FCC TEST REPORT

Test report No.:	EMC- FCC- R0121
FCC ID:	2AAXE-A-ONETABWI-FI
Type of equipment:	Mobile Skin Diagnosis System & Hair Diagnosis System
Basic Model Name:	A-One Tab with Wi-Fi
Variant Model name:	Advisor-mom
Applicant:	BOMTECH ELECTRONICS CO., LTD
Max.RF Output Power:	13.96 dBm
FCC Rule Part(s):	FCC Part 15 Subpart C 15.247
Frequency Range:	2 412 MHz ~ 2 462 MHz
Test result:	Complied

The above equipment was tested by EMC compliance Testing Laboratory for compliance with the requirements of FCC Rules and Regulations.
The results of testing in this report apply to the product/system which was tested only. Other similar equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties.

Date of test: May 08, 2013 ~ May 23, 2013

Issued date: September 03, 2013

Tested by: SON, MIN GI

Approved by: YU, SANG HOON .

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1. Client information

Applicant:	BOMTECH ELECTRONICS CO., LTD
Address:	3F, Yeon-san Bldg., 1547-15, Seocho-dong, Seocho-gu, Seoul, Korea
Telephone number:	+82-2-523-8293
Facsimile number :	+82-2-523-8297
Contact person:	Colleen Hong / bomtech@bomtech.net

Manufacturer :	BOMTECH ELECTRONICS CO., LTD
Address:	3F, Yeon-san Bldg., 1547-15, Seocho-dong, Seocho-gu, Seoul, Korea

2. Laboratory information

Address
EMC Compliance Ltd.
65, Sinwon-ro, Yeongtong-gu, Suwon, Kyunggi-do, 443-390, Korea
Telephone Number: 82-31-336-9919 Facsimile Number: 82-505-299-8311

Certificate
CBTL Testing Laboratory, KOLAS NO.: 231
FCC Filing No.: 508785
VCCI Registration No.: C-1713, R-1606, T-258
IC Recognition No.:8035A-2

SITE MAP

3. Description of E.U.T.

3.1 Basic description

Applicant :	BOMTECH ELECTRONICS CO., LTD
Address of Applicant:	3F, Yeon-san Bldg., 1547-15, Seocho-dong, Seocho-gu, Seoul, Korea
Manufacturer:	BOMTECH ELECTRONICS CO., LTD
Address of Manufacturer:	3F, Yeon-san Bldg., 1547-15, Seocho-dong, Seocho-gu, Seoul, Korea
Type of equipment:	Mobile Skin Diagnosis System & Hair Diagnosis System
Basic Model:	A-One Tab with Wi-Fi
Serial number:	Proto Type

3.2 General description

Communication	802.11b/g
Frequency Range	2 412 ~ 2 462 MHz
Type of Modulation	Modulation technologies: DSSS, OFDM Modulation : 64QAM, 16QAM, QPSK, BPSK
Number of Channels	11 ch (802.11b/g)
Type of Antenna	Integral Chip Antenna
Antenna Gain	3.5 dBi
Transmit Power	13.96 dBm
Power supply	DC 3.7 V

3.3 Test frequency

For all teset items, the low, middle and high channels of the modes were tested with above worst case data rate.

-802.11b/g

	Frequency
Low frequency	2 412 MHz
Middle frequency	2 437 MHz
High frequency	2 462 MHz

3.4 Test Voltage

mode	Voltage
Norminal voltage	DC 3.7 V

4. Summary of test results

4.1 Standards & results

FCC Rule	IC Rule	Parameter	Report Section	Test Result
15.203, 15.247(b)(4)	RSS-GEN, 7.1.2	Antenna Requirement	5.1	C
15.247(b)(1), (4)	RSS-210, A8.4(2)	Maximum Peak Output Power	5.2	C
15.247(e)	RSS-210, A8.2(b)	Peak Power Spectral Density	5.3	
15.247(a)(2)	RSS-210, A8.2(a)	6 dB Bandwidth(DTS Bandwidth)	5.4	C
15.247(d), 15.205(a), 15.209(a)	RSS-210, A8.5 RSS-210, A2.9 RSS-GEN, 7.2.3	Spurious Emission, BandEdge, Restricted Band	5.5	C
-	RSS-GEN, 4.10	Receiver Spurious Emissions	5.6	NA
15.207(a)	RSS-Gen, 7.2.4	AC Conducted Emissions	5.7	C
15.247(i), 1.1307(b)(1)	-	RF Exposure	5.8	C

Note: C=complies
NC= Not complies
NT=Not tested
NA=Not Applicable

* The method of measurement used to test this DSS device is FCC 558074 D01 DTS Meas Guidance.
* The general test methods used to test this device is ANSI C63.4 2003 (or 2009, or ANSI C63.10 2009)

4.2 Uncertainty

Measurement Item	Combined Standard Uncertainty Uc	Expanded Uncertainty U = KUc (K = 2)
Conducted RF power	± 0.29 dB	± 0.58 dB
Radiated disturbance	30 ㎒ ~ 300 ㎒ : + 2.43 ㏈, - 2.44 ㏈ 300 ㎒~1 000 ㎒ : + 2.49㏈, - 2.50 ㏈ 1 ㎓ ~ 6 ㎓ : + 3.10 ㏈, - 3.10 ㏈ 6 ㎓ ~ 18 ㎓ : + 3.21 ㏈, - 3.27 ㏈	30 ㎒ ~ 300 ㎒ : + 4.86 ㏈, - 4.88 ㏈ 300 ㎒ ~ 1 000 ㎒ + 4.98㏈, - 4.99 ㏈ 1 ㎓ ~ 6 ㎓ : + 6.19 ㏈, - 6.20 ㏈ 6 ㎓ ~ 18 ㎓ : + 6.41 ㏈, - 6.53 ㏈
Conducted emission	9 ㎑ ~ 150 ㎑: ± 1.91 ㏈ 150 ㎑ ~ 30 ㎒: ± 1.72 ㏈	9 ㎑ ~ 150 ㎑: ± 3.82 ㏈ 150 ㎑ ~ 30 ㎒: ± 3.43 ㏈

5. Test results

5.1 Antenna Requirement

5.1.1 Regulation

According to §15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

And according to §15.247(b)(4), the conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

5.1.2 Result

-Complied

The transmitter has an integral Chip Type Antenna. The directional peak gain of the antenna is 3.5 dBi.

5.2 Maximum Peak Output Power

5.2.1 Regulation

According to §15.247(b)(3), For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or is transmitting at a reduced power level. If multiple modes of operation are possible (e.g., alternative modulation methods), the maximum conducted output power is the highest total transmit power occurring in any mode.

According to §15.247(b)(4) The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

5.2.2 Measurement Procedure

These test measurement settings are specified in section 9 of 558074 D01 DTS Meas Guidance.

5.2.2.1 Integrated band power method-Peak Output Power

This procedure may be used when the maximum available RBW of the measurement instrument is less than the DTS bandwidth.

1. Set the RBW = 1 MHz.
2. Set the VBW ≥ 3 RBW
3. Set the span ≥ 1.5 x DTS bandwidth.
4. Detector = peak.
5. Sweep time = auto couple.
6. Trace mode = max hold.
7. Allow trace to fully stabilize.
8. Use the instrument's band/channel power measurement function with the band limits set equal to the DTS bandwidth edges (for some instruments, this may require a manual override to select peak detector). If the instrument does not have a band power function, sum the spectrum levels (in linear power units) at intervals equal to the RBW extending across the DTS bandwidth.

5.2.2.2 Measurement using a power meter (PM) -Average Output Power

- Method AVGPM (Measurement using an RF average power meter)

a) As an alternative to spectrum analyzer or EMI receiver measurements, measurements may be performed using a wideband RF power meter with a thermocouple detector or equivalent if all of the conditions listed below are satisfied.

1) The EUT is configured to transmit continuously, or to transmit with a constant duty factor.

2) At all times when the EUT is transmitting, it shall be transmitting at its maximum power control level.

3) The integration period of the power meter exceeds the repetition period of the transmitted signal by at least a factor of five.

b) If the transmitter does not transmit continuously, measure the duty cycle (x) of the transmitter output signal as described in Section 6.0.

c) Measure the average power of the transmitter. This measurement is an average over both the on and off periods of the transmitter.

d) Adjust the measurement in dBm by adding 10log (1/x), where x is the duty cycle to the measurement result.

5.2.3 Test Result

-Complied

Peak Output Power

- 802.11b mode

Channel	Frequency (MHz)	Result (dBm)	Limit (dBm)	Margin (dB)
Low	2412	10.79	30.00	19.21
Middle	2437	9.79	30.00	20.21
High	2462	8.60	30.00	21.40

- 802.11g mode

Channel	Frequency (MHz)	Result (dBm)	Limit (dBm)	Margin (dB)
Low	2412	**13.96**	30.00	16.04
Middle	2437	13.48	30.00	16.52
High	2462	11.94	30.00	18.06

-NOTE:

1. Since the directional gain of the integral antenna declared by the manufacturer (G_{ANT} = 3.5 dBi), does not exceed 6.0 dBi, there was no need to reduce the output power.

Average Output Power

- 802.11b mode

Channel	Frequency (MHz)	Result (dBm)	Limit (dBm)	Margin (dB)
Low	2412	**5.45**	30.00	24.55
Middle	2437	4.41	30.00	25.59
High	2462	2.44	30.00	27.56

- 802.11g mode

Channel	Frequency (MHz)	Result (dBm)	Limit (dBm)	Margin (dB)
Low	2412	3.50	30.00	26.50
Middle	2437	2.68	30.00	27.32
High	2462	0.79	30.00	29.21

-NOTE:

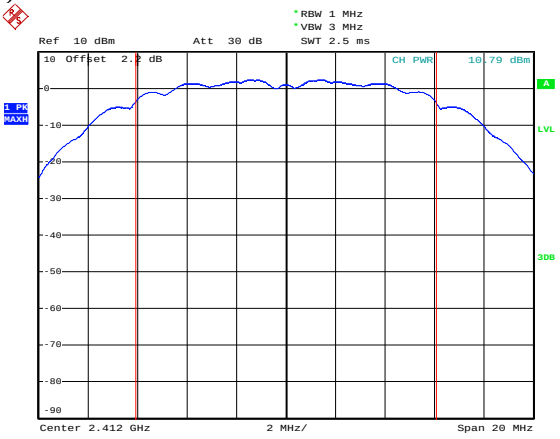
1. Since the directional gain of the integral antenna declared by the manufacturer (G_{ANT} = 3.5 dBi), does not exceed 6.0 dBi, there was no need to reduce the output power.
2. Duty factor 802.11b mode : 10 log(1/x) = 10 log(1/0.999) = 0.003 dB.
3. Duty factor 802.11g mode: 10 log(1/x) = 10 log(1/0.993) = 0.029 dB.

5.2.4 Test Plot

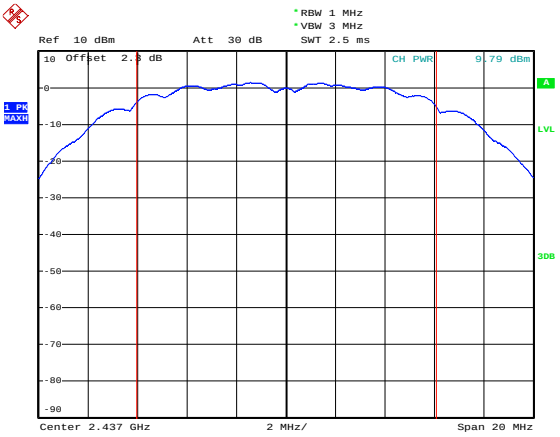
Figure 1. Plot of the Maximum Peak Output Power (Conducted)

- 802.11b mode

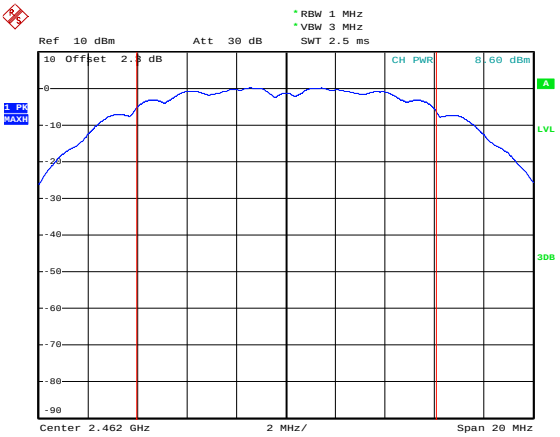
- Lowest Channel(2 412 MHz)



- Middle Chnnel (2 437 MHz)

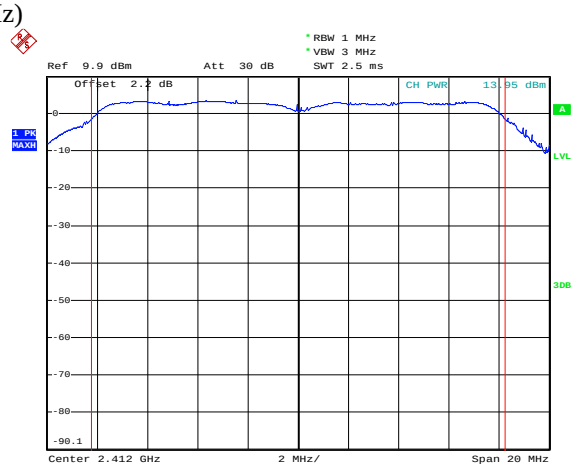


- Highest Chnnel (2 462 MHz)

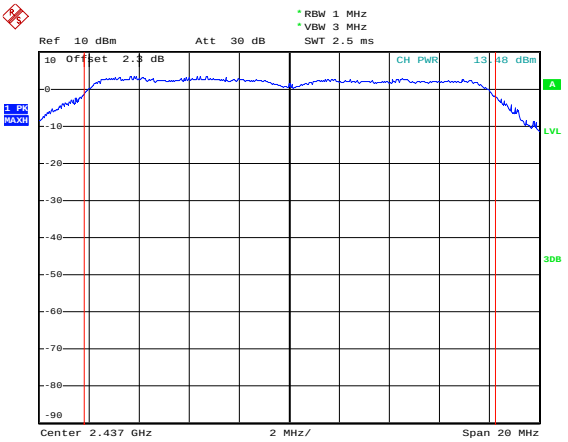


- 802.11g mode

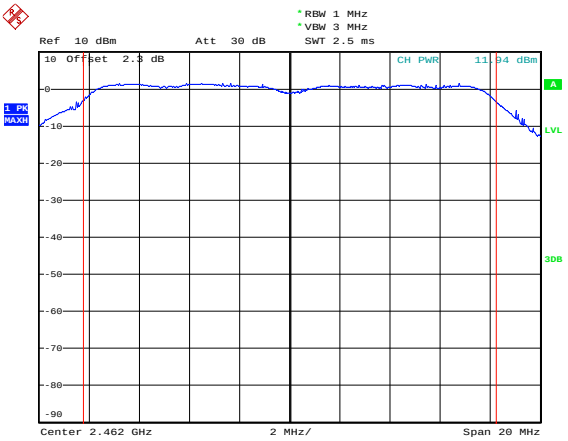
- Lowest Channel(2 412 MHz)



- Middle Chnnel (2 437 MHz)



- Highest Chnnel (2 462 MHz)



5.3 Peak Power Spectral Density

5.3.1 Regulation

According to §15.247(e), for digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.

5.3.2 Measurement Procedure

These test measurement settings are specified in section 10 of 558074 D01 DTS Meas Guidance.

5.3.2.1 Method PKPSD (peak PSD)

Use this procedure when the maximum peak conducted output power in the fundamental emission is used to demonstrate compliance.

1. Set analyzer center frequency to DTS channel center frequency.
2. Set the span to 1.5 times the DTS channel bandwidth.
3. Set the RBW to : 3 kHz ≤ RBW ≤ 100 kHz.
4. Set the VBW ≥ 3 x RBW.
5. Detector = peak.
6. Sweep time = auto couple..
7. Trace mode = max hold.
8. Allow trace to fully stabilize.
9. Use the peak marker function to determine the maximum amplitude level.
10. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

5.3.3 Test Result

-Complied

- 802.11b mode

Channel	Result [dBm]	Limit [dBm]	Margin [dBm]
Low	-18.68	8.00	26.68
Middle	-19.17	8.00	27.17
High	-20.24	8.00	28.24

- 802.11g mode

Channel	Result [dBm]	Limit [dBm]	Margin [dBm]
Low	-21.32	8.00	29.32
Middle	-21.39	8.00	29.39
High	-22.47	8.00	30.47

-NOTE:

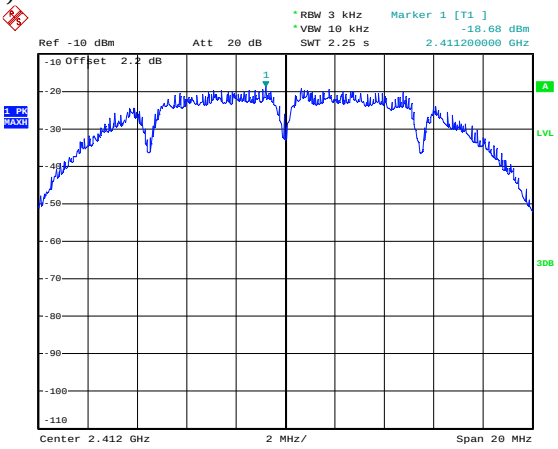
1. Since the directional gain of the integral antenna declared by the manufacturer (G_{ANT} = 3.5 dBi), does not exceed 6.0 dBi, there was no need to reduce the output power.
2. We took the insertion loss of the cable loss into consideration within the measuring instrument.

5.3.4 Test Plot

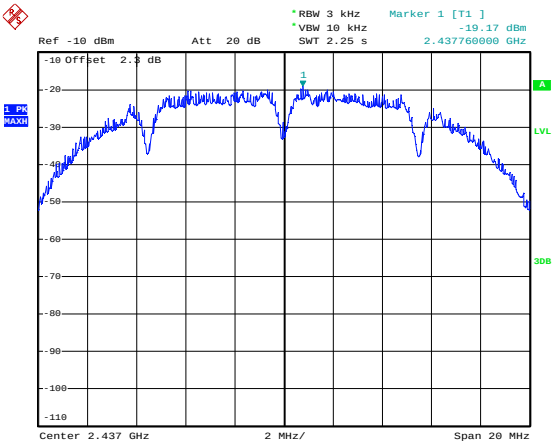
Figure 2. Plot of the Peak Power Spectral Density (Conducted)

- 802.11b mode

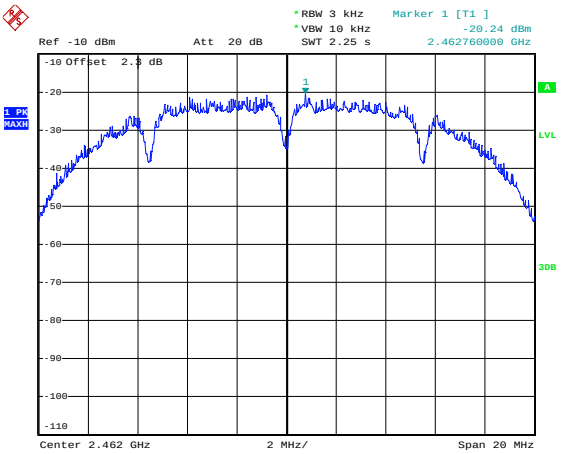
- Lowest Channel(2 412 MHz)



- Middle Chnnel (2 437 MHz)

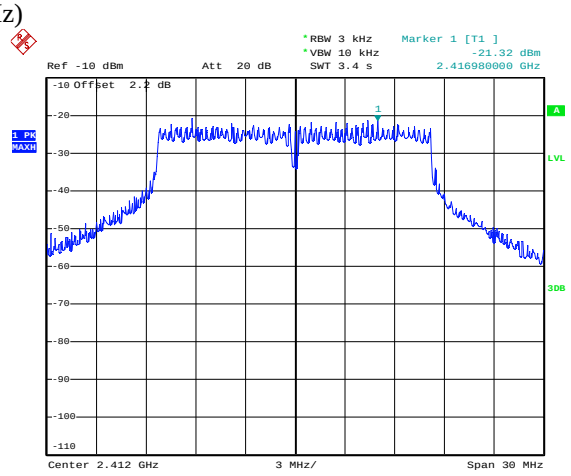


- Highest Chnnel (2 462 MHz)

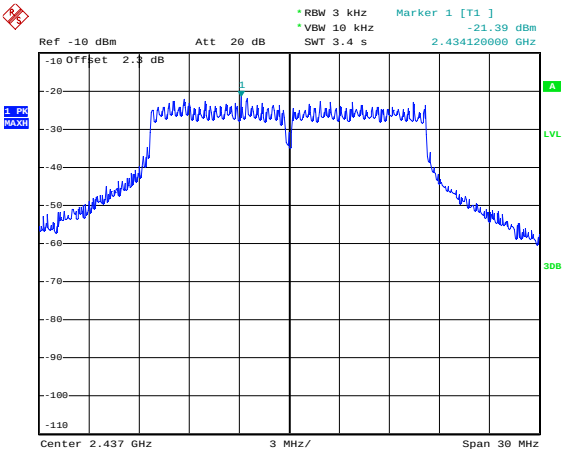


- 802.11g mode

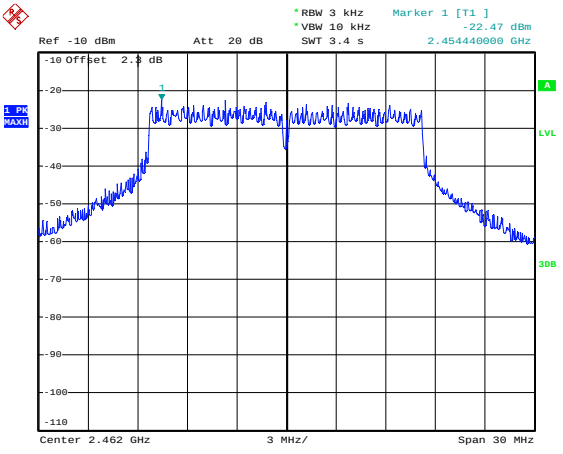
- Lowest Channel(2 412 MHz)



- Middle Chnnel (2 437 MHz)



- Highest Chnnel (2 462 MHz)



5.4 6 dB Bandwidth(DTS Bandwidth)

5.4.1 Regulation

According to §15.247(a)(2) Systems using digital modulation techniques may operate in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

5.4.2 Measurement Procedure

These test measurement settings are specified in section 8.0 of 558074 D01 DTS Meas Guidance.

5.4.2.1 DTS Bandwidth Measurement Procedure -Option 1

1. Set resolution bandwidth (RBW) = 100 kHz.
2. Set the video bandwidth (VBW) ≥ 3 x RBW.
3. Detector = Peak.
4. Trace mode = max hold.
5. Sweep = auto couple.
6. Allow the trace to stabilize.
7. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

5.4.2.2 DTS Bandwidth Measurement Procedure-Option 2

The automatic bandwidth measurement capability of a spectrum analyzer may be employed using the X dB bandwidth mode with X set to 6 dB, if it implements the functionality described above. When using this capability, care should be taken to ensure that the bandwidth measurement is not influenced by any intermediate power nulls in the fundamental emission that may be ≥ 6 dB.

5.4.3 Test Result

-Complied

- 802.11b mode

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Min. Limit (kHz)
Low	2 412	12.14	500
Middle	2 437	12.12	500
High	2 462	12.12	500

- 802.11g mode

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Min. Limit (kHz)
Low	2 412	16.50	500
Middle	2 437	16.44	500
High	2 462	16.48	500

-NOTE:

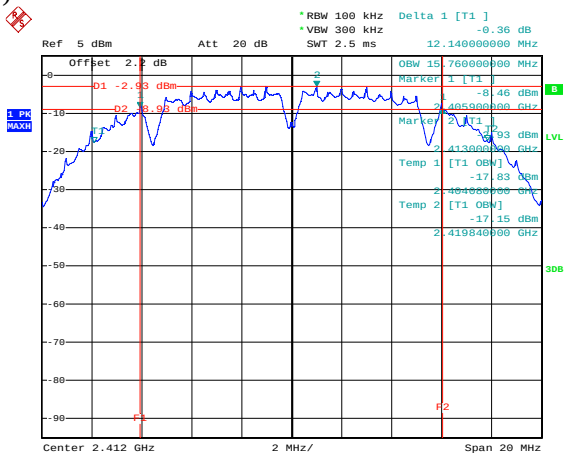
1. We took the insertion loss of the cable loss into consideration within the measuring instrument.

5.4.4 Test Plot

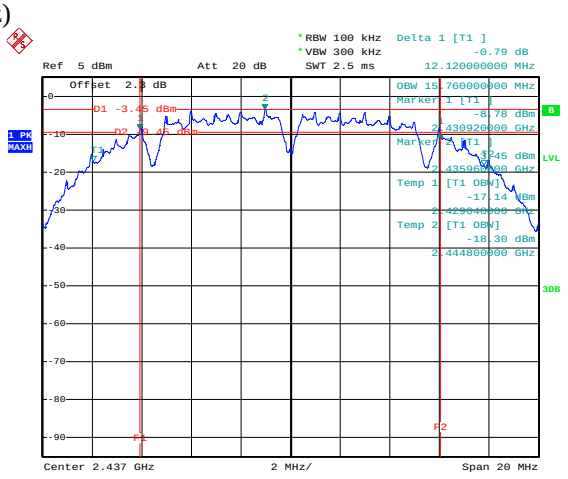
Figure 3. Plot of the 6 dB Bandwidth(DTS Bandwidth) (Conducted)

802.11b mode

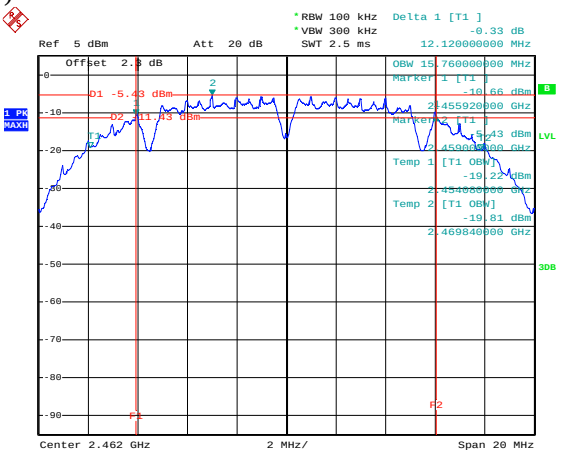
- Lowest Channel (2 412 MHz)



- Middle Channel (2 437 MHz)

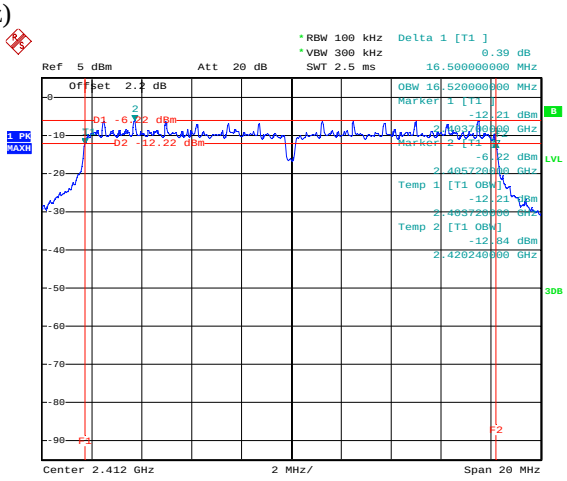


- Highest Channel (2 462 MHz)

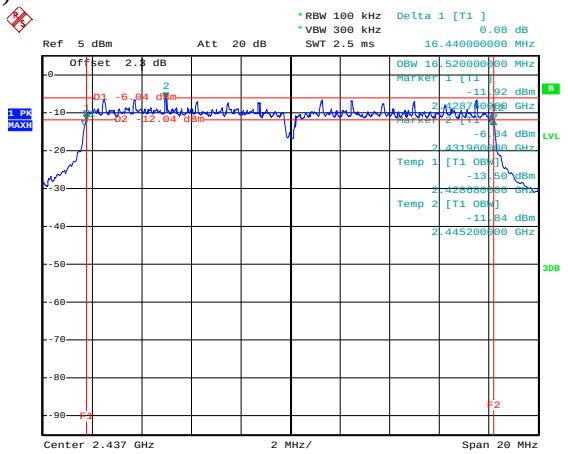


802.11g mode

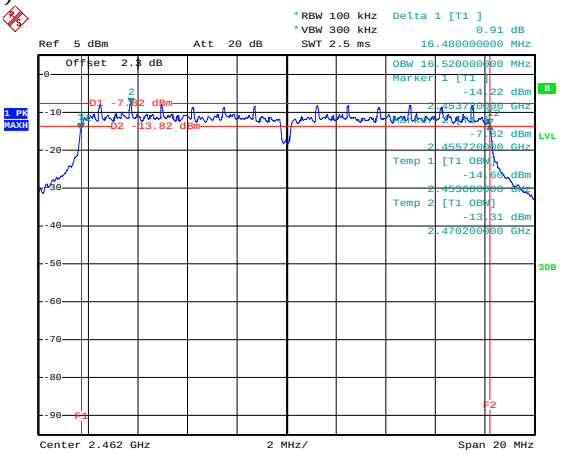
- Lowest Channel (2 412 MHz)



- Middle Channel (2 437 MHz)



- Highest Channel (2 462 MHz)



5.5 SPURIOUS EMISSION, BAND EDGE, AND RESTRICTED BANDS

5.5.1 Regulation

According to §15.247(d), 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 conducted power limits. If the transmitter complies with the conducted 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. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

According to §15.209(a), for an intentional device, the general requirement of field strength of radiated emissions from intentional radiators at a distance of 3 meters shall not exceed the following values:

Frequency (MHz)	Field strength (µV/m @ 3m)	Field strength (dBµV/m @ 3m)
30–88	100	40.0
88–216	150	43.5
216–960	200	46.0
Above 960	500	54.0

According to §15.109(a), for an unintentional device, except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the above table.

** The emission limits shown in the above table are based on measurement instrumentation employing a CISPR quasi-peak detector and above 1000 MHz are based on the average value of measured emissions.

5.5.2 Measurement Procedure

5.5.2.1 Band-edge Compliance of RF Conducted Emissions

5.5.2.1.1 Reference Level Measurement

Establish the reference level by using the peak PSD procedure from Section 9.1 to measure the PSD level in any 100 kHz bandwidth (*i.e.*, set RBW = 100 kHz and VBW ≥ 300 kHz) within the DTS channel bandwidth (the channel found to contain the maximum PSD level can be used to establish the reference level).

5.5.2.1.2 Unwanted Emissions Level Measurement

1. Set start frequency to DTS channel edge frequency.
2. Set stop frequency so as to encompass the spectrum to be examined.
3. Set RBW = 100 kHz.
4. Set VBW ≥ 300 kHz.
5. Detector = peak.
6. Trace Mode = max hold.
7. Sweep = auto couple.
8. Allow the trace to stabilize (this may take some time, depending on the extent of the span).
9. Use peak marker function to determine maximum amplitude of all unwanted emissions within any 100 kHz bandwidth.

5.5.2.2 Conducted Spurious Emissions

Set the spectrum analyzer as follows:

1. Span = wide enough to capture the peak level of the in-band emission and all spurious emissions (e.g., harmonics) from the lowest frequency generated in the EUT up through the 10th harmonic. Typically, several plots are required to cover this entire span.
2. RBW = 100 kHz
3. VBW ≥ RBW
4. Sweep = auto
5. Detector function = peak
6. Trace = max hold
7. Allow the trace to stabilize. Set the marker on the peak of any spurious emission recorded.
8. Each frequency found during preliminary measurements was re-examined and investigated. The test-receiver system was set up to average, peak, and quasi-peak detector function with specified bandwidth.

5.5.2.3 Radiated Spurious Emissions

1. The preliminary and final rdiated measurements were performed to determine the frequency producing the maximum emissions in at a 10m anechoic chamber. The EUT was tested at a distance 3 meters.
2. The EUT was placed on the top of the 0.8-meter height, 1 × 1.5 meter non-metallic table. To find the maximum emission levels, the height of a measuring antenna was changed and the turntable was rotated 360˚.
3. The antenna polarization was also changed from vertical to horizontal. The spectrum was scanned from 9 kHz to 30 MHz using the loop antenna, and from 30 to 1000 MHz using the TRILOG broadband antenna, and from 1 000 MHz to 26 500 MHz using the horn antenna.
4. Each frequency found during preliminary measurements was re-examined and investigated. The test-receiver system was set up to average, peak, and quasi-peak detector function with specified bandwidth.

- Sample calculation

The field strength is calculated adding the antenna Factor, cable loss and, Antenna pad adding, subtracting the amplifier gain from the measured reading.

** The sample calculation is as follow:

Result = M.R + C.F(A.F + C.L +3 dB Att – A.G)
M.R = Meter Reading
C.F = Correction Factor
A.F = Antenna Factor
C.L = Cable Loss
A.G = Amplifier Gain
3 dB Att = 3 dB Attenuator

If M.R is 30 dB, A.F 12 dB, C.L 5 dB, 3 dB, A.G 35 dB
The result is : 30 + 12 + 5 + 3 – 35 = 15 dB(μV/m)

5.5.3 Test Result

-complied

1. Band-edge & Conducted Spurious Emissions was shown in figure 4.
   Note: We took the insertion loss of the cable into consideration within the measuring instrument.
2. Band edge compliance of Radiated Emissions(Restricted Bands) was shown in figure 5.
3. Measured value of the Field strength of spurious Emissions (Radiated)

- 802.11b mode

Low channel (2 412 MHz)

Frequency [MHz]	Receiver Bandwidth [kHz]	Pol. [V/H]	Reading [dB(μV)]	Factor [dB]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]
Quasi-Peak DATA. Emissions below 30 MHz (3m Distance)							
below 30 MHz	**Not Detected**	-	-	-	-	-	-
Quasi-Peak DATA. Emissions below 1GHz							
32.28	120	V	45.90	-15.30	30.60	40.00	9.40
138.95	120	V	39.20	-13.90	25.30	43.50	18.20
202.49	120	H	40.10	-15.90	24.20	43.50	19.30
513.06	120	H	35.00	-6.20	28.80	46.00	17.20
567.02	120	H	33.90	-4.90	29.00	46.00	17.00
599.98	120	V	26.40	-4.20	22.20	46.00	23.80
Peak DATA. Emissions above 1GHz							
Above 1 GHz	**Not Detected**	-	-	-	-	-	-
Average DATA. Emissions above 1GHz							
Above 1 GHz	**Not Detected**	-	-	-	-	-	-

- 802.11b mode

Middle channel (2 437 MHz)

Frequency [MHz]	Receiver Bandwidth [kHz]	Pol. [V/H]	Reading [dB(μV)]	Factor [dB]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]
Quasi-Peak DATA. Emissions below 30 MHz (3m Distance)							
below 30 MHz	**Not Detected**	-	-	-	-	-	-
Quasi-Peak DATA. Emissions below 1GHz							
32.06	120	V	49.70	-15.30	34.40	40.00	5.60
139.00	120	V	38.00	-13.90	24.10	43.50	19.40
202.42	120	H	37.50	-15.90	21.60	43.50	21.90
296.99	120	H	38.10	-12.00	26.10	46.00	19.90
513.06	120	H	33.90	-6.20	27.70	46.00	18.30
567.02	120	H	33.70	-4.90	28.80	46.00	17.20
Peak DATA. Emissions above 1GHz							
Above 1 GHz	**Not Detected**	-	-	-	-	-	-
Average DATA. Emissions above 1GHz							
Above 1 GHz	**Not Detected**	-	-	-	-	-	-

- 802.11b mode

High channel (2 462 MHz)

Frequency [MHz]	Receiver Bandwidth [kHz]	Pol. [V/H]	Reading [dB(μV)]	Factor [dB]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]
Quasi-Peak DATA. Emissions below 30 MHz (3m Distance)							
below 30 MHz	**Not Detected**	-	-	-	-	-	-
Quasi-Peak DATA. Emissions below 1GHz							
32.18	120	V	49.50	-15.30	34.20	40.00	5.80
139.00	120	V	40.80	-13.90	26.90	43.50	16.60
202.42	120	H	39.20	-15.90	23.30	43.50	20.20
296.99	120	H	37.50	-12.00	25.50	46.00	20.50
405.03	120	H	35.00	-9.20	25.80	46.00	20.20
458.98	120	H	34.90	-7.60	27.30	46.00	18.70
513.06	120	H	34.00	-6.20	27.80	46.00	18.20
567.02	120	H	33.30	-4.90	28.40	46.00	17.60
Peak DATA. Emissions above 1GHz							
Above 1 GHz	**Not Detected**	-	-	-	-	-	-
Average DATA. Emissions above 1GHz							
Above 1 GHz	**Not Detected**	-	-	-	-	-	-

- 802.11g mode

Low channel (2 412 MHz)

Frequency [MHz]	Receiver Bandwidth [kHz]	Pol. [V/H]	Reading [dB(μV)]	Factor [dB]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]
Quasi-Peak DATA. Emissions below 30 MHz (3m Distance)							
below 30 MHz	**Not Detected**	-	-	-	-	-	-
Quasi-Peak DATA. Emissions below 1GHz							
31.94	120	V	49.50	-15.30	34.20	40.00	5.80
139.00	120	V	38.40	-13.90	24.50	43.50	19.00
196.23	120	V	37.80	-15.90	21.90	43.50	21.60
296.99	120	H	37.10	-12.00	25.10	46.00	20.90
310.45	120	H	36.00	-11.60	24.40	46.00	21.60
458.98	120	H	33.30	-7.60	25.70	46.00	20.30
513.06	120	H	35.60	-6.20	29.40	46.00	16.60
600.00	120	H	32.00	-4.20	27.80	46.00	18.20
Peak DATA. Emissions above 1GHz							
Above 1 GHz	**Not Detected**	-	-	-	-	-	-
Average DATA. Emissions above 1GHz							
Above 1 GHz	**Not Detected**	-	-	-	-	-	-

- 802.11g mode

Middle channel (2 437 MHz)

Frequency [MHz]	Receiver Bandwidth [kHz]	Pol. [V/H]	Reading [dB(μV)]	Factor [dB]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]
Quasi-Peak DATA. Emissions below 30 MHz (3m Distance)							
below 30 MHz	**Not Detected**	-	-	-	-	-	-
Quasi-Peak DATA. Emissions below 1GHz							
32.06	120	V	49.70	-15.30	34.40	40.00	5.60
139.00	120	V	38.00	-13.90	24.10	43.50	19.40
202.42	120	H	37.50	-15.90	21.60	43.50	21.90
296.99	120	H	38.10	-12.00	26.10	46.00	19.90
513.06	120	H	33.90	-6.20	27.70	46.00	18.30
567.02	120	H	33.70	-4.90	28.80	46.00	17.20
Peak DATA. Emissions above 1GHz							
Above 1 GHz	**Not Detected**	-	-	-	-	-	-
Average DATA. Emissions above 1GHz							
Above 1 GHz	**Not Detected**	-	-	-	-	-	-

- 802.11g mode

High channel (2 462 MHz)

Frequency [MHz]	Receiver Bandwidth [kHz]	Pol. [V/H]	Reading [dB(μV)]	Factor [dB]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]
Quasi-Peak DATA. Emissions below 30 MHz (3m Distance)							
below 30 MHz	**Not Detected**	-	-	-	-	-	-
Quasi-Peak DATA. Emissions below 1GHz							
33.52	120	V	50.10	-15.20	34.90	40.00	5.10
139.00	120	V	38.90	-13.90	25.00	43.50	18.50
202.42	120	V	38.50	-15.90	22.60	43.50	20.90
229.46	120	H	39.80	-14.90	24.90	46.00	21.10
296.99	120	H	36.80	-12.00	24.80	46.00	21.20
458.98	120	H	34.00	-7.60	26.40	46.00	19.60
513.06	120	H	33.80	-6.20	27.60	46.00	18.40
567.02	120	H	34.00	-4.90	29.10	46.00	16.90
Peak DATA. Emissions above 1GHz							
Above 1 GHz	**Not Detected**	-	-	-	-	-	-
Average DATA. Emissions above 1GHz							
Above 1 GHz	**Not Detected**	-	-	-	-	-	-

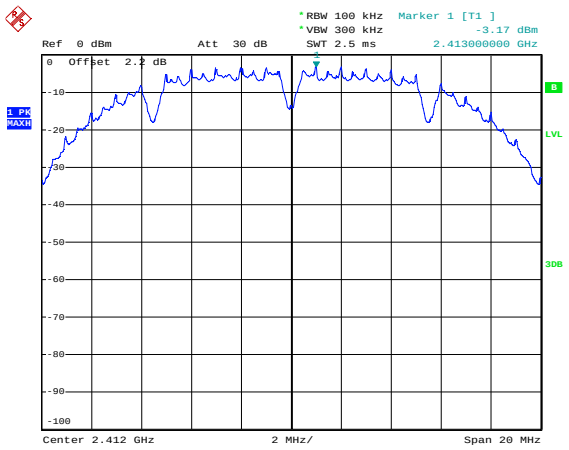
5.5.4 Test Plot

Figure 4. Plot of the Band-edge & Conducted Spurious Emissions

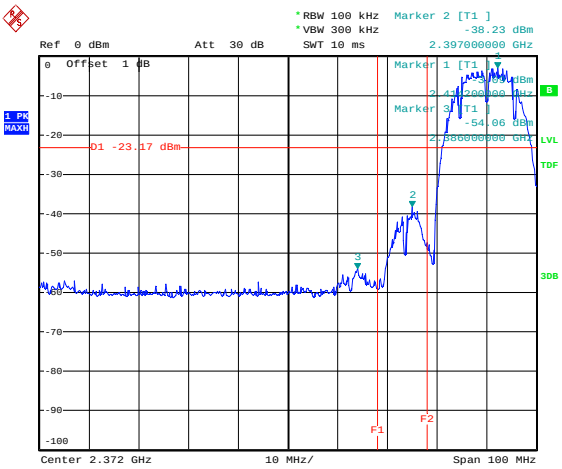
- 802.11b mode

Lowest Channel(2 412 MHz)

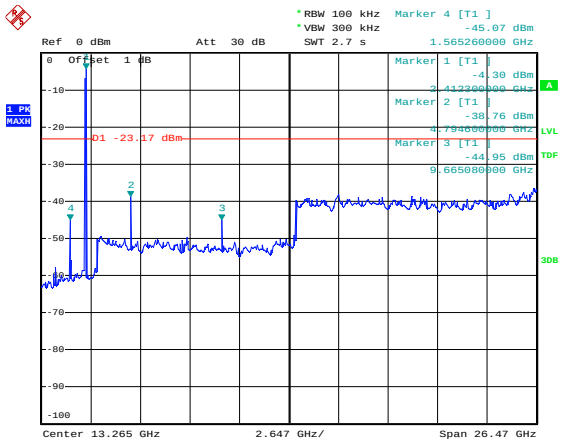
Reference



Band-edge

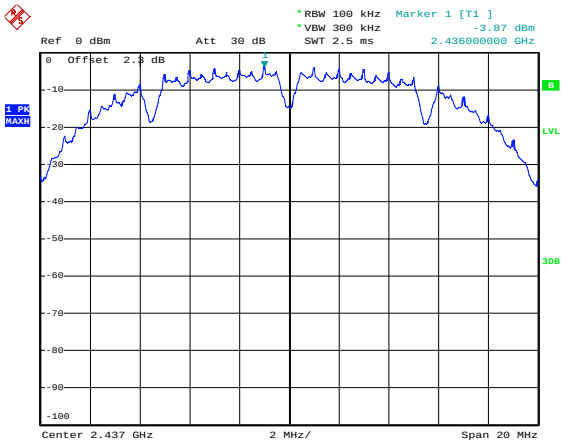


Conducted Spurious Emissions

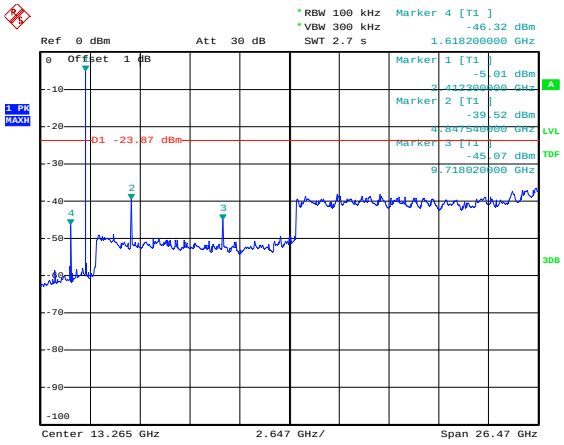


- 802.11b mode

Middle Channel(2 437 MHz)
Reference



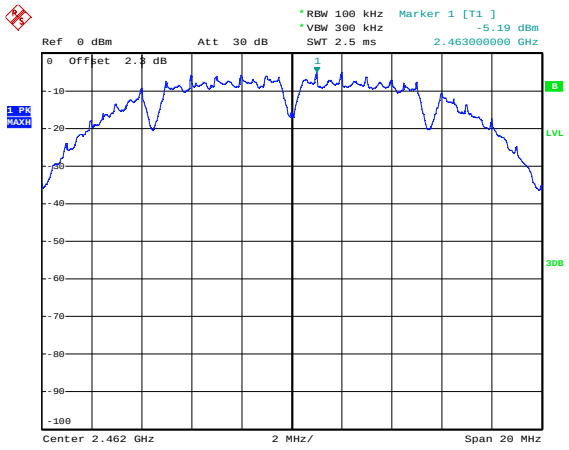
Conducted Spurious Emissions



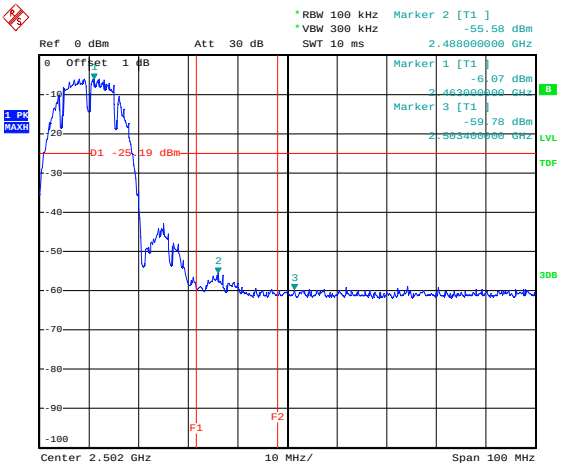
- 802.11b mode

Highest Channel(2 462 MHz)

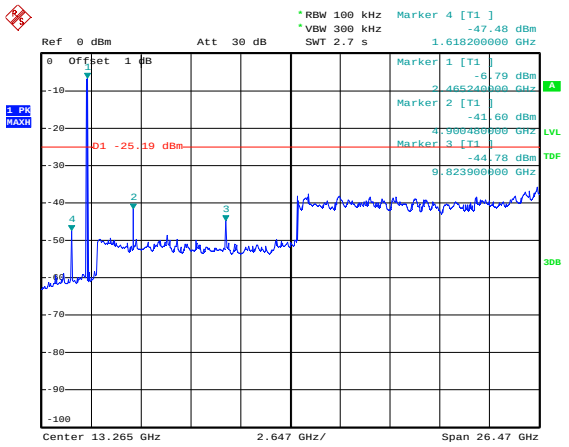
Reference



Band-edge



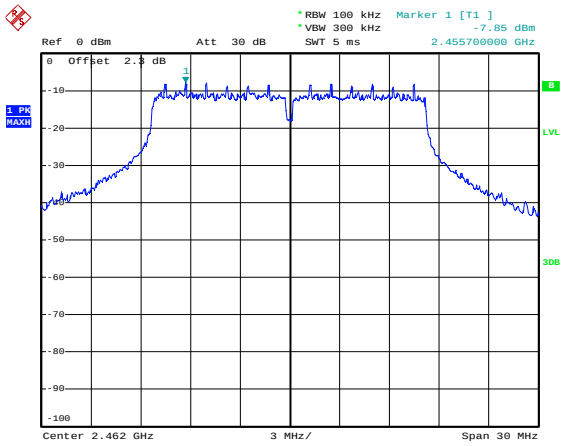
Conducted Spurious Emissions



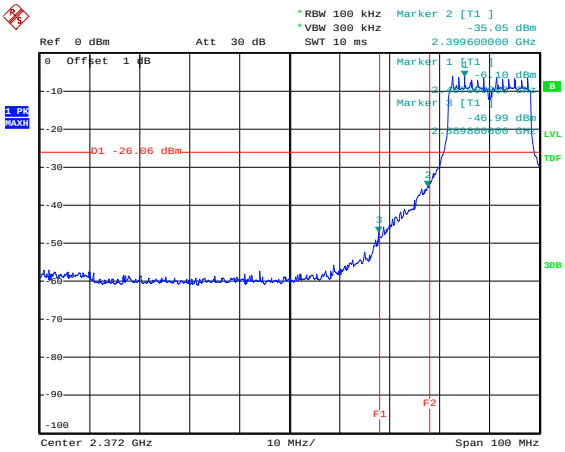
- 802.11g mode

Lowest Channel(2 412 MHz)

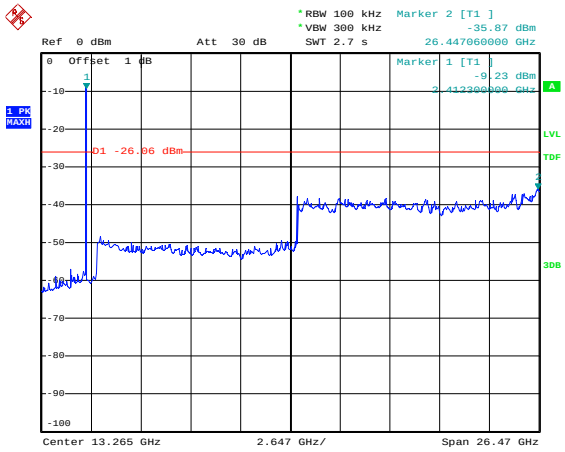
Reference



Band-edge



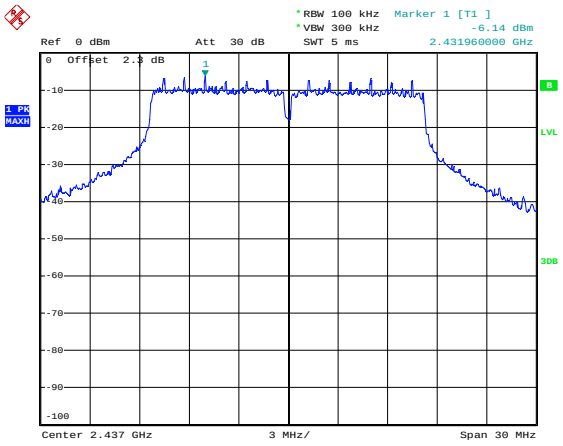
Conducted Spurious Emissions



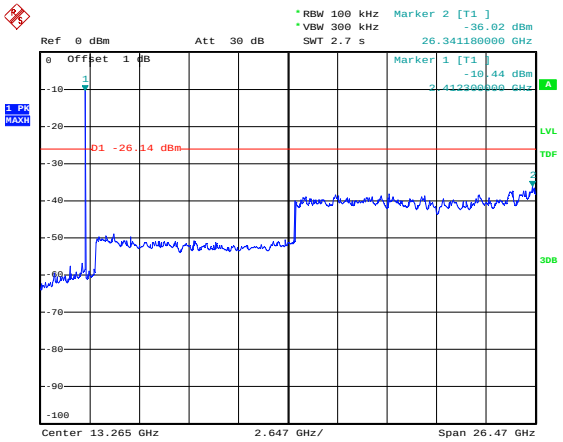
- 802.11g mode

Middle Channel(2 437 MHz)

Reference



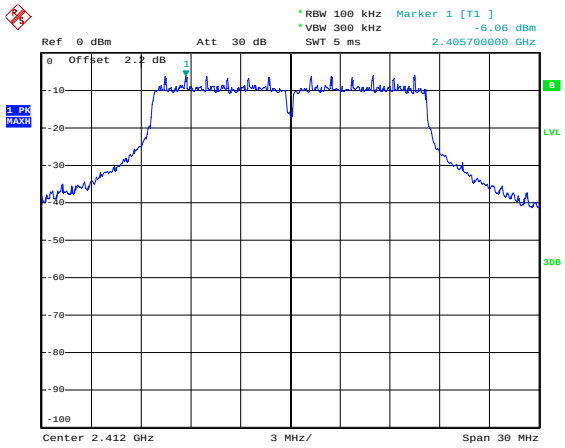
Conducted Spurious Emissions



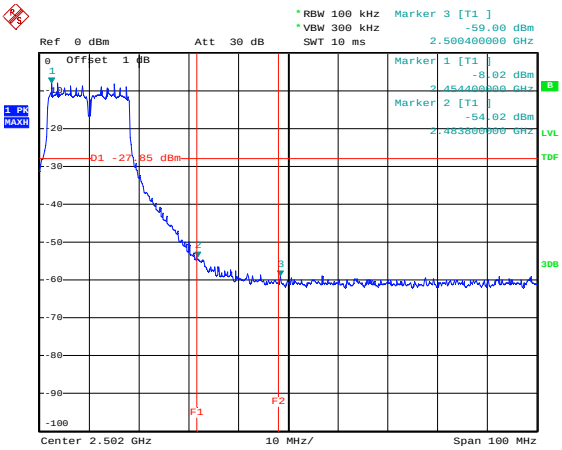
- 802.11g mode

Highest Channel(2 462 MHz)

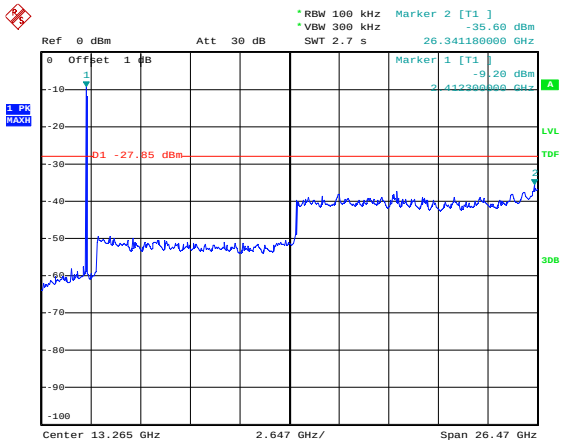
Reference



Band-edge



Conducted Spurious Emissions

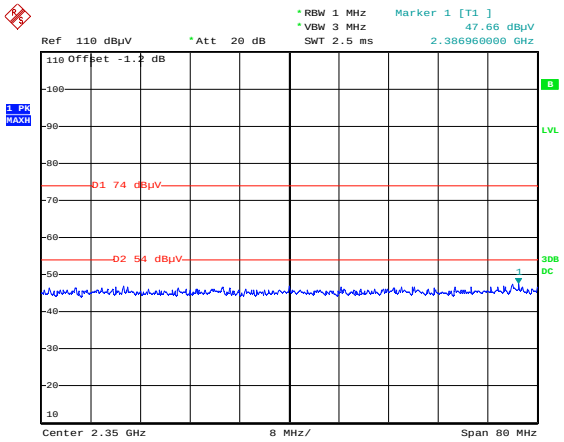


5.5.4 Test Plot (Continue)

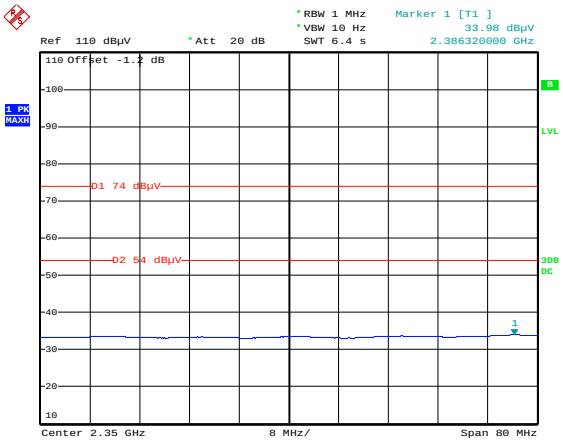
Figure 5. Plot of the Band Edge (Radiated Restricted Bands)

- 802.11b mode

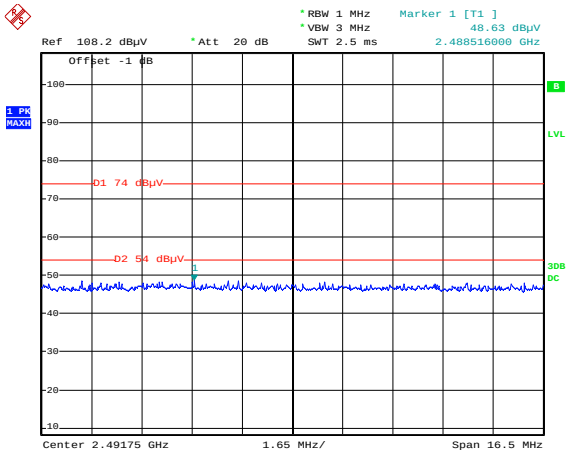
Lowest Channel(2 412 MHz): Peak



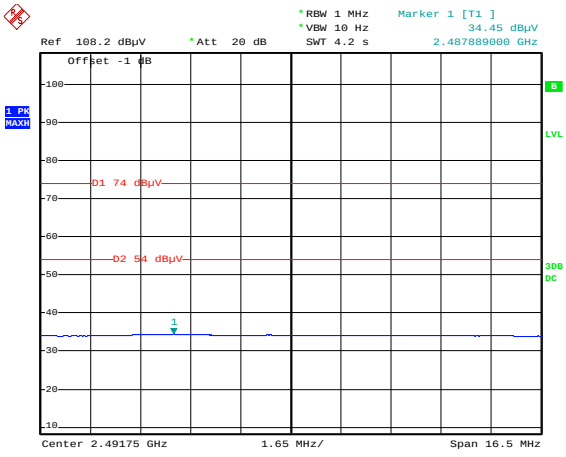
Lowest Channel(2 412 MHz): Average



Highest Channel(2 462 MHz): Peak



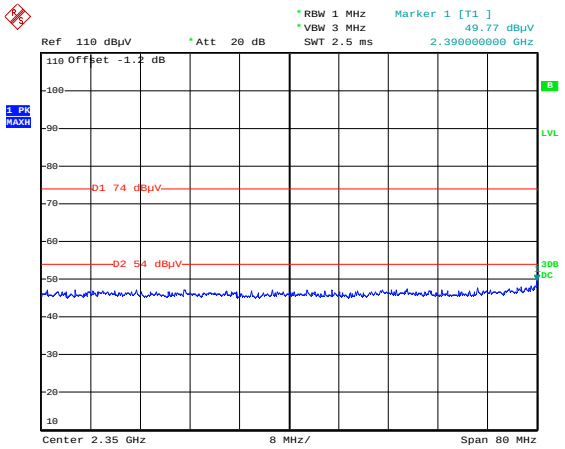
Highest Channel(2 462 MHz): Average



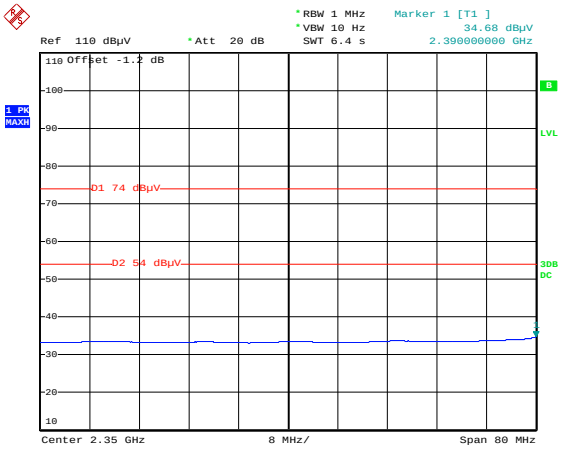
* **offset = Factor (ANT Factor+ Amp Gain + Cable Loss) [dB]**
= -1.2 dB (2 412 MHz)
= -1.0 dB (2 462 MHz)

- 802.11g mode

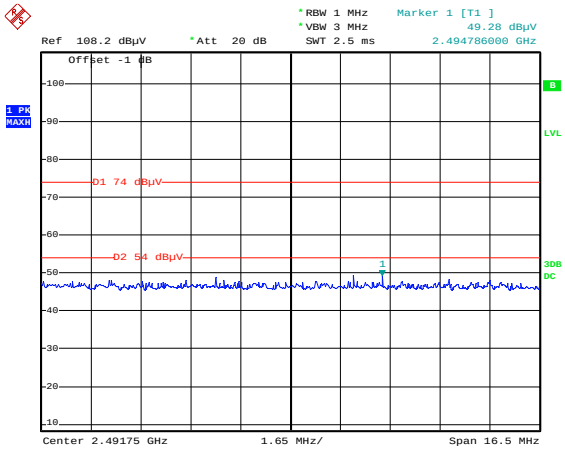
Lowest Channel(2 412 MHz): Peak



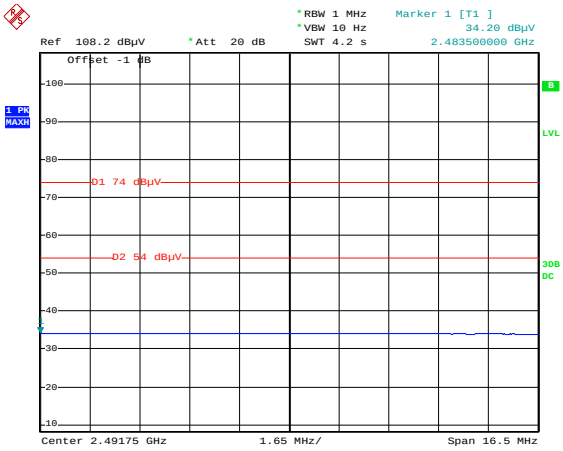
Lowest Channel(2 412 MHz): Average



Highest Channel(2 462 MHz): Peak



Highest Channel(2 462 MHz): Average



*** offset = Factor (ANT Factor+ Amp Gain + Cable Loss) [dB]**
= -1.2 dB (2 412 MHz)
= -1.0 dB (2 462 MHz)

5.6 Receiver Spurious Emissions

5.6.1 Regulation

The receiver shall be operated in the normal receive mode near the mid-point of the band in which thereceiver is designed to operate.Radiated emission measurements are to be performed on a test site registered with Industry Canada. Asan alternative, the conducted measurement method may be used when the antenna is detachable. In sucha case, the receiver spurious signal may be measured at the antenna port.If the receiver is super-regenerative, stabilize it by coupling to it an unmodulated carrier on the receiver frequency (antenna conducted measurement) or by transmitting an unmodulated carrier on the receiver frequency from an antenna in the proximity of the receiver (radiated measurement). Taking care not to overload the receiver, vary the amplitude and frequency of the stabilizing signal to obtain the highest level of the spurious emissions from the receiver.

For either method, the search for spurious emissions shall be from the lowest frequency internally generated or used in the receiver (e.g. local oscillator, intermediate or carrier frequency), or 30 MHz, whichever is higher, to at least 3 times the highest tuneable or local oscillator frequency, whichever is higher, without exceeding 40 GHz.

For emissions below 1000 MHz, measurements shall be performed using a CISPR quasi-peak detector and the related measurement bandwidth. As an alternative to CISPR quasi-peak measurement, compliance with the emission limit can be demonstrated using measuring equipment employing a peak detector function properly adjusted for factors such as pulse desensitization as required, with an equal or greater measurement bandwidth relative to the applicable CISPR quasi-peak bandwidth.

Above 1000 MHz, measurements shall be performed using an average detector with a minimum resolution bandwidth of 1 MHz.

5.6.2 Measurement Procedure

Radiated spurious emission measurements shall be performed with the receiver antenna connected to the receiver antenna terminals. Spurious emissions from receivers shall not exceed the radiated limits shown in the table below:

Frequency (MHz)	**Field Strength (microvolts/m at 3 metres)***
30 - 88	100
88 - 216	150
216 - 960	200
Above 960	500

*****Measurements for compliance with limits in the above table may be performed at distances other than 3 metres, in accordance with Section 7.2.7.

5.6.3 Test Result

-Not Applicable

5.7 Conducted Emission

5.7.1 Regulation

According to §15.207(a), for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50μH/50Ω line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the boundary between the frequency ranges.

Frequency of emission (MHz)	Conducted limit (dBμV)	
	Qausi-peak	Average
0.15 – 0.5	66 to 56 *	56 to 46 *
0.5 – 5	56	46
5 – 30	60	50

* Decreases with the logarithm of the frequency.

According to §15.107(a), for unintentional device, except for Class A digital devices, line conducted emission limits are the same as the above table.

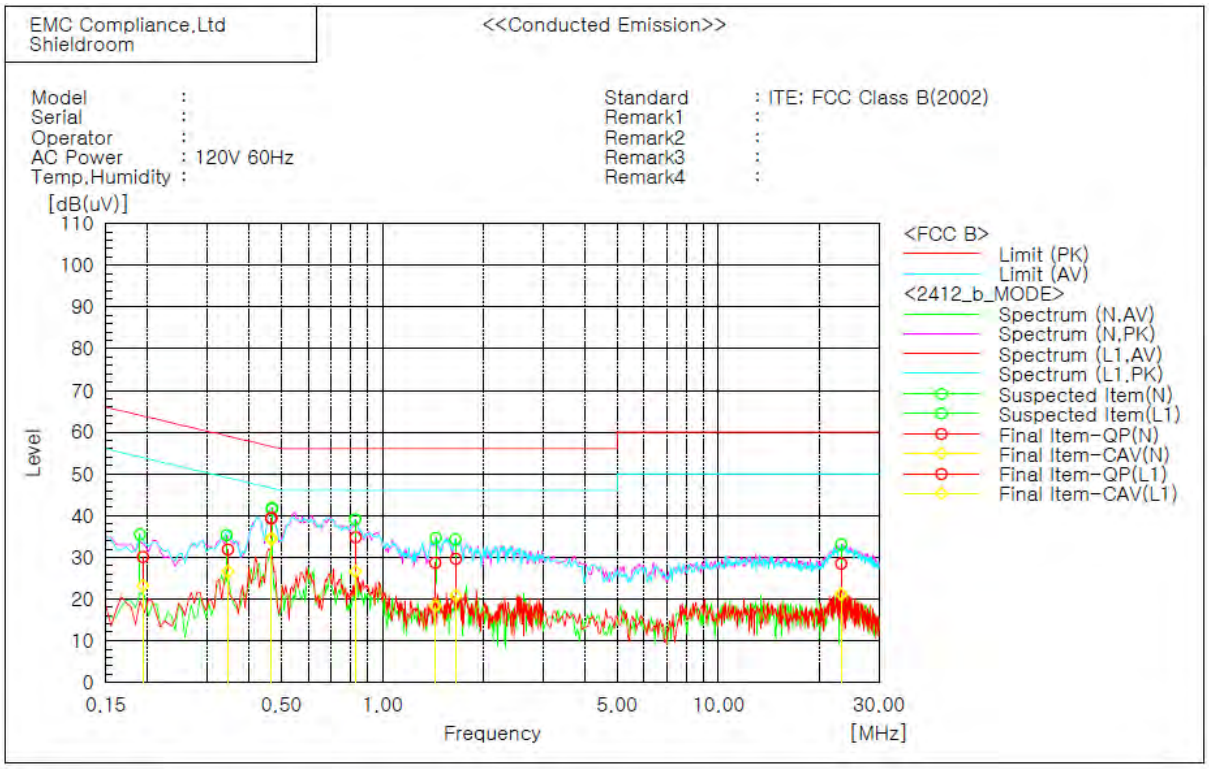
5.7.2 Measurement Procedure

1. The EUT was placed on a wooden table of size, 1 m by 1.5 m, raised 80 cm in which is located 40 cm away from the vertical wall and 1.5m away from the side wall of the shielded room.
2. Each current-carrying conductor of the EUT power cord was individually connected through a 50Ω/50μH LISN, which is an input transducer to a Spectrum Analyzer or an EMI/Field Intensity Meter, to the input power source.
3. Exploratory measurements were made to identify the frequency of the emission that had the highest amplitude relative to the limit by operating the EUT in a range of typical modes of operation, cable position, and with a typical system equipment configuration and arrangement. Based on the exploratory tests of the EUT, the one EUT cable configuration and arrangement and mode of operation that had produced the emission with the highest amplitude relative to the limit was selected for the final measurement.
4. The final test on all current-carrying conductors of all of the power cords to the equipment that comprises the EUT (but not the cords associated with other non-EUT equipment is the system) was then performed over the frequency range of 0.15 MHz to 30 MHz.
5. The measurements were made with the detector set to PEAK amplitude within a bandwidth of 10 kHz or to QUASI-PEAK and AVERAGE within a bandwidth of 9 kHz. The EUT was in transmitting mode during the measurements.

5.7.3 Test Result
-complied

- 802.11b mode

2 412 MHz



Final Result

— N Phase —

No.	Frequency [MHz]	Reading QP [dB(uV)]	Reading CAV [dB(uV)]	c.f [dB]	Result QP [dB(uV)]	Result CAV [dB(uV)]	Limit QP [dB(uV)]	Limit AV [dB(uV)]	Margin QP [dB]	Margin CAV [dB]
1	0.34722	21.9	16.7	9.9	31.8	26.6	59.0	49.0	27.2	22.4
2	0.4678	29.4	24.6	10.0	39.4	34.6	56.6	46.6	17.2	12.0

— L1 Phase —

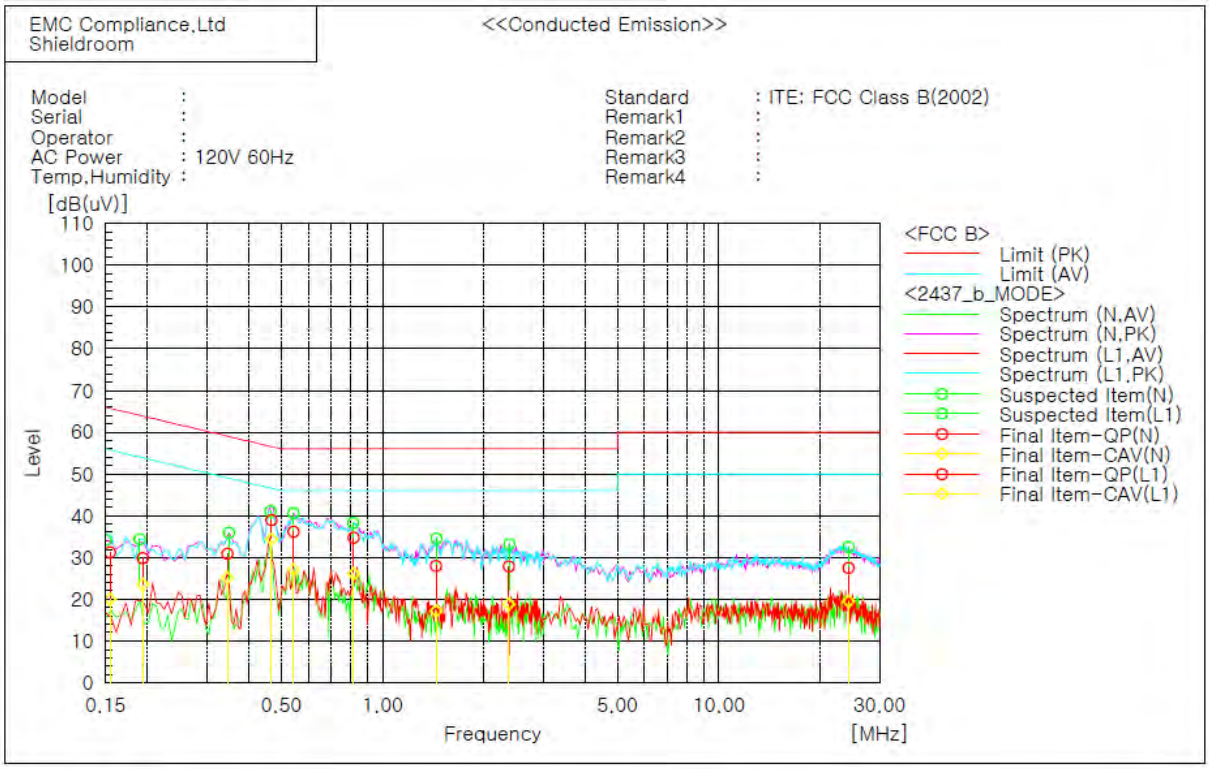
No.	Frequency [MHz]	Reading QP [dB(uV)]	Reading CAV [dB(uV)]	c.f [dB]	Result QP [dB(uV)]	Result CAV [dB(uV)]	Limit QP [dB(uV)]	Limit AV [dB(uV)]	Margin QP [dB]	Margin CAV [dB]
1	0.19372	20.2	13.3	9.9	30.1	23.2	63.9	53.9	33.8	30.7
2	0.46512	29.3	24.3	10.0	39.3	34.3	56.6	46.6	17.3	12.3
3	0.83098	24.9	16.8	9.8	34.7	26.6	56.0	46.0	21.3	19.4
4	1.43378	19.0	8.7	9.7	28.7	18.4	56.0	46.0	27.3	27.6
5	1.65024	19.9	11.1	9.7	29.6	20.8	56.0	46.0	26.4	25.2
6	23.14092	18.7	11.4	9.8	28.5	21.2	60.0	50.0	31.5	28.8

Note:

1. This measurement was performed the worst case data were reported.

- 802.11b mode

2 437 MHz



Final Result

— N Phase —

No.	Frequency [MHz]	Reading QP [dB(uV)]	Reading CAV [dB(uV)]	c.f [dB]	Result QP [dB(uV)]	Result CAV [dB(uV)]	Limit QP [dB(uV)]	Limit AV [dB(uV)]	Margin QP [dB]	Margin CAV [dB]
1	0.15453	21.2	10.0	10.0	31.2	20.0	65.8	55.8	34.6	35.8
2	0.34538	21.0	15.3	9.9	30.9	25.2	59.1	49.1	28.2	23.9
3	0.54256	26.2	17.1	10.0	36.2	27.1	56.0	46.0	19.8	18.9
4	0.81998	24.9	16.3	9.8	34.7	26.1	56.0	46.0	21.3	19.9
5	1.43964	18.3	7.5	9.7	28.0	17.2	56.0	46.0	28.0	28.8
6	2.376	18.1	9.2	9.7	27.8	18.9	56.0	46.0	28.2	27.1
7	24.2805	17.7	9.6	9.9	27.6	19.5	60.0	50.0	32.4	30.5

— L1 Phase —

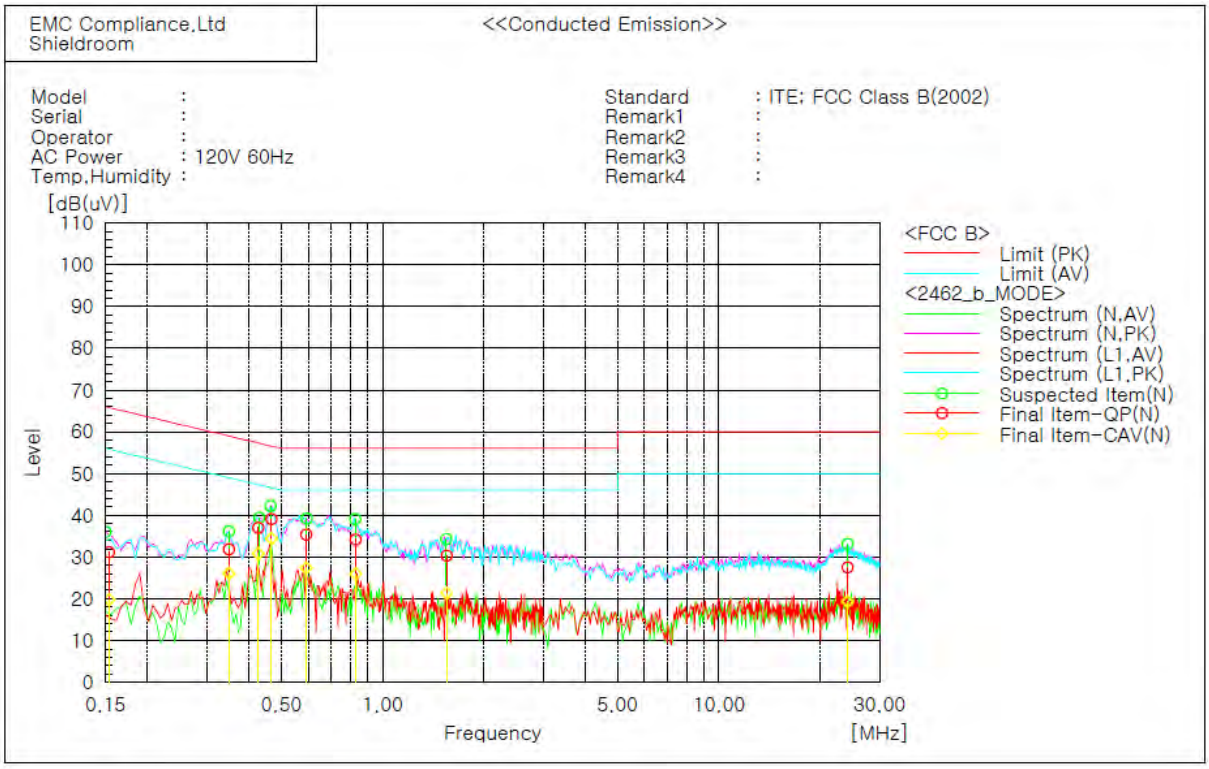
No.	Frequency [MHz]	Reading QP [dB(uV)]	Reading CAV [dB(uV)]	c.f [dB]	Result QP [dB(uV)]	Result CAV [dB(uV)]	Limit QP [dB(uV)]	Limit AV [dB(uV)]	Margin QP [dB]	Margin CAV [dB]
1	0.1932	19.9	13.5	10.0	29.9	23.5	63.9	53.9	34.0	30.4
2	0.46642	28.9	24.4	10.0	38.9	34.4	56.6	46.6	17.7	12.2

Note:

1. This measurement was performed the worst case data were reported.

- 802.11b mode

2 462 MHz



Final Result

— N Phase —

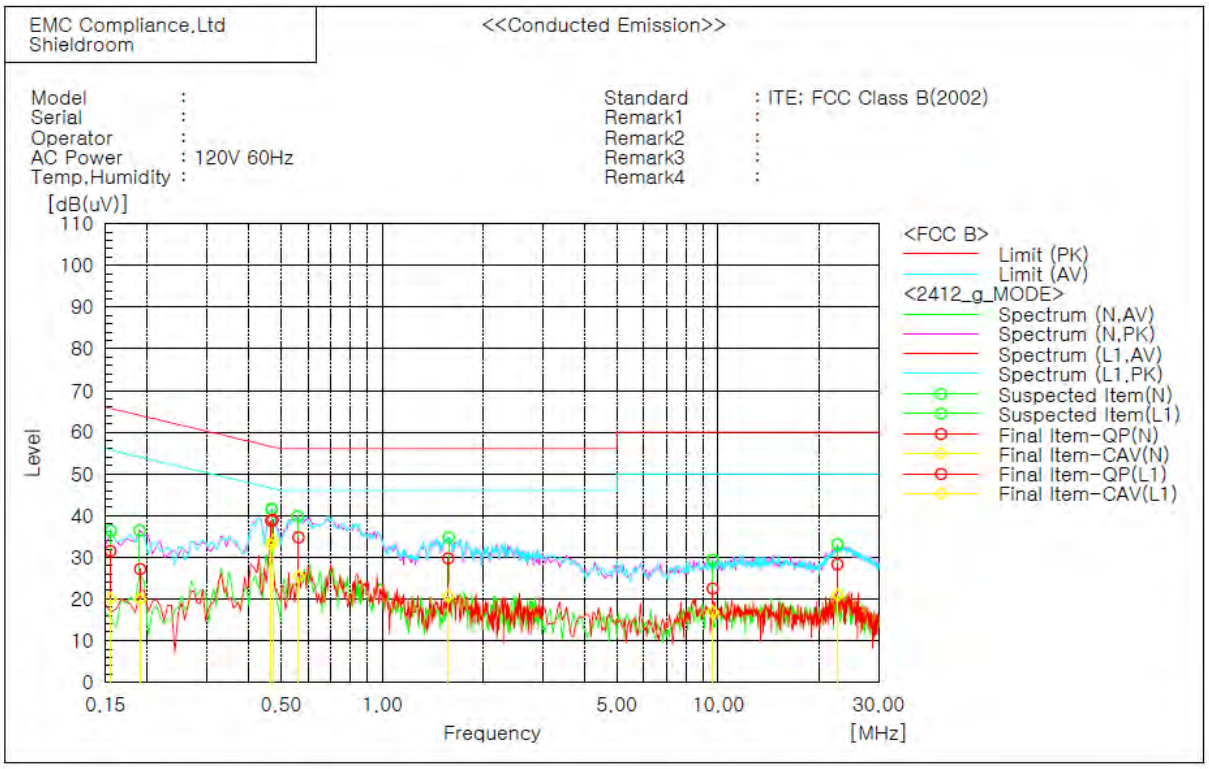
No.	Frequency [MHz]	Reading QP [dB(uV)]	Reading CAV [dB(uV)]	c.f [dB]	Result QP [dB(uV)]	Result CAV [dB(uV)]	Limit QP [dB(uV)]	Limit AV [dB(uV)]	Margin QP [dB]	Margin CAV [dB]
1	0.15372	21.3	9.9	9.9	31.2	19.8	65.8	55.8	34.6	36.0
2	0.3492	21.9	16.2	9.9	31.8	26.1	59.0	49.0	27.2	22.9
3	0.42686	27.0	20.8	10.0	37.0	30.8	57.3	47.3	20.3	16.5
4	0.46732	29.1	24.4	10.0	39.1	34.4	56.6	46.6	17.5	12.2
5	0.59202	25.4	17.4	10.0	35.4	27.4	56.0	46.0	20.6	18.6
6	0.8324	24.4	16.1	9.8	34.2	25.9	56.0	46.0	21.8	20.1
7	1.5491	20.6	11.6	9.7	30.3	21.3	56.0	46.0	25.7	24.7
8	24.11532	17.6	9.4	9.9	27.5	19.3	60.0	50.0	32.5	30.7

Note:

1. This measurement was performed the worst case data were reported.

- 802.11g mode

2 412 MHz



Final Result

— N Phase —

No.	Frequency [MHz]	Reading QP [dB(uV)]	Reading CAV [dB(uV)]	c.f [dB]	Result QP [dB(uV)]	Result CAV [dB(uV)]	Limit QP [dB(uV)]	Limit AV [dB(uV)]	Margin QP [dB]	Margin CAV [dB]
1	0.19054	17.1	9.9	10.0	27.1	19.9	64.0	54.0	36.9	34.1
2	0.47172	29.0	24.0	10.0	39.0	34.0	56.5	46.5	17.5	12.5
3	0.56268	24.8	15.4	10.0	34.8	25.4	56.0	46.0	21.2	20.6
4	1.57266	20.0	11.1	9.7	29.7	20.8	56.0	46.0	26.3	25.2
5	22.65168	18.4	11.0	9.9	28.3	20.9	60.0	50.0	31.7	29.1

— L1 Phase —

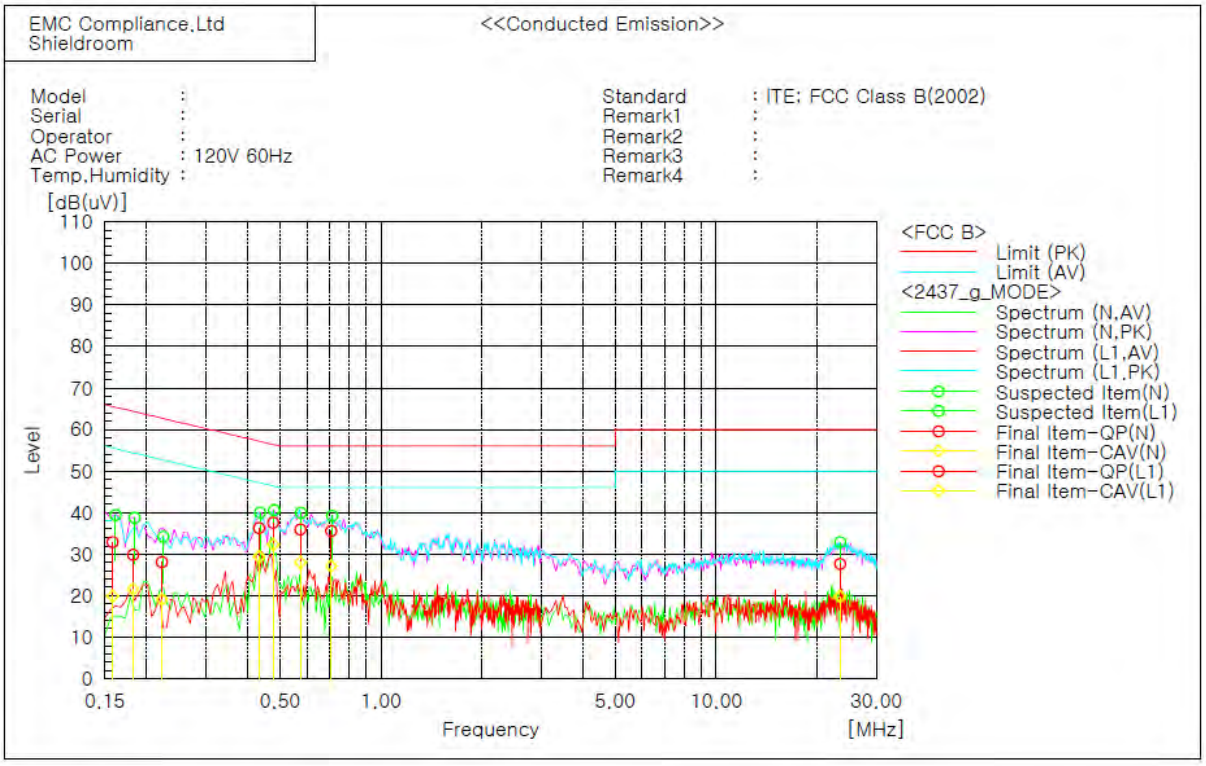
No.	Frequency [MHz]	Reading QP [dB(uV)]	Reading CAV [dB(uV)]	c.f [dB]	Result QP [dB(uV)]	Result CAV [dB(uV)]	Limit QP [dB(uV)]	Limit AV [dB(uV)]	Margin QP [dB]	Margin CAV [dB]
1	0.1551	21.5	10.1	10.0	31.5	20.1	65.7	55.7	34.2	35.6
2	0.46664	28.7	23.0	10.0	38.7	33.0	56.6	46.6	17.9	13.6
3	9.6405	12.8	7.2	9.7	22.5	16.9	60.0	50.0	37.5	33.1

Note:

1. This measurement was performed the worst case data were reported.

- 802.11g mode

2 437 MHz



Final Result

── N Phase ──

No.	Frequency [MHz]	Reading QP [dB(uV)]	Reading CAV [dB(uV)]	c.f [dB]	Result QP [dB(uV)]	Result CAV [dB(uV)]	Limit QP [dB(uV)]	Limit AV [dB(uV)]	Margin QP [dB]	Margin CAV [dB]
1	0.18196	19.7	11.4	10.1	29.8	21.5	64.4	54.4	34.6	32.9
2	0.43314	26.3	19.4	10.0	36.3	29.4	57.2	47.2	20.9	17.8
3	0.47614	27.6	22.3	10.0	37.6	32.3	56.4	46.4	18.8	14.1
4	0.57494	25.9	17.9	10.0	35.9	27.9	56.0	46.0	20.1	18.1
5	23.41634	17.7	9.9	9.9	27.6	19.8	60.0	50.0	32.4	30.2

── L1 Phase ──

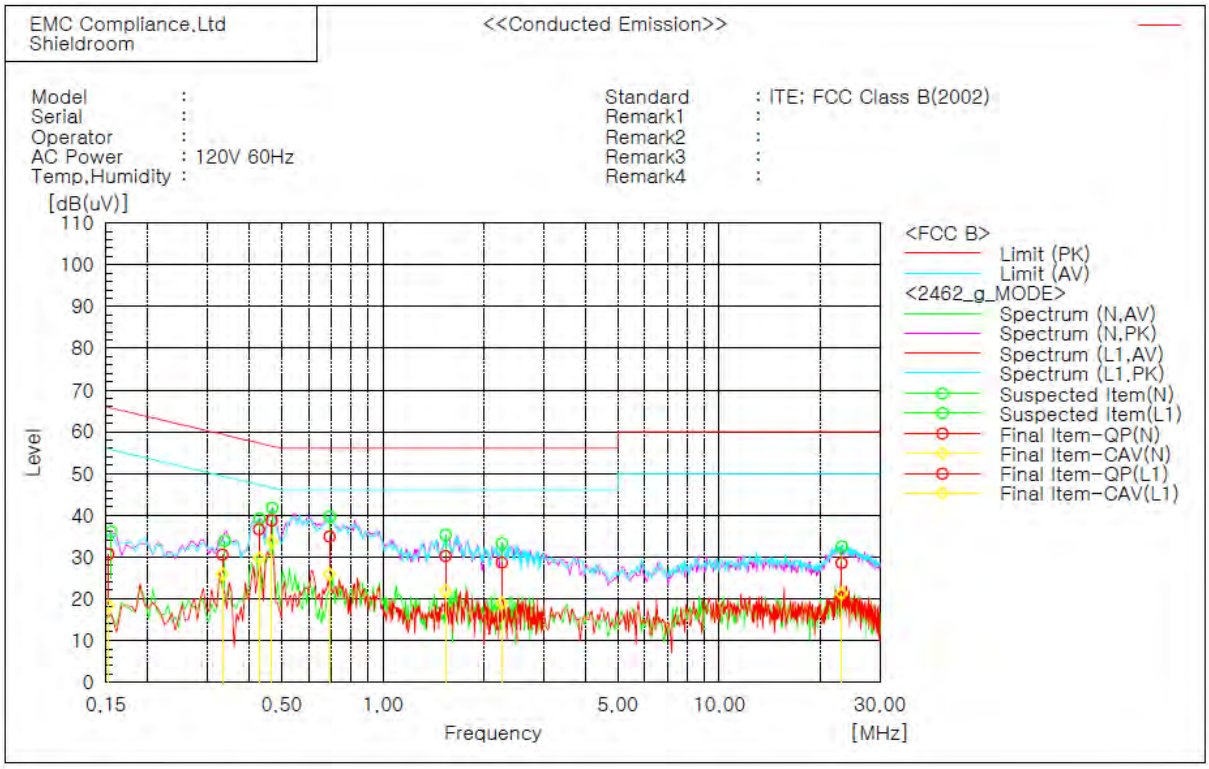
No.	Frequency [MHz]	Reading QP [dB(uV)]	Reading CAV [dB(uV)]	c.f [dB]	Result QP [dB(uV)]	Result CAV [dB(uV)]	Limit QP [dB(uV)]	Limit AV [dB(uV)]	Margin QP [dB]	Margin CAV [dB]
1	0.158	22.8	9.8	10.1	32.9	19.9	65.6	55.6	32.7	35.7
2	0.22212	18.2	9.2	9.9	28.1	19.1	62.7	52.7	34.6	33.6
3	0.70948	25.7	17.3	9.9	35.6	27.2	56.0	46.0	20.4	18.8

Note:

1. This measurement was performed the worst case data were reported.

- 802.11g mode

2 462 MHz



Final Result

N Phase

No.	Frequency [MHz]	Reading QP [dB(uV)]	Reading CAV [dB(uV)]	c.f [dB]	Result QP [dB(uV)]	Result CAV [dB(uV)]	Limit QP [dB(uV)]	Limit AV [dB(uV)]	Margin QP [dB]	Margin CAV [dB]
1	0.15254	20.8	8.3	9.9	30.7	18.2	65.9	55.9	35.2	37.7
2	0.42756	26.7	19.8	10.0	36.7	29.8	57.3	47.3	20.6	17.5
3	0.46694	28.7	23.7	10.0	38.7	33.7	56.6	46.6	17.9	12.9
4	0.69338	24.9	15.9	9.9	34.8	25.8	56.0	46.0	21.2	20.2
5	23.0884	18.6	11.2	9.9	28.5	21.1	60.0	50.0	31.5	28.9

L1 Phase

No.	Frequency [MHz]	Reading QP [dB(uV)]	Reading CAV [dB(uV)]	c.f [dB]	Result QP [dB(uV)]	Result CAV [dB(uV)]	Limit QP [dB(uV)]	Limit AV [dB(uV)]	Margin QP [dB]	Margin CAV [dB]
1	0.33328	20.7	15.9	9.9	30.6	25.8	59.4	49.4	28.8	23.6
2	1.53484	20.5	12.1	9.7	30.2	21.8	56.0	46.0	25.8	24.2
3	2.25724	19.0	9.3	9.7	28.7	19.0	56.0	46.0	27.3	27.0

Note:

1. This measurement was performed the worst case data were reported.

5.8 RF Exposure

5.8.1 Regulation

According to §15.247(i), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess of the Commission's guidelines. See § 1.1307(b)(1) of this Chapter.

KDB447498 was used as the guidance.

According to §1.1310 and §2.1093 RF exposure is calculated.

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:
[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] · [√f(GHz)] ≤ 3.0 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR, where
• f(GHz) is the RF channel transmit frequency in GHz
• Power and distance are rounded to the nearest mW and mm before calculation
• The result is rounded to one decimal place for comparison
• 3.0 and 7.5 are referred to as the numeric thresholds in the step 2 below

The test exclusions are applicable only when the minimum test separation distance is ≤ 50 mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is < 5 mm, a distance of 5 mm according to 5) in section 4.1 is applied to determine SAR test exclusion.

5.8.2 Result

1. Conducted output power (EIRP) (mW) = Conducted output power(mW) x Antenna gain (Numeric)
2. [(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] · [√f(GHz)] ≤ 3.0

Conducted output power		Antenna gain		Conducted output power (EIRP)	Minimum test separation distance	SAR test exclusion calculation
(dBm)	(mW)	(dBm)	(mW)	(mW)	(mm)	
5.45	3.51	3.50	2.24	7.85	5.00	**1.09**

5.8.3 RF Exposure Compliance Issue

Therefore, EUT is not required the SAR Evaluation.

6. Test equipment used for test

	Description	Manufacture	Model No.	Serial No.	Next Cal Date.
☐	Temp & humidity chamber	taekwang	TK-04	TK001	13.12.07
☐	Temp & humidity chamber	taekwang	TK-500	TK002	13.09.03
☐	Frequency Counter	HP	53150A	US39250565	13.09.04
☐	Signal & Spectrum Analyzer	R & S	FSW26	101353	14.07.08
☐	Spectrum Analyzer	Agilent	E4440A	MY44303500	14.06.04
■	Spectrum Analyzer	R & S	FSP40	100209	13.10.23
☐	Modulation Analyzer	HP	8901B	3538A05527	13.10.25
☐	Audio Analyzer	HP	8903B	3729A19213	13.10.23
☐	AC Power Supply	KIKUSUI	PCR2000W	GB001619	13.10.23
☐	DC Power Supply	Tektronix	PS2520G	TW50517	14.03.12
■	DC Power Supply	Tektronix	PS2521G	TW53135	13.10.23
☐	Dummy Load	BIRD	8141	7560	13.09.09
☐	Dummy Load	BIRD	8401-025	799	13.09.09
☐	Attenuator	HP	8494A	2631A09825	13.10.24
☐	Attenuator	HP	8496A	3308A16640	13.10.24
☐	Attenuator	R&S	RBS1000	D67079	13.10.24
■	WIDEBAND POWER SENSOR	R & S	NRP-Z81	100677	14.05.06
■	Signal Generator	R & S	SMR40	100007	14.06.11
☐	Power Divider	Weinschel	1580-1	NX380	13.09.09
☐	Power Divider	Weinschel	1594	671	13.09.10
☐	Bluetooth tester	Tescom	TC3000A	3000A310047	14.04.08
☐	Highpass Filter	Wainwright	WHKX2.5/18 G-10SS	61	14.04.12
☐	Highpass Filter	Wainwright	WHKX6.5/18 G-10SS	2	14.06.13
■	EMI Test Receiver	R&S	ESCI7	100732	14.02.18
■	LOOP Antenna	EMCO	EMCO6502	9205-2745	15.05.22
☐	LOOP Antenna	R & S	HFH2-Z2	100355	15.06.19
■	BILOG Antenna	Schwarzbeck	VULB 9168	440	13.10.04
☐	HORN Antenna	ETS	3115	00086706	13.11.21
■	HORN Antenna	ETS	3115	00062589	13.09.06
■	HORN Antenna	ETS	3116	00086632	13.11.15
☐	HORN Antenna	ETS	3116	00086635	13.11.15
■	Antenna Mast	Innco Systems	MA4000-EP	303	-
■	Turn Table	Innco Systems	DT2000S-1t	079	-
■	EMI Test Receiver	R&S	ESCI	100001	14.07.25
■	LISN	R & S	ENV216	101358	13.10.22
■	LISN	R & S	ESH3-Z5	100267	14.07.08
☐	Bluetooth tester	Tescom	TC3000A	3000A310047	14.04.08

65, Sinwon-ro, Yeongtong-gu, Suwon, Kyunggi-do, 443-390, Korea
82-31-336-9919 (Main) 82-505-299-8311 (Fax)