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TEST REPORT

Report Number	170700101SEL-TEL4(R1)
Applicant Name / Address	Carl Zeiss Vision GmbH Turnstrasse 27, D-73430 Aalen, Germany
Test Sample Description	
- Product name	UV/Blue light demonstration tool
- Model and/or Brand name	Light Protect Solution Demonstrator
- FCC ID and/or IC ID	2ANDV-BL134VIT86 and/or 23075-BL134VIT86
- Manufacturer Name	Carl Zeiss Vision GmbH
- Manufacturer Address	Turnstrasse 27, D-73430 Aalen, Germany
- Variant model Name	N/A
Date of receipt of sample(s)	26 Jul. 2017
Date of Test	27 Jul. 2017 - 05 Sep. 2017
Test standard(s)	CFR 47 Part 15 Subpart C, RSS-247 Issue 2
Test Results & uncertainty	See Summary
Issue date	11 Oct. 2017

Note 1. The results shown in this test report refer only to the sample(s) tested.

Note 2: This report shall not be reproduced except in full, without the written approval of Intertek.

Tested by

Name : David.Jang
RF Engineer

Approved by

Name : Kangmin.Rhee
RF Technical Manager

Intertek ETL SEMKO Korea Ltd.

SECTION 1 CONTENTS

SECTION 2 GENERAL DESCRIPTION

1. Laboratory Information

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2. Applicant Information

Name	Carl Zeiss Vision GmbH
Address	Turnstrasse 27, D-73430 Aalen, Germany
Contact Person	Marcel Gerstenlauer
Phone No.	+49 7361 591 666

3. Factory Information

Name	VIEWITECH CO., LTD.
Address	Tower B 505, No 383, Simindae-ro, Dongan-Gu, Anyang-Si, Gyeonggi-do, Korea
Country	Republic of Korea

4. Description of EUT

Product name	UV/Blue light demonstration tool
Model name	Light Protect Solution Demonstrator
Serial No.	N/A
Manufacturer	Carl Zeiss Vision GmbH
Country of Manufacture	Republic of Korea
Rated Voltage	DC 3.7 V
Frequency Range	2 402 MHz ~ 2 480 MHz
Modulation Technique	GFSK
Number of Channel	40
Antenna Type	Chip Antenna
Antenna Gain	1.9 dBi
Transmit Power	-0.45 dBm
H/W Version	V1.0
S/W Version	V1.0.0
RF Power Setting Parameter	4 dBm

5. Test Instrument

Control No.	Equipment	Manufacturer	Model	Serial No.	Cal. Due.
ES1006	SIGNAL & SPECTRUM ANAYZER	Rohde & Schwarz	FSW43	103893	23 Sep. 2017
ES949	EMI Test Receiver	Rohde & Schwarz	ESU40	100478	7 Mar. 2018
ES950	EMI Test Receiver	Rohde & Schwarz	ESU26	100590	24 Jan. 2018
ES951	Open Switch and Control Platform	Rohde & Schwarz	OSP130	101467	N/A
ES957	Loop Antenna	Rohde & Schwarz	HFH2-Z2	100465	20 Jan. 2019
ES972	Biconilog (Type7)	ETS-Lindgren	3142E	00203547	23 Jan. 2019
ES975	DRG Horn (Medium)	ETS-Lindgren	3117	00201915	20 Jan. 2019
ES977	Standard Gain Horn	ETS-Lindgren	3160-09	LM9738	3 May. 2018
ES1027	AMP	Rohde & Schwarz	SCU-08	100737	23 Jan. 2018
ES1029	AMP	Rohde & Schwarz	SCU-18D	1952128	20 Jul. 2018
ES1031	AMP	Rohde & Schwarz	SCU-26D	1879069	18 Jul. 2018
ES1004	VECTOR SIGNAL GENERATOR	Rohde & Schwarz	SMBV100A	261569	23 Sep. 2017
ES1005	SIGNAL GENERATOR	Rohde & Schwarz	SMB100A	178493	24 Jan. 2018
ES1038	ATTENUATOR	WEINSCHEL	10dB	TEMPNO.4824	22 Sep. 2017
ES1036	ATTENUATOR	WEINSCHEL	54A-10	69679	22 Sep. 2017
ES1074	Notch RF filter	Micro-Tronics	BRM50702-02	G043	18 Jul. 2018
ES1154	RF Meter	ANRITSU	MA2411B	1648099	4 Apr. 2018
ES1155	RF Sensor	ANRITSU	ML2495A	1531208	23 Dec. 2017
ES1152	System DC Power Supply	KEYSIGHT	N5747A	US16D4132P	27 Dec. 2017
ES1109	Digital multi meter	FLUKE	381	34980197WS	20 Mar. 2018
ES955	Two-Line V-Network	Rohde & Schwarz	ENV216	101982	24 Jan. 2018
41	Software	Rohde & Schwarz	EMC32	Ver9.21.00	-

6. Channel List

Channel No.	Frequency(MHz)	Channel No.	Frequency(MHz)
0	2 402	20	2 442
1	2 404	21	2 444
2	2 406	22	2 446
3	2 408	23	2 448
4	2 410	24	2 450
5	2 412	25	2 452
6	2 414	26	2 454
7	2 416	27	2 456
8	2 418	28	2 458
9	2 420	29	2 460
10	2 422	30	2 462
11	2 424	31	2 464
12	2 426	32	2 466
13	2 428	33	2 468
14	2 430	34	2 470
15	2 432	35	2 472
16	2 434	36	2 474
17	2 436	37	2 476
18	2 438	38	2 478
19	2 440	39	2 480

7. Test Condition

Mode	Test Frequency(MHz)		
	Lowest	Middle	Highest
BT LE	2 402	2 440	2 480

SECTION 3 SUMMARY

1. Summary of test results

Requirements	FCC Rule	IC Rule	Compliance
Antenna Requirement	15.203 15.247(b)(4)	-	Complied
Maximum Output Power	15.247(b)(4)	RSS-247 5.4(d)	Complied
Power Spectral Density	15.247(e)	RSS-247 5.2(b)	Complied
6 dB Channel Bandwidth	15.247(a)(2)	RSS-247 5.2(a)	Complied
Occupied Bandwidth	-	RSS-GEN 6.6	Complied
Radiated Spurious Emissions & Restricted Band, Conducted Spurious Emissions & Band Edge	15.247(d) 15.205(a) 15.209(a)	RSS-247 5.5, RSS-GEN 8.9, 8.10	Complied
Conducted Emissions	15.207(a)	RSS-GEN, 8.8	Complied
Test method: According to ANSI C63.10-2013, KDB 558074 D01 DTS Meas. Guidance v04			

2. Measurement Uncertainty

Parameters	Uncertainty (k = 2)	
Maximum Peak Conducted Output Power	1.66 dB	
Power Spectral Density	1.32 dB	
Channel Bandwidth	4.69 kHz	
Spurious Emissions (Conducted)	1.32 dB	
Spurious Emissions (Radiated)	9 kHz to 30 MHz	4.2 dB
	30 MHz to 1 GHz	3.9 dB
	1 GHz to 6 GHz	5.9 dB
	6 GHz to 18 GHz	5.1 dB
	18 GHz to 26 GHz	4.5 dB

SECTION 4 TEST RESULT

1. Antenna Requirement

1.1 Rule

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.

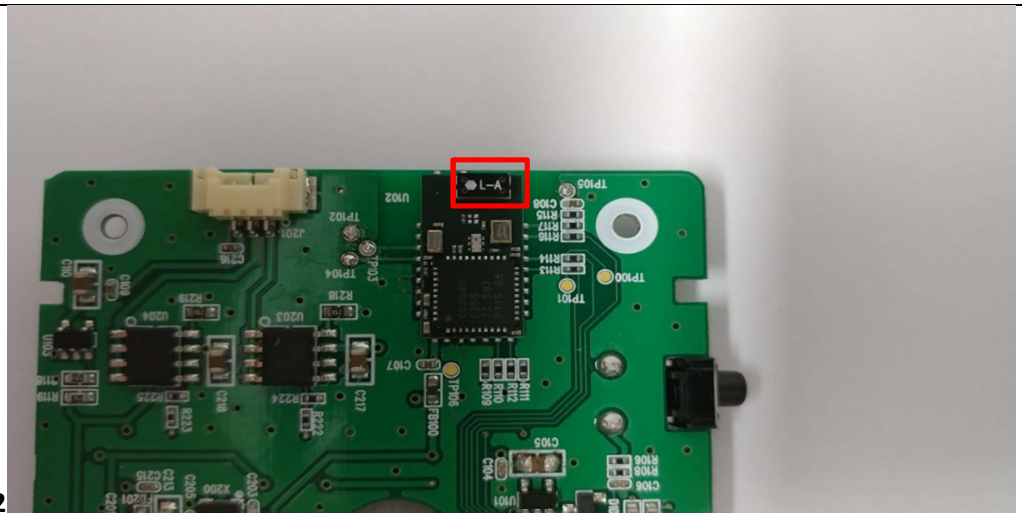
And according to §15.407(a)(1)(2)(3), If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

1.2 Test Results - Complied

The Transmitter has a Chip antenna (permanently attached antenna).
Directional peak gain of the antenna is 1.9 dBi.

Antenna picture

2



2. Maximum Peak Output Power

2.1 Rule

According to §15.247(b)(3), For systems using digital modulation in the 902-928 MHz, 2 400-2 483.5 MHz, and 5 725-5 850 MHz bands: 1 Watt.
As an alternative to a peak power measurement, compliance with the 1 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 signalling 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.

2.2 Measurement Procedure

According to ANSI C63.10-2013 & KDB 558074 D01 DTS Meas. Guidance v04, 9.1.3 PKPM1 Peak power meter method.

The maximum peak conducted output power may be measured using a broadband peak RF power meter. The power meter shall have a video bandwidth that is greater than or equal to the DTS bandwidth and shall utilize a fast-responding diode detector.

2.3 Test Results - Complied

Test Condition: Temperature (24 ± 2) °C; Humidity (48 ± 2) %

Test Mode	Test Frequency	Peak Output Power (dBm)	Limit (dBm)
BT LE	2 402 MHz	P = -0.57 dBm	30
	2 440 MHz	P = -0.45 dBm	
	2 480 MHz	P = -0.65 dBm	

Note)

1. Peak Output Power = Reading (dBm) + Cable loss (dB) + Attenuator (dB)
2. Peak Output Power is tested by Power meter & sensor (VBW = 50 MHz)

3. Power Spectral Density

3.1 Rule

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.

3.2 Measurement Procedure

According to ANSI C63.10-2013 & KDB 558074 D01 DTS Meas. Guidance v04, 10.2 Method PKPSD.

This procedure shall be used if maximum peak conducted output power was used to demonstrate compliance, and is optional if the maximum conducted (average) output power was used to demonstrate compliance.

a) Set Spectrum Analyzer centre frequency to DTS channel centre frequency.
b) Set the span to 1.5 x DTS bandwidth.
c) Set the RBW to: 3 kHz ≤ RBW ≤ 100 kHz.
d) Set the VBW ≥ 3 x RBW.
e) Detector = peak.
f) Sweep time = auto couple.
g) Trace mode = max hold.
h) Allow trace to fully stabilize.
i) Use the peak marker function to determine the maximum amplitude level within the RBW.
j) If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

3.3 Test Results – Complied

Test Condition: Temperature (24 ± 2) °C; Humidity (48 ± 2) %

Test Mode	Test Frequency	Power Spectral Density (dBm/MHz)				Limit (dBm/MHz)
BT LE	2 402 MHz	P.S.D.	=	-13.77	dBm/MHz	8
	2 440 MHz	P.S.D.	=	-12.98	dBm/MHz	
	2 480 MHz	P.S.D.	=	-12.67	dBm/MHz	

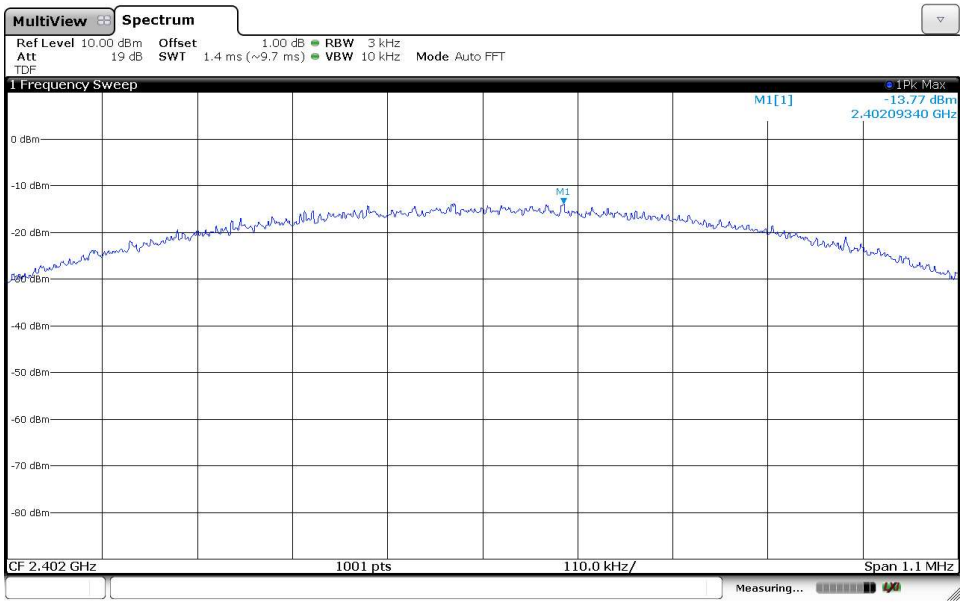
Note)

1. Peak Output Power = Reading (dBm) + Cable loss (dB) + Attenuator (dB)

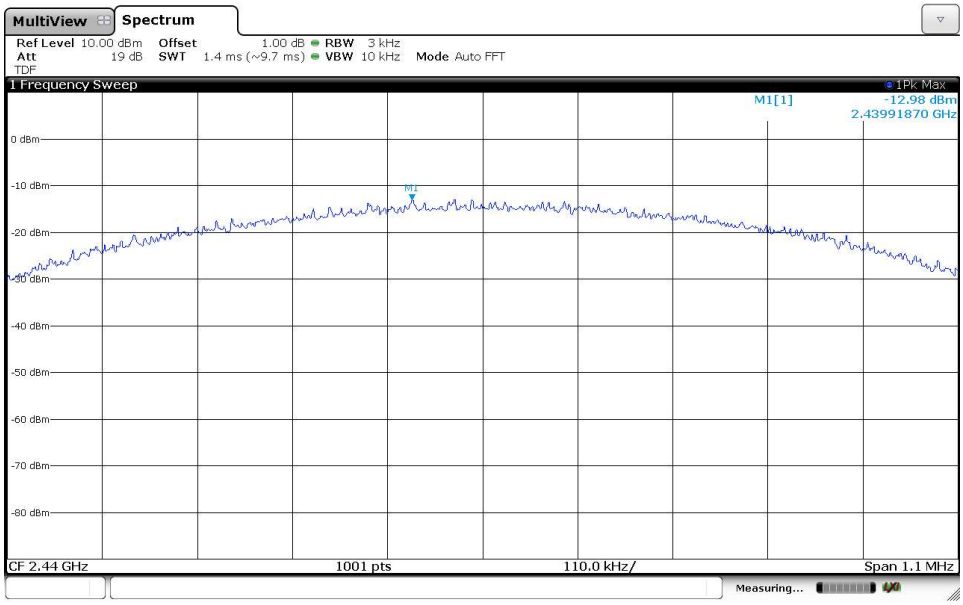
Photographs of Test Results

Test Mode – GFSK

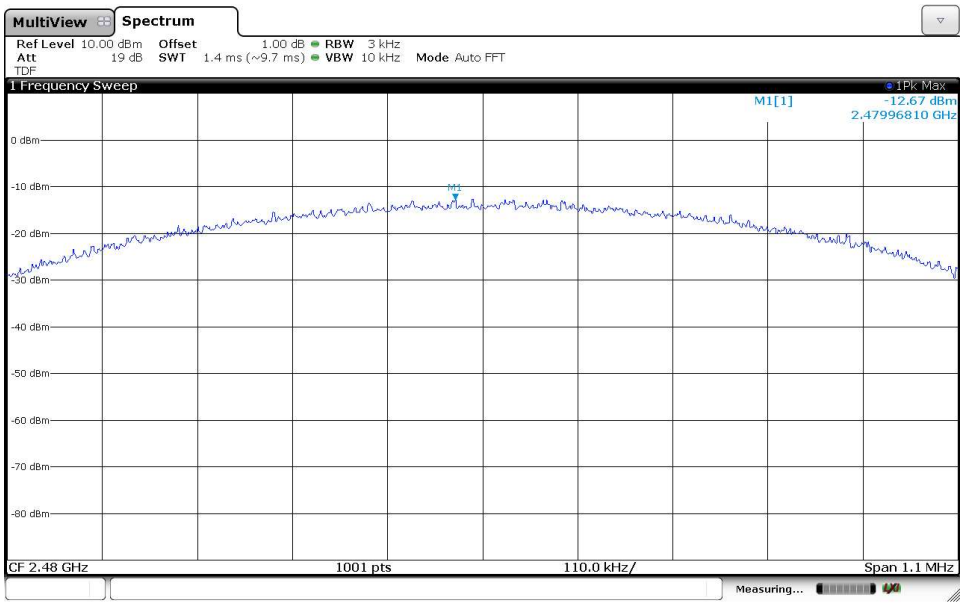
Lowest – 2 402 MHz



Middle – 2 440 MHz



Highest – 2 480 MHz



4 6 dB Bandwidth (DTS Channel Bandwidth) & Occupied Bandwidth

4.1 Rule

-6 dB Bandwidth
According to §15.247(a)(2) Systems using digital modulation techniques may operate in the 902–928 MHz, 2 400–2 483.5 MHz, and 5 725–5 850 MHz bands.
The minimum 6 dB bandwidth shall be at least 500 kHz.

-Occupied Bandwidth
N/A

4.2 Measurement Procedure

-6 dB Bandwidth
According to ANSI C63.10-2013 & KDB 558074 D01 DTS Meas. Guidance v04, 8.2 Option 2.

The automatic bandwidth measurement capability of an instrument may be employed using the X dB bandwidth mode with X set to 6 dB, if the functionality described above (i.e., RBW = 100 kHz, VBW ≥ 3 x RBW, peak detector with maximum hold) is implemented by the instrumentation function. When using this capability, care shall be taken so that the bandwidth measurement is not influenced by any intermediate power nulls in the fundamental emission that might be ≥ 6 dB.

-Occupied Bandwidth
According to ANSI C63.10-2013, 6.9 Occupied Bandwidth tests

The frequency span for the spectrum analyzer shall be between 1.5 times and 5.0 times the OBW.
The resolution bandwidth (RBW) shall be in the range of 1 % to 5 % of the occupied bandwidth (OBW) and video bandwidth (VBW) shall be approximately 3x RBW. Detector = sampling, Trace mode = max hold.
The trace data points are recovered and are directly summed in linear power level terms. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5 % of the total is reached and that frequency recorded. The process is repeated for the highest frequency data points (starting at the highest frequency, at the right side of the span, and going down in frequency).
This frequency is then recorded.

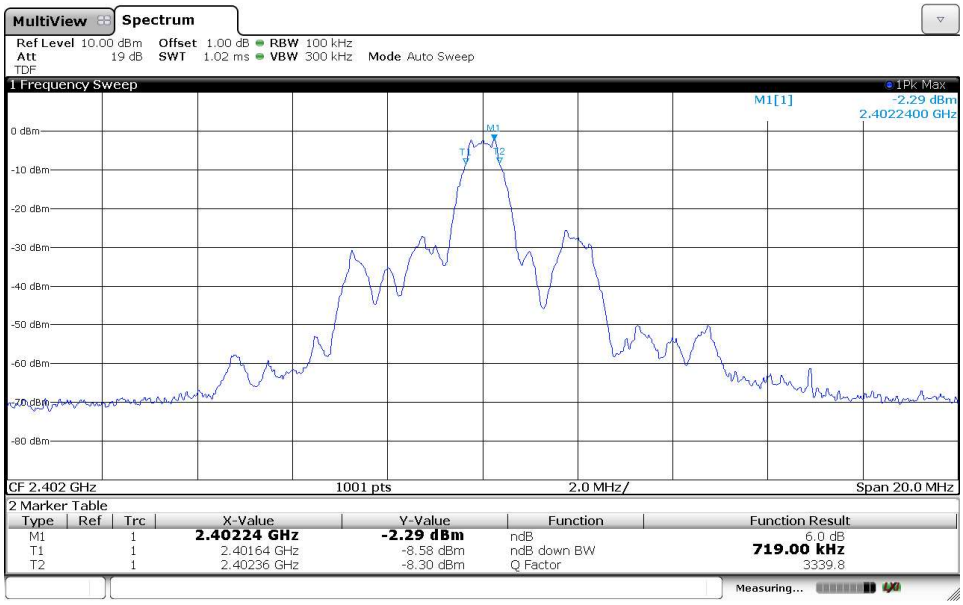
4.3 Test Results - Complied

Test Condition: Temperature (24 ± 2) °C; Humidity (48 ± 2) %

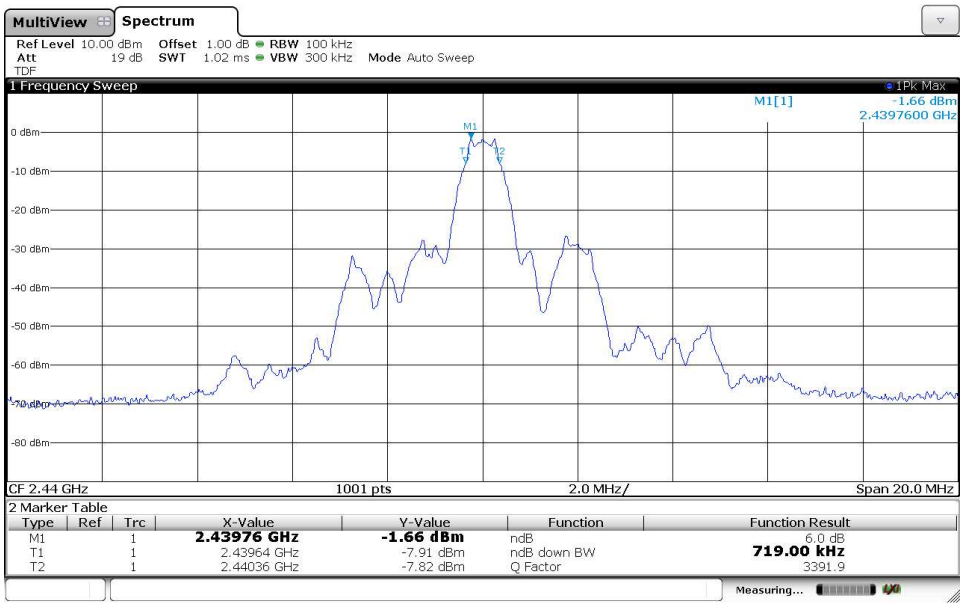
Test Mode	Frequency (MHz)	6 dB Bandwidth (MHz)	Occupied Bandwidth (MHz)	Limit (kHz)
GFSK	2 402	0.719	1.079	500
	2 440	0.719	1.070	
	2 480	0.719	1.067	

Photographs of Test Results (6dB Bandwidth)

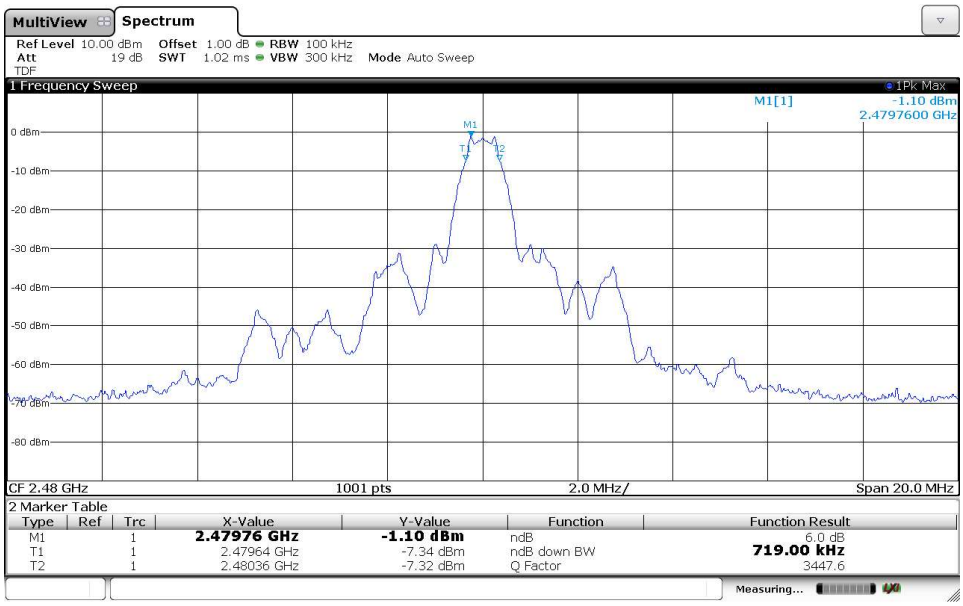
Lowest – 2 402 MHz



Middle – 2 440 MHz

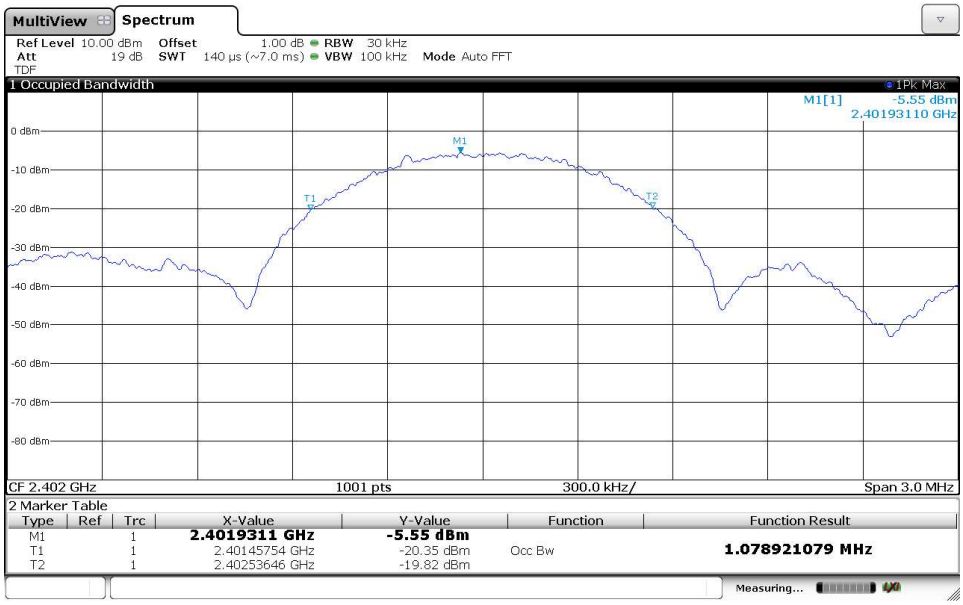


Highest – 2 480 MHz

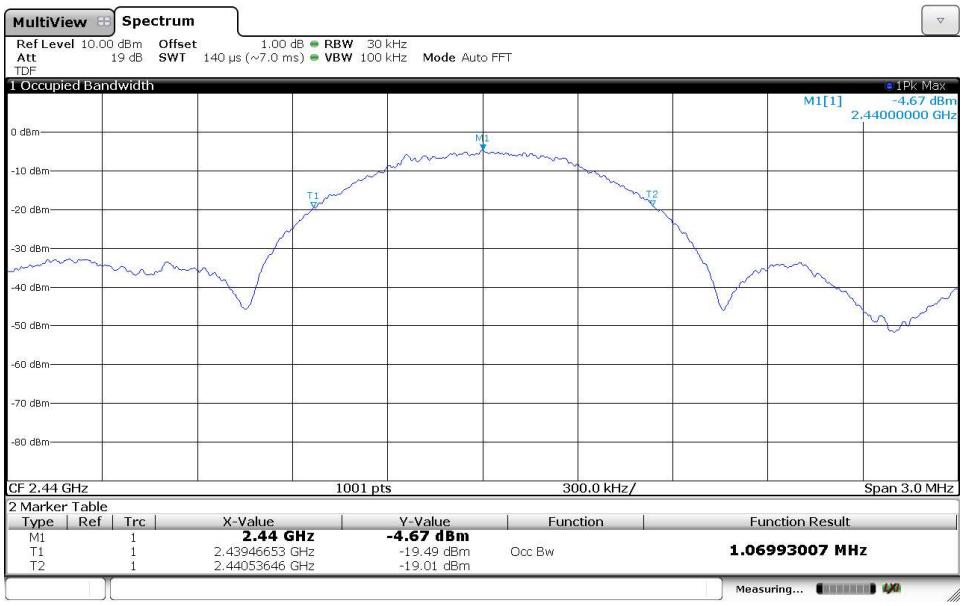


Photographs of Test Results (Occupied Bandwidth)

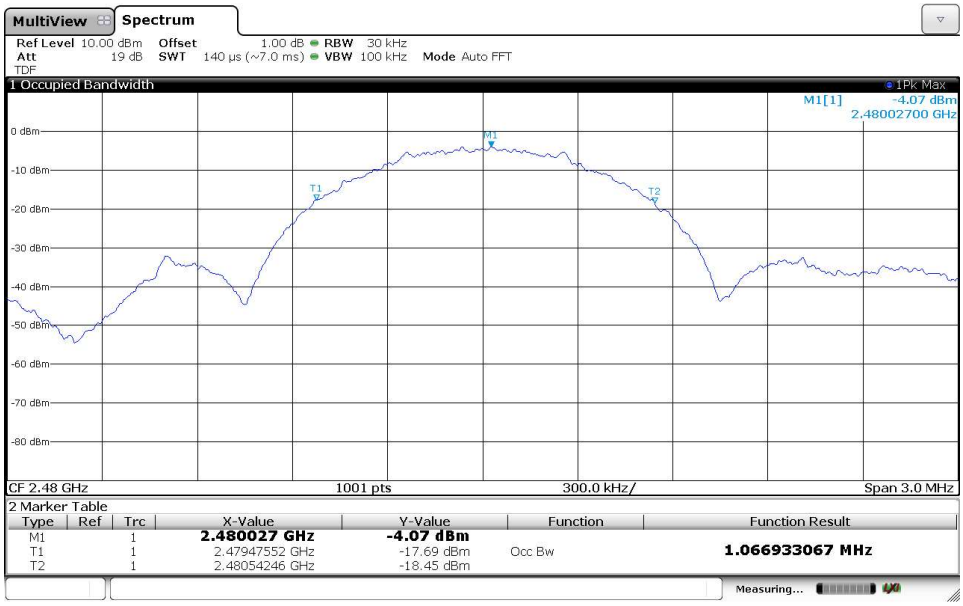
Lowest – 2 402 MHz



Middle – 2 440 MHz



Highest – 2 480 MHz



5. Radiated Spurious Emissions & Restricted Band, Conducted Spurious Emissions & Band Edge

5.1 Rule

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), Except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (kHz)	Field strength (µV/m)	Field strength (dBµV/m)	Measurement distance (m)
0.009 - 0.490	2 400/F(kHz)	20log (2 400/F(kHz))	300
0.490 - 1.705	24 000/F(kHz)	20log (24 000/F(kHz))	30
1.705 - 30	30	30	30
30 - 88	100**	100**	3
88 - 216	150**	150**	3
216 - 960	200**	200**	3
Above 960	500	500	3

**Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54–72 MHz, 76–88 MHz, 174–216 MHz or 470–806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §15.231 and 15.241.

According to § 15.205(a) and (b), only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.009 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
0.495 - 0.505	16.694 75 - 16.695 25	608 - 614	5.35 - 5.46
2.173 5 - 2.190 5	16.804 25 - 16.804 75	960 – 1 240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1 300 – 1 427	8.025 - 8.5
4.177 25 - 4.177 75	37.5 - 38.25	1 435 – 1 626.5	9.0 - 9.2
4.207 25 - 4.207 75	73 - 74.6	1 645.5 – 1 646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1 660 – 1 710	10.6 - 12.7
6.267 75 - 6.268 25	108 - 121.94	1 718.8 – 1 722.2	13.25 - 13.4
6.311 75 - 6.312 25	123 - 138	2 200 – 2 300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2 310 – 2 390	15.35 - 16.2
8.362 - 8.366	156.524 75 - 156.525 25	2 483.5 – 2 500	17.7 - 21.4
8.376 25 - 8.386 75	156.7 - 156.9	2 690 – 2 900	22.01 - 23.12
8.414 25 - 8.414 75	162.012 5 - 167.17	3 260 – 3 267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3 332 – 3 339	31.2 - 31.8
12.519 75 - 12.520 25	240 - 285	3 345.8 – 3 358	36.43 - 36.5
12.576 75 - 12.577 25	322 - 335.4	3 600 – 4 400	Above 38.6
13.36 - 13.41			

The field strength of emissions appearing within these frequency bands shall not exceed the limits shown in §15.209. At frequencies equal to or less than 1 000 MHz, compliance with the limits in §15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1 000 MHz, compliance with the emission limits in §15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in §15.35 apply to these measurements

5.2 Measurement Procedure

According to ANSI C63.10-2013 & KDB 558074 D01 DTS Meas. Guidance v04, 11.0 Emissions in non-restricted frequency band, and 12.0 Emissions in restricted frequency bands

5.2.1. Test Procedures for emission below 30 MHz

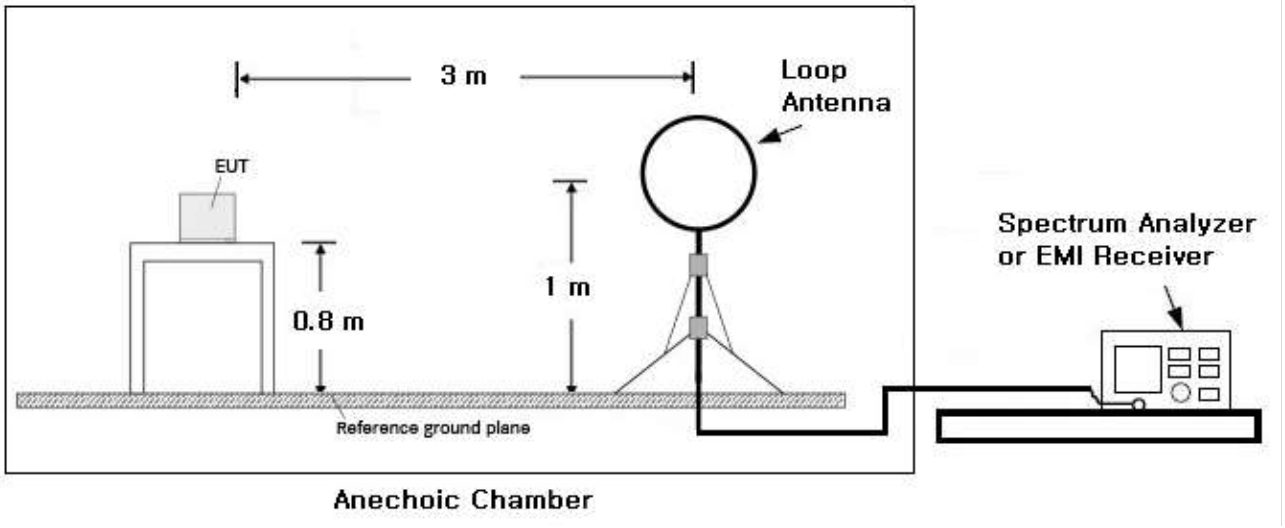
1. The EUT was placed on the top of a rotating table 0.8 meters above the ground at anechoic chamber test site. The table was rotated 360 degrees to determine the position of the highest radiation.
2. Then antenna is a loop antenna is fixed at one meter above the ground to determine the maximum value of the field strength. Both parallel and perpendicular of the antenna are set to make the measurement.
3. For each suspected emission, the EUT was arranged to its worst case and then the table was turned from 0 degrees to 360 degrees to find the maximum reading.
4. The test-receiver system was set to quasi peak detect function and Specified Bandwidth with Maximum Hold Mode.

5.2.2. Test Procedures for emission below 1 000 MHz & above 1 000 MHz

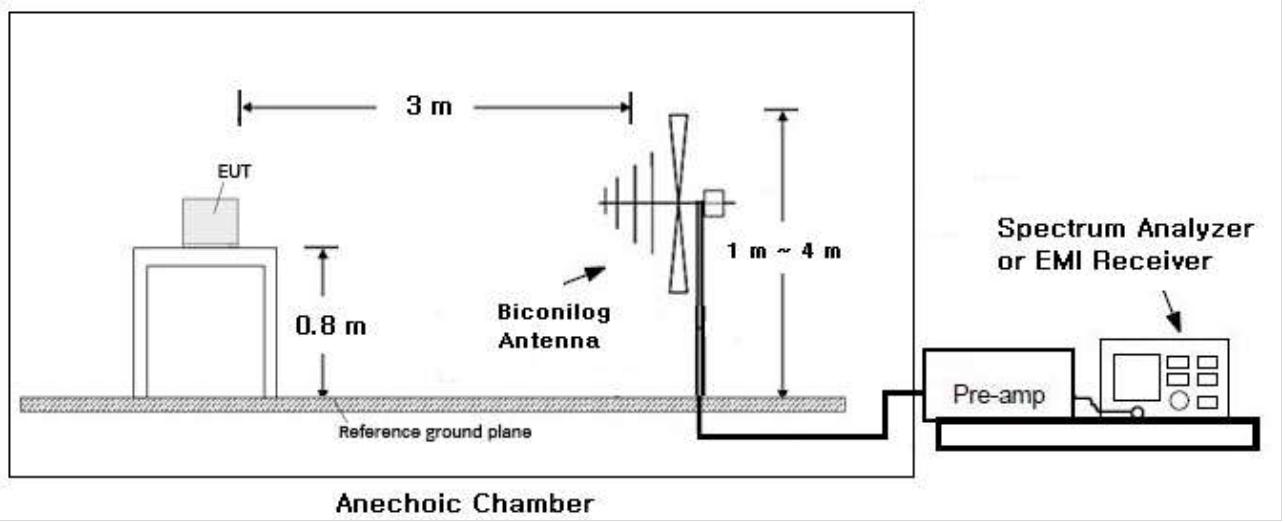
1. The EUT was placed on the top of a rotating table 0.8 meters above the ground at anechoic chamber test site (below 1 GHz) and 1.5 meters above the ground at anechoic chamber test site (above 1 GHz). The table was rotated 360 degrees to determine the position of the highest radiation.
2. During performing radiated emission below 1 GHz, the EUT was set 3 meters away from the interference receiving antenna, which was mounted on the top of a variable-height antenna tower. During performing radiated emission above 1 GHz, the EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
3. The antenna is a bi-log antenna, a horn antenna and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength (Keeping antenna aimed at EUT). Both horizontal and vertical polarizations of the antenna are set to make the measurement.
4. The test-receiver system was set to quasi peak detect function (below 1 GHz), peak detect function and average detect function (above 1 GHz).

5.2.3. Test Setup

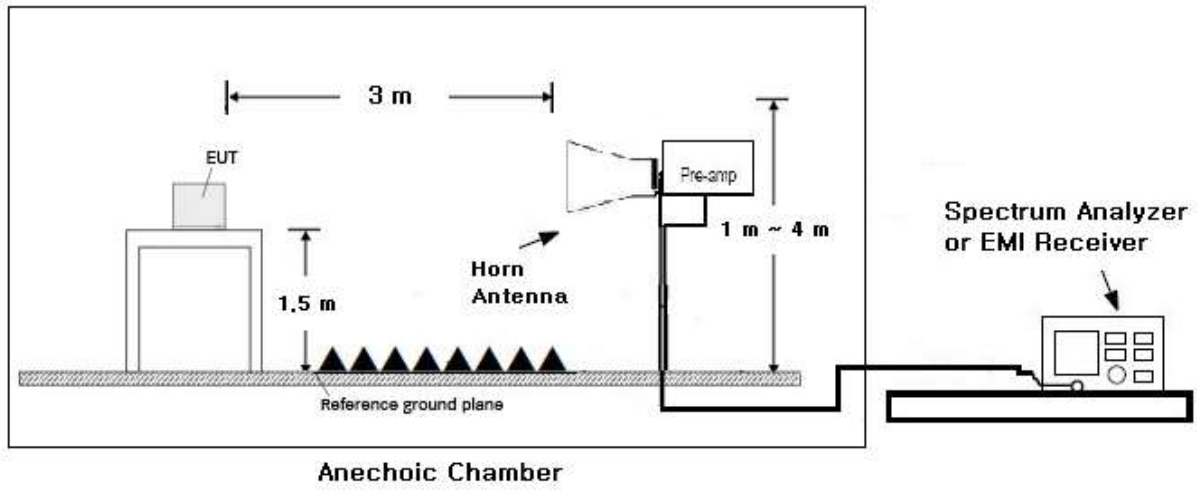
1. 9 kHz to 30 MHz Emissions



2. 30 MHz to 1 000 MHz Emissions



3. Above 1 000 MHz Emissions



NOTE;

All data rates and modes were investigated for radiated spurious emissions. Only the radiated emissions of the configuration that produced the worst case emissions are reported in this section.

1. Unwanted Emissions into Non-Restricted Frequency Bands

- The Reference Level Measurement refer to section 11.2
Set Analyzer centre frequency to DTS channel centre frequency, SPAN ≥ 1.5 times the DTS bandwidth, the RBW = 100 kHz and VBW ≥ 3 × RBW, Detector = Peak, Sweep time = Auto couple, Trace = Max hold.

- Unwanted Emissions Level Measurement refer to section 11.3
Set the centre frequency and span to encompass frequency range to be measured, the RBW = 100 kHz and VBW ≥ 3 × RBW, Detector = Peak, Sweep time = Auto couple, Trace = Max hold.

2. Unwanted Emissions into Restricted Frequency Bands

- Peak Power measurement procedure refer to section 12.2.4
Set RBW = as specified in Table 1, VBW ≥ 3 x RBW, Detector = Peak, Sweep time = auto, Trace = Max hold.

Table 1- RBW as a function of frequency

Frequency	RBW
9 – 150 kHz	200 – 300 Hz
0.15 – 30 MHz	9 – 10 kHz
30 – 1 000 MHz	100 – 120 kHz
> 1 000 MHz	1 MHz

-Average Power measurements procedure refer to section 12.2.5.2
The EUT shall be configured to operate at the maximum achievable duty cycle.
Measure the duty cycle, x, of the transmitter output signal as described in section 6.0.
Set RBW = 1 MHz, VBW ≥ 3 x RBW, Detector = RMS, if span / (# of points in sweep) ≤ (RBW/2).
Satisfying this condition may require increasing the number of points in the sweep or reducing the span. If this condition cannot be satisfied then the detector mode shall be set to peak.

Averaging type = power (i.e., RMS).
As an alternative the detector and averaging type may be set for linear voltage averaging.
Some instruments require linear display mode in order to use linear voltage averaging. Log or dB averaging shall not be used. Sweep time = auto, Perform a trace average of at least 100 traces.

A correction factor shall be added to the measurement results prior to comparing to the emission limit in order to compute the emission level that would have been measured had the test been performed at 100 percent duty cycle. The correction factor is computed as follows:

1) If power averaging (RMS) mode was used in step f), then the applicable correction factor is 10 log (1/x), where x is the duty cycle.
3) If a specific emission is demonstrated to be continuous (≥ 98 percent duty cycle) rather than turning on and off with the transmit cycle, then no duty cycle correction is required for that emission.

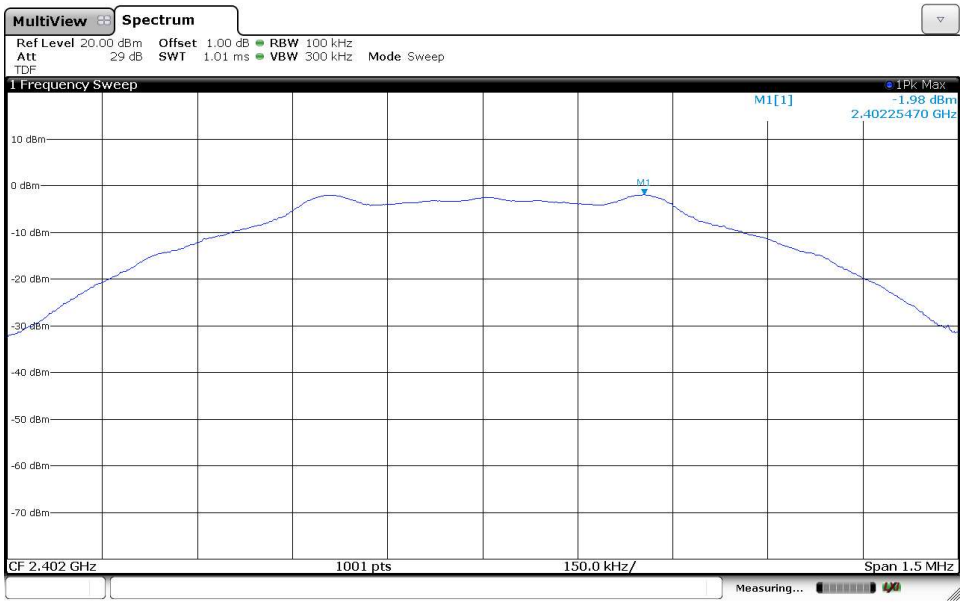
the EUT is manipulated through three orthogonal planes (X, Y, Z). Worst orthogonal plan of EUT is **X – axis** during radiation test.

5.3 Test results – Complied

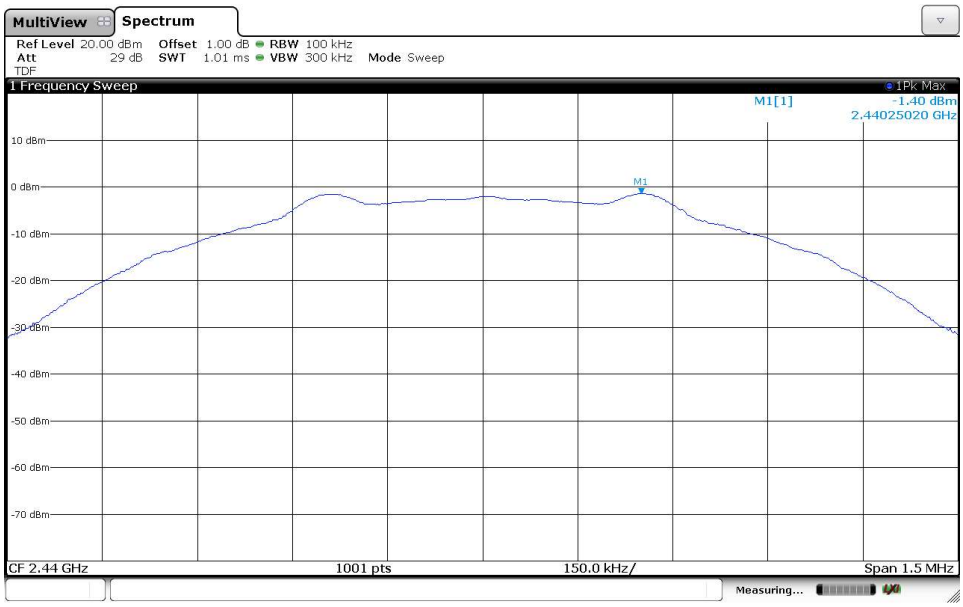
Test Condition: Temperature (24 ± 2) °C; Humidity (48 ± 2) %

Photographs of Test Result (Conducted Measurements)

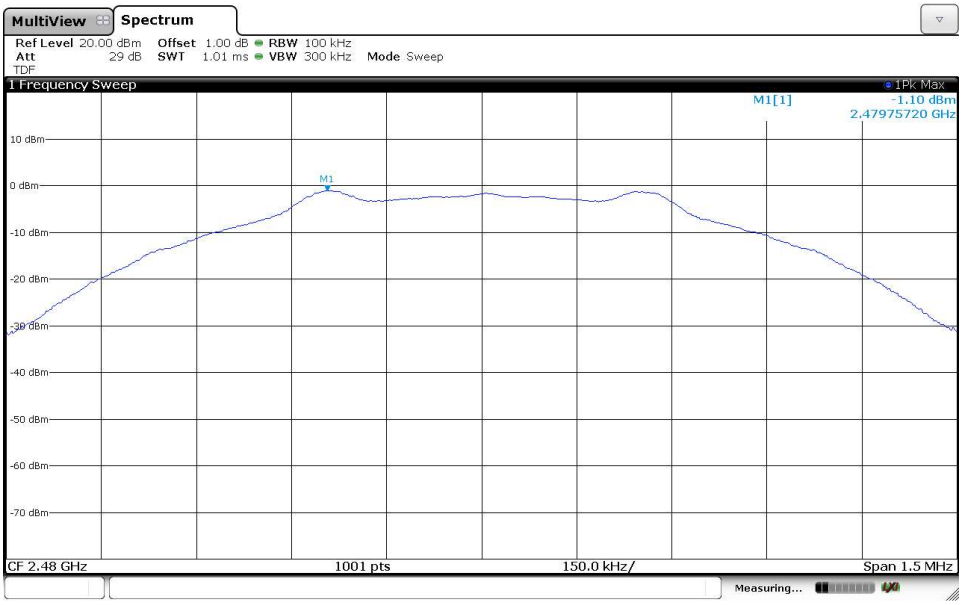
Reference Level– 2 402 MHz



Reference Level– 2 440 MHz

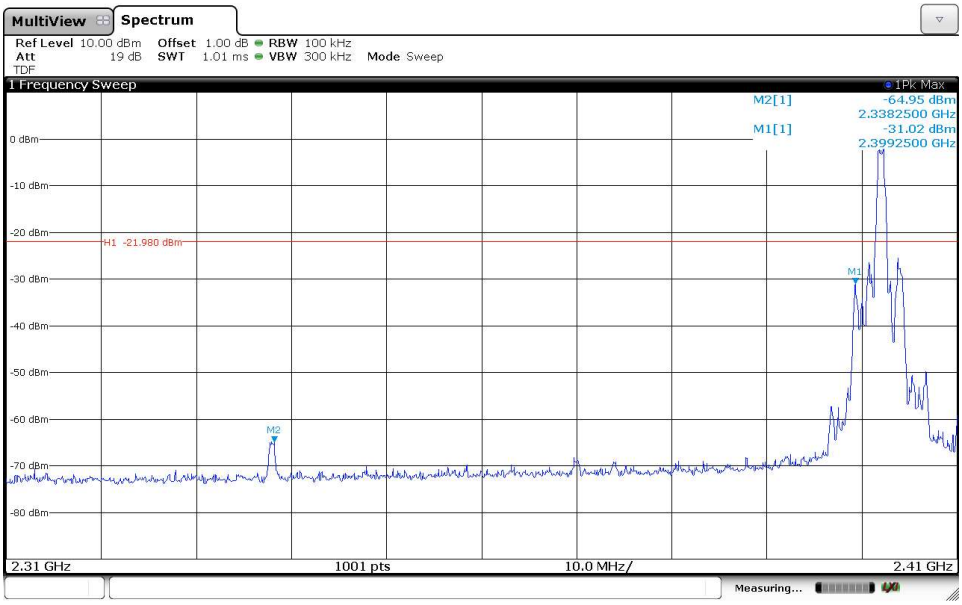


Reference Level– 2 480 MHz

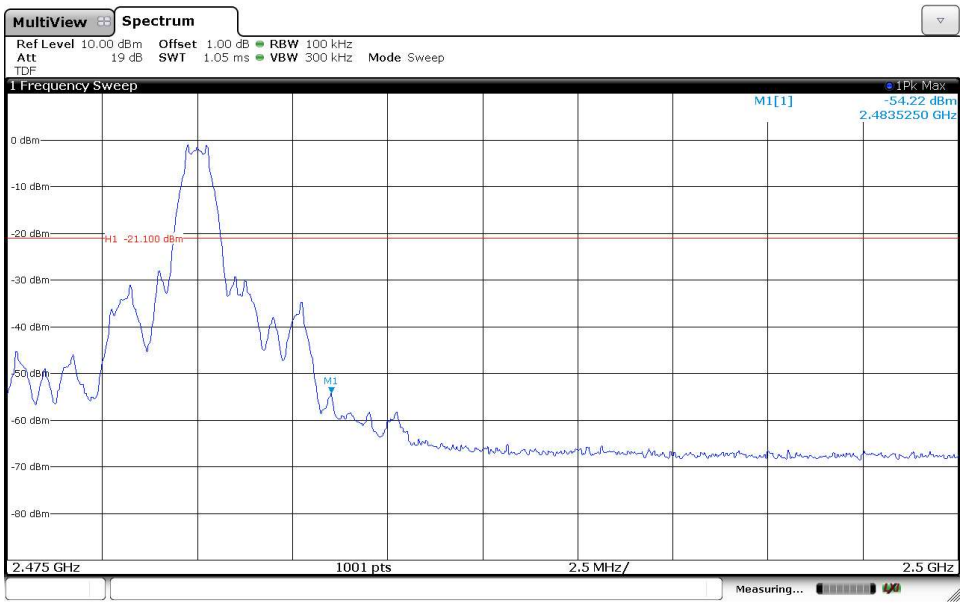


Band Edge

Lowest – 2 402 MHz

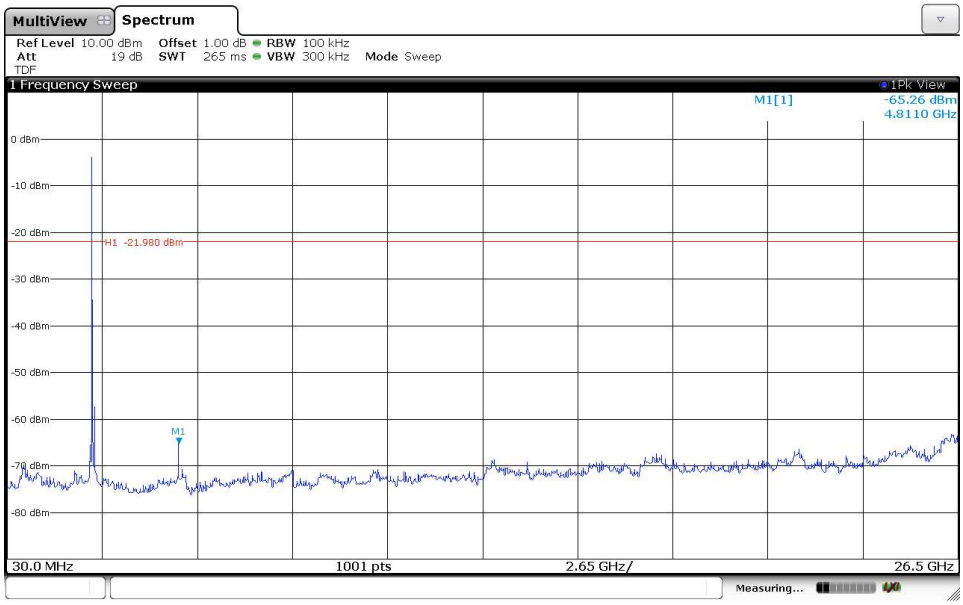


Highest – 2 480 MHz

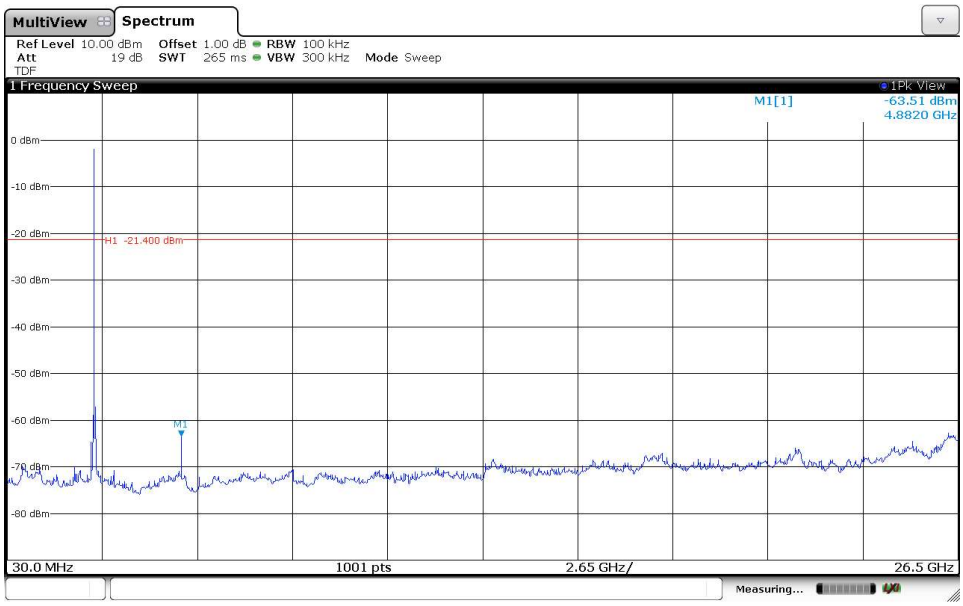


Spurious

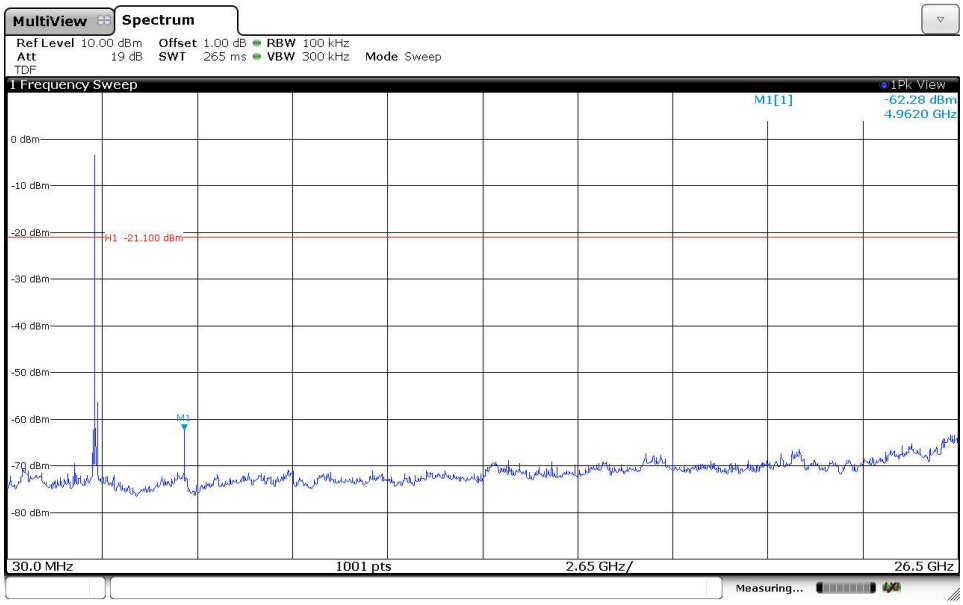
Lowest – 2 402 MHz



Middle – 2 440 MHz



Highest – 2 480 MHz



Radiated Measurement

Test Condition: Temperature (22 ± 2) °C; Humidity (48 ± 2) %

9 kHz ~ 30 MHz

Test Mode – BT LE –Middle Channel -2 440 MHz (Worst Case)

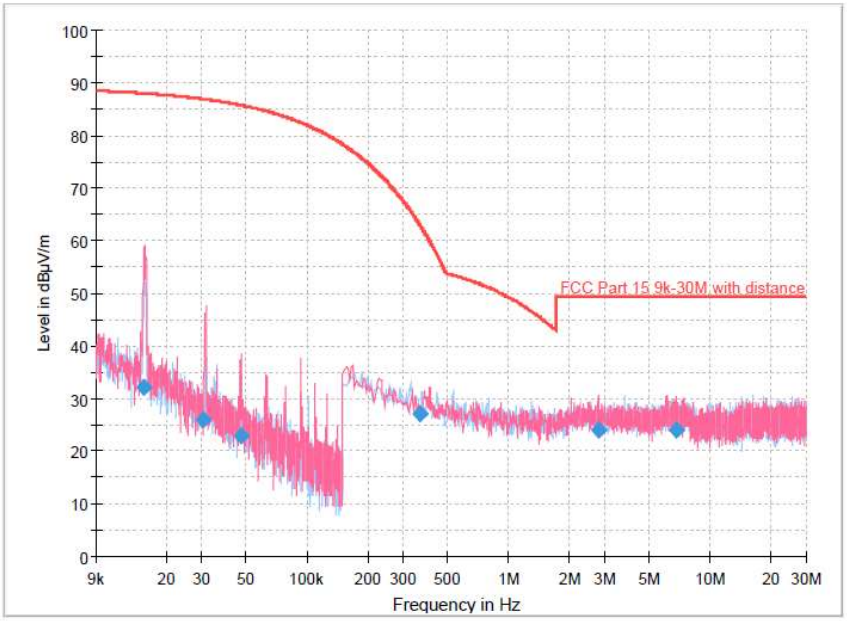
Frequency [MHz]	QuasiPeak [dB(µV)/m]	Limit [dB(µV/m)]	Margin [dB]	Bandwidth [kHz]	Pol.	Azimuth [deg]	Corr. [dB/m]
0.016	32.08	88.03	55.95	0.200	V	299.0	19.7
0.031	25.88	86.95	61.06	0.200	V	262.0	19.5
0.047	22.89	85.74	62.84	0.200	V	242.0	19.7
0.363	27.14	62.94	35.80	9.000	V	0.0	19.5
2.801	24.04	49.50	25.46	9.000	V	184.0	19.6
6.866	23.92	49.50	25.58	9.000	V	74.0	19.9

Note :

1. According to § 15.31(o), Emission levels are not reported much lower than the limits by over 20 dB.
2. QuasiPeak[dB(µV)/m] = Reading value[dB(µV)] + Corr.[dB/m]
3. Measured Distance is 3 m.
   Distance Corr.[dB] = 20 * Log ((3 m) / (300 m)) = -40 [dB] at 0.009 MHz ~ 0.490 MHz
   = 20 * Log ((3 m) / (30 m)) = -20 [dB] at 0.490 MHz ~ 30 MHz
4. Limit = (Subpart 15 15.209) Radiated emission limits – Distance Corr.[dB]

Test Data

-Horizontal & Vertical



Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Bandwidth (kHz)	Pol	Azimuth (deg)	Corr. (dB)
0.015532	32.08	88.03	55.95	0.200	V	299.0	19.7
0.030524	25.88	86.95	61.06	0.200	V	262.0	19.5
0.047327	22.89	85.74	62.84	0.200	V	242.0	19.7
0.363315	27.14	62.94	35.80	9.000	V	0.0	19.5
2.801165	24.04	49.50	25.46	9.000	V	184.0	19.6
6.865660	23.92	49.50	25.58	9.000	V	74.0	19.9

30 MHz ~ 1 GHz

Test Mode – BT LE –Lowest Channel-2 402 MHz

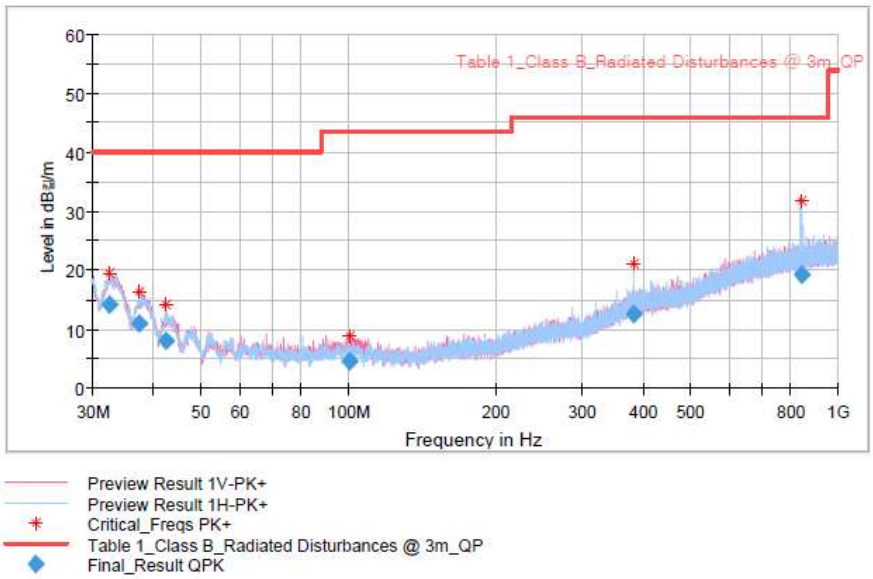
Frequency [MHz]	QuasiPeak [dB(µV)/m]	Limit [dB(µV/m)]	Margin [dB]	Bandwidth [kHz]	Height [cm]	Pol.	Azimuth [deg]	Corr. [dB/m]
32.647	14.14	40.00	25.86	120.000	253.3	V	190.0	-21.8
37.550	10.91	40.00	29.09	120.000	100.8	H	239.0	-24.4
42.428	7.87	40.00	32.13	120.000	350.9	H	298.0	-26.8
100.371	4.65	43.50	38.85	120.000	103.6	V	58.0	-27.1
383.972	12.47	46.00	33.53	120.000	100.8	H	256.0	-16.5
842.624	19.20	46.00	26.80	120.000	150.0	H	102.0	-8.7

Note :

1. According to § 15.31(o), Emission levels are not reported much lower than the limits by over 20 dB.
2. QuasiPeak[dB(µV)/m] = Reading value[dB(µV)] + Corr.[dB/m]

Test Data

-Horizontal & Vertical



Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
32.647062	14.14	40.00	25.86	120.000	253.3	V	190.0	-21.8
37.550375	10.91	40.00	29.09	120.000	100.8	H	239.0	-24.4
42.427875	7.87	40.00	32.13	120.000	350.9	H	298.0	-26.8
100.371375	4.65	43.50	38.85	120.000	103.6	V	58.0	-27.1
383.972344	12.47	46.00	33.53	120.000	100.8	H	256.0	-16.5
842.624156	19.20	46.00	26.80	120.000	150.0	H	102.0	-8.7

Test Mode – BT LE –Middle Channel-2 440 MHz

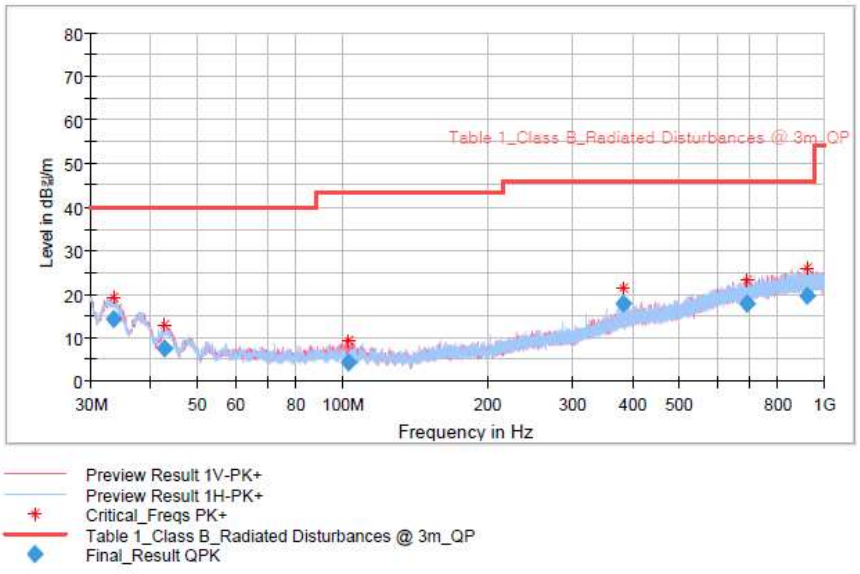
Frequency [MHz]	QuasiPeak [dB(µV)/m]	Limit [dB(µV/m)]	Margin [dB]	Bandwidth [kHz]	Height [cm]	Pol.	Azimuth [deg]	Corr. [dB/m]
33.451	14.39	40.00	25.61	120.000	100.7	H	88.0	-22.2
42.801	7.54	40.00	32.46	120.000	349.9	V	33.0	-26.9
102.598	4.34	43.50	39.16	120.000	149.7	V	65.0	-27.1
383.998	17.62	46.00	28.38	120.000	99.8	H	103.0	-16.5
690.056	17.66	46.00	28.34	120.000	350.0	H	7.0	-10.1
923.791	19.69	46.00	26.31	120.000	353.6	V	43.0	-8.1

Note :

1. According to § 15.31(o), Emission levels are not reported much lower than the limits by over 20 dB.
2. QuasiPeak[dB(µV)/m] = Reading value[dB(µV)] + Corr.[dB/m]

Test Data

-Horizontal & Vertical



Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
33.450531	14.39	40.00	25.61	120.000	100.7	H	88.0	-22.2
42.801000	7.54	40.00	32.46	120.000	349.9	V	33.0	-26.9
102.597750	4.34	43.50	39.16	120.000	149.7	V	65.0	-27.1
383.997500	17.62	46.00	28.38	120.000	99.8	H	103.0	-16.5
690.055844	17.66	46.00	28.34	120.000	350.0	H	7.0	-10.1
923.790875	19.69	46.00	26.31	120.000	353.6	V	43.0	-8.1

Test Mode – BT LE –Highest Channel-2 480 MHz

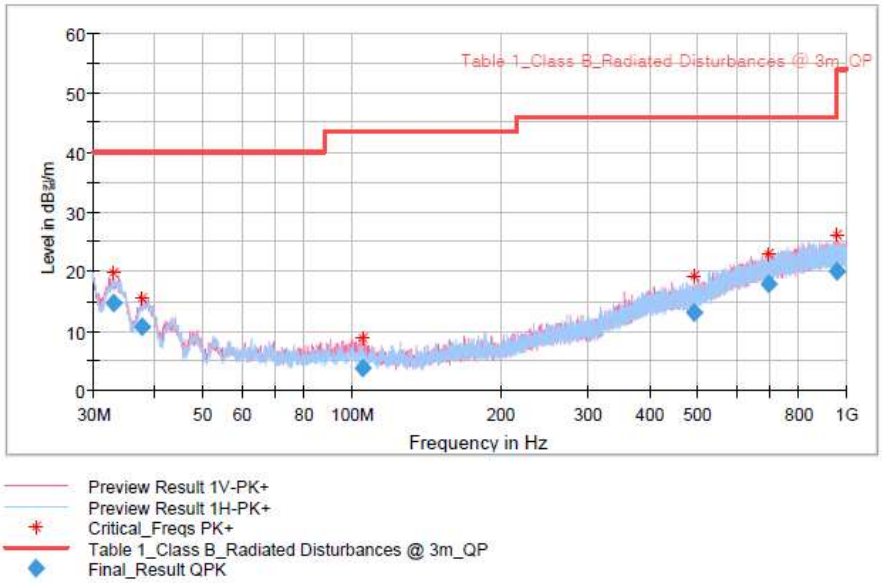
Frequency [MHz]	QuasiPeak [dB(µV)/m]	Limit [dB(µV/m)]	Margin [dB]	Bandwidth [kHz]	Height [cm]	Pol.	Azimuth [deg]	Corr. [dB/m]
33.046	14.61	40.00	25.39	120.000	349.7	H	74.0	-22.0
37.806	10.77	40.00	29.23	120.000	250.1	V	174.0	-24.5
105.530	3.78	43.50	39.72	120.000	250.5	V	186.0	-27.2
491.877	13.04	46.00	32.96	120.000	350.0	V	323.0	-14.8
697.585	17.76	46.00	28.24	120.000	250.2	V	40.0	-10.1
954.536	19.92	46.00	26.08	120.000	350.0	V	60.0	-8.1

Note :

1. According to § 15.31(o), Emission levels are not reported much lower than the limits by over 20 dB.
2. QuasiPeak[dB(µV)/m] = Reading value[dB(µV)] + Corr.[dB/m]

Test Data

-Horizontal & Vertical



Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
33.046250	14.61	40.00	25.39	120.000	349.7	H	74.0	-22.0
37.806312	10.77	40.00	29.23	120.000	250.1	V	174.0	-24.5
105.530000	3.78	43.50	39.72	120.000	250.5	V	186.0	-27.2
491.876969	13.04	46.00	32.96	120.000	350.0	V	323.0	-14.8
697.584781	17.76	46.00	28.24	120.000	250.2	V	40.0	-10.1
954.535812	19.92	46.00	26.08	120.000	350.0	V	60.0	-8.1

1 GHz ~ 26.5 GHz

Test Mode – BT LE –Lowest Channel-2 402 MHz

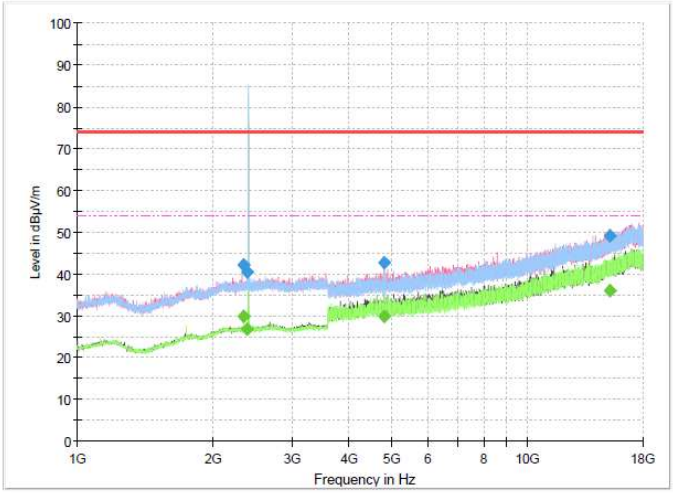
Frequency [MHz]	MaxPeak [dB(µV)/m]	Average [dB(µV)/m]	Limit [dB(µV/m)]	Margin [dB]	Height [cm]	Pol.	Azimuth [deg]	Corr. [dB/m]	Distance Corr. [dB]
#2 337.900	45.65	-	74.00	28.35	117.1	H	29.0	1.5	3.52
#2 337.900	-	33.43	54.00	20.57	117.1	H	29.0	1.5	3.52
#2 380.400	43.96	-	74.00	30.04	136.2	H	81.0	1.6	3.52
#2 380.400	-	30.38	54.00	23.62	136.2	H	81.0	1.6	3.52
4 805.450	46.28	-	74.00	27.72	178.4	V	19.0	4.4	3.52
4 805.450	-	33.50	54.00	20.50	178.4	V	19.0	4.4	3.52
15 184.800	52.82	-	74.00	21.18	171.4	H	171.0	17.0	3.52
15 184.800	-	39.62	54.00	14.38	171.4	H	171.0	17.0	3.52
18 603.850	50.14	-	74.00	23.86	232.4	H	222.0	3.6	3.52
18 603.850	-	37.20	54.00	16.80	232.4	H	222.0	3.6	3.52
18 654.700	49.85	-	74.00	24.15	336.9	V	312.0	3.5	3.52
18 654.700	-	37.13	54.00	16.87	336.9	V	312.0	3.5	3.52
22 191.800	50.63	-	74.00	23.37	139.8	H	0.0	6.3	3.52
22 191.800	-	38.03	54.00	15.97	139.8	H	0.0	6.3	3.52
22 213.400	50.95	-	74.00	23.05	240.7	V	160.0	6.3	3.52
22 213.400	-	38.05	54.00	15.95	240.7	V	160.0	6.3	3.52

Note :

1. According to § 15.31(o), Emission levels are not reported much lower than the limits by over 20 dB.
2. Measured distance is 4.5 m.
   Distance Corr.[dB] = 20 * Log ((4.5 m)/(3 m)) = 3.52 [dB]
3. "#" means the restricted band.
4. Maxpeak & Average = reading value[dB(µV)] + Distance Corr.[dB] + Corr.[dB/m]

Test Data

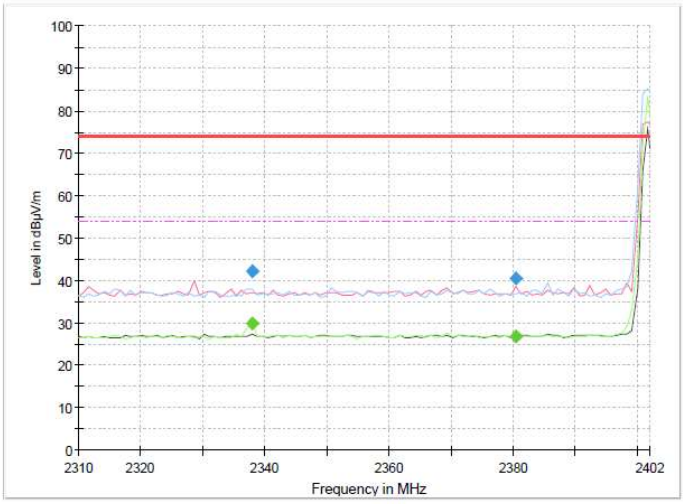
-1 GHz ~ 18 GHz



Final_Result

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
2337.900000	42.13	---	74.00	31.87	1000.000	117.1	H	29.0	1.5
2337.900000	---	29.91	54.00	24.09	1000.000	117.1	H	29.0	1.5
2380.400000	40.44	---	74.00	33.56	1000.000	136.2	H	81.0	1.6
2380.400000	---	26.86	54.00	27.14	1000.000	136.2	H	81.0	1.6
4805.450000	42.76	---	74.00	31.24	1000.000	178.4	V	19.0	4.4
4805.450000	---	29.98	54.00	24.02	1000.000	178.4	V	19.0	4.4
15184.800000	49.30	---	74.00	24.70	1000.000	171.4	H	-171.0	17.0
15184.800000	---	36.10	54.00	17.90	1000.000	171.4	H	-171.0	17.0

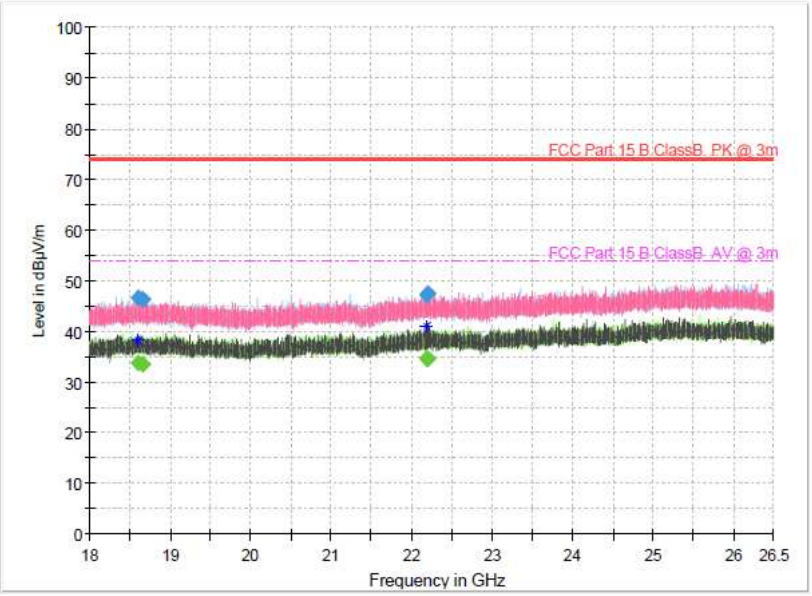
-Restricted Band



Final_Result

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
2337.900000	42.13	---	74.00	31.87	1000.000	117.1	H	29.0	1.5
2337.900000	---	29.91	54.00	24.09	1000.000	117.1	H	29.0	1.5
2380.400000	40.44	---	74.00	33.56	1000.000	136.2	H	81.0	1.6
2380.400000	---	26.86	54.00	27.14	1000.000	136.2	H	81.0	1.6
4805.450000	42.76	---	74.00	31.24	1000.000	178.4	V	19.0	4.4
4805.450000	---	29.98	54.00	24.02	1000.000	178.4	V	19.0	4.4
15184.800000	49.30	---	74.00	24.70	1000.000	171.4	H	-171.0	17.0
15184.800000	---	36.10	54.00	17.90	1000.000	171.4	H	-171.0	17.0

-18 GHz ~ 26.5 GHz



Final_Result

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
18603.850000	---	33.68	54.00	20.32	1000.000	232.4	H	222.0	3.6
18603.850000	46.62	---	74.00	27.38	1000.000	232.4	H	222.0	3.6
18654.700000	46.33	---	74.00	27.67	1000.000	336.9	V	312.0	3.5
18654.700000	---	33.61	54.00	20.39	1000.000	336.9	V	312.0	3.5
22191.800000	47.11	---	74.00	26.89	1000.000	139.8	H	0.0	6.3
22191.800000	---	34.51	54.00	19.49	1000.000	139.8	H	0.0	6.3
22213.400000	---	34.53	54.00	19.47	1000.000	240.7	V	160.0	6.3
22213.400000	47.43	---	74.00	26.57	1000.000	240.7	V	160.0	6.3

Test Mode – BT LE –Middle Channel-2 440 MHz

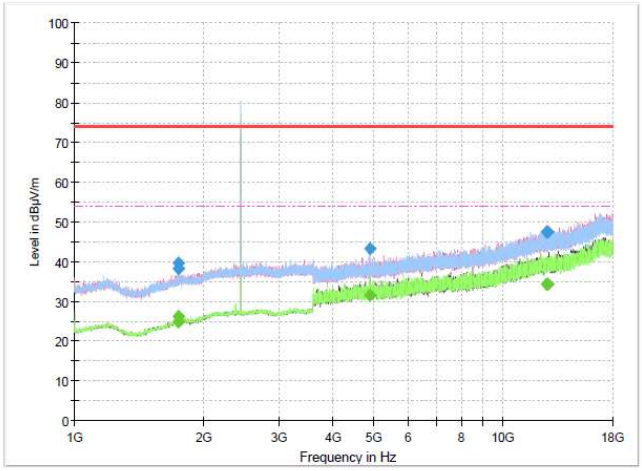
Frequency [MHz]	MaxPeak [dB(µV)/m]	Average [dB(µV)/m]	Limit [dB(µV/m)]	Margin [dB]	Height [cm]	Pol.	Azimuth [deg]	Corr. [dB/m]	Distance Corr. [dB]
1 745.450	41.66	-	74.00	32.34	117.1	H	29	1.5	3.52
1 745.450	-	28.49	54.00	25.51	117.1	H	29	1.5	3.52
1 749.700	43.19	-	74.00	30.81	136.2	H	81	1.6	3.52
1 749.700	-	29.86	54.00	24.14	136.2	H	81	1.6	3.52
4 881.100	46.72	-	74.00	27.28	178.4	V	19	4.4	3.52
4 881.100	-	35.10	54.00	18.90	178.4	V	19	4.4	3.52
12 673.050	50.88	-	74.00	23.12	171.4	H	171	17	3.52
12 673.050	-	37.92	54.00	16.08	171.4	H	171	17	3.52
12 685.800	50.93	-	74.00	23.07	232.4	H	222	3.6	3.52
12 685.800	-	37.76	54.00	16.24	232.4	H	222	3.6	3.52
18 725.650	49.88	-	74.00	24.12	336.9	V	312	3.5	3.52
18 725.650	-	37.10	54.00	16.90	336.9	V	312	3.5	3.52
19 601.917	51.19	-	74.00	22.81	139.8	H	0	6.3	3.52
19 601.917	-	36.52	54.00	17.48	139.8	H	0	6.3	3.52
21 205.517	50.27	-	74.00	23.73	240.7	V	160	6.3	3.52
21 205.517	-	37.23	54.00	16.77	240.7	V	160	6.3	3.52

Note :

1. According to § 15.31(o), Emission levels are not reported much lower than the limits by over 20 dB.
2. Measured distance is 4.5 m.
   Distance Corr.[dB] = 20 * Log ((4.5 m)/(3 m)) = 3.52 [dB]
3. "#" means the restricted band.
4. Maxpeak & Average = reading value[dB(µV)] + Distance Corr.[dB] + Corr.[dB/m]

Test Data

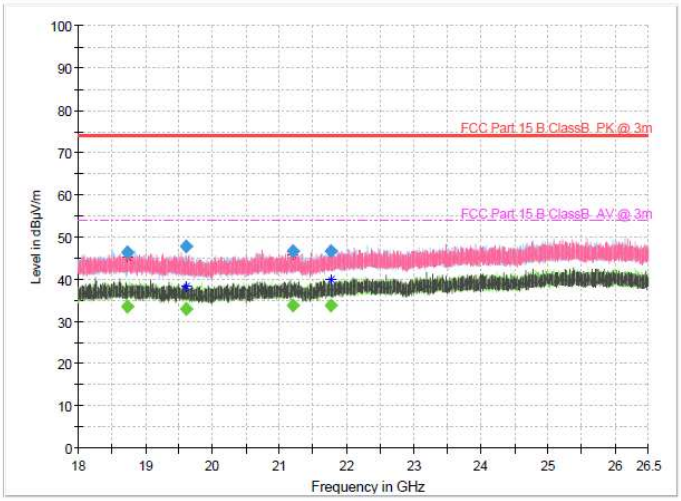
-1 GHz ~ 18 GHz



Final_Result

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
1745.450000	38.14	---	74.00	35.86	1000.000	202.4	H	194.0	-1.3
1745.450000	---	24.97	54.00	29.03	1000.000	202.4	H	194.0	-1.3
1749.700000	---	26.34	54.00	27.66	1000.000	99.6	H	339.0	-1.2
1749.700000	39.67	---	74.00	34.33	1000.000	99.6	H	339.0	-1.2
4881.100000	43.20	---	74.00	30.80	1000.000	244.2	V	209.0	4.4
4881.100000	---	31.58	54.00	22.42	1000.000	244.2	V	209.0	4.4
12673.050000	---	34.40	54.00	19.60	1000.000	300.1	H	-33.0	14.4
12673.050000	47.36	---	74.00	26.64	1000.000	300.1	H	-33.0	14.4
12685.800000	---	34.24	54.00	19.76	1000.000	99.6	V	40.0	14.4
12685.800000	47.41	---	74.00	26.59	1000.000	99.6	V	40.0	14.4

-18 GHz ~ 26.5 GHz



Final_Result

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
18725.650000	46.36	---	74.00	27.64	1000.000	99.6	H	179.0	3.5
18725.650000	---	33.58	54.00	20.42	1000.000	99.6	H	179.0	3.5
19601.916667	---	33.00	54.00	21.00	1000.000	300.5	V	0.0	3.0
19601.916667	47.67	---	74.00	26.33	1000.000	300.5	V	0.0	3.0
21205.516667	---	33.71	54.00	20.29	1000.000	162.8	H	37.0	4.8
21205.516667	46.75	---	74.00	27.25	1000.000	162.8	H	37.0	4.8
21770.400000	46.70	---	74.00	27.30	1000.000	296.6	V	314.0	5.6
21770.400000	---	33.83	54.00	20.17	1000.000	296.6	V	314.0	5.6

Test Mode – BT LE –Highest Channel-2 480 MHz

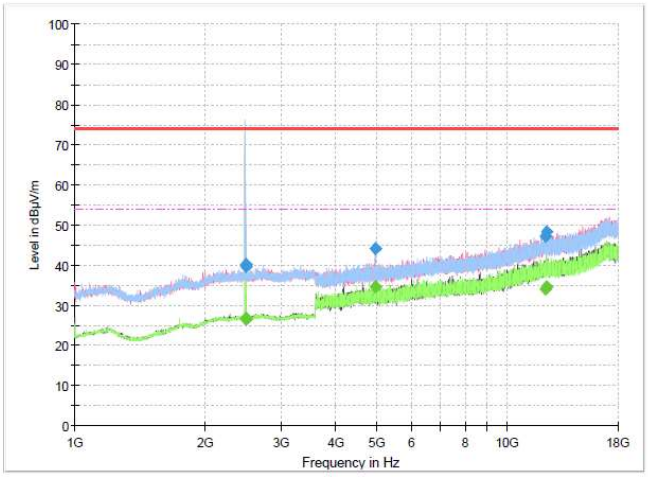
Frequency [MHz]	MaxPeak [dB(µV)/m]	Average [dB(µV)/m]	Limit [dB(µV/m)]	Margin [dB]	Height [cm]	Pol.	Azimuth [deg]	Corr. [dB/m]	Distance Corr. [dB]
#2 487.500	43.78	-	74.00	30.22	117.1	H	29	1.5	3.52
#2 487.500	-	30.15	54.00	23.85	117.1	H	29	1.5	3.52
#2 494.300	43.28	-	74.00	30.72	136.2	H	81	1.6	3.52
#2 494.300	-	30.22	54.00	23.78	136.2	H	81	1.6	3.52
4 957.600	47.66	-	74.00	26.34	178.4	V	19	4.4	3.52
4 957.600	-	38.10	54.00	15.90	178.4	V	19	4.4	3.52
12 230.200	50.82	-	74.00	23.18	171.4	H	171	17	3.52
12 230.200	-	37.59	54.00	16.41	171.4	H	171	17	3.52
12 305.850	51.82	-	74.00	22.18	232.4	H	222	3.6	3.52
12 305.850	-	38.14	54.00	15.86	232.4	H	222	3.6	3.52
19 397.817	49.97	-	74.00	24.03	336.9	V	312	3.5	3.52
19 397.817	-	36.86	54.00	17.14	336.9	V	312	3.5	3.52
19 566.267	49.73	-	74.00	24.27	139.8	H	0	6.3	3.52
19 566.267	-	36.47	54.00	17.53	139.8	H	0	6.3	3.52
23 832.133	52.26	-	74.00	21.74	240.7	V	160	6.3	3.52
23 832.133	-	39.01	54.00	14.99	240.7	V	160	6.3	3.52
23 951.083	51.53	-	74.00	22.47	240.7	V	160	6.3	3.52
23 951.083	-	38.54	54.00	15.46	240.7	V	160	6.3	3.52

Note :

1. According to § 15.31(o), Emission levels are not reported much lower than the limits by over 20 dB.
2. Measured distance is 4.5 m.
   Distance Corr.[dB] = 20 * Log ((4.5 m)/(3 m)) = 3.52 [dB]
3. "#" means the restricted band.
4. Maxpeak & Average = reading value[dB(µV)] + Distance Corr.[dB] + Corr.[dB/m]

Test Data

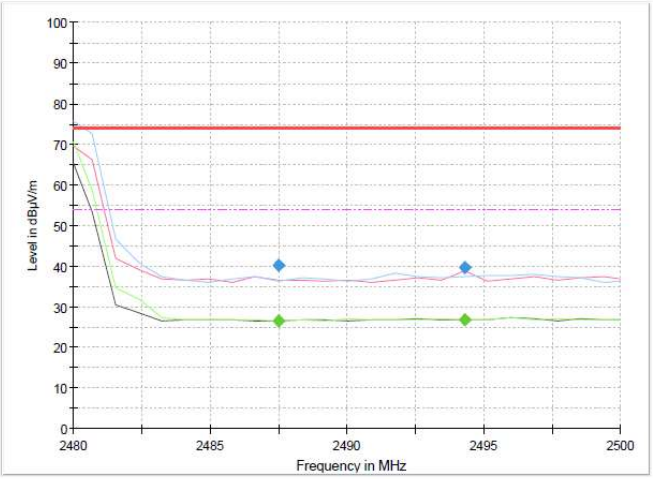
-1 GHz ~ 18 GHz



Final_Result

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
2487.500000	40.26	---	74.00	33.74	1000.000	100.9	V	216.0	1.8
2487.500000	---	26.63	54.00	27.37	1000.000	100.9	V	216.0	1.8
2494.300000	39.76	---	74.00	34.24	1000.000	174.6	V	129.0	1.8
2494.300000	---	26.70	54.00	27.30	1000.000	174.6	V	129.0	1.8
4957.600000	44.14	---	74.00	29.86	1000.000	177.3	H	66.0	4.4
4957.600000	---	34.58	54.00	19.42	1000.000	177.3	H	66.0	4.4
12230.200000	---	34.07	54.00	19.93	1000.000	175.9	V	112.0	14.0
12230.200000	47.30	---	74.00	26.70	1000.000	175.9	V	112.0	14.0
12305.850000	48.30	---	74.00	25.70	1000.000	218.3	V	240.0	14.1
12305.850000	---	34.62	54.00	19.38	1000.000	218.3	V	240.0	14.1

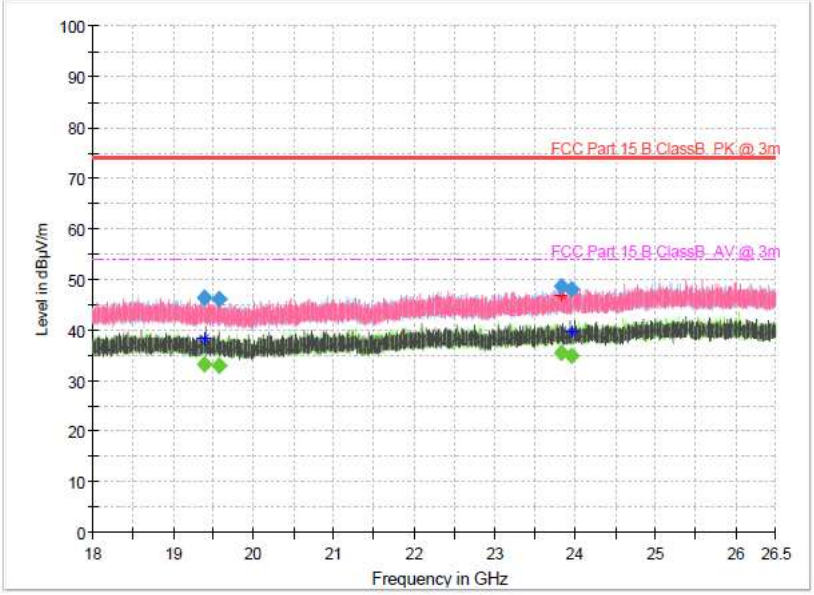
-Restricted Band



Final_Result

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
2487.500000	40.26	---	74.00	33.74	1000.000	100.9	V	216.0	1.8
2487.500000	---	26.63	54.00	27.37	1000.000	100.9	V	216.0	1.8
2494.300000	39.76	---	74.00	34.24	1000.000	174.6	V	129.0	1.8
2494.300000	---	26.70	54.00	27.30	1000.000	174.6	V	129.0	1.8
4957.600000	44.14	---	74.00	29.86	1000.000	177.3	H	66.0	4.4
4957.600000	---	34.58	54.00	19.42	1000.000	177.3	H	66.0	4.4
12230.200000	---	34.07	54.00	19.93	1000.000	175.9	V	112.0	14.0
12230.200000	47.30	---	74.00	26.70	1000.000	175.9	V	112.0	14.0
12305.850000	48.30	---	74.00	25.70	1000.000	218.3	V	240.0	14.1
12305.850000	---	34.62	54.00	19.38	1000.000	218.3	V	240.0	14.1

-18 GHz ~ 26.5 GHz



Final_Result

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
19397.816667	46.45	---	74.00	27.55	1000.000	161.9	H	173.0	3.0
19397.816667	---	33.34	54.00	20.66	1000.000	161.9	H	173.0	3.0
19566.266667	46.21	---	74.00	27.79	1000.000	178.6	V	130.0	3.0
19566.266667	---	32.95	54.00	21.05	1000.000	178.6	V	130.0	3.0
23832.133333	---	35.49	54.00	18.51	1000.000	179.8	V	6.0	7.3
23832.133333	48.74	---	74.00	25.26	1000.000	179.8	V	6.0	7.3
23951.083333	---	35.02	54.00	18.98	1000.000	388.1	H	247.0	7.3
23951.083333	48.01	---	74.00	25.99	1000.000	388.1	H	247.0	7.3

6. Conducted Emissions

6.1 Rule

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 50 µH/50 Ω 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 range (MHz)	Limits dB(µV)			
	Quasi-peak		Average	
	Class A	Class B	Class A	Class B
0.15 to 0.50	79	66 to 56	66	56 to 46
0.50 to 5	73	56	60	46
5 to 30		60		50

Note 1 The lower limit shall apply at the transition frequencies.
Note 2 The limit decreases linearly with the logarithm of the frequency in the range (0.15 ~ 0.5) MHz.
Note 3 Result (dBµV) = Reading (dBµV) + Corr. (Insertion Loss (dB) + Cable Loss (dB))
Result: Final value, Reading: Receiver reading value, Corr.: Correction Factor
Margin = Limit – Result

6.2 Measurement Procedure

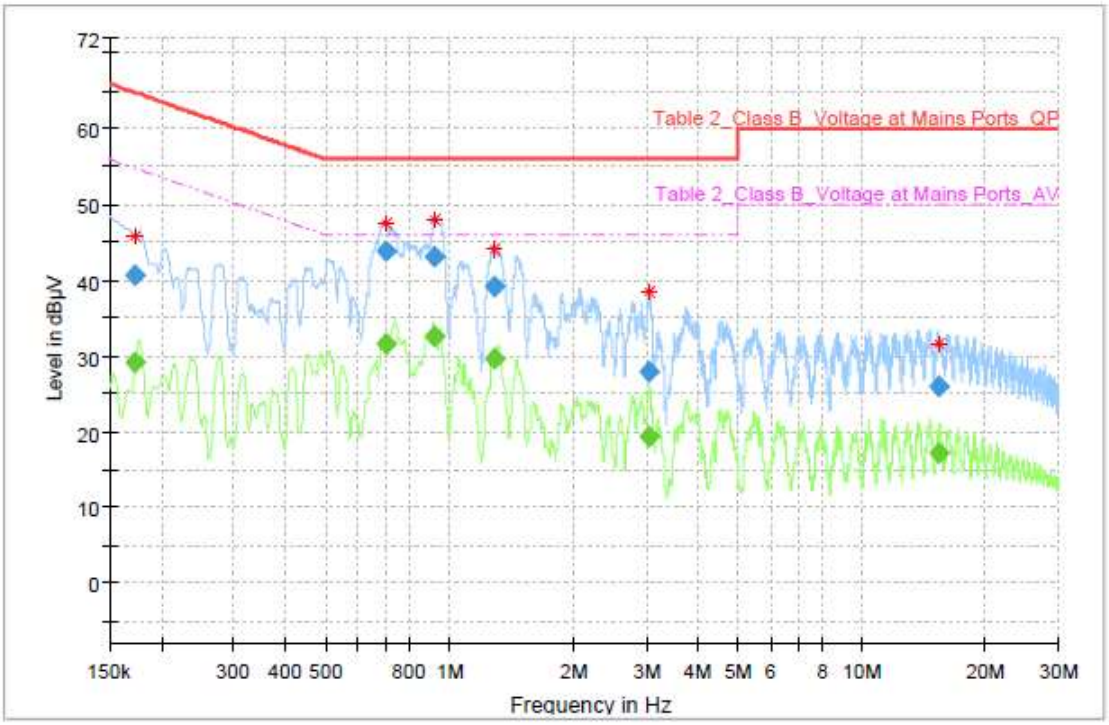
All data rates and modes were investigated for this test. The full data for the worst case data rate are reported in this section.

AC line conducted emissions from the EUT were measured according to the dictates of ANSI C63.10-2013

1. The test procedure is performed in a 6.5 m × 3.6 m × 3.6 m (L × W × H) shielded room. The EUT along with its peripherals were placed on a 1.0 m (W) × 1.5 m (L) and 0.8 m in height wooden table and the EUT was adjusted to maintain a 0.4 meter space from a vertical reference plane.
2. The EUT was connected to power mains through a line impedance stabilization network (LISN) which provides 50 ohm coupling impedance for measuring instrument and the chassis ground was bounded to the horizontal ground plane of shielded room.
3. The excess power cable between the EUT and the LISN was bundled. All connecting cables of EUT were moved to find the maximum emission.

6.3 Test result – Complied

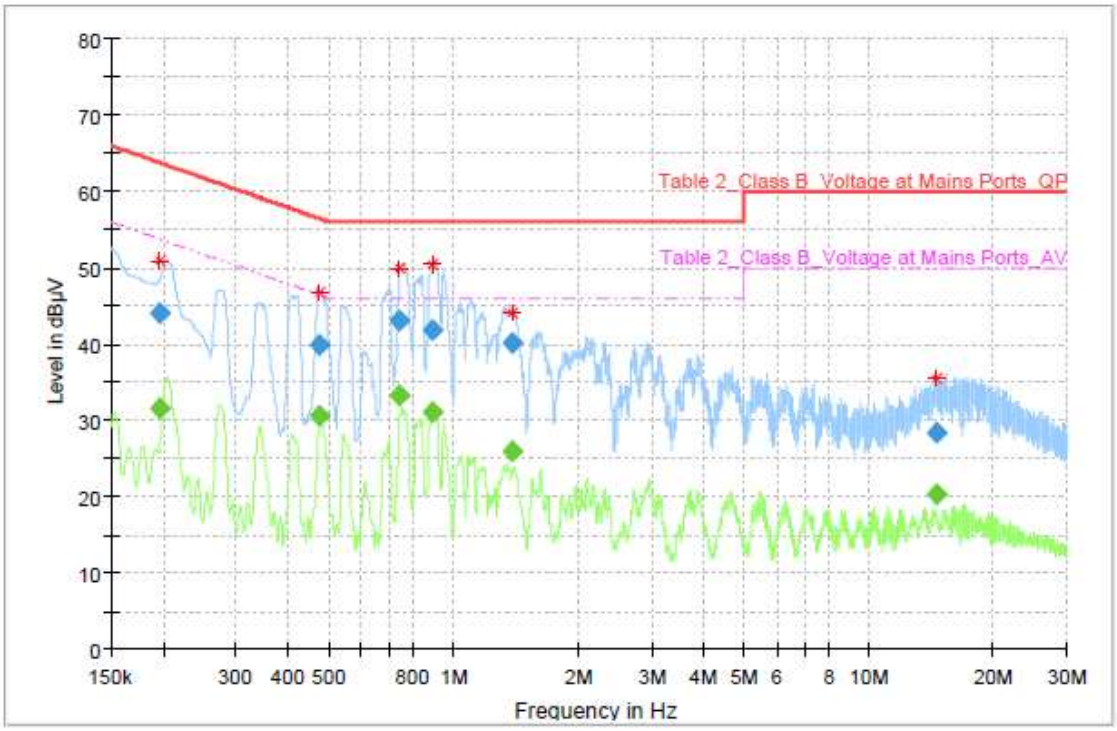
-Live



Final_Result

Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.172324	---	29.13	54.85	25.72	9.000	L1	ON	10.0
0.172324	40.76	---	64.85	24.09	9.000	L1	ON	10.0
0.701618	---	31.57	46.00	14.43	9.000	L1	ON	9.8
0.701618	43.83	---	56.00	12.17	9.000	L1	ON	9.8
0.916445	---	32.58	46.00	13.42	9.000	L1	ON	9.8
0.916445	43.21	---	56.00	12.79	9.000	L1	ON	9.8
1.288903	---	29.77	46.00	16.23	9.000	L1	ON	9.7
1.288903	39.30	---	56.00	16.70	9.000	L1	ON	9.7
3.042608	---	19.31	46.00	26.69	9.000	L1	ON	9.7
3.042608	27.98	---	56.00	28.02	9.000	L1	ON	9.7
15.367473	---	17.32	50.00	32.68	9.000	L1	ON	9.9
15.367473	25.99	---	60.00	34.01	9.000	L1	ON	9.9

-Neutral



Final_Result

Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.197343	---	31.52	53.72	22.20	9.000	N	ON	9.9
0.197343	43.94	---	63.72	19.78	9.000	N	ON	9.9
0.475436	---	30.46	46.42	15.96	9.000	N	ON	9.9
0.475436	39.90	---	56.42	16.51	9.000	N	ON	9.9
0.740529	---	33.28	46.00	12.72	9.000	N	ON	9.8
0.740529	42.97	---	56.00	13.03	9.000	N	ON	9.8
0.892934	---	31.11	46.00	14.89	9.000	N	ON	9.8
0.892934	41.86	---	56.00	14.14	9.000	N	ON	9.8
1.382896	---	25.84	46.00	20.16	9.000	N	ON	9.7
1.382896	40.22	---	56.00	15.78	9.000	N	ON	9.7
14.589936	---	20.34	50.00	29.66	9.000	N	ON	9.9
14.589936	28.30	---	60.00	31.70	9.000	N	ON	9.9

SECTION 5 APPENDIX 1 – PHOTOS

Setup Photos

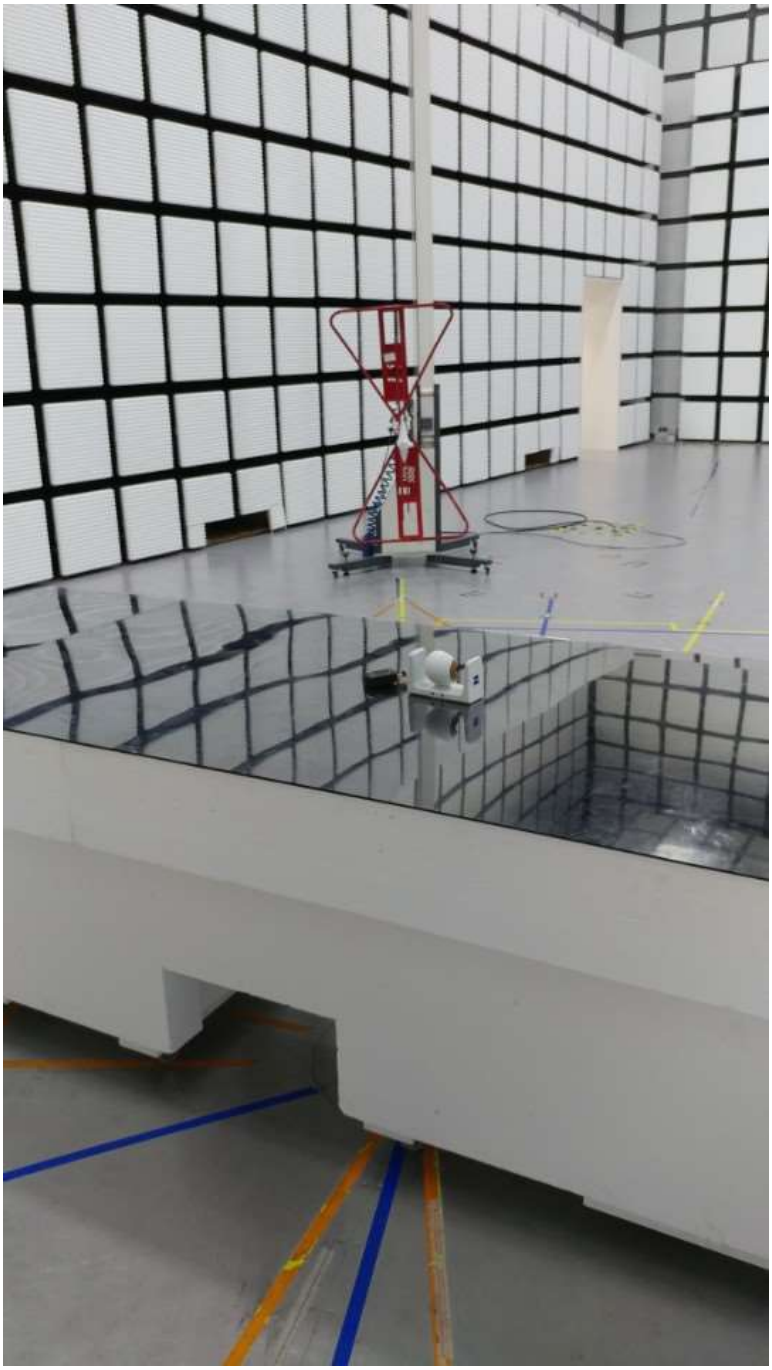
-Radiated Emissions (9kHz ~ 30 MHz)

front

Rear

-Radiated Emissions (30 MHz ~ 1 GHz)

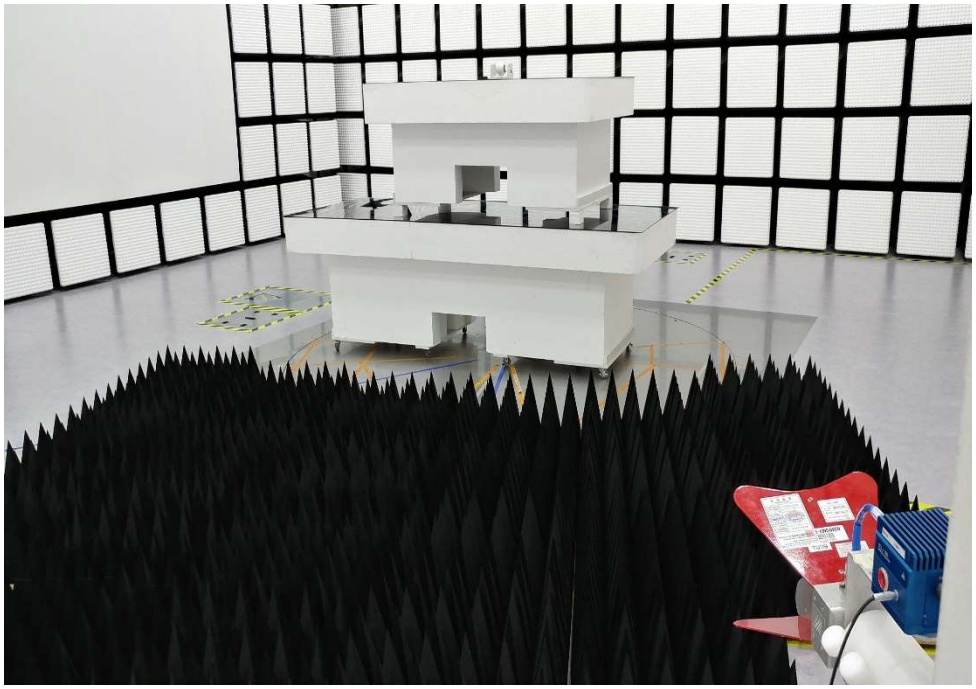
Front



Rear

-Radiated Emissions (1 GHz ~ 18 GHz)

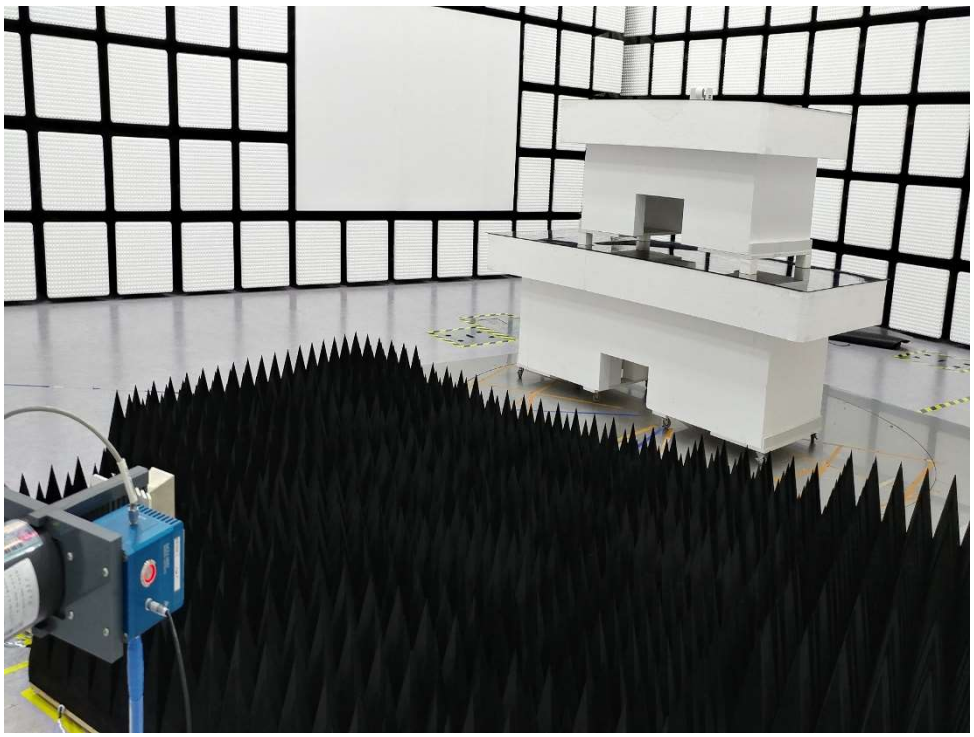
Front



Rear

-Radiated Emissions (18 GHz ~ 26.5 GHz)

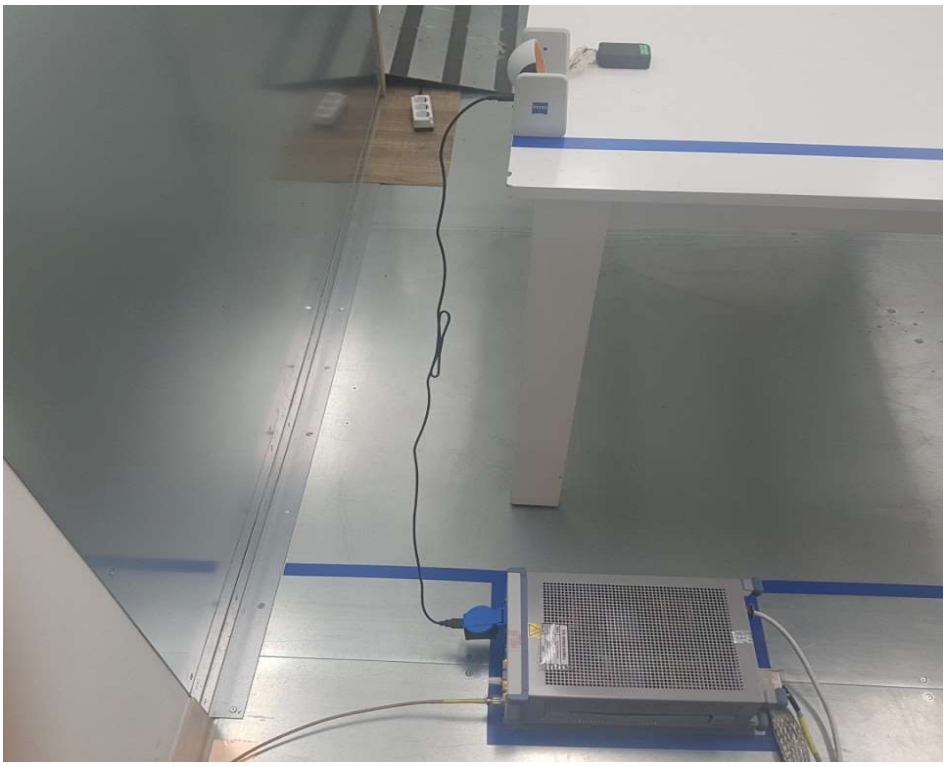
Front



Rear

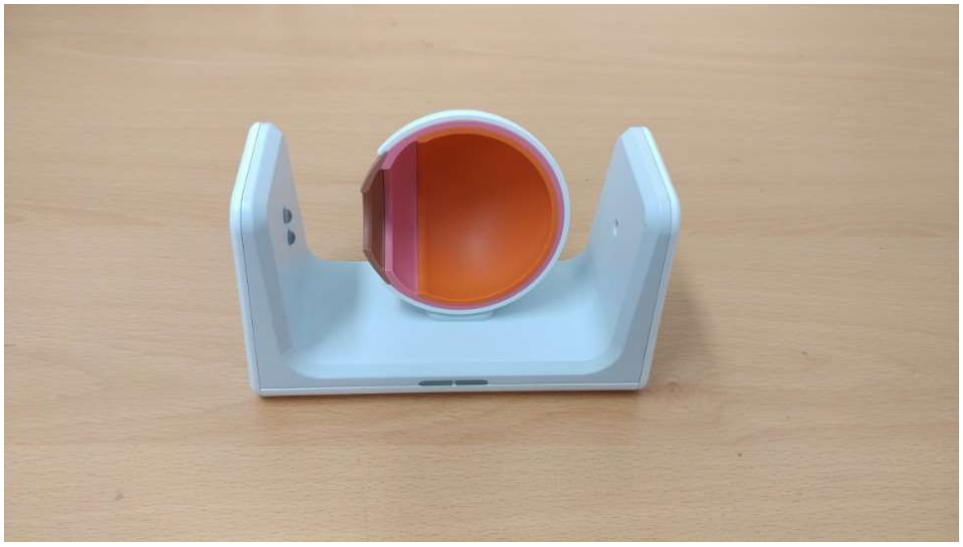
-Conducted Emissions

Front



Rear

Photographs of EUT



Front

Rear

SECTION 6 REVISION HISTORY

REVISION HISTORY			
Revision	Report No.	Issue Date	Description
0	170700101SEL-TEL4	21 Sep. 2017	Initial
1	170700101SEL-TEL4(R1)	11 Oct. 2017	Modify test setup photo size and add 18 GHz to 26 GHz measurement uncertainty.

- End -