FCC Radio Test Report

FCC ID	:	**2ABXLT1501S**
Equipment	:	**Wireless Transceiver**
Brand Name	:	**Tile**
Model Name	:	**T1501S**
Applicant	:	**Tile, Inc. 1900 S NORFOLK ST. SUITE 310 SAN MATEO CA 94403**
Manufacturer	:	**Tile, Inc. 1900 S NORFOLK ST. SUITE 310 SAN MATEO CA 94403**
Standard	:	**47 CFR FCC Part 15.247**

The product was received on Aug. 03, 2021, and testing was started from Aug. 20, 2021 and completed on Aug. 27, 2021. 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: Allen Lin

SPORTON INTERNATIONAL INC. Hsinhua Laboratory

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

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PHOTOGRAPHS OF EUT V01

History of this test report

Report No.	Version	Description	Issued Date
FR180224AL	01	Initial issue of report	Oct. 04, 2021

Summary of Test Result

Report Clause	Ref.Std. Clause	Test Items	Result (PASS/FAIL)	Remark
1.1.2	15.203	Antenna Requirement	PASS	-
-	15.207	AC Power-line Conducted Emissions	Not Required	Only employ battery power.
3.1	15.247(a)	DTS Bandwidth	PASS	-
3.2	15.247(b)	Maximum Conducted Output Power	PASS	-
3.3	15.247(e)	Power Spectral Density	PASS	-
3.4	15.247(d)	Emissions in Non-restricted Frequency Bands	PASS	-
3.5	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: Sam Tsai

Report Producer: Debby Hung

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

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

1.1.2 Antenna Information

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	Tile Inc.	Sticker_STC	PCB antenna	N/A	1.09

Note 1: The EUT has one antenna.

For BT function:

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

Ant. 1 can be used as transmitting/receiving antenna.

1.1.3 EUT Information

Operational Condition				
EUT Power Type	From Battery			
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)	0.314	5.03	392.5u	3k

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 (**TAF:** 3785)	**ADD:** No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333411, Taiwan (R.O.C.)			
	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**
RF Conducted	TH06-HY	Johnny Yu	20.1~26.9°C / 50~60%	27/Aug/2021
☒ Wen 33rd.St. (**TAF:** 3785)	**ADD:** No.14-1, Ln. 19, Wen 33rd St., Guishan Dist., Taoyuan City 333010, Taiwan (R.O.C.)			
	TEL: 886-3-318-0787		**FAX:** 886-3-318-0287	
Test site Designation No. TW0008 with FCC.				
Test Condition	**Test Site No.**	**Test Engineer**	**Test Environment**	**Test Date**
Radiated	03CH09-HY	Ryan Hsiao	22.1~23.8°C / 42~59%	20/Aug/2021~26/Aug/2021

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**
Radiated Emission (9kHz ~ 30MHz)	2.4 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	3.7 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	3.6 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	3.5 dB	Confidence levels of 95%
Conducted Emission	1.0 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	N/A

Note: The EUT transmits RF Signal continuously by itself.

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

2.2 The Worst Case Measurement Configuration

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	Battery Mode		
Operating Mode > 1GHz	CTX		
Orthogonal Planes of EUT	**X Plane**	**Y Plane**	**Z Plane**
Worst Planes of EUT	V		

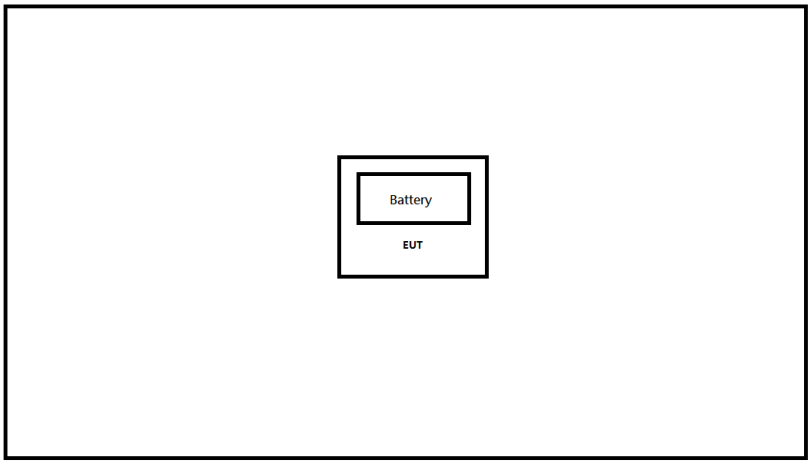
2.3 Accessories

Accessories				
Battery	Brand Name	EVE Energy Co. Ltd. & Maxell and Panasonic	Model Name	CR2032
	Power Rating	3 Vdc, 225 mAh	Type	Li-manganese dioxide

Reminder: Regarding to more detail and other information, please refer to user manual.

2.4 Test Setup Diagram

Test Setup Diagram - Radiated Test



3 Transmitter Test Result

3.1 DTS Bandwidth

3.1.1 6dB Bandwidth Limit

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

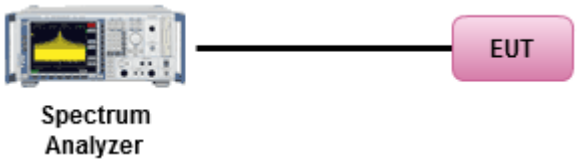
3.1.2 Measuring Instruments

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

3.1.3 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 for occupied bandwidth testing.
	☐ Refer as ANSI C63.10, clause 6.9.3 for occupied bandwidth testing.

3.1.4 Test Setup

Emission Bandwidth


3.1.5 Test Result of Emission Bandwidth

Refer as Appendix A

3.2 Maximum Conducted Output Power

3.2.1 Maximum Conducted Output Power Limit

Maximum Conducted Output Power Limit			
	▪ If $G_{TX} \leq 6$ dBi, then $P_{Out} \leq 30$ 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 $P_{Out} = 30 – (G_{TX} – 6)/3 + 8$dB dBm	
e.i.r.p. Power Limit:			
▪ 2400-2483.5 MHz Band			
	▪ Point-to-multipoint systems (P2M): $P_{eirp} \leq 36$ dBm (4 W)		
	▪ Point-to-point systems (P2P): $P_{eirp} \leq MAX(36, [P_{Out} + G_{TX}])$ dBm		
	▪ Smart antenna system (SAS)		
		- Single beam: $P_{eirp} \leq MAX(36, P_{Out} + G_{TX})$ dBm	
		- Overlap beam: $P_{eirp} \leq MAX(36, P_{Out} + G_{TX})$ dBm	
		- Aggregate power on all beams: $P_{eirp} \leq MAX(36, [P_{Out} + G_{TX} + 8])$ 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.			

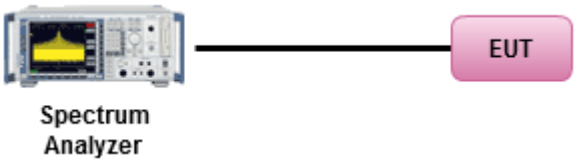
3.2.2 Measuring Instruments

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

3.2.3 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]) $EIRP_{total} = P_{total} + DG$

3.2.4 Test Setup

Maximum Conducted Output Power (Spectrum Analyzer)


3.2.5 Test Result of Maximum Conducted Output Power

Refer as Appendix B

3.3 Power Spectral Density

3.3.1 Power Spectral Density Limit

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

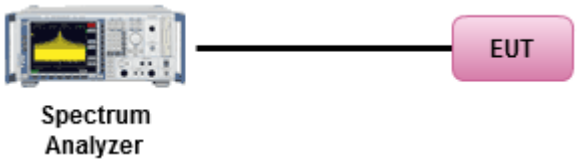
3.3.2 Measuring Instruments

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

3.3.3 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.

3.3.4 Test Setup

Power Spectral Density


3.3.5 Test Result of Power Spectral Density

Refer as Appendix C

3.4 Emissions in Non-restricted Frequency Bands

3.4.1 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.	

3.4.2 Measuring Instruments

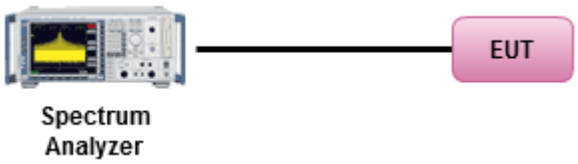
Refer a test equipment and calibration data table in this test report.

3.4.3 Test Procedures

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

3.4.4 Test Setup

Emissions in Non-restricted Frequency Bands



3.4.5 Test Result of Emissions in Non-restricted Frequency Bands

Refer as Appendix D

3.5 Emissions in Restricted Frequency Bands

3.5.1 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.

3.5.2 Measuring Instruments

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

3.5.3 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.

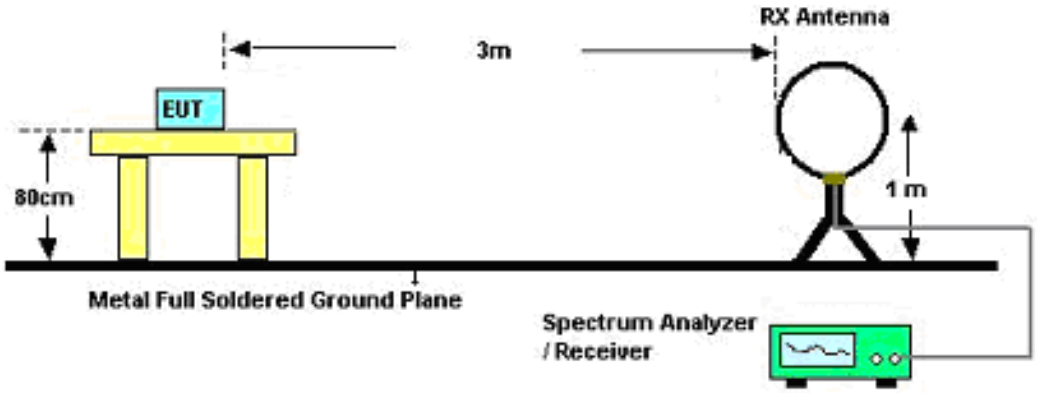
3.5.4 Measurement Results Calculation

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

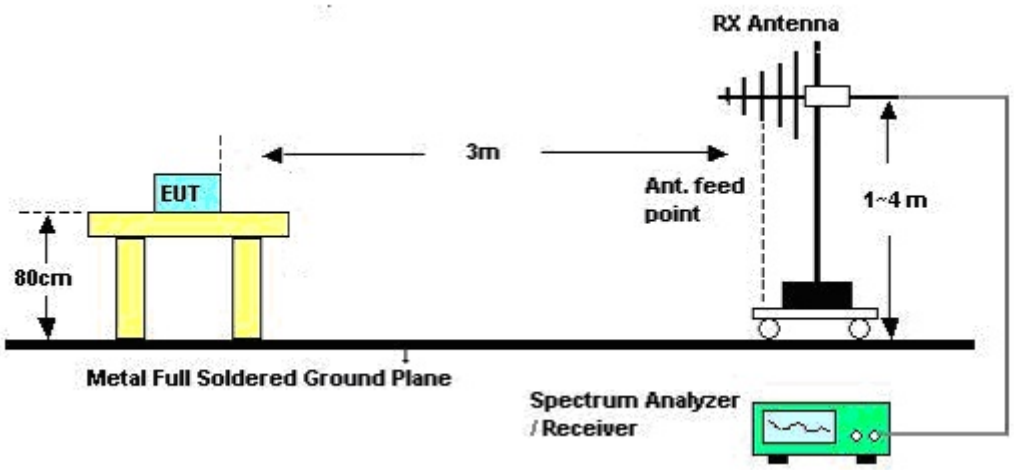
3.5.5 Test Setup

Emissions in Restricted Frequency Bands

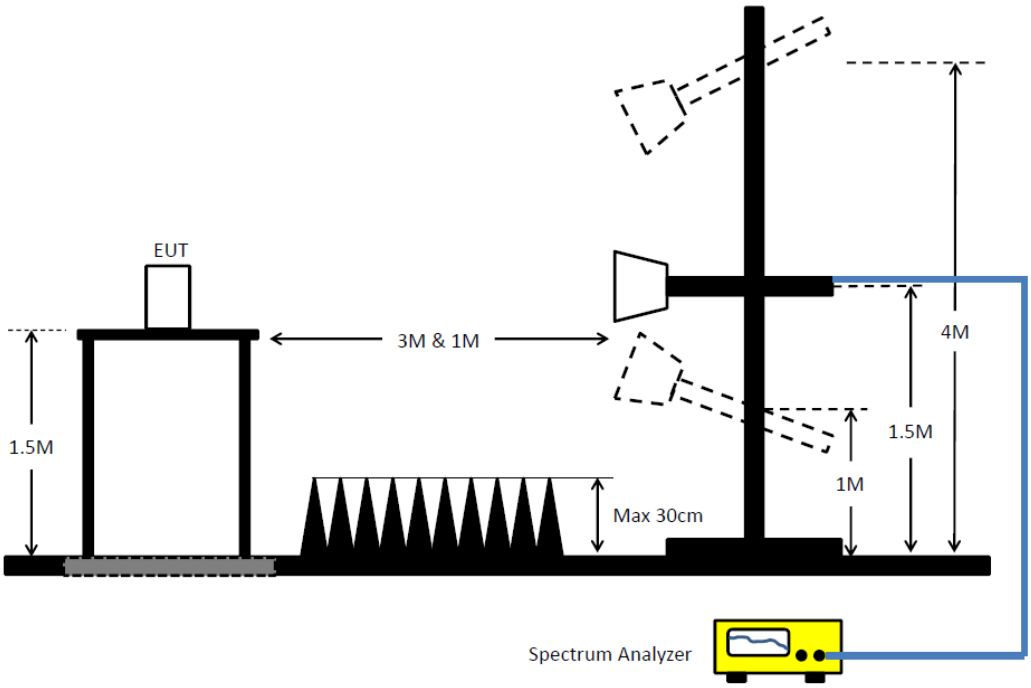
9kHz ~30MHz



30MHz~1GHz



Above 1GHz



3.5.6 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.

3.5.7 Test Result of Emissions in Restricted Frequency Bands

Refer as Appendix E

4 Test Equipment and Calibration Data

Instrument for Conducted Test

Instrument	Manufacturer /Brand	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
Signal Analyzer	R&S	FSV 40	101029	10Hz~40GHz	19/Oct/2020	18/Oct/2021
SMB100A Signal Generator	R&S	SMB100A03	181147	100kHz~40GHz	20/Oct/2020	19/Oct/2021
Pulse Sensor	Anritsu	MA2411B	1027452	300MHz~40GHz	25/Mar/2021	24/Mar/2022
Power Meter	Anritsu	ML2495A	1124009	300MHz~40GHz	25/Mar/2021	24/Mar/2022

Instrument for Radiated Test

Instrument	Manufacturer /Brand	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
3m Semi Anechoic Chamber	TDK	SAC-3M	03CH09-HY	30MHz~1GHz 3m	26/Mar/2021	25/Mar/2022
3m Semi Anechoic Chamber	TDK	SAC-3M	03CH09-HY	1GHz~18GHz 3m	18/Mar/2021	17/Mar/2022
EXA Signal Analyzer	KEYSIGHT	N9010A	MY54200885	10Hz~44GHz	13/Aug/2021	12/Aug/2022
Amplifier	EMC	EMC9135	980232	9kHz~1GHz	12/Apr/2021	11/Apr/2022
Microwave Preamplifier	Agilent	8449B	3008A02096	1GHz~26.5GHz	23/Jul/2021	22/Jul/2022
Bilog Antenna & 5dB Attenuator	TESEQ & MTJ	CBL6111D&MTJ6102-05	35418 & 3	30MHz~1GHz	06/Sep/2020	05/Sep/2021
Double Ridged Guide Horn Antenna	SCHWARZBECK	BBHA 9120 D	BBHA9120 D 1534	1GHz~18GHz	18/May/2021	17/May/2022
RF Cable-low	Jye Bao	RG142	CB031+324530/4	9kHz~30MHz	03/Sep/2020	02/Sep/2021
RF Cable-low	Jye Bao	RG142	CB031+324530/4	30MHz~1GHz	09/Feb/2021	08/Feb/2022
RF CABLE 5m+3m+1m	HUBER+SUHNER	SUCOFLEX104	CB009	1GHz~40GHz	13/Aug/2021	12/Aug/2022
Broadband Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA 9170221	18GHz~40GHz	11/Mar/2021	10/Mar/2022
Microwave Premplifier	EMC INSTRUMENTS	EM18G40G	060604	18GHz~40GHz	09/Mar/2021	08/Mar/2022
Loop Antenna	TESEQ	HLA 6120	31244	9kHz~30MHz	16/Mar/2021	15/Mar/2022
EMI Test Receiver	R&S	ESR3	102052	9kHz~3.6GHz	19/Apr/2021	18/Apr/2022

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)	680k	1.041M	1M04F1D	668.75k	1.012M

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

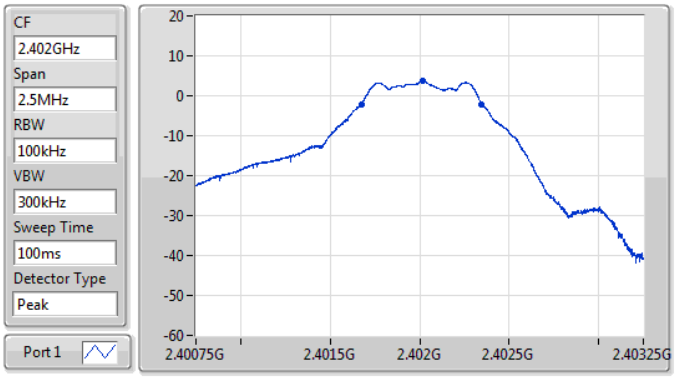
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	500k	668.75k	1.041M
2440MHz	Pass	500k	680k	1.018M
2480MHz	Pass	500k	671.25k	1.012M

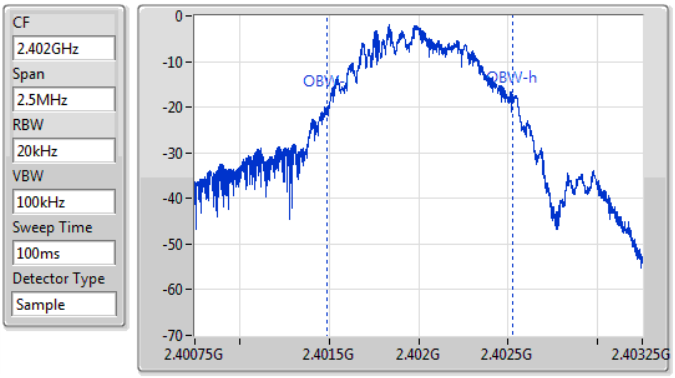
Port X-N dB = Port X 6dB down bandwidth;
Port X-OBW = Port X 99% occupied bandwidth

BT-LE(1Mbps) EBW-DTS

2402MHz

27/08/2021



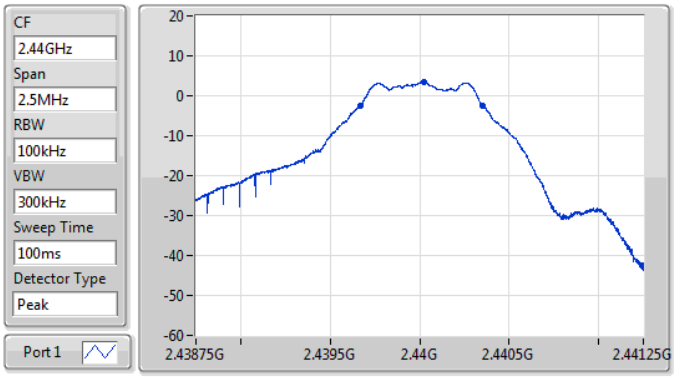


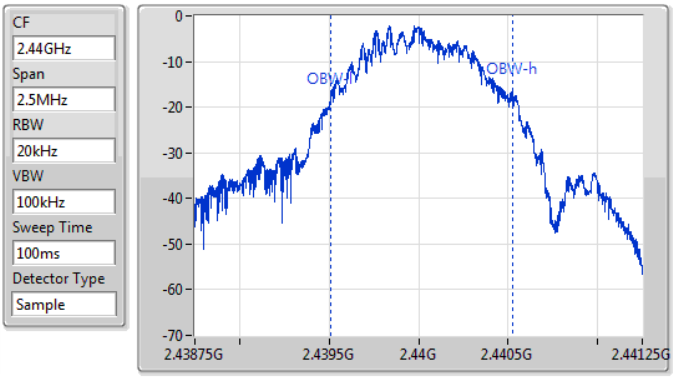
6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
668.75k	2.401675G	2.402344G	1.041M	2.401487G	2.402527G	500k	1

BT-LE(1Mbps) EBW-DTS

2440MHz

27/08/2021



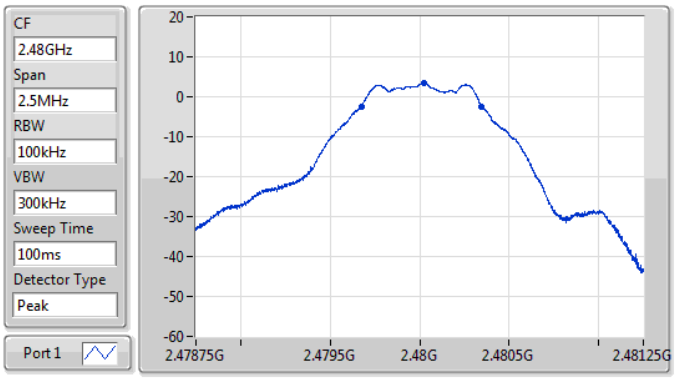


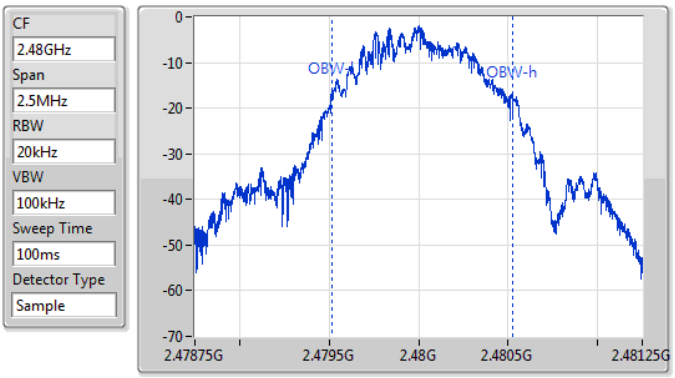
6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
680k	2.439671G	2.440351G	1.018M	2.439506G	2.440525G	500k	1

BT-LE(1Mbps) **EBW-DTS**

2480MHz

27/08/2021





6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
671.25k	2.479676G	2.480348G	1.012M	2.479516G	2.480528G	500k	1

Summary

Mode	Power (dBm)	Power (W)
2.4-2.4835GHz	-	-
BT-LE(1Mbps)	3.92	0.00247

Result

Mode	Result	Gain (dBi)	Power (dBm)	Power Limit (dBm)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	1.09	3.75	30.00
2440MHz	Pass	1.09	3.92	30.00
2480MHz	Pass	1.09	3.69	30.00

DG = Directional Gain; Port X = Port X output power

Summary

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
BT-LE(1Mbps)	-11.00

RBW = 3kHz;

Result

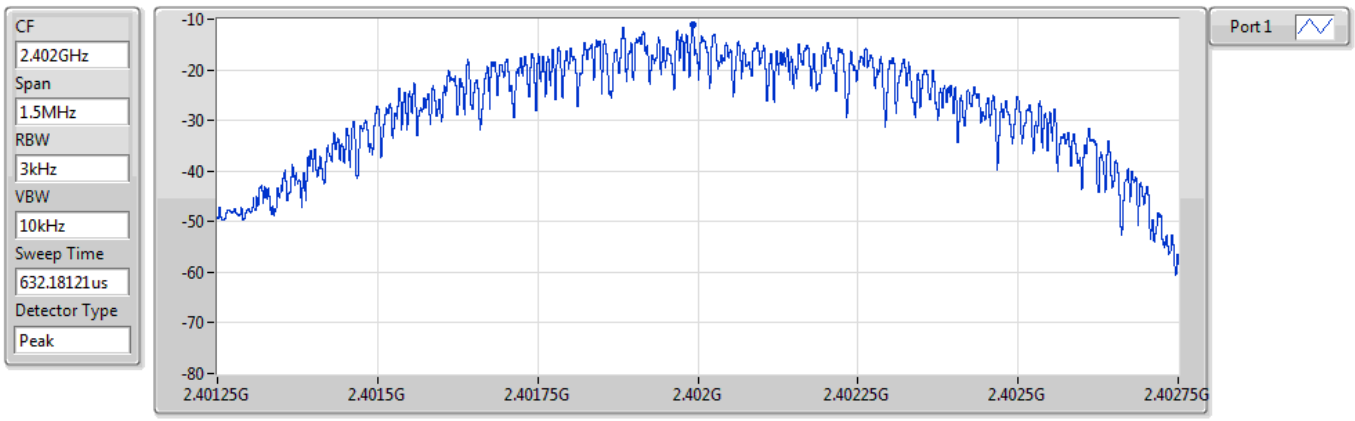
Mode	Result	Gain (dBi)	PD (dBm/RBW)	PD Limit (dBm/RBW)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	1.09	-11.00	8.00
2440MHz	Pass	1.09	-11.91	8.00
2480MHz	Pass	1.09	-11.97	8.00

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;

BT-LE(1Mbps) PSD

2402MHz

27/08/2021

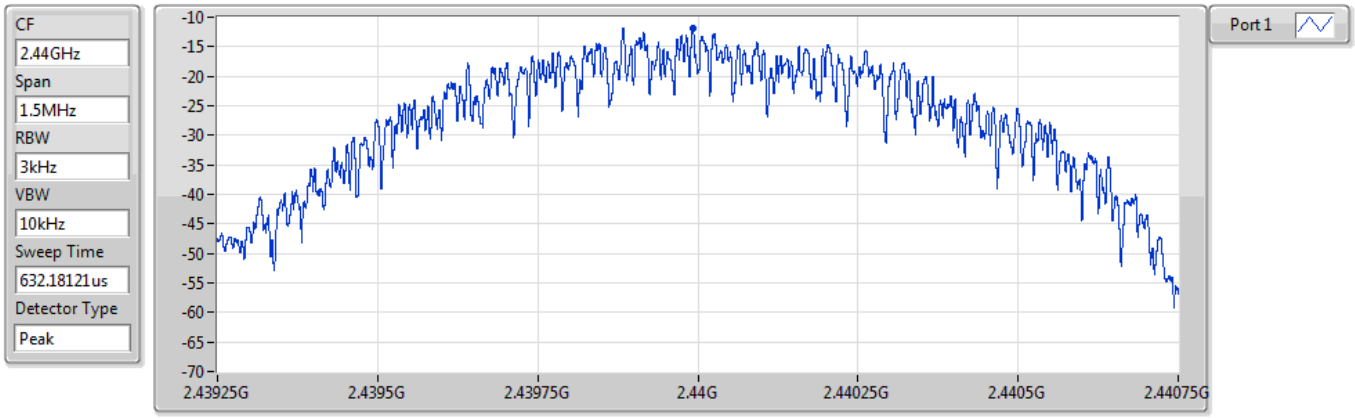


Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-11.00	-11.00	-11.00

BT-LE(1Mbps) PSD

2440MHz

27/08/2021

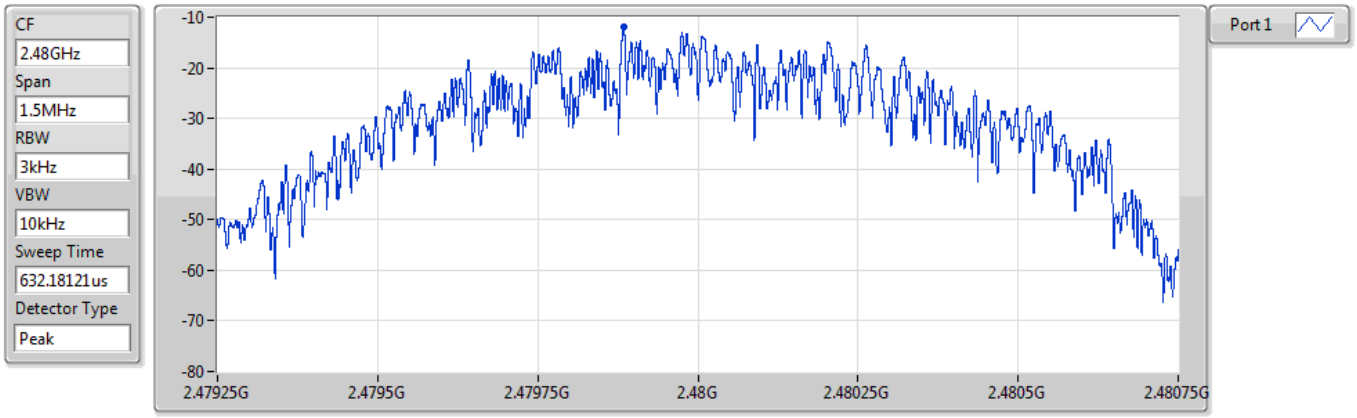


Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-11.91	-11.91	-11.91

BT-LE(1Mbps) **PSD**

2480MHz

27/08/2021



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-11.97	-11.97	-11.97

Summary

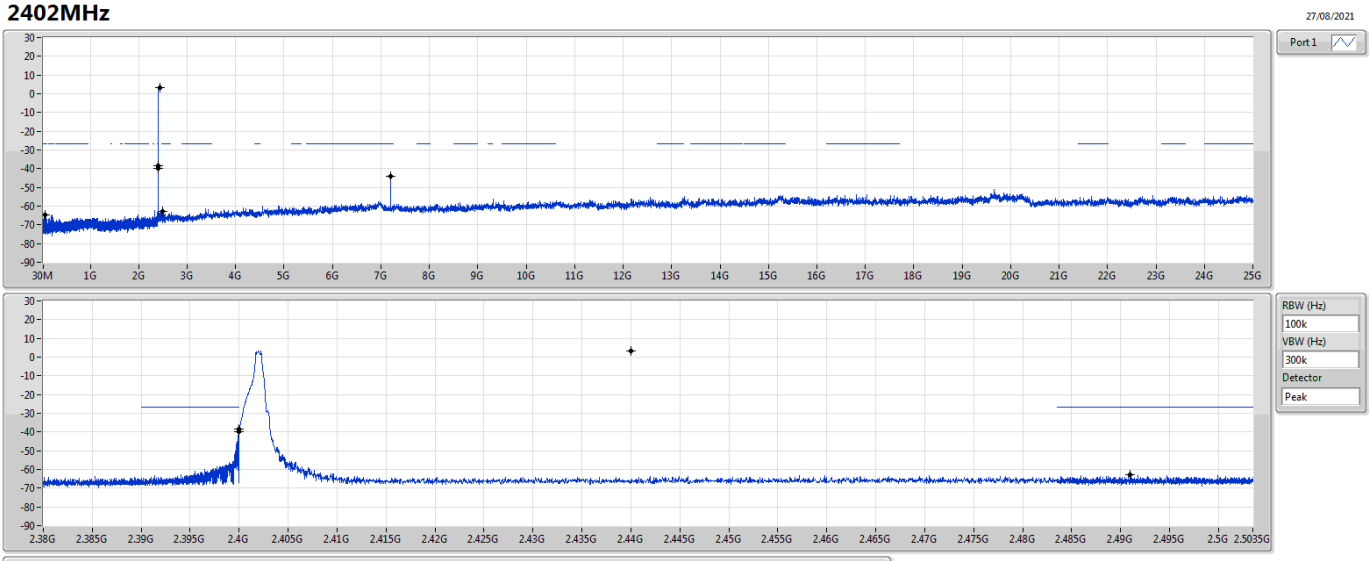
Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BT-LE(1Mbps)	Pass	2.44G	3.48	-26.52	65.54M	-64.46	2.39998G	-39.93	2.4G	-38.36	2.491G	-62.96	7.20527G	-43.92	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	2.44G	3.48	-26.52	65.54M	-64.46	2.39998G	-39.93	2.4G	-38.36	2.491G	-62.96	7.20527G	-43.92	1
2440MHz	Pass	2.44G	3.48	-26.52	71.71M	-63.70	2.39269G	-63.90	2.4G	-65.15	2.494G	-63.12	15.25902G	-53.70	1
2480MHz	Pass	2.44G	3.48	-26.52	232.98M	-64.34	2.39323G	-63.74	2.4835G	-58.28	2.48361G	-56.41	17.36244G	-51.63	1

BT-LE(1Mbps) **CSENdB-DTS**

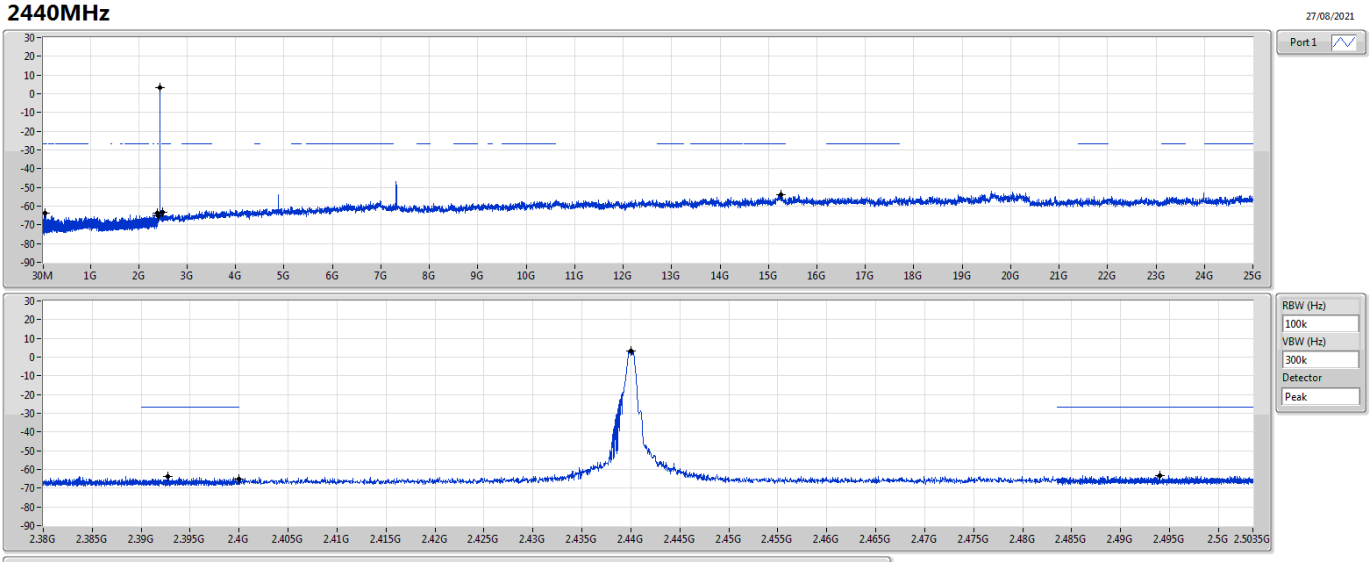
2402MHz



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
2.44G	3.48	-26.52	65.54M	-64.46	2.39998G	-39.93	2.4G	-38.36	2.491G	-62.96	7.20527G	-43.92	1

BT-LE(1Mbps) **CSENdB-DTS**

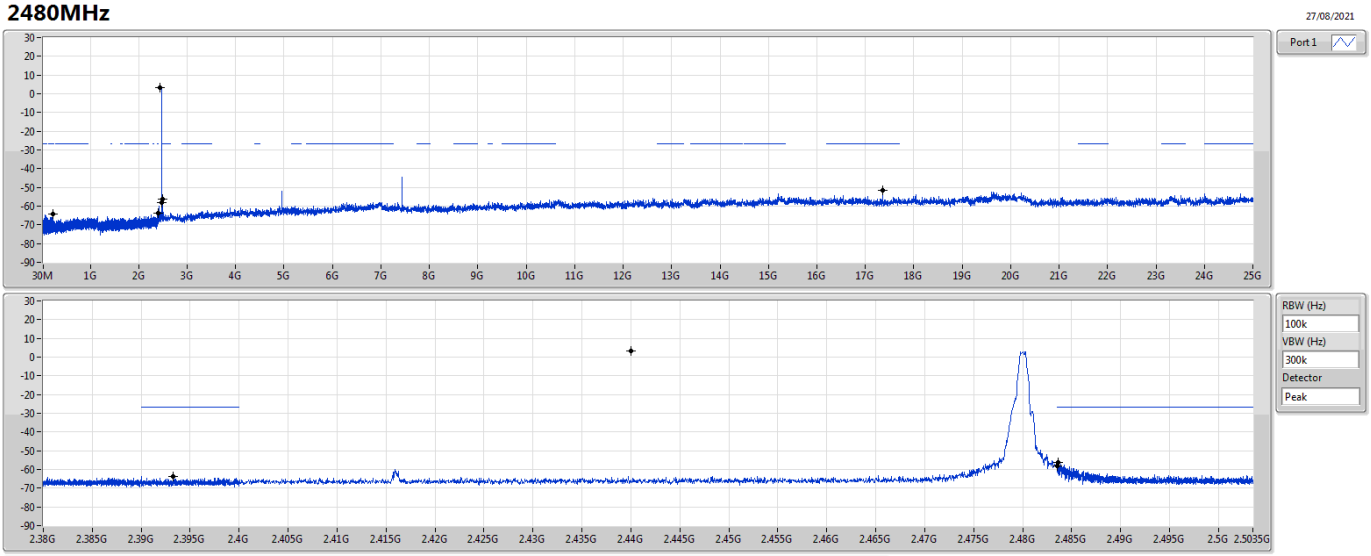
2440MHz



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
2.44G	3.48	-26.52	71.71M	-63.70	2.39269G	-63.90	2.4G	-65.15	2.494G	-63.12	15.25902G	-53.70	1

BT-LE(1Mbps) **CSENdB-DTS**

2480MHz



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
2.44G	3.48	-26.52	232.98M	-64.34	2.39323G	-63.74	2.4835G	-58.28	2.48361G	-56.41	17.36244G	-51.63	1

Summary

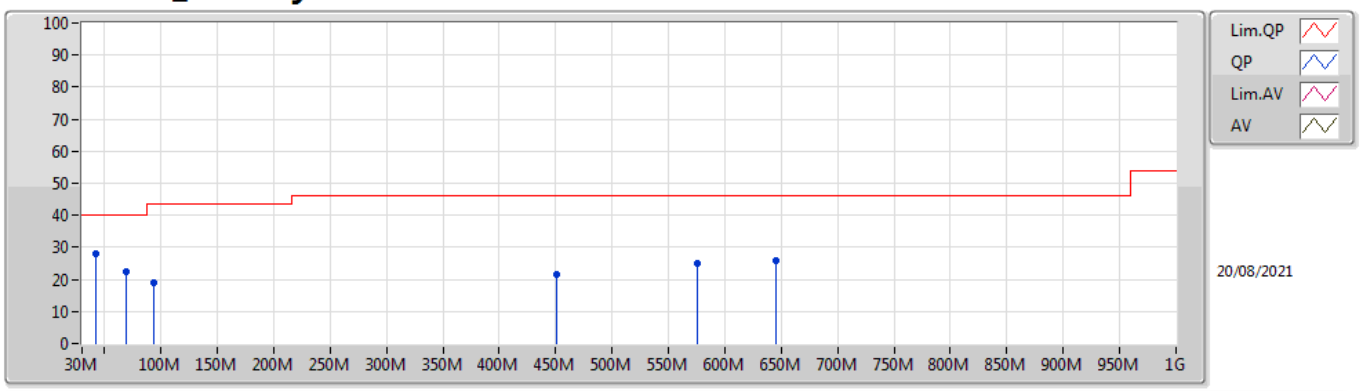
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-
BT-LE(1Mbps)	Pass	PK	41.64M	27.84	40.00	-12.16	3	Vertical	360	1.00	-

Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
BT-LE(1Mbps)	-	-	-	-	-	-	-	-	-	-	-
2440MHz	Pass	PK	41.64M	27.84	40.00	-12.16	3	Vertical	360	1.00	-
2440MHz	Pass	PK	68.8M	22.35	40.00	-17.65	3	Vertical	360	1.00	-
2440MHz	Pass	PK	94.02M	19.06	43.50	-24.44	3	Vertical	360	1.00	-
2440MHz	Pass	PK	450.98M	21.60	46.00	-24.40	3	Vertical	360	1.00	-
2440MHz	Pass	PK	575.14M	24.99	46.00	-21.01	3	Vertical	360	1.00	-
2440MHz	Pass	PK	644.98M	25.74	46.00	-20.26	3	Vertical	360	1.00	-
2440MHz	Pass	PK	30M	19.88	40.00	-20.12	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	41.64M	19.86	40.00	-20.14	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	99.84M	15.83	43.50	-27.67	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	346.22M	17.56	46.00	-28.44	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	466.5M	22.97	46.00	-23.03	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	637.22M	25.47	46.00	-20.53	3	Horizontal	0	1.00	-

BT-LE(1Mbps)

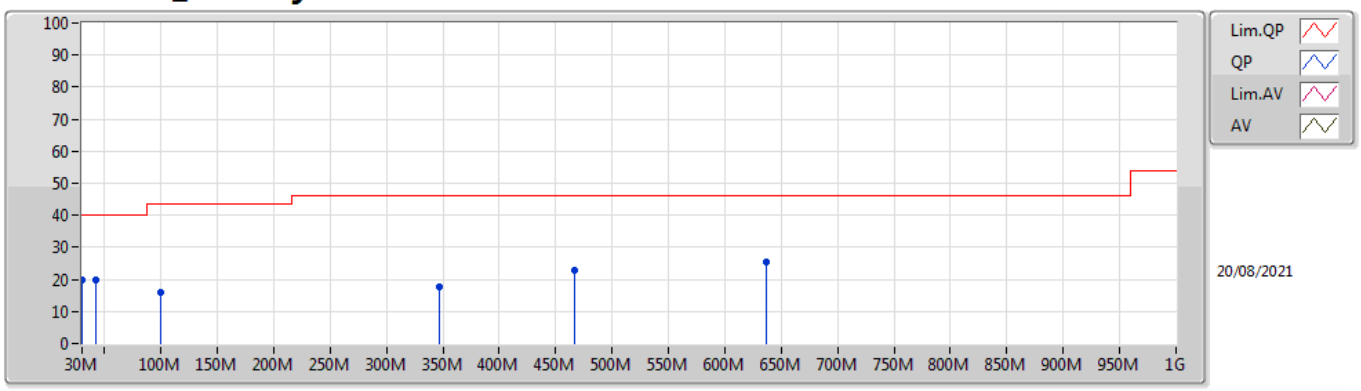
2440MHz_Battery



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
PK	41.64M	27.84	40.00	-12.16	-18.63	3	Vertical	360	1.00	-	46.47	17.69	0.75	37.07
PK	68.8M	22.35	40.00	-17.65	-24.84	3	Vertical	360	1.00	-	47.19	11.31	0.84	36.99
PK	94.02M	19.06	43.50	-24.44	-21.27	3	Vertical	360	1.00	-	40.33	14.47	0.96	36.70
PK	450.98M	21.60	46.00	-24.40	-12.08	3	Vertical	360	1.00	-	33.68	22.45	2.10	36.63
PK	575.14M	24.99	46.00	-21.01	-9.56	3	Vertical	360	1.00	-	34.55	25.11	2.43	37.10
PK	644.98M	25.74	46.00	-20.26	-9.05	3	Vertical	360	1.00	-	34.79	25.59	2.60	37.24

BT-LE(1Mbps)

2440MHz_Battery



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
PK	30M	19.88	40.00	-20.12	-13.08	3	Horizontal	0	1.00	-	32.96	23.51	0.56	37.15
PK	41.64M	19.86	40.00	-20.14	-18.63	3	Horizontal	0	1.00	-	38.49	17.69	0.75	37.07
PK	99.84M	15.83	43.50	-27.67	-20.42	3	Horizontal	0	1.00	-	36.25	15.23	0.97	36.62
PK	346.22M	17.56	46.00	-28.44	-15.27	3	Horizontal	0	1.00	-	32.83	19.49	1.76	36.52
PK	466.5M	22.97	46.00	-23.03	-11.85	3	Horizontal	0	1.00	-	34.82	22.75	2.14	36.74
PK	637.22M	25.47	46.00	-20.53	-9.09	3	Horizontal	0	1.00	-	34.56	25.55	2.58	37.22

Summary

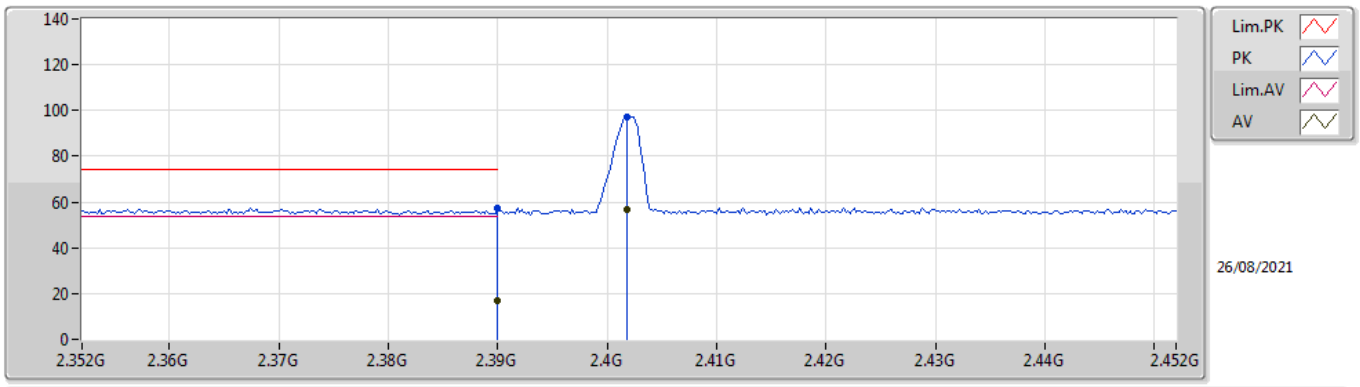
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-
BT-LE(1Mbps)	Pass	PK	7.44078G	65.34	74.00	-8.66	3	Horizontal	184	1.03	-

Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
BT-LE(1Mbps)	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	AV	2.39G	16.71	54.00	-37.29	3	Vertical	59	1.05	-
2402MHz	Pass	AV	2.4018G	56.44	Inf	-Inf	3	Vertical	59	1.05	-
2402MHz	Pass	PK	2.39G	57.33	74.00	-16.67	3	Vertical	59	1.05	-
2402MHz	Pass	PK	2.4018G	97.06	Inf	-Inf	3	Vertical	59	1.05	-
2402MHz	Pass	AV	2.3558G	17.07	54.00	-36.93	3	Horizontal	31	3.00	-
2402MHz	Pass	AV	2.4018G	44.54	Inf	-Inf	3	Horizontal	31	3.00	-
2402MHz	Pass	PK	2.3558G	57.69	74.00	-16.31	3	Horizontal	31	3.00	-
2402MHz	Pass	PK	2.4018G	85.16	Inf	-Inf	3	Horizontal	31	3.00	-
2402MHz	Pass	AV	4.80356G	8.95	54.00	-45.05	3	Vertical	328	1.24	-
2402MHz	Pass	PK	4.80356G	49.57	74.00	-24.43	3	Vertical	328	1.24	-
2402MHz	Pass	AV	4.80362G	10.55	54.00	-43.45	3	Horizontal	190	1.09	-
2402MHz	Pass	PK	4.80362G	51.17	74.00	-22.83	3	Horizontal	190	1.09	-
2440MHz	Pass	AV	2.3492G	16.52	54.00	-37.48	3	Vertical	60	1.46	-
2440MHz	Pass	AV	2.4404G	57.13	Inf	-Inf	3	Vertical	60	1.46	-
2440MHz	Pass	AV	2.4864G	16.69	54.00	-37.31	3	Vertical	60	1.46	-
2440MHz	Pass	PK	2.3492G	57.14	74.00	-16.86	3	Vertical	60	1.46	-
2440MHz	Pass	PK	2.4404G	97.75	Inf	-Inf	3	Vertical	60	1.46	-
2440MHz	Pass	PK	2.4864G	57.31	74.00	-16.69	3	Vertical	60	1.46	-
2440MHz	Pass	AV	2.3672G	16.95	54.00	-37.05	3	Horizontal	207	2.98	-
2440MHz	Pass	AV	2.4404G	45.65	Inf	-Inf	3	Horizontal	207	2.98	-
2440MHz	Pass	AV	2.4844G	17.06	54.00	-36.94	3	Horizontal	207	2.98	-
2440MHz	Pass	PK	2.3672G	57.57	74.00	-16.43	3	Horizontal	207	2.98	-
2440MHz	Pass	PK	2.4404G	86.27	Inf	-Inf	3	Horizontal	207	2.98	-
2440MHz	Pass	PK	2.4844G	57.68	74.00	-16.32	3	Horizontal	207	2.98	-
2440MHz	Pass	AV	4.88G	7.46	54.00	-46.54	3	Vertical	360	1.06	-
2440MHz	Pass	AV	7.32071G	16.45	54.00	-37.55	3	Vertical	13	1.05	-
2440MHz	Pass	PK	4.88G	48.08	74.00	-25.92	3	Vertical	360	1.06	-
2440MHz	Pass	PK	7.32071G	57.07	74.00	-16.93	3	Vertical	13	1.05	-
2440MHz	Pass	AV	4.87978G	6.14	54.00	-47.86	3	Horizontal	188	1.00	-
2440MHz	Pass	AV	7.31932G	23.20	54.00	-30.80	3	Horizontal	358	1.00	-
2440MHz	Pass	PK	4.87978G	46.76	74.00	-27.24	3	Horizontal	188	1.00	-
2440MHz	Pass	PK	7.31932G	63.82	74.00	-10.18	3	Horizontal	358	1.00	-
2480MHz	Pass	AV	2.4798G	56.71	Inf	-Inf	3	Vertical	61	1.35	-
2480MHz	Pass	AV	2.4924G	16.94	54.00	-37.06	3	Vertical	61	1.35	-
2480MHz	Pass	PK	2.4798G	97.33	Inf	-Inf	3	Vertical	61	1.35	-
2480MHz	Pass	PK	2.4924G	57.56	74.00	-16.44	3	Vertical	61	1.35	-
2480MHz	Pass	AV	2.4798G	42.95	Inf	-Inf	3	Horizontal	202	2.84	-
2480MHz	Pass	AV	2.4982G	16.89	54.00	-37.11	3	Horizontal	202	2.84	-
2480MHz	Pass	PK	2.4798G	83.57	Inf	-Inf	3	Horizontal	202	2.84	-
2480MHz	Pass	PK	2.4982G	57.51	74.00	-16.49	3	Horizontal	202	2.84	-
2480MHz	Pass	AV	4.95952G	14.07	54.00	-39.93	3	Vertical	193	1.04	-
2480MHz	Pass	AV	7.43952G	15.89	54.00	-38.11	3	Vertical	149	1.00	-
2480MHz	Pass	PK	4.95952G	54.69	74.00	-19.31	3	Vertical	193	1.04	-
2480MHz	Pass	PK	7.43952G	56.51	74.00	-17.49	3	Vertical	149	1.00	-
2480MHz	Pass	AV	4.95952G	12.18	54.00	-41.82	3	Horizontal	0	1.36	-
2480MHz	Pass	AV	7.44078G	24.72	54.00	-29.28	3	Horizontal	184	1.03	-
2480MHz	Pass	PK	4.95952G	52.80	74.00	-21.20	3	Horizontal	0	1.36	-
2480MHz	Pass	PK	7.44078G	65.34	74.00	-8.66	3	Horizontal	184	1.03	-

BT-LE(1Mbps)

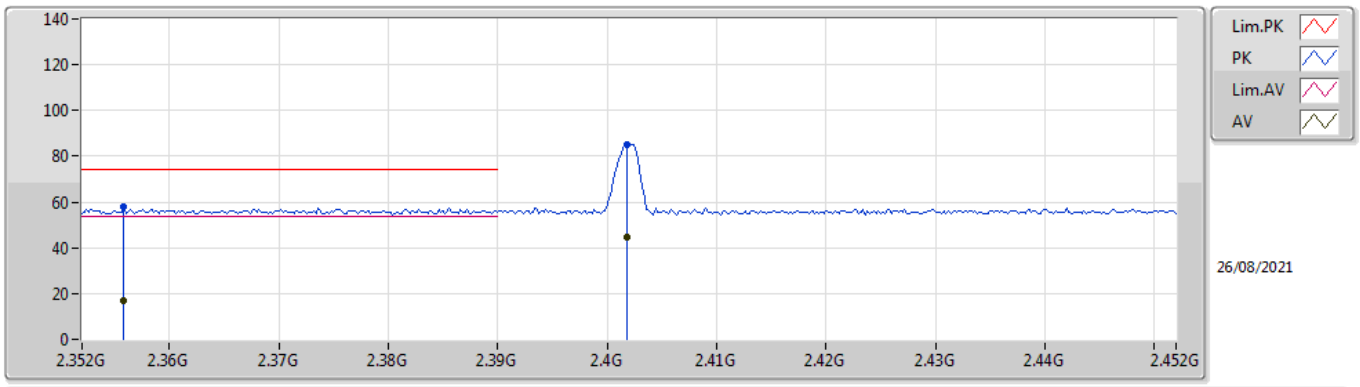
2402MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.39G	16.71	54.00	-37.29	32.21	3	Vertical	59	1.05	-	-15.50	27.64	4.57	-
AV	2.4018G	56.44	Inf	-Inf	32.18	3	Vertical	59	1.05	-	24.26	27.60	4.58	-
PK	2.39G	57.33	74.00	-16.67	32.21	3	Vertical	59	1.05	-	25.12	27.64	4.57	-
PK	2.4018G	97.06	Inf	-Inf	32.18	3	Vertical	59	1.05	-	64.88	27.60	4.58	-

BT-LE(1Mbps)

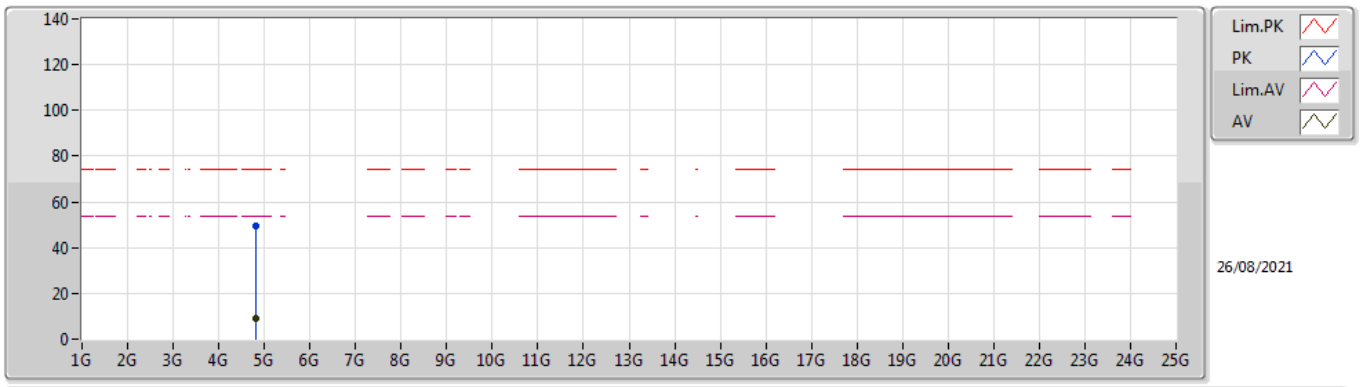
2402MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.3558G	17.07	54.00	-36.93	32.32	3	Horizontal	31	3.00	-	-15.25	27.78	4.54	-
AV	2.4018G	44.54	Inf	-Inf	32.18	3	Horizontal	31	3.00	-	12.36	27.60	4.58	-
PK	2.3558G	57.69	74.00	-16.31	32.32	3	Horizontal	31	3.00	-	25.37	27.78	4.54	-
PK	2.4018G	85.16	Inf	-Inf	32.18	3	Horizontal	31	3.00	-	52.98	27.60	4.58	-

BT-LE(1Mbps)

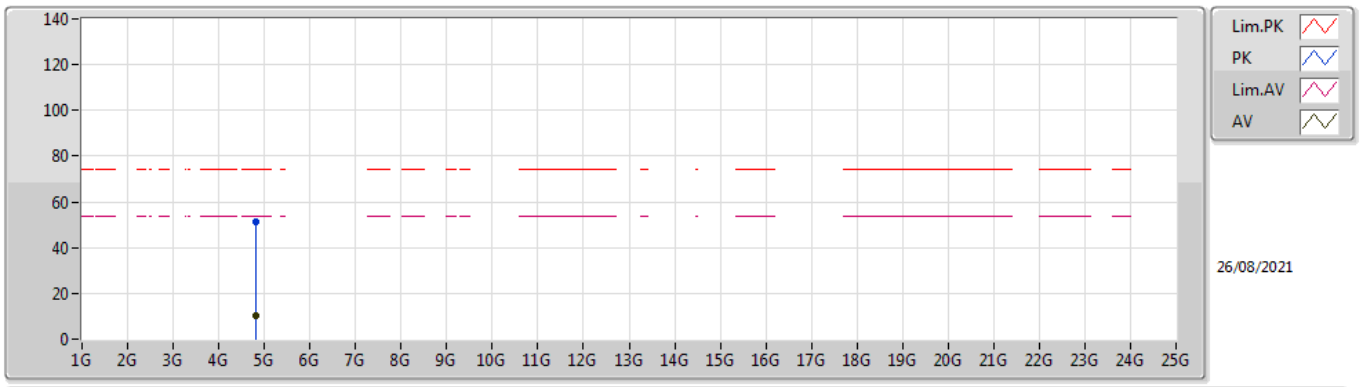
2402MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	4.80356G	8.95	54.00	-45.05	2.95	3	Vertical	328	1.24	-	6.00	31.10	6.66	34.81
PK	4.80356G	49.57	74.00	-24.43	2.95	3	Vertical	328	1.24	-	46.62	31.10	6.66	34.81

BT-LE(1Mbps)

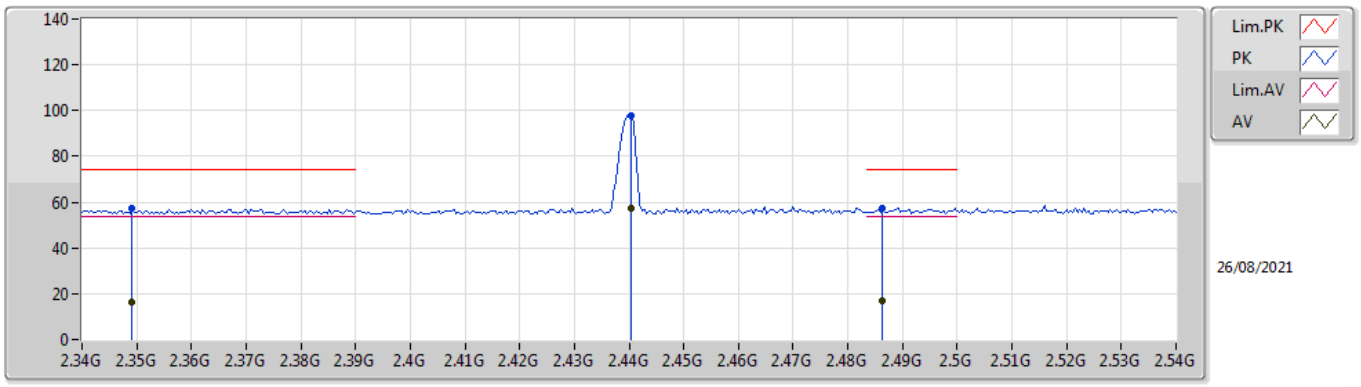
2402MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	4.80362G	10.55	54.00	-43.45	2.95	3	Horizontal	190	1.09	-	7.60	31.10	6.66	34.81
PK	4.80362G	51.17	74.00	-22.83	2.95	3	Horizontal	190	1.09	-	48.22	31.10	6.66	34.81

BT-LE(1Mbps)

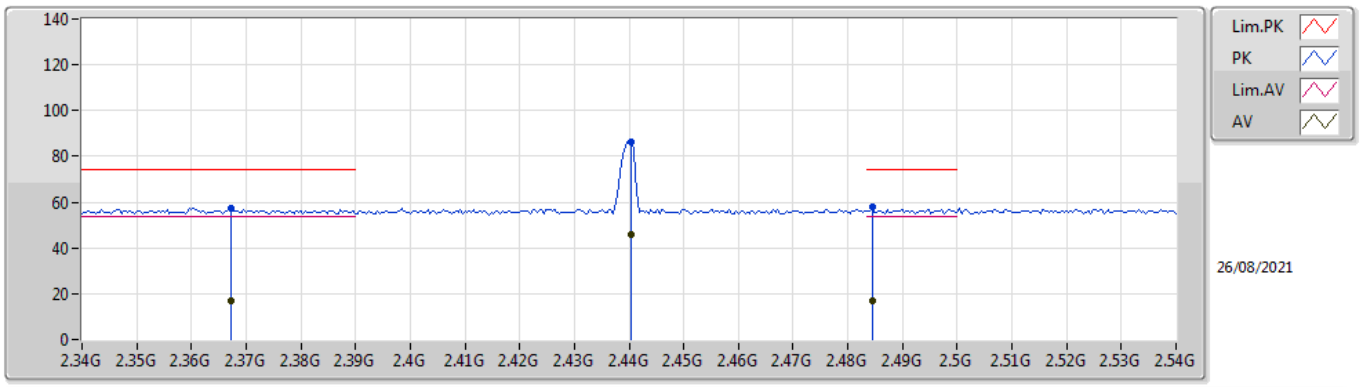
2440MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.3492G	16.52	54.00	-37.48	32.33	3	Vertical	60	1.46	-	-15.81	27.80	4.53	-
AV	2.4404G	57.13	Inf	-Inf	32.12	3	Vertical	60	1.46	-	25.01	27.52	4.60	-
AV	2.4864G	16.69	54.00	-37.31	32.11	3	Vertical	60	1.46	-	-15.42	27.50	4.61	-
PK	2.3492G	57.14	74.00	-16.86	32.33	3	Vertical	60	1.46	-	24.81	27.80	4.53	-
PK	2.4404G	97.75	Inf	-Inf	32.12	3	Vertical	60	1.46	-	65.63	27.52	4.60	-
PK	2.4864G	57.31	74.00	-16.69	32.11	3	Vertical	60	1.46	-	25.20	27.50	4.61	-

BT-LE(1Mbps)

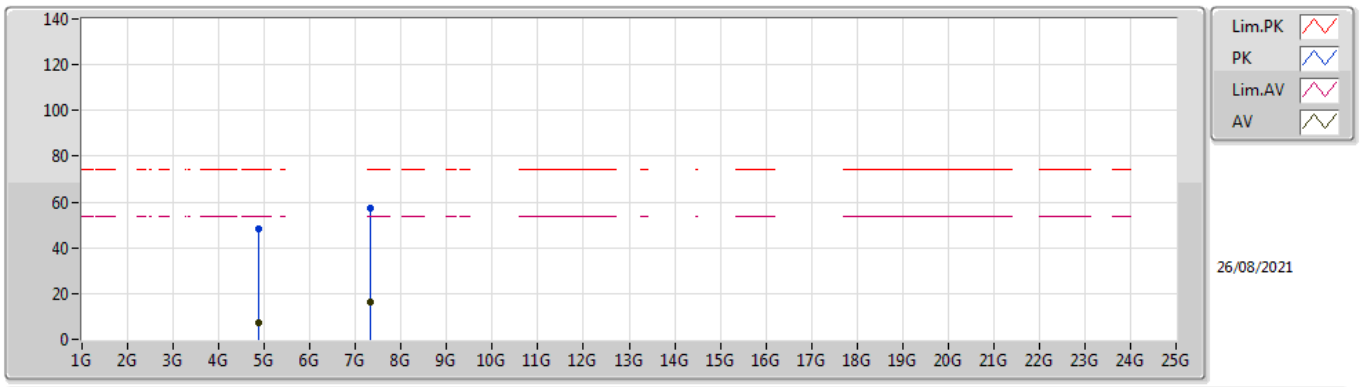
2440MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.3672G	16.95	54.00	-37.05	32.28	3	Horizontal	207	2.98	-	-15.33	27.73	4.55	-
AV	2.4404G	45.65	Inf	-Inf	32.12	3	Horizontal	207	2.98	-	13.53	27.52	4.60	-
AV	2.4844G	17.06	54.00	-36.94	32.11	3	Horizontal	207	2.98	-	-15.05	27.50	4.61	-
PK	2.3672G	57.57	74.00	-16.43	32.28	3	Horizontal	207	2.98	-	25.29	27.73	4.55	-
PK	2.4404G	86.27	Inf	-Inf	32.12	3	Horizontal	207	2.98	-	54.15	27.52	4.60	-
PK	2.4844G	57.68	74.00	-16.32	32.11	3	Horizontal	207	2.98	-	25.57	27.50	4.61	-

BT-LE(1Mbps)

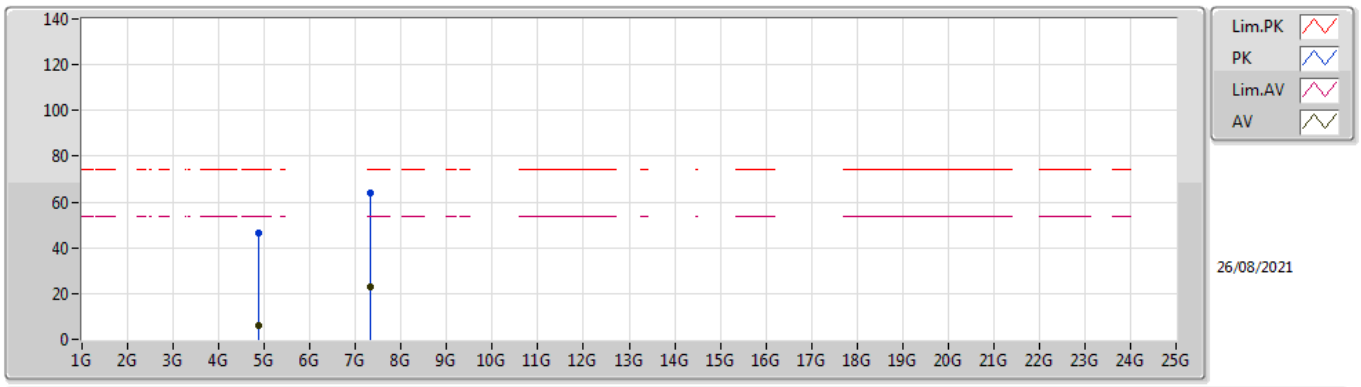
2440MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	4.88G	7.46	54.00	-46.54	3.03	3	Vertical	360	1.06	-	4.43	31.10	6.72	34.79
AV	7.32071G	16.45	54.00	-37.55	9.41	3	Vertical	13	1.05	-	7.04	36.36	7.87	34.82
PK	4.88G	48.08	74.00	-25.92	3.03	3	Vertical	360	1.06	-	45.05	31.10	6.72	34.79
PK	7.32071G	57.07	74.00	-16.93	9.41	3	Vertical	13	1.05	-	47.66	36.36	7.87	34.82

BT-LE(1Mbps)

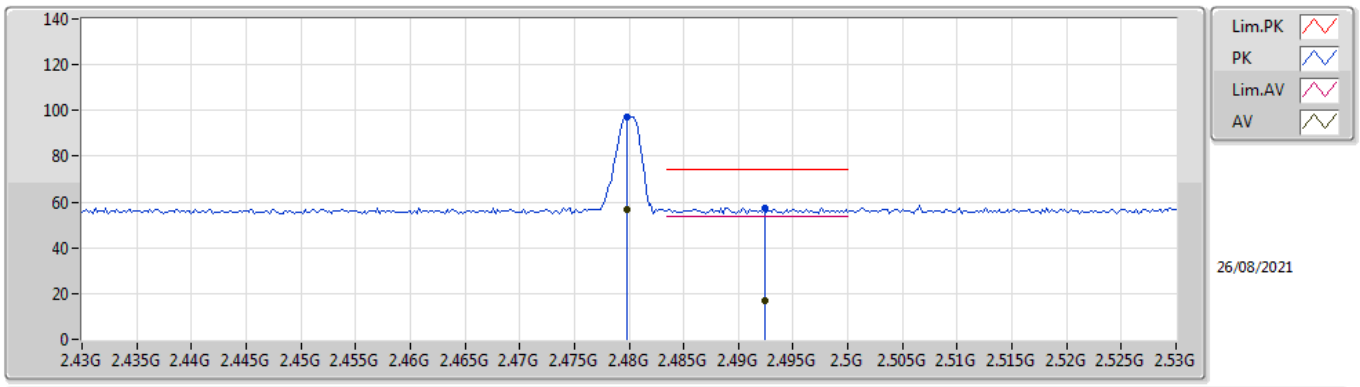
2440MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	4.87978G	6.14	54.00	-47.86	3.03	3	Horizontal	188	1.00	-	3.11	31.10	6.72	34.79
AV	7.31932G	23.20	54.00	-30.80	9.41	3	Horizontal	358	1.00	-	13.79	36.36	7.87	34.82
PK	4.87978G	46.76	74.00	-27.24	3.03	3	Horizontal	188	1.00	-	43.73	31.10	6.72	34.79
PK	7.31932G	63.82	74.00	-10.18	9.41	3	Horizontal	358	1.00	-	54.41	36.36	7.87	34.82

BT-LE(1Mbps)

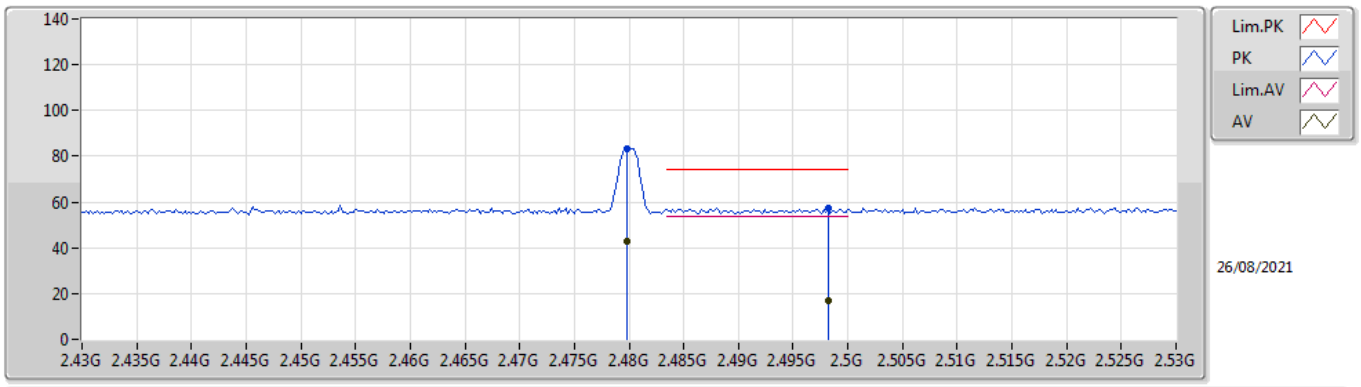
2480MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.4798G	56.71	Inf	-Inf	32.11	3	Vertical	61	1.35	-	24.60	27.50	4.61	-
AV	2.4924G	16.94	54.00	-37.06	32.12	3	Vertical	61	1.35	-	-15.18	27.50	4.62	-
PK	2.4798G	97.33	Inf	-Inf	32.11	3	Vertical	61	1.35	-	65.22	27.50	4.61	-
PK	2.4924G	57.56	74.00	-16.44	32.12	3	Vertical	61	1.35	-	25.44	27.50	4.62	-

BT-LE(1Mbps)

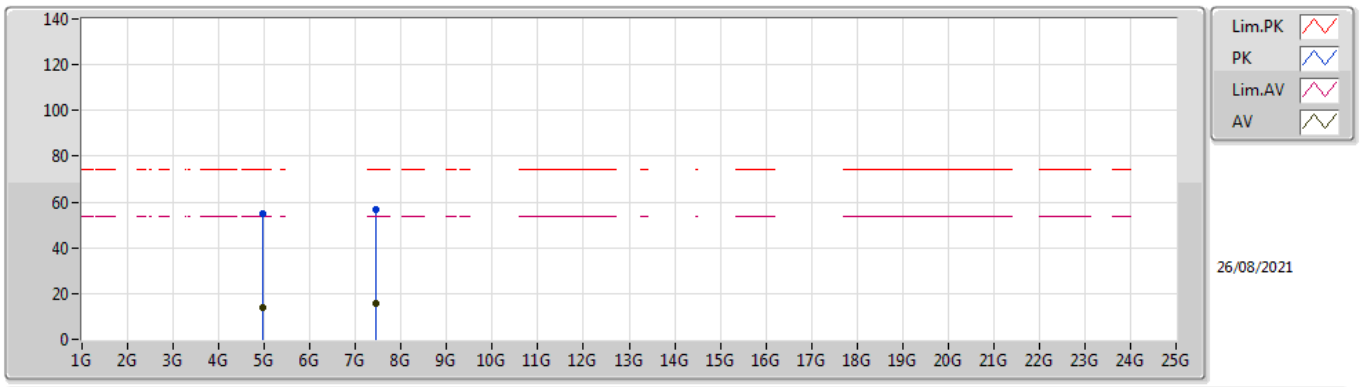
2480MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	2.4798G	42.95	Inf	-Inf	32.11	3	Horizontal	202	2.84	-	10.84	27.50	4.61	-
AV	2.4982G	16.89	54.00	-37.11	32.12	3	Horizontal	202	2.84	-	-15.23	27.50	4.62	-
PK	2.4798G	83.57	Inf	-Inf	32.11	3	Horizontal	202	2.84	-	51.46	27.50	4.61	-
PK	2.4982G	57.51	74.00	-16.49	32.12	3	Horizontal	202	2.84	-	25.39	27.50	4.62	-

BT-LE(1Mbps)

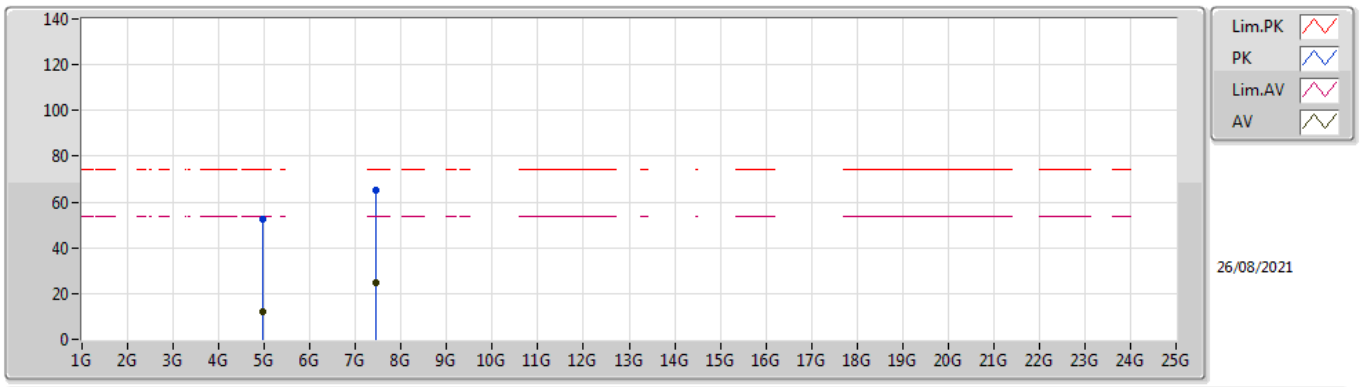
2480MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	4.95952G	14.07	54.00	-39.93	3.35	3	Vertical	193	1.04	-	10.72	31.34	6.78	34.77
AV	7.43952G	15.89	54.00	-38.11	9.49	3	Vertical	149	1.00	-	6.40	36.28	8.05	34.84
PK	4.95952G	54.69	74.00	-19.31	3.35	3	Vertical	193	1.04	-	51.34	31.34	6.78	34.77
PK	7.43952G	56.51	74.00	-17.49	9.49	3	Vertical	149	1.00	-	47.02	36.28	8.05	34.84

BT-LE(1Mbps)

2480MHz_TX



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
AV	4.95952G	12.18	54.00	-41.82	3.35	3	Horizontal	0	1.36	-	8.83	31.34	6.78	34.77
AV	7.44078G	24.72	54.00	-29.28	9.50	3	Horizontal	184	1.03	-	15.22	36.28	8.06	34.84
PK	4.95952G	52.80	74.00	-21.20	3.35	3	Horizontal	0	1.36	-	49.45	31.34	6.78	34.77
PK	7.44078G	65.34	74.00	-8.66	9.50	3	Horizontal	184	1.03	-	55.84	36.28	8.06	34.84