

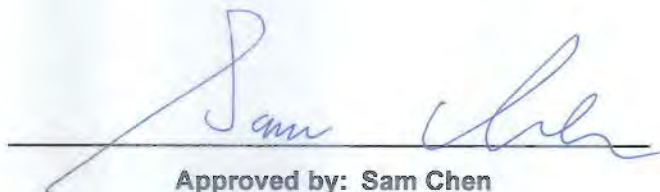


FCC RADIO TEST REPORT

FCC ID : K7S-03689
Equipment : AX6600 Tri-band Mesh Router
Brand Name : LINKSYS
Model Name : MR7500, MR75WH
Applicant : Belkin International, Inc.
12045 East Waterfront Dr. Playa Vista CA United
States Zip code: 90094
Standard : 47 CFR FCC Part 15.247

The product was received on Dec. 07, 2020, and testing was started from Dec. 07, 2020 and completed on Feb. 05, 2021. 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: Sam Chen

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 : 886-3-656-9065
FAX : 886-3-656-9085
Report Template No.: CB-A10_6 Ver1.2

Page Number : 3 of 31
Issued Date : Feb. 26, 2021
Report Version : 01



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:

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

Reviewed by: Sam Chen

Report Producer: Sandy Chuang



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
2400-2483.5	BT-LE(1Mbps)	1	1

Note:

- ♦ Bluetooth LE uses a GFSK modulation.
- ♦ BWch is the nominal channel bandwidth.

**1.1.2 Antenna Information**

Ant.	Port	Brand Holder	Model Name	Antenna Type	Connector	Gain (dBi)
1	1	Signal Plus Technology Co., Ltd	6239F00003	Dipole	I-PEX	Note 1
2	2	Signal Plus Technology Co., Ltd	6239F00004	Dipole	I-PEX	
3	1	Signal Plus Technology Co., Ltd	6239F00001	Dipole	I-PEX	
4	2	Signal Plus Technology Co., Ltd	6239F00001	Dipole	I-PEX	
5	3	Signal Plus Technology Co., Ltd	6239F00002	Dipole	I-PEX	
6	4	Signal Plus Technology Co., Ltd	6239F00002	Dipole	I-PEX	
7	1	Signal Plus Technology Co., Ltd	6239F00005	PIFA	N/A	

Note 1:

Ant.	Port	Gain (dBi)							Bluetooth
		WLAN 2.4GHz	WLAN 5GHz		WLAN 6GHz				
			UNII 1	UNII 3	UNII 5	UNII 6	UNII 7	UNII 8	
1	1	1.61	2.12	2.08	-	-	-	-	-
2	2	1.65	2.12	2.08	-	-	-	-	-
3	1	-	-	-	2.75	2.83	2.83	2.98	-
4	2	-	-	-	1.72	2.15	2.15	2.37	-
5	3	-	-	-	2.02	2.21	2.21	2.55	-
6	4	-	-	-	2.42	2.54	2.54	2.73	-
7	1	-	-	-	-	-	-	-	4

Note 2: The above information was declared by manufacturer.

<For WLAN 2.4GHz >**For IEEE 802.11b/g/n/VHT/ax mode (2TX/2RX)**

Port 1 and Port 2 can be used as transmitting/receiving antenna.

Port 1 and Port 2 could transmit/receive simultaneously.

<For WLAN 5GHz Band UNII 1/UNII 3>**For IEEE 802.11a/n/ac/ax mode (2TX/2RX)**

Port 1 and Port 2 can be used as transmitting/receiving antenna.

Port 1 and Port 2 could transmit/receive simultaneously.

<For WLAN 6GHz Band UNII 5~UNII 8>**For IEEE 802.11ax mode (4TX/4RX)**

Port 1, Port 2, Port 3 and Port 4 can be used as transmitting/receiving antenna.

Port 1, Port 2, Port 3 and Port 4 could transmit/receive simultaneously.

<For Bluetooth> (1TX/1RX)

Only Port 1 can be used as transmitting/receiving.

**1.1.3 Mode Test Duty Cycle**

Mode	DC	DCF(dB)	T(s)	VBW(Hz) $\geq 1/T$
BT-LE(1Mbps)	0.619	2.08	405u	3k

Note:

- ♦ DC is Duty Cycle.
- ♦ DCF is Duty Cycle Factor.

1.1.4 EUT Operational Condition

EUT Power Type	From Power Adapter			
Function	☒	Point-to-multipoint	☐	Point-to-point
Test Software Version	BlueTest3 V2.6.2.632			
Support Mode	☒	LE 1M PHY: 1 Mb/s		
	☐	LE Coded PHY (S=2): 500 Kb/s		
	☐	LE Coded PHY (S=8): 125 Kb/s		
	☐	LE 2M PHY: 2 Mb/s		

Note: The above information was declared by manufacturer.

1.1.5 Table for Multiple Listing

Model No.	Description
MR7500, MR75WH	All the model names are identical, the difference model names served as marketing strategy.

Note 1: Model Name: MR7500 was selected as representative model for the test and its data was recorded in this report.

Note 2: The above information was declared by manufacturer.



1.2 Applicable 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.

- ♦ FCC KDB 558074 D01 v05r02
- ♦ FCC 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
☒	JHUBEI	ADD : No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County 302, Taiwan (R.O.C.)	TEL : 886-3-656-9065	FAX : 886-3-656-9085

Test Condition	Test Site No.	Test Engineer	Test Environment (°C / %)	Test Date
RF Conducted	TH01-CB	Jeff Wu	24.1-25.9 / 55-56	Dec. 25, 2020~ Jan. 26, 2021
Radiated (Above 1GHz)	03CH03-CB	Bruce Yang	21.9-23.1 / 56-58	Dec. 07, 2020~ Feb. 05, 2021
Radiated (Below 1GHz: Mode 1~Mode 5)	03CH05-CB	Bruce Yang	21.1-22.3 / 56-58	Dec. 07, 2020~ Feb. 05, 2021
Radiated (Below 1GHz: Mode 6)	03CH03-CB	Bruce Yang	22.3-23.3 / 56-58	Dec. 07, 2020~ Feb. 05, 2021
AC Conduction	CO01-CB	Peter Wu	22~23 / 62~64	Jan. 28, 2021

Test site Designation No. TW0006 with FCC.

Test site registered number IC 4086D with Industry Canada.



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)	2.0 dB	Confidence levels of 95%
Radiated Emission (9kHz ~ 30MHz)	3.8 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	5.6 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	5.0 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	4.9 dB	Confidence levels of 95%
Conducted Emission	2.8 dB	Confidence levels of 95%
Output Power Measurement	1.4 dB	Confidence levels of 95%
Power Density Measurement	2.8 dB	Confidence levels of 95%
Bandwidth Measurement	0.4%	Confidence levels of 95%



2 Test Configuration of EUT

2.1 Test Channel Mode

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	AC power-line conducted emissions
Condition	AC power-line conducted measurement for line and neutral
Operating Mode	Normal Link
1	EUT with Adapter 1
2	EUT with Adapter 2
3	EUT with Adapter 3
For operating mode 2 is the worst case and it was record in this test report.	

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
The EUT was performed at Y axis and Z axis position for Radiated measurement<Above 1GHz>, and the worst case was found at Z axis position for 2.4GHz 、5GHz UNII 1/UNII 3 、Bluetooth and Y axis position for 6GHz UNII 5~UNII 8.	
1	EUT + Bluetooth with Adapter 1 in Z axis
2	EUT + Bluetooth with Adapter 2 in Z axis
3	EUT + Bluetooth with Adapter 3 in Z axis
Mode 1 has been evaluated to be the worst case among Mode 1~3, thus measurement for Mode 4 ~ 6 will follow this same test mode.	
4	EUT + WLAN 2.4GHz with Adapter 1 in Z axis
5	EUT + WLAN 5GHz UNII 1/UNII 3 with Adapter 1 in Z axis
6	EUT + WLAN 6GHz UNII 5~UNII 8 with Adapter 1 in Y axis
For operating mode 1 is the worst case and it was record in this test report.	
Operating Mode > 1GHz	CTX
The EUT was performed at Y axis and Z axis position. The worst case was found at Z axis, thus the measurement will follow this same test configuration.	

The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis - Co-location RF Exposure Evaluation
Operating Mode	
1	WLAN 2.4GHz + WLAN 5GHz UNII 1/UNII 3 + WLAN 6GHz UNII 5~UNII 8 + Bluetooth
Refer to Sporton Test Report No.: FA0D0129 for Co-location RF Exposure Evaluation.	

2.3 EUT Operation during Test

For CTX Mode:

The EUT was programmed to be in continuously transmitting mode.

For Normal Link Mode:

During the test, the EUT operation to normal function.



2.4 Accessories

Accessories			
Equipment Name	Brand Name	Model Name	Rating
Adapter 1	KTEC	KSA-36W-120300HU	Input: 100-240V~50/60Hz 1.0A Output: 12.0V, 3.0A
Adapter 2	APD	WA-36N12FU	Input: 100-240V~, 50-60Hz 0.9A Max. Output: 12V, 3A
Adapter 3 (Interchangeable)	KTEC	KSA-36W-120300D5	Input: 100-240V~50/60Hz 1.0A Output: 12.0V, 3.0A, 36.0W
Other			
Plug*1 (Use for Adapter 3)			
RJ-45 cable*1: Non-Shielded, 0.9m			

2.5 Support Equipment

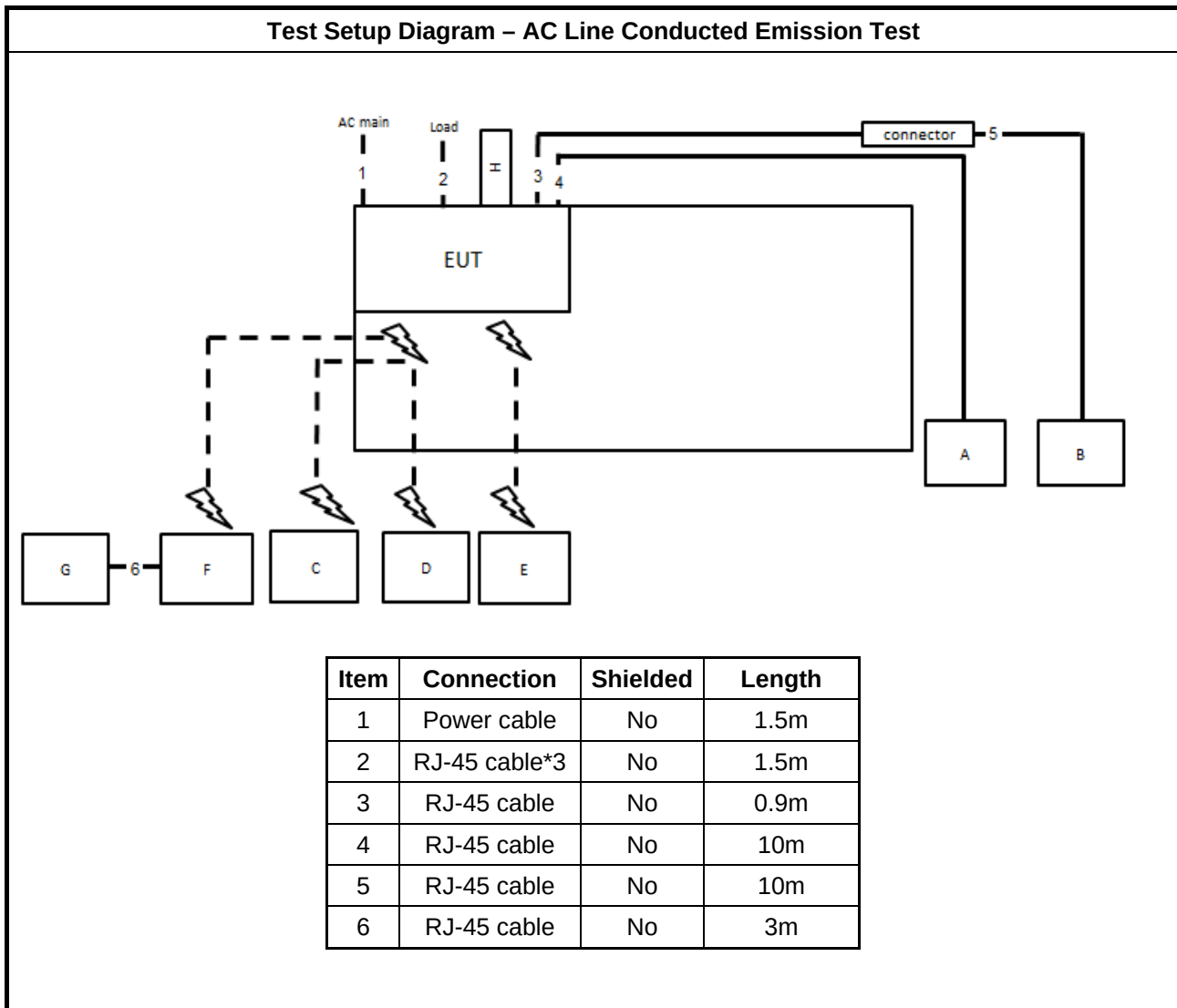
For AC Conduction:

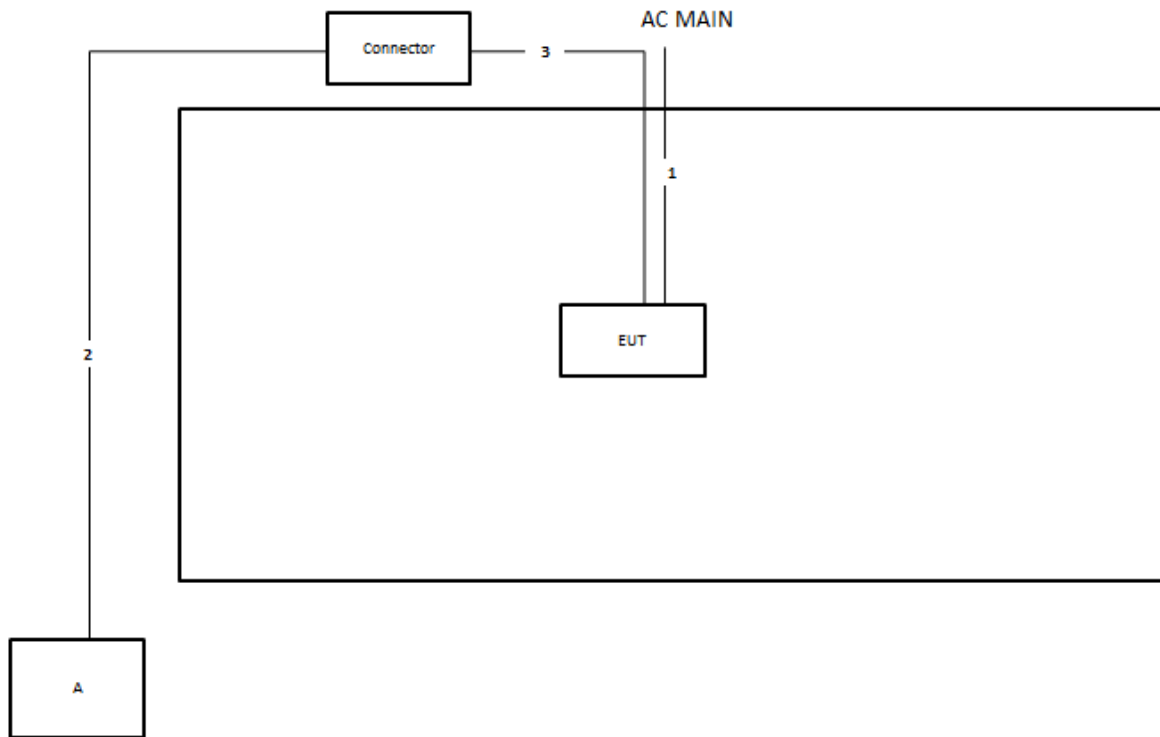
Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	LAN1 NB	DELL	E6430	N/A
B	WAN PC	DELL	T3400	N/A
C	2.4G NB	DELL	E6430	N/A
D	5G NB	Apple	A1278	N/A
E	Smart phone	Samsung	Galaxy J2	N/A
F	WiFi 6E Client	LINKSYS	Divo	N/A
G	WiFi 6E Client NB	DELL	E6430	N/A
H	Flash disk3.0	Transcend	JetFlash-700	N/A

For Radiated and RF Conducted:

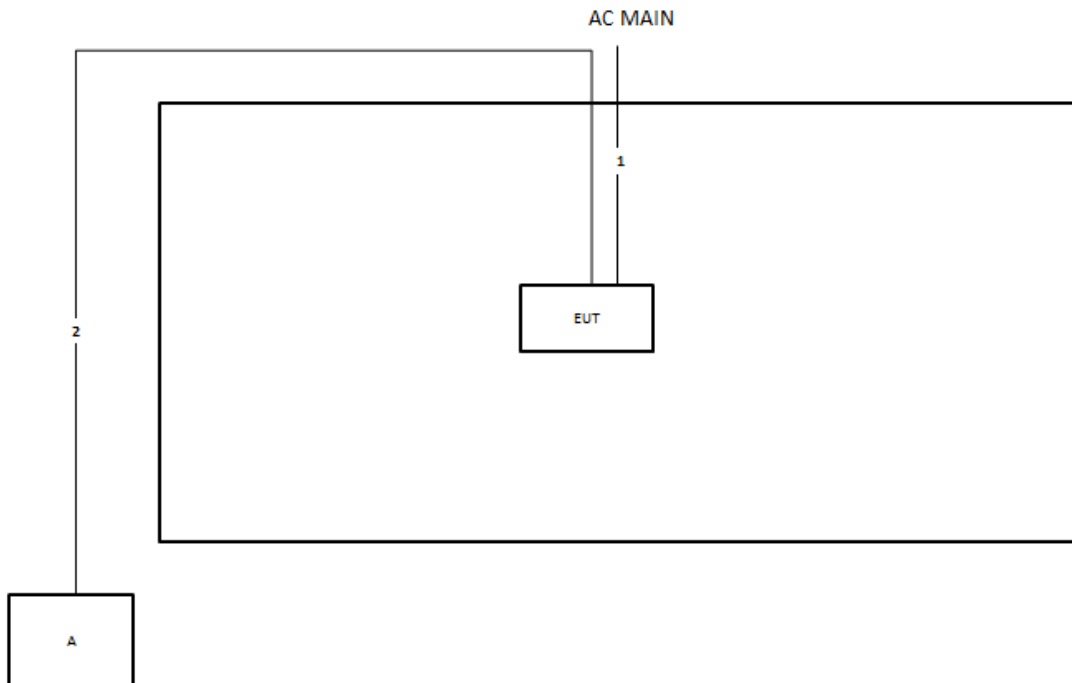
Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	NB	DELL	E4300	N/A

2.6 Test Setup Diagram



Test Setup Diagram - Radiated Test < 1GHz


Item	Connection	Shielded	Length
1	Power cable	No	1.5m
2	RJ-45 cable	No	10m
3	RJ-45 cable	No	0.9m

Test Setup Diagram - Radiated Test > 1GHz


Item	Connection	Shielded	Length
1	Power cable	No	1.5m
2	RJ-45 cable	No	10m



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.

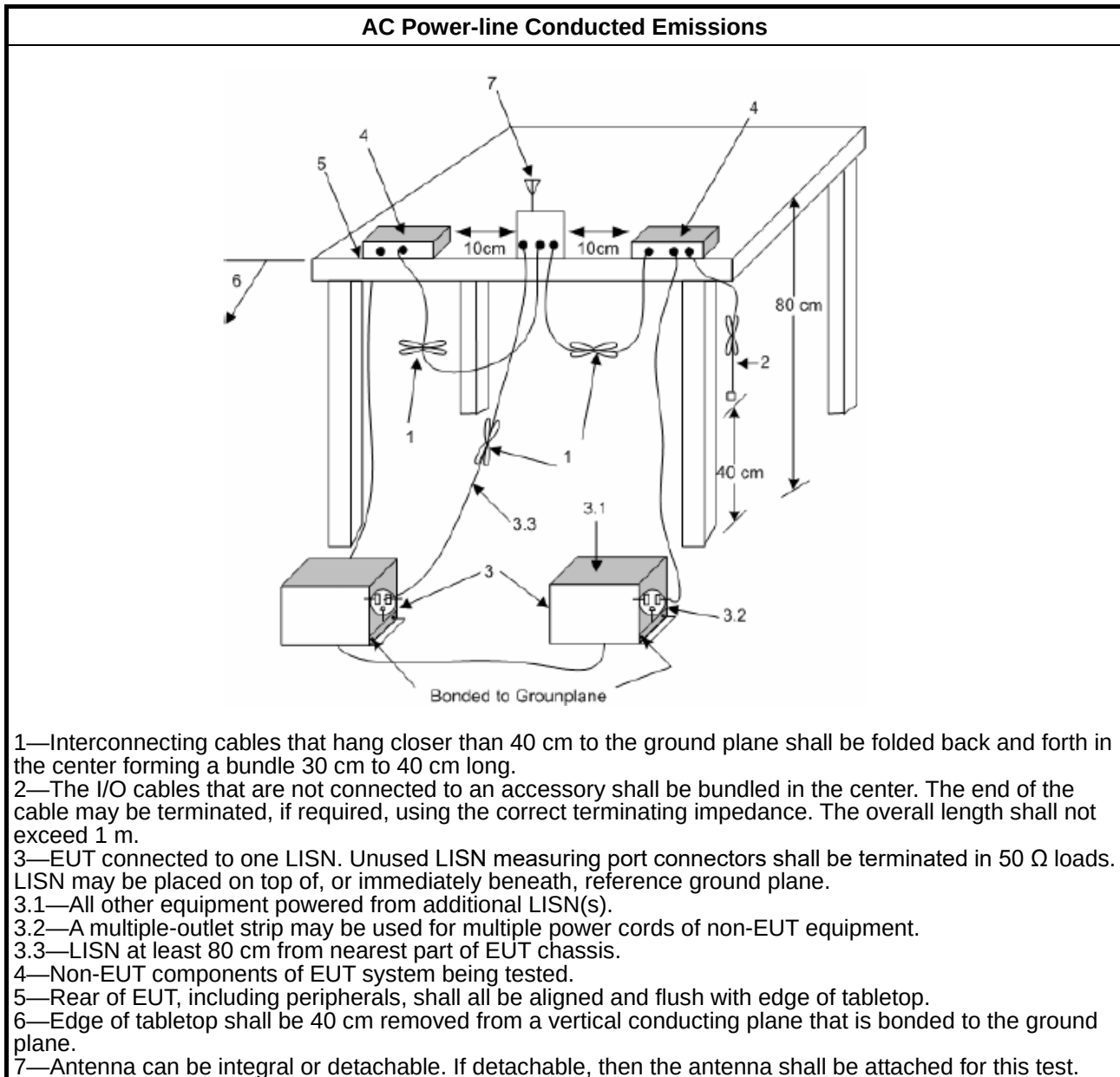
3.1.2 Measuring Instruments

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 for AC power-line conducted emissions.

3.1.4 Test Setup



1.1.1. Measurement Results Calculation

The measured Level is calculated using:

- Corrected Reading: LISN Factor (LISN) + Attenuator (AT/AUX) + Cable Loss (CL) + Read Level (Raw) = Level
- Margin = -Limit + Level

3.1.5 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.

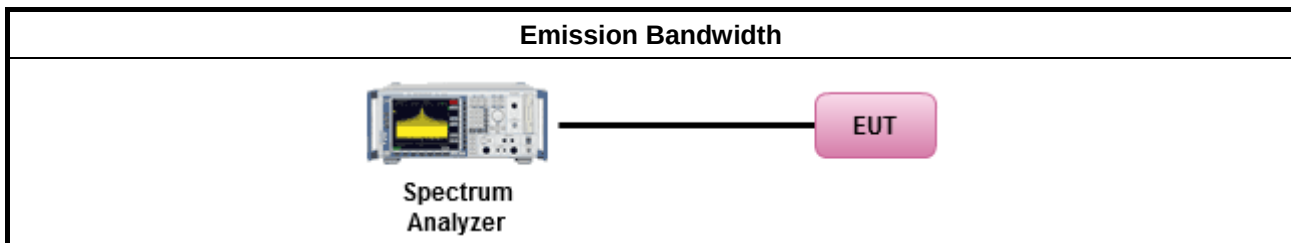
3.2.2 Measuring Instruments

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 FCC KDB 558074, clause 8.2 & C63.10 clause 11.8.1 Option 1 for 6 dB bandwidth measurement.
☐	Refer as FCC KDB 558074, clause 8.2 & C63.10 clause 11.8.2 Option 2 for 6 dB bandwidth measurement.
☐	Refer as ANSI C63.10, clause 6.9.1 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
P_{Out} = maximum peak conducted output power or maximum conducted output power in dBm, G_{TX} = the maximum transmitting antenna directional gain in dBi.	

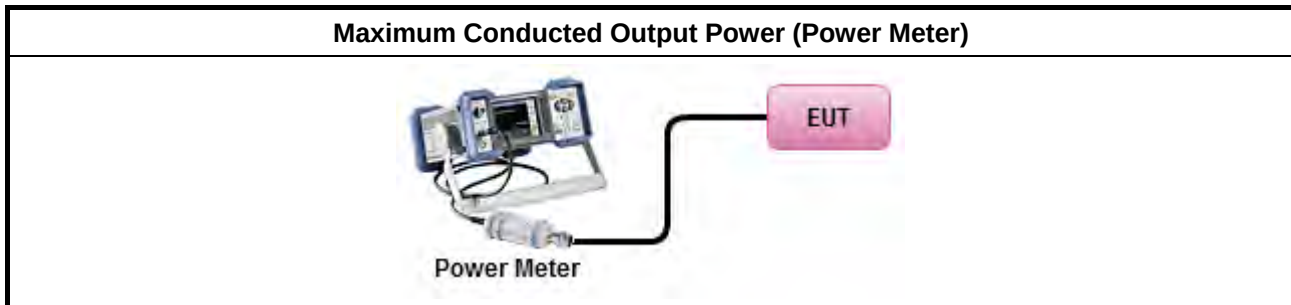
3.3.2 Measuring Instruments

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 FCC KDB 558074, clause 8.3.1.1 & C63.10 clause 11.9.1.1 (RBW ≥ EBW method).
☐	Refer as FCC KDB 558074, clause 8.3.1.3 & C63.10 clause 11.9.1.3 (peak power meter).
Maximum Conducted Output Power	
[duty cycle ≥ 98% or external video / power trigger]	
☐	Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.2 Method AVGSA-1.
☐	Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.3 Method AVGSA-1A. (alternative)
duty cycle < 98% and average over on/off periods with duty factor	
☐	Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.4 Method AVGSA-2.
☐	Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.5 Method AVGSA-2A (alternative)
☐	Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.6 Method AVGSA-3
☐	Refer as FCC KDB 558074, clause 8.3.2.2 & C63.10 clause 11.9.2.2.7 Method AVGSA-3A (alternative)
Measurement using a power meter (PM)	
☐	Refer as FCC KDB 558074, clause 8.3.2.3 & C63.10 clause 11.9.2.3.1 Method AVGPM (using an RF average power meter).
☒	Refer as FCC KDB 558074, clause 8.3.2.3 & C63.10 clause 11.9.2.3.2 Method AVGPM-G (using an gate RF average power meter).
For conducted measurement.	
If the EUT supports multiple transmit chains using options given below: Refer as FCC 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

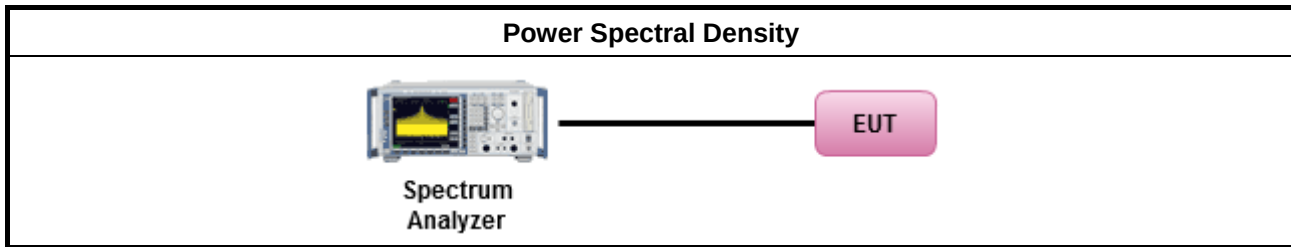
3.4.2 Measuring Instruments

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 FCC KDB 558074, clause 8.4 & C63.10 clause 11.10 Method Max. PSD. [duty cycle $\geq 98\%$ or external video / power trigger]
▪ For conducted measurement.	
▪ If The EUT supports multiple transmit chains using options given below:	
☐	Option 1: Measure and sum the spectra across the outputs. Refer as FCC 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.
☐	Option 2: Measure and sum spectral maxima across the outputs. With this technique, spectra are measured at each output of the device at the required resolution bandwidth. The maximum value (peak) of each spectrum is determined. These maximum values are then summed mathematically in linear power units across the outputs. These operations shall be performed separately over frequency spans that have different out-of-band or spurious emission limits,
☐	Option 3: Measure and add $10 \log(N)$ dB, where N is the number of transmit chains. Refer as FCC KDB 662911, In-band power spectral density (PSD). Performed at each transmit chains and each transmit chains shall be compared with the limit have been reduced with $10 \log(N)$. Or each transmit chains shall be add $10 \log(N)$ to compared with the limit.

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 (dBc)
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 PSD 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 PSD level.	

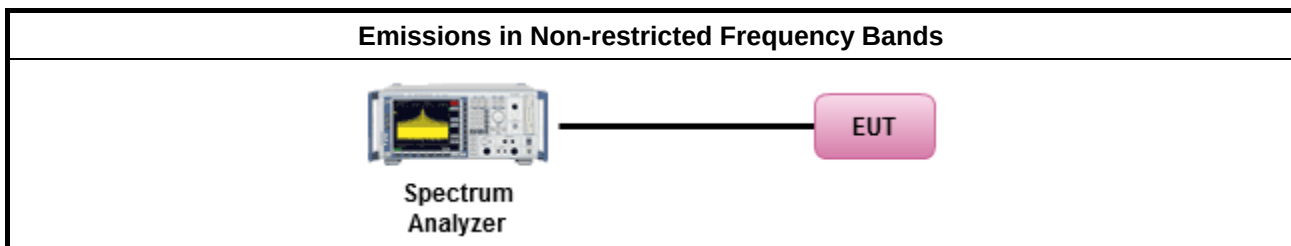
3.5.2 Measuring Instruments

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

3.5.3 Test Procedures

Test Method
Refer as FCC KDB 558074, clause 8.5 for unwanted emissions into non-restricted 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

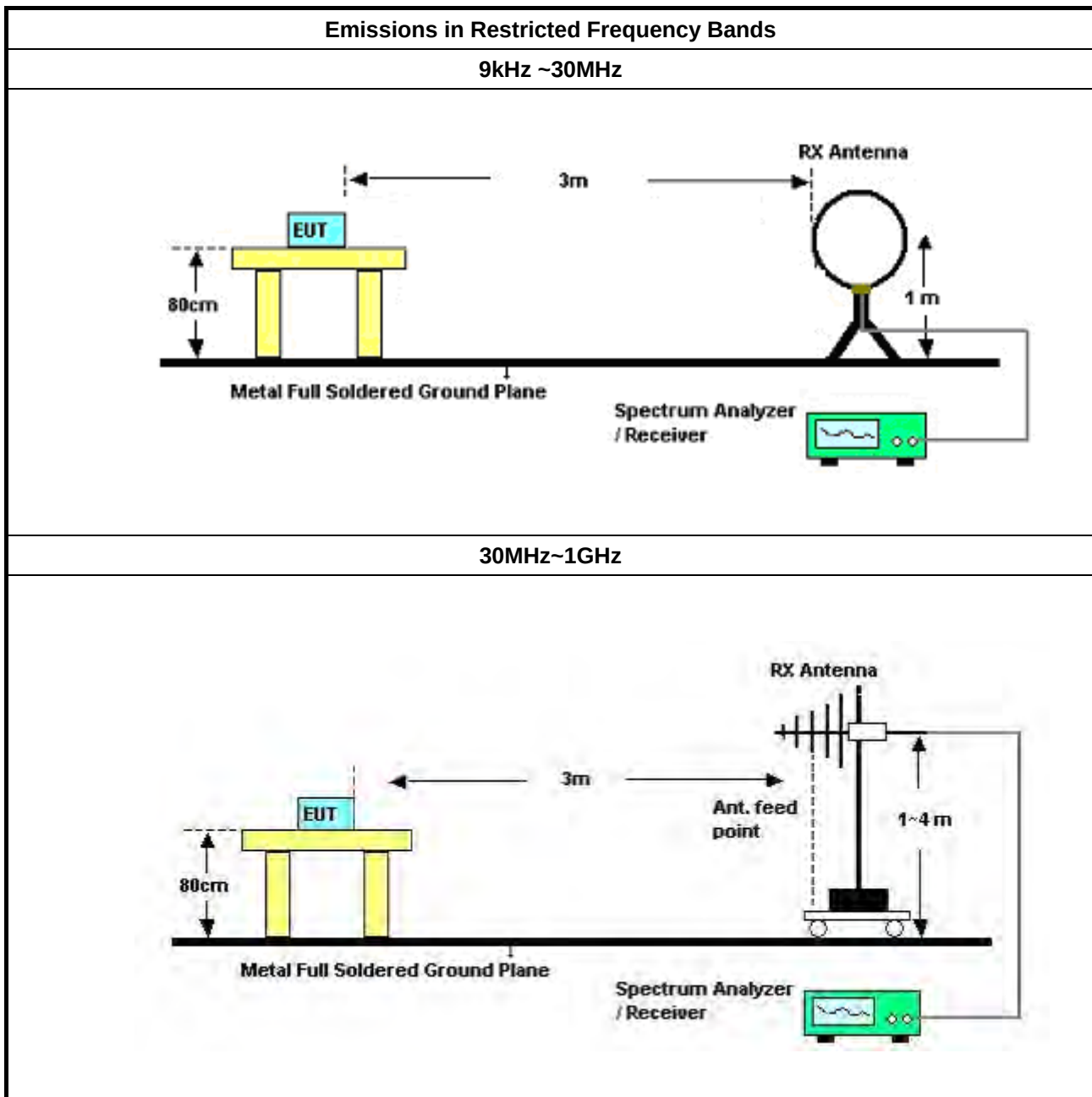
Refer a test equipment and calibration data table in this test report.

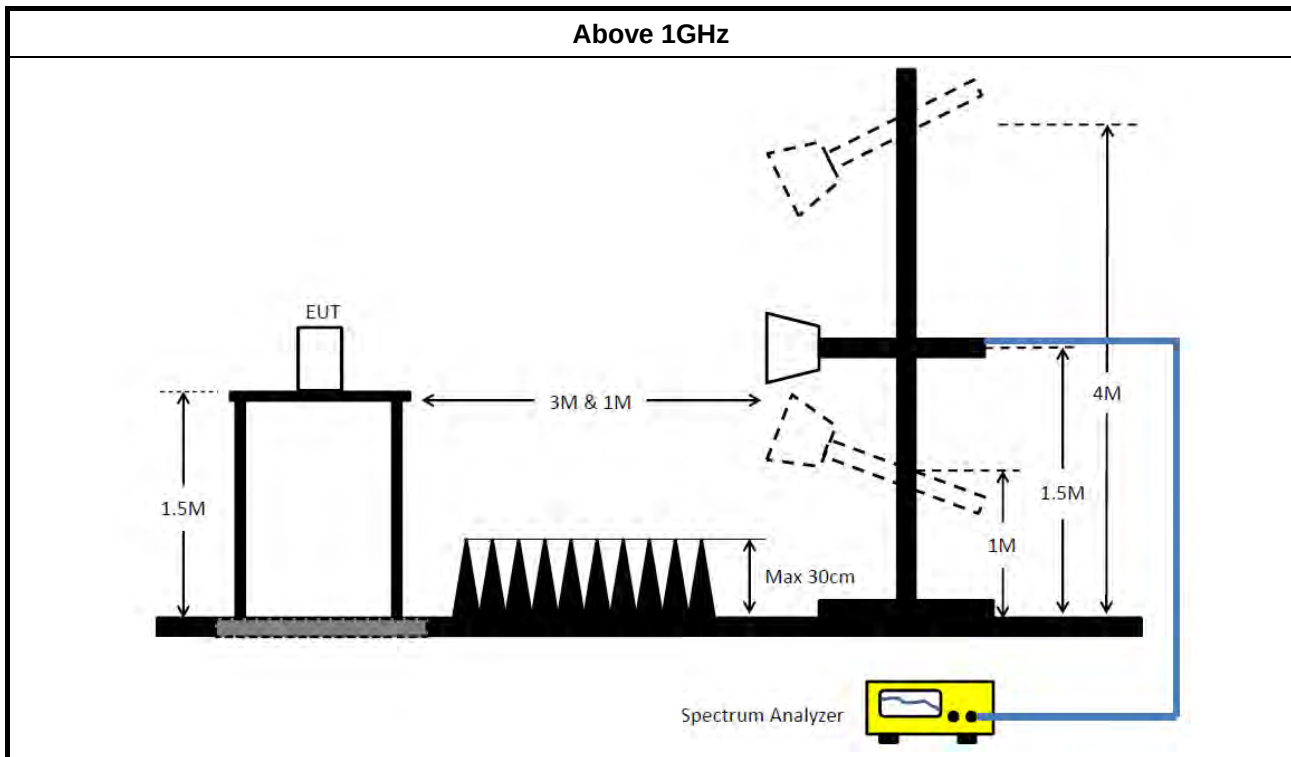


3.6.3 Test Procedures

Test Method	
▪ The average emission levels shall be measured in [duty cycle ≥ 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 FCC KDB 558074, clause 8.6 for unwanted emissions into restricted bands.
	☐ Refer as FCC KDB 558074, clause 8.6 & C63.10 clause 11.12.2.5.1(trace averaging for duty cycle $\geq 98\%$).
	☐ Refer as FCC KDB 558074, clause 8.6 & C63.10 clause 11.12.2.5.2(trace averaging + duty factor).
	☒ Refer as FCC KDB 558074, clause 8.6 & C63.10 clause 11.12.2.5.3(Reduced VBW $\geq 1/T$).
	☐ Refer as ANSI C63.10, clause 11.12.2.5.3 (Reduced VBW). VBW $\geq 1/T$, where T is pulse time.
	☐ Refer as ANSI C63.10, clause 7.5 average value of pulsed emissions.
	☒ Refer as FCC KDB 558074, clause 8.6 & C63.10 clause 11.12.2.4 measurement procedure peak limit.
▪ For the transmitter band-edge emissions shall be measured using following options below:	
	▪ Refer as FCC KDB 558074 clause 8.7 & c63.10 clause 11.13.1, 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 FCC KDB 558074, clause 8.7 (ANSI C63.10, clause 6.10.6) for marker-delta method for band-edge measurements.
	▪ Refer as FCC KDB 558074, clause 8.7 for narrower resolution bandwidth (100kHz) using the band power and summing the spectral levels (i.e., 1 MHz).
	▪ For conducted unwanted emissions into restricted bands (absolute emission limits). Devices with multiple transmit chains using options given below: (1) Measure and sum the spectra across the outputs or (2) Measure and add 10 log(N) dB
	▪ For FCC KDB 662911 The methodology described here may overestimate array gain, thereby resulting in apparent failures to satisfy the out-of-band limits even if the device is actually compliant. In such cases, compliance may be demonstrated by performing radiated tests around the frequencies at which the apparent failures occurred.

3.6.4 Test Setup





3.6.5 Measurement Results Calculation

The measured Level is calculated using:

Corrected Reading: Antenna factor (AF) + Cable loss (CL) + Read level (Raw) - Preamp factor (PA)(if applicable) = Level.

3.6.6 Emissions in Restricted Frequency Bands (Below 30MHz)

There is a comparison data of both open-field test site and alternative test site - semi-Anechoic chamber according to KDB414788 Radiated Test Site, and the result came out very similar.

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

The radiated emissions were investigated from 9 kHz or the lowest frequency generated within the device, up to the 10th harmonic or 40 GHz, whichever is appropriate.

3.6.7 Test Result of Emissions in Restricted Frequency Bands

Refer as Appendix F



4 Test Equipment and Calibration Data

Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
EMI Receiver	Agilent	N9038A	My52260123	9kHz ~ 8.4GHz	Feb. 26, 2020	Feb. 25, 2021	Conduction (CO01-CB)
LISN	F.C.C.	FCC-LISN-50-16-2	04083	150kHz ~ 100MHz	Jan. 06, 2021	Jan. 05, 2022	Conduction (CO01-CB)
LISN	Schwarzbeck	NSLK 8127	8127647	9kHz ~ 30MHz	Feb. 25, 2020	Feb. 24, 2021	Conduction (CO01-CB)
Pulse Limiter	Rohde&Schwarz	ESH3-Z2	100430	9kHz ~ 30MHz	Jan. 31, 2020	Jan. 30, 2021	Conduction (CO01-CB)
COND Cable	Woken	Cable	Low cable-CO01	9kHz ~ 30MHz	May 20, 2020	May 19, 2021	Conduction (CO01-CB)
Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Conduction (CO01-CB)
Loop Antenna	Teseq	HLA 6120	24155	9kHz - 30 MHz	Apr. 13, 2020	Apr. 12, 2021	Radiation (03CH05-CB)
3m Semi Anechoic Chamber NSA	TDK	SAC-3M	03CH05-CB	30 MHz ~ 1 GHz	Aug. 10, 2020	Aug. 09, 2021	Radiation (03CH05-CB)
Bilog Antenna with 6dB Attenuator	TESEQ & EMCI	CBL 6112D & N-6-06	35236 & AT-N0610	30MHz ~ 2GHz	Mar. 27, 2020	Mar. 26, 2021	Radiation (03CH05-CB)
Pre-Amplifier	EMCI	EMC330N	980331	20MHz ~ 3GHz	Apr. 28, 2020	Apr. 27, 2021	Radiation (03CH05-CB)
Spectrum Analyzer	R&S	FSP40	100304	9kHz ~ 40GHz	Nov. 10, 2020	Nov. 09, 2021	Radiation (03CH05-CB)
EMI Test Receiver	R&S	ESCS	826547/017	9kHz ~ 2.75GHz	May 13, 2020	May 12, 2021	Radiation (03CH05-CB)
RF Cable-low	Woken	RG402	Low Cable-04+23	30MHz~1GHz	Oct. 05, 2020	Oct. 04, 2021	Radiation (03CH05-CB)
Test Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Radiation (03CH05-CB)
Loop Antenna	Teseq	HLA 6120	24155	9kHz - 30 MHz	Apr. 13, 2020	Apr. 12, 2021	Radiation (03CH03-CB)
3m Semi Anechoic Chamber NSA	TDK	SAC-3M	03CH03-CB	30 MHz ~ 1 GHz	Jan. 29, 2020	Jan. 28, 2021	Radiation (03CH03-CB)
3m Semi Anechoic Chamber NSA	TDK	SAC-3M	03CH03-CB	30 MHz ~ 1 GHz	Jan. 27, 2021	Jan. 26, 2022	Radiation (03CH03-CB)
3m Semi Anechoic Chamber VSWR	TDK	SAC-3M	03CH03-CB	1GHz ~18GHz 3m	May 28, 2020	May 27, 2021	Radiation (03CH03-CB)
Bilog Antenna with 6 dB attenuator	Schaffner & EMCI	CBL6112B & N-6-06	2928 & AT-N0608	20MHz ~ 2GHz	Feb. 28, 2020	Feb. 27, 2021	Radiation (03CH03-CB)
Horn Antenna	COM-POWER	AH-118	071028	1GHz ~ 18GHz	Jun. 09, 2020	Jun. 08, 2021	Radiation (03CH03-CB)



Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Jul. 21, 2020	Jul. 20, 2021	Radiation (03CH03-CB)
Pre-Amplifier	Agilent	8447D	2944A10259	9kHz ~ 1.3GHz	Jan. 15, 2020	Jan. 14, 2021	Radiation (03CH03-CB)
Pre-Amplifier	Agilent	8447D	2944A10259	9kHz ~ 1.3GHz	Jan. 11, 2021	Jan. 10, 2022	Radiation (03CH03-CB)
Pre-Amplifier	Agilent	8449B	3008A02097	1GHz ~ 26.5GHz	Jul. 03, 2020	Jun. 02, 2021	Radiation (03CH03-CB)
Pre-Amplifier	MITEQ	TTA1840-35-HG	1864479	18GHz ~ 40GHz	Jul. 08, 2020	Jul. 07, 2021	Radiation (03CH03-CB)
Spectrum Analyzer	R&S	FSP40	100019	9kHz ~ 40GHz	Jun. 09, 2020	Jun. 08, 2021	Radiation (03CH03-CB)
EMI Test Receiver	R&S	ESCS	826547/017	9kHz ~ 2.75GHz	May 13, 2020	May 12, 2021	Radiation (03CH03-CB)
RF Cable-low	Woken	RG402	Low Cable-02+29	30MHz ~ 1GHz	Oct. 05, 2020	Oct. 04, 2021	Radiation (03CH03-CB)
RF Cable-high	Woken	RG402	High Cable-20+29	1GHz ~ 18GHz	Oct. 05, 2020	Oct. 04, 2021	Radiation (03CH03-CB)
RF Cable-high	Woken	RG402	High Cable-29	1GHz ~ 18GHz	Oct. 05, 2020	Oct. 04, 2021	Radiation (03CH03-CB)
RF Cable-high	Woken	RG402	High Cable-40G#1	18GHz ~ 40 GHz	Jul. 16, 2020	Jul. 15, 2021	Radiation (03CH03-CB)
RF Cable-high	Woken	RG402	High Cable-40G#2	18GHz ~ 40 GHz	Jul. 16, 2020	Jul. 15, 2021	Radiation (03CH03-CB)
Test Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Radiation (03CH03-CB)
Spectrum analyzer	R&S	FSV40	100979	9kHz~40GHz	May 05, 2020	May 04, 2021	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-06	1 GHz ~ 26.5 GHz	Oct. 05, 2020	Oct. 04, 2021	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-07	1 GHz ~ 26.5 GHz	Oct. 05, 2020	Oct. 04, 2021	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-08	1 GHz ~ 26.5 GHz	Oct. 05, 2020	Oct. 04, 2021	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-09	1 GHz ~ 26.5 GHz	Oct. 05, 2020	Oct. 04, 2021	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-10	1 GHz ~ 26.5 GHz	Oct. 05, 2020	Oct. 04, 2021	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-30	1 GHz ~ 26.5 GHz	Oct. 05, 2020	Oct. 04, 2021	Conducted (TH01-CB)
Power Sensor	Agilent	E9327A	US40442088	50MHz~18GHz	Feb. 07, 2020	Feb. 06, 2021	Conducted (TH01-CB)
Power Meter	Agilent	E4416A	GB41291199	50MHz~18GHz	Feb. 07, 2020	Feb. 06, 2021	Conducted (TH01-CB)
Test Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Conducted (TH01-CB)

Note: Calibration Interval of instruments listed above is one year.

NCR means Non-Calibration required.



Conducted Emissions at Powerline

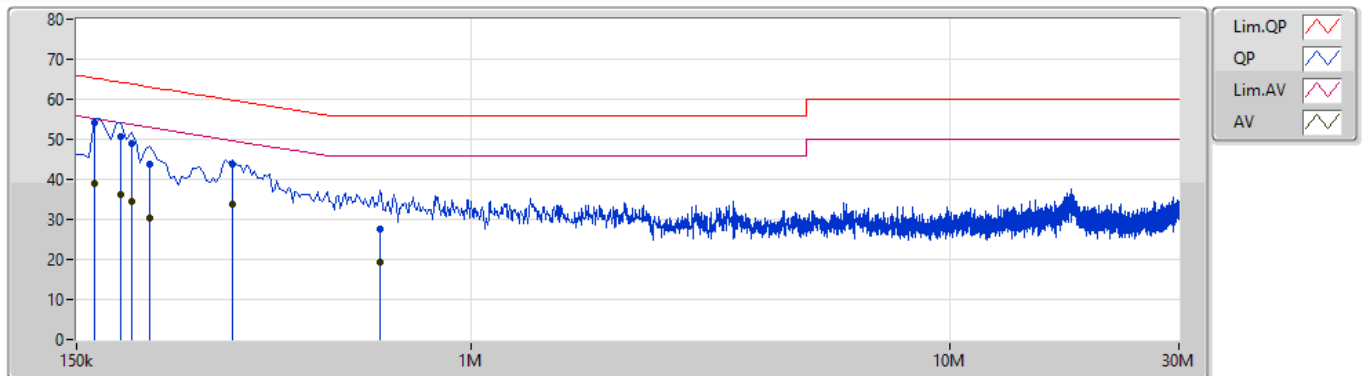
Appendix A

Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 2	Pass	QP	163.5k	54.28	65.27	-10.99	Line

Mode 2

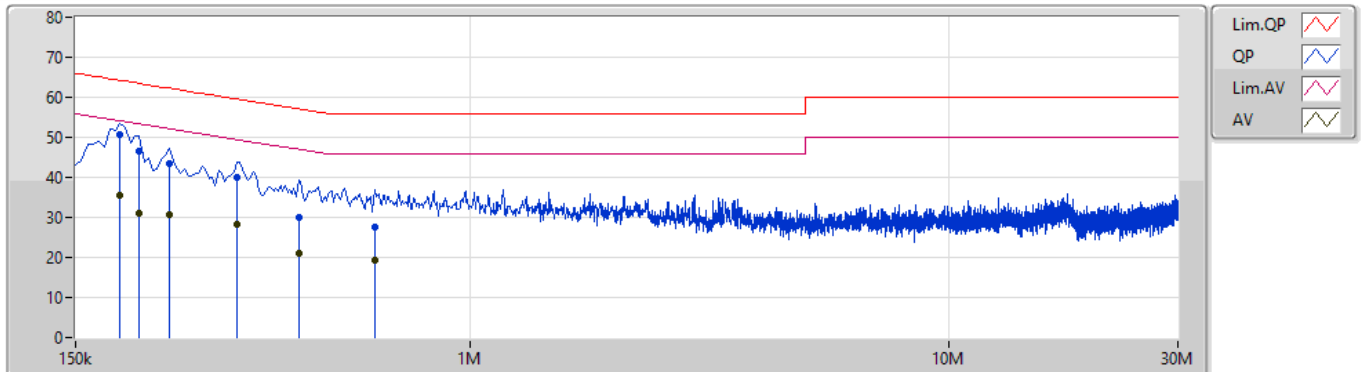
28/01/2021



Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)			
QP	163.5k	54.28	65.27	-10.99	9.89	Line	"Worst"	44.39	0.05	0.03	9.81			
AV	163.5k	38.88	55.27	-16.39	9.89	Line	-	28.99	0.05	0.03	9.81			
QP	186k	50.65	64.20	-13.55	9.89	Line	-	40.76	0.04	0.03	9.82			
AV	186k	36.36	54.20	-17.84	9.89	Line	-	26.47	0.04	0.03	9.82			
QP	195k	49.06	63.82	-14.76	9.89	Line	-	39.17	0.04	0.03	9.82			
AV	195k	34.42	53.82	-19.40	9.89	Line	-	24.53	0.04	0.03	9.82			
QP	213k	43.88	63.09	-19.21	9.89	Line	-	33.99	0.04	0.03	9.82			
AV	213k	30.36	53.09	-22.73	9.89	Line	-	20.47	0.04	0.03	9.82			
QP	316.5k	43.67	59.80	-16.13	9.90	Line	-	33.77	0.04	0.03	9.83			
AV	316.5k	33.92	49.80	-15.88	9.90	Line	-	24.02	0.04	0.03	9.83			
QP	645k	27.56	56.00	-28.44	9.92	Line	-	17.64	0.05	0.04	9.83			
AV	645k	19.40	46.00	-26.60	9.92	Line	-	9.48	0.05	0.04	9.83			

Mode 2

28/01/2021



Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)			
QP	186k	50.67	64.20	-13.53	9.89	Neutral	"Worst"	40.78	0.04	0.03	9.82			
AV	186k	35.35	54.20	-18.85	9.89	Neutral	-	25.46	0.04	0.03	9.82			
QP	204k	46.66	63.44	-16.78	9.89	Neutral	-	36.77	0.04	0.03	9.82			
AV	204k	31.07	53.44	-22.37	9.89	Neutral	-	21.18	0.04	0.03	9.82			
QP	235.5k	43.55	62.25	-18.70	9.89	Neutral	-	33.66	0.04	0.03	9.82			
AV	235.5k	30.57	52.25	-21.68	9.89	Neutral	-	20.68	0.04	0.03	9.82			
QP	325.5k	40.05	59.56	-19.51	9.90	Neutral	-	30.15	0.04	0.03	9.83			
AV	325.5k	28.14	49.56	-21.42	9.90	Neutral	-	18.24	0.04	0.03	9.83			
QP	438k	29.91	57.11	-27.20	9.90	Neutral	-	20.01	0.04	0.03	9.83			
AV	438k	21.16	47.11	-25.95	9.90	Neutral	-	11.26	0.04	0.03	9.83			
QP	631.5k	27.70	56.00	-28.30	9.91	Neutral	-	17.79	0.05	0.03	9.83			
AV	631.5k	19.19	46.00	-26.81	9.91	Neutral	-	9.28	0.05	0.03	9.83			

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)	717.5k	1.026M	1M03F1D	696.25k	1.022M

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;

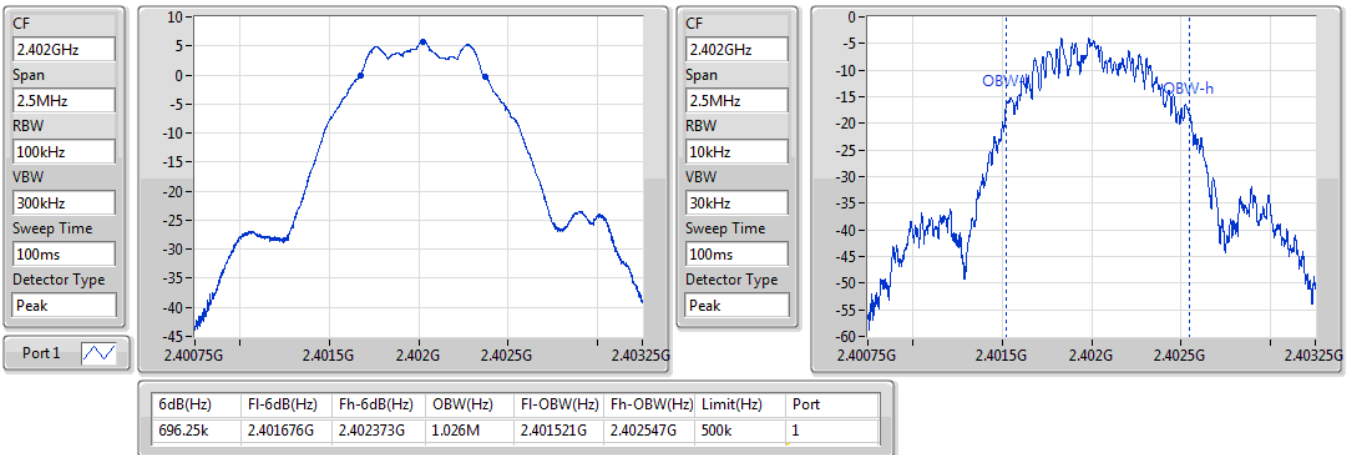
Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	500k	696.25k	1.026M
2440MHz	Pass	500k	705k	1.022M
2480MHz	Pass	500k	717.5k	1.023M

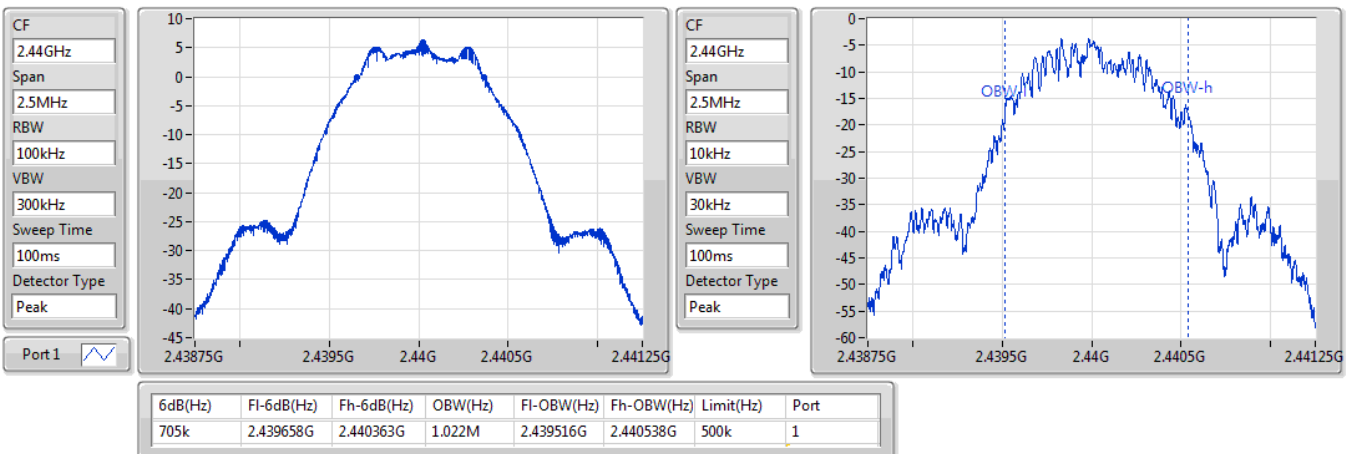
Port X-N dB = Port X 6dB down bandwidth; **Port X-OBW** = Port X 99% occupied bandwidth;

BT-LE(1Mbps)
2402MHz

26/01/2021


BT-LE(1Mbps)
2440MHz

26/01/2021

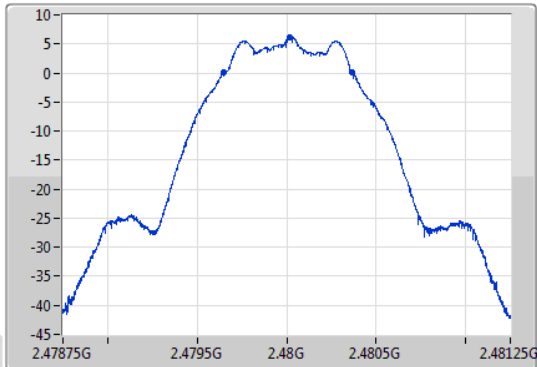


BT-LE(1Mbps)

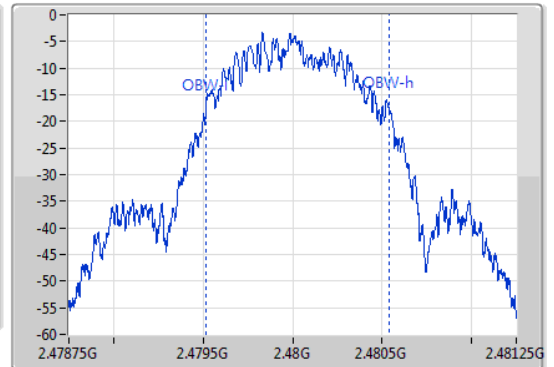
2480MHz

26/01/2021

CF
2.48GHz
Span
2.5MHz
RBW
100kHz
VBW
300kHz
Sweep Time
100ms
Detector Type
Peak
Port 1



CF
2.48GHz
Span
2.5MHz
RBW
10kHz
VBW
30kHz
Sweep Time
100ms
Detector Type
Peak



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
717.5k	2.479649G	2.480366G	1.023M	2.479516G	2.48054G	500k	1



Summary

Mode	Power (dBm)	Power (W)
2.4-2.4835GHz	-	-
BT-LE(1Mbps)	6.37	0.00434

Result

Mode	Result	Gain (dBi)	Power (dBm)	Power Limit (dBm)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	4.00	5.94	30.00
2440MHz	Pass	4.00	6.11	30.00
2480MHz	Pass	4.00	6.37	30.00

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



Summary

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
BT-LE(1Mbps)	-9.81

RBW=3 kHz.

Result

Mode	Result	Gain (dBi)	PD (dBm/RBW)	PD Limit (dBm/RBW)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	4.00	-10.13	8.00
2440MHz	Pass	4.00	-9.81	8.00
2480MHz	Pass	4.00	-9.86	8.00

DG = Directional Gain; RBW=3 kHz;

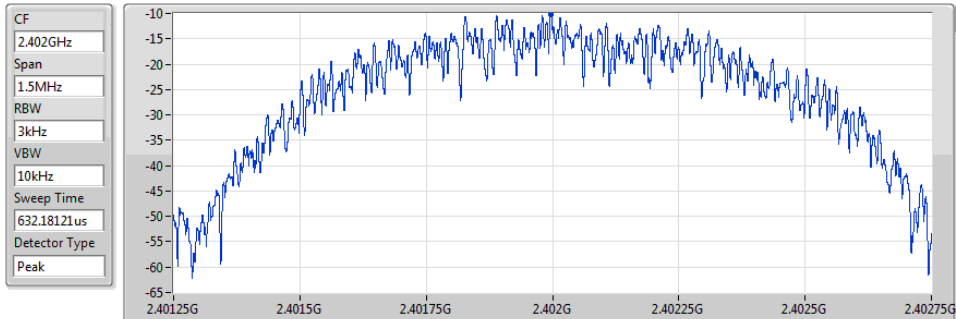
PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; **Port X** = Port X power density;

BT-LE(1Mbps)

PSD

2402MHz

26/01/2021



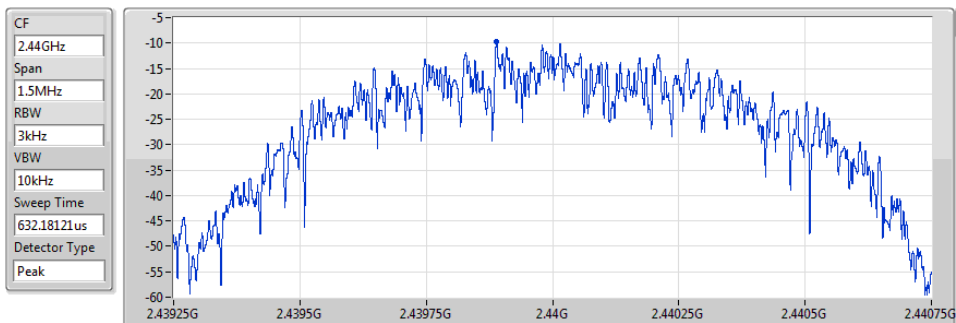
Sum	PD	Port 1
(dBm/Hz)	(dBm/Hz)	(dBm/Hz)
-10.13	-10.13	-10.13

BT-LE(1Mbps)

PSD

2440MHz

26/01/2021



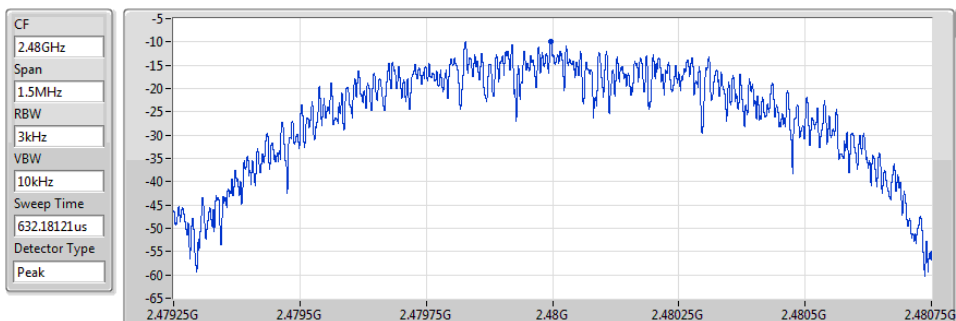
Sum	PD	Port 1
(dBm/Hz)	(dBm/Hz)	(dBm/Hz)
-9.81	-9.81	-9.81

BT-LE(1Mbps)

PSD

2480MHz

26/01/2021



Sum	PD	Port 1
(dBm/Hz)	(dBm/Hz)	(dBm/Hz)
-9.86	-9.86	-9.86

**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	2.48003G	6.20	-23.80	2.18848G	-53.07	2.39999G	-44.37	2.4G	-45.34	2.50078G	-51.41	16.27698G	-45.83	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	2.48003G	6.20	-23.80	2.18848G	-53.07	2.39999G	-44.37	2.4G	-45.34	2.50078G	-51.41	16.27698G	-45.83	1
2440MHz	Pass	2.48003G	6.20	-23.80	881.58M	-51.98	2.39603G	-52.31	2.4835G	-52.43	2.49199G	-51.45	16.47383G	-45.48	1
2480MHz	Pass	2.48003G	6.20	-23.80	2.16233G	-53.03	2.39642G	-52.61	2.4835G	-54.97	2.48906G	-52.05	16.4682G	-45.25	1

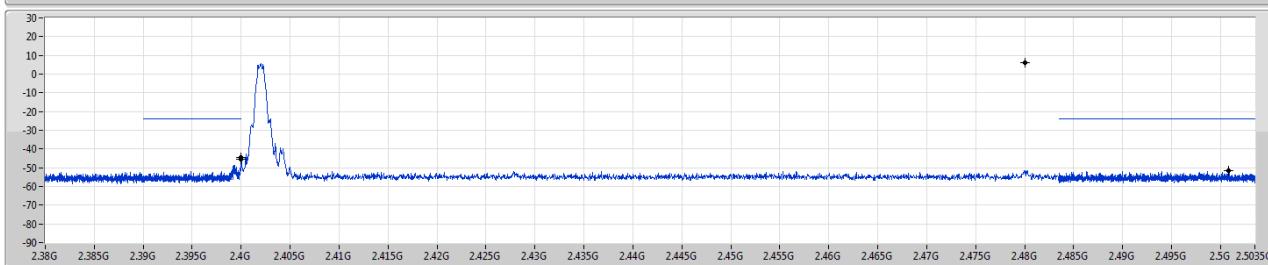
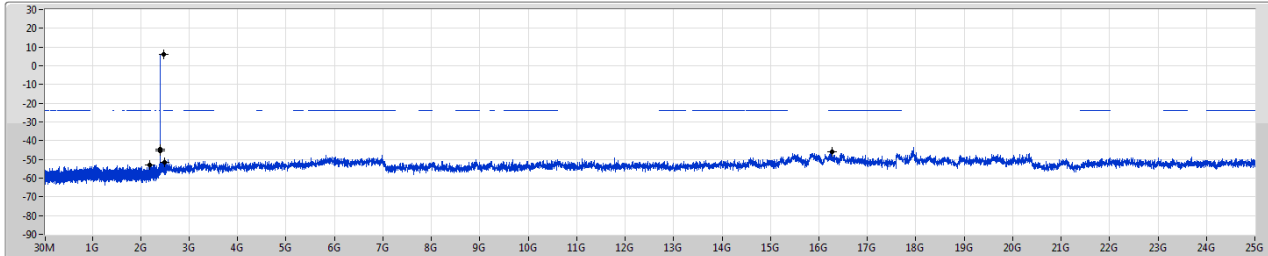
BT-LE(1Mbps)

2402MHz

CSE NdB

26.01.2021

Port1



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

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
2.48003G	6.20	-23.80	2.18848G	-53.07	2.39999G	-44.37	2.4G	-45.34	2.50078G	-51.41	16.27698G	-45.83	1

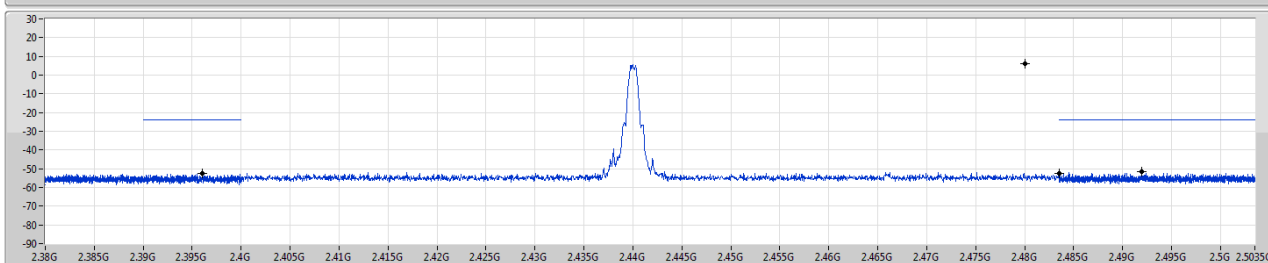
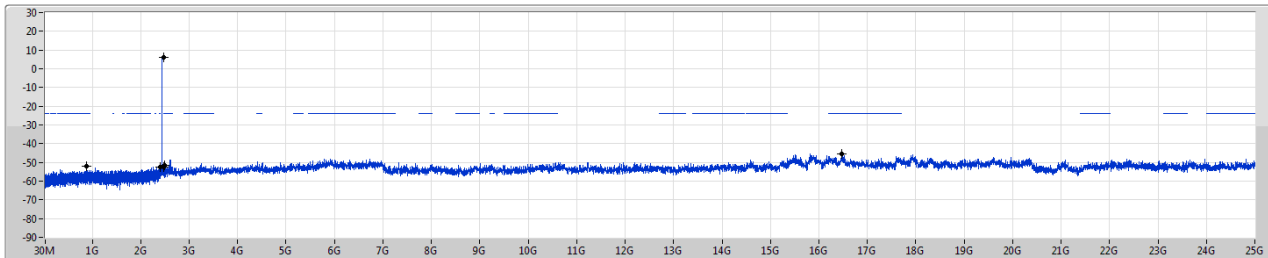
BT-LE(1Mbps)

2440MHz

CSE NdB

26.01.2021

Port1



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

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
2.48003G	6.20	-23.80	881.58M	-51.98	2.39603G	-52.31	2.4835G	-52.43	2.49199G	-51.45	16.47383G	-45.48	1

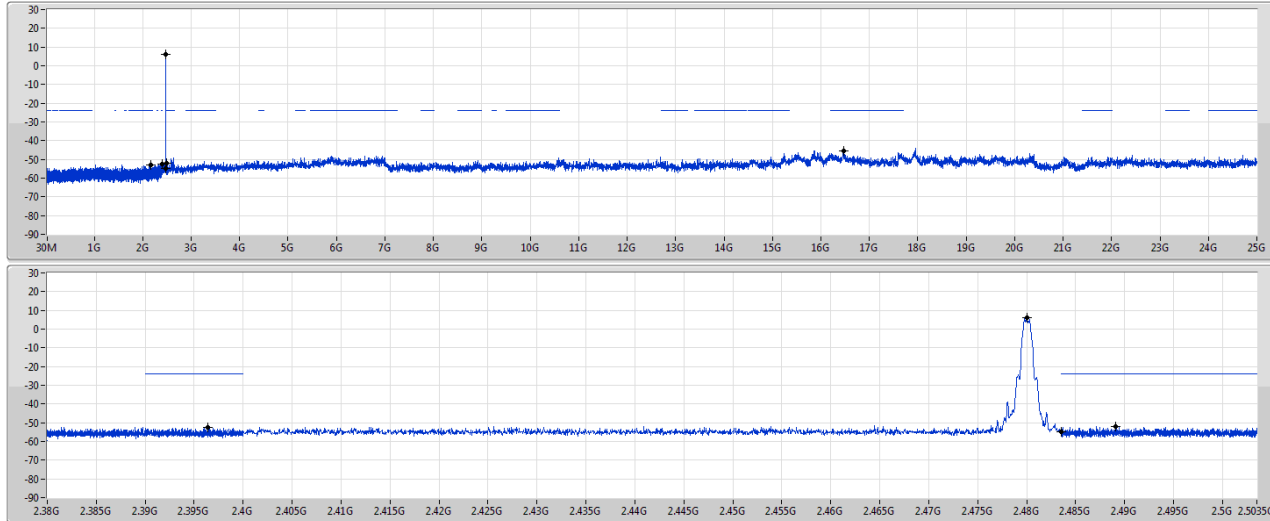
BT-LE(1Mbps)

2480MHz

CSE NdB

26/01/2021

Port 1



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
2.48003G	6.20	-23.80	2.16233G	-53.03	2.39642G	-52.61	2.4835G	-54.97	2.48906G	-52.05	16.4682G	-45.25	1

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



Radiated Emissions below 1GHz

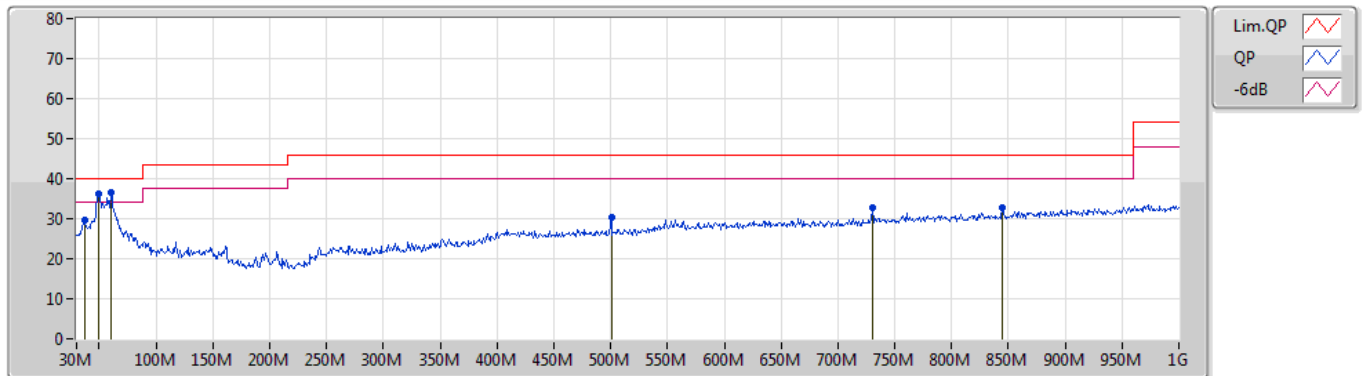
Appendix F.1

Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Condition
Mode 1	Pass	PK	60.07M	36.69	40.00	-3.31	Vertical

Mode 1

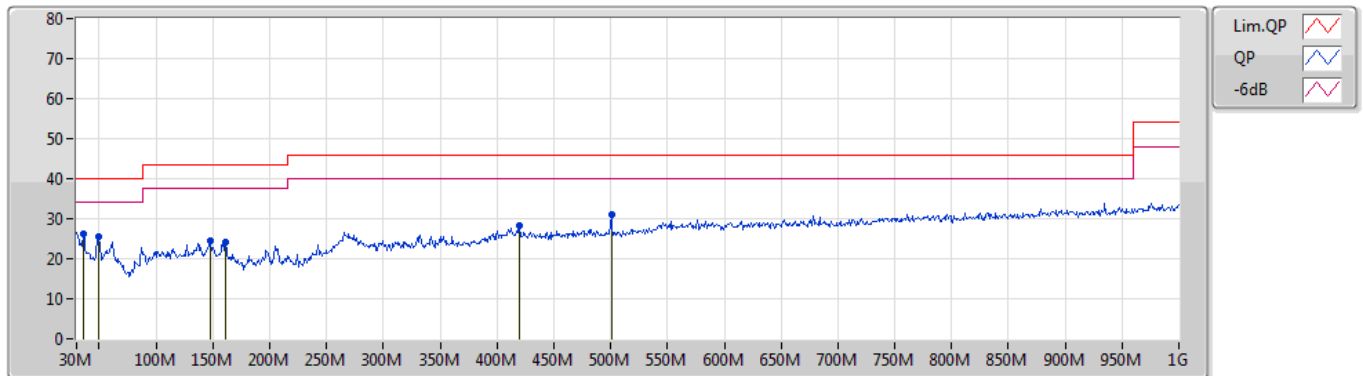
28/01/2021



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/m)	(dB/m)	(dB)	(dB)
PK	36.79M	29.62	40.00	-10.38	-10.11	3	Vertical	92	2.00	-	39.73	20.81	0.54	31.46
PK	49.4M	36.25	40.00	-3.75	-16.29	3	Vertical	300	1.50	-	52.54	14.70	0.60	31.59
PK	60.07M	36.69	40.00	-3.31	-18.32	3	Vertical	0	1.00	"Worst"	55.01	12.69	0.80	31.81
PK	500.45M	30.38	46.00	-15.62	-6.52	3	Vertical	17	1.25	-	36.90	22.95	2.90	32.37
PK	730.34M	32.86	46.00	-13.14	-3.97	3	Vertical	174	1.00	-	36.83	24.82	3.56	32.35
PK	844.8M	32.59	46.00	-13.41	-2.86	3	Vertical	286	1.50	-	35.45	25.60	3.89	32.35

Mode 1

28/01/2021



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV/m)	AF (dB/m)	CL (dB)	PA (dB)
PK	35.82M	26.36	40.00	-13.64	-9.70	3	Horizontal	320	1.25	"Worst"	36.06	21.25	0.52	31.47
PK	49.4M	25.55	40.00	-14.45	-16.29	3	Horizontal	130	1.00	-	41.84	14.70	0.60	31.59
PK	147.37M	24.48	43.50	-19.02	-13.98	3	Horizontal	78	3.00	-	38.46	16.57	1.34	31.89
PK	160.95M	24.01	43.50	-19.49	-14.36	3	Horizontal	91	2.00	-	38.37	15.93	1.40	31.69
PK	419.94M	28.13	46.00	-17.87	-7.50	3	Horizontal	217	1.00	-	35.63	22.02	2.64	32.16
PK	500.45M	31.20	46.00	-14.80	-6.52	3	Horizontal	213	2.00	-	37.72	22.95	2.90	32.37



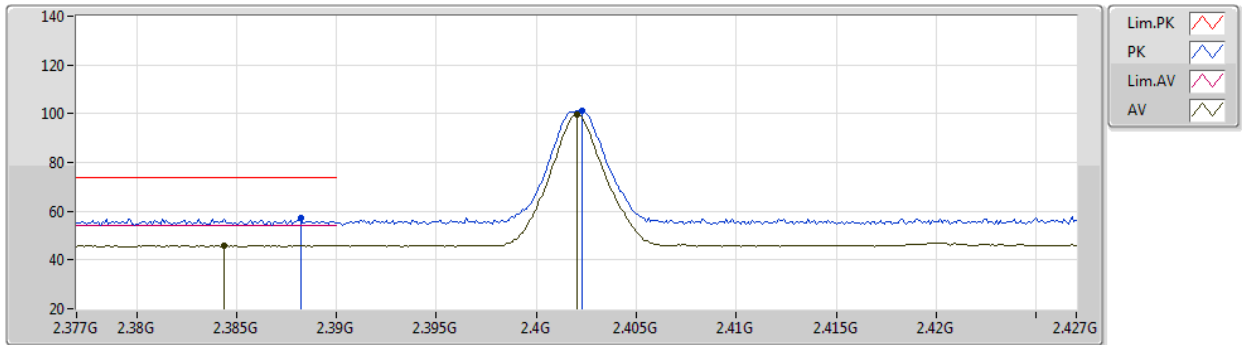
Summary

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_Nss1_1TX	Pass	AV	2.4835G	50.81	54.00	-3.19	3	Horizontal	60	1.32	-

BT-LE_Nss1_1TX

25/01/2021

2402MHz_TX



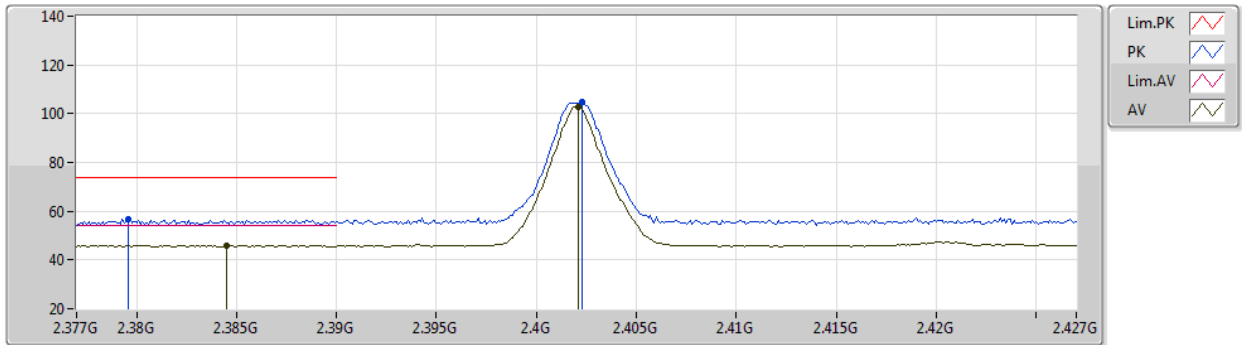
EUT Z_1TX
Setting Default
03-F-B-2

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	2.3882G	57.30	74.00	-16.70	24.46	3	Vertical	349	1.12	-	29.35	3.49	-
AV	2.3844G	45.92	54.00	-8.08	13.10	3	Vertical	349	1.12	-	29.34	3.48	-
PK	2.4023G	101.17	Inf	-Inf	68.27	3	Vertical	349	1.12	-	29.40	3.50	-
AV	2.402G	99.63	Inf	-Inf	66.73	3	Vertical	349	1.12	-	29.40	3.50	-

BT-LE_Nss1_1TX

25/01/2021

2402MHz_TX



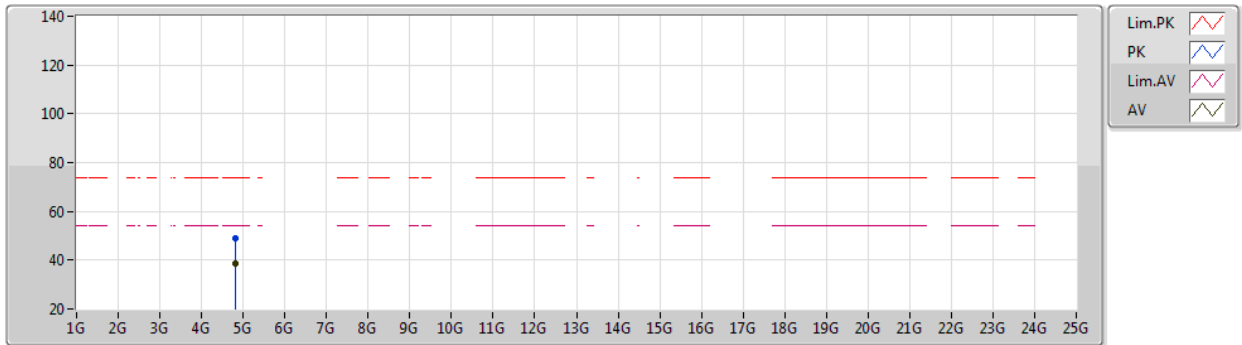
EUT Z_1TX
Setting Default
03-F-B-2

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	2.3796G	56.69	74.00	-17.31	23.89	3	Horizontal	57	1.11	-	29.32	3.48	-
AV	2.3845G	46.01	54.00	-7.99	13.19	3	Horizontal	57	1.11	-	29.34	3.48	-
PK	2.4023G	104.57	Inf	-Inf	71.67	3	Horizontal	57	1.11	-	29.40	3.50	-
AV	2.4021G	102.97	Inf	-Inf	70.07	3	Horizontal	57	1.11	-	29.40	3.50	-

BT-LE_Nss1_1TX

25/01/2021

2402MHz_TX



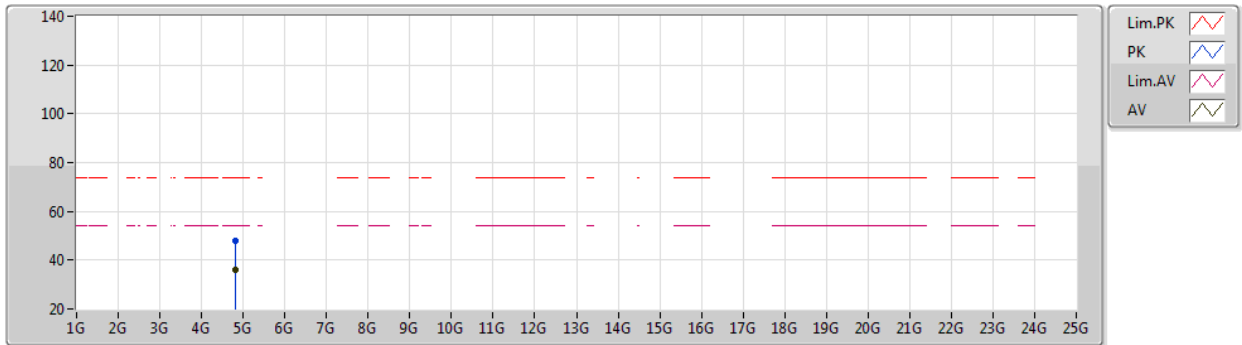
EUT Z_1TX
Setting Default
03-F-B-2

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	4.80458G	48.80	74.00	-25.20	44.44	3	Vertical	347	1.00	-	33.43	6.21	35.28
AV	4.80362G	38.63	54.00	-15.37	34.28	3	Vertical	347	1.00	-	33.42	6.21	35.28

BT-LE_Nss1_1TX

25/01/2021

2402MHz_TX



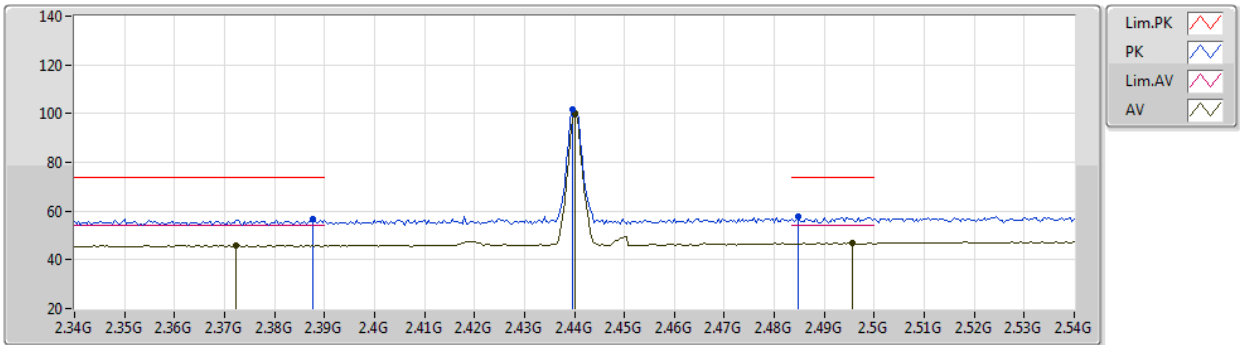
EUT Z_1TX
Setting Default
03-F-B-2

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)	
PK	4.80442G	47.86	74.00	-26.14	43.50	3	Horizontal	276	2.30	-	33.43	6.21	35.28	
AV	4.80371G	35.88	54.00	-18.12	31.53	3	Horizontal	276	2.30	-	33.42	6.21	35.28	

BT-LE_Nss1_1TX

25/01/2021

2440MHz_TX



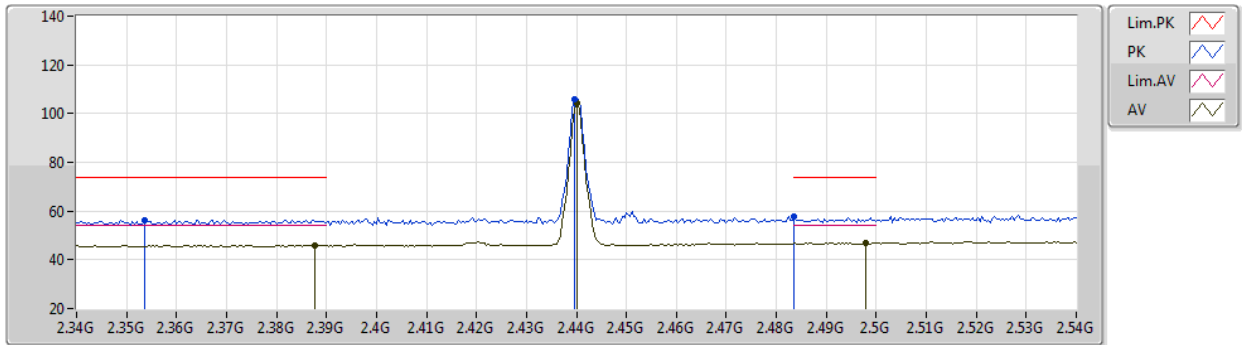
EUT Z_1TX
Setting Default
03-F-B-2

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	2.3876G	56.82	74.00	-17.18	23.98	3	Vertical	0	1.61	-	29.35	3.49	-
AV	2.3724G	46.05	54.00	-7.95	13.29	3	Vertical	0	1.61	-	29.29	3.47	-
PK	2.4396G	101.50	Inf	-Inf	68.48	3	Vertical	0	1.61	-	29.48	3.54	-
AV	2.44G	100.03	Inf	-Inf	67.01	3	Vertical	0	1.61	-	29.48	3.54	-
PK	2.4848G	57.60	74.00	-16.40	24.03	3	Vertical	0	1.61	-	29.99	3.58	-
AV	2.4956G	46.70	54.00	-7.30	12.96	3	Vertical	0	1.61	-	30.14	3.60	-

BT-LE_Nss1_1TX

25/01/2021

2440MHz_TX



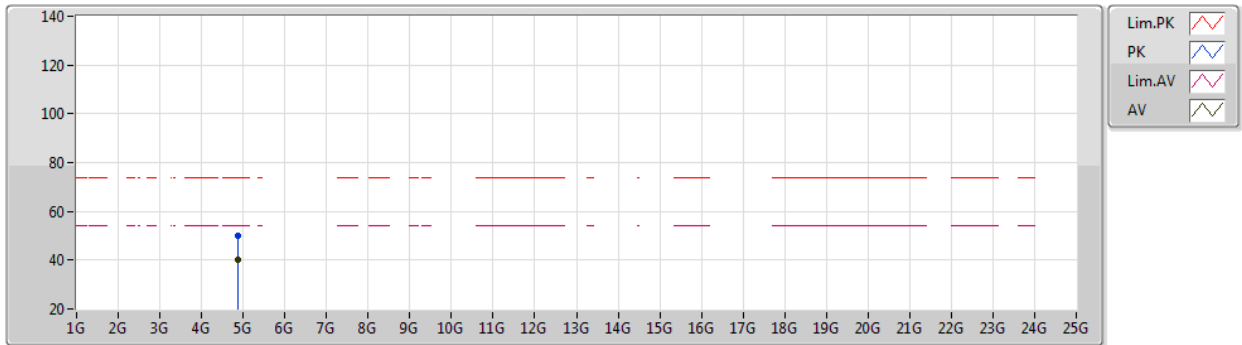
EUT Z_1TX
Setting Default
03-F-B-2

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	2.3536G	56.39	74.00	-17.61	23.73	3	Horizontal	67	1.21	-	29.21	3.45	-
AV	2.3876G	46.03	54.00	-7.97	13.19	3	Horizontal	67	1.21	-	29.35	3.49	-
PK	2.4396G	105.89	Inf	-Inf	72.87	3	Horizontal	67	1.21	-	29.48	3.54	-
AV	2.44G	104.19	Inf	-Inf	71.17	3	Horizontal	67	1.21	-	29.48	3.54	-
PK	2.4835G	57.74	74.00	-16.26	24.19	3	Horizontal	67	1.21	-	29.97	3.58	-
AV	2.498G	47.14	54.00	-6.86	13.37	3	Horizontal	67	1.21	-	30.17	3.60	-

BT-LE_Nss1_1TX

25/01/2021

2440MHz_TX



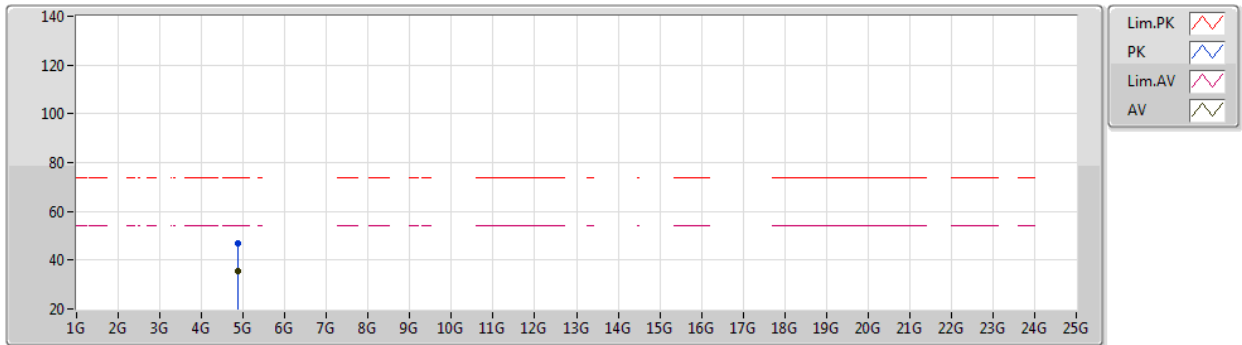
EUT Z_1TX
Setting Default
03-F-B-2

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)	
PK	4.8803G	49.85	74.00	-24.15	45.07	3	Vertical	350	1.26	-	33.82	6.32	35.36	
AV	4.87989G	40.37	54.00	-13.63	35.59	3	Vertical	350	1.26	-	33.82	6.32	35.36	

BT-LE_Nss1_1TX

25/01/2021

2440MHz_TX



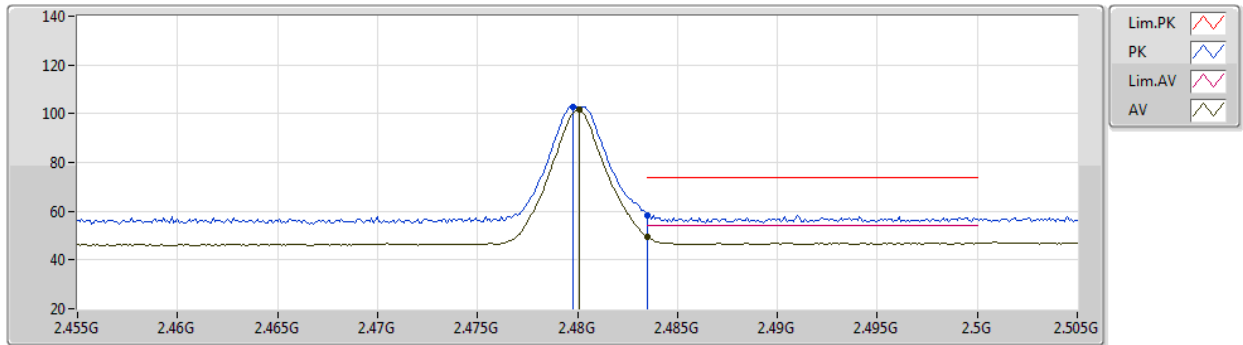
EUT Z_1TX
Setting Default
03-F-B-2

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	4.87795G	46.90	74.00	-27.10	42.13	3	Horizontal	279	2.47	-	33.81	6.32	35.36
AV	4.87995G	35.43	54.00	-18.57	30.65	3	Horizontal	279	2.47	-	33.82	6.32	35.36

BT-LE_Nss1_1TX

25/01/2021

2480MHz_TX



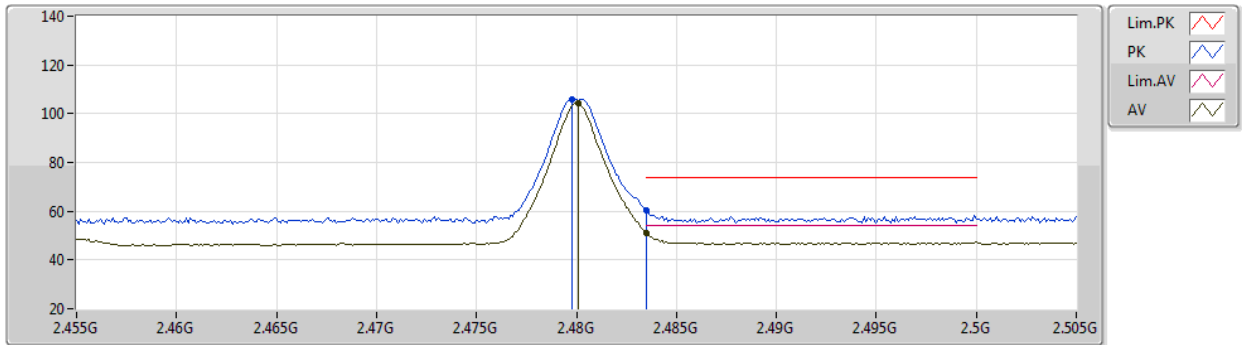
EUT Z_1TX
Setting Default
03-F-B-2

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	2.4798G	102.94	Inf	-Inf	69.44	3	Vertical	0	1.51	-	29.92	3.58	-
AV	2.4801G	101.47	Inf	-Inf	67.97	3	Vertical	0	1.51	-	29.92	3.58	-
PK	2.4835G	58.49	74.00	-15.51	24.94	3	Vertical	0	1.51	-	29.97	3.58	-
AV	2.4835G	49.28	54.00	-4.72	15.73	3	Vertical	0	1.51	-	29.97	3.58	-

BT-LE_Nss1_1TX

25/01/2021

2480MHz_TX



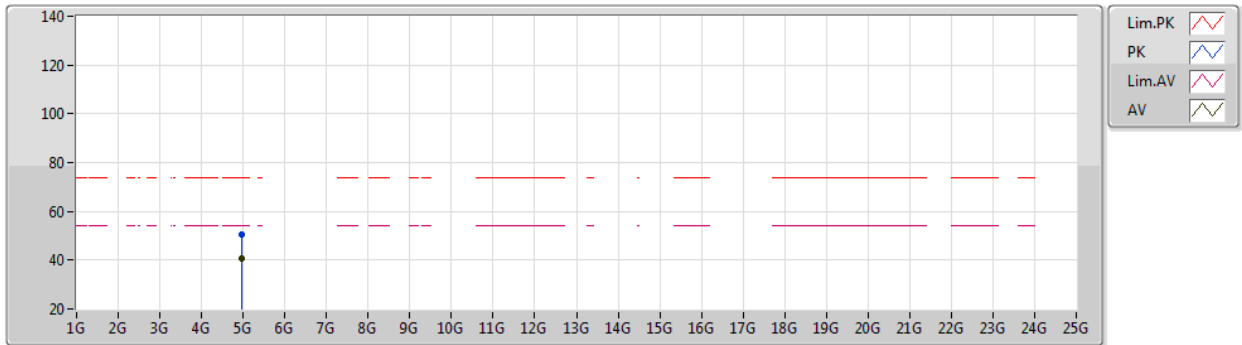
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Setting Default
03-F-B-2

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	2.4798G	105.70	Inf	-Inf	72.20	3	Horizontal	60	1.32	-	29.92	3.58	-
AV	2.4801G	104.27	Inf	-Inf	70.77	3	Horizontal	60	1.32	-	29.92	3.58	-
PK	2.4835G	60.09	74.00	-13.91	26.54	3	Horizontal	60	1.32	-	29.97	3.58	-
AV	2.4835G	50.81	54.00	-3.19	17.26	3	Horizontal	60	1.32	-	29.97	3.58	-

BT-LE_Nss1_1TX

25/01/2021

2480MHz_TX



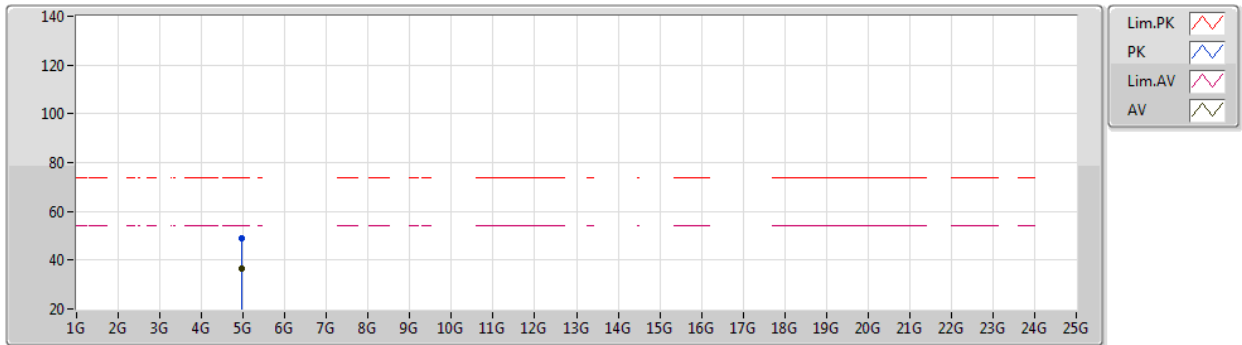
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Setting Default
03-F-B-2

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)	
PK	4.95936G	50.50	74.00	-23.50	45.51	3	Vertical	343	1.02	-	34.00	6.44	35.45	
AV	4.95972G	40.64	54.00	-13.36	35.65	3	Vertical	343	1.02	-	34.00	6.44	35.45	

BT-LE_Nss1_1TX

25/01/2021

2480MHz_TX



EUT Z_1TX
Setting Default
03-F-B-2

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw (dBuV)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	AF (dB)	CL (dB)	PA (dB)
PK	4.95951G	48.96	74.00	-25.04	43.97	3	Horizontal	33	1.07	-	34.00	6.44	35.45
AV	4.95974G	36.54	54.00	-17.46	31.55	3	Horizontal	33	1.07	-	34.00	6.44	35.45