

FCC Radio Test Report

FCC ID : 2ASRT-SCN355
Equipment : Digital Projector
Brand Name : PHILIPS
Model Name : Screeneo UL5 Smart, SCN355
Applicant : Screeneo Innovation SA
Route de Lully 5C 1131 Tolochenaz Switzerland
Manufacturer : Screeneo Innovation SA
Route de Lully 5C 1131 Tolochenaz Switzerland
Standard : 47 CFR FCC Part 15.247

The product was received on Jan. 15, 2024, and testing was started from Apr. 03, 2024 and completed on Apr. 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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PHOTOGRAPHS OF EUT V01



History of this test report

TEL : 886-3-3273456
FAX : 886-3-3270973
Report Template No.: HE1-C10 Ver.4.3
FCC ID: 2ASRT-SCN355

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: Barry Hsiao

Report Producer: Amber Chiu

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
1	LeJin	LJF02-23072908-R0A	PIFA antenna	I-PEX

Ant.	Port	Gain (dBi)		
		2.4G	5G	BT
1	1	2.19	2.28	2.19

Note 1: The EUT has one antenna.

For 2.4GHz function:

For IEEE 802.11 b/g/n mode (1TX/1RX)

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

For 5GHz function:

For IEEE 802.11 a/n/ac mode (1TX/1RX)

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

For BT function:

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

Only Ant. 1 (port 1) can be used as transmitting/receiving antenna.

1.1.3 EUT Information

Operational Condition			
EUT Power Type	From AC Adapter		
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) $\geq 1/T$
BT-LE(1Mbps)	0.628	2.02	393.75u	3k
BT-LE(2Mbps)	0.332	4.79	208.125u	10k

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

1.1.5 Table for Multiple Listing

The model names in the following table are all refer to the identical product.

Model Name	Description
Scree neo UL5 Smart, SCN355	All the models are identical, the difference model served as marketing strategy.

From the above models, Scree neo UL5 Smart was selected as representative model for the test and its data was recorded in this report.

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
AC Conduction	CO04-HY	Lego Lin	21.3~22.5°C / 52~53%	13/Apr/2024
RF Conducted	TH06-HY	Henry Ho	22.1~23.4°C / 50~52%	03/Apr/2024~12/Apr/2024
Radiated	03CH03-HY	Edward Wang	21.2~23.2°C / 51~53%	10/Apr/2024~11/Apr/2024
☐ 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.				

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 0.72
-----------------------	--------------------

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	Adapter 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	Adapter Mode	
Operating Mode > 1GHz	CTX	
Orthogonal Planes of EUT	X Plane	Y Plane
		
Worst Planes of EUT		V

2.3 Accessories

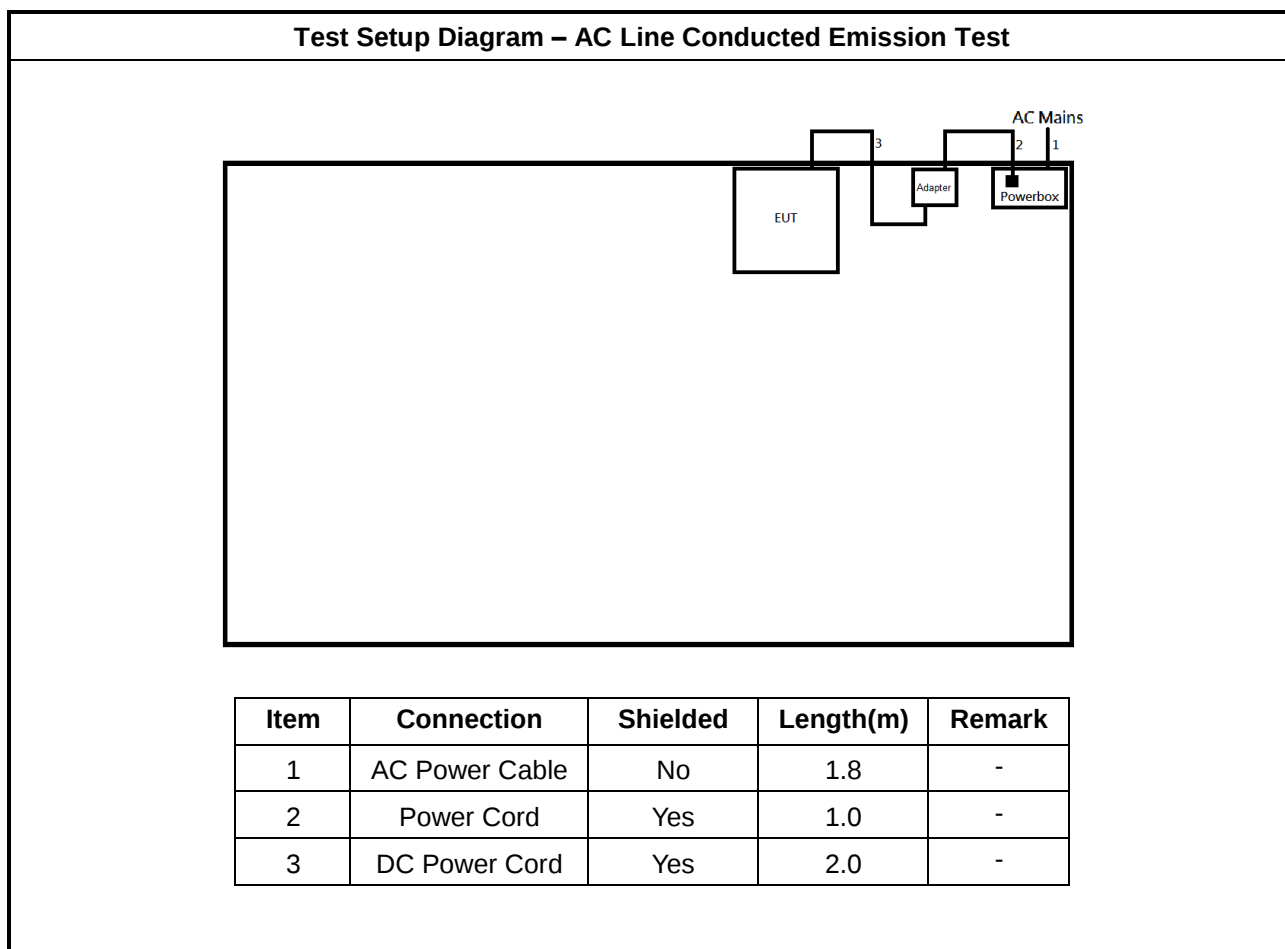
Accessories				
AC Adapter	Brand Name	PHILIPS	Model Name	S-TR-185
	Manufacturer	DONGGUAN SHELL ELECTRONIC LIMITED		
	Power Rating	I/P: 100 - 240Vac, 2 A, O/P: 5 Vdc, 3 A, 15W, 9 Vdc, 3 A, 27W 12 Vdc, 3 A, 36W 15 Vdc, 3 A, 45W 20 Vdc, 5 A, 100W		
	DC Power Cord	2 meter, shielded cable, with ferrite core		
Power Cord (US Plug)	Brand Name	I-SHENG		
	Power Cord	1 meter, shielded cable, without ferrite core		
Bluetooth remote control	Brand Name	PHILIPS	Model Name	AN2301B-2SC

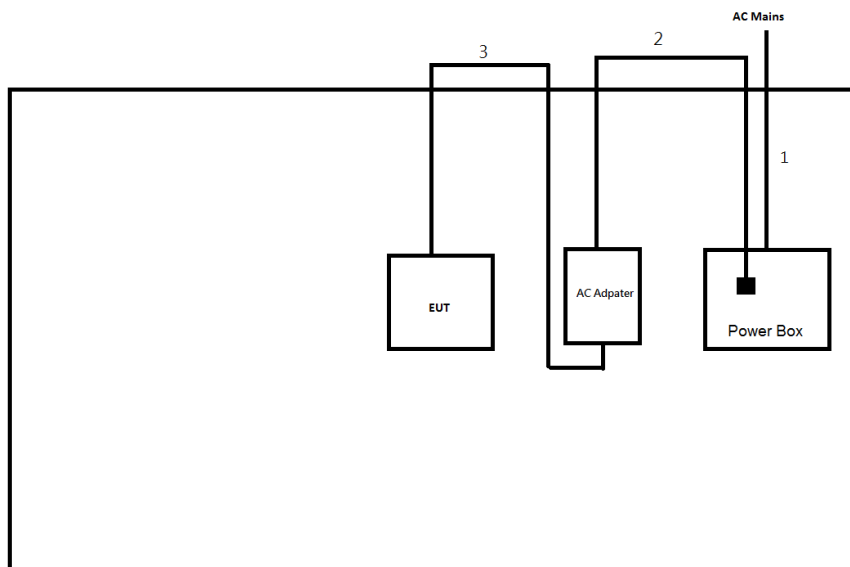
Reminder: Regarding to more detail and other information, please refer to user manual.

2.4 Support Equipment

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

2.5 Test Setup Diagram



Test Setup Diagram - Radiated Test


Item	Connection	Shielded	Length(m)	Remark
1	AC Power Cable	No	1.8	-
2	Power Cord	Yes	1.0	-
3	DC Power Cord	Yes	2.0	-

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

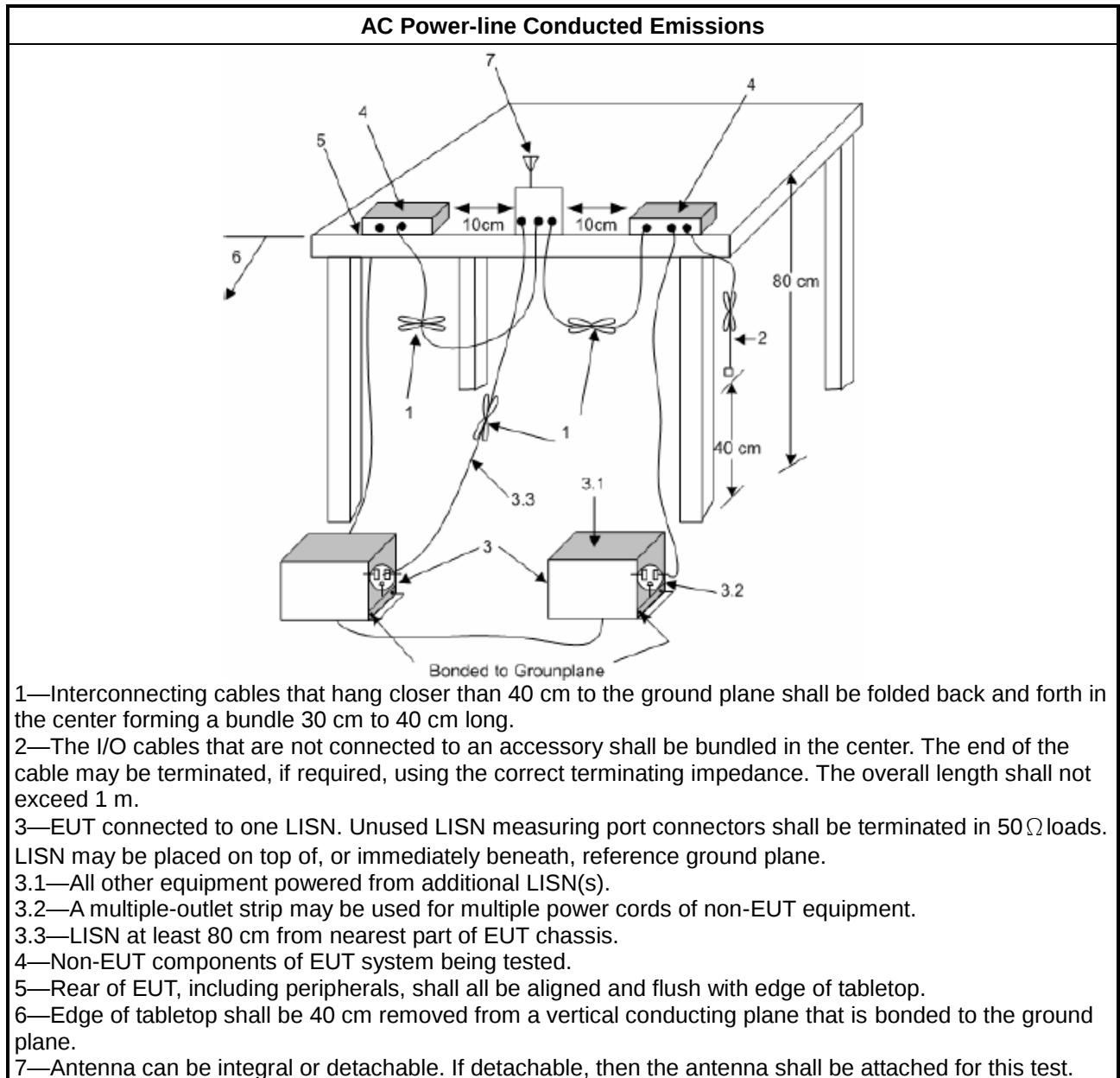
Test Method
▪ Refer as ANSI C63.10-2013, clause 6.2 foray power-line conducted emissions.

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.

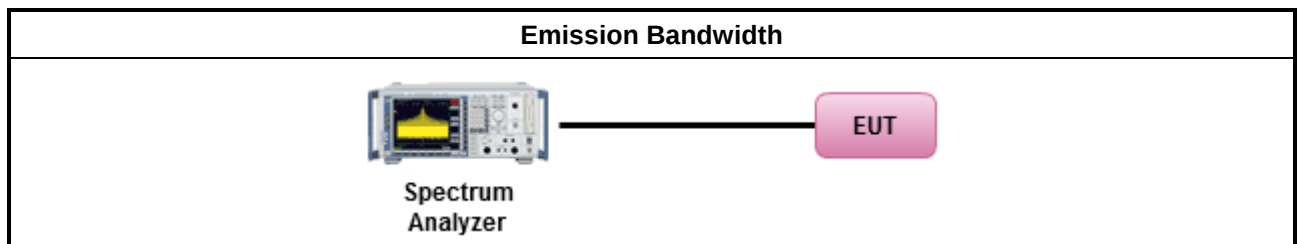
3.2.2 Measuring Instruments

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.	

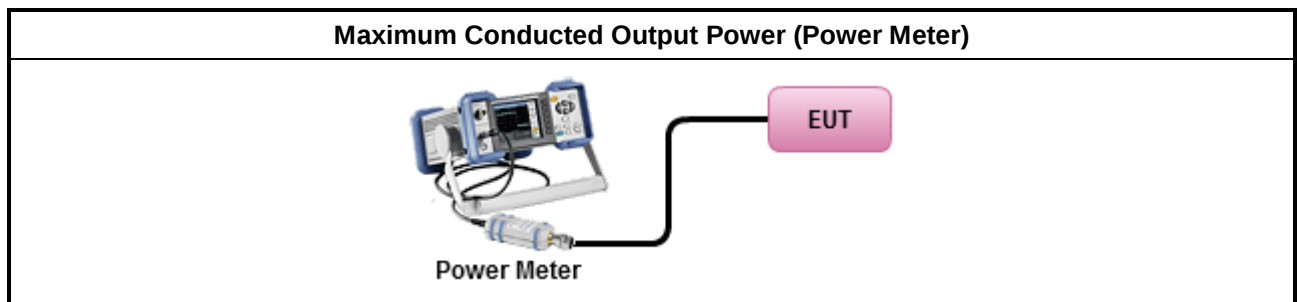
3.3.2 Measuring Instruments

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

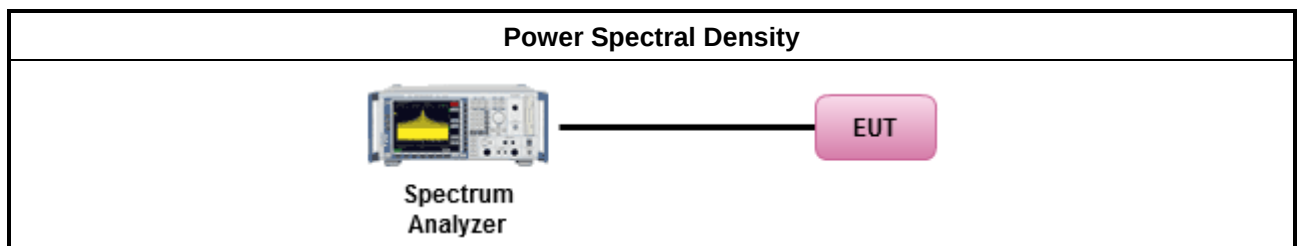
3.4.2 Measuring Instruments

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.	

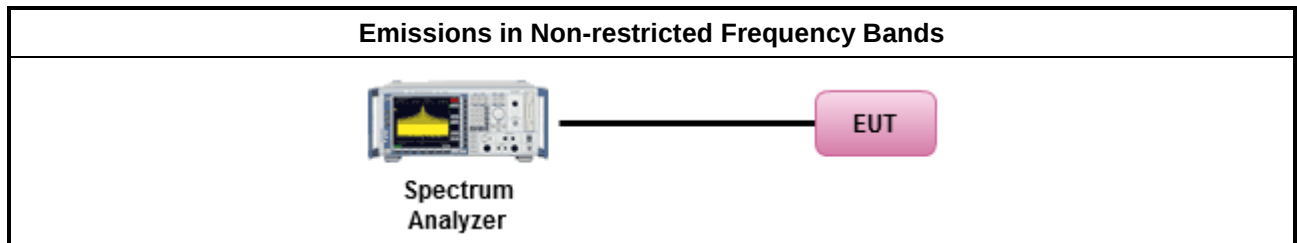
3.5.2 Measuring Instruments

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

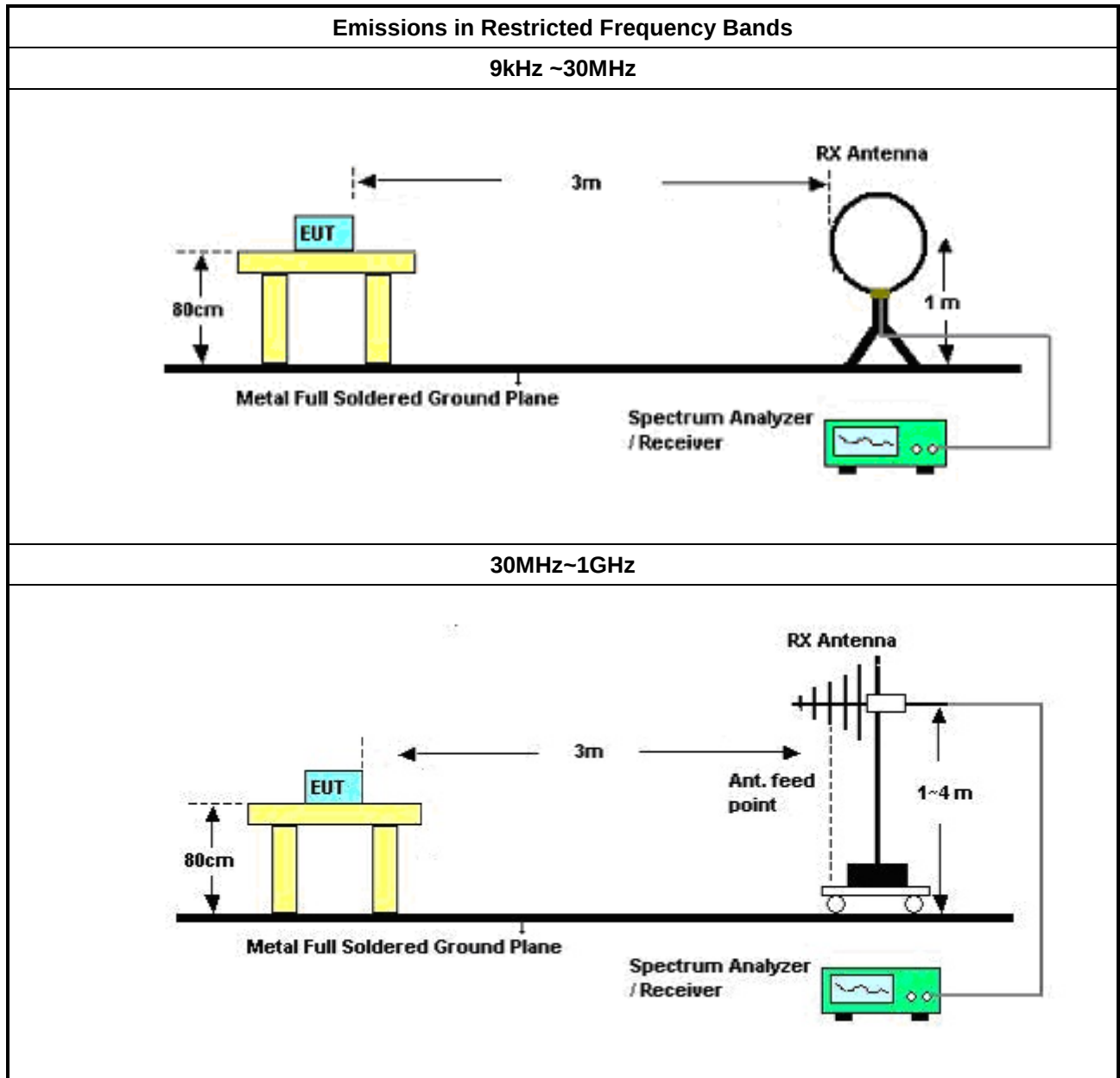
Test Method	
	The average emission levels shall be measured in [duty cycle $\geq$ 98 or duty factor].
	Refer as ANSI C63.10, clause 6.10.3 band-edge testing shall be performed at the lowest frequency channel and highest frequency channel within the allowed operating band.
	For the transmitter unwanted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

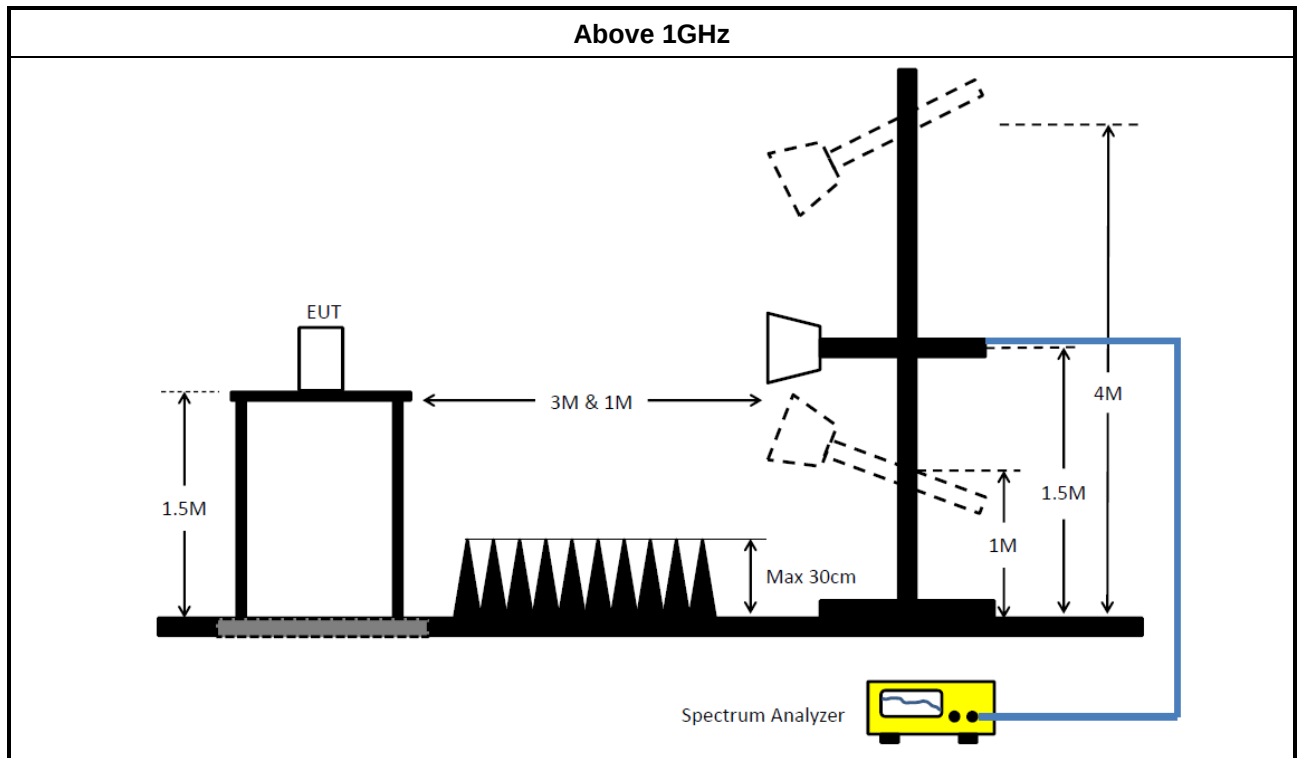
3.6.4 Measurement Results Calculation

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	Manufacturer /Brand	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
EMI Test Receiver	R&S	ESR	102051	9kHz ~ 3.6GHz	16/May/2023	15/May/2024
Two-Line V-Network	R&S	ENV 216	101295	9kHz ~ 30MHz	05/Feb/2024	04/Feb/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	101029	10Hz~40GHz	30/Oct/2023	29/Oct/2024
SMB100A Signal Generator	R&S	SMB100A	181147	100kHz~40GHz	20/Oct/2023	19/Oct/2024
Power Meter	Anritsu	ML2495A	2105003	300MHz~40GHz	19/Sep/2023	18/Sep/2024
Pulse Sensor	Anritsu	MA2411B	1911254	300MHz~40GHz	19/Sep/2023	18/Sep/2024
SENSE-15247_FS	Sporton	V5.11.17	N/A	N/A	N/A	N/A

**Instrument for Radiated Test**

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	28/Jul/2023	27/Jul/2024
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	30MHz~1GHz 3m	30/Jul/2023	29/Jul/2024
EMI Test Receiver	R&S	ESR3	102051	9kHz~3.6GHz	16/May/2023	15/May/2024
Signal Analyzer	R&S	FSV40	101500	10Hz~40GHz	26/Oct/2023	25/Oct/2024
Loop Antenna	TESEQ	HLA 6120	31244	9kHz~30MHz	19/Mar/2024	18/Mar/2025
Bilog Antenna & 6dB Attenuator	SCHAFFNER / EMC	CBL6112B / N-6-05	22237 / AT-N-0603	30MHz~1GHz	15/Oct/2023	14/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	01248	18GHz ~ 40GHz	21/Aug/2023	20/Aug/2024
RF Cable-R03m	Jye Bao	RG142	CB021	9kHz~30MHz	13/Jun/2023	12/Jun/2024
RF Cable-R03m	Jye Bao	RG142	03CH03-cable-02	30MHz~1GHz	13/Jun/2023	12/Jun/2024
RF CABLE 5+8 m	HUBER+SUHNER	SUOFLEX 104	03CH03-cable-03	1GHz~40GHz	20/Feb/2024	19/Feb/2025
Amplifier	Agilent	8447D	2944A08033	100kHz~1.3GHz	14/Sep/2023	13/Sep/2024
Microwave Preamplifier	Agilent	8449B	3008A02326	1GHz~26.5GHz	26/Jul/2023	25/Jul/2024
Amplifier	EM	EM18G40GA	060874	18GHz ~ 40GHz	18/Aug/2023	17/Aug/2024
SENSE-15247_FS	Sporton	V5.11.16	N/A	N/A	N/A	N/A



Conducted Emissions at Powerline

Appendix A

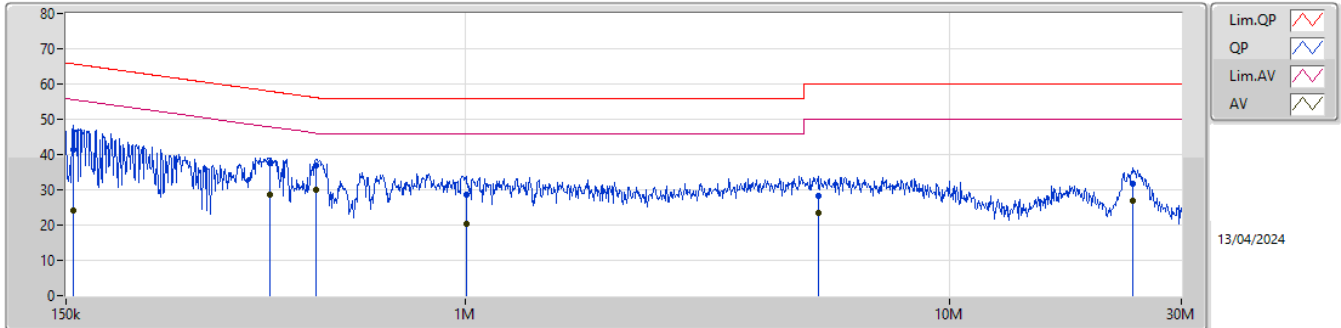
Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 1	Pass	AV	492.876k	30.02	46.11	-16.09	Line

Result

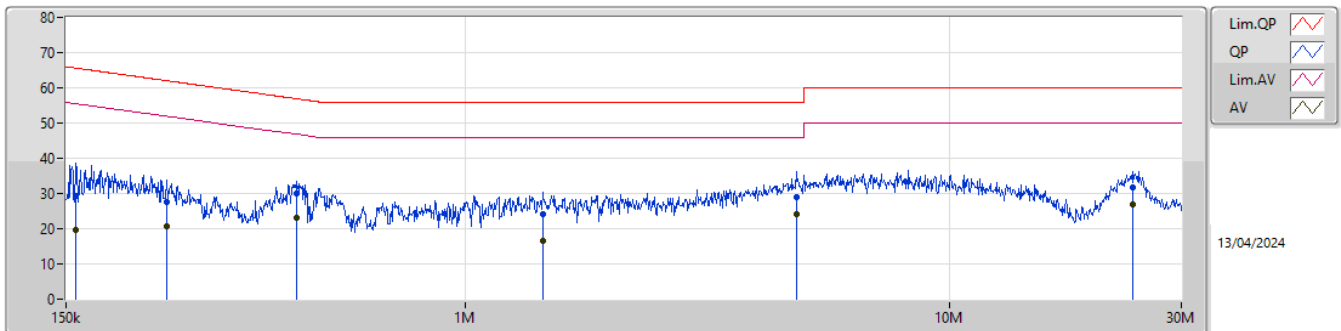
Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition	Comments
Mode 1	Pass	QP	154.868k	41.28	65.73	-24.45	Line	-
Mode 1	Pass	AV	154.868k	24.29	55.73	-31.44	Line	-
Mode 1	Pass	QP	394.139k	37.60	57.97	-20.37	Line	-
Mode 1	Pass	AV	394.139k	28.74	47.97	-19.23	Line	-
Mode 1	Pass	QP	492.876k	37.03	56.11	-19.08	Line	-
Mode 1	Pass	AV	492.876k	30.02	46.11	-16.09	Line	-
Mode 1	Pass	QP	1.003M	28.76	56.00	-27.24	Line	-
Mode 1	Pass	AV	1.003M	20.30	46.00	-25.70	Line	-
Mode 1	Pass	QP	5.343M	28.23	60.00	-31.77	Line	-
Mode 1	Pass	AV	5.343M	23.56	50.00	-26.44	Line	-
Mode 1	Pass	QP	23.873M	31.64	60.00	-28.36	Line	-
Mode 1	Pass	AV	23.873M	26.82	50.00	-23.18	Line	-
Mode 1	Pass	QP	157.361k	29.40	65.60	-36.20	Neutral	-
Mode 1	Pass	AV	157.361k	19.51	55.60	-36.09	Neutral	-
Mode 1	Pass	QP	242.179k	27.44	62.02	-34.58	Neutral	-
Mode 1	Pass	AV	242.179k	20.85	52.02	-31.17	Neutral	-
Mode 1	Pass	QP	447.846k	30.05	56.92	-26.87	Neutral	-
Mode 1	Pass	AV	447.846k	22.98	46.92	-23.94	Neutral	-
Mode 1	Pass	QP	1.442M	24.25	56.00	-31.75	Neutral	-
Mode 1	Pass	AV	1.442M	16.68	46.00	-29.32	Neutral	-
Mode 1	Pass	QP	4.816M	29.02	56.00	-26.98	Neutral	-
Mode 1	Pass	AV	4.816M	24.26	46.00	-21.74	Neutral	-
Mode 1	Pass	QP	23.778M	31.61	60.00	-28.39	Neutral	-
Mode 1	Pass	AV	23.778M	26.76	50.00	-23.24	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	154.868k	41.28	65.73	-24.45	19.43	Line	-	21.85	9.61	0.07	9.75						
AV	154.868k	24.29	55.73	-31.44	19.43	Line	-	4.86	9.61	0.07	9.75						
QP	394.139k	37.60	57.97	-20.37	19.49	Line	-	18.11	9.61	0.12	9.76						
AV	394.139k	28.74	47.97	-19.23	19.49	Line	-	9.25	9.61	0.12	9.76						
QP	492.876k	37.03	56.11	-19.08	19.49	Line	-	17.54	9.61	0.11	9.77						
AV	492.876k	30.02	46.11	-16.09	19.49	Line	-	10.53	9.61	0.11	9.77						
QP	1.003M	28.76	56.00	-27.24	19.50	Line	-	9.26	9.61	0.09	9.80						
AV	1.003M	20.30	46.00	-25.70	19.50	Line	-	0.80	9.61	0.09	9.80						
QP	5.343M	28.23	60.00	-31.77	19.50	Line	-	8.73	9.65	0.06	9.79						
AV	5.343M	23.56	50.00	-26.44	19.50	Line	-	4.06	9.65	0.06	9.79						
QP	23.873M	31.64	60.00	-28.36	19.51	Line	-	12.13	9.53	0.13	9.85						
AV	23.873M	26.82	50.00	-23.18	19.51	Line	-	7.31	9.53	0.13	9.85						

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	157.361k	29.40	65.60	-36.20	19.44	Neutral	-	9.96	9.62	0.07	9.75						
AV	157.361k	19.51	55.60	-36.09	19.44	Neutral	-	0.07	9.62	0.07	9.75						
QP	242.179k	27.44	62.02	-34.58	19.41	Neutral	-	8.03	9.61	0.10	9.70						
AV	242.179k	20.85	52.02	-31.17	19.41	Neutral	-	1.44	9.61	0.10	9.70						
QP	447.846k	30.05	56.92	-26.87	19.49	Neutral	-	10.56	9.61	0.12	9.76						
AV	447.846k	22.98	46.92	-23.94	19.49	Neutral	-	3.49	9.61	0.12	9.76						
QP	1.442M	24.25	56.00	-31.75	19.52	Neutral	-	4.73	9.62	0.10	9.80						
AV	1.442M	16.68	46.00	-29.32	19.52	Neutral	-	-2.84	9.62	0.10	9.80						
QP	4.816M	29.02	56.00	-26.98	19.51	Neutral	-	9.51	9.65	0.07	9.79						
AV	4.816M	24.26	46.00	-21.74	19.51	Neutral	-	4.75	9.65	0.07	9.79						
QP	23.778M	31.61	60.00	-28.39	19.67	Neutral	-	11.94	9.69	0.13	9.85						
AV	23.778M	26.76	50.00	-23.24	19.67	Neutral	-	7.09	9.69	0.13	9.85						

**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)	740k	1.053M	1M05F1D	626.25k	1.047M
BT-LE(2Mbps)	1.215M	2.124M	2M12F1D	712.5k	2.084M

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

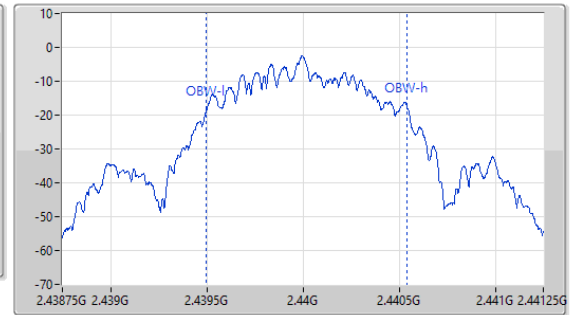
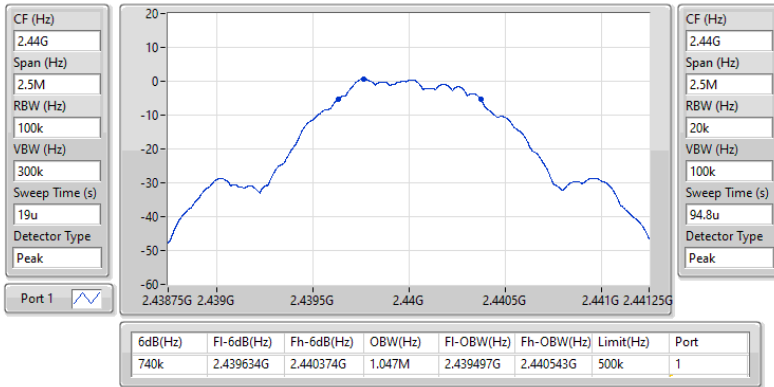
Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	500k	670k	1.053M
2440MHz	Pass	500k	740k	1.047M
2480MHz	Pass	500k	626.25k	1.051M
BT-LE(2Mbps)	-	-	-	-
2402MHz	Pass	500k	712.5k	2.124M
2440MHz	Pass	500k	967.5k	2.099M
2480MHz	Pass	500k	1.215M	2.084M

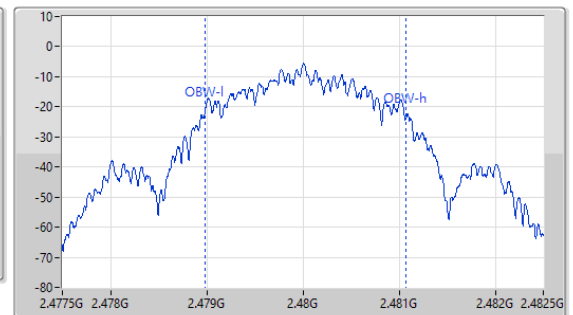
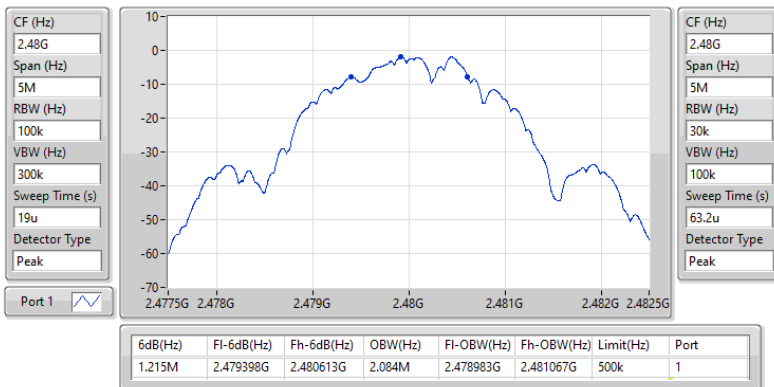
Port X-N dB = Port X 6dB down bandwidth;
Port X-OBW = Port X 99% occupied bandwidth

2.4-2.4835GHz_BT-LE(1Mbps)
EBW-DTS
2440MHz

03/04/2024


2.4-2.4835GHz_BT-LE(2Mbps)
EBW-DTS
2480MHz

03/04/2024





Summary

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
BT-LE(1Mbps)	2.30	0.00170
BT-LE(2Mbps)	2.03	0.00160



Result

Mode	Result	DG (dBi)	Total Power (dBm)	Power Limit (dBm)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	2.19	1.13	30.00
2440MHz	Pass	2.19	2.26	30.00
2480MHz	Pass	2.19	2.30	30.00
BT-LE(2Mbps)	-	-	-	-
2402MHz	Pass	2.19	0.90	30.00
2440MHz	Pass	2.19	1.95	30.00
2480MHz	Pass	2.19	2.03	30.00

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



Summary

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
BT-LE(1Mbps)	-12.24
BT-LE(2Mbps)	-15.28

RBW = 3kHz;



Result

Mode	Result	DG (dBi)	PD (dBm/RBW)	PD Limit (dBm/RBW)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	2.19	-13.44	8.00
2440MHz	Pass	2.19	-12.31	8.00
2480MHz	Pass	2.19	-12.24	8.00
BT-LE(2Mbps)	-	-	-	-
2402MHz	Pass	2.19	-16.68	8.00
2440MHz	Pass	2.19	-15.28	8.00
2480MHz	Pass	2.19	-15.43	8.00

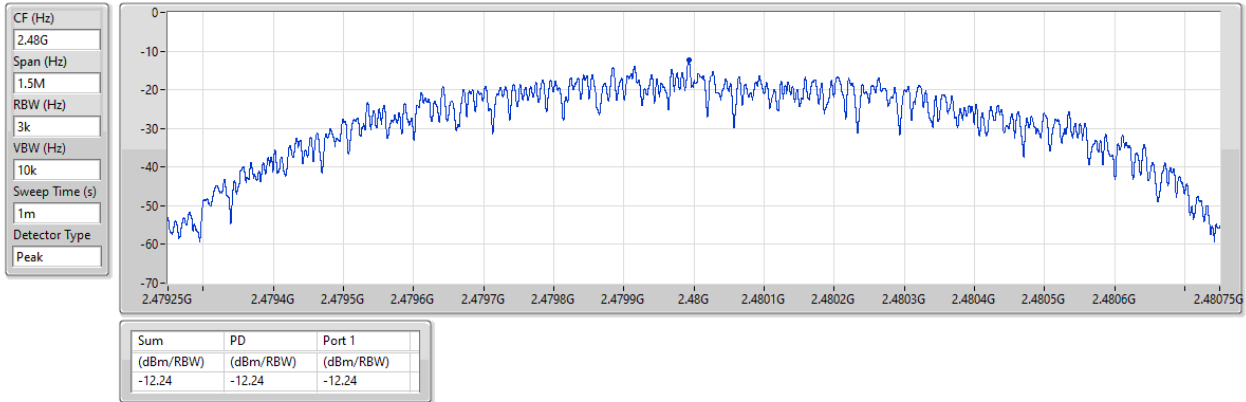
DG = Directional Gain; RBW = 3kHz;
PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; Port X = Port X Power Density;

2.4-2.4835GHz_BT-LE(1Mbps)

PSD

2480MHz

03/04/2024

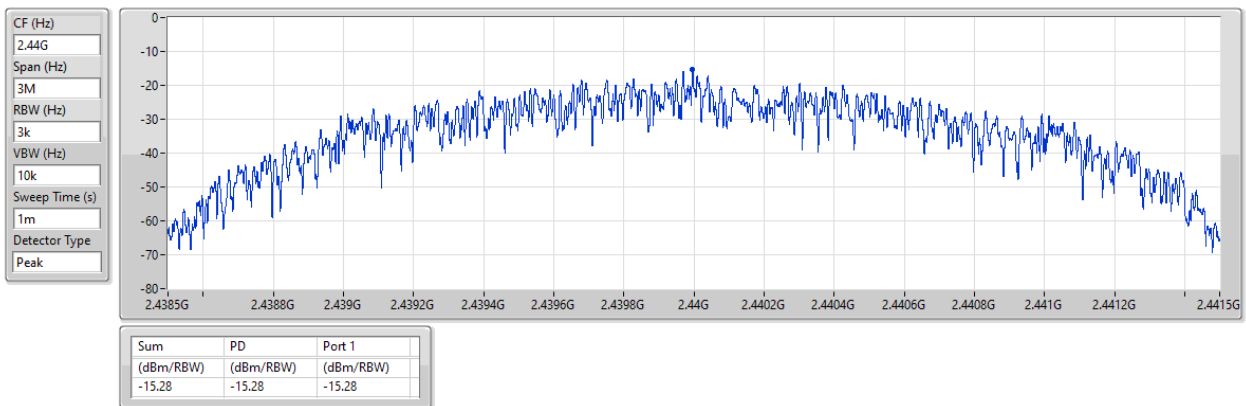


2.4-2.4835GHz_BT-LE(2Mbps)

PSD

2440MHz

03/04/2024



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	2.47999G	1.32	-28.68	685.65M	-55.36	2.39132G	-52.85	2.4G	-55.51	2.50114G	-52.89	17.63521G	-41.55	1
BT-LE(2Mbps)	Pass	2.48016G	1.21	-28.79	2.19435G	-55.02	2.4G	-32.23	2.4G	-32.03	2.5031G	-53.79	23.25371G	-40.84	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	2.47999G	1.32	-28.68	1.97228G	-55.09	2.39852G	-53.36	2.4G	-54.07	2.50002G	-53.15	16.93219G	-41.42	1
2440MHz	Pass	2.47999G	1.32	-28.68	900.68M	-54.51	2.3994G	-53.50	2.4G	-55.83	2.50002G	-54.01	16.92938G	-41.74	1
2480MHz	Pass	2.47999G	1.32	-28.68	685.65M	-55.36	2.39132G	-52.85	2.4G	-55.51	2.50114G	-52.89	17.63521G	-41.55	1
BT-LE(2Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.48016G	1.21	-28.79	2.19435G	-55.02	2.4G	-32.23	2.4G	-32.03	2.5031G	-53.79	23.25371G	-40.84	1
2440MHz	Pass	2.48016G	1.21	-28.79	2.03103G	-55.67	2.39628G	-53.56	2.4G	-56.91	2.50266G	-53.12	17.62115G	-41.27	1
2480MHz	Pass	2.48016G	1.21	-28.79	2.1779G	-55.64	2.4G	-52.84	2.4G	-57.11	2.50042G	-52.80	16.24605G	-40.83	1

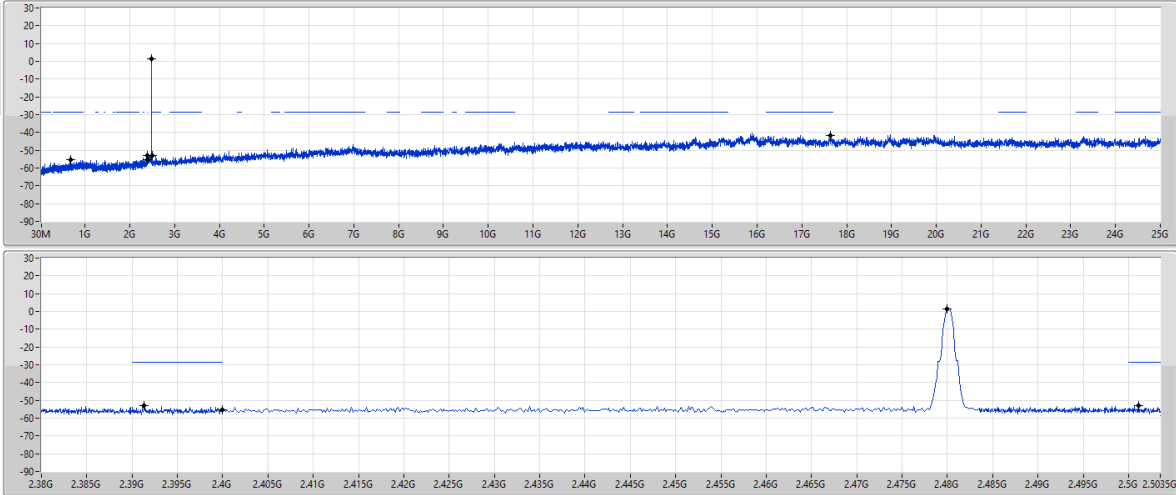
2.4-2.4835GHz_BT-LE(1Mbps)

CSEndB-DTS

2480MHz

03/04/2024

RBW (Hz)
100k
VBW (Hz)
300k
Detector
Peak



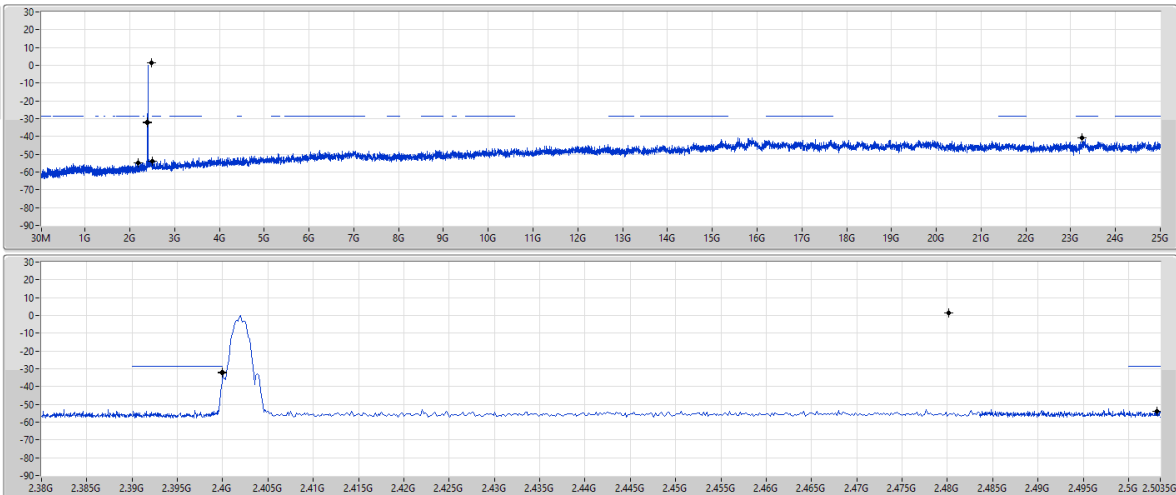
2.4-2.4835GHz_BT-LE(2Mbps)

CSEndB-DTS

2402MHz

03/04/2024

RBW (Hz)
100k
VBW (Hz)
300k
Detector
Peak





Summary

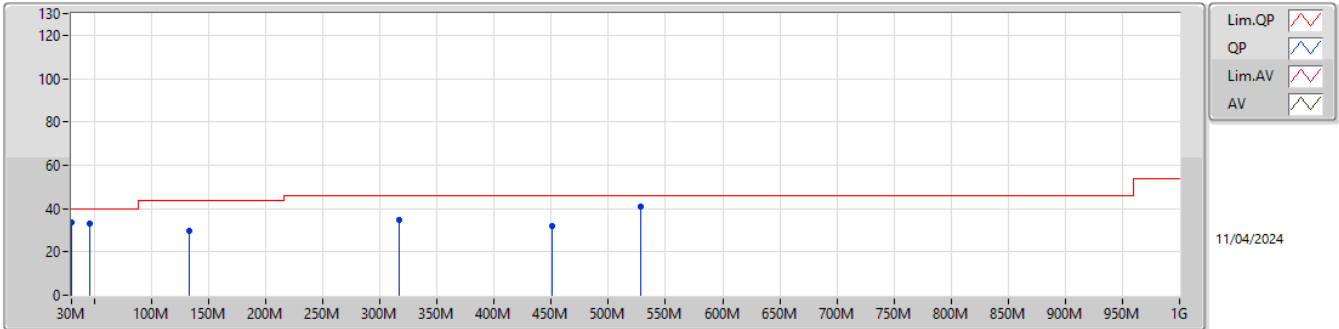
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-
BT-LE(2Mbps)	Pass	PK	311.3M	42.30	46.00	-3.70	3	Horizontal	0	1.00

Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)
BT-LE(2Mbps)	-	-	-	-	-	-	-	-	-	-
2440MHz	Pass	PK	30M	33.67	40.00	-6.33	3	Vertical	360	1.00
2440MHz	Pass	PK	45.52M	32.96	40.00	-7.04	3	Vertical	360	1.00
2440MHz	Pass	PK	132.82M	29.63	43.50	-13.87	3	Vertical	360	1.00
2440MHz	Pass	PK	317.12M	34.88	46.00	-11.12	3	Vertical	360	1.00
2440MHz	Pass	PK	450.98M	32.12	46.00	-13.88	3	Vertical	360	1.00
2440MHz	Pass	PK	528.58M	41.13	46.00	-4.87	3	Vertical	360	1.00
2440MHz	Pass	PK	138.64M	31.55	43.50	-11.95	3	Horizontal	0	1.00
2440MHz	Pass	PK	311.3M	42.30	46.00	-3.70	3	Horizontal	0	1.00
2440MHz	Pass	PK	367.56M	38.60	46.00	-7.40	3	Horizontal	0	1.00
2440MHz	Pass	PK	450.98M	38.59	46.00	-7.41	3	Horizontal	0	1.00
2440MHz	Pass	PK	528.58M	41.51	46.00	-4.49	3	Horizontal	0	1.00
2440MHz	Pass	PK	792.42M	38.13	46.00	-7.87	3	Horizontal	0	1.00

2.4-2.4835GHz_BT-LE(2Mbps)

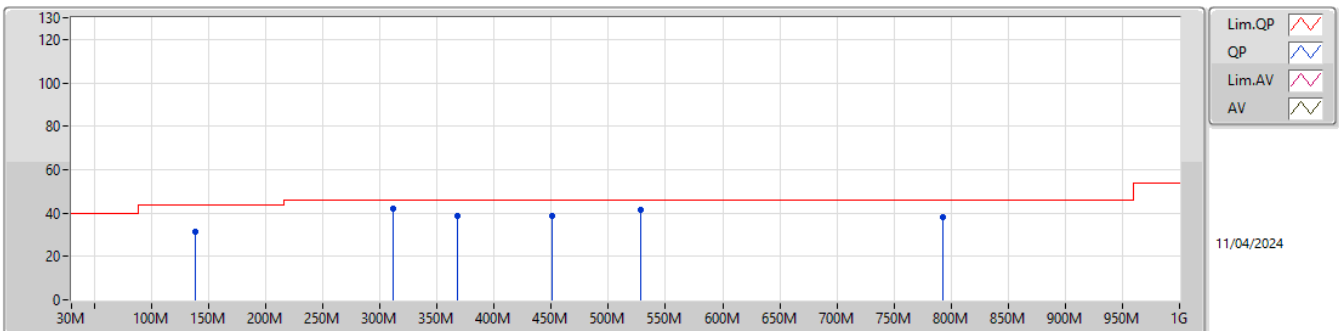
2440MHz_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
PK	30M	33.67	40.00	-6.33	-3.18	3	Vertical	360	1.00	36.85	23.49	0.92	27.59
PK	45.52M	32.96	40.00	-7.04	-11.20	3	Vertical	360	1.00	44.16	15.26	1.10	27.56
PK	132.82M	29.63	43.50	-13.87	-8.43	3	Vertical	360	1.00	38.06	16.99	1.90	27.32
PK	317.12M	34.88	46.00	-11.12	-5.31	3	Vertical	360	1.00	40.19	18.69	3.00	27.00
PK	450.98M	32.12	46.00	-13.88	-1.89	3	Vertical	360	1.00	34.01	22.29	3.62	27.80
PK	528.58M	41.13	46.00	-4.87	-0.80	3	Vertical	360	1.00	41.93	23.41	3.93	28.14

2.4-2.4835GHz_BT-LE(2Mbps)

2440MHz_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
PK	138.64M	31.55	43.50	-11.95	-8.65	3	Horizontal	0	1.00	40.20	16.71	1.94	27.30
PK	311.3M	42.30	46.00	-3.70	-5.40	3	Horizontal	0	1.00	47.70	18.62	2.97	26.99
PK	367.56M	38.60	46.00	-7.40	-3.94	3	Horizontal	0	1.00	42.54	20.02	3.24	27.20
PK	450.98M	38.59	46.00	-7.41	-1.89	3	Horizontal	0	1.00	40.48	22.29	3.62	27.80
PK	528.58M	41.51	46.00	-4.49	-0.80	3	Horizontal	0	1.00	42.31	23.41	3.93	28.14
PK	792.42M	38.13	46.00	-7.87	2.39	3	Horizontal	0	1.00	35.74	25.43	4.98	28.02



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	2.4984G	50.79	54.00	-3.21	3	Vertical	297	2.29
BT-LE(2Mbps)	Pass	AV	2.4996G	51.42	54.00	-2.58	3	Horizontal	194	1.03

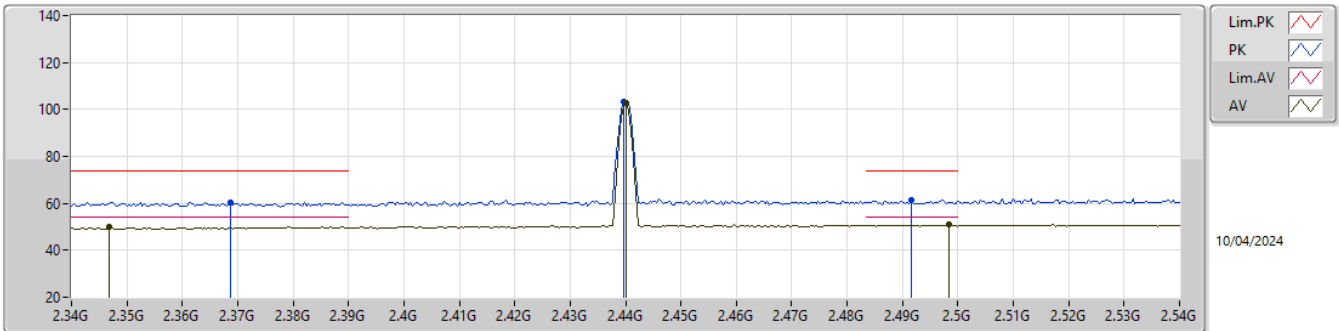
Result

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	2.3848G	50.01	54.00	-3.99	3	Vertical	289	1.85
2402MHz	Pass	AV	2.402G	99.53	Inf	-Inf	3	Vertical	289	1.85
2402MHz	Pass	PK	2.3528G	61.57	74.00	-12.43	3	Vertical	289	1.85
2402MHz	Pass	PK	2.4018G	100.49	Inf	-Inf	3	Vertical	289	1.85
2402MHz	Pass	AV	2.3718G	49.92	54.00	-4.08	3	Horizontal	11	1.15
2402MHz	Pass	AV	2.402G	93.10	Inf	-Inf	3	Horizontal	11	1.15
2402MHz	Pass	PK	2.3614G	60.92	74.00	-13.08	3	Horizontal	11	1.15
2402MHz	Pass	PK	2.4018G	94.08	Inf	-Inf	3	Horizontal	11	1.15
2402MHz	Pass	AV	4.80359G	40.83	54.00	-13.17	3	Vertical	260	2.24
2402MHz	Pass	PK	4.80365G	50.32	74.00	-23.68	3	Vertical	260	2.24
2402MHz	Pass	AV	4.80432G	35.73	54.00	-18.27	3	Horizontal	53	1.50
2402MHz	Pass	PK	4.80415G	46.92	74.00	-27.08	3	Horizontal	53	1.50
2440MHz	Pass	AV	2.3468G	49.84	54.00	-4.16	3	Vertical	297	2.29
2440MHz	Pass	AV	2.44G	102.51	Inf	-Inf	3	Vertical	297	2.29
2440MHz	Pass	AV	2.4984G	50.79	54.00	-3.21	3	Vertical	297	2.29
2440MHz	Pass	PK	2.3688G	60.59	74.00	-13.41	3	Vertical	297	2.29
2440MHz	Pass	PK	2.4396G	103.46	Inf	-Inf	3	Vertical	297	2.29
2440MHz	Pass	PK	2.4916G	61.29	74.00	-12.71	3	Vertical	297	2.29
2440MHz	Pass	AV	2.3592G	49.85	54.00	-4.15	3	Horizontal	11	1.00
2440MHz	Pass	AV	2.44G	94.60	Inf	-Inf	3	Horizontal	11	1.00
2440MHz	Pass	AV	2.4876G	50.77	54.00	-3.23	3	Horizontal	11	1.00
2440MHz	Pass	PK	2.3744G	60.57	74.00	-13.43	3	Horizontal	11	1.00
2440MHz	Pass	PK	2.4396G	95.55	Inf	-Inf	3	Horizontal	11	1.00
2440MHz	Pass	PK	2.498G	61.57	74.00	-12.43	3	Horizontal	11	1.00
2440MHz	Pass	AV	4.87966G	39.62	54.00	-14.38	3	Vertical	299	1.00
2440MHz	Pass	AV	7.32095G	42.05	54.00	-11.95	3	Vertical	345	2.04
2440MHz	Pass	PK	4.87954G	49.09	74.00	-24.91	3	Vertical	299	1.00
2440MHz	Pass	PK	7.31917G	53.06	74.00	-20.94	3	Vertical	345	2.04
2440MHz	Pass	AV	4.87969G	37.72	54.00	-16.28	3	Horizontal	248	2.08
2440MHz	Pass	AV	7.32086G	41.23	54.00	-12.77	3	Horizontal	310	1.23
2440MHz	Pass	PK	4.87926G	48.82	74.00	-25.18	3	Horizontal	248	2.08
2440MHz	Pass	PK	7.32133G	52.47	74.00	-21.53	3	Horizontal	310	1.23
2480MHz	Pass	AV	2.48G	100.17	Inf	-Inf	3	Vertical	304	1.16
2480MHz	Pass	AV	2.4954G	50.79	54.00	-3.21	3	Vertical	304	1.16
2480MHz	Pass	PK	2.4798G	101.12	Inf	-Inf	3	Vertical	304	1.16
2480MHz	Pass	PK	2.4878G	61.68	74.00	-12.32	3	Vertical	304	1.16
2480MHz	Pass	AV	2.48G	91.47	Inf	-Inf	3	Horizontal	192	1.04
2480MHz	Pass	AV	2.4994G	50.57	54.00	-3.43	3	Horizontal	192	1.04
2480MHz	Pass	PK	2.4802G	92.49	Inf	-Inf	3	Horizontal	192	1.04
2480MHz	Pass	PK	2.496G	61.83	74.00	-12.17	3	Horizontal	192	1.04
2480MHz	Pass	AV	4.95962G	39.42	54.00	-14.58	3	Vertical	283	1.10
2480MHz	Pass	AV	7.43953G	41.43	54.00	-12.57	3	Vertical	326	2.05
2480MHz	Pass	PK	4.95949G	49.46	74.00	-24.54	3	Vertical	283	1.10
2480MHz	Pass	PK	7.43976G	52.09	74.00	-21.91	3	Vertical	326	2.05
2480MHz	Pass	AV	4.96G	37.38	54.00	-16.62	3	Horizontal	243	2.05
2480MHz	Pass	AV	7.43791G	40.61	54.00	-13.39	3	Horizontal	79	1.50
2480MHz	Pass	PK	4.95929G	48.32	74.00	-25.68	3	Horizontal	243	2.05
2480MHz	Pass	PK	7.43981G	52.47	74.00	-21.53	3	Horizontal	79	1.50
BT-LE(2Mbps)	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	AV	2.39G	50.66	54.00	-3.34	3	Vertical	305	1.84
2402MHz	Pass	AV	2.402G	99.23	Inf	-Inf	3	Vertical	305	1.84
2402MHz	Pass	PK	2.3552G	60.05	74.00	-13.95	3	Vertical	305	1.84
2402MHz	Pass	PK	2.4016G	101.26	Inf	-Inf	3	Vertical	305	1.84
2402MHz	Pass	AV	2.3808G	50.37	54.00	-3.63	3	Horizontal	7	1.15
2402MHz	Pass	AV	2.402G	90.80	Inf	-Inf	3	Horizontal	7	1.15
2402MHz	Pass	PK	2.3634G	60.03	74.00	-13.97	3	Horizontal	7	1.15
2402MHz	Pass	PK	2.4016G	92.85	Inf	-Inf	3	Horizontal	7	1.15
2402MHz	Pass	AV	4.80303G	40.79	54.00	-13.21	3	Vertical	263	2.26
2402MHz	Pass	PK	4.80492G	49.77	74.00	-24.23	3	Vertical	263	2.26
2402MHz	Pass	AV	4.80517G	38.71	54.00	-15.29	3	Horizontal	270	2.34

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)
2402MHz	Pass	PK	4.80498G	47.89	74.00	-26.11	3	Horizontal	270	2.34
2440MHz	Pass	AV	2.3712G	50.50	54.00	-3.50	3	Vertical	293	2.30
2440MHz	Pass	AV	2.44G	99.86	Inf	-Inf	3	Vertical	293	2.30
2440MHz	Pass	AV	2.496G	51.23	54.00	-2.77	3	Vertical	293	2.30
2440MHz	Pass	PK	2.3788G	59.74	74.00	-14.26	3	Vertical	293	2.30
2440MHz	Pass	PK	2.4396G	101.91	Inf	-Inf	3	Vertical	293	2.30
2440MHz	Pass	PK	2.4892G	60.97	74.00	-13.03	3	Vertical	293	2.30
2440MHz	Pass	AV	2.3604G	50.24	54.00	-3.76	3	Horizontal	8	1.00
2440MHz	Pass	AV	2.44G	92.05	Inf	-Inf	3	Horizontal	8	1.00
2440MHz	Pass	AV	2.4948G	51.41	54.00	-2.59	3	Horizontal	8	1.00
2440MHz	Pass	PK	2.3416G	60.24	74.00	-13.76	3	Horizontal	8	1.00
2440MHz	Pass	PK	2.4396G	94.10	Inf	-Inf	3	Horizontal	8	1.00
2440MHz	Pass	PK	2.4968G	60.73	74.00	-13.27	3	Horizontal	8	1.00
2440MHz	Pass	AV	4.87906G	40.80	54.00	-13.20	3	Vertical	299	1.00
2440MHz	Pass	AV	7.32053G	42.87	54.00	-11.13	3	Vertical	9	1.48
2440MHz	Pass	PK	4.88114G	49.25	74.00	-24.75	3	Vertical	299	1.00
2440MHz	Pass	PK	7.32074G	52.84	74.00	-21.16	3	Vertical	9	1.48
2440MHz	Pass	AV	4.87907G	38.49	54.00	-15.51	3	Horizontal	74	1.50
2440MHz	Pass	AV	7.32118G	43.43	54.00	-10.57	3	Horizontal	194	1.48
2440MHz	Pass	PK	4.87977G	48.00	74.00	-26.00	3	Horizontal	74	1.50
2440MHz	Pass	PK	7.319G	53.09	74.00	-20.91	3	Horizontal	194	1.48
2480MHz	Pass	AV	2.48G	97.95	Inf	-Inf	3	Vertical	304	1.15
2480MHz	Pass	AV	2.497G	51.41	54.00	-2.59	3	Vertical	304	1.15
2480MHz	Pass	PK	2.4796G	99.96	Inf	-Inf	3	Vertical	304	1.15
2480MHz	Pass	PK	2.4892G	60.84	74.00	-13.16	3	Vertical	304	1.15
2480MHz	Pass	AV	2.48G	89.76	Inf	-Inf	3	Horizontal	194	1.03
2480MHz	Pass	AV	2.4996G	51.42	54.00	-2.58	3	Horizontal	194	1.03
2480MHz	Pass	PK	2.4804G	91.84	Inf	-Inf	3	Horizontal	194	1.03
2480MHz	Pass	PK	2.4864G	60.90	74.00	-13.10	3	Horizontal	194	1.03
2480MHz	Pass	AV	4.9592G	41.06	54.00	-12.94	3	Vertical	270	2.11
2480MHz	Pass	AV	7.44138G	42.79	54.00	-11.21	3	Vertical	73	1.50
2480MHz	Pass	PK	4.95914G	49.62	74.00	-24.38	3	Vertical	270	2.11
2480MHz	Pass	PK	7.43899G	51.87	74.00	-22.13	3	Vertical	73	1.50
2480MHz	Pass	AV	4.95942G	38.13	54.00	-15.87	3	Horizontal	117	1.50
2480MHz	Pass	AV	7.43857G	42.59	54.00	-11.41	3	Horizontal	335	1.50
2480MHz	Pass	PK	4.96022G	48.06	74.00	-25.94	3	Horizontal	117	1.50
2480MHz	Pass	PK	7.43911G	52.42	74.00	-21.58	3	Horizontal	335	1.50

2.4-2.4835GHz_BT-LE(1Mbps)

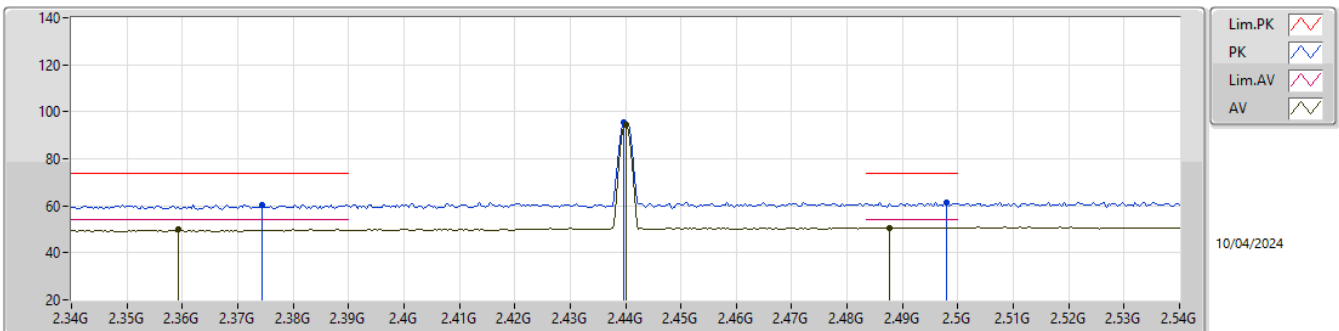
2440MHz_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.3468G	49.84	54.00	-4.16	32.65	3	Vertical	297	2.29	17.19	27.29	5.36	-
AV	2.44G	102.51	Inf	-Inf	33.14	3	Vertical	297	2.29	69.37	27.68	5.46	-
AV	2.4984G	50.79	54.00	-3.21	33.52	3	Vertical	297	2.29	17.27	27.99	5.53	-
PK	2.3688G	60.59	74.00	-13.41	32.79	3	Vertical	297	2.29	27.80	27.41	5.38	-
PK	2.4396G	103.46	Inf	-Inf	33.14	3	Vertical	297	2.29	70.32	27.68	5.46	-
PK	2.4916G	61.29	74.00	-12.71	33.47	3	Vertical	297	2.29	27.82	27.95	5.52	-

2.4-2.4835GHz_BT-LE(1Mbps)

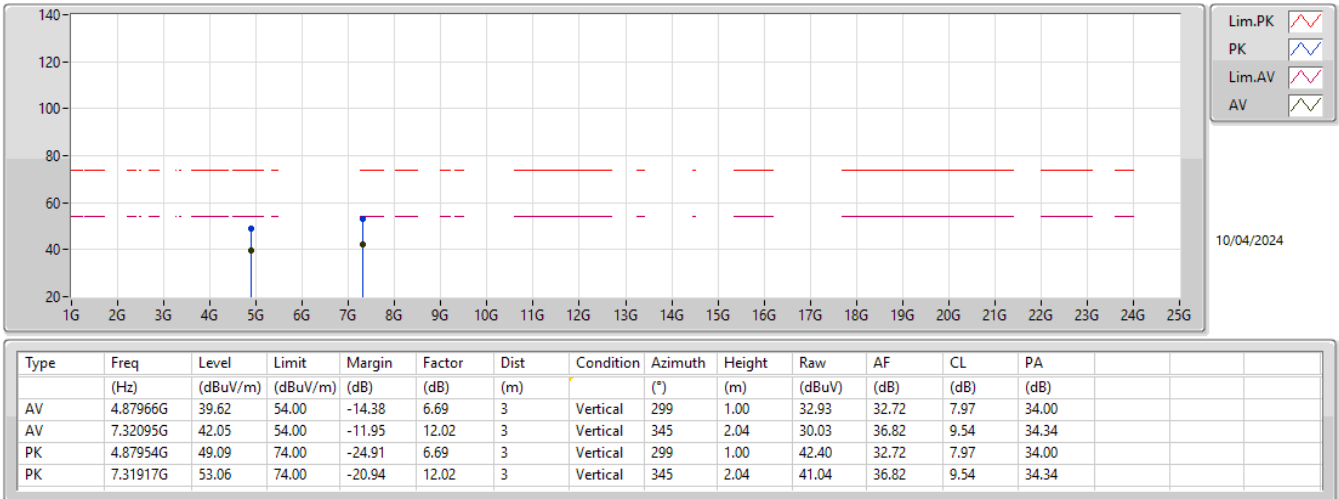
2440MHz_TX



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	2.3592G	49.85	54.00	-4.15	32.73	3	Horizontal	11	1.00	17.12	27.36	5.37	-
AV	2.44G	94.60	Inf	-Inf	33.14	3	Horizontal	11	1.00	61.46	27.68	5.46	-
AV	2.4876G	50.77	54.00	-3.23	33.45	3	Horizontal	11	1.00	17.32	27.93	5.52	-
PK	2.3744G	60.57	74.00	-13.43	32.84	3	Horizontal	11	1.00	27.73	27.45	5.39	-
PK	2.4396G	95.55	Inf	-Inf	33.14	3	Horizontal	11	1.00	62.41	27.68	5.46	-
PK	2.498G	61.57	74.00	-12.43	33.52	3	Horizontal	11	1.00	28.05	27.99	5.53	-

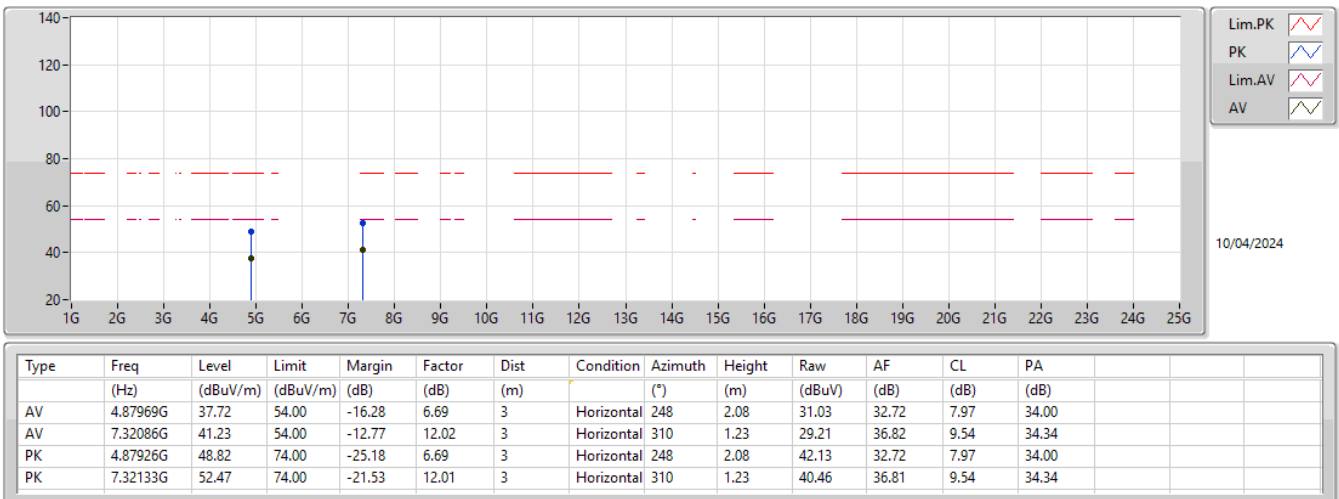
2.4-2.4835GHz_BT-LE(1Mbps)

2440MHz_TX



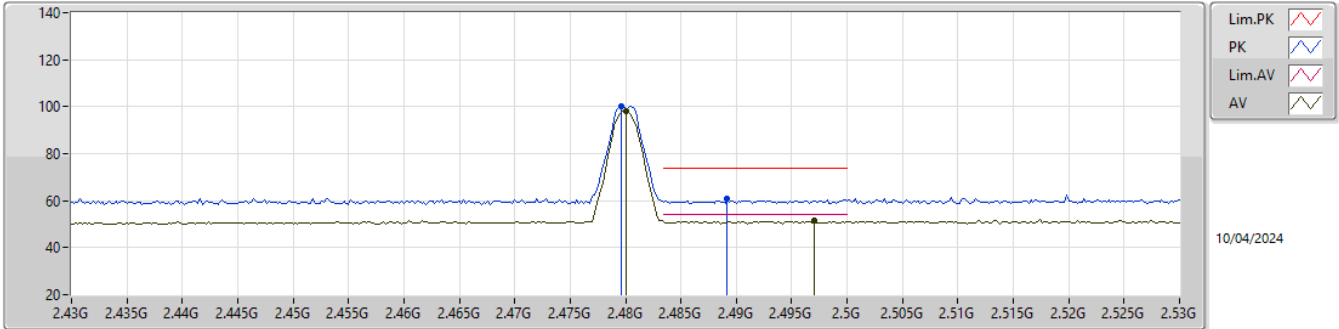
2.4-2.4835GHz_BT-LE(1Mbps)

2440MHz_TX



2.4-2.4835GHz_BT-LE(2Mbps)

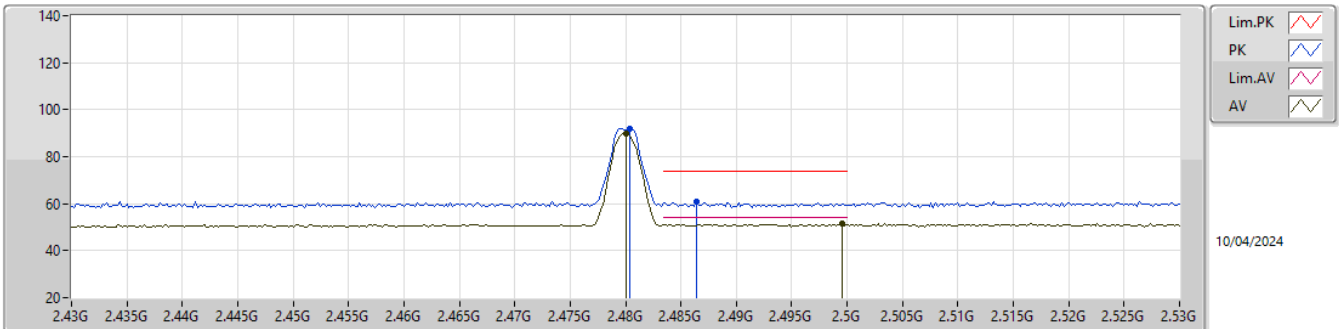
2480MHz_TX



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	97.95	Inf	-Inf	33.39	3	Vertical	304	1.15	64.56	27.88	5.51	-
AV	2.497G	51.41	54.00	-2.59	33.51	3	Vertical	304	1.15	17.90	27.98	5.53	-
PK	2.4796G	99.96	Inf	-Inf	33.39	3	Vertical	304	1.15	66.57	27.88	5.51	-
PK	2.4892G	60.84	74.00	-13.16	33.46	3	Vertical	304	1.15	27.38	27.94	5.52	-

2.4-2.4835GHz_BT-LE(2Mbps)

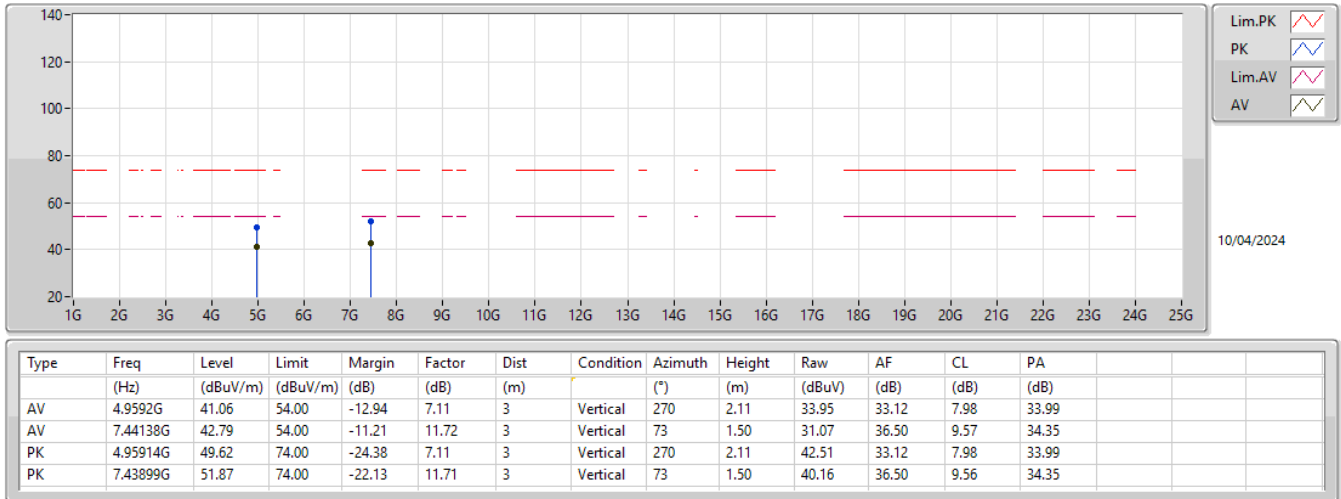
2480MHz_TX



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	89.76	Inf	-Inf	33.39	3	Horizontal	194	1.03	56.37	27.88	5.51	-
AV	2.4996G	51.42	54.00	-2.58	33.53	3	Horizontal	194	1.03	17.89	28.00	5.53	-
PK	2.4804G	91.84	Inf	-Inf	33.39	3	Horizontal	194	1.03	58.45	27.88	5.51	-
PK	2.4864G	60.90	74.00	-13.10	33.44	3	Horizontal	194	1.03	27.46	27.92	5.52	-

2.4-2.4835GHz_BT-LE(2Mbps)

2480MHz_TX



2.4-2.4835GHz_BT-LE(2Mbps)

2480MHz_TX

