

FCC RF Test Report

APPLICANT : ZTE CORPORATION
EQUIPMENT : EVDO WiMAX Dual Mode USB Modem
BRAND NAME : ZTE
MODEL NAME : AD226
FCC ID : Q78-ZTEAD226
STANDARD : 47 CFR Part 2, 27(M)
CLASSIFICATION : Licensed Non-Broadcast Station Transmitter (TNB)
TX FREQUENCY RANGE : 2496 MHz ~ 2690 MHz
Rx FREQUENCY RANGE : 2496 MHz ~ 2690 MHz
MAX. EIRP POWER : 0.11 W (QPSK, BW 5MHz)
0.09 W (QPSK, BW 10MHz)
0.08 W (16QAM, BW 5MHz)
0.10 W (16QAM, BW 10MHz)
EMISSION DESIGNATOR : 4M48G7D (QPSK, BW 5MHz)
9M10G7D (QPSK, BW 10MHz)
4M80W7D (16QAM, BW 5MHz)
9M40W7D (16QAM, BW 10MHz)

The product was received on Nov. 27, 2009 and completely tested on Feb. 24, 2010. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.4-2003 and 47 CFR FCC Part 27 Subpart M and shown compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC., the test report shall not be reproduced except in full.

Reviewed by:



Roy Wu / Manager



SPORTON INTERNATIONAL INC.

No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.

SPORTON INTERNATIONAL INC.

TEL : 886-3-327-3456

FAX : 886-3-328-4978

FCC ID : Q78-ZTEAD226

Page Number : 1 of 65

Report Issued Date : Mar. 08, 2010

Report Version : Rev. 02



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SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.1	§2.1033 §2.1046 §27.50	Maximum Output Power	< 2 Watts	PASS	-
3.1	§2.1033 §2.1046 §27.50	Band Edge Emissions	< 5.5MHz: -13 dBm ≥5.5MHz: -25 dBm	PASS	-
3.1	§27.50	Equivalent Isotropic Radiated Power	< 2 Watts	PASS	-
3.2	§2.1049 §27.53	Emissions Bandwidth	NA	PASS	-
3.3	§2.1051 §27.53	Conducted Spurious Emissions	< 55+10log ₁₀ (P[Watts])	PASS	-
3.4	§2.1053 §27.53	Field Strength of Spurious Radiation	< 55+10log ₁₀ (P[Watts])	PASS	Under limit 5.22 dB at 7779.00 MHz
3.5	§2.1055 §27.54	Frequency Stability for Temperature & Voltage	2.5 ppm	PASS	-

1 General Description

1.1 Applicant

ZTE CORPORATION

ZTE Plaza, Keji Road South, Hi-Tech Industrial Park, Nanshan District, Shenzhen, Guangdong, 518057, P.R.China

1.2 Manufacturer

ZTE CORPORATION

ZTE Plaza, Keji Road South, Hi-Tech Industrial Park, Nanshan District, Shenzhen, Guangdong, 518057, P.R.China

1.3 Feature of Equipment Under Test

Product Feature & Specification	
Equipment	EVDO WiMAX Dual Mode USB Modem
Brand Name	ZTE
Model Name	AD226
FCC ID	Q78-ZTEAD226
Tx Frequency	2496 MHz ~ 2690 MHz
Rx Frequency	2496 MHz ~ 2690 MHz
Channel Bandwidth	5MHz / 10MHz
Maximum Output Power to Antenna	23.75 dBm (QPSK, BW 5MHz) 23.34 dBm (QPSK, BW 10MHz) 23.65 dBm (16QAM, BW 5MHz) 23.11 dBm (16QAM, BW 10MHz)
Maximum EIRP	0.11 W (20.25 dBm) (QPSK, BW 5MHz) 0.09 W (19.36 dBm) (QPSK, BW 10MHz) 0.08 W (19.26 dBm) (16QAM, BW 5MHz) 0.10 W (19.99 dBm) (16QAM, BW 10MHz)
Antenna Type	Monopole Antenna
Type of Modulation	Uplink : OFDMA (QPSK / 16QAM)
Type of Emission	4M48G7D (QPSK, BW 5MHz) 9M10G7D (QPSK, BW 10MHz) 4M80W7D (16QAM, BW 5MHz) 9M40W7D (16QAM, BW 10MHz)
EUT Stage	Identical Prototype

Remark:

1. For other wireless features of this EUT, the test report will be issued separately.
2. This test report recorded only product characteristics and test results of Licensed Non-Broadcast Station Transmitter (TNB).
3. The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

1.4 Testing Site

Test Site	SPORTON INTERNATIONAL INC.		
Test Site Location	No. 52, Hwa Ya 1 st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C. TEL: +886-3-327-3456 FAX: +886-3-328-4978		
Test Site No.	Sporton Site No.		FCC / IC Registration No.
	TH02-HY	03CH07-HY	TW1022 / 4086B-1

1.5 Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- ♦ 47 CFR Part 2, 27(M)
- ♦ ANSI C63.4-2003
- ♦ ANSI TIA-603-C-2004

Remark:

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B (DoC), recorded in a separate test report.

1.6 Ancillary Equipment List

Item	Equipment	Trade Name	Model No.	FCC ID	Data Cable	Power Cord
1.	VSG (System Simulator)	Agilent	E4438C	N/A	N/A	Unshielded, 1.8 m
2.	Notebook	Acer	Z12	FCC DoC	N/Ac	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m

2 Test Configuration of Equipment Under Test

2.1 Test Mode

Preliminary tests were performed in different data rate to find the worst radiated emission. The data rate shown in the table below is the worst-case rate with respect to the specific test item. Investigation has been done on all the possible configurations for searching the worst cases. The following table is a list of the test modes shown in this test report. The spurious emission measurements were carried out in semi-anechoic chamber with 3-meter test range.

Test Modes		
Band	Radiated TCs	Conducted TCs
802.16e (Modulation : OFDMA)	<ul style="list-style-type: none"> ■ QPSK, BW 5MHz Link ■ QPSK, BW 10MHz Link ■ 16QAM, BW 5MHz Link ■ 16QAM, BW 10MHz Link 	<ul style="list-style-type: none"> ■ QPSK, BW 5MHz Link ■ QPSK, BW 10MHz Link ■ 16QAM, BW 5MHz Link ■ 16QAM, BW 10MHz Link

Note: The maximum average power levels are on zone type, PUSC and coding rate, 1/2 mode for QPSK, BW 5MHz, 3/4 mode for QPSK, BW 10MHz, 16QAM, BW 5MHz and 16QAM, BW 10MHz Link; only these modes were used for all tests.

The conducted power tables are as follows:

Conducted Power (*Unit: dBm) - 5MHz Bandwidth									
Channel	Modulation Type	Zone Type	Coding Rate	Main			Aux.		
				Peak Power	Average Power	PAR	Peak Power	Average Power	PAR
Low	QPSK	PUSC	1/2	30.84	23.32	7.52	30.74	23.22	7.52
			3/4	30.66	23.17	7.49	30.57	23.28	7.29
Middle	QPSK	PUSC	1/2	30.45	23.60	6.85	30.42	23.23	7.19
			3/4	30.37	23.55	6.82	30.40	23.29	7.11
High	QPSK	PUSC	1/2	29.92	23.75	6.17	29.75	23.54	6.21
			3/4	29.75	23.53	6.22	29.91	23.73	6.18

Note: PAR = Peak to Average Ratio



Conducted Power (*Unit: dBm) - 10MHz Bandwidth									
Channel	Modulation Type	Zone Type	Coding Rate	Main			Aux.		
				Peak Power	Average Power	PAR	Peak Power	Average Power	PAR
Low	QPSK	PUSC	1/2	30.51	22.85	7.66	30.47	22.91	7.56
			3/4	30.59	22.86	7.73	30.60	22.79	7.81
Middle	QPSK	PUSC	1/2	30.39	23.13	7.26	30.23	22.88	7.35
			3/4	30.42	22.96	7.46	30.13	22.67	7.46
High	QPSK	PUSC	1/2	29.97	23.20	6.77	29.75	22.99	6.76
			3/4	29.70	23.34	6.36	30.02	23.29	6.73

Note: PAR = Peak to Average Ratio

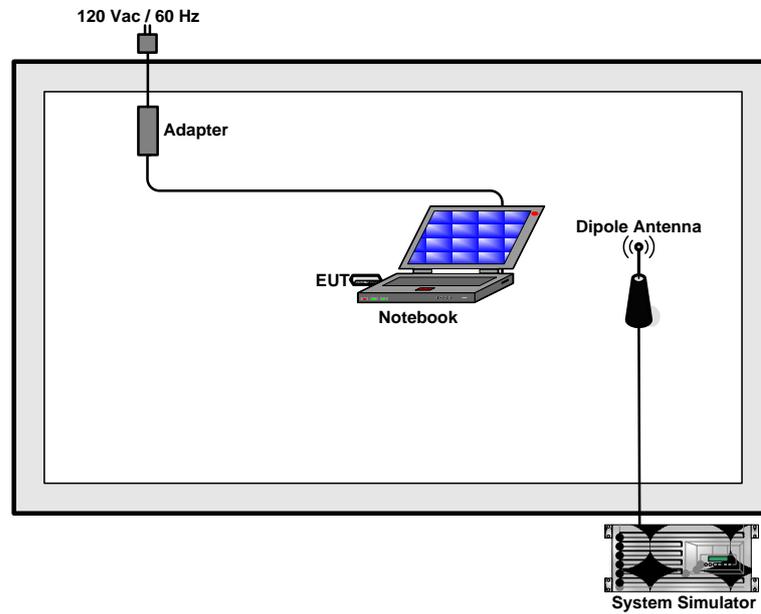
Conducted Power (*Unit: dBm) - 5MHz Bandwidth									
Channel	Modulation Type	Zone Type	Coding Rate	Main			Aux.		
				Peak Power	Average Power	PAR	Peak Power	Average Power	PAR
Low	16QAM	PUSC	1/2	30.71	23.19	7.52	30.74	23.22	7.52
			3/4	30.57	23.16	7.41	30.71	23.22	7.49
Mid	16QAM	PUSC	1/2	30.36	23.55	6.81	30.47	23.33	7.14
			3/4	30.34	23.55	6.79	30.37	23.24	7.13
High	16QAM	PUSC	1/2	29.79	23.64	6.15	29.85	23.63	6.22
			3/4	29.78	23.54	6.24	29.87	23.65	6.22

Note: PAR = Peak to Average Ratio

Conducted Power (*Unit: dBm) - 10MHz Bandwidth									
Channel	Modulation Type	Zone Type	Coding Rate	Main			Aux.		
				Peak Power	Average Power	PAR	Peak Power	Average Power	PAR
Low	16QAM	PUSC	1/2	30.53	22.67	7.86	30.37	22.73	7.64
			3/4	30.60	22.66	7.94	30.40	22.68	7.72
Mid	16QAM	PUSC	1/2	30.29	23.00	7.29	30.15	22.65	7.50
			3/4	30.32	23.02	7.30	30.27	22.68	7.59
High	16QAM	PUSC	1/2	29.75	23.04	6.71	29.84	23.11	6.73
			3/4	29.78	23.05	6.73	29.91	23.11	6.80

Note: PAR = Peak to Average Ratio

2.2 Connection Diagram of Test System



3 Test Result

3.1 Maximum Output Power, Band Edge, and Effective Isotropic Radiated Power Measurement

3.1.1 Limit

For mobile and other user stations, mobile stations are limited to 2.0 watts EIRP and all user stations are limited to 2.0 watts transmitter output power. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (p) by a factor of mobile digital stations, the attenuation factor shall be not less than $43 + 10 \log (p)$ dB at the channel edge and $55 + 10 \log (p)$ dB at 5.5 MHz from the channel edges.

3.1.2 Measuring Instruments

See list of measuring instruments of this test report.

3.1.3 Test Procedures

For Conducted Power and Band Edge Measurement:

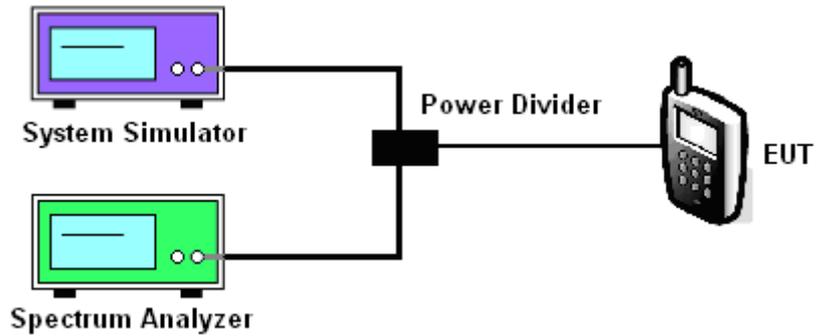
The RF output of the transmitter was connected to the input of the spectrum analyzer through sufficient attenuation.

For Effective Isotropic Radiated Power Measurement:

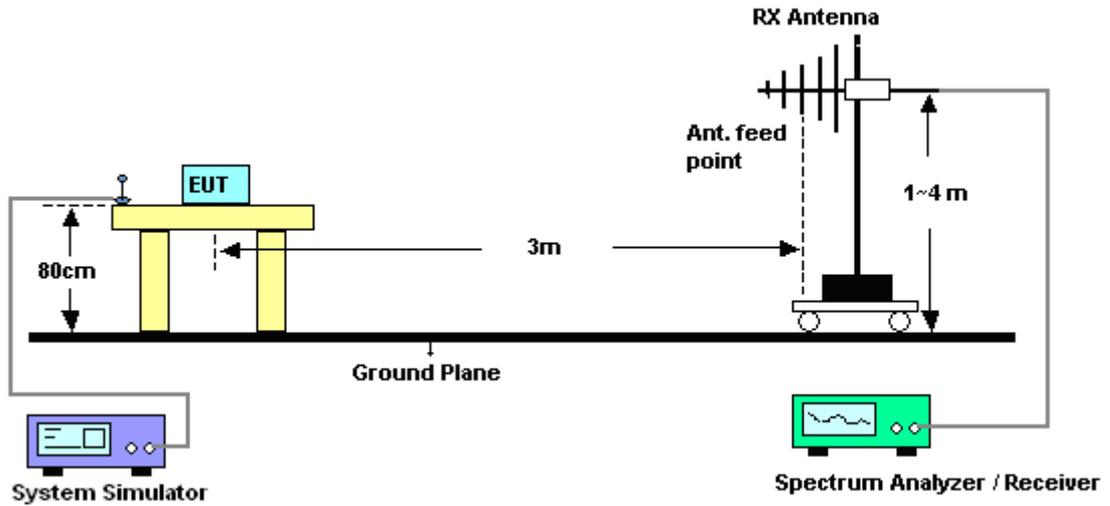
1. The EUT was placed on an non-conductive rotating platform with 0.8 meter height in a semi-anechoic chamber. The radiated emission at the fundamental frequency was measured at 3 m.
2. During the measurement, the EUT was enforced in maximum power. The highest emission was recorded from analyzer power level (LVL) from the 360 degrees rotation of the turntable and the test antenna raised and lowered over a range from 1 to 4 meters in both horizontally and vertically polarized orientations.
3. Effective Isotropic Radiated Power (EIRP) was measured by substitution method according to TIA/EIA-603-C. The EUT was replaced by dipole antenna (substitution antenna) at same location, and then a known power from S.G. was applied into the dipole antenna through a Tx cable, and then recorded the maximum Analyzer reading through raised and lowered the test antenna. The correction factor (in dB) = S.G. - Tx Cable loss + Substitution antenna gain - Analyzer reading. Then the EUT's EIRP was calculated with the correction factor, $EIRP = LVL + \text{Correction factor}$.

3.1.4 Test Setup

<Conducted Power and Band Edge Measurement>



<Effective Isotropic Radiated Power Measurement>





3.1.5 Test Result of Maximum Output Power

5MHz Bandwidth									
Channel	Modulation Type	Zone Type	Coding Rate	Main			Aux.		
				Peak Power	Average Power	PAR	Peak Power	Average Power	PAR
Low	QPSK	PUSC	1/2	30.84	23.32	7.52	30.74	23.22	7.52
Middle	QPSK	PUSC	1/2	30.45	23.60	6.85	30.42	23.23	7.19
High	QPSK	PUSC	1/2	29.92	23.75	6.17	29.75	23.54	6.21

Note: PAR = Peak to Average Ratio

10MHz Bandwidth									
Channel	Modulation Type	Zone Type	Coding Rate	Main			Aux.		
				Peak Power	Average Power	PAR	Peak Power	Average Power	PAR
Low	QPSK	PUSC	3/4	30.59	22.86	7.73	30.60	22.79	7.81
Middle	QPSK	PUSC	3/4	30.42	22.96	7.46	30.13	22.67	7.46
High	QPSK	PUSC	3/4	29.70	23.34	6.36	30.02	23.29	6.73

Note: PAR = Peak to Average Ratio



5MHz Bandwidth									
Channel	Modulation Type	Zone Type	Coding Rate	Main			Aux.		
				Peak Power	Average Power	PAR	Peak Power	Average Power	PAR
Low	16QAM	PUSC	3/4	30.57	23.16	7.41	30.71	23.22	7.49
Middle	16QAM	PUSC	3/4	30.34	23.55	6.79	30.37	23.24	7.13
High	16QAM	PUSC	3/4	29.78	23.54	6.24	29.87	23.65	6.22

Note: PAR = Peak to Average Ratio

10MHz Bandwidth									
Channel	Modulation Type	Zone Type	Coding Rate	Main			Aux.		
				Peak Power	Average Power	PAR	Peak Power	Average Power	PAR
Low	16QAM	PUSC	3/4	30.60	22.66	7.94	30.40	22.68	7.72
Middle	16QAM	PUSC	3/4	30.32	23.02	7.30	30.27	22.68	7.59
High	16QAM	PUSC	3/4	29.78	23.05	6.73	29.91	23.11	6.80

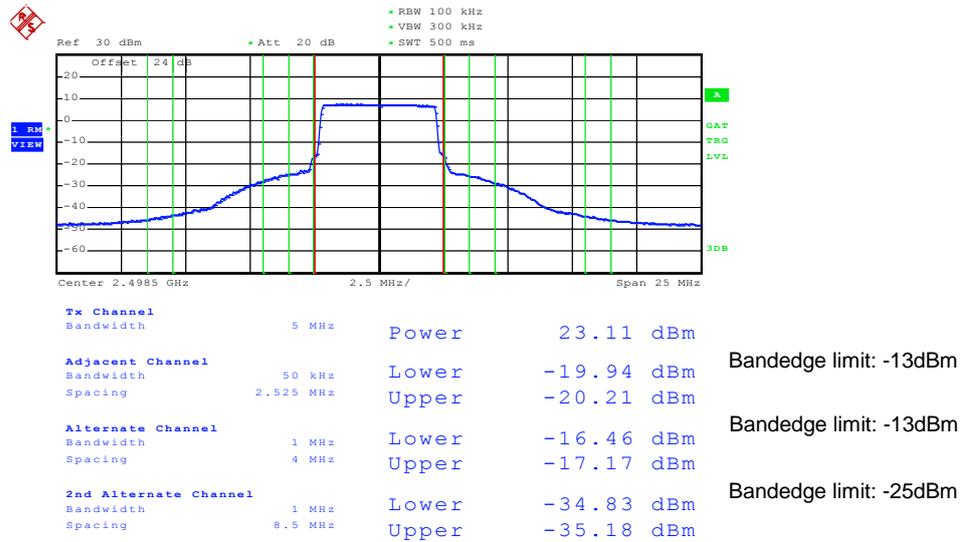
Note: PAR = Peak to Average Ratio



3.1.6 Test Result of Band Edge Measurement

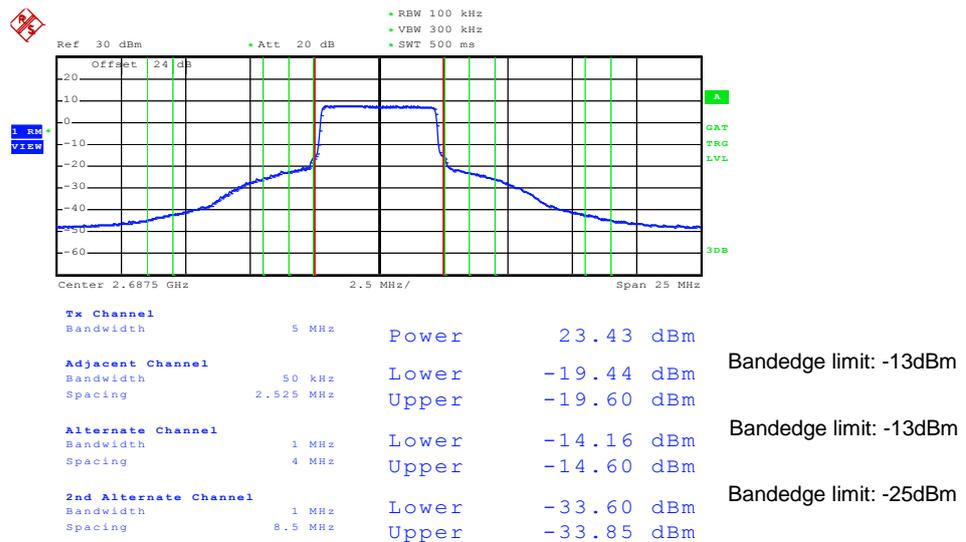
Band :	802.16e	Power Stage :	High
Test Mode :	QPSK, BW 5MHz		

Lower Band Edge Plot on Low Channel



Date: 11.FEB.2010 09:00:10

Higher Band Edge Plot on High Channel

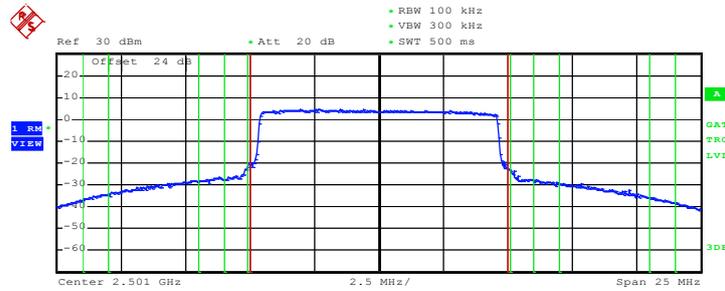


Date: 11.FEB.2010 08:51:26



Band :	802.16e	Power Stage :	High
Test Mode :	QPSK, BW 10MHz		

Lower Band Edge Plot on Low Channel

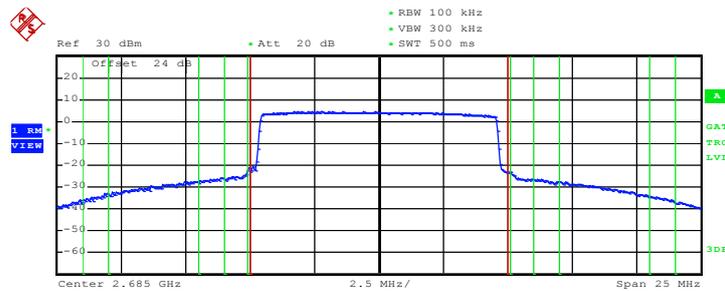


Tx Channel	Bandwidth	10 MHz	Power	22.94 dBm
Adjacent Channel	Bandwidth	100 kHz	Lower	-21.77 dBm
	Spacing	5.05 MHz	Upper	-22.97 dBm
Alternate Channel	Bandwidth	1 MHz	Lower	-18.06 dBm
	Spacing	6.5 MHz	Upper	-18.90 dBm
2nd Alternate Channel	Bandwidth	1 MHz	Lower	-25.89 dBm
	Spacing	11 MHz	Upper	-27.21 dBm

Bandedge limit: -13dBm
Bandedge limit: -13dBm
Bandedge limit: -25dBm

Date: 11.FEB.2010 07:40:25

Higher Band Edge Plot on High Channel



Tx Channel	Bandwidth	10 MHz	Power	23.10 dBm
Adjacent Channel	Bandwidth	100 kHz	Lower	-22.18 dBm
	Spacing	5.05 MHz	Upper	-23.43 dBm
Alternate Channel	Bandwidth	1 MHz	Lower	-17.07 dBm
	Spacing	6.5 MHz	Upper	-17.48 dBm
2nd Alternate Channel	Bandwidth	1 MHz	Lower	-25.20 dBm
	Spacing	11 MHz	Upper	-25.72 dBm

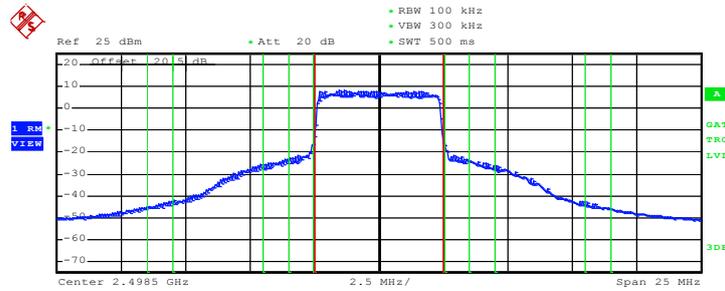
Bandedge limit: -13dBm
Bandedge limit: -13dBm
Bandedge limit: -25dBm

Date: 11.FEB.2010 09:28:21



Band :	802.16e	Power Stage :	High
Test Mode :	16QAM, BW 5MHz		

Lower Band Edge Plot on Low Channel

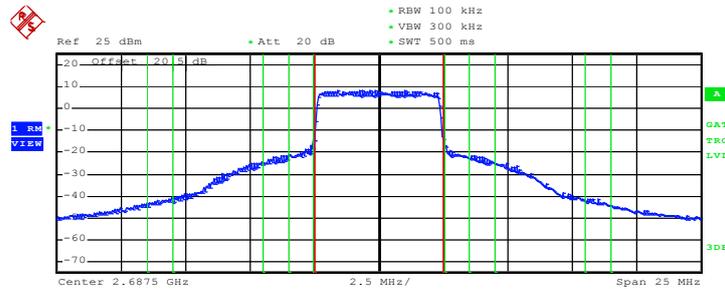


Tx Channel	Bandwidth	5 MHz	Power	23.00 dBm
Adjacent Channel	Bandwidth	50 kHz	Lower	-17.68 dBm
	Spacing	2.525 MHz	Upper	-17.48 dBm
Alternate Channel	Bandwidth	1 MHz	Lower	-15.45 dBm
	Spacing	4 MHz	Upper	-15.88 dBm
2nd Alternate Channel	Bandwidth	1 MHz	Lower	-34.57 dBm
	Spacing	8.5 MHz	Upper	-35.12 dBm

Bandedge limit: -13dBm
 Bandedge limit: -13dBm
 Bandedge limit: -25dBm

Date: 13..JAN..2010 14:26:56

Higher Band Edge Plot on High Channel



Tx Channel	Bandwidth	5 MHz	Power	23.38 dBm
Adjacent Channel	Bandwidth	50 kHz	Lower	-17.56 dBm
	Spacing	2.525 MHz	Upper	-17.35 dBm
Alternate Channel	Bandwidth	1 MHz	Lower	-13.70 dBm
	Spacing	4 MHz	Upper	-13.69 dBm
2nd Alternate Channel	Bandwidth	1 MHz	Lower	-32.93 dBm
	Spacing	8.5 MHz	Upper	-33.25 dBm

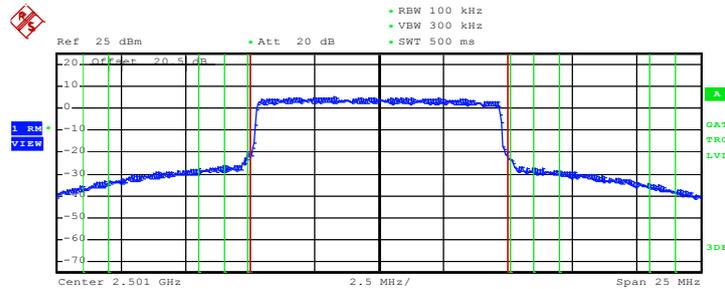
Bandedge limit: -13dBm
 Bandedge limit: -13dBm
 Bandedge limit: -25dBm

Date: 13..JAN..2010 14:23:53



Band :	802.16e	Power Stage :	High
Test Mode :	16QAM, BW 10MHz		

Lower Band Edge Plot on Low Channel

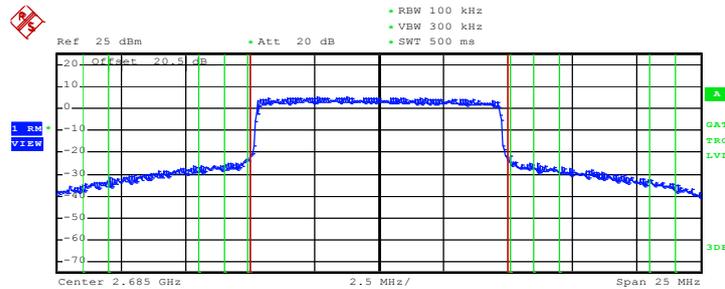


Tx Channel	Bandwidth	10 MHz	Power	22.92 dBm
Adjacent Channel	Bandwidth	100 kHz	Lower	-21.48 dBm
	Spacing	5.05 MHz	Upper	-22.45 dBm
Alternate Channel	Bandwidth	1 MHz	Lower	-18.32 dBm
	Spacing	6.5 MHz	Upper	-19.25 dBm
2nd Alternate Channel	Bandwidth	1 MHz	Lower	-25.52 dBm
	Spacing	11 MHz	Upper	-26.91 dBm

Bandedge limit: -13dBm
 Bandedge limit: -13dBm
 Bandedge limit: -25dBm

Date: 13..JAN..2010 18:02:12

Higher Band Edge Plot on High Channel



Tx Channel	Bandwidth	10 MHz	Power	23.02 dBm
Adjacent Channel	Bandwidth	100 kHz	Lower	-23.41 dBm
	Spacing	5.05 MHz	Upper	-22.92 dBm
Alternate Channel	Bandwidth	1 MHz	Lower	-17.51 dBm
	Spacing	6.5 MHz	Upper	-17.75 dBm
2nd Alternate Channel	Bandwidth	1 MHz	Lower	-25.07 dBm
	Spacing	11 MHz	Upper	-25.02 dBm

Bandedge limit: -13dBm
 Bandedge limit: -13dBm
 Bandedge limit: -25dBm

Date: 13..JAN..2010 18:12:44

3.1.7 Test Result of Effective Isotropic Radiated Power

802.16e (QPSK, BW 5MHz) Radiated Power (EIRP)				
Horizontal Polarization				
Channel	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
Low	-24.58	43.85	19.27	0.08
Middle	-23.81	44.06	20.25	0.11
High	-24.27	44.26	19.99	0.10
Vertical Polarization				
Channel	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
Low	-34.17	45.55	11.38	0.01
Middle	-32.29	46.72	14.43	0.03
High	-33.91	45.48	11.57	0.01

802.16e (QPSK, BW 10MHz) Radiated Power (EIRP)				
Horizontal Polarization				
Channel	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
Low	-24.96	43.85	18.89	0.08
Middle	-24.80	44.06	19.26	0.08
High	-24.90	44.26	19.36	0.09
Vertical Polarization				
Channel	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
Low	-34.11	45.55	11.44	0.01
Middle	-34.71	46.72	12.01	0.02
High	-34.81	45.48	10.67	0.01



802.16e (16QAM, BW 5MHz) Radiated Power (EIRP)				
Horizontal Polarization				
Channel	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
Low	-24.71	43.85	19.14	0.08
Middle	-24.89	44.06	19.17	0.08
High	-25.00	44.26	19.26	0.08
Vertical Polarization				
Channel	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
Low	-33.73	45.55	11.82	0.02
Middle	-34.12	46.72	12.60	0.02
High	-34.51	45.48	10.97	0.01

802.16e (16QAM, BW 10MHz) Radiated Power (EIRP)				
Horizontal Polarization				
Channel	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
Low	-23.93	43.85	19.92	0.10
Middle	-24.07	44.06	19.99	0.10
High	-24.71	44.26	19.55	0.09
Vertical Polarization				
Channel	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (W)
Low	-32.83	45.55	12.72	0.02
Middle	-32.19	46.72	14.53	0.03
High	-33.11	45.48	12.37	0.02

3.2 Emission Bandwidth

3.2.1 Description of Emission Bandwidth Measurement

The emission bandwidth is defined as the width of the signal between two points, located at the 2 sides of the carrier frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power. The designated emission bandwidth using a resolution bandwidth of at least 1% of the emission bandwidth of the fundamental emission and a video bandwidth is more than resolution bandwidth.

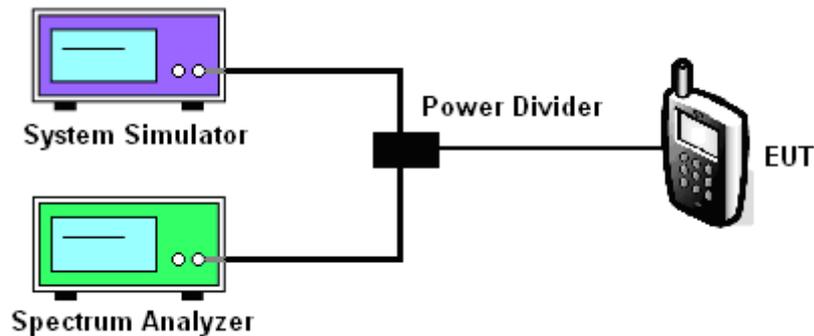
3.2.2 Measuring Instruments

See list of measuring instruments of this test report.

3.2.3 Test Procedures

1. The EUT was connected to Spectrum Analyzer and System Simulator via power divider.
2. The 99% and 26 dB occupied bandwidth (BW) of the middle channel for the highest RF powers were measured.

3.2.4 Test Setup

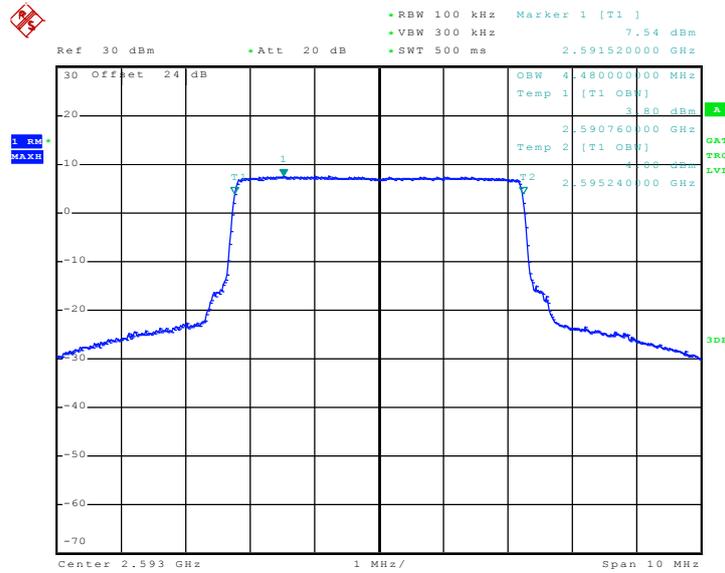




3.2.5 Test Result of Emission Bandwidth

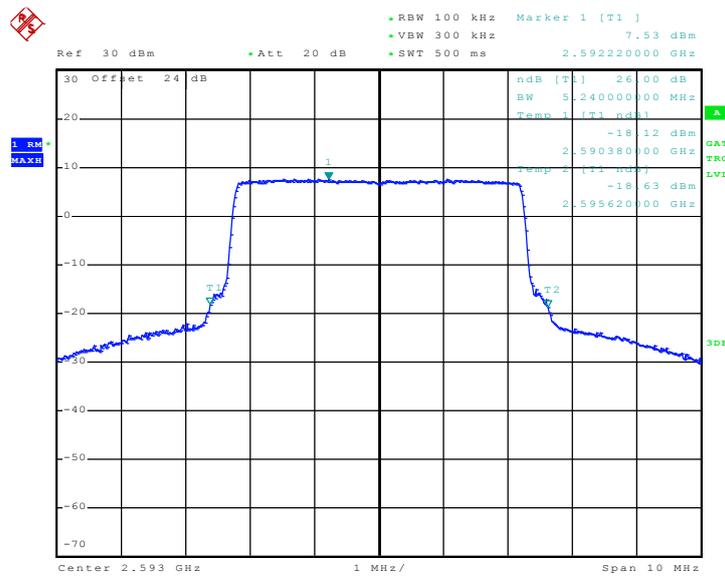
Band :	802.16e	Power Stage :	High
Test Mode :	QPSK, BW 5MHz		

99% Occupied Bandwidth Plot on Middle Channel



Date: 11.FEB.2010 08:45:17

26dB Bandwidth Plot on Middle Channel

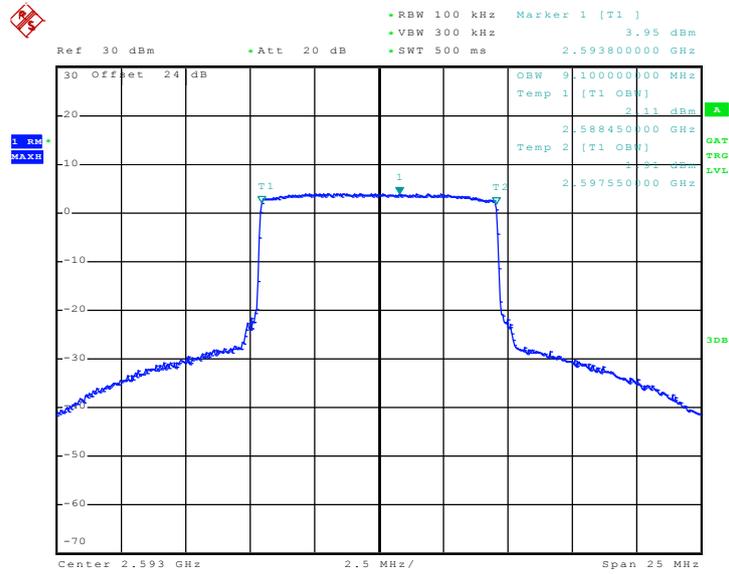


Date: 11.FEB.2010 08:46:17



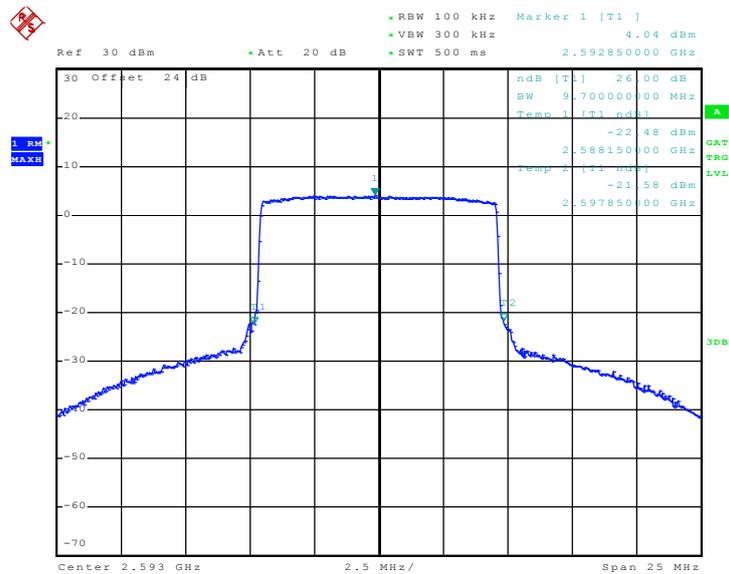
Band :	802.16e	Power Stage :	High
Test Mode :	QPSK, BW 10MHz		

99% Occupied Bandwidth Plot on Middle Channel



Date: 11.FEB.2010 07:54:17

26dB Bandwidth Plot on Middle Channel

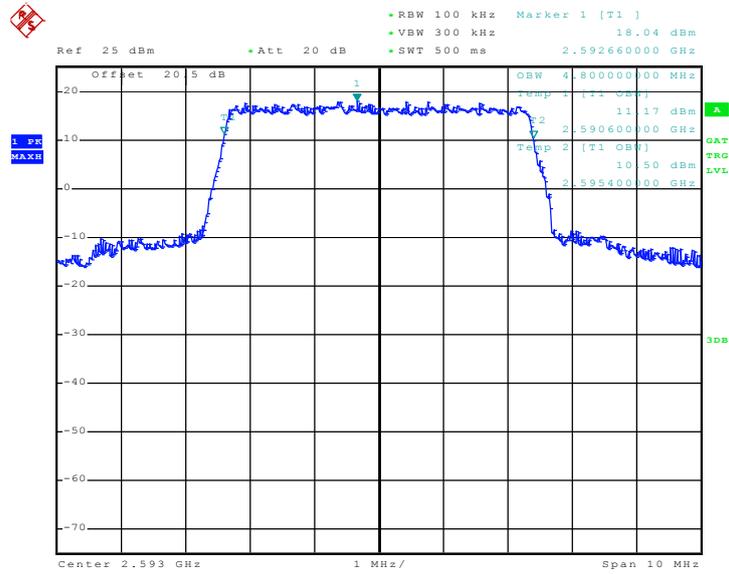


Date: 11.FEB.2010 07:54:38



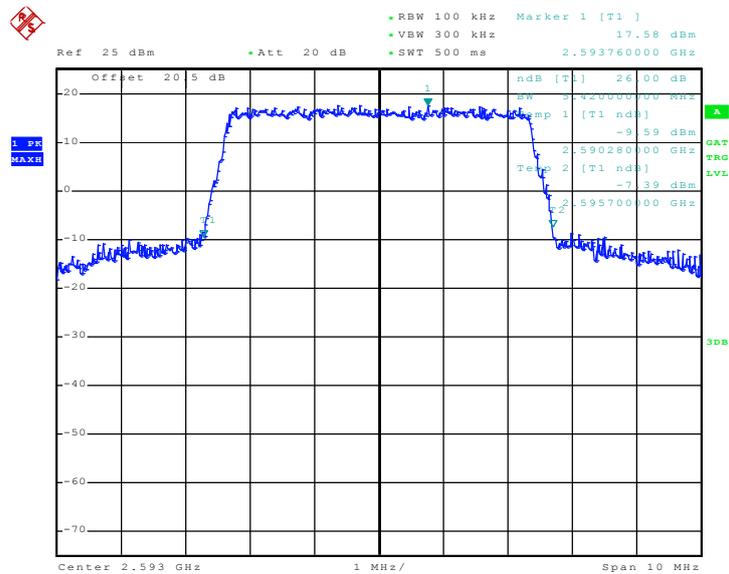
Band :	802.16e	Power Stage :	High
Test Mode :	16QAM, BW 5MHz		

99% Occupied Bandwidth Plot on Middle Channel



Date: 13..JAN.2010 14:29:33

26dB Bandwidth Plot on Middle Channel

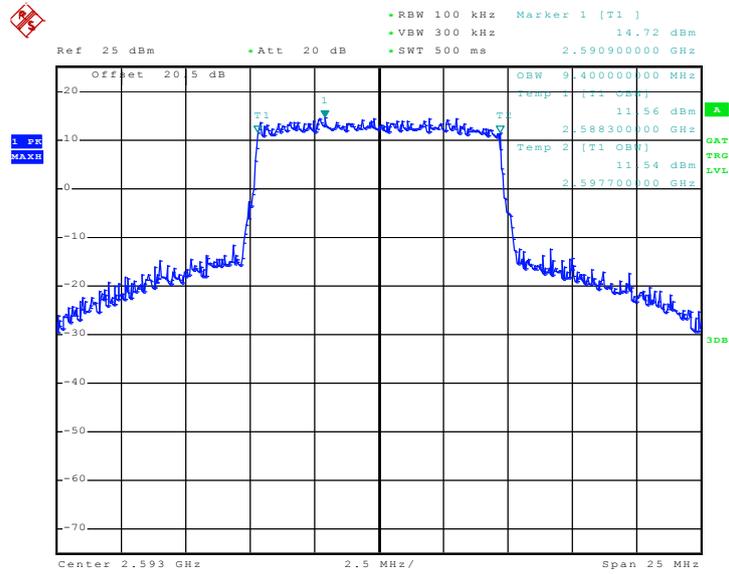


Date: 13..JAN.2010 14:29:02



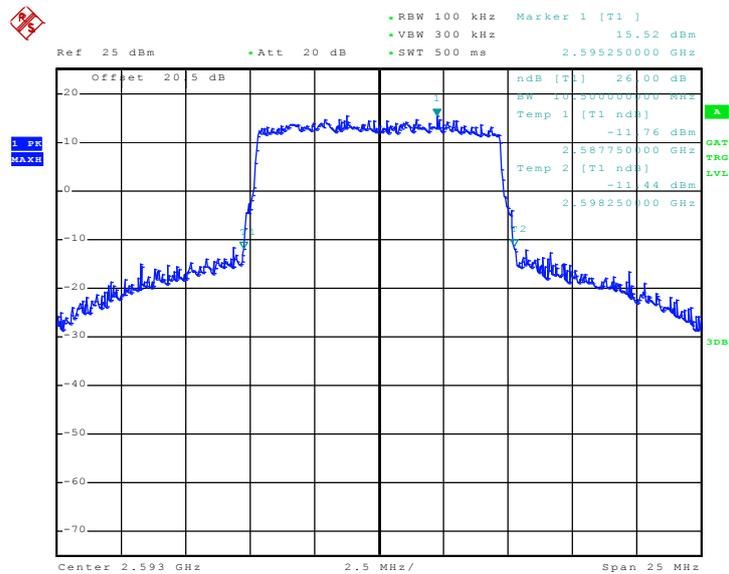
Band :	802.16e	Power Stage :	High
Test Mode :	16QAM, BW 10MHz		

99% Occupied Bandwidth Plot on Middle Channel



Date: 13..JAN.2010 12:34:12

26dB Bandwidth Plot on Middle Channel



Date: 13..JAN.2010 12:32:48

3.3 Conducted Spurious Emission Measurement

3.3.1 Description of Conducted Spurious Emission Measurement

The power of any emission outside of the authorized operating frequency ranges must be lower than the transmitter power (P) by a factor of mobile digital stations, the attenuation factor shall be not less than $43 + 10 \log (P)$ dB at the channel edge and $55 + 10 \log (P)$ dB at 5.5 MHz from the channel edges. It is measured by means of a calibrated spectrum analyzer and scanned from 30 MHz up to a frequency including its 10th harmonic.

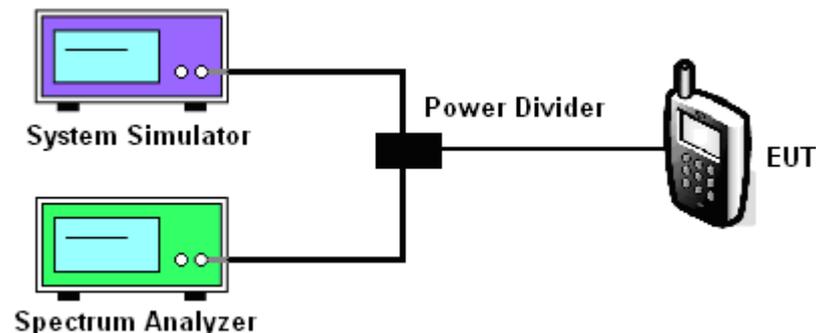
3.3.2 Measuring Instruments

See list of measuring instruments of this test report.

3.3.3 Test Procedures

1. The EUT was connected to spectrum analyzer and System Simulator via power divider.
2. The conducted spurious emission for the whole frequency range was taken.

3.3.4 Test Setup

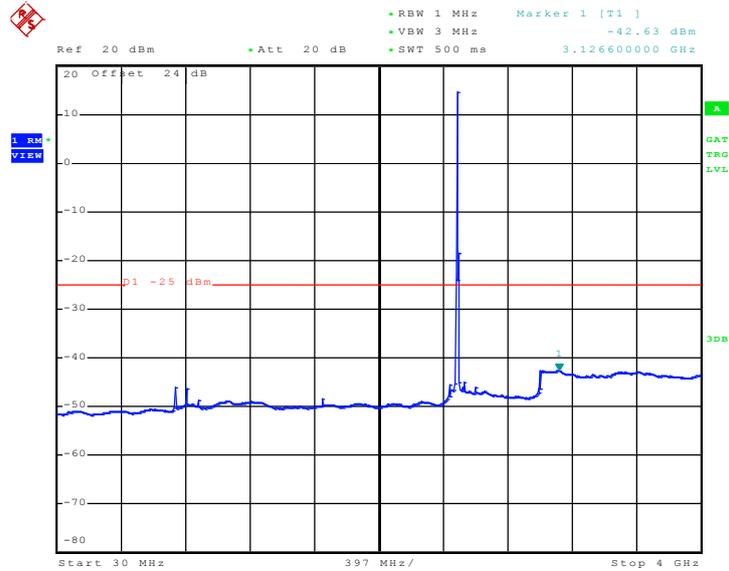




3.3.5 Test Plots of Spurious Emission

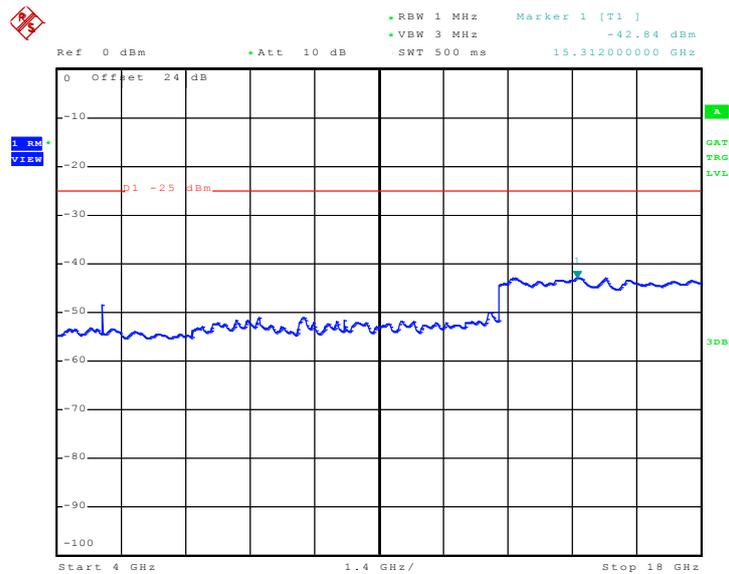
Band :	802.16e	Power Stage :	High
Test Mode :	QPSK, BW 5MHz	Channel :	Low

Conducted Spurious Emission Plot between 30MHz ~ 4GHz



Date: 11.FEB.2010 08:37:39

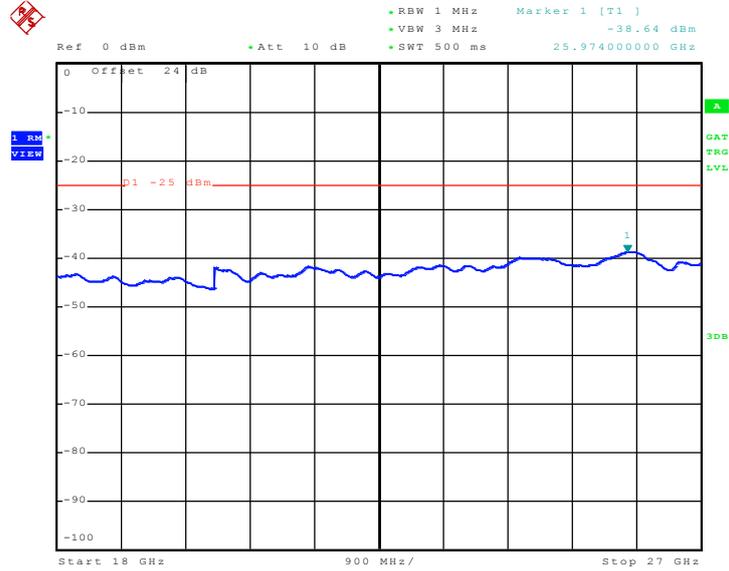
Conducted Spurious Emission Plot between 4GHz ~ 18GHz



Date: 11.FEB.2010 08:38:13



Conducted Spurious Emission Plot between 18 GHz ~ 27GHz

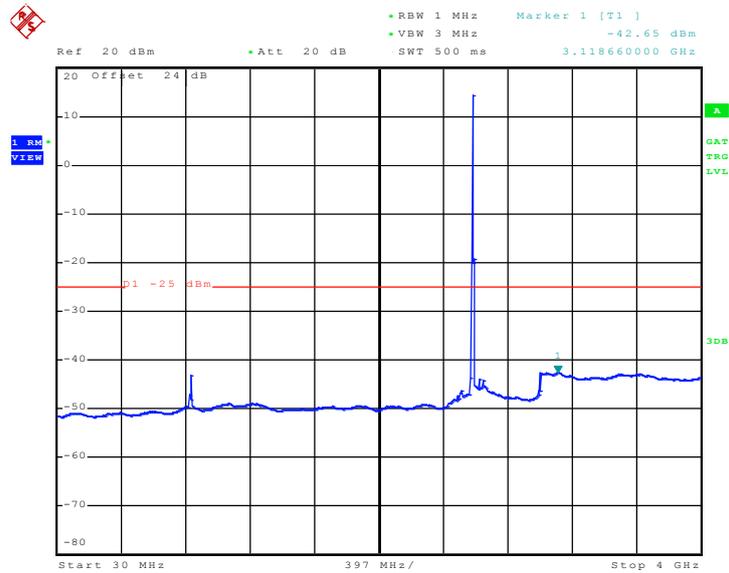


Date: 11.FEB.2010 08:38:38



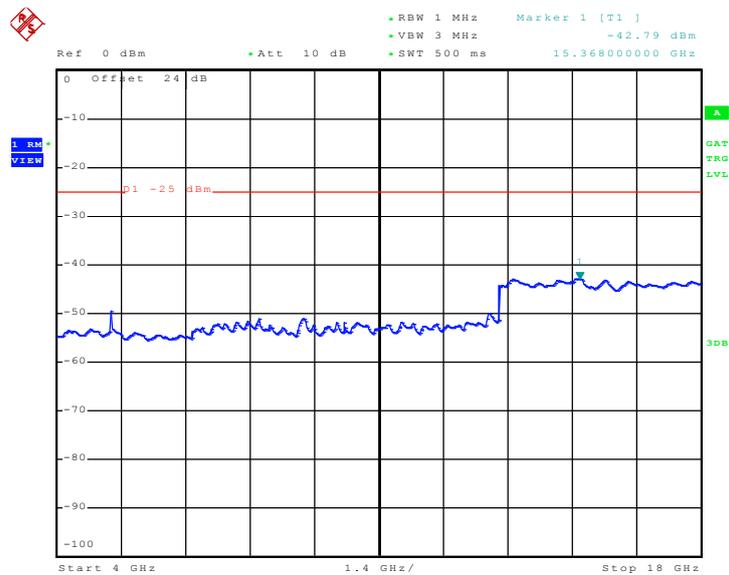
Band :	802.16e	Power Stage :	High
Test Mode :	QPSK, BW 5MHz	Channel :	Middle

Conducted Spurious Emission Plot between 30MHz ~ 4GHz



Date: 11.FEB.2010 08:43:15

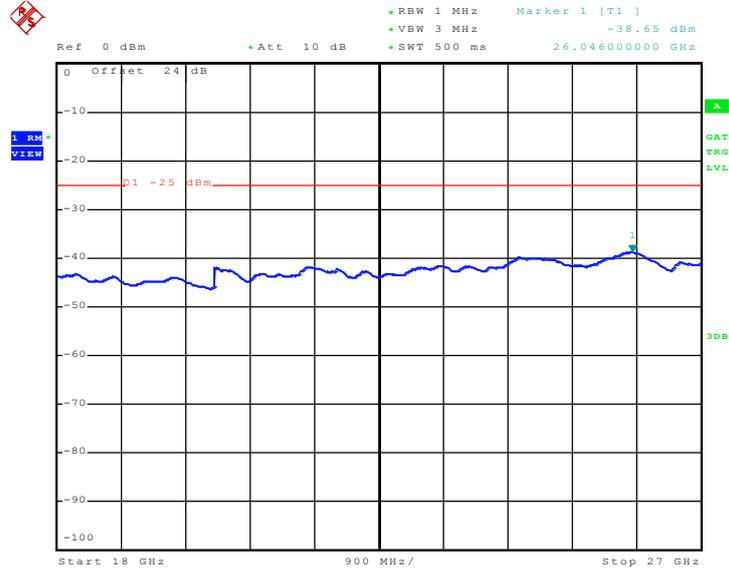
Conducted Spurious Emission Plot between 4GHz ~ 18GHz



Date: 11.FEB.2010 08:42:33



Conducted Spurious Emission Plot between 18 GHz ~ 27GHz

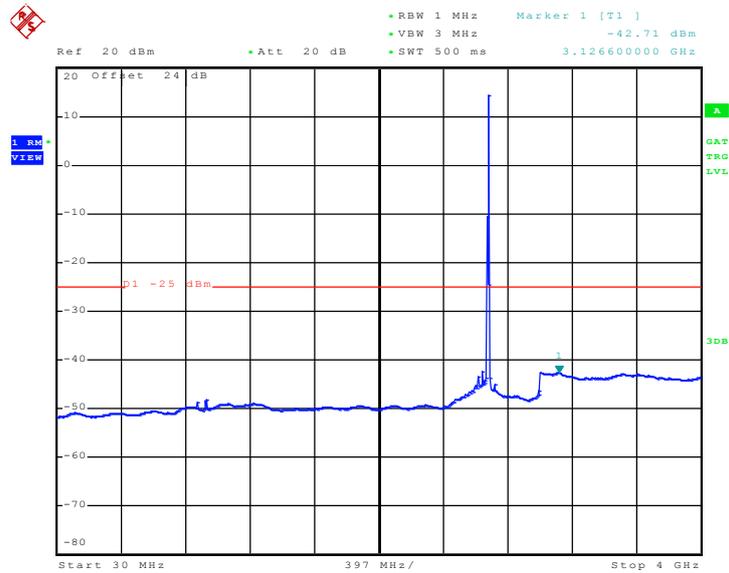


Date: 11.FEB.2010 08:42:06



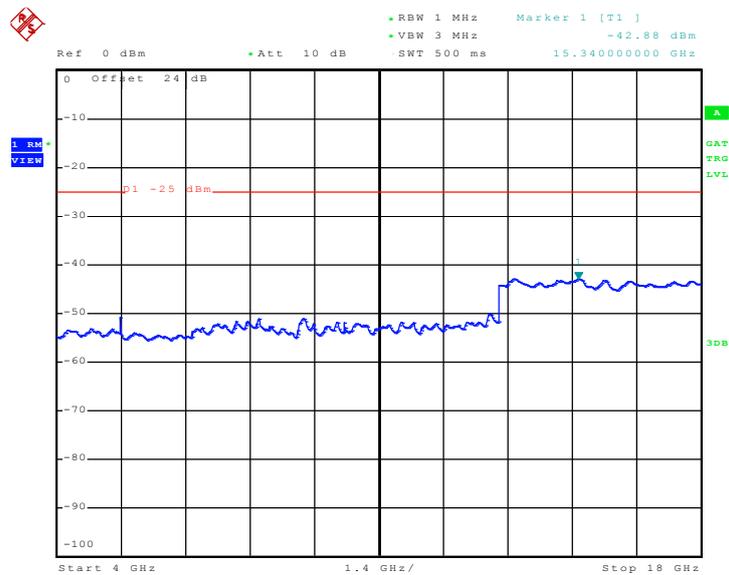
Band :	802.16e	Power Stage :	High
Test Mode :	QPSK, BW 5MHz	Channel :	High

Conducted Spurious Emission Plot between 30MHz ~ 4GHz



Date: 11.FEB.2010 08:52:56

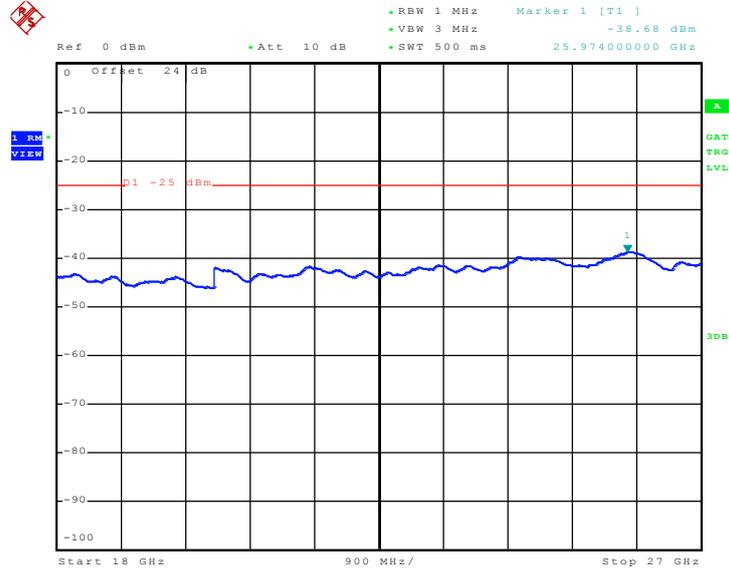
Conducted Spurious Emission Plot between 4GHz ~ 18GHz



Date: 11.FEB.2010 08:53:33



Conducted Spurious Emission Plot between 18 GHz ~ 27GHz

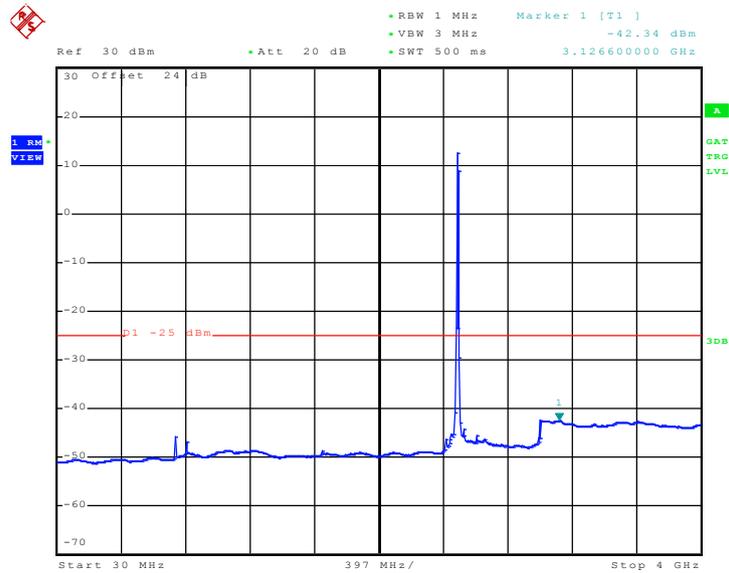


Date: 11.FEB.2010 08:53:58



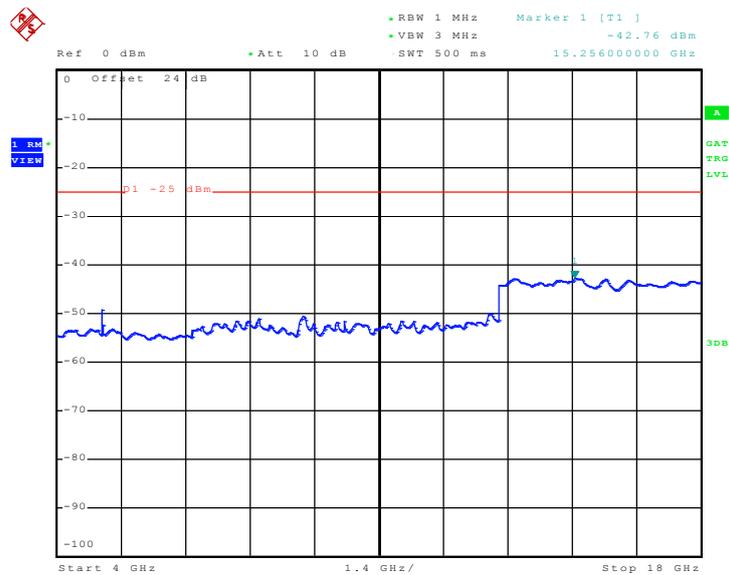
Band :	802.16e	Power Stage :	High
Test Mode :	QPSK, BW 10MHz	Channel :	Low

Conducted Spurious Emission Plot between 30MHz ~ 4GHz



Date: 11.FEB.2010 07:41:50

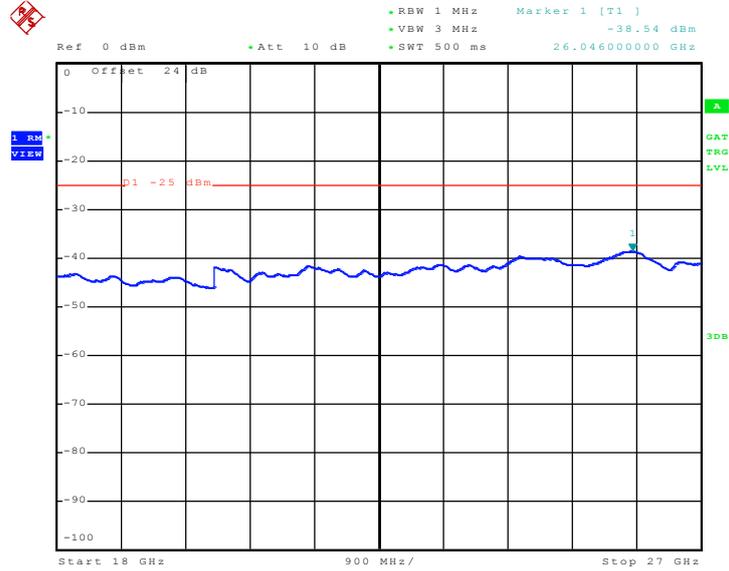
Conducted Spurious Emission Plot between 4GHz ~ 18GHz



Date: 11.FEB.2010 07:42:51



Conducted Spurious Emission Plot between 18 GHz ~ 27GHz

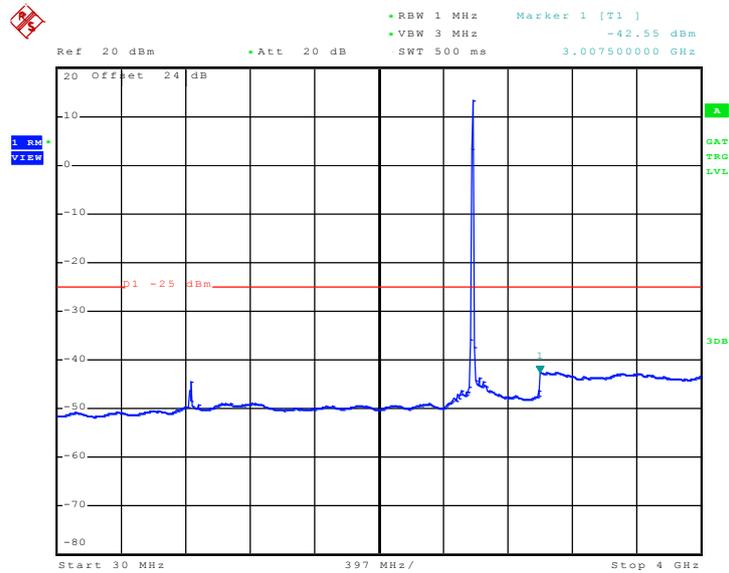


Date: 11.FEB.2010 07:43:20



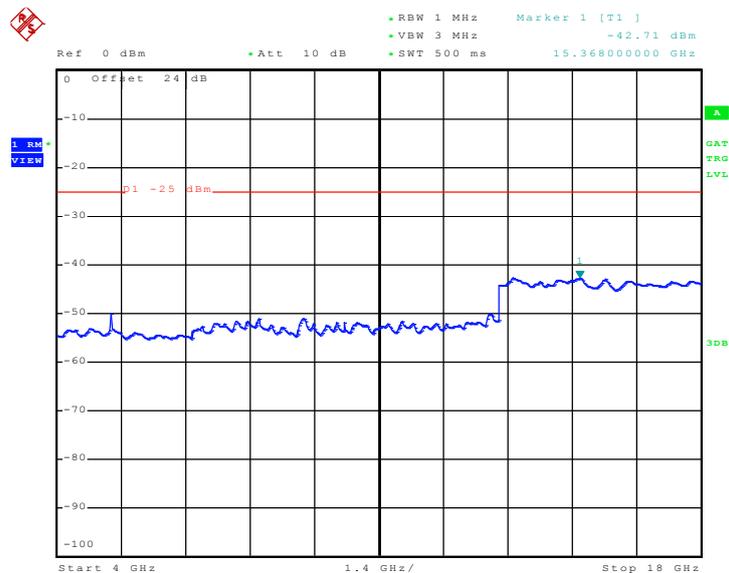
Band :	802.16e	Power Stage :	High
Test Mode :	QPSK, BW 10MHz	Channel :	Middle

Conducted Spurious Emission Plot between 30MHz ~ 4GHz



Date: 11.FEB.2010 07:50:13

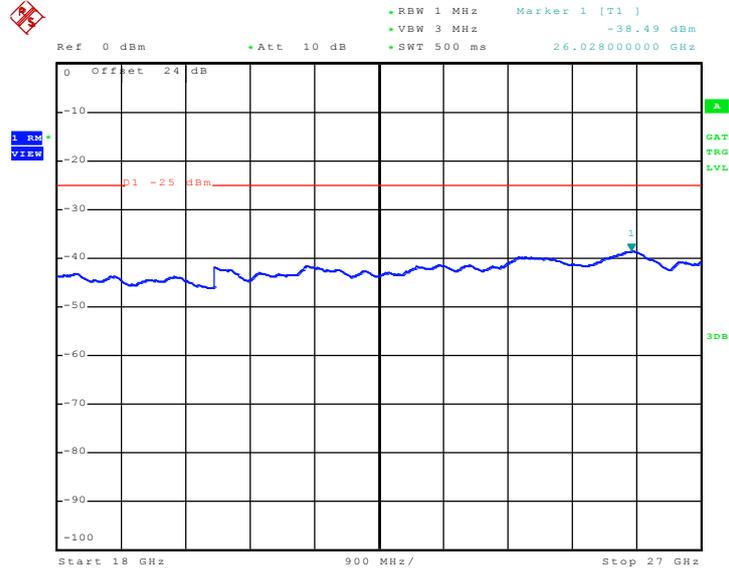
Conducted Spurious Emission Plot between 4GHz ~ 18GHz



Date: 11.FEB.2010 07:49:08



Conducted Spurious Emission Plot between 18 GHz ~ 27GHz

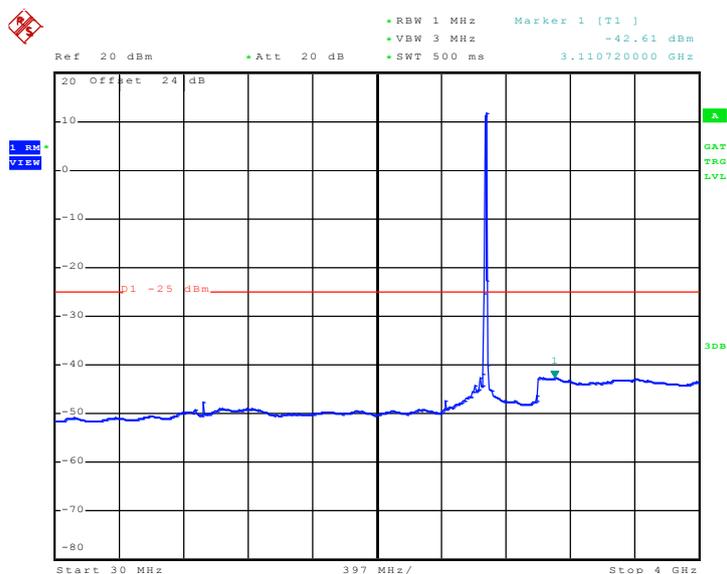


Date: 11.FEB.2010 07:47:09



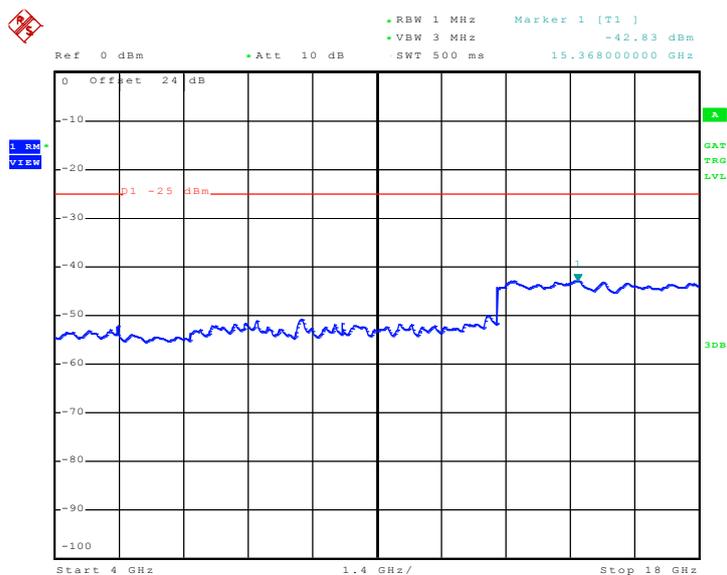
Band :	802.16e	Power Stage :	High
Test Mode :	QPSK, BW 10MHz	Channel :	High

Conducted Spurious Emission Plot between 30MHz ~ 4GHz



Date: 11.FEB.2010 08:06:01

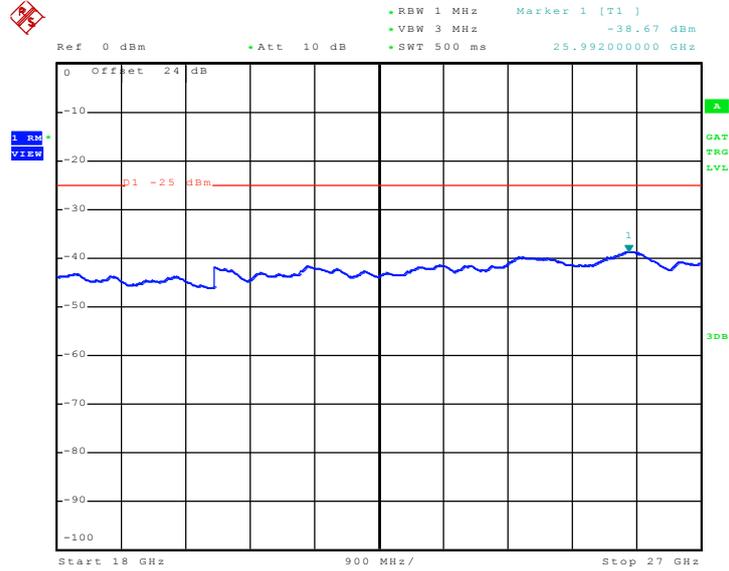
Conducted Spurious Emission Plot between 4GHz ~ 18GHz



Date: 11.FEB.2010 08:06:35



Conducted Spurious Emission Plot between 18 GHz ~ 27GHz

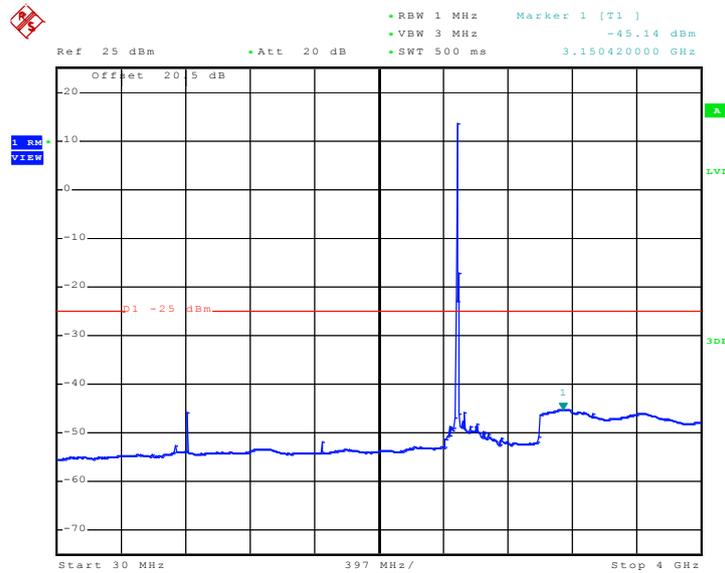


Date: 11.FEB.2010 08:07:00



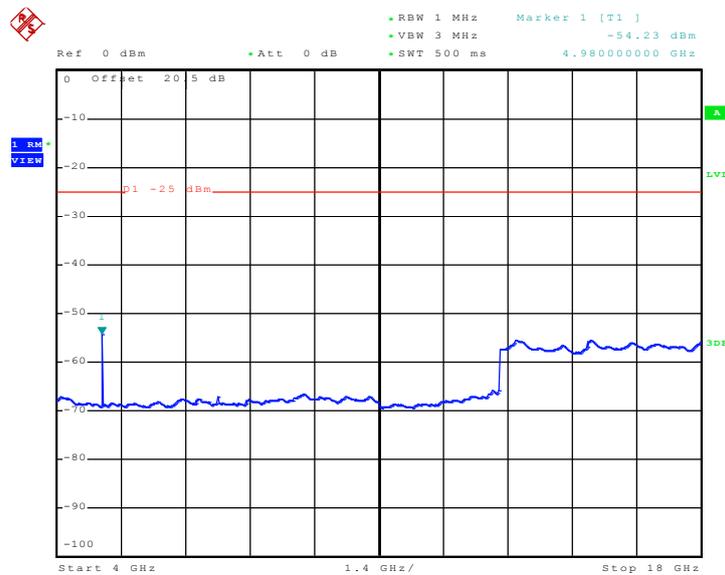
Band :	802.16e	Power Stage :	High
Test Mode :	16QAM, BW 5MHz	Channel :	Low

Conducted Spurious Emission Plot between 30MHz ~ 4GHz



Date: 9..JAN.2010 11:59:31

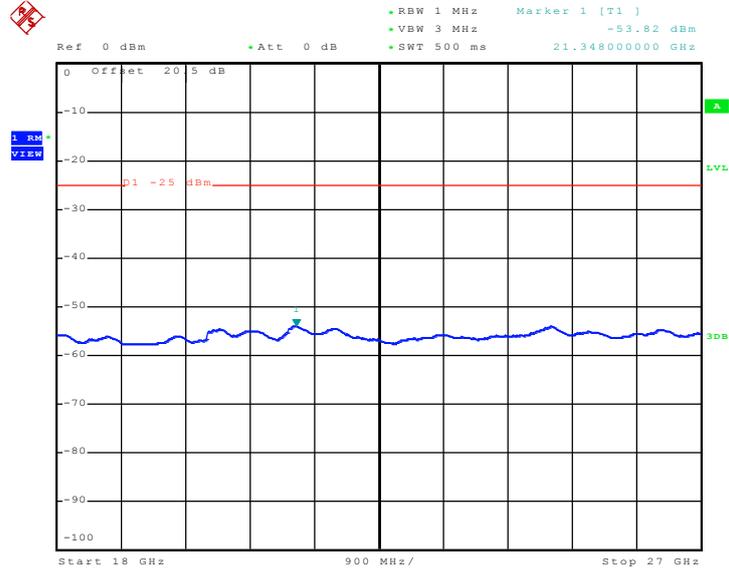
Conducted Spurious Emission Plot between 4GHz ~ 18GHz



Date: 9..JAN.2010 11:58:22



Conducted Spurious Emission Plot between 18 GHz ~ 27GHz

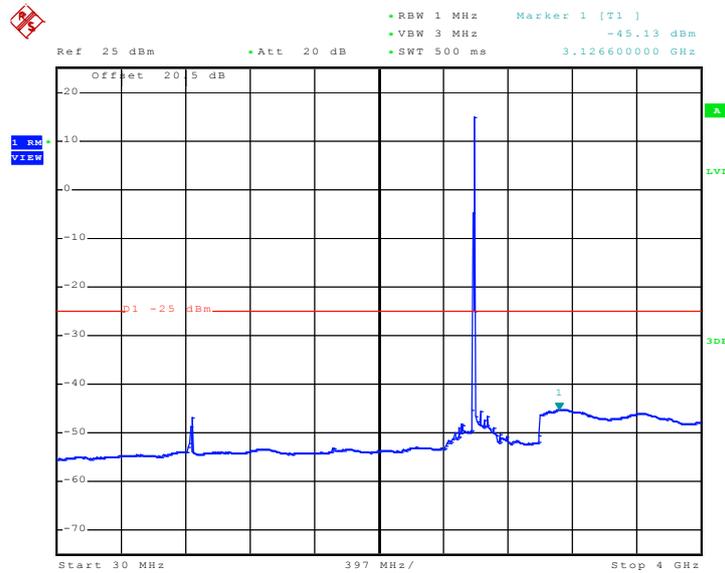


Date: 9..JAN.2010 11:57:30



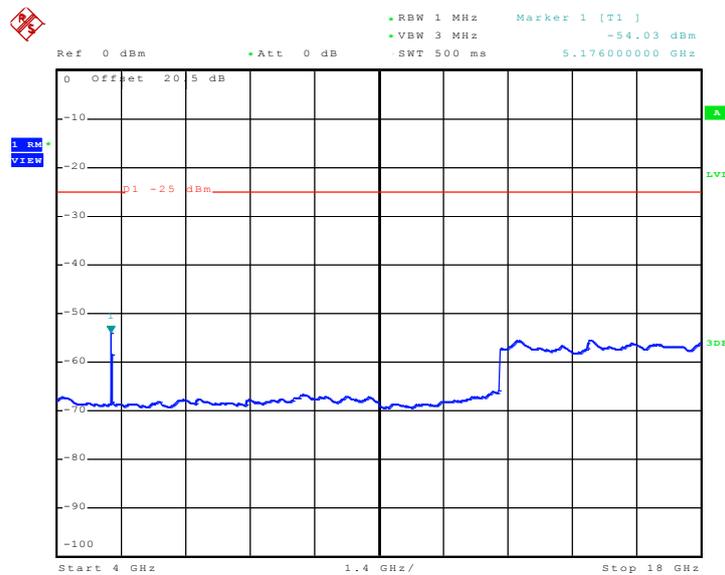
Band :	802.16e	Power Stage :	High
Test Mode :	16QAM, BW 5MHz	Channel :	Middle

Conducted Spurious Emission Plot between 30MHz ~ 4GHz



Date: 9..JAN.2010 12:03:22

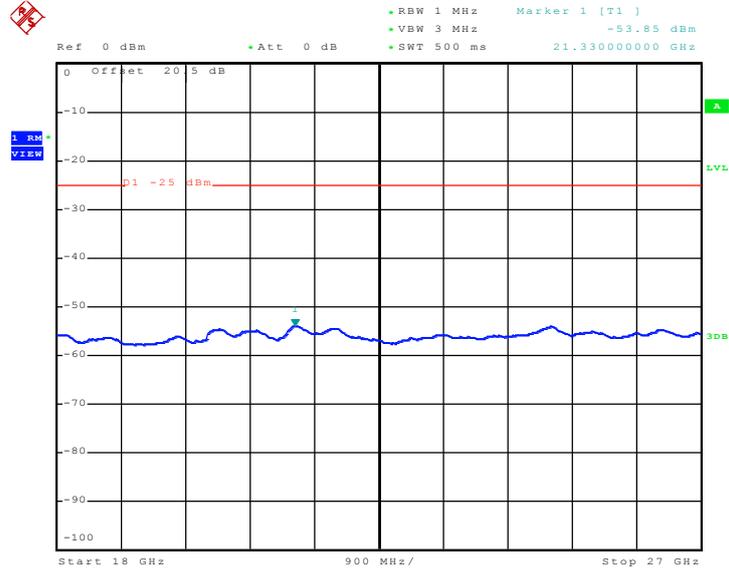
Conducted Spurious Emission Plot between 4GHz ~ 18GHz



Date: 9..JAN.2010 12:03:54



Conducted Spurious Emission Plot between 18 GHz ~ 27GHz

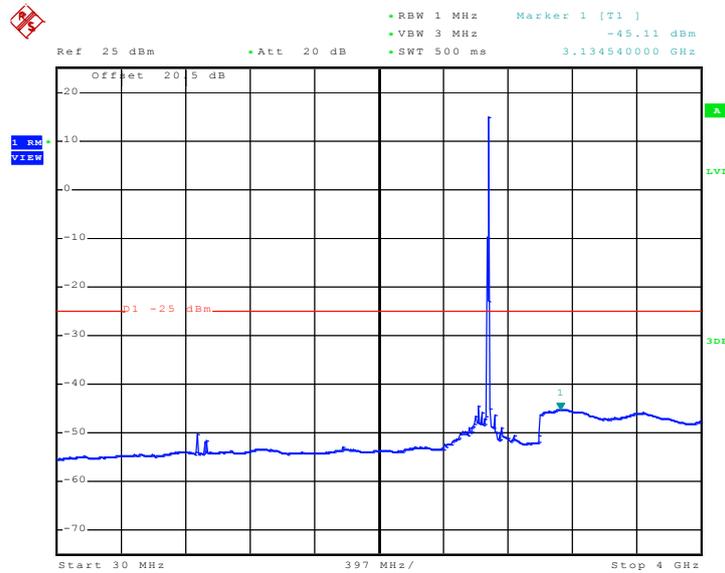


Date: 9..JAN.2010 12:04:24



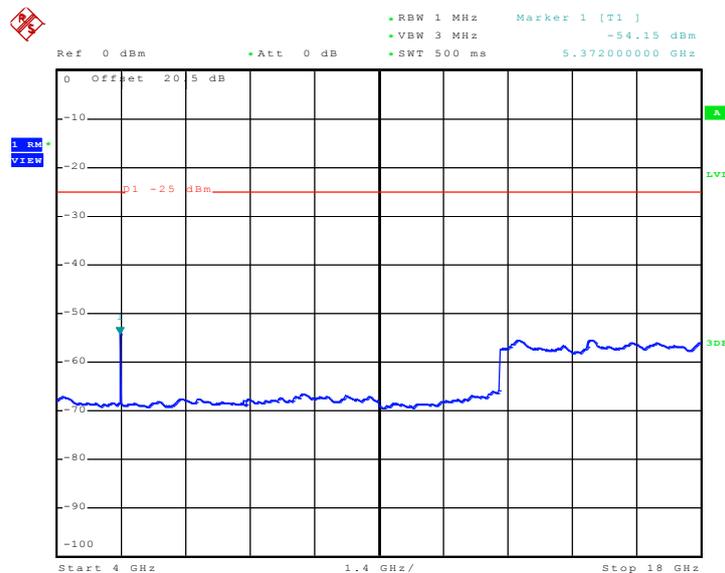
Band :	802.16e	Power Stage :	High
Test Mode :	16QAM, BW 5MHz	Channel :	High

Conducted Spurious Emission Plot between 30MHz ~ 4GHz



Date: 9..JAN.2010 12:08:51

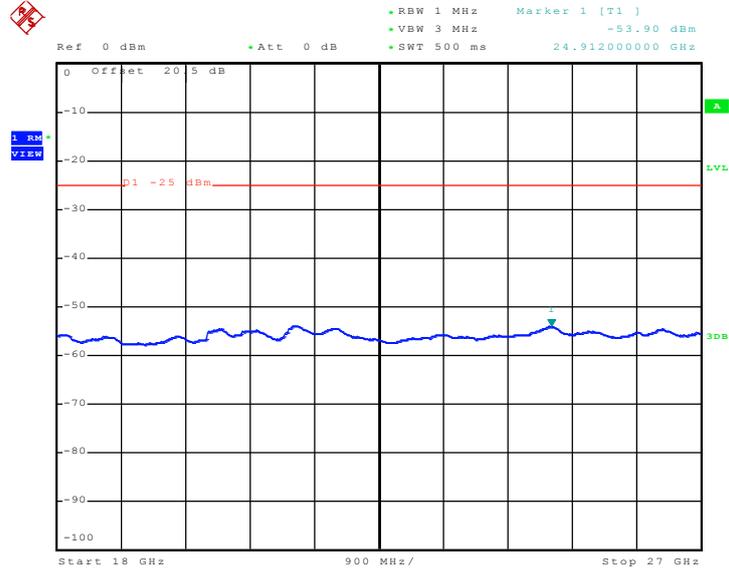
Conducted Spurious Emission Plot between 4GHz ~ 18GHz



Date: 9..JAN.2010 12:07:53



Conducted Spurious Emission Plot between 18 GHz ~ 27GHz

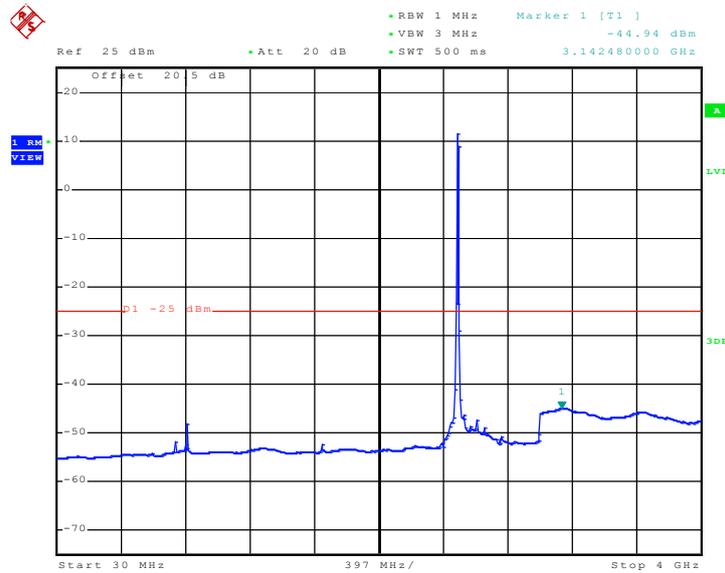


Date: 9..JAN.2010 12:07:12



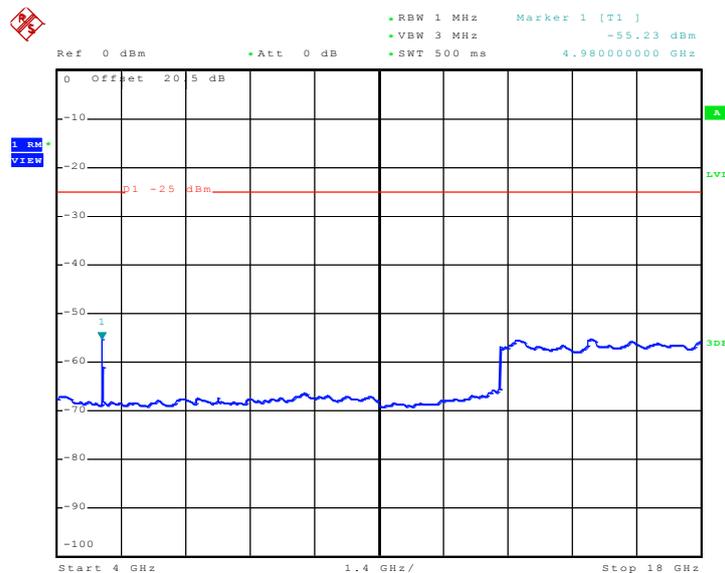
Band :	802.16e	Power Stage :	High
Test Mode :	16QAM, BW 10MHz	Channel :	Low

Conducted Spurious Emission Plot between 30MHz ~ 4GHz



Date: 9..JAN.2010 10:26:29

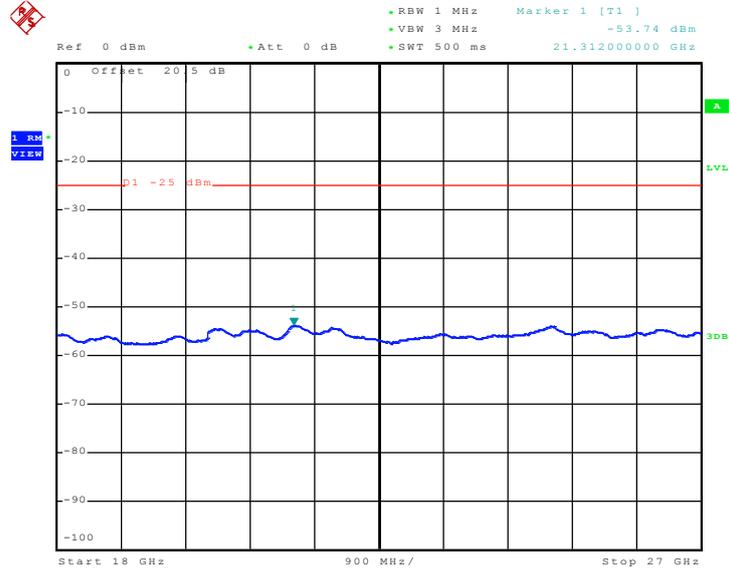
Conducted Spurious Emission Plot between 4GHz ~ 18GHz



Date: 9..JAN.2010 10:39:18



Conducted Spurious Emission Plot between 18 GHz ~ 27GHz

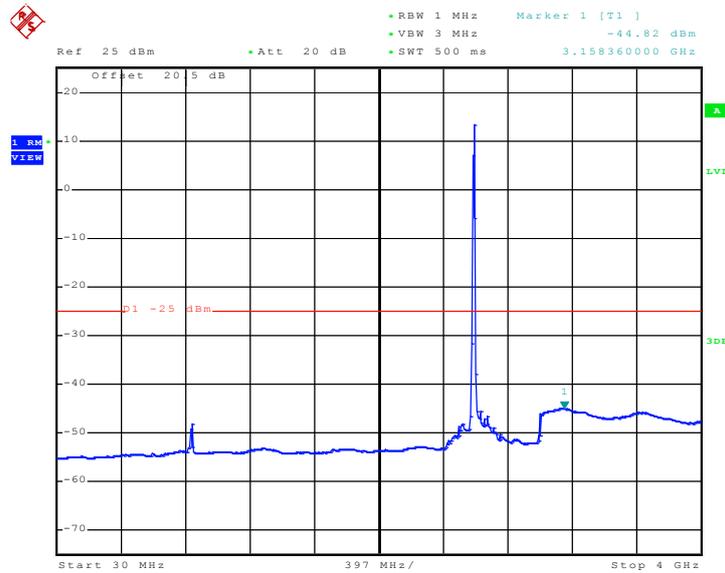


Date: 9..JAN.2010 10:38:39



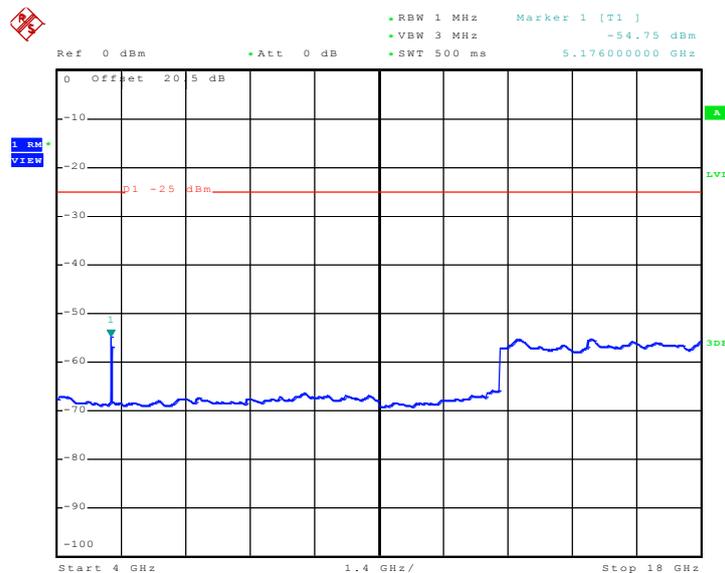
Band :	802.16e	Power Stage :	High
Test Mode :	16QAM, BW 10MHz	Channel :	Middle

Conducted Spurious Emission Plot between 30MHz ~ 4GHz



Date: 9..JAN.2010 10:32:18

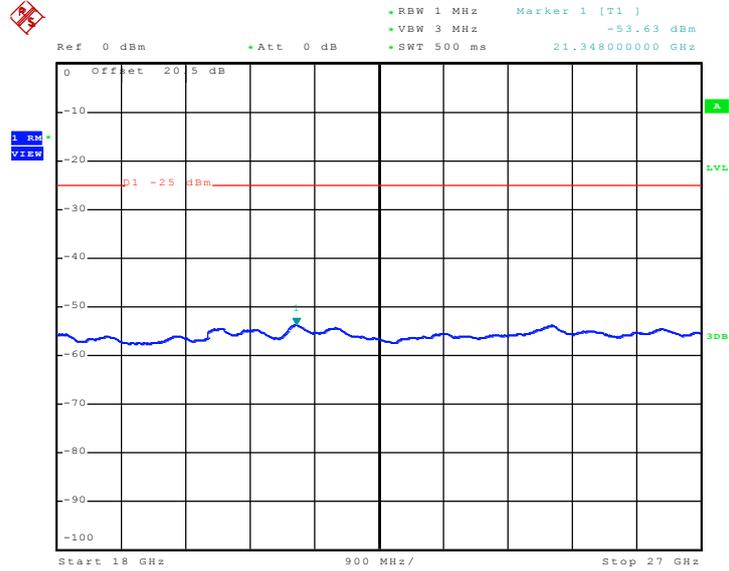
Conducted Spurious Emission Plot between 4GHz ~ 18GHz



Date: 9..JAN.2010 10:30:50



Conducted Spurious Emission Plot between 18 GHz ~ 27GHz

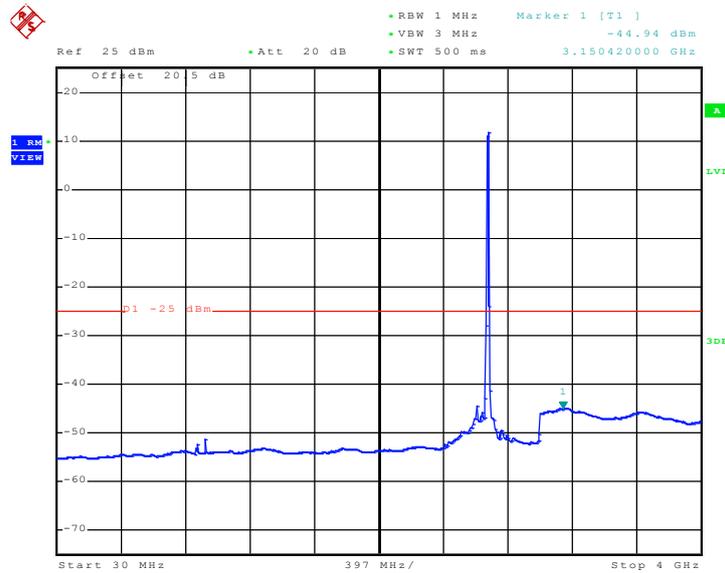


Date: 9..JAN.2010 10:30:07



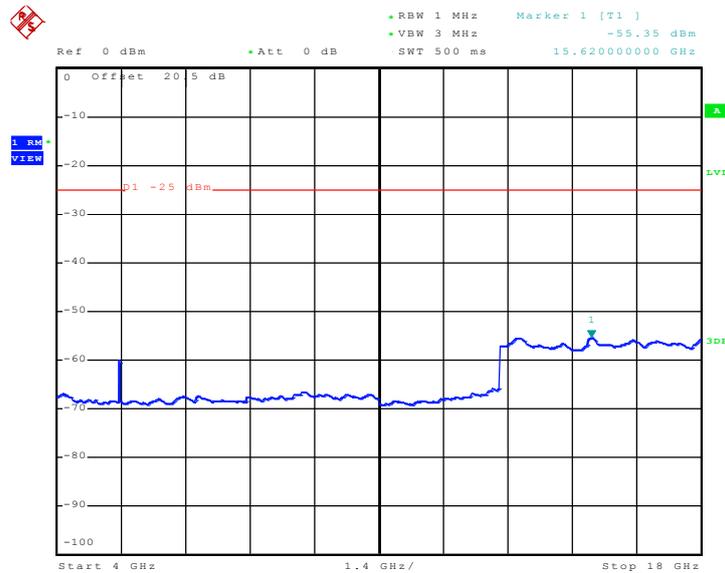
Band :	802.16e	Power Stage :	High
Test Mode :	16QAM, BW 10MHz	Channel :	High

Conducted Spurious Emission Plot between 30MHz ~ 4GHz



Date: 9..JAN.2010 10:35:39

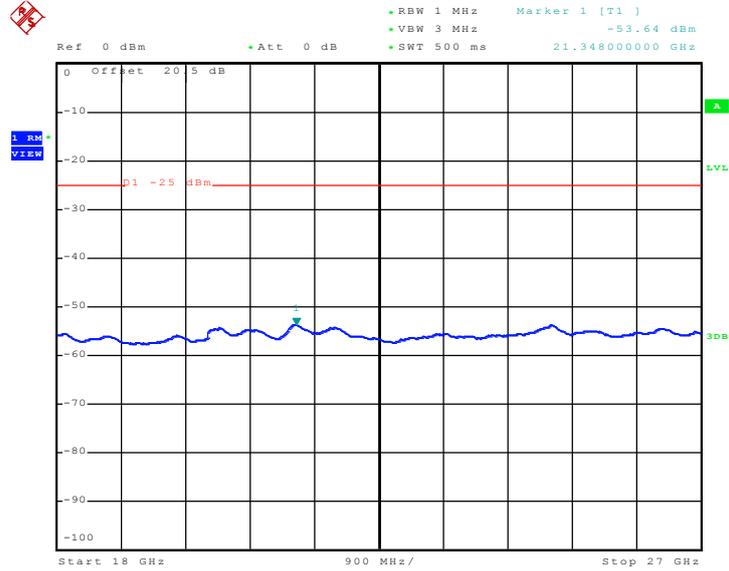
Conducted Spurious Emission Plot between 4GHz ~ 18GHz



Date: 9..JAN.2010 10:36:26



Conducted Spurious Emission Plot between 18 GHz ~ 27GHz



Date: 9..JAN.2010 10:37:02

3.4 Radiated Emissions Measurement

3.4.1 Description of Radiated Emissions Measurement

The power of any emission outside of the authorized operating frequency ranges must be lower than the transmitter power (P) by a factor of mobile digital stations, the attenuation factor shall be not less than $43 + 10 \log (P)$ dB at the channel edge and $55 + 10 \log (P)$ dB at 5.5 MHz from the channel edges. It is measured by means of a calibrated spectrum analyzer and scanned from 30 MHz up to a frequency including its 10th harmonic.

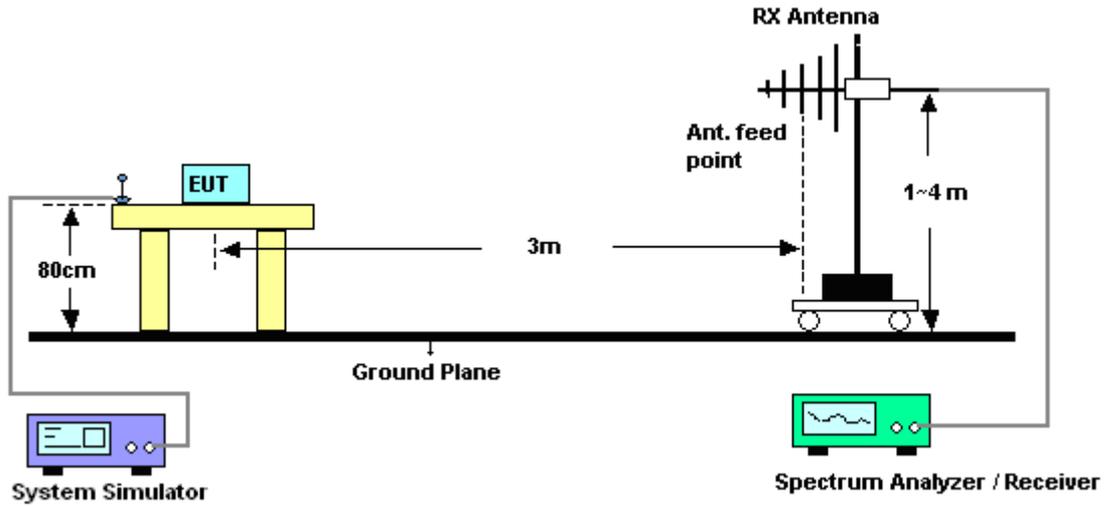
3.4.2 Measuring Instruments

See list of measuring instruments of this test report.

3.4.3 Test Procedures

1. The EUT was placed on a rotatable wooden table with 0.8 meter about ground.
2. The EUT was set 3 meters from the receiving antenna, which was mounted on the antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest spurious emission.
4. The height of the receiving antenna is varied between one meter and four meters to search the maximum spurious emission for both horizontal and vertical polarizations.
5. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 1MHz, Sweep = 500ms, Taking the record of maximum spurious emission.
6. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
7. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
8. Taking the record of output power at antenna port.
9. Repeat step 7 to step 8 for another polarization.
10. Emission level (dBm) = output power + substitution Gain.

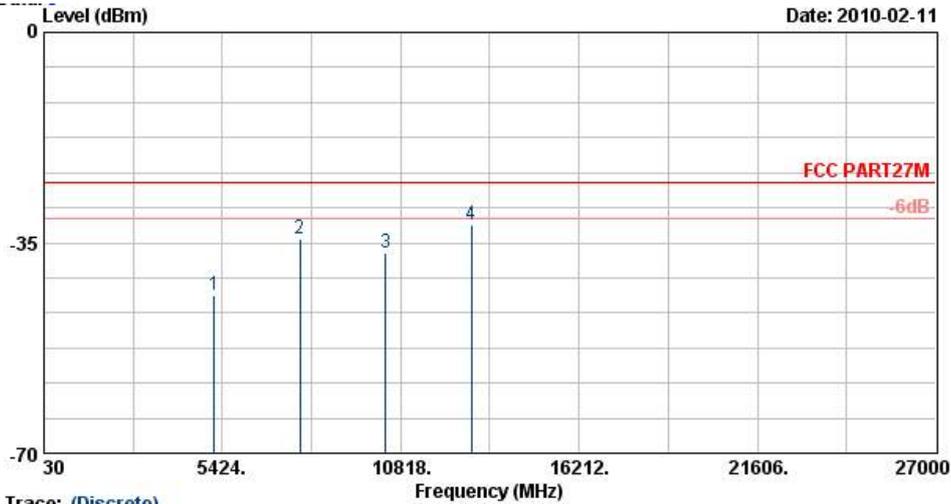
3.4.4 Test Setup





3.4.5 Test Result of Radiated Emissions

Band :	802.16e	Temperature :	20~21°C
Test Mode :	QPSK, BW 5MHz, Middle Ch (2593MHz)	Relative Humidity :	44~45%
Test Engineer :	Kay Wu	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		

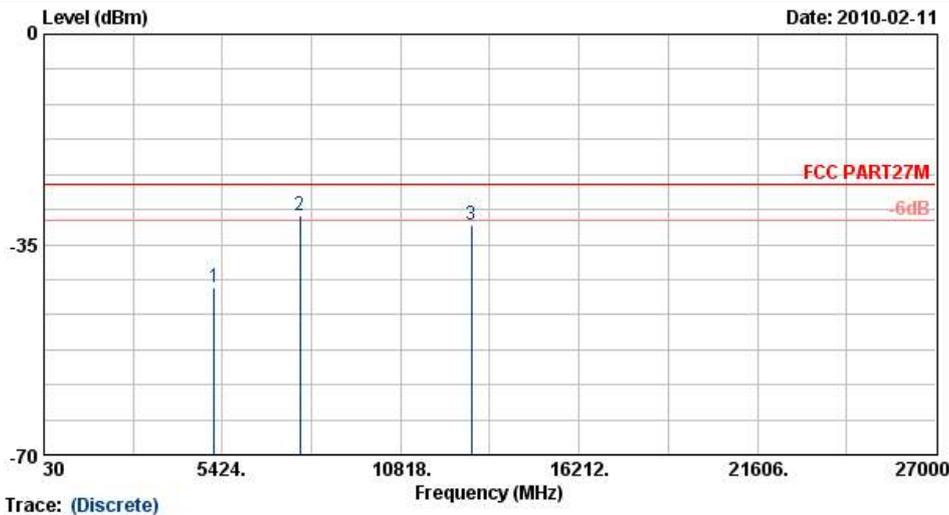


Trace: (Discrete)
 Site : 03CH07-HY
 Condition : FCC PART27M HF-ETRP(060306) HORIZONTAL
 Project : FC 9N2716

Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
5186	-43.74	-25	-18.74	-58.96	-52.05	2.14	10.45	H	Pass
7779	-34.27	-25	-9.27	-55.37	-44.46	2.13	12.32	H	Pass
10372	-36.62	-25	-11.62	-64.07	-47.42	2.2	13.00	H	Pass
12965	-32.11	-25	-7.11	-65.51	-37.92	7.77	13.58	H	Pass



Band :	802.16e	Temperature :	20~21°C
Test Mode :	QPSK, BW 5MHz, Middle Ch (2593MHz)	Relative Humidity :	44~45%
Test Engineer :	Kay Wu	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		

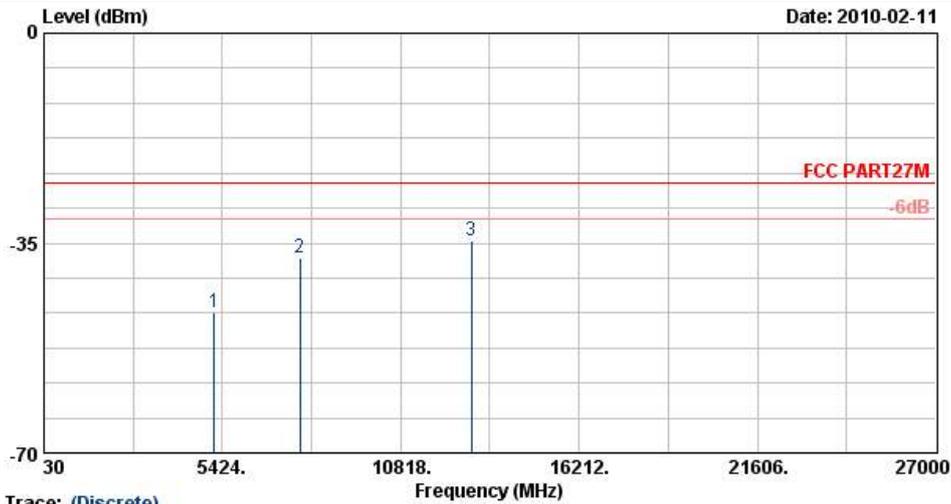


Trace: (Discrete)
 Site : 03CH07-HY
 Condition : FCC PART27M HF-EIRP(080306) VERTICAL
 Project : FC 9N2716

Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
5186	-42.24	-25	-17.24	-61.89	-50.55	2.14	10.45	V	Pass
7779	-30.22	-25	-5.22	-53.08	-40.41	2.13	12.32	V	Pass
12965	-31.71	-25	-6.71	-65.11	-37.52	7.77	13.58	V	Pass



Band :	802.16e	Temperature :	20~21°C
Test Mode :	QPSK, BW 10MHz, Middle Ch (2593MHz)	Relative Humidity :	44~45%
Test Engineer :	Kay Wu	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		

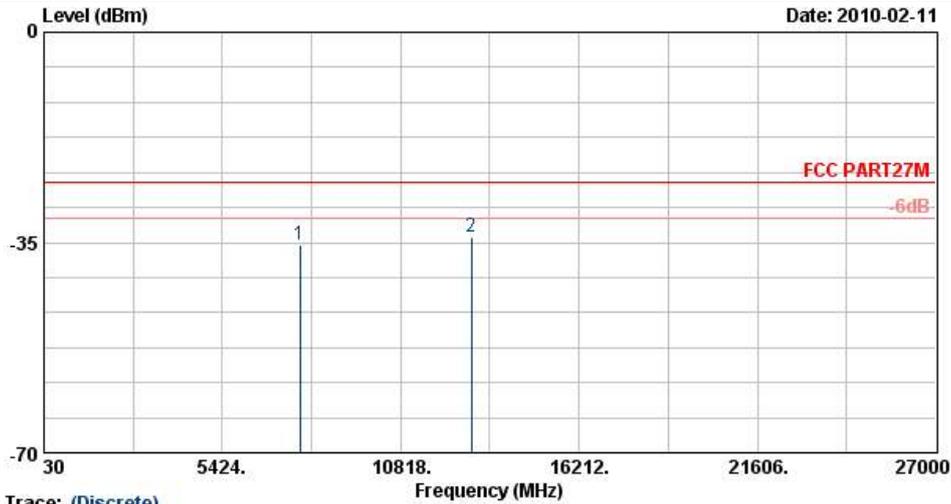


Trace: (Discrete)
 Site : D3CH07-HY
 Condition : FCC PART 27M HF-ETRP(080306) HORIZONTAL
 Project : FG 0N2716

Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
5186	-46.55	-25	-21.55	-61.59	-54.86	2.14	10.45	H	Pass
7779	-37.40	-25	-12.40	-58.5	-47.59	2.13	12.32	H	Pass
12965	-34.48	-25	-9.48	-67.88	-40.29	7.77	13.58	H	Pass



Band :	802.16e	Temperature :	20~21°C
Test Mode :	QPSK, BW 10MHz, Middle Ch (2593MHz)	Relative Humidity :	44~45%
Test Engineer :	Kay Wu	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		

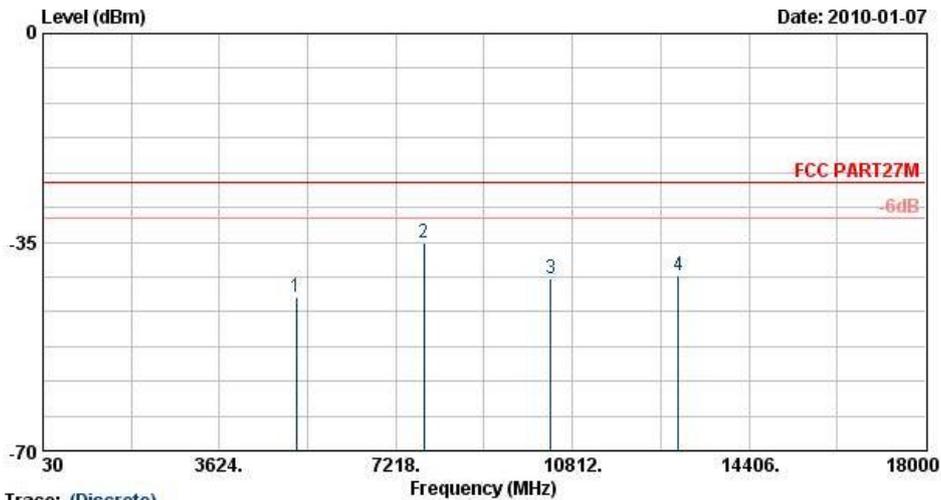


Trace: (Discrete)
 Site : 03CH07-HY
 Condition : FCC PART27M HF-ETRP(060306) VERTICAL
 Project : FC 0N2716

Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
7779	-35.45	-25	-10.45	-56.45	-45.64	2.13	12.32	V	Pass
12965	-34.01	-25	-9.01	-67.41	-39.82	7.77	13.58	V	Pass



Band :	802.16e	Temperature :	20~21°C
Test Mode :	16QAM, BW 5MHz, Middle Ch (2593MHz)	Relative Humidity :	44~45%
Test Engineer :	Kay Wu	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		

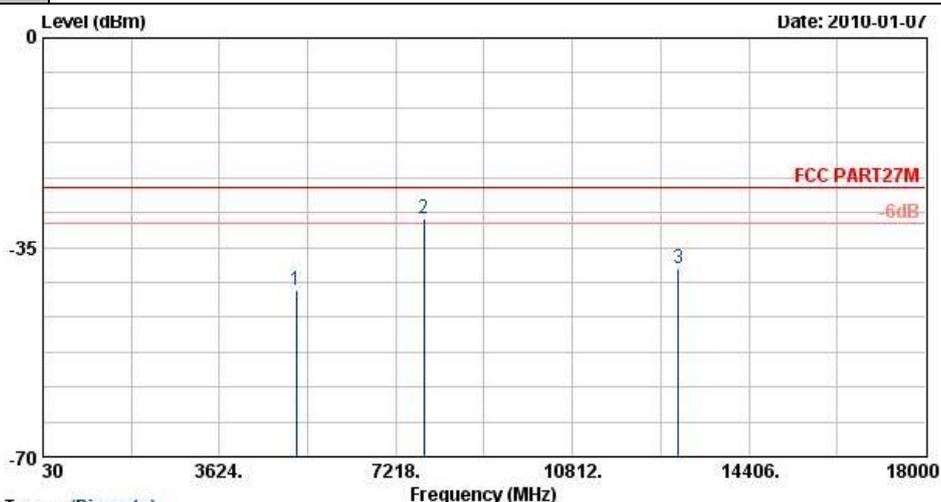


Trace: (Discrete)
 Site : 03CH07-HY
 Condition : FCC PART27M HF-ETRP(060306) HORIZONTAL
 Project : FG 9N2716

Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
5186	-44.17	-25	-19.17	-59.39	-52.48	2.14	10.45	H	Pass
7779	-35.14	-25	-10.14	-56.24	-45.33	2.13	12.32	H	Pass
10372	-41.15	-25	-16.15	-63.47	-51.95	2.2	13.00	H	Pass
12965	-40.52	-25	-15.52	-63.19	-46.33	7.77	13.58	H	Pass



Band :	802.16e	Temperature :	20~21°C
Test Mode :	16QAM, BW 5MHz, Middle Ch (2593MHz)	Relative Humidity :	44~45%
Test Engineer :	Kay Wu	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		

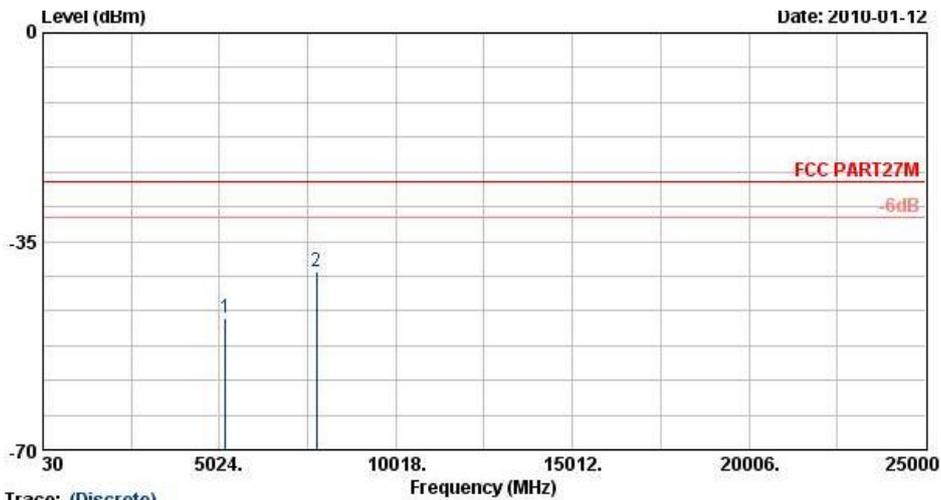


Trace: (Discrete)
 Site : 03CH07-HY
 Condition : FCC PART27M HF-ETRP(080306) VERTICAL
 Project : FC 9N2716

Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
5186	-42.24	-25	-17.24	-58.42	-50.55	2.14	10.45	V	Pass
7779	-30.22	-25	-5.22	-51.22	-40.41	2.13	12.32	V	Pass
12965	-38.46	-25	-13.46	-61.66	-44.27	7.77	13.58	V	Pass



Band :	802.16e	Temperature :	20~21°C
Test Mode :	16QAM, BW 10MHz, Middle Ch (2593MHz)	Relative Humidity :	44~45%
Test Engineer :	Kay Wu	Polarization :	Horizontal
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		

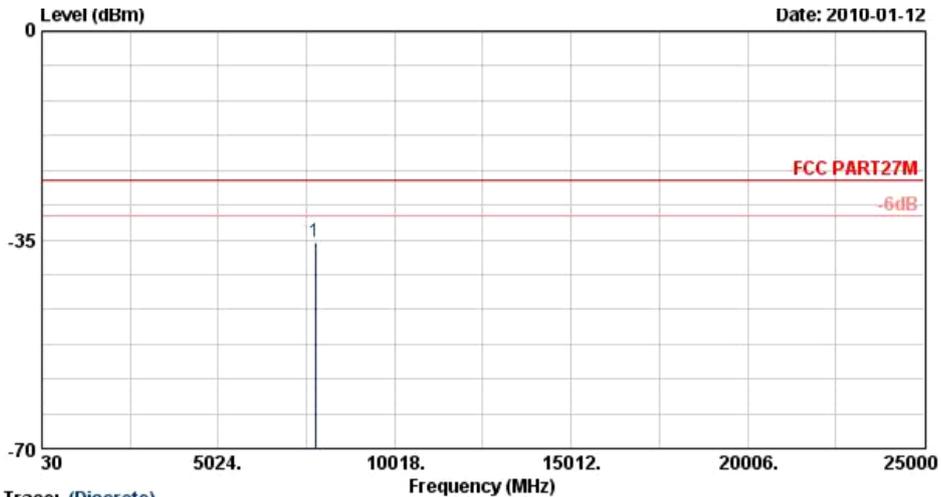


Trace: (Discrete)
 Site : 03CH07-HY
 Condition : FCC PART27M HF-EIRP(080306) HORIZONTAL
 Project : FC 9N2716

Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
5186	-47.95	-25	-22.95	-63.17	-56.26	2.14	10.45	H	Pass
7779	-39.97	-25	-14.97	-61.87	-50.16	2.13	12.32	H	Pass



Band :	802.16e	Temperature :	20~21°C
Test Mode :	16QAM, BW 10MHz, Middle Ch (2593MHz)	Relative Humidity :	44~45%
Test Engineer :	Kay Wu	Polarization :	Vertical
Remark :	Spurious emissions within 30-1000MHz were found more than 20dB below limit line.		



Trace: (Discrete)
 Site : 03CH07-HY
 Condition : FCC PART27M HF-ETRP(060306) VERTICAL
 Project : FG 0N2716

Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
7779	-35.28	-25	-10.28	-56.28	-45.47	2.13	12.32	V	Pass

3.5 Frequency Stability Measurement

3.5.1 Description of Frequency Stability Measurement

The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized frequency band. For equipment authorization purposes, this is a reporting requirement only.

3.5.2 Measuring Instruments

See list of measuring instruments of this test report.

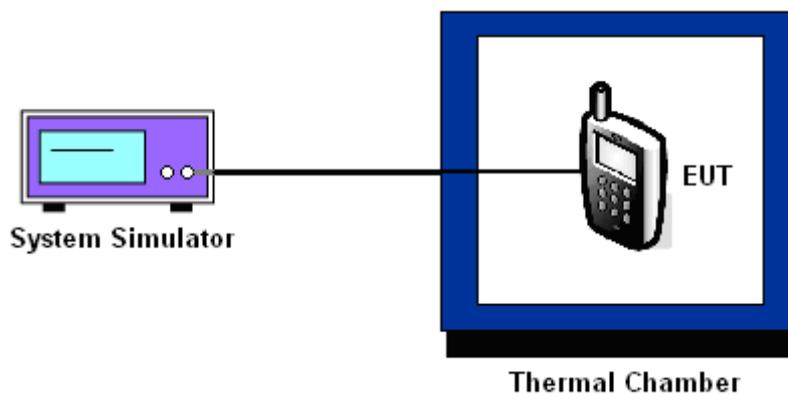
3.5.3 Test Procedures for Temperature Variation

1. The EUT was set up in the thermal chamber and connected with the System Simulator.
2. With power OFF, the temperature was decreased to -30°C and the EUT was stabilized for three hours. Power was applied and the maximum change in frequency was recorded within one minute.
3. With power OFF, the temperature was raised in 10°C step up to 50°C . The EUT was stabilized at each step for at least half an hour. Power was applied and the maximum frequency change was recorded within one minute.
4. If the EUT can not be turned on at -30°C , the testing lowest temperature will be raised in 10°C step until the EUT can be turned on.

3.5.4 Test Procedures for Voltage Variation

1. The EUT was placed in a temperature chamber at $25\pm 5^{\circ}\text{C}$ and connected with the System Simulator.
2. The power supply voltage to the EUT was varied from BEP to 115% of the nominal value measured at the input to the EUT.
3. The variation in frequency was measured for the worst case.

3.5.5 Test Setup





3.5.6 Test Result of Temperature Variation

Band :	802.16e	Channel :	Middle (2593MHz)
Limit (ppm) :	2.5		

Temperature (°C)	QPSK, BW 5MHz		QPSK, BW 10MHz		Result
	Freq. Dev. (Hz)	Deviation (ppm)	Freq. Dev. (Hz)	Deviation (ppm)	
-30	-46.31	-0.02	-103.53	-0.04	PASS
-20	-53.76	-0.02	-100.64	-0.04	
-10	-33.87	-0.01	-99.45	-0.04	
0	-49.54	-0.02	-109.23	-0.04	
10	-53.82	-0.02	-116.22	-0.04	
20	-64.23	-0.02	-107.94	-0.04	
30	-47.34	-0.02	-126.3	-0.05	
40	-45.23	-0.02	-119.96	-0.05	
50	-65.39	-0.03	-113.32	-0.04	

Band :	802.16e	Channel :	Middle (2593MHz)
Limit (ppm) :	2.5		

Temperature (°C)	16QAM, BW 5MHz		16QAM, BW 10MHz		Result
	Freq. Dev. (Hz)	Deviation (ppm)	Freq. Dev. (Hz)	Deviation (ppm)	
-30	-46.44	-0.02	-106.37	-0.04	PASS
-20	-55.93	-0.02	-104.52	-0.04	
-10	-36.32	-0.01	-94.12	-0.04	
0	-48.71	-0.02	-119.67	-0.05	
10	-46.17	-0.02	-99.01	-0.04	
20	-43.56	-0.02	-113.82	-0.04	
30	-57.93	-0.02	-106.99	-0.04	
40	-32.61	-0.01	-110.28	-0.04	
50	-42.51	-0.02	-112.41	-0.04	



3.5.7 Test Result of Voltage Variation

Band & Channel	Mode	Voltage (Volt)	Freq. Dev. (Hz)	Deviation (ppm)	Result
802.16e Middle (2593MHz)	QPSK, BW 5MHz	120.0	-46.23	-0.02	PASS
		102.0	-58.29	-0.02	
		138.0	-41.80	-0.02	
	QPSK, BW 10MHz	120.0	-102.33	-0.04	PASS
		102.0	-112.78	-0.04	
		138.0	-99.10	-0.04	
	16QAM, BW 5MHz	120.0	-39.85	-0.02	PASS
		102.0	-45.42	-0.02	
		138.0	-34.69	-0.01	
	16QAM, BW 10MHz	120.0	-114.05	-0.04	PASS
		102.0	-95.67	-0.04	
		138.0	-108.31	-0.04	

Remark: Normal Voltage = 120.0V.

4 List of Measuring Equipments

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Due Date	Remark
Spectrum Analyzer	R&S	FSP40	100055	9kHz~40GHz	Jun. 23, 2009	Jun. 22, 2010	Conducted (TH02-HY)
Thermal Chamber	TEN BILLION	TTH-D35P	TBN-930701	N/A	Jul. 29, 2009	Jul. 28, 2010	Conducted (TH02-HY)
Bilog Antenna	SCHAFFNER	CBL6111C	2726	30MHz ~ 1GHz	Oct. 31, 2009	Oct. 30, 2010	Radiation (03CH07-HY)
Spectrum Analyzer	R&S	FSP	101067	9KHz ~ 30GHz	Dec. 04, 2009	Dec. 03, 2010	Radiation (03CH07-HY)
Double Ridge Horn Antenna	ESCO	3117	00075962	1GHz ~ 18GHz	Aug. 20, 2009	Aug. 19, 2010	Radiation (03CH07-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA917025 1	15GHz- 40GHz	Oct. 14, 2009	Oct. 13, 2010	Radiation (03CH07-HY)
Pre Amplifier	Agilent	8449B	3008A02362	1GHz~ 26.5GHz	Dec.09,2009	Dec. 08, 2010	Radiation (03CH07-HY)
Pre Amplifier	COM-POWER	PA-103A	161241	10-1000MHz.32dB. GAIN	Mar. 27, 2009	Mar. 26, 2010	Radiation (03CH07-HY)
Loop Antenna	R&S	HFH2-Z2	860004/001	9 KHz~30 MHz	May 22, 2008	May 21, 2010	Radiation (03CH07-HY)
VSG (System Simulator)	Agilent	E4438C	MY49070423	N/A	Oct. 29, 2009	Oct. 28, 2011	-

5 Uncertainty of Evaluation

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Contribution	Uncertainty of X_i		$u(X_i)$
	dB	Probability Distribution	
Receiver Reading	0.41	Normal (k=2)	0.21
Antenna Factor Calibration	0.83	Normal (k=2)	0.42
Cable Loss Calibration	0.25	Normal (k=2)	0.13
Pre-Amplifier Gain Calibration	0.27	Normal (k=2)	0.14
RCV/SPA Specification	2.50	Rectangular	0.72
Antenna Factor Interpolation for Frequency	1.00	Rectangular	0.29
Site Imperfection	1.43	Rectangular	0.83
Mismatch	+0.39 / -0.41	U-Shape	0.28
Combined Standard Uncertainty $U_c(y)$	1.27		
Measuring Uncertainty for a Level of Confidence of 95% ($U = 2U_c(y)$)	2.54		

Uncertainty of Radiated Emission Measurement (1 GHz ~ 40 GHz)

Contribution	Uncertainty of X_i		$u(X_i)$	C_i	$C_i * u(X_i)$
	dB	Probability Distribution			
Receiver Reading	± 0.10	Normal (k=2)	0.10	1	0.10
Antenna Factor Calibration	± 1.70	Normal (k=2)	0.85	1	0.85
Cable Loss Calibration	± 0.50	Normal (k=2)	0.25	1	0.25
Receiver Correction	± 2.00	Rectangular	1.15	1	1.15
Antenna Factor Directional	± 1.50	Rectangular	0.87	1	0.87
Site Imperfection	± 2.80	Triangular	1.14	1	1.14
Mismatch Receiver VSWR $\Gamma_1 = 0.197$ Antenna VSWR $\Gamma_2 = 0.194$ Uncertainty = $20\text{Log}(1-\Gamma_1*\Gamma_2)$	+0.34 / -0.35	U-Shape	0.244	1	0.244
Combined Standard Uncertainty $U_c(y)$	2.36				
Measuring Uncertainty for a Level of Confidence of 95% ($U = 2U_c(y)$)	4.72				

6 Certification of TAF Accreditation



Certificate No. : L1190-100107

財團法人全國認證基金會
Taiwan Accreditation Foundation

Certificate of Accreditation

This is to certify that

Sporton International Inc.
EMC & Wireless Communications Laboratory
No.52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien,
Taiwan, R.O.C.

is accredited in respect of laboratory

Accreditation Criteria	: ISO/IEC 17025:2005
Accreditation Number	: 1190
Originally Accredited	: December 15, 2003
Effective Period	: January 10, 2010 to January 09, 2013
Accredited Scope	: Testing Field, see described in the Appendix
Specific Accreditation Program	: Accreditation Program for Designated Testing Laboratory for Commodities Inspection Accreditation Program for Telecommunication Equipment Testing Laboratory Accreditation Program for BSMI Mutual Recognition Arrangement with Foreign Authorities


Jay-San Chen
President, Taiwan Accreditation Foundation
Date : January 07, 2010

P1, total 21 pages

The Appendix forms an integral part of this Certificate, which shall be invalid when use without the Appendix



Appendix A. Photographs of EUT

Please refer to Sporton report number EP9N2716 as below.