

FCC Test Report

FCC ID : 2AEIM-WC4
Equipment : Wireless Phone Charger
Brand Name : Tesla
Model Name : WC4
Applicant : Tesla Motors, Inc.
3500 Deer Creek Road Palo Alto,
California US 94304 United States Of America
Manufacturer : Tesla Motors, Inc.
3500 Deer Creek Road Palo Alto,
California US 94304 United States Of America
Standard : 47 CFR FCC Part 15.247

The product was received on Sep. 25, 2020, and testing was started from Oct. 21, 2020 and completed on Dec. 16, 2020. We, SPORTON INTERNATIONAL INC. EMC & Wireless Communications 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. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full.



Approved by: Allen Lin

SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory

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

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History of this test report

TEL : 886-3-3273456
FAX : 886-3-3270973
Report Template No.: HE1-C10 Ver3.9
FCC ID: 2AEIM-WC4

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: Sam Tsai

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

Note:

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

1.1.2 Antenna Information

Ant.	Port	Brand Name	Model Name	Antenna Type	Connector	Gain (dBi)
1	1	Primax	ANT162442ST-1 201AM1	PCB	N/A	2.5

Note 1: The EUT has one antenna.

For BT function:

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

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

1.1.3 EUT Information

Operational Condition			
EUT Power Type	From DC 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)	1	0	n/a (DC>=0.98)	n/a (DC>=0.98)

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

Testing Location				
☒	HWA YA	ADD : No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)		
		TEL : 886-3-327-3456	FAX : 886-3-327-0973	
Test site Designation No. TW1190 with FCC.				
☐	JHUBEI	ADD : No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County, Taiwan (R.O.C.)		
		TEL : 886-3-656-9065	FAX : 886-3-656-9085	
Test site Designation No. TW0006 with FCC.				
☐	Wen Shan	ADD : No.14-1, Ln. 19, Wen 33rd St., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.)		
		TEL : 886-3-318-0787	FAX : 886-3-318-0287	
Test site Designation No. TW1097 with FCC.				

Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
AC Conduction	CO04-HY	Daniel	20.5~22.8°C / 51~61%	14/Dec/2020~16/Dec/2020
RF Conducted	TH01-HY	Vivi	20.1~26.9°C / 50~63%	10/Dec/2020
Radiated	03CH02-HY	Daniel	20.2~22.5°C / 52~64%	21/Oct/2020~12/Dec/2020

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
Conducted Emission (150kHz ~ 30MHz)	0.9 dB	Confidence levels of 95%
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 Condition

RF Conducted	Abbreviation	Remark
TnomVnom	Tnom	20°C
-	Vnom	12V

2.2 Test Channel Mode

Test Software Version	BTool-V1.42.16
-----------------------	----------------

Mode	Power Setting
BT-LE(1Mbps)	-
2402MHz	0xE
2440MHz	0xE
2480MHz	0xE

2.3 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
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	Z Plane
	

2.4 Support Equipment

Support Equipment – AC Conduction					
No.	Equipment	Brand Name	Model Name	FCC ID	Remark
1	DC Power Supply	GW	GPR-3510HD	-	-
2	AC Power Cable for DC Power Supply	Power sync	PW-GPC180-3	-	-
3	DC Power cable	MiSUMi	WTN1227-RED	-	Note 1
4	DC Power cable	MiSUMi	WTN1227-BLACK	-	Note 1
5	DC Power cable	GW	GPR-3510HD-01-RED	-	-
6	DC Power cable	GW	GPR-3510HD-01-BLACK	-	-

Note 1: No.3, 4 was provided by customer.

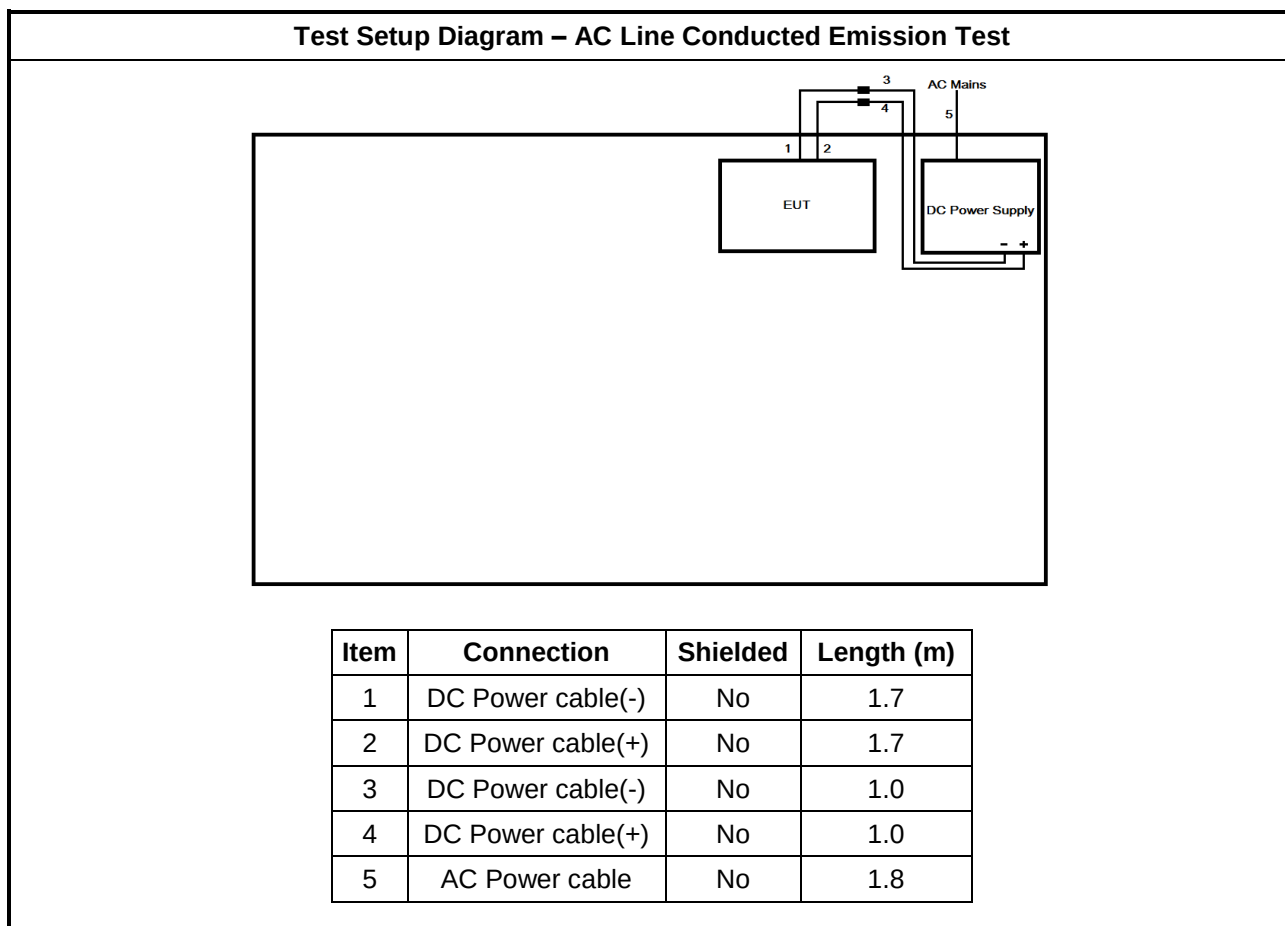
Support Equipment – Conducted					
No.	Equipment	Brand Name	Model Name	FCC ID	Remark
1	Notebook	DELL	E5410	-	-
2	Adapter for NB	DELL	HA65NM130	-	-
3	DC Power Supply	GW	GPS-3030DD	-	-
4	DC Power cable	MiSUMi	WTN1227-RED	-	Note 1
5	DC Power cable	MiSUMi	WTN1227-BLACK	-	Note 1
6	DC Power cable	GW	GPR-3510HD-01-RED	-	-
7	DC Power cable	GW	GPR-3510HD-01-BLACK	-	-

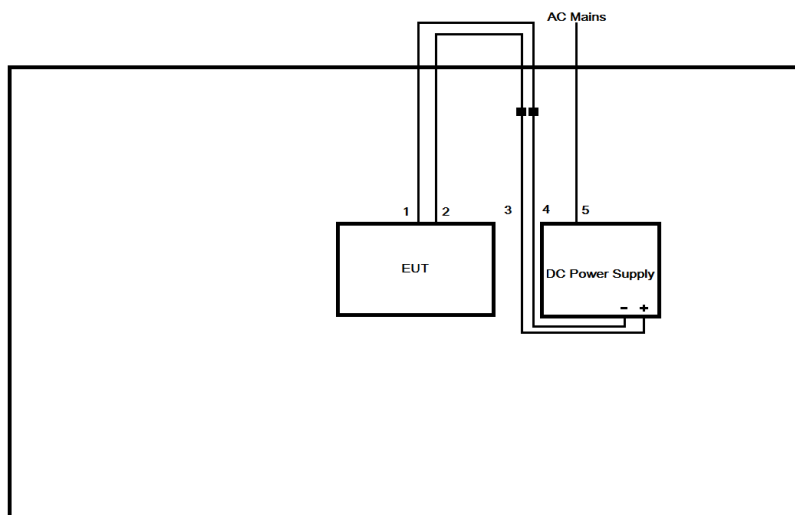
Note 1: No. 4, 5 was provided by customer.

Support Equipment – Radiated					
No.	Equipment	Brand Name	Model Name	FCC ID	Remark
1	DC Power Supply	GW	GPR-3510HD	-	-
2	AC Power Cable for DC Power Supply	Power sync	PW-GPC180-3	-	-
3	DC Power cable	MiSUMi	WTN1227-RED	-	Note 1
4	DC Power cable	MiSUMi	WTN1227-BLACK	-	Note 1
5	DC Power cable	GW	GPR-3510HD-01-RED	-	-
6	DC Power cable	GW	GPR-3510HD-01-BLACK	-	-

Note 1: No.3, 4 was provided by customer.

2.5 Test Setup Diagram



Test Setup Diagram - Radiated Test


Item	Connection	Shielded	Length (m)
1	DC Power cable(-)	No	1.7
2	DC Power cable(+)	No	1.7
3	DC Power cable(+)	No	1.0
4	DC Power cable(-)	No	1.0
5	AC Power cable	No	1.8

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

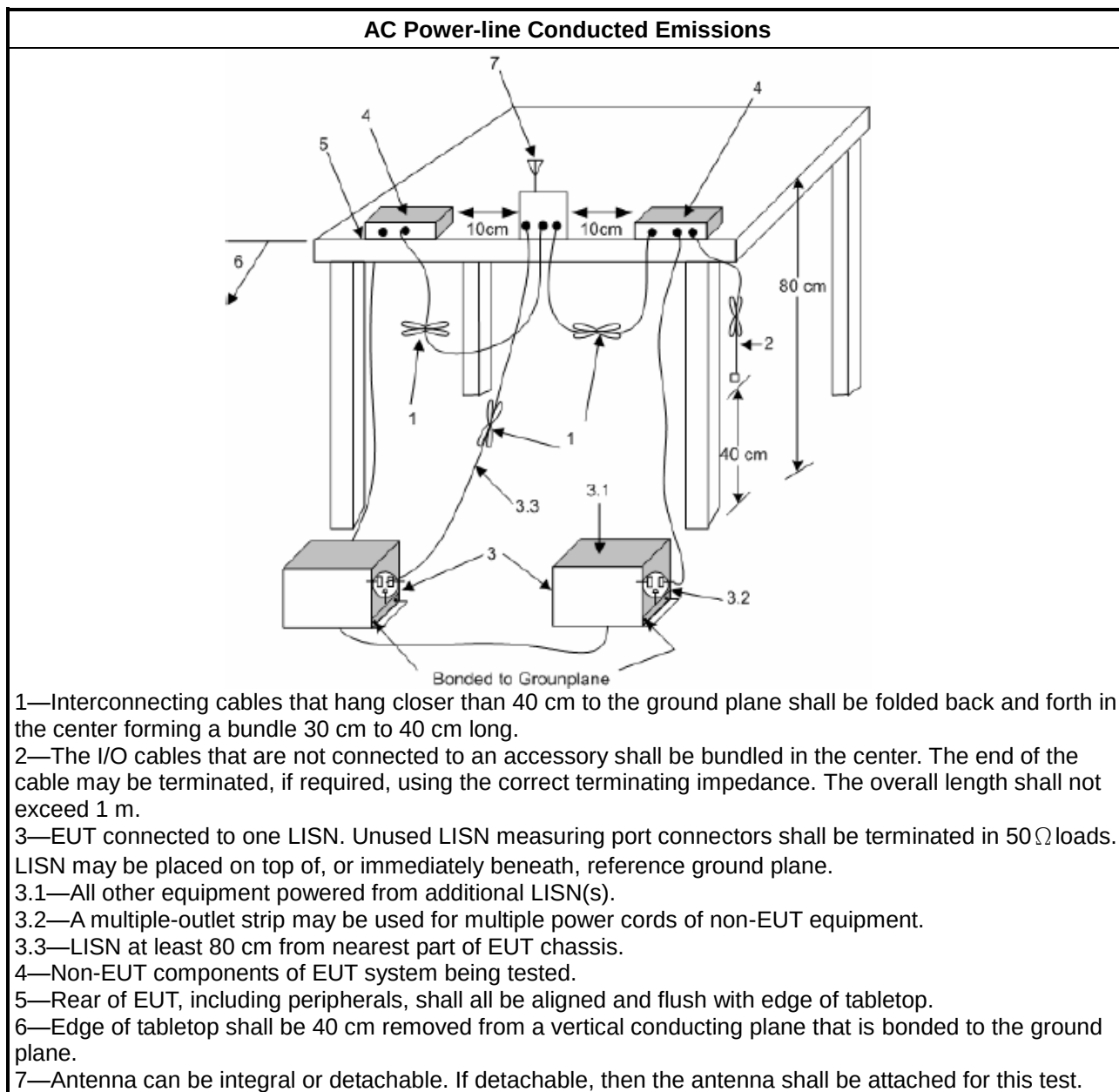
Test Method
▪ Refer as ANSI C63.10-2013, clause 6.2 foray power-line conducted emissions.

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



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 $\geq$ 500 kHz.

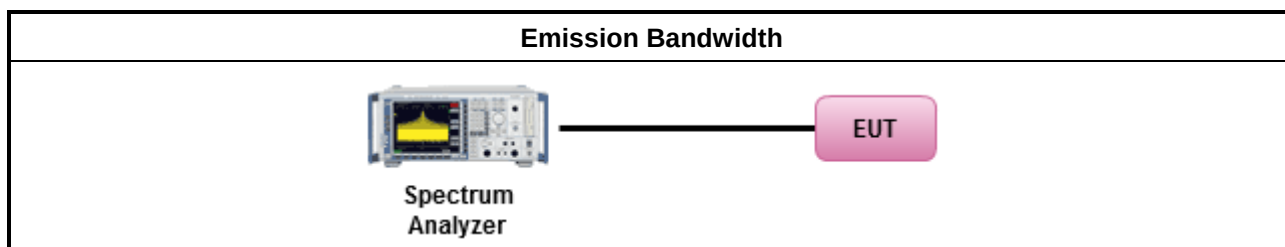
3.2.2 Measuring Instruments

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



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 $G_{TX} \leq 6$ 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): $P_{eirp} \leq \text{MAX}(36, [P_{Out} + G_{TX}])$ dBm
	Smart antenna system (SAS)
	- Single beam: $P_{eirp} \leq \text{MAX}(36, P_{Out} + G_{TX})$ dBm
	- Overlap beam: $P_{eirp} \leq \text{MAX}(36, P_{Out} + G_{TX})$ dBm
	- Aggregate power on all beams: $P_{eirp} \leq \text{MAX}(36, [P_{Out} + G_{TX} + 8])$ 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.	

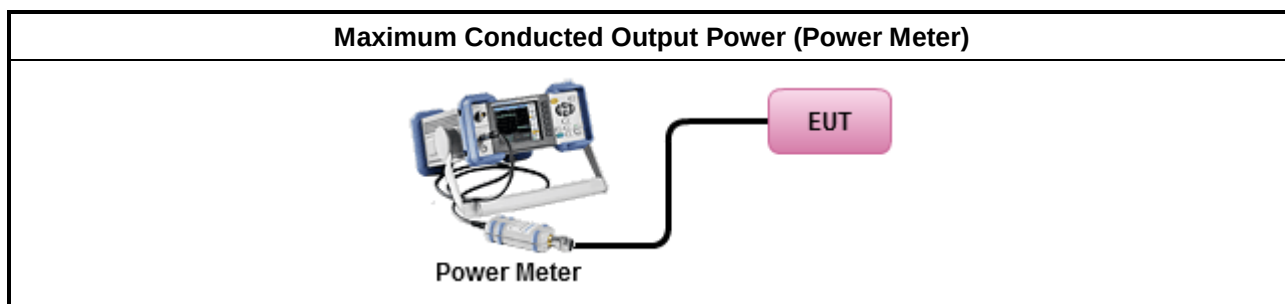
3.3.2 Measuring Instruments

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: $P_{total} = P_1 + P_2 + \dots + P_n$ (calculated in linear unit [mW] and transfer to log unit [dBm]) $EIRP_{total} = P_{total} + DG$	

3.3.4 Test Setup



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

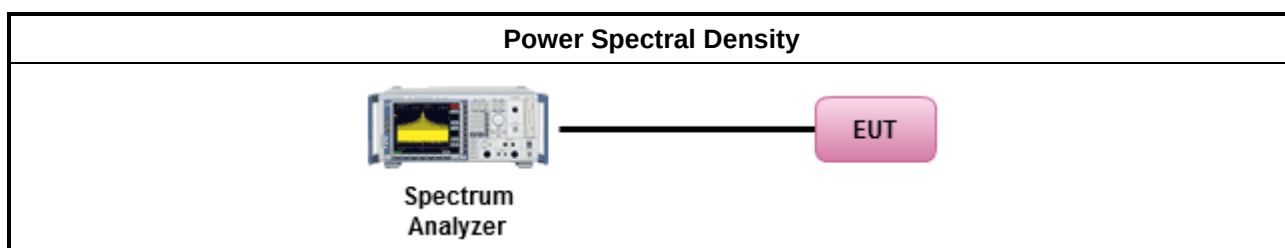
3.4.2 Measuring Instruments

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



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.	

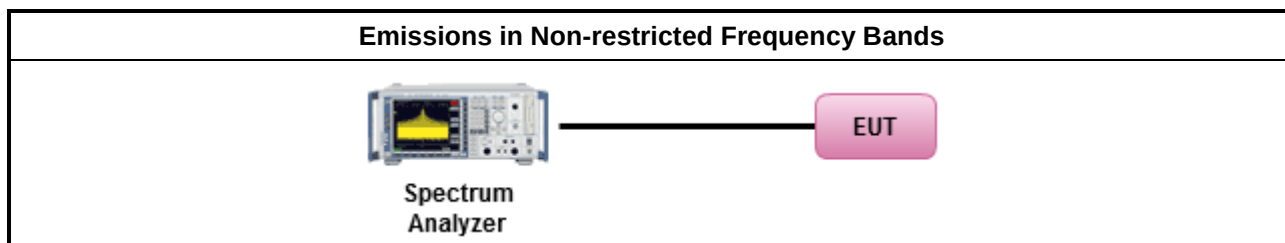
3.5.2 Measuring Instruments

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



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 below 30 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

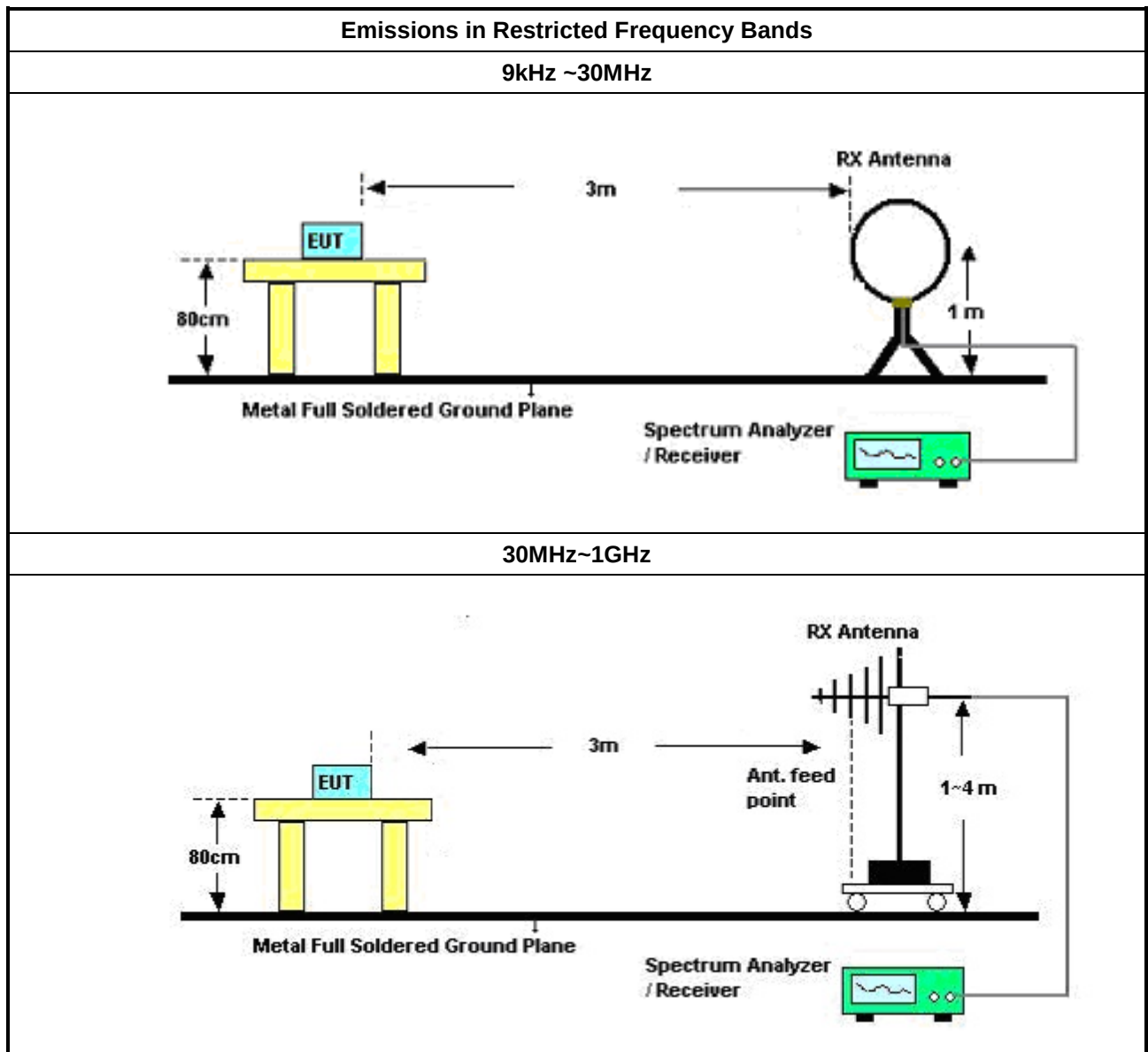
Test Method	
The average emission levels shall be measured in [duty cycle $\geq$ 98 or duty factor].	
Refer as ANSI C63.10, clause 6.10.3 band-edge testing shall be performed at the lowest frequency channel and highest frequency channel within the allowed operating band.	
For the transmitter unwanted 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 $f \geq 1$ 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.

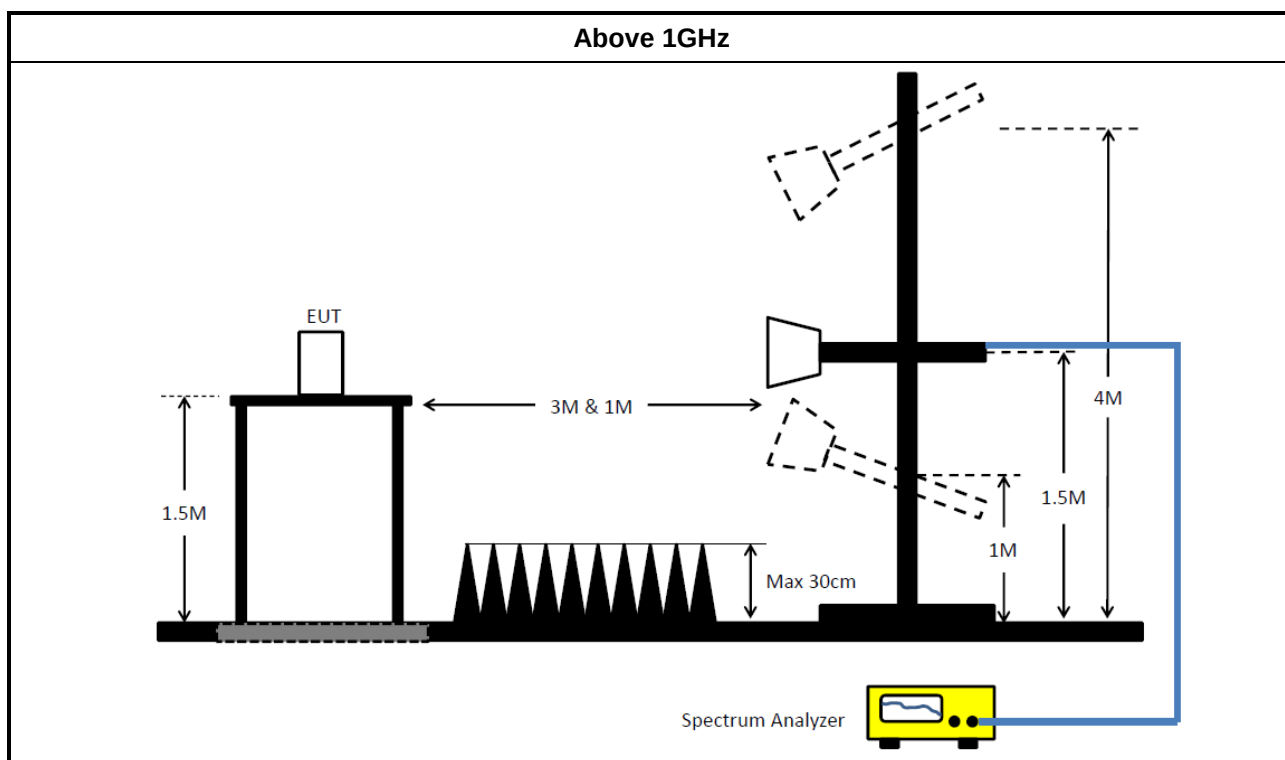
3.6.4 Measurement Results Calculation

The measured Level is calculated using:

Corrected Reading: Raw(Read Level) + AF(Antenna Factor) + CL(Cable Loss) - PA(Preamplifier Factor)

3.6.5 Test Setup





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	Brand Name/ Manufacturer	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
EMI Test Receiver	R&S	ESR3	102051	9kHz ~ 3.6GHz	29/May/2020	28/May/2021
LISN	R&S	ENV216	101295	9kHz ~ 30MHz	11/Nov/2020	10/Nov/2021
RF Cable-CON	MTJ	RG142	CB002-CO	9kHz ~ 200MHz	31/Aug/2020	30/Aug/2021
Impuls Begrenzer Pulse Limiter	SCHWARZBECK	VTSD 9561-F	9561-F041	9kHz ~ 30MHz	21/Sep/2020	20/Sep/2021

NCR: Non-Calibration Require

Instrument for Conducted Test

Instrument	Brand Name/ Manufacturer	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
Signal Analyzer	R&S	FSV 40	101013	10Hz~40GHz	19/Mar/2020	18/Mar/2021
SMB100A Signal Generator	R&S	SMB100A03	181147	100kHz~40GHz	20/Oct/2020	19/Oct/2022
Pulse Sensor	Anritsu	MA2411B	917017	300MHz~40GHz	17/Feb/2020	16/Feb/2021
Power Meter	Anritsu	ML2495A	949003	300MHz~40GHz	17/Feb/2020	16/Feb/2021

Instrument for Radiated Test

Instrument	Brand Name/ Manufacturer	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH02-HY	30MHz~1GHz 3m	04/Aug/2020	03/Aug/2021
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH02-HY	1GHz~18GHz 3m	02/Aug/2020	01/Aug/2021
Signal Analyzer	R&S	FSP40	100593	9kHz~40GHz	27/Feb/2020	26/Feb/2021
Amplifier	Agilent	8447D	2944A11149	100kHz~1.3GHz	30/Jun/2020	29/Jun/2021
Microwave Preamplifier	Agilent	8449B	3008A02373	1GHz~18GHz	23/Oct/2020	22/Oct/2021
Bilog Antenna & 5dB Attenuator	SCHAFFNER / MTJ	CBL 6112B / MTJ6102-05	2723 / 2	30MHz~1GHz	06/Sep/2020	05/Sep/2021
Double Ridged Guide Horn Antenna	SCHWARZBEC	BBHA 9120 D	BBHA 9120 D 01543	1GHz~18GHz	09/Jun/2020	08/Jun/2021
RF Cable-R03m	Jye Bao	RG142	CB017	9kHz~30MHz	20/Jun/2020	19/Jun/2021
RF Cable-R03m	Jye Bao	RG142	CB017	30MHz~1GHz	25/Mar/2020	24/Mar/2021
RF Cable-R03m	HUBER+SUHNER	SUCOFLEX104	805193/4+80 5192/4	1GHz~40GHz	08/Apr/2020	07/Apr/2021
Broadband Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA 9170221	18GHz~40GHz	13/Mar/2020	12/Mar/2021
Preamplifier	MITEQ	TTA1840-35-H G	1864481	18GHz~40GHz	10/Mar/2020	09/Mar/2021
Loop Antenna	TESEQ	HLA 6120	31244	9kHz~30MHz	16/Mar/2020	15/Mar/2021
EMI Test Receiver	R&S	ESR3	102051	9kHz~3.6GHz	29/May/2020	28/May/2021



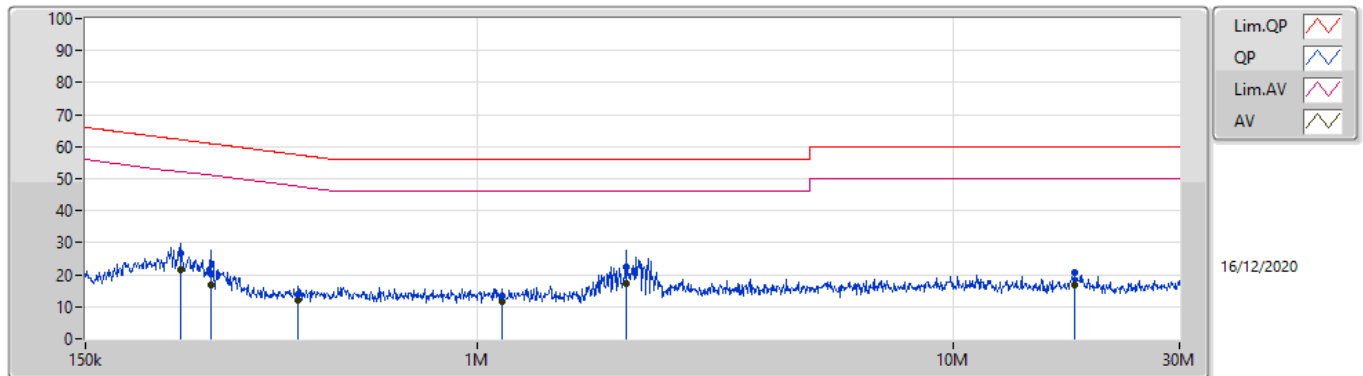
Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 1	Pass	AV	2.229M	17.88	46.00	-28.12	Neutral

Mode Configure

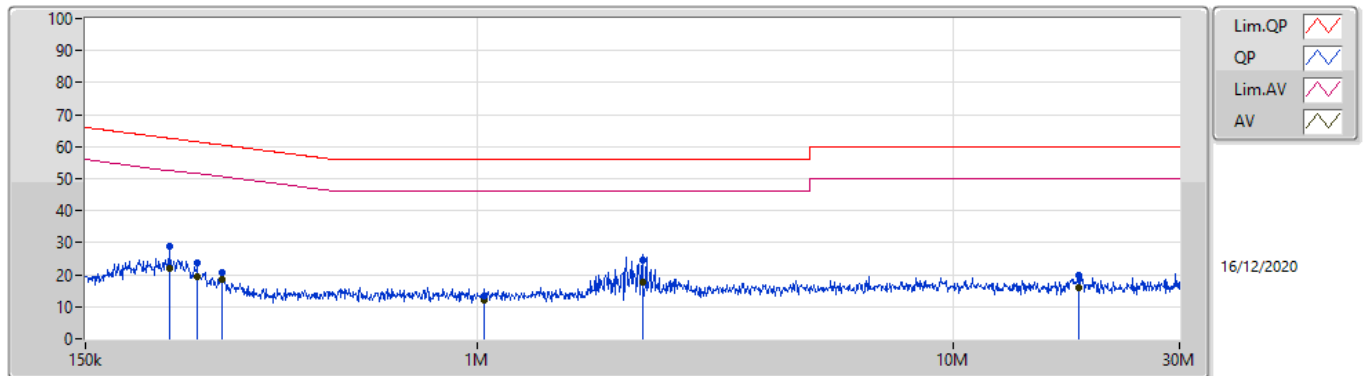
Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition	Comments
Mode 1	Pass	QP	237.393k	26.51	62.20	-35.69	Line	-
Mode 1	Pass	AV	237.393k	21.52	52.20	-30.68	Line	-
Mode 1	Pass	QP	275.179k	20.07	60.95	-40.88	Line	-
Mode 1	Pass	AV	275.179k	16.75	50.95	-34.20	Line	-
Mode 1	Pass	QP	420.135k	13.64	57.45	-43.81	Line	-
Mode 1	Pass	AV	420.135k	12.18	47.45	-35.27	Line	-
Mode 1	Pass	QP	1.131M	13.16	56.00	-42.84	Line	-
Mode 1	Pass	AV	1.131M	11.80	46.00	-34.20	Line	-
Mode 1	Pass	QP	2.058M	22.51	56.00	-33.49	Line	-
Mode 1	Pass	AV	2.058M	17.26	46.00	-28.74	Line	"Worst"
Mode 1	Pass	QP	18.053M	20.65	60.00	-39.35	Line	-
Mode 1	Pass	AV	18.053M	16.78	50.00	-33.22	Line	-
Mode 1	Pass	QP	225.388k	28.80	62.62	-33.82	Neutral	-
Mode 1	Pass	AV	225.388k	21.95	52.62	-30.67	Neutral	-
Mode 1	Pass	QP	258.152k	23.58	61.49	-37.91	Neutral	-
Mode 1	Pass	AV	258.152k	19.31	51.49	-32.18	Neutral	-
Mode 1	Pass	QP	290.996k	20.83	60.49	-39.66	Neutral	-
Mode 1	Pass	AV	290.996k	18.62	50.49	-31.87	Neutral	-
Mode 1	Pass	QP	1.036M	13.40	56.00	-42.60	Neutral	-
Mode 1	Pass	AV	1.036M	11.94	46.00	-34.06	Neutral	-
Mode 1	Pass	QP	2.229M	24.72	56.00	-31.28	Neutral	-
Mode 1	Pass	AV	2.229M	17.88	46.00	-28.12	Neutral	"Worst"
Mode 1	Pass	QP	18.417M	19.78	60.00	-40.22	Neutral	-
Mode 1	Pass	AV	18.417M	16.07	50.00	-33.93	Neutral	-

Conducted Emissions at Powerline_Mode 1



Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)			
QP	237.393k	26.51	62.20	-35.69	19.59	Line	-	6.92	9.68	0.01	9.90			
AV	237.393k	21.52	52.20	-30.68	19.59	Line	-	1.93	9.68	0.01	9.90			
QP	275.179k	20.07	60.95	-40.88	19.59	Line	-	0.48	9.68	0.01	9.90			
AV	275.179k	16.75	50.95	-34.20	19.59	Line	-	-2.84	9.68	0.01	9.90			
QP	420.135k	13.64	57.45	-43.81	19.58	Line	-	-5.94	9.67	0.02	9.89			
AV	420.135k	12.18	47.45	-35.27	19.58	Line	-	-7.40	9.67	0.02	9.89			
QP	1.131M	13.16	56.00	-42.84	19.53	Line	-	-6.37	9.67	0.06	9.80			
AV	1.131M	11.80	46.00	-34.20	19.53	Line	-	-7.73	9.67	0.06	9.80			
QP	2.058M	22.51	56.00	-33.49	19.56	Line	-	2.95	9.68	0.08	9.80			
AV	2.058M	17.26	46.00	-28.74	19.56	Line	"Worst"	-2.30	9.68	0.08	9.80			
QP	18.053M	20.65	60.00	-39.35	19.86	Line	-	0.79	9.68	0.28	9.90			
AV	18.053M	16.78	50.00	-33.22	19.86	Line	-	-3.08	9.68	0.28	9.90			

Conducted Emissions at Powerline_Mode 1



Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)			
QP	225.388k	28.80	62.62	-33.82	19.59	Neutral	-	9.21	9.68	0.01	9.90			
AV	225.388k	21.95	52.62	-30.67	19.59	Neutral	-	2.36	9.68	0.01	9.90			
QP	258.152k	23.58	61.49	-37.91	19.59	Neutral	-	3.99	9.68	0.01	9.90			
AV	258.152k	19.31	51.49	-32.18	19.59	Neutral	-	-0.28	9.68	0.01	9.90			
QP	290.996k	20.83	60.49	-39.66	19.59	Neutral	-	1.24	9.67	0.02	9.90			
AV	290.996k	18.62	50.49	-31.87	19.59	Neutral	-	-0.97	9.67	0.02	9.90			
QP	1.036M	13.40	56.00	-42.60	19.52	Neutral	-	-6.12	9.67	0.05	9.80			
AV	1.036M	11.94	46.00	-34.06	19.52	Neutral	-	-7.58	9.67	0.05	9.80			
QP	2.229M	24.72	56.00	-31.28	19.59	Neutral	-	5.13	9.68	0.09	9.82			
AV	2.229M	17.88	46.00	-28.12	19.59	Neutral	"Worst"	-1.71	9.68	0.09	9.82			
QP	18.417M	19.78	60.00	-40.22	19.93	Neutral	-	-0.15	9.75	0.28	9.90			
AV	18.417M	16.07	50.00	-33.93	19.93	Neutral	-	-3.86	9.75	0.28	9.90			



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)	700k	1.069M	1M07F1D	681.25k	1.049M

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

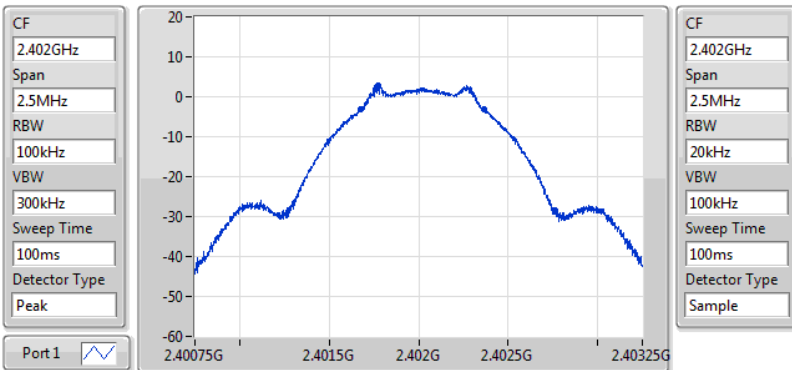
Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
BT-LE(1Mbps)	-	-	-	-
2402MHz_TnomVnom-DTS	Pass	500k	683.75k	1.049M
2440MHz_TnomVnom-DTS	Pass	500k	700k	1.069M
2480MHz_TnomVnom-DTS	Pass	500k	681.25k	1.061M

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

BT-LE(1Mbps)

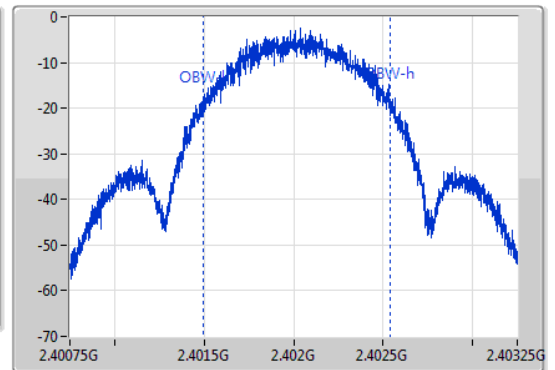
2402MHz



6dB(Hz)	FI-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	FI-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
683.75k	2.401679G	2.402363G	1.049M	2.401494G	2.402543G	500k	1

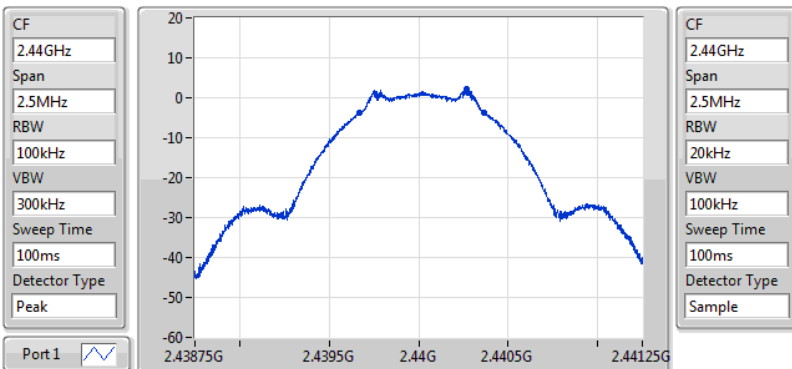
EBW-DTS

10/12/2020



BT-LE(1Mbps)

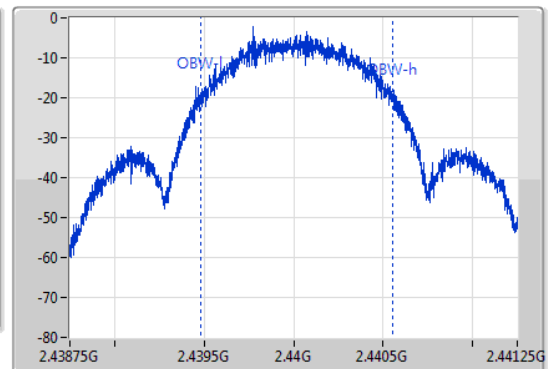
2440MHz



6dB(Hz)	FI-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	FI-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
700k	2.439668G	2.440368G	1.069M	2.439485G	2.440553G	500k	1

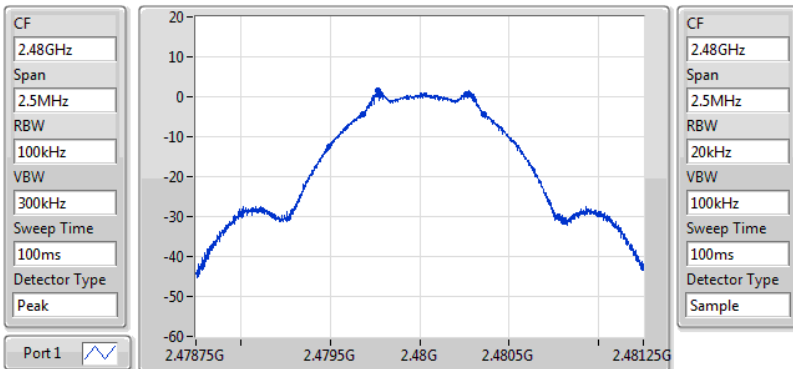
EBW-DTS

10/12/2020



BT-LE(1Mbps)

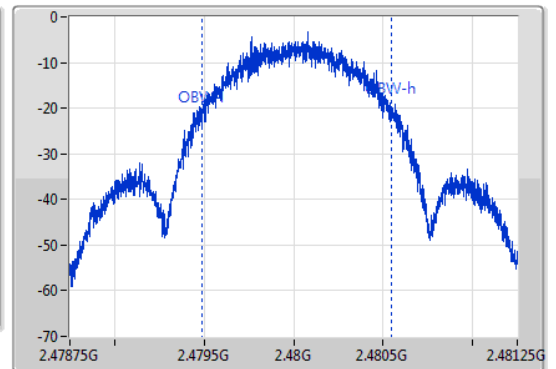
2480MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
681.25k	2.47968G	2.480361G	1.061M	2.479488G	2.480549G	500k	1

EBW-DTS

10/12/2020





Summary

Mode	Power (dBm)	Power (W)
2.4-2.4835GHz	-	-
BT-LE(1Mbps)	2.88	0.00194



Average Power-DTS

Appendix C

Result

Mode	Result	Gain (dBi)	Power (dBm)	Power Limit (dBm)
BT-LE(1Mbps)	-	-	-	-
2402MHz_TnomVnom-DTS	Pass	2.50	2.88	30.00
2440MHz_TnomVnom-DTS	Pass	2.50	2.25	30.00
2480MHz_TnomVnom-DTS	Pass	2.50	1.57	30.00

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



Summary

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
BT-LE(1Mbps)	-10.36

RBW = 3kHz;

Result

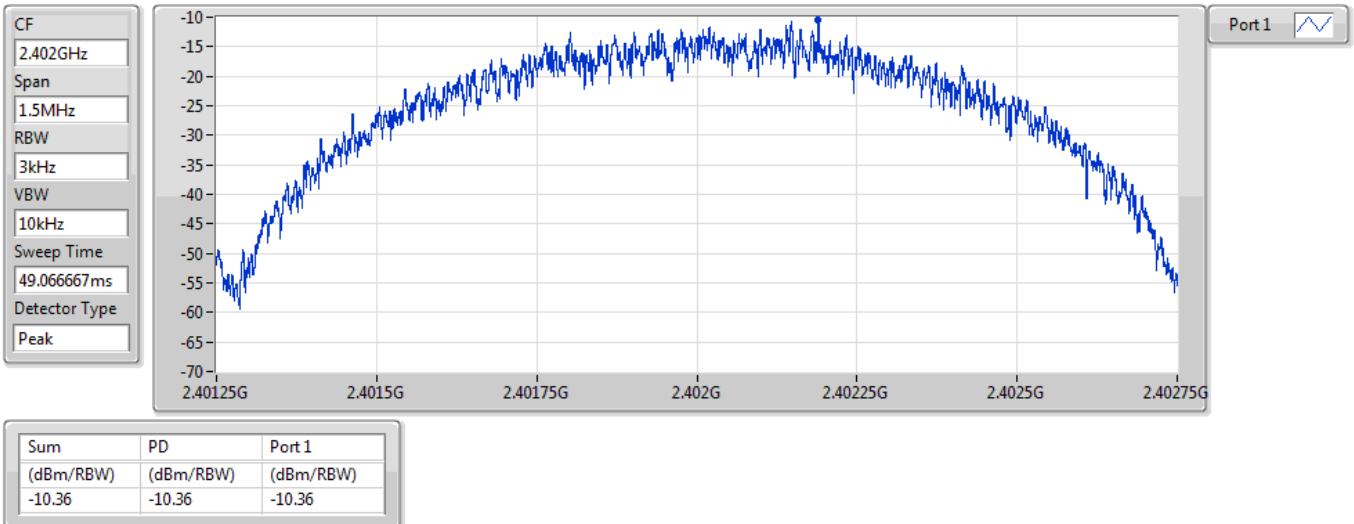
Mode	Result	Gain (dBi)	PD (dBm/RBW)	PD Limit (dBm/RBW)
BT-LE(1Mbps)	-	-	-	-
2402MHz_TnomVnom-DTS	Pass	2.50	-10.36	8.00
2440MHz_TnomVnom-DTS	Pass	2.50	-11.06	8.00
2480MHz_TnomVnom-DTS	Pass	2.50	-11.13	8.00

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)

2402MHz

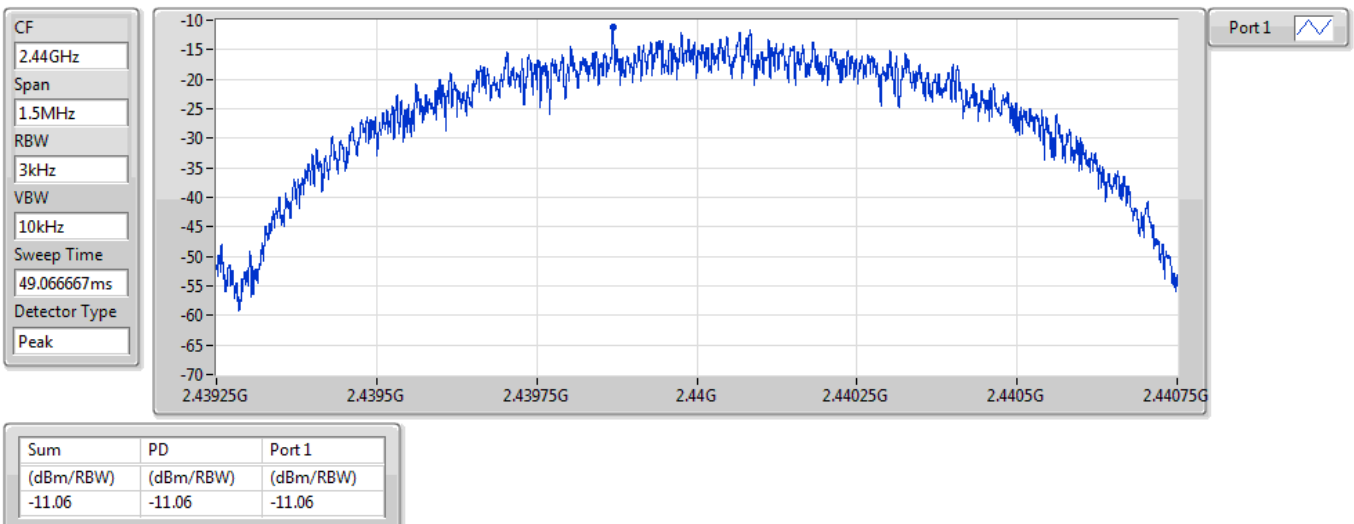
10/12/2020



BT-LE(1Mbps)

2440MHz

10/12/2020

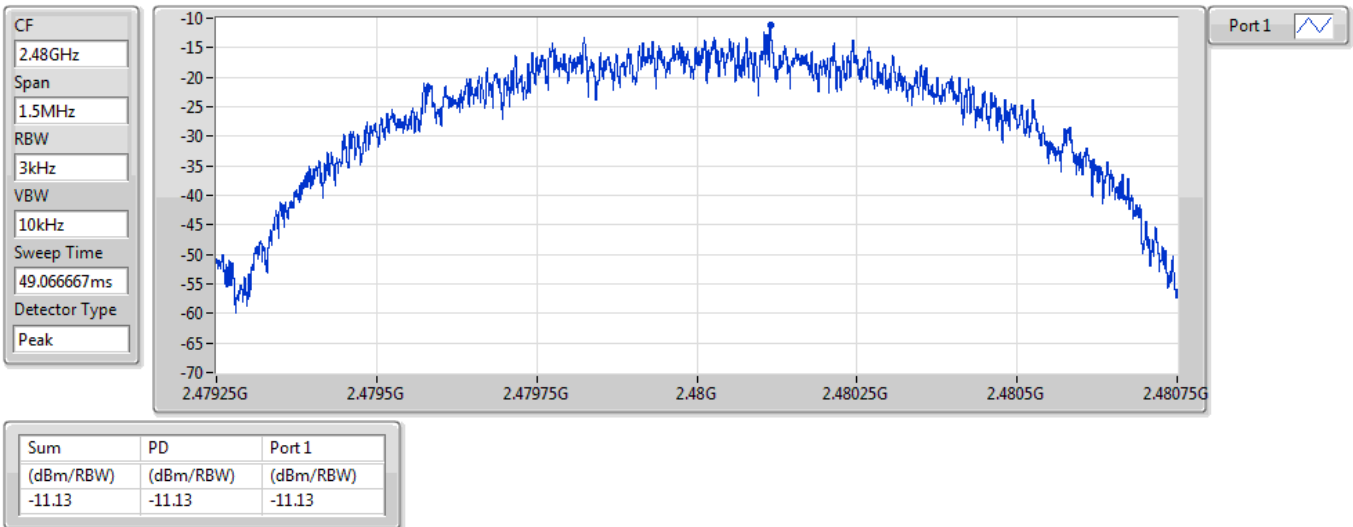


BT-LE(1Mbps)

PSD

2480MHz

10/12/2020





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	1.41	-28.59	2.14294G	-57.78	2.4G	-48.17	2.4G	-47.12	2.49993G	-57.23	24.19856G	-46.63	1

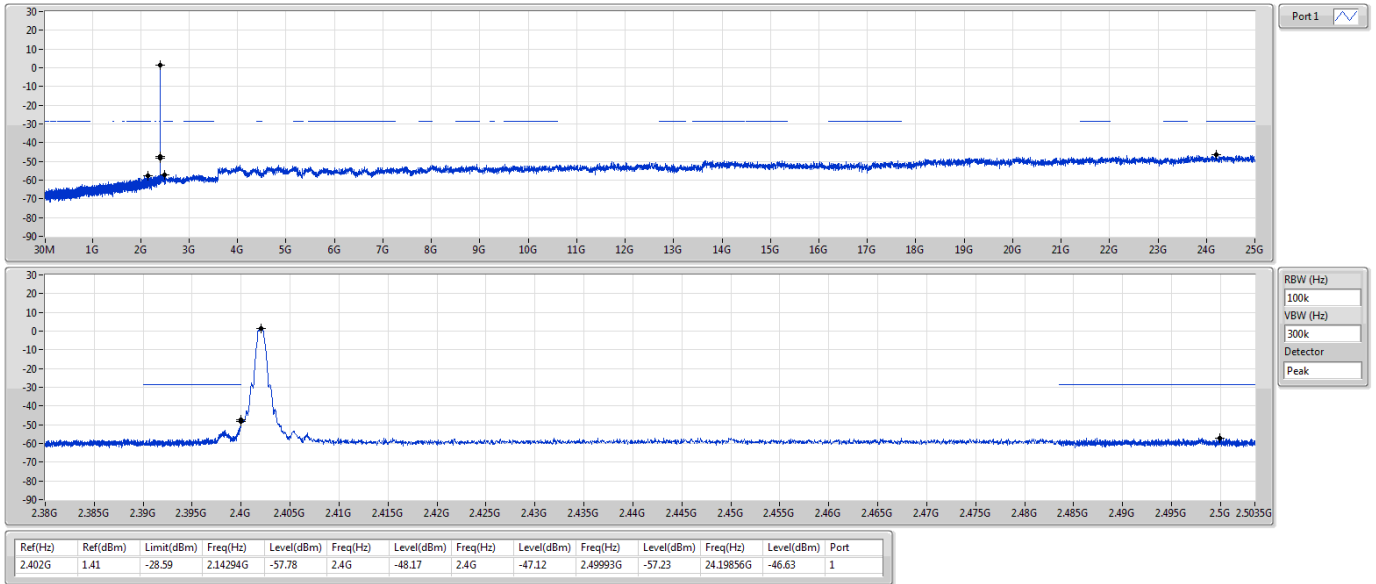
Result

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_TnomVnom-DTS	Pass	2.402G	1.41	-28.59	2.14294G	-57.78	2.4G	-48.17	2.4G	-47.12	2.49993G	-57.23	24.19856G	-46.63	1
2440MHz_TnomVnom-DTS	Pass	2.402G	1.41	-28.59	2.14559G	-58.21	2.39815G	-57.41	2.4G	-59.71	2.49244G	-57.25	24.75816G	-46.04	1
2480MHz_TnomVnom-DTS	Pass	2.402G	1.41	-28.59	2.17908G	-57.98	2.39029G	-57.52	2.4835G	-57.08	2.48521G	-56.82	24.6738G	-46.96	1

BT-LE(1Mbps)

CSEndB-DTS

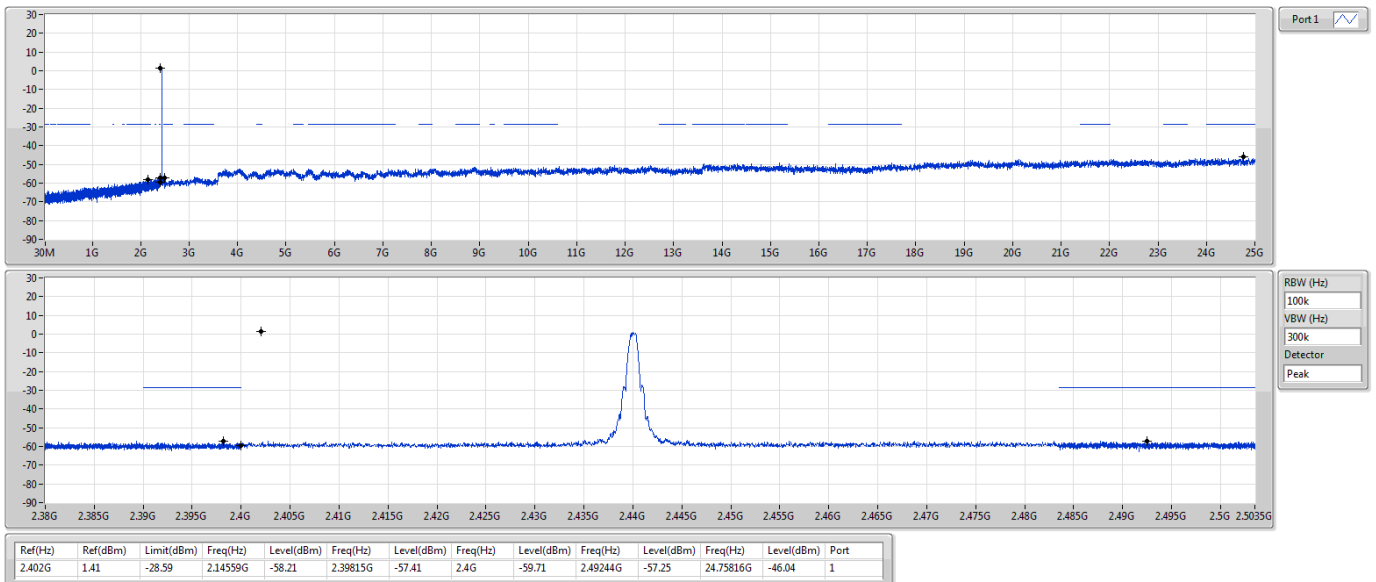
2402MHz



BT-LE(1Mbps)

CSEndB-DTS

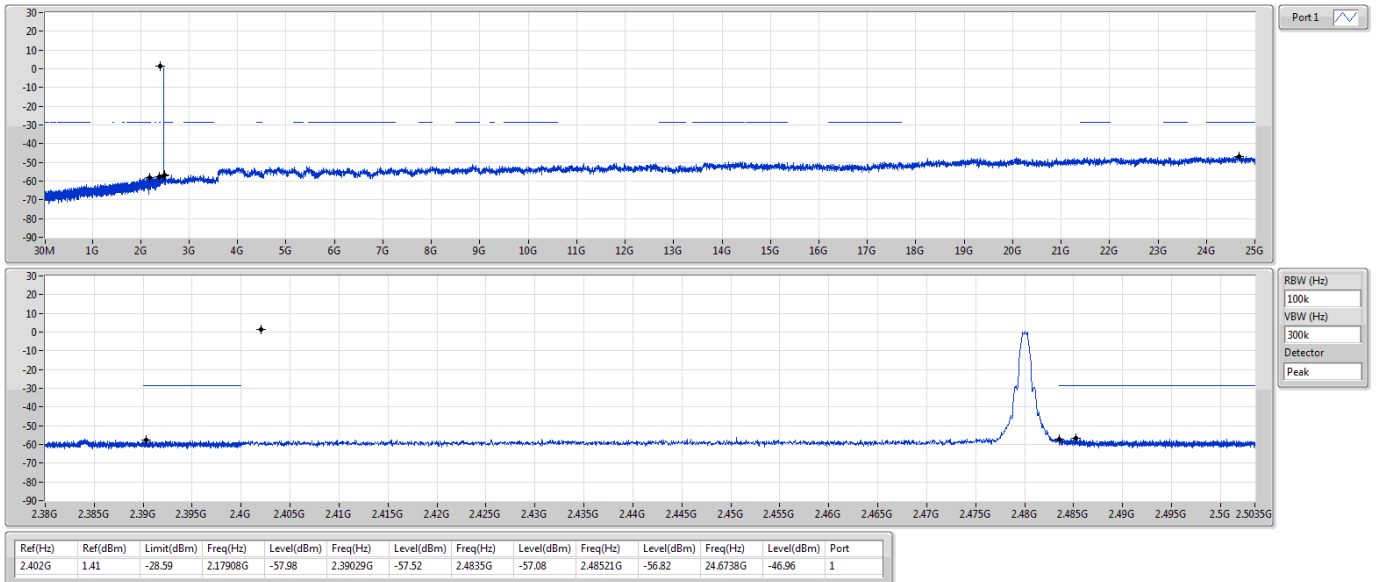
2440MHz



BT-LE(1Mbps)

CSEndB-DTS

2480MHz





Summary

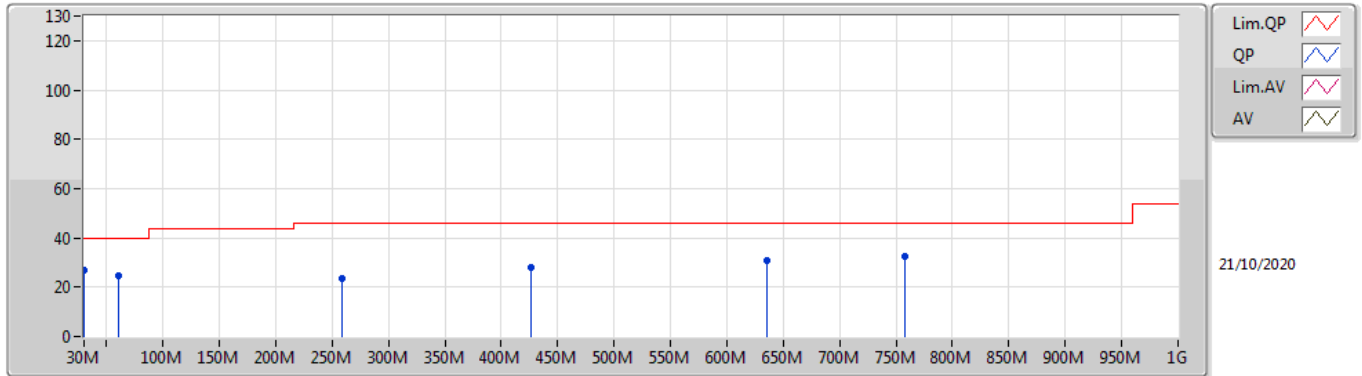
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-
BT-LE(1Mbps)	Pass	PK	885.54M	33.96	46.00	-12.04	3	Horizontal	0	1.00	-

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	30M	27.17	40.00	-12.83	3	Vertical	360	1.00	-
2440MHz	Pass	PK	61.04M	24.87	40.00	-15.13	3	Vertical	360	1.00	-
2440MHz	Pass	PK	258.92M	23.74	46.00	-22.26	3	Vertical	360	1.00	-
2440MHz	Pass	PK	425.76M	28.25	46.00	-17.75	3	Vertical	360	1.00	-
2440MHz	Pass	PK	635.28M	30.82	46.00	-15.18	3	Vertical	360	1.00	-
2440MHz	Pass	PK	757.5M	32.52	46.00	-13.48	3	Vertical	360	1.00	-
2440MHz	Pass	PK	30M	26.74	40.00	-13.26	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	119.24M	21.85	43.50	-21.65	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	268.62M	24.01	46.00	-21.99	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	402.48M	27.08	46.00	-18.92	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	561.56M	30.17	46.00	-15.83	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	885.54M	33.96	46.00	-12.04	3	Horizontal	0	1.00	-

BT-LE(1Mbps)

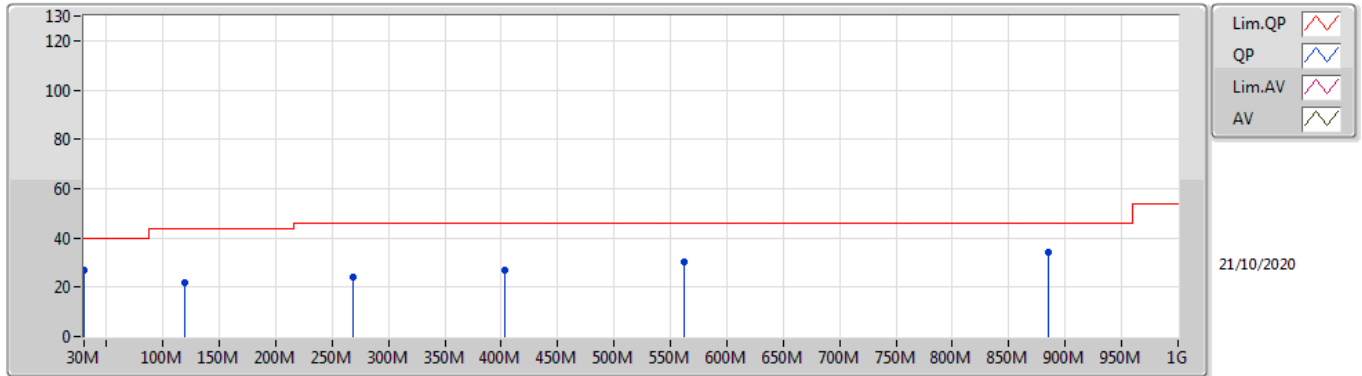
2440MHz_Battery



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	30M	27.17	40.00	-12.83	-3.19	3	Vertical	360	1.00	-	30.36	23.32	0.70	27.21
PK	61.04M	24.87	40.00	-15.13	-15.15	3	Vertical	360	1.00	-	40.02	11.54	1.10	27.79
PK	258.92M	23.74	46.00	-22.26	-5.97	3	Vertical	360	1.00	-	29.71	18.64	2.44	27.05
PK	425.76M	28.25	46.00	-17.75	-2.86	3	Vertical	360	1.00	-	31.11	21.95	3.10	27.91
PK	635.28M	30.82	46.00	-15.18	0.00	3	Vertical	360	1.00	-	30.82	24.35	3.94	28.29
PK	757.5M	32.52	46.00	-13.48	1.33	3	Vertical	360	1.00	-	31.19	24.97	4.33	27.97

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	26.74	40.00	-13.26	-3.19	3	Horizontal	0	1.00	-	29.93	23.32	0.70	27.21
PK	119.24M	21.85	43.50	-21.65	-8.71	3	Horizontal	0	1.00	-	30.56	17.41	1.59	27.71
PK	268.62M	24.01	46.00	-21.99	-6.37	3	Horizontal	0	1.00	-	30.38	18.21	2.47	27.05
PK	402.48M	27.08	46.00	-18.92	-3.56	3	Horizontal	0	1.00	-	30.64	21.18	3.01	27.75
PK	561.56M	30.17	46.00	-15.83	-0.58	3	Horizontal	0	1.00	-	30.75	24.12	3.65	28.35
PK	885.54M	33.96	46.00	-12.04	2.86	3	Horizontal	0	1.00	-	31.10	25.58	4.74	27.46



Summary

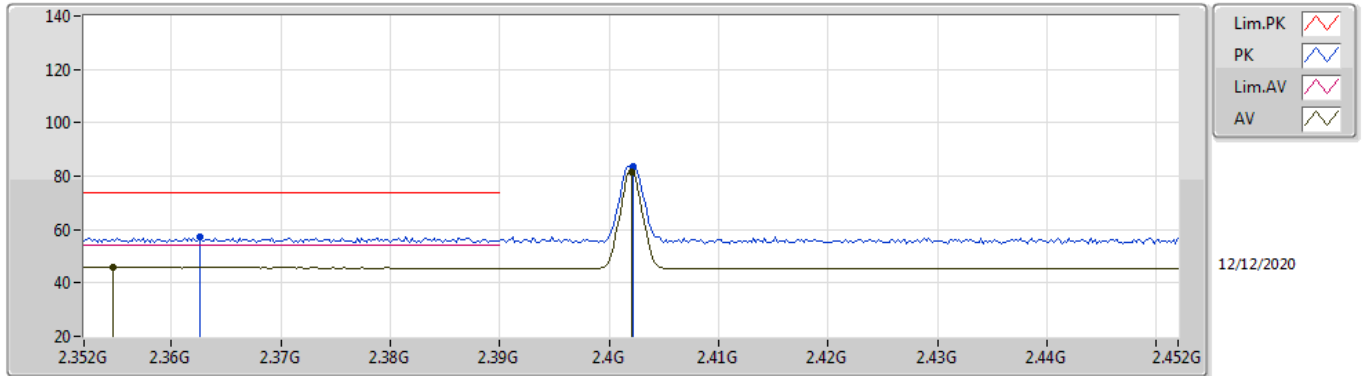
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-
BT-LE(1Mbps)	Pass	AV	2.5008G	49.22	54.00	-4.78	3	Horizontal	168	1.00	-

Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
BT-LE(1Mbps)	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	AV	2.3546G	45.80	54.00	-8.20	3	Vertical	224	1.45	-
2402MHz	Pass	AV	2.402G	81.73	Inf	-Inf	3	Vertical	224	1.45	-
2402MHz	Pass	PK	2.3626G	57.22	74.00	-16.78	3	Vertical	224	1.45	-
2402MHz	Pass	PK	2.4022G	83.50	Inf	-Inf	3	Vertical	224	1.45	-
2402MHz	Pass	AV	2.3558G	45.83	54.00	-8.17	3	Horizontal	170	1.00	-
2402MHz	Pass	AV	2.402G	85.23	Inf	-Inf	3	Horizontal	170	1.00	-
2402MHz	Pass	PK	2.3524G	57.80	74.00	-16.20	3	Horizontal	170	1.00	-
2402MHz	Pass	PK	2.4018G	86.96	Inf	-Inf	3	Horizontal	170	1.00	-
2402MHz	Pass	AV	4.80396G	28.92	54.00	-25.08	3	Vertical	284	3.00	-
2402MHz	Pass	PK	4.80294G	43.10	74.00	-30.90	3	Vertical	284	3.00	-
2402MHz	Pass	AV	4.79916G	28.83	54.00	-25.17	3	Horizontal	46	1.50	-
2402MHz	Pass	PK	4.80882G	42.86	74.00	-31.14	3	Horizontal	46	1.50	-
2440MHz	Pass	AV	2.342G	45.92	54.00	-8.08	3	Vertical	21	1.51	-
2440MHz	Pass	AV	2.44G	80.48	Inf	-Inf	3	Vertical	21	1.51	-
2440MHz	Pass	AV	2.5008G	49.17	54.00	-4.83	3	Vertical	21	1.51	-
2440MHz	Pass	PK	2.346G	57.99	74.00	-16.01	3	Vertical	21	1.51	-
2440MHz	Pass	PK	2.4404G	82.23	Inf	-Inf	3	Vertical	21	1.51	-
2440MHz	Pass	PK	2.5172G	62.76	74.00	-11.24	3	Vertical	21	1.51	-
2440MHz	Pass	AV	2.3436G	45.90	54.00	-8.10	3	Horizontal	168	1.00	-
2440MHz	Pass	AV	2.44G	83.60	Inf	-Inf	3	Horizontal	168	1.00	-
2440MHz	Pass	AV	2.5008G	49.22	54.00	-4.78	3	Horizontal	168	1.00	-
2440MHz	Pass	PK	2.3868G	58.25	74.00	-15.75	3	Horizontal	168	1.00	-
2440MHz	Pass	PK	2.4404G	85.35	Inf	-Inf	3	Horizontal	168	1.00	-
2440MHz	Pass	PK	2.502G	58.63	74.00	-15.37	3	Horizontal	168	1.00	-
2440MHz	Pass	AV	4.88012G	29.10	54.00	-24.90	3	Vertical	162	1.05	-
2440MHz	Pass	PK	4.86614G	42.80	74.00	-31.20	3	Vertical	162	1.05	-
2440MHz	Pass	AV	4.89038G	29.04	54.00	-24.96	3	Horizontal	360	2.76	-
2440MHz	Pass	PK	4.87214G	44.02	74.00	-29.98	3	Horizontal	360	2.76	-
2480MHz	Pass	AV	2.48G	82.68	Inf	-Inf	3	Vertical	225	1.88	-
2480MHz	Pass	AV	2.5012G	47.17	54.00	-6.83	3	Vertical	225	1.88	-
2480MHz	Pass	PK	2.4798G	84.43	Inf	-Inf	3	Vertical	225	1.88	-
2480MHz	Pass	PK	2.5084G	58.56	74.00	-15.44	3	Vertical	225	1.88	-
2480MHz	Pass	AV	2.48G	83.11	Inf	-Inf	3	Horizontal	173	1.00	-
2480MHz	Pass	AV	2.4998G	45.53	54.00	-8.47	3	Horizontal	173	1.00	-
2480MHz	Pass	PK	2.4802G	84.85	Inf	-Inf	3	Horizontal	173	1.00	-
2480MHz	Pass	PK	2.4928G	57.15	74.00	-16.85	3	Horizontal	173	1.00	-
2480MHz	Pass	AV	4.96546G	29.05	54.00	-24.95	3	Vertical	221	1.38	-
2480MHz	Pass	PK	4.96396G	42.44	74.00	-31.56	3	Vertical	221	1.38	-
2480MHz	Pass	AV	4.97014G	29.04	54.00	-24.96	3	Horizontal	182	1.38	-
2480MHz	Pass	PK	4.97068G	43.05	74.00	-30.95	3	Horizontal	182	1.38	-

BT-LE(1Mbps)

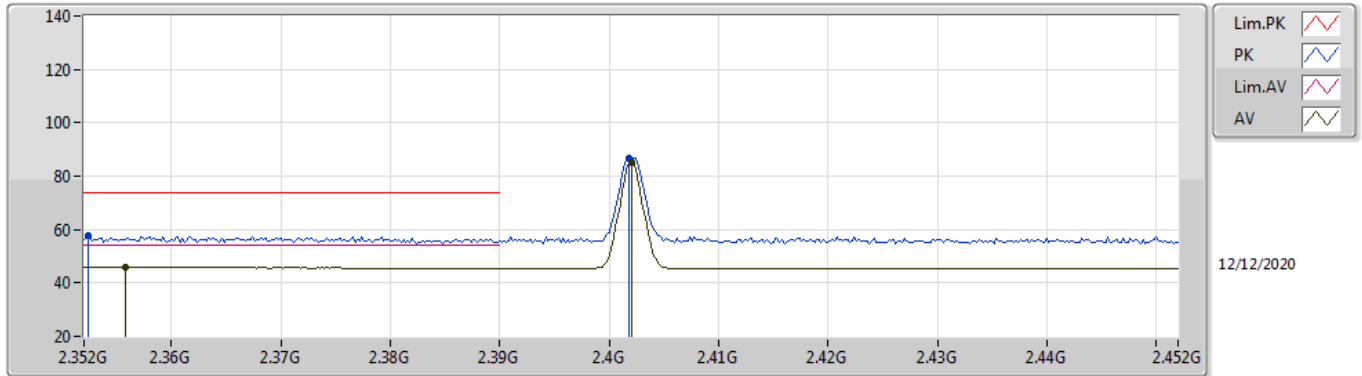
2402MHz_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.3546G	45.80	54.00	-8.20	33.62	3	Vertical	224	1.45	-	12.18	27.69	5.93	-
AV	2.402G	81.73	Inf	-Inf	33.55	3	Vertical	224	1.45	-	48.18	27.59	5.96	-
PK	2.3626G	57.22	74.00	-16.78	33.60	3	Vertical	224	1.45	-	23.62	27.67	5.93	-
PK	2.4022G	83.50	Inf	-Inf	33.55	3	Vertical	224	1.45	-	49.95	27.59	5.96	-

BT-LE(1Mbps)

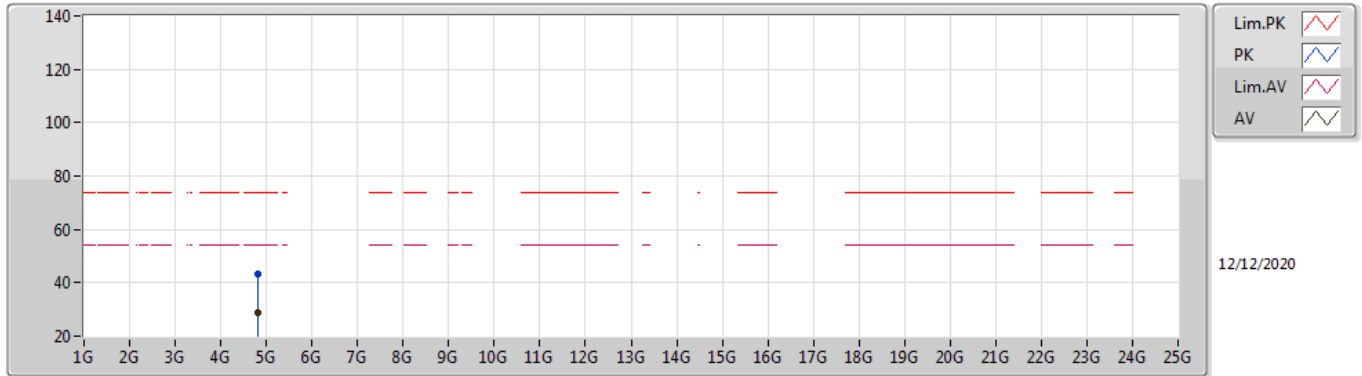
2402MHz_TX



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	45.83	54.00	-8.17	33.62	3	Horizontal	170	1.00	-	12.21	27.69	5.93	-
AV	2.402G	85.23	Inf	-Inf	33.55	3	Horizontal	170	1.00	-	51.68	27.59	5.96	-
PK	2.3524G	57.80	74.00	-16.20	33.62	3	Horizontal	170	1.00	-	24.18	27.70	5.92	-
PK	2.4018G	86.96	Inf	-Inf	33.55	3	Horizontal	170	1.00	-	53.41	27.59	5.96	-

BT-LE(1Mbps)

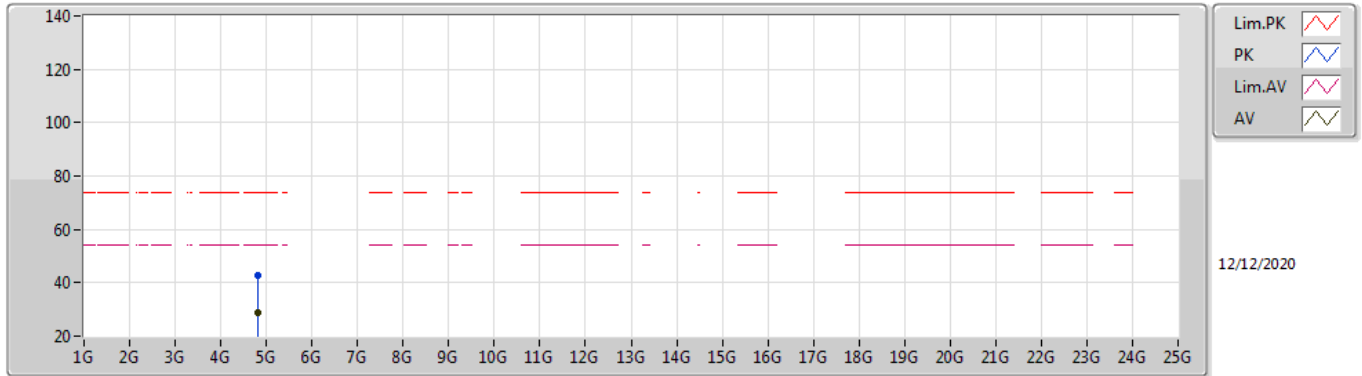
2402MHz_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.80396G	28.92	54.00	-25.08	4.88	3	Vertical	284	3.00	-	24.04	30.92	8.25	34.29
PK	4.80294G	43.10	74.00	-30.90	4.87	3	Vertical	284	3.00	-	38.23	30.91	8.25	34.29

BT-LE(1Mbps)

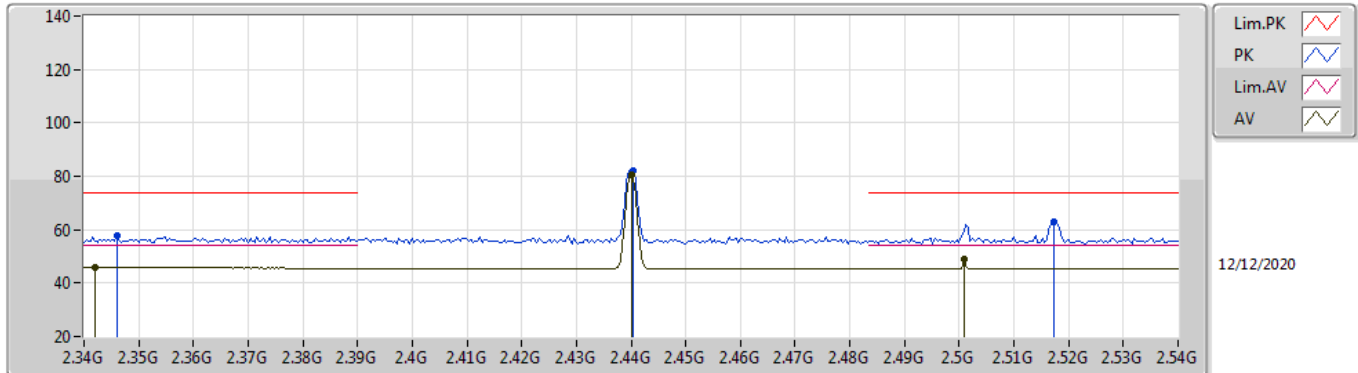
2402MHz_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	4.79916G	28.83	54.00	-25.17	4.86	3	Horizontal	46	1.50	-	23.97	30.90	8.25	34.29
PK	4.80882G	42.86	74.00	-31.14	4.91	3	Horizontal	46	1.50	-	37.95	30.94	8.26	34.29

BT-LE(1Mbps)

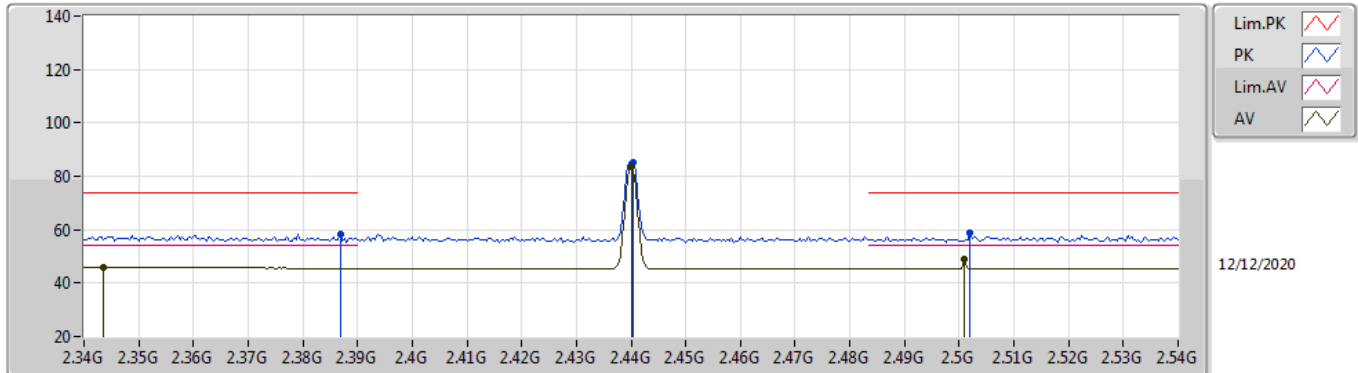
2440MHz_TX



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	2.342G	45.92	54.00	-8.08	33.65	3	Vertical	21	1.51	-	12.27	27.73	5.92	-
AV	2.44G	80.48	Inf	-Inf	33.45	3	Vertical	21	1.51	-	47.03	27.44	6.01	-
AV	2.5008G	49.17	54.00	-4.83	33.48	3	Vertical	21	1.51	-	15.69	27.40	6.08	-
PK	2.346G	57.99	74.00	-16.01	33.64	3	Vertical	21	1.51	-	24.35	27.72	5.92	-
PK	2.4404G	82.23	Inf	-Inf	33.45	3	Vertical	21	1.51	-	48.78	27.44	6.01	-
PK	2.5172G	62.76	74.00	-11.24	33.50	3	Vertical	21	1.51	-	29.26	27.40	6.10	-

BT-LE(1Mbps)

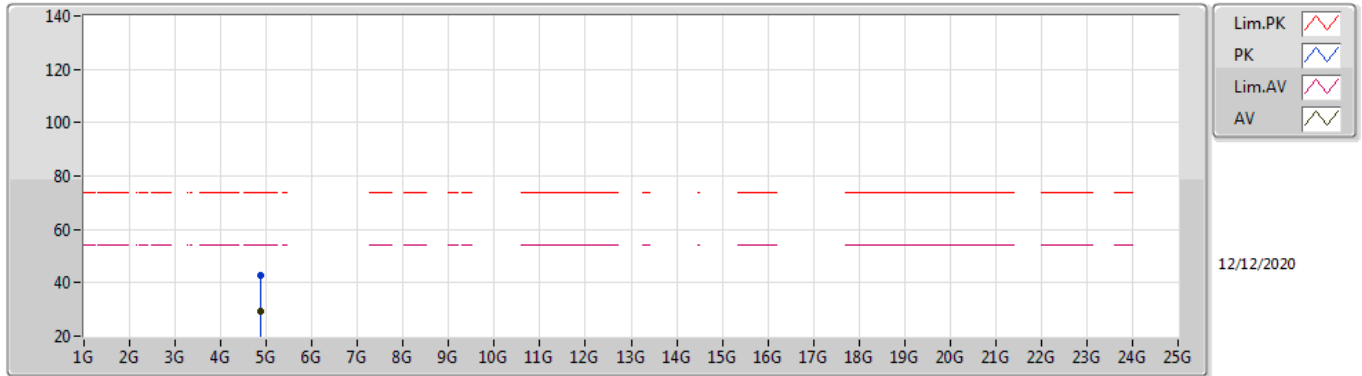
2440MHz_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.3436G	45.90	54.00	-8.10	33.65	3	Horizontal	168	1.00	-	12.25	27.73	5.92	-
AV	2.44G	83.60	Inf	-Inf	33.45	3	Horizontal	168	1.00	-	50.15	27.44	6.01	-
AV	2.5008G	49.22	54.00	-4.78	33.48	3	Horizontal	168	1.00	-	15.74	27.40	6.08	-
PK	2.3868G	58.25	74.00	-15.75	33.58	3	Horizontal	168	1.00	-	24.67	27.63	5.95	-
PK	2.4404G	85.35	Inf	-Inf	33.45	3	Horizontal	168	1.00	-	51.90	27.44	6.01	-
PK	2.502G	58.63	74.00	-15.37	33.48	3	Horizontal	168	1.00	-	25.15	27.40	6.08	-

BT-LE(1Mbps)

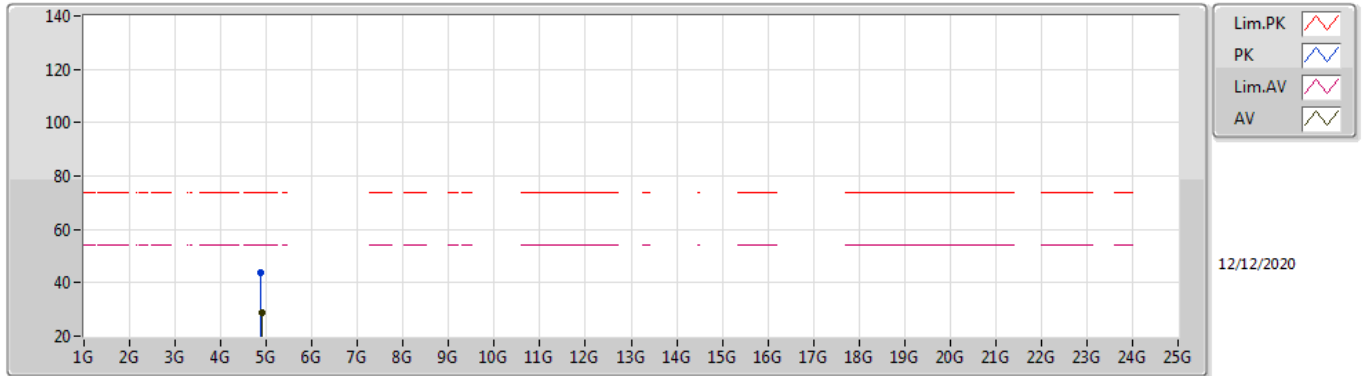
2440MHz_TX



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	4.88012G	29.10	54.00	-24.90	5.08	3	Vertical	162	1.05	-	24.02	31.04	8.30	34.26
PK	4.86614G	42.80	74.00	-31.20	5.09	3	Vertical	162	1.05	-	37.71	31.07	8.29	34.27

BT-LE(1Mbps)

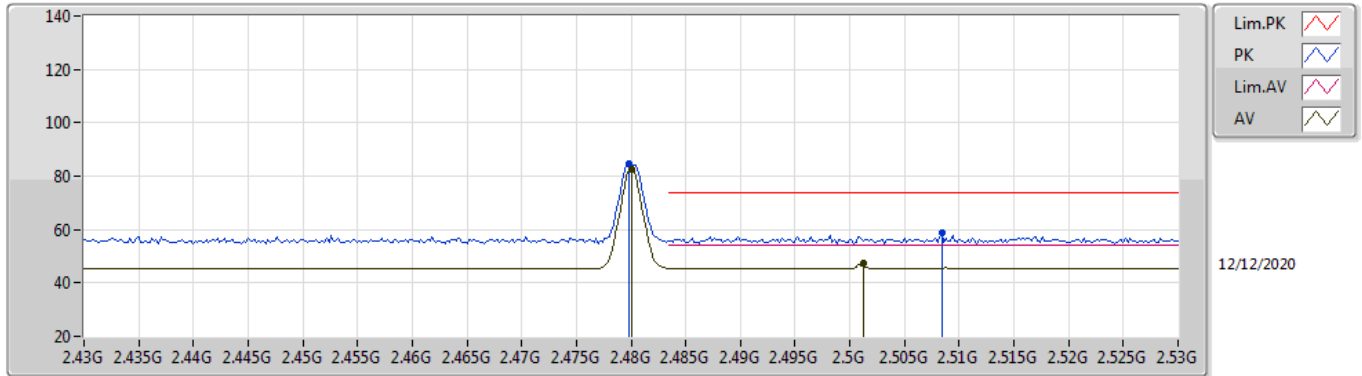
2440MHz_TX



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	4.89038G	29.04	54.00	-24.96	5.07	3	Horizontal	360	2.76	-	23.97	31.02	8.31	34.26
PK	4.87214G	44.02	74.00	-29.98	5.10	3	Horizontal	360	2.76	-	38.92	31.06	8.30	34.26

BT-LE(1Mbps)

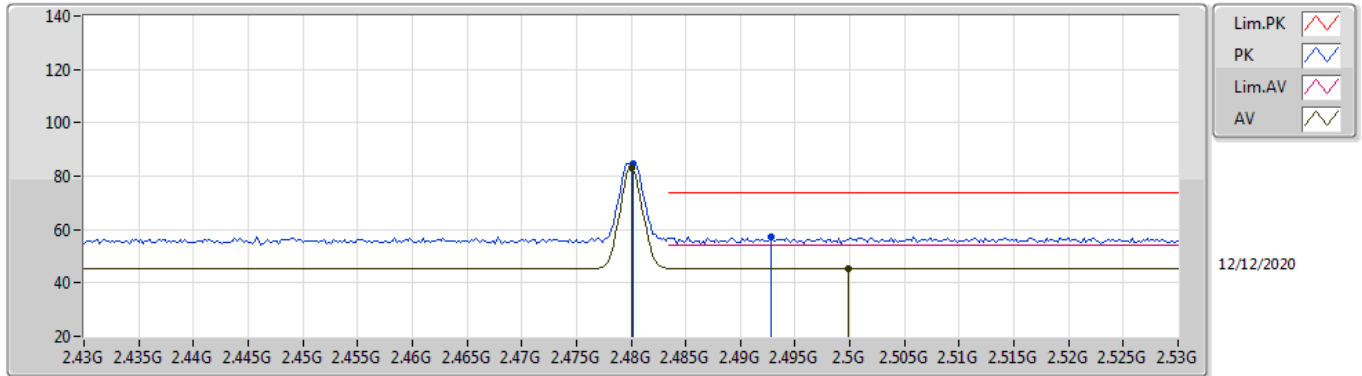
2480MHz_TX



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	2.48G	82.68	Inf	-Inf	33.46	3	Vertical	225	1.88	-	49.22	27.40	6.06	-
AV	2.5012G	47.17	54.00	-6.83	33.48	3	Vertical	225	1.88	-	13.69	27.40	6.08	-
PK	2.4798G	84.43	Inf	-Inf	33.46	3	Vertical	225	1.88	-	50.97	27.40	6.06	-
PK	2.5084G	58.56	74.00	-15.44	33.49	3	Vertical	225	1.88	-	25.07	27.40	6.09	-

BT-LE(1Mbps)

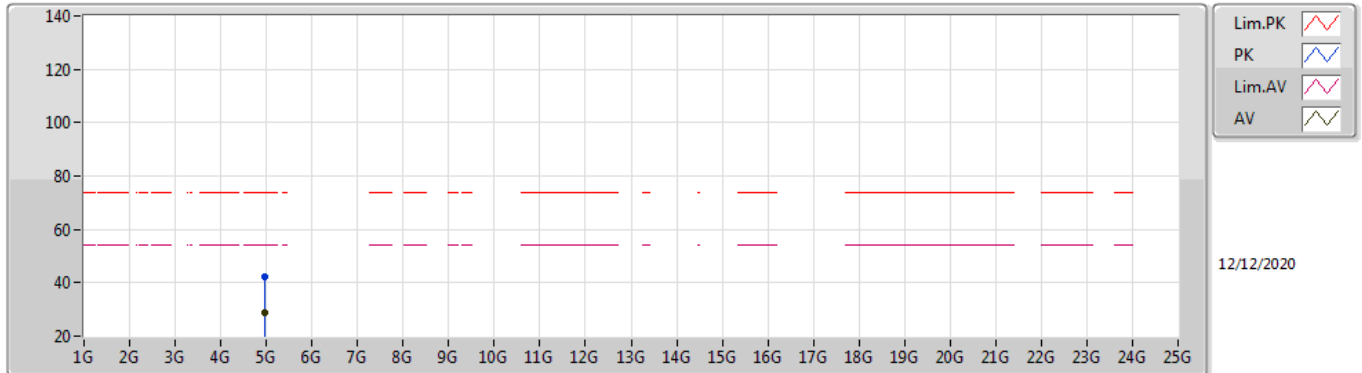
2480MHz_TX



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	2.48G	83.11	Inf	-Inf	33.46	3	Horizontal	173	1.00	-	49.65	27.40	6.06	-
AV	2.4998G	45.53	54.00	-8.47	33.48	3	Horizontal	173	1.00	-	12.05	27.40	6.08	-
PK	2.4802G	84.85	Inf	-Inf	33.46	3	Horizontal	173	1.00	-	51.39	27.40	6.06	-
PK	2.4928G	57.15	74.00	-16.85	33.47	3	Horizontal	173	1.00	-	23.68	27.40	6.07	-

BT-LE(1Mbps)

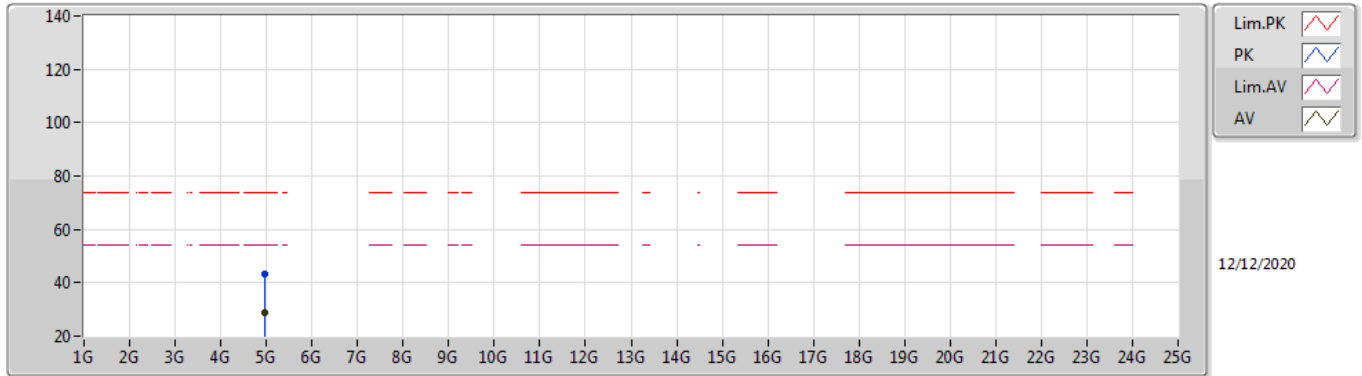
2480MHz_TX



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	4.96546G	29.05	54.00	-24.95	5.36	3	Vertical	221	1.38	-	23.69	31.23	8.36	34.23
PK	4.96396G	42.44	74.00	-31.56	5.36	3	Vertical	221	1.38	-	37.08	31.23	8.36	34.23

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	4.97014G	29.04	54.00	-24.96	5.37	3	Horizontal	182	1.38	-	23.67	31.24	8.36	34.23
PK	4.97068G	43.05	74.00	-30.95	5.37	3	Horizontal	182	1.38	-	37.68	31.24	8.36	34.23