

Product Name: Computer	Report No: FCC022023-0289RF1
Product Model: IPASONS6-X7004457152	Security Classification: Open
Version: V1.0	Total Page:106

TIRT Testing Report



Prepared By:	Checked By:	Approved By:	A circular blue stamp with the text "TIRT Technology Service Co., Ltd." around the perimeter and "TIRT Shenzhen" in the center.
Stone Tang	Randy Lv	Daniel Chen	
Stone Tang	Randy Lv	Daniel chen	

FCC Radio Test Report

FCC ID: 2ATY8-IPASONS6

This report concerns: Original Grant

Equipment : Computer
Brand Name : **IPASON**
Test Model : IPASONS6-X7004457152
Series Model : IPASONS6***** (* can be 0-9,a-z,A-Z or "-")
Applicant : Wuhan Ipson Technology Co., Ltd
Address : 5th Floor, Multifunctional Building, No. 1, Ipson Avenue, Shekou Street, Huangpi District, Wuhan City, Hubei Province, China
Manufacturer : Wuhan Ipson Technology Co., Ltd
Address : 5th Floor, Multifunctional Building, No. 1, Ipson Avenue, Shekou Street, Huangpi District, Wuhan City, Hubei Province, China
Date of Receipt : Feb. 04, 2023
Date of Test : Feb. 06, 2023~ Mar. 20, 2023
Issued Date : Mar. 21, 2023
Report Version : V1.0
Test Sample : Engineering Sample No.: 20221103019324
Standard(s) : FCC CFR Title 47, Part 15, Subpart C
FCC KDB 558074 D01 15.247 Meas Guidance v05r02
FCC KDB 662911 D01 Multiple Transmitter Output v02r01
ANSI C63.10-2013

- The test result referred exclusively to the presented test model /sample.
- Without written approval of TIRT Inc. the test report shall not reproduced except in full.

Lab: Beijing TIRT Technology Service Co.,Ltd Shenzhen
Add: 101, 3 # Factory Building, Gongjin Electronics, Shatin Community, Kengzi Street, Pingshan District, Shenzhen City, China

TEL: +86-0755-27087573

Table of Contents	Page
REPORT ISSUED HISTORY	5
1 . SUMMARY OF TEST RESULTS	6
1.1 TEST LOCATION	7
1.2 MEASUREMENT UNCERTAINTY	7
1.3 TEST ENVIRONMENT CONDITIONS	7
2 . GENERAL INFORMATION	8
2.1 GENERAL DESCRIPTION OF EUT	8
2.2 DESCRIPTION OF TEST MODES	10
2.3 PARAMETERS OF TEST SOFTWARE	12
2.4 DUTY CYCLE	13
2.5 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED	15
2.6 SUPPORT UNITS	15
3 . AC POWER LINE CONDUCTED EMISSIONS	16
3.1 LIMIT	16
3.2 TEST PROCEDURE	16
3.3 DEVIATION FROM TEST STANDARD	16
3.4 TEST SETUP	17
3.5 EUT OPERATION CONDITIONS	17
3.6 TEST RESULTS	17
4 . RADIATED EMISSIONS	18
4.1 LIMIT	18
4.2 TEST PROCEDURE	19
4.3 DEVIATION FROM TEST STANDARD	20
4.4 TEST SETUP	20
4.5 EUT OPERATION CONDITIONS	21
4.6 TEST RESULTS - 9 KHZ TO 30 MHZ	21
4.7 TEST RESULTS - 30 MHZ TO 1000 MHZ	21
4.8 TEST RESULTS - ABOVE 1000 MHZ	21
5 . BANDWIDTH	22
5.1 LIMIT	22
5.2 TEST PROCEDURE	22
5.3 DEVIATION FROM STANDARD	22
5.4 TEST SETUP	22
5.5 EUT OPERATION CONDITIONS	22

Table of Contents**Page**

5.6 TEST RESULTS	22
6 . MAXIMUM OUTPUT POWER & E.I.R.P.	23
6.1 LIMIT	23
6.2 TEST PROCEDURE	23
6.3 DEVIATION FROM STANDARD	23
6.4 TEST SETUP	23
6.5 EUT OPERATION CONDITIONS	23
6.6 TEST RESULTS	23
7 . CONDUCTED SPURIOUS EMISSIONS	24
7.1 LIMIT	24
7.2 TEST PROCEDURE	24
7.3 DEVIATION FROM STANDARD	24
7.4 TEST SETUP	24
7.5 EUT OPERATION CONDITIONS	24
7.6 TEST RESULTS	24
8 . POWER SPECTRAL DENSITY	25
8.1 LIMIT	25
8.2 TEST PROCEDURE	25
8.3 DEVIATION FROM STANDARD	25
8.4 TEST SETUP	25
8.5 EUT OPERATION CONDITIONS	25
8.6 TEST RESULTS	25
9 . MEASUREMENT INSTRUMENTS LIST	26
10 . EUT TEST PHOTO	27
APPENDIX A - AC POWER LINE CONDUCTED EMISSIONS	30
APPENDIX B - RADIATED EMISSION - 9 KHZ TO 30 MHZ	32
APPENDIX C - RADIATED EMISSION - 30 MHZ TO 1000 MHZ	33
APPENDIX D - RADIATED EMISSION- ABOVE 1000 MHZ	35
APPENDIX E - BANDWIDTH	53
APPENDIX F - MAXIMUM PEAK OUTPUT POWER	72
APPENDIX G - CONDUCTED SPURIOUS EMISSIONS	74
APPENDIX H - POWER SPECTRAL DENSITY	96

REPORT ISSUED HISTORY

Report No.	Version	Description	Issued Date	Note
FCC022023-0289RF1	V1.0	Original Report.	2023.03.21	

1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standard(s):

FCC CFR Title 47, Part 15, Subpart C				
Standard(s) Section	Test Item	Test Result	Judgment	Remark
15.207	AC Power Line Conducted Emissions	APPENDIX A	PASS	-----
15.247(d) 15.205(a) 15.209(a)	Radiated Emissions	APPENDIX B APPENDIX C APPENDIX D	PASS	-----
15.247(a)(2)	Bandwidth	APPENDIX E	PASS	-----
15.247(b)(3)	Maximum Output Power	APPENDIX F	PASS	-----
15.247(d)	Conducted Spurious Emissions	APPENDIX G	PASS	-----
15.247(e)	Power Spectral Density	APPENDIX H	PASS	-----
15.203	Antenna Requirement	-----	PASS	Note(2)

Note:

- (1) "N/A" denotes test is not applicable in this test report.
- (2) The device what use a permanently attached antenna were considered sufficient to comply with the provisions of 15.203.

1.1 TEST LOCATION

Company:	Beijing TIRT Technology Service Co.,Ltd Shenzhen
Address:	101, 3 # Factory Building, Gongjin Electronics, Shatin Community, Kengzi Street, Pingshan District, Shenzhen City, China
CNAS Registration Number:	CNAS L14158
A2LA Registration Number	6049.01
Telephone:	+86-0755-27087573

1.2 MEASUREMENT UNCERTAINTY

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2))

The TIRT measurement uncertainty as below table:

Uncertainty	
Parameter	Uncertainty
Occupied Channel Bandwidth	$\pm 142.12\text{kHz}$
RF power conducted	$\pm 0.74\text{dB}$
RF power radiated	$\pm 3.25\text{dB}$
Spurious emissions, conducted	$\pm 1.78\text{dB}$
Spurious emissions, radiated (30MHz~1GHz)	$\pm 4.6\text{dB}$
Spurious emissions, radiated (1GHz ~ 18GHz)	$\pm 4.9\text{dB}$
Conduction Emissions(150kHz~30MHz)	$\pm 3.1\text{dB}$
Humidity	± 4.6
Temperature	$\pm 0.7^{\circ}\text{C}$
Time	$\pm 1.25\%$

Note: Unless specifically mentioned, the uncertainty of measurement has not been taken into account to declare the compliance or non-compliance to the specification.

1.3 TEST ENVIRONMENT CONDITIONS

Test Item	Temperature	Humidity	Test Voltage	Tested By
AC Power Line Conducted Emissions	24.4°C	56%	AC 120V/60Hz	Stone Tang
Radiated Emissions-9kHz to 30 MHz	24.6°C	55%	AC 120V/60Hz	Stone Tang
Radiated Emissions-30MHz to 1000MHz	24.6°C	55%	AC 120V/60Hz	Stone Tang
Radiated Emissions-Above 1000MHz	24.6°C	55%	AC 120V/60Hz	Stone Tang
Bandwidth	24.2°C	54%	AC 120V/60Hz	Stone Tang
Maximum Output Power	24.2°C	54%	AC 120V/60Hz	Stone Tang
Conducted Spurious Emissions	24.2°C	54%	AC 120V/60Hz	Stone Tang
Power Spectral Density	24.2°C	54%	AC 120V/60Hz	Stone Tang

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Equipment	Computer
Brand Name	IPASON
Test Model	IPASONS6-X7004457152
Series Model	IPASONS6***** (* can be 0-9,a-z,A-Z or "-")
Model Difference(s)	Models differ only from sales customers, markets, etc. RF and electromagnetic compatibility are not affected.
Software Version	V1.0
Hardware Version	V1.0
Power Source	Voltage supplied from AC
Power Rating	AC 180-240V~50/60Hz 5A
Operation Frequency	2412 MHz ~ 2462 MHz
Modulation Type	IEEE 802.11b: DSSS IEEE 802.11g: OFDM IEEE 802.11n: OFDM
Bit Rate of Transmitter	IEEE 802.11b: 11/5.5/2/1 Mbps IEEE 802.11g: 54/48/36/24/18/12/9/6 Mbps IEEE 802.11n: up to 300 Mbps
Maximum Output Power	IEEE 802.11N20: 25.594dBm (0.363 W)

Note:

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

2. Channel List:

CH01 - CH11 for IEEE 802.11b, IEEE 802.11g, IEEE 802.11n(HT20) CH03 - CH09 for IEEE 802.11n(HT40)							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
01	2412	04	2427	07	2442	10	2457
02	2417	05	2432	08	2447	11	2462
03	2422	06	2437	09	2452		

3. Antenna Specification:

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	N/A	N/A	Integral	N/A	4.69
2	N/A	N/A	Integral	N/A	4.69

Note:.

- This EUT not supports CDD, and all antennas have the same gain,
Directional gain = $G_{ANT} + \text{Array Gain}$.
For power measurements, Array Gain=0dB ($N_{ANT} \leq 4$), so the Directional gain=4.69
For power spectral density measurements, $N_{ANT}=2$, $N_{SS} = 1$.
So the Directional gain= $G_{ANT} + \text{Array Gain} = G_{ANT} + 10\log(N_{ANT}/N_{SS})\text{dBi} = 4.69 + 10\log(2/1)\text{dBi} = 7.7$
So limit of power spectral density in MIMO mode is $8 - (7.7 - 6) = 6.3$.
- The antenna gain are provided by the manufacturer.

4. Table for Antenna Configuration:

Operating Mode	TX
TX Mode	
IEEE 802.11b	V (Ant. 1) 1T1R
IEEE 802.11g	V (Ant. 1) 1T1R
IEEE 802.11n(HT20)	V (Ant. 1 + Ant. 2) 2T2R
IEEE 802.11n(HT40)	V (Ant. 1 + Ant. 2) 2T2R

2.2 DESCRIPTION OF TEST MODES

The test system was pre-tested based on the consideration of all possible combinations of EUT operation mode.

Pretest Mode	Description
Mode 1	TX B Mode Channel 01/06/11
Mode 2	TX G Mode Channel 01/06/11
Mode 3	TX N(HT20) Mode Channel 01/06/11
Mode 4	TX N(HT40) Mode Channel 03/06/09
Mode 5	TX B Mode Channel 06

Following mode(s) was (were) found to be the worst case(s) and selected for the final test.

AC power line conducted emissions test	
Final Test Mode	Description
Mode 5	TX B Mode Channel 06

Radiated emissions test - Below 1GHz	
Final Test Mode	Description
Mode 5	TX B Mode Channel 06

Radiated emissions test- Above 1GHz	
Final Test Mode	Description
Mode 1	TX B Mode Channel 01/06/11
Mode 2	TX G Mode Channel 01/06/11
Mode 3	TX N(HT20) Mode Channel 01/06/11
Mode 4	TX N(HT40) Mode Channel 03/06/09

Conducted test	
Final Test Mode	Description
Mode 1	TX B Mode Channel 01/06/11
Mode 2	TX G Mode Channel 01/06/11
Mode 3	TX N(HT20) Mode Channel 01/06/11
Mode 4	TX N(HT40) Mode Channel 03/06/09

NOTE:

- (1) All the bit rate of transmitter have been tested and found the lowest rate is found to be the worst case and recorded.
- (2) For AC power line conducted emissions and radiated emission below 1 GHz test, the IEEE 802.11b channel 06 is found to be the worst case and recorded.
- (3) For radiated emission above 1 GHz test, the spurious points of 1GHz~18GHz and 18GHz~26.5GHz have been pre-tested and in this report only recorded the worst case. The remaining spurious points are all below the limit value of 20dB.
- (4) For radiated emission, pre-scan in the X, Y and Z axes of orientation, the worst case of orientation was recorded

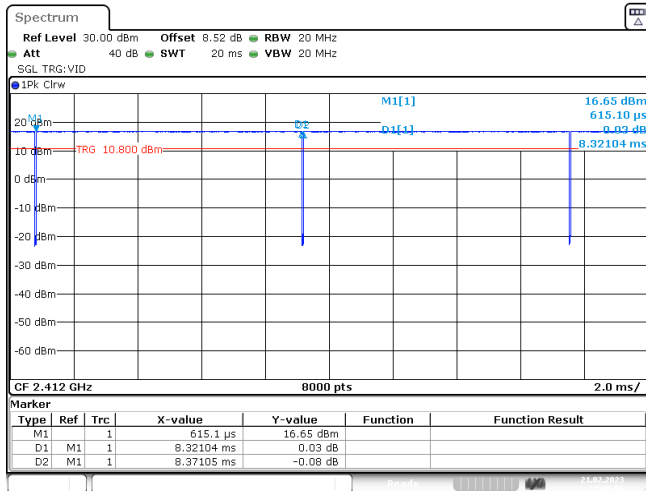
2.3 PARAMETERS OF TEST SOFTWARE

Frequency (MHz)	2412	2437	2462
/	Power setting		
Test Software Version	DRTU_3.0		
IEEE 802.11b	94	120	99
IEEE 802.11g	62	90	70
IEEE 802.11n(HT20)	60	87	66
Frequency (MHz)	2422	2437	2452
IEEE 802.11n(HT40)	55	74	64

2.4 DUTY CYCLE

If duty cycle is $\geq 98\%$, duty factor is not required.
If duty cycle is $< 98\%$, duty factor shall be considered.
The output power = measured power + duty factor.

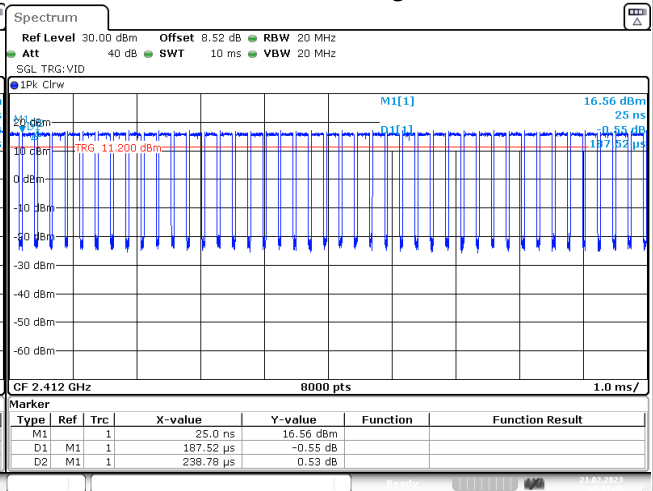
IEEE 802.11b



Date: 21.FEB.2023 12:09:55

Duty cycle = $8.32 \text{ ms} / 8.37 \text{ ms} = 99.40\%$
Duty Factor = 0

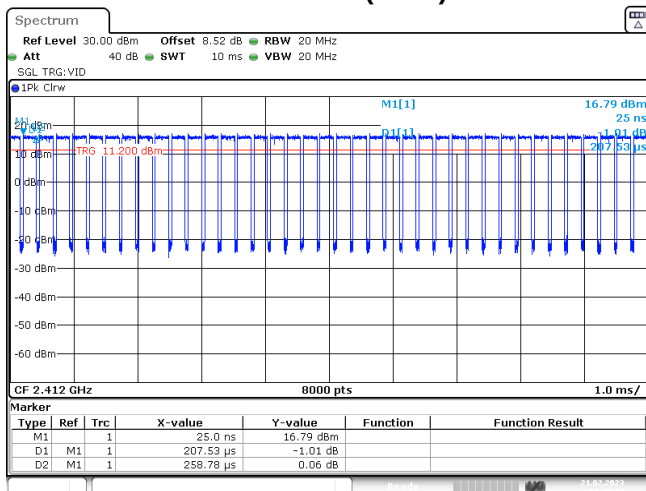
IEEE 802.11g



Date: 21.FEB.2023 13:41:48

Duty cycle = $0.19 \text{ ms} / 0.24 \text{ ms} = 79.17\%$
Duty Factor = $10 \log(1/\text{Duty cycle}) = 1.01$

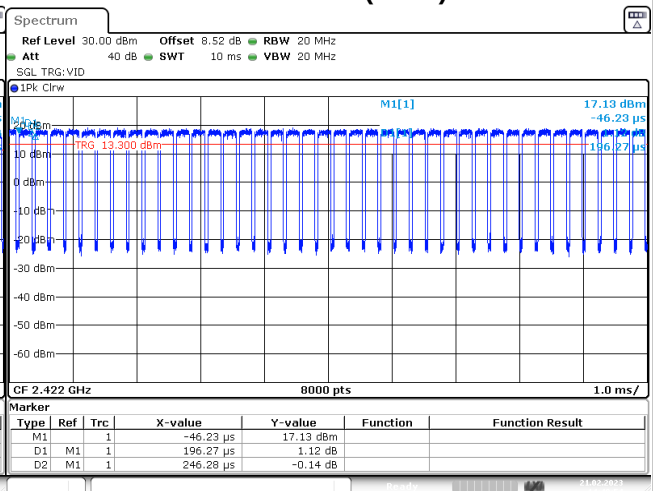
IEEE 802.11n(HT20)



Date: 21.FEB.2023 14:29:18

Duty cycle = $0.21 \text{ ms} / 0.26 \text{ ms} = 80.77\%$
Duty Factor = $10 \log(1/\text{Duty cycle}) = 0.93$

IEEE 802.11n(HT40)



Date: 21.FEB.2023 14:49:54

Duty cycle = $0.20 \text{ ms} / 0.25 \text{ ms} = 90.05\%$
Duty Factor = $10 \log(1/\text{Duty cycle}) = 0.46$

NOTE:

For IEEE 802.11b:

For radiated emissions frequency above 1 GHz, the resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 122Hz.

For IEEE 802.11g:

For radiated emissions frequency above 1 GHz, the resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 186Hz.

For IEEE 802.11n(HT20):

For radiated emissions frequency above 1 GHz, the resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 441Hz.

For IEEE 802.11n(HT40):

For radiated emissions frequency above 1 GHz, the resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 897Hz.

2.5 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



2.6 SUPPORT UNITS

Support Equipment				
No.	Equipment	Brand Name	Model Name	Remarks
1	N/A	N/A	N/A	N/A

3. AC POWER LINE CONDUCTED EMISSIONS

3.1 LIMIT

Frequency of Emission (MHz)	Limit (dB μ V)	
	Quasi-peak	Average
0.15 - 0.5	66 to 56*	56 to 46*
0.5 - 5.0	56	46
5.0 - 30.0	60	50

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.

3.2 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 equipment 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.

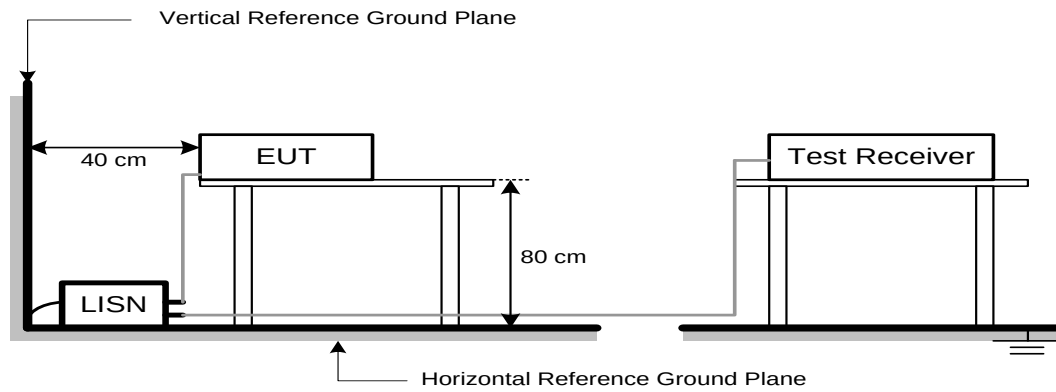
The following table is the setting of the receiver:

Receiver Parameters	Setting
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

3.3 DEVIATION FROM TEST STANDARD

No deviation.

3.4 TEST SETUP



3.5 EUT OPERATION CONDITIONS

EUT was programmed to be in continuously transmitting mode.

3.6 TEST RESULTS

Please refer to the APPENDIX A.

4. RADIATED EMISSIONS

4.1 LIMIT

In case the emission fall within the restricted band specified on 15.205(a) , then the 15.209(a) and limit in the table below has to be followed.

LIMITS OF RADIATED EMISSION MEASUREMENT (9 kHz-1000 MHz)

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009-0.490	2400/F(kHz)	300
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

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000 MHz)

Frequency (MHz)	(dBuV/m at 3 m)	
	Peak	Average
Above 1000	74	54

NOTE:

- (1) The limit for radiated test was performed according to FCC CFR Title 47, Part 15, Subpart C.
- (2) The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m)=20log Emission level (uV/m).

4.2 TEST PROCEDURE

- The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1 GHz)
- The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 1.5 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(above 1 GHz)
- The height of the equipment or of the substitution antenna shall be 0.8m or 1.5m; 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.
- For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights find the maximum reading (used Bore sight function).
- The receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz.
- The initial step in collecting radiated emission data is a receiver peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- 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.
(below 1 GHz)
- All readings are Peak Mode value unless otherwise stated AVG in column of Note. If the Peak Mode Measured value compliance with the Peak Limits and lower than AVG Limits, the EUT shall be deemed to meet both Peak & AVG Limits and then only Peak Mode was measured, but AVG Mode didn't perform. (above 1 GHz)
- For the actual test configuration, please refer to the related Item -EUT Test Photos.

The following table is the setting of the receiver:

Spectrum Parameters	Setting
Start ~ Stop Frequency	9 kHz~150 kHz for RBW 200 Hz
Start ~ Stop Frequency	0.15 MHz~30 MHz for RBW 9 kHz
Start ~ Stop Frequency	30 MHz~1000 MHz for RBW 100 kHz

Spectrum Parameters	Setting
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RBW / VBW (Emission in restricted band)	1 MHz / 3 MHz for PK value 1 MHz / 1/T Hz for AVG value

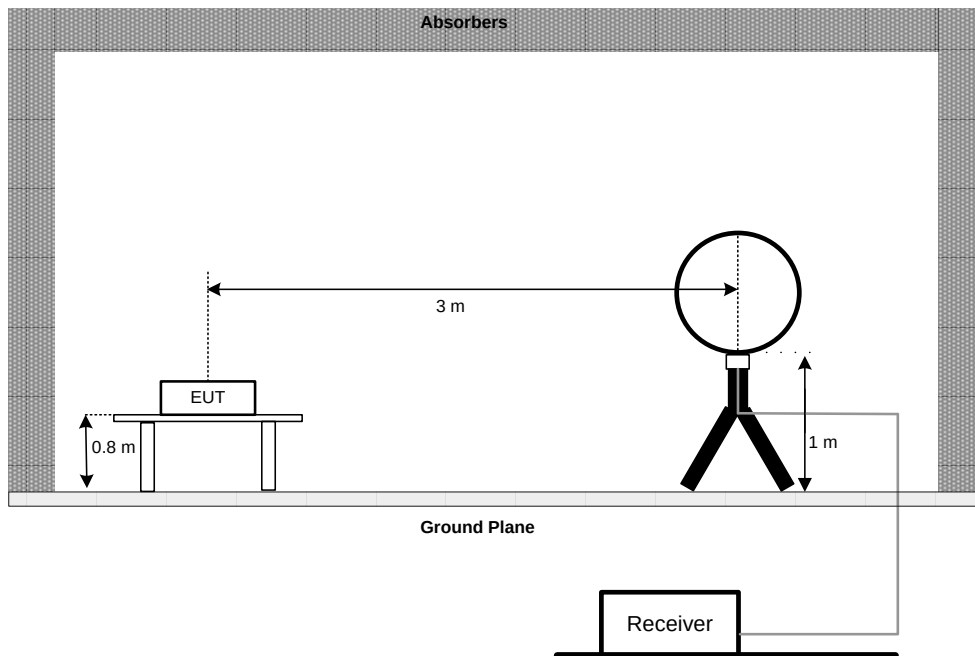
Receiver Parameters	Setting
Start ~ Stop Frequency	9 kHz~90 kHz for PK/AVG detector
Start ~ Stop Frequency	90 kHz~110 kHz for QP detector
Start ~ Stop Frequency	110 kHz~490 kHz for PK/AVG detector
Start ~ Stop Frequency	490 kHz~30 MHz for QP detector
Start ~ Stop Frequency	30 MHz~1000 MHz for QP detector
Start ~ Stop Frequency	1 GHz~26.5 GHz for PK/AVG detector

4.3 DEVIATION FROM TEST STANDARD

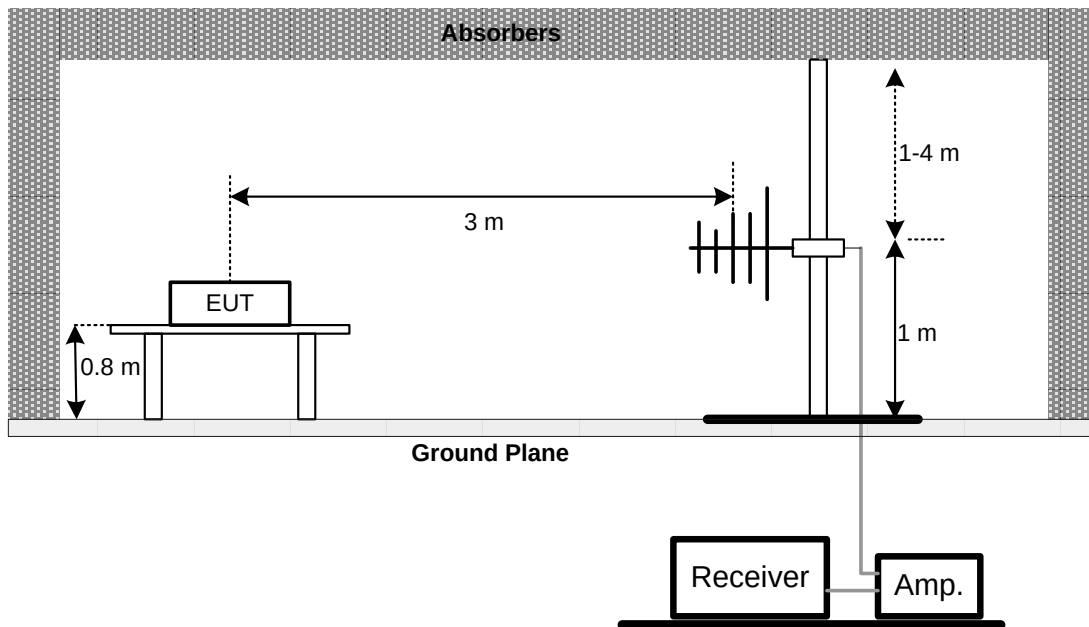
No deviation.

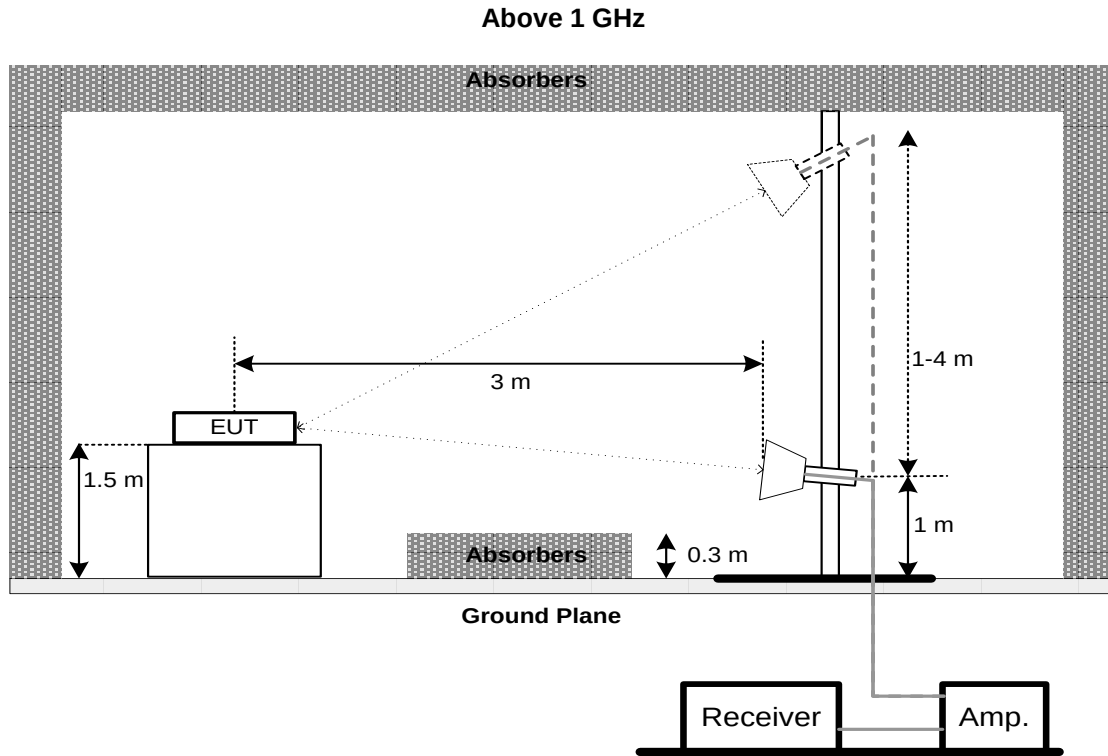
4.4 TEST SETUP

9 kHz to 30 MHz



30 MHz to 1 GHz





4.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

4.6 TEST RESULTS - 9 KHZ TO 30 MHZ

Please refer to the APPENDIX B.

Remark:

- (1) Distance extrapolation factor = $40 \log (\text{specific distance} / \text{test distance})$ (dB).
- (2) Limit line = specific limits (dBuV) + distance extrapolation factor.

4.7 TEST RESULTS - 30 MHZ TO 1000 MHZ

Please refer to the APPENDIX C.

4.8 TEST RESULTS - ABOVE 1000 MHZ

Please refer to the APPENDIX D.

Remark:

- (1) No limit: This is fundamental signal, the judgment is not applicable.
For fundamental signal judgment was referred to Peak output test.

5. BANDWIDTH

5.1 LIMIT

Section	Test Item	Limit
FCC 15.247(a)(2)	6 dB Bandwidth	Minimum 500 kHz
	99% Emission Bandwidth	-

5.2 TEST PROCEDURE

- The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
- The following table is the setting of the spectrum analyzer:

For 6 dB Bandwidth:

Spectrum Parameters	Setting
Span Frequency	> Measurement Bandwidth
RBW	100 kHz
VBW	300 kHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

For 99% Emission Bandwidth:

Spectrum Parameters	Setting
Span Frequency	Between 1.5 times and 5.0 times the OBW
RBW	300 kHz For 20MHz 1 MHz For 40MHz
VBW	1 MHz For 20MHz 3 MHz For 40MHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

5.3 DEVIATION FROM STANDARD

No deviation.

5.4 TEST SETUP



5.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

5.6 TEST RESULTS

Please refer to the APPENDIX E.

6. MAXIMUM OUTPUT POWER & E.I.R.P.

6.1 LIMIT

Section	Test Item	Limit
FCC 15.247(b)(3)	Maximum Output Power	1.0000 Watt or 30.00 dBm

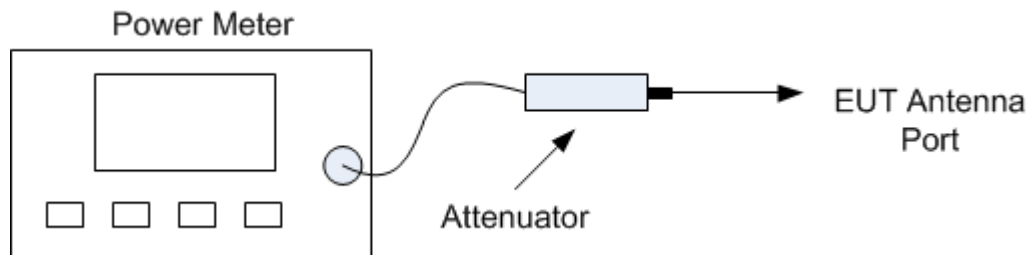
6.2 TEST PROCEDURE

- The EUT was directly connected to the power meter and antenna output port as show in the block diagram below.
- The maximum conducted output power was performed in accordance with method 11.9.2.3.1 (for AVG power) of ANSI C63.10-2013 and FCC KDB 662911 D01 v02r01 Multiple Transmitter Output.

6.3 DEVIATION FROM STANDARD

No deviation.

6.4 TEST SETUP



6.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

6.6 TEST RESULTS

Please refer to the APPENDIX F.

7. CONDUCTED SPURIOUS EMISSIONS

7.1 LIMIT

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak Output Power limits. If the transmitter complies with the Output Power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in Section 15.209(a) is not required.

7.2 TEST PROCEDURE

- The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
- The following table is the setting of the spectrum analyzer:

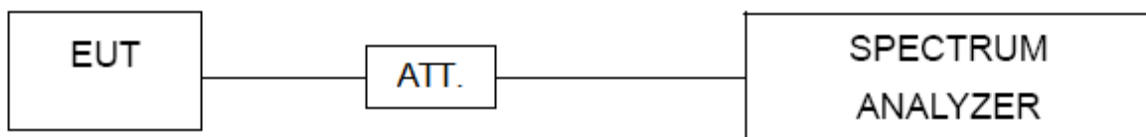
For Emission Level:

Spectrum Parameters	Setting
Start Frequency	30 MHz
Stop Frequency	26.5 GHz
RBW	100 kHz
VBW	300 kHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

7.3 DEVIATION FROM STANDARD

No deviation.

7.4 TEST SETUP



7.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

7.6 TEST RESULTS

Please refer to the APPENDIX G.

8. POWER SPECTRAL DENSITY

8.1 LIMIT

Section	Test Item	Limit
FCC 15.247(e)	Power Spectral Density	8 dBm (in any 3 kHz)

8.2 TEST PROCEDURE

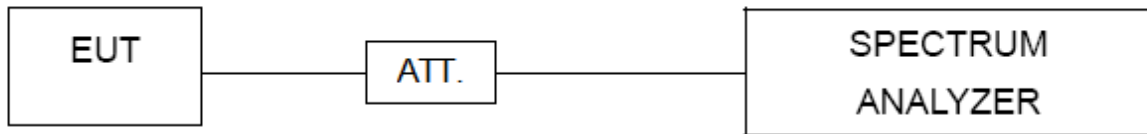
- The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
- The following table is the setting of the spectrum analyzer:

Spectrum Parameters	Setting
Span Frequency	25 MHz (20 MHz) / 60 MHz (40 MHz)
RBW	3 kHz
VBW	10 kHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

8.3 DEVIATION FROM STANDARD

No deviation.

8.4 TEST SETUP



8.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

8.6 TEST RESULTS

Please refer to the APPENDIX H.

9. MEASUREMENT INSTRUMENTS LIST

No.	Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	EMI Receiver	Rohde&Schwarz	ESCI	1166.5950.03	2023/10/14
2	AMN	Rohde&Schwarz	ENV216	3560.6550.05	2023/10/14
3	AMN	Schwarzbeck	NSLK8127	#829	2023/10/14
4	ECSI RF IN RF Cable	Rohde&Schwarz	RP-X1	\	2023/10/14
5	ECSI RF IN RF Cable	Rohde&Schwarz	Sapre sm	\	2023/10/14
6	EMI Receiver	Rohde&Schwarz	ESR7	102013	2023/10/14
7	Spectrum analyzer	Rohde&Schwarz	FSV30	103741	2023/10/17
8	EMI receiver	Rohde&Schwarz	ESU	100184	2023/07/20
9	Spectrum analyzer	KEYSIGHT	N9010A-44	MY51440158	2023/10/17
10	Loop Antenna*	Schwarzbeck	FMZB1519B	00029	2025/07/03
11	Integral Antenna	Schwarzbeck	VULB 9163	VULB 9163-361	2023/10/20
12	Integral Antenna	Schwarzbeck	BBHA 9120D	BBHA 9120D 1201	2023/10/15
13	Integral Antenna	Schwarzbeck	BBHA 9170	9170#685	2023/10/15
14	Preamplifier	CD Systems Inc	PAP-03036-30	85060000	2023/10/15
15	Preamplifier	Schwarzbeck	BBV9721	9721-019	2023/10/15
16	Preamplifier	emci	EMC012645 SE	980417	2023/10/16
17	ECSI RF IN RF Cable	Rohde&Schwarz	AP-X1	\	2023/10/16
18	Spectrum Analyzer	Agilent	N9010A	MY52221119	2023/10/17
19	Power Collection Unit	Tonscend	JS0806-2	188060134	2023/10/16
20	Tonscend Test System	Tonscend	2.6.77.0518	NA	NA
21	10dB Attenuator	Tonscend	10dB	NA	NA
22	Temp&Humidity Recorder	Anymetre	JR900	NA	2023/10/16
23	Temp&Humidity Chamber	ETOMA	NTH1100-30 A	16080628	2023/10/16
24	Filter	STI	STI15-9845	N/A	N/A
25	Filter	STI	5.1G	N/A	N/A
26	Filter	STI	STI15-9845	N/A	N/A
27	Testing Software	EZ-EMC	TW-03A2	N/A	N/A

Remark: "N/A" denotes no model name, serial no. or calibration specified.

"*" calibration period of equipment list is three year.

Except * item, all calibration period of equipment list is one year.

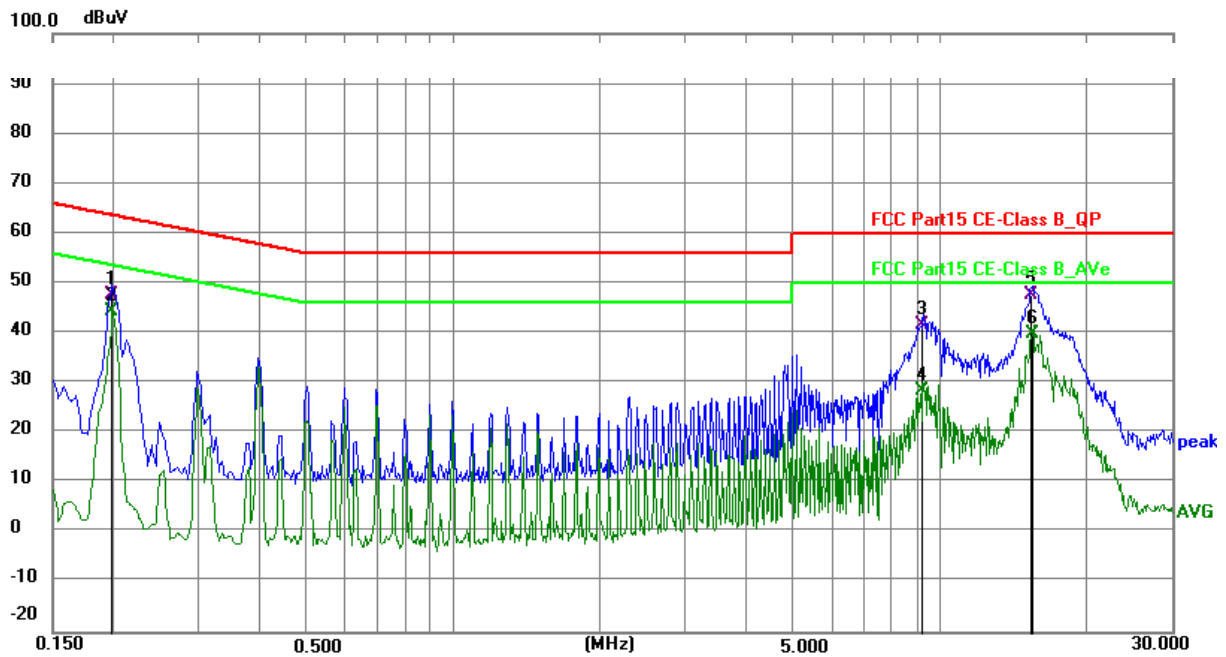
10. EUT TEST PHOTO**AC Power Line Conducted Emissions Test Photos**

Radiated Emissions Test Photos**30 MHz to 1 GHz****Above 1 GHz**

Conducted Test Photos

APPENDIX A - AC POWER LINE CONDUCTED EMISSIONS

Test Mode	TX B Mode Channel 6	Phase	Line
-----------	---------------------	-------	------

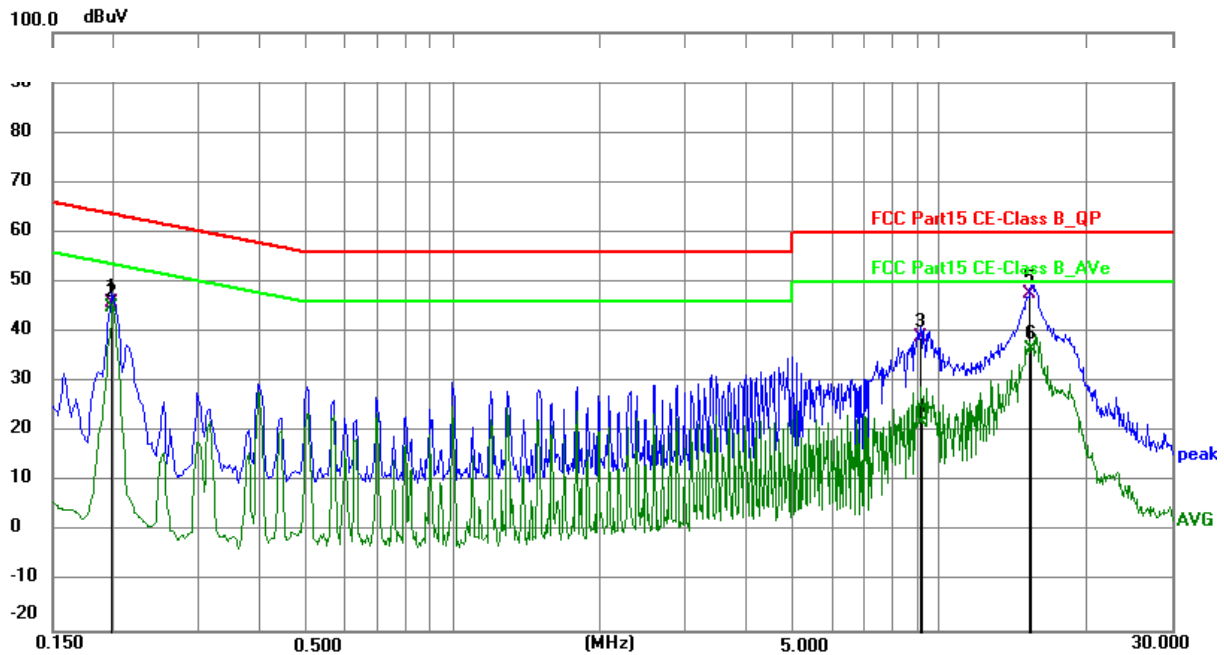


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.1989	37.90	9.63	47.53	63.66	-16.13	QP	P
2 *	0.1995	34.62	9.63	44.25	53.63	-9.38	AVG	P
3	9.2453	31.88	9.72	41.60	60.00	-18.40	QP	P
4	9.2534	18.79	9.72	28.51	50.00	-21.49	AVG	P
5	15.5116	37.87	9.75	47.62	60.00	-12.38	QP	P
6	15.5175	30.14	9.75	39.89	50.00	-10.11	AVG	P

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.
- (3) The test result has included the cable loss.

Test Mode	TX B Mode Channel 6	Phase	Neutral
-----------	---------------------	-------	---------



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.1983	36.21	9.63	45.84	63.68	-17.84	QP	P
2 *	0.1995	35.35	9.63	44.98	53.63	-8.65	AVG	P
3	9.1545	29.23	9.72	38.95	60.00	-21.05	QP	P
4	9.1711	12.21	9.72	21.93	50.00	-28.07	AVG	P
5	15.4132	37.76	9.76	47.52	60.00	-12.48	QP	P
6	15.4230	26.65	9.76	36.41	50.00	-13.59	AVG	P

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.
- (3) The test result has included the cable loss.

APPENDIX B - RADIATED EMISSION - 9 KHZ TO 30 MHZ

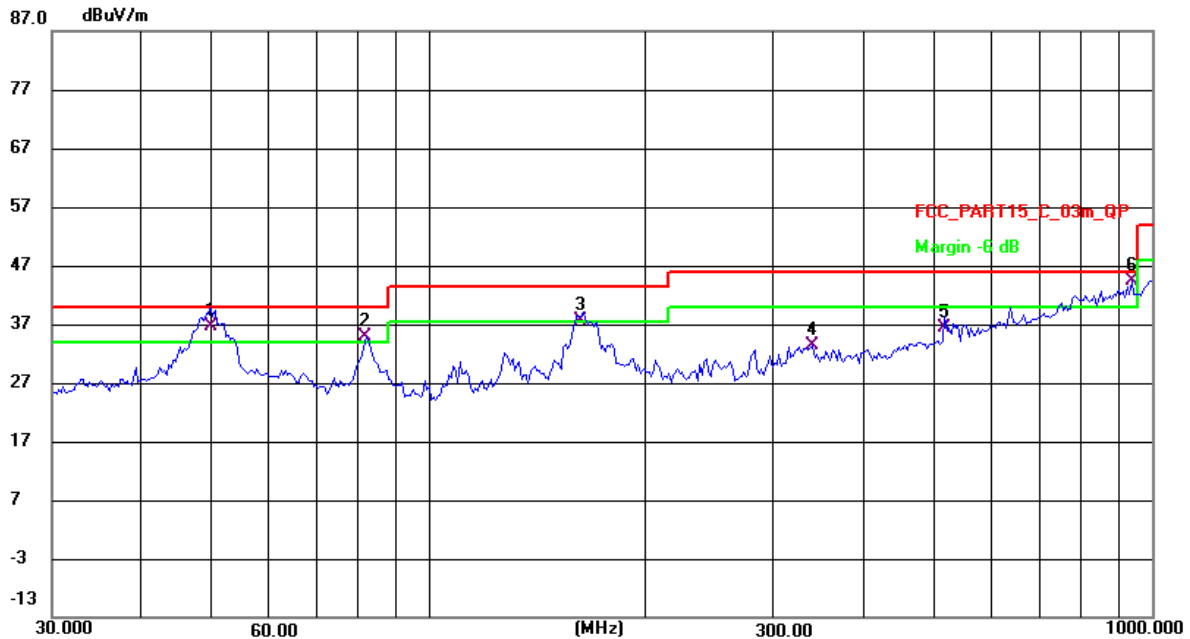
Radiated emission: 9KHz-30MHz

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line was not reported.

There is a comparison data of both open-field test site and semi-Anechoic chamber, and the result came out very similar.

APPENDIX C - RADIATED EMISSION - 30 MHZ TO 1000 MHZ

Test Mode	TX B Mode Channel 06	Polarization	Vertical
-----------	----------------------	--------------	----------

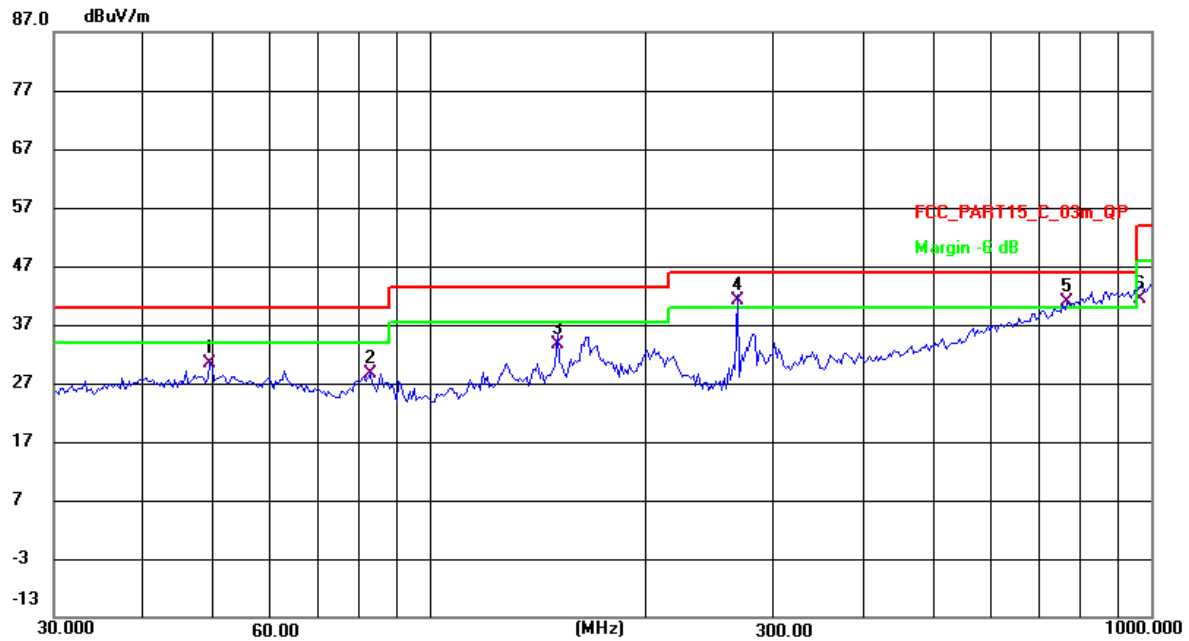


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F
1 !	49.7571	23.24	13.32	36.56	40.00	-3.44	QP	100	173	P
2 !	81.9477	26.06	8.93	34.99	40.00	-5.01	QP	100	219	P
3 !	162.0197	24.20	13.32	37.52	43.50	-5.98	QP	100	115	P
4	338.8543	18.99	14.33	33.32	46.00	-12.68	QP	100	250	P
5	516.5650	18.16	18.27	36.43	46.00	-9.57	QP	100	149	P
6 *	938.7140	19.55	24.71	44.26	46.00	-1.74	QP	100	100	P

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

Test Mode	TX B Mode Channel 06	Polarization	Horizontal
-----------	----------------------	--------------	------------



No.	Frequency (MHz)	Reading (dBUV)	Factor (dB/m)	Level (dBUV/m)	Limit (dBUV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F
1	49.4084	17.02	13.31	30.33	40.00	-9.67	QP	200	300	P
2	82.5257	19.73	8.94	28.67	40.00	-11.33	QP	100	170	P
3	149.9676	20.31	13.41	33.72	43.50	-9.78	QP	200	292	P
4 *	266.8395	28.81	12.21	41.02	46.00	-4.98	QP	200	33	P
5 !	765.6480	17.63	23.34	40.97	46.00	-5.03	QP	200	100	P
6	965.4742	16.28	25.07	41.35	54.00	-12.65	QP	200	115	P

REMARKS:

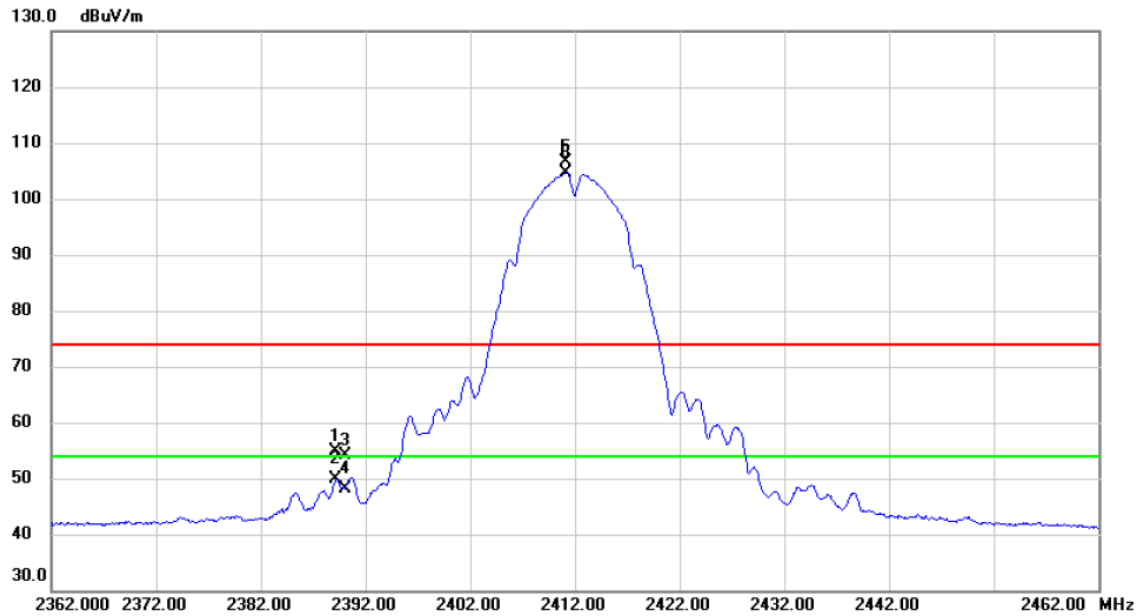
- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

APPENDIX D - RADIATED EMISSION- ABOVE 1000 MHZ

Test Result of Radiated Spurious at Band edges.

Test Mode	TX B Mode 2412 MHz	Polarization	Vertical
-----------	--------------------	--------------	----------

Radiated Emission Measurement



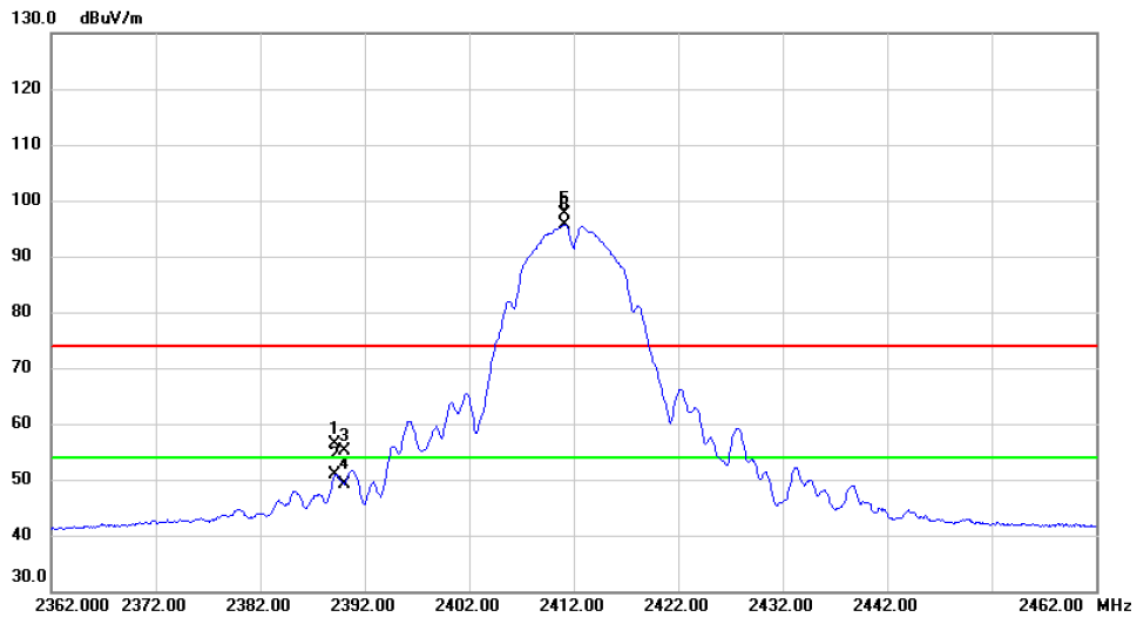
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		2389.200	47.65	7.17	54.82	74.00	-19.18	peak	
2		2389.200	42.62	7.17	49.79	54.00	-4.21	AVG	
3		2390.000	46.94	7.17	54.11	74.00	-19.89	peak	
4		2390.000	40.98	7.17	48.15	54.00	-5.85	AVG	
5	X	2411.200	99.37	7.17	106.54	74.00	32.54	peak	No Limit
6	*	2411.200	97.47	7.17	104.64	54.00	50.64	AVG	No Limit

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Test Mode	TX B Mode 2412 MHz	Polarization	Horizontal
-----------	--------------------	--------------	------------

Radiated Emission Measurement



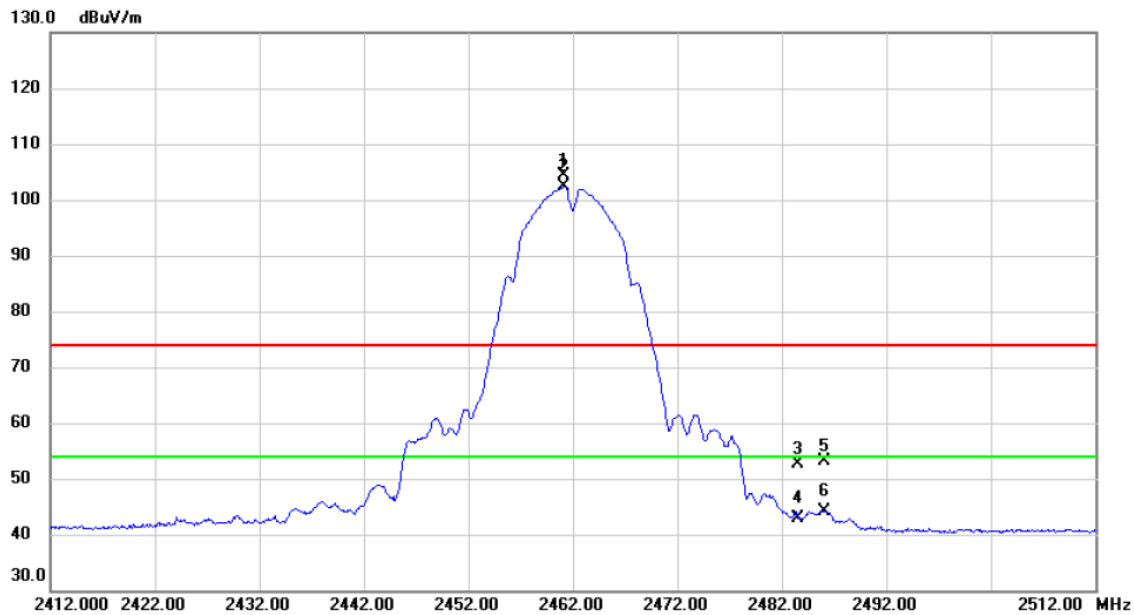
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		2389.200	49.25	7.17	56.42	74.00	-17.58	peak	
2		2389.200	43.80	7.17	50.97	54.00	-3.03	AVG	
3		2390.000	47.84	7.17	55.01	74.00	-18.99	peak	
4		2390.000	41.93	7.17	49.10	54.00	-4.90	AVG	
5	X	2411.100	90.46	7.16	97.62	74.00	23.62	peak	No Limit
6	*	2411.200	88.56	7.17	95.73	54.00	41.73	AVG	No Limit

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Test Mode	TX B Mode 2462 MHz	Polarization	Vertical
-----------	--------------------	--------------	----------

Radiated Emission Measurement



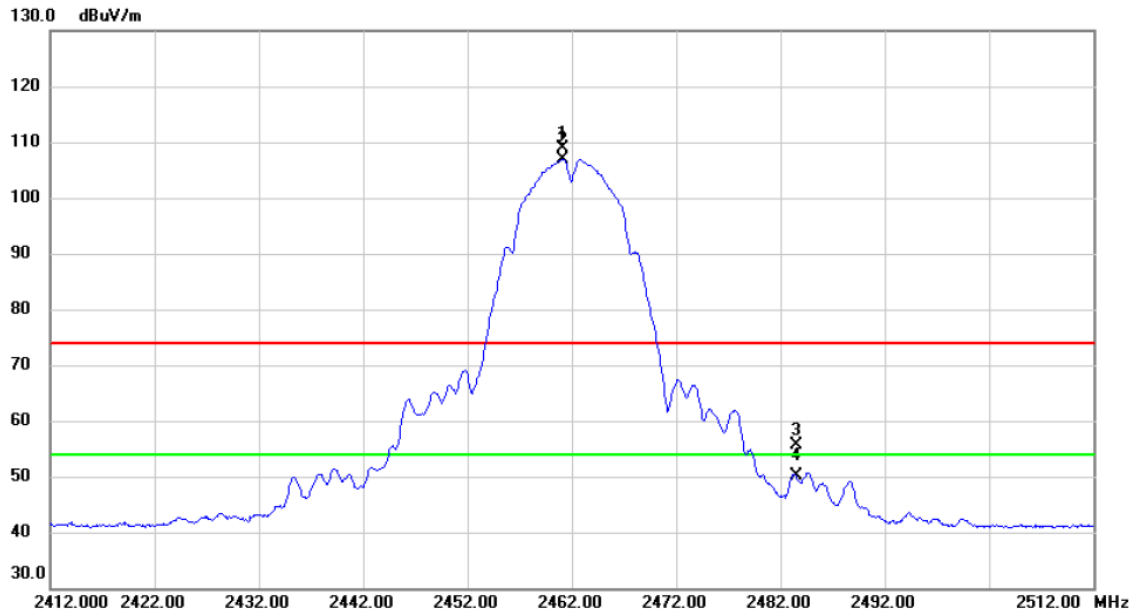
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	X	2461.200	97.20	7.18	104.38	74.00	30.38	peak	No Limit
2	*	2461.200	95.16	7.18	102.34	54.00	48.34	AVG	No Limit
3		2483.500	45.39	7.20	52.59	74.00	-21.41	peak	
4		2483.500	35.66	7.20	42.86	54.00	-11.14	AVG	
5		2486.100	45.86	7.20	53.06	74.00	-20.94	peak	
6		2486.100	37.00	7.20	44.20	54.00	-9.80	AVG	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Test Mode	TX B Mode 2462 MHz	Polarization	Horizontal
-----------	--------------------	--------------	------------

Radiated Emission Measurement



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	X	2461.100	101.7	7.18	108.94	74.00	34.94	peak	No Limit
2	*	2461.200	99.81	7.18	106.99	54.00	52.99	AVG	No Limit
3		2483.500	48.42	7.20	55.62	74.00	-18.38	peak	
4		2483.500	42.97	7.20	50.17	54.00	-3.83	AVG	

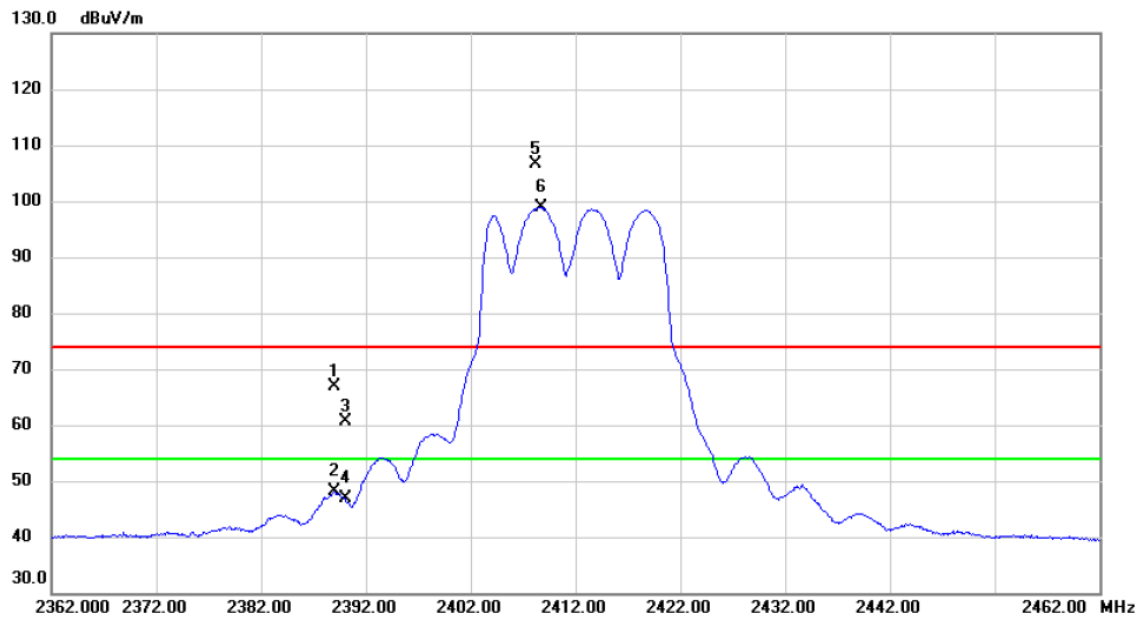
REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Test Mode	TX G Mode 2412 MHz	Polarization	Vertical
-----------	--------------------	--------------	----------

Radiated Emission Measurement



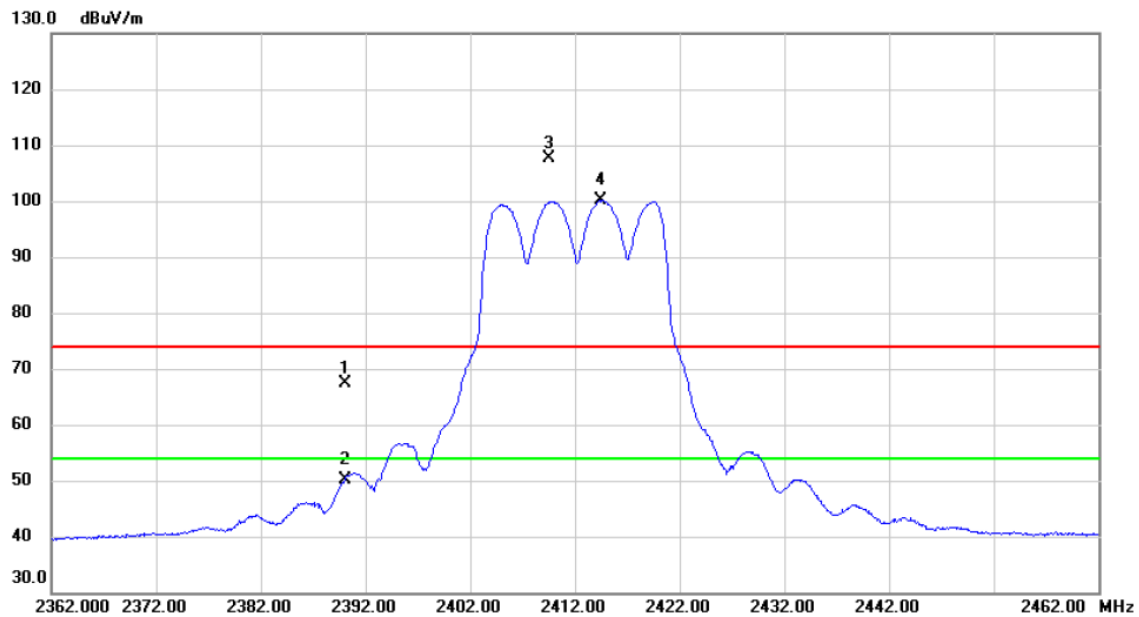
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		2389.000	59.60	7.17	66.77	74.00	-7.23	peak	
2		2389.000	40.88	7.17	48.05	54.00	-5.95	AVG	
3		2390.000	53.42	7.17	60.59	74.00	-13.41	peak	
4		2390.000	39.80	7.17	46.97	54.00	-7.03	AVG	
5	X	2408.200	99.36	7.16	106.52	74.00	32.52	peak	No Limit
6	*	2408.700	91.66	7.16	98.82	54.00	44.82	AVG	No Limit

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Test Mode	TX G Mode 2412 MHz	Polarization	Horizontal
-----------	--------------------	--------------	------------

Radiated Emission Measurement



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		2390.000	60.26	7.17	67.43	74.00	-6.57	peak	
2		2390.000	43.07	7.17	50.24	54.00	-3.76	AVG	
3	X	2409.500	100.3	7.16	107.52	74.00	33.52	peak	No Limit
4	*	2414.500	92.90	7.17	100.07	54.00	46.07	AVG	No Limit

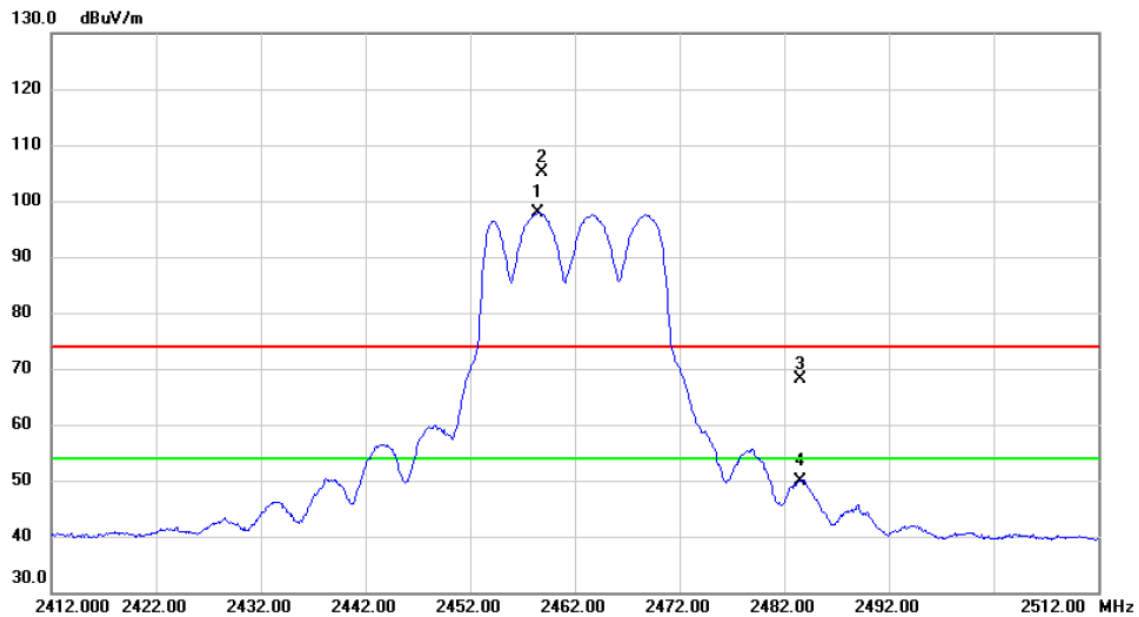
REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Test Mode	TX G Mode 2462 MHz	Polarization	Vertical
-----------	--------------------	--------------	----------

Radiated Emission Measurement



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	2458.500	90.63	7.19	97.82	54.00	43.82	AVG	No Limit
2	X	2458.900	97.85	7.19	105.04	74.00	31.04	peak	No Limit
3		2483.500	60.97	7.20	68.17	74.00	-5.83	peak	
4		2483.500	42.78	7.20	49.98	54.00	-4.02	AVG	

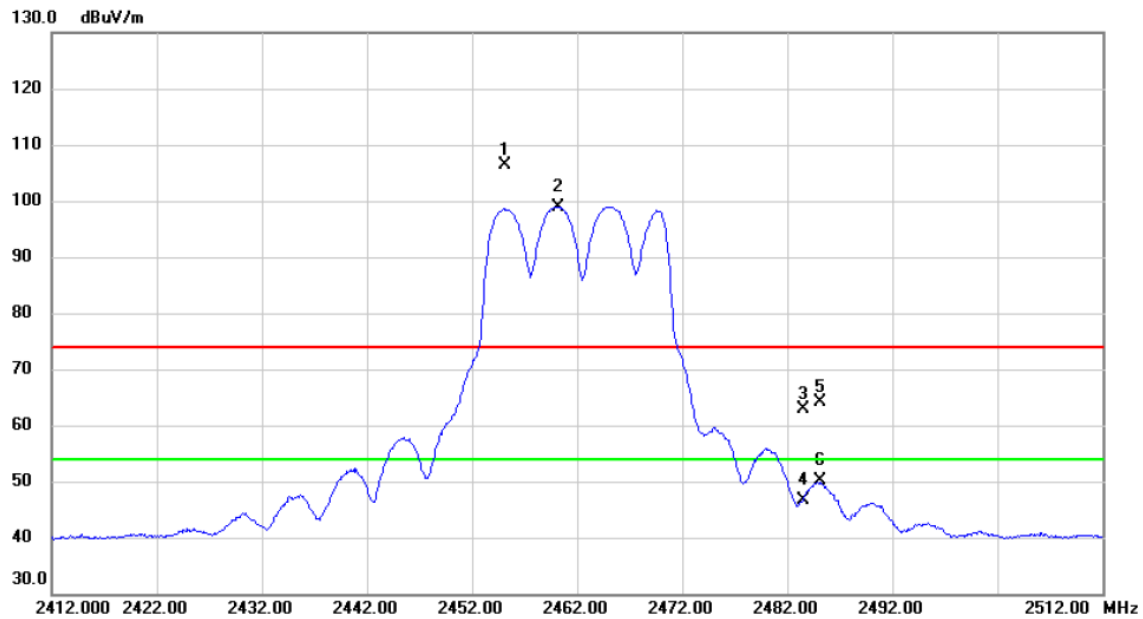
REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Test Mode	TX G Mode 2462 MHz	Polarization	Horizontal
-----------	--------------------	--------------	------------

Radiated Emission Measurement



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	X	2455.100	99.30	7.18	106.48	74.00	32.48	peak	No Limit
2	*	2460.200	91.81	7.19	99.00	54.00	45.00	AVG	No Limit
3		2483.500	55.72	7.20	62.92	74.00	-11.08	peak	
4		2483.500	39.52	7.20	46.72	54.00	-7.28	AVG	
5		2485.100	56.83	7.20	64.03	74.00	-9.97	peak	
6		2485.100	42.83	7.20	50.03	54.00	-3.97	AVG	

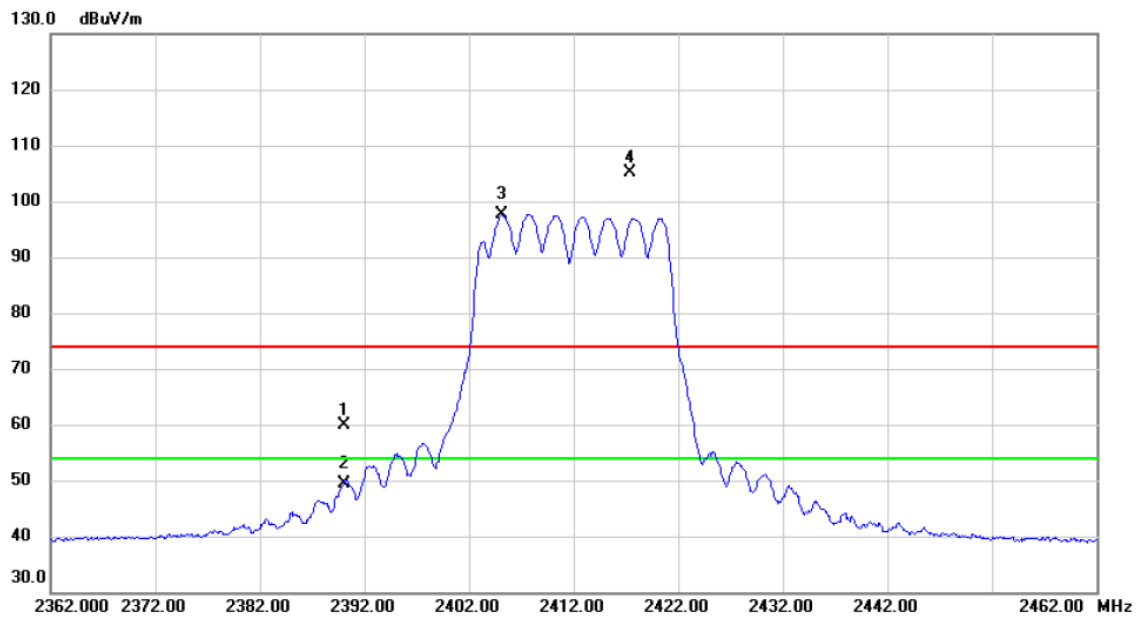
REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Test Mode	TX N(HT20) Mode 2412 MHz	Polarization	Vertical
-----------	--------------------------	--------------	----------

Radiated Emission Measurement



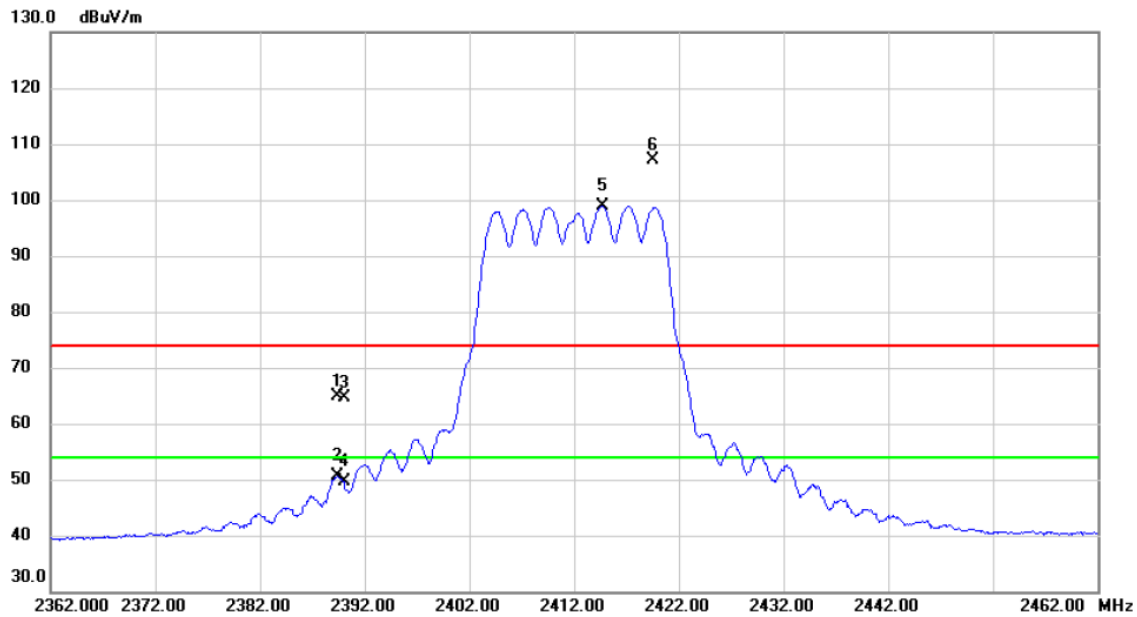
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		2390.000	52.79	7.17	59.96	74.00	-14.04	peak	
2		2390.000	42.27	7.17	49.44	54.00	-4.56	AVG	
3	*	2405.100	90.45	7.17	97.62	54.00	43.62	AVG	No Limit
4	X	2417.400	98.07	7.18	105.25	74.00	31.25	peak	No Limit

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

Test Mode	TX N(HT20) Mode 2412 MHz	Polarization	Horizontal
-----------	--------------------------	--------------	------------

Radiated Emission Measurement



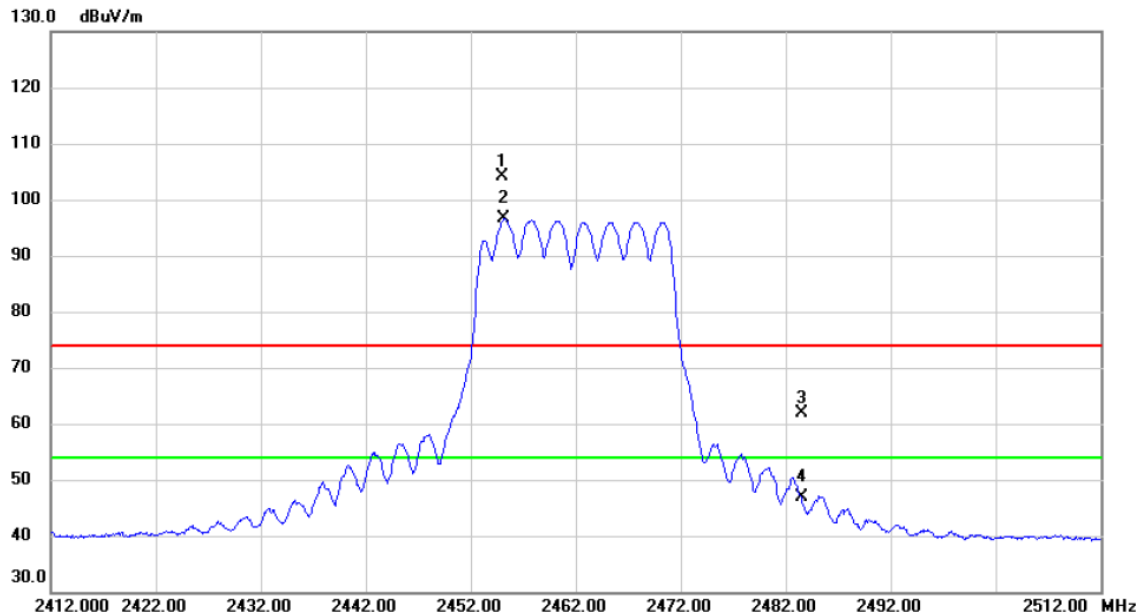
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		2389.400	57.61	7.17	64.78	74.00	-9.22	peak	
2		2389.400	43.42	7.17	50.59	54.00	-3.41	AVG	
3		2390.000	57.50	7.17	64.67	74.00	-9.33	peak	
4		2390.000	42.46	7.17	49.63	54.00	-4.37	AVG	
5	*	2414.700	91.67	7.17	98.84	54.00	44.84	AVG	No Limit
6	X	2419.600	99.96	7.18	107.14	74.00	33.14	peak	No Limit

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Test Mode	TX N(HT20) Mode 2462 MHz	Polarization	Vertical
-----------	--------------------------	--------------	----------

Radiated Emission Measurement



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	X	2455.000	96.94	7.18	104.12	74.00	30.12	peak	No Limit
2	*	2455.200	89.37	7.18	96.55	54.00	42.55	AVG	No Limit
3		2483.500	54.65	7.20	61.85	74.00	-12.15	peak	
4		2483.500	39.64	7.20	46.84	54.00	-7.16	AVG	

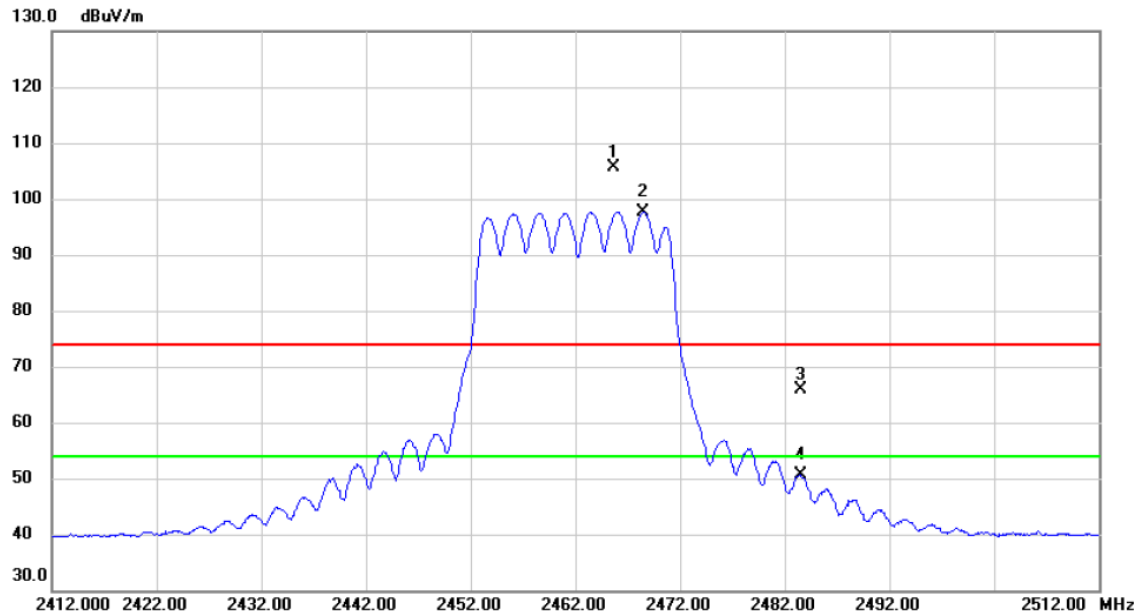
REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Test Mode	TX N(HT20) Mode 2462 MHz	Polarization	Horizontal
-----------	--------------------------	--------------	------------

Radiated Emission Measurement



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	X	2465.700	98.36	7.18	105.54	74.00	31.54	peak	No Limit
2	*	2468.500	90.46	7.18	97.64	54.00	43.64	AVG	No Limit
3		2483.500	58.71	7.20	65.91	74.00	-8.09	peak	
4		2483.500	43.48	7.20	50.68	54.00	-3.32	AVG	

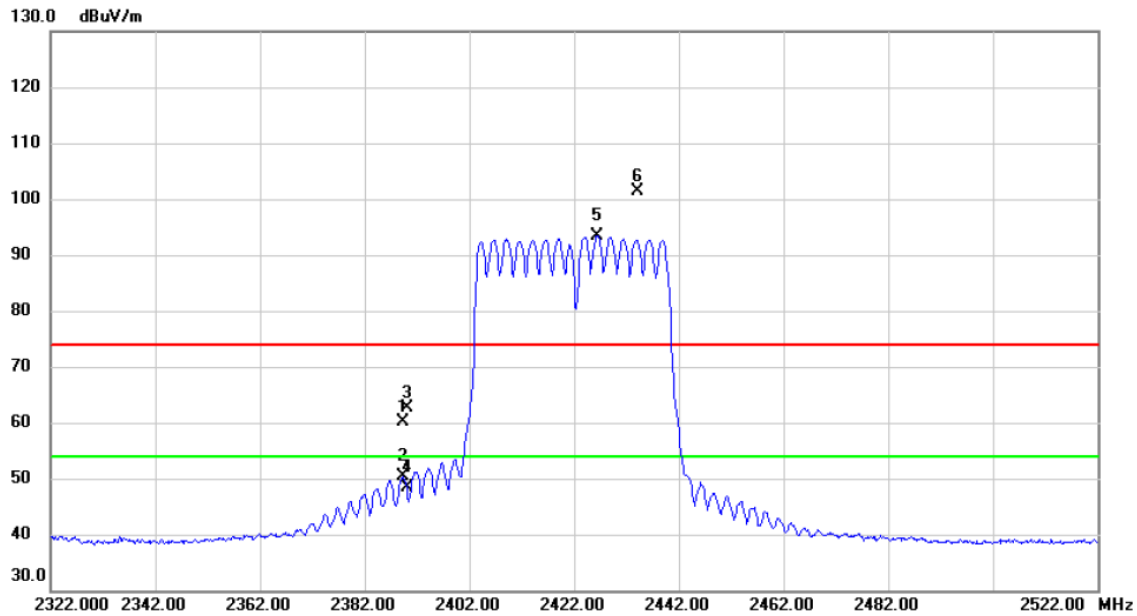
REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Test Mode	TX N(HT40) Mode 2422 MHz	Polarization	Vertical
-----------	--------------------------	--------------	----------

Radiated Emission Measurement



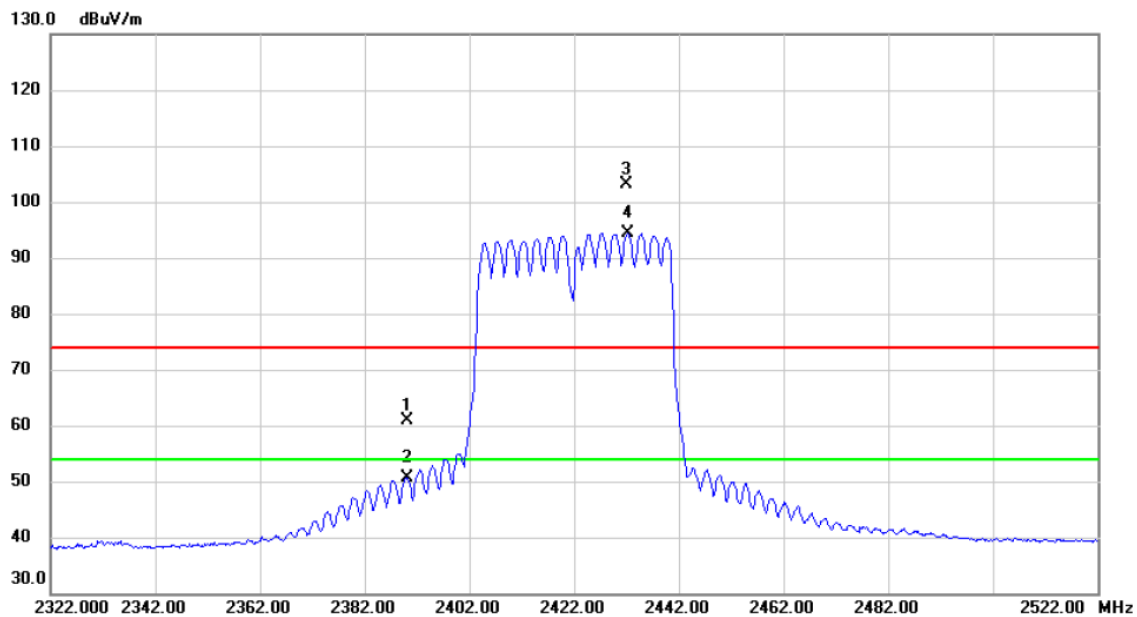
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		2389.400	53.07	7.17	60.24	74.00	-13.76	peak	
2		2389.400	43.10	7.17	50.27	54.00	-3.73	AVG	
3		2390.000	55.43	7.17	62.60	74.00	-11.40	peak	
4		2390.000	41.20	7.17	48.37	54.00	-5.63	AVG	
5	*	2426.400	86.12	7.18	93.30	54.00	39.30	AVG	No Limit
6	X	2434.000	94.16	7.19	101.35	74.00	27.35	peak	No Limit

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Test Mode	TX N(HT40) Mode 2422 MHz	Polarization	Horizontal
-----------	--------------------------	--------------	------------

Radiated Emission Measurement



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		2390.000	53.65	7.17	60.82	74.00	-13.18	peak	
2		2390.000	43.46	7.17	50.63	54.00	-3.37	AVG	
3	X	2432.000	95.87	7.18	103.05	74.00	29.05	peak	No Limit
4	*	2432.200	87.17	7.18	94.35	54.00	40.35	AVG	No Limit

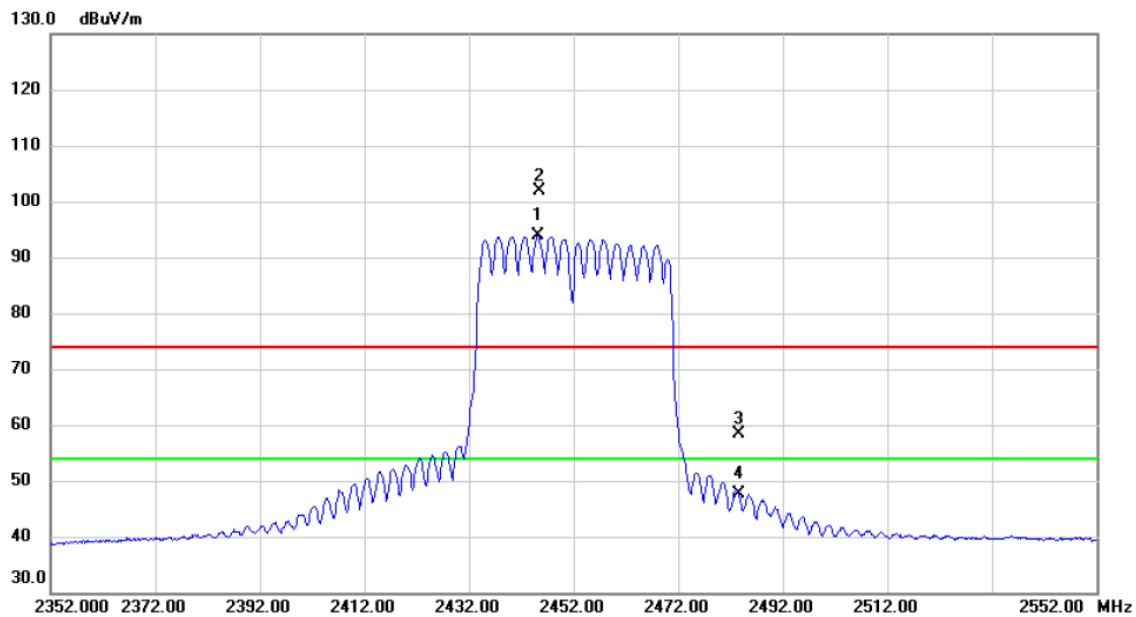
REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Test Mode	TX N(HT40) Mode 2452 MHz	Polarization	Vertical
-----------	--------------------------	--------------	----------

Radiated Emission Measurement



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	2445.200	86.70	7.18	93.88	54.00	39.88	AVG	No Limit
2	X	2445.600	94.64	7.18	101.82	74.00	27.82	peak	No Limit
3		2483.500	51.10	7.20	58.30	74.00	-15.70	peak	
4		2483.500	40.43	7.20	47.63	54.00	-6.37	AVG	

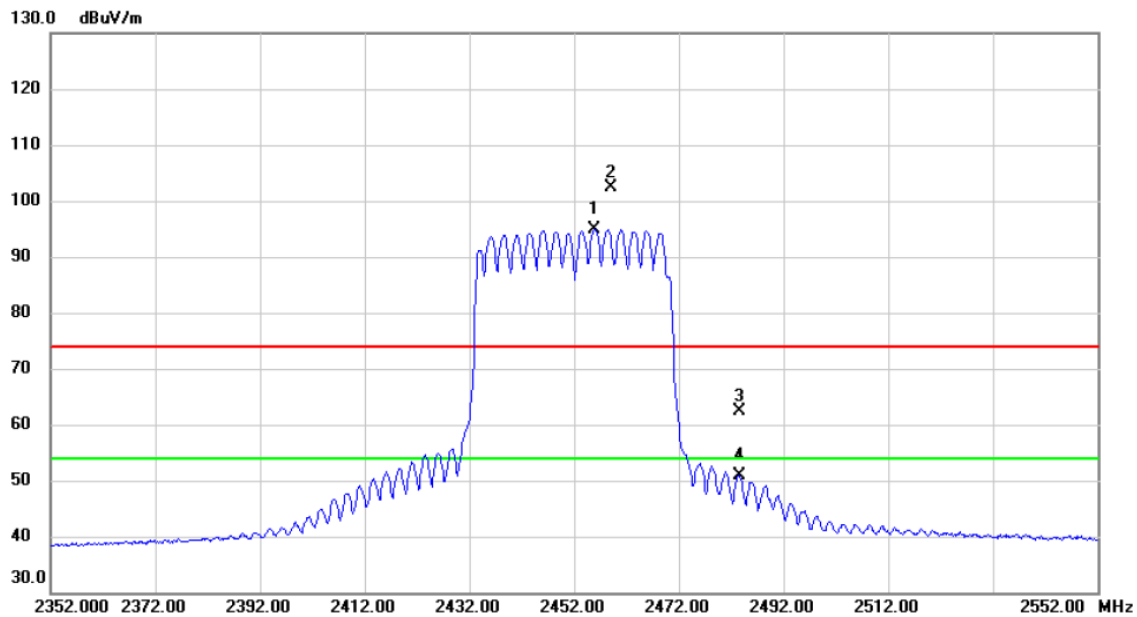
REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Test Mode	TX N(HT40) Mode 2452 MHz	Polarization	Horizontal
-----------	--------------------------	--------------	------------

Radiated Emission Measurement



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	2455.800	87.73	7.19	94.92	54.00	40.92	AVG	No Limit
2	X	2459.000	95.14	7.19	102.33	74.00	28.33	peak	No Limit
3		2483.500	55.07	7.20	62.27	74.00	-11.73	peak	
4		2483.500	43.62	7.20	50.82	54.00	-3.18	AVG	

REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

ABOVE 1000 MHz

Note: All the modes have been tested and recorded worst mode in the report.

Modulation Type: 802.11b(ANT1)

Channel 1 / 2412 MHz

Frequency	Ant.Pol. H/V	Peak reading (dBuV)	AV reading (dBuV)	Correction Factor	Emission Level		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)
					Peak (dBuV/m)	AV (dBuV/m)			
4823.90	H	42.30	45.51	4.23	46.53	49.74	74	54	-7.47
7236.00	H	40.88	---	7.80	48.68	---	75	55	-26.32
---	H	---	---	---	---	---	---	---	---
4823.92	V	42.96	45.83	4.23	47.19	50.06	74	54	-6.81
7236.00	V	40.06	---	7.80	47.86	---	74	54	-26.14
---	V	---	---	---	---	---	---	---	---

Channel 6 / 2437 MHz

Frequency	Ant.Pol. H/V	Peak reading (dBuV)	AV reading (dBuV)	Correction Factor	Emission Level		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)
					Peak (dBuV/m)	AV (dBuV/m)			
4873.85	H	45.01	42.71	4.37	49.38	47.08	74	54	-6.92
7311.00	H	42.50	---	8.10	50.6	---	74	54	-23.4
---	H	---	---	---	---	---	---	---	---
4873.78	V	47.06	43.93	4.37	51.43	48.30	74	54	-5.70
7311.00	V	41.41	---	8.10	49.51	---	75	55	-25.49
---	V	---	---	---	---	---	---	---	---

Channel 11 / 2462 MHz

Frequency	Ant.Pol. H/V	Peak reading (dBuV)	AV reading (dBuV)	Correction Factor	Emission Level		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)
					Peak (dBuV/m)	AV (dBuV/m)			
4923.92	H	42.60	46.07	4.52	47.12	50.59	74	54	-6.88
7386.00	H	42.19	---	9.00	51.19	---	74	54	-22.81
---	H	---	---	---	---	---	---	---	---
4923.89	V	46.50	43.67	4.52	51.02	48.19	74	54	-5.81
7386.00	V	41.42	---	9.00	50.42	---	75	55	-24.58
---	V	---	---	---	---	---	---	---	---

Modulation Type: 802.11HT20(ANT1+ANT2) for MIMO

Channel 1 / 2412 MHz									
Frequency	Ant.Pol. H/V	Peak reading (dBuV)	AV reading (dBuV)	Correction Factor	Emission Level		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)
					Peak (dBuV/m)	AV (dBuV/m)			
4823.23	H	42.64	31.52	4.23	46.87	35.75	74	54	-18.25
7236.00	H	40.42	---	7.80	48.22	---	74	54	-25.78
---	H	---	---	---	---	---	---	---	---
4823.23	V	44.64	34.52	4.23	48.87	38.75	74	54	-15.25
7236.00	V	40.19	---	7.80	47.99	---	75	55	-27.01
---	V	---	---	---	---	---	---	---	---

Channel 6 / 2437 MHz									
Frequency	Ant.Pol. H/V	Peak reading (dBuV)	AV reading (dBuV)	Correction Factor	Emission Level		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)
					Peak (dBuV/m)	AV (dBuV/m)			
4875.34	H	42.89	32.04	4.39	47.28	36.43	74	54	-17.57
7311.00	H	40.90	---	8.10	49	---	74	54	-25.00
---	H	---	---	---	---	---	---	---	---
4873.91	V	46.75	35.95	4.36	51.11	40.31	74	54	-13.69
7311.00	V	40.12	---	8.10	48.22	---	75	55	-26.78
---	V	---	---	---	---	---	---	---	---

Channel 11 / 2462 MHz									
Frequency	Ant.Pol. H/V	Peak reading (dBuV)	AV reading (dBuV)	Correction Factor	Emission Level		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)
					Peak (dBuV/m)	AV (dBuV/m)			
4922.86	H	42.05	31.21	4.52	46.57	35.73	74	54	-18.27
7386.00	H	41.01	---	9.00	50.01	---	74	54	-23.99
---	H	---	---	---	---	---	---	---	---
4920.78	V	44.50	33.29	4.51	49.01	37.80	74	54	-16.20
7386.00	V	40.55	---	9.00	49.55	---	75	55	-25.45
---	V	---	---	---	---	---	---	---	---

Notes:

- 1). Radiated emissions measured in frequency range from 9 KHz~10th harmonic or 26.5GHz (which is less) were made with an instrument using Peak detector mode.
- 2). 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.
- 3). Worst case data at 1Mbps at IEEE 802.11b AN1(SISO). 802.11(HT20) Mode ANT1+ANT2(MIMO)
- 4). Measured Level = Reading Level + Factor, Margin = Measured Level – Limit

APPENDIX E - BANDWIDTH

6 dB Bandwidth

Test Mode		TX 802.11B Mode			
Channel	Frequency (MHz)	6 dB Bandwidth (MHz) ANT 1	6 dB Bandwidth (MHz) ANT 2	6 dB Bandwidth Min. Limit (MHz)	Result
01	2412	10.120	7.52	0.5	Complies
06	2437	10.160	8.56	0.5	Complies
11	2462	9.040	8.08	0.5	Complies
Test Mode		TX 802.11G Mode			
Channel	Frequency (MHz)	6 dB Bandwidth (MHz) ANT 1	6 dB Bandwidth (MHz) ANT 2	6 dB Bandwidth Min. Limit (MHz)	Result
01	2412	15.200	15.24	0.5	Complies
06	2437	15.200	16.32	0.5	Complies
11	2462	15.200	16.32	0.5	Complies
Test Mode		TX 802.11N20 Mode			
Channel	Frequency (MHz)	6 dB Bandwidth (MHz) ANT 1	6 dB Bandwidth (MHz) ANT 2	6 dB Bandwidth Min. Limit (MHz)	Result
01	2412	16.280	13.84	0.5	Complies
06	2437	15.200	15.12	0.5	Complies
11	2462	15.120	13.88	0.5	Complies
Test Mode		TX 802.11N40 Mode			
Channel	Frequency (MHz)	6 dB Bandwidth (MHz) ANT 1	6 dB Bandwidth (MHz) ANT 2	6 dB Bandwidth Min. Limit (MHz)	Result
03	2422	35.280	30.72	0.5	Complies
06	2437	35.280	30.40	0.5	Complies
09	2452	35.280	31.52	0.5	Complies