

FCC RADIO TEST REPORT

Applicant's company	Proxim Wireless Corporation
Applicant Address	1561 Buckeye Drive, Milpitas, CA 95035, USA
FCC ID	HZB-MB83HP5
Manufacturer's company	Proxim Wireless Corporation
Manufacturer Address	1561 Buckeye Drive, Milpitas, CA 95035, USA

Product Name	802.11 a/b/g/n Mini-PCI module
Brand Name	Proxim
Model Name	MB82HP
Test Rule Part(s)	47 CFR FCC Part 90 Subpart Y
Test Freq. Range	4940 ~ 4990MHz
Received Date	Jun. 14, 2012
Final Test Date	Jul. 22, 2012
Submission Type	Original Equipment



Statement

The test result in this report refers exclusively to the presented test model / sample.

Without written approval of SPORTON International Inc., the test report shall not be reproduced except in full.

The measurements and test results shown in this test report were made in accordance with the procedures and found in compliance with the limit given in **ANSI/TIA-603-D-2010** and **47 CFR FCC Part 90 Subpart Y**.

The test equipment used to perform the test is calibrated and traceable to NML/ROC.

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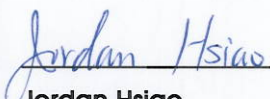
History of This Test Report

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FL062219-03	Rev. 01	Initial issue of report	Oct. 09, 2012

1. CERTIFICATE OF COMPLIANCE

Product Name : 802.11 a/b/g/n Mini-PCI module
Brand Name : Proxim
Model Name : MB82HP
Applicant : Proxim Wireless Corporation
Test Rule Part(s) : 47 CFR FCC Part 90 Subpart Y

Sporton International as requested by the applicant to evaluate the EMC performance of the product sample received on Jun. 14, 2012 would like to declare that the tested sample has been evaluated and found to be in compliance with the tested rule parts. The data recorded as well as the test configuration specified is true and accurate for showing the sample's EMC nature.



Jordan Hsiao
SPORTON INTERNATIONAL INC.

2. SUMMARY OF THE TEST RESULT

Applied Standard: 47 CFR FCC Part 90 Subpart Y				
Part	Rule Section	Description of Test	Result	Under Limit
4.1	2.1046/90.1215(a)	Peak Transmit Power	Complies	1.63 dB
4.2	2.1046/90.1215(a)	Power Spectral Density	Complies	0.04 dB
4.3	2.1049/90.210(m)	Occupied Bandwidth / Emission Mask	Complies	-
4.4	2.1046/90.1215(e))	Peak Excursion	Complies	1.29 dB
4.5	2.1051/90.210(m)	Spurious Emissions at Antenna Terminals	Complies	1.06 dB
4.6	2.1053/90.210(m)	Radiated Spurious Emissions	Complies	8.50 dB
4.7	2.1055/90.213(a)	Frequency Stability	Complies	-

Note 1: The module (Model number: MB82HP) is Limited Module Approval and only limited to install to the AP (Proxim / MP 8200).

Note 2: During operating, the different antenna is placed in different direction.
Therefore, it will not be affected by array gain.

Test Items	Uncertainty	Remark
Peak Transmit Power / Peak Power Spectral Density	±1.6dB	Confidence levels of 95%
Occupied Bandwidth / Frequency Stability	±8.5×10 ⁻⁸	Confidence levels of 95%
Radiated Spurious Emissions (30MHz~1000MHz)	±2.6dB	Confidence levels of 95%
Radiated Spurious Emissions (1GHz~18GHz)	±2.8dB	Confidence levels of 95%
Radiated Spurious Emissions (18GHz~40GHz)	±3.1dB	Confidence levels of 95%
Spurious Emissions at Antenna Terminals	±0.5dB	Confidence levels of 95%

3. GENERAL INFORMATION

3.1. Product Details

Items	Description
Product Type	WLAN (2/3TX, 3RX)
Power Type	DC power supply
Equipment Category	Fixed Point-to-Point
Modulation	OFDM (BPSK / QPSK / 16QAM / 64QAM)
Channel Bandwidth	5MHz / 10MHz / 20MHz
Occupied Bandwidth	Mode 1 : 5MHz: 5.40MHz / 10MHz: 9.96MHz / 20MHz: 17.20MHz Mode 2 : 5MHz: 5.34MHz / 10MHz: 9.84MHz / 20MHz: 17.20MHz
Peak Transmit Power	Mode 1 : 5MHz: 25.02dBm / 10MHz: 28.37dBm / 20MHz: 29.88MHz Mode 2 : 5MHz: 24.84dBm / 10MHz: 27.51dBm / 20MHz: 28.82MHz
Average Transmit Power	Mode 1 : 5MHz: 16.99dBm / 10MHz: 20.52dBm / 20MHz: 24.24MHz Mode 2 : 5MHz: 16.77dBm / 10MHz: 19.88dBm / 20MHz: 23.73MHz
Carrier Frequencies Range	4940MHz~4990MHz

3.2. Table for Carrier Frequencies

Channel Bandwidth	Carrier Frequency
5 MHz / 10MHz / 20 MHz	4940 MHz
	4945 MHz
	4950 MHz
	:
	:
	4965 MHz
	:
	:
	4980 MHz
	4985 MHz
	4990 MHz

3.3. Table for Filed Antenna

Ant.	Brand	Model Name	Antenna Type	Chain	Attenuator (dBi)	Connector	Antenna Gain	Cable loss	Test Ant Gain gain (dBi)
							5GHz	5GHz	5GHz
1	MARS	MA-WA55-30	Panel	1/2/3	20	N-Type, Female	30	2	8
2	MARS	MA-WB55-20	Sector	1/2/3	10	N-Type, Female	20	2	8
3	SmartAnt	USI05-220170	Dipole	1/2/3	-	RP SMA Plug	5	1	4
4	MARS	MA-WO55-10NH	Ommi	1/2/3	-	N-Type, Female / N-Type, Male (optional)	10	2	8
5	CommScope	PX3F-52-N7A	Dish	1/3	20	N Female	34	2	12
6	MARS	MA-WA56-DP25N	Panel	1/3	20	N-Type, Female	23.5	2	1.5
7	MARS	MA-WD56-DP16	Sector	1/3	10	N-Type, Female	16	2	4

Note: There are 7 antennas in the antenna table list.

Besides, only antenna 1 and 5 were selected to perform the test and written in this report due to the highest gain.

Table of TX/RX Function in each antenna:

Item			Module					
			Chain 1		Chain 2		Chain 3	
			TX	RX	TX	RX	TX	RX
Ant.1	5GHz	11a	V	V	V	V	V	V
		11n	V	V	V	V	V	V
Ant.5	5GHz	11a	V	V	X	X	V	V
		11n	V	V	X	X	V	V

Note : The EUT can support both 2TX and 3TX functions.

Ant. 1~Ant. 4 for 3TX functions.

IEEE 802.11a/n mode (3TX, 3RX)

Chain 1, Chain 2 and Chain 3 can be used as transmitting/receiving antennas.

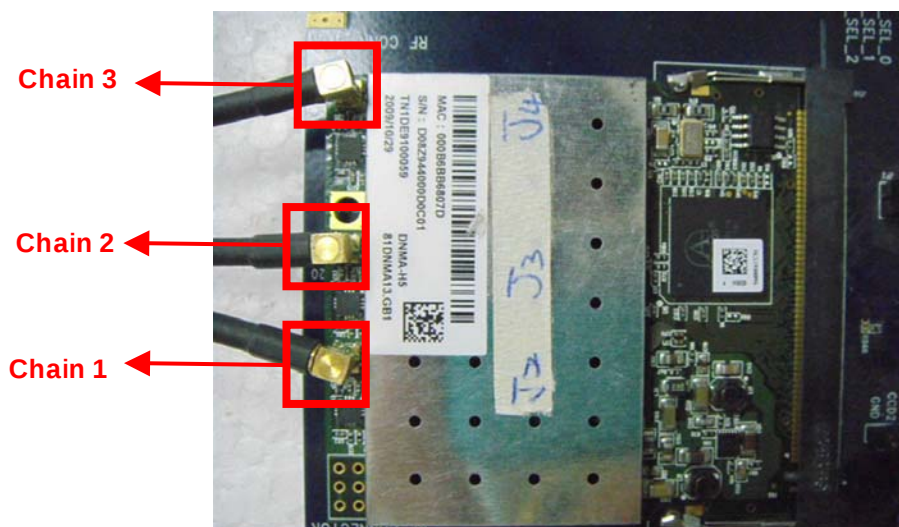
Chain 1, Chain 2 and Chain 3 could transmit/receive simultaneously.

Ant. 5~Ant. 7 for 2TX functions.

IEEE 802.11a/n mode (2TX, 2RX)

Chain 1 and Chain 3 can be used as transmitting/receiving antennas.

Chain 1 and Chain 3 could transmit/receive simultaneously.



Module	Required 2TX Port
5G	Chain 1 and Chain 3

Module	Required 3TX Port
5G	Chain 1 and Chain 2 and Chain 3

3.4. Table for Test Modes

Investigation has been done on all the possible configurations for searching the worst cases (All modulation modes and different data rates would be evaluated). The following table is a list of the test modes shown in this test report.

Test Items	Channel Bandwidth	Modulation Mode
Peak Transmit Power	5MHz / 10MHz / 20MHz	OFDM
Peak Power Spectral Density	5MHz / 10MHz / 20MHz	OFDM
Occupied Bandwidth	5MHz / 10MHz / 20MHz	OFDM
Emission Mask	5MHz / 10MHz / 20MHz	OFDM
Spurious Emissions at Antenna Terminals	5MHz / 10MHz / 20MHz	OFDM
Radiated Spurious Emissions	5MHz / 10MHz / 20MHz	OFDM
Frequency Stability	5MHz / 10MHz / 20MHz	OFDM

The following test modes were performed for all tests:

Mode 1: Module + Ant. 1 (3TX)

Mode 2: Module + Ant. 5 (2TX)

All test results were recorded in the report.

3.5. Table for Testing Locations

Test Site No.	Site Category	Location	FCC Reg. No.	IC File No.
03CH01-CB	FAC	Hsin Chu	262045	IC 4086D
TH01-CB	OVEN Room	Hsin Chu	-	-

Open Area Test Site (OATS); Semi Anechoic Chamber (SAC); Fully Anechoic Chamber (FAC).

Please refer section 6 for Test Site Address.

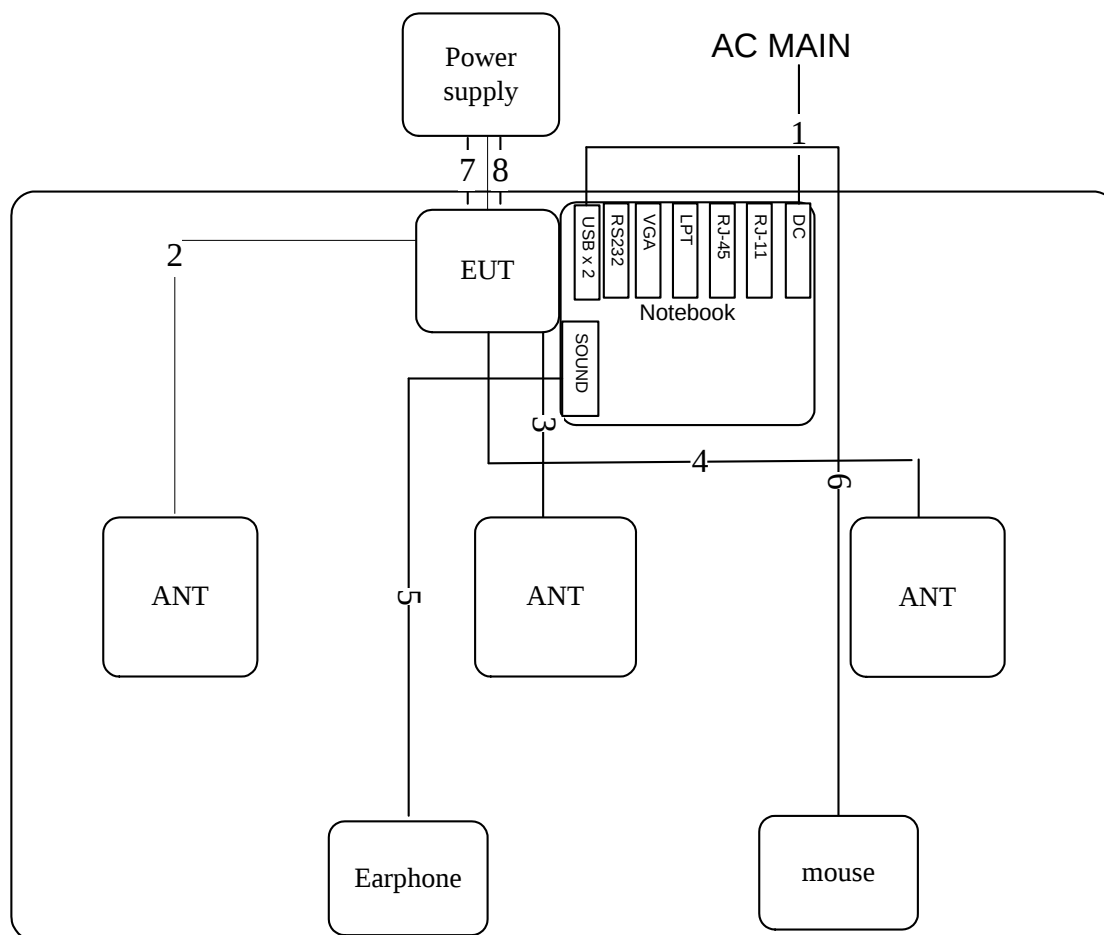
3.6. Table for Supporting Units

Support Unit	Brand	Model	FCC ID
Notebook	DELL	D420	E2KWM3945ABG

3.7. Test Configurations

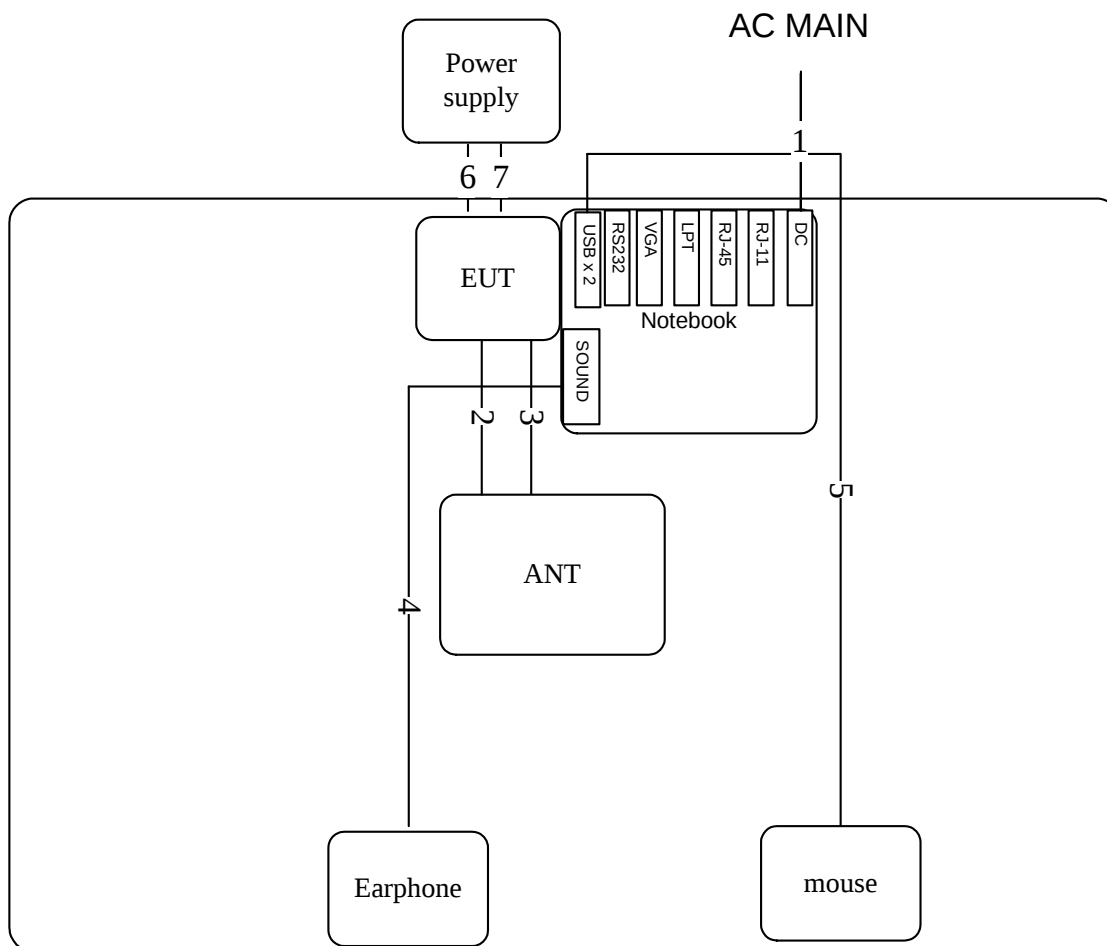
Test Configuration: 30MHz~1GHz

Test Mode : Mode 1



Item	Connection	Shield	Length
1	Power cable	No	2.6M
2	ANT cable	Yes	1M
3	ANT cable	Yes	1M
4	ANT cable	Yes	1M
5	USB cable	No	1.8M
6	Earphone cable	No	1.1M
7	Power cable	Yes	1M
8	Power cable	No	1M

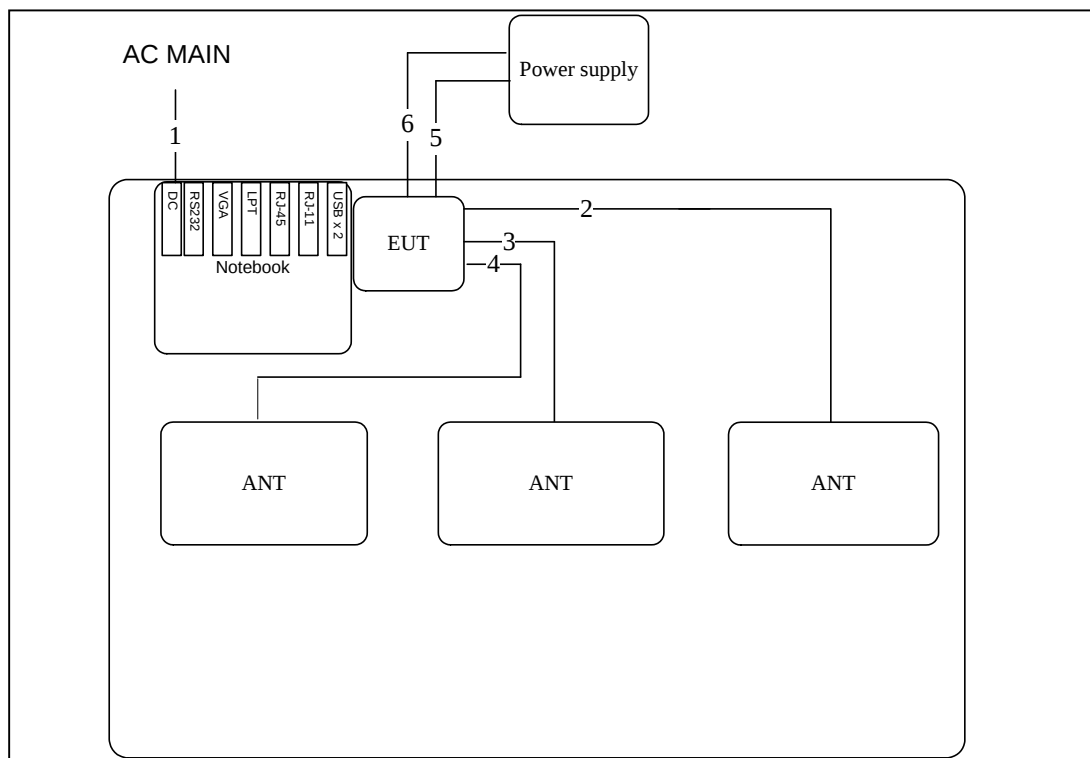
Test Mode : Mode 2



Item	Connection	Shield	Length
1	Power cable	No	2.6M
2	ANT cable	Yes	1M
3	ANT cable	Yes	1M
4	USB cable	No	1.8M
5	Earphone cable	No	1.1M
6	Power cable	Yes	1M
7	Power cable	No	1M

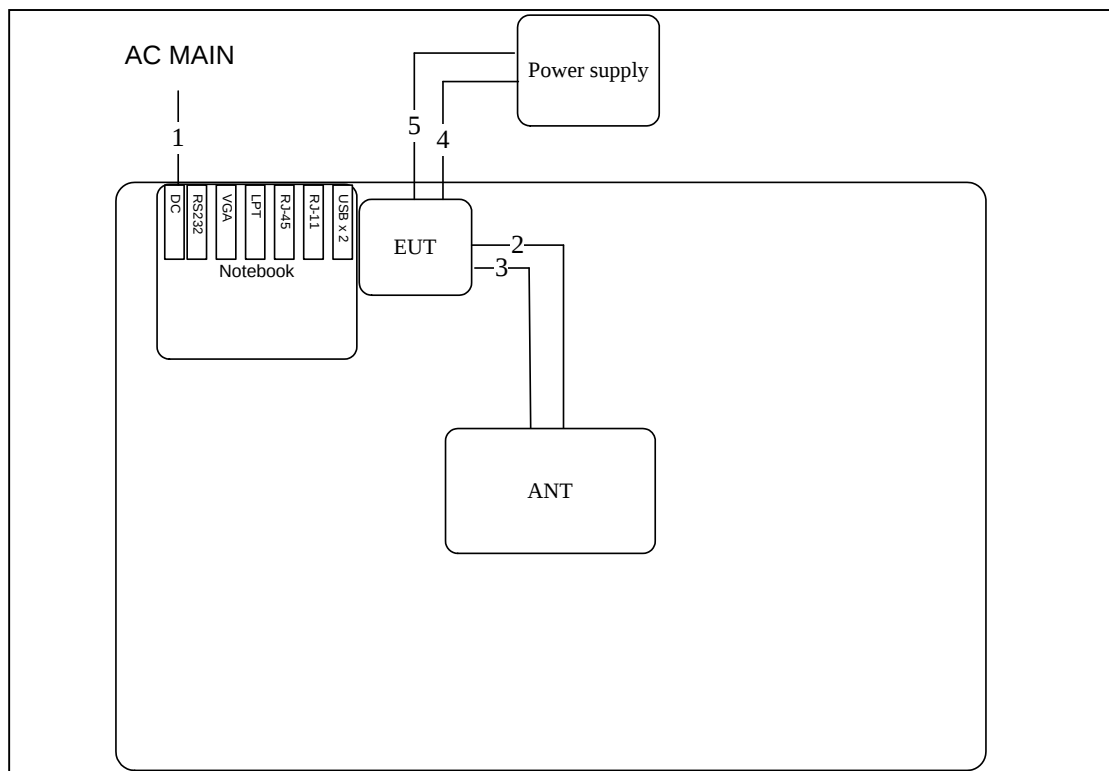
Test Configuration: Above 1GHz

Test Mode : Mode 1



Item	Connection	Shield	Length
1	Power cable	No	2.6M
2	ANT cable	Yes	1M
3	ANT cable	Yes	1M
4	ANT cable	Yes	1M
5	Power cable	No	1M
6	Power cable	No	1M

Test Mode : Mode 2



Item	Connection	Shield	Length
1	Power cable	No	2.6M
2	ANT cable	Yes	1M
3	ANT cable	Yes	1M
4	Power cable	No	1M
5	Power cable	No	1M

4. TEST RESULT

4.1. Peak Transmit Power and Average Transmit Power Measurement

4.1.1. Limit

Peak Transmit Power:

The transmitting power of stations operating in the 4940-4990 MHz band must not exceed the maximum limits in this table.

Channel Bandwidth (MHz)	Low Power Device Peak Transmitter Power (dBm)	High Power Device Peak Transmitter Power (dBm)
1	7.0	20.0
5	14.0	27.0
10	17.0	30.0
15	18.8	31.8
20	20.0	33.0

Antenna Gain Requirement:

If the transmitting antennas of directional gain greater than 9dBi are used, both the peak transmit power and the peak power spectral density should be reduced by the amount in decibels that the directional gain of the antenna exceeds 9 dBi. However, high power point-to-point or point-to-multipoint operation (both fixed and temporary-fixed rapid deployment) may employ transmitting antennas with a directional gain up to 26 dBi without any corresponding reduction in the transmitter power or the spectral density. Corresponding reduction in the peak transmit power and peak power spectral density should be the amount in decibels that the directional gain of the antenna exceeds 26 dBi.

Peak Transmit Power Definition:

The peak transmit power is measured as a conducted emission over any interval of continuous transmission calibrated in terms of an RMS-equivalent voltage. The measurement results shall be properly adjusted for any instrument limitations, such as detector response times, limited resolution bandwidth capability when compared to the emission bandwidth, sensitivity, etc., so as to obtain a true peak measurement conforming to the definitions in this paragraph for the emission in question.

4.1.2. Measuring Instruments and Setting

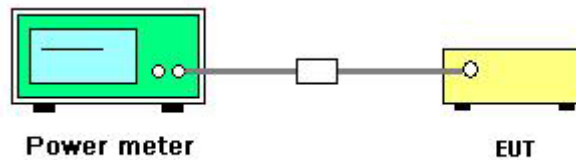
Please refer to section 5 of equipments list in this report. The following table is the setting of the power meter.

Power Meter Parameter	Setting
Bandwidth	50MHz bandwidth is greater than the EUT emission bandwidth
Detector	Peak

4.1.3. Test Procedures

Use Power Meter+ Peak Sensor

4.1.4. Test Setup Layout



4.1.5. Test Deviation

There is no deviation with the original standard.

4.1.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

Note: Average output power is only for Maximum Permissible Exposure use.

4.1.7. Test Result of Peak Transmit Power

Temperature	23°C	Humidity	63%
Test Engineer	Sean Ku	Test Site	TH01-CB
Test Mode	Mode 1	Test Date	Jul. 22, 2012

5MHz Channel Bandwidth Mode

Frequency	Conducted Peak Power (dBm)			Total Conducted Peak Power (dBm)	Max. Limit (dBm)
	Chain 1	Chain 2	Chain 3		
4945 MHz	20.14	20.15	20.22	24.94	27
4965 MHz	20.42	20.26	20.05	25.02	27
4985 MHz	20.29	20.19	20.09	24.96	27

10MHz Channel Bandwidth Mode

Frequency	Conducted Peak Power (dBm)			Total Conducted Peak Power (dBm)	Max. Limit (dBm)
	Chain 1	Chain 2	Chain 3		
4945 MHz	23.47	22.98	23.01	27.93	30
4965 MHz	23.59	23.95	23.23	28.37	30
4985 MHz	23.29	23.86	23.29	28.26	30

20MHz Channel Bandwidth Mode

Frequency	Conducted Peak Power (dBm)			Total Conducted Peak Power (dBm)	Max. Limit (dBm)
	Chain 1	Chain 2	Chain 3		
4950 MHz	24.77	24.73	23.15	29.05	33
4965 MHz	24.51	24.94	23.03	29.00	33
4980 MHz	25.32	25.38	24.59	29.88	33

Temperature	23°C	Humidity	63%
Test Engineer	Sean Ku	Test Site	TH01-CB
Test Mode	Mode 2	Test Date	Jul. 22, 2012

5MHz Channel Bandwidth Mode

Frequency	Conducted Peak Power (dBm)		Total Conducted Peak Power (dBm)	Max. Limit (dBm)
	Chain 1	Chain 3		
4945 MHz	21.05	22.32	24.74	27
4965 MHz	21.25	22.21	24.77	27
4985 MHz	21.32	22.28	24.84	27

10MHz Channel Bandwidth Mode

Frequency	Conducted Peak Power (dBm)		Total Conducted Peak Power (dBm)	Max. Limit (dBm)
	Chain 1	Chain 3		
4945 MHz	24.16	24.53	27.36	30
4965 MHz	24.29	24.66	27.49	30
4985 MHz	24.32	24.68	27.51	30

20MHz Channel Bandwidth Mode

Frequency	Conducted Peak Power (dBm)		Total Conducted Peak Power (dBm)	Max. Limit (dBm)
	Chain 1	Chain 3		
4950 MHz	25.68	25.85	28.78	33
4965 MHz	25.71	25.91	28.82	33
4980 MHz	25.29	25.61	28.46	33

4.1.8. Test Result of Average Transmit Power

Temperature	23°C	Humidity	63%
Test Engineer	Sean Ku	Test Site	TH01-CB
Test Mode	Mode 1	Test Date	Jul. 22, 2012

5MHz Channel Bandwidth Mode

Frequency	Conducted Average Power (dBm)			Total Conducted Power (dBm)
	Chain 1	Chain 2	Chain 3	
4945 MHz	12.16	12.08	12.23	16.93
4965 MHz	12.33	12.26	12.07	16.99
4985 MHz	12.12	12.05	12.18	16.89

10MHz Channel Bandwidth Mode

Frequency	Conducted Average Power (dBm)			Total Conducted Power (dBm)
	Chain 1	Chain 2	Chain 3	
4945 MHz	15.42	16.08	15.17	20.35
4965 MHz	15.47	16.29	15.42	20.52
4985 MHz	15.07	16.02	15.61	20.36

20MHz Channel Bandwidth Mode

Frequency	Conducted Average Power (dBm)			Total Conducted Power (dBm)
	Chain 1	Chain 2	Chain 3	
4950 MHz	18.52	18.92	18.34	23.37
4965 MHz	18.92	19.37	18.73	23.79
4980 MHz	19.27	19.89	19.21	24.24

Temperature	23°C	Humidity	63%
Test Engineer	Sean Ku	Test Site	TH01-CB
Test Mode	Mode 2	Test Date	Jul. 22, 2012

5MHz Channel Bandwidth Mode

Frequency	Conducted Average Power (dBm)		Total Conducted Power (dBm)
	Chain 1	Chain 3	
4945 MHz	12.94	14.31	16.69
4965 MHz	13.10	14.28	16.74
4985 MHz	13.12	14.32	16.77

10MHz Channel Bandwidth Mode

Frequency	Conducted Average Power (dBm)		Total Conducted Power (dBm)
	Chain 1	Chain 3	
4945 MHz	16.37	17.18	19.80
4965 MHz	16.38	17.26	19.85
4985 MHz	16.51	17.21	19.88

20MHz Channel Bandwidth Mode

Frequency	Conducted Average Power (dBm)		Total Conducted Power (dBm)
	Chain 1	Chain 3	
4950 MHz	20.32	21.06	23.72
4965 MHz	20.25	21.15	23.73
4980 MHz	19.65	20.65	23.19

4.2. Power Spectral Density Measurement

4.2.1. Limit

High power devices are also limited to a peak power spectral density of 21 dBm per 1 MHz. High power devices using channel bandwidths other than those listed above permitted; however, they are limited to a peak power spectral density of 21 dBm/MHz

4.2.2. Measuring Instruments and Setting

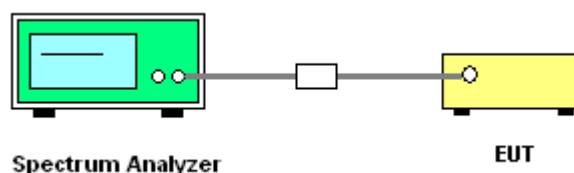
Please refer to section 5 in this report. The following table is the setting of the Spectrum Analyzer.

Spectrum Parameters	Setting
Detector	Peak
RBW / VBW	1MHz / 3MHz

4.2.3. Test Procedures

1. The EUT transmitter output was connected through an appropriate 50 ohm attenuator to a spectrum analyzer. Resolution bandwidth was set to 1MHz and video bandwidth was set to a value greater than the resolution bandwidth. The peak transmit power was measured as a conducted emission over the interval of continuous transmission in terms of an Peak equivalent voltage RF burst gated time with a sweep slow enough to fill the channel bandwidth.
2. Instrument limited resolution bandwidth less than channel emission bandwidth; so as to obtain a true peak measurement shall be calculated by total channel power within channel bandwidth.
3. Peak search was used to find peak power spectral density within channel bandwidth and the spectrum analyzer integrated measurement plot was taken.

4.2.4. Test Setup Layout



4.2.5. Test Deviation

There is no deviation with the original standard.

4.2.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

4.2.7. Peak Power Spectral Density (PSD)

Temperature	23°C	Humidity	63%
Test Engineer	Sean Ku	Test Site	TH01-CB
Test Mode	Mode 1		

5MHz Channel Bandwidth Mode

Frequency	Power Density (dBm/MHz)			Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)
	Chain 1	Chain 2	Chain 3		
4945 MHz	16.10	16.42	15.76	20.87	21
4965 MHz	16.01	16.20	16.10	20.88	21
4985 MHz	16.26	16.39	15.79	20.93	21

10MHz Channel Bandwidth Mode

Frequency	Power Density (dBm/MHz)			Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)
	Chain 1	Chain 2	Chain 3		
4945 MHz	15.98	16.41	15.79	20.84	21
4965 MHz	15.84	16.23	15.46	20.63	21
4985 MHz	16.38	16.04	15.40	20.73	21

20MHz Channel Bandwidth Mode

Frequency	Power Density (dBm/MHz)			Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)
	Chain 1	Chain 2	Chain 3		
4950 MHz	15.33	15.59	15.24	20.16	21
4965 MHz	15.27	15.58	15.38	20.18	21
4980 MHz	15.37	16.19	15.85	20.59	21

Temperature	23°C	Humidity	63%
Test Engineer	Sean Ku	Test Site	TH01-CB
Test Mode	Mode 2		

5MHz Channel Bandwidth Mode

Frequency	Power Density (dBm/MHz)		Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)
	Chain 1	Chain 3		
4945 MHz	17.54	18.32	20.96	21
4965 MHz	17.20	18.03	20.65	21
4985 MHz	17.42	18.29	20.89	21

10MHz Channel Bandwidth Mode

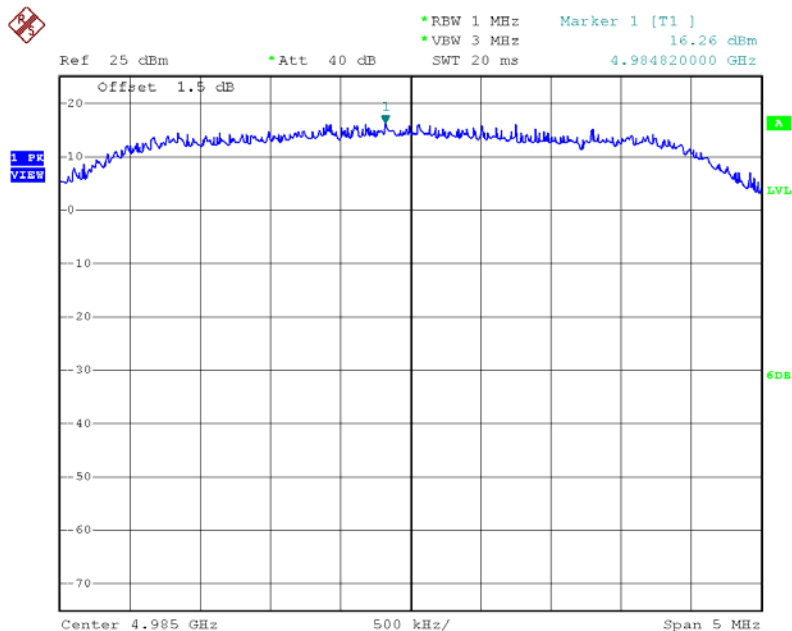
Frequency	Power Density (dBm/MHz)		Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)
	Chain 1	Chain 3		
4945 MHz	16.22	18.12	20.28	21
4965 MHz	16.63	17.96	20.36	21
4985 MHz	16.90	18.05	20.52	21

20MHz Channel Bandwidth Mode

Frequency	Power Density (dBm/MHz)		Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)
	Chain 1	Chain 3		
4950 MHz	16.20	17.71	20.03	21
4965 MHz	16.60	17.78	20.24	21
4980 MHz	16.32	18.04	20.27	21

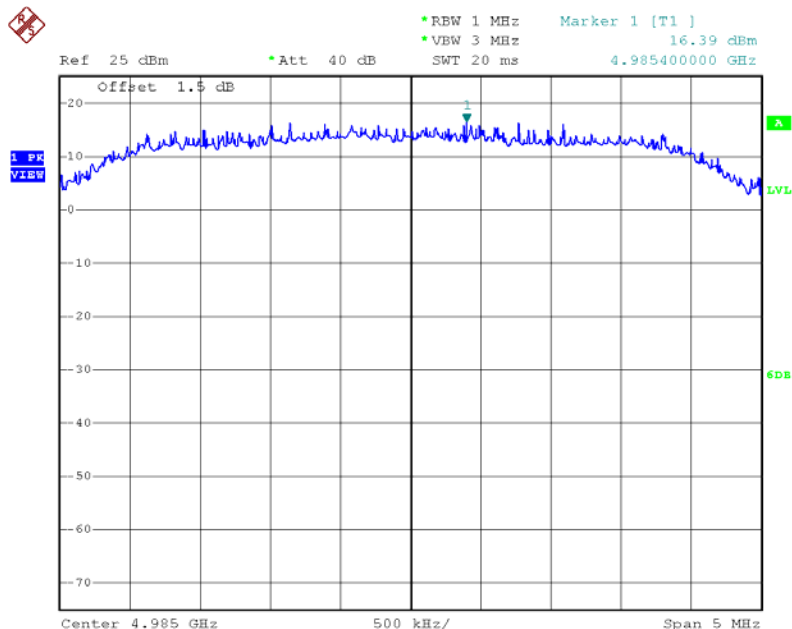
4.2.8. Test Plots of Peak Power Spectral Density

Peak Power Spectral Density (5 MHz BW Mode) - 4985MHz / Chain 1 / Mode 1



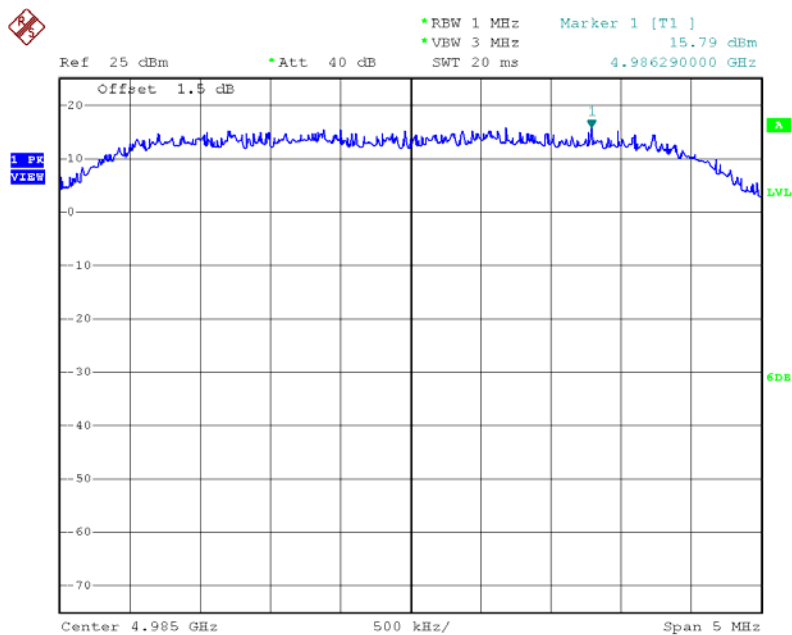
Date: 20.JUL.2012 21:10:54

Peak Power Spectral Density (5 MHz BW Mode) - 4985MHz / Chain 2 / Mode 1



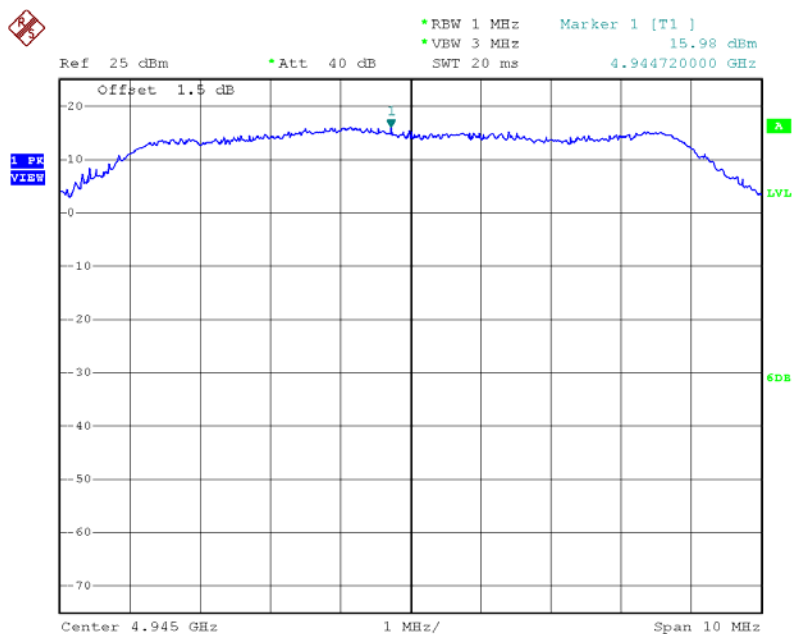
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Peak Power Spectral Density (5 MHz BW Mode) - 4985MHz / Chain 3 / Mode 1



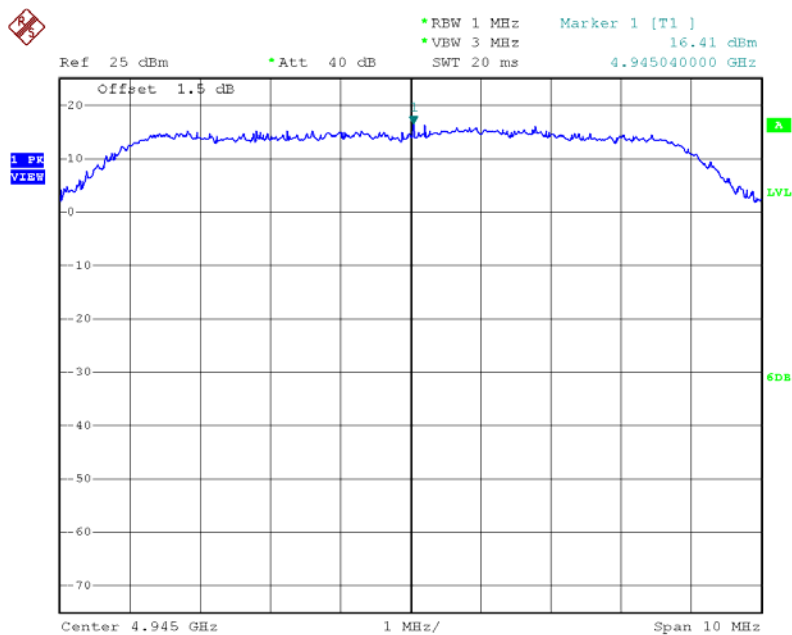
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Peak Power Spectral Density (10 MHz BW Mode) - 4945MHz / Chain 1 / Mode 1



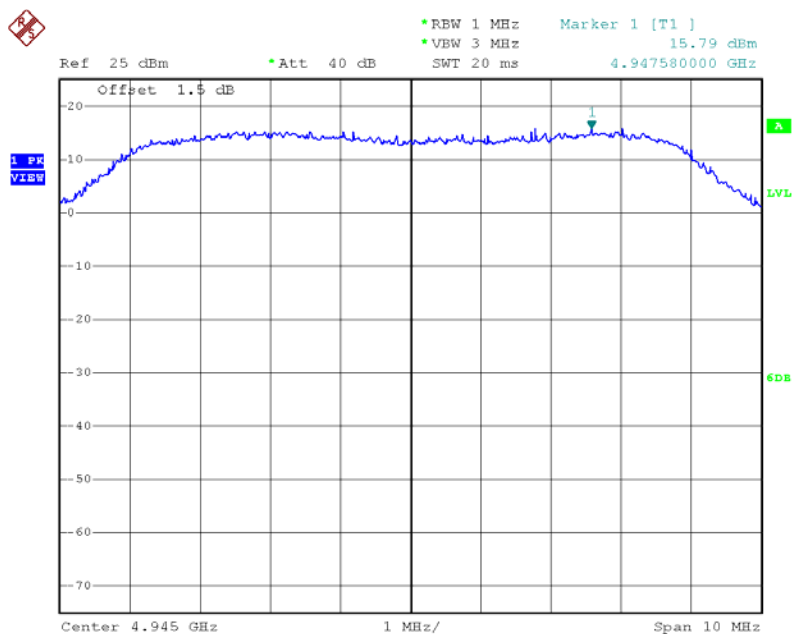
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Peak Power Spectral Density (10 MHz BW Mode) - 4945MHz / Chain 2 / Mode 1



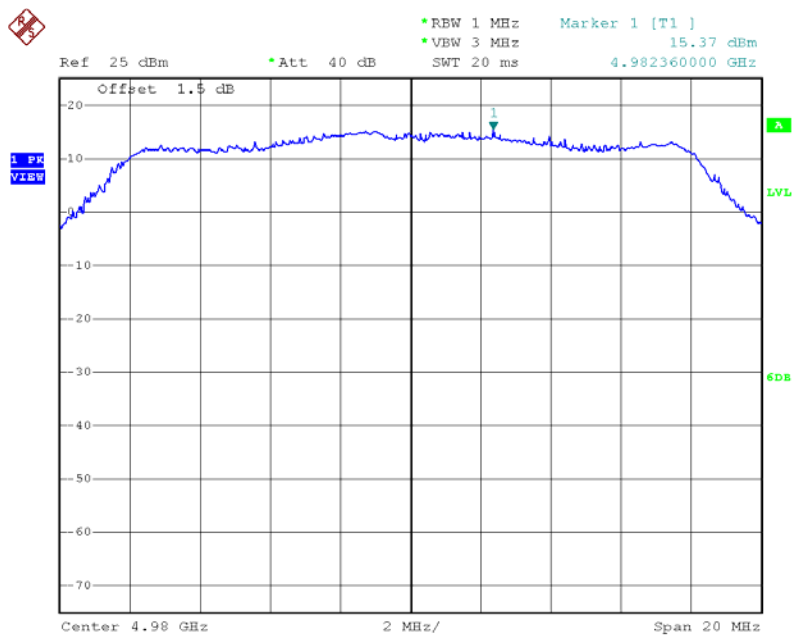
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Peak Power Spectral Density (10 MHz BW Mode) - 4945MHz / Chain 3 / Mode 1



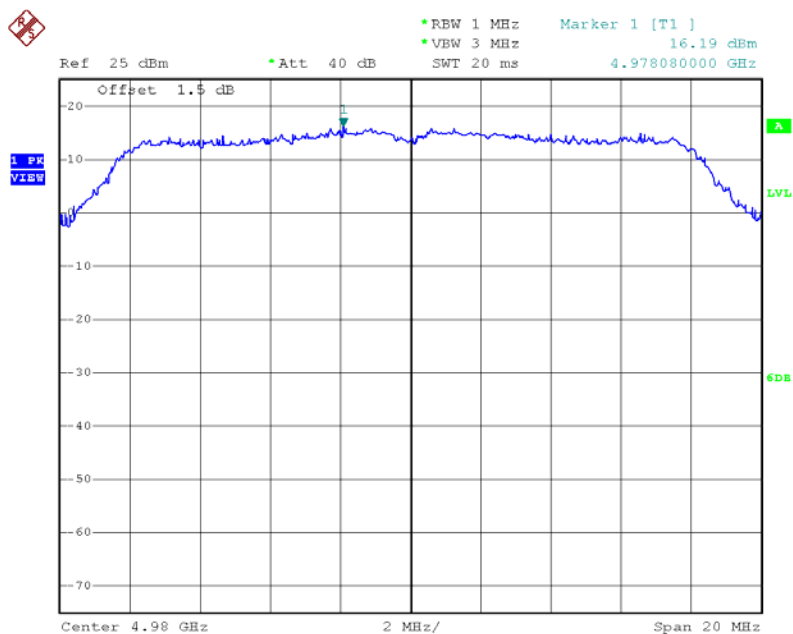
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Peak Power Spectral Density (20 MHz BW Mode) - 4980MHz / Chain 1 / Mode 1



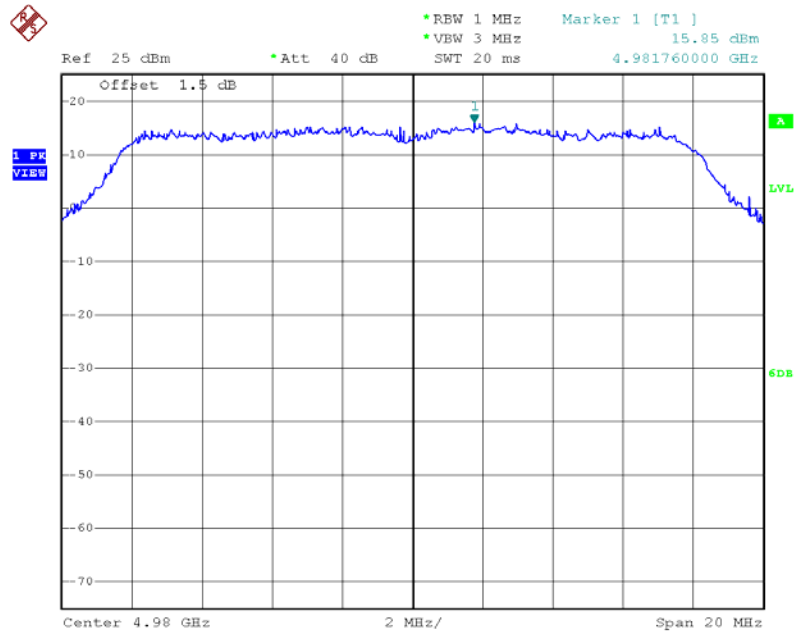
Date: 20.JUL.2012 22:01:36

Peak Power Spectral Density (20 MHz BW Mode) - 4980MHz / Chain 2 / Mode 1



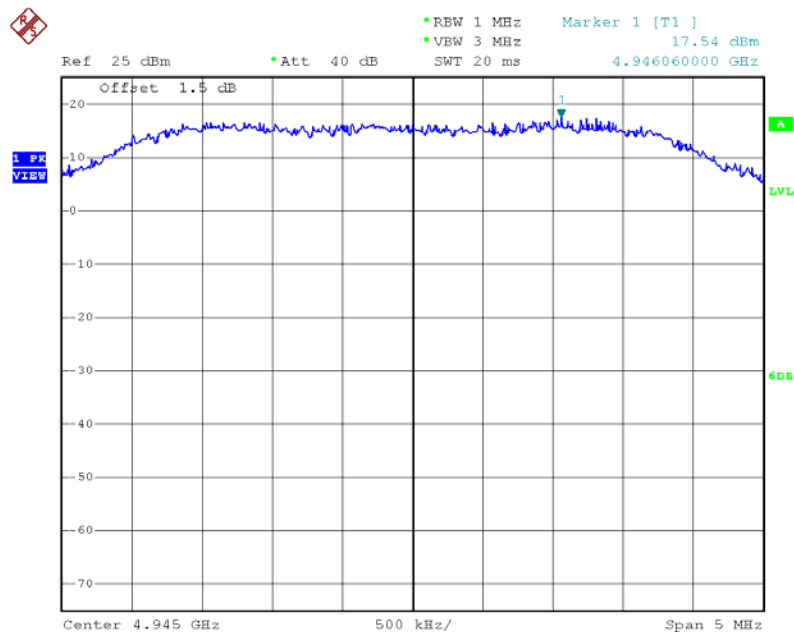
Date: 20.JUL.2012 22:01:11

Peak Power Spectral Density (20 MHz BW Mode) - 4980MHz / Chain 3 / Mode 1



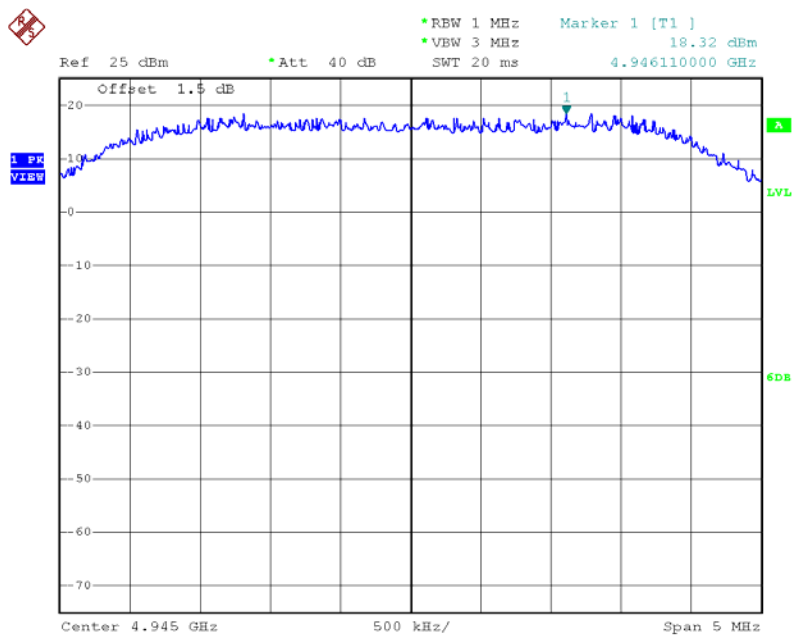
Date: 20.JUL.2012 22:00:42

Peak Power Spectral Density (5 MHz BW Mode) - 4945MHz / Chain 1 / Mode 2



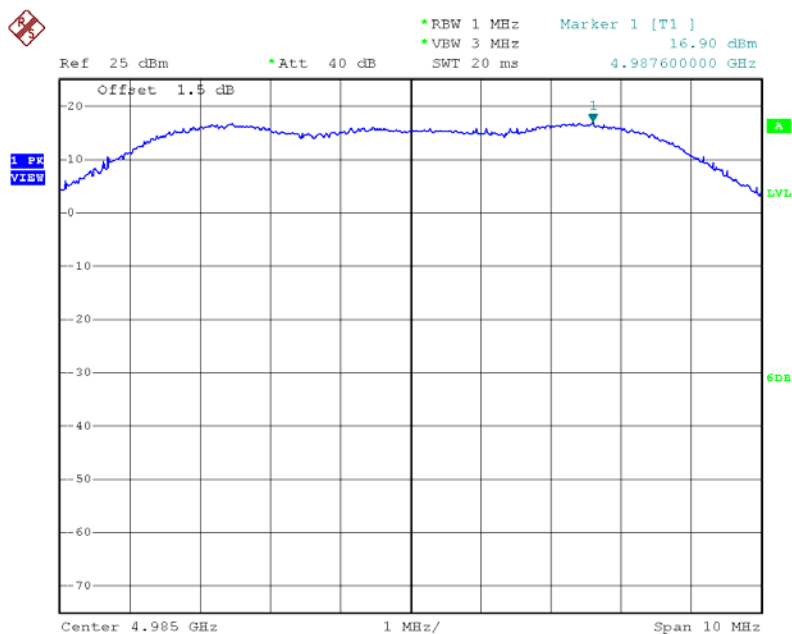
Date: 21.JUL.2012 00:09:22

Peak Power Spectral Density (5 MHz BW Mode) - 4945MHz / Chain 2 / Mode 2



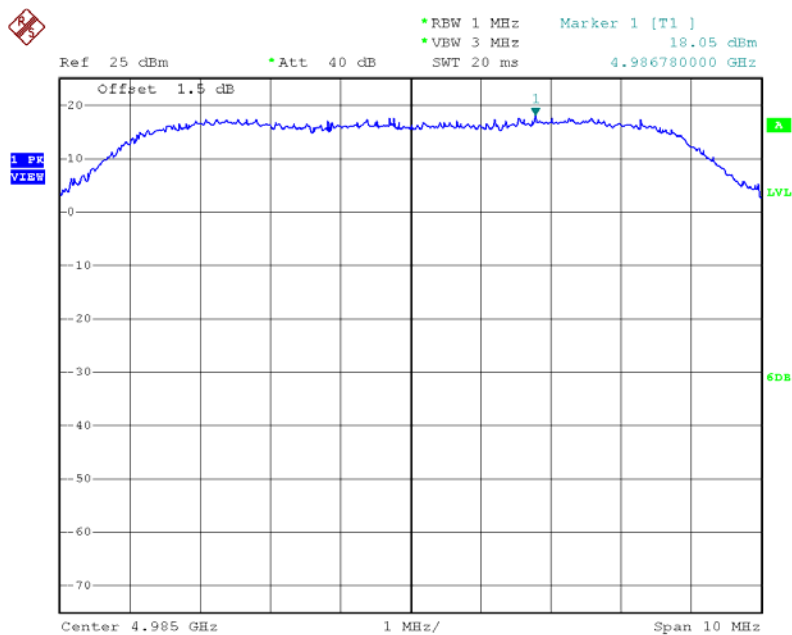
Date: 21.JUL.2012 00:11:27

Peak Power Spectral Density (10 MHz BW Mode) - 4985MHz / Chain 1 / Mode 2



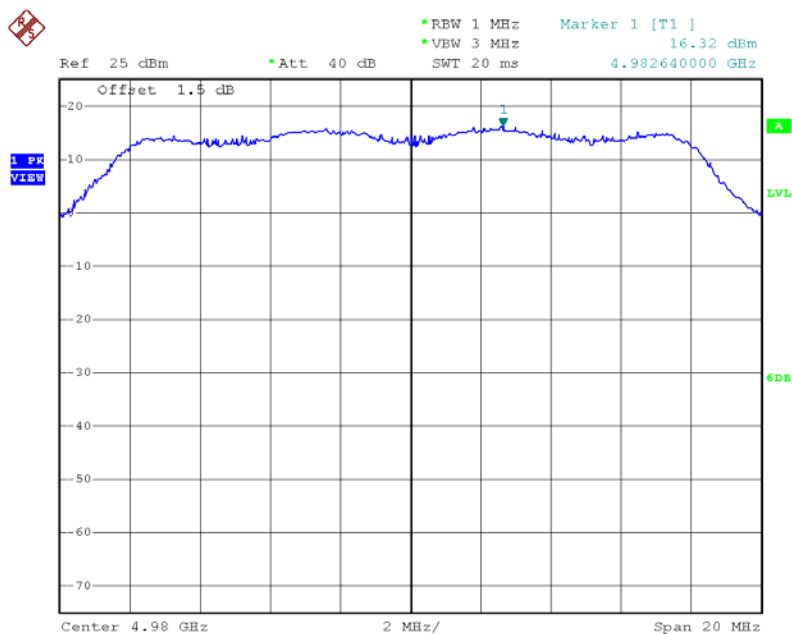
Date: 21.JUL.2012 00:02:55

Peak Power Spectral Density (10 MHz BW Mode) - 4985MHz / Chain 2 / Mode 2



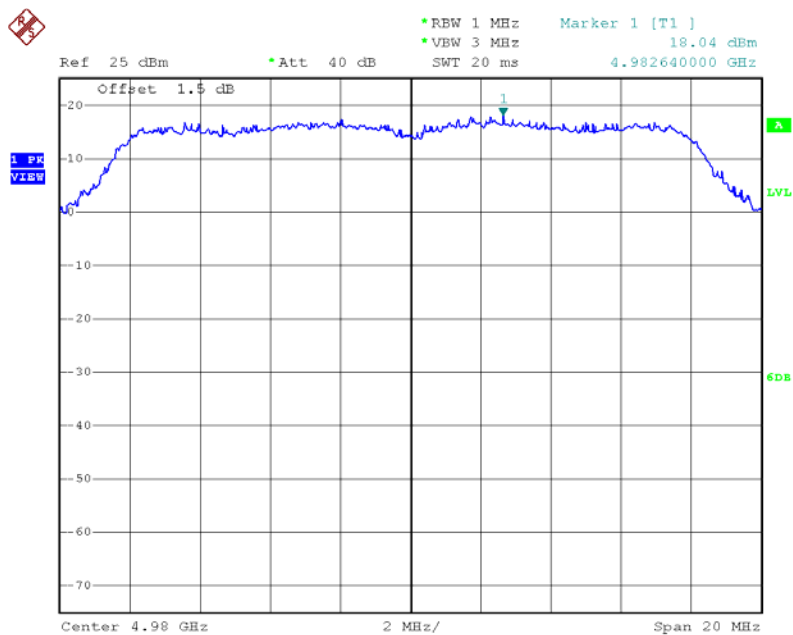
Date: 21.JUL.2012 00:03:17

Peak Power Spectral Density (20 MHz BW Mode) - 4980MHz / Chain 1 / Mode 2



Date: 20.JUL.2012 23:58:25

Peak Power Spectral Density (20 MHz BW Mode) - 4980MHz / Chain 2 / Mode 2



Date: 20.JUL.2012 23:58:03

4.3. Occupied Bandwidth and Emission Mask Measurement

4.3.1. Limit

Emission Mask M: For high power transmitters (greater than 20 dBm) operating in the 4940-4990 MHz frequency band, the power spectral density of the emissions must be attenuated below the output power of the transmitter as follows:

- (1) On any frequency removed from the assigned frequency between 0–45% of the authorized bandwidth (BW): 0 dB
- (2) On any frequency removed from the assigned frequency between 45–50% of the authorized bandwidth: $56.8 \log (\% \text{ of (BW)/45})$ dB.
- (3) On any frequency removed from the assigned frequency between 50–55% of the authorized bandwidth: $26 + 14.5 \log (\% \text{ of (BW)/50})$ dB.
- (4) On any frequency removed from the assigned frequency between 55–100% of the authorized bandwidth: $32 + 3.1 \log (\% \text{ of (BW)/55})$ dB attenuation.
- (5) On any frequency removed from the assigned frequency between 100–150% of the authorized bandwidth: $40 + 5.7 \log (\% \text{ of (BW)/100})$ dB attenuation.
- (6) On any frequency removed from the assigned frequency above 150% of the authorized bandwidth: 50 or $55 + 10 \log (P)$ dB, whichever is the lesser attenuation. (P in watts)

The zero dB reference is measured relative to the highest average power of the fundamental emission measured across the designated channel bandwidth using a resolution bandwidth of at least 1% of the occupied bandwidth of the fundamental emission and a video bandwidth of 30 kHz. The power spectral density is the power measured within the resolution bandwidth of the measurement device divided by the resolution bandwidth of the measurement device. Emission levels are also based on the use of measurement instrumentation employing a resolution bandwidth of at least one percent of the occupied bandwidth.

4.3.2. Measuring Instruments and Setting

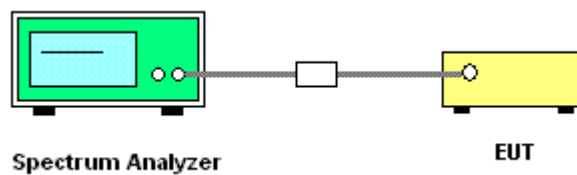
Please refer to section 5 in this report. The following table is the setting of the spectrum.

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	Encompass the entire emissions bandwidth of the signal
RB	at least 1% of the occupied bandwidth
VB	BW=3 x RB, Mask=30kHz
Detector	Peak
Trace	Max Hold

4.3.3. Test Procedures

1. The EUT transmitter was connected to a spectrum analyzer through an appropriate 50 ohm attenuator. Used measurement function of spectrum to measure the 99% occupied bandwidth.
2. The reference level for the mask was set using the highest average power of the fundamental emission measured across the channel bandwidth using a RBW of at least 1% of the occupied bandwidth of the fundamental emission and a VBW of 30 kHz.

4.3.4. Test Setup Layout



4.3.5. Test Deviation

There is no deviation with the original standard.

4.3.6. Test Result of 99% Occupied Bandwidth (OBW)

Temperature	23°C	Humidity	63%
Test Engineer	Sean Ku	Test Site	TH01-CB
Test Mode	Mode 1		

5MHz Channel Bandwidth Mode		
Frequency	26dB Bandwidth (MHz)	99% OBW (MHz)
4945 MHz	7.44	5.40
4965 MHz	7.86	5.28
4985 MHz	7.26	5.28

10MHz Channel Bandwidth Mode		
Frequency	26dB Bandwidth (MHz)	99% OBW (MHz)
4945 MHz	14.02	9.60
4965 MHz	14.18	9.96
4985 MHz	14.46	9.48

20MHz Channel Bandwidth Mode		
Frequency	26dB Bandwidth (MHz)	99% OBW (MHz)
4950 MHz	22.80	17.20
4965 MHz	22.20	17.20
4980 MHz	22.80	17.20

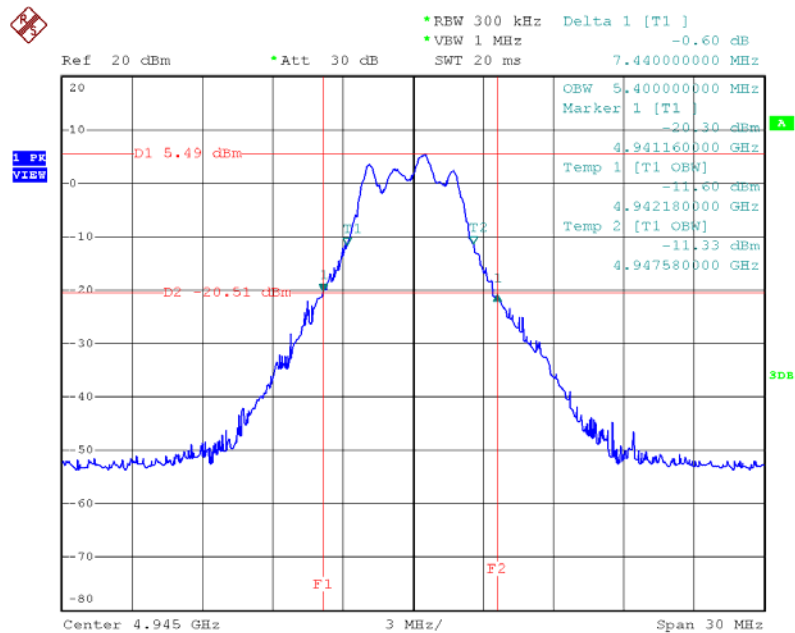
Temperature	23°C	Humidity	63%
Test Engineer	Sean Ku	Test Site	TH01-CB
Test Mode	Mode 2		

5MHz Channel Bandwidth Mode		
Frequency	26dB Bandwidth (MHz)	99% OBW (MHz)
4945 MHz	8.14	5.34
4965 MHz	8.16	5.34
4985 MHz	7.86	5.28

10MHz Channel Bandwidth Mode		
Frequency	26dB Bandwidth (MHz)	99% OBW (MHz)
4945 MHz	14.16	9.84
4965 MHz	14.18	9.24
4985 MHz	14.34	9.24

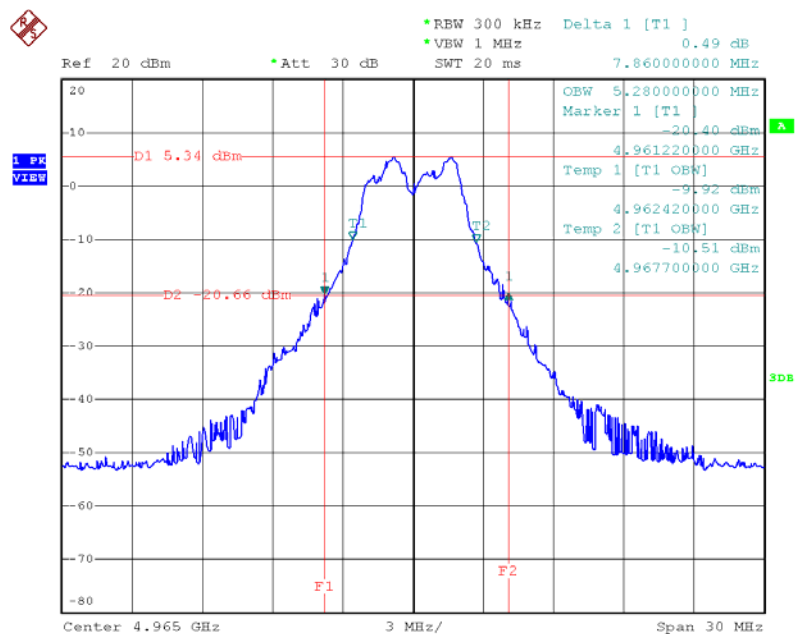
20MHz Channel Bandwidth Mode		
Frequency	26dB Bandwidth (MHz)	99% OBW (MHz)
4950 MHz	23.90	17.20
4965 MHz	22.30	16.80
4980 MHz	21.90	16.80

99% Occupied Bandwidth (5MHz BW Mode) - 4945MHz / Mode 1



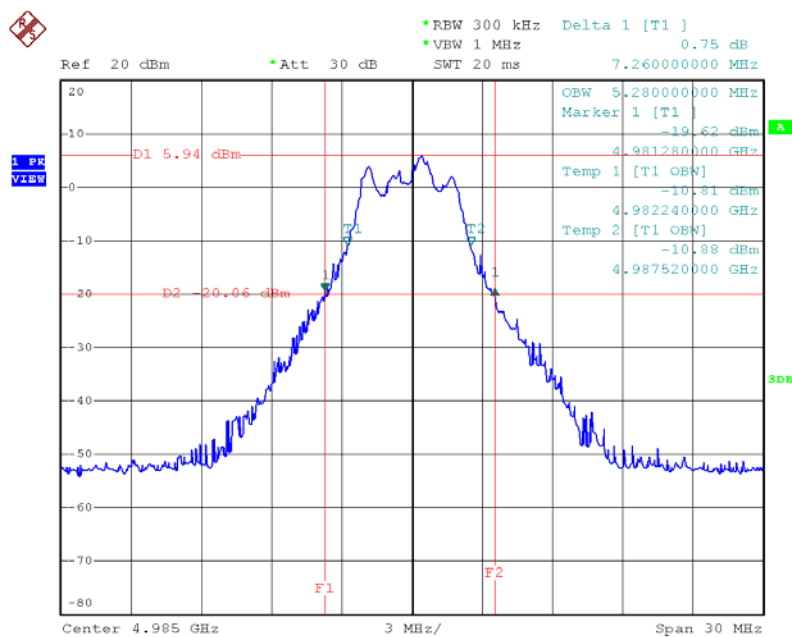
Date: 16.JUL.2012 22:51:31

99% Occupied Bandwidth (5MHz BW Mode) - 4965MHz / Mode 1



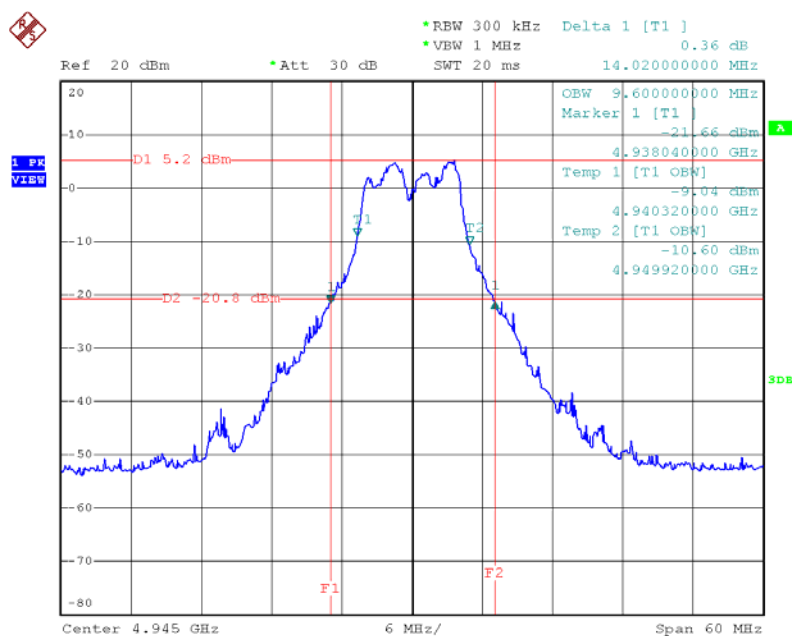
Date: 16.JUL.2012 22:54:09

99% Occupied Bandwidth (5MHz BW Mode) - 4985MHz / Mode 1



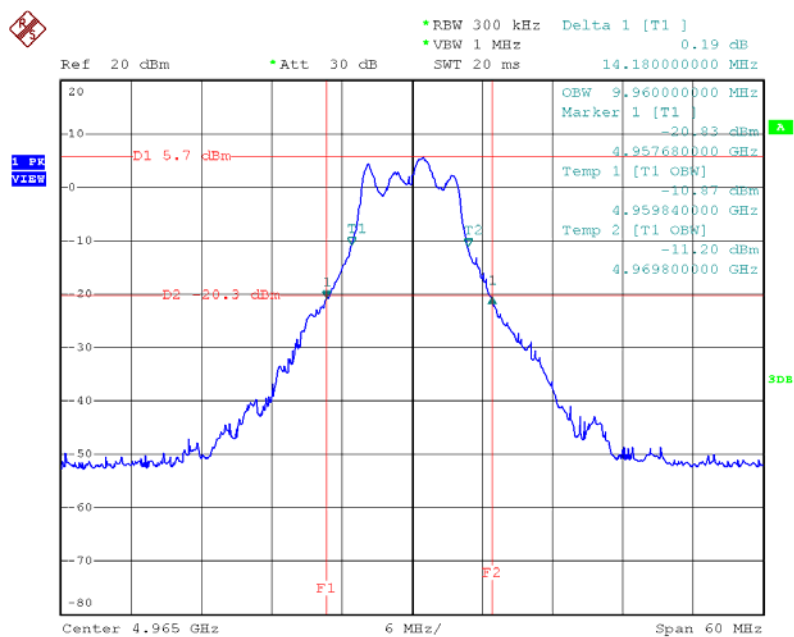
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99% Occupied Bandwidth (10MHz BW Mode) - 4945MHz / Mode 1



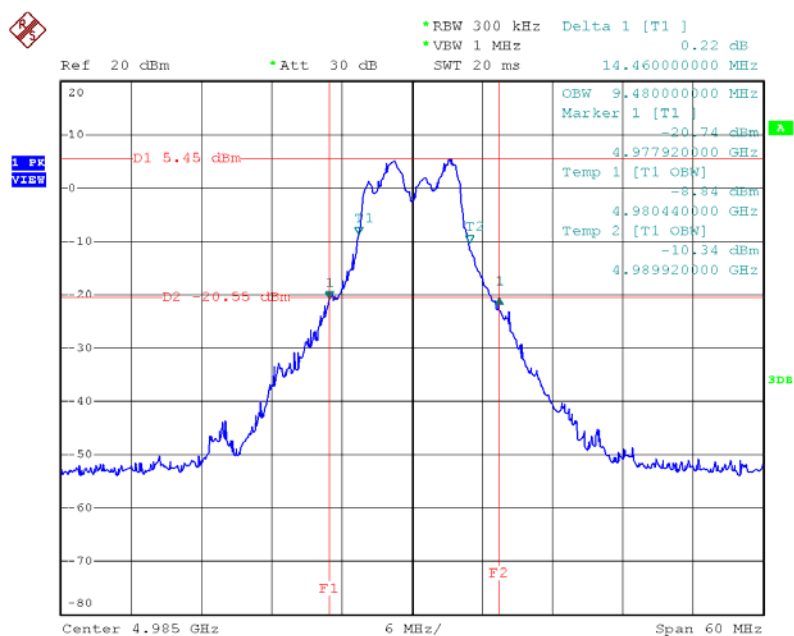
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99% Occupied Bandwidth (10MHz BW Mode) - 4965MHz / Mode 1



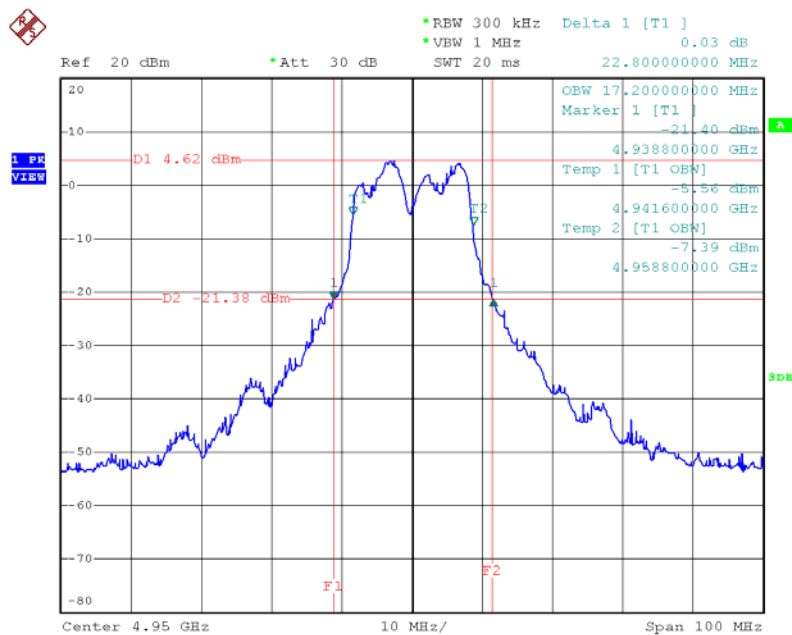
Date: 16.JUL.2012 23:39:26

99% Occupied Bandwidth (10MHz BW Mode) - 4985MHz / Mode 1



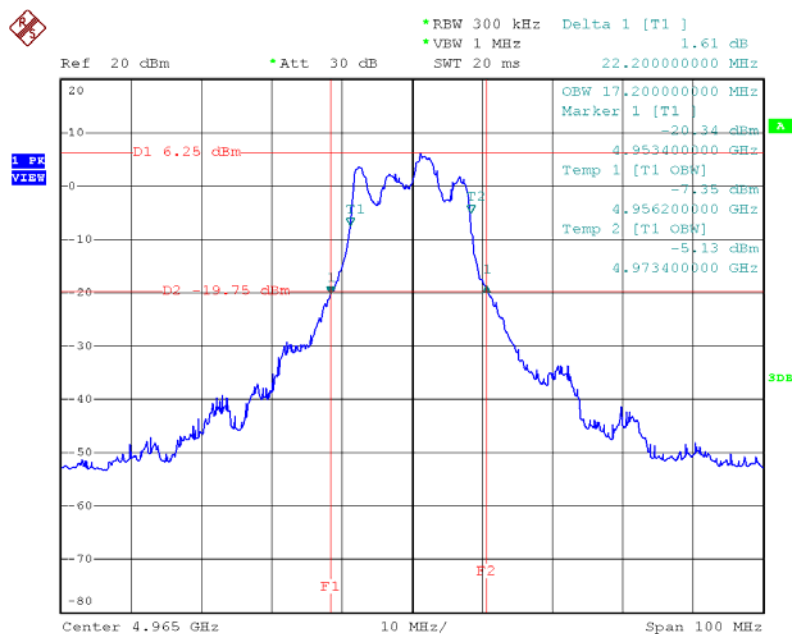
Date: 16.JUL.2012 23:41:17

99% Occupied Bandwidth (20MHz BW Mode) - 4950MHz / Mode 1



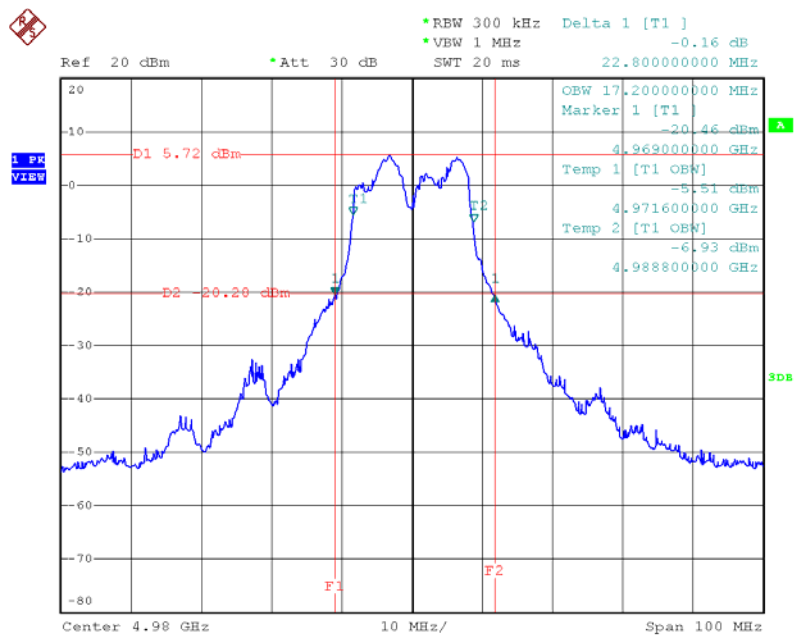
Date: 16.JUL.2012 23:24:18

99% Occupied Bandwidth (20MHz BW Mode) - 4965MHz / Mode 1



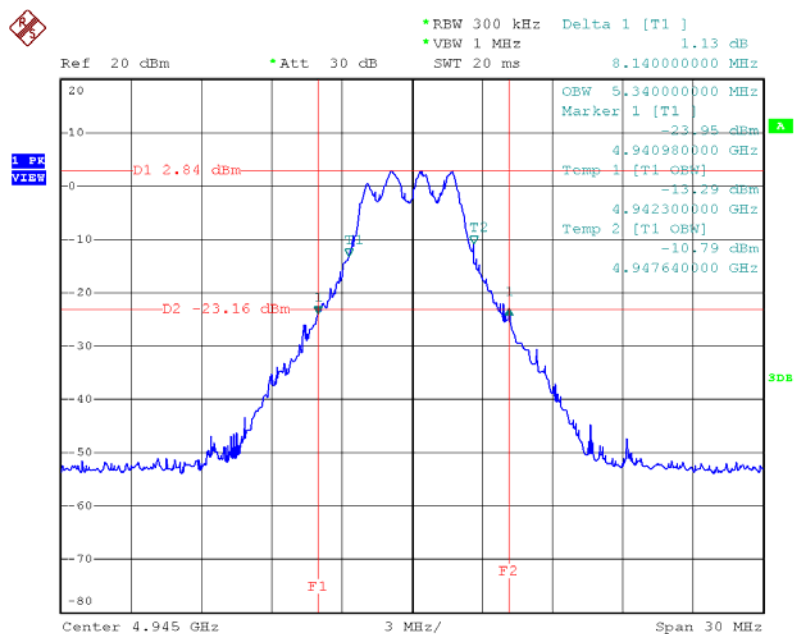
Date: 16.JUL.2012 23:26:20

99% Occupied Bandwidth (20MHz BW Mode) - 4980MHz / Mode 1



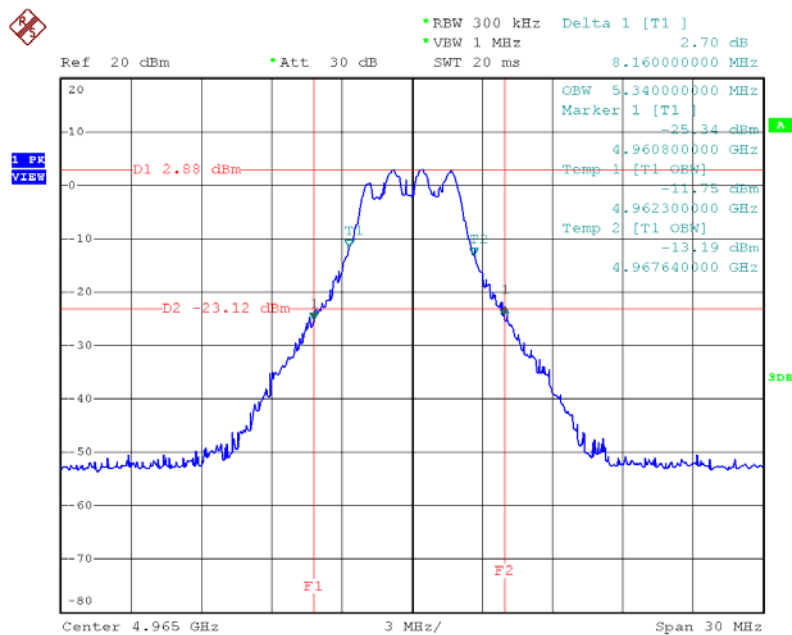
Date: 16.JUL.2012 23:28:59

99% Occupied Bandwidth (5MHz BW Mode) - 4945MHz / Mode 2



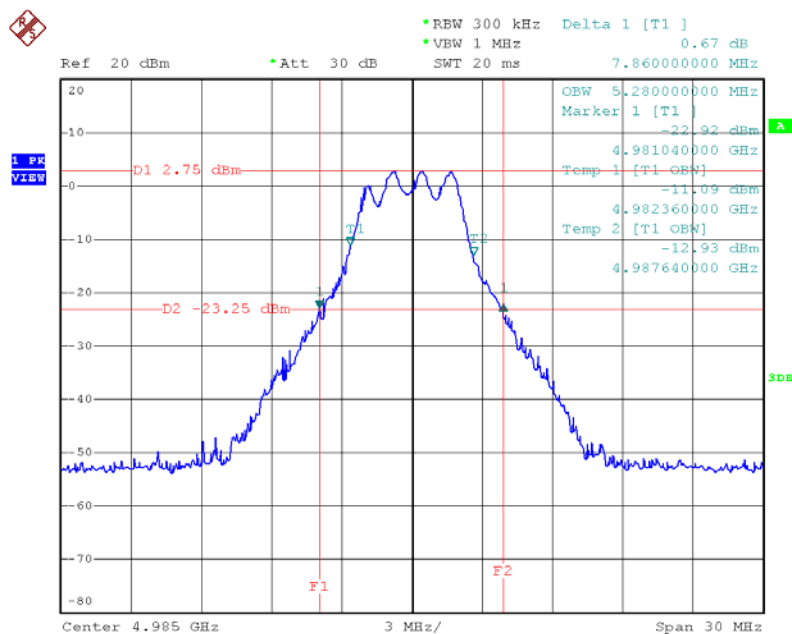
Date: 16.JUL.2012 23:53:25

99% Occupied Bandwidth (5MHz BW Mode) - 4965MHz / Mode 2



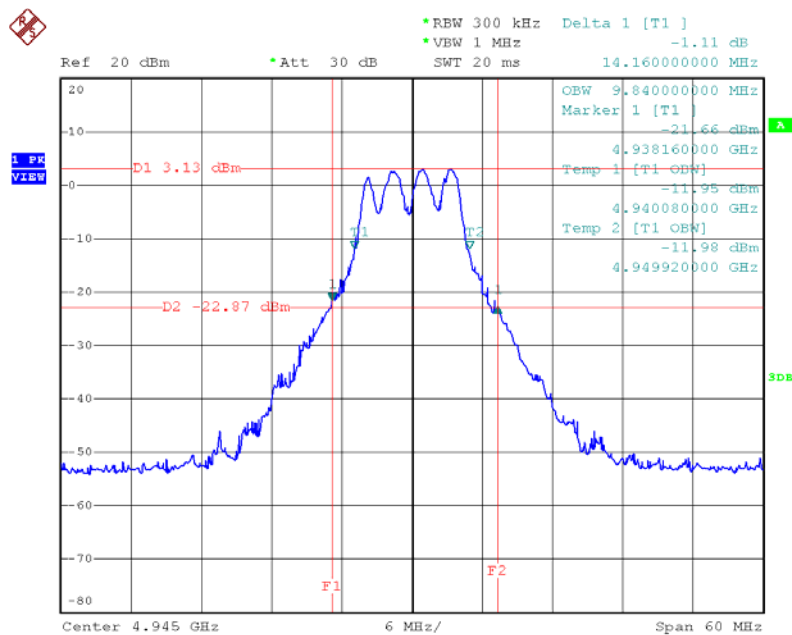
Date: 16.JUL.2012 23:55:05

99% Occupied Bandwidth (5MHz BW Mode) - 4985MHz / Mode 2



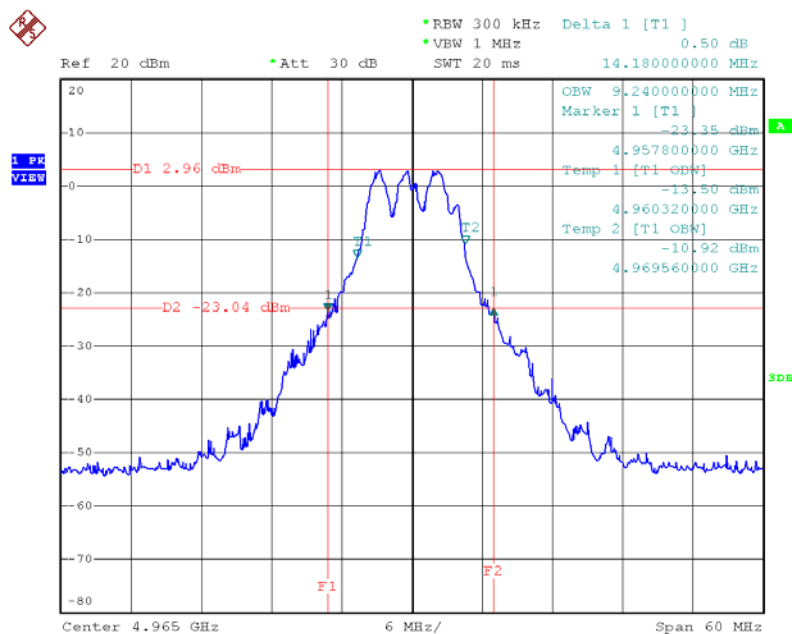
Date: 16.JUL.2012 23:56:34

99% Occupied Bandwidth (10MHz BW Mode) - 4945MHz / Mode 2



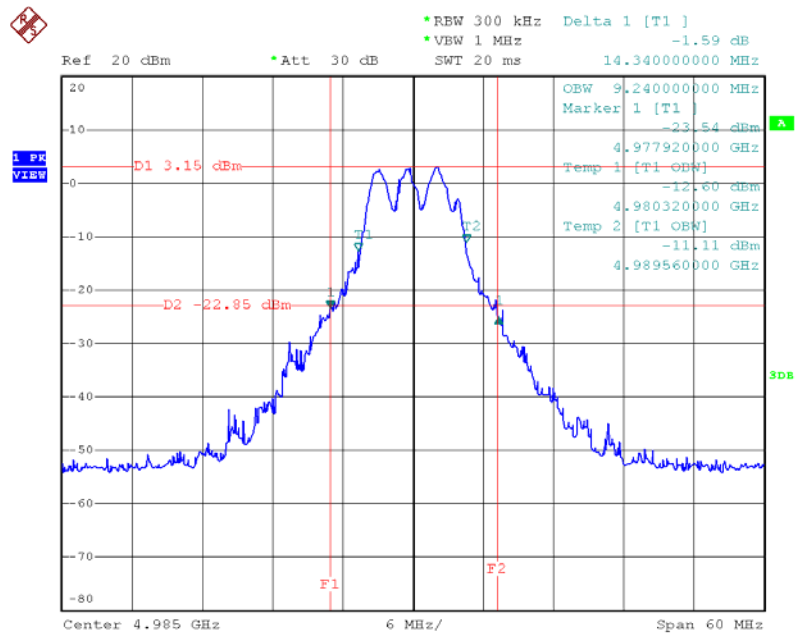
Date: 16.JUL.2012 23:49:44

99% Occupied Bandwidth (10MHz BW Mode) - 4965MHz / Mode 2



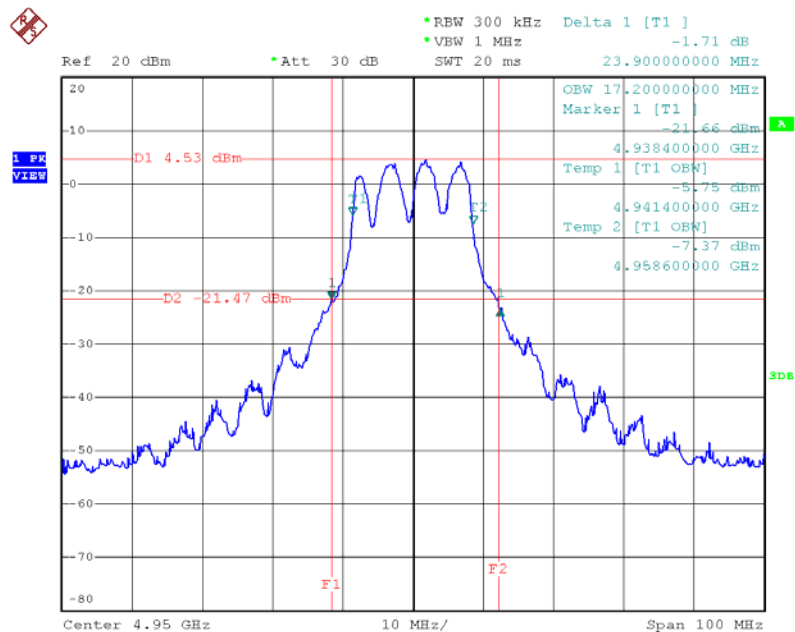
Date: 16.JUL.2012 23:47:58

99% Occupied Bandwidth (10MHz BW Mode) - 4985MHz / Mode 2



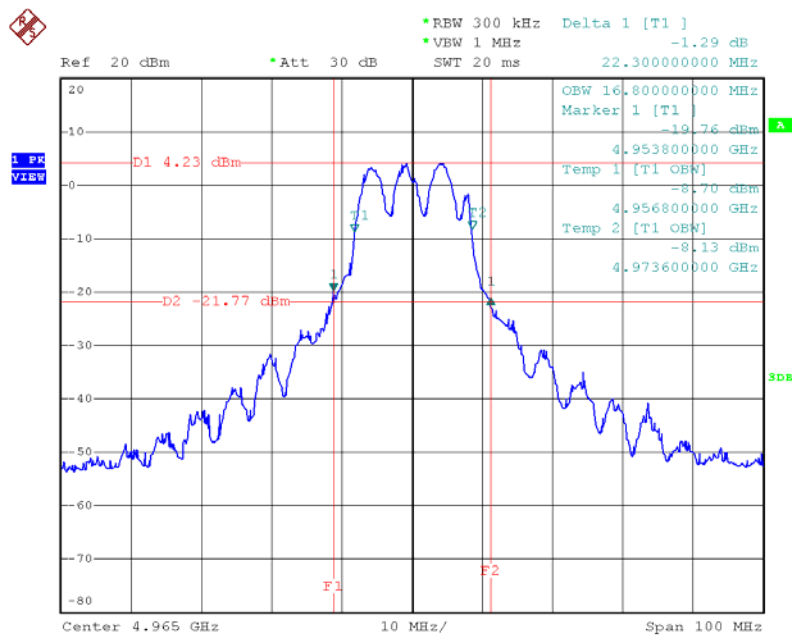
Date: 16.JUL.2012 23:46:24

99% Occupied Bandwidth (20MHz BW Mode) - 4950MHz / Mode 2



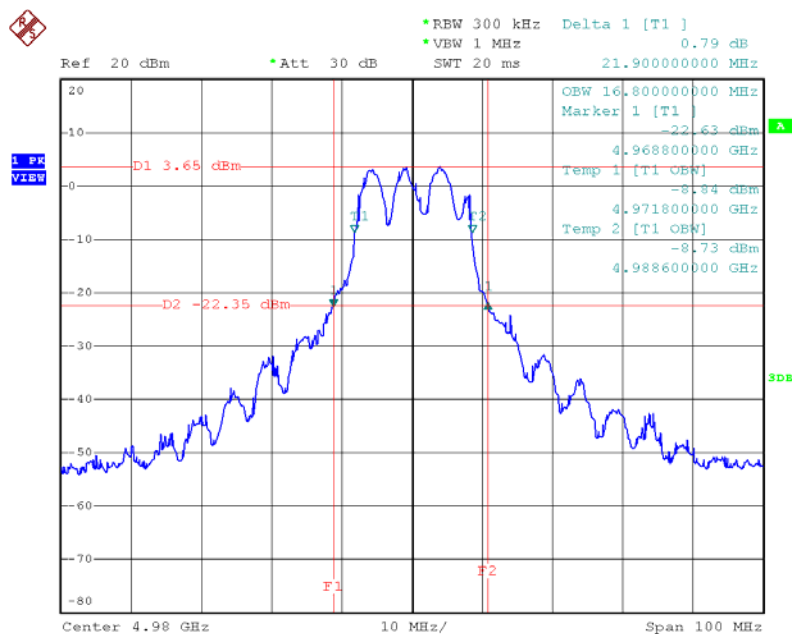
Date: 17.JUL.2012 00:03:35

99% Occupied Bandwidth (20MHz BW Mode) - 4965MHz / Mode 2



Date: 17.JUL.2012 00:01:44

99% Occupied Bandwidth (20MHz BW Mode) - 4980MHz / Mode 2



Date: 16.JUL.2012 23:59:58

4.3.7. Emission Mask Measurements

Reference Level Measurements

Temperature	23°C	Humidity	63%
Test Engineer	Sean Ku	Test Site	TH01-CB
Test Mode	Mode 1		

5MHz Channel Bandwidth Mode			
Frequency	Ref. Level (dBm)		
	Chain 1	Chain 2	Chain 3
4945 MHz	20.14	20.15	20.22
4965 MHz	20.42	20.26	20.05
4985 MHz	20.29	20.19	20.09

10MHz Channel Bandwidth Mode			
Frequency	Ref. Level (dBm)		
	Chain 1	Chain 2	Chain 3
4945 MHz	23.47	22.98	23.01
4965 MHz	23.59	23.95	23.95
4985 MHz	23.29	23.86	23.29

20MHz Channel Bandwidth Mode			
Frequency	Ref. Level (dBm)		
	Chain 1	Chain 2	Chain 3
4950 MHz	24.77	24.73	23.15
4965 MHz	24.51	24.94	23.03
4980 MHz	25.32	25.38	24.59

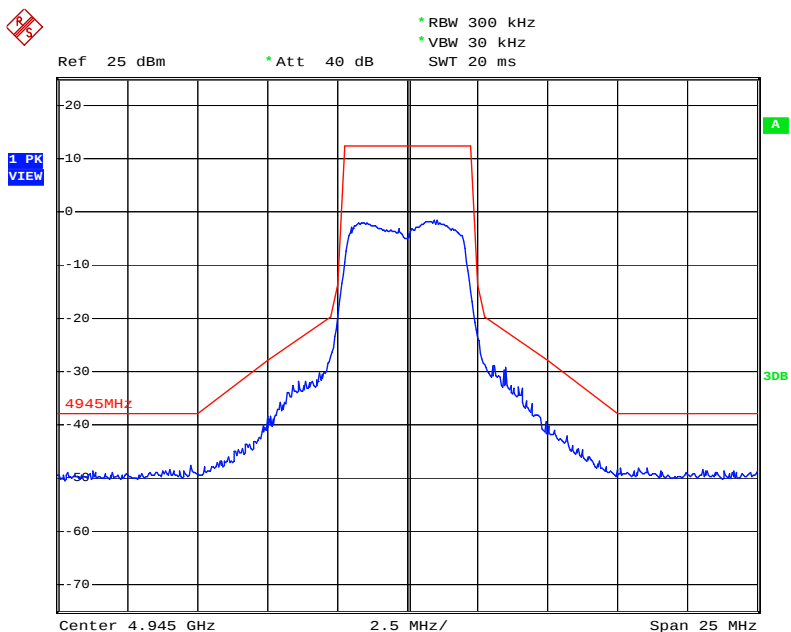
Temperature	23°C	Humidity	63%
Test Engineer	Sean Ku	Test Site	TH01-CB
Test Mode	Mode 2		

5MHz Channel Bandwidth Mode		
Frequency	Ref. Level (dBm)	
	Chain 1	Chain 3
4945 MHz	21.05	22.32
4965 MHz	21.25	22.21
4985 MHz	21.32	22.28

10MHz Channel Bandwidth Mode		
Frequency	Ref. Level (dBm)	
	Chain 1	Chain 3
4945 MHz	24.16	24.53
4965 MHz	24.29	24.66
4985 MHz	24.32	24.68

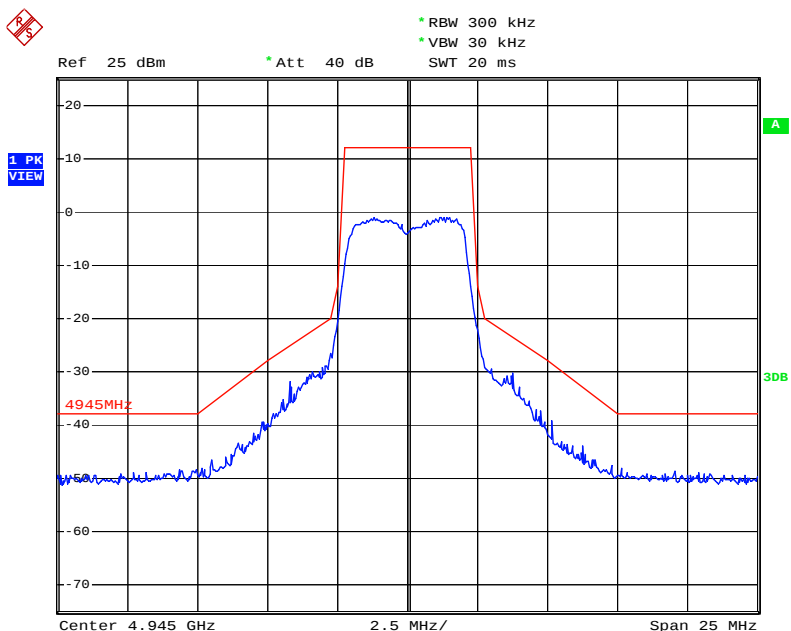
20MHz Channel Bandwidth Mode		
Frequency	Ref. Level (dBm)	
	Chain 1	Chain 3
4950 MHz	25.68	25.85
4965 MHz	25.71	25.91
4980 MHz	25.29	25.61

Emission Mask (5MHz BW Mode) - 4945MHz / Chain 1 / Mode 1



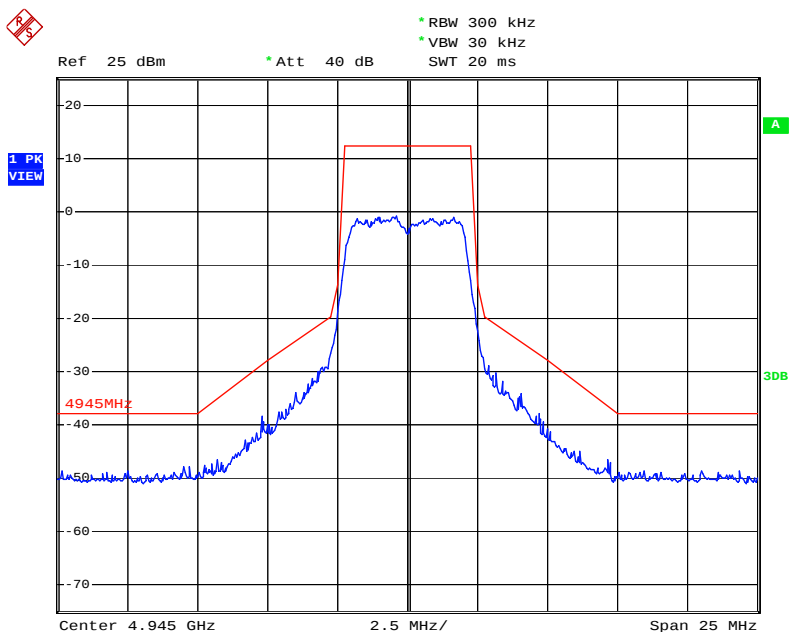
Date: 21.JUL.2012 10:02:17

Emission Mask (5MHz BW Mode) - 4945MHz / Chain 2 / Mode 1



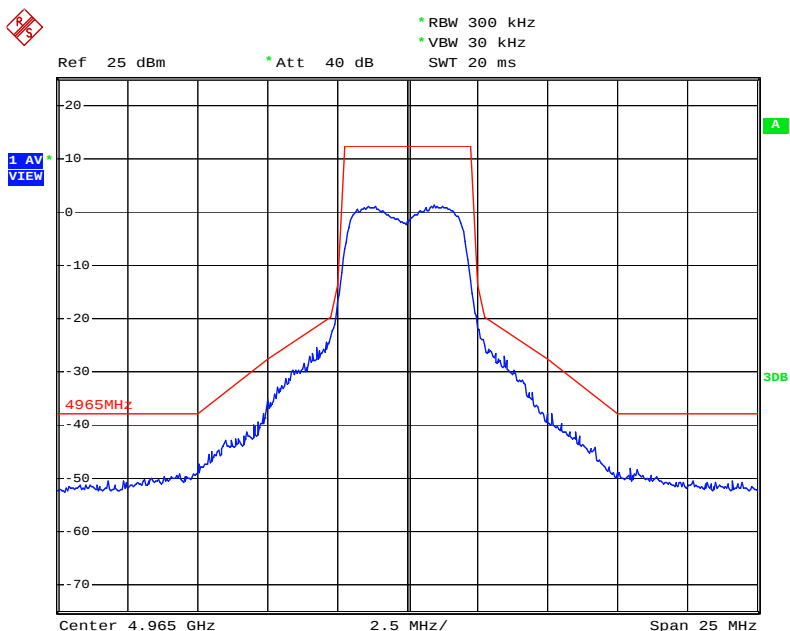
Date: 21.JUL.2012 10:03:55

Emission Mask (5MHz BW Mode) - 4945MHz / Chain 3 / Mode 1



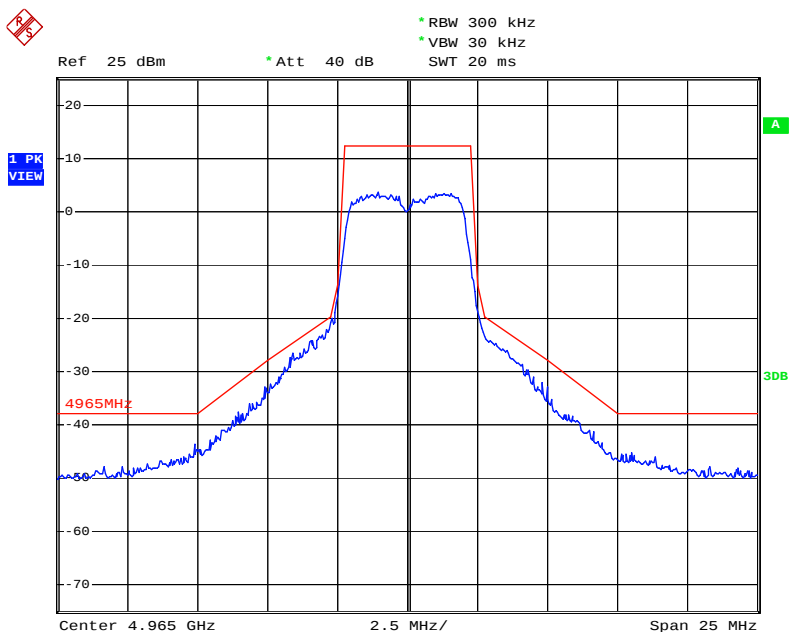
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Emission Mask (5MHz BW Mode) - 4965MHz / Chain 1 / Mode 1



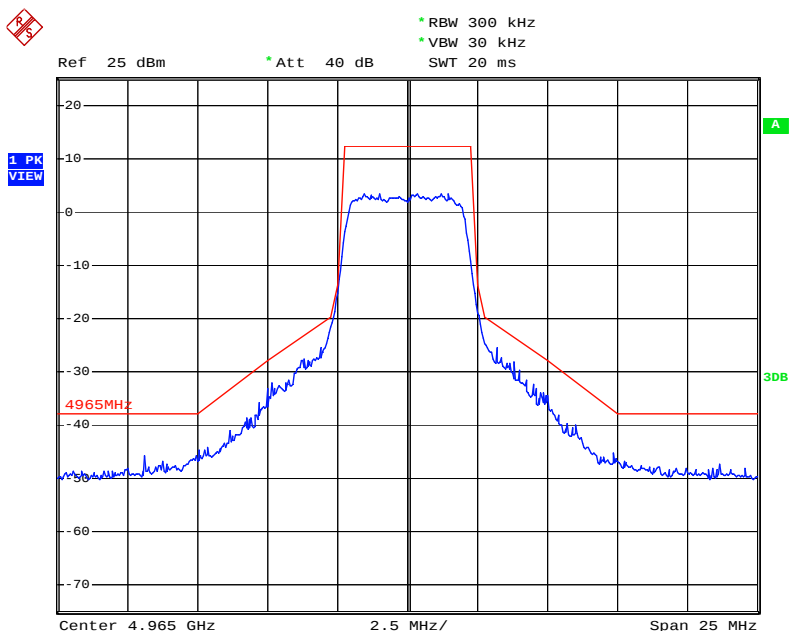
Date: 21.JUL.2012 10:09:01

Emission Mask (5MHz BW Mode) - 4965MHz / Chain 2 / Mode 1



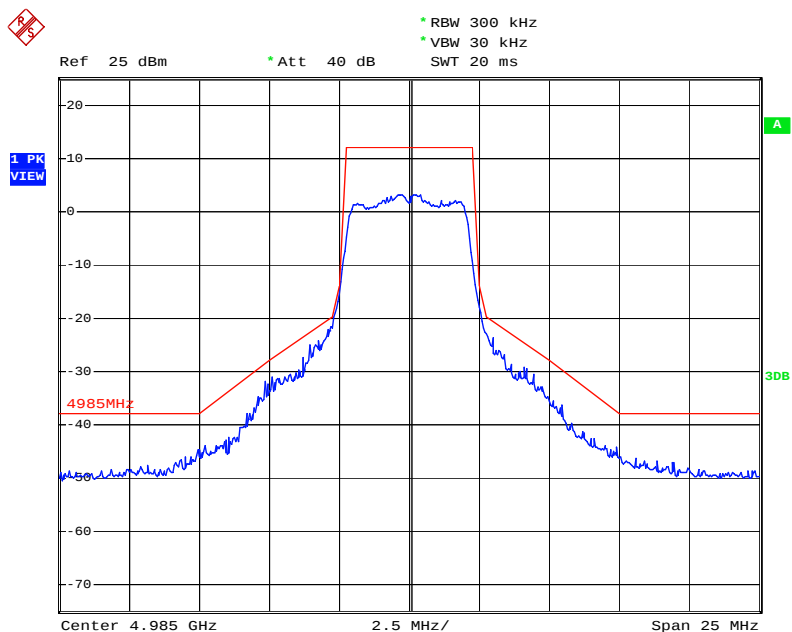
Date: 21.JUL.2012 10:07:52

Emission Mask (5MHz BW Mode) - 4965MHz / Chain 3 / Mode 1



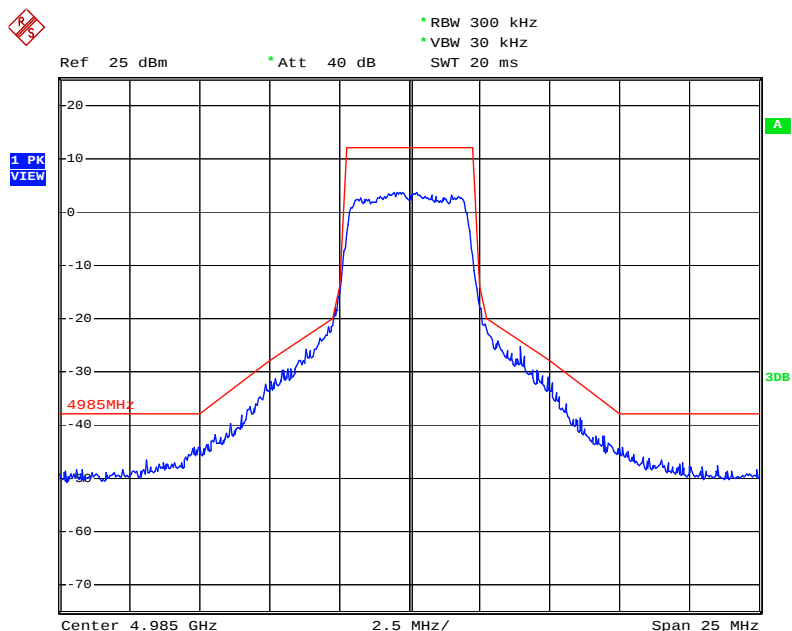
Date: 21.JUL.2012 10:07:02

Emission Mask (5MHz BW Mode) - 4985MHz / Chain 1 / Mode 1



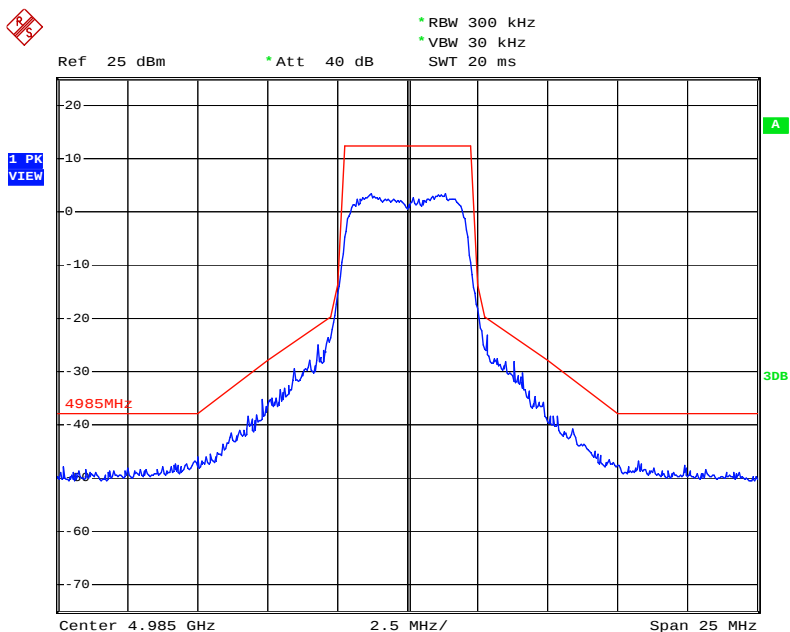
Date: 21.JUL.2012 10:11:20

Emission Mask (5MHz BW Mode) - 4985MHz / Chain 2 / Mode 1



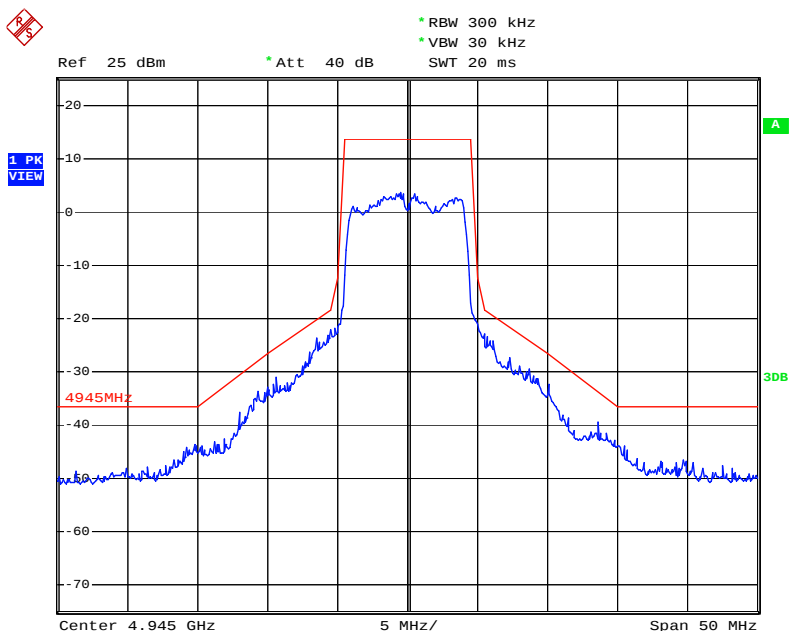
Date: 21.JUL.2012 10:12:33

Emission Mask (5MHz BW Mode) - 4985MHz / Chain 3 / Mode 1



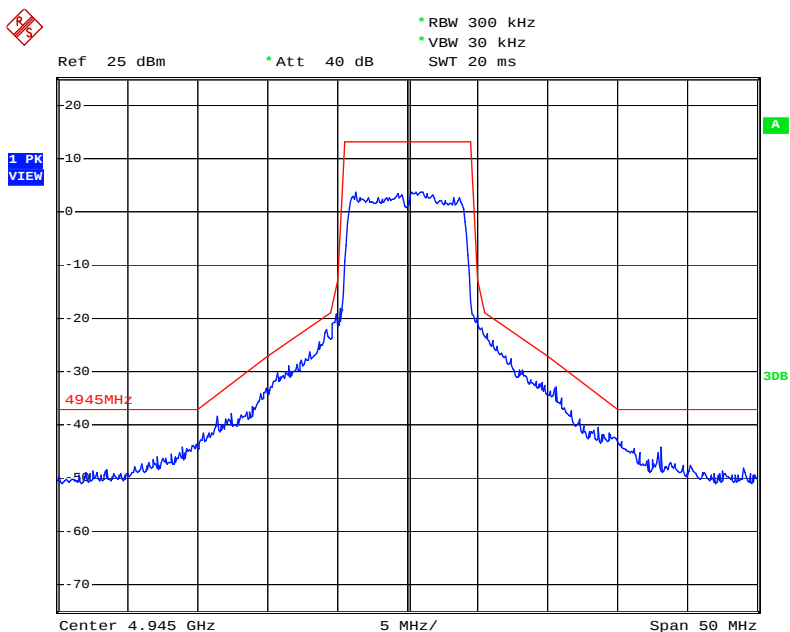
Date: 21.JUL.2012 10:13:38

Emission Mask (10MHz BW Mode) - 4945MHz / Chain 1 / Mode 1



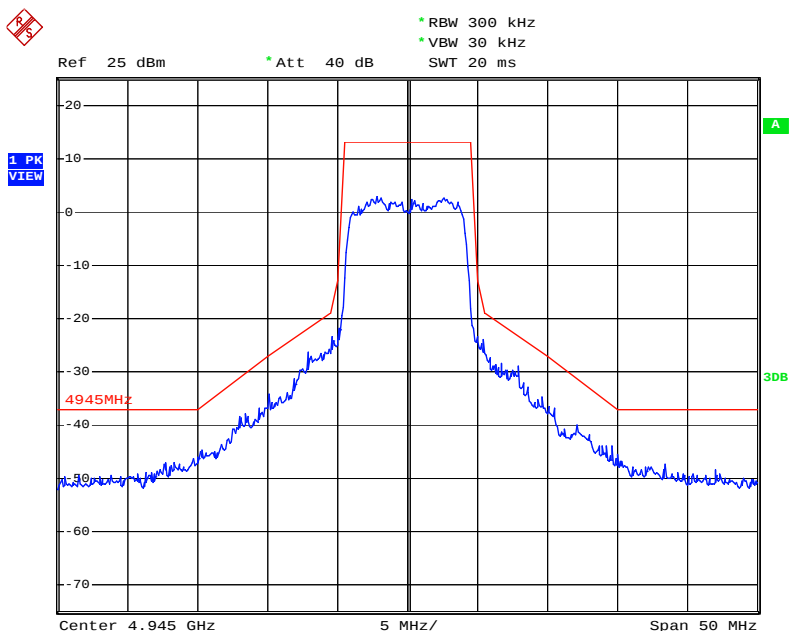
Date: 21.JUL.2012 01:35:56

Emission Mask (10MHz BW Mode) - 4945MHz / Chain 2 / Mode 1



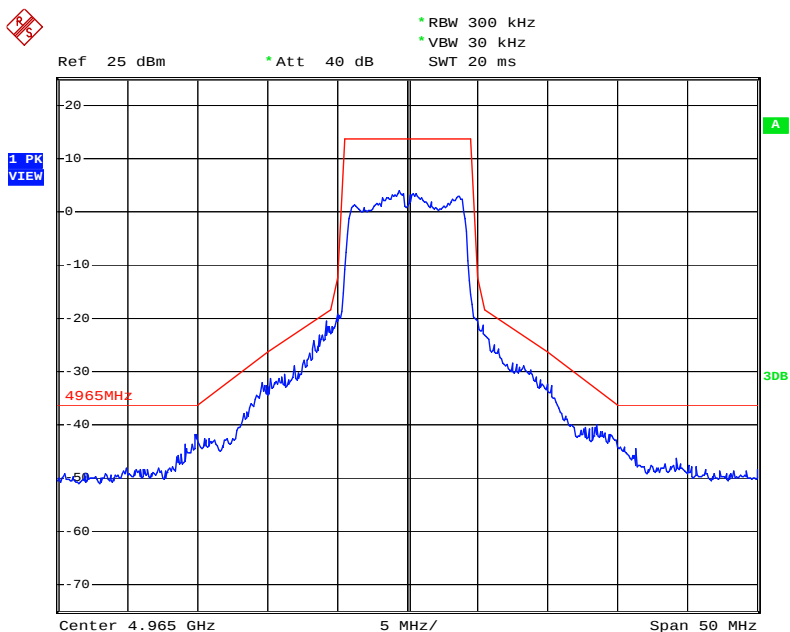
Date: 21.JUL.2012 01:35:24

Emission Mask (10MHz BW Mode) - 4945MHz / Chain 3 / Mode 1



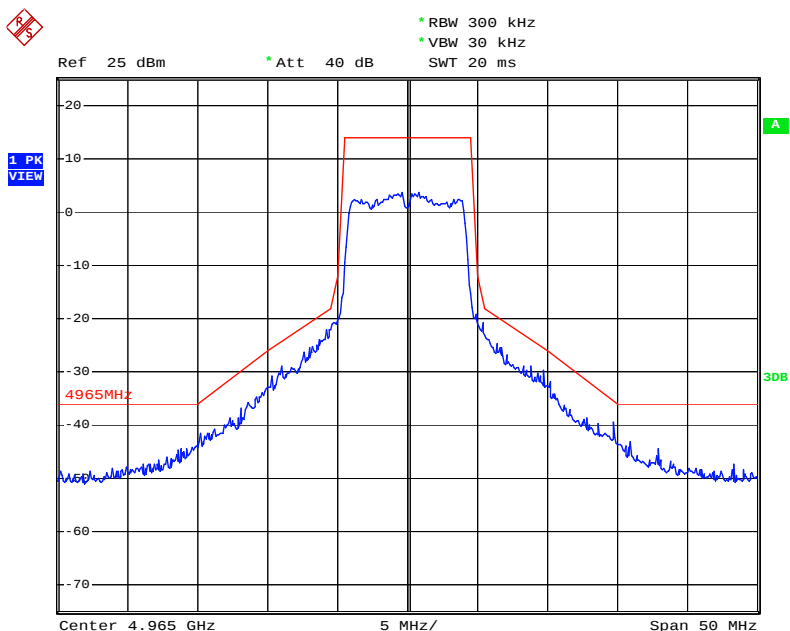
Date: 21.JUL.2012 01:34:53

Emission Mask (10MHz BW Mode) - 4965MHz / Chain 1 / Mode 1



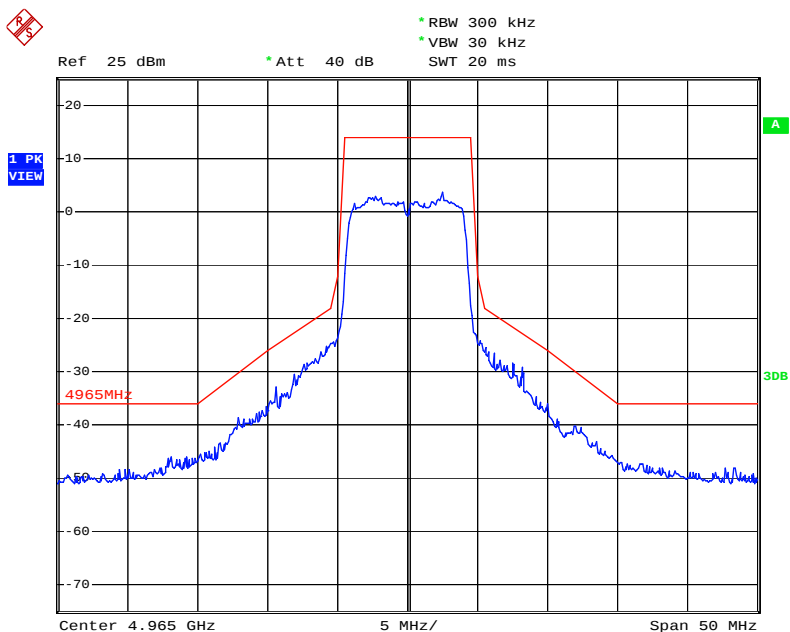
Date: 21.JUL.2012 01:33:09

Emission Mask (10MHz BW Mode) - 4965MHz / Chain 2 / Mode 1



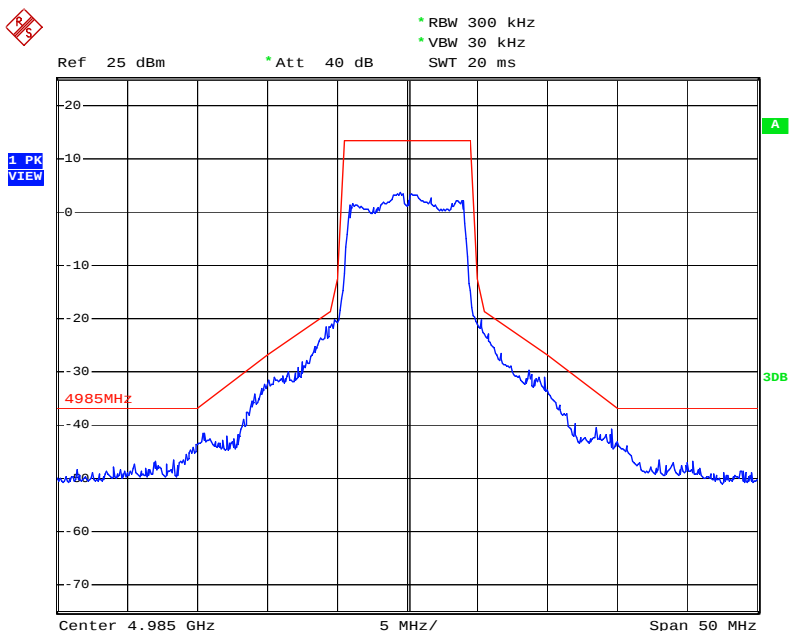
Date: 21.JUL.2012 01:33:58

Emission Mask (10MHz BW Mode) - 4965MHz / Chain 3 / Mode 1



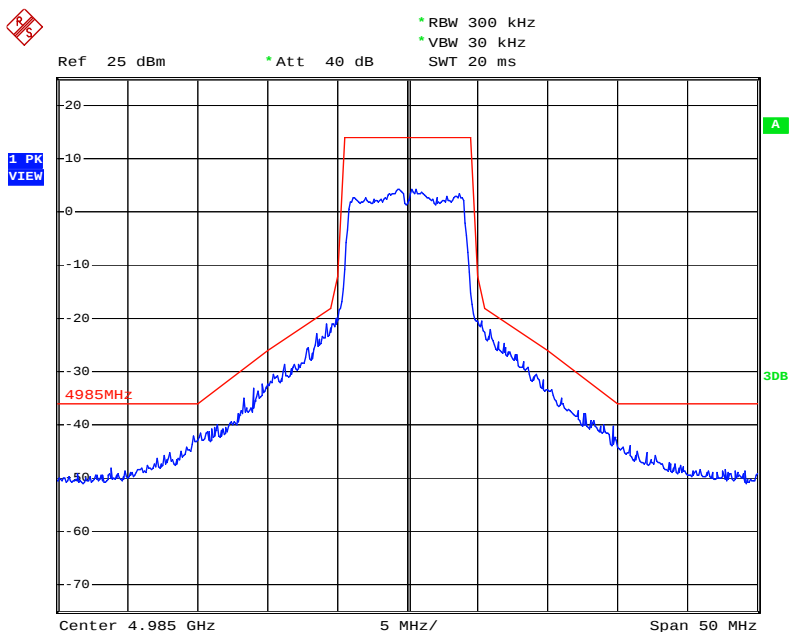
Date: 21.JUL.2012 01:34:15

Emission Mask (10MHz BW Mode) - 4985MHz / Chain 1 / Mode 1



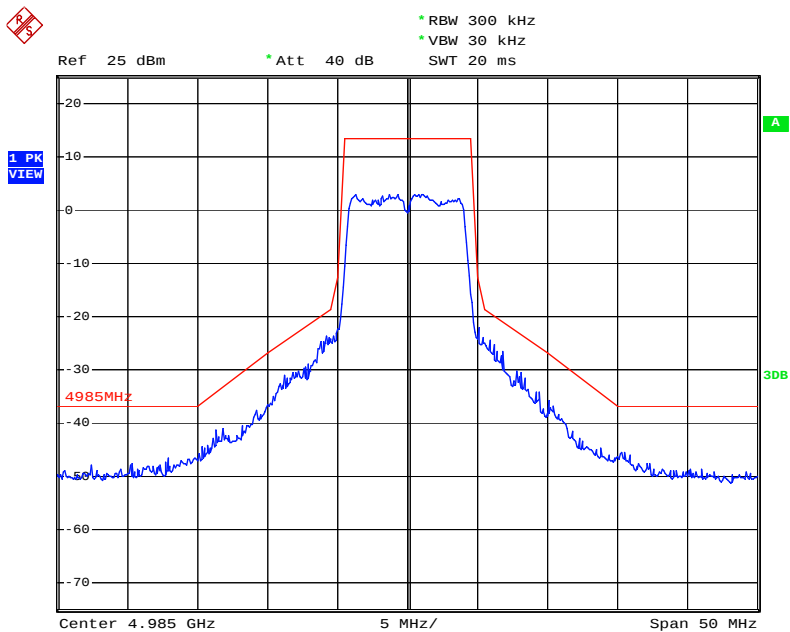
Date: 21.JUL.2012 01:32:11

Emission Mask (10MHz BW Mode) - 4985MHz / Chain 2 / Mode 1



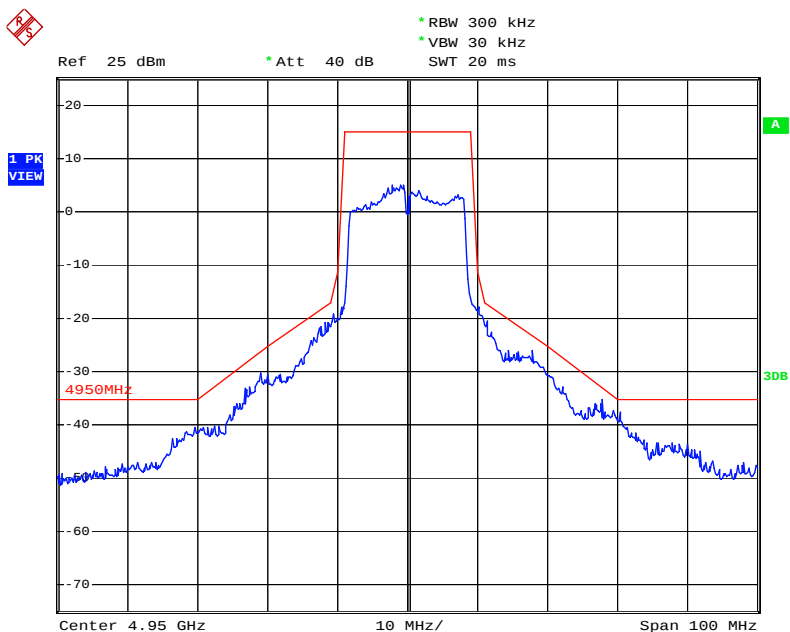
Date: 21.JUL.2012 01:31:26

Emission Mask (10MHz BW Mode) - 4985MHz / Chain 3 / Mode 1



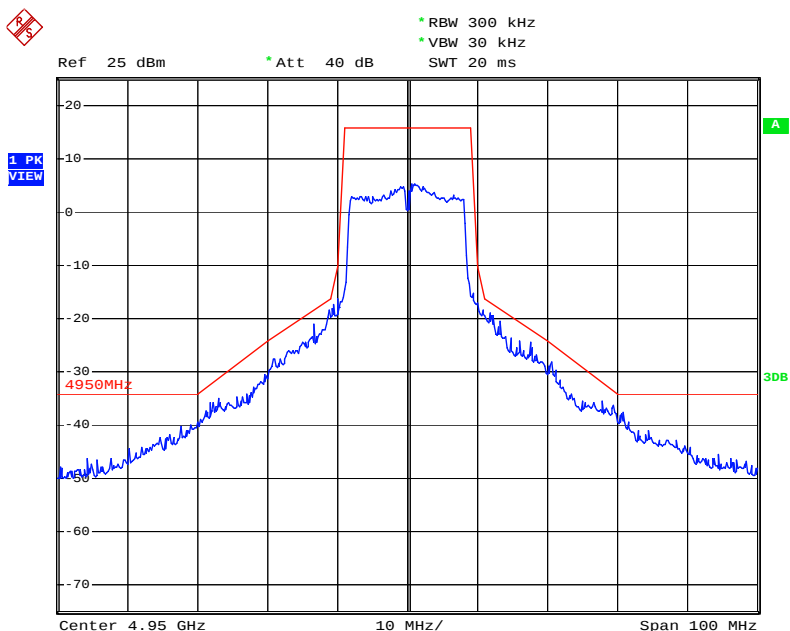
Date: 21.JUL.2012 01:30:38

Emission Mask (20MHz BW Mode) - 4950MHz / Chain 1 / Mode 1



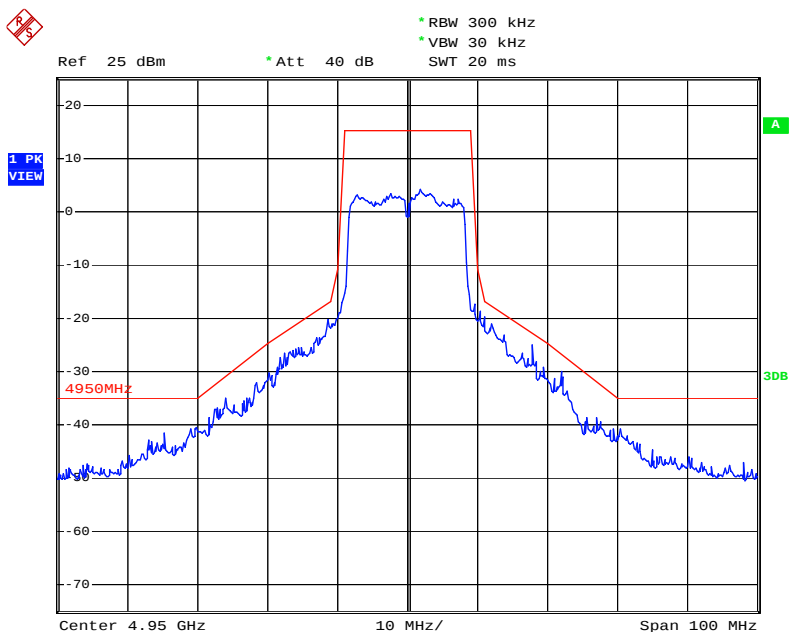
Date: 21.JUL.2012 01:22:12

Emission Mask (20MHz BW Mode) - 4950MHz / Chain 2 / Mode 1



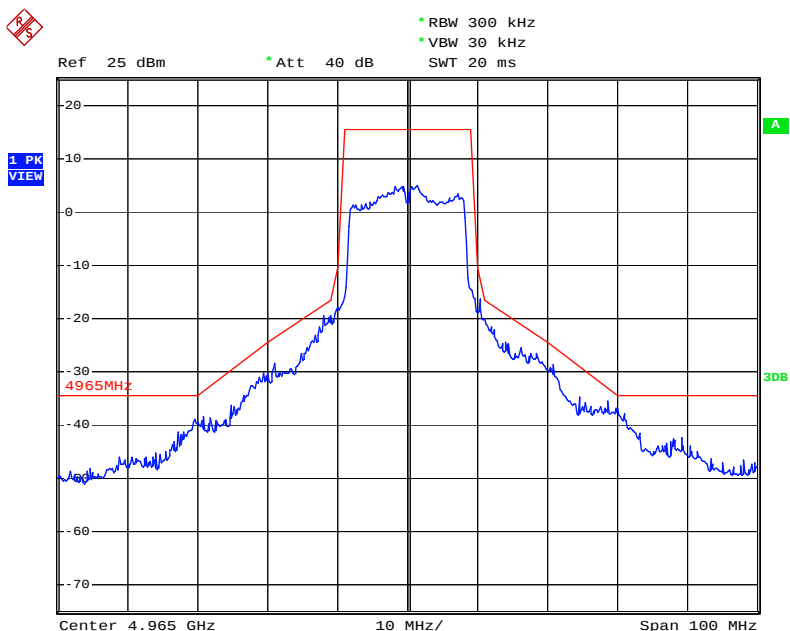
Date: 21.JUL.2012 01:24:00

Emission Mask (20MHz BW Mode) - 4950MHz / Chain 3 / Mode 1



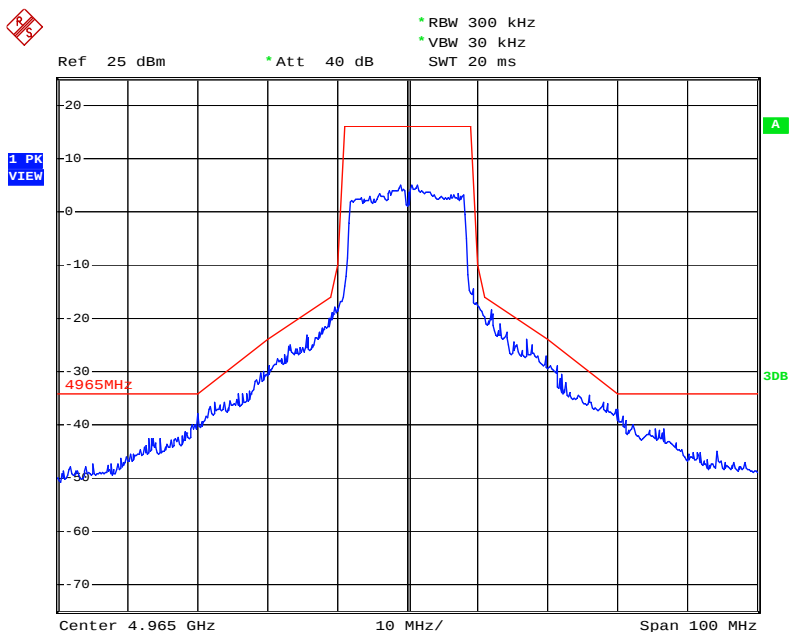
Date: 21.JUL.2012 01:24:39

Emission Mask (20MHz BW Mode) - 4965MHz / Chain 1 / Mode 1



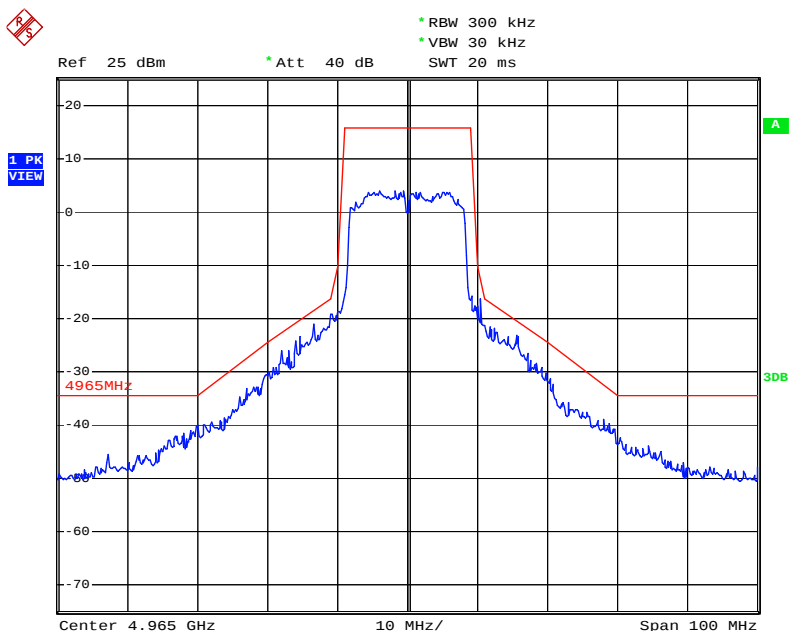
Date: 21.JUL.2012 01:26:44

Emission Mask (20MHz BW Mode) - 4965MHz / Chain 2 / Mode 1



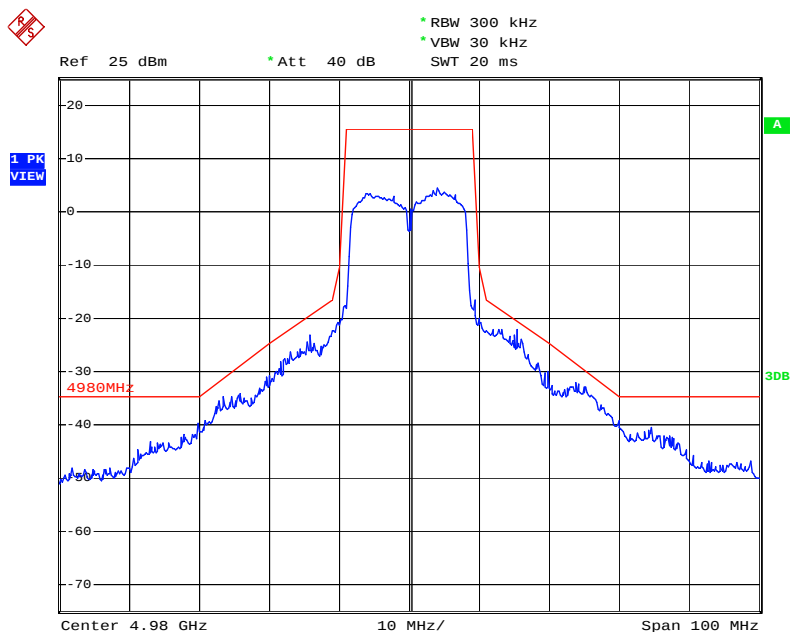
Date: 21.JUL.2012 01:26:10

Emission Mask (20MHz BW Mode) - 4965MHz / Chain 3 / Mode 1



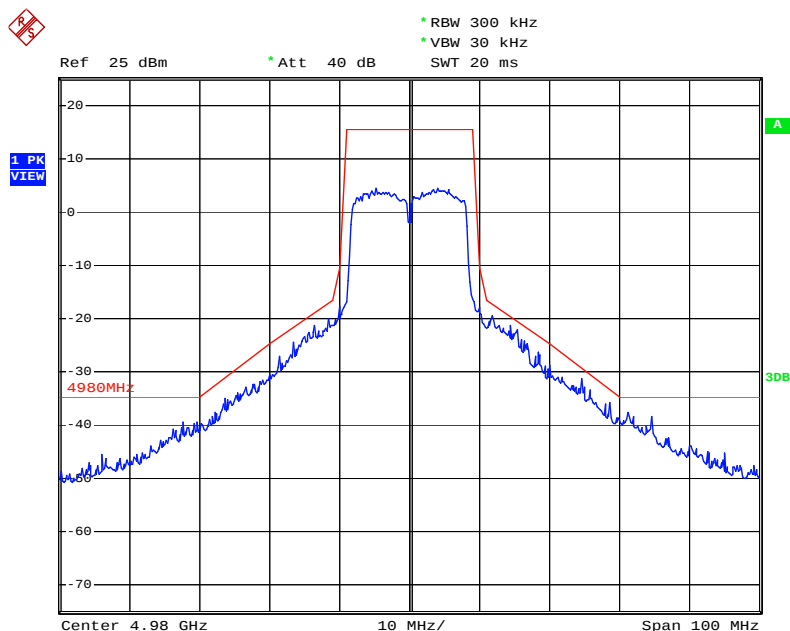
Date: 21.JUL.2012 01:25:36

Emission Mask (20MHz BW Mode) - 4980MHz / Chain 1 / Mode 1



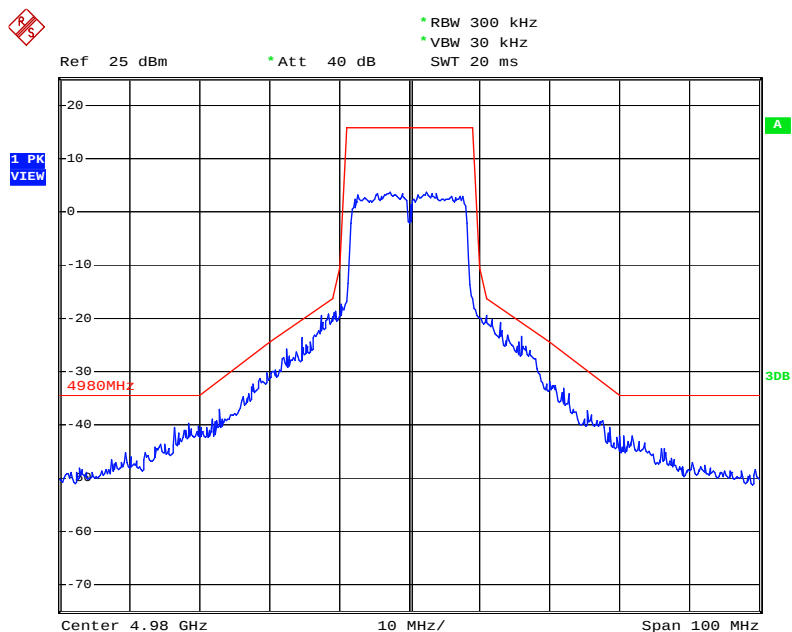
Date: 21.JUL.2012 01:27:28

Emission Mask (20MHz BW Mode) - 4980MHz / Chain 2 / Mode 1



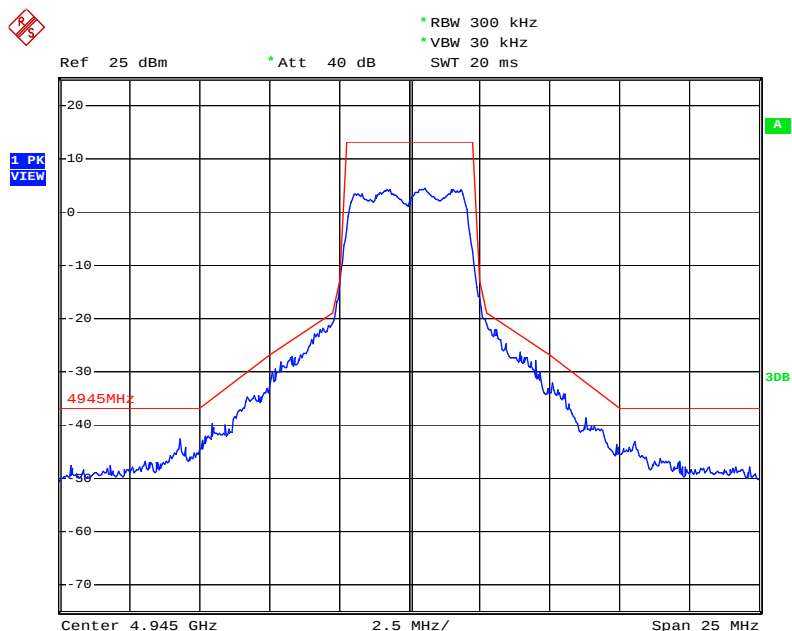
Date: 21.JUL.2012 01:27:59

Emission Mask (20MHz BW Mode) - 4980MHz / Chain 3 / Mode 1



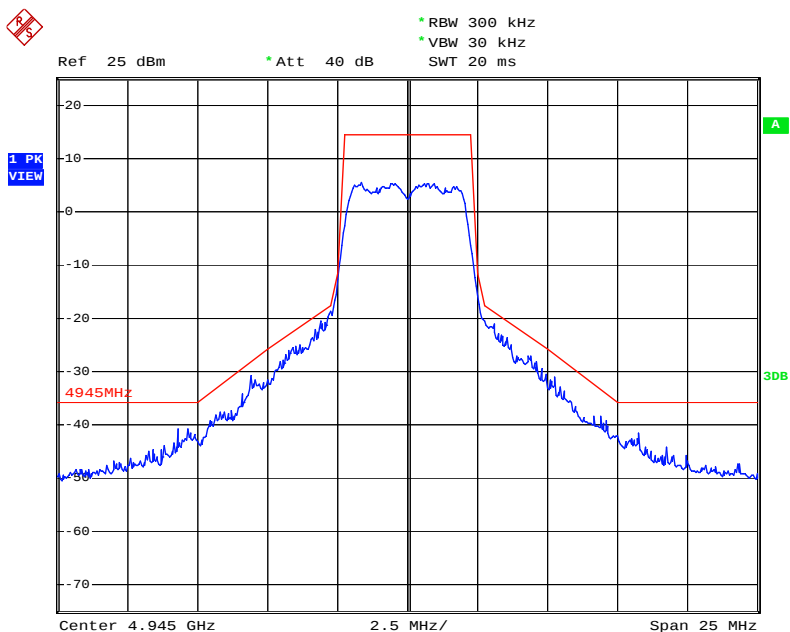
Date: 21.JUL.2012 01:28:55

Emission Mask (5MHz BW Mode) - 4945MHz / Chain 1 / Mode 2



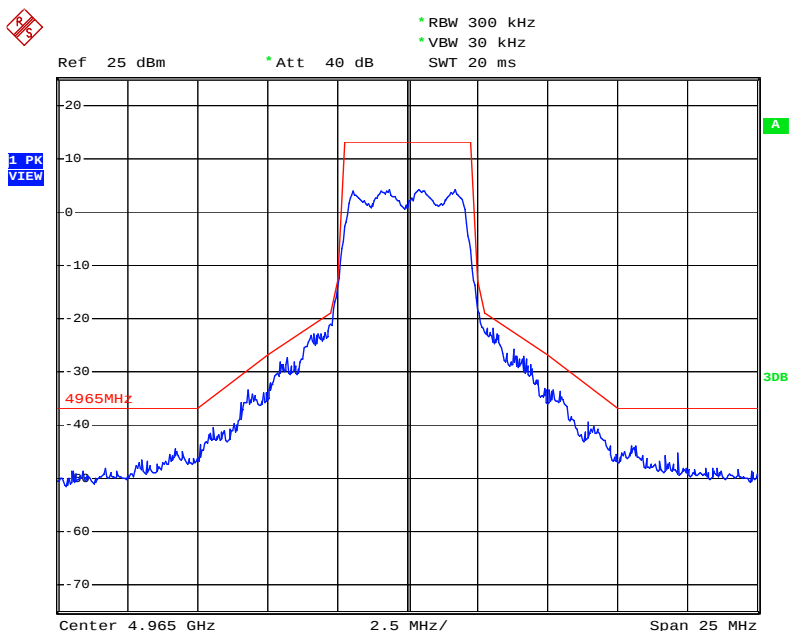
Date: 21.JUL.2012 10:24:34

Emission Mask (5MHz BW Mode) - 4945MHz / Chain 3 / Mode 2



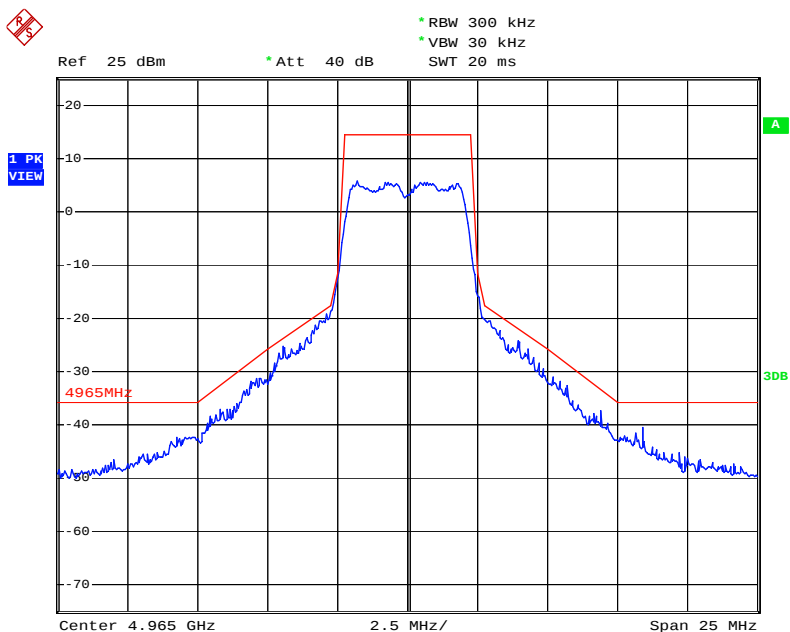
Date: 21.JUL.2012 10:23:20

Emission Mask (5MHz BW Mode) - 4965MHz / Chain 1 / Mode 2



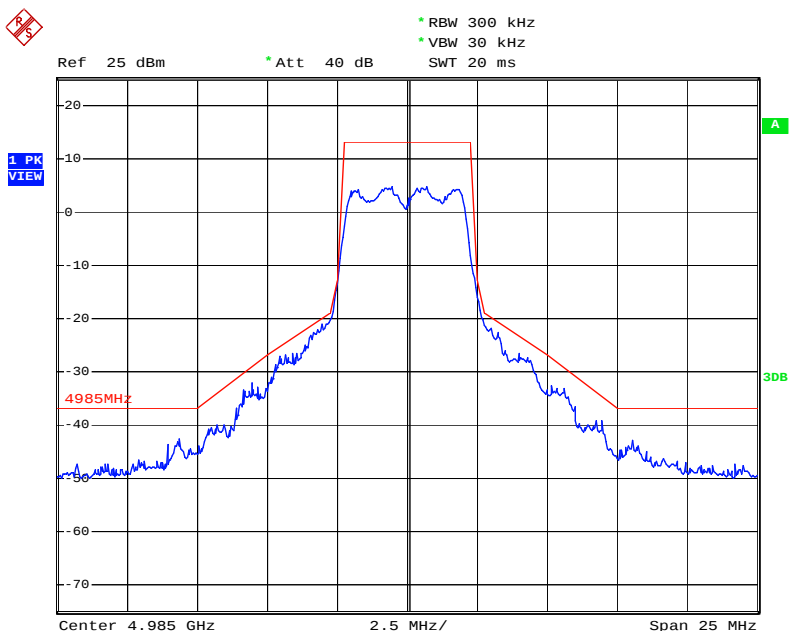
Date: 21.JUL.2012 10:21:15

Emission Mask (5MHz BW Mode) - 4965MHz / Chain 3 / Mode 2



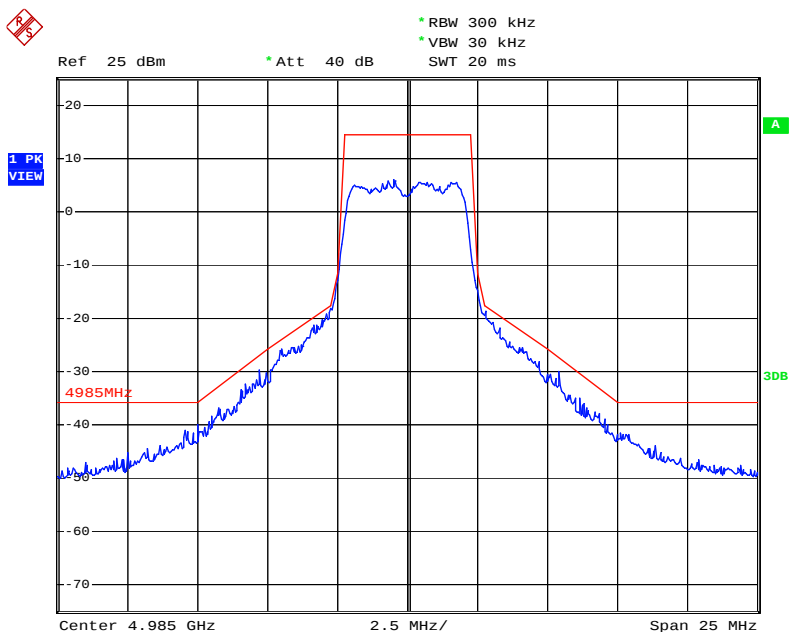
Date: 21.JUL.2012 10:22:11

Emission Mask (5MHz BW Mode) - 4985MHz / Chain 1 / Mode 2



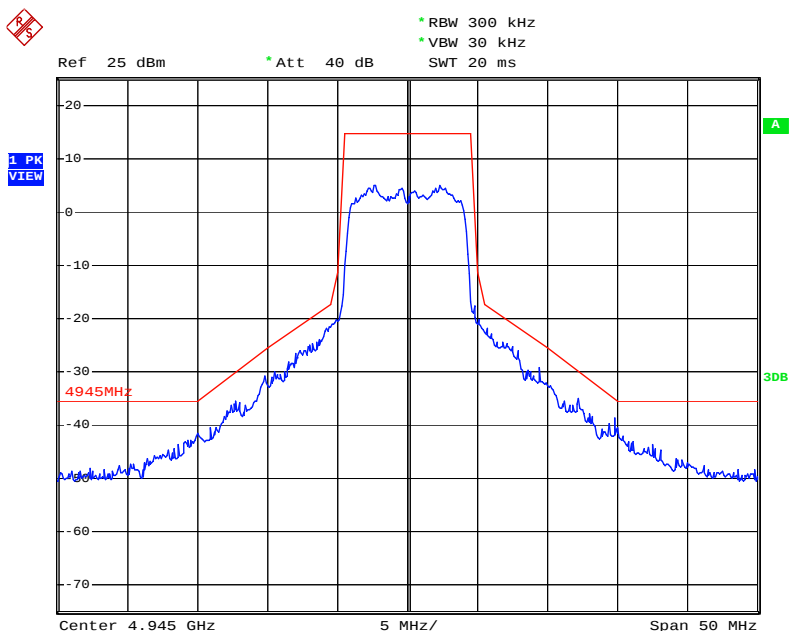
Date: 21.JUL.2012 10:19:50

Emission Mask (5MHz BW Mode) - 4985MHz / Chain 3 / Mode 2



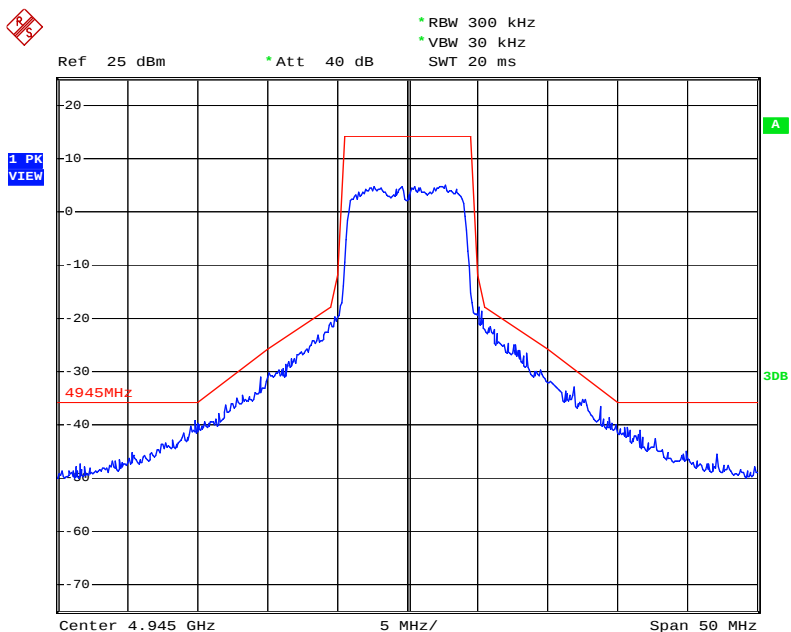
Date: 21.JUL.2012 10:17:34

Emission Mask (10MHz BW Mode) - 4945MHz / Chain 1 / Mode 2



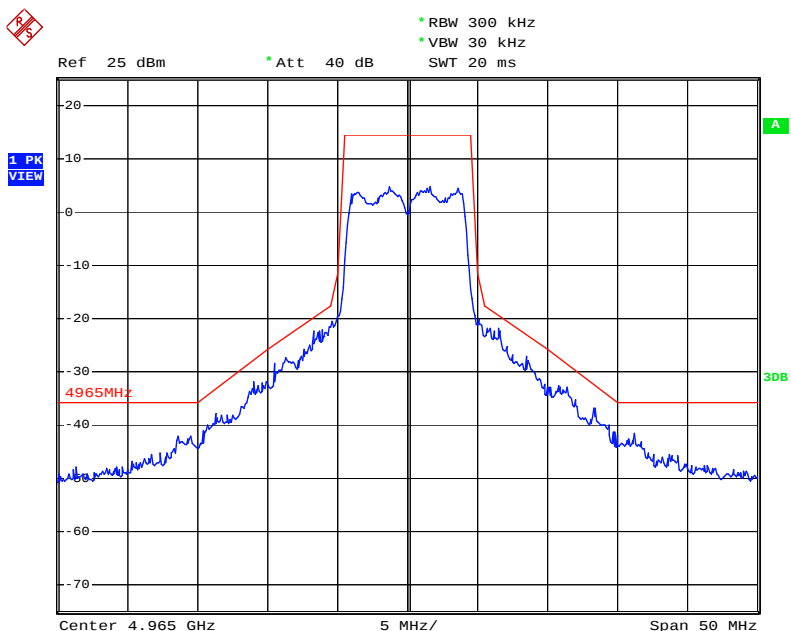
Date: 21.JUL.2012 01:02:17

Emission Mask (10MHz BW Mode) - 4945MHz / Chain 3 / Mode 2



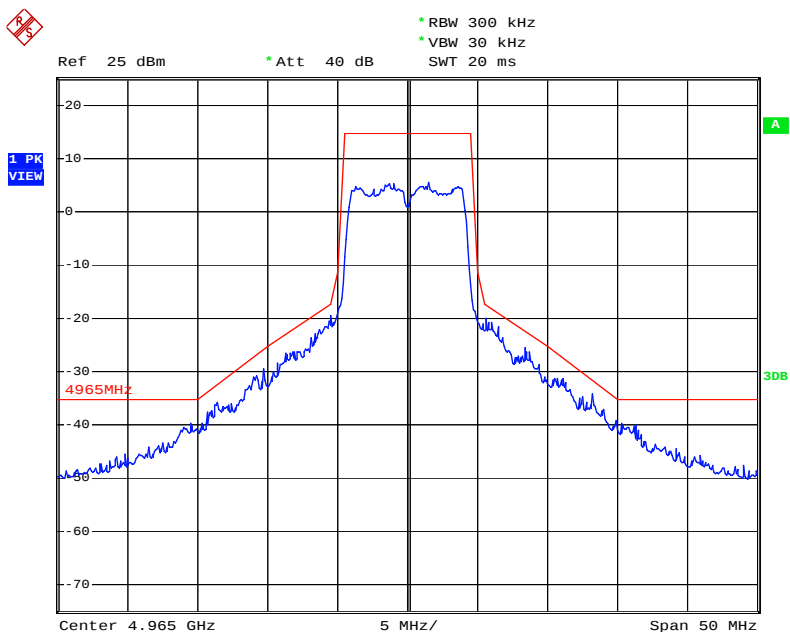
Date: 21.JUL.2012 00:59:54

Emission Mask (10MHz BW Mode) - 4965MHz / Chain 1 / Mode 2



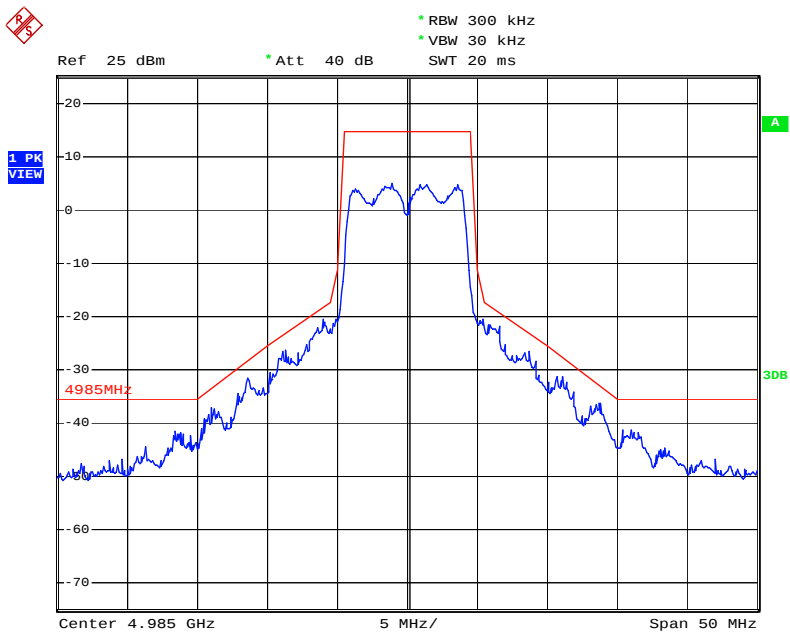
Date: 21.JUL.2012 01:05:01

Emission Mask (10MHz BW Mode) - 4965MHz / Chain 3 / Mode 2



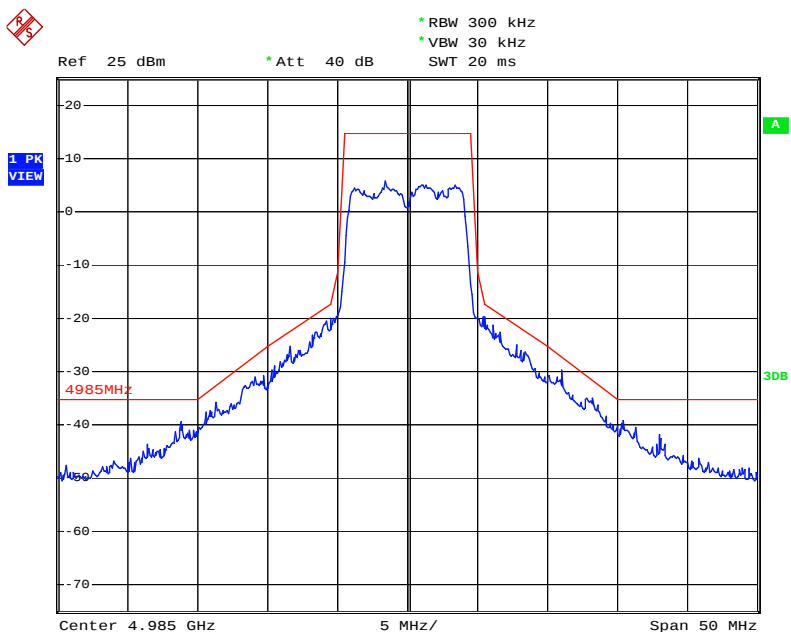
Date: 21.JUL.2012 01:05:56

Emission Mask (10MHz BW Mode) - 4985MHz / Chain 1 / Mode 2



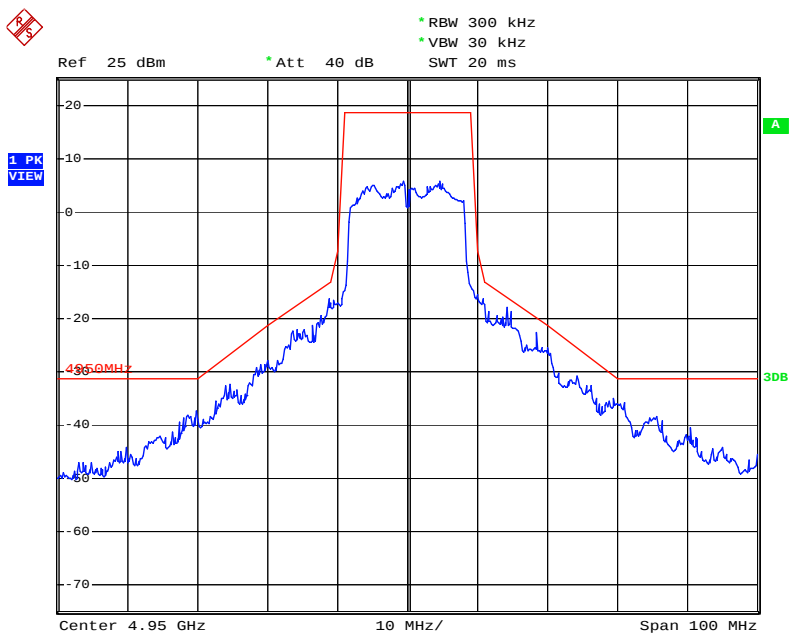
Date: 21.JUL.2012 01:08:45

Emission Mask (10MHz BW Mode) - 4985MHz / Chain 3 / Mode 2



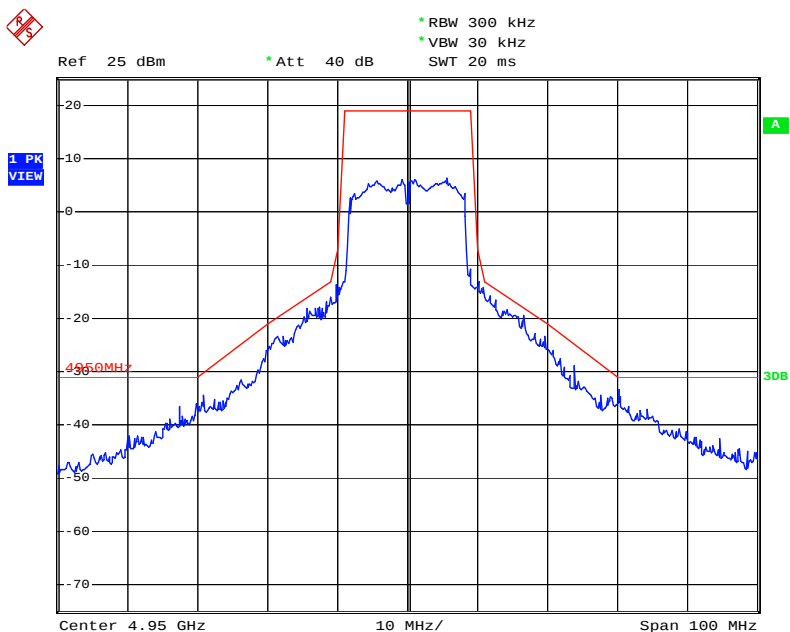
Date: 21.JUL.2012 01:07:35

Emission Mask (20MHz BW Mode) - 4950MHz / Chain 1 / Mode 2



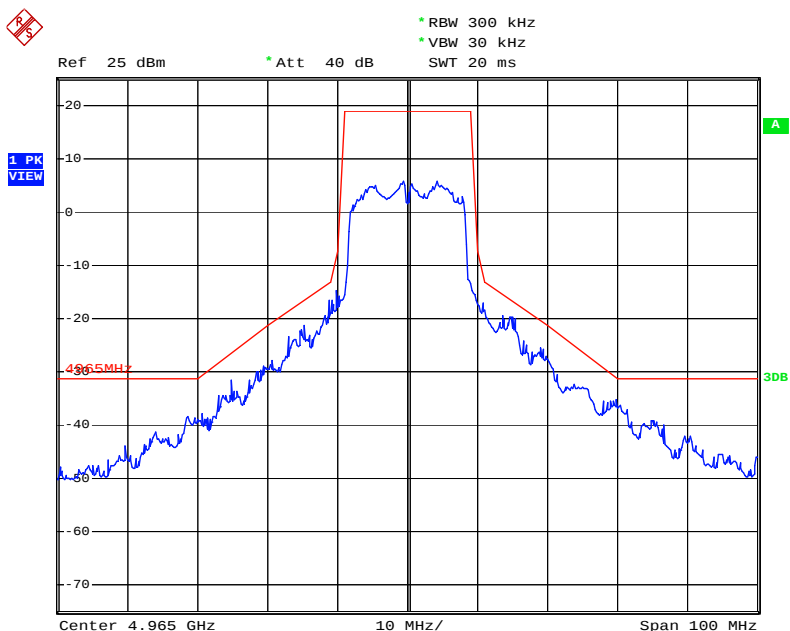
Date: 21.JUL.2012 01:18:57

Emission Mask (20MHz BW Mode) - 4950MHz / Chain 3 / Mode 2



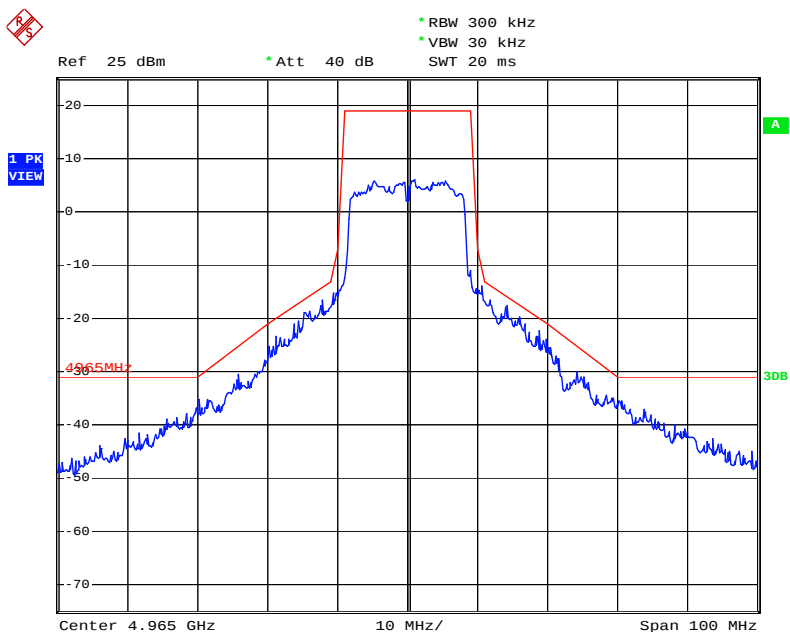
Date: 21.JUL.2012 01:19:39

Emission Mask (20MHz BW Mode) - 4965MHz / Chain 1 / Mode 2



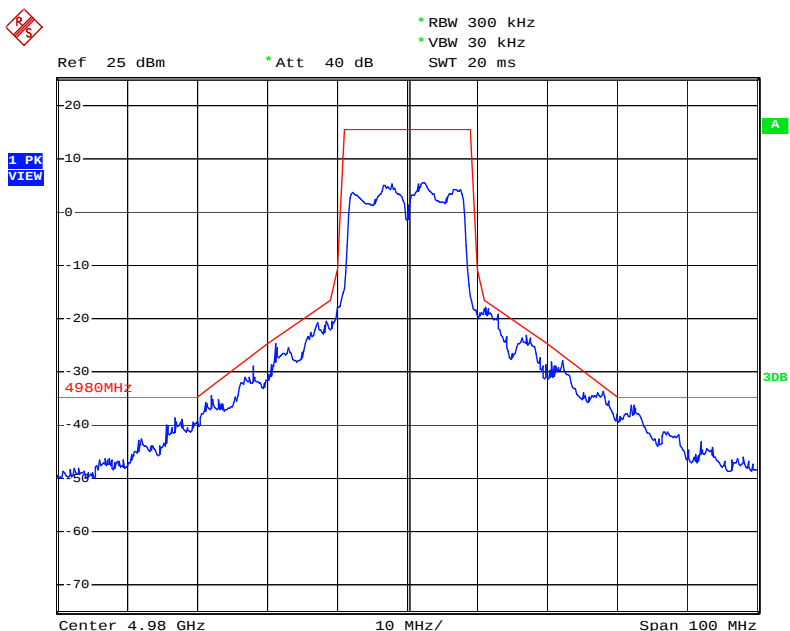
Date: 21.JUL.2012 01:18:00

Emission Mask (20MHz BW Mode) - 4965MHz / Chain 3 / Mode 2



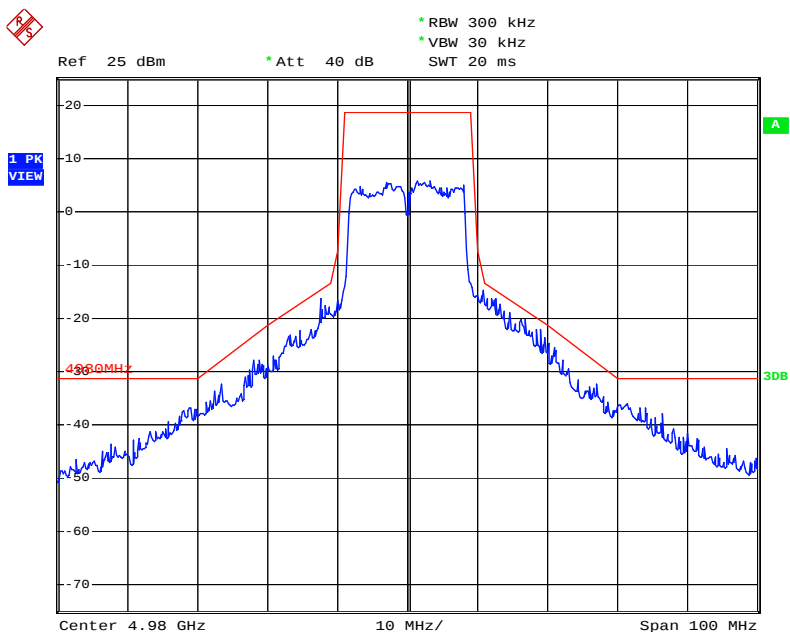
Date: 21.JUL.2012 01:16:44

Emission Mask (20MHz BW Mode) - 4980MHz / Chain 1 / Mode 2



Date: 21.JUL.2012 01:11:05

Emission Mask (20MHz BW Mode) - 4980MHz / Chain 3 / Mode 2



Date: 21.JUL.2012 01:13:07

4.4. Peak Excursion Measurement

4.4.1. Limit

The ratio of the peak excursion of the modulation envelope (measured using a peak hold function) to the maximum conducted output power (measured as specified above) shall not exceed 13 dB across any 1 MHz bandwidth or the emissions bandwidth whichever is less.

4.4.2. Measuring Instruments and Setting

Please refer to section 5 of equipments list in this report. The following table is the setting of the spectrum analyzer.

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	Encompass the entire emissions bandwidth (EBW) of the signal
RB	1MHz (Peak Trace) / 1MHz (Average Trace)
VB	3MHz (Peak Trace) / 3MHz (Average Trace)
Detector	Peak (Peak Trace) / RMS
Trace	Peak : Trace :Max hold/Average: Trace Average Sweep Count 100
Sweep Time	AUTO

4.4.3. Test Procedures

1. The test procedure is the same as section 4.6.3.
2. Trace A, Set RBW =1MHz, VBW = 3MHz, Span >26dB bandwidth, Max. hold.
3. Delta Mark trace A Maximum frequency and trace B same frequency.
4. Repeat the above procedure until measurements for all frequencies were complete.

4.4.4. Test Setup Layout

This test setup layout is the same as that shown in section 4.6.4.

4.4.5. Test Deviation

There is no deviation with the original standard.

4.4.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

4.4.7. Test Result of Peak Excursion

Temperature	23°C	Humidity	63%
Test Engineer	Sean Ku	Test Site	TH01-CB
Test Mode	Mode 1		

5MHz Channel Bandwidth Mode

Frequency	Peak Excursion (dB)	Max. Limit (dB)	Result
4945 MHz	11.37	13	Complies
4965 MHz	11.44	13	Complies
4985 MHz	11.25	13	Complies

10MHz Channel Bandwidth Mode

Frequency	Peak Excursion (dB)	Max. Limit (dB)	Result
4945 MHz	10.33	13	Complies
4965 MHz	10.09	13	Complies
4985 MHz	9.83	13	Complies

20MHz Channel Bandwidth Mode

Frequency	Peak Excursion (dB)	Max. Limit (dB)	Result
4950 MHz	8.70	13	Complies
4965 MHz	8.78	13	Complies
4980 MHz	8.80	13	Complies

Temperature	23°C	Humidity	63%
Test Engineer	Sean Ku	Test Site	TH01-CB
Test Mode	Mode 2		

5MHz Channel Bandwidth Mode

Frequency	Peak Excursion (dB)	Max. Limit (dB)	Result
4945 MHz	11.58	13	Complies
4965 MHz	11.71	13	Complies
4985 MHz	11.26	13	Complies

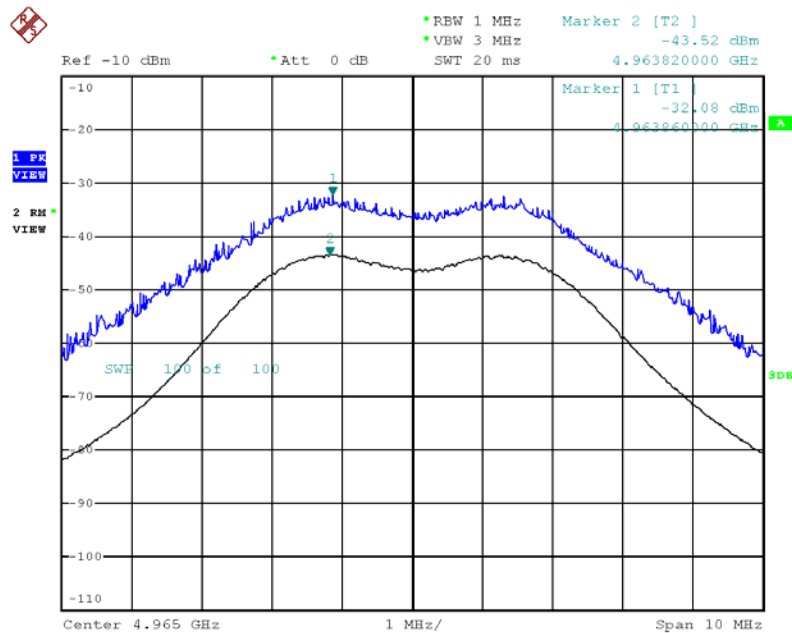
10MHz Channel Bandwidth Mode

Frequency	Peak Excursion (dB)	Max. Limit (dB)	Result
4945 MHz	10.14	13	Complies
4965 MHz	10.41	13	Complies
4985 MHz	10.35	13	Complies

20MHz Channel Bandwidth Mode

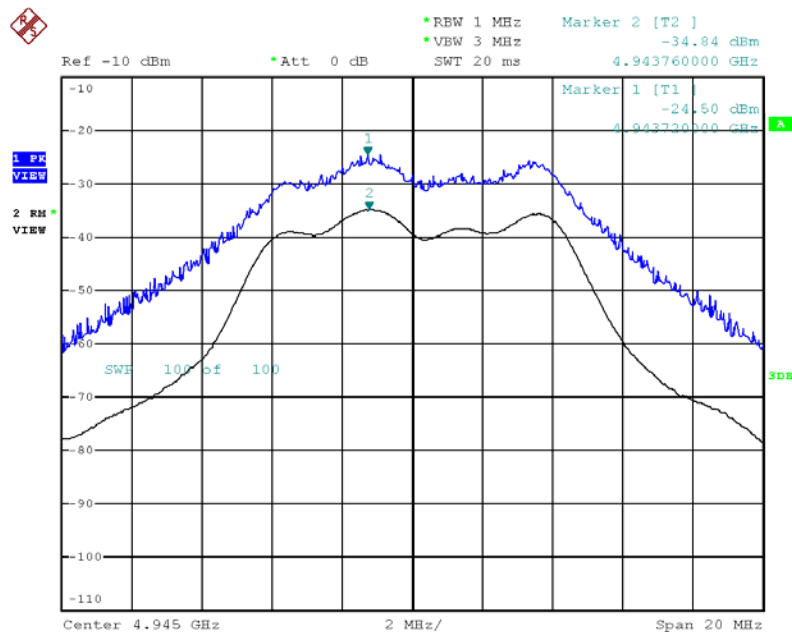
Frequency	Peak Excursion (dB)	Max. Limit (dB)	Result
4950 MHz	8.78	13	Complies
4965 MHz	8.88	13	Complies
4980 MHz	8.80	13	Complies

Peak Excursion (5 MHz BW Mode) - 4965 MHz / Mode 1



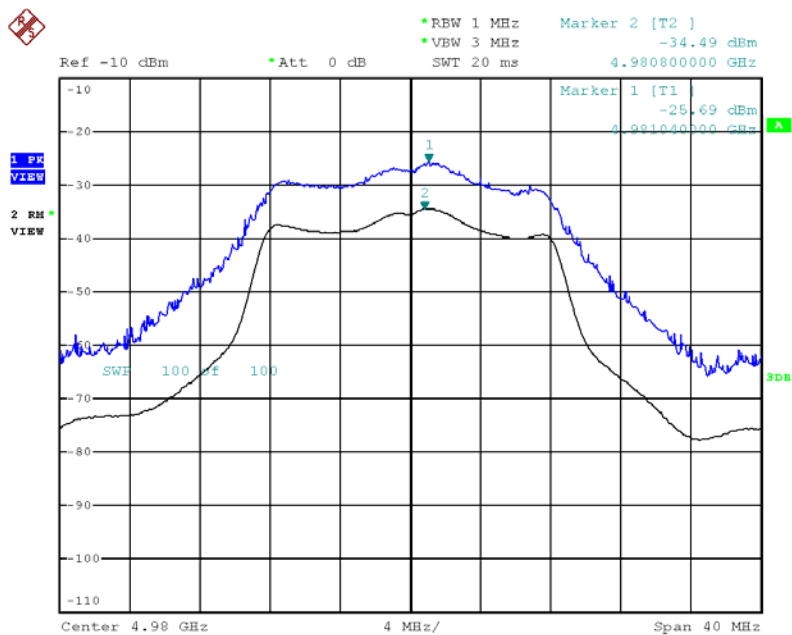
Date: 18.JUL.2012 22:11:34

Peak Excursion (10 MHz BW Mode) - 4945 MHz / Mode 1



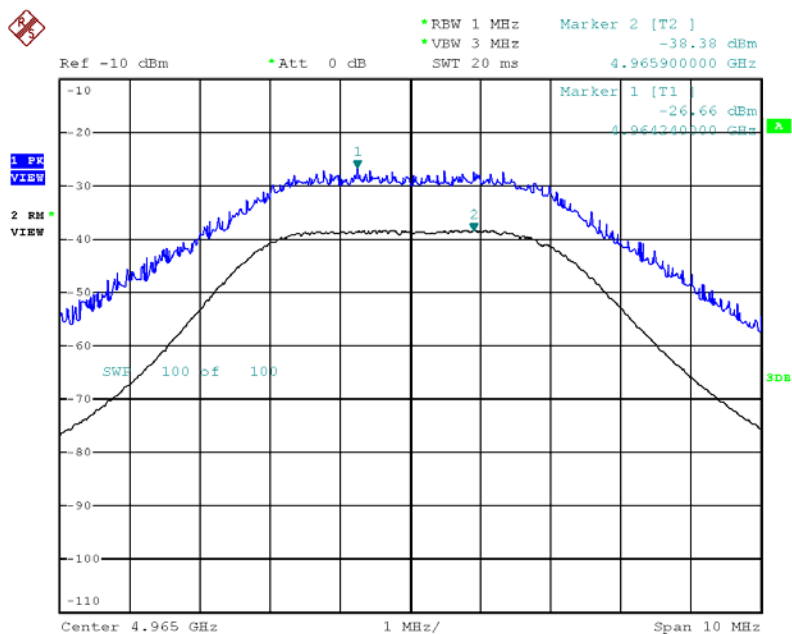
Date: 18.JUL.2012 22:16:33

Peak Excursion (20 MHz BW Mode) - 4980 MHz / Mode 1



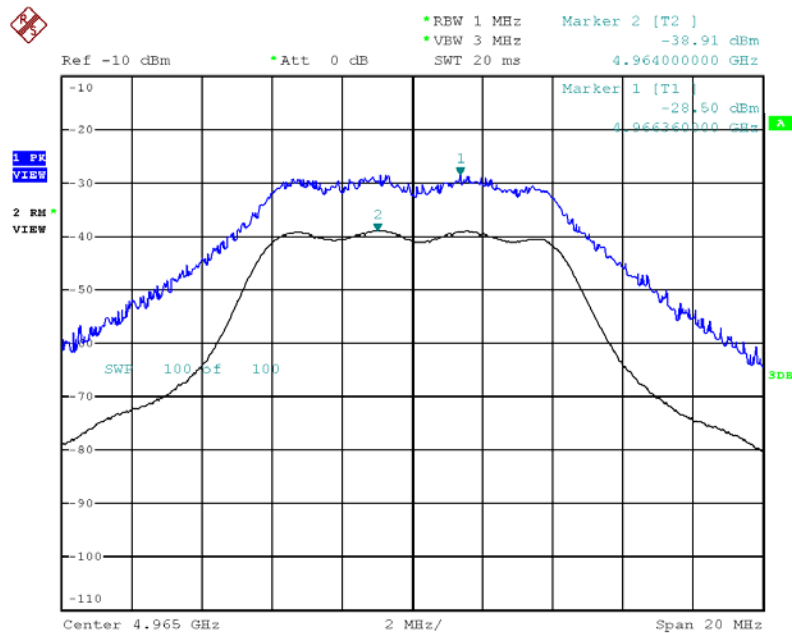
Date: 18.JUL.2012 22:48:49

Peak Excursion (5 MHz BW Mode) - 4965 MHz / Mode 2



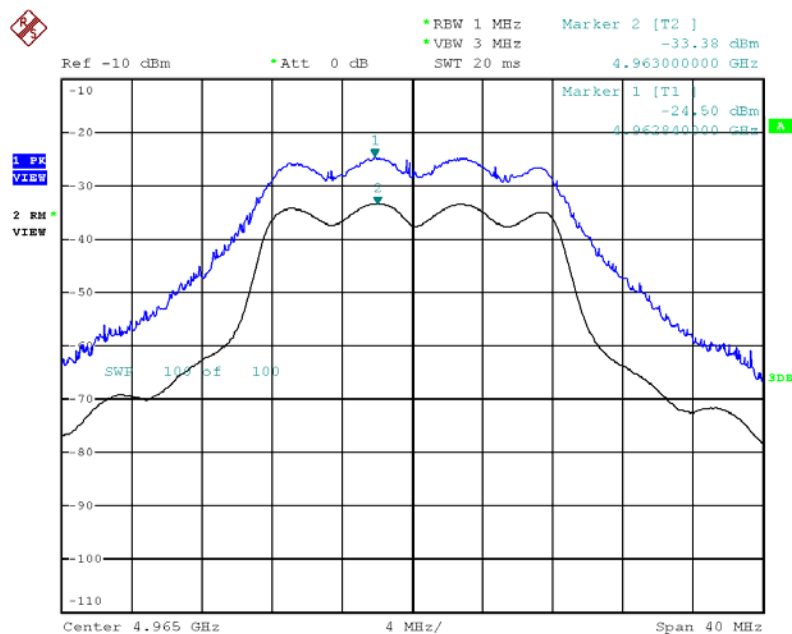
Date: 18.JUL.2012 23:24:32

Peak Excursion (10 MHz BW Mode) - 4965 MHz / Mode 2



Date: 18.JUL.2012 23:19:24

Peak Excursion (20 MHz BW Mode) - 4965 MHz / Mode 2



Date: 18.JUL.2012 22:52:41

4.5. Spurious Emissions at Antenna Terminals Measurement

4.5.1. Limit

On any frequency removed from the assigned frequency above 150% of the authorized bandwidth: 50 or 55+ 10 log (P) dB, whichever is the lesser attenuation. (P=Average transmit power in watt)

Test Mode : Mode 1

5MHz Channel Bandwidth Mode / 30MHz ~ 1GHz					
Frequency	Conducted Emission (dBm/MHz)	Conducted Emission (dBm/MHz)	Conducted Emission (dBm/MHz)	Total Conducted Emission (dBm/MHz)	Max. Limit (dBm/MHz)
	Chain 1	Chain 2	Chain 3		
4945 MHz	-51.60	-52.18	-53.93	-47.69	-33.07
4965 MHz	-54.30	-53.71	-52.76	-48.77	-33.01
4985 MHz	-53.42	-49.89	-51.97	-46.74	-33.11

5MHz Channel Bandwidth Mode / 1GHz ~ 40GHz					
Frequency	Conducted Emission (dBm/MHz)	Conducted Emission (dBm/MHz)	Conducted Emission (dBm/MHz)	Total Conducted Emission (dBm/MHz)	Max. Limit (dBm/MHz)
	Chain 1	Chain 2	Chain 3		
4945 MHz	-53.87	-50.99	-50.27	-46.68	-33.07
4965 MHz	-50.94	-50.06	-49.46	-45.34	-33.01
4985 MHz	-51.65	-50.86	-50.40	-46.17	-33.11

Test Mode : Mode 1

10MHz Channel Bandwidth Mode / 30MHz ~ 1GHz					
Frequency	Conducted Emission (dBm/MHz)	Conducted Emission (dBm/MHz)	Conducted Emission (dBm/MHz)	Total Conducted Emission (dBm/MHz)	Max. Limit (dBm/MHz)
	Chain 1	Chain 2	Chain 3		
4945 MHz	-49.98	-49.92	-50.91	-45.48	-29.65
4965 MHz	-50.31	-49.73	-49.44	-45.04	-29.48
4985 MHz	-48.80	-48.25	-49.66	-44.09	-29.64

10MHz Channel Bandwidth Mode / 1GHz ~ 40GHz					
Frequency	Conducted Emission (dBm/MHz)	Conducted Emission (dBm/MHz)	Conducted Emission (dBm/MHz)	Total Conducted Emission (dBm/MHz)	Max. Limit (dBm/MHz)
	Chain 1	Chain 2	Chain 3		
4945 MHz	-50.27	-48.86	-49.58	-44.76	-29.65
4965 MHz	-51.51	-51.35	-50.65	-46.38	-29.48
4985 MHz	-49.40	-51.31	-39.57	-38.88	-29.64

Test Mode : Mode 1

20MHz Channel Bandwidth Mode / 30MHz ~ 1GHz					
Frequency	Conducted Emission (dBm/MHz)	Conducted Emission (dBm/MHz)	Conducted Emission (dBm/MHz)	Total Conducted Emission (dBm/MHz)	Max. Limit (dBm/MHz)
	Chain 1	Chain 2	Chain 3		
4950 MHz	-46.56	-44.98	-47.87	-41.54	-26.63
4965 MHz	-46.76	-45.83	-46.90	-41.70	-26.21
4980 MHz	-46.39	-45.31	-46.27	-41.19	-25.76

20MHz Channel Bandwidth Mode / 1GHz ~ 40GHz					
Frequency	Conducted Emission (dBm/MHz)	Conducted Emission (dBm/MHz)	Conducted Emission (dBm/MHz)	Total Conducted Emission (dBm/MHz)	Max. Limit (dBm/MHz)
	Chain 1	Chain 2	Chain 3		
4950 MHz	-49.61	-49.46	-50.40	-45.03	-26.63
4965 MHz	-49.33	-50.14	-49.42	-44.84	-26.21
4980 MHz	-48.23	-47.94	-47.04	-42.94	-25.76

Test Mode : Mode 2

5MHz Channel Bandwidth Mode / 30MHz ~ 1GHz				
Frequency	Conducted Emission (dBm/MHz)	Conducted Emission (dBm/MHz)	Total Conducted Emission (dBm/MHz)	Max. Limit (dBm/MHz)
	Chain 1	Chain 3		
4945 MHz	-54.79	-54.37	-51.56	-33.31
4965 MHz	-55.96	-56.18	-53.06	-33.26
4985 MHz	-55.65	-54.68	-52.13	-33.23

5MHz Channel Bandwidth Mode / 1GHz ~ 40GHz				
Frequency	Conducted Emission (dBm/MHz)	Conducted Emission (dBm/MHz)	Total Conducted Emission (dBm/MHz)	Max. Limit (dBm/MHz)
	Chain 1	Chain 3		
4945 MHz	-49.94	-36.87	-36.66	-33.31
4965 MHz	-49.54	-37.34	-37.09	-33.26
4985 MHz	-55.73	-36.37	-36.32	-33.23

Test Mode : Mode 2

10MHz Channel Bandwidth Mode / 30MHz ~ 1GHz				
Frequency	Conducted Emission (dBm/MHz)	Conducted Emission (dBm/MHz)	Total Conducted Emission (dBm/MHz)	Max. Limit (dBm/MHz)
	Chain 1	Chain 3		
4945 MHz	-52.44	-49.99	-48.03	-30.20
4965 MHz	-48.35	-51.23	-46.55	-30.15
4985 MHz	-47.94	-49.81	-45.76	-30.12

10MHz Channel Bandwidth Mode / 1GHz ~ 40GHz				
Frequency	Conducted Emission (dBm/MHz)	Conducted Emission (dBm/MHz)	Total Conducted Emission (dBm/MHz)	Max. Limit (dBm/MHz)
	Chain 1	Chain 3		
4945 MHz	-50.00	-33.13	-33.04	-30.20
4965 MHz	-50.11	-34.46	-34.34	-30.15
4985 MHz	-49.92	-31.24	-31.18	-30.12

Test Mode : Mode 2

20MHz Channel Bandwidth Mode / 30MHz ~ 1GHz				
Frequency	Conducted Emission (dBm/MHz)	Conducted Emission (dBm/MHz)	Total Conducted Emission (dBm/MHz)	Max. Limit (dBm/MHz)
	Chain 1	Chain 3		
4950 MHz	-44.78	-44.02	-41.37	-26.28
4965 MHz	-46.86	-45.56	-43.15	-26.27
4980 MHz	-45.10	-43.47	-41.20	-26.81

20MHz Channel Bandwidth Mode / 1GHz ~ 40GHz				
Frequency	Conducted Emission (dBm/MHz)	Conducted Emission (dBm/MHz)	Total Conducted Emission (dBm/MHz)	Max. Limit (dBm/MHz)
	Chain 1	Chain 3		
4950 MHz	-57.87	-34.85	-34.83	-26.28
4965 MHz	-50.53	-35.64	-35.50	-26.27
4980 MHz	-36.15	-50.35	-35.99	-26.81

4.5.2. Measuring Instruments and Setting

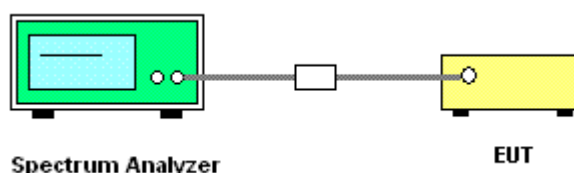
Please refer to section 5 in this report. The following table is the setting of Spectrum Analyzer.

Spectrum Parameter	Setting
Detector	Peak
Frequency Range	30MHz – 40GHz

4.5.3. Test Procedures

1. The EUT transmitter was connected to a spectrum analyzer through an appropriate 50 ohm attenuator. The spectrum analyzer resolution bandwidth was set to 1 MHz, and the video bandwidth was set to 3 MHz.
2. Find spurious emissions under 50 or 55+ 10 log (P) dB limit, whichever is the lesser attenuation and the spectrum analyzer integrated measurement plot was taken.

4.5.4. Test Setup Layout



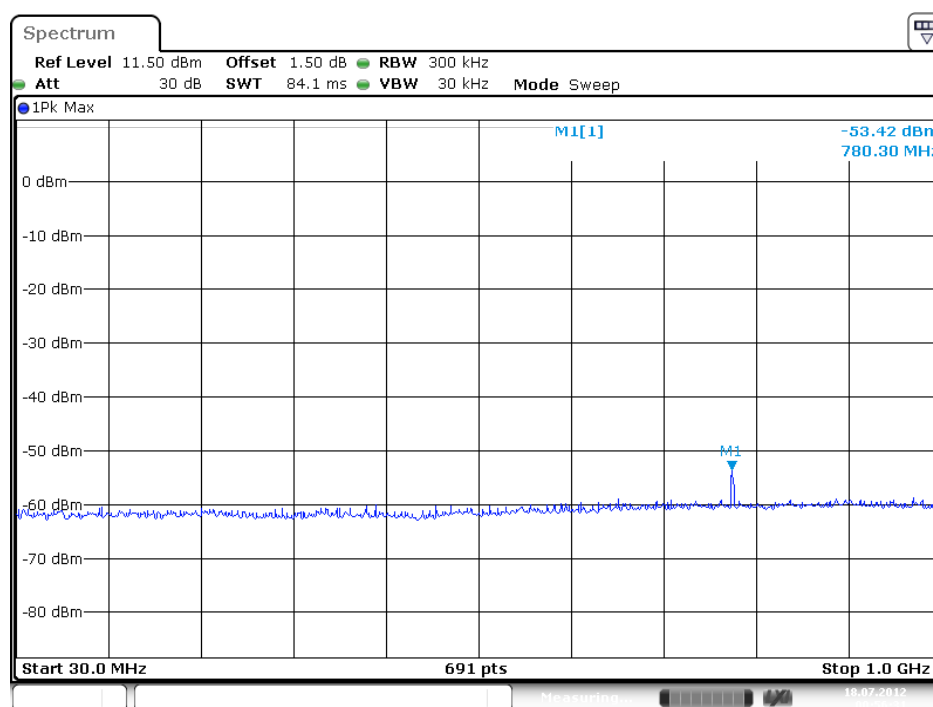
4.5.5. Test Deviation

There is no deviation with the original standard.

4.5.6. Test Result of Spurious Emissions at Antenna Terminals

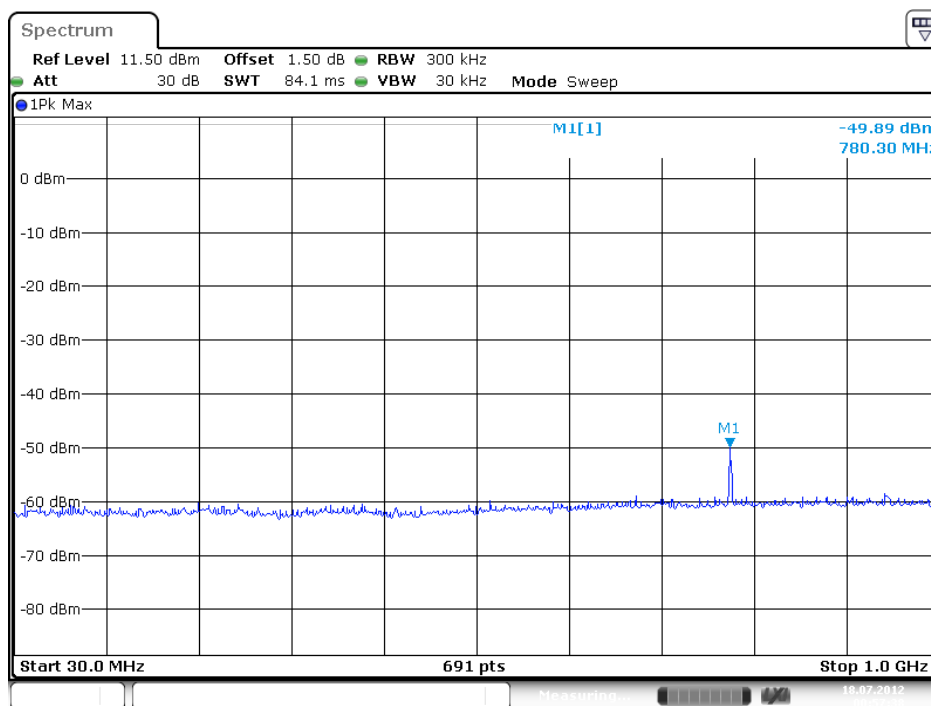
Temperature	23°C	Humidity	63%
Test Engineer	Sean Ku	Test Site	TH01-CB
Test Mode	Mode 1		

Conducted Spurious Emissions (5MHz BW Mode) - 4985MHz (30MHz ~ 1GHz) / Chain 1



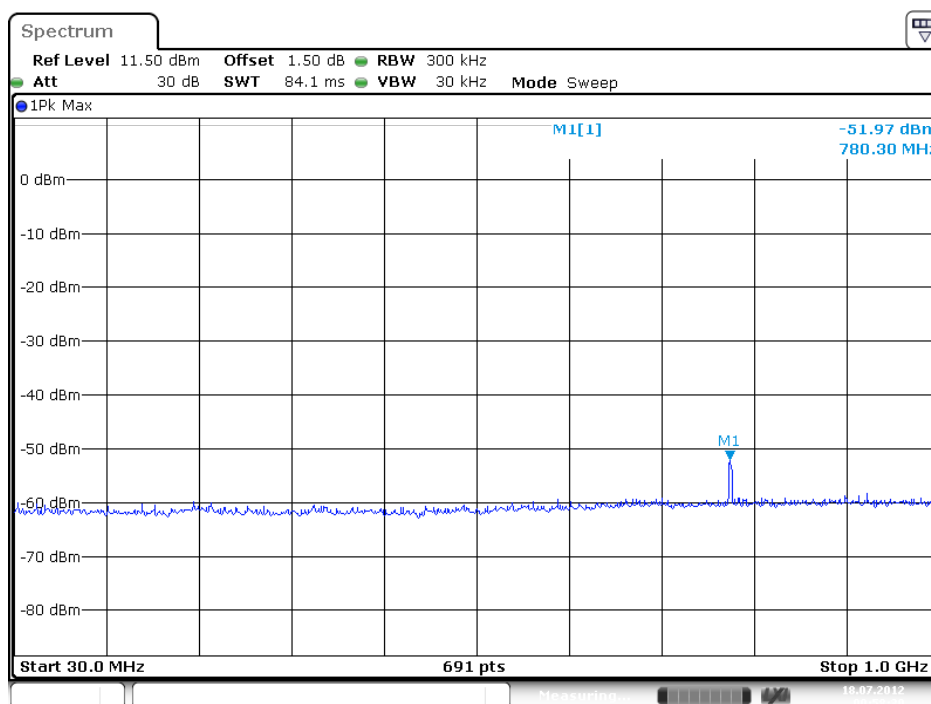
Date: 18.JUL.2012 00:56:32

Conducted Spurious Emissions (5MHz BW Mode) - 4985MHz (30MHz ~ 1GHz) / Chain 2



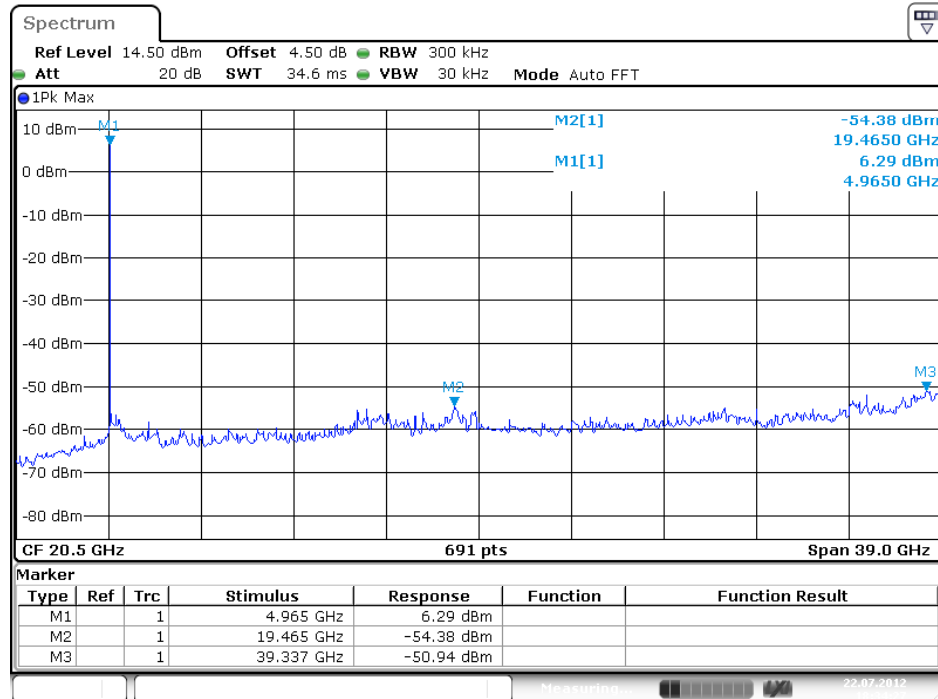
Date: 18.JUL.2012 00:57:39

Conducted Spurious Emissions (5MHz BW Mode) - 4985MHz (30MHz ~ 1GHz) / Chain 3



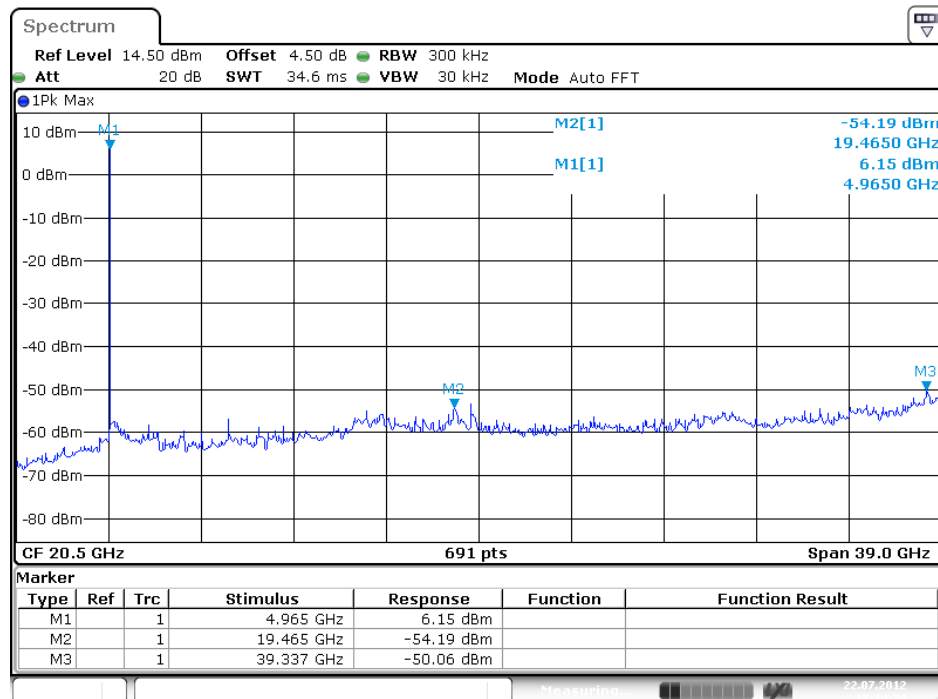
Date: 18.JUL.2012 00:58:31

Conducted Spurious Emissions (5MHz BW Mode) - 4965MHz (1GHz ~ 40GHz) / Chain 1



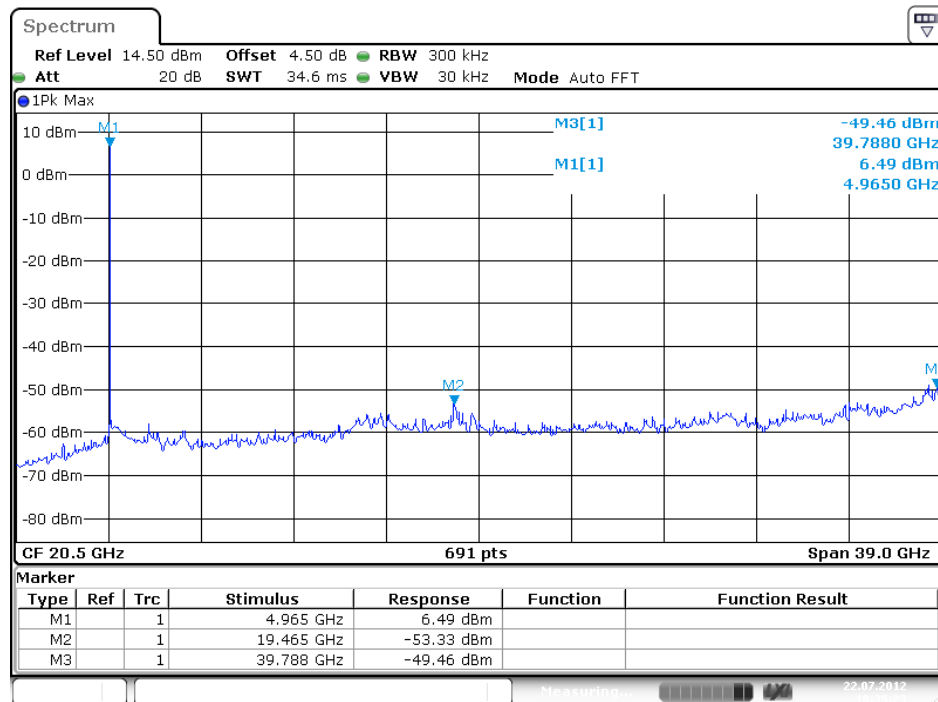
Date: 22.JUL.2012 18:34:28

Conducted Spurious Emissions (5MHz BW Mode) - 4965MHz (1GHz ~ 40GHz) / Chain 2



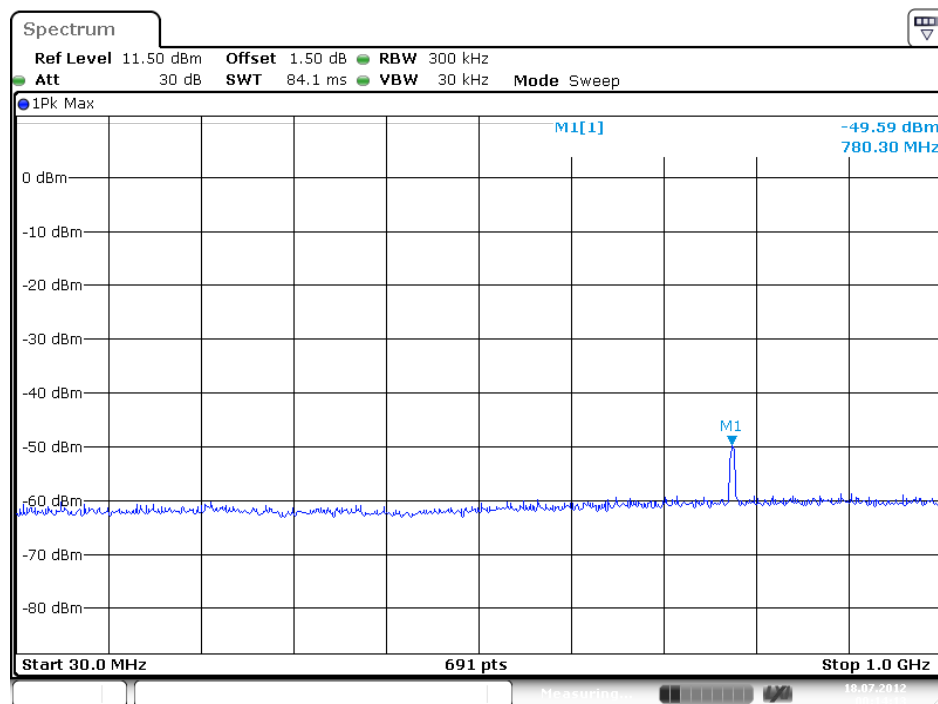
Date: 22.JUL.2012 18:34:54

Conducted Spurious Emissions (5MHz BW Mode) - 4965MHz (1GHz ~ 40GHz) / Chain 3



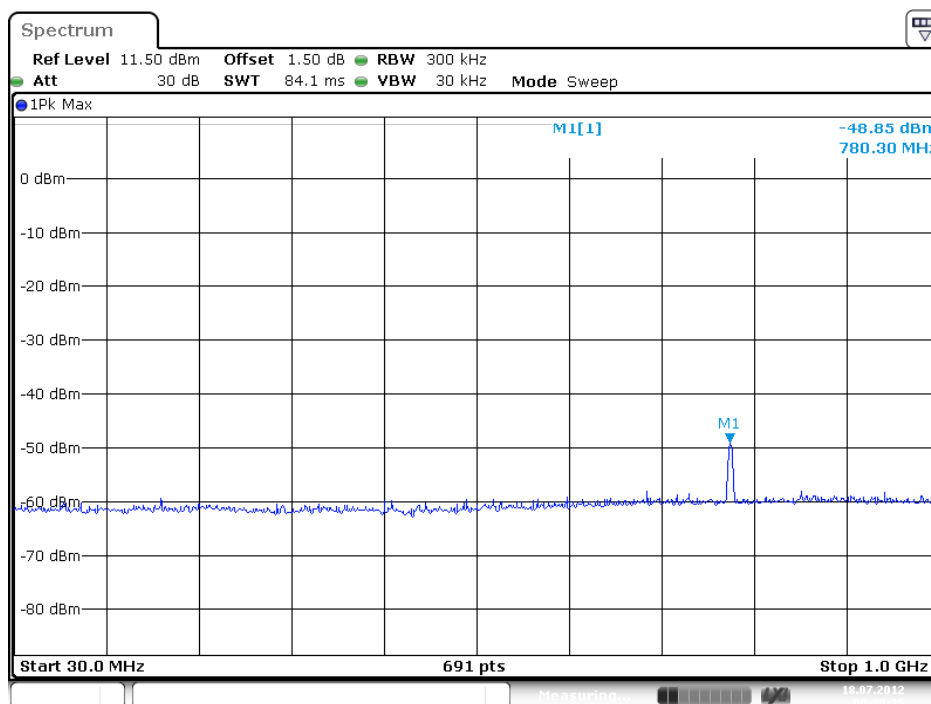
Date: 22.JUL.2012 18:35:23

Conducted Spurious Emissions (10MHz BW Mode) - 4985MHz (30MHz ~ 1GHz) / Chain 1



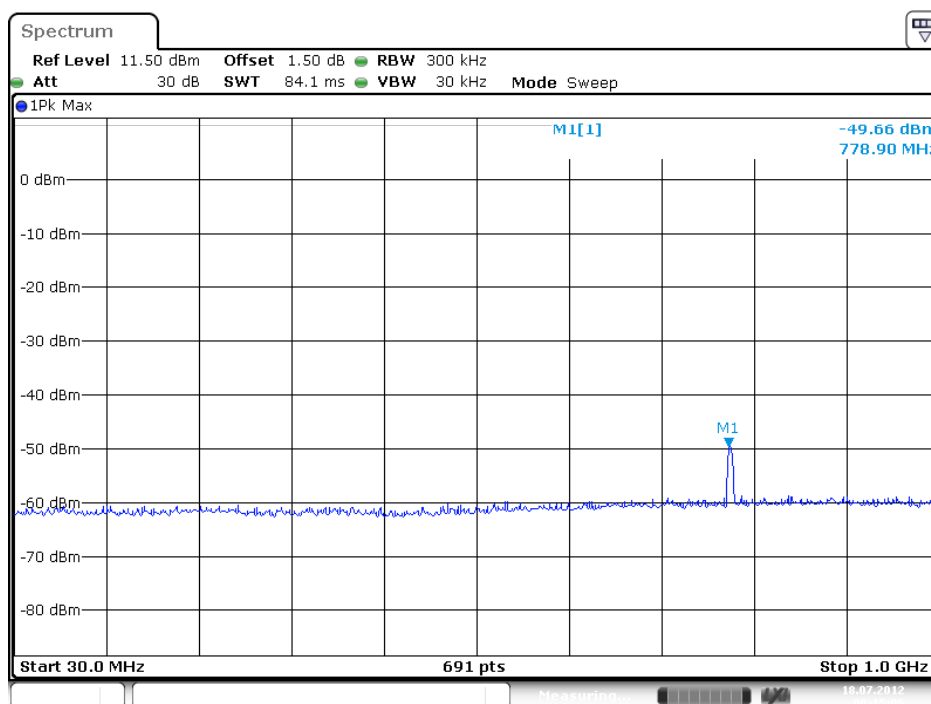
Date: 18.JUL.2012 00:14:14

Conducted Spurious Emissions (10MHz BW Mode) - 4985MHz (30MHz ~ 1GHz) / Chain 2



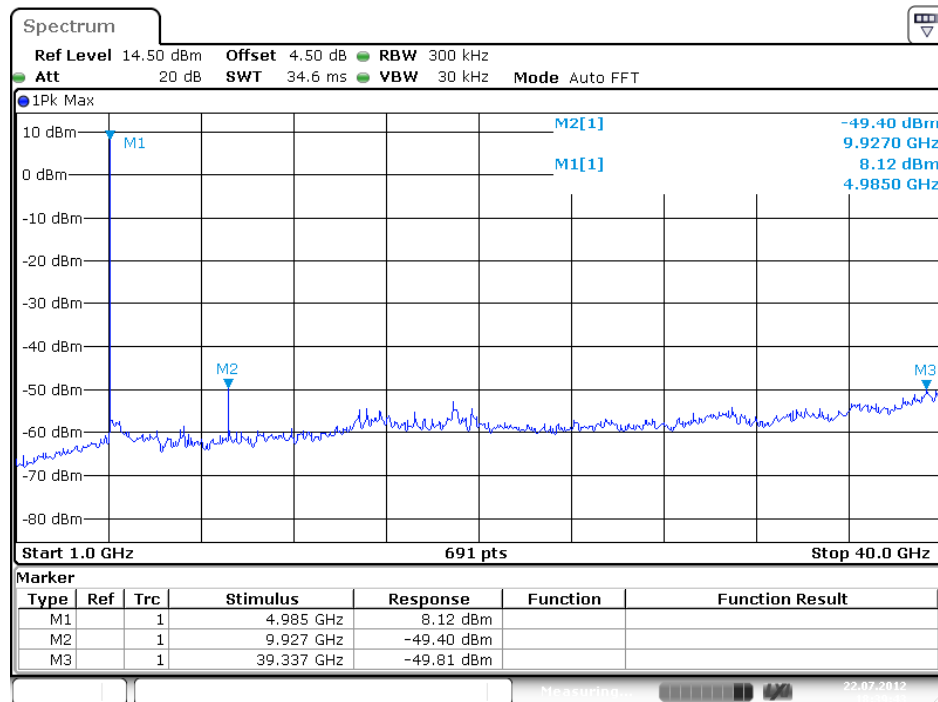
Date: 18.JUL.2012 00:20:26

Conducted Spurious Emissions (10MHz BW Mode) - 4985MHz (30MHz ~ 1GHz) / Chain 3



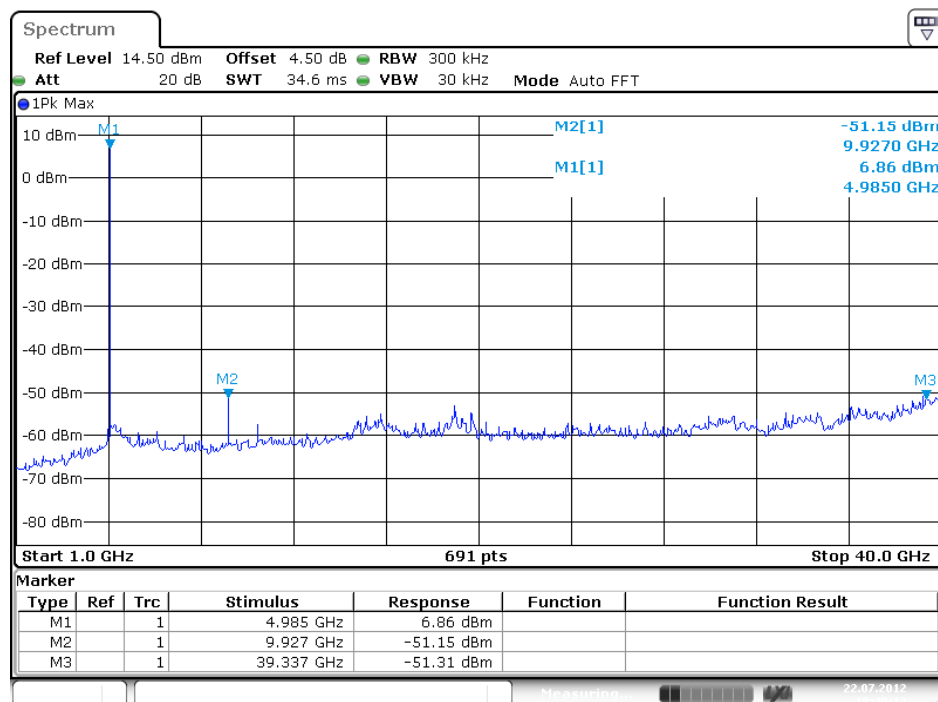
Date: 18.JUL.2012 00:15:06

Conducted Spurious Emissions (10MHz BW Mode) - 4985MHz (1GHz ~ 40GHz) / Chain 1



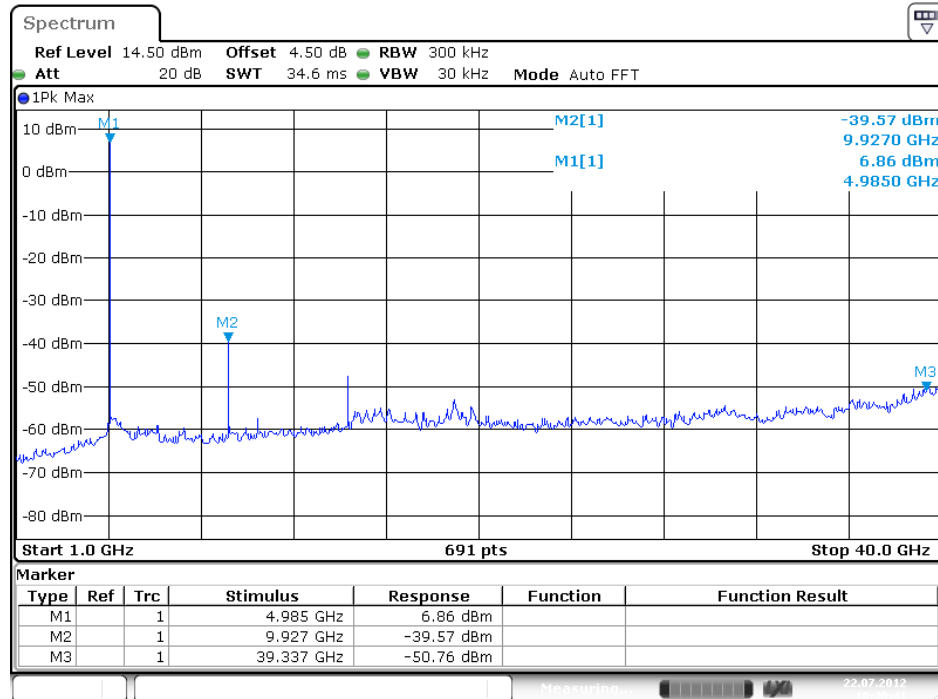
Date: 22.JUL.2012 18:39:43

Conducted Spurious Emissions (10MHz BW Mode) - 4985MHz (1GHz ~ 40GHz) / Chain 2



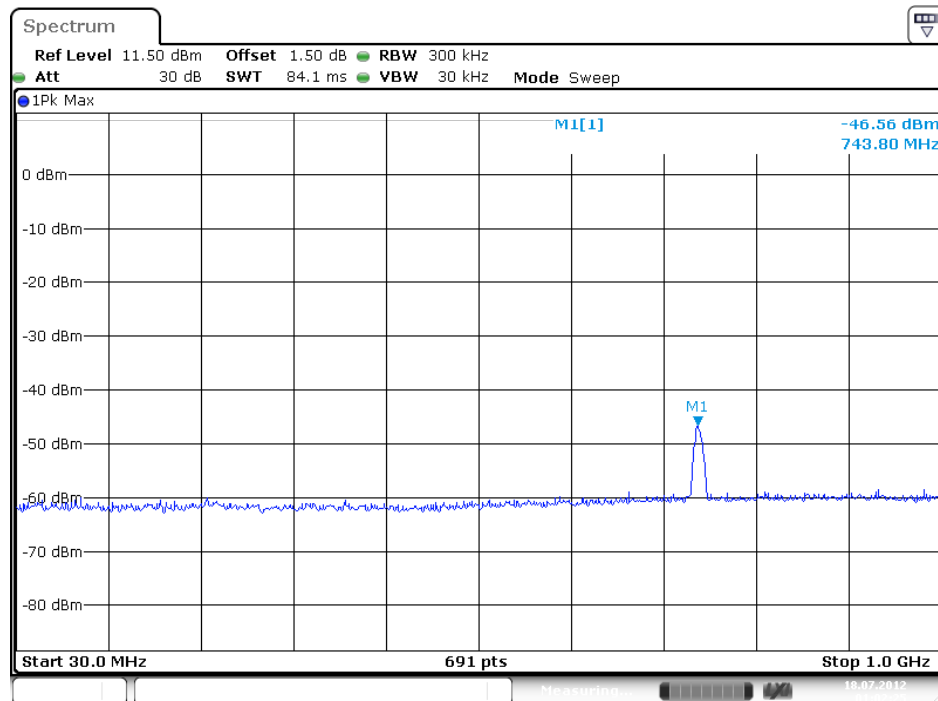
Date: 22.JUL.2012 18:40:12

Conducted Spurious Emissions (10MHz BW Mode) - 4985MHz (1GHz ~ 40GHz) / Chain 3

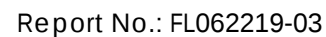


Date: 22.JUL.2012 18:40:41

Conducted Spurious Emissions (20MHz BW Mode) - 4950MHz (30MHz ~ 1GHz) / Chain 1



Date: 18.JUL.2012 01:02:26



The screenshot displays a Spectrum Analyzer interface. At the top, the title "Spectrum" is visible. Below it, a row of settings includes: "Ref Level 11.50 dBm", "Offset 1.50 dB", "RBW 300 kHz", "Att 30 dB", "SWT 84.1 ms", "VBW 30 kHz", and "Mode Sweep". The main display area shows a frequency spectrum with a horizontal axis ranging from 30.0 MHz to 1.0 GHz. A single, sharp peak is visible at 745.20 MHz, reaching a level of -44.98 dBm. The peak is labeled "M1" with a blue arrow pointing to it. The background is a grid with major lines every 10 dB and minor lines every 2 dB. The bottom status bar shows "Start 30.0 MHz", "691 pts", and "Stop 1.0 GHz".

Parameter	Value
Ref Level	11.50 dBm
Offset	1.50 dB
RBW	300 kHz
Att	30 dB
SWT	84.1 ms
VBW	30 kHz
Mode	Sweep
Peak Label	M1
Frequency	745.20 MHz
Amplitude	-44.98 dBm
Start Frequency	30.0 MHz
Stop Frequency	1.0 GHz
Points	691 pts

Date: 18.JUL.2012 01:04:06

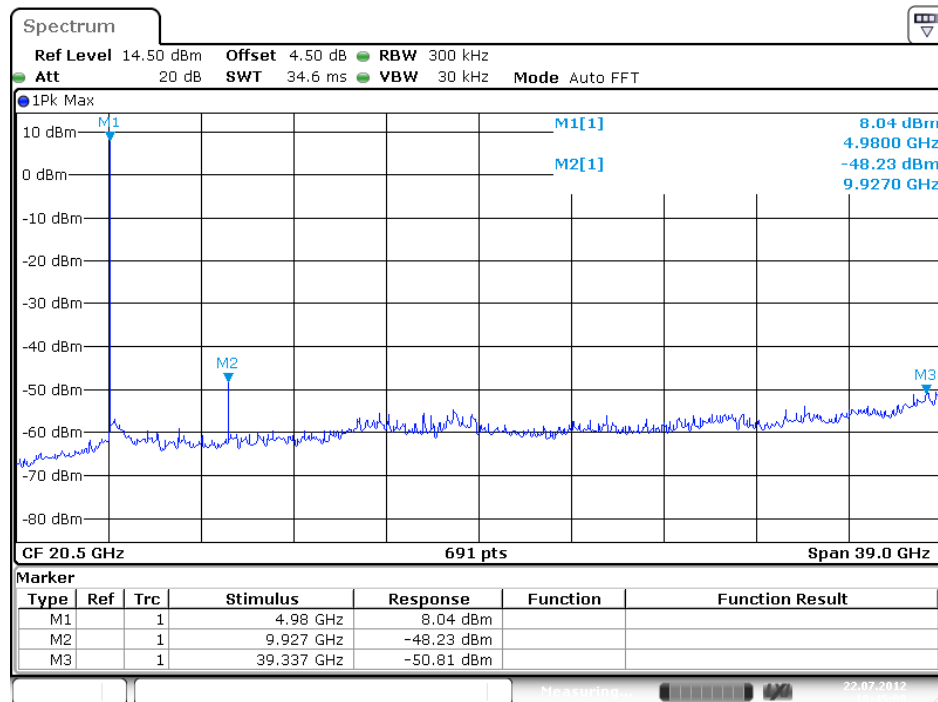
The screenshot shows a Spectrum Analyzer interface. The top panel displays the following settings:

- Ref Level:** 11.50 dBm
- Offset:** 1.50 dB
- RBW:** 300 kHz
- Att:** 30 dB
- SWT:** 84.1 ms
- VBW:** 30 kHz
- Mode:** Sweep

The main display area shows a spectrum plot with a frequency range from 30.0 MHz to 1.0 GHz. The vertical axis represents power in dBm, ranging from -80 dBm to 0 dBm. A single, sharp peak is visible at 746.60 MHz, labeled "M1[1]". The peak's power level is indicated as -47.87 dBm. The plot shows a noisy baseline around -60 dBm.

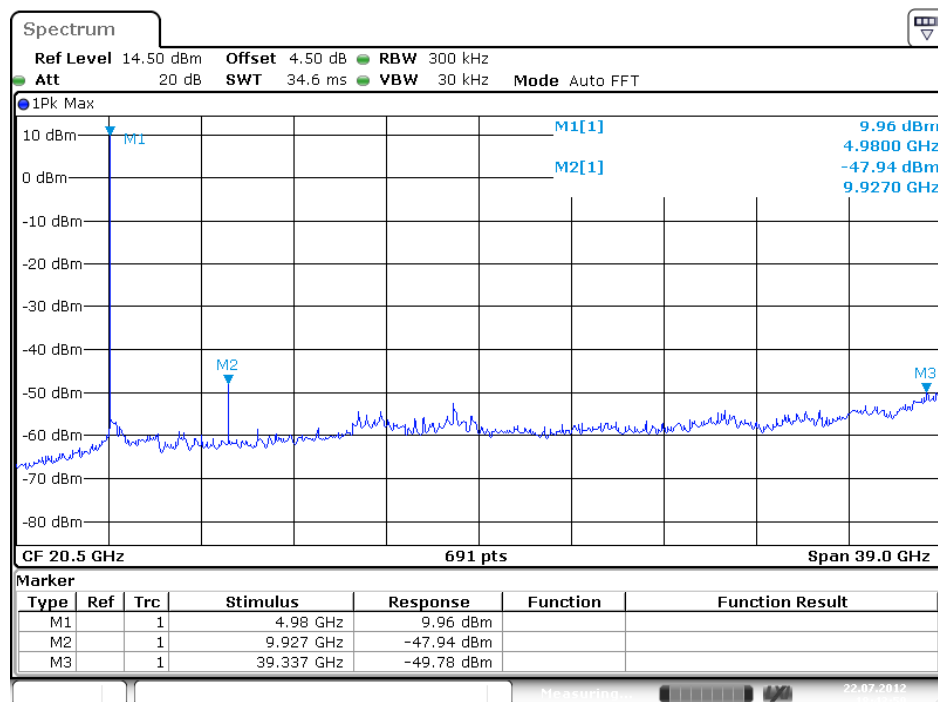
Date: 18.JUL.2012 01:04:40

Conducted Spurious Emissions (20MHz BW Mode) - 4980MHz (1GHz ~ 40GHz) / Chain 1



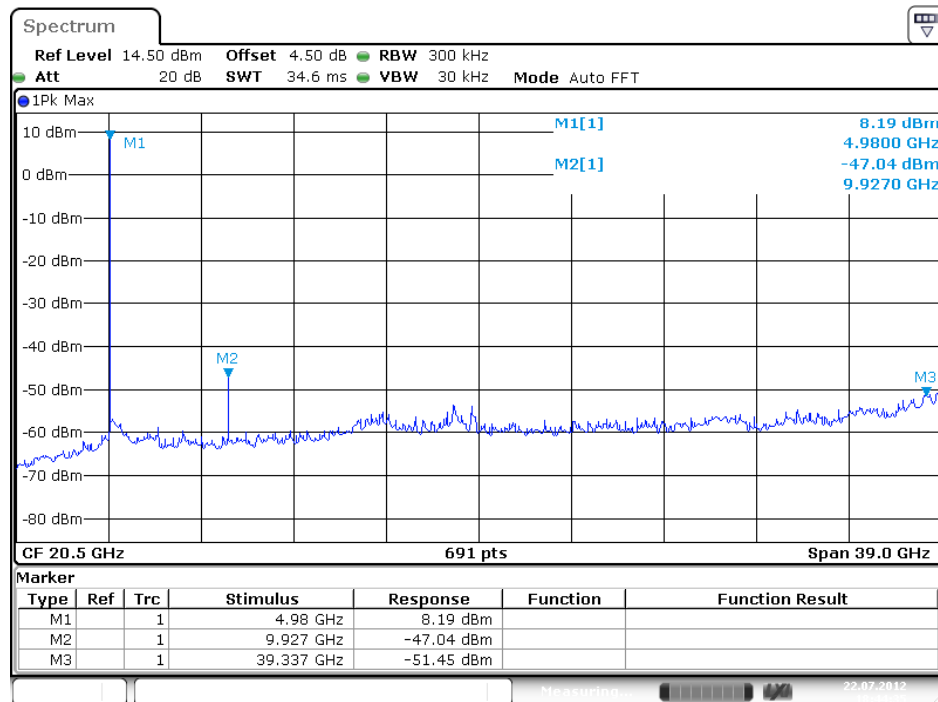
Date: 22.JUL.2012 18:45:00

Conducted Spurious Emissions (20MHz BW Mode) - 4980MHz (1GHz ~ 40GHz) / Chain 2



Date: 22.JUL.2012 18:43:59

Conducted Spurious Emissions (20MHz BW Mode) - 4980MHz (1GHz ~ 40GHz) / Chain 3

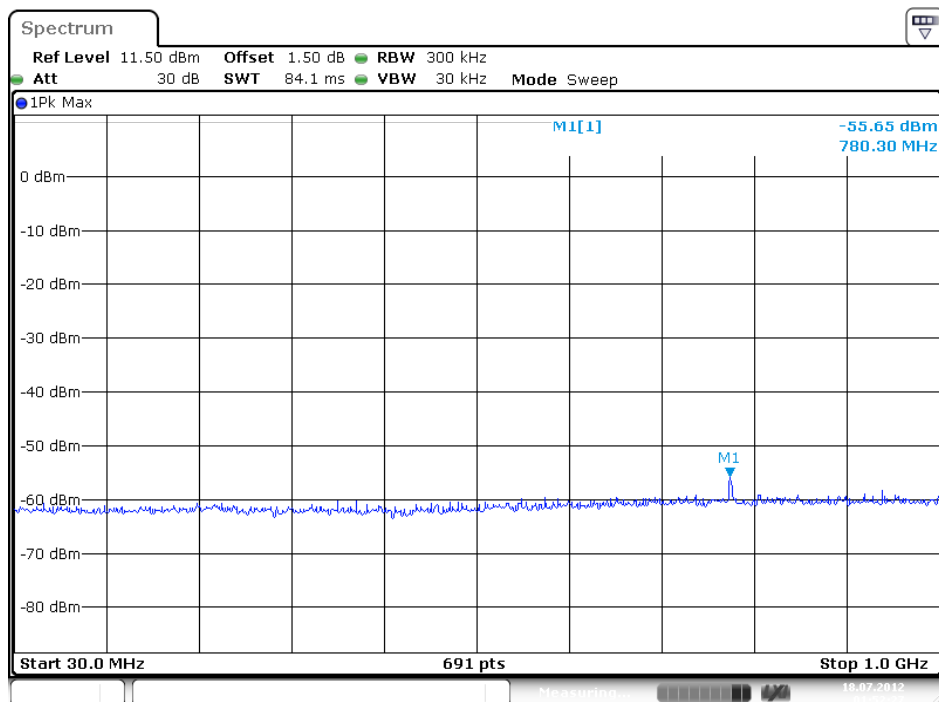


Date: 22.JUL.2012 18:44:35

Note: The amplitude of spurious emissions which are attenuated more than 20 dB below the permissible value need not be reported.

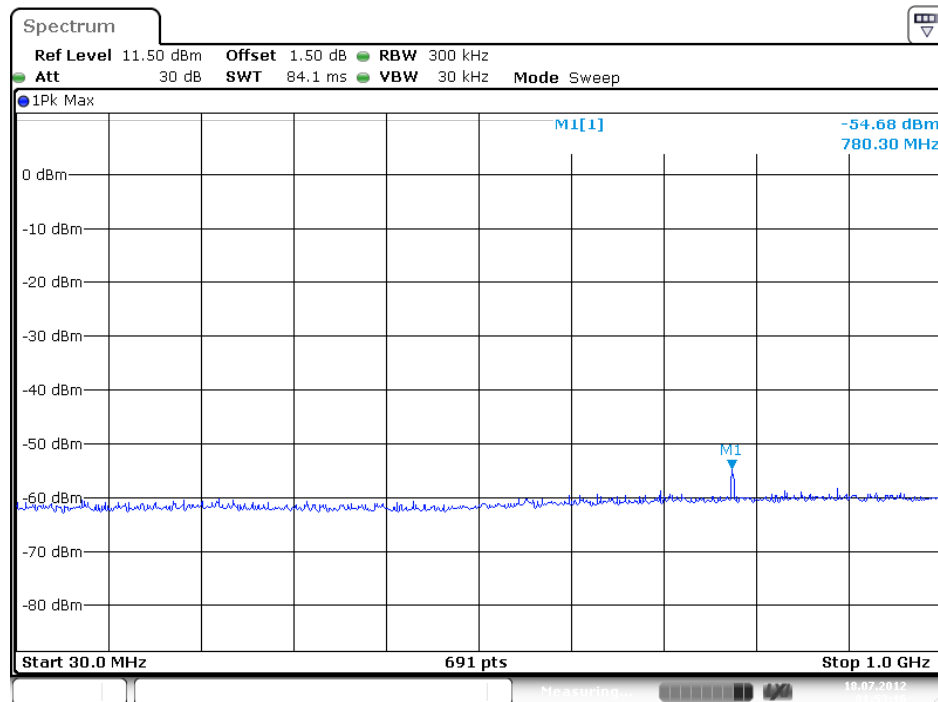
Temperature	23°C	Humidity	63%
Test Engineer	Sean Ku	Test Site	TH01-CB
Test Mode	Mode 2		

Conducted Spurious Emissions (5MHz BW Mode) - 4985MHz (30MHz ~ 1GHz) / Chain 1

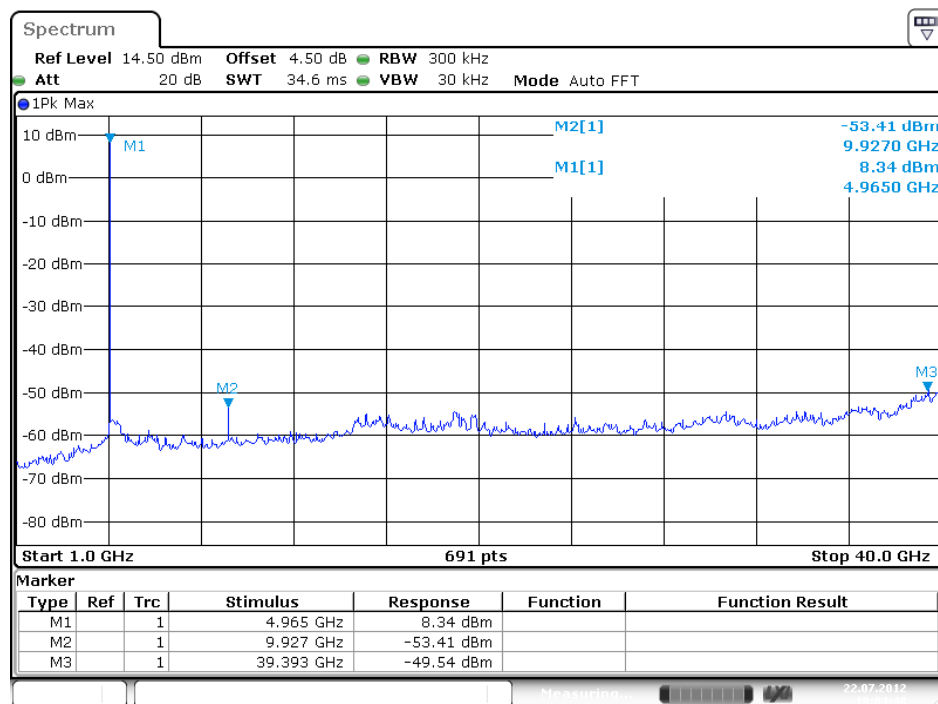


Date: 18.JUL.2012 01:52:27

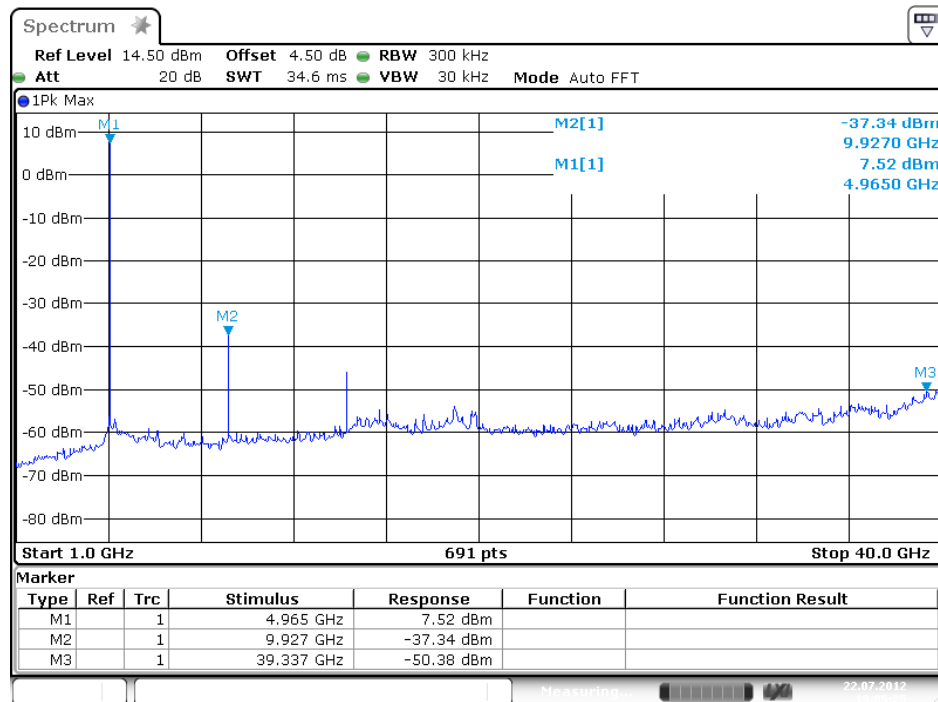
Conducted Spurious Emissions (5MHz BW Mode) - 4985MHz (30MHz ~ 1GHz) / Chain 3



Conducted Spurious Emissions (5MHz BW Mode) - 4965MHz (1GHz ~ 40GHz) / Chain 1

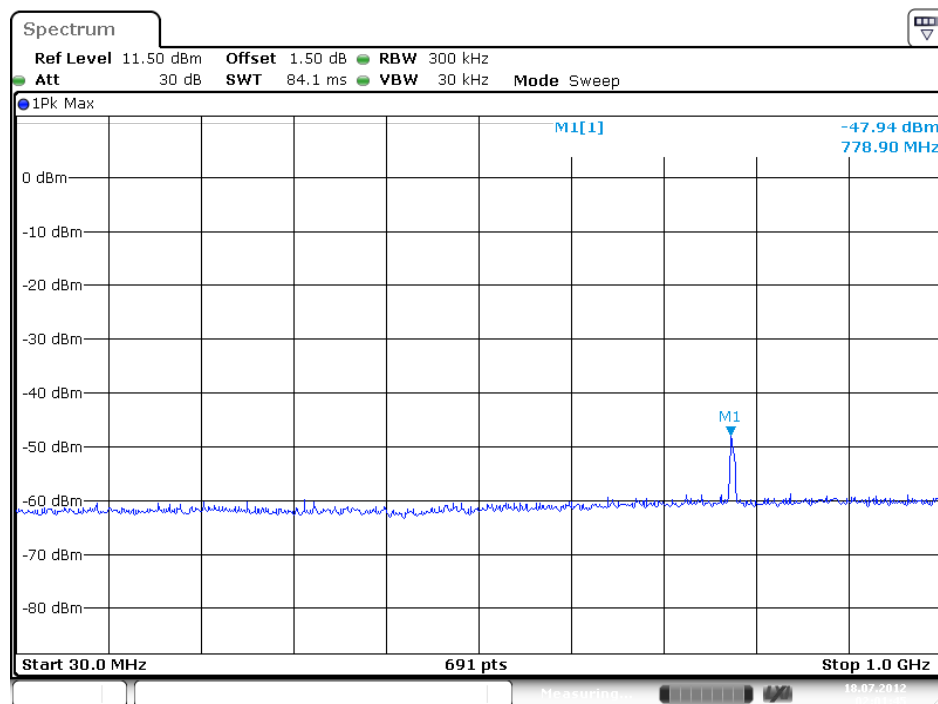


Conducted Spurious Emissions (5MHz BW Mode) - 4965MHz (1GHz ~ 40GHz) / Chain 3



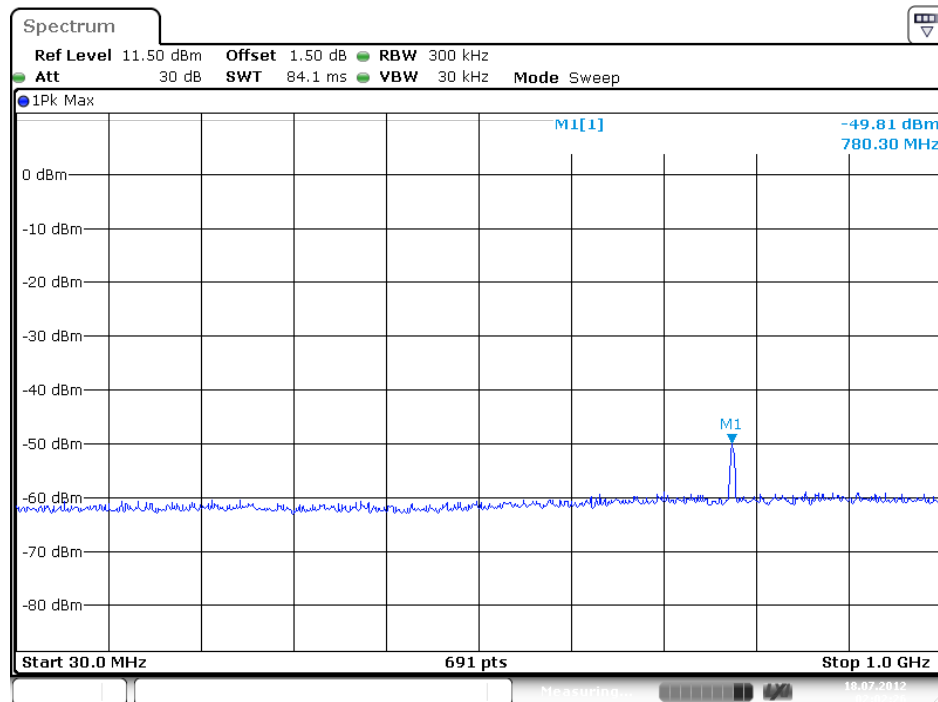
Date: 22.JUL.2012 19:05:25

Conducted Spurious Emissions (10MHz BW Mode) - 4985MHz (30MHz ~ 1GHz) / Chain 1



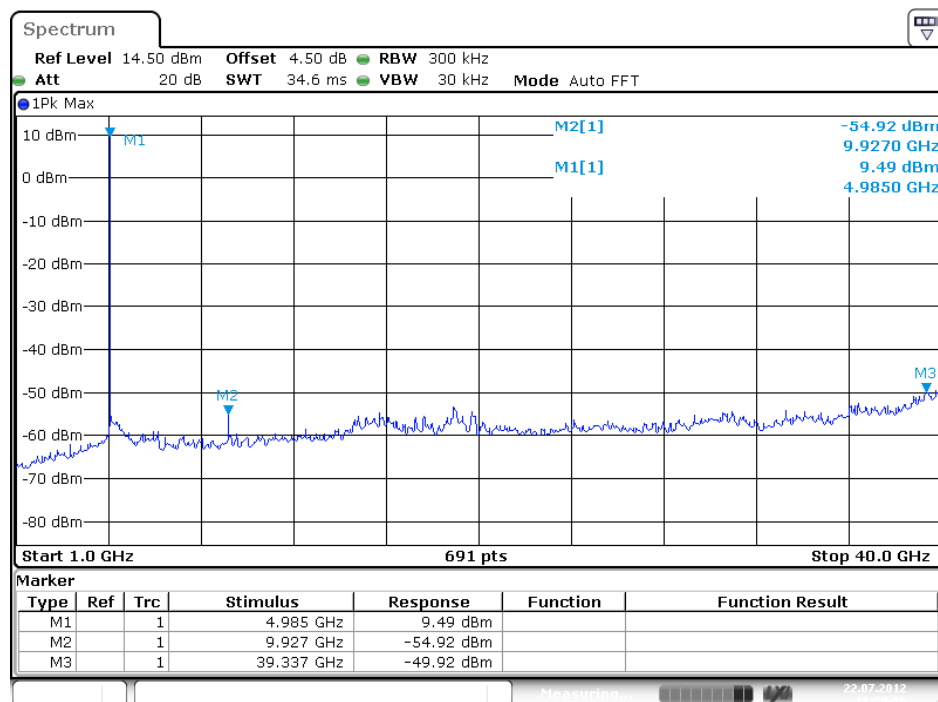
Date: 18.JUL.2012 02:01:46

Conducted Spurious Emissions (10MHz BW Mode) - 4985MHz (30MHz ~ 1GHz) / Chain 3



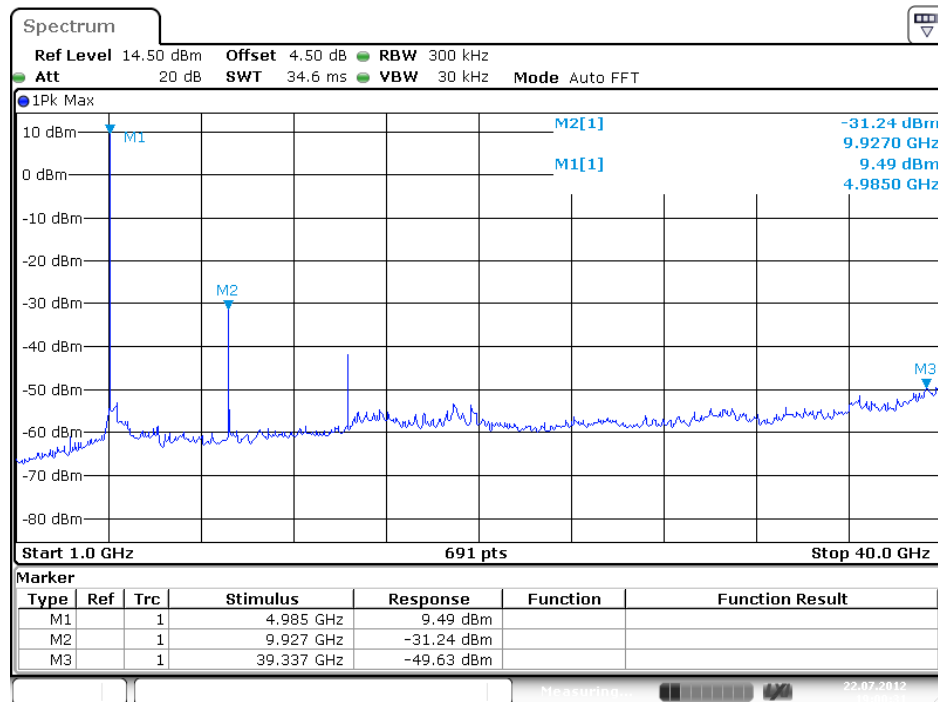
Date: 18.JUL.2012 02:02:26

Conducted Spurious Emissions (10MHz BW Mode) - 4985MHz (1GHz ~ 40GHz) / Chain 1



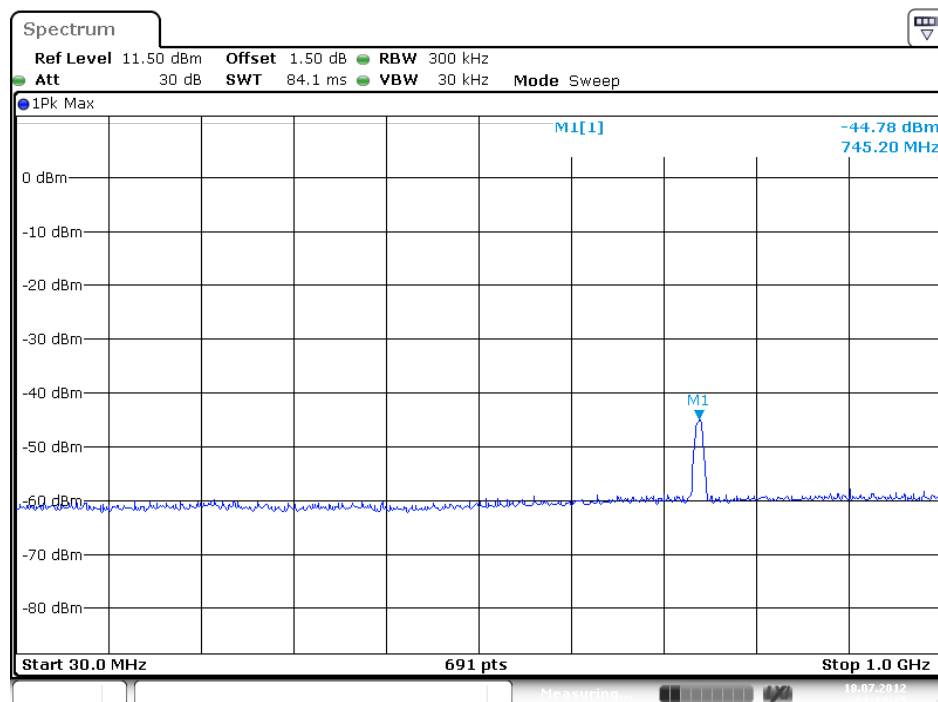
Date: 22.JUL.2012 18:59:56

Conducted Spurious Emissions (10MHz BW Mode) - 4985MHz (1GHz ~ 40GHz) / Chain 3



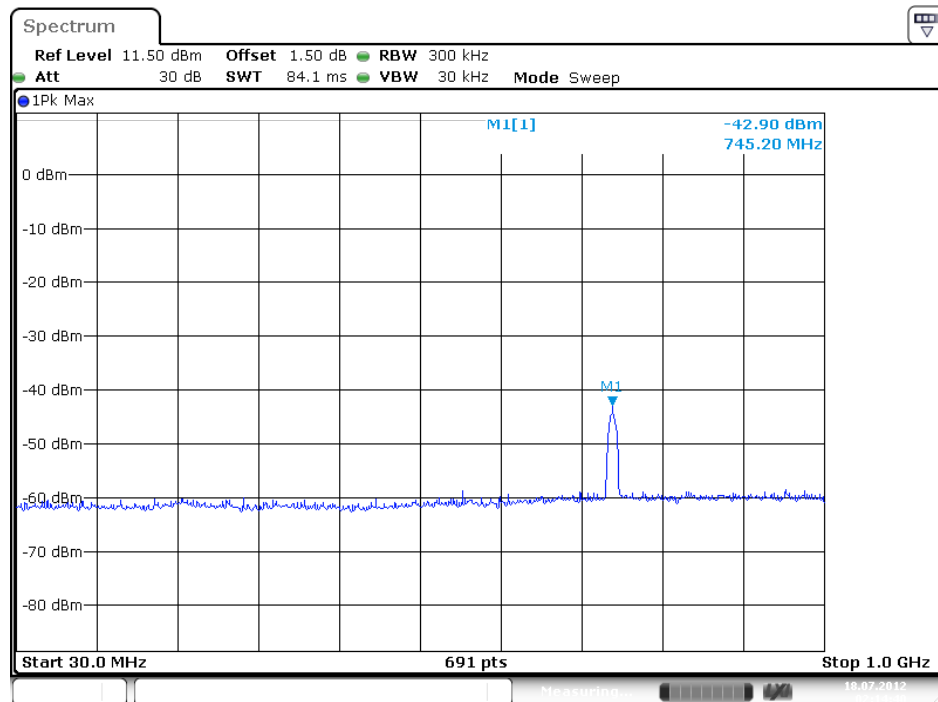
Date: 22.JUL.2012 19:00:31

Conducted Spurious Emissions (20MHz BW Mode) - 4950MHz (30MHz ~ 1GHz) / Chain 1



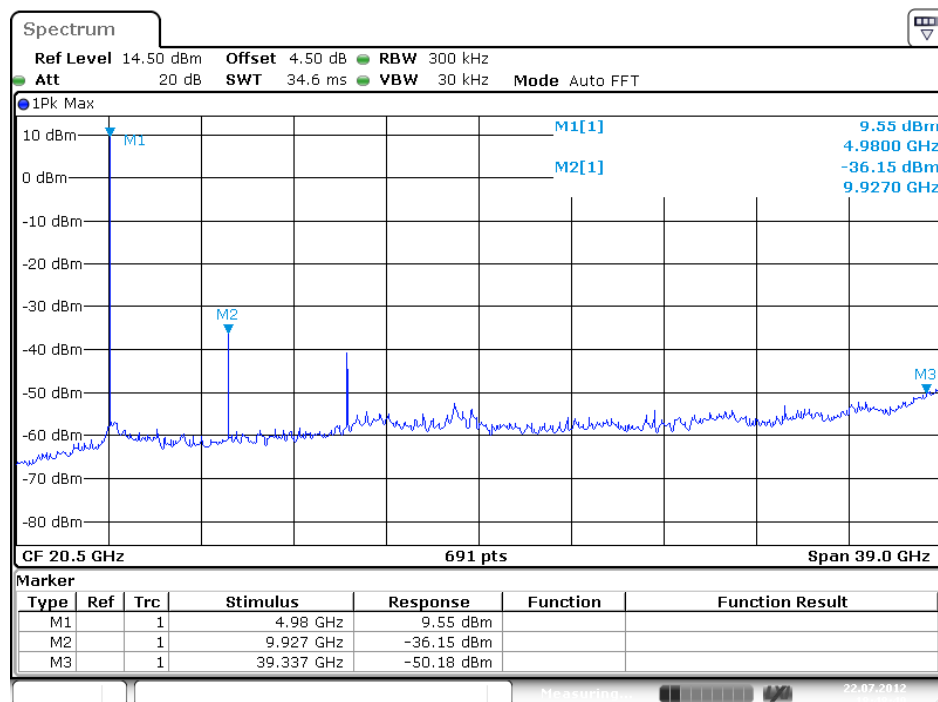
Date: 18.JUL.2012 02:13:36

Conducted Spurious Emissions (20MHz BW Mode) - 4950MHz (30MHz ~ 1GHz) / Chain 3



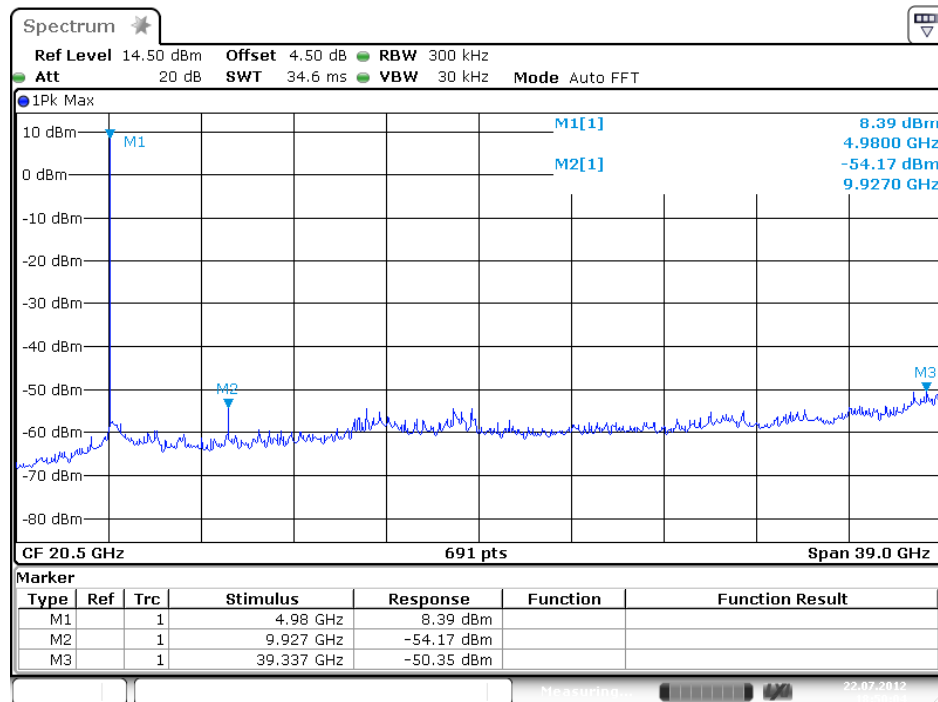
Date: 18.JUL.2012 02:14:41

Conducted Spurious Emissions (20MHz BW Mode) - 4980MHz (1GHz ~ 40GHz) / Chain 1



Date: 22.JUL.2012 18:48:49

Conducted Spurious Emissions (20MHz BW Mode) - 4980MHz (1GHz ~ 40GHz) / Chain 3



Date: 22.JUL.2012 18:50:04

Note: The amplitude of spurious emissions which are attenuated more than 20 dB below the permissible value need not be reported.

4.6. Radiated Spurious Emissions Measurement

4.6.1. Limit

On any frequency removed from the assigned frequency above 150% of the authorized bandwidth: $50 \text{ or } 55 + 10 \log (P) \text{ dB}$, whichever is the lesser attenuation. (P=Average transmit power in watt)

Note 1: This may be converted to a field strength level at 3 meters using $E \text{ (dBuV/m)} = P(\text{dBm}) + 95.2 \text{ dB}$.

Note 2: Above 10GHz shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade at 3m.

Test Mode: Mode 1 (5MHz Channel Bandwidth Mode)

Frequency	Average Power (dBm)				Radiated Limit (dBm)
	Chain 1	Chain 2	Chain 3	Total	
4945 MHz	12.16	12.08	12.23	16.93	-33.07
4965 MHz	12.33	12.26	12.07	16.99	-33.01
4985 MHz	12.12	12.05	12.18	16.89	-33.11
Attenuation (dB) = 50 or 55+ 10 log (P), Whichever is the lesser; Limit (dBm) = -25dBm					

Test Mode: Mode 1 (10MHz Channel Bandwidth Mode)

Frequency	Average Power (dBm)				Radiated Limit (dBm)
	Chain 1	Chain 2	Chain 3	Total	
4945 MHz	15.42	16.08	15.17	20.35	-29.65
4965 MHz	15.47	16.29	15.42	20.52	-29.48
4985 MHz	15.07	16.02	15.61	20.36	-29.64
Attenuation (dB) = 50 or 55+ 10 log (P), Whichever is the lesser; Limit (dBm) = -25dBm					

Test Mode: Mode 1 (20MHz Channel Bandwidth Mode)

Frequency	Average Power (dBm)				Radiated Limit (dBm)
	Chain 1	Chain 2	Chain 3	Total	
4950 MHz	18.52	18.92	18.34	23.37	-26.63
4965 MHz	18.92	19.37	18.73	23.79	-26.21
4980 MHz	19.27	19.89	19.21	24.24	-25.76
Attenuation (dB) = 50 or 55+ 10 log (P), Whichever is the lesser; Limit (dBm) = -25dBm					

Test Mode: Mode 2 (5MHz Channel Bandwidth Mode)

Frequency	Average Power (dBm)			Radiated Limit (dBm)
	Chain 1	Chain 3	Total	
4945 MHz	12.94	14.31	16.69	-33.31
4965 MHz	13.10	14.28	16.74	-33.26
4985 MHz	13.12	14.32	16.77	-33.23
Attenuation (dB) = 50 or 55+ 10 log (P), Whichever is the lesser; Limit (dBm) = -25dBm				

Test Mode: Mode 2 (10MHz Channel Bandwidth Mode)

Frequency	Average Power (dBm)			Radiated Limit (dBm)
	Chain 1	Chain 3	Total	
4945 MHz	16.37	17.18	19.80	-30.20
4965 MHz	16.38	17.26	19.85	-30.15
4985 MHz	16.51	17.21	19.88	-30.12
Attenuation (dB) = 50 or 55+ 10 log (P), Whichever is the lesser; Limit (dBm) = -25dBm				

Test Mode: Mode 2 (20MHz Channel Bandwidth Mode)

Frequency	Average Power (dBm)			Radiated Limit (dBm)
	Chain 1	Chain 3	Total	
4950 MHz	20.32	21.06	23.72	-26.28
4965 MHz	20.25	21.15	23.73	-26.27
4980 MHz	19.65	20.65	23.19	-26.81
Attenuation (dB) = 50 or 55+ 10 log (P), Whichever is the lesser; Limit (dBm) = -25dBm				

4.6.2. Measuring Instruments and Setting

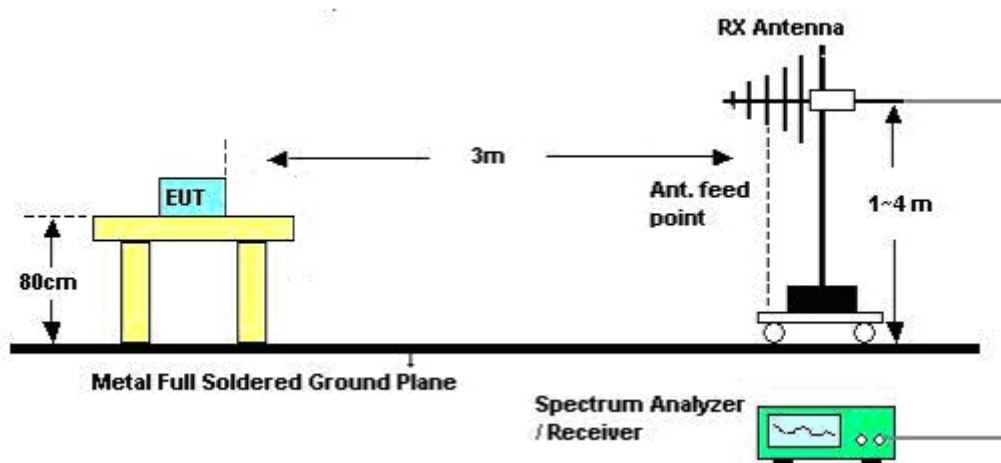
Please refer to section 5 in this report. The following table is the setting of the Spectrum Analyzer.

Spectrum Parameter	Setting
Detector	Peak
Frequency Range	30MHz – 40GHz
RBW / VBW	1 MHz / 3MHz

4.6.3. Test Procedures

1. The EUT was placed on the top of the turntable in anechoic chamber.
2. A spectrum analyzer was used RBW of 1 MHz and VBW of 3 MHz for the final measurements utilizing an RMS detector at the frequencies with spurious emissions amplitudes.
3. For each suspected emissions, the antenna tower was scan (from 1 M to 4 M) and then the turntable was rotated (from 0 degree to 360 degrees) to find *spurious emissions reading*.
4. *Spurious emissions field strength level* equal to *spurious emissions reading on spectrum analyzer*+ *Corrected Reading* (Antenna Factor + Cable Loss - Preamp Factor).
5. Final *radiated spurious emissions* may be converted from *spurious emissions field strength level* - 95.2 dB

4.6.4. Test Setup Layout



4.6.5. Test Deviation

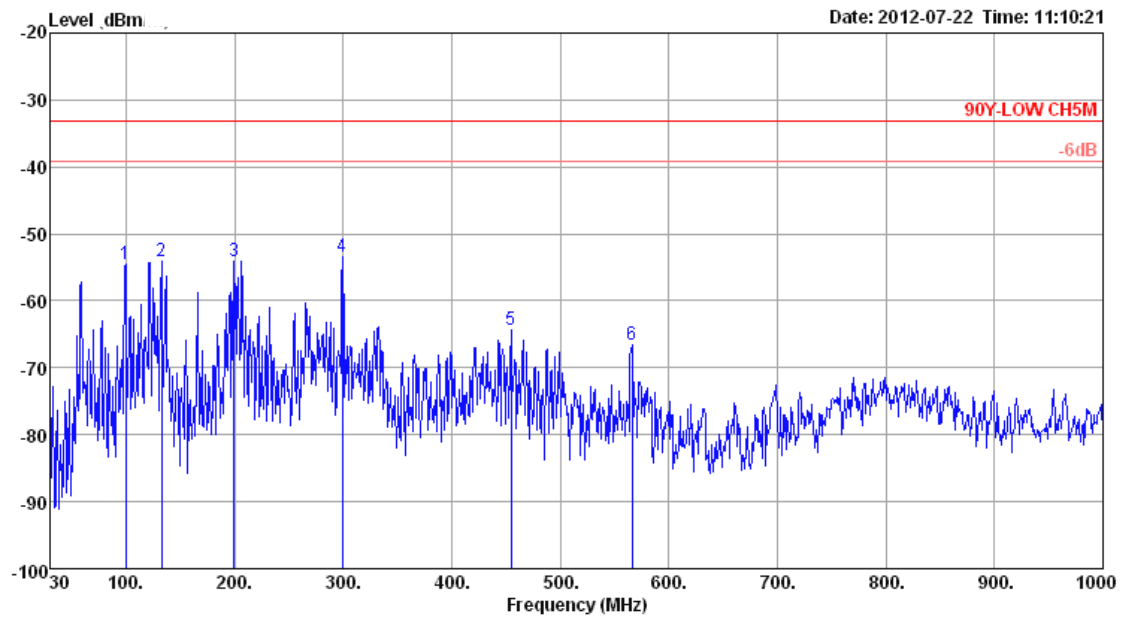
There is no deviation with the original standard.

4.6.6. Results of Radiated Spurious Emissions

Temperature	24°C	Humidity	56%
Test Engineer	Sean Ku	Test Site	03CH01-CB
Test Mode	Mode 1		

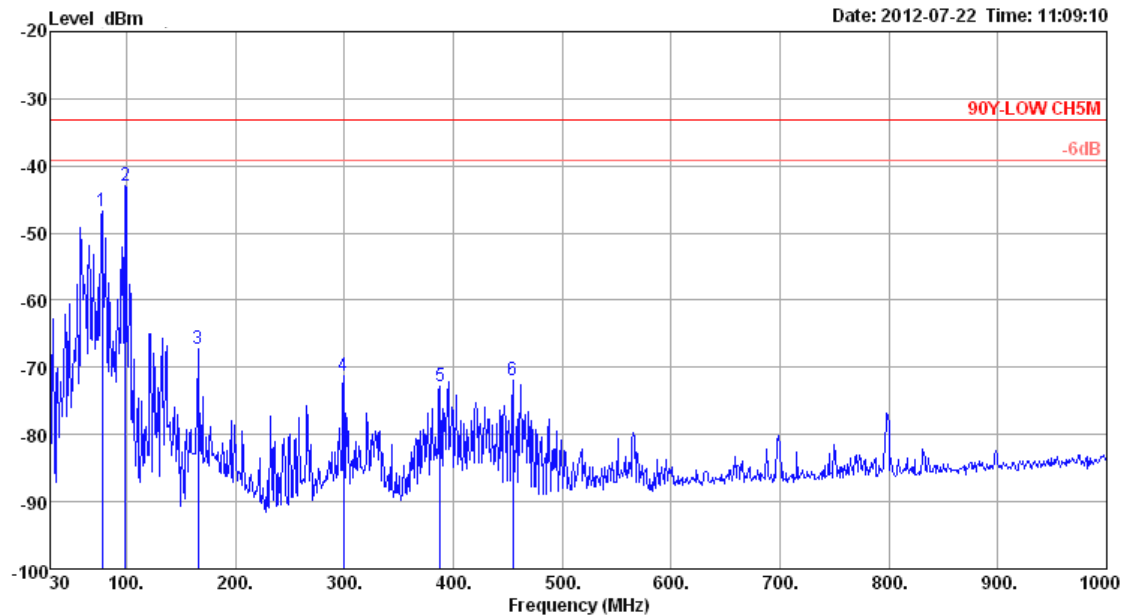
Radiated Spurious Emissions (5MHz BW Mode) - 4945MHz (30MHz ~ 1GHz)

Horizontal



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	Remark	cm	deg
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB			Pol/Phase
1	99.84	-54.58	-33.06	-21.52	-39.17	1.20	10.99	27.60	Peak	100	0 HORIZONTAL
2	132.82	-54.05	-33.06	-20.99	-40.23	1.33	12.28	27.43	Peak	100	0 HORIZONTAL
3	199.75	-54.03	-33.06	-20.97	-37.68	1.70	9.05	27.10	Peak	100	0 HORIZONTAL
4	299.66	-53.44	-33.06	-20.38	-42.00	2.10	13.36	26.90	Peak	100	0 HORIZONTAL
5	454.86	-64.39	-33.06	-31.33	-56.05	2.61	16.92	27.87	Peak	100	0 HORIZONTAL
6	566.41	-66.61	-33.06	-33.55	-59.72	2.83	18.38	28.10	Peak	100	0 HORIZONTAL

Vertical



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp		A/Pos	T/Pos	
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	Remark	cm	deg	Pol/Phase
1	77.53	-46.71	-33.06	-13.65	-27.05	1.00	7.03	27.69	Peak	400	360	VERTICAL
2	98.87	-43.05	-33.06	-9.99	-27.41	1.18	10.79	27.61	Peak	400	360	VERTICAL
3	165.80	-67.30	-33.06	-34.24	-54.03	1.53	12.47	27.27	Peak	400	360	VERTICAL
4	299.66	-71.18	-33.06	-38.12	-59.74	2.10	13.36	26.90	Peak	400	360	VERTICAL
5	387.93	-72.88	-33.06	-39.82	-63.39	2.28	15.75	27.52	Peak	400	360	VERTICAL
6	454.86	-72.01	-33.06	-38.95	-63.67	2.61	16.92	27.87	Peak	400	360	VERTICAL

Note:

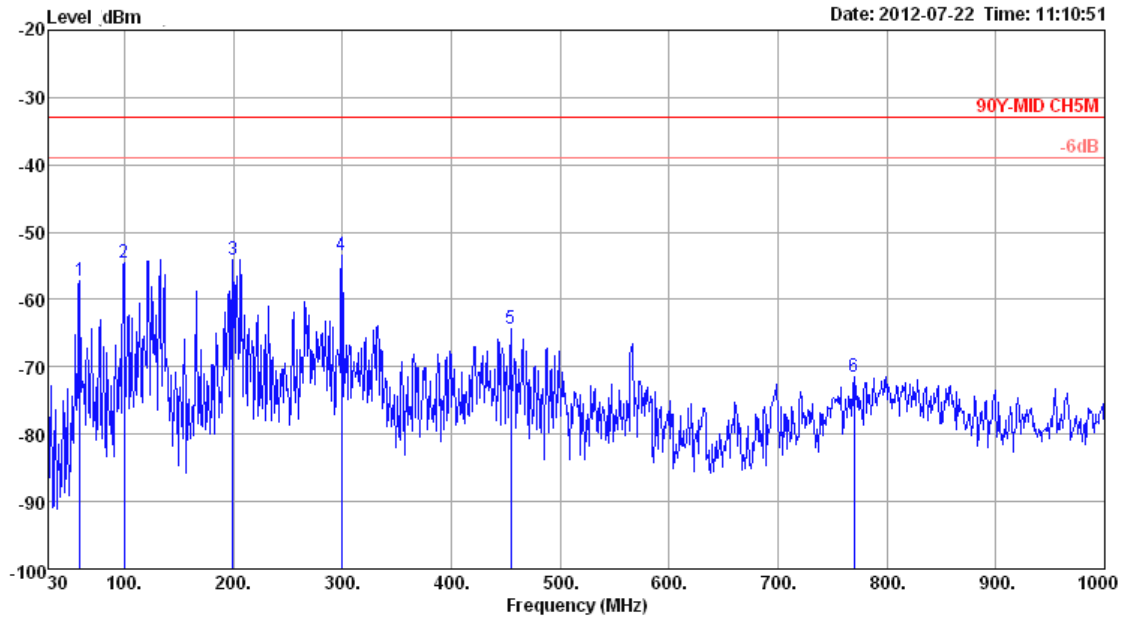
The amplitude of spurious emissions which are attenuated more than 20 dB below the permissible value need not be reported.

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level

Temperature	24°C	Humidity	56%
Test Engineer	Sean Ku	Test Site	03CH01-CB
Test Mode	Mode 1		

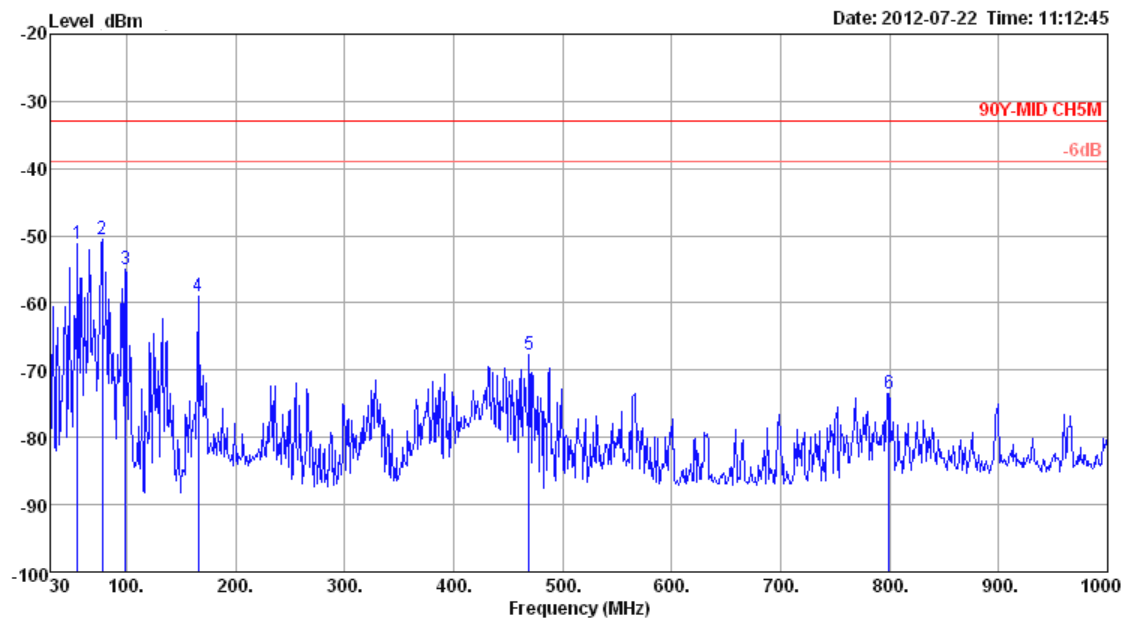
Radiated Spurious Emissions (5MHz BW Mode) - 4965MHz (30MHz ~ 1GHz)

Horizontal



	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	59.10	-57.30	-33.00	-24.30	-37.29	0.80	6.95	27.76 Peak	100	0	HORIZONTAL
2	99.84	-54.58	-33.00	-21.58	-39.17	1.20	10.99	27.60 Peak	100	0	HORIZONTAL
3	199.75	-54.03	-33.00	-21.03	-37.68	1.70	9.05	27.10 Peak	100	0	HORIZONTAL
4	299.66	-53.44	-33.00	-20.44	-42.00	2.10	13.36	26.90 Peak	100	0	HORIZONTAL
5	454.86	-64.39	-33.00	-31.39	-56.05	2.61	16.92	27.87 Peak	100	0	HORIZONTAL
6	770.11	-71.58	-33.00	-38.58	-66.85	3.42	19.57	27.72 Peak	100	0	HORIZONTAL

Vertical



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp		A/Pos	T/Pos	
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	Remark	cm	deg	Pol/Phase
1	55.22	-51.27	-33.00	-18.27	-31.94	0.80	7.65	27.78	Peak	400	360	VERTICAL
2	77.53	-50.59	-33.00	-17.59	-30.93	1.00	7.03	27.69	Peak	400	360	VERTICAL
3	98.87	-55.02	-33.00	-22.02	-39.38	1.18	10.79	27.61	Peak	400	360	VERTICAL
4	165.80	-58.94	-33.00	-25.94	-45.67	1.53	12.47	27.27	Peak	400	360	VERTICAL
5	469.41	-67.70	-33.00	-34.70	-59.54	2.64	17.15	27.95	Peak	400	360	VERTICAL
6	799.21	-73.46	-33.00	-40.46	-68.91	3.30	19.76	27.61	Peak	400	360	VERTICAL

Note:

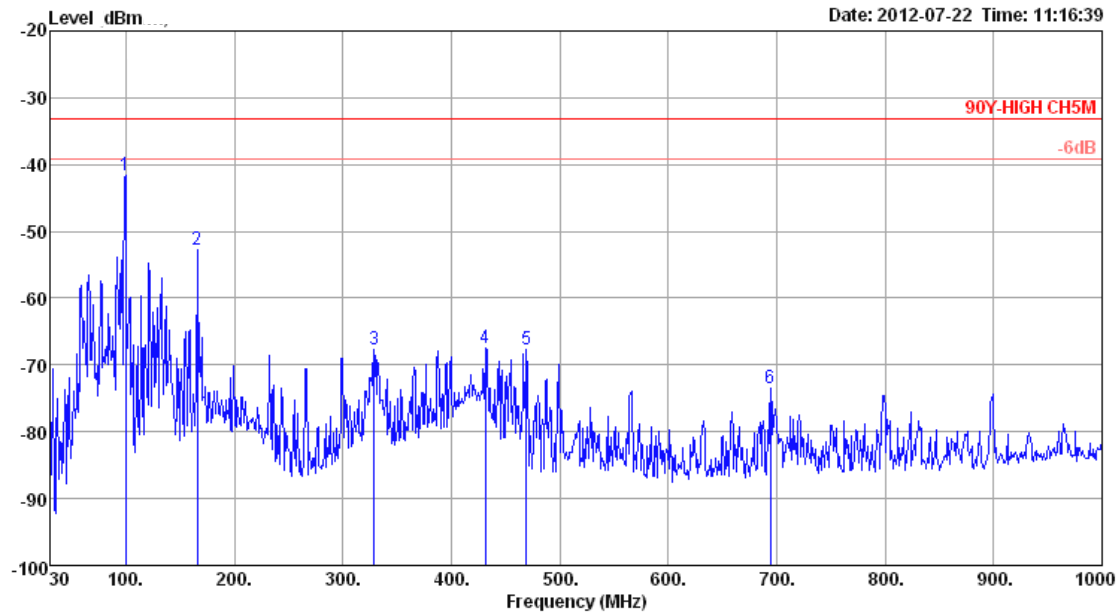
The amplitude of spurious emissions which are attenuated more than 20 dB below the permissible value need not be reported.

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level

Temperature	24°C	Humidity	56%
Test Engineer	Sean Ku	Test Site	03CH01-CB
Test Mode	Mode 1		

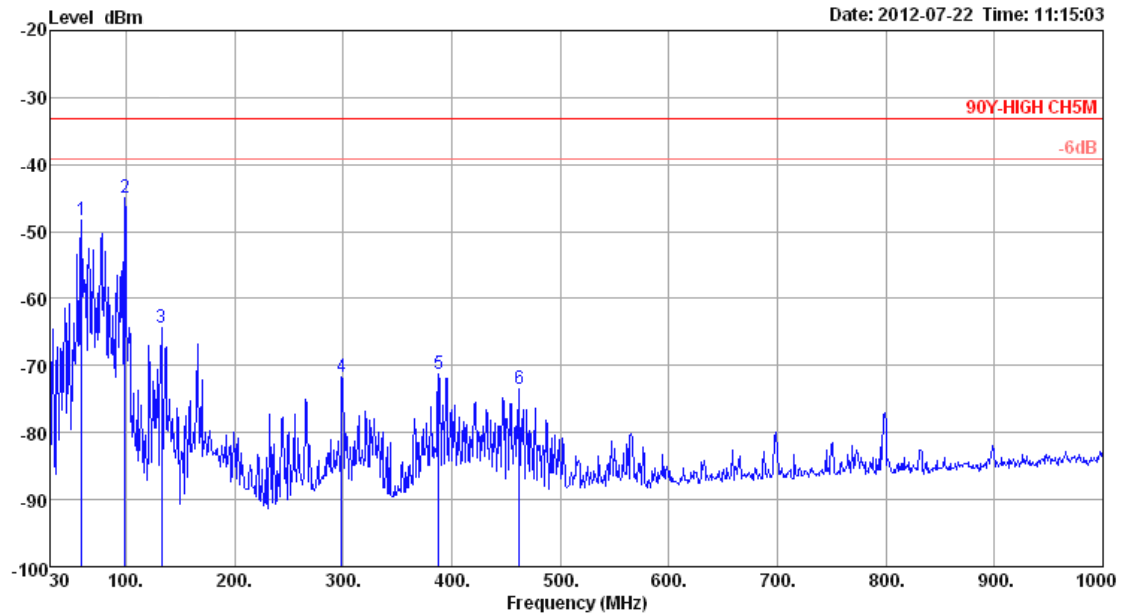
Radiated Spurious Emissions (5MHz BW Mode) - 4985MHz (30MHz ~ 1GHz)

Horizontal



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	99.84	-41.60	-33.10	-8.50	-26.19	1.20	10.99	27.60	100	0	HORIZONTAL
2	165.80	-52.86	-33.10	-19.76	-39.59	1.53	12.47	27.27	100	0	HORIZONTAL
3	328.76	-67.59	-33.10	-34.49	-56.80	2.16	14.15	27.10	100	0	HORIZONTAL
4	431.58	-67.38	-33.10	-34.28	-58.67	2.49	16.56	27.76	100	0	HORIZONTAL
5	469.41	-67.69	-33.10	-34.59	-59.53	2.64	17.15	27.95	100	0	HORIZONTAL
6	694.45	-73.52	-33.10	-40.42	-67.90	3.32	19.07	28.01	100	0	HORIZONTAL

Vertical



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	59.10	-48.31	-33.10	-15.21	-28.30	0.80	6.95	27.76 Peak	400	360	VERTICAL
2	98.87	-44.86	-33.10	-11.76	-29.22	1.18	10.79	27.61 Peak	400	360	VERTICAL
3	132.82	-64.29	-33.10	-31.19	-50.47	1.33	12.28	27.43 Peak	400	360	VERTICAL
4	298.69	-71.78	-33.10	-38.68	-60.33	2.10	13.35	26.90 Peak	400	360	VERTICAL
5	387.93	-71.32	-33.10	-38.22	-61.83	2.28	15.75	27.52 Peak	400	360	VERTICAL
6	462.62	-73.39	-33.10	-40.29	-65.14	2.62	17.04	27.91 Peak	400	360	VERTICAL

Note:

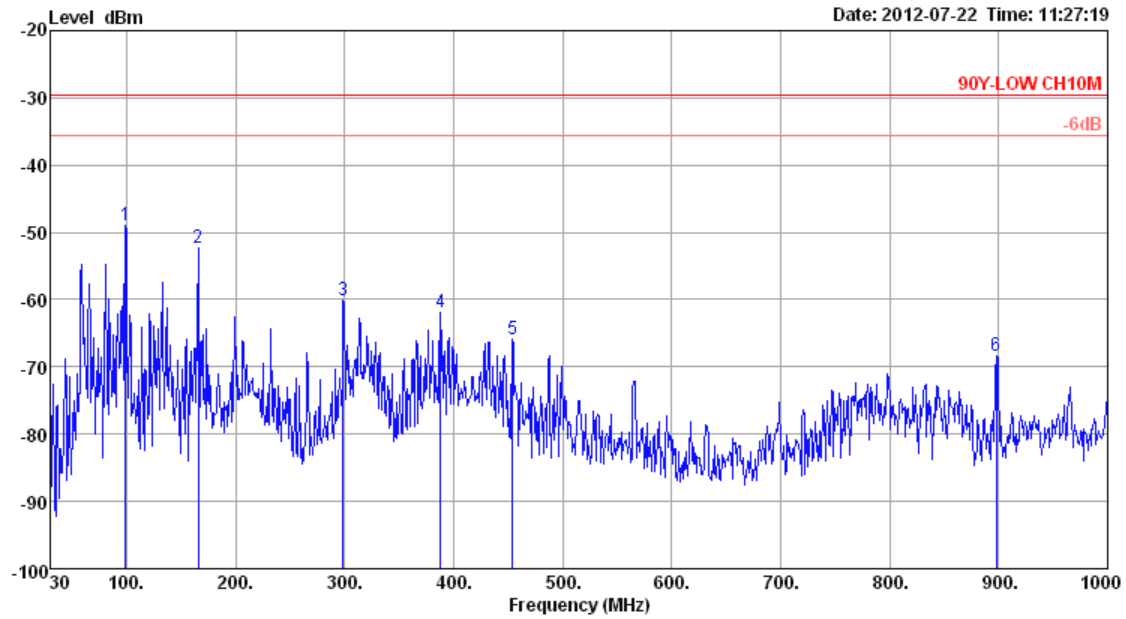
The amplitude of spurious emissions which are attenuated more than 20 dB below the permissible value need not be reported.

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level

Temperature	24°C	Humidity	56%
Test Engineer	Sean Ku	Test Site	03CH01-CB
Test Mode	Mode 1		

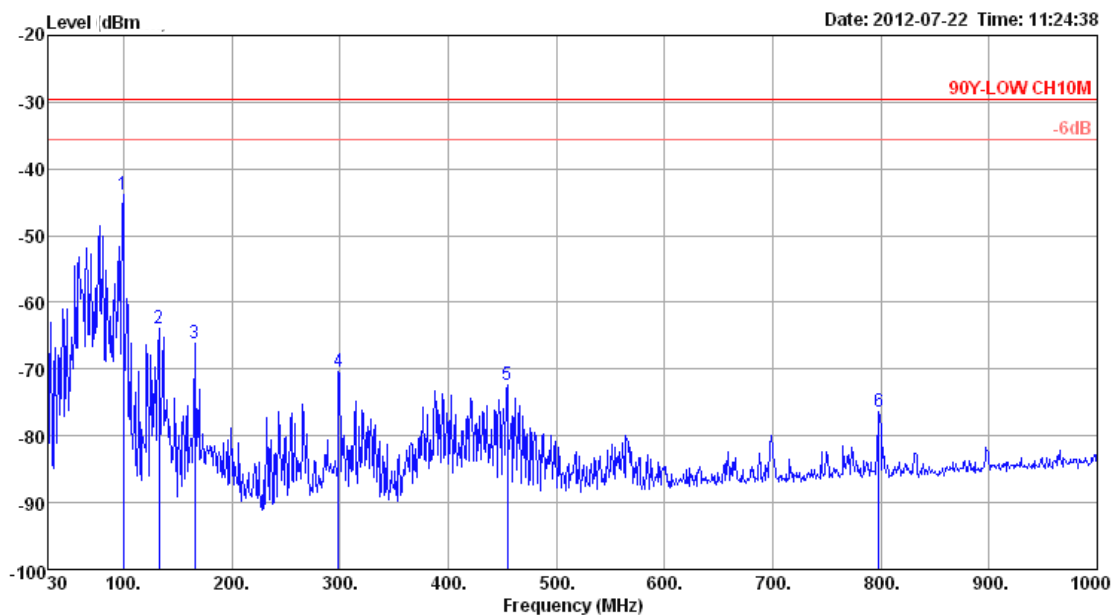
Radiated Spurious Emissions (10MHz BW Mode) - 4945MHz (30MHz ~ 1GHz)

Horizontal



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	Remark		Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg
1	98.87	-48.98	-29.64	-19.34	-33.34	1.18	10.79	27.61	Peak	100	0 HORIZONTAL
2	165.80	-52.39	-29.64	-22.75	-39.12	1.53	12.47	27.27	Peak	100	0 HORIZONTAL
3	298.69	-60.15	-29.64	-30.51	-48.70	2.10	13.35	26.90	Peak	100	0 HORIZONTAL
4	387.93	-61.91	-29.64	-32.27	-52.42	2.28	15.75	27.52	Peak	100	0 HORIZONTAL
5	453.89	-65.98	-29.64	-36.34	-57.63	2.61	16.91	27.87	Peak	100	0 HORIZONTAL
6	898.15	-68.28	-29.64	-38.64	-64.99	3.59	20.52	27.40	Peak	100	0 HORIZONTAL

Vertical



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp		A/Pos	T/Pos	
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor	Remark	cm	deg	Pol/Phase
1	99.84	-43.95	-29.64	-14.31	-28.54	1.20	10.99	27.60	Peak	400	360	VERTICAL
2	132.82	-63.88	-29.64	-34.24	-50.06	1.33	12.28	27.43	Peak	400	360	VERTICAL
3	165.80	-66.05	-29.64	-36.41	-52.78	1.53	12.47	27.27	Peak	400	360	VERTICAL
4	298.69	-70.38	-29.64	-40.74	-58.93	2.10	13.35	26.90	Peak	400	360	VERTICAL
5	454.86	-72.34	-29.64	-42.70	-64.00	2.61	16.92	27.87	Peak	400	360	VERTICAL
6	798.24	-76.47	-29.64	-46.83	-71.93	3.31	19.76	27.61	Peak	400	360	VERTICAL

Note:

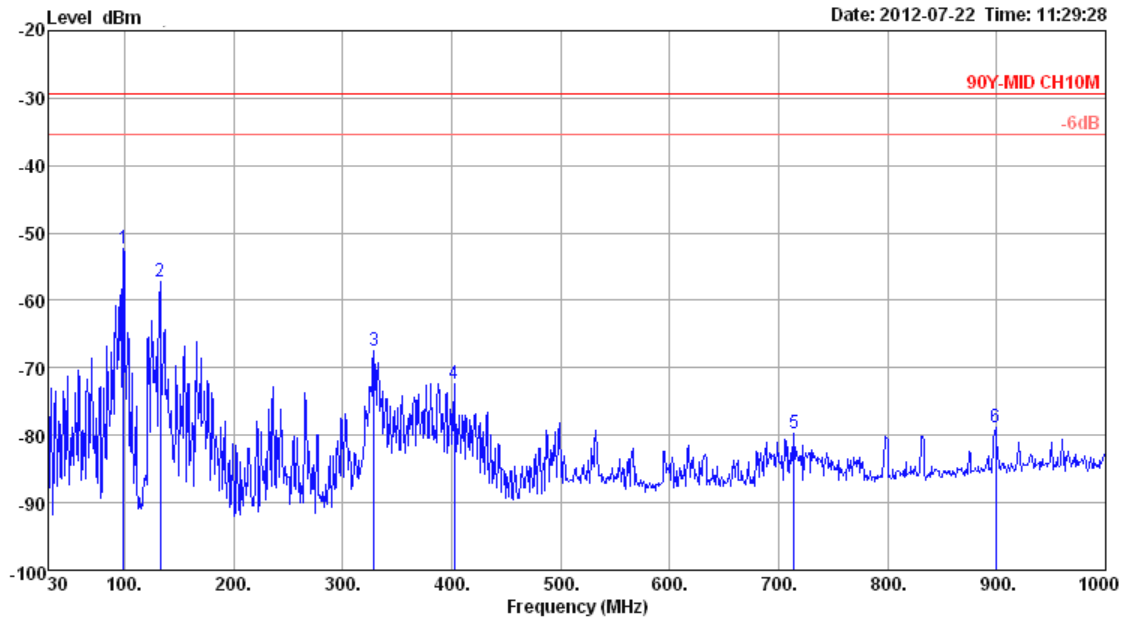
The amplitude of spurious emissions which are attenuated more than 20 dB below the permissible value need not be reported.

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level

Temperature	24°C	Humidity	56%
Test Engineer	Sean Ku	Test Site	03CH01-CB
Test Mode	Mode 1		

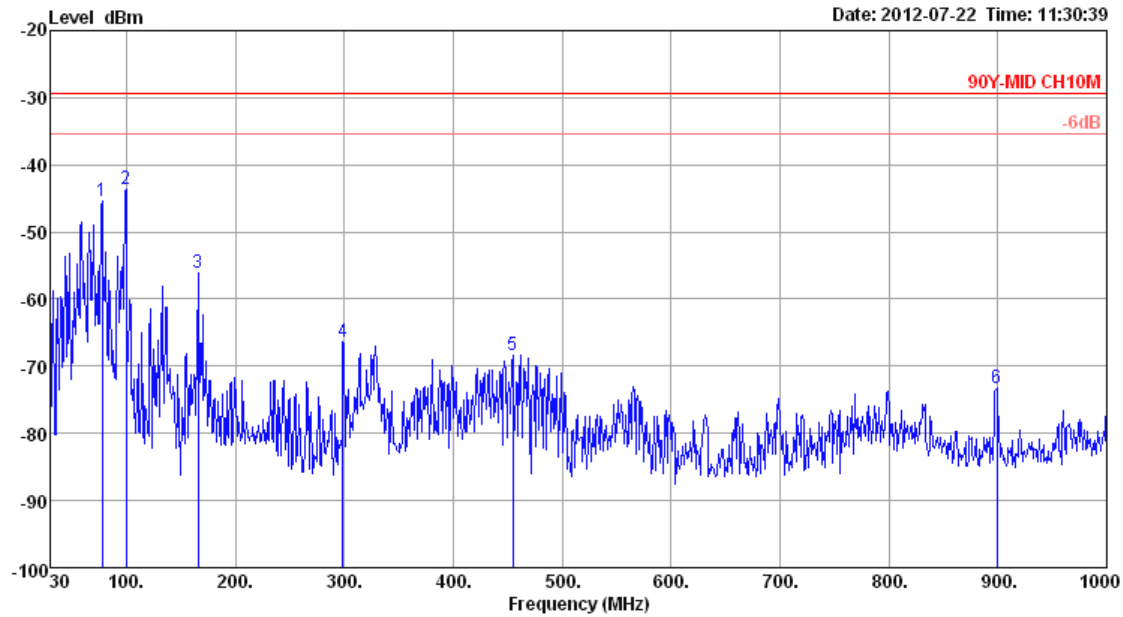
Radiated Spurious Emissions (10MHz BW Mode) - 4965MHz (30MHz ~ 1GHz)

Horizontal



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	98.87	-52.30	-29.47	-22.83	-36.66	1.18	10.79	27.61	Peak	100	0	HORIZONTAL
2	132.82	-57.17	-29.47	-27.70	-43.35	1.33	12.28	27.43	Peak	100	0	HORIZONTAL
3	328.76	-67.54	-29.47	-38.07	-56.75	2.16	14.15	27.10	Peak	100	0	HORIZONTAL
4	402.48	-72.32	-29.47	-42.85	-63.14	2.32	16.11	27.61	Peak	100	0	HORIZONTAL
5	713.85	-79.73	-29.47	-50.26	-74.32	3.35	19.18	27.94	Peak	100	0	HORIZONTAL
6	899.12	-78.89	-29.47	-49.42	-75.61	3.60	20.52	27.40	Peak	100	0	HORIZONTAL

Vertical



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp		A/Pos	T/Pos	
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	Remark	cm	deg	Pol/Phase
1	77.53	-45.38	-29.47	-15.91	-25.72	1.00	7.03	27.69	Peak	400	360	VERTICAL
2	99.84	-43.64	-29.47	-14.17	-28.23	1.20	10.99	27.60	Peak	400	360	VERTICAL
3	165.80	-56.07	-29.47	-26.60	-42.80	1.53	12.47	27.27	Peak	400	360	VERTICAL
4	298.69	-66.39	-29.47	-36.92	-54.94	2.10	13.35	26.90	Peak	400	360	VERTICAL
5	454.86	-68.31	-29.47	-38.84	-59.97	2.61	16.92	27.87	Peak	400	360	VERTICAL
6	899.12	-73.21	-29.47	-43.74	-69.93	3.60	20.52	27.40	Peak	400	360	VERTICAL

Note:

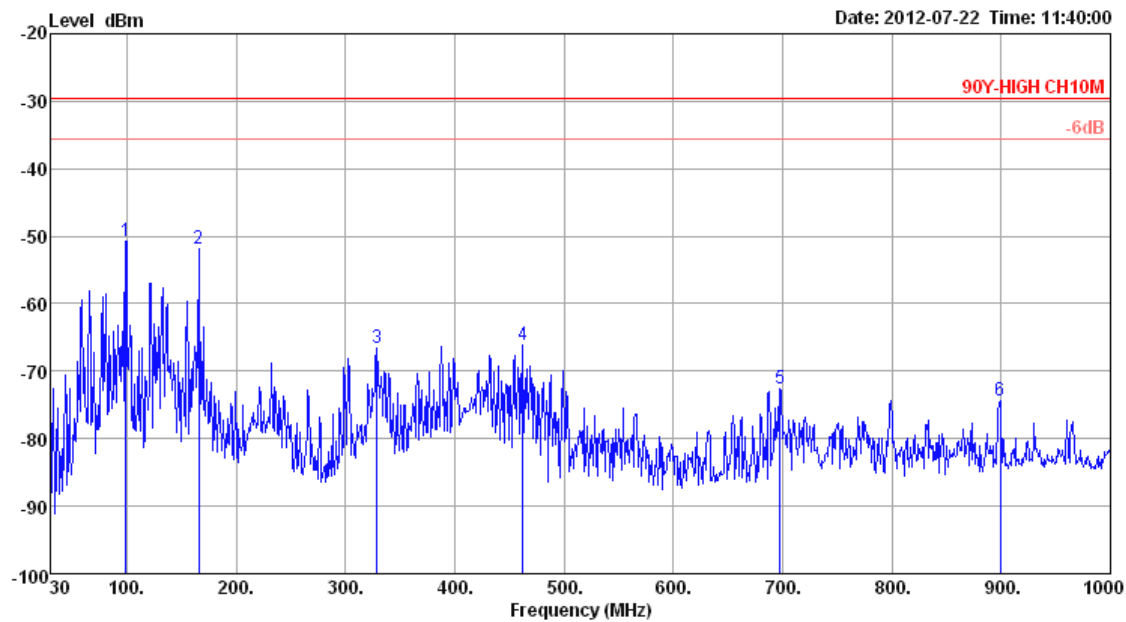
The amplitude of spurious emissions which are attenuated more than 20 dB below the permissible value need not be reported.

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level

Temperature	24°C	Humidity	56%
Test Engineer	Sean Ku	Test Site	03CH01-CB
Test Mode	Mode 1		

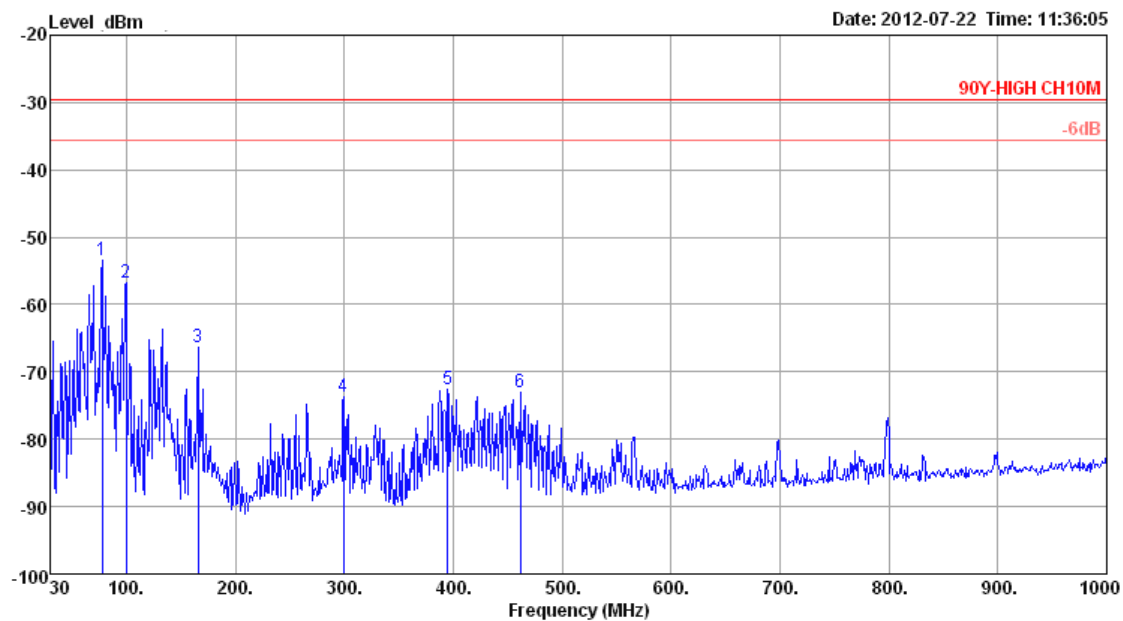
Radiated Spurious Emissions (10MHz BW Mode) - 4985MHz (30MHz ~ 1GHz)

Horizontal



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	98.87	-50.74	-29.63	-21.11	-35.10	1.18	10.79	27.61 Peak	100	0	HORIZONTAL
2	165.80	-51.90	-29.63	-22.27	-38.63	1.53	12.47	27.27 Peak	100	0	HORIZONTAL
3	328.76	-66.52	-29.63	-36.89	-55.73	2.16	14.15	27.10 Peak	100	0	HORIZONTAL
4	462.62	-66.08	-29.63	-36.45	-57.83	2.62	17.04	27.91 Peak	100	0	HORIZONTAL
5	697.36	-72.62	-29.63	-42.99	-67.01	3.31	19.08	28.00 Peak	100	0	HORIZONTAL
6	899.12	-74.32	-29.63	-44.69	-71.04	3.60	20.52	27.40 Peak	100	0	HORIZONTAL

Vertical



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp		A/Pos	T/Pos	
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	Remark	cm	deg	Pol/Phase
1	77.53	-53.47	-29.63	-23.84	-33.81	1.00	7.03	27.69	Peak	400	360	VERTICAL
2	99.84	-56.76	-29.63	-27.13	-41.35	1.20	10.99	27.60	Peak	400	360	VERTICAL
3	165.80	-66.38	-29.63	-36.75	-53.11	1.53	12.47	27.27	Peak	400	360	VERTICAL
4	299.66	-73.69	-29.63	-44.06	-62.25	2.10	13.36	26.90	Peak	400	360	VERTICAL
5	394.72	-72.60	-29.63	-42.97	-63.26	2.29	15.93	27.56	Peak	400	360	VERTICAL
6	461.65	-73.12	-29.63	-43.49	-64.87	2.62	17.03	27.90	Peak	400	360	VERTICAL

Note:

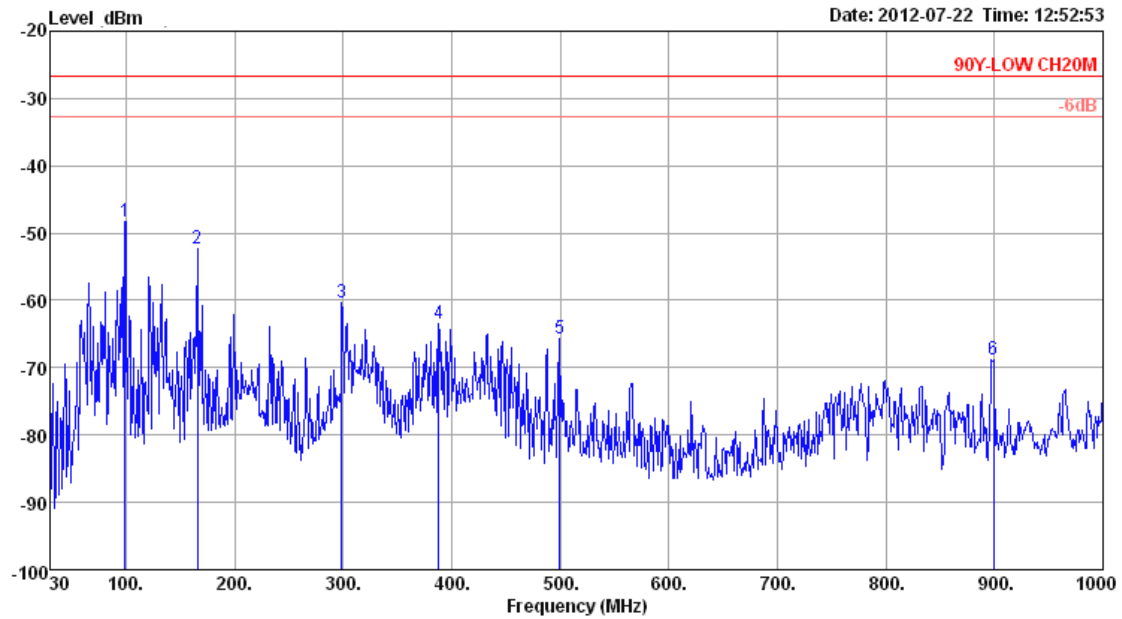
The amplitude of spurious emissions which are attenuated more than 20 dB below the permissible value need not be reported.

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level

Temperature	24°C	Humidity	56%
Test Engineer	Sean Ku	Test Site	03CH01-CB
Test Mode	Mode 1		

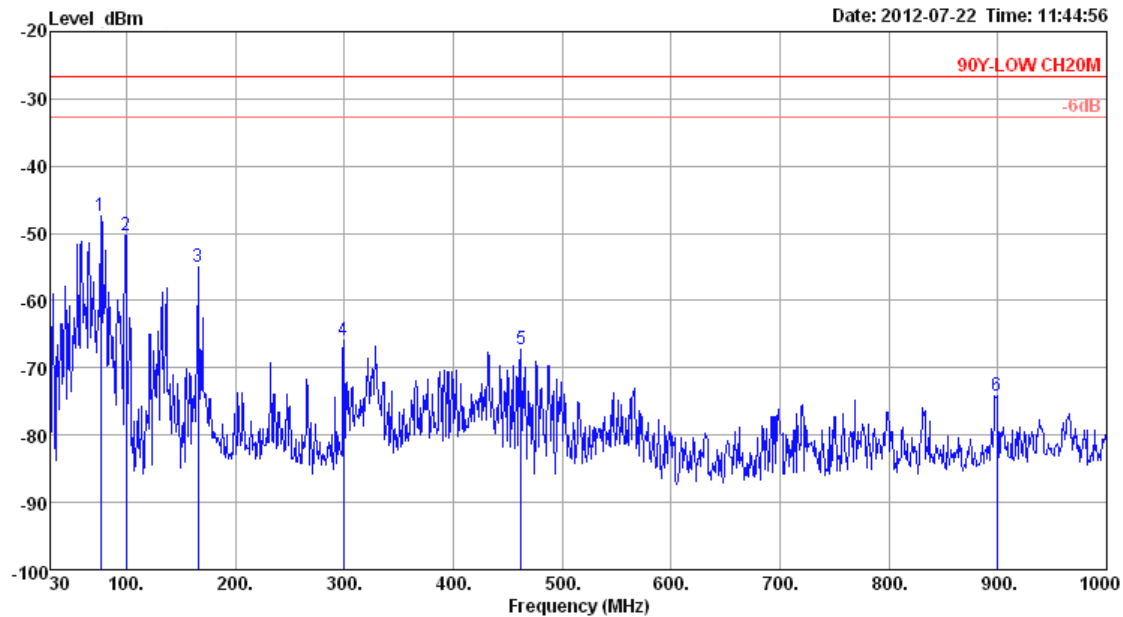
Radiated Spurious Emissions (20MHz BW Mode) - 4950MHz (30MHz ~ 1GHz)

Horizontal



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	98.87	-48.24	-26.62	-21.62	-32.60	1.18	10.79	27.61	Peak	100	0	HORIZONTAL
2	165.80	-52.36	-26.62	-25.74	-39.09	1.53	12.47	27.27	Peak	100	0	HORIZONTAL
3	298.69	-60.27	-26.62	-33.65	-48.82	2.10	13.35	26.90	Peak	100	0	HORIZONTAL
4	387.93	-63.38	-26.62	-36.76	-53.89	2.28	15.75	27.52	Peak	100	0	HORIZONTAL
5	499.48	-65.78	-26.62	-39.16	-58.00	2.70	17.61	28.09	Peak	100	0	HORIZONTAL
6	899.12	-68.76	-26.62	-42.14	-65.48	3.60	20.52	27.40	Peak	100	0	HORIZONTAL

Vertical



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	76.56	-47.34	-26.62	-20.72	-27.59	0.97	6.98	27.70	400	360	VERTICAL
2	99.84	-50.28	-26.62	-23.66	-34.87	1.20	10.99	27.60	400	360	VERTICAL
3	165.80	-55.06	-26.62	-28.44	-41.79	1.53	12.47	27.27	400	360	VERTICAL
4	299.66	-65.95	-26.62	-39.33	-54.51	2.10	13.36	26.90	400	360	VERTICAL
5	462.62	-67.24	-26.62	-40.62	-58.99	2.62	17.04	27.91	400	360	VERTICAL
6	899.12	-74.15	-26.62	-47.53	-70.87	3.60	20.52	27.40	400	360	VERTICAL

Note:

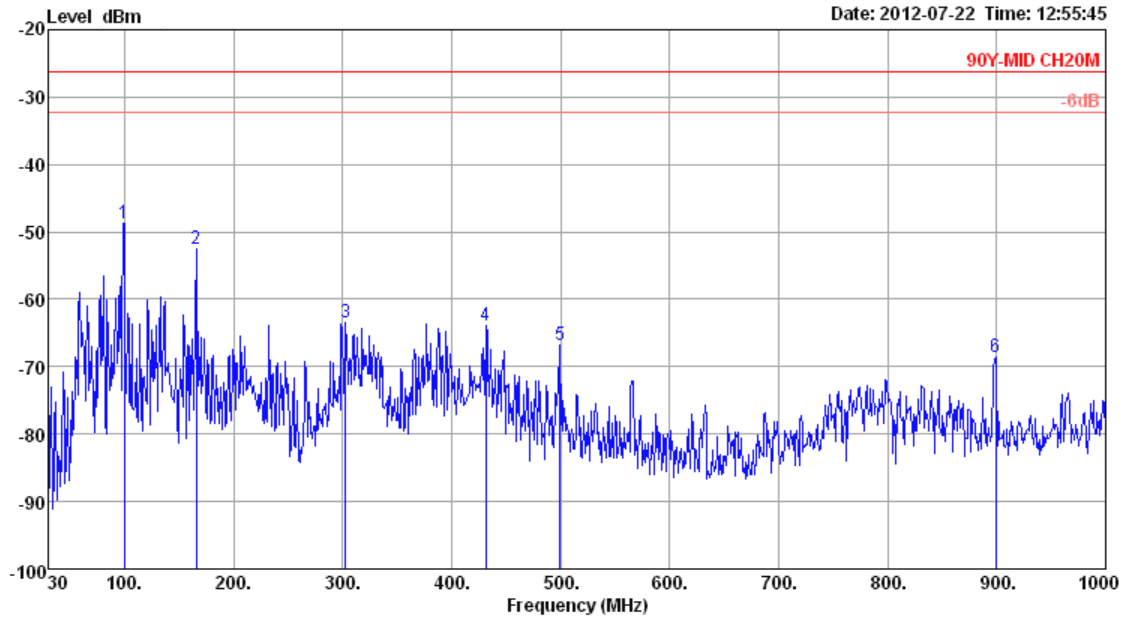
The amplitude of spurious emissions which are attenuated more than 20 dB below the permissible value need not be reported.

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level

Temperature	24°C	Humidity	56%
Test Engineer	Sean Ku	Test Site	03CH01-CB
Test Mode	Mode 1		

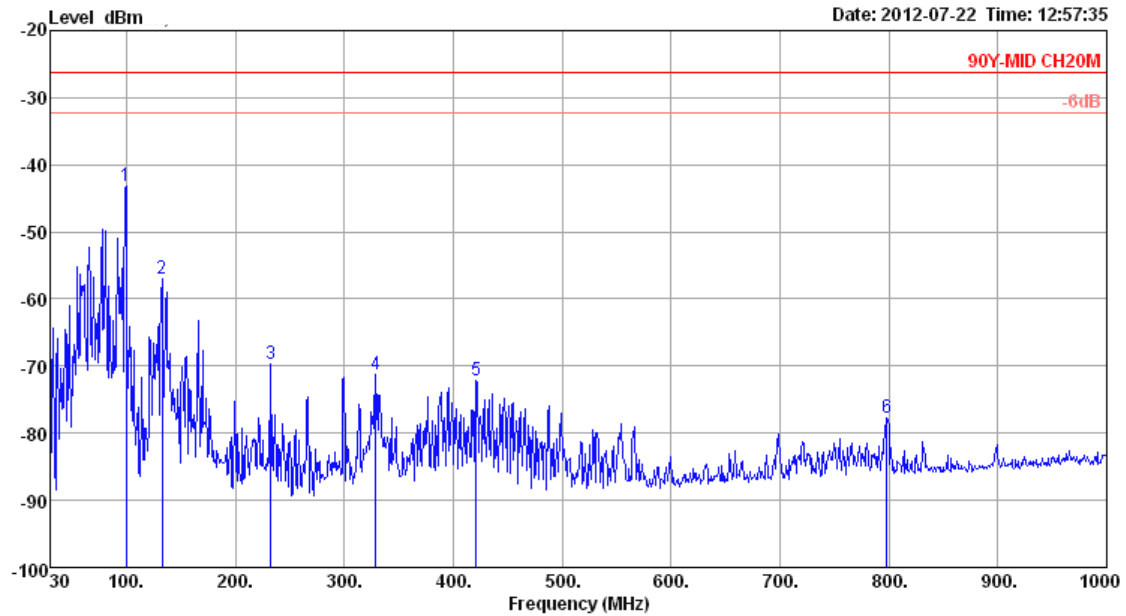
Radiated Spurious Emissions (20MHz BW Mode) - 4965MHz (30MHz ~ 1GHz)

Horizontal



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	Remark	cm	deg
1	99.84	-48.83	-26.20	-22.63	-33.42	1.20	10.99	27.60	Peak	100	0 HORIZONTAL
2	165.80	-52.47	-26.20	-26.27	-39.20	1.53	12.47	27.27	Peak	100	0 HORIZONTAL
3	302.57	-63.54	-26.20	-37.34	-52.17	2.11	13.44	26.92	Peak	100	0 HORIZONTAL
4	431.58	-64.01	-26.20	-37.81	-55.30	2.49	16.56	27.76	Peak	100	0 HORIZONTAL
5	499.48	-66.73	-26.20	-40.53	-58.95	2.70	17.61	28.09	Peak	100	0 HORIZONTAL
6	899.12	-68.66	-26.20	-42.46	-65.38	3.60	20.52	27.40	Peak	100	0 HORIZONTAL

Vertical



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	Remark	cm	deg
1	99.84	-43.09	-26.20	-16.89	-27.68	1.20	10.99	27.60	Peak	400	360 VERTICAL
2	132.82	-57.02	-26.20	-30.82	-43.20	1.33	12.28	27.43	Peak	400	360 VERTICAL
3	232.73	-69.79	-26.20	-43.59	-56.07	1.83	11.48	27.03	Peak	400	360 VERTICAL
4	328.76	-71.22	-26.20	-45.02	-60.43	2.16	14.15	27.10	Peak	400	360 VERTICAL
5	420.91	-72.14	-26.20	-45.94	-63.25	2.43	16.39	27.71	Peak	400	360 VERTICAL
6	798.24	-77.74	-26.20	-51.54	-73.20	3.31	19.76	27.61	Peak	400	360 VERTICAL

Note:

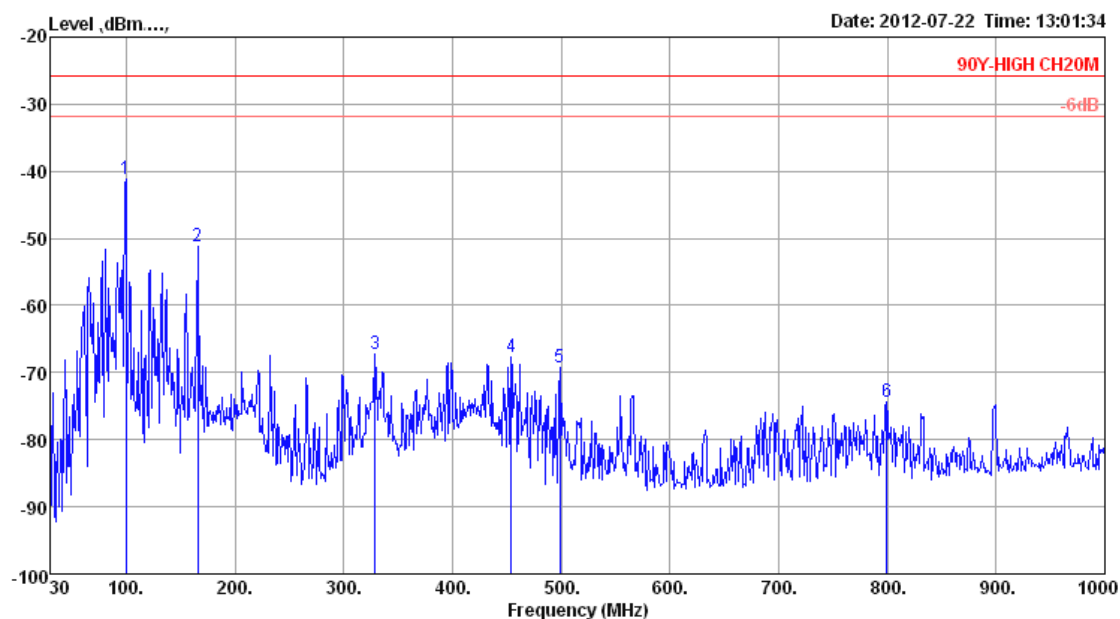
The amplitude of spurious emissions which are attenuated more than 20 dB below the permissible value need not be reported.

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level

Temperature	24°C	Humidity	56%
Test Engineer	Sean Ku	Test Site	03CH01-CB
Test Mode	Mode 1		

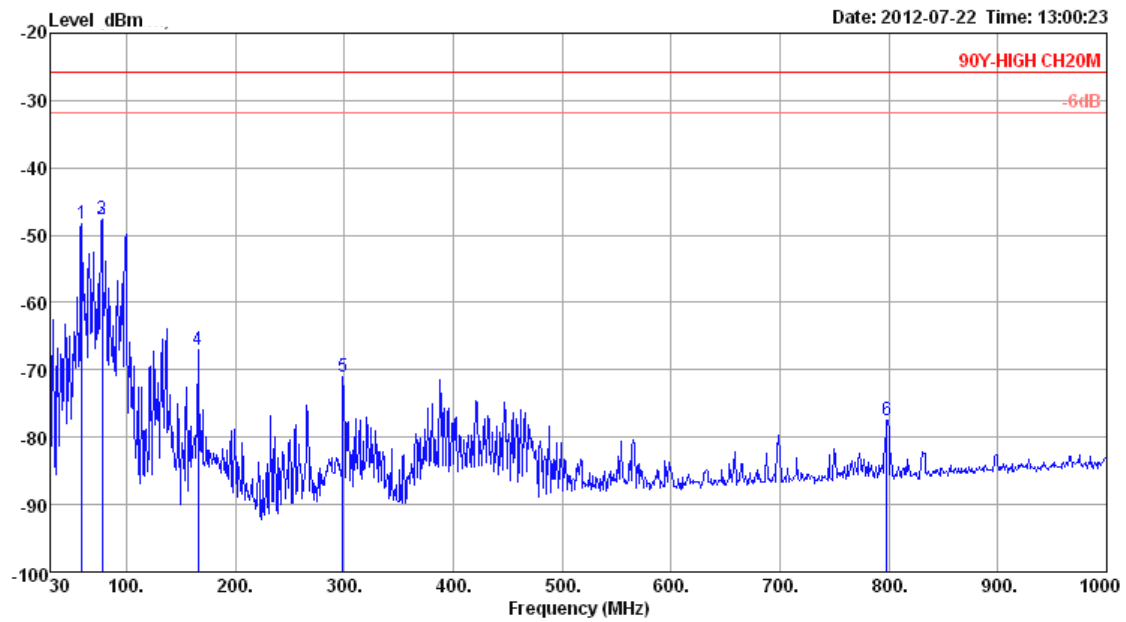
Radiated Spurious Emissions (20MHz BW Mode) - 4980MHz (30MHz ~ 1GHz)

Horizontal



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp		A/Pos	T/Pos	
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	Remark	cm	deg	Pol/Phase
1	99.84	-41.20	-25.75	-15.45	-25.79	1.20	10.99	27.60	Peak	383	0	HORIZONTAL
2	165.80	-51.30	-25.75	-25.55	-38.03	1.53	12.47	27.27	Peak	383	0	HORIZONTAL
3	328.76	-67.15	-25.75	-41.40	-56.36	2.16	14.15	27.10	Peak	383	0	HORIZONTAL
4	453.89	-67.64	-25.75	-41.89	-59.29	2.61	16.91	27.87	Peak	383	0	HORIZONTAL
5	498.51	-69.29	-25.75	-43.54	-61.50	2.70	17.60	28.09	Peak	383	0	HORIZONTAL
6	799.21	-74.29	-25.75	-48.54	-69.74	3.30	19.76	27.61	Peak	383	0	HORIZONTAL

Vertical



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	Remark	cm	deg
1	59.10	-48.30	-25.75	-22.55	-28.29	0.80	6.95	27.76	Peak	400	360 VERTICAL
2	77.53	-47.60	-25.75	-21.85	-27.94	1.00	7.03	27.69	Peak	400	360 VERTICAL
3	77.53	-47.60	-25.75	-21.85	-27.94	1.00	7.03	27.69	Peak	400	360 VERTICAL
4	165.80	-67.09	-25.75	-41.34	-53.82	1.53	12.47	27.27	Peak	400	360 VERTICAL
5	298.69	-70.97	-25.75	-45.22	-59.52	2.10	13.35	26.90	Peak	400	360 VERTICAL
6	798.24	-77.51	-25.75	-51.76	-72.97	3.31	19.76	27.61	Peak	400	360 VERTICAL

Note:

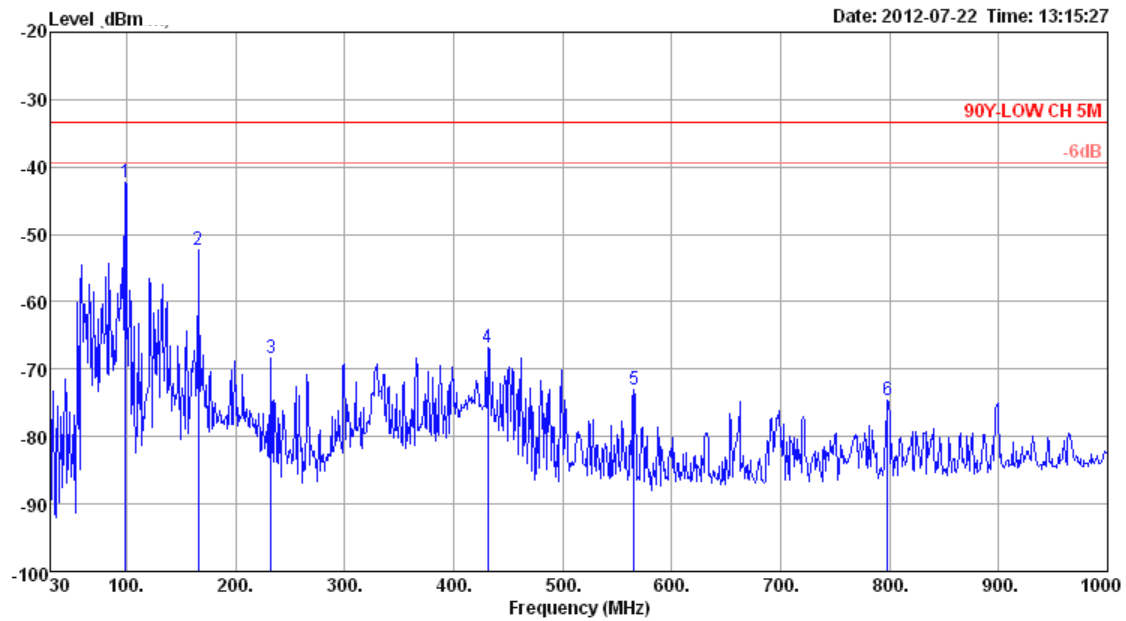
The amplitude of spurious emissions which are attenuated more than 20 dB below the permissible value need not be reported.

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level

Temperature	24°C	Humidity	56%
Test Engineer	Sean Ku	Test Site	03CH01-CB
Test Mode	Mode 2		

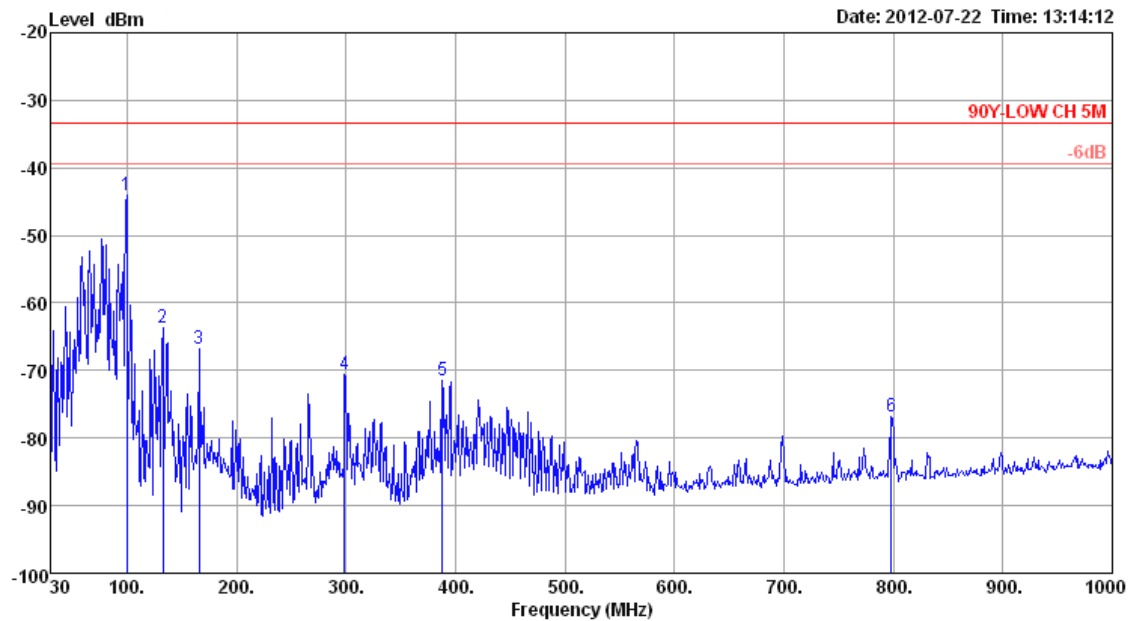
Radiated Spurious Emissions (5MHz BW Mode) - 4945MHz (30MHz ~ 1GHz)

Horizontal



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	98.87	-42.23	-33.30	-8.93	-26.59	1.18	10.79	27.61	100	0	HORIZONTAL
2	165.80	-52.24	-33.30	-18.94	-38.97	1.53	12.47	27.27	100	0	HORIZONTAL
3	232.73	-68.33	-33.30	-35.03	-54.61	1.83	11.48	27.03	100	0	HORIZONTAL
4	431.58	-66.90	-33.30	-33.60	-58.19	2.49	16.56	27.76	100	0	HORIZONTAL
5	565.44	-72.94	-33.30	-39.64	-66.04	2.83	18.37	28.10	100	0	HORIZONTAL
6	798.24	-74.62	-33.30	-41.32	-70.08	3.31	19.76	27.61	100	0	HORIZONTAL

Vertical



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	Remark	cm	deg
1	99.84	-43.99	-33.30	-10.69	-28.58	1.20	10.99	27.60	Peak	400	360 VERTICAL
2	132.82	-63.60	-33.30	-30.30	-49.78	1.33	12.28	27.43	Peak	400	360 VERTICAL
3	165.80	-66.79	-33.30	-33.49	-53.52	1.53	12.47	27.27	Peak	400	360 VERTICAL
4	298.69	-70.52	-33.30	-37.22	-59.07	2.10	13.35	26.90	Peak	400	360 VERTICAL
5	387.93	-71.46	-33.30	-38.16	-61.97	2.28	15.75	27.52	Peak	400	360 VERTICAL
6	798.24	-76.85	-33.30	-43.55	-72.31	3.31	19.76	27.61	Peak	400	360 VERTICAL

Note:

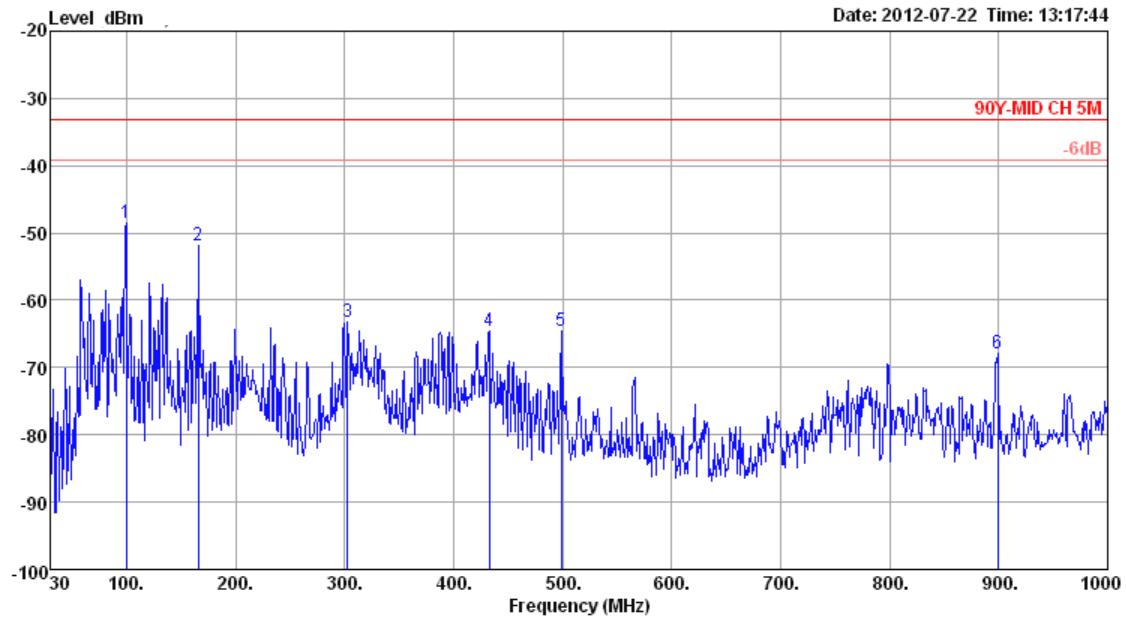
The amplitude of spurious emissions which are attenuated more than 20 dB below the permissible value need not be reported.

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level

Temperature	24°C	Humidity	56%
Test Engineer	Sean Ku	Test Site	03CH01-CB
Test Mode	Mode 2		

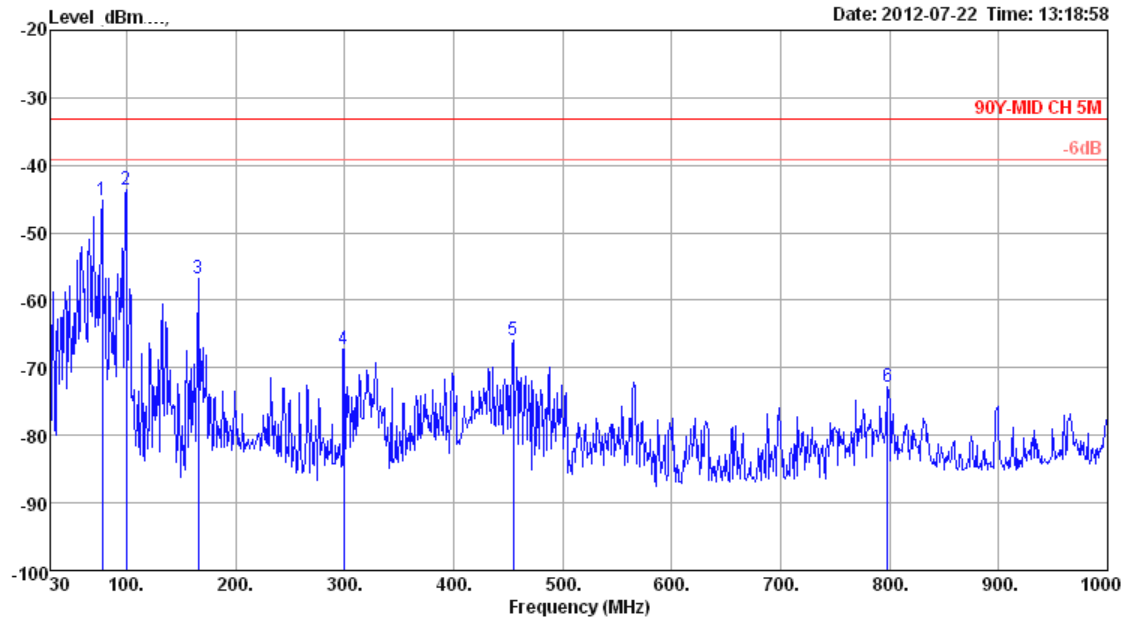
Radiated Spurious Emissions (5MHz BW Mode) - 4965MHz (30MHz ~ 1GHz)

Horizontal



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp		A/Pos	T/Pos	
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	Remark	cm	deg	Pol/Phase
1	99.84	-48.63	-33.25	-15.38	-33.22	1.20	10.99	27.60	Peak	100	0	HORIZONTAL
2	165.80	-51.85	-33.25	-18.60	-38.58	1.53	12.47	27.27	Peak	100	0	HORIZONTAL
3	302.57	-63.29	-33.25	-30.04	-51.92	2.11	13.44	26.92	Peak	100	0	HORIZONTAL
4	432.55	-64.51	-33.25	-31.26	-55.82	2.50	16.57	27.76	Peak	100	0	HORIZONTAL
5	498.51	-64.57	-33.25	-31.32	-56.78	2.70	17.60	28.09	Peak	100	0	HORIZONTAL
6	899.12	-67.82	-33.25	-34.57	-64.54	3.60	20.52	27.40	Peak	100	0	HORIZONTAL

Vertical



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	Remark	cm	deg
1	77.53	-45.17	-33.25	-11.92	-25.51	1.00	7.03	27.69	Peak	400	360 VERTICAL
2	99.84	-43.63	-33.25	-10.38	-28.22	1.20	10.99	27.60	Peak	400	360 VERTICAL
3	165.80	-56.72	-33.25	-23.47	-43.45	1.53	12.47	27.27	Peak	400	360 VERTICAL
4	299.66	-67.34	-33.25	-34.09	-55.90	2.10	13.36	26.90	Peak	400	360 VERTICAL
5	454.86	-65.83	-33.25	-32.58	-57.49	2.61	16.92	27.87	Peak	400	360 VERTICAL
6	798.24	-72.87	-33.25	-39.62	-68.33	3.31	19.76	27.61	Peak	400	360 VERTICAL

Note:

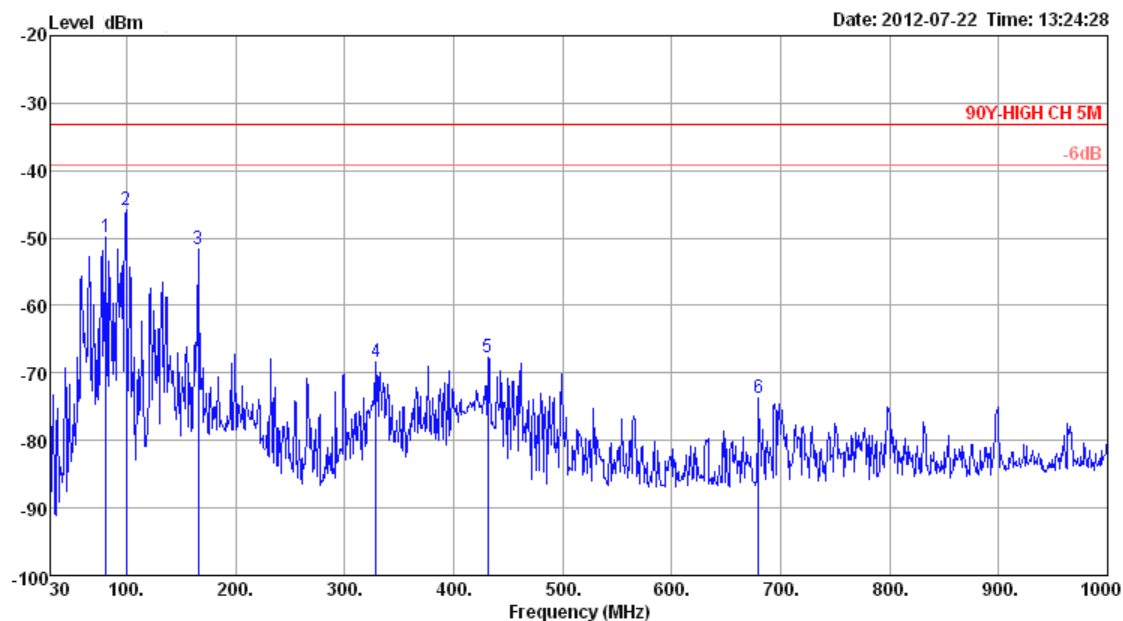
The amplitude of spurious emissions which are attenuated more than 20 dB below the permissible value need not be reported.

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level

Temperature	24°C	Humidity	56%
Test Engineer	Sean Ku	Test Site	03CH01-CB
Test Mode	Mode 2		

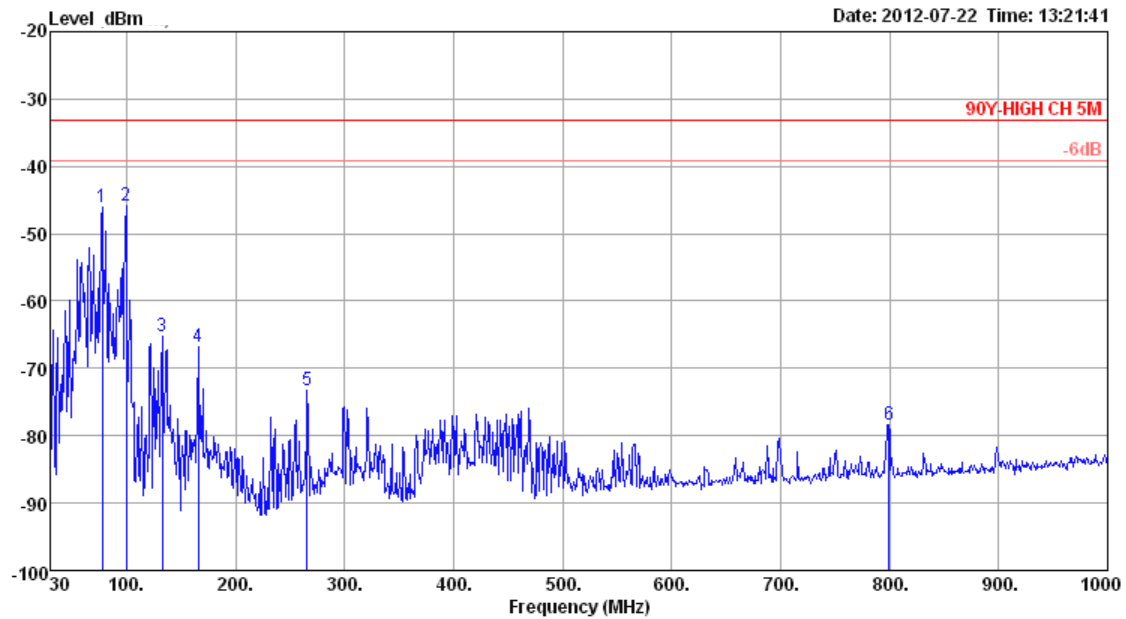
Radiated Spurious Emissions (5MHz BW Mode) - 4985MHz (30MHz ~ 1GHz)

Horizontal



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp		A/Pos	T/Pos	
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor	Remark	cm	deg	Pol/Phase
1	81.41	-49.93	-33.22	-16.71	-30.70	1.10	7.35	27.68	Peak	400	0	HORIZONTAL
2	99.84	-45.91	-33.22	-12.69	-30.50	1.20	10.99	27.60	Peak	400	0	HORIZONTAL
3	165.80	-51.64	-33.22	-18.42	-38.37	1.53	12.47	27.27	Peak	400	0	HORIZONTAL
4	328.76	-68.44	-33.22	-35.22	-57.65	2.16	14.15	27.10	Peak	400	0	HORIZONTAL
5	431.58	-67.70	-33.22	-34.48	-58.99	2.49	16.56	27.76	Peak	400	0	HORIZONTAL
6	679.90	-73.71	-33.22	-40.49	-68.09	3.38	19.02	28.02	Peak	400	0	HORIZONTAL

Vertical



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	77.53	-46.06	-33.22	-12.84	-26.40	1.00	7.03	27.69	Peak	400	360	VERTICAL
2	99.84	-45.86	-33.22	-12.64	-30.45	1.20	10.99	27.60	Peak	400	360	VERTICAL
3	132.82	-65.23	-33.22	-32.01	-51.41	1.33	12.28	27.43	Peak	400	360	VERTICAL
4	165.80	-66.86	-33.22	-33.64	-53.59	1.53	12.47	27.27	Peak	400	360	VERTICAL
5	265.71	-73.23	-33.22	-40.01	-61.18	1.96	12.96	26.97	Peak	400	360	VERTICAL
6	799.21	-78.28	-33.22	-45.06	-73.73	3.30	19.76	27.61	Peak	400	360	VERTICAL

Note:

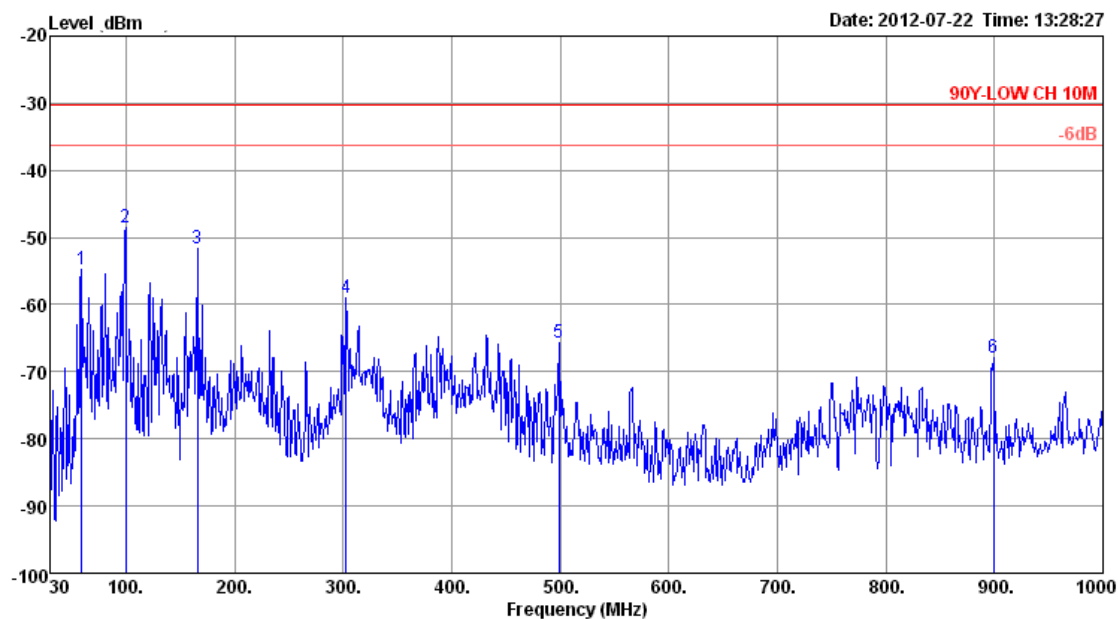
The amplitude of spurious emissions which are attenuated more than 20 dB below the permissible value need not be reported.

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level

Temperature	24°C	Humidity	56%
Test Engineer	Sean Ku	Test Site	03CH01-CB
Test Mode	Mode 2		

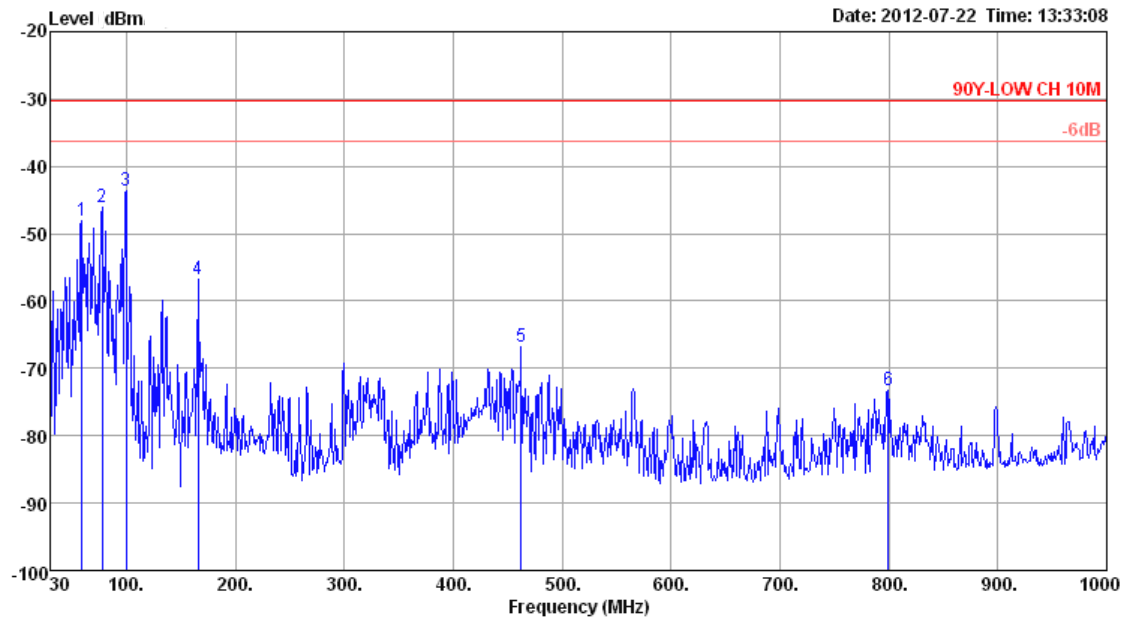
Radiated Spurious Emissions (10MHz BW Mode) - 4945MHz (30MHz ~ 1GHz)

Horizontal



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	59.10	-54.86	-30.19	-24.67	-34.85	0.80	6.95	27.76	Peak	100	0	HORIZONTAL
2	99.84	-48.60	-30.19	-18.41	-33.19	1.20	10.99	27.60	Peak	100	0	HORIZONTAL
3	165.80	-51.70	-30.19	-21.51	-38.43	1.53	12.47	27.27	Peak	100	0	HORIZONTAL
4	302.57	-59.07	-30.19	-28.88	-47.70	2.11	13.44	26.92	Peak	100	0	HORIZONTAL
5	498.51	-65.70	-30.19	-35.51	-57.91	2.70	17.60	28.09	Peak	100	0	HORIZONTAL
6	899.12	-67.94	-30.19	-37.75	-64.66	3.60	20.52	27.40	Peak	100	0	HORIZONTAL

Vertical



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	59.10	-48.05	-30.19	-17.86	-28.04	0.80	6.95	27.76	Peak	400	360	VERTICAL
2	77.53	-46.09	-30.19	-15.90	-26.43	1.00	7.03	27.69	Peak	400	360	VERTICAL
3	99.84	-43.62	-30.19	-13.43	-28.21	1.20	10.99	27.60	Peak	400	360	VERTICAL
4	165.80	-56.85	-30.19	-26.66	-43.58	1.53	12.47	27.27	Peak	400	360	VERTICAL
5	462.62	-66.89	-30.19	-36.70	-58.64	2.62	17.04	27.91	Peak	400	360	VERTICAL
6	799.21	-73.27	-30.19	-43.08	-68.72	3.30	19.76	27.61	Peak	400	360	VERTICAL

Note:

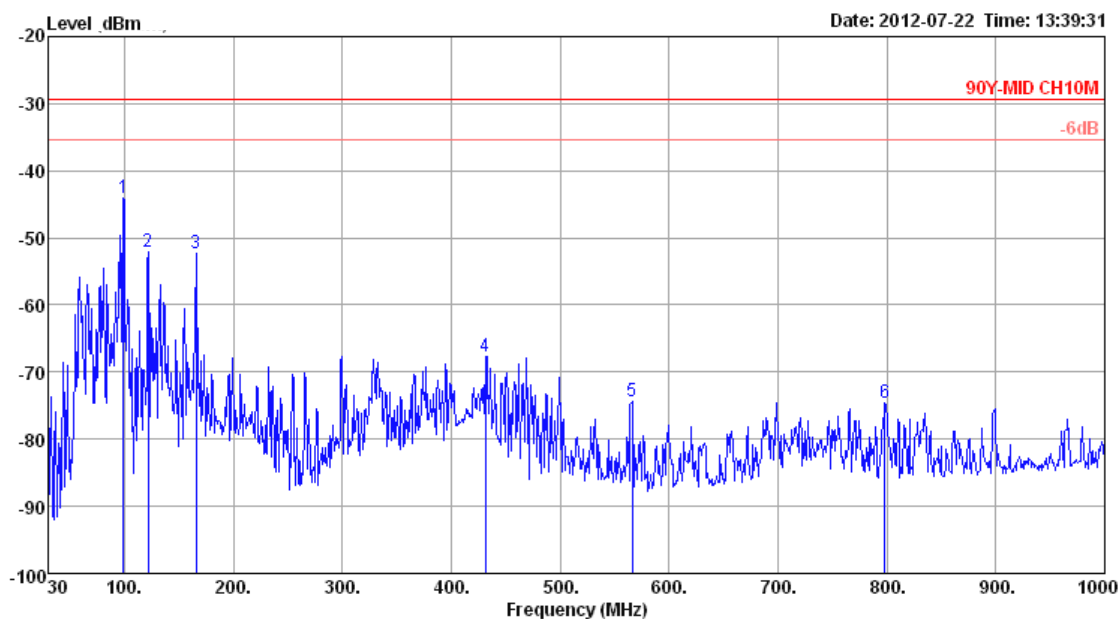
The amplitude of spurious emissions which are attenuated more than 20 dB below the permissible value need not be reported.

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level

Temperature	24°C	Humidity	56%
Test Engineer	Sean Ku	Test Site	03CH01-CB
Test Mode	Mode 2		

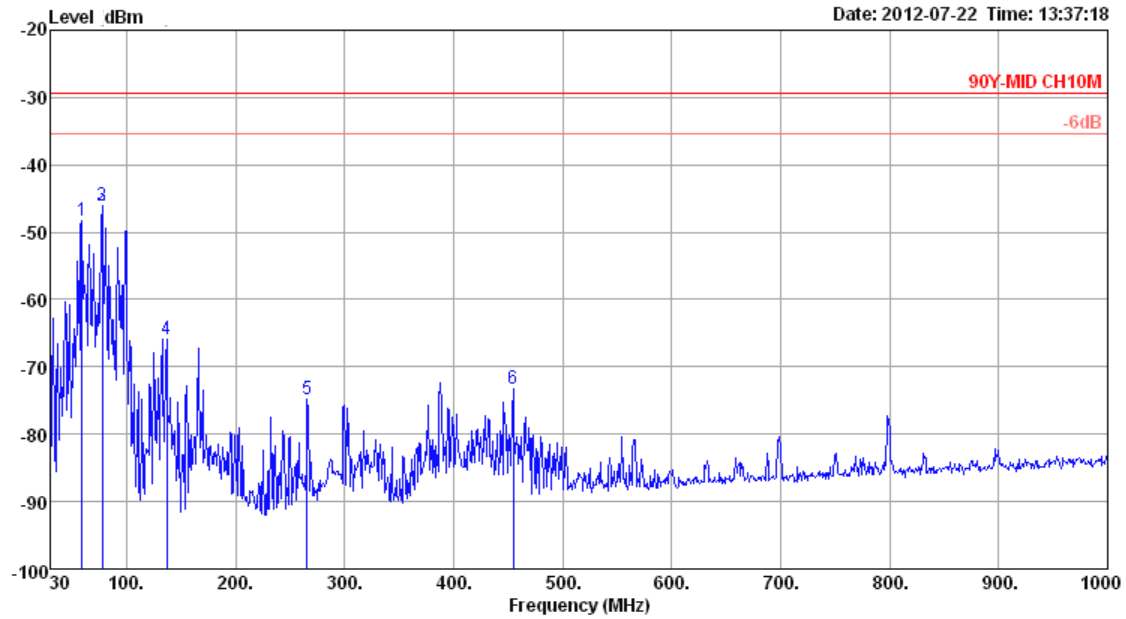
Radiated Spurious Emissions (10MHz BW Mode) - 4965MHz (30MHz ~ 1GHz)

Horizontal



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp		A/Pos	T/Pos	
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	Remark	cm	deg	Pol/Phase
1	98.87	-43.97	-29.47	-14.50	-28.33	1.18	10.79	27.61	Peak	100	360	HORIZONTAL
2	122.15	-52.17	-29.47	-22.70	-38.30	1.22	12.40	27.49	Peak	100	360	HORIZONTAL
3	165.80	-52.27	-29.47	-22.80	-39.00	1.53	12.47	27.27	Peak	100	360	HORIZONTAL
4	431.58	-67.61	-29.47	-38.14	-58.90	2.49	16.56	27.76	Peak	100	360	HORIZONTAL
5	566.41	-74.40	-29.47	-44.93	-67.51	2.83	18.38	28.10	Peak	100	360	HORIZONTAL
6	798.24	-74.61	-29.47	-45.14	-70.07	3.31	19.76	27.61	Peak	100	360	HORIZONTAL

Vertical



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp		A/Pos	T/Pos	
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	Remark	cm	deg	Pol/Phase
1	59.10	-48.30	-29.47	-18.83	-28.29	0.80	6.95	27.76	Peak	400	0	VERTICAL
2	77.53	-46.15	-29.47	-16.68	-26.49	1.00	7.03	27.69	Peak	400	0	VERTICAL
3	77.53	-46.15	-29.47	-16.68	-26.49	1.00	7.03	27.69	Peak	400	0	VERTICAL
4	136.70	-65.84	-29.47	-36.37	-52.12	1.37	12.32	27.41	Peak	400	0	VERTICAL
5	265.71	-74.76	-29.47	-45.29	-62.71	1.96	12.96	26.97	Peak	400	0	VERTICAL
6	454.86	-73.19	-29.47	-43.72	-64.85	2.61	16.92	27.87	Peak	400	0	VERTICAL

Note:

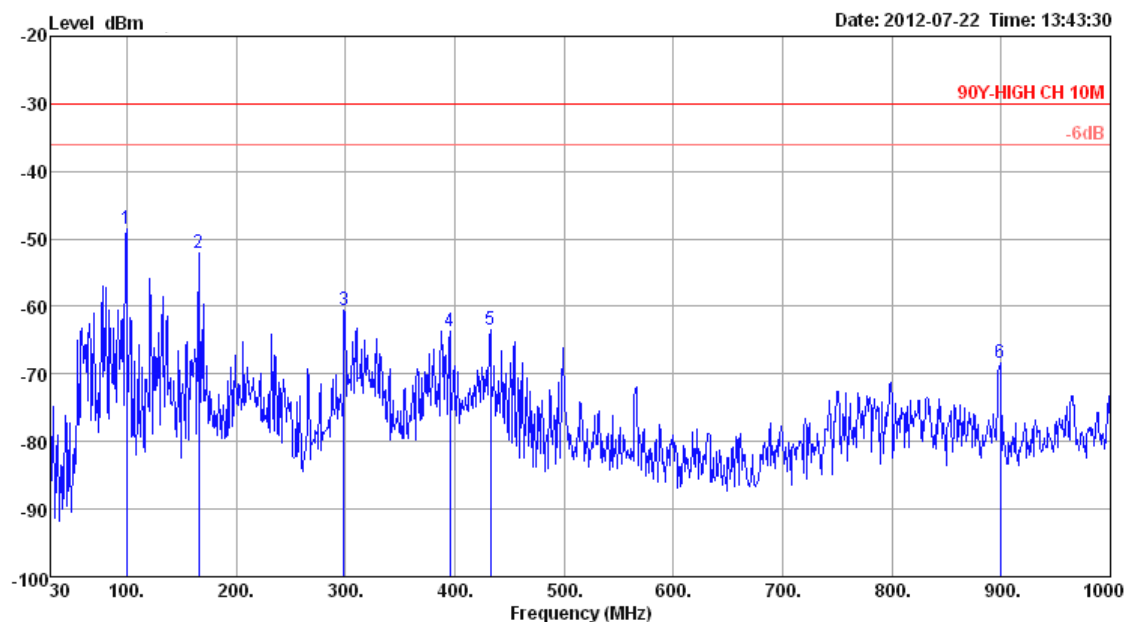
The amplitude of spurious emissions which are attenuated more than 20 dB below the permissible value need not be reported.

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level

Temperature	24°C	Humidity	56%
Test Engineer	Sean Ku	Test Site	03CH01-CB
Test Mode	Mode 2		

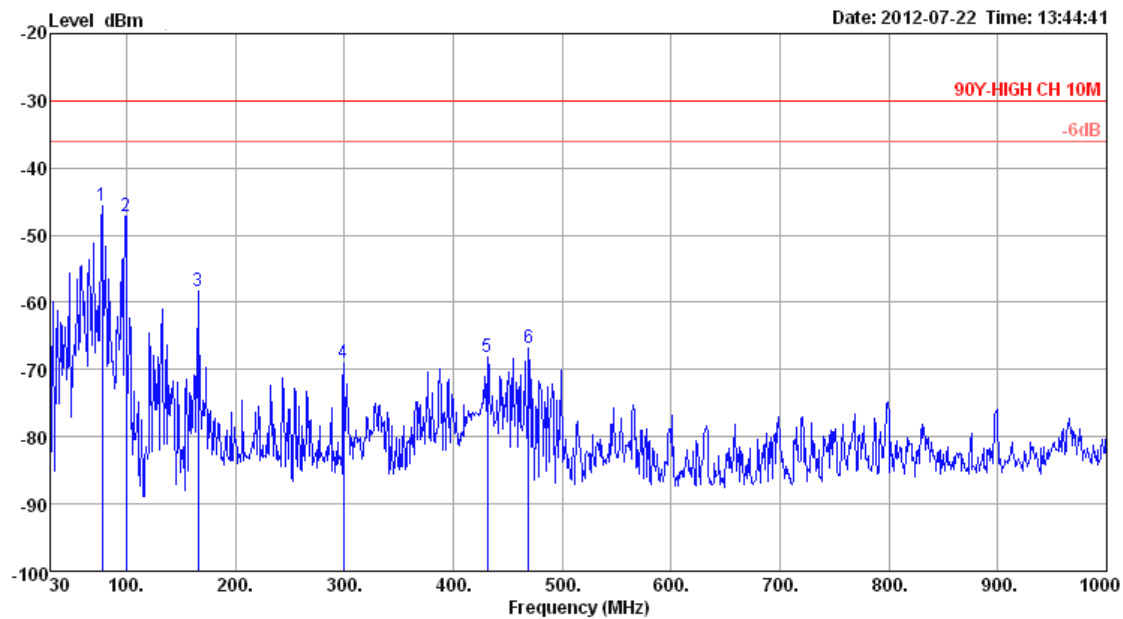
Radiated Spurious Emissions (10MHz BW Mode) - 4985MHz (30MHz ~ 1GHz)

Horizontal



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp		A/Pos	T/Pos	
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor	Remark	cm	deg	Pol/Phase
1	99.84	-48.44	-30.11	-18.33	-33.03	1.20	10.99	27.60	Peak	100	360	HORIZONTAL
2	165.80	-52.19	-30.11	-22.08	-38.92	1.53	12.47	27.27	Peak	100	360	HORIZONTAL
3	298.69	-60.50	-30.11	-30.39	-49.05	2.10	13.35	26.90	Peak	100	360	HORIZONTAL
4	395.69	-63.65	-30.11	-33.54	-54.33	2.29	15.96	27.57	Peak	100	360	HORIZONTAL
5	432.55	-63.54	-30.11	-33.43	-54.85	2.50	16.57	27.76	Peak	100	360	HORIZONTAL
6	899.12	-68.42	-30.11	-38.31	-65.14	3.60	20.52	27.40	Peak	100	360	HORIZONTAL

Vertical



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	77.53	-45.55	-30.11	-15.44	-25.89	1.00	7.03	27.69	Peak	400	0	VERTICAL
2	99.84	-47.15	-30.11	-17.04	-31.74	1.20	10.99	27.60	Peak	400	0	VERTICAL
3	165.80	-58.38	-30.11	-28.27	-45.11	1.53	12.47	27.27	Peak	400	0	VERTICAL
4	299.66	-69.06	-30.11	-38.95	-57.62	2.10	13.36	26.90	Peak	400	0	VERTICAL
5	431.58	-68.19	-30.11	-38.08	-59.48	2.49	16.56	27.76	Peak	400	0	VERTICAL
6	469.41	-66.87	-30.11	-36.76	-58.71	2.64	17.15	27.95	Peak	400	0	VERTICAL

Note:

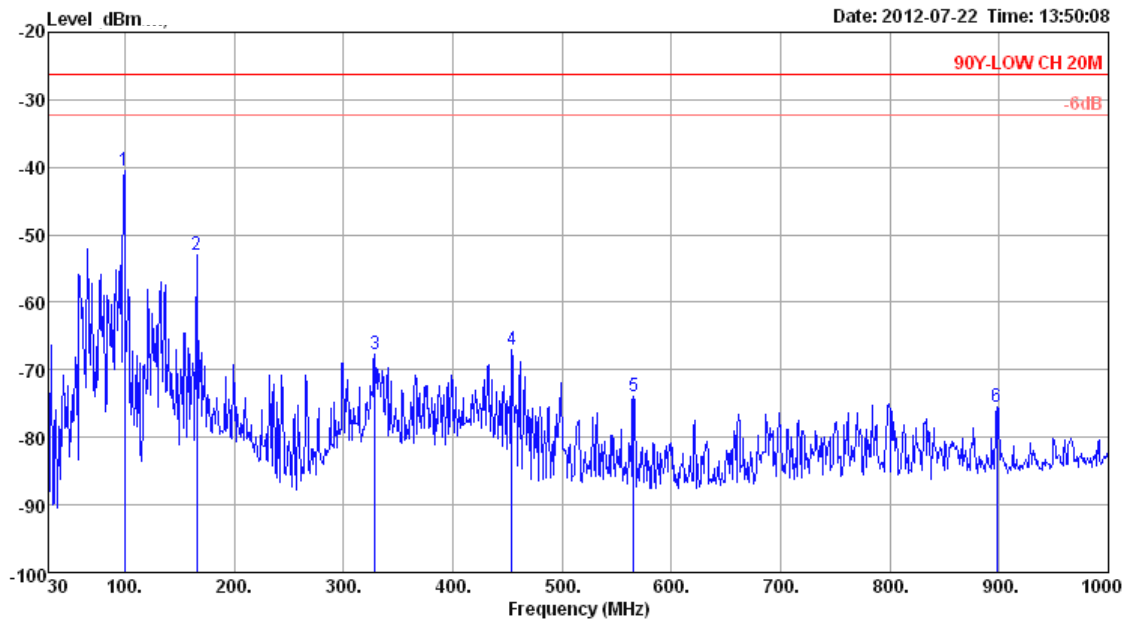
The amplitude of spurious emissions which are attenuated more than 20 dB below the permissible value need not be reported.

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level

Temperature	24°C	Humidity	56%
Test Engineer	Sean Ku	Test Site	03CH01-CB
Test Mode	Mode 2		

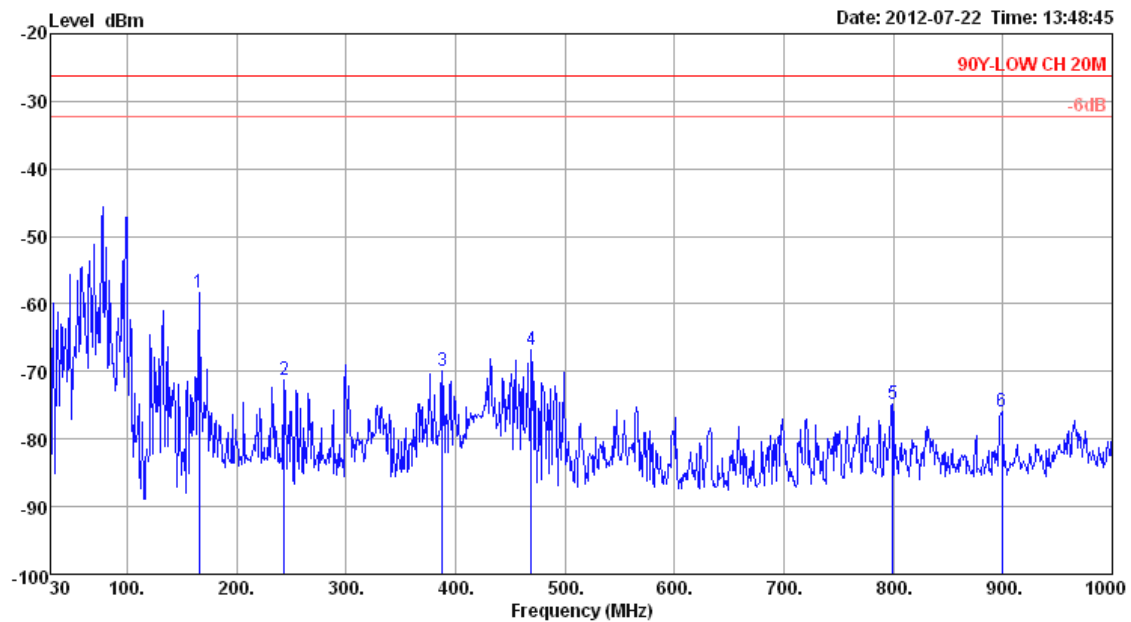
Radiated Spurious Emissions (20MHz BW Mode) - 4950MHz (30MHz ~ 1GHz)

Horizontal



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	
	MHz	dBuV/m	Line	Limit	Level	Loss	Factor	Factor	Remark	cm	deg
1	99.84	-40.43	-26.27	-14.16	-25.02	1.20	10.99	27.60	Peak	100	360 HORIZONTAL
2	165.80	-53.06	-26.27	-26.79	-39.79	1.53	12.47	27.27	Peak	100	360 HORIZONTAL
3	328.76	-67.63	-26.27	-41.36	-56.84	2.16	14.15	27.10	Peak	100	360 HORIZONTAL
4	453.89	-66.92	-26.27	-40.65	-58.57	2.61	16.91	27.87	Peak	100	360 HORIZONTAL
5	565.44	-73.88	-26.27	-47.61	-66.98	2.83	18.37	28.10	Peak	100	360 HORIZONTAL
6	898.15	-75.55	-26.27	-49.28	-72.26	3.59	20.52	27.40	Peak	100	360 HORIZONTAL

Vertical



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	165.80	-58.38	-26.27	-32.11	-45.11	1.53	12.47	27.27	Peak	400	0	VERTICAL
2	243.40	-71.32	-26.27	-45.05	-58.45	1.87	12.27	27.01	Peak	400	0	VERTICAL
3	387.93	-69.81	-26.27	-43.54	-60.32	2.28	15.75	27.52	Peak	400	0	VERTICAL
4	469.41	-66.87	-26.27	-40.60	-58.71	2.64	17.15	27.95	Peak	400	0	VERTICAL
5	799.21	-74.85	-26.27	-48.58	-70.30	3.30	19.76	27.61	Peak	400	0	VERTICAL
6	899.12	-75.99	-26.27	-49.72	-72.71	3.60	20.52	27.40	Peak	400	0	VERTICAL

Note:

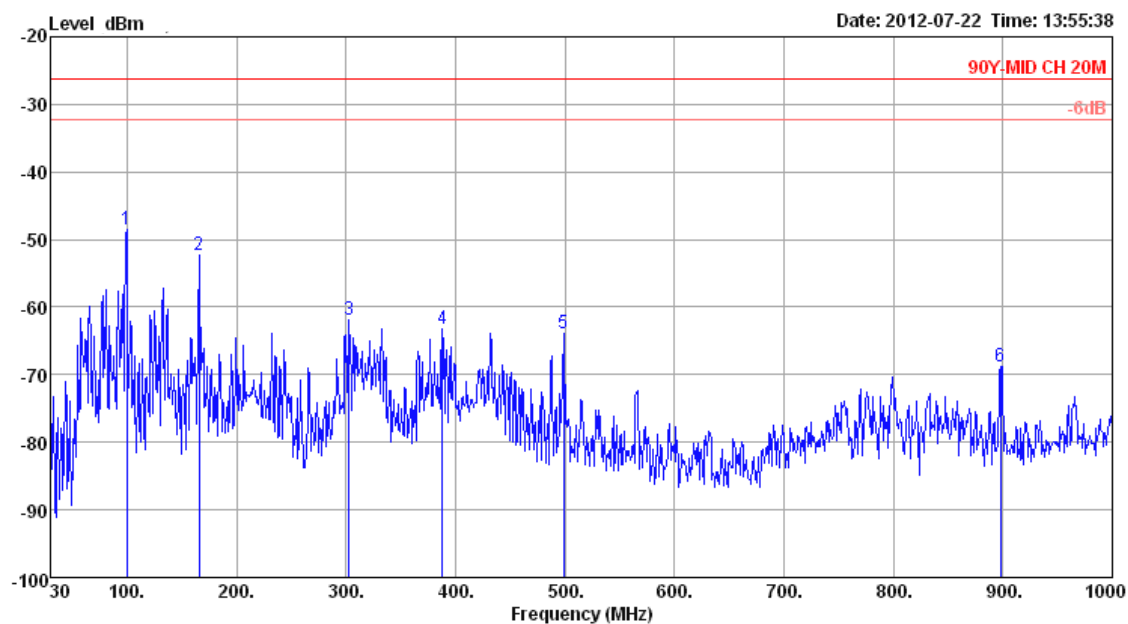
The amplitude of spurious emissions which are attenuated more than 20 dB below the permissible value need not be reported.

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level

Temperature	24°C	Humidity	56%
Test Engineer	Sean Ku	Test Site	03CH01-CB
Test Mode	Mode 2		

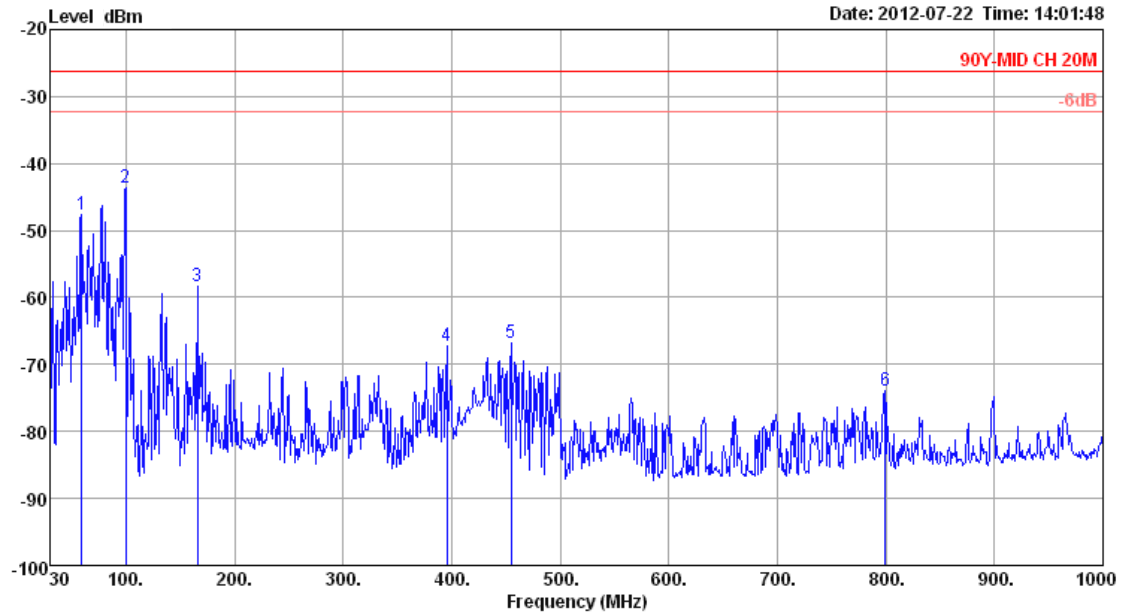
Radiated Spurious Emissions (20MHz BW Mode) - 4965MHz (30MHz ~ 1GHz)

Horizontal



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor	Remark	cm	deg
1	99.84	-48.48	-26.26	-22.22	-33.07	1.20	10.99	27.60	Peak	100	360
2	165.80	-52.36	-26.26	-26.10	-39.09	1.53	12.47	27.27	Peak	100	360
3	302.57	-61.87	-26.26	-35.61	-50.50	2.11	13.44	26.92	Peak	100	360
4	387.93	-63.17	-26.26	-36.91	-53.68	2.28	15.75	27.52	Peak	100	360
5	498.51	-63.90	-26.26	-37.64	-56.11	2.70	17.60	28.09	Peak	100	360
6	898.15	-68.77	-26.26	-42.51	-65.48	3.59	20.52	27.40	Peak	100	360

Vertical



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	59.10	-47.74	-26.26	-21.48	-27.73	0.80	6.95	27.76	400	0	VERTICAL
2	99.84	-43.57	-26.26	-17.31	-28.16	1.20	10.99	27.60	400	0	VERTICAL
3	165.80	-58.24	-26.26	-31.98	-44.97	1.53	12.47	27.27	400	0	VERTICAL
4	395.69	-67.30	-26.26	-41.04	-57.98	2.29	15.96	27.57	400	0	VERTICAL
5	454.86	-66.71	-26.26	-40.45	-58.37	2.61	16.92	27.87	400	0	VERTICAL
6	799.21	-73.99	-26.26	-47.73	-69.44	3.30	19.76	27.61	400	0	VERTICAL

Note:

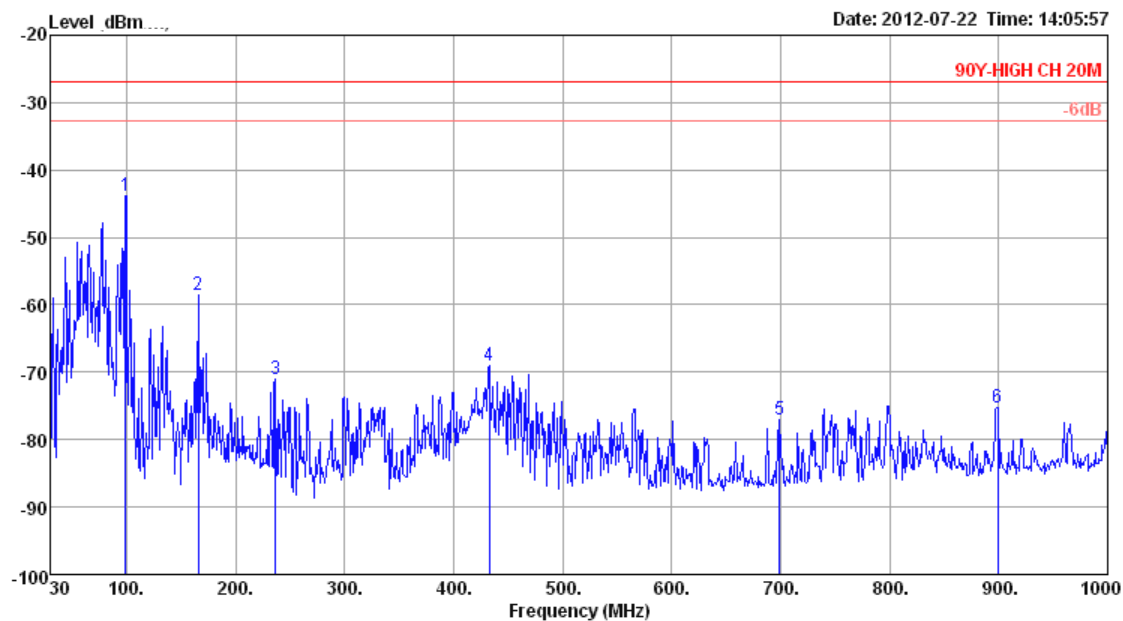
The amplitude of spurious emissions which are attenuated more than 20 dB below the permissible value need not be reported.

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level

Temperature	24°C	Humidity	56%
Test Engineer	Sean Ku	Test Site	03CH01-CB
Test Mode	Mode 2		

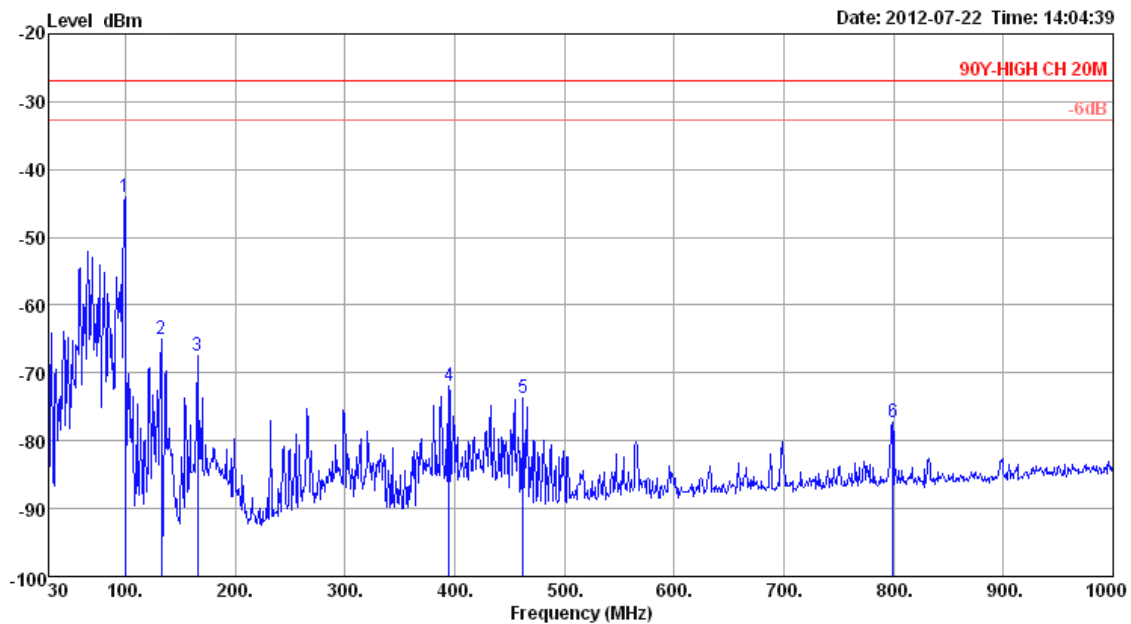
Radiated Spurious Emissions (20MHz BW Mode) - 4980MHz (30MHz ~ 1GHz)

Horizontal



	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp		A/Pos	T/Pos	
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor	Remark	cm	deg	Pol/Phase
1	98.87	-43.81	-26.80	-17.01	-28.17	1.18	10.79	27.61	Peak	100	0	HORIZONTAL
2	165.80	-58.61	-26.80	-31.81	-45.34	1.53	12.47	27.27	Peak	100	0	HORIZONTAL
3	236.61	-71.10	-26.80	-44.30	-57.69	1.85	11.77	27.03	Peak	100	0	HORIZONTAL
4	432.55	-69.01	-26.80	-42.21	-60.32	2.50	16.57	27.76	Peak	100	0	HORIZONTAL
5	699.30	-77.10	-26.80	-50.30	-71.49	3.30	19.09	28.00	Peak	100	0	HORIZONTAL
6	899.12	-75.24	-26.80	-48.44	-71.96	3.60	20.52	27.40	Peak	100	0	HORIZONTAL

Vertical



	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor	cm	deg	Pol/Phase
1	99.84	-44.09	-26.80	-17.29	-28.68	1.20	10.99	27.60	400	360	VERTICAL
2	132.82	-65.09	-26.80	-38.29	-51.27	1.33	12.28	27.43	400	360	VERTICAL
3	165.80	-67.44	-26.80	-40.64	-54.17	1.53	12.47	27.27	400	360	VERTICAL
4	394.72	-71.81	-26.80	-45.01	-62.47	2.29	15.93	27.56	400	360	VERTICAL
5	462.62	-73.65	-26.80	-46.85	-65.40	2.62	17.04	27.91	400	360	VERTICAL
6	799.21	-77.37	-26.80	-50.57	-72.82	3.30	19.76	27.61	400	360	VERTICAL

Note:

The amplitude of spurious emissions which are attenuated more than 20 dB below the permissible value need not be reported.

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level

Temperature	24°C	Humidity	56%
Test Engineer	Sean Ku	Test Site	03CH01-CB
Test Mode	Mode 1	Test Date	Jul. 22, 2012

Radiated Spurious Emissions (5MHz BW Mode) - 4945MHz (1GHz ~ 40GHz)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	9890.04	-53.38	-33.06	-20.32	-65.02	8.30	38.96	35.62	Peak	100	123	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	9888.40	-59.88	-33.06	-26.82	-71.52	8.30	38.96	35.62	Peak	100	0	VERTICAL

Note:

The amplitude of spurious emissions which are attenuated more than 20 dB below the permissible value need not be reported.

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level

Temperature	24°C	Humidity	56%
Test Engineer	Sean Ku	Test Site	03CH01-CB
Test Mode	Mode 1	Test Date	Jul. 22, 2012

Radiated Spurious Emissions (5MHz BW Mode) - 4965MHz (1GHz ~ 40GHz)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	9930.44	-53.87	-33.00	-20.87	-65.57	8.31	39.00	35.61 Peak	100	39	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	9929.74	-59.49	-33.00	-26.49	-71.19	8.31	39.00	35.61 Peak	100	360	VERTICAL

Note:

The amplitude of spurious emissions which are attenuated more than 20 dB below the permissible value need not be reported.

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level

Temperature	24°C	Humidity	56%
Test Engineer	Sean Ku	Test Site	03CH01-CB
Test Mode	Mode 1	Test Date	Jul. 22, 2012

Radiated Spurious Emissions (5MHz BW Mode) - 4985MHz (1GHz ~ 40GHz)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	9971.08	-52.29	-33.10	-19.19	-64.09	8.34	39.06	35.60	Peak	100	134	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	9970.28	-60.47	-33.10	-27.37	-72.27	8.34	39.06	35.60	Peak	100	360	VERTICAL

Note:

The amplitude of spurious emissions which are attenuated more than 20 dB below the permissible value need not be reported.

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level

Temperature	24°C	Humidity	56%
Test Engineer	Sean Ku	Test Site	03CH01-CB
Test Mode	Mode 1	Test Date	Jul. 22, 2012

Radiated Spurious Emissions (10MHz BW Mode) - 4945MHz (1GHz ~ 40GHz)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	9887.62	-50.10	-29.64	-20.46	-61.74	8.30	38.96	35.62	Peak	100	222	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	9890.58	-59.65	-29.64	-30.01	-71.29	8.30	38.96	35.62	Peak	100	123	VERTICAL

Note:

The amplitude of spurious emissions which are attenuated more than 20 dB below the permissible value need not be reported.

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level

Temperature	24°C	Humidity	56%
Test Engineer	Sean Ku	Test Site	03CH01-CB
Test Mode	Mode 1	Test Date	Jul. 22, 2012

Radiated Spurious Emissions (10MHz BW Mode) - 4965MHz (1GHz ~ 40GHz)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	9929.62	-48.98	-29.47	-19.51	-60.68	8.31	39.00	35.61	Peak	100	360	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	9930.70	-61.42	-29.47	-31.95	-73.12	8.31	39.00	35.61	Peak	100	162	VERTICAL

Note:

The amplitude of spurious emissions which are attenuated more than 20 dB below the permissible value need not be reported.

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level

Temperature	24°C	Humidity	56%
Test Engineer	Sean Ku	Test Site	03CH01-CB
Test Mode	Mode 1	Test Date	Jul. 22, 2012

Radiated Spurious Emissions (10MHz BW Mode) - 4985MHz (1GHz ~ 40GHz)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	9970.50	-46.96	-29.63	-17.33	-58.76	8.34	39.06	35.60	Peak	100	360	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	9968.56	-61.36	-29.63	-31.73	-73.16	8.34	39.06	35.60	Peak	100	360	VERTICAL

Note:

The amplitude of spurious emissions which are attenuated more than 20 dB below the permissible value need not be reported.

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level

Temperature	24°C	Humidity	56%
Test Engineer	Sean Ku	Test Site	03CH01-CB
Test Mode	Mode 1	Test Date	Jul. 22, 2012

Radiated Spurious Emissions (20MHz BW Mode) - 4950MHz (1GHz ~ 40GHz)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	9901.18	-46.18	-26.62	-19.56	-57.84	8.30	38.98	35.62	Peak	100	78	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	9901.20	-61.29	-26.62	-34.67	-72.95	8.30	38.98	35.62	Peak	100	74	VERTICAL

Note:

The amplitude of spurious emissions which are attenuated more than 20 dB below the permissible value need not be reported.

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level

Temperature	24°C	Humidity	56%
Test Engineer	Sean Ku	Test Site	03CH01-CB
Test Mode	Mode 1	Test Date	Jul. 22, 2012

Radiated Spurious Emissions (20MHz BW Mode) - 4965MHz (1GHz ~ 40GHz)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	9931.45	-45.42	-26.20	-19.22	-57.12	8.31	39.00	35.61	Peak	100	354	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	9931.74	-58.23	-26.20	-32.03	-69.95	8.31	39.02	35.61	Peak	100	65	VERTICAL

Note:

The amplitude of spurious emissions which are attenuated more than 20 dB below the permissible value need not be reported.

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level

Temperature	24°C	Humidity	56%
Test Engineer	Sean Ku	Test Site	03CH01-CB
Test Mode	Mode 1	Test Date	Jul. 22, 2012

Radiated Spurious Emissions (20MHz BW Mode) - 4980MHz (1GHz ~ 40GHz)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	9958.95	-46.85	-25.75	-21.10	-58.61	8.33	39.04	35.61	Peak	100	3	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	9966.19	-60.71	-25.75	-34.96	-72.51	8.34	39.06	35.60	Peak	100	129	VERTICAL

Note:

The amplitude of spurious emissions which are attenuated more than 20 dB below the permissible value need not be reported.

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level

Temperature	24°C	Humidity	56%
Test Engineer	Sean Ku	Test Site	03CH01-CB
Test Mode	Mode 2	Test Date	Jul. 22, 2012

Radiated Spurious Emissions (5MHz BW Mode) - 4945MHz (1GHz ~ 40GHz)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	9889.94	-49.71	-33.30	-16.41	-61.35	8.30	38.96	35.62	Peak	100	360	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	9890.00	-50.64	-33.30	-17.34	-62.28	8.30	38.96	35.62	Peak	100	360	VERTICAL

Note:

The amplitude of spurious emissions which are attenuated more than 20 dB below the permissible value need not be reported.

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level

Temperature	24°C	Humidity	56%
Test Engineer	Sean Ku	Test Site	03CH01-CB
Test Mode	Mode 2	Test Date	Jul. 22, 2012

Radiated Spurious Emissions (5MHz BW Mode) - 4965MHz (1GHz ~ 40GHz)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	9930.00	-52.77	-33.25	-19.52	-64.47	8.31	39.00	35.61	Peak	100	0	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	9929.92	-54.57	-33.25	-21.32	-66.27	8.31	39.00	35.61	Peak	100	360	VERTICAL

Note:

The amplitude of spurious emissions which are attenuated more than 20 dB below the permissible value need not be reported.

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level

Temperature	24°C	Humidity	56%
Test Engineer	Sean Ku	Test Site	03CH01-CB
Test Mode	Mode 2	Test Date	Jul. 22, 2012

Radiated Spurious Emissions (5MHz BW Mode) - 4985MHz (1GHz ~ 40GHz)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	9968.44	-54.51	-33.22	-21.29	-66.31	8.34	39.06	35.60	Peak	100	276	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	9970.08	-55.99	-33.22	-22.77	-67.79	8.34	39.06	35.60	Peak	100	329	VERTICAL

Note:

The amplitude of spurious emissions which are attenuated more than 20 dB below the permissible value need not be reported.

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level

Temperature	24°C	Humidity	56%
Test Engineer	Sean Ku	Test Site	03CH01-CB
Test Mode	Mode 2	Test Date	Jul. 22, 2012

Radiated Spurious Emissions (10MHz BW Mode) - 4945MHz (1GHz ~ 40GHz)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	9890.04	-47.23	-30.19	-17.04	-58.87	8.30	38.96	35.62	Peak	100	360	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	9890.08	-58.46	-30.19	-28.27	-70.10	8.30	38.96	35.62	Peak	100	130	VERTICAL

Note:

The amplitude of spurious emissions which are attenuated more than 20 dB below the permissible value need not be reported.

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level

Temperature	24°C	Humidity	56%
Test Engineer	Sean Ku	Test Site	03CH01-CB
Test Mode	Mode 2	Test Date	Jul. 22, 2012

Radiated Spurious Emissions (10MHz BW Mode) - 4965MHz (1GHz ~ 40GHz)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	9929.56	-57.06	-30.14	-26.92	-68.76	8.31	39.00	35.61 Peak	100	0	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	9929.56	-57.06	-30.14	-26.92	-68.76	8.31	39.00	35.61 Peak	100	322	VERTICAL

Note:

The amplitude of spurious emissions which are attenuated more than 20 dB below the permissible value need not be reported.

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level

Temperature	24°C	Humidity	56%
Test Engineer	Sean Ku	Test Site	03CH01-CB
Test Mode	Mode 2	Test Date	Jul. 22, 2012

Radiated Spurious Emissions (10MHz BW Mode) - 4985MHz (1GHz ~ 40GHz)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	9969.72	-53.05	-30.11	-22.94	-64.85	8.34	39.06	35.60	Peak	100	360	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	9970.46	-59.52	-30.11	-29.41	-71.32	8.34	39.06	35.60	Peak	100	164	VERTICAL

Note:

The amplitude of spurious emissions which are attenuated more than 20 dB below the permissible value need not be reported.

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level

Temperature	24°C	Humidity	56%
Test Engineer	Sean Ku	Test Site	03CH01-CB
Test Mode	Mode 2	Test Date	Jul. 22, 2012

Radiated Spurious Emissions (20MHz BW Mode) - 4950MHz (1GHz ~ 40GHz)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	9898.60	-47.51	-26.27	-21.24	-59.17	8.30	38.98	35.62 Peak	100	205	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	9897.30	-51.04	-26.27	-24.77	-62.68	8.30	38.96	35.62 Peak	100	360	VERTICAL

Note:

The amplitude of spurious emissions which are attenuated more than 20 dB below the permissible value need not be reported.

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level

Temperature	24°C	Humidity	56%
Test Engineer	Sean Ku	Test Site	03CH01-CB
Test Mode	Mode 2	Test Date	Jul. 22, 2012

Radiated Spurious Emissions (20MHz BW Mode) - 4965MHz (1GHz ~ 40GHz)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	9928.70	-49.97	-26.26	-23.71	-61.67	8.31	39.00	35.61	Peak	100	336	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	9931.10	-60.78	-26.26	-34.52	-72.48	8.31	39.00	35.61	Peak	100	236	VERTICAL

Note:

The amplitude of spurious emissions which are attenuated more than 20 dB below the permissible value need not be reported.

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level

Temperature	24°C	Humidity	56%
Test Engineer	Sean Ku	Test Site	03CH01-CB
Test Mode	Mode 2	Test Date	Jul. 22, 2012

Radiated Spurious Emissions (20MHz BW Mode) - 4980MHz (1GHz ~ 40GHz)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	9959.80	-49.11	-26.80	-22.31	-60.87	8.33	39.04	35.61	Peak	100	255	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	9959.90	-48.25	-26.80	-21.45	-60.01	8.33	39.04	35.61	Peak	100	360	VERTICAL

Note:

The amplitude of spurious emissions which are attenuated more than 20 dB below the permissible value need not be reported.

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level

4.7. Frequency Stability Measurement

4.7.1. Limit

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.

4.7.2. Measuring Instruments and Setting

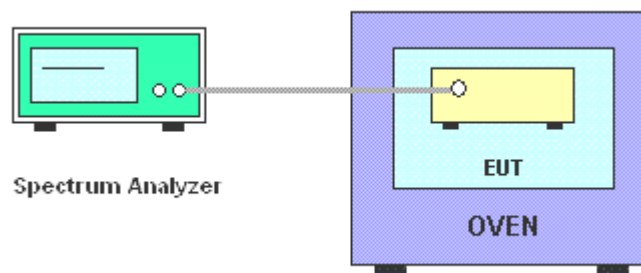
Please refer to section 5 in this report. The following table is the setting of the spectrum analyzer.

Spectrum Parameter	Setting
Detector	Peak
RBW / VBW	10 kHz / 30kHz

4.7.3. Test Procedures

1. The transmitter output (antenna port) was connected to the spectrum analyzer.
2. EUT have transmitted absence of modulation signal and fixed channel.
3. Set the spectrum analyzer span to view the entire absence of modulation emissions bandwidth.
4. Set RBW = 10 kHz, VBW = 10 kHz with frequency counter function.
5. f_c is declaring of carrier channel frequency. Then the frequency error formula is $(f_c - f) / f_c \times 10^6$ ppm.
6. The test extreme voltage is to change the primary supply voltage from 85 to 115 percent of the nominal value and extreme temperature rule is -30°C~50°C.

4.7.4. Test Setup Layout



4.7.5. Test Deviation

There is no deviation with the original standard.

4.7.6. Test Result of Frequency Stability

Temperature	23°C	Humidity	63%
Test Engineer	Sean Ku	Test Site	TH01-CB
Test Mode	Mode 1	Test Date	Jul. 22, 2012

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)
(V)	4965
5.75	4964.9876
5	4964.9869
4.25	4964.9846
Max. Deviation (MHz)	0.015400
Max. Deviation (ppm)	3.10

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)
(°C)	4965
-40	4964.9966
-30	4964.9948
-20	4964.9931
-10	4964.9916
0	4964.9898
10	4964.9881
20	4964.9869
30	4964.9856
40	4964.9828
50	4964.9806
60	4964.9796
Max. Deviation (MHz)	0.020400
Max. Deviation (ppm)	4.11

Temperature	23°C	Humidity	63%
Test Engineer	Sean Ku	Test Site	TH01-CB
Test Mode	Mode 2	Test Date	Jul. 22, 2012

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)
(V)	4965
5.75	4964.9888
5	4964.9875
4.25	4964.9852
Max. Deviation (MHz)	0.014800
Max. Deviation (ppm)	2.98

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)
(°C)	4965
-40	4964.9968
-30	4964.9952
-20	4964.9932
-10	4964.9916
0	4964.9901
10	4964.9892
20	4964.9875
30	4964.9862
40	4964.9848
50	4964.9839
60	4964.9821
Max. Deviation (MHz)	0.017900
Max. Deviation (ppm)	3.61

5. LIST OF MEASURING EQUIPMENTS

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
BILOG ANTENNA	Schaffner	CBL6112D	22021	20MHz ~ 2GHz	Jan. 11, 2012	Radiation (03CH01-CB)
Horn Antenna	EMCO	3115	00075790	750MHz~18GHz	Nov. 25, 2011	Radiation (03CH01-CB)
Horn Antenna	SCHWARZBEAK	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Nov. 22, 2011	Radiation (03CH01-CB)
Pre-Amplifier	Agilent	8449B	3008A02310	1GHz ~ 26.5GHz	Nov. 29, 2011	Radiation (03CH01-CB)
Pre-Amplifier	WM	TF-130N-R1	923365	26.5GHz ~ 40GHz	Jul. 31, 2011	Radiation (03CH01-CB)
Spectrum analyzer	R&S	FSP40	100056	9KHz~40GHz	Nov. 03, 2011	Radiation (05CH01-CB)
EMI Test Receiver	R&S	ESCS 30	100355	9KHz ~ 2.75GHz	Mar. 20, 2012	Radiation (03CH01-CB)
Loop Antenna	Teseq	HLA 6120	24155	9 kHz - 30 MHz	Sep. 09, 2010*	Radiation (03CH01-CB)
Turn Table	INN CO	CO 2000	N/A	0 ~ 360 degree	N/A	Radiation (03CH01-CB)
Antenna Mast	INN CO	CO2000	N/A	1 m - 4 m	N/A	Radiation (03CH01-CB)
RF Cable-low	Woken	Low Cable-1	N/A	30 MHz - 1 GHz	Nov. 17, 2011	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-1	N/A	1 GHz ~ 26.5 GHz	Nov. 17, 2011	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-2	N/A	1 GHz ~ 26.5 GHz	Nov. 17, 2011	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-3	N/A	1 GHz - 40 GHz	Nov. 17, 2011	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-4	N/A	1 GHz - 40 GHz	Nov. 17, 2011	Radiation (03CH01-CB)
Signal analyzer	R&S	FSV40	100979	9KHz~40GHz	Sep. 26, 2011	Conducted (TH01-CB)
Temp. and Humidity Chamber	Ten Billion	TTH-D3SP	TBN-931011	-30~100 degree	Jun. 05, 2012	Conducted (TH01-CB)
Thermo-Hygro Meter	N/A	HC 520	#1	15~70 degree	Nov. 02, 2011	Conducted (TH01-CB)
Signal Generator	R&S	SMR40	100302	10MHz-40GHz	Nov. 22, 2011	Conducted (TH01-CB)
RF Power Divider	HP	11636A	00306	2GHz ~ 18GHz	N/A	Conducted (TH01-CB)
RF Power Splitter	Anaren	44100	1839	2GHz ~ 18GHz	N/A	Conducted (TH01-CB)
RF Power Splitter	Anaren	42100	17930	2GHz ~ 18GHz	N/A	Conducted (TH01-CB)
Signal generator	R&S	SMU200A	102782	10MHz-40GHz	Jun. 07, 2012	Conducted (TH01-CB)
Horn Antenna	COM-POWER	AH-118	071187	1GHz ~ 18GHz	May 09, 2012	Conducted (TH01-CB)
Horn Antenna	COM-POWER	AH-118	071042	1GHz ~ 18GHz	Nov. 01, 2011	Radiation (05CH01-CB)
RF Cable-high	Woken	High Cable-7	-	1 GHz ~ 26.5 GHz	Nov. 17, 2011	Conducted (TH01-CB)

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
RF Cable-high	Woken	High Cable-8	-	1 GHz – 26.5 GHz	Nov. 17, 2011	Conducted (TH01-CB)
RF Cable-high	Woken	High Cable-9	-	1 GHz – 26.5 GHz	Nov. 17, 2011	Conducted (TH01-CB)
RF Cable-high	Woken	High Cable-10	-	1 GHz – 26.5 GHz	Nov. 17, 2011	Conducted (TH01-CB)
RF Cable-high	Woken	High Cable-11	-	1 GHz – 26.5 GHz	Nov. 17, 2011	Conducted (TH01-CB)
RF Cable-high	Woken	High Cable-12	-	1 GHz – 26.5 GHz	Nov. 17, 2011	Conducted (TH01-CB)
RF Cable-high	Woken	High Cable-13	-	1 GHz – 26.5 GHz	Nov. 17, 2011	Conducted (TH01-CB)
Power Sensor	Anritsu	MA2411B	0917223	300MHz~40GHz	Nov. 01, 2011	Conducted (TH01-CB)
Power Meter	Anritsu	ML2495A	1035008	300MHz~40GHz	Nov. 01, 2011	Conducted (TH01-CB)

Note: Calibration Interval of instruments listed above is one year.

Note: “*” Calibration Interval of instruments listed above is two years.

6. SPORTON COMPANY PROFILE

SPORTON Lab. was established in 1986 with one shielded room: the first private EMI test facility, offering local manufacturers an alternative EMI test facility apart from ERSO. In 1988, one 3M and 10M/3M open area test site were setup and also obtained official accreditation from FCC, VCCI and NEMKO. In 1993, a Safety laboratory was founded and obtained accreditation from UL of USA, CSA of Canada and TUV (Rhineland & PS) of Germany. In 1995, one EMC lab, including EMI and EMS test facilities was setup. In 1997, SPORTON Group has provided financial expense to relocate the headquarter to Orient Scientific Park in Taipei Hsien to offer more comprehensive, more qualified and better service to local suppliers and manufactures. In 1999, Safety Group and Component Group were setup. In 2001, SPORTON has established 3M/10M chamber in Hwa Ya Technology Park.

6.1. Test Location

SHIJR	ADD : 6Fl., No. 106, Sec. 1, Shintai 5th Rd., Shijr City, Taipei, Taiwan 221, R.O.C. TEL : 02-2696-2468 FAX : 02-2696-2255
HWA YA	ADD : No. 52, Hwa Ya 1st Rd., Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C. TEL : 03-327-3456 FAX : 03-318-0055
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NEIHU	ADD : 4Fl., No. 339, Hsin Hu 2 nd Rd., Taipei 114, Taiwan, R.O.C. TEL : 02-2794-8886 FAX : 02-2794-9777
JHUBEI	ADD : No.8, Lane 724, Bo-ai St., Jhubei City, HsinChu County 302, Taiwan, R.O.C. TEL : 03-656-9065 FAX : 03-656-9085