FCC&IC Radio Test Report

FCC ID: VOB-P2570

IC:7361A-P2570

This report concerns (check one) : ■ **Original Grant** □ **Class II Change**

Project No.	:	1404C046
Equipment	:	Wireless Controller
Model Name	:	P2570
Applicant	:	NVIDIA Corporation
Address	:	2701 San Tomas Expressway Santa Clara, CA95050

Tested by: Neutron Engineering Inc. EMC Laboratory
Date of Receipt: Apr. 09, 2014
Date of Test: Apr. 09, 2014~ May. 19, 2014
Issued Date: May.20, 2014

Testing Engineer : David Mao
(David Mao)

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(Leo Hung)

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(Steven Lu)

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Declaration

Neutron represents to the client that testing is done in accordance with standard procedures as applicable and that test instruments used has been calibrated with the standards traceable to National Measurement Laboratory (**NML**) of **R.O.C**., or National Institute of Standards and Technology (**NIST**) of **U.S.A.**

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REPORT ISSUED HISTORY

Issued No.	Description	Issued Date
NEI-FICP-2-1404C046	Original Issue.	May.20, 2014

1. CERTIFICATION

Equipment	:	Wireless Controller
Brand Name	:	NVIDIA
Model Name	:	P2570
Applicant	:	NVIDIA Corporation
Manufacturer	:	NVIDIA Corporation
Address	:	2701 San Tomas Expressway Santa Clara, CA95050
Factory	:	NVIDIA Corporation
Address	:	2701 San Tomas Expressway Santa Clara, CA95050
Date of Test	:	Apr. 09, 2014~ May. 19, 2014
Test Item	:	ENGINEERING SAMPLE
Standard(s)	:	FCC Part15, Subpart E(15.407) / ANSI C63.4 : 2009; Canada RSS-210:2010 RSS-GEN Issue 3, Dec 2010 FCC KDB 789033 D01 General UNII Test Procedures v01r03 .

The above equipment has been tested and found compliance with the requirement of the relative standards by Neutron Engineering Inc. EMC Laboratory.
The test data, data evaluation, and equipment configuration contained in our test report (Ref No. NEI-FICP-2-1404C046) were obtained utilizing the test procedures, test instruments, test sites that has been accredited by the Authority of TAF according to the ISO-17025 quality assessment standard and technical standard(s).

2. SUMMARY OF TEST RESULTS

Test procedures according to the technical standard(s):

FCC Part15, Subpart E Canada RSS-210:2010/ RSS-GEN Issue 3, Dec 2010				
Standard(s) Section		Test Item	Judgment	Remark
FCC	IC			
15.207	RSS-GEN 7.2.2	AC Power Line Conducted Emissions	PASS	
15.407(a)	RSS-210 A9.2(1)	26dB Spectrum Bandwidth	PASS	
15.407(a)	RSS-210 A9.2(1)	Maximum Conducted Output Power	PASS	
15.407(a)	RSS-210 A9.2(1)	Power Spectral Density	PASS	
15.407(a)	-	Peak Excursion	PASS	
15.407(a)	RSS-210 Annex 8 (A8.5)	Radiated Emissions	PASS	
15.407(b)	RSS-210 A9.2(1)	Band Edge Emissions	PASS	
15.407(g)	RSS-210 A1.1.4	Frequency Stability	PASS	
15.203	-	Antenna Requirements	PASS	

NOTE:

(1)” N/A” denotes test is not applicable in this test report

2.1 TEST FACILITY

The test facilities used to collect the test data in this report is **DG-C02/DG-CB03** at the location of No.3,Jinshagang 1st Road, ShiXia, Dalang Town, Dong Guan, China.523792
Neutron's test firm number for FCC: 319330
Neutron's test firm number for IC: 4428B-1

2.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement **y** ± **U**，where expended uncertainty **U** is based on a standard uncertainty multiplied by a coverage factor of **k=2**，providing a level of confidence of approximately **95**%.

A. Conducted Measurement :

Test Site	Method	Measurement Frequency Range	U，(dB)	NOTE
DG-C02	CISPR	150 KHz ~ 30MHz	1.94	

B. Radiated Measurement :

Test Site	Method	Measurement Frequency Range	Ant. H / V	U，(dB)	NOTE
DG-CB03	CISPR	9KHz~30MHz	V	3.79	
		9KHz~30MHz	H	3.57	
		30MHz ~ 200MHz	V	3.82	
		30MHz ~ 200MHz	H	3.60	
		200MHz ~ 1,000MHz	V	3.86	
		200MHz ~ 1,000MHz	H	3.94	
		1GHz~18GHz	V	3.12	
		1GHz~18GHz	H	3.68	
		18GHz~40GHz	V	4.15	
		18GHz~40GHz	H	4.14	

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

Equipment	Wireless Controller	
Brand Name	NVIDIA	
Model Name	P2570	
Mode Different	N/A	
Product Description	Operation Frequency	Band 1:5150MHz~5250MHz
	Modulation Type	OFDM
	Bit Rate of Transmitter	11a:6/ 9/12/18/24Mbps
	Output Power (Max.)	802.11a: 0.46dBm (FCC Part 15E)
		802.11a:3.97dBm (RSS-210)
	More details of EUT technical specification, please refer to the User's Manual.	
Power Source	#1 Supplied from Lithium-ion Polymer rechargeable battery. 1)Model:PT553759 2)Model:LC18650-2200mAh #2 Supplied from USB port.	
Power Rating	#1 1) DC 3.7V 1250mAh 2) DC 3.6V 2200mAh #2 DC 5V 0.5A	
Connecting I/O Port(s)	Please refer to the User's Manual	

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.

2. Channel List:

802.11a	
Band 1	
Channel	Frequency (MHz)
36	5180
40	5200
44	5220
48	5240

3. Table for Filed Antenna

Ant.	Manufacturer	Model Name	Antenna Type	Connector	Gain (dBi)
1	Yageo Corp.	ANT5320LL24R2455A	Chip	N/A	3.51
2	Yageo Corp.	ANT5320LL24R2455A	Chip	N/A	3.51

Note:
The EUT incorporates a SISO function and only one antenna used per time

4.

Operating Mode / TX Mode	1TX	2TX
802.11a	V (ANT 1 or ANT 2)	-

3.2 DESCRIPTION OF TEST MODES

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

Pretest Test Mode	Description
Mode 1	TX A Mode / CH36, CH40, CH48
Mode 2	TX A Mode / CH36, CH40, CH44
Mode 3	TX Mode

The EUT system operated these modes were found to be the worst case during the pre-scanning test as following:

For Conducted Test	
Final Test Mode	Description
Mode 3	TX Mode

For Radiated Test	
Final Test Mode	Description
Mode 1	TX A Mode / CH36, CH40, CH48
Mode 2	TX A Mode / CH36, CH40, CH44

Note: The mode 1 is for FCC Part 15E, the mode 2 is for RSS-210.

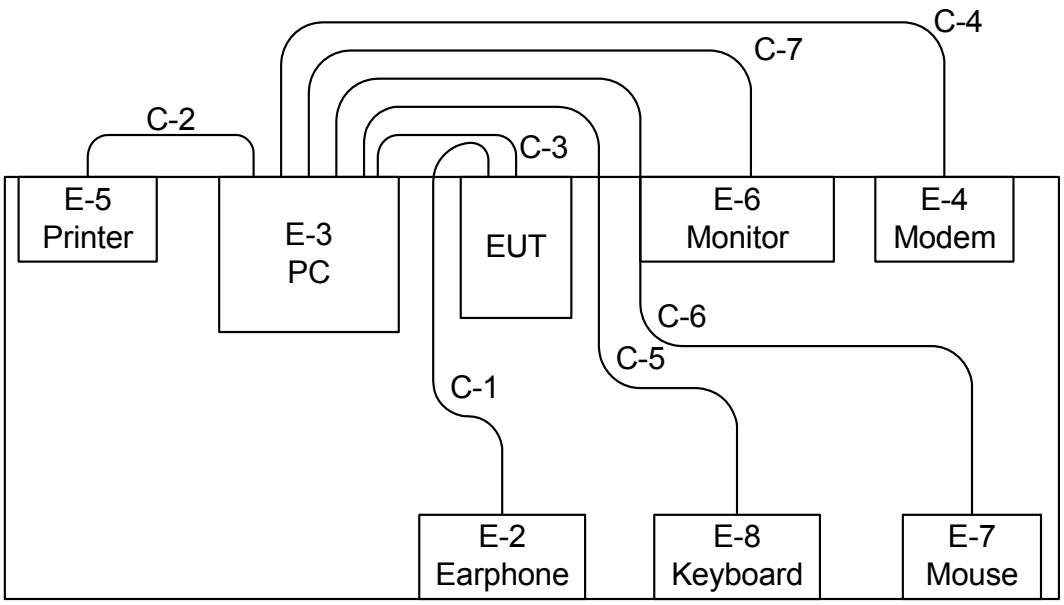
3.3 TABLE OF PARAMETERS OF TEXT SOFTWARE SETTING

During testing channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product

Test software version	Tera Term			
Frequency	**5180 MHz**	**5200MHz**	**5220MHz**	**5240 MHz**
A Mode	:SPW 0	:SPW 0	:SPW 0	:SPW 0

3.4 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

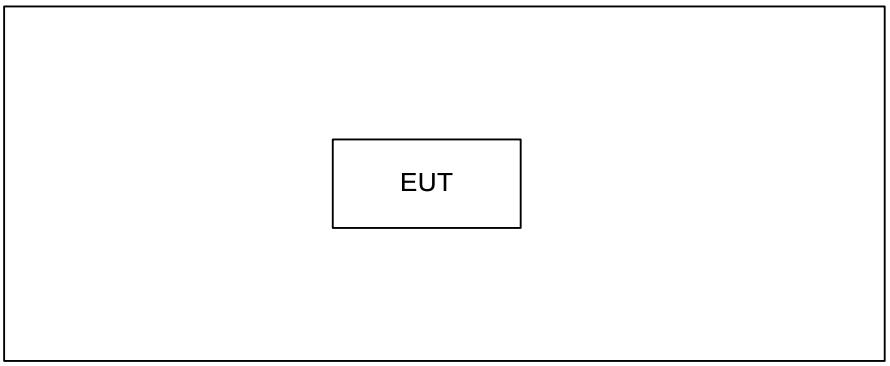
Conducted Emissions TX Mode:



C-1 Audio Cable
C-2 Parallel Cable
C-3 USB Cable
C-4 RS232 Cable
C-5 USB Cable
C-6 USB Cable
C-7 D-Sub Cable

E-1
Host

Radiated Emissions TX Mode:



Control Room

3.5 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Mfr/Brand	Model/Type No.	FCC ID	Series No.	Note
E-1	Host	NVIDIA	P2450	VOB-P2450	N/A	
E-2	Earphone	Apple	N/A	DOC	N/A	
E-3	PC	DELL	DCSM	DOC	G7K832X	
E-4	Modem	ACEEX	DM-1414V	N/A	0603002131	
E-5	Printer	SII	DPU-414	DOC	018507 B	
E-6	LCD monitor	Dell	E177FPc	DOC	CNOFJ179-64180-6AG-1WNS	
E-7	USB Mouse	Dell	MO56UOA	DOC	G01003HO	
E-8	USB Keyboard	Dell	L100	DOC	CNORH6596589085C00U7	

Item	Shielded Type	Ferrite Core	Length	Note
C-1	YES	NO	1.5m	
C-2	YES	NO	1.5m	
C-3	YES	YES	1.5m	
C-4	YES	NO	1.5m	
C-5	YES	NO	1.5m	
C-6	YES	NO	1.5m	
C-7	YES	YES	1.5m	

Note:

(1) For detachable type I/O cable should be specified the length in m in『Length』column.

4. EMC EMISSION TEST

4.1 CONDUCTED EMISSION MEASUREMENT

4.1.1 POWER LINE CONDUCTED EMISSION (Frequency Range 150KHz-30MHz)

FREQUENCY (MHz)	Class A (dBuV)		Class B (dBuV)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 -0.5	79.00	66.00	66 - 56 *	56 - 46 *
0.50 -5.0	73.00	60.00	56.00	46.00
5.0 -30.0	73.00	60.00	60.00	50.00

Note:

(1) The tighter limit applies at the band edges.

(2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

4.1.2 TEST PROCEDURE

a. The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.

b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.

c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.

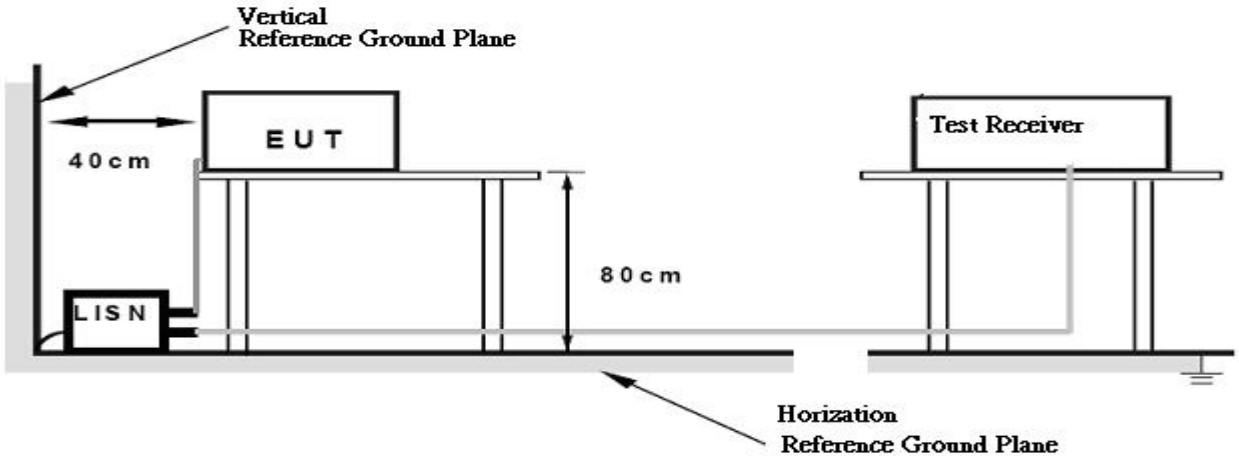
d. LISN at least 80 cm from nearest part of EUT chassis.

e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

4.1.3 DEVIATION FROM TEST STANDARD

No deviation

4.1.4 TEST SETUP



Note: The EUT does not connect to the LISN directly but through a PC. The detail setup is shown on chapter 3.4.

4.1.5 EUT OPERATING CONDITIONS

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.
The EUT was programmed to be in continuously transmitting/TX Mode mode.

4.1.6 EUT TEST CONDITIONS

Temperature: 25°C
Relative Humidity: 55%
Test Voltage: DC 5V(Powered through USB cable)

4.1.7 TEST RESULTS

Please refer to the Attachment A.

Remark:

(1) All readings are QP Mode value unless otherwise stated AVG in column of『Note』. If the QP Mode Measured value compliance with the QP Limits and lower than AVG Limits, the EUT shall be deemed to meet both QP & AVG Limits and then only QP Mode was measured, but AVG Mode didn't perform.In this case, a " * " marked in AVG Mode column of Interference Voltage Measured.
(2) Measuring frequency range from 150KHz to 30MHz.

4.2 RADIATED EMISSION MEASUREMENT

4.2.1 RADIATED EMISSION LIMITS (Frequency Range 9kHz-1000MHz)

20dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a) and RSS-210 section 2.2&A8.5, then the 15.209(a) and RSS-Gen limit in the table below has to be followed.

Frequencies (MHz)	Field Strength (micorvolts/meter)	Measurement Distance (meters)
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

Notes:

(1) The limit for radiated test was performed according to FCC PART 15C.

(2) The tighter limit applies at the band edges.

LIMITS OF UNWANTED EMISSION OUT OF THE RESTRICTED BANDS

Frequencies (MHz)	EIRP Limit (dBm)	Equivalent Field Strength at 3m (dBμV/m)
5150~5250	-27	68.3
5250~5350	-27	68.3
5470~5725	-27	68.3
5725~5825	-27	68.3
	-17	78.3

NOTE: The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

$$E=\frac{1000000\sqrt{30P}}{3}$$ μV/m, where P is the eirp (Watts)

DUTY CYCLE: TX A 5180MHz

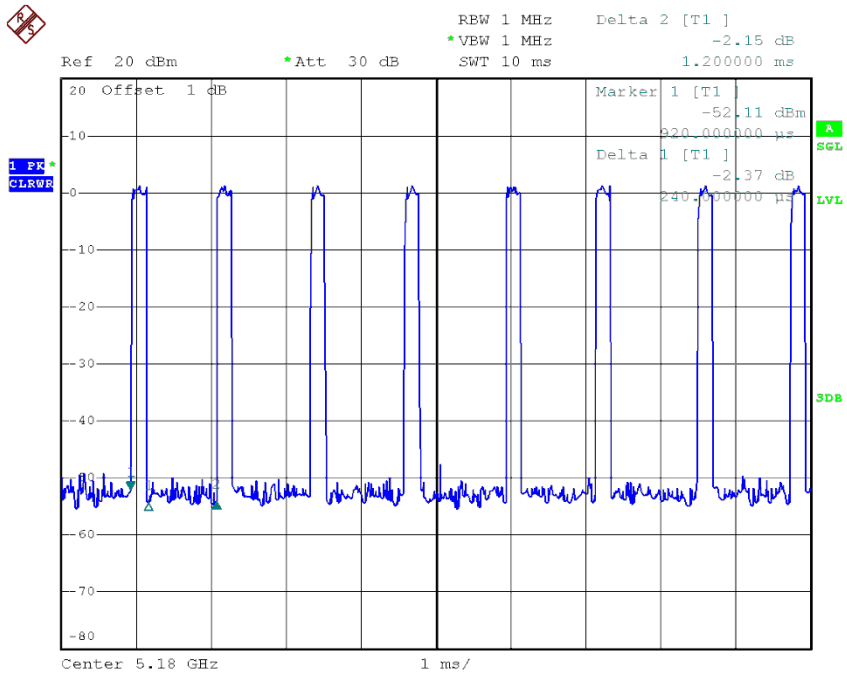
Duty Cycle=ON/(ON+OFF)

Duty Cycle=0.24/1.20

AV=Peak Value+20log(Duty Cycle)

AV=PK-13.98

On Time =0.24 msec



Date: 18.MAY.2014 13:41:48

Note:For 802.11a mode the average value of fundamental frequency is:
Average = Peak value + 20log(Duty cycle) ， Final AV=PK-13.98

4.2.2 TEST PROCEDURE

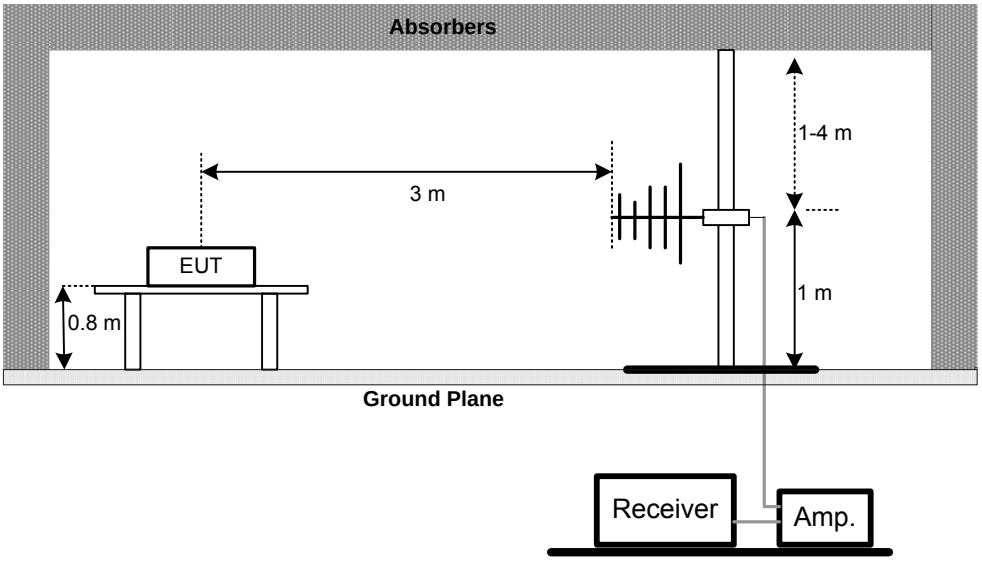
a. The measuring distance of at 1.5m shall be used for measurements at frequency up to 1GHz. For frequencies above 1GHz, any suitable measuring distance may be used.
b. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
c. The height of the equipment or of the substitution antenna shall be 0.8 m; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
d. The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
e. If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
f. For the actual test configuration, please refer to the related Item –EUT Test Photos.

4.2.3 DEVIATION FROM TEST STANDARD

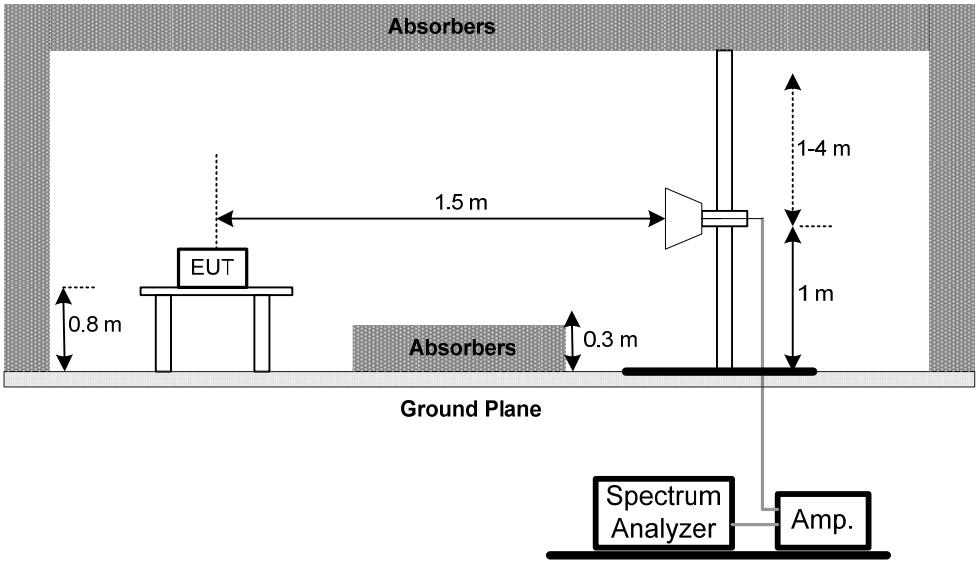
No deviation

4.2.4 TEST SETUP

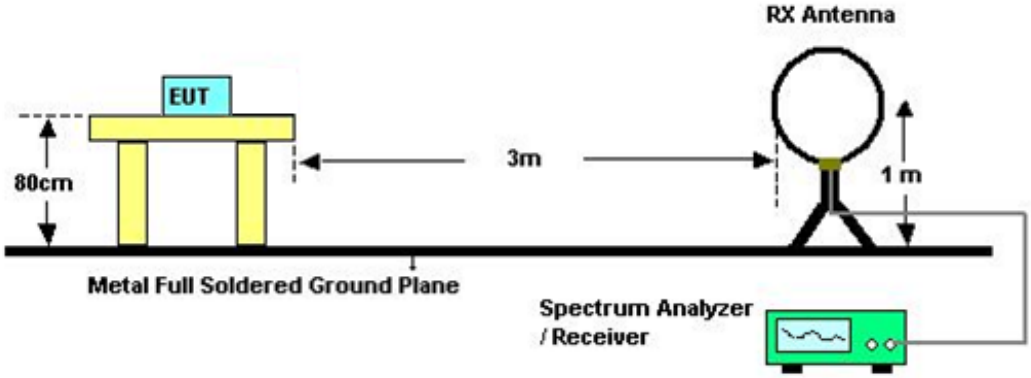
Radiated Emission Test Set-Up Frequency30 - 1000MHz



Radiated Emission Test Set-Up Frequency Above 1 GHz



Radiated emissions below 30MHz



4.2.5 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of **4.1.6** Unless otherwise a special operating condition is specified in the follows during the testing.

4.2.6 EUT TEST CONDITIONS

Temperature: 25°C Relative Humidity: 55%
Test Voltage: DC 3.7V(Powered by battery)

4.2.7 TEST RESULTS (9K TO 30MHz)

Please refer to the Attachment B

4.2.8 TEST RESULTS (BETWEEN 30 TO 1000 MHz)

Please refer to the Attachment C.

Remark:

(1) Reading in which marked as QP or Peak means measurements by using are Quasi-Peak Mode or Peak Mode with Detector BW=120KHz；SPA setting in RBW=120KHz, VBW =120KHz, Swp. Time = 0.3 sec./MHz.
(2) All readings are Peak unless otherwise stated QP in column of『Note』. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform.
(3) Measuring frequency range from 30MHz to 1000MHz.
(4) If the peak scan value lower limit more than 20dB, then this signal data does not show in table.

4.2.9 TEST RESULTS (ABOVE 1000 MHz)

Please refer to the Attachment D.

Remark:

(1) Spectrum Setting : 30MHz – 1000MHz , RBW= 100KHz, VBW=100KHz, Sweep time = 200 ms. 1GHz- 40GHz, RBW= 1MHz, VBW= 1MHz, Sweep time = Auto
(2) All readings are Peak unless otherwise stated AV in column of『Note』. Peak denotes that the Peak reading compliance with the AV Limits and then AV Mode measurement didn't perform.
(3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission .
(4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.
(6) EUT Orthogonal Axes:
"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand
(7) During the measurements above 1GHz it is taken care of that the EUT is always within the 3dB cone of radiation BW of the used antenna.

5. 26dB SPECTRUM BANDWIDTH

5.1 APPLIED PROCEDURES / LIMIT

FCC Part15, Subpart E/ RSS-210: 2010			
Test Item	Limit	Frequency Range (MHz)	Result
26 dB Bandwidth	------	5150MHz~5250	PASS

5.1.1 TEST PROCEDURE

a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,

b.

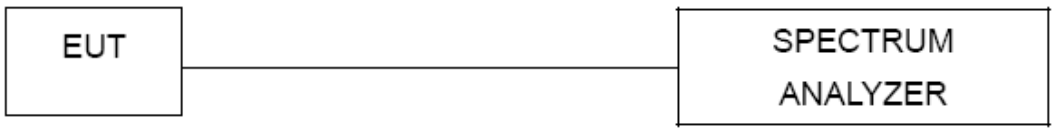
Spectrum Parameters	Setting
Attenuation	Auto
Span Frequency	> 26dB Bandwidth
RB	300 kHz
VB	1000 kHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

c. Measured the spectrum width with power higher than 26dB below carrier

5.1.2 DEVIATION FROM STANDARD

No deviation.

5.1.3 TEST SETUP



5.1.4 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 4.1.6 Unless otherwise a special operating condition is specified in the follows during the testing.

5.1.5 EUT TEST CONDITIONS

Temperature: 25°C Relative Humidity: 55%
Test Voltage: DC 3.7V(Powered by battery)

5.1.6 TEST RESULTS

Please refer to the Attachment E.

6. MAXIMUM CONDUCTED OUTPUT POWER

6.1 APPLIED PROCEDURES / LIMIT

FCC Part15, Subpart E/ RSS-210: 2010			
Test Item	Frequency Range (MHz)	Limit	Result
Conducted Output Power	5150 - 5250	not exceed the lesser of 50 mW (17dBm) or 4 dBm + 10log B (FCC Part15, Subpart E)	PASS
	5150 - 5250	not exceed the lesser of 200 mW (23dBm) or 10+ 10log B, (RSS-210: 2010)	PASS

Note: where "B" is the 26 dB emissions bandwidth in MHz.

6.1.1 TEST PROCEDURE

a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,

b.

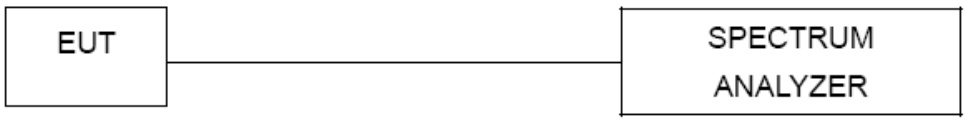
Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	Encompass the entire emissions bandwidth (EBW) of the signal
RBW	= 1 MHz.
VBW	≥ 3 MHz.
Detector	RMS
Trace	Max Hold
Sweep Time	auto

b. Test was performed in accordance with method of KDB 789033 D01.

6.1.2 DEVIATION FROM STANDARD

No deviation.

6.1.3 TEST SETUP



6.1.4 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 4.1.6 Unless otherwise a special operating condition is specified in the follows during the testing.

6.1.5 EUT TEST CONDITIONS

Temperature: 25°C Relative Humidity: 55%
Test Voltage: DC 3.7V(Powered by battery)

6.1.6 TEST RESULTS

Please refer to the Attachment F.

7. ANTENNA CONDUCTED SPURIOUS EMISSION

7.1 APPLIED PROCEDURES / LIMIT

FCC Part15, Subpart E/ RSS-210: 2010			
Test Item	Limit	Frequency Range (MHz)	Result
Antenna conducted Spurious Emission	-27 dBm/1MHz	5150 – 5250	PASS

7.1.1 TEST PROCEDURE

a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,

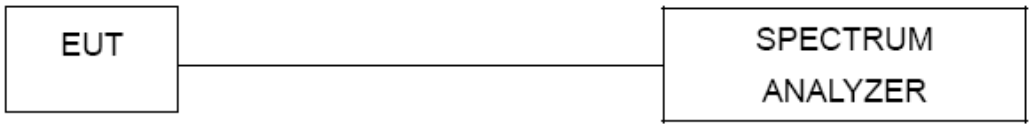
b.

Spectrum Parameter	Setting
Attenuation	Auto
RB	1000 kHz
VB	1000 kHz
Trace	Max Hold
Sweep Time	Auto

7.1.2 DEVIATION FROM STANDARD

No deviation.

7.1.3 TEST SETUP



7.1.4 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 4.1.6 Unless otherwise a special operating condition is specified in the follows during the testing.

7.1.5 EUT TEST CONDITIONS

Temperature: 25°C Relative Humidity: 55%
Test Voltage: DC 3.7V(Powered by battery)

7.1.6 TEST RESULTS

Please refer to the Attachment G.

8. POWER SPECTRAL DENSITY TEST

8.1 APPLIED PROCEDURES / LIMIT

FCC Part15, Subpart E/ RSS-210: 2010			
Test Item	Limit	Frequency Range (MHz)	Result
Power Spectral Density	4 dBm	5150 - 5250	PASS

8.1.1 TEST PROCEDURE

a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,

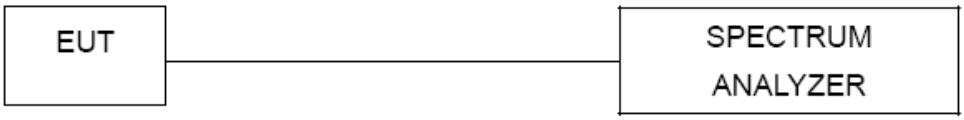
b.

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	Encompass the entire emissions bandwidth (EBW) of the signal
RB	= 1 MHz.
VB	≥ 3 MHz.
Detector	RMS
Trace	Max Hold
Sweep Time	Auto

8.1.2 DEVIATION FROM STANDARD

No deviation.

8.1.3 TEST SETUP



8.1.4 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 4.1.6 Unless otherwise a special operating condition is specified in the follows during the testing.

8.1.5 EUT TEST CONDITIONS

Temperature: 25°C Relative Humidity: 55%
Test Voltage: DC 3.7V(Powered by battery)

8.1.6 TEST RESULTS

Please refer to the Attachment H.

9. PEAK EXCURSION MEASUREMENT

9.1 APPLIED PROCEDURES / LIMIT

FCC Part15, Subpart E/ RSS-210: 2010			
Test Item	Limit	Frequency Range (MHz)	Result
Peak Excursion Measurement	13 dB	5150 - 5250	PASS

9.1.1 TEST PROCEDURE

a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,

b.

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	Encompass the entire emissions bandwidth (EBW) of the signal
RB	1000 kHz (Peak Trace) / 1000 kHz (Average Trace)
VB	3000 kHz (Peak Trace) / 3000 kHz (Average Trace)
Detector	Peak (Peak Trace) / RMS (Average Trace)
Trace	Max Hold
Sweep Time	60s

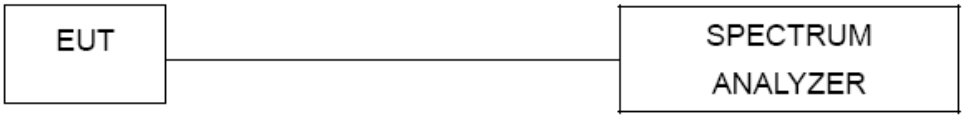
c. Peak Trace: Set RBW = 1 MHz, VBW ≥ 3 MHz with peak detector and maxhold settings.

d. Average Trace: set RBW = 1 MHz, VBW = 3 MHz with RMS detector and trace average across 100 traces in power averaging mode.

9.1.2 DEVIATION FROM STANDARD

No deviation.

9.1.3 TEST SETUP



9.1.4 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 4.1.6 Unless otherwise a special operating condition is specified in the follows during the testing.

9.1.5 EUT TEST CONDITIONS

Temperature: 25°C Relative Humidity: 55%
Test Voltage: DC 3.7V(Powered by battery)

9.1.6 TEST RESULTS

Please refer to the Attachment I.

10. FREQUENCY STABILITY MEASUREMENT

10.1 APPLIED PROCEDURES / LIMIT

FCC Part15, Subpart E 15.407(g) / RSS-210 A1.1.4			
Test Item	Limit	Frequency Range (MHz)	Result
Frequency Stability	specified in the user's manual	5150 – 5250	PASS

10.1.1 TEST PROCEDURE

a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,

b.

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	Entire absence of modulation emissions bandwidth
RB	10 kHz
VB	10 kHz
Sweep Time	Auto

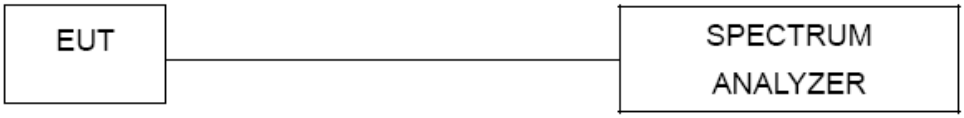
c. The test extreme voltage is to change the primary supply voltage from 85 to 115 percent of the nominal value.

d. user manual temperature is 0°C~55°C.

10.1.2 DEVIATION FROM STANDARD

No deviation.

10.1.3 TEST SETUP



10.1.4 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 4.1.6 Unless otherwise a special operating condition is specified in the follows during the testing.

10.1.5 EUT TEST CONDITIONS

Temperature: 25°C Relative Humidity: 55%
Test Voltage: DC 3.7V(Powered by battery)

10.1.6 TEST RESULTS

Please refer to the Attachment J.

11. MEASUREMENT INSTRUMENTS LIST

Conducted Emission Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	LISN	EMCO	3816/2	00052765	Mar. 29, 2015
2	LISN	R&S	ENV216	100087	Mar. 29, 2015
3	Test Cable	N/A	C_17	N/A	Mar. 14, 2015
4	EMI TEST RECEIVER	R&S	ESCS30	826547/022	Mar. 29, 2015
5	50Ω Terminator	SHX	TF2-3G-A	08122902	Mar. 29, 2015

Radiated Emission Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Antenna	EMCO	3142C	00066462	Mar. 29, 2015
2	Antenna	EMCO	3142C	00066464	Mar. 29, 2015
3	Amplifier	Agilent	8447D	2944A11203	Nov. 11, 2014
4	Amplifier	Agilent	8447D	2944A11204	Nov. 11, 2014
5	Spectrum Analyzer	Agilent	E4443A	MY48250370	Nov. 11, 2014
6	RF Pre-selector	Agilent	N9039A	MY46520201	Nov. 11, 2014
7	Test Cable	N/A	Cable_5m_8m_15m	N/A	Jan. 14, 2015
8	Test Cable	N/A	Cable_5m_11m_15m	N/A	Jan. 14, 2015
9	Spectrum Analyzer	Agilent	E4447A	MY48250208	Nov. 11, 2014
10	RF Pre-selector	Agilent	N9039A	MY46520214	Nov. 11, 2014
11	Multi-Device Controller	ETS-Lindgren	2090	N/A	N/A
12	Horn Antenna	EMCO	3115	9605-4803	Mar. 29, 2015
13	Amplifier	Agilent	8449B	3008A02584	Nov. 11, 2014
14	Spectrum Analyzer	Agilent	E4447A	MY48250208	Nov. 11, 2014
15	Test Cable	Huber+Suhner	SUCOFLEX_15m_4m	N/A	Jan. 14, 2015

26dB Spectrum Bandwidth Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP 40	100185	Nov. 11, 2014

Maximum Conducted Output Power Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP 40	100185	Nov. 11, 2014

Antenna Conducted Spurious Emission Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP 40	100185	Nov. 11, 2014

Power Spectral Density Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP 40	100185	Nov. 11, 2014

Peak Excurison Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP 40	100185	Nov. 11, 2014

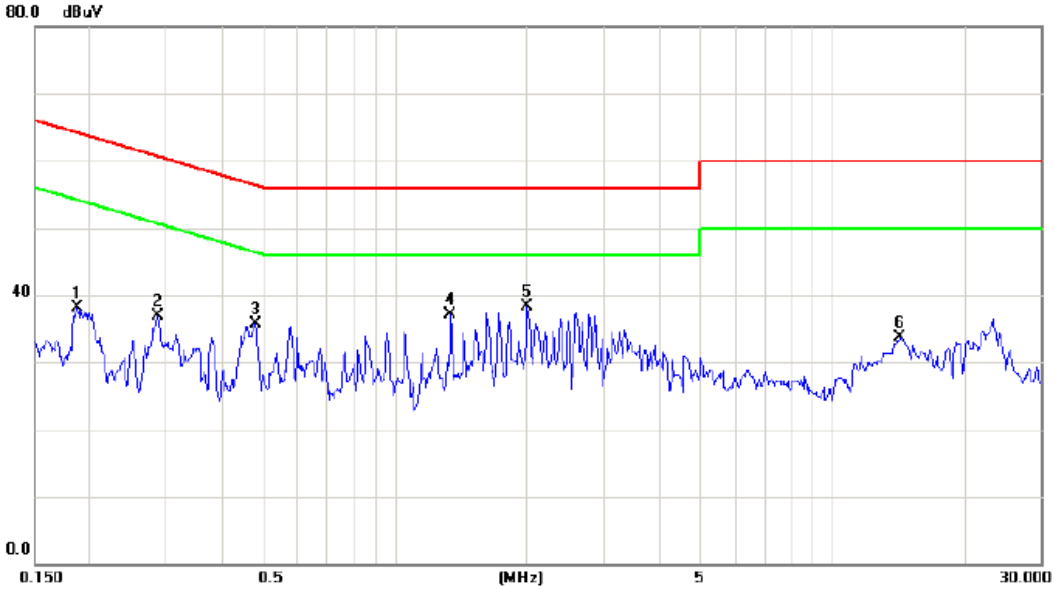
Frequency Stability Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP 40	100185	Nov. 11, 2014
2	Precision Oven Tester	HOLINK	H-T-1F-D	BA03101701	May. 25, 2014

Remark: ”N/A” denotes no model name, serial no. or calibration specified.
All calibration period of equipment list is one year.

ATTACHMENT A - CONDUCTED EMISSION

Test Mode :	TX MODE

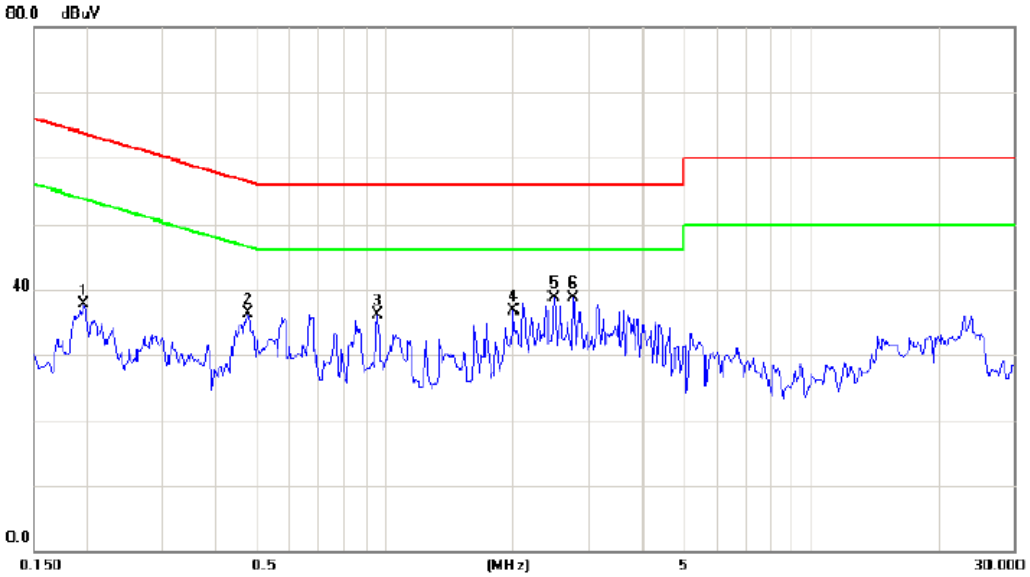
Line



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1872	28.40	9.65	38.05	64.16	-26.11	peak	
2		0.2867	27.20	9.67	36.87	60.62	-23.75	peak	
3		0.4786	26.07	9.70	35.77	56.36	-20.59	peak	
4		1.3410	27.25	9.78	37.03	56.00	-18.97	peak	
5	*	2.0093	28.50	9.84	38.34	56.00	-17.66	peak	
6		14.2652	23.42	10.30	33.72	60.00	-26.28	peak	

Test Mode :	TX MODE

Neutral



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1952	27.92	9.71	37.63	63.81	-26.18	peak	
2		0.4781	26.59	9.74	36.33	56.37	-20.04	peak	
3		0.9585	26.29	9.77	36.06	56.00	-19.94	peak	
4		2.0093	26.85	9.86	36.71	56.00	-19.29	peak	
5	*	2.4897	28.90	9.88	38.78	56.00	-17.22	peak	
6		2.7750	28.84	9.88	38.72	56.00	-17.28	peak	

ATTACHMENT B - RADIATED EMISSION (9KHZ TO 30MHZ)

Test Mode:	TX Mode

Freq. (MHz)	Ant. 0°/90°	Reading(RA) (dBuV)	Corr.Factor(CF) (dB)	Measured(FS) (dBuV/m)	Limits(QP) (dBuV/m)	Margin (dB)	Note
0.0212	0°	16.73	24.22	40.95	121.08	-80.12	AVG
0.0220	0°	20.44	24.22	44.66	141.08	-96.41	PEAK
0.0279	0°	16.81	23.80	40.61	118.69	-78.08	AVG
0.0279	0°	23.17	23.80	46.97	138.69	-91.72	PEAK
0.0333	0°	16.92	23.46	40.38	117.16	-76.78	AVG
0.0333	0°	22.63	23.46	46.09	137.16	-91.07	PEAK
0.0528	0°	20.82	22.34	43.16	113.15	-69.99	AVG
0.0528	0°	24.98	22.34	47.32	133.15	-85.83	PEAK
0.3170	0°	18.03	20.24	38.27	97.58	-59.31	AVG
0.3170	0°	22.19	20.24	42.43	117.58	-75.15	PEAK
1.5210	0°	16.87	19.55	36.42	63.96	-27.54	QP

Freq. (MHz)	Ant. 0°/90°	Reading(RA) (dBuV)	Corr.Factor(CF) (dB)	Measured(FS) (dBuV/m)	Limits(QP) (dBuV/m)	Margin (dB)	Note
0.0175	90°	16.85	24.30	41.15	122.74	-81.59	AVG
0.0175	90°	22.16	24.30	46.46	142.74	-96.28	PEAK
0.0269	90°	16.82	23.86	40.68	119.01	-78.33	AVG
0.0269	90°	19.16	23.86	43.02	139.01	-95.99	PEAK
0.0375	90°	21.41	23.19	44.60	116.12	-71.52	AVG
0.0375	90°	28.13	23.19	51.32	136.12	-84.80	PEAK
0.0519	90°	16.14	22.36	38.50	113.30	-74.80	AVG
0.0519	90°	22.10	22.36	44.46	133.30	-88.84	PEAK
0.3260	90°	15.46	20.22	35.68	97.34	-61.66	AVG
0.3260	90°	20.14	20.22	40.36	117.34	-76.98	PEAK
1.6750	90°	16.16	19.53	35.69	63.12	-27.43	QP

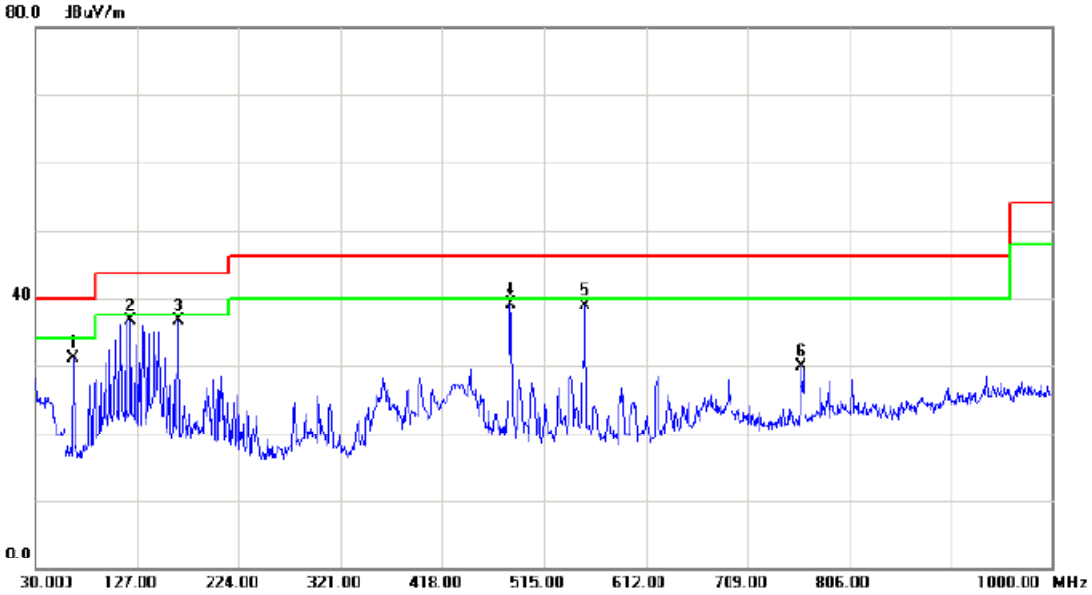
Remark:

(1) The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.
(2) Distance extrapolation factor = 40 log (specific distance / test distance) (dB);
(3) Limit line = specific limits (dBuV) + distance extrapolation factor.

ATTACHMENT C - RADIATED EMISSION (30MHZ TO 1000MHZ)

Test Mode :	Band 1/TX A Mode 5180MHz

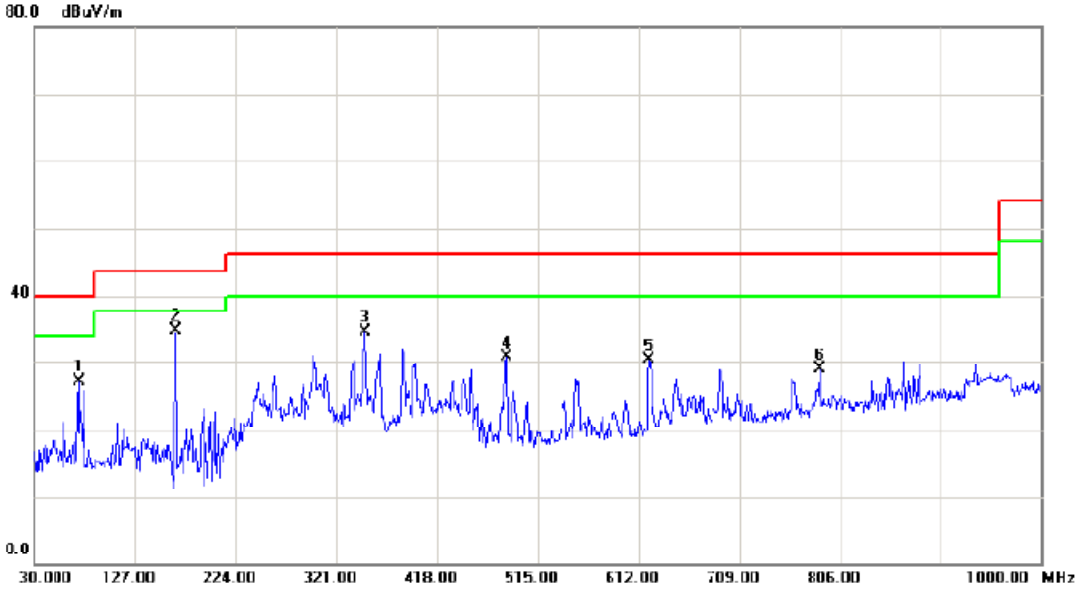
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		66.8600	47.03	-15.89	31.14	40.00	-8.86	peak	
2	*	120.2100	50.64	-13.88	36.76	43.50	-6.74	peak	
3		165.8000	49.76	-13.11	36.65	43.50	-6.85	peak	
4		482.9900	48.89	-9.85	39.04	46.00	-6.96	peak	
5		554.7700	46.62	-7.69	38.93	46.00	-7.07	peak	
6		759.4400	34.39	-4.57	29.82	46.00	-16.18	peak	

Test Mode :	Band 1/TX A Mode 5180MHz

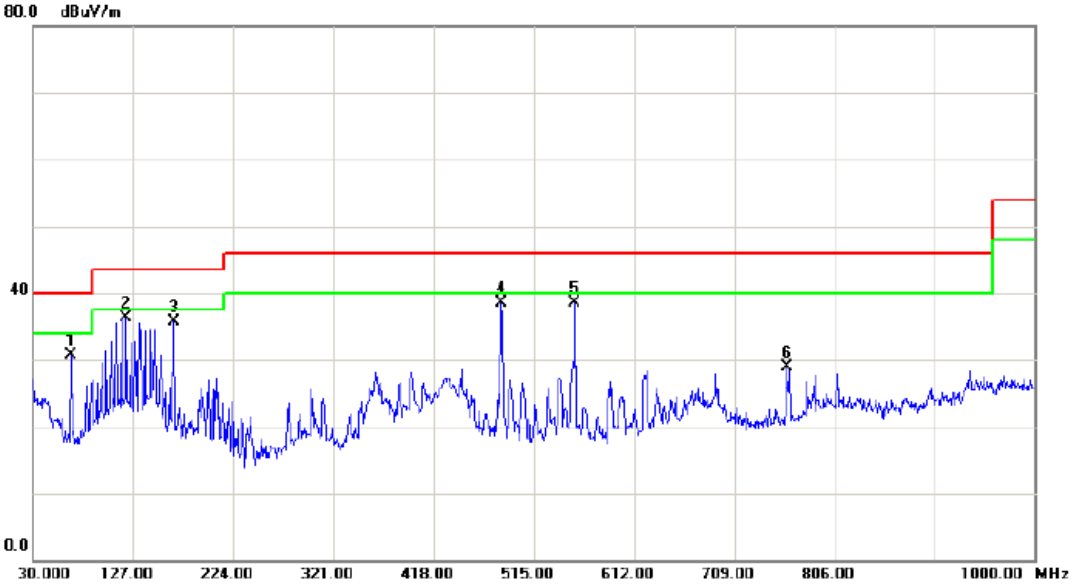
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		72.6800	43.64	-16.55	27.09	40.00	-12.91	peak	
2	*	165.8000	47.88	-13.11	34.77	43.50	-8.73	peak	
3		349.1300	45.91	-11.46	34.45	46.00	-11.55	peak	
4		484.9300	40.63	-9.91	30.72	46.00	-15.28	peak	
5		621.7000	37.29	-7.00	30.29	46.00	-15.71	peak	
6		786.6000	32.56	-3.59	28.97	46.00	-17.03	peak	

Test Mode :	Band 1/TX A Mode 5200MHz

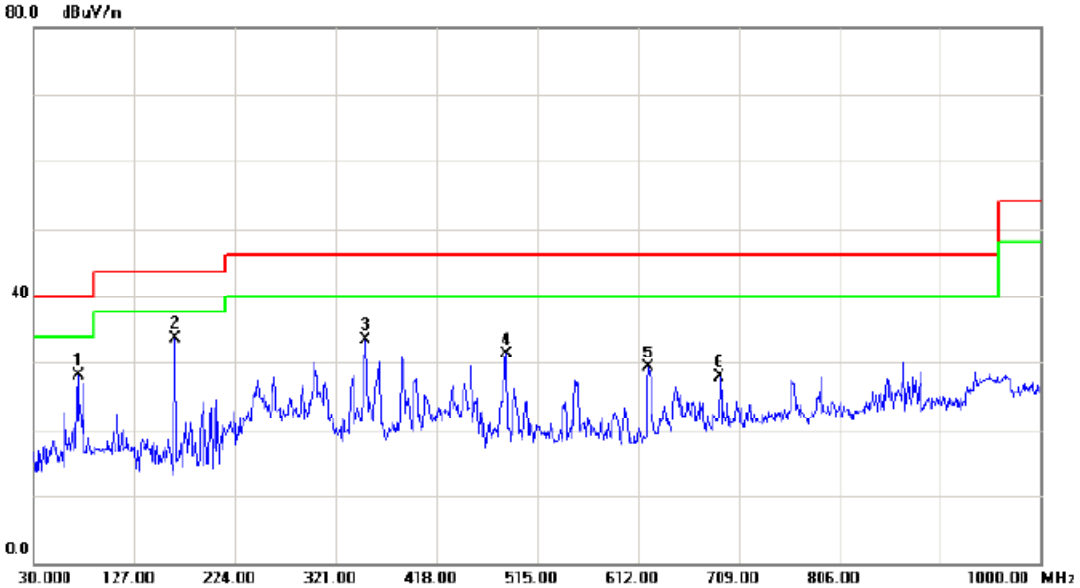
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		66.8600	46.53	-15.89	30.64	40.00	-9.36	peak	
2	*	120.2100	50.14	-13.88	36.26	43.50	-7.24	peak	
3		165.8000	48.76	-13.11	35.65	43.50	-7.85	peak	
4		482.9900	48.39	-9.85	38.54	46.00	-7.46	peak	
5		554.7700	46.12	-7.69	38.43	46.00	-7.57	peak	
6		759.4400	33.39	-4.57	28.82	46.00	-17.18	peak	

Test Mode :	Band 1/TX A Mode 5200MHz

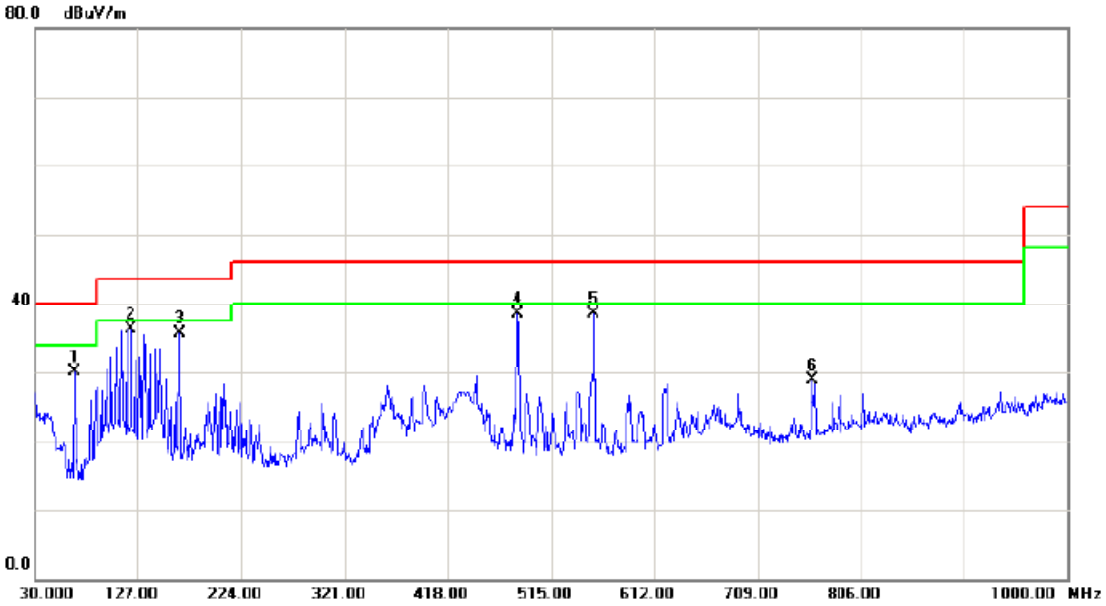
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		72.6800	44.64	-16.55	28.09	40.00	-11.91	peak	
2	*	165.8000	46.38	-13.11	33.77	43.50	-9.73	peak	
3		349.1300	44.92	-11.46	33.46	46.00	-12.54	peak	
4		484.9300	41.13	-9.91	31.22	46.00	-14.78	peak	
5		621.7000	36.29	-7.00	29.29	46.00	-16.71	peak	
6		690.5700	32.30	-4.94	27.86	46.00	-18.14	peak	

Test Mode :	Band 1/TX A Mode 5220MHz

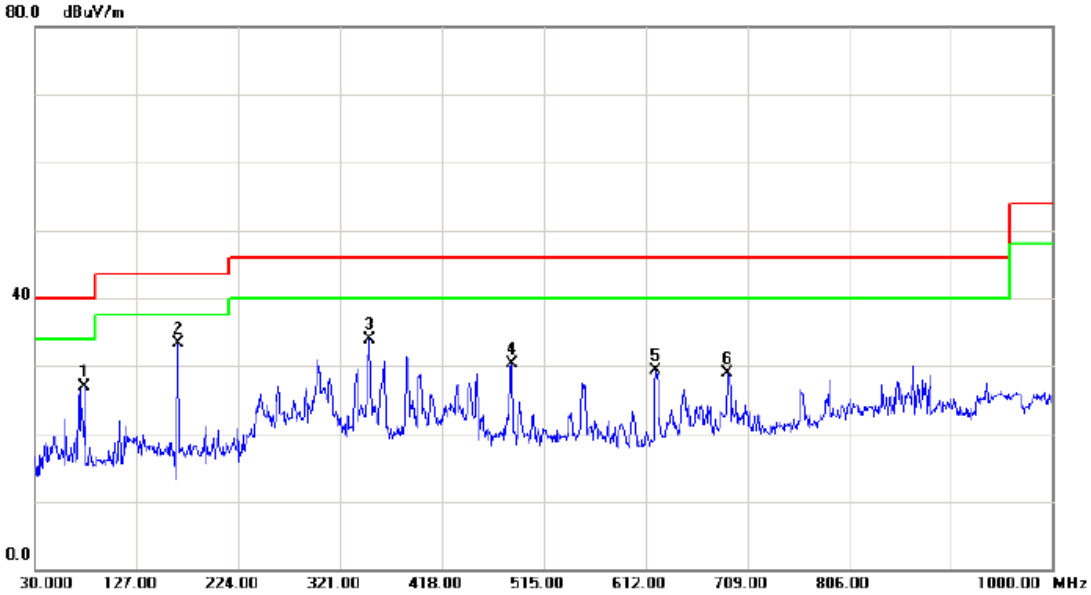
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		66.8600	46.03	-15.89	30.14	40.00	-9.86	peak	
2	*	120.2100	50.14	-13.88	36.26	43.50	-7.24	peak	
3		165.8000	48.76	-13.11	35.65	43.50	-7.85	peak	
4		482.9900	48.39	-9.85	38.54	46.00	-7.46	peak	
5		554.7700	46.12	-7.69	38.43	46.00	-7.57	peak	
6		759.4400	33.39	-4.57	28.82	46.00	-17.18	peak	

Test Mode :	Band 1/TX A Mode 5220MHz

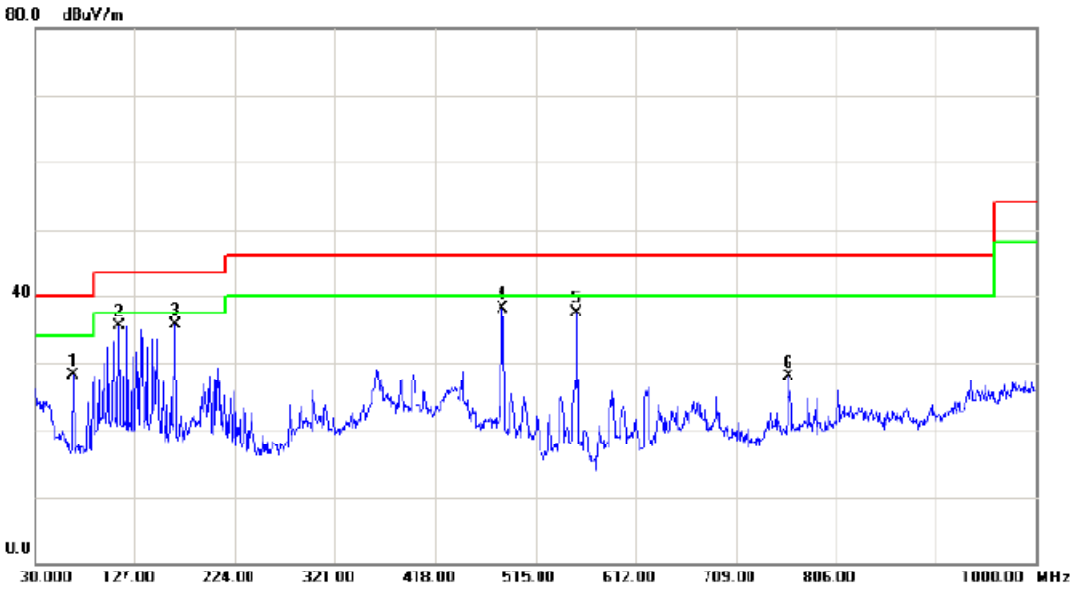
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		77.5300	43.96	-17.13	26.83	40.00	-13.17	peak	
2	*	165.8000	46.38	-13.11	33.27	43.50	-10.23	peak	
3		349.1300	45.42	-11.46	33.96	46.00	-12.04	peak	
4		484.9300	40.13	-9.91	30.22	46.00	-15.78	peak	
5		621.7000	36.29	-7.00	29.29	46.00	-16.71	peak	
6		690.5700	33.80	-4.94	28.86	46.00	-17.14	peak	

Test Mode :	Band 1/TX A Mode 5240MHz

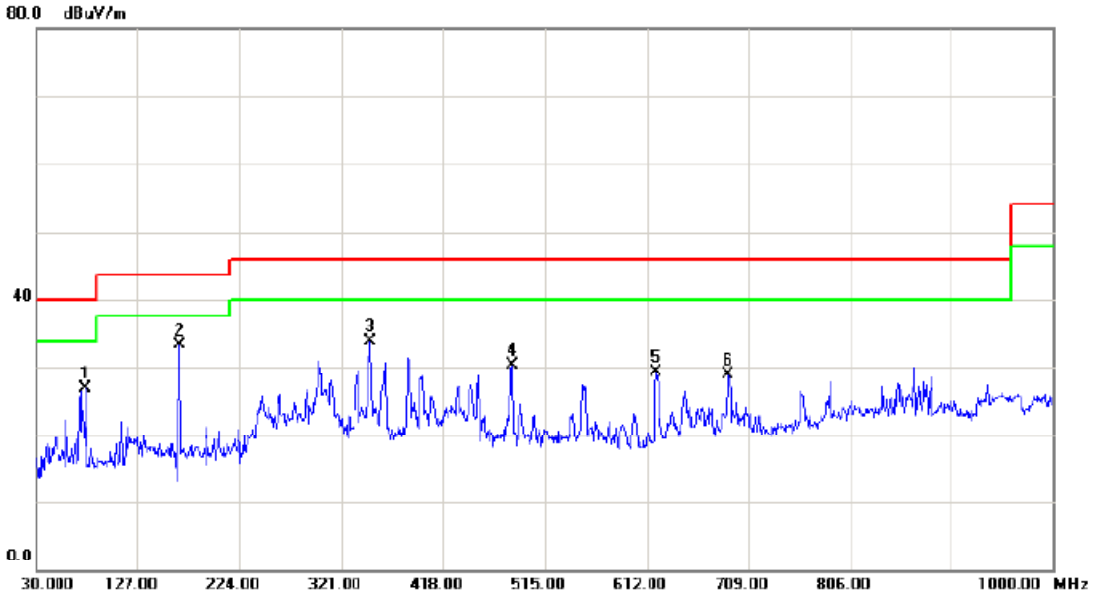
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		66.0600	44.03	-15.09	20.14	40.00	-11.06	peak	
2		110.5100	50.20	-14.69	35.51	43.50	-7.99	peak	
3	*	165.8000	48.76	-13.11	35.65	43.50	-7.85	peak	
4		482.9900	47.89	-9.85	38.04	46.00	-7.96	peak	
5		554.7700	45.12	-7.69	37.43	46.00	-8.57	peak	
6		759.4400	32.39	-4.57	27.82	46.00	-18.18	peak	

Test Mode :	Band 1/TX A Mode 5240MHz

Horizontal



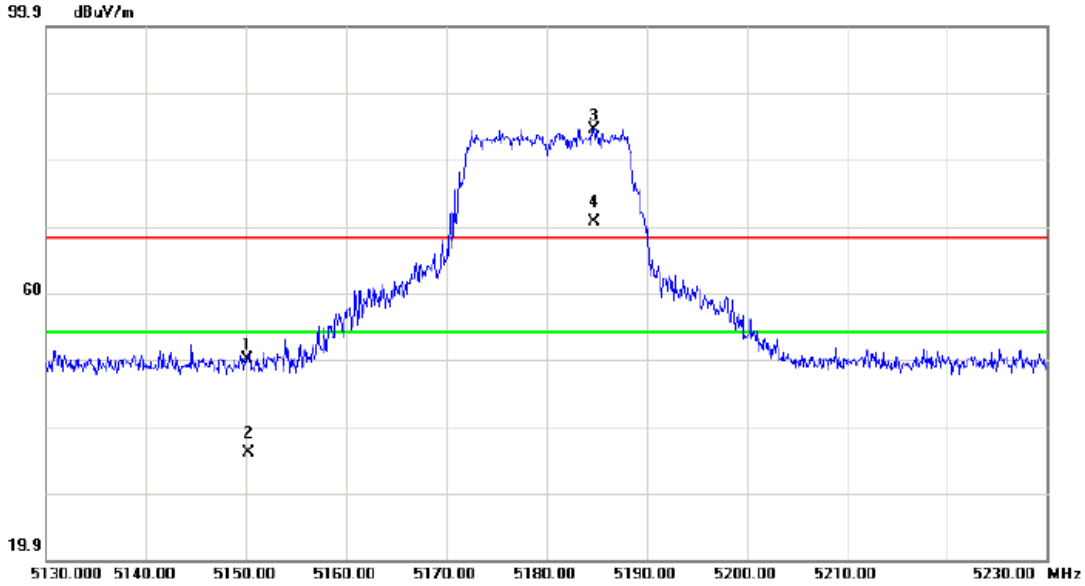
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		77.5300	43.96	-17.13	26.83	40.00	-13.17	peak	
2	*	165.8000	46.38	-13.11	33.27	43.50	-10.23	peak	
3		349.1300	45.42	-11.46	33.96	46.00	-12.04	peak	
4		484.9300	40.13	-9.91	30.22	46.00	-15.78	peak	
5		621.7000	36.29	-7.00	29.29	46.00	-16.71	peak	
6		690.5700	33.80	-4.94	28.86	46.00	-17.14	peak	

ATTACHMENT D - RADIATED EMISSION (ABOVE 1000MHZ)

Orthogonal Axis :	X
Test Mode :	Band 1/ TX A Mode 5180MHz

No.	Freq.	Reading	Ant./CF	Measurement (dBuV/m)	Limit (dBuV/m)	Measurement (dBm)	Limit (dBm)	Over	Detector
	(MHz)	(dBuV)						dB	
1	5150.00	8.06	41.99	50.05	68.30	-45.25	-27.00	-18.25	Peak
2	5150.00	-5.92	41.99	36.07	54.00	-59.23	-41.30	-17.93	AVG
3	5184.70	42.37	42.13	84.50	-	-10.80	-	-	Peak
4	5184.70	28.39	42.13	70.52	-	-24.78	-	-	AVG

Vertical

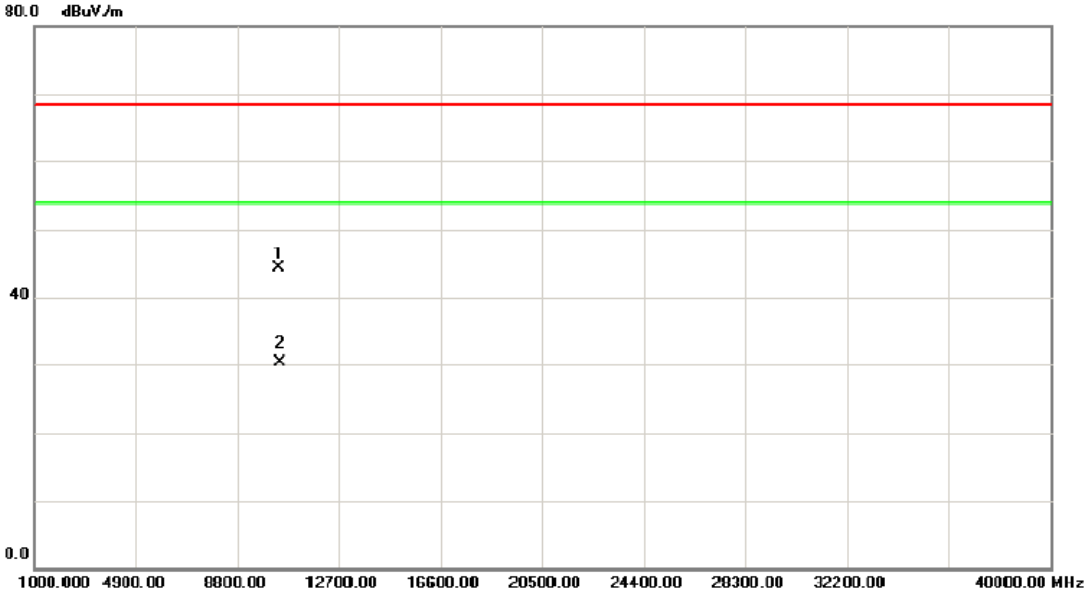


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		5150.000	8.06	41.99	50.05	68.30	-18.25	peak	
2		5150.000	-5.92	41.99	36.07	54.00	-17.93	AVG	
3	X	5184.700	42.37	42.13	84.50	68.30	16.20	peak	
4	*	5184.700	28.39	42.13	70.52	54.00	16.52	AVG	

Orthogonal Axis :	X
Test Mode :	Band 1/ TX A Mode 5180MHz

No.	Freq.	Reading	Ant./CF	Measurement (dBuV/m)	Limit (dBuV/m)	Measurement (dBm)	Limit (dBm)	Over	Detector
	(MHz)	(dBuV)						dB	
1	10360.17	28.21	16.03	44.24	68.30	-51.06	-27.00	-24.06	Peak
2	10360.17	14.23	16.03	30.26	54.00	-65.04	-41.30	-23.74	AVG

Vertical

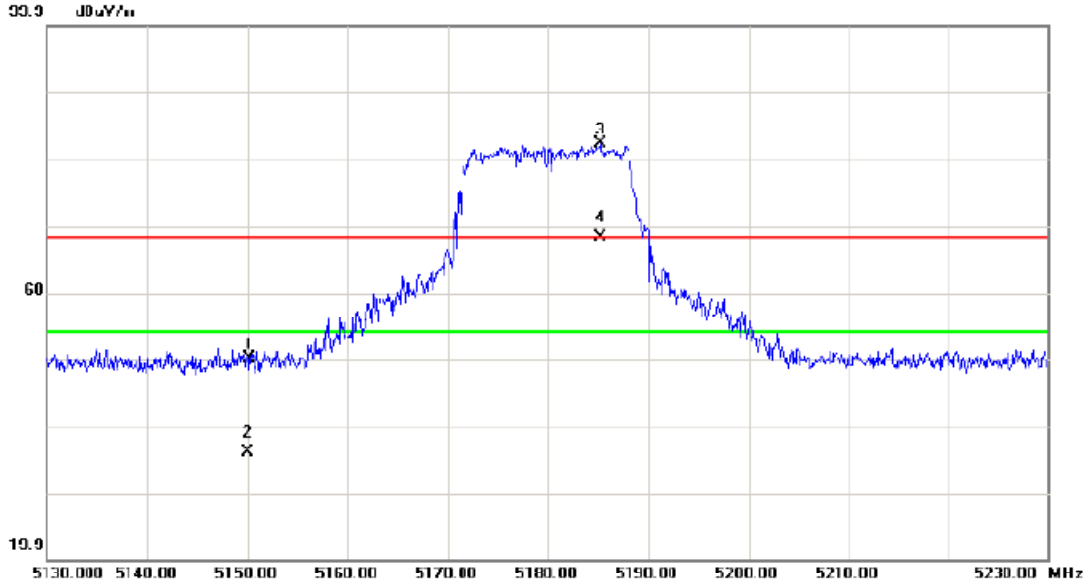


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		10360.17	28.21	16.03	44.24	68.30	-24.06	peak	
2	*	10360.17	14.23	16.03	30.26	54.00	-23.74	AVG	

Orthogonal Axis :	X
Test Mode :	Band 1/ TX A Mode 5180MHz

No.	Freq.	Reading	Ant./CF	Measurement (dBuV/m)	Limit (dBuV/m)	Measurement (dBm)	Limit (dBm)	Over	Detector
	(MHz)	(dBuV)						dB	
1	5150.00	8.02	41.99	50.01	68.30	-45.29	-27.00	-18.29	Peak
2	5150.00	-5.96	41.99	36.03	54.00	-59.27	-41.30	-17.97	AVG
3	5185.20	40.12	42.14	82.26	-	-13.04	-	-	Peak
4	5185.20	26.14	42.14	68.28	-	-27.02	-	-	AVG

Horizontal

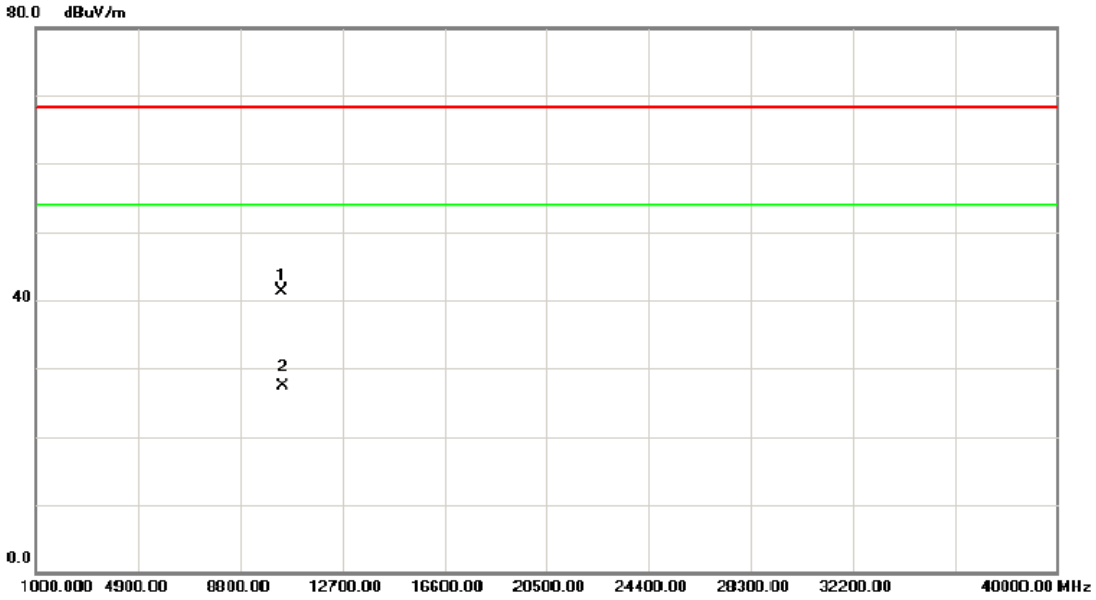


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		5150.000	8.02	41.99	50.01	68.30	-18.29	peak	
2		5150.000	-5.96	41.99	36.03	54.00	-17.97	AVG	
3	X	5185.200	40.12	42.14	82.26	68.30	13.96	peak	
4	*	5185.200	26.14	42.14	68.28	54.00	14.28	AVG	

Orthogonal Axis :	X
Test Mode :	Band 1/ TX A Mode 5180MHz

No.	Freq.	Reading	Ant./CF	Measurement (dBuV/m)	Limit (dBuV/m)	Measurement (dBm)	Limit (dBm)	Over	Detector
	(MHz)	(dBuV)						dB	
1	10360.25	25.23	16.03	41.26	68.30	-54.04	-27.00	-27.04	Peak
2	10360.25	11.25	16.03	27.28	54.00	-68.02	-41.30	-26.72	AVG

Horizontal

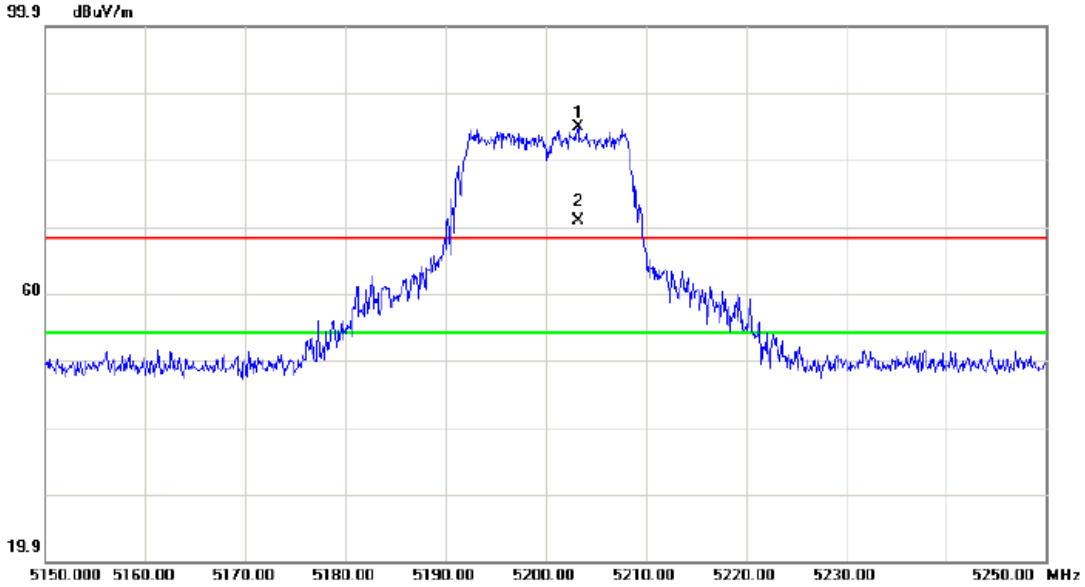


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		10360.25	25.23	16.03	41.26	68.30	-27.04	peak	
2	*	10360.25	11.25	16.03	27.28	54.00	-26.72	AVG	

Orthogonal Axis :	X
Test Mode :	Band 1/ TX A Mode 5200MHz

No.	Freq.	Reading	Ant./CF	Measurement (dBuV/m)	Limit (dBuV/m)	Measurement (dBm)	Limit (dBm)	Over	Detector
	(MHz)	(dBuV)						dB	
1	5203.20	42.52	42.21	84.73	-	-10.57	-	-	Peak
2	5203.20	28.54	42.21	70.75	-	-24.55	-	-	AVG

Vertical

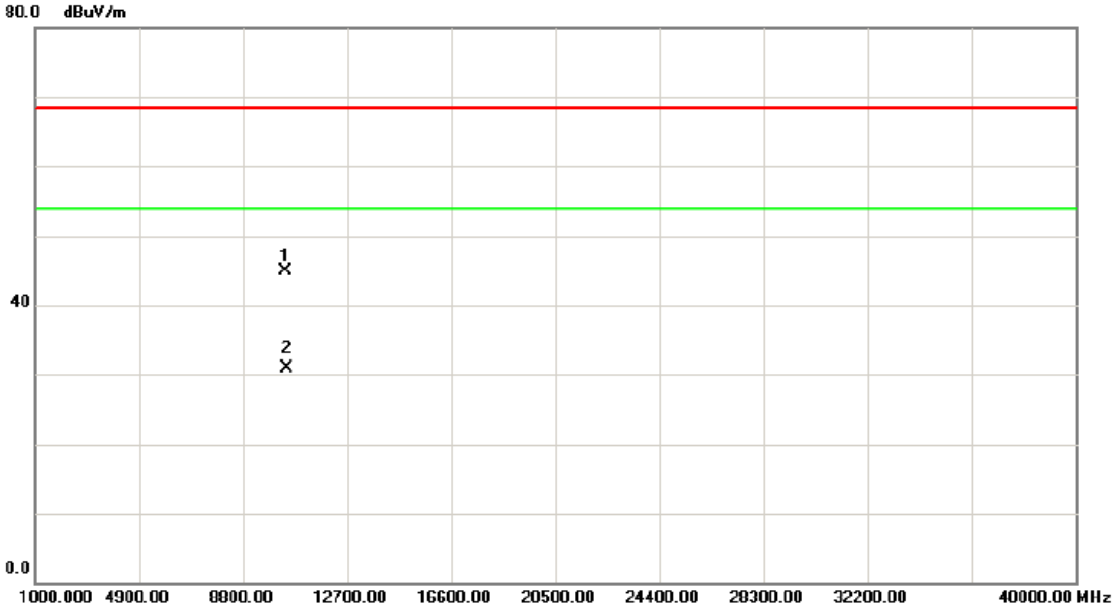


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	5203.200	42.52	42.21	84.73	68.30	16.43	peak	
2	*	5203.200	28.54	42.21	70.75	54.00	16.75	AVG	

Orthogonal Axis :	X
Test Mode :	Band 1/ TX A Mode 5200MHz

No.	Freq. (MHz)	Reading (dBuV)	Ant./CF	Measurement (dBuV/m)	Limit (dBuV/m)	Measurement (dBm)	Limit (dBm)	Over dB	Detector
1	10400.16	28.93	15.97	44.90	68.30	-50.40	-27.00	-23.40	Peak
2	10400.16	14.95	15.97	30.92	54.00	-64.38	-41.30	-23.08	AVG

Vertical

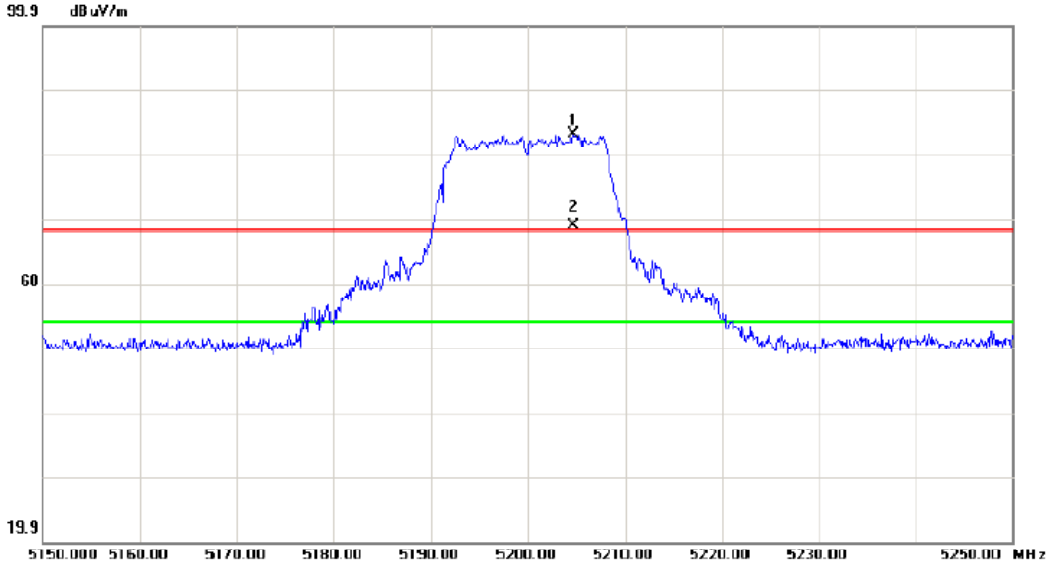


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure-ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		10400.16	28.93	15.97	44.90	68.30	-23.40	peak	
2	*	10400.16	14.95	15.97	30.92	54.00	-23.08	AVG	

Orthogonal Axis :	X
Test Mode :	Band 1/ TX A Mode 5200MHz

No.	Freq.	Reading	Ant./CF	Measurement (dBuV/m)	Limit (dBuV/m)	Measurement (dBm)	Limit (dBm)	Over	Detector
	(MHz)	(dBuV)						dB	
1	5204.70	40.74	42.22	82.96	-	-12.34	-	-	Peak
2	5204.70	26.49	42.22	68.71	-	-26.59	-	-	AVG

Horizontal

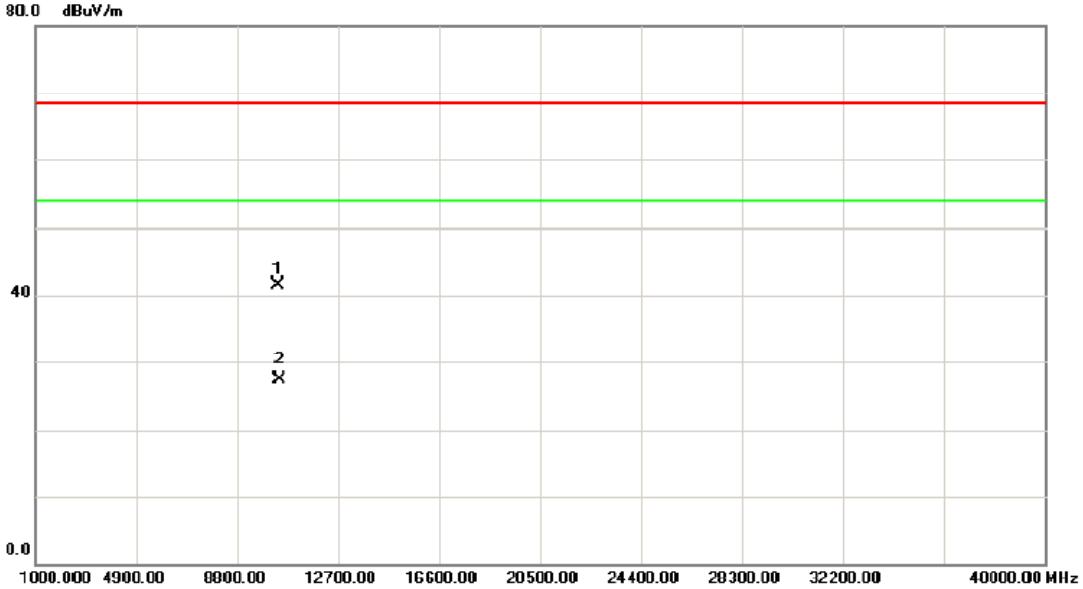


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	5204.700	40.74	42.22	82.96	68.30	14.66	peak	
2	*	5204.700	26.49	42.22	68.71	54.00	14.71	AVG	

Orthogonal Axis :	X
Test Mode :	Band 1/ TX A Mode 5200MHz

No.	Freq.	Reading	Ant./CF	Measurement (dBuV/m)	Limit (dBuV/m)	Measurement (dBm)	Limit (dBm)	Over	Detector
	(MHz)	(dBuV)						dB	
1	10400.20	25.47	15.97	41.44	68.30	-53.86	-27.00	-26.86	Peak
2	10400.20	11.49	15.97	27.46	54.00	-67.84	-41.30	-26.54	AVG

Horizontal

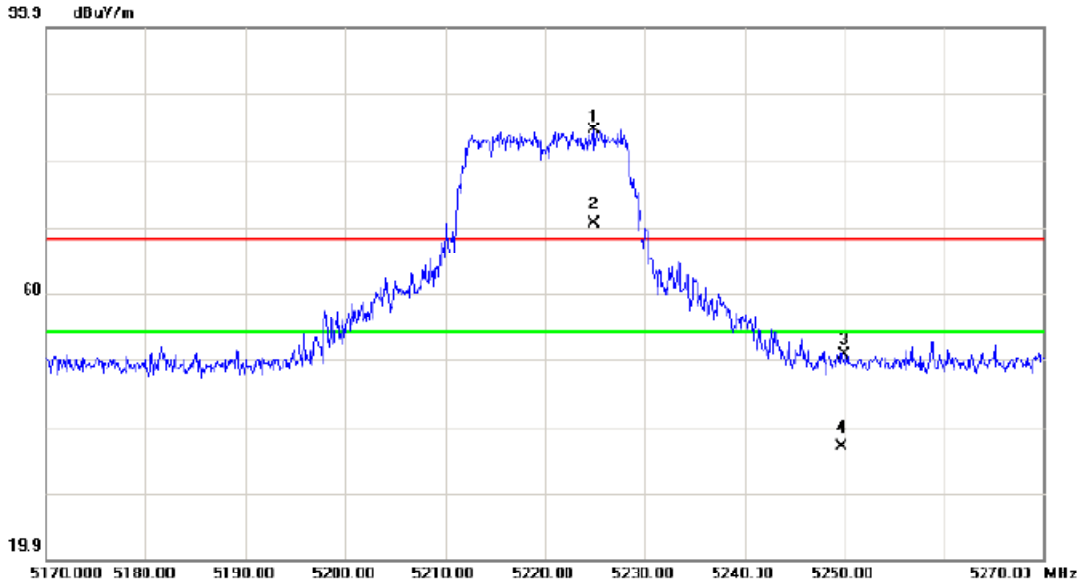


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		10400.20	25.47	15.97	41.44	68.30	-26.86	peak	
2	*	10400.20	11.49	15.97	27.46	54.00	-26.54	AVG	

Orthogonal Axis :	X
Test Mode :	Band 1/ TX A Mode 5220MHz

No.	Freq.	Reading	Ant./CF	Measurement (dBuV/m)	Limit (dBuV/m)	Measurement (dBm)	Limit (dBm)	Over	Detector
	(MHz)	(dBuV)						dB	
1	5224.80	42.12	42.30	84.42	-	-10.88	-	-	Peak
2	5224.80	28.14	42.30	70.44	-	-24.86	-	-	AVG
3	5250.00	8.36	42.40	50.76	68.30	-44.54	-27.00	-17.54	Peak
4	5250.00	-5.62	42.40	36.78	54.00	-58.52	-41.30	-17.22	AVG

Vertical

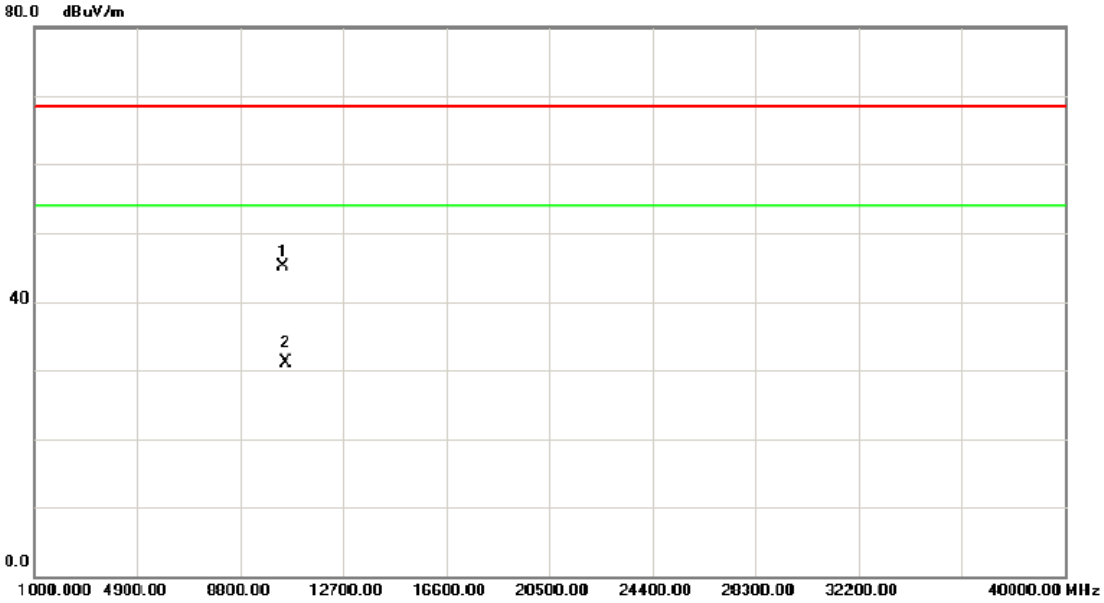


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	5224.800	42.12	42.30	84.42	68.30	16.12	peak	
2	*	5224.800	28.14	42.30	70.44	54.00	16.44	AVG	
3		5250.000	8.36	42.40	50.76	68.30	-17.54	peak	
4		5250.000	-5.62	42.40	36.78	54.00	-17.22	AVG	

Orthogonal Axis :	X
Test Mode :	Band 1/ TX A Mode 5220MHz

No.	Freq.	Reading	Ant./CF	Measurement (dBuV/m)	Limit (dBuV/m)	Measurement (dBm)	Limit (dBm)	Over	Detector
	(MHz)	(dBuV)						dB	
1	10440.16	29.14	15.91	45.05	68.30	-50.25	-27.00	-23.25	Peak
2	10440.19	15.16	15.91	31.07	54.00	-64.23	-41.30	-22.93	AVG

Vertical

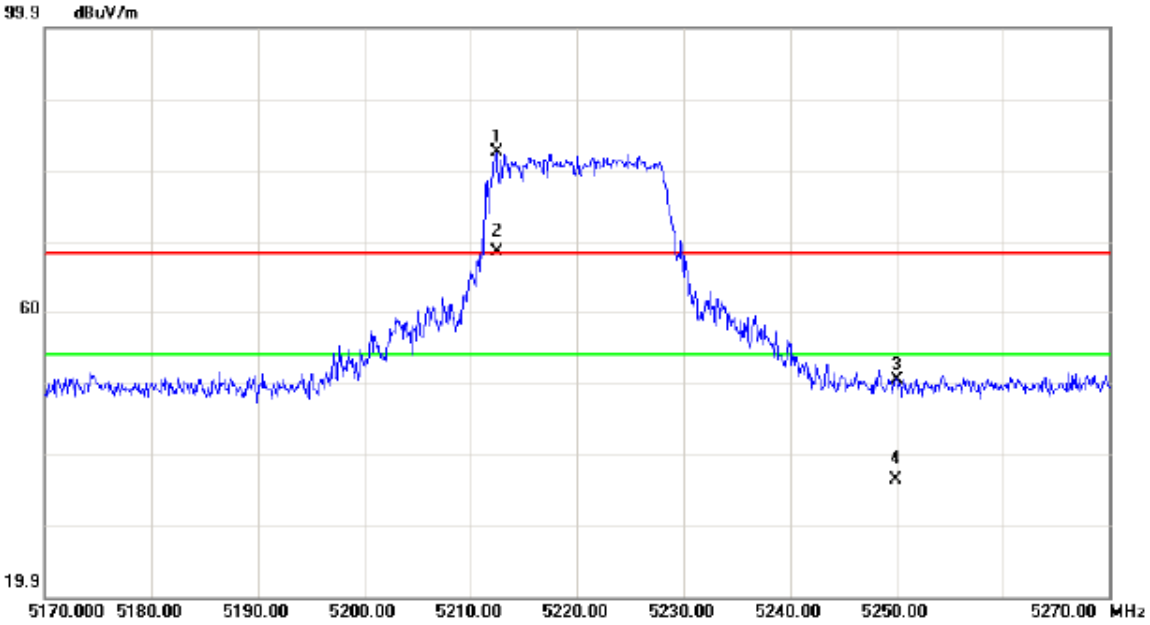


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		10440.16	29.14	15.91	45.05	68.30	-23.25	peak	
2	*	10440.19	15.16	15.91	31.07	54.00	-22.93	AVG	

Orthogonal Axis :	X
Test Mode :	Band 1/ TX A Mode 5220MHz

No.	Freq.	Reading	Ant./CF	Measurement (dBuV/m)	Limit (dBuV/m)	Measurement (dBm)	Limit (dBm)	Over	Detector
	(MHz)	(dBuV)						dB	
1	5212.40	40.17	42.24	82.41	-	-12.89	-	-	Peak
2	5212.40	26.19	42.24	68.43	-	-26.87	-	-	AVG
3	5250.00	7.97	42.40	50.37	68.30	-44.93	-27.00	-17.93	Peak
4	5250.00	-6.01	42.40	36.39	54.00	-58.91	-41.30	-17.61	AVG

Horizontal

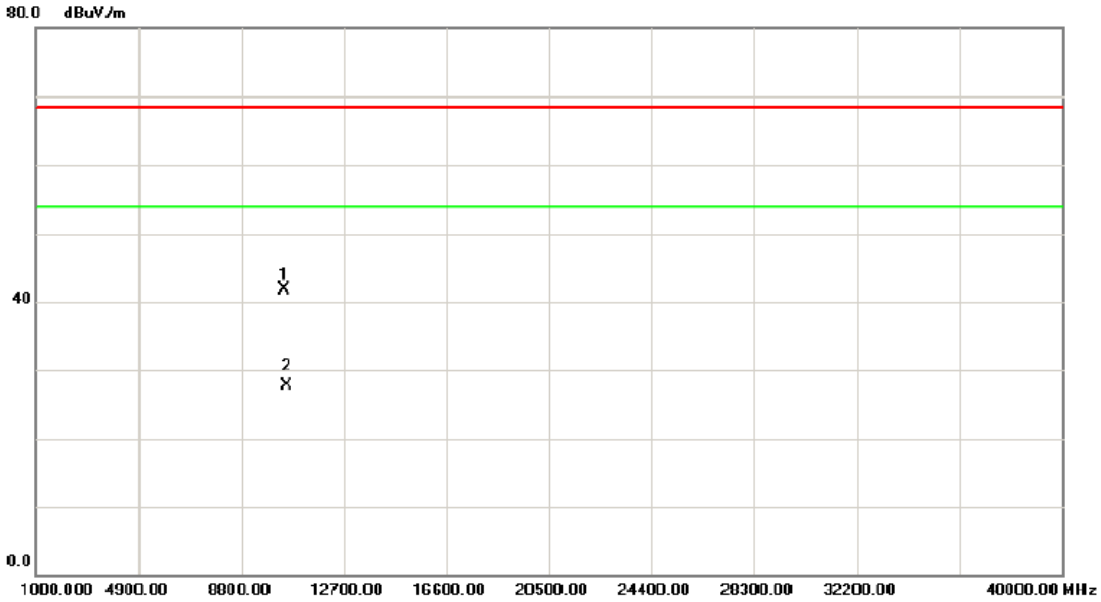


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	5212.400	40.17	42.24	82.41	68.30	14.11	peak	
2	*	5212.400	26.19	42.24	68.43	54.00	14.43	AVG	
3		5250.000	7.97	42.40	50.37	68.30	-17.93	peak	
4		5250.000	-6.01	42.40	36.39	54.00	-17.61	AVG	

Orthogonal Axis :	X
Test Mode :	Band 1/ TX A Mode 5220MHz

No.	Freq.	Reading	Ant./CF	Measurement (dBuV/m)	Limit (dBuV/m)	Measurement (dBm)	Limit (dBm)	Over	Detector
	(MHz)	(dBuV)						dB	
1	10440.14	25.73	15.91	41.64	68.30	-53.66	-27.00	-26.66	Peak
2	10440.14	11.75	15.91	27.66	54.00	-67.64	-41.30	-26.34	AVG

Horizontal

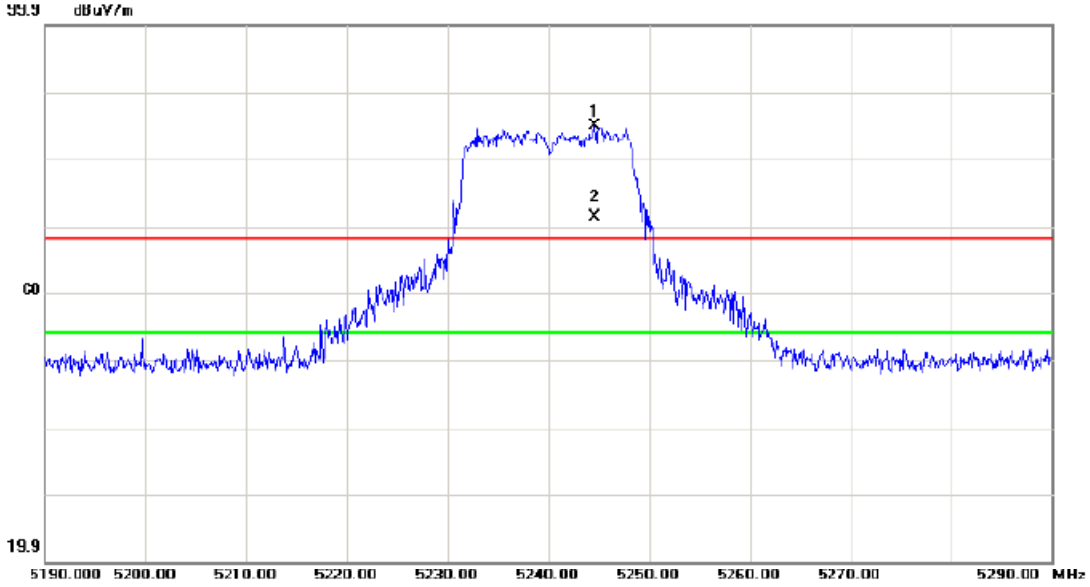


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		10440.14	25.73	15.91	41.64	68.30	-26.66	peak	
2	*	10440.14	11.75	15.91	27.66	54.00	-26.34	AVG	

Orthogonal Axis :	X
Test Mode :	Band 1/ TX A Mode 5240MHz

No.	Freq.	Reading	Ant./CF	Measurement (dBuV/m)	Limit (dBuV/m)	Measurement (dBm)	Limit (dBm)	Over	Detector
	(MHz)	(dBuV)						dB	
1	5244.60	42.40	42.38	84.78	-	-10.52	-	-	Peak
2	5244.60	28.88	42.38	71.26	-	-24.04	-	-	AVG

Vertical

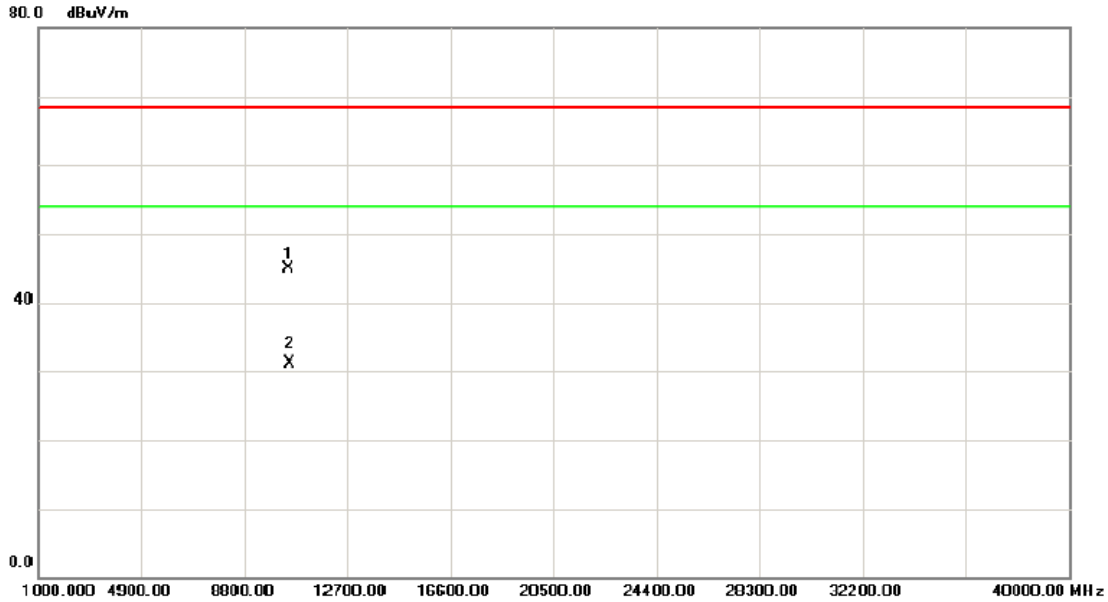


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	5244.600	42.40	42.38	84.78	68.30	16.48	peak	
2	*	5244.600	28.88	42.38	71.26	54.00	17.26	AVG	

Orthogonal Axis :	X
Test Mode :	Band 1/ TX A Mode 5240MHz

No.	Freq.	Reading	Ant./CF	Measurement (dBuV/m)	Limit (dBuV/m)	Measurement (dBm)	Limit (dBm)	Over	Detector
	(MHz)	(dBuV)						dB	
1	10480.16	29.14	15.85	44.99	68.30	-50.31	-27.00	-23.31	Peak
2	10480.16	15.16	15.85	31.01	54.00	-64.29	-41.30	-22.99	AVG

Vertical

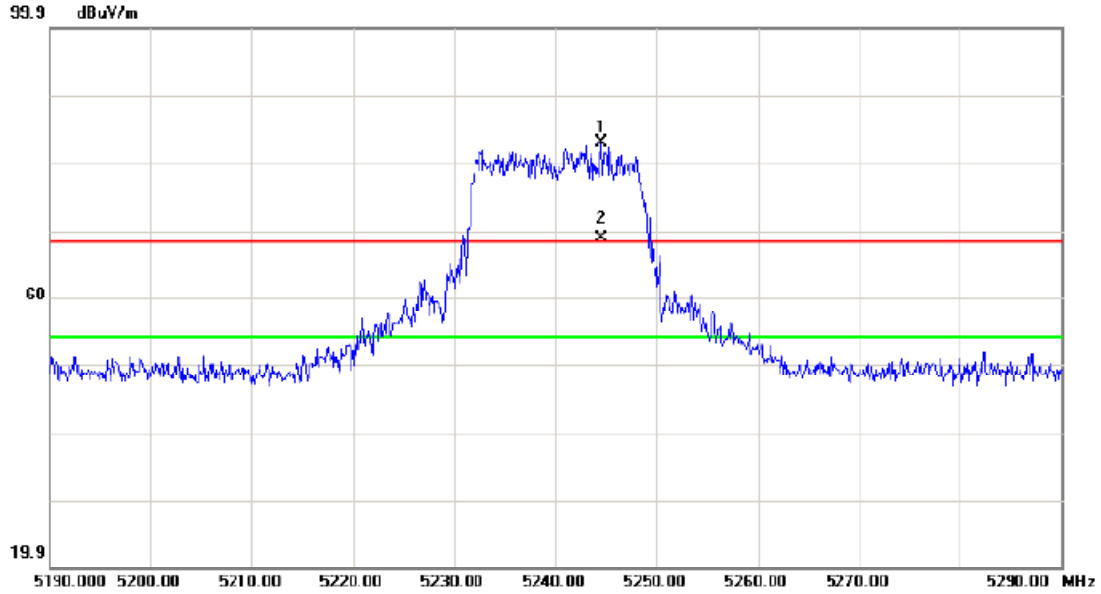


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		10480.16	29.14	15.85	44.99	68.30	-23.31	peak	
2	*	10480.16	15.16	15.85	31.01	54.00	-22.99	AVG	

Orthogonal Axis :	X
Test Mode :	Band 1/ TX A Mode 5240MHz

No.	Freq. (MHz)	Reading (dBuV)	Ant./CF	Measurement (dBuV/m)	Limit (dBuV/m)	Measurement (dBm)	Limit (dBm)	Over dB	Detector
1	5244.60	40.34	42.38	82.72	-	-12.58	-	-	Peak
2	5244.60	26.36	42.38	68.74	-	-26.56	-	-	AVG

Horizontal

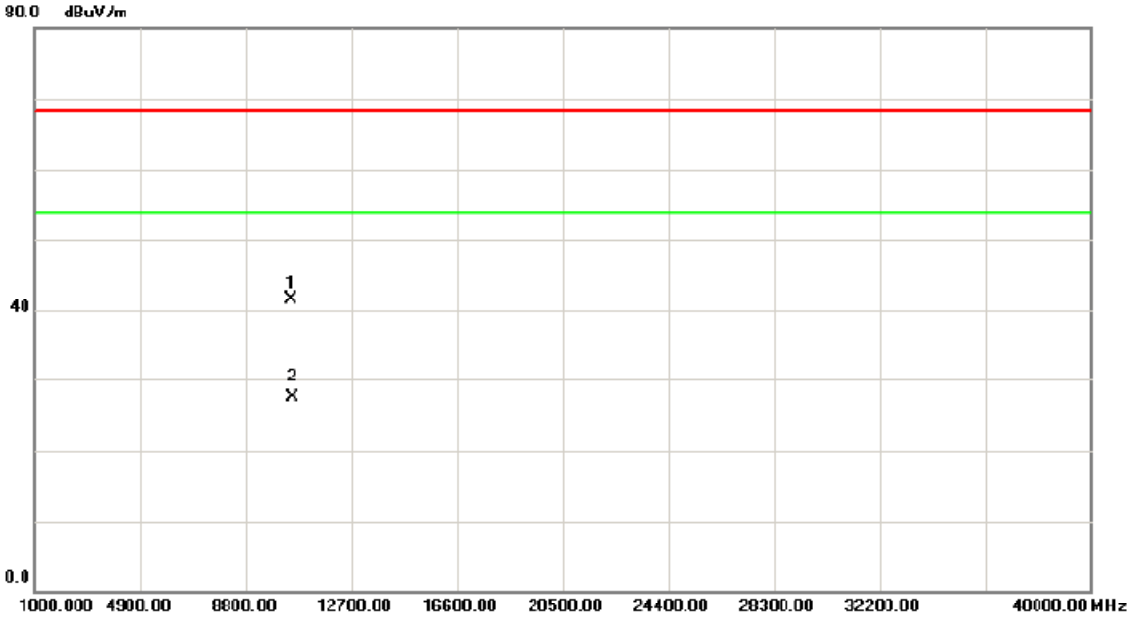


No.	Mk.	Frcq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	5244.600	40.34	42.38	82.72	68.30	14.42	peak	
2	*	5244.600	26.36	42.38	68.74	54.00	14.74	AVG	

Orthogonal Axis :	X
Test Mode :	Band 1/ TX A Mode 5240MHz

No.	Freq.	Reading	Ant./CF	Measurement (dBuV/m)	Limit (dBuV/m)	Measurement (dBm)	Limit (dBm)	Over	Detector
	(MHz)	(dBuV)						dB	
1	10480.14	25.62	15.85	41.47	68.30	-53.83	-27.00	-26.83	Peak
2	10480.14	11.64	15.85	27.49	54.00	-67.81	-41.30	-26.51	AVG

Horizontal

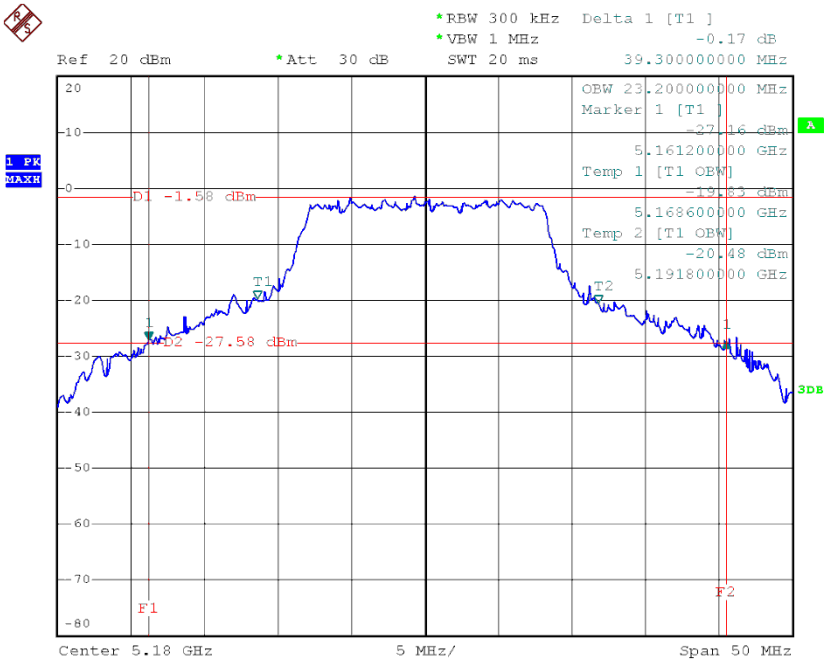


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		10480.14	25.62	15.85	41.47	68.30	-26.83	peak	
2	*	10480.14	11.64	15.85	27.49	54.00	-26.51	AVG	

ATTACHMENT E – 26DB BANDWIDTH

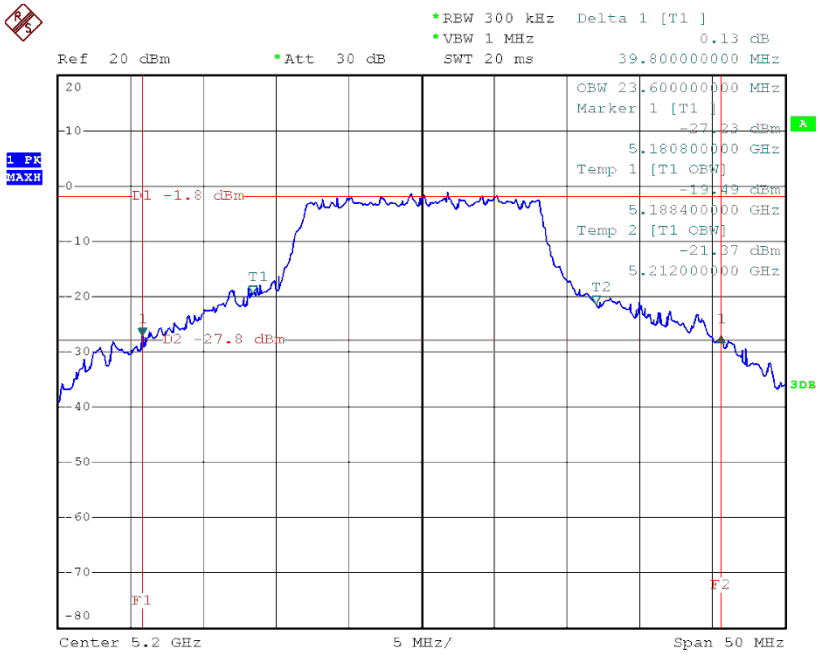
Test Mode : Band 1/TX A Mode_CH36/CH40/CH44/CH48

TX CH36



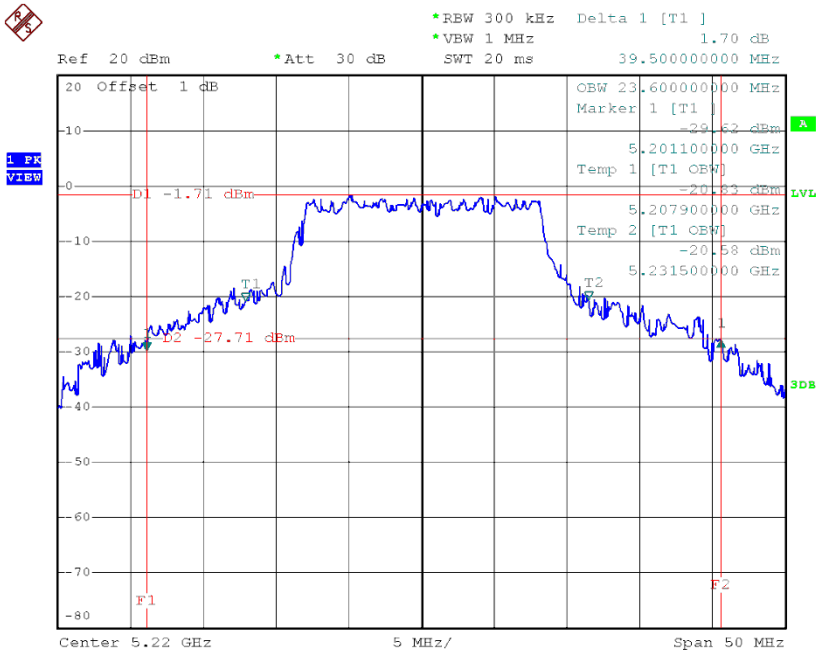
Date: 10.MAY.2014 16:00:28

TX CH40



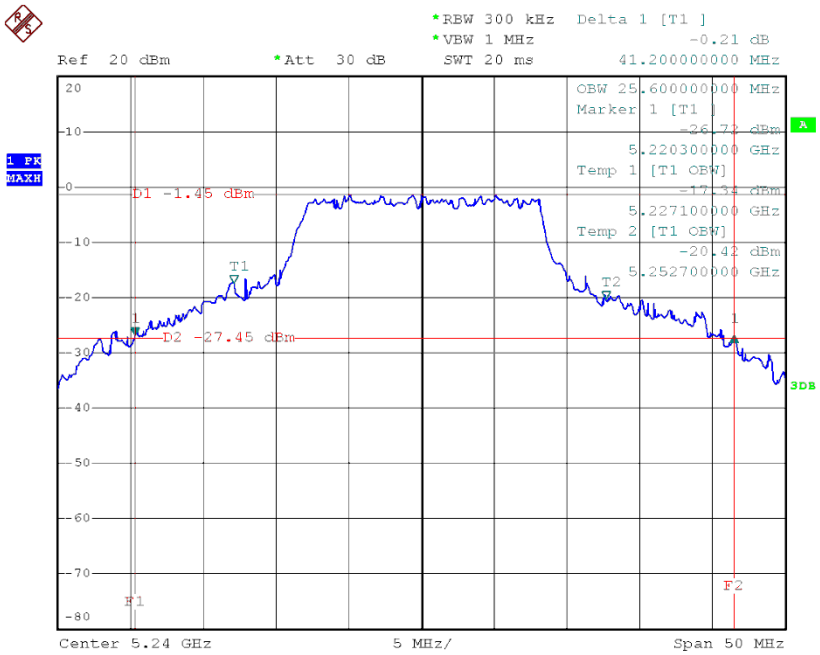
Date: 10.MAY.2014 16:02:43

TX CH44



Date: 18.MAY.2014 13:51:15

TX CH48



Date: 10.MAY.2014 16:03:54

ATTACHMENT F - MAXIMUM OUTPUT POWER

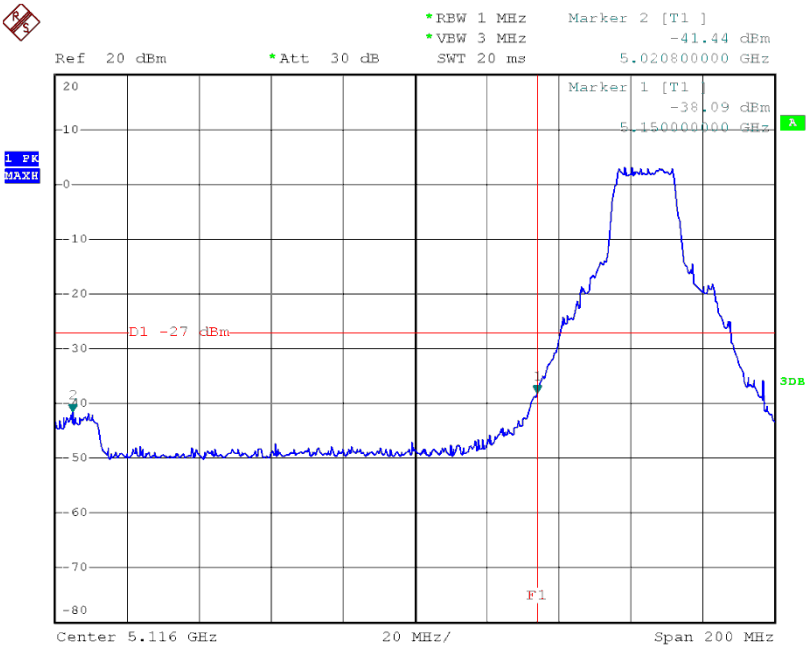
Test Mode :Band 1/TX A Mode				
Test Channel	Frequency (MHz)	FCC Part 15E Conducted Output Power (dBm)	LIMIT (dBm)	LIMIT (W)
CH36	5180	0.31	17.00	0.0501
CH40	5200	0.35	17.00	0.0501
CH44	5220	0.42	17.00	0.0501
CH48	5240	0.46	17.00	0.0501

Test Mode :Band 1/TX A Mode				
Test Channel	Frequency (MHz)	RSS-210 E.I.R.P Output Power (dBm)	LIMIT (dBm)	LIMIT (W)
CH36	5180	3.82	23.00	0.2
CH40	5200	3.86	23.00	0.2
CH44	5220	3.93	23.00	0.2
CH48	5240	3.97	23.00	0.2

ATTACHMENT G - ANTENNA CONDUCTED SPURIOUS EMISSION

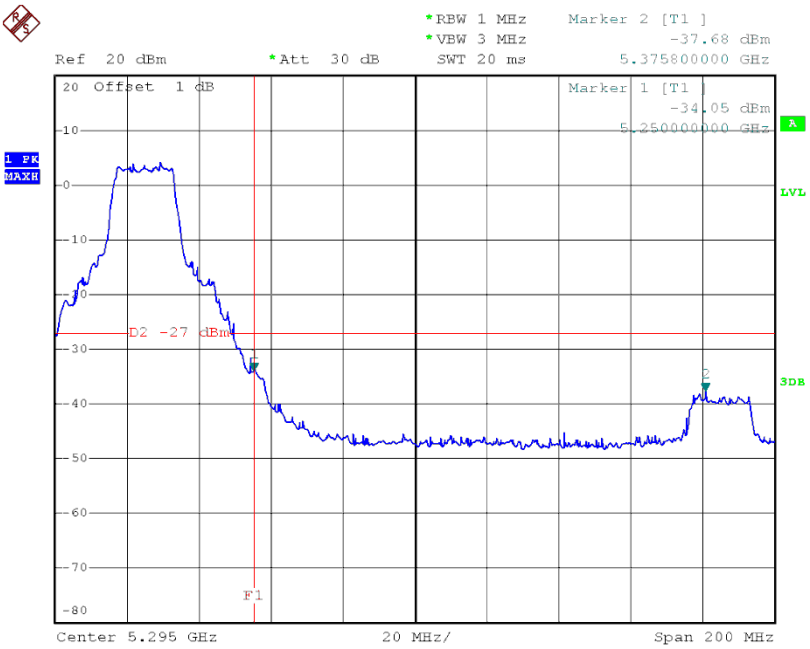
Test Mode :	Band 1/TX A Mode

TX mode CH36



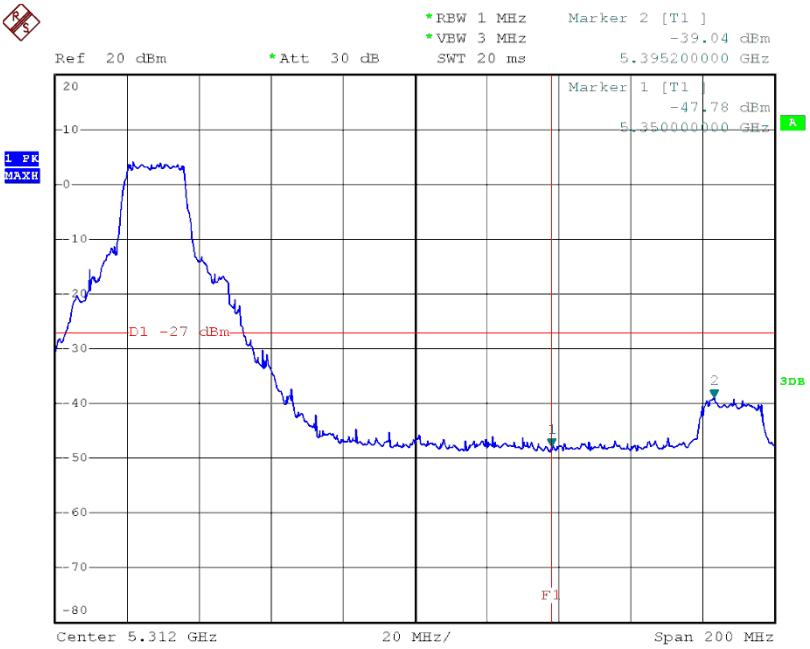
Date: 10.MAY.2014 16:13:13

TX mode CH44



Date: 18.MAY.2014 13:53:40

TX mode CH48

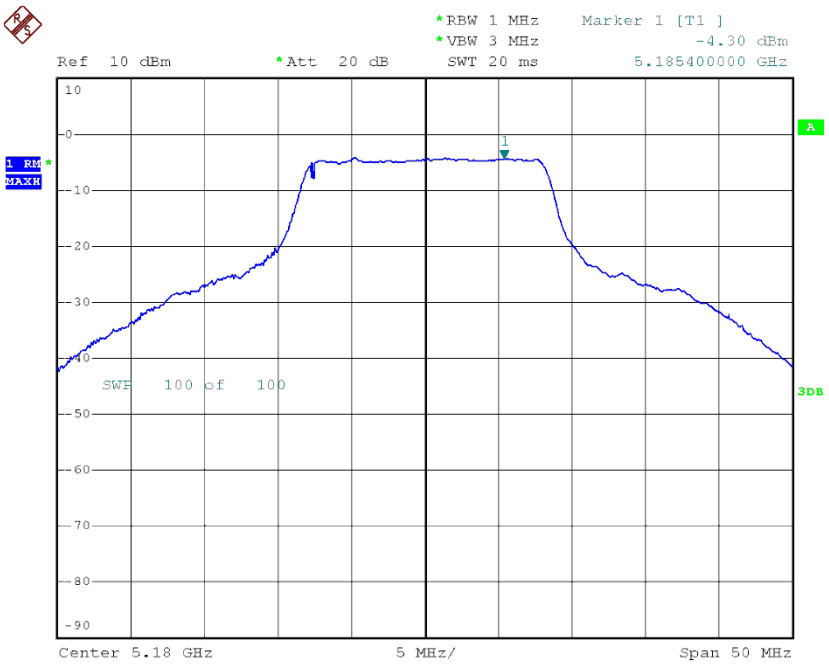


Date: 10.MAY.2014 16:11:02

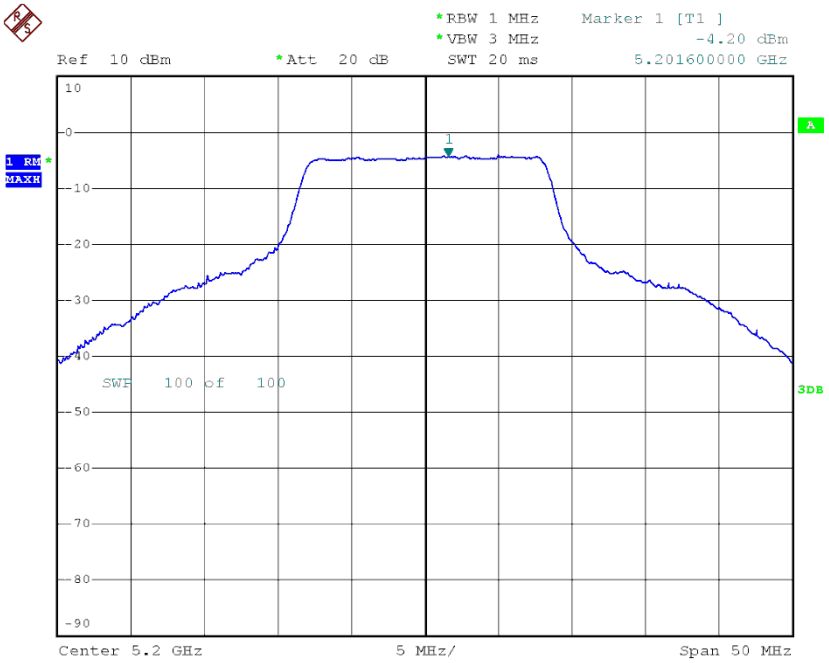
ATTACHMENT H - POWER SPECTRAL DENSITY

Test Mode : Band 1/TX A Mode_CH36/40/44/48

CH36

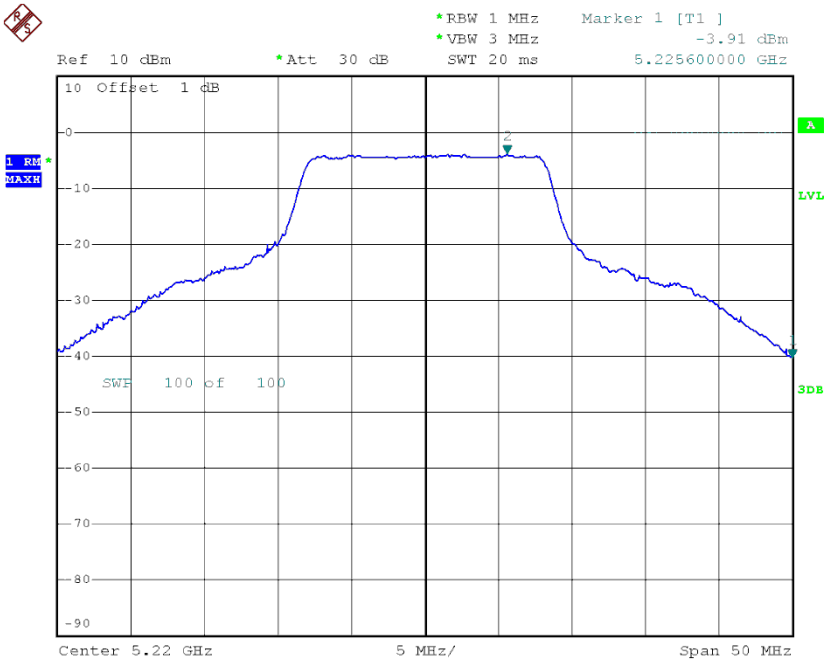


CH40



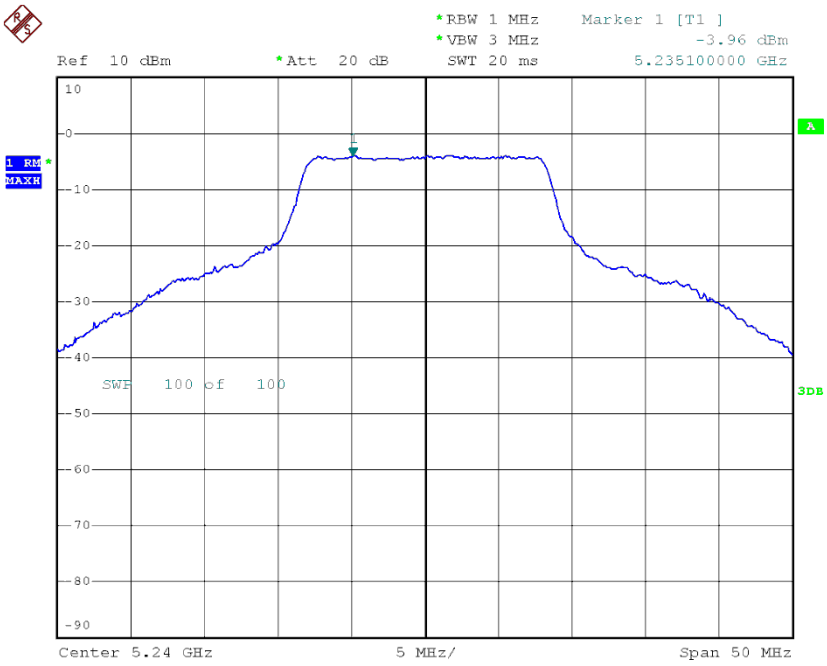
Date: 10.MAY.2014 15:40:56

CH44



Date: 18.MAY.2014 13:55:16

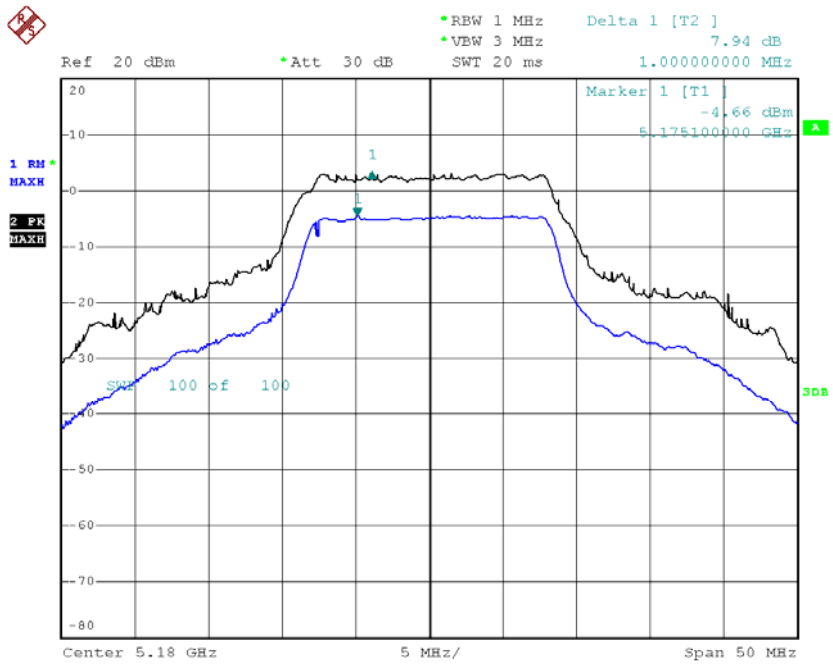
CH48


*RBW 1 MHz
*VBW 3 MHz
SWT 20 ms
Marker 1 [T1]
-3.96 dBm
5.235100000 GHz
Ref 10 dBm
*Att 20 dB
1 RM
MAXH
A
3DB
SWP 100 of 100
Center 5.24 GHz
5 MHz/
Span 50 MHz
Date: 10.MAY.2014 15:41:43

ATTACHMENT I – PEAK EXCURSION

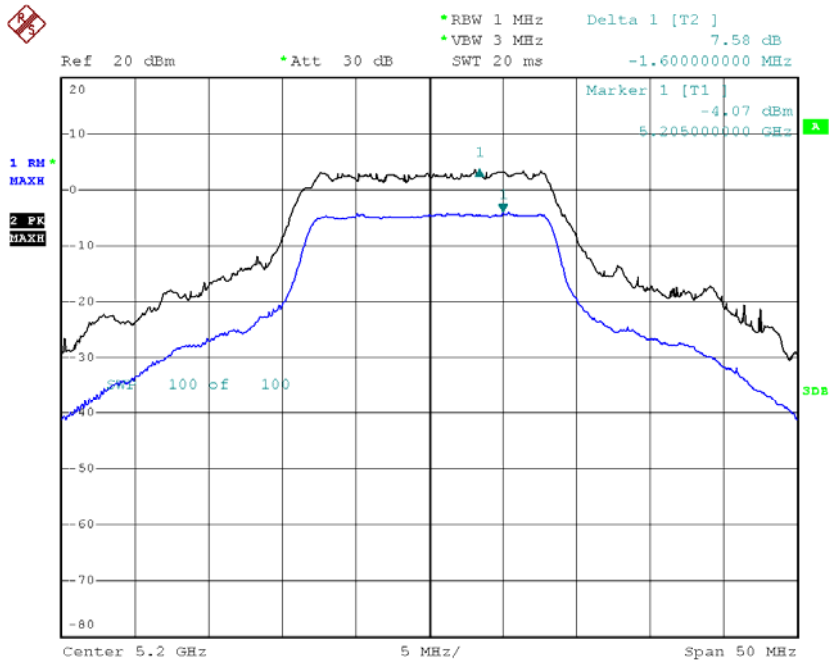
Test Mode : Band 1/TX A Mode_CH36/40/44/48

CH36



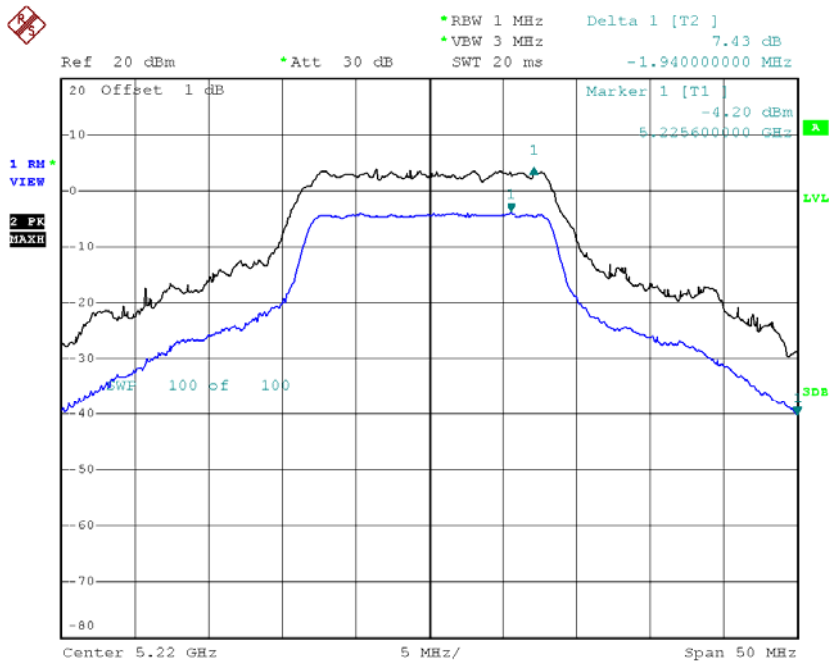
Date: 10.MAY.2014 15:56:02

CH40



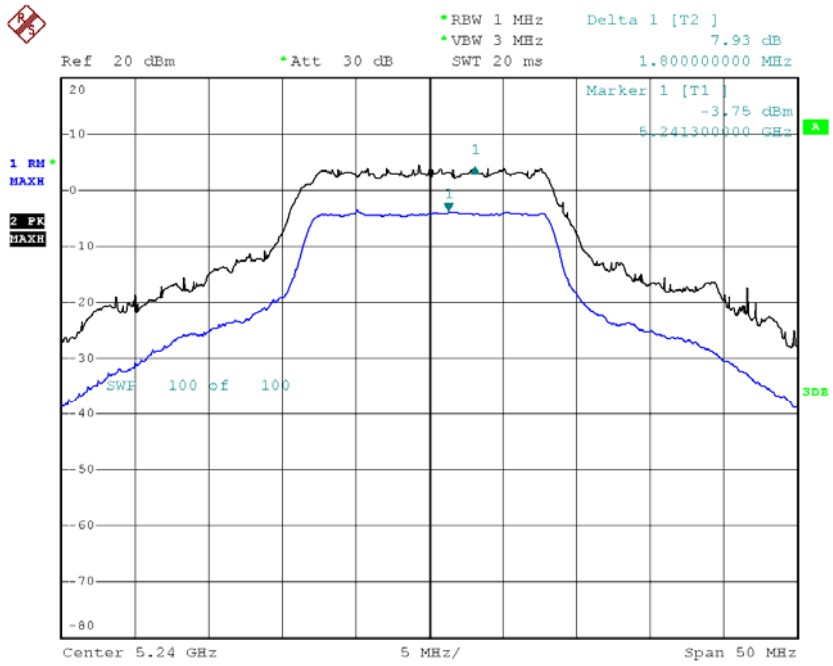
Date: 10.MAY.2014 15:54:49

CH44



Date: 18.MAY.2014 13:55:36

CH48



Date: 10.MAY.2014 15:52:54

ATTACHMENT J – FREQUENCY STABILITY

Test Mode :	Band 1

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)
(V)	5180
132	5180.000000
120	5179.985000
118	5179.984000
Max. Deviation (MHz)	0.016000
Max. Deviation (ppm)	3.09

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)
(℃)	5180
0	5179.986000
10	5179.983000
20	5179.986000
30	5179.982000
40	5179.986000
50	5179.985000
55	5179.985000
Max. Deviation (MHz)	0.018000
Max. Deviation (ppm)	3.47