FCC Radio Test Report

FCC ID	:	**2AAAS-CM12**
Equipment	:	**Vivint Doorbell Camera Pro**
Brand Name	:	**Vivint**
Model Name	:	**CM12**
Applicant	:	**Vivint, Inc.** **4931 N. 300W., Provo, UT 84604 USA**
Manufacturer	:	**Chicony Electronics Co., Ltd** **No.69, Sec. 2, Guangfu Rd., Sanchong Dist.,** **New Taipei City 241, Taiwan (R.O.C.)**
Standard	:	**47 CFR FCC Part 15.247**

The product was received on Jul. 15, 2024, and testing was started from Jul. 18, 2024 and completed on Aug. 13, 2024. We, SPORTON INTERNATIONAL INC. Hsinhua Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013 and shown compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. Hsinhua Laboratory, the test report shall not be reproduced except in full.

Approved by: Jackson Tsai

SPORTON INTERNATIONAL INC. Hsinhua Laboratory

No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333411, Taiwan (R.O.C.)

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History of this test report

Report No.	Version	Description	Issued Date
FR471204AL	01	Initial issue of report	Aug. 28, 2024

Summary of Test Result

Report Clause	Ref.Std. Clause	Test Items	Result (PASS/FAIL)	Remark
1.1.2	15.203	Antenna Requirement	PASS	-
3.1	15.207	AC Power-line Conducted Emissions	PASS	-
3.2	15.247(a)	DTS Bandwidth	PASS	-
3.3	15.247(b)	Maximum Conducted Output Power	PASS	-
3.4	15.247(e)	Power Spectral Density	PASS	-
3.5	15.247(d)	Emissions in Non-restricted Frequency Bands	PASS	-
3.6	15.247(d)	Emissions in Restricted Frequency Bands	PASS	-

Declaration of Conformity:
The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.
Comments and explanations:
None

Reviewed by: Ben Tseng

Report Producer: Ann Hou

1 General Description

1.1 Information

1.1.1 RF General Information

Frequency Range (MHz)	Bluetooth Mode	Ch. Frequency (MHz)	Channel Number
2400-2483.5	LE	2402-2480	0-39 [40]

Band	Mode	BWch (MHz)	Nant
2.4-2.4835GHz	BT-LE(1Mbps)	1.0	1TX
2.4-2.4835GHz	BT-LE(2Mbps)	2.0	1TX

Note:
- Bluetooth LE uses a GFSK (1Mbps/2Mbps) modulation.
- BWch is the nominal channel bandwidth.

1.1.2 Antenna Information

Ant.	Brand	Model Name	Antenna Type	Connector	Support
1	Amphenol	CY5873-12-001-C	PIFA	I-Pex	2.4G+5G+BT
2	Amphenol	CY5873-12-002-C	PIFA	I-Pex	2.4G+5G

Ant.	Port	Gain (dBi)		
		2.4G	5G	BT
1	1	0.72	2.33	0.72
2	2	0.69	2.56	-

Note 1: The EUT has two antennas.

For 2.4GHz function:

For IEEE 802.11 b/g/n/VHT/ax mode (2TX/2RX)

Ant. 1 (port 1) and Ant. 2 (port 2) could transmit/receive simultaneously.

For BT function:

For IEEE 802.15.1 Bluetooth mode (1TX/1RX)

Ant. 1 (port 1) could transmit/receive.

For 5GHz function:

For IEEE 802.11 a/n/ac/ax mode (2TX/2RX)

Ant. 1 (port 1) and Ant. 2 (port 2) could transmit/receive simultaneously.

Note 2: Directional gain information

	Maximum Output Power	Power Spectral Density
Non-BF	Directional gain = Max.gain + array gain. For power measurements on IEEE 802.11 devices Array Gain = 0 dB (i.e., no array gain) for N ANT ≤ 4	$DirectionalGain = 10 \cdot \log\left[\frac{\sum_{j=1}^{N_{SS}}\left\{\sum_{k=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$
BF	$DirectionalGain = 10 \cdot \log\left[\frac{\sum_{j=1}^{N_{SS}}\left\{\sum_{k=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$	$DirectionalGain = 10 \cdot \log\left[\frac{\sum_{j=1}^{N_{SS}}\left\{\sum_{k=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$

1.1.3 EUT Information

Operational Condition				
EUT Power Type	From Switching power supply			
EUT Function	☒	Point-to-multipoint	☐	Point-to-point
Type of EUT				
☒	Stand-alone			
☐	Combined (EUT where the radio part is fully integrated within another device)			
	Combined Equipment - Brand Name / Model No.:	…		
☐	Plug-in radio (EUT intended for a variety of host systems)			
	Host System - Brand Name / Model No.:	…		
☐	Other:			

1.1.4 Mode Test Duty Cycle

Mode	DC	DCF (dB)	T (s)	VBW (Hz)_1/T
BT-LE(1Mbps)	0.606	2.18	379.063u	3k
BT-LE(2Mbps)	0.315	5.02	197.188u	10k

Note. If DC < 0.98, the DCF was added while measuring Output power and PSD.

1.2 Testing Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- 47 CFR FCC Part 15
- ANSI C63.10-2013

The following reference test guidance is not within the scope of accreditation of TAF:

- KDB 558074 D01 v05r02
- KDB 414788 D01 v01r01

1.3 Testing Location Information

Test Lab.：Sporton International Inc. Hsinhua Laboratory				
☒ Hsinhua	**ADD:** No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333411, Taiwan (R.O.C.)			
(TAF: 3785**)**	**TEL:** 886-3-327-3456		**FAX:** 886-3-327-0973	
Test site Designation No. TW3785 with FCC.				
Test Condition	**Test Site No.**	**Test Engineer**	**Test Environment**	**Test Date**
AC Conduction	CO04-HY	Wayne Chiu	21.5~22.1°C / 54~57%	13/Aug/2024
RF Conducted	TH07-HY	Xun Hsieh	23.9~24.5°C / 55~58%	18/Jul/2024~23/Jul/2024
Radiated above 1G	03CH03-HY	CoCo Shang Kung	23.1~24.6°C / 53~57%	22/Jul/2024
☒ Wenhua 3rd.	**ADD:** No. 58, Aly. 75, Ln. 564, Wenhua 3rd Rd., Guishan Dist. Taoyuan City 333, Taiwan (R.O.C.)			
(TAF: 3785**)**	**TEL:** 886-3-327-0868			
Test site Designation No. TW0036 with FCC.				
Test Condition	**Test Site No.**	**Test Engineer**	**Test Environment**	**Test Date**
Radiated below 1G	03CH24-HY	Henry Ho	23.1~24.6°C / 52~56%	10/Aug/2024

1.4 Measurement Uncertainty

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

Test Items	**Uncertainty**	**Remark**
AC Power-line Conducted Emissions	4.53 dB	Confidence levels of 95%
Bandwidth	3 MHz	Confidence levels of 95%
Maximum Conducted Output Power	2 dB	Confidence levels of 95%
Power Spectral Density	2 dB	Confidence levels of 95%
Emissions in Non-restricted Frequency Bands	0.14 dB	Confidence levels of 95%
Emissions in Restricted Frequency Bands	4.8 dB	Confidence levels of 95%
Temperature	0.41 °C	Confidence levels of 95%
Humidity	3.4 %	Confidence levels of 95%

2 Test Configuration of EUT

2.1 Test Channel Mode

Test Software Version	PuTTY Release 0.62

Mode	Power Setting
BT-LE(1Mbps)	-
2402MHz	default
2440MHz	default
2480MHz	default
BT-LE(2Mbps)	-
2402MHz	default
2440MHz	default
2480MHz	default

2.2 The Worst Case Measurement Configuration

The Worst Case Mode for Following Conformance Tests	
Tests Item	AC power-line conducted emissions
Condition	AC power-line conducted measurement for line and neutral Test Voltage: 120Vac / 60Hz
Operating Mode	CTX
1	DC power supply mode

The Worst Case Mode for Following Conformance Tests	
Tests Item	DTS Bandwidth Maximum Conducted Output Power Power Spectral Density Emissions in Non-restricted Frequency Bands
Test Condition	Conducted measurement at transmit chains

The Worst Case Mode for Following Conformance Tests			
Tests Item	Emissions in Restricted Frequency Bands		
Test Condition	Radiated measurement If EUT consist of multiple antenna assembly (multiple antenna are used in EUT regardless of spatial multiplexing MIMO configuration), the radiated test should be performed with highest antenna gain of each antenna type.		
Operating Mode < 1GHz	CTX		
1	DC power supply mode		
Operating Mode > 1GHz	CTX		
Orthogonal Planes of EUT	**X Plane**	**Y Plane**	**Z Plane**
			
Worst Planes of EUT		V	

2.3 Support Equipment

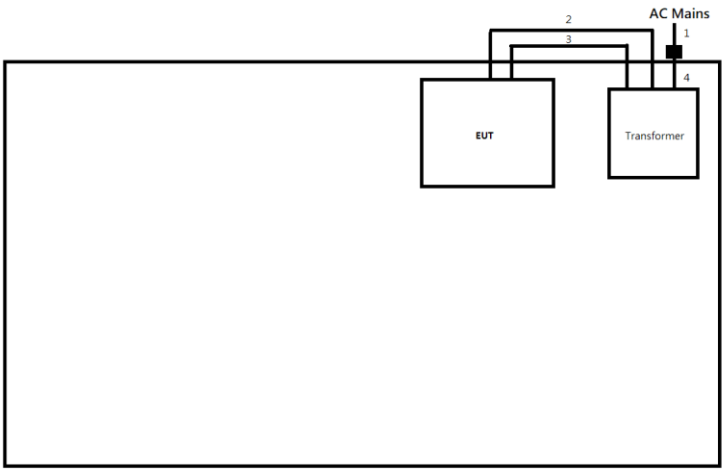
Support Equipment – AC Conduction					
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**	**Remark**
1	Transformer	DONGGUAN	YJH-BYQ482405-F	-	Provided by Customer
2	AC Power cable	I-SHENG	AC CORD 600mm	-	-

Support Equipment – Conducted					
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**	**Remark**
1	Notebook	DELL	E5410	-	-
2	Adapter for NB	DELL	HA65NM130	-	-

Support Equipment – Radiated					
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**	**Remark**
1	Transformer	DONGGUAN	YJH-BYQ482405-F	-	Provided by Customer
2	AC Power cable	I-SHENG	AC CORD 600mm	-	-

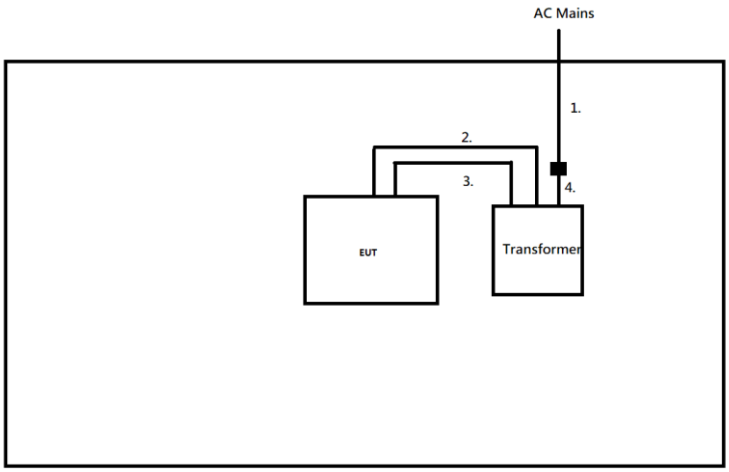
2.4 Test Setup Diagram

Test Setup Diagram – AC Line Conducted Emission Test



Item	Connection	Shielded	Length(m)
1	AC Power cable	No	1.5
2	DC Power cable(+)	No	0.5
3	DC Power cable(-)	No	0.5
4	AC Power Code	No	0.3

Test Setup Diagram - Radiated Test



Item	Connection	Shielded	Length(m)
1	AC Power cable	No	1.5
2	DC Power cable(+)	No	0.5
3	DC Power cable(-)	No	0.5
4	AC Power Code	No	0.3

3 Transmitter Test Result

3.1 AC Power-line Conducted Emissions

3.1.1 AC Power-line Conducted Emissions Limit

AC Power-line Conducted Emissions Limit		
Frequency Emission (MHz)	**Quasi-Peak**	**Average**
0.15-0.5	66 - 56 *	56 - 46 *
0.5-5	56	46
5-30	60	50
Note 1: * Decreases with the logarithm of the frequency.		

3.1.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.1.3 Test Procedures

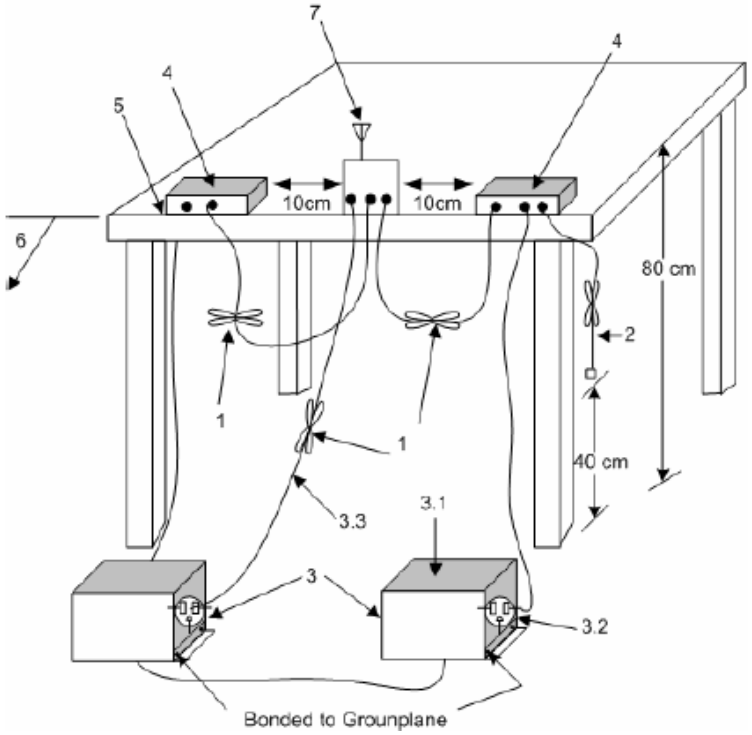
Test Method
▪ Refer as ANSI C63.10-2013, clause 6.2 foray power-line conducted emissions.

3.1.4 Measurement Results Calculation

The measured Level is calculated using:
Corrected Reading: Raw(Read Level) +LISN(LISN Factor) + CL(Cable Loss) + AT(Attenuator).

3.1.5 Test Setup

AC Power-line Conducted Emissions



1—Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 cm to 40 cm long.
2—The I/O cables that are not connected to an accessory shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
3—EUT connected to one LISN. Unused LISN measuring port connectors shall be terminated in 50Ω loads. LISN may be placed on top of, or immediately beneath, reference ground plane.
3.1—All other equipment powered from additional LISN(s).
3.2—A multiple-outlet strip may be used for multiple power cords of non-EUT equipment.
3.3—LISN at least 80 cm from nearest part of EUT chassis.
4—Non-EUT components of EUT system being tested.
5—Rear of EUT, including peripherals, shall all be aligned and flush with edge of tabletop.
6—Edge of tabletop shall be 40 cm removed from a vertical conducting plane that is bonded to the ground plane.
7—Antenna can be integral or detachable. If detachable, then the antenna shall be attached for this test.

3.1.6 Test Result of AC Power-line Conducted Emissions

Refer as Appendix A

3.2 DTS Bandwidth

3.2.1 6dB Bandwidth Limit

6dB Bandwidth Limit
Systems using digital modulation techniques:
▪ 6 dB bandwidth ≥ 500 kHz.

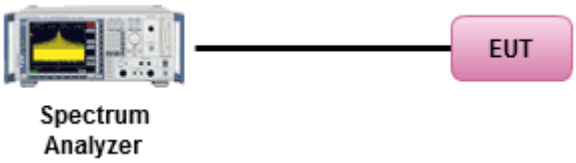
3.2.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.2.3 Test Procedures

Test Method	
▪ For the emission bandwidth shall be measured using one of the options below:	
	☒ Refer as KDB 558074, clause 8.2 (11.8 of ANSI C63.10) DTS bandwidth measurement.
	☐ Refer as RSS-Gen, clause 6.7 for occupied bandwidth testing.
	☐ Refer as ANSI C63.10, clause 6.9.3 for occupied bandwidth testing.

3.2.4 Test Setup

Emission Bandwidth


3.2.5 Test Result of Emission Bandwidth

Refer as Appendix B

3.3 Maximum Conducted Output Power

3.3.1 Maximum Conducted Output Power Limit

Maximum Conducted Output Power Limit			
	▪ If G_{TX} ≤ 6 dBi, then P_{Out} ≤ 30 dBm (1 W)		
	▪ Point-to-multipoint systems (P2M): If G_{TX} > 6 dBi, then P_{Out} = 30 – (G_{TX} – 6) dBm		
	▪ Point-to-point systems (P2P): If G_{TX} > 6 dBi, then P_{Out} = 30 – (G_{TX} – 6)/3 dBm		
	▪ Smart antenna system (SAS):		
		- Single beam: If G_{TX} > 6 dBi, then P_{Out} = 30 – (G_{TX} – 6)/3 dBm	
		- Overlap beam: If G_{TX} > 6 dBi, then P_{Out} = 30 – (G_{TX} – 6)/3 dBm	
		- Aggregate power on all beams: If G_{TX} > 6 dBi, then P_{Out} = 30 – (G_{TX} – 6)/3 + 8dB dBm	
e.i.r.p. Power Limit:			
▪ 2400-2483.5 MHz Band			
	▪ Point-to-multipoint systems (P2M): P_{eirp} ≤ 36 dBm (4 W)		
	▪ Point-to-point systems (P2P): P_{eirp} ≤ MAX(36, [P_{Out} + G_{TX}]) dBm		
	▪ Smart antenna system (SAS)		
		- Single beam: P_{eirp} ≤ MAX(36, P_{Out} + G_{TX}) dBm	
		- Overlap beam: P_{eirp} ≤ MAX(36, P_{Out} + G_{TX}) dBm	
		- Aggregate power on all beams: P_{eirp} ≤ MAX(36, [P_{Out} + G_{TX} + 8]) dBm	
P_{Out} = maximum peak conducted output power or maximum conducted output power in dBm, **G_{TX}** = the maximum transmitting antenna directional gain in dBi.			

3.3.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.3.3 Test Procedures

Test Method	
▪ Maximum Peak Conducted Output Power	
	☐ Refer as KDB 558074, clause 8.3.1.1 (11.9.1.1 of ANSI C63.10) RBW ≥ EBW method.
	☐ Refer as KDB 558074, clause 8.3.1.2 (11.9.1.2 of ANSI C63.10) integrated band power method.
	☐ Refer as KDB 558074, clause 8.3.1.3 (11.9.1.3 of ANSI C63.10) peak power meter.
▪ Maximum Average Conducted Output Power	
	☐ Refer as KDB 558074, clause 8.3.2.2 (11.9.2.2 of ANSI C63.10) using a spectrum analyzer.
	☒ Refer as KDB 558074, clause 8.3.2.3 (11.9.2.3 of ANSI C63.10) using a power meter.
▪ For conducted measurement.	
	▪ If the EUT supports multiple transmit chains using options given below: Refer as KDB 662911, In-band power measurements. Using the measure-and-sum approach, measured all transmit ports individually. Sum the power (in linear power units e.g., mW) of all ports for each individual sample and save them.
	▪ If multiple transmit chains, EIRP calculation could be following as methods: $P_{total} = P_1 + P_2 + \ldots + P_n$ (calculated in linear unit [mW] and transfer to log unit [dBm]) $EIRP_{total} = P_{total} + DG$

3.3.4 Test Setup

Maximum Conducted Output Power (Power Meter)


3.3.5 Test Result of Maximum Conducted Output Power

Refer as Appendix C

3.4 Power Spectral Density

3.4.1 Power Spectral Density Limit

Power Spectral Density Limit
▪ Power Spectral Density (PSD)≤8 dBm/3kHz

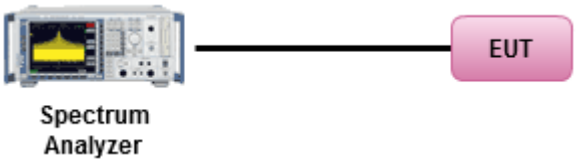
3.4.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.4.3 Test Procedures

Test Method		
▪ Peak power spectral density procedures that the same method as used to determine the conducted output power. If maximum peak conducted output power was measured to demonstrate compliance to the output power limit, then the peak PSD procedure below (Method PKPSD) shall be used. If maximum conducted output power was measured to demonstrate compliance to the output power limit, then one of the average PSD procedures shall be used, as applicable based on the following criteria (the peak PSD procedure is also an acceptable option).		
	☒ Refer as KDB 558074, clause 8.4 (11.10 of ANSI C63.10) Max. PSD.	
▪ For conducted measurement.		
	▪ If The EUT supports multiple transmit chains using options given below:	
		▪ Measure and sum the spectra across the outputs. Refer as KDB 662911, In-band power spectral density (PSD). Sample all transmit ports simultaneously using a spectrum analyzer for each transmit port. Where the trace bin-by-bin of each transmit port summing can be performed. (i.e., in the first spectral bin of output 1 is summed with that in the first spectral bin of output 2 and that from the first spectral bin of output 3, and so on up to the NTX output to obtain the value for the first frequency bin of the summed spectrum.). Add up the amplitude (power) values for the different transmit chains and use this as the new data trace.

3.4.4 Test Setup

Power Spectral Density


3.4.5 Test Result of Power Spectral Density

Refer as Appendix D

3.5 Emissions in Non-restricted Frequency Bands

3.5.1 Emissions in Non-restricted Frequency Bands Limit

Un-restricted Band Emissions Limit	
RF output power procedure	**Limit (dB)**
Peak output power procedure	20
Average output power procedure	30
Note 1: If the peak output power procedure is used to measure the fundamental emission power to demonstrate compliance to requirements, then the peak conducted output power measured within any 100 kHz outside the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum measured in-band peak level. Note 2: If the average output power procedure is used to measure the fundamental emission power to demonstrate compliance to requirements, then the power in any 100 kHz outside of the authorized frequency band shall be attenuated by at least 30 dB relative to the maximum measured in-band average level.	

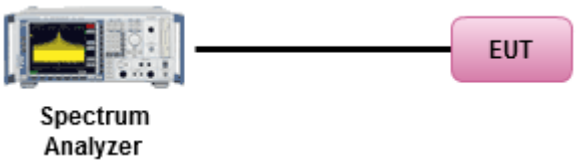
3.5.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.5.3 Test Procedures

Test Method
▪ Refer as KDB 558074, clause 8.5 (11.11 of ANSI C63.10) for non-restricted frequency bands.

3.5.4 Test Setup

Emissions in Non-restricted Frequency Bands


3.5.5 Test Result of Emissions in Non-restricted Frequency Bands

Refer as Appendix E

3.6 Emissions in Restricted Frequency Bands

3.6.1 Emissions in Restricted Frequency Bands Limit

Restricted Band Emissions Limit			
Frequency Range (MHz)	**Field Strength (uV/m)**	**Field Strength (dBuV/m)**	**Measure Distance (m)**
0.009~0.490	2400/F(kHz)	48.5 - 13.8	300
0.490~1.705	24000/F(kHz)	33.8 - 23	30
1.705~30.0	30	29	30
30~88	100	40	3
88~216	150	43.5	3
216~960	200	46	3
Above 960	500	54	3

Note 1: Test distance for frequencies at or above 30 MHz, measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements).

Note 2: Test distance for frequencies at below 30 MHz, measurements may be performed at a distance closer than the EUT limit distance; however, an attempt should be made to avoid making measurements in the near field. When performing measurements below30 MHz at a closer distance than the limit distance, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two or more distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB / decade). The test report shall specify the extrapolation method used to determine compliance of the EUT.

Note 3: Using the distance of 1m during the test for above 18 GHz, and the test value to correct for the distance factor at 3m.

3.6.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

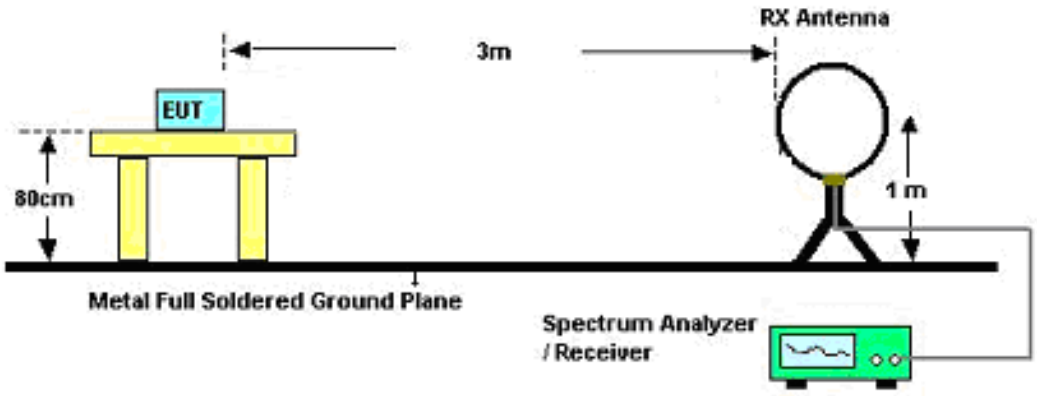
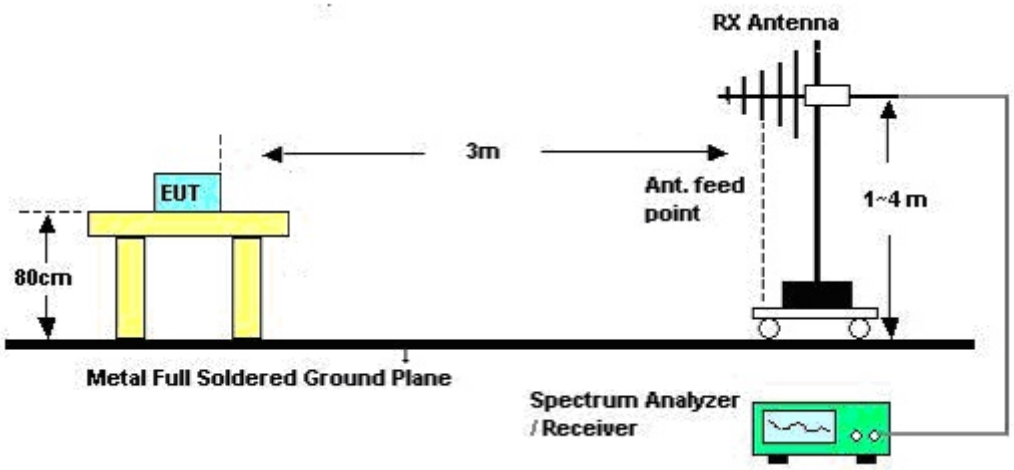
3.6.3 Test Procedures

Test Method	
▪	The average emission levels shall be measured in [duty cycle ≥ 98 or duty factor].
▪	Refer as ANSI C63.10, clause 6.10.3 band-edge testing shall be performed at the lowest frequency channel and highest frequency channel within the allowed operating band.
▪	For the transmitter unwanted emissions shall be measured using following options below:
	▪ Refer as KDB 558074, clause 8.6 (11.12 of ANSI C63.10) for restricted frequency bands.
▪	For the transmitter band-edge emissions shall be measured using following options below:
	▪ Refer as KDB 558074 clause 8.7.1, When the performing peak or average radiated measurements, emissions within 2 MHz of the authorized band edge may be measured using the marker-delta method described below.
	▪ Refer as KDB 558074, clause 8.7.2 (6.10.6 of ANSI C63.10) for marker-delta method for band-edge measurements.
	▪ Refer as KDB 558074, clause 8.7.3 for narrower resolution bandwidth (100kHz) using the band power and summing the spectral levels.
▪	Use the following spectrum analyzer settings:
	▪ Set RBW=100 kHz for f < 1 GHz; VBW=3 * RBW; Sweep = auto; Detector function = peak; Trace = max hold.
	▪ Set RBW = 1 MHz, VBW= 3MHz for f ≥ 1 GHz for peak measurement. For average measurement, refer as 1.1.4.
▪	KDB 414788 Open-Field Test Sites and Chamber Correlation Justification.
	▪ Based on FCC 15.31(f)(2): measurements may be performed at a distance closer than that specified in regulations; however, an attempt should be made to avoid making measurements in the near field.
	▪ Open-field site and chamber correlation testing had been performed and chamber measured test result is the worst case test result.

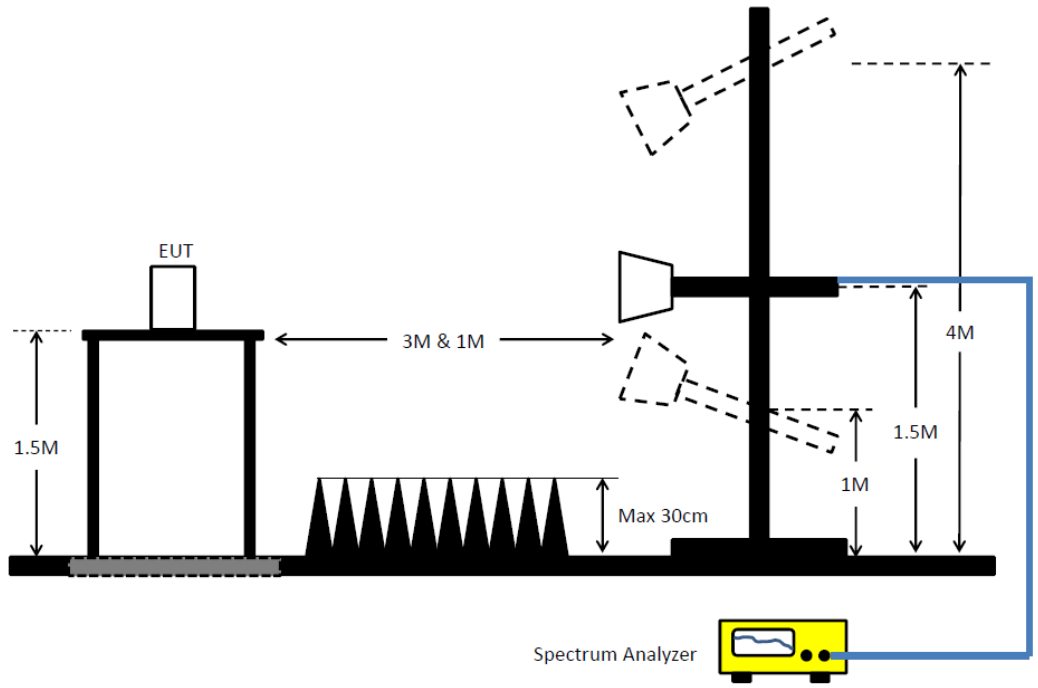
3.6.4 Measurement Results Calculation

The measured Level is calculated using:
Corrected Reading: Raw(Read Level) + AF(Antenna Factor) + CL(Cable Loss) - PA(Preamp Factor)

3.6.5 Test Setup

Emissions in Restricted Frequency Bands
9kHz ~30MHz

30MHz~1GHz


Above 1GHz



3.6.6 Test Result of Emissions in Restricted Frequency Bands (Below 30MHz)

The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

3.6.7 Test Result of Emissions in Restricted Frequency Bands

Refer as Appendix F

4 Test Equipment and Calibration Data

Instrument for AC Conduction

Instrument	Manufacturer /Brand	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
EMI Test Receiver	ROHDE & SCHWARZ	ESR3	102051	9kHz ~ 3.6GHz	17/May/2024	16/May/2025
Two-Line V-Network	ROHDE & SCHWARZ	ENV 216	101274	9kHz ~ 30MHz	18/Jun/2024	17/Jun/2025
RF Cable 5m	TITAN	TITAN	CO04-cable-01	9 kHz~200MHz	27/Feb/2024	26/Feb/2025
Impuls Begrenzer Pulse Limiter	SCHWARZBECK	VTSD 9561-F	9561-F041	9kHz ~ 30MHz	18/Oct/2023	17/Oct/2024
Software	Sporton	SENSE-EMI	V5.11.3	-	NCR	NCR

NCR: No Calibration Required

Instrument for Conducted Test

Instrument	Manufacturer /Brand	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
Signal Analyzer	R&S	FSV 40	101515	9kHz~40GHz	02/Feb/2024	01/Feb/2025
SMB100A Signal Generator	R&S	SMB100A	181147	100kHz~40GHz	20/Oct/2023	19/Oct/2024
Power Meter	Anritsu	ML2495A	1517010	300MHz~40GHz	15/Dec/2023	14/Dec/2024
Pulse Sensor	Anritsu	MA2411B	1339407	300MHz~40GHz	15/Dec/2023	14/Dec/2024
SENSE-15247_FS	Sporton	V5.11.18	N/A	N/A	N/A	N/A

Instrument for Radiated Test (03CH03-HY)

Instrument	Manufacturer /Brand	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	1GHz~18GHz 3m	14/Jul/2024	13/Jul/2025
Signal Analyzer	R&S	FSV40	101500	10Hz~40GHz	26/Oct/2023	25/Oct/2024
Double Ridged Guide Horn Antenna	SCHWARZBECK	BBHA 9120 D	02267	1GHz~18GHz	04/Oct/2023	03/Oct/2024
Broadband Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA 9170154	18GHz ~ 40GHz	04/Jun/2024	03/Jun/2025
Microwave Premplifier	Agilent	8449B	3008A02326	1GHz~26.5GHz	26/Jul/2023	25/Jul/2024
Microwave Premplifier	EMC INSTRUMENTS	EM18G40G	060604	18GHz ~ 40GHz	19/Apr/2024	18/Apr/2025
RF CABLE 5+8m	HUBER+SUHNER	SUOFLEX 104	03CH03-cable-03	1GHz~40GHz	20/Feb/2024	19/Feb/2025
SENSE-15407_FS	Sporton	V5.11.18	NA	NA	NA	NA

Instrument for Radiated Test (03CH24-HY)

Instrument	Manufacturer /Brand	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
3m Semi Anechoic Chamber	TDK	SAC-3M	03CH24-HY	30MHz~1GHz 3m	17/Aug/2023	16/Aug/2024
Signal Analyzer	ROHDE&SCHWARZ	FSV40	101029	10Hz~44GHz	29/Oct/2023	28/Oct/2024
Loop Antenna	TESEQ	HLA 6120	31244	9kHz~30MHz	19/Mar/2024	18/Mar/2025
Bilog Antenna & 6dB Attenuator	TESEQ / Woken	CBL 6112D / 00800N1D01N-06	35376 / 02	30MHz~1GHz	14/Apr/2024	13/Apr/2025
Pre-Amplifier	Aglient	8447D	2944A06292	30MHz~1GHz	18/Apr/2024	17/Apr/2025
RF Cable	HUBER+SUHNER	SUOFLEX 104	CB002	9kHz~1GHz	31/Jul/2024	30/Jul/2025
SENSE-15407_FS	Sporton	V5.11.18	NA	NA	NA	NA

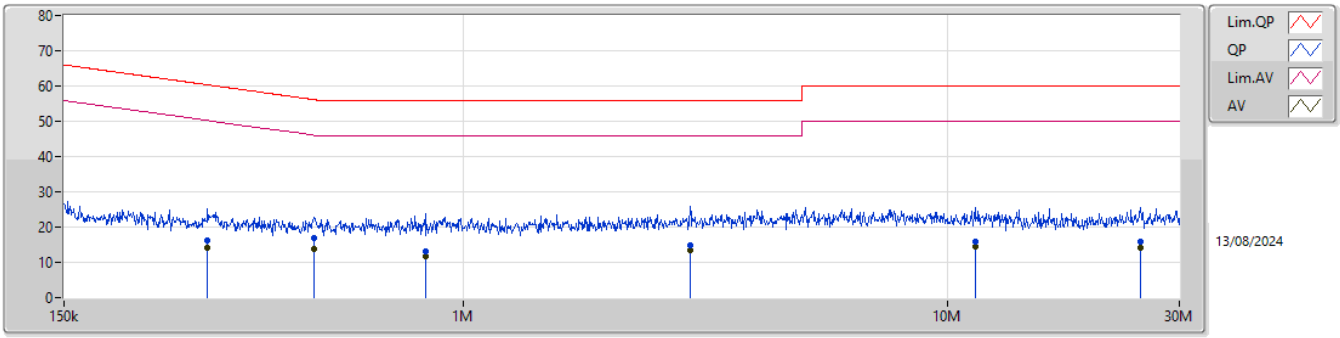
Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 1	Pass	AV	490.912k	13.78	46.15	-32.37	Line

Result

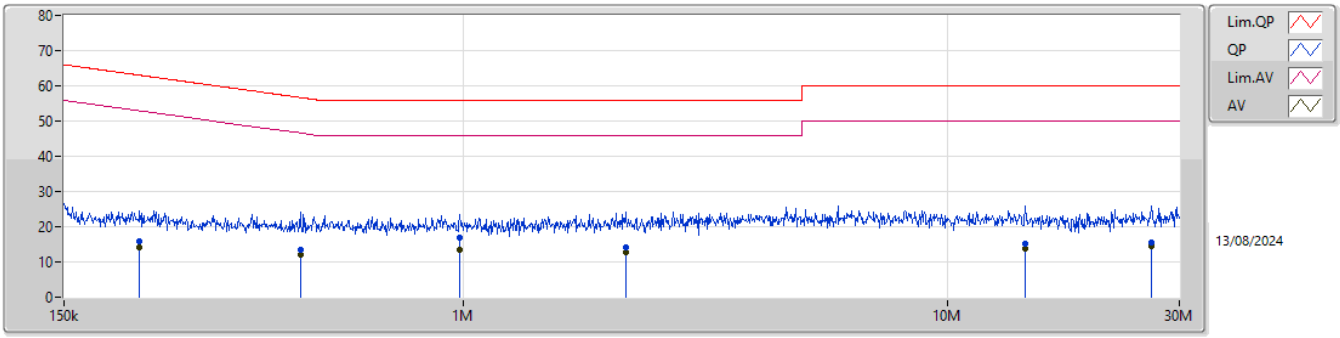
Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition	Comments
Mode 1	Pass	QP	296.863k	16.34	60.32	-43.98	Line	-
Mode 1	Pass	AV	296.863k	14.29	50.32	-36.03	Line	-
Mode 1	Pass	QP	490.912k	16.98	56.15	-39.17	Line	-
Mode 1	Pass	AV	490.912k	13.78	46.15	-32.37	Line	-
Mode 1	Pass	QP	834.81k	13.08	56.00	-42.92	Line	-
Mode 1	Pass	AV	834.81k	11.87	46.00	-34.13	Line	-
Mode 1	Pass	QP	2.936M	14.97	56.00	-41.03	Line	-
Mode 1	Pass	AV	2.936M	13.51	46.00	-32.49	Line	-
Mode 1	Pass	QP	11.362M	15.86	60.00	-44.14	Line	-
Mode 1	Pass	AV	11.362M	14.37	50.00	-35.63	Line	-
Mode 1	Pass	QP	24.945M	15.79	60.00	-44.21	Line	-
Mode 1	Pass	AV	24.945M	14.23	50.00	-35.77	Line	-
Mode 1	Pass	QP	214.845k	15.88	63.02	-47.14	Neutral	-
Mode 1	Pass	AV	214.845k	14.21	53.02	-38.81	Neutral	-
Mode 1	Pass	QP	460.537k	13.57	56.69	-43.12	Neutral	-
Mode 1	Pass	AV	460.537k	12.03	46.69	-34.66	Neutral	-
Mode 1	Pass	QP	983.264k	16.86	56.00	-39.14	Neutral	-
Mode 1	Pass	AV	983.264k	13.38	46.00	-32.62	Neutral	-
Mode 1	Pass	QP	2.159M	14.00	56.00	-42.00	Neutral	-
Mode 1	Pass	AV	2.159M	12.77	46.00	-33.23	Neutral	-
Mode 1	Pass	QP	14.436M	15.07	60.00	-44.93	Neutral	-
Mode 1	Pass	AV	14.436M	13.67	50.00	-36.33	Neutral	-
Mode 1	Pass	QP	26.273M	15.59	60.00	-44.41	Neutral	-
Mode 1	Pass	AV	26.273M	14.40	50.00	-35.60	Neutral	-

Conducted Emissions at Powerline_Mode 1



Type	Freq	Level	Limit	Margin	Factor	Condition	Comment	Raw	LISN	CL	AT
	(Hz)	(dBuV)	(dBuV)	(dB)	(dB)			(dBuV)	(dB)	(dB)	(dB)
QP	296.863k	16.34	60.32	-43.98	19.49	Line	-	-3.15	9.65	0.11	9.73
AV	296.863k	14.29	50.32	-36.03	19.49	Line	-	-5.20	9.65	0.11	9.73
QP	490.912k	16.98	56.15	-39.17	19.53	Line	-	-2.55	9.65	0.11	9.77
AV	490.912k	13.78	46.15	-32.37	19.53	Line	-	-5.75	9.65	0.11	9.77
QP	834.81k	13.08	56.00	-42.92	19.55	Line	-	-6.47	9.66	0.10	9.79
AV	834.81k	11.87	46.00	-34.13	19.55	Line	-	-7.68	9.66	0.10	9.79
QP	2.936M	14.97	56.00	-41.03	19.56	Line	-	-4.59	9.68	0.09	9.79
AV	2.936M	13.51	46.00	-32.49	19.56	Line	-	-6.05	9.68	0.09	9.79
QP	11.362M	15.86	60.00	-44.14	19.56	Line	-	-3.70	9.70	0.06	9.80
AV	11.362M	14.37	50.00	-35.63	19.56	Line	-	-5.19	9.70	0.06	9.80
QP	24.945M	15.79	60.00	-44.21	19.62	Line	-	-3.83	9.64	0.13	9.85
AV	24.945M	14.23	50.00	-35.77	19.62	Line	-	-5.39	9.64	0.13	9.85

Conducted Emissions at Powerline_Mode 1



Type	Freq	Level	Limit	Margin	Factor	Condition	Comment	Raw	LISN	CL	AT
	(Hz)	(dBuV)	(dBuV)	(dB)	(dB)			(dBuV)	(dB)	(dB)	(dB)
QP	214.845k	15.88	63.02	-47.14	19.38	Neutral	-	-3.50	9.60	0.09	9.69
AV	214.845k	14.21	53.02	-38.81	19.38	Neutral	-	-5.17	9.60	0.09	9.69
QP	460.537k	13.57	56.69	-43.12	19.49	Neutral	-	-5.92	9.60	0.12	9.77
AV	460.537k	12.03	46.69	-34.66	19.49	Neutral	-	-7.46	9.60	0.12	9.77
QP	983.264k	16.86	56.00	-39.14	19.50	Neutral	-	-2.64	9.61	0.09	9.80
AV	983.264k	13.38	46.00	-32.62	19.50	Neutral	-	-6.12	9.61	0.09	9.80
QP	2.159M	14.00	56.00	-42.00	19.52	Neutral	-	-5.52	9.61	0.11	9.80
AV	2.159M	12.77	46.00	-33.23	19.52	Neutral	-	-6.75	9.61	0.11	9.80
QP	14.436M	15.07	60.00	-44.93	19.59	Neutral	-	-4.52	9.67	0.09	9.83
AV	14.436M	13.67	50.00	-36.33	19.59	Neutral	-	-5.92	9.67	0.09	9.83
QP	26.273M	15.59	60.00	-44.41	19.67	Neutral	-	-4.08	9.66	0.19	9.82
AV	26.273M	14.40	50.00	-35.60	19.67	Neutral	-	-5.27	9.66	0.19	9.82

Summary

Mode	Max-N dB (Hz)	Max-OBW (Hz)	ITU-Code	Min-N dB (Hz)	Min-OBW (Hz)
2.4-2.4835GHz	-	-	-	-	-
BT-LE(1Mbps)	708.75k	1.046M	1M05F1D	703.75k	1.045M
BT-LE(2Mbps)	1.243M	2.035M	2M04F1D	1.238M	2.031M

Max-N dB = Maximum 6dB down bandwidth; Max-OBW = Maximum 99% occupied bandwidth;
Min-N dB = Minimum 6dB down bandwidth; Min-OBW = Minimum 99% occupied bandwidth

Result

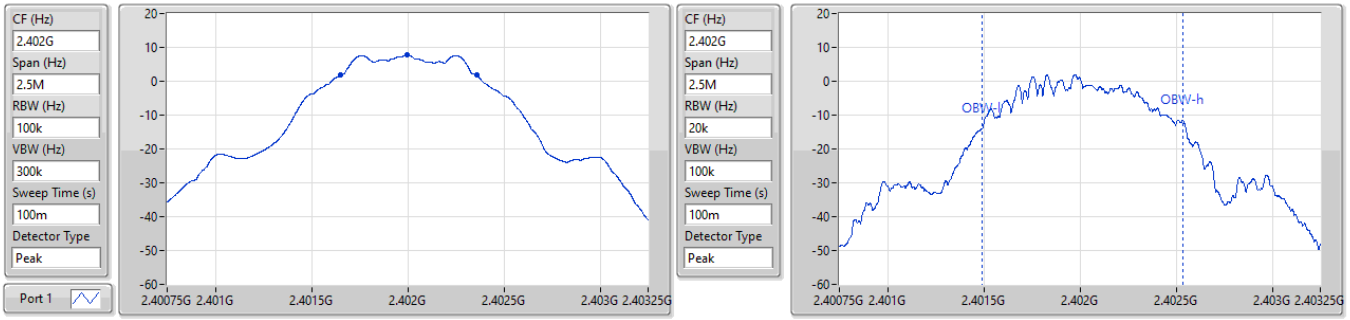
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	500k	708.75k	1.045M
2440MHz	Pass	500k	708.75k	1.046M
2480MHz	Pass	500k	703.75k	1.045M
BT-LE(2Mbps)	-	-	-	-
2402MHz	Pass	500k	1.238M	2.031M
2440MHz	Pass	500k	1.24M	2.035M
2480MHz	Pass	500k	1.243M	2.034M

Port X-N dB = Port X 6dB down bandwidth;
Port X-OBW = Port X 99% occupied bandwidth

2.4-2.4835GHz_BT-LE(1Mbps) **EBW-DTS**

2402MHz

18/07/2024

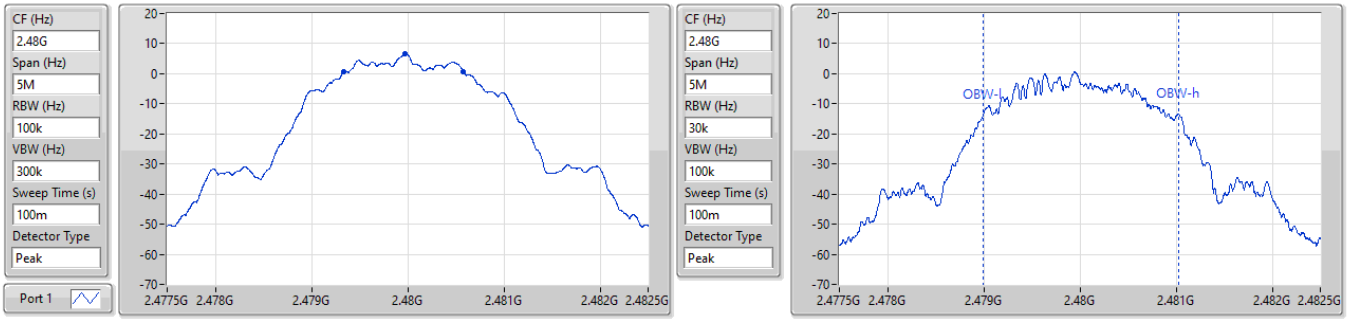


6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
708.75k	2.401649G	2.402358G	1.045M	2.401491G	2.402536G	500k	1

2.4-2.4835GHz_BT-LE(2Mbps) **EBW-DTS**

2480MHz

18/07/2024



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
1.243M	2.479338G	2.48058G	2.034M	2.478992G	2.481026G	500k	1

Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
BT-LE(1Mbps)	8.39	0.00690
BT-LE(2Mbps)	8.25	0.00668

Result

Mode	Result	DG (dBi)	Total Power (dBm)	Power Limit (dBm)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	0.72	8.39	30.00
2440MHz	Pass	0.72	7.14	30.00
2480MHz	Pass	0.72	6.72	30.00
BT-LE(2Mbps)	-	-	-	-
2402MHz	Pass	0.72	8.25	30.00
2440MHz	Pass	0.72	7.40	30.00
2480MHz	Pass	0.72	7.18	30.00

DG = Directional Gain; Port X = Port X output power;
Inf = There's no restriction for the limit.

Summary

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
BT-LE(1Mbps)	-7.80
BT-LE(2Mbps)	-9.60

RBW = 3kHz;

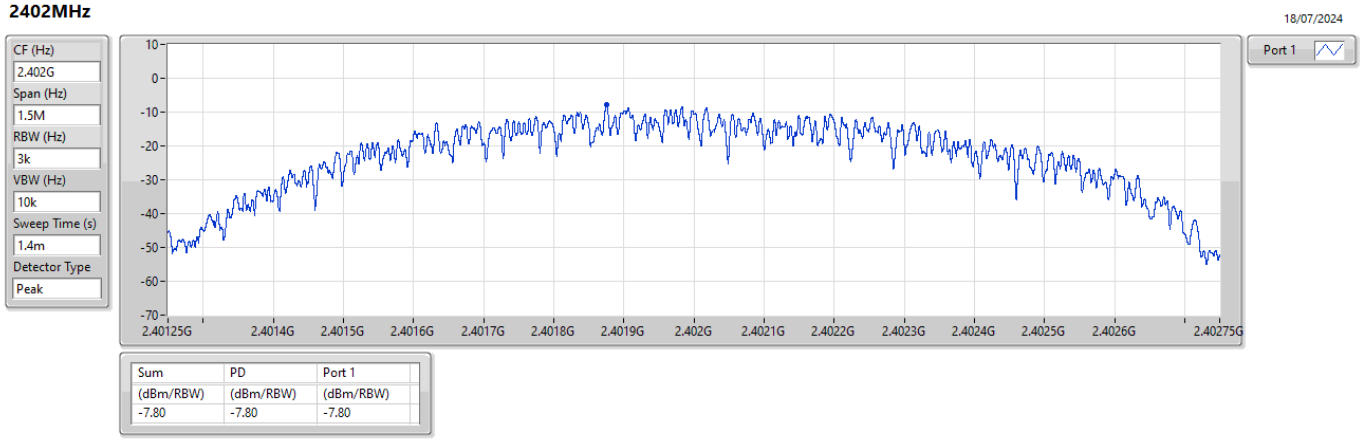
Result

Mode	Result	DG (dBi)	PD (dBm/RBW)	PD Limit (dBm/RBW)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	0.72	-7.80	8.00
2440MHz	Pass	0.72	-8.40	8.00
2480MHz	Pass	0.72	-8.66	8.00
BT-LE(2Mbps)	-	-	-	-
2402MHz	Pass	0.72	-9.60	8.00
2440MHz	Pass	0.72	-10.22	8.00
2480MHz	Pass	0.72	-10.49	8.00

DG = Directional Gain; RBW = 3kHz;
PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; Port X = Port X Power Density;
Inf = There's no restriction for the limit.

2.4-2.4835GHz_BT-LE(1Mbps) **PSD**

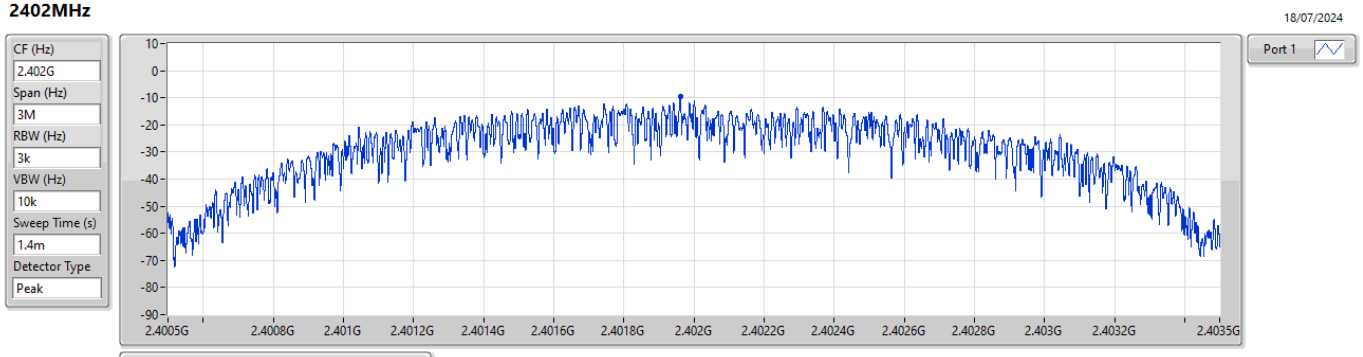
2402MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-7.80	-7.80	-7.80

2.4-2.4835GHz_BT-LE(2Mbps) **PSD**

2402MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-9.60	-9.60	-9.60

Summary

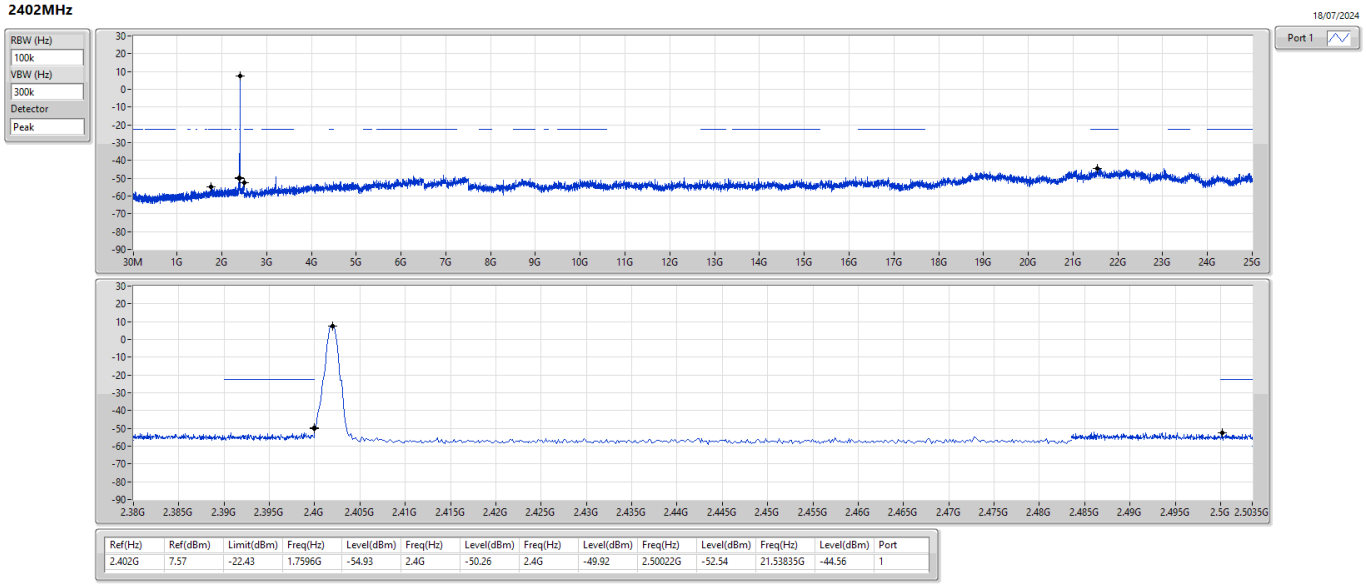
Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BT-LE(1Mbps)	Pass	2.402G	7.57	-22.43	1.7596G	-54.93	2.4G	-50.26	2.4G	-49.92	2.50022G	-52.54	21.53835G	-44.56	1
BT-LE(2Mbps)	Pass	2.40184G	7.52	-22.48	1.87475G	-54.72	2.4G	-30.33	2.4G	-31.17	2.5015G	-52.79	21.48492G	-44.64	1

Result

Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
BT-LE(1Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.402G	7.57	-22.43	1.7596G	-54.93	2.4G	-50.26	2.4G	-49.92	2.50022G	-52.54	21.53835G	-44.56	1
2440MHz	Pass	2.402G	7.57	-22.43	2.3095G	-54.49	2.397G	-52.44	2.4G	-57.70	2.50006G	-52.68	21.48773G	-44.66	1
2480MHz	Pass	2.402G	7.57	-22.43	2.03338G	-53.77	2.39032G	-53.00	2.4G	-56.79	2.50266G	-50.59	21.60865G	-43.27	1
BT-LE(2Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.40184G	7.52	-22.48	1.87475G	-54.72	2.4G	-30.33	2.4G	-31.17	2.5015G	-52.79	21.48492G	-44.64	1
2440MHz	Pass	2.40184G	7.52	-22.48	2.30128G	-55.39	2.39364G	-52.39	2.4G	-57.53	2.50086G	-53.34	21.65365G	-42.98	1
2480MHz	Pass	2.40184G	7.52	-22.48	2.18965G	-53.95	2.39016G	-53.16	2.4G	-58.29	2.50278G	-52.40	21.83081G	-44.66	1

2.4-2.4835GHz_BT-LE(1Mbps) CSENdB-DTS

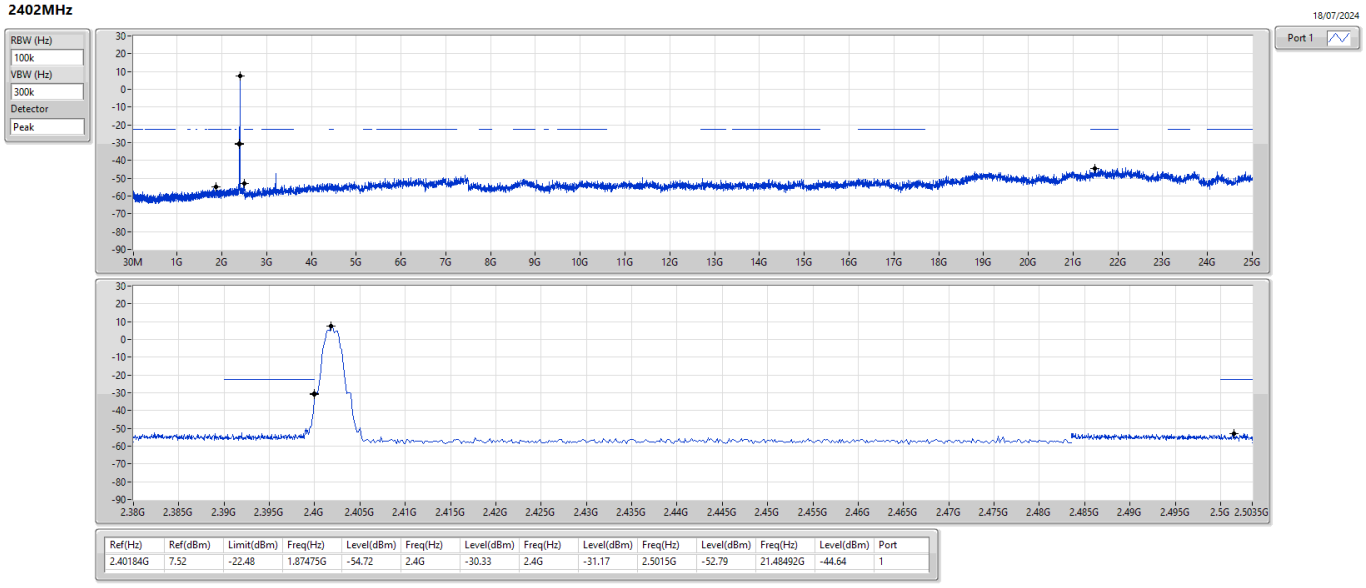
2402MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.402G	7.57	-22.43	1.7596G	-54.93	2.4G	-50.26	2.4G	-49.92	2.50022G	-52.54	21.53835G	-44.56	1

2.4-2.4835GHz_BT-LE(2Mbps) CSENdB-DTS

2402MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.40184G	7.52	-22.48	1.87475G	-54.72	2.4G	-30.33	2.4G	-31.17	2.5015G	-52.79	21.48492G	-44.64	1

Summary

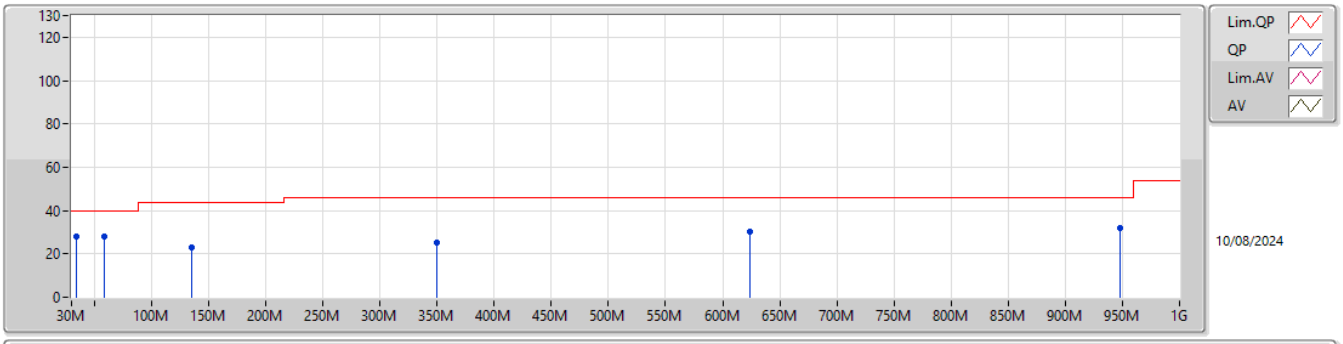
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-
BT-LE(2Mbps)	Pass	PK	33.88M	29.89	40.00	-10.11	3	Horizontal	360	1.00

Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)
BT-LE(2Mbps)	-	-	-	-	-	-	-	-	-	-
2440MHz	Pass	PK	33.88M	27.88	40.00	-12.12	3	Vertical	0	1.00
2440MHz	Pass	PK	59.1M	27.84	40.00	-12.16	3	Vertical	0	1.00
2440MHz	Pass	PK	134.76M	23.06	43.50	-20.44	3	Vertical	0	1.00
2440MHz	Pass	PK	350.1M	24.94	46.00	-21.06	3	Vertical	0	1.00
2440MHz	Pass	PK	623.64M	30.19	46.00	-15.81	3	Vertical	0	1.00
2440MHz	Pass	PK	947.62M	32.14	46.00	-13.86	3	Vertical	0	1.00
2440MHz	Pass	PK	33.88M	29.89	40.00	-10.11	3	Horizontal	360	1.00
2440MHz	Pass	PK	134.76M	27.01	43.50	-16.49	3	Horizontal	360	1.00
2440MHz	Pass	PK	429.64M	29.06	46.00	-16.94	3	Horizontal	360	1.00
2440MHz	Pass	PK	480.08M	31.45	46.00	-14.55	3	Horizontal	360	1.00
2440MHz	Pass	PK	528.58M	30.15	46.00	-15.85	3	Horizontal	360	1.00
2440MHz	Pass	PK	623.64M	30.44	46.00	-15.56	3	Horizontal	360	1.00

2.4-2.4835GHz_BT-LE(2Mbps)

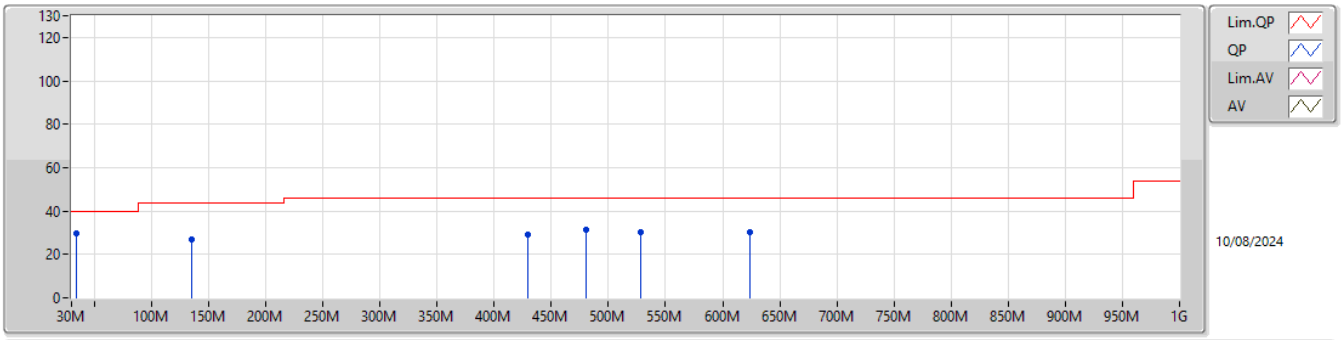
2440MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	(dBuV)	(dB)	(dB)	(dB)
PK	33.88M	27.88	40.00	-12.12	-5.17	3	Vertical	0	1.00	33.05	21.52	0.69	27.38
PK	59.1M	27.84	40.00	-12.16	-15.00	3	Vertical	0	1.00	42.84	11.41	0.93	27.34
PK	134.76M	23.06	43.50	-20.44	-9.19	3	Vertical	0	1.00	32.25	16.58	1.35	27.12
PK	350.1M	24.94	46.00	-21.06	-5.53	3	Vertical	0	1.00	30.47	19.37	2.13	27.03
PK	623.64M	30.19	46.00	-15.81	-1.58	3	Vertical	0	1.00	31.77	24.02	2.72	28.32
PK	947.62M	32.14	46.00	-13.86	1.66	3	Vertical	0	1.00	30.48	25.87	3.49	27.70

2.4-2.4835GHz_BT-LE(2Mbps)

2440MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	(dBuV)	(dB)	(dB)	(dB)
PK	33.88M	29.89	40.00	-10.11	-5.17	3	Horizontal	360	1.00	35.06	21.52	0.69	27.38
PK	134.76M	27.01	43.50	-16.49	-9.19	3	Horizontal	360	1.00	36.20	16.58	1.35	27.12
PK	429.64M	29.06	46.00	-16.94	-3.66	3	Horizontal	360	1.00	32.72	21.62	2.42	27.70
PK	480.08M	31.45	46.00	-14.55	-3.16	3	Horizontal	360	1.00	34.61	22.38	2.46	28.00
PK	528.58M	30.15	46.00	-15.85	-3.19	3	Horizontal	360	1.00	33.34	22.56	2.51	28.26
PK	623.64M	30.44	46.00	-15.56	-1.58	3	Horizontal	360	1.00	32.02	24.02	2.72	28.32

Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-
BT-LE(1Mbps)	Pass	AV	2.4835G	50.67	54.00	-3.33	3	Vertical	339	2.13
BT-LE(2Mbps)	Pass	AV	2.4835G	52.15	54.00	-1.85	3	Vertical	328	1.44

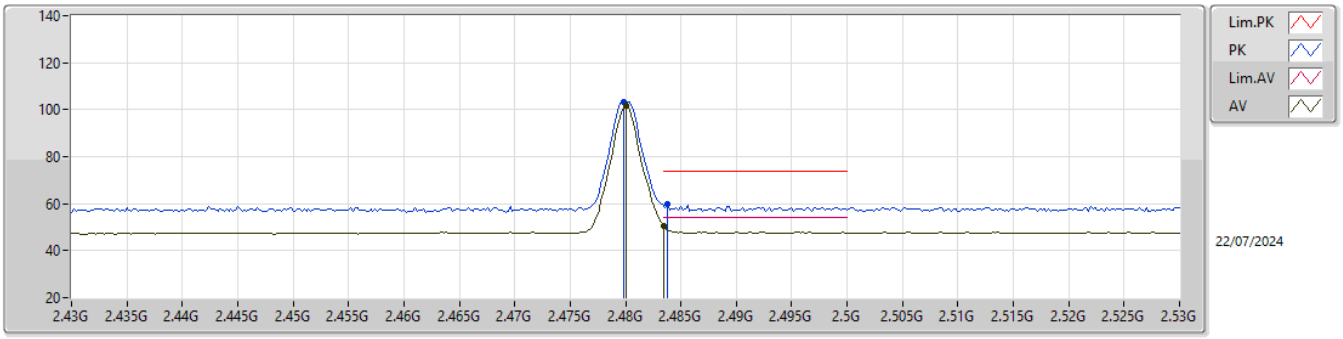
Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)
BT-LE(1Mbps)	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	AV	2.3894G	47.01	54.00	-6.99	3	Vertical	345	2.17
2402MHz	Pass	AV	2.402G	100.07	Inf	-Inf	3	Vertical	345	2.17
2402MHz	Pass	PK	2.3836G	57.14	74.00	-16.86	3	Vertical	345	2.17
2402MHz	Pass	PK	2.4018G	101.63	Inf	-Inf	3	Vertical	345	2.17
2402MHz	Pass	AV	2.3646G	47.19	54.00	-6.81	3	Horizontal	54	1.49
2402MHz	Pass	AV	2.402G	101.45	Inf	-Inf	3	Horizontal	54	1.49
2402MHz	Pass	PK	2.3596G	58.26	74.00	-15.74	3	Horizontal	54	1.49
2402MHz	Pass	PK	2.4018G	102.98	Inf	-Inf	3	Horizontal	54	1.49
2402MHz	Pass	AV	4.79744G	35.41	54.00	-18.59	3	Vertical	102	1.50
2402MHz	Pass	PK	4.7976G	54.13	74.00	-19.87	3	Vertical	102	1.50
2402MHz	Pass	AV	4.80438G	35.28	54.00	-18.72	3	Horizontal	125	1.50
2402MHz	Pass	PK	4.80649G	47.75	74.00	-26.25	3	Horizontal	125	1.50
2440MHz	Pass	AV	2.376G	47.13	54.00	-6.87	3	Vertical	287	1.90
2440MHz	Pass	AV	2.44G	98.46	Inf	-Inf	3	Vertical	287	1.90
2440MHz	Pass	AV	2.4944G	47.76	54.00	-6.24	3	Vertical	287	1.90
2440MHz	Pass	PK	2.3688G	58.75	74.00	-15.25	3	Vertical	287	1.90
2440MHz	Pass	PK	2.44G	99.97	Inf	-Inf	3	Vertical	287	1.90
2440MHz	Pass	PK	2.4928G	58.26	74.00	-15.74	3	Vertical	287	1.90
2440MHz	Pass	AV	2.366G	47.13	54.00	-6.87	3	Horizontal	55	2.29
2440MHz	Pass	AV	2.44G	98.21	Inf	-Inf	3	Horizontal	55	2.29
2440MHz	Pass	AV	2.4936G	47.89	54.00	-6.11	3	Horizontal	55	2.29
2440MHz	Pass	PK	2.3636G	57.35	74.00	-16.65	3	Horizontal	55	2.29
2440MHz	Pass	PK	2.44G	99.78	Inf	-Inf	3	Horizontal	55	2.29
2440MHz	Pass	PK	2.4996G	58.45	74.00	-15.55	3	Horizontal	55	2.29
2440MHz	Pass	AV	4.88724G	35.81	54.00	-18.19	3	Vertical	360	1.50
2440MHz	Pass	PK	4.87984G	47.89	74.00	-26.11	3	Vertical	360	1.50
2440MHz	Pass	AV	4.88632G	35.91	54.00	-18.09	3	Horizontal	119	1.26
2440MHz	Pass	PK	4.8868G	47.70	74.00	-26.30	3	Horizontal	119	1.26
2480MHz	Pass	AV	2.48G	101.72	Inf	-Inf	3	Vertical	339	2.13
2480MHz	Pass	AV	2.4835G	50.67	54.00	-3.33	3	Vertical	339	2.13
2480MHz	Pass	PK	2.4798G	103.30	Inf	-Inf	3	Vertical	339	2.13
2480MHz	Pass	PK	2.4838G	59.63	74.00	-14.37	3	Vertical	339	2.13
2480MHz	Pass	AV	2.48G	100.85	Inf	-Inf	3	Horizontal	56	2.08
2480MHz	Pass	AV	2.4835G	49.98	54.00	-4.02	3	Horizontal	56	2.08
2480MHz	Pass	PK	2.4802G	102.41	Inf	-Inf	3	Horizontal	56	2.08
2480MHz	Pass	PK	2.491G	59.13	74.00	-14.87	3	Horizontal	56	2.08
2480MHz	Pass	AV	4.95328G	35.92	54.00	-18.08	3	Vertical	206	2.28
2480MHz	Pass	PK	4.95744G	48.28	74.00	-25.72	3	Vertical	206	2.28
2480MHz	Pass	AV	4.95388G	35.90	54.00	-18.10	3	Horizontal	20	1.50
2480MHz	Pass	PK	4.9548G	48.36	74.00	-25.64	3	Horizontal	20	1.50
BT-LE(2Mbps)	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	AV	2.357G	48.23	54.00	-5.77	3	Vertical	260	1.77
2402MHz	Pass	AV	2.402G	99.15	Inf	-Inf	3	Vertical	260	1.77
2402MHz	Pass	PK	2.3778G	58.37	74.00	-15.63	3	Vertical	260	1.77
2402MHz	Pass	PK	2.4016G	102.34	Inf	-Inf	3	Vertical	260	1.77
2402MHz	Pass	AV	2.3892G	48.38	54.00	-5.62	3	Horizontal	54	1.51
2402MHz	Pass	AV	2.402G	100.04	Inf	-Inf	3	Horizontal	54	1.51
2402MHz	Pass	PK	2.366G	58.13	74.00	-15.87	3	Horizontal	54	1.51
2402MHz	Pass	PK	2.4016G	103.37	Inf	-Inf	3	Horizontal	54	1.51
2402MHz	Pass	AV	4.78632G	37.56	54.00	-16.44	3	Vertical	108	1.49
2402MHz	Pass	PK	4.79408G	53.46	74.00	-20.54	3	Vertical	108	1.49
2402MHz	Pass	AV	4.822G	37.16	54.00	-16.84	3	Horizontal	352	2.11
2402MHz	Pass	PK	4.81968G	48.09	74.00	-25.91	3	Horizontal	352	2.11
2440MHz	Pass	AV	2.3816G	48.46	54.00	-5.54	3	Vertical	284	1.90
2440MHz	Pass	AV	2.44G	97.28	Inf	-Inf	3	Vertical	284	1.90
2440MHz	Pass	AV	2.498G	48.83	54.00	-5.17	3	Vertical	284	1.90
2440MHz	Pass	PK	2.3724G	57.78	74.00	-16.22	3	Vertical	284	1.90
2440MHz	Pass	PK	2.4404G	100.52	Inf	-Inf	3	Vertical	284	1.90
2440MHz	Pass	PK	2.4932G	58.35	74.00	-15.65	3	Vertical	284	1.90
2440MHz	Pass	AV	2.3728G	48.25	54.00	-5.75	3	Horizontal	54	1.66

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)
2440MHz	Pass	AV	2.44G	96.77	Inf	-Inf	3	Horizontal	54	1.66
2440MHz	Pass	AV	2.4856G	48.77	54.00	-5.23	3	Horizontal	54	1.66
2440MHz	Pass	PK	2.3412G	58.42	74.00	-15.58	3	Horizontal	54	1.66
2440MHz	Pass	PK	2.4404G	99.72	Inf	-Inf	3	Horizontal	54	1.66
2440MHz	Pass	PK	2.4888G	59.10	74.00	-14.90	3	Horizontal	54	1.66
2440MHz	Pass	AV	4.89088G	37.03	54.00	-16.97	3	Vertical	244	1.50
2440MHz	Pass	PK	4.89648G	47.84	74.00	-26.16	3	Vertical	244	1.50
2440MHz	Pass	AV	4.88864G	37.27	54.00	-16.73	3	Horizontal	140	1.50
2440MHz	Pass	PK	4.89136G	47.73	74.00	-26.27	3	Horizontal	140	1.50
2480MHz	Pass	AV	2.48G	99.87	Inf	-Inf	3	Vertical	328	1.44
2480MHz	Pass	AV	2.4835G	52.15	54.00	-1.85	3	Vertical	328	1.44
2480MHz	Pass	PK	2.4804G	102.95	Inf	-Inf	3	Vertical	328	1.44
2480MHz	Pass	PK	2.4835G	59.77	74.00	-14.23	3	Vertical	328	1.44
2480MHz	Pass	AV	2.48G	98.88	Inf	-Inf	3	Horizontal	55	1.50
2480MHz	Pass	AV	2.4835G	51.49	54.00	-2.51	3	Horizontal	55	1.50
2480MHz	Pass	PK	2.4806G	101.98	Inf	-Inf	3	Horizontal	55	1.50
2480MHz	Pass	PK	2.4835G	59.29	74.00	-14.71	3	Horizontal	55	1.50
2480MHz	Pass	AV	4.96648G	37.67	54.00	-16.33	3	Vertical	77	1.50
2480MHz	Pass	PK	4.97304G	48.00	74.00	-26.00	3	Vertical	77	1.50
2480MHz	Pass	AV	4.97592G	38.01	54.00	-15.99	3	Horizontal	169	1.50
2480MHz	Pass	PK	4.96984G	48.13	74.00	-25.87	3	Horizontal	169	1.50

2.4-2.4835GHz_BT-LE(1Mbps)

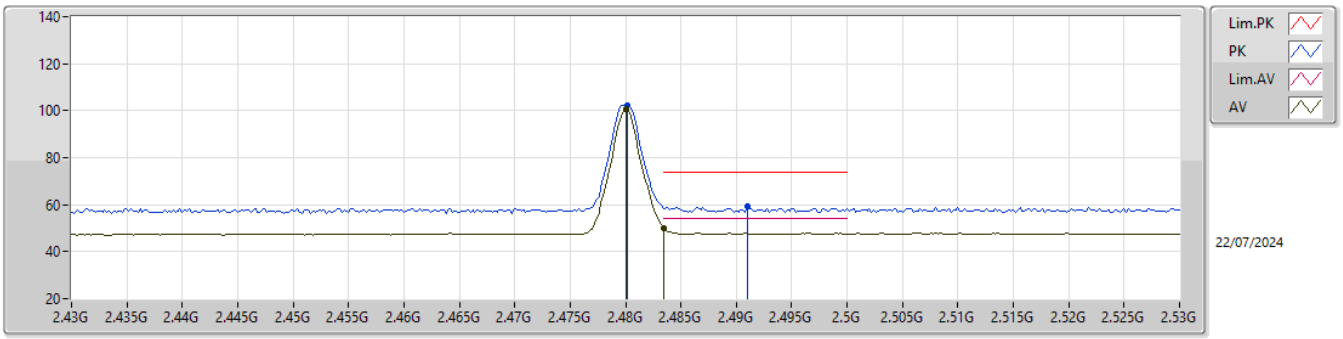
2480MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	(dBuV)	(dB)	(dB)	(dB)
AV	2.48G	101.72	Inf	-Inf	33.21	3	Vertical	339	2.13	68.51	27.70	5.51	-
AV	2.4835G	50.67	54.00	-3.33	33.25	3	Vertical	339	2.13	17.42	27.74	5.51	-
PK	2.4798G	103.30	Inf	-Inf	33.21	3	Vertical	339	2.13	70.09	27.70	5.51	-
PK	2.4838G	59.63	74.00	-14.37	33.25	3	Vertical	339	2.13	26.38	27.74	5.51	-

2.4-2.4835GHz_BT-LE(1Mbps)

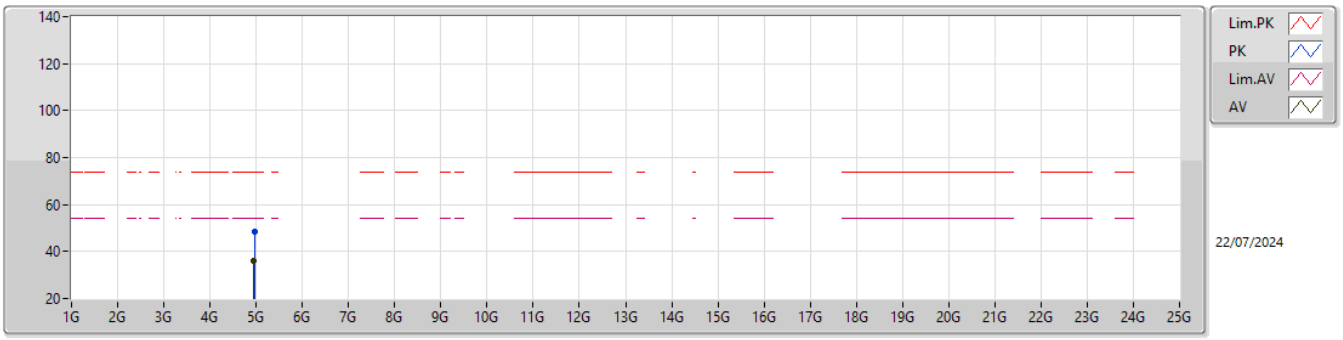
2480MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	(dBuV)	(dB)	(dB)	(dB)
AV	2.48G	100.85	Inf	-Inf	33.21	3	Horizontal	56	2.08	67.64	27.70	5.51	-
AV	2.4835G	49.98	54.00	-4.02	33.25	3	Horizontal	56	2.08	16.73	27.74	5.51	-
PK	2.4802G	102.41	Inf	-Inf	33.21	3	Horizontal	56	2.08	69.20	27.70	5.51	-
PK	2.491G	59.13	74.00	-14.87	33.32	3	Horizontal	56	2.08	25.81	27.80	5.52	-

2.4-2.4835GHz_BT-LE(1Mbps)

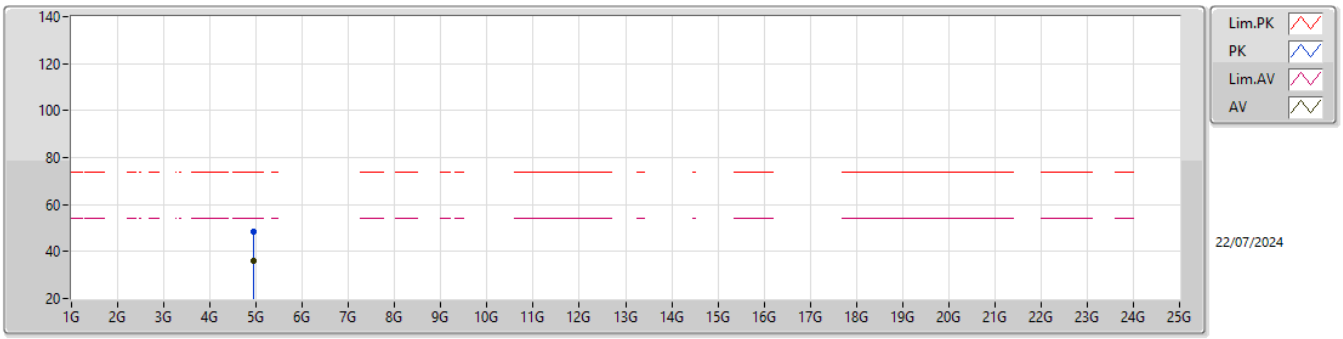
2480MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	(dBuV)	(dB)	(dB)	(dB)
AV	4.95328G	35.92	54.00	-18.08	6.80	3	Vertical	206	2.28	29.12	32.82	7.98	34.00
PK	4.95744G	48.28	74.00	-25.72	6.82	3	Vertical	206	2.28	41.46	32.84	7.98	34.00

2.4-2.4835GHz_BT-LE(1Mbps)

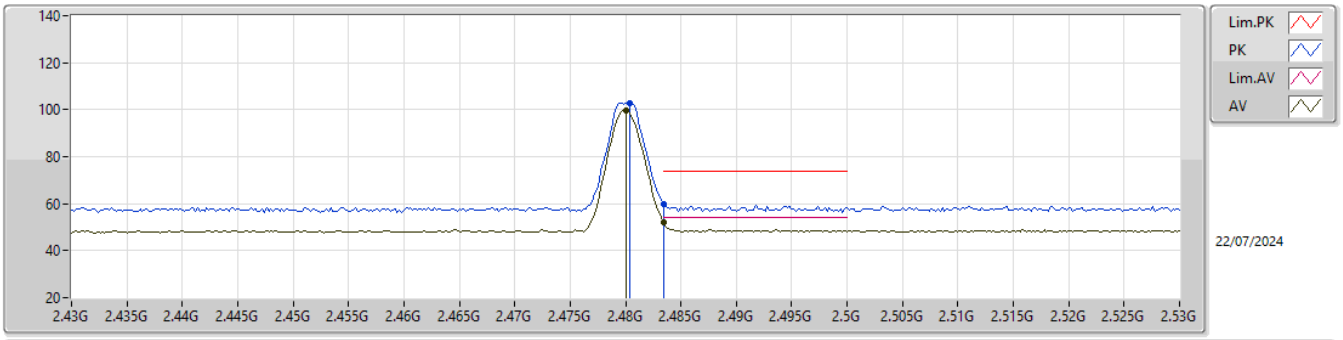
2480MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	(dBuV)	(dB)	(dB)	(dB)
AV	4.95388G	35.90	54.00	-18.10	6.80	3	Horizontal	20	1.50	29.10	32.82	7.98	34.00
PK	4.9548G	48.36	74.00	-25.64	6.81	3	Horizontal	20	1.50	41.55	32.83	7.98	34.00

2.4-2.4835GHz_BT-LE(2Mbps)

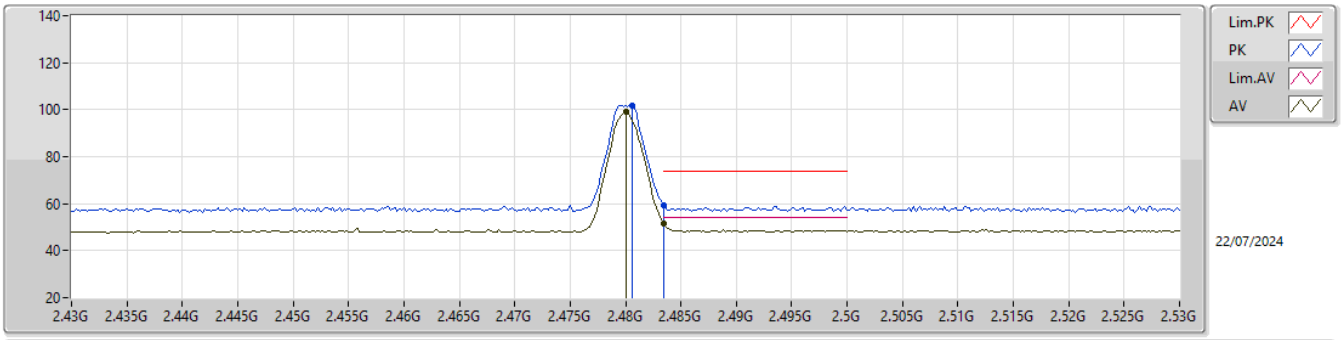
2480MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	(dBuV)	(dB)	(dB)	(dB)
AV	2.48G	99.87	Inf	-Inf	33.21	3	Vertical	328	1.44	66.66	27.70	5.51	-
AV	2.4835G	52.15	54.00	-1.85	33.25	3	Vertical	328	1.44	18.90	27.74	5.51	-
PK	2.4804G	102.95	Inf	-Inf	33.21	3	Vertical	328	1.44	69.74	27.70	5.51	-
PK	2.4835G	59.77	74.00	-14.23	33.25	3	Vertical	328	1.44	26.52	27.74	5.51	-

2.4-2.4835GHz_BT-LE(2Mbps)

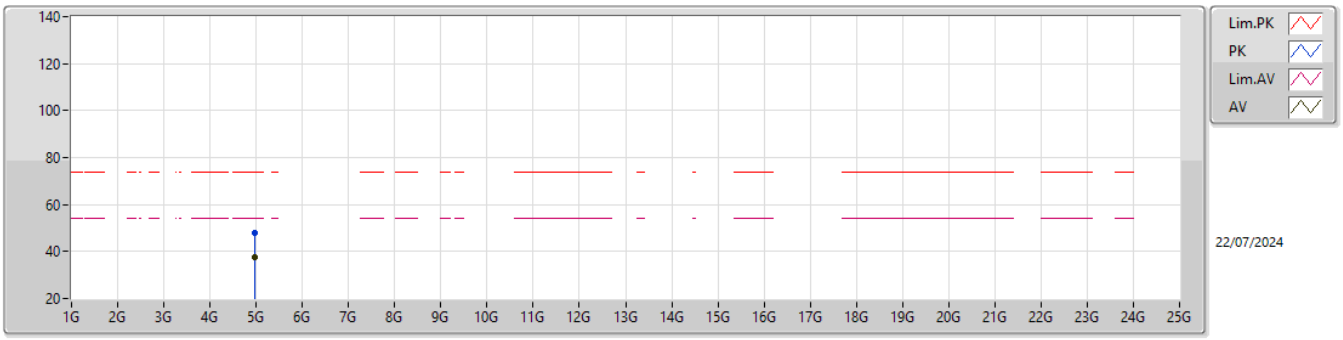
2480MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	(dBuV)	(dB)	(dB)	(dB)
AV	2.48G	98.88	Inf	-Inf	33.21	3	Horizontal	55	1.50	65.67	27.70	5.51	-
AV	2.4835G	51.49	54.00	-2.51	33.25	3	Horizontal	55	1.50	18.24	27.74	5.51	-
PK	2.4806G	101.98	Inf	-Inf	33.22	3	Horizontal	55	1.50	68.76	27.71	5.51	-
PK	2.4835G	59.29	74.00	-14.71	33.25	3	Horizontal	55	1.50	26.04	27.74	5.51	-

2.4-2.4835GHz_BT-LE(2Mbps)

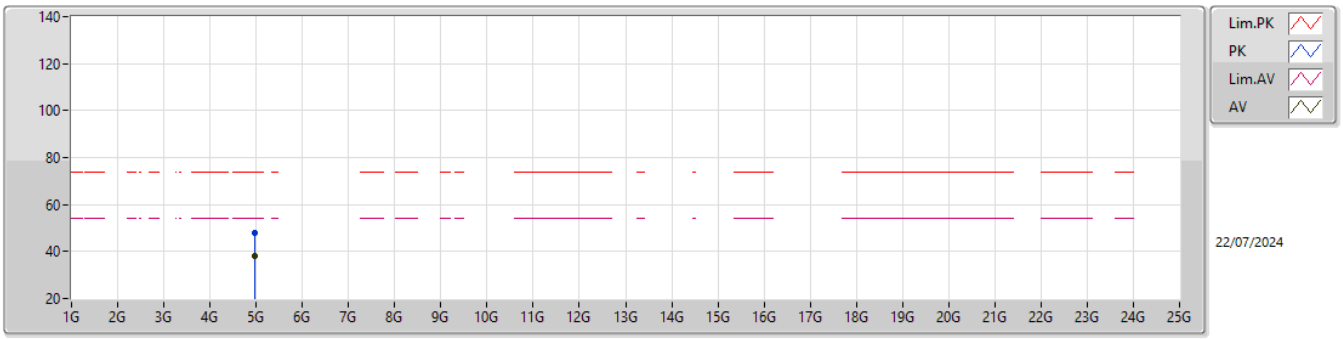
2480MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	(dBuV)	(dB)	(dB)	(dB)
AV	4.96648G	37.67	54.00	-16.33	6.89	3	Vertical	77	1.50	30.78	32.90	7.98	33.99
PK	4.97304G	48.00	74.00	-26.00	6.93	3	Vertical	77	1.50	41.07	32.94	7.98	33.99

2.4-2.4835GHz_BT-LE(2Mbps)

2480MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	(dBuV)	(dB)	(dB)	(dB)
AV	4.97592G	38.01	54.00	-15.99	6.95	3	Horizontal	169	1.50	31.06	32.96	7.98	33.99
PK	4.96984G	48.13	74.00	-25.87	6.91	3	Horizontal	169	1.50	41.22	32.92	7.98	33.99