

FCC Test Report

Report No.: RFCJWN-WTW-P25110582-5

FCC ID: 2AEUP-5DFYA7

Test Model: 5DFYA7

Received Date: 2025/12/5

Test Date: 2025/12/11 ~ 2025/12/19

Issued Date: 2025/12/19

Applicant: Ring LLC

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Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
Lin Kou Laboratories

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**FCC Registration /
Designation Number(1):** 788550 / TW0003

**FCC Registration /
Designation Number(2):** 281270 / TW0032



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Release Control Record

Issue No.	Description	Date Issued
RFCJWN-WTW-P25110582-5	Original Release	2025/12/19

1 Certificate of Conformity

Product: Video Doorbell

Brand: ring

Test Model: 5DFYA7

Sample Status: Engineering sample

Applicant: Ring LLC

Test Date: 2025/12/11 ~ 2025/12/19

Standards: 47 CFR FCC Part 15, Subpart C (Section 15.249)
ANSI C63.10-2020

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's RF characteristics under the conditions specified in this report.

Prepared by :

Vera Huang

Date:

2025/12/19

Vera Huang / Specialist

Approved by :

Jeremy Lin

Date:

2025/12/19

Jeremy Lin / Project Engineer

2 Summary of Test Results

47 CFR FCC Part 15, Subpart C (Section 15.249)			
FCC Clause	Test Item	Result	Remarks
15.207	AC Power Conducted Emission	Pass	Meet the requirement of limit. Minimum passing margin is -13.19 dB at 0.38018 MHz.
15.209 15.249 15.249 (d)	Radiated Emission Test Band Edge Measurement Limit: 50dB less than the peak value of fundamental frequency or meet radiated emission limit in section 15.209	Pass	Meet the requirement of limit. Minimum passing margin is -3.0 dB at 42.61 MHz.
15.215	Channel Bandwidth	Pass	Meet the requirement of limit.
15.203	Antenna Requirement	Pass	No antenna connector is used.

Note: Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

2.1 Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

Measurement	Frequency	Expanded Uncertainty (k=2) ($\pm$)
Radiated Emissions	9 kHz ~ 30 MHz	3.00 dB
	30 MHz ~ 1 GHz	2.92 dB
	1 GHz ~ 18 GHz	1.76 dB
	18 GHz ~ 40 GHz	1.77 dB
	40 GHz ~ 66 GHz	4.59 dB
	66 GHz ~ 100 GHz	5.37 dB
	Above 100 GHz	5.40 dB
Conducted Emissions at mains ports	9 kHz ~ 30 MHz	2.88 dB
20 dB Bandwidth	-	206.5 Hz

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	Video Doorbell
Brand	ring
Test Model	5DFYA7
Status of EUT	Engineering sample
Power Supply Rating	42.5-57Vdc, 0.6A
Modulation Type	FMCW
Operating Frequency	24.05856 GHz ~ 24.23856 GHz
Field Strength	99.1 dBuV/m (Average) at 3m
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	NA
Data Cable Supplied	NA

Note:

1. The antenna information is listed as below.

Antenna Gain (dBi)	Frequency Range (GHz)	Antenna Type	Connector Type
2	24.15	Patch	N/A

*Due to radiated measurements are made and the antenna gain is already accounted for this device, so provide an antenna datasheet and/or antenna measurement report is not required. The antenna dimensions and pictures (include antenna wire length if have) are stated in EUT photo exhibit.

2. The above EUT information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or user's manual.

3.2 Description of Test Modes

3 channels are provided for test:

Channel	Frequency (GHz)
1 (Low)	24.05856
2 (Middle)	24.14855
3 (High)	24.23856

3.2.1 Test Mode Applicability and Tested Channel Detail

Pre-Scan:	1. EUT can be used in the following ways: X-axis/ Y-axis/ Z-axis. Pre-scan these ways and find the worst case as a representative test condition. 2. Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
Worst Case:	X-axis/ Y-axis/ Z-axis Worst Condition: Y-axis

EUT Configure Mode	Applicable to				Description
	RE $\geq$ 1G	RE<1G	PLC	BW	
-	√	√	√	√	-

Where RE $\geq$ 1G: Radiated Emission above 1GHz & Bandedge Measurement
RE<1G: Radiated Emission below 1GHz
PLC: Power Line Conducted Emission
BW: 20dB Bandwidth Measurement

Radiated Emission Test (Above 1GHz):

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Tested Channel	Modulation Type
-	1, 2, 3	FMCW

Radiated Emission Test (Below 1GHz):

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Tested Channel	Modulation Type
-	1, 2, 3	FMCW

Power Line Conducted Emission Test:

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Tested Channel	Modulation Type
-	1, 2, 3	FMCW

20dB Bandwidth Measurement:

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Tested Channel	Modulation Type
-	2	FMCW

Test Condition:

Applicable to	Environmental Conditions	Input Power	Tested by
RE $\geq$ 1G	22deg. C, 67%RH	120Vac, 60Hz	Wade Huang
RE<1G	22deg. C, 68%RH	120Vac, 60Hz	Greg Lin
PLC	25deg. C, 75%RH	120Vac, 60Hz	Greg Lin
BW	25deg. C, 60%RH	120Vac, 60Hz	Wade Huang

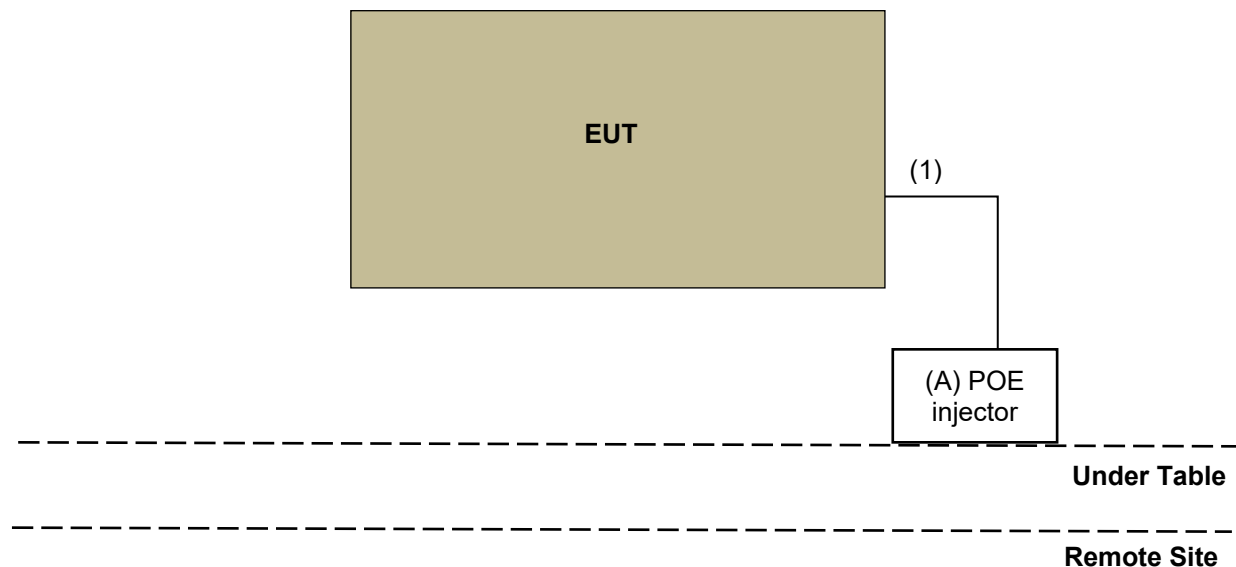
3.3 Description of Support Units

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

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A	POE injector	LIANCUO	LG-BTG-N601 (2.5G)	N/A	N/A	Supplied by applicant (for RF Setup)

ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1	RJ-45 Cable	1	1.5	No	0	Provided by Lab (for RF Setup)

3.3.1 Configuration of System under Test



3.4 General Description of Applied Standards

The EUT is a RF Product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

FCC Part 15, Subpart C (15.249)
ANSI C63.10-2020

All test items have been performed and recorded as per the above standards.

4 Test Types and Results

4.1 Radiated Emission and Bandedge Measurement

4.1.1 Limits of Radiated Emission and Bandedge Measurement

The field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:

Fundamental Frequency	Field Strength of Fundamental (millivolts/meter)	Field Strength of Harmonics (microvolts/meter)
902 ~ 928 MHz	50	500
2400 ~ 2483.5 MHz	50	500
5725 ~ 5875 MHz	50	500
24 ~ 24.25 GHz	250	2500

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits as below table, whichever is the lesser attenuation

Frequencies (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 ~ 0.490	$2400/F(\text{kHz})$	300
0.490 ~ 1.705	$24000/F(\text{kHz})$	30
1.705 ~ 30.0	30	30
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

Note:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = $20 \log$ Emission level (uV/m).
3. For frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.

4.1.2 Test Instruments

For below 40GHz test:

Description & Manufacturer	Model No.	Serial No.	Date Of Calibration	Due Date Of Calibration
Test Receiver KEYSIGHT	N9038B	MY60180019	2025/1/15	2026/1/14
BILOG Antenna SCHWARZBECK	VULB9168	9168-995	2025/9/17	2026/9/16
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-404	2025/11/9	2026/11/8
Loop Antenna EMCI	HLA 6121	45745	2025/9/1	2026/8/31
Preamplifier EMCI	EMC330N	980783	2025/1/14	2026/1/13
Preamplifier EMCI	EMC118A45SE	980810	2024/12/26	2025/12/25
Preamplifier EMCI	EMC184045SE	980787	2025/1/14	2026/1/13
RF signal cable EMCI	EMC104-SM-SM-(9000+ 2000+1000)	201230+ 201242+ 210101	2025/1/14	2026/1/13
RF signal cable EMCI	EMCCFD400-NM-NM-(9 000+300+500)	201252+ 201250+ 201245	2025/1/14	2026/1/13
RF signal cable EMCI	EMC101G-KM-KM-(500 0+3000+2000)	201261+201258+ 201249	2025/1/14	2026/1/13
Software BV CPS	ADT_Radiated_ V7.6.15.9.5	NA	NA	NA
Turn Table Max-Full	MFT-151SS-0.5T	NA	NA	NA
Turn Table Controller Max-Full	MF-7802BS	MF780208675	NA	NA
Antenna Tower KaiTuo	NA	NA	NA	NA
Antenna Tower Controller KaiTuo	KT-2000	NA	NA	NA
Antenna_Horn oxe89 QUINSTAR	QWH-QPRR00	QWH-QPRR00-1	2024/4/9	2026/4/8
Antenna_Horn Conical Keysight	WR15CH-Conical	RCHO15RL-1	2024/4/9	2026/4/8
RF cable Anritsu	LL403	2019010240001	2025/1/3	2026/1/2
Spectrum Analyzer Keysight	N9042B+V3050A	US60360159	2024/4/16	2026/4/15
Antenna_Horn Conical Keysight	WR10CH-Conical	RCHO10RL-1	2024/4/9	2026/4/8

NOTE:

1. The calibration interval of the above test instruments is 12/24 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in WM Chamber 7.

For above 40GHz test:

Description & Manufacturer	Model No.	Serial No.	Date Of Calibration	Due Date Of Calibration
Spectrum Analyzer Keysight	N9042B	US60360159	2024/4/16	2026/4/15
*OXE89 Horn Antenna (33~55GHz) QuinStar	QWH-QPRR00	QWH-QPRR00-1	2024/4/9	2026/4/8
*Conical Horn Antenna (50~75GHz) Keysight	WR15CH-Conical	RCHO15RL-1	2024/4/9	2026/4/8
*Conical Horn Antenna (75~110GHz) Keysight	WR10CH-Conical	RCHO10RL-1	2024/4/9	2026/4/8
Extension Module_down converter (50-75GHz) 9VDC supply Keysight	N9029AV15	SAX 381	2024/4/16	2026/4/15
Extension Module_down converter (75-110GHz) 9VDC supply Keysight	N9029AV10	SAX 378	2024/4/16	2026/4/15
PSG analog signal generator Keysight	E8257D	MY60020399	2025/1/13	2026/1/12
*Power Meter Keysight (50-110GHz)	U8489A	US59290810	2024/3/8	2026/3/7
Boresight Antenna Tower & Turn Table Max-Full	MF-7802BS	MF780208530	NA	NA

NOTE:

1. The calibration interval of the above test instruments is 12/24 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in WM Chamber 7.

4.1.3 Test Procedures

For Radiated emission: Below 30MHz

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. Parallel, perpendicular, and ground-parallel orientations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Quasi-Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

Note:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 9kHz at frequency below 30MHz.

For Radiated emission: 30MHz ~ 100GHz

- a. The EUT was placed on the top of a rotating table 0.8 meters (for 30MHz ~ 1GHz) / 1.5 meters (for above 1GHz) above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The distance at which limits are typically specified is 3 meter; however, closer measurement distances may be utilized.
- c. Begin handheld measurements with the test antenna (horn) at a distance of 1 meter from the EUT, in a horizontally polarized position. Slowly adjust its position, entirely covering the plane 1 meter from the EUT.
- d. Repeat (b) with the horn in a vertically polarized position.
- e. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- f. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- g. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.
- h. The test-receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

Note:

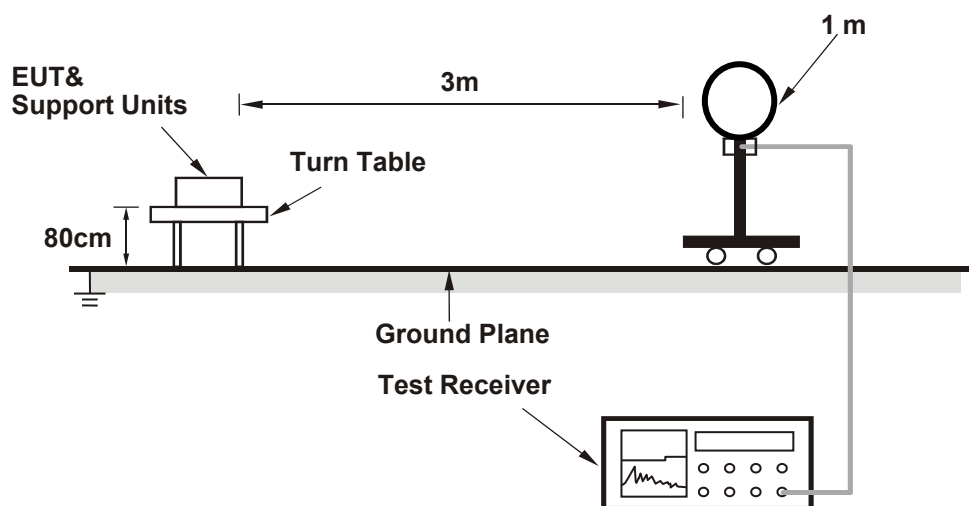
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequencies less than or equal to 1 GHz.
2. The resolution bandwidth is 1MHz and video bandwidth of test receiver/spectrum analyzer is 3MHz for Peak detection (PK) at frequency above 1GHz.
3. All modes of operation were investigated and the worst-case emissions are reported.

4.1.4 Deviation from Test Standard

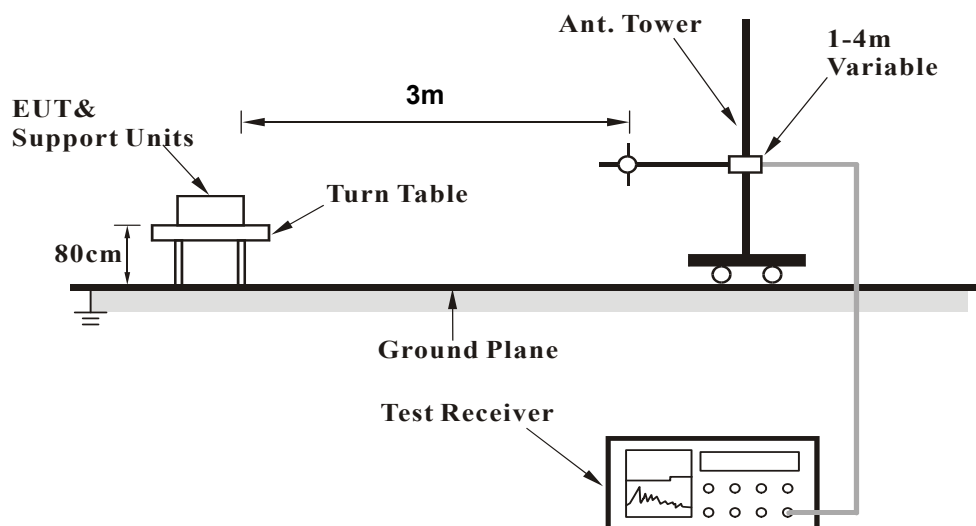
No deviation.

4.1.5 Test Setup

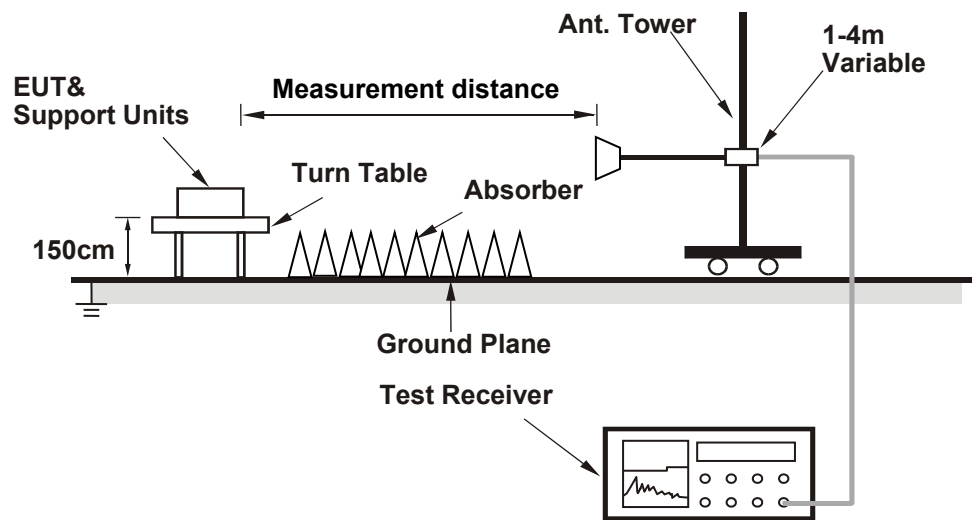
For Radiated emission below 30MHz



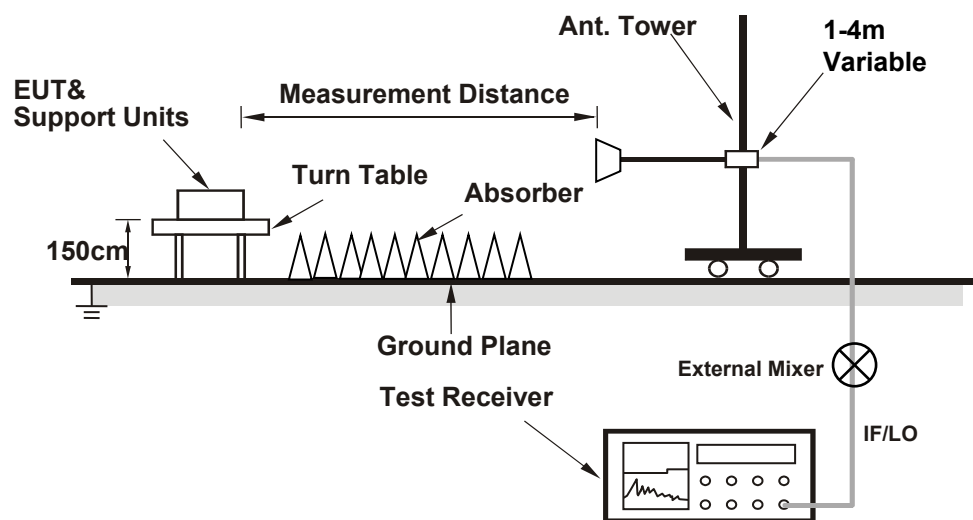
For Radiated emission 30MHz to 1GHz



For Radiated emission 1GHz ~ 40GHz



For Radiated emission above 40GHz



For the actual test configuration, please refer to the attached file (Test Setup Photo).

4.1.6 EUT Operating Conditions

- Placed the EUT on the testing table.
- Set the EUT under transmission condition continuously at specific channel frequency.

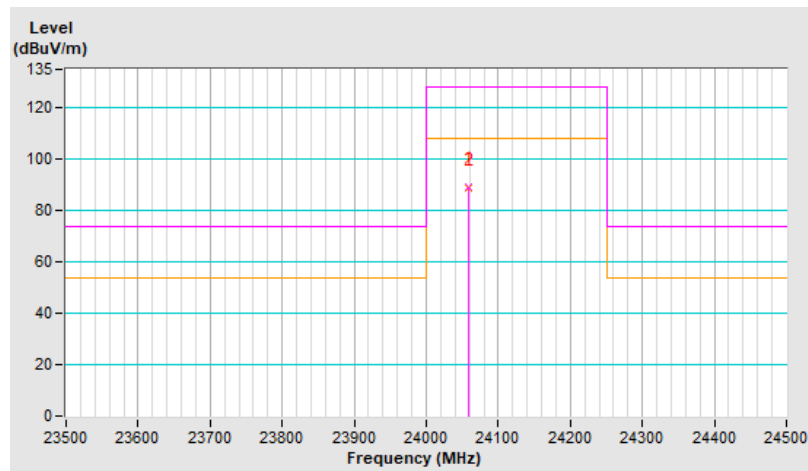
4.1.7 Test Results

Channel	TX Channel 1 : 24.05856 GHz	Detector Function	Peak (PK)
Frequency Range	23500MHz ~ 24500MHz		Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*24058.56	89.3 PK	128.0	-38.7	1.49 H	55	93.7	-4.4
2	*24058.56	88.9 AV	108.0	-19.1	1.49 H	55	93.3	-4.4

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value.
5. " * " : Fundamental frequency.

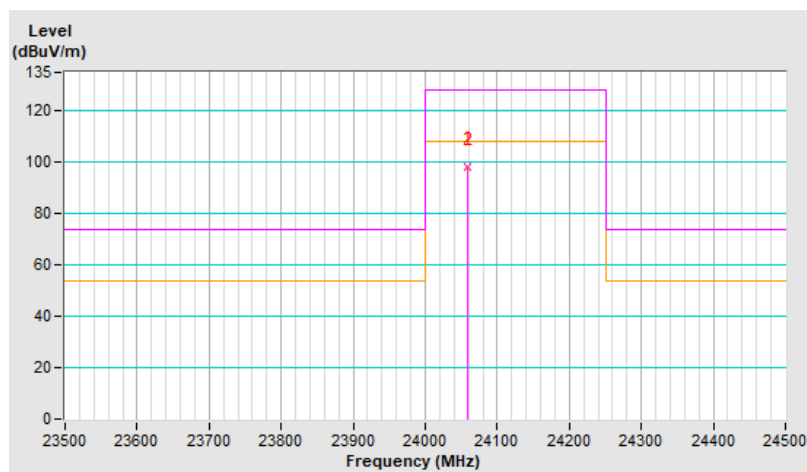


Channel	TX Channel 1 : 24.05856 GHz	Detector Function	Peak (PK) Average (AV)
Frequency Range	23500MHz ~ 24500MHz		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*24058.56	98.4 PK	128.0	-29.6	1.53 V	329	102.8	-4.4
2	*24058.56	98.1 AV	108.0	-9.9	1.53 V	329	102.5	-4.4

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value.
5. " * " : Fundamental frequency.

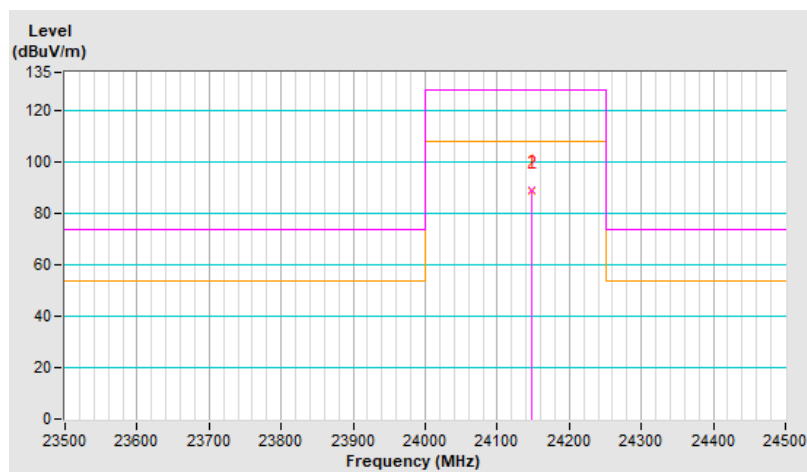


Channel	TX Channel 2 : 24.14855 GHz	Detector Function	Peak (PK) Average (AV)
Frequency Range	23500MHz ~ 24500MHz		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*24148.55	89.2 PK	128.0	-38.8	1.49 H	56	93.4	-4.2
2	*24148.55	88.9 AV	108.0	-19.1	1.49 H	56	93.1	-4.2

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value.
5. " * " : Fundamental frequency.

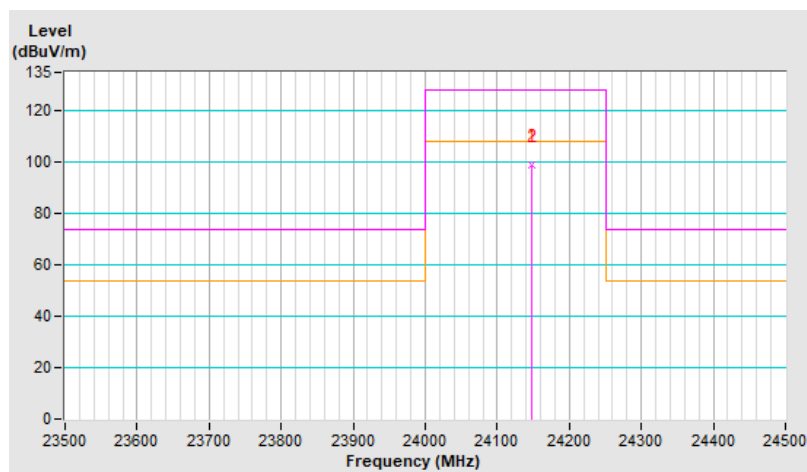


Channel	TX Channel 2 : 24.14855 GHz	Detector Function	Peak (PK) Average (AV)
Frequency Range	23500MHz ~ 24500MHz		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*24148.55	99.1 PK	128.0	-28.9	1.56 V	327	103.3	-4.2
2	*24148.55	98.8 AV	108.0	-9.2	1.56 V	327	103.0	-4.2

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value.
5. " * " : Fundamental frequency.

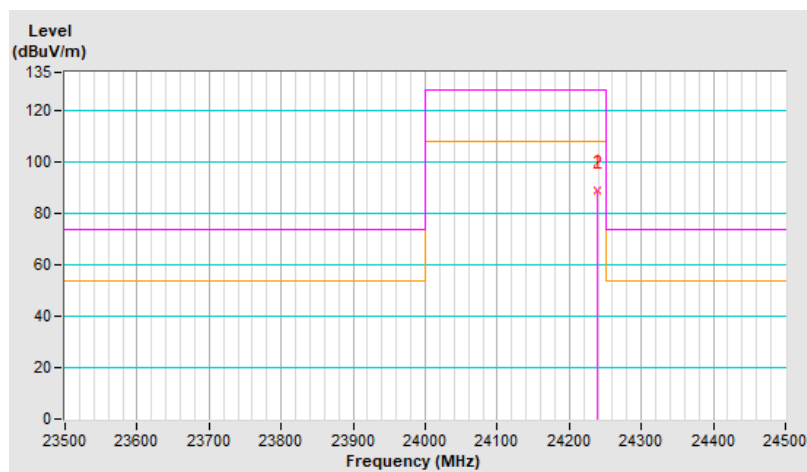


Channel	TX Channel 3 : 24.23856 GHz	Detector Function	Peak (PK) Average (AV)
Frequency Range	23500MHz ~ 24500MHz		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*24238.56	89.2 PK	128.0	-38.8	1.54 H	70	93.6	-4.4
2	*24238.56	88.8 AV	108.0	-19.2	1.54 H	70	93.2	-4.4

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value.
5. " * " : Fundamental frequency.

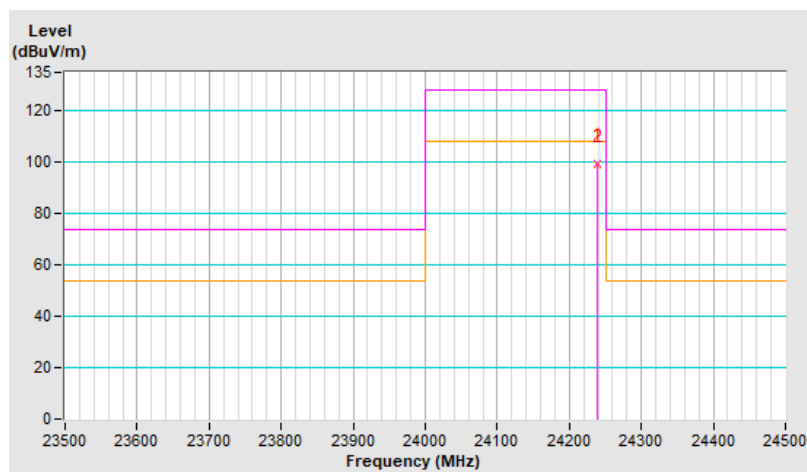


Channel	TX Channel 3 : 24.23856 GHz	Detector Function	Peak (PK) Average (AV)
Frequency Range	23500MHz ~ 24500MHz		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*24238.56	99.4 PK	128.0	-28.6	1.44 V	337	103.8	-4.4
2	*24238.56	99.1 AV	108.0	-8.9	1.44 V	337	103.5	-4.4

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value.
5. " * " : Fundamental frequency.



For 1~18 GHz Data:

RF Mode	TX	Channel	CH 1 : 24.05856 GHz
Frequency Range	1GHz ~ 18GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	17758.00	56.2 PK	74.0	-17.8	1.21 H	150	36.6	19.6
2	17758.00	43.3 AV	54.0	-10.7	1.21 H	150	23.7	19.6
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	17758.00	56.4 PK	74.0	-17.6	1.85 V	248	36.8	19.6
2	17758.00	43.5 AV	54.0	-10.5	1.85 V	248	23.9	19.6

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.

RF Mode	TX	Channel	CH 2 : 24.14855 GHz
Frequency Range	1GHz ~ 18GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	17779.00	56.3 PK	74.0	-17.7	1.36 H	147	36.7	19.6
2	17779.00	43.4 AV	54.0	-10.6	1.36 H	147	23.8	19.6
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	17779.00	56.5 PK	74.0	-17.5	1.82 V	244	36.9	19.6
2	17779.00	43.7 AV	54.0	-10.3	1.82 V	244	24.1	19.6

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.

RF Mode	TX	Channel	CH 3 : 24.23856 GHz
Frequency Range	1GHz ~ 18GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	17762.00	56.6 PK	74.0	-17.4	1.13 H	145	36.9	19.7
2	17762.00	43.6 AV	54.0	-10.4	1.13 H	145	23.9	19.7
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	17762.00	56.8 PK	74.0	-17.2	1.90 V	251	37.1	19.7
2	17762.00	43.9 AV	54.0	-10.1	1.90 V	251	24.2	19.7

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.

For 18~40 GHz Data:

RF Mode	TX	Channel	CH 1 : 24.05856 GHz
Frequency Range	18GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	39856.00	60.3 PK	74.0	-13.7	1.39 H	25	58.6	1.7
2	39856.00	48.8 AV	54.0	-5.2	1.39 H	25	47.1	1.7
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	39856.00	60.5 PK	74.0	-13.5	1.75 V	218	58.8	1.7
2	39856.00	49.0 AV	54.0	-5.0	1.75 V	218	47.3	1.7

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.

RF Mode	TX	Channel	CH 2 : 24.14855 GHz
Frequency Range	18GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	39812.00	60.3 PK	74.0	-13.7	1.36 H	39	58.6	1.7
2	39812.00	48.6 AV	54.0	-5.4	1.36 H	39	46.9	1.7
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	39812.00	60.6 PK	74.0	-13.4	1.69 V	215	58.9	1.7
2	39812.00	48.9 AV	54.0	-5.1	1.69 V	215	47.2	1.7

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.

RF Mode	TX	Channel	CH 3 : 24.23856 GHz
Frequency Range	18GHz ~ 40GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	39824.00	60.6 PK	74.0	-13.4	1.41 H	36	58.9	1.7
2	39824.00	49.1 AV	54.0	-4.9	1.41 H	36	47.4	1.7
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	39824.00	60.8 PK	74.0	-13.2	1.77 V	222	59.1	1.7
2	39824.00	49.3 AV	54.0	-4.7	1.77 V	222	47.6	1.7

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.

Above 40GHz Data:

RF Mode	TX	Channel	CH 1 : 24.05856 GHz
Frequency Range	40GHz ~ 50GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	48117.12	54.2 PK	88.0	-33.8	1.51 H	150	58.7	-4.5
2	48117.12	50.2 AV	68.0	-17.8	1.51 H	150	54.7	-4.5
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	48117.12	51.6 PK	88.0	-36.4	1.49 V	321	56.1	-4.5
2	48117.12	45.1 AV	68.0	-22.9	1.49 V	321	49.6	-4.5

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.

RF Mode	TX	Channel	CH 2 : 24.14855 GHz
Frequency Range	40GHz ~ 50GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	48297.10	56.4 PK	88.0	-31.6	1.55 H	150	60.5	-4.1
2	48297.10	52.3 AV	68.0	-15.7	1.55 H	150	56.4	-4.1
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	48297.10	53.3 PK	88.0	-34.7	1.50 V	321	57.4	-4.1
2	48297.10	47.1 AV	68.0	-20.9	1.50 V	321	51.2	-4.1

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.

RF Mode	TX	Channel	CH 3 : 24.23856 GHz
Frequency Range	40GHz ~ 50GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	48477.12	57.4 PK	88.0	-30.6	1.55 H	150	61.2	-3.8
2	48477.12	52.7 AV	68.0	-15.3	1.55 H	150	56.5	-3.8
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	48477.12	53.5 PK	88.0	-34.5	1.53 V	320	57.3	-3.8
2	48477.12	47.3 AV	68.0	-20.7	1.53 V	320	51.1	-3.8

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.

RF Mode	TX	Channel	CH 1 : 24.05856 GHz
Frequency Range	50GHz ~ 75GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	74877.00	56.6 PK	74.0	-17.4	1.15 H	101	56.4	0.2
2	74877.00	45.7 AV	54.0	-8.3	1.15 H	101	45.5	0.2
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	74877.00	56.8 PK	74.0	-17.2	1.81 V	40	56.6	0.2
2	74877.00	46.0 AV	54.0	-8.0	1.81 V	40	45.8	0.2

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.

RF Mode	TX	Channel	CH 2 : 24.14855 GHz
Frequency Range	50GHz ~ 75GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	74909.00	56.6 PK	74.0	-17.4	1.20 H	108	56.3	0.3
2	74909.00	45.9 AV	54.0	-8.1	1.20 H	108	45.6	0.3
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	74909.00	56.8 PK	74.0	-17.2	1.70 V	46	56.5	0.3
2	74909.00	46.2 AV	54.0	-7.8	1.70 V	46	45.9	0.3

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.

RF Mode	TX	Channel	CH 3 : 24.23856 GHz
Frequency Range	50GHz ~ 75GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	74900.00	56.5 PK	74.0	-17.5	1.13 H	119	56.2	0.3
2	74900.00	45.9 AV	54.0	-8.1	1.13 H	119	45.6	0.3
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	74900.00	56.7 PK	74.0	-17.3	1.75 V	36	56.4	0.3
2	74900.00	46.1 AV	54.0	-7.9	1.75 V	36	45.8	0.3

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.

RF Mode	TX	Channel	CH 1 : 24.05856 GHz
Frequency Range	75GHz ~ 100GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	98379.00	56.5 PK	74.0	-17.5	1.40 H	90	44.5	12.0
2	98379.00	46.0 AV	54.0	-8.0	1.40 H	90	34.0	12.0
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	98379.00	56.7 PK	74.0	-17.3	1.65 V	124	44.7	12.0
2	98379.00	46.3 AV	54.0	-7.7	1.65 V	124	34.3	12.0

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.

RF Mode	TX	Channel	CH 2 : 24.14855 GHz
Frequency Range	75GHz ~ 100GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	98411.00	56.4 PK	74.0	-17.6	1.49 H	81	44.4	12.0
2	98411.00	45.9 AV	54.0	-8.1	1.49 H	81	33.9	12.0
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	98411.00	56.6 PK	74.0	-17.4	1.80 V	115	44.6	12.0
2	98411.00	46.2 AV	54.0	-7.8	1.80 V	115	34.2	12.0

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.

RF Mode	TX	Channel	CH 3 : 24.23856 GHz
Frequency Range	75GHz ~ 100GHz	Detector Function	Peak (PK) Average (AV)

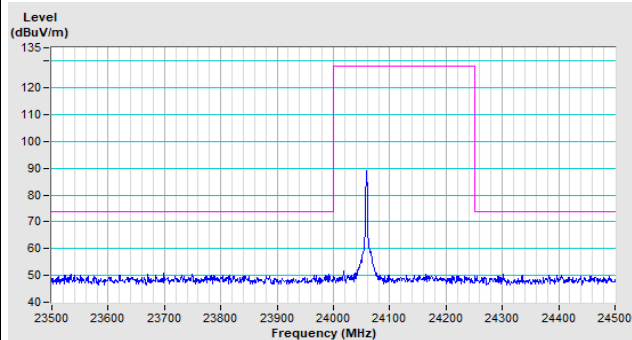
Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	98400.00	56.6 PK	74.0	-17.4	1.46 H	85	44.6	12.0
2	98400.00	46.2 AV	54.0	-7.8	1.46 H	85	34.2	12.0
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	98400.00	56.9 PK	74.0	-17.1	1.77 V	110	44.9	12.0
2	98400.00	46.5 AV	54.0	-7.5	1.77 V	110	34.5	12.0

Remarks:

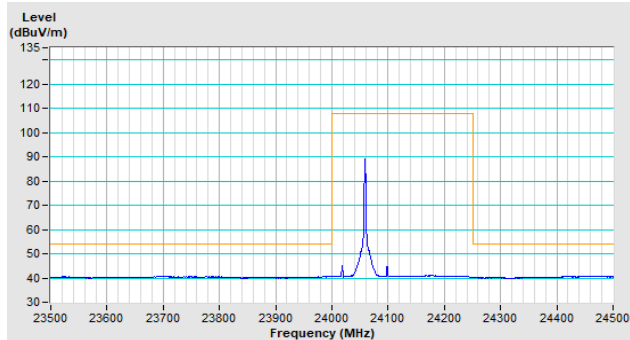
1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.

Plot of Band Edge

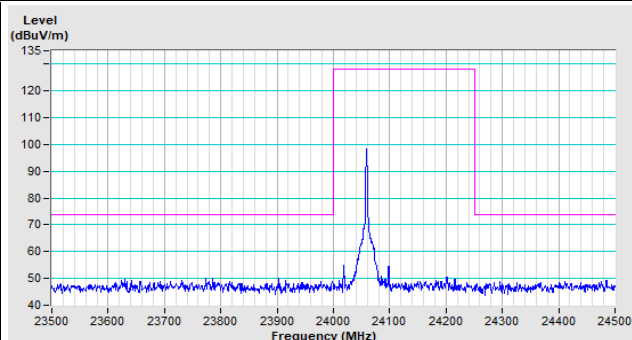
Channel 1



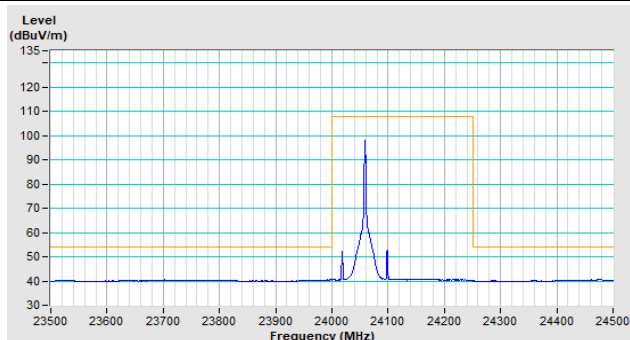
Horizontal (Peak)



Horizontal (Average)

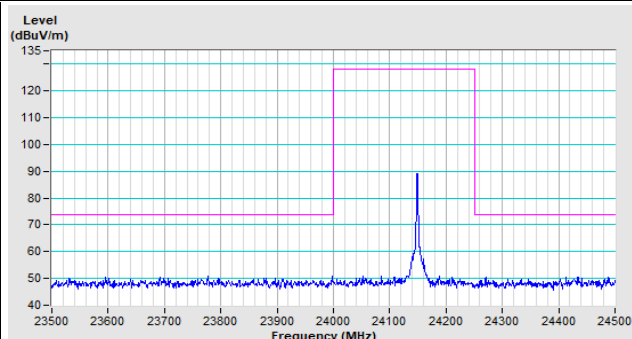


Vertical (Peak)

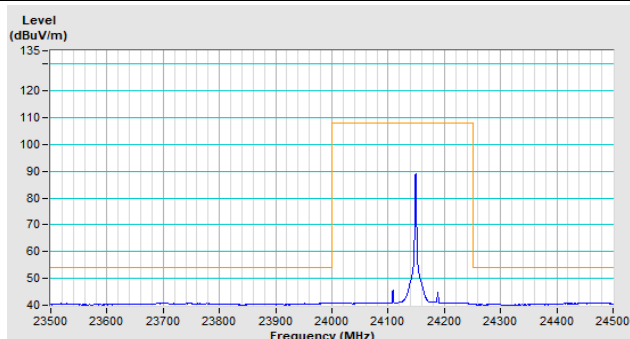


Vertical (Average)

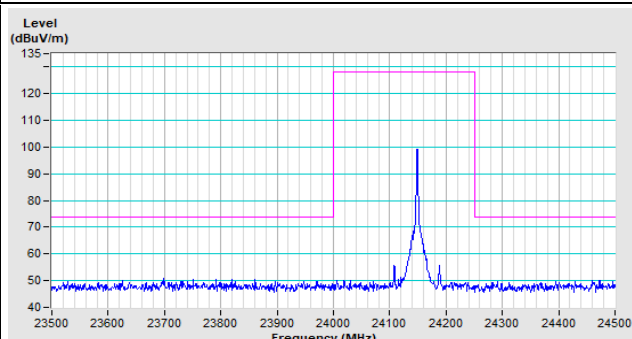
Channel 2



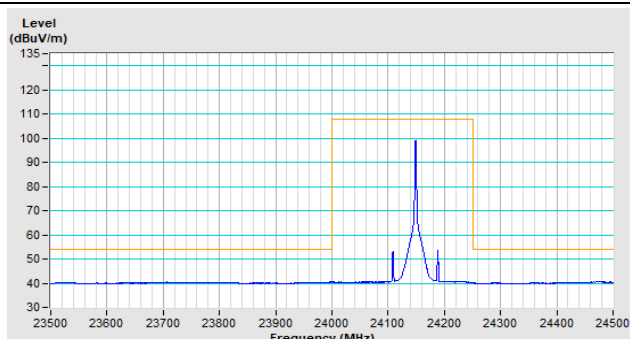
Horizontal (Peak)



Horizontal (Average)

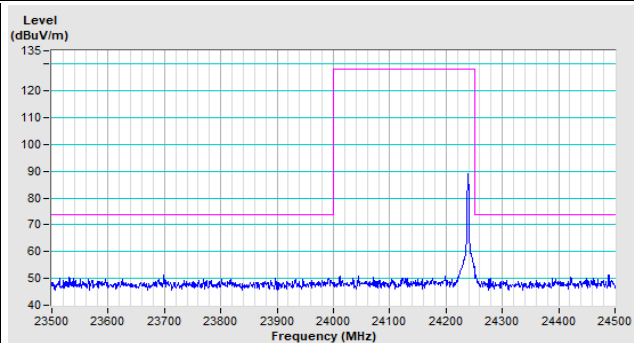


Vertical (Peak)

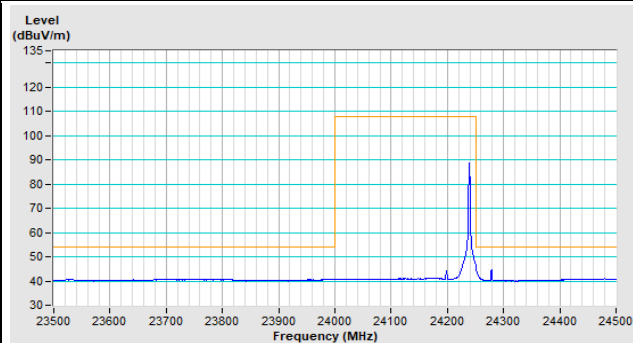


Vertical (Average)

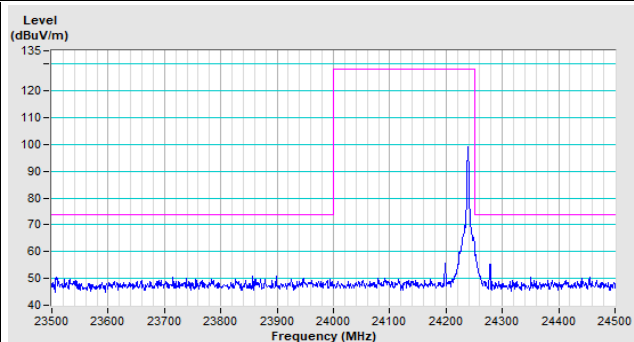
Channel 3



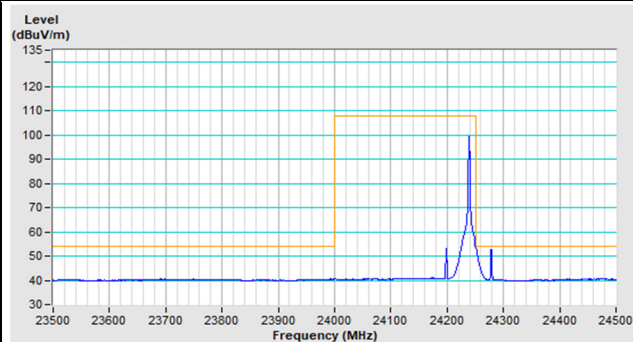
Horizontal (Peak)



Horizontal (Average)



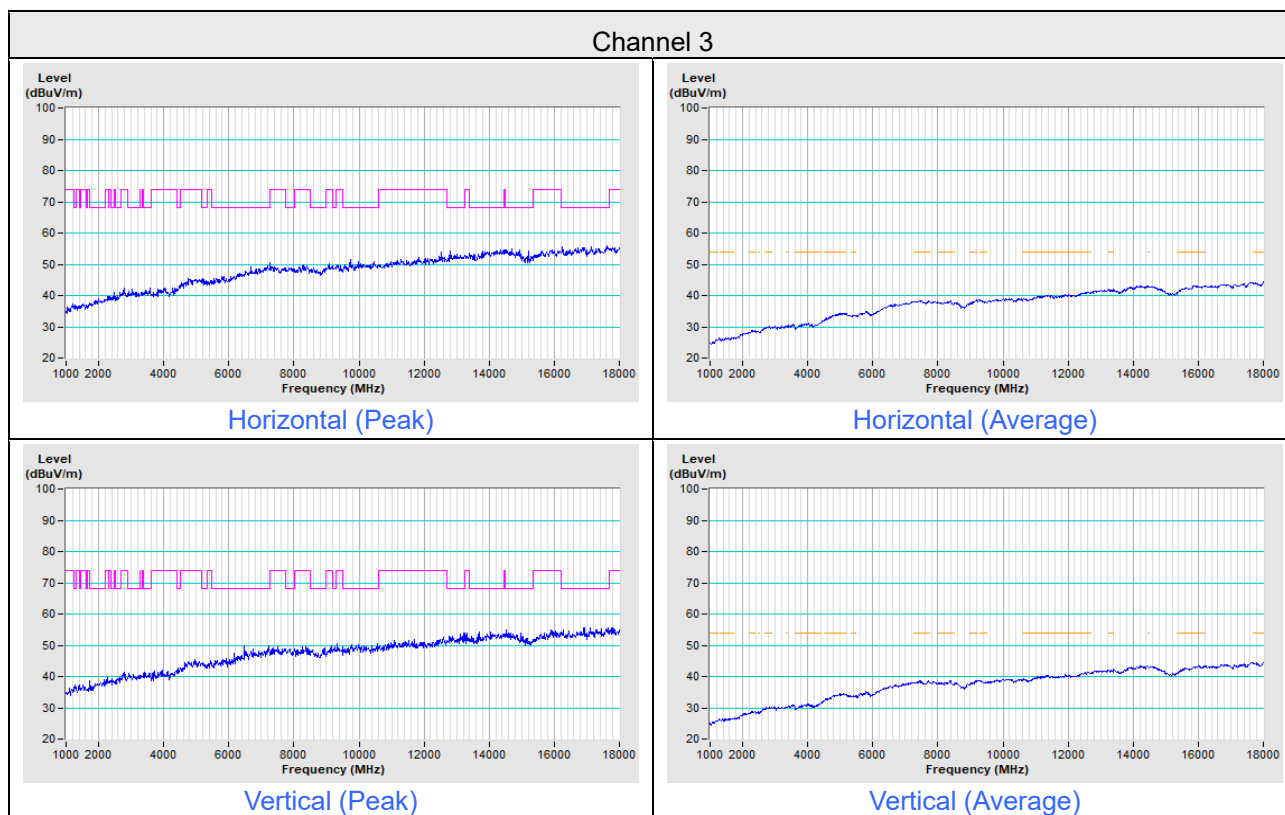
Vertical (Peak)



Vertical (Average)

Plot of other emissions:

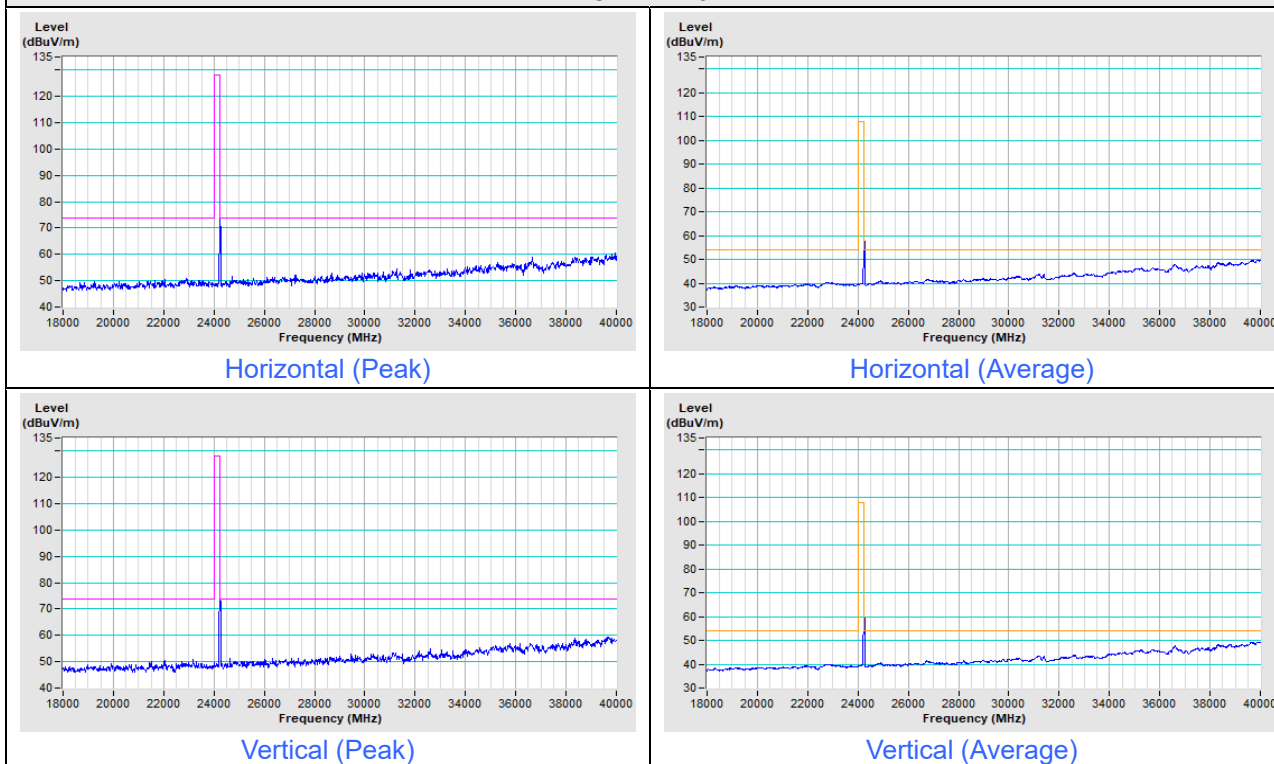
Frequency Range	1 GHz ~ 18 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=3 MHz, DET=RMS
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Notes: For radiated emission test data, complete spectral plots shall be presented in the report only for the worst-case scenarios of each mode within each operating frequency band.

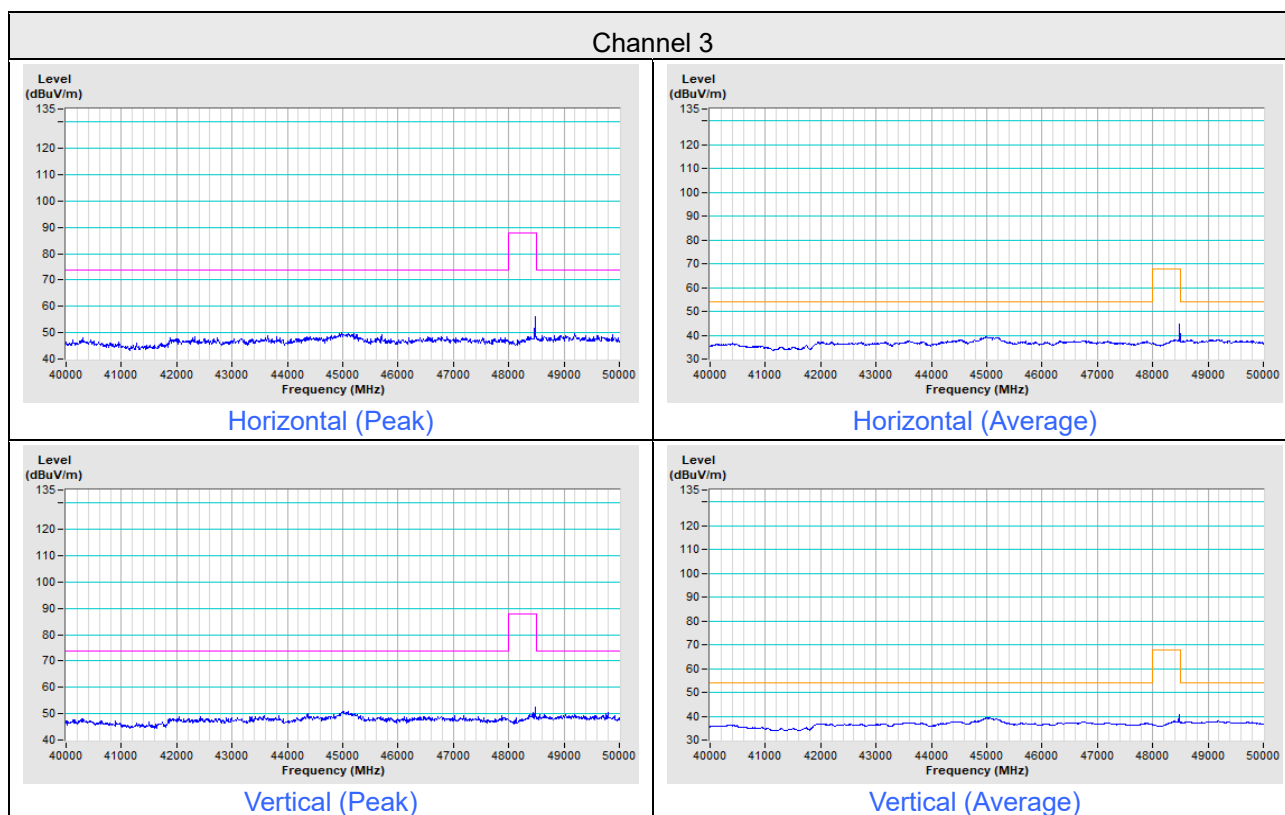
Frequency Range	18 GHz ~ 40 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=3 MHz, DET=RMS
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Channel 3



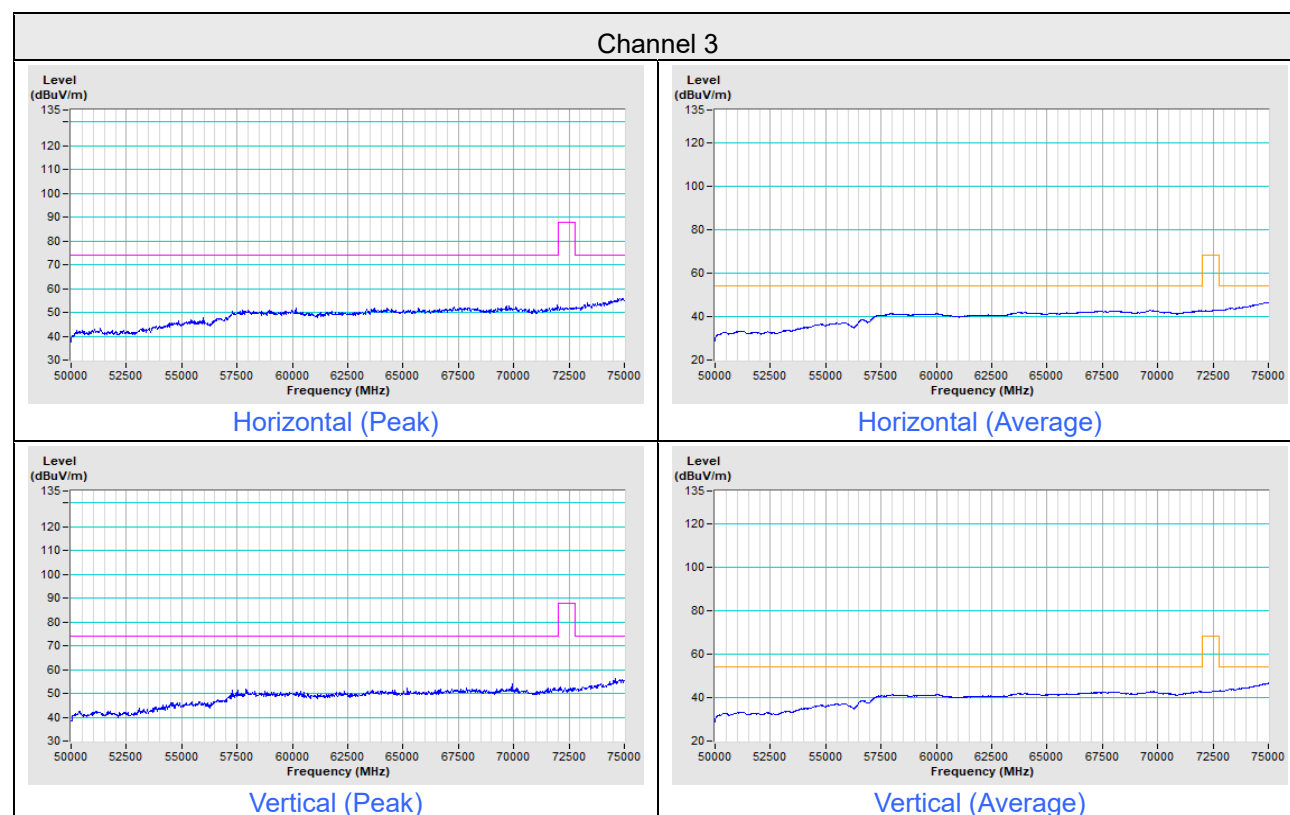
Notes: For radiated emission test data, complete spectral plots shall be presented in the report only for the worst-case scenarios of each mode within each operating frequency band.

Frequency Range	40 GHz ~ 50 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=3 MHz, DET=RMS
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Notes: For radiated emission test data, complete spectral plots shall be presented in the report only for the worst-case scenarios of each mode within each operating frequency band.

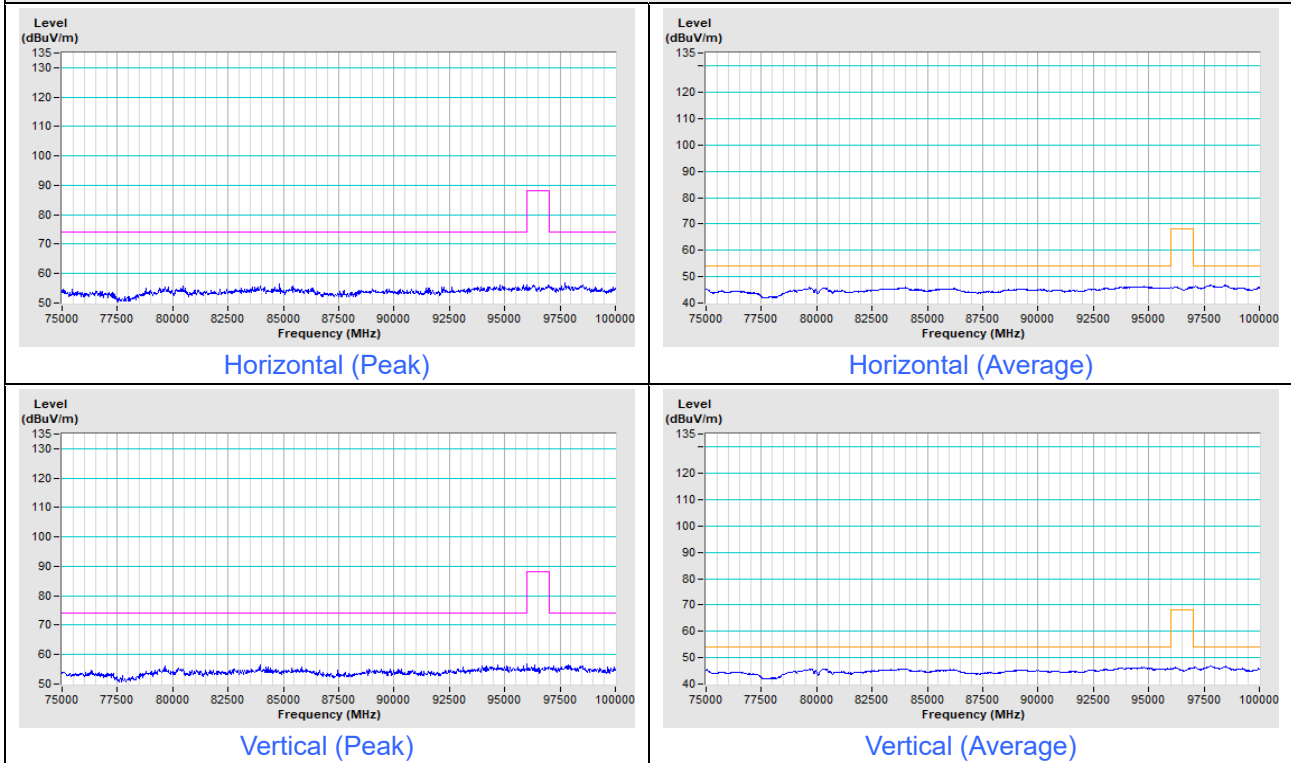
Frequency Range	50 GHz ~ 75 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=3 MHz, DET=RMS
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Notes: For radiated emission test data, complete spectral plots shall be presented in the report only for the worst-case scenarios of each mode within each operating frequency band.

Frequency Range	75 GHz ~ 100 GHz	Detector Function & Bandwidth	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=3 MHz, DET=RMS
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Channel 3



Note: For radiated emission test data, complete spectral plots shall be presented in the report only for the worst-case scenarios of each mode within each operating frequency band.

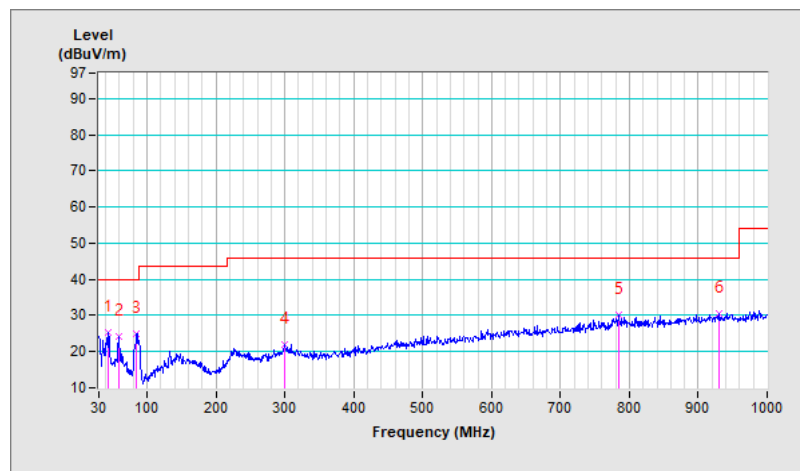
Below 1GHz Data:

RF Mode	TX	Channel	CH 1 : 24.05856 GHz
Frequency Range	9kHz ~ 1GHz	Detector Function	Quasi-Peak (QP)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	43.58	25.4 QP	40.0	-14.6	1.00 H	200	38.5	-13.1
2	58.13	24.2 QP	40.0	-15.8	1.50 H	62	37.7	-13.5
3	84.32	24.9 QP	40.0	-15.1	1.25 H	231	43.6	-18.7
4	300.63	22.0 QP	46.0	-24.0	1.25 H	244	34.2	-12.2
5	783.69	30.2 QP	46.0	-15.8	1.50 H	114	32.3	-2.1
6	930.16	30.6 QP	46.0	-15.4	1.00 H	320	30.8	-0.2

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30 MHz ~ 1 GHz.
5. The frequency range 9 kHz ~ 30 MHz: all emissions are more than 20 dB below the limit, therefore do not be recorded in this report.

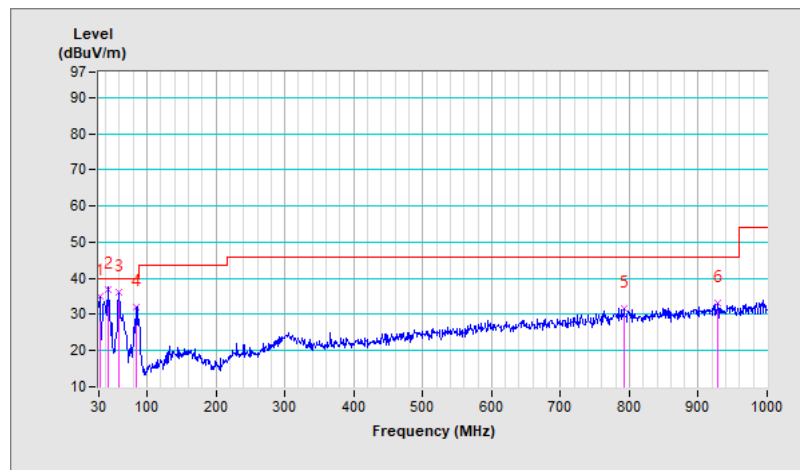


RF Mode	TX	Channel	CH 1 : 24.05856 GHz
Frequency Range	9kHz ~ 1GHz	Detector Function	Quasi-Peak (QP)

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	30.97	35.0 QP	40.0	-5.0	1.25 V	38	49.4	-14.4
2	42.61	37.0 QP	40.0	-3.0	1.25 V	314	50.1	-13.1
3	58.13	36.2 QP	40.0	-3.8	1.50 V	218	49.7	-13.5
4	84.32	32.2 QP	40.0	-7.8	1.00 V	94	50.9	-18.7
5	792.42	31.8 QP	46.0	-14.2	1.25 V	206	34.0	-2.2
6	928.22	33.1 QP	46.0	-12.9	1.50 V	334	33.4	-0.3

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30 MHz ~ 1 GHz.
5. The frequency range 9 kHz ~ 30 MHz: all emissions are more than 20 dB below the limit, therefore do not be recorded in this report.

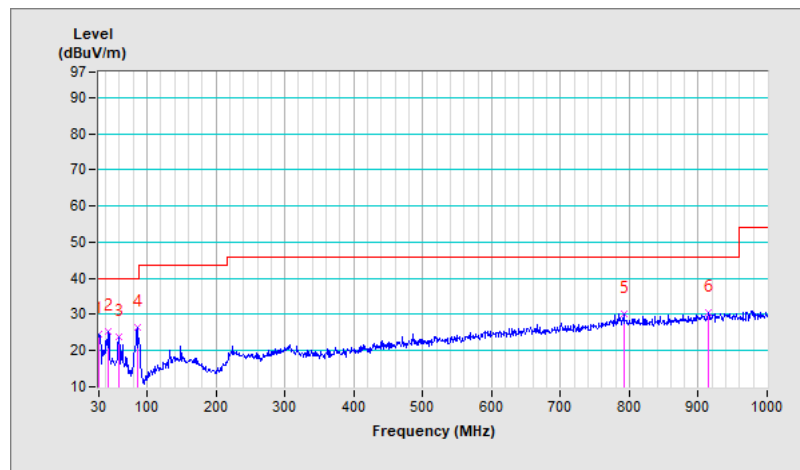


RF Mode	TX	Channel	CH 2 : 24.14855 GHz
Frequency Range	9kHz ~ 1GHz	Detector Function	Quasi-Peak (QP)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	30.00	24.7 QP	40.0	-15.3	1.00 H	88	38.8	-14.1
2	43.58	25.4 QP	40.0	-14.6	1.00 H	50	38.5	-13.1
3	58.13	23.8 QP	40.0	-16.2	1.25 H	37	37.3	-13.5
4	85.29	26.5 QP	40.0	-13.5	1.50 H	240	45.3	-18.8
5	792.42	30.1 QP	46.0	-15.9	1.50 H	301	32.3	-2.2
6	914.64	30.6 QP	46.0	-15.4	1.25 H	192	30.9	-0.3

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30 MHz ~ 1 GHz.
5. The frequency range 9 kHz ~ 30 MHz: all emissions are more than 20 dB below the limit, therefore do not be recorded in this report.

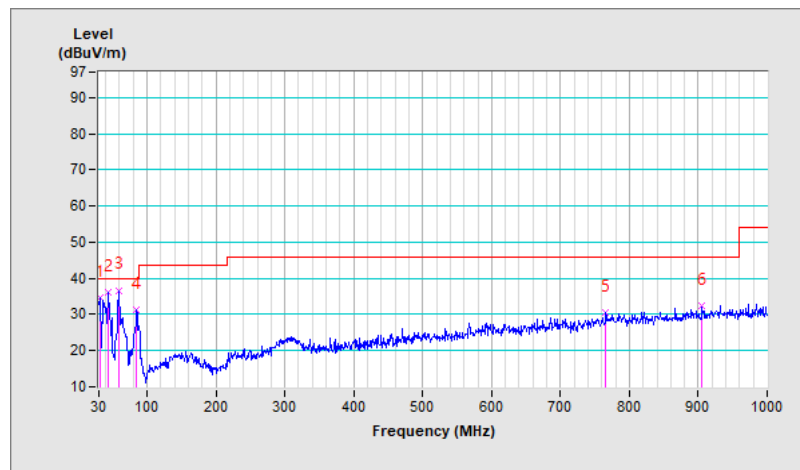


RF Mode	TX	Channel	CH 2 : 24.14855 GHz
Frequency Range	9kHz ~ 1GHz	Detector Function	Quasi-Peak (QP)

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	30.97	34.8 QP	40.0	-5.2	1.25 V	54	49.2	-14.4
2	42.61	36.1 QP	40.0	-3.9	1.00 V	296	49.2	-13.1
3	58.13	36.7 QP	40.0	-3.3	1.25 V	307	50.2	-13.5
4	84.32	31.2 QP	40.0	-8.8	1.50 V	84	49.9	-18.7
5	766.23	30.5 QP	46.0	-15.5	1.25 V	117	32.8	-2.3
6	904.94	32.3 QP	46.0	-13.7	1.25 V	251	32.8	-0.5

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30 MHz ~ 1 GHz.
5. The frequency range 9 kHz ~ 30 MHz: all emissions are more than 20 dB below the limit, therefore do not be recorded in this report.

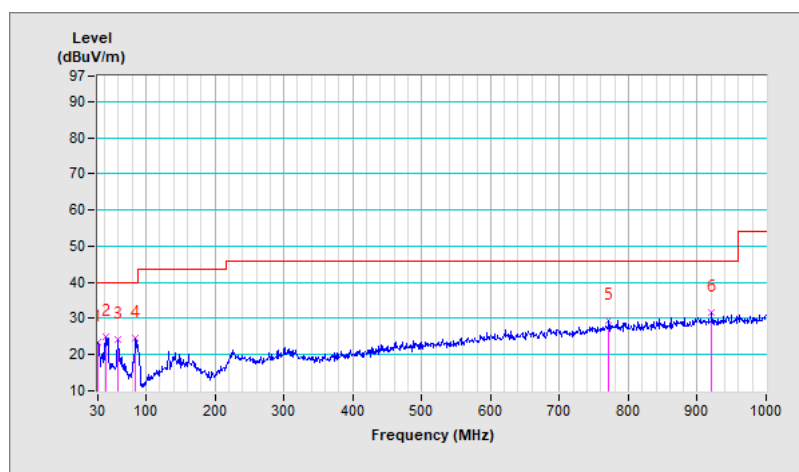


RF Mode	TX	Channel	CH 3 : 24.23856 GHz
Frequency Range	9kHz ~ 1GHz	Detector Function	Quasi-Peak (QP)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	30.00	23.3 QP	40.0	-16.7	1.25 H	90	37.4	-14.1
2	40.67	24.9 QP	40.0	-15.1	1.50 H	240	38.1	-13.2
3	59.10	24.2 QP	40.0	-15.8	1.00 H	75	37.7	-13.5
4	84.32	24.7 QP	40.0	-15.3	1.50 H	241	43.4	-18.7
5	772.05	29.6 QP	46.0	-16.4	1.25 H	252	31.9	-2.3
6	921.43	31.7 QP	46.0	-14.3	1.00 H	253	31.9	-0.2

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30 MHz ~ 1 GHz.
5. The frequency range 9 kHz ~ 30 MHz: all emissions are more than 20 dB below the limit, therefore do not be recorded in this report.

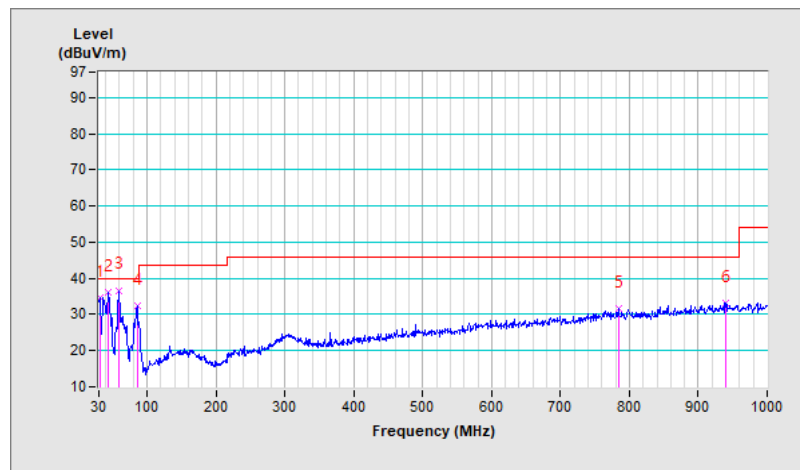


RF Mode	TX	Channel	CH 3 : 24.23856 GHz
Frequency Range	9kHz ~ 1GHz	Detector Function	Quasi-Peak (QP)

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	30.97	34.8 QP	40.0	-5.2	1.00 V	28	49.2	-14.4
2	42.61	36.1 QP	40.0	-3.9	1.25 V	299	49.2	-13.1
3	58.13	36.7 QP	40.0	-3.3	1.25 V	184	50.2	-13.5
4	85.29	32.5 QP	40.0	-7.5	1.00 V	259	51.3	-18.8
5	783.69	31.7 QP	46.0	-14.3	1.25 V	72	33.8	-2.1
6	939.86	33.1 QP	46.0	-12.9	1.50 V	94	33.3	-0.2

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30 MHz ~ 1 GHz.
5. The frequency range 9 kHz ~ 30 MHz: all emissions are more than 20 dB below the limit, therefore do not be recorded in this report.



4.2 Conducted Emission Measurement

4.2.1 Limits of Conducted Emission Measurement

Frequency (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15 - 0.5	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30.0	60	50

Note: 1. The lower limit shall apply at the transition frequencies.

2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

4.2.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESCI	100613	2025/11/27	2026/11/26
RF signal cable Woken	5D-FB	Cable-cond1-01	2025/1/5	2026/1/4
LISN ROHDE & SCHWARZ (EUT)	ENV216	101826	2025/3/24	2026/3/23
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100311	2025/8/28	2026/8/27
Software ADT	BVADT_Conc_ V7.4.1.0	NA	NA	NA

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

2. The test was performed in HwaYa Shielded Room 1(Conduction 1).

4.2.3 Test Procedures

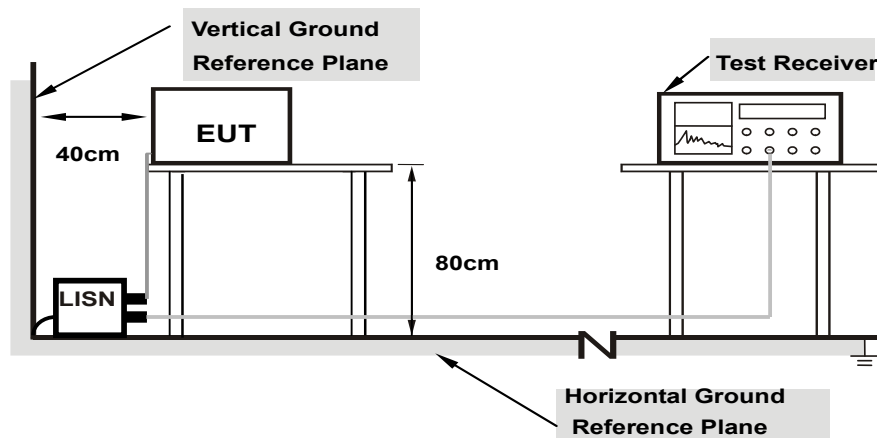
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.
- Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

Note: The resolution bandwidth and video bandwidth of test receiver is 9kHz for quasi-peak detection (QP) and average detection (AV) at frequency 0.15MHz-30MHz.

4.2.4 Deviation from Test Standard

No deviation.

4.2.5 Test Setup



Note: 1.Support units were connected to second LISN.

For the actual test configuration, please refer to the attached file (Test Setup Photo).

4.2.6 EUT Operating Conditions

Same as 4.1.6.

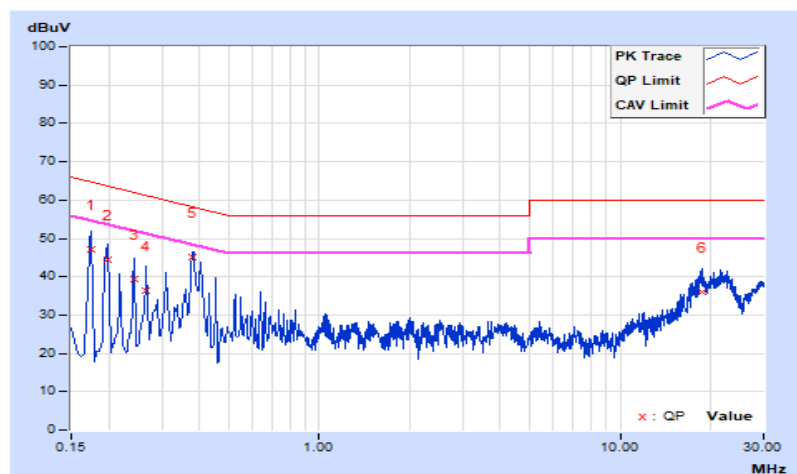
4.2.7 Test Results

RF Mode	TX	Channel	CH 1 : 24.05856 GHz
Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz

Phase Of Power : Line (L)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.17400	9.69	37.52	13.58	47.21	23.27	64.77	54.77	-17.56	-31.50
2	0.19800	9.71	34.77	11.54	44.48	21.25	63.69	53.69	-19.21	-32.44
3	0.24200	9.71	29.75	7.46	39.46	17.17	62.03	52.03	-22.57	-34.86
4	0.26600	9.71	26.76	6.59	36.47	16.30	61.24	51.24	-24.77	-34.94
5	0.38018	9.72	35.37	22.62	45.09	32.34	58.28	48.28	-13.19	-15.94
6	18.80600	10.07	25.84	10.80	35.91	20.87	60.00	50.00	-24.09	-29.13

Remarks:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level – Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value

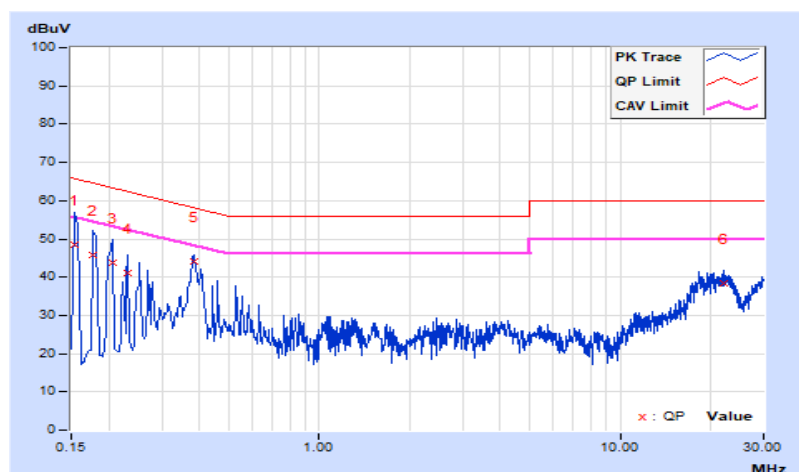


RF Mode	TX	Channel	CH 1 : 24.05856 GHz
Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz

Phase Of Power : Neutral (N)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15400	9.66	38.69	15.08	48.35	24.74	65.78	55.78	-17.43	-31.04
2	0.17800	9.66	36.18	12.47	45.84	22.13	64.58	54.58	-18.74	-32.45
3	0.20577	9.66	34.14	11.81	43.80	21.47	63.37	53.37	-19.57	-31.90
4	0.23000	9.67	31.42	9.77	41.09	19.44	62.45	52.45	-21.36	-33.01
5	0.38200	9.72	34.29	22.03	44.01	31.75	58.24	48.24	-14.23	-16.49
6	22.04600	10.30	27.94	11.52	38.24	21.82	60.00	50.00	-21.76	-28.18

Remarks:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level – Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value

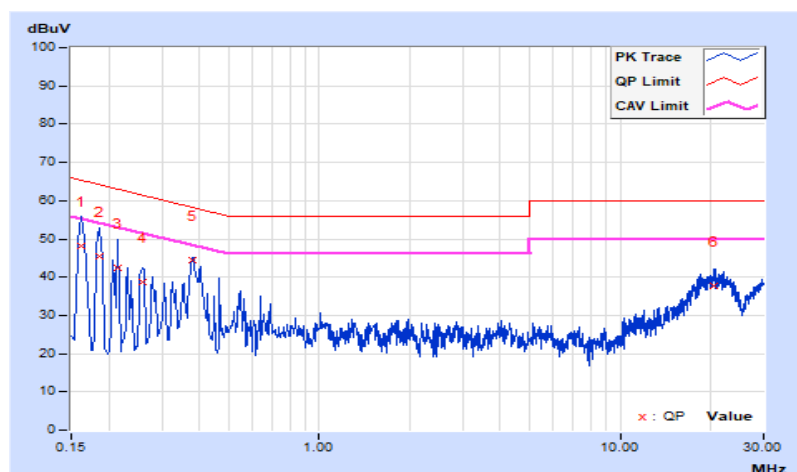


RF Mode	TX	Channel	CH 2 : 24.14855 GHz
Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz

Phase Of Power : Line (L)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16190	9.69	38.51	15.00	48.20	24.69	65.37	55.37	-17.17	-30.68
2	0.18600	9.70	35.92	12.85	45.62	22.55	64.21	54.21	-18.59	-31.66
3	0.21400	9.71	32.62	9.10	42.33	18.81	63.05	53.05	-20.72	-34.24
4	0.25800	9.71	29.04	10.20	38.75	19.91	61.50	51.50	-22.75	-31.59
5	0.37818	9.72	34.66	21.74	44.38	31.46	58.32	48.32	-13.94	-16.86
6	20.37000	10.08	27.70	10.18	37.78	20.26	60.00	50.00	-22.22	-29.74

Remarks:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level – Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value

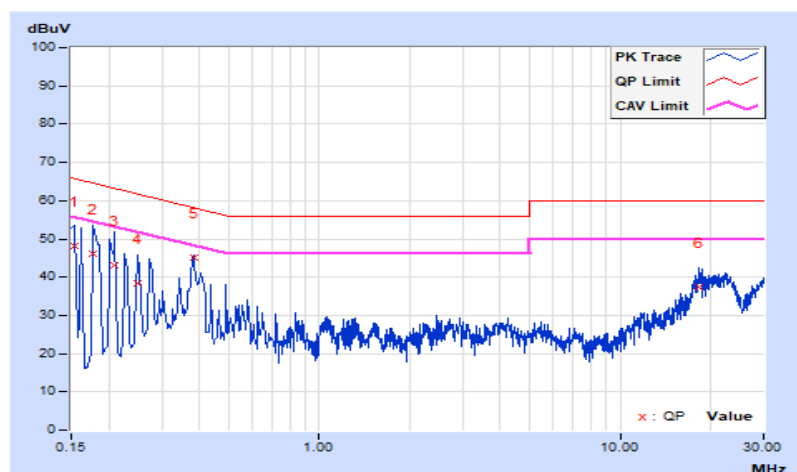


RF Mode	TX	Channel	CH 2 : 24.14855 GHz
Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz

Phase Of Power : Neutral (N)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15400	9.66	38.49	14.95	48.15	24.61	65.78	55.78	-17.63	-31.17
2	0.17800	9.66	36.41	12.41	46.07	22.07	64.58	54.58	-18.51	-32.51
3	0.21000	9.66	33.58	11.26	43.24	20.92	63.21	53.21	-19.97	-32.29
4	0.25000	9.68	28.64	10.82	38.32	20.50	61.76	51.76	-23.44	-31.26
5	0.38200	9.72	35.32	22.03	45.04	31.75	58.24	48.24	-13.20	-16.49
6	18.28200	10.24	27.24	10.07	37.48	20.31	60.00	50.00	-22.52	-29.69

Remarks:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level – Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value

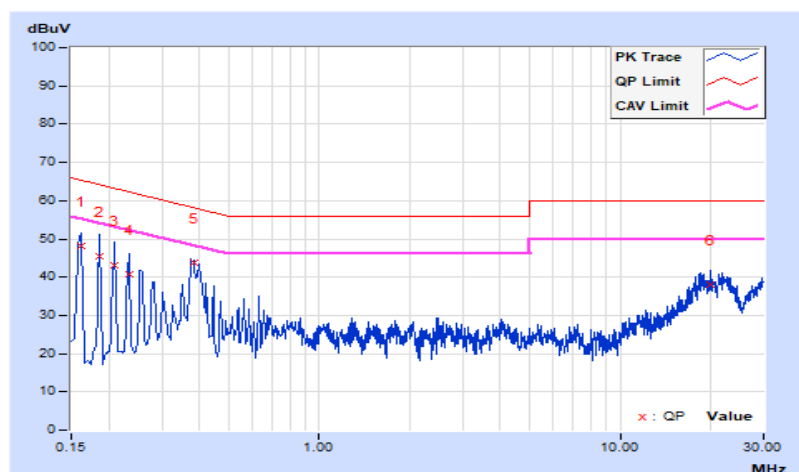


RF Mode	TX	Channel	CH 3 : 24.23856 GHz
Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz

Phase Of Power : Line (L)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.16190	9.69	38.41	14.84	48.10	24.53	65.37	55.37	-17.27	-30.84
2	0.18600	9.70	35.90	12.80	45.60	22.50	64.21	54.21	-18.61	-31.71
3	0.21000	9.71	33.55	11.54	43.26	21.25	63.21	53.21	-19.95	-31.96
4	0.23400	9.71	31.08	10.36	40.79	20.07	62.31	52.31	-21.52	-32.24
5	0.38200	9.72	33.94	22.34	43.66	32.06	58.24	48.24	-14.58	-16.18
6	19.91000	10.08	27.96	9.68	38.04	19.76	60.00	50.00	-21.96	-30.24

Remarks:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level – Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value

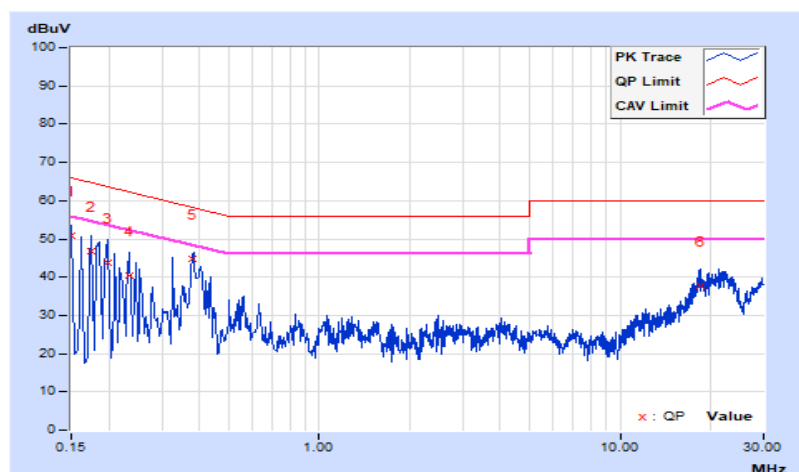


RF Mode	TX	Channel	CH 3 : 24.23856 GHz
Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz

Phase Of Power : Neutral (N)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	9.66	41.07	16.76	50.73	26.42	66.00	56.00	-15.27	-29.58
2	0.17400	9.66	37.26	13.38	46.92	23.04	64.77	54.77	-17.85	-31.73
3	0.19800	9.66	34.26	11.03	43.92	20.69	63.69	53.69	-19.77	-33.00
4	0.23400	9.67	30.90	9.93	40.57	19.60	62.31	52.31	-21.74	-32.71
5	0.37818	9.72	35.12	21.53	44.84	31.25	58.32	48.32	-13.48	-17.07
6	18.50600	10.25	27.42	10.19	37.67	20.44	60.00	50.00	-22.33	-29.56

Remarks:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level – Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value



4.3 20dB Bandwidth Measurement

4.3.1 Limits of 20dB bandwidth Measurement

According to 15.215(c), the requirement is to ensure the 20dB bandwidth of the emission, or whatever bandwidth may otherwise be specified, is contained within the frequency band designated in the rule section under which the equipment is operated.

4.3.2 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

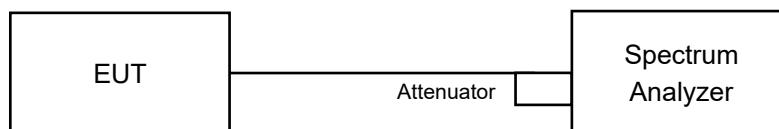
4.3.3 Test Procedures

The bandwidth of the fundamental frequency was measured by spectrum analyzer with 3MHz RBW and 50MHz VBW. The 20dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 20dB.

4.3.4 Deviation from Test Standard

No deviation.

4.3.5 Test Setup



4.3.6 EUT Operating Conditions

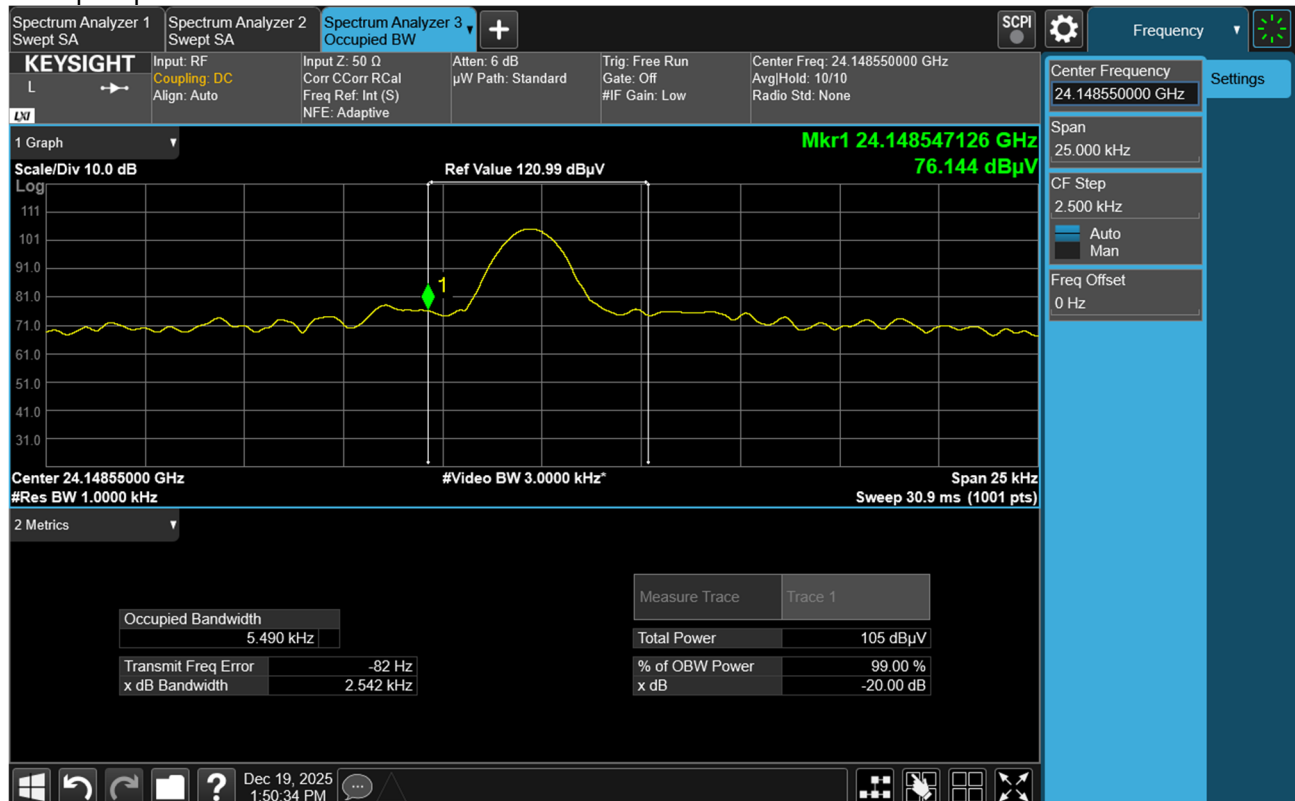
The software provided by client to enable the EUT under transmission condition continuously.

4.3.7 Test Results

Channel	Frequency (GHz)	20 Bandwidth (MHz)
2	24.14855	189.3



Sweep stop Bandwidth



5 Pictures of Test Arrangements

Please refer to the attached file (Test Setup Photo).

Appendix – Information of the Testing Laboratories

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are FCC recognized accredited test firms and accredited and approved according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:

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Web Site: <http://ee.bureauveritas.com.tw>

The address and road map of all our labs can be found in our web site also.

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