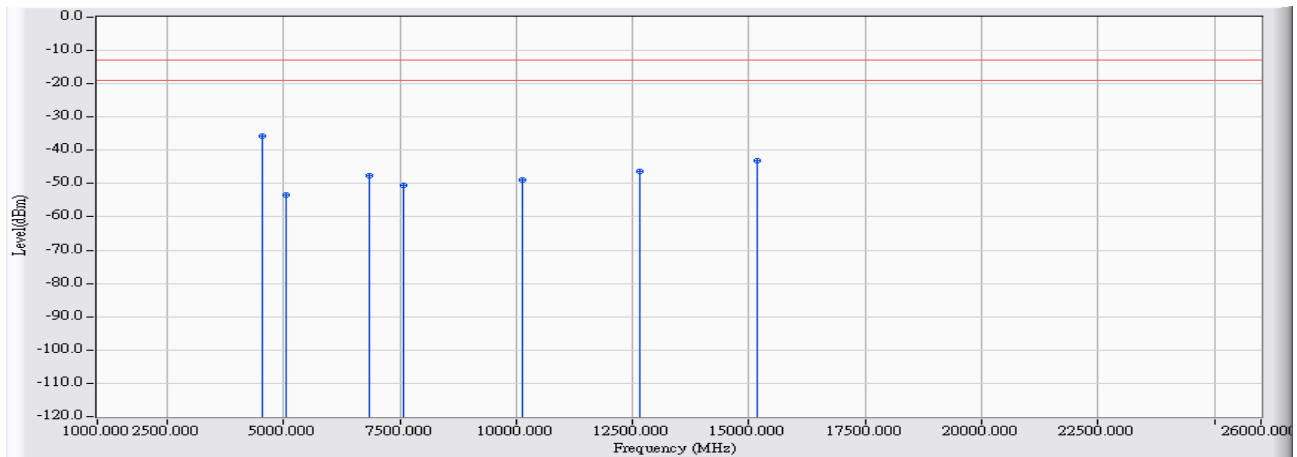


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	Measure Level (dBm)	Margin (dB)	Limit (dBm)	Detector Type
1		4556.070	16.309	-59.900	-43.591	-30.591	-13.000	PEAK
2	*	5060.000	17.493	-57.730	-40.238	-27.238	-13.000	PEAK
3		7590.050	20.843	-72.700	-51.857	-38.857	-13.000	PEAK
4		10120.030	26.194	-73.730	-47.537	-34.537	-13.000	PEAK
5		12650.140	29.080	-74.370	-45.290	-32.290	-13.000	PEAK
6		15180.120	30.413	-74.810	-44.397	-31.397	-13.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : Site 1	Time : 2008/08/30 - 13:28
Limit : PART27(Fixed_station)_00M_PK	Margin : 6
Probe : FCC _1-18G(2008) - VERTICAL	Power : AC 120V/60Hz
EUT : IN-Band MMDS Two-Way Transceiver	Note : Mode 2: Transmit -CH30



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBm)	Measure Level (dBm)	Margin (dB)	Limit (dBm)	Detector Type
1	*	4556.020	17.645	-53.440	-35.795	-22.795	-13.000	PEAK
2		5060.110	16.975	-70.390	-53.415	-40.415	-13.000	PEAK
3		6834.040	21.285	-68.990	-47.705	-34.705	-13.000	PEAK
4		7590.140	21.750	-72.290	-50.540	-37.540	-13.000	PEAK
5		10119.960	24.408	-73.450	-49.042	-36.042	-13.000	PEAK
6		12650.070	28.142	-74.510	-46.368	-33.368	-13.000	PEAK
7		15180.100	31.209	-74.290	-43.081	-30.081	-13.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

7. Frequency Stability Over Temperatures Variation

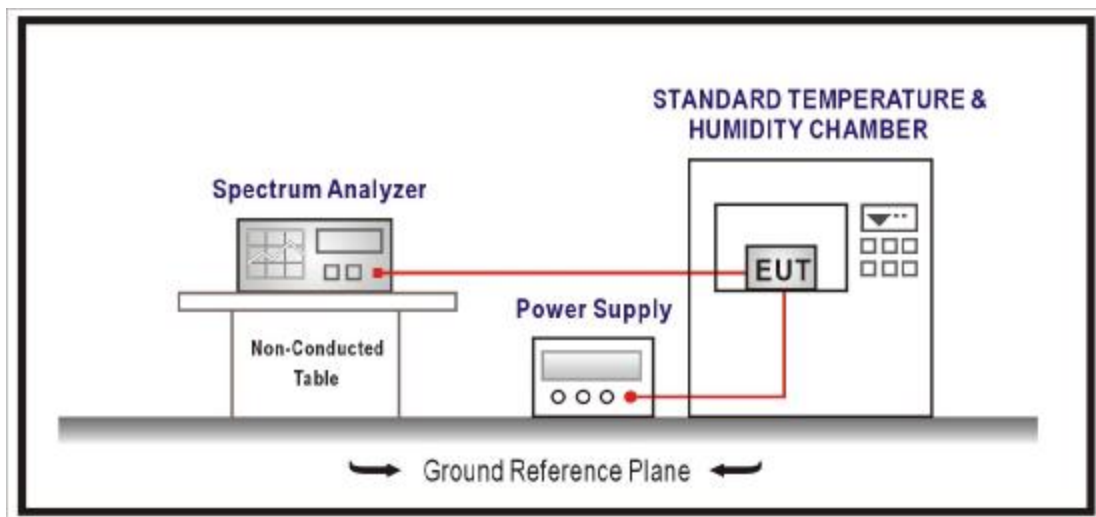
7.1. Test Equipment

The following test equipments are used during the test:

Item	Equipment	Manufacturer	Model No. / Serial No.	Last Cal.
1	Spectrum Analyzer	R & S	FSP / 100561	Jan., 2008
2	STANDARD TEMPERATURE & HUMIDITY CHAMBER	WIT	TH-1S-B / 108210	Feb., 2008

Note: 1. All equipments that need to calibrate are with calibration period of 1 year.

7.2. Test Setup



7.3. Limits

The frequency stability shall be measured with variation of ambient temperature as follows: From -30° to +50° centigrade for all equipment. Frequency measurements shall be made at the extremes of the specified temperature range and at intervals of not more than 10° centigrade through the range.

7.4. Test Procedure

Power must be turned off when changing from one temperature to another. Power warm up is at least 15 min and power applied should perform before recording frequency error. The temperature range step is 10 degrees in this test items. All temperature levels shall be holding the $\pm 0.5^{\circ}\text{C}$ during the measurement testing. The each temperature step shall be at least 0.5 hours, consider the EUT could be test under the stability condition.

7.5. Uncertainty

The measurement uncertainty is defined as $\pm 100\text{KHz}$

7.6. Test Result

Product	IN-Band MMDS Two-Way Transceiver		
Test Item	Frequency Stability Over Temperatures Variation		
Test Mode	Mode 1: Transmit		
Date of Test	2008/08/29	Test Site	No.7 Shielding Room

Mode 1		
Carrier Signal		
2500MHz		
Frequency Error Over Temperatures		
Temp. (°C)	Frequency (MHz)	Frequency Error (ppm)
50	2500.0017	0.240
40	2500.0015	0.160
30	2500.0012	0.040
25	2500.0011	0.000
20	2500.0012	0.040
10	2500.0008	-0.120
0	2499.9999	-0.480
-10	2499.9997	-0.560
-20	2499.9996	-0.600

Carrier Signal		
2515MHz		
Frequency Error Over Temperatures		
Temp. (°C)	Frequency (MHz)	Frequency Error (ppm)
50	2515.0018	0.318
40	2515.0016	0.239
30	2515.0011	0.040
25	2515.001	0.000
20	2515.0012	0.080
10	2515.0007	-0.119
0	2514.9998	-0.477
-10	2514.9994	-0.636
-20	2514.9993	-0.676

Carrier Signal		
2530MHz		
Frequency Error Over Temperatures		
Temp. (°C)	Frequency (MHz)	Frequency Error (ppm)
50	2530.0019	0.474
40	2530.0015	0.316
30	2530.0016	0.356
25	2530.0007	0.000
20	2530.0013	0.237
10	2530.0008	0.040
0	2529.9998	-0.356
-10	2529.9996	-0.435
-20	2529.9995	-0.474

Mode 2		
Carrier Signal		
2500MHz		
Frequency Error Over Temperatures		
Temp. (°C)	Frequency (MHz)	Frequency Error (ppm)
50	2500.0018	0.240
40	2500.0014	0.080
30	2500.0012	0.000
25	2500.0012	0.000
20	2500.0012	0.000
10	2500.0008	-0.160
0	2499.9998	-0.560
-10	2499.9996	-0.640
-20	2499.9996	-0.640

Carrier Signal		
2515MHz		
Frequency Error Over Temperatures		
Temp. (°C)	Frequency (MHz)	Frequency Error (ppm)
50	2515.0018	0.239
40	2515.0014	0.080
30	2515.0012	0.000
25	2515.0012	0.000
20	2515.0012	0.000
10	2515.0008	-0.159
0	2514.9998	-0.557
-10	2514.9992	-0.795
-20	2514.9994	-0.716

Carrier Signal		
2530MHz		
Frequency Error Over Temperatures		
Temp. (°C)	Frequency (MHz)	Frequency Error (ppm)
50	2530.0018	0.395
40	2530.0014	0.237
30	2530.0012	0.158
25	2530.0008	0.000
20	2530.0012	0.158
10	2530.0008	0.000
0	2529.9998	-0.395
-10	2529.9996	-0.474
-20	2529.9996	-0.474

Mode 3		
Carrier Signal		
2500MHz		
Frequency Error Over Temperatures		
Temp. (°C)	Frequency (MHz)	Frequency Error (ppm)
50	2500.0016	0.160
40	2500.0014	0.080
30	2500.0011	-0.040
25	2500.0012	0.000
20	2500.0012	0.000
10	2500.0008	-0.160
0	2499.9999	-0.520
-10	2499.9996	-0.640
-20	2499.9997	-0.600

Carrier Signal		
2515MHz		
Frequency Error Over Temperatures		
Temp. (°C)	Frequency (MHz)	Frequency Error (ppm)
50	2515.0018	0.199
40	2515.001	-0.119
30	2515.0011	-0.080
25	2515.0013	0.000
20	2515.0012	-0.040
10	2515.0009	-0.159
0	2515.0006	-0.278
-10	2514.9999	-0.557
-20	2514.9998	-0.596

Carrier Signal		
2530MHz		
Frequency Error Over Temperatures		
Temp. (°C)	Frequency (MHz)	Frequency Error (ppm)
50	2530.0018	0.435
40	2530.0015	0.316
30	2530.0013	0.237
25	2530.0007	0.000
20	2530.0011	0.158
10	2530.0005	-0.079
0	2529.9998	-0.356
-10	2529.9997	-0.395
-20	2529.9995	-0.474

Mode 4		
Carrier Signal		
2500MHz		
Frequency Error Over Temperatures		
Temp. (°C)	Frequency (MHz)	Frequency Error (ppm)
50	2500.0017	0.200
40	2500.0015	0.120
30	2500.0011	-0.040
25	2500.0012	0.000
20	2500.0011	-0.040
10	2500.0008	-0.160
0	2499.9999	-0.520
-10	2499.9998	-0.560
-20	2499.9998	-0.560

Carrier Signal		
2515MHz		
Frequency Error Over Temperatures		
Temp. (°C)	Frequency (MHz)	Frequency Error (ppm)
50	2515.0017	0.199
40	2515.0015	0.119
30	2515.0012	0.000
25	2515.0012	0.000
20	2515.0012	0.000
10	2515.0008	-0.159
0	2514.9999	-0.517
-10	2514.9993	-0.755
-20	2514.9992	-0.795

Carrier Signal		
2530MHz		
Frequency Error Over Temperatures		
Temp. (°C)	Frequency (MHz)	Frequency Error (ppm)
50	2530.0016	0.356
40	2530.0013	0.237
30	2530.0012	0.198
25	2530.0007	0.000
20	2530.0012	0.198
10	2530.0008	0.040
0	2529.9997	-0.395
-10	2529.9996	-0.435
-20	2529.9995	-0.474

Mode 5		
Carrier Signal		
2500MHz		
Frequency Error Over Temperatures		
Temp. (°C)	Frequency (MHz)	Frequency Error (ppm)
50	2500.0018	0.280
40	2500.0015	0.160
30	2500.0011	0.000
25	2500.0011	0.000
20	2500.0012	0.040
10	2500.0007	-0.160
0	2499.9997	-0.560
-10	2499.9995	-0.640
-20	2499.9996	-0.600

Carrier Signal		
2515MHz		
Frequency Error Over Temperatures		
Temp. (°C)	Frequency (MHz)	Frequency Error (ppm)
50	2515.0019	0.278
40	2515.0015	0.119
30	2515.0012	0.000
25	2515.0012	0.000
20	2515.0011	-0.040
10	2515.0008	-0.159
0	2514.9999	-0.517
-10	2514.9995	-0.676
-20	2514.9996	-0.636

Carrier Signal		
2530MHz		
Frequency Error Over Temperatures		
Temp. (°C)	Frequency (MHz)	Frequency Error (ppm)
50	2530.0019	0.474
40	2530.0016	0.356
30	2530.0012	0.198
25	2530.0007	0.000
20	2530.0012	0.198
10	2530.0009	0.079
0	2529.9997	-0.395
-10	2529.9995	-0.474
-20	2529.9996	-0.435

8. Frequency Stability Over Voltage Variation

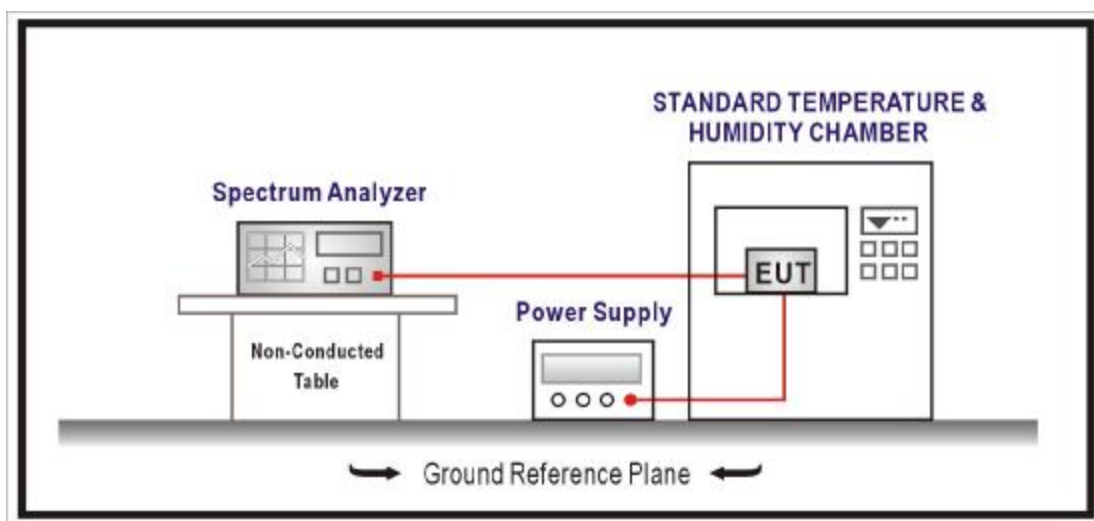
8.1. Test Equipment

The following test equipments are used during the test:

Item	Equipment	Manufacturer	Model No. / Serial No.	Last Cal.
1	Spectrum Analyzer	R & S	FSP / 100561	Jan., 2008
2	STANDARD TEMPERATURE & HUMIDITY CHAMBER	WIT	TH-1S-B / 108210	Feb., 2008

Note: 1. all equipments that need to calibrate are with calibration period of 1 year.

8.2. Test Setup



8.3. Limits

The frequency stability shall be measured with variation of primary supply voltage as follows:

- (1) Vary primary supply voltage from 85 to 115 percent of the nominal value for other than hand carried battery equipment.
- (2) For hand carried, battery powered equipment, reduce primary supply voltage to the battery operating end point which shall be specified by the manufacturer.
- (3) The supply voltage shall be measured at the input to the cable normally provided with the equipment, or at the power supply terminals if cables are not normally provided. Effects on frequency of transmitter keying (except for broadcast transmitters) and any heating element cycling at the nominal supply voltage and at each extreme also shall be shown.

8.4. Test Procedure

Power must be removed when changing from one voltage to another voltage. Power warm up is at least 15 min and power applied should perform before recording frequency error.

EUT is connected the external power supply to control the DC input power. The various Volts set from the minimum 4.5 Volts to 5.5 Volts. Each step shall be record the frequency error rate.

8.5. Uncertainty

The measurement uncertainty is defined as $\pm 100\text{KHz}$.

8.6. Test Result

Product	IN-Band MMDS Two-Way Transceiver		
Test Item	Frequency Stability Over Voltage Variation		
Test Mode	Mode 1: Transmit		
Date of Test	2008/09/02	Test Site	No.7 Shielding Room

Mode 1		
Carrier Signal		
2500MHz		
Frequency Error Over Voltage		
Voltage	Frequency (MHz)	Frequency Error (ppm)
138	2500.0011	0.040
120	2500.001	0.000
102	2500.0011	0.040

Carrier Signal		
2515MHz		
Frequency Error Over Voltage		
Voltage	Frequency (MHz)	Frequency Error (ppm)
138	2515.0011	0.000
120	2515.0011	0.000
102	2515.0012	0.040

Carrier Signal		
2530MHz		
Frequency Error Over Voltage		
Voltage	Frequency (MHz)	Frequency Error (ppm)
138	2530.0012	0.040
120	2530.0011	0.000
102	2530.0012	0.040

Mode 2		
Carrier Signal		
2500MHz		
Frequency Error Over Voltage		
Voltage	Frequency (MHz)	Frequency Error (ppm)
138	2500.0012	0.000
120	2500.0012	0.000
102	2500.0012	0.000

Carrier Signal		
2515MHz		
Frequency Error Over Voltage		
Voltage	Frequency (MHz)	Frequency Error (ppm)
138	2515.0012	0.000
120	2515.0012	0.000
102	2515.0012	0.000

Carrier Signal		
2530MHz		
Frequency Error Over Voltage		
Voltage	Frequency (MHz)	Frequency Error (ppm)
138	2530.0012	0.000
120	2530.0012	0.000
102	2530.0012	0.000

Mode 3		
Carrier Signal		
2500MHz		
Frequency Error Over Voltage		
Voltage	Frequency (MHz)	Frequency Error (ppm)
138	2500.001	-0.040
120	2500.0011	0.000
102	2500.0011	0.000

Carrier Signal		
2515MHz		
Frequency Error Over Voltage		
Voltage	Frequency (MHz)	Frequency Error (ppm)
138	2515.0012	0.040
120	2515.0011	0.000
102	2515.001	-0.040

Carrier Signal		
2530MHz		
Frequency Error Over Voltage		
Voltage	Frequency (MHz)	Frequency Error (ppm)
138	2530.001	-0.040
120	2530.0011	0.000
102	2530.0012	0.040

Mode 4		
Carrier Signal		
2500MHz		
Frequency Error Over Voltage		
Voltage	Frequency (MHz)	Frequency Error (ppm)
138	2500.0012	0.000
120	2500.0012	0.000
102	2500.0011	-0.040

Carrier Signal		
2515MHz		
Frequency Error Over Voltage		
Voltage	Frequency (MHz)	Frequency Error (ppm)
138	2515.0011	0.040
120	2515.001	0.000
102	2515.001	0.000

Carrier Signal		
2530MHz		
Frequency Error Over Voltage		
Voltage	Frequency (MHz)	Frequency Error (ppm)
138	2530.001	-0.040
120	2530.0011	0.000
102	2530.0012	0.040

Mode 5		
Carrier Signal		
2500MHz		
Frequency Error Over Voltage		
Voltage	Frequency (MHz)	Frequency Error (ppm)
138	2500.0011	-0.040
120	2500.0012	0.000
102	2500.0013	0.040

Carrier Signal		
2515MHz		
Frequency Error Over Voltage		
Voltage	Frequency (MHz)	Frequency Error (ppm)
138	2515.001	-0.040
120	2515.0011	0.000
102	2515.0012	0.040

Carrier Signal		
2530MHz		
Frequency Error Over Voltage		
Voltage	Frequency (MHz)	Frequency Error (ppm)
138	2530.0011	-0.040
120	2530.0012	0.000
102	2530.0012	0.000

9. AC Conducted Emission

9.1. Test Equipment

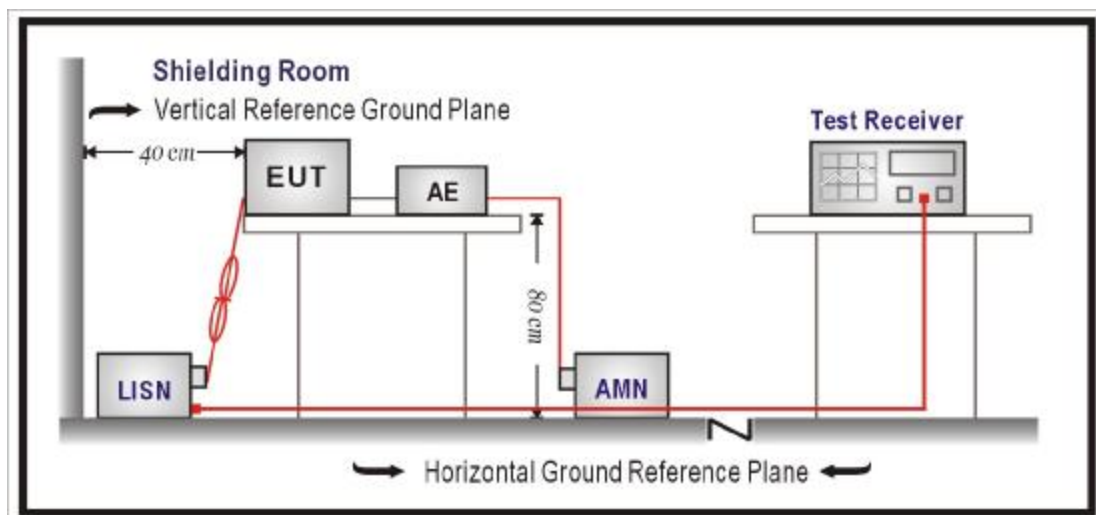
The following test equipments are used during the test:

Conducted Emission / SR2

Instrument	Manufacturer	Type No.	Serial No	Cal. Date
4-Wire ISN	R & S	ENY 41	837032/001	2008/04/15
Double 2-Wire ISN	R & S	ENY 22	835354/008	2008/04/15
LISN	R & S	ESH3-Z5	836679/022	2008/06/30
LISN	R & S	ESH3-Z5	836679/013	2008/01/07
Pulse Limiter	R & S	ZSH3-Z2	100411	2007/11/16
Test Receiver	R & S	ESCS 30	100149	2007/11/15

Note: All equipment upon which need to calibrated are with calibration period of 1 year.

9.2. Test Setup



9.3. Limits

FCC Part 15 Subpart C Paragraph 15.247 Limits (dBuV)		
Frequency MHz	QP	AV
0.15 - 0.50	66-56	56-46
0.50-5.0	56	46
5.0 - 30	60	50

Remarks: In the above table, the tighter limit applies at the band edges.

9.4. Test Procedure

The EUT and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs.)

Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.4: 2003 on conducted measurement.

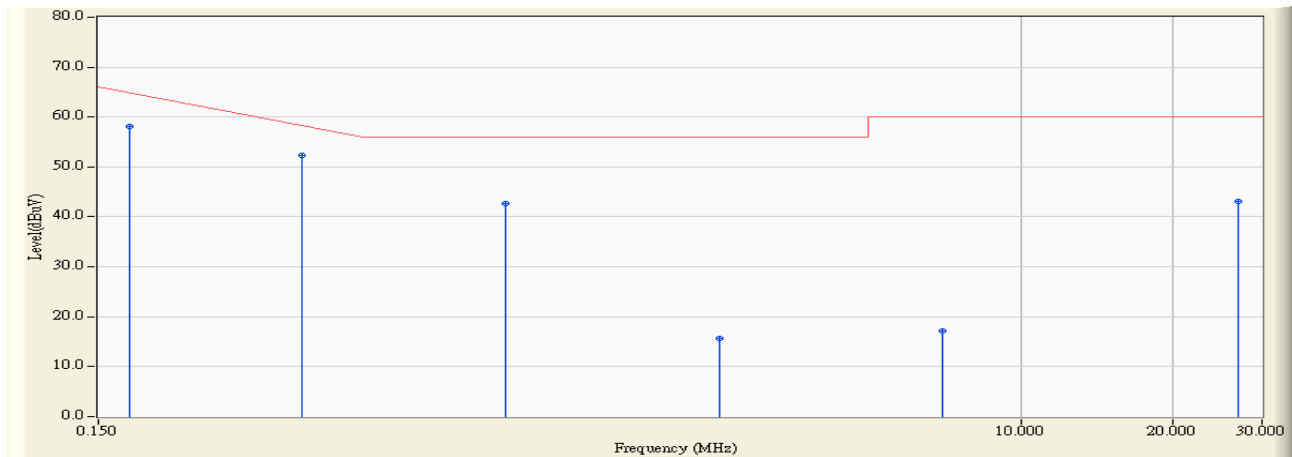
Conducted emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9 kHz.

9.5. Uncertainty

The measurement uncertainty is defined as ± 2.26 dB

9.6. Test Result

Site : ShieldingRoom3	Time : 2008/08/29 - 16:36
Limit : CISPR_B_00M_QP	Margin : 0
Probe : SR3_LISN(16A) - Line1	Power : AC 120V/60Hz
EUT : IN-Band MMDS Two-Way Transceiver	Note : : Mode 2: Transmit

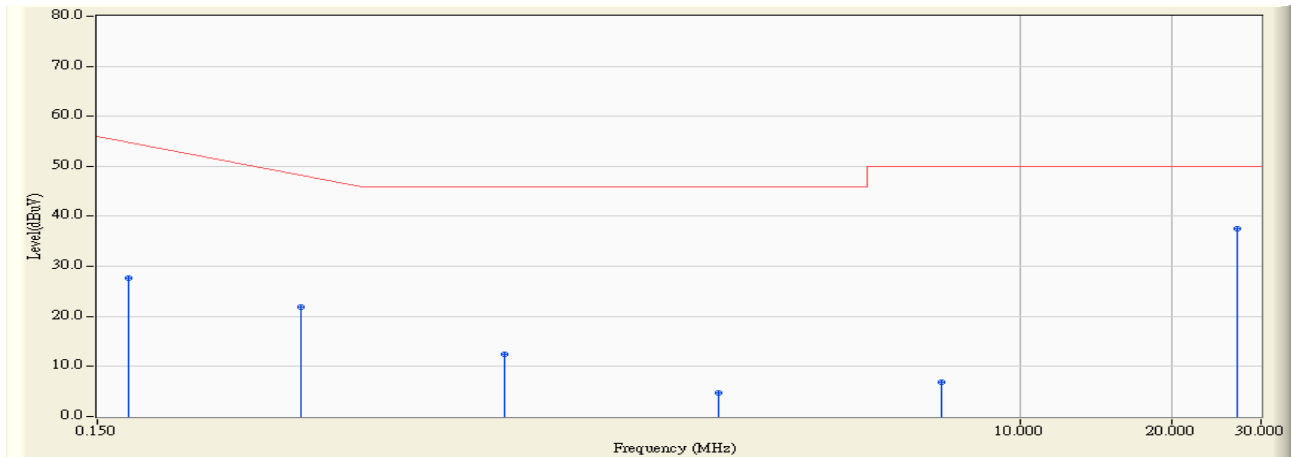


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.173	-0.030	58.160	58.130	-7.213	65.343	QUASIPeAK
2	*	0.379	0.010	52.290	52.300	-7.157	59.457	QUASIPeAK
3		0.960	0.060	42.550	42.610	-13.390	56.000	QUASIPeAK
4		2.540	0.140	15.560	15.700	-40.300	56.000	QUASIPeAK
5		7.007	0.350	16.850	17.200	-42.800	60.000	QUASIPeAK
6		27.008	0.990	42.090	43.080	-16.920	60.000	QUASIPeAK

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

Site : ShieldingRoom3	Time : 2008/08/29 - 16:36
Limit : CISPR_B_00M_AV	Margin : 0
Probe : SR3_LISN(16A) - Line1	Power : AC 120V/60Hz
EUT : IN-Band MMDS Two-Way Transceiver	Note : : Mode 2: Transmit

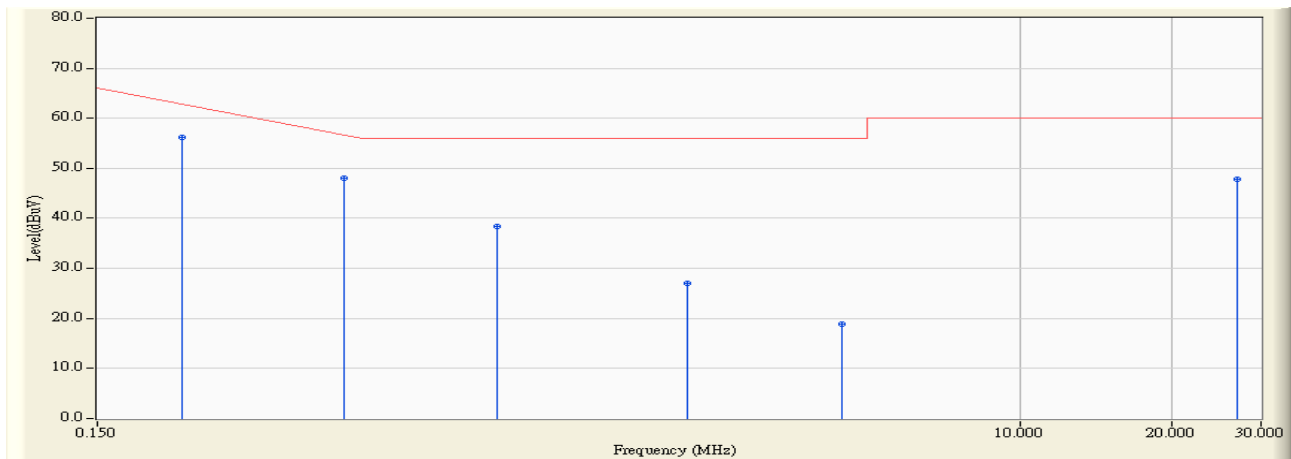


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.173	-0.030	27.630	27.600	-27.743	55.343	AVERAGE
2		0.379	0.010	21.850	21.860	-27.597	49.457	AVERAGE
3		0.960	0.060	12.400	12.460	-33.540	46.000	AVERAGE
4		2.540	0.140	4.670	4.810	-41.190	46.000	AVERAGE
5		7.007	0.350	6.440	6.790	-43.210	50.000	AVERAGE
6	*	27.008	0.990	36.580	37.570	-12.430	50.000	AVERAGE

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

Site : ShieldingRoom3	Time : 2008/08/29 - 16:59
Limit : CISPR_B_00M_QP	Margin : 0
Probe : SR3_LISN(16A) - Line2	Power : AC 120V/60Hz
EUT : IN-Band MMDS Two-Way Transceiver	Note : : Mode 2: Transmit

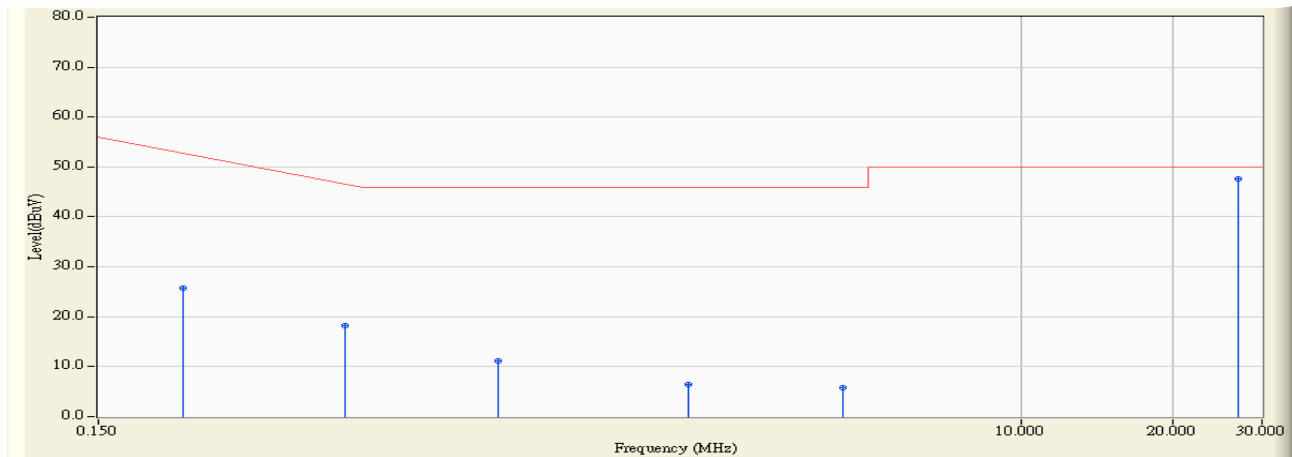


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1	*	0.220	-0.020	56.120	56.100	-7.900	64.000	QUASIPeAK
2		0.460	0.030	47.990	48.020	-9.123	57.143	QUASIPeAK
3		0.923	0.075	38.290	38.365	-17.635	56.000	QUASIPeAK
4		2.205	0.162	26.780	26.942	-29.058	56.000	QUASIPeAK
5		4.463	0.270	18.680	18.950	-37.050	56.000	QUASIPeAK
6		26.999	1.090	46.810	47.900	-12.100	60.000	QUASIPeAK

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

Site : ShieldingRoom3	Time : 2008/08/29 - 16:59
Limit : CISPR_B_00M_AV	Margin : 0
Probe : SR3_LISN(16A) - Line2	Power : AC 120V/60Hz
EUT : IN-Band MMDS Two-Way Transceiver	Note : : Mode 2: Transmit



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.220	-0.020	25.800	25.780	-28.220	54.000	AVERAGE
2		0.460	0.030	18.290	18.320	-28.823	47.143	AVERAGE
3		0.923	0.075	11.120	11.195	-34.805	46.000	AVERAGE
4		2.205	0.162	6.330	6.492	-39.508	46.000	AVERAGE
5		4.463	0.270	5.430	5.700	-40.300	46.000	AVERAGE
6	*	26.999	1.090	46.470	47.560	-2.440	50.000	AVERAGE

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.