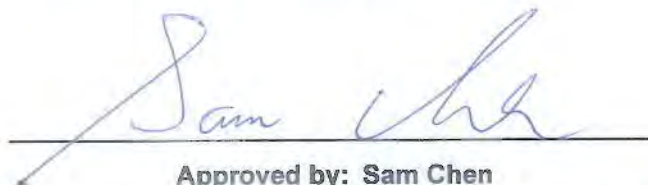


FCC RADIO TEST REPORT

FCC ID : YZKEAP101
Equipment : 802.11ax Dual-Band Enterprise Access Point
Brand Name : Edgecore
Model Name : EAP101
Applicant : Edgecore Networks Corporation
No. 1, Creation Rd. III, Science Park Hsin Chu 30077,
Taiwan
Manufacturer (1) : Accton Technology Corporatio
No. 1, Creation Rd. III, Science Park Hsin Chu 30077,
Taiwan
Manufacturer (2) : Accton Technology Corporation Zhunan Factory
1F.& 5F, No. 1, Keyi St., Zhunan Township, Miaoli
County 350 - TAIWAN
STANDARD : 47 CFR FCC PART 15.247

The product was received on Nov. 10, 2020, and testing was started from Nov. 14, 2020 and completed on Nov. 25, 2020. We, SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013 and shown compliance with the applicable technical standards.

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


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



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:

1. The test configuration, test mode and test software were written in this test report are declared by the manufacturer.
2. 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: Wendy Pan



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 modulation.
- ♦ BWch is the nominal channel bandwidth.

1.1.2 Antenna Information

Ant.	Port	Brand	P/N	Antenna Type	Connector	Gain (dBi)		
						2.4GHz	5GHz	Bluetooth
1	1	Angeei	SD2430S01-185G13U1S	PIFA	I-PEX	4.8	5.8	-
2	2	Angeei	SD2430R01-100G13U1S	PIFA	I-PEX	4.8	6.0	-
3	1	Angeei	P242003-T4-55G13U1S	PCB	I-PEX	-	-	4.6

Note: The above information was declared by manufacturer.

For 2.4GHz Function:

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

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

Port 1 and Port 2 could transmit/receive simultaneously.

For 5GHz Function:

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

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

Port 1 and Port 2 could transmit/receive simultaneously.

For Bluetooth Function (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)	0.638	1.95	401.25u	3k
BT-LE(2Mbps)	0.34	4.69	213.75u	10k

Note:

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

1.1.4 EUT Operational Condition

EUT Power Type	From Power Adapter or PoE			
Function	☒	Point-to-multipoint	☐	Point-to-point
Test Software Version	AgXBT4.exe Version A.06.00			
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.



1.2 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, Lane 724, Bo-ai St., Jhubei 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	Test Date
RF Conducted	TH02-CB	Brian Sun	24.2-25.2°C / 55-58%	Nov. 25, 2020
Radiated<1GHz	03CH05-CB	Stim Sun	24.4-25.2°C / 56-58%	Nov. 17, 2020
Radiated>1GHz	03CH04-CB	Stim Sun	24.4-24.9°C / 55-57%	Nov. 14, 2020~ Nov. 25, 2020
AC Conduction	CO01-CB	Max Lin	21~22°C / 58~59%	Nov. 18, 2020

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 (30MHz ~ 1,000MHz)	5.6 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	4.9 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	4.6 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	0.39%	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
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
Operating Mode	Normal Link
1	AP Router: EUT + Adapter
2	AP Router: EUT + PoE
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	Normal Link
1	AP Router: EUT in Y axis + Adapter
2	AP Router: EUT in Z axis + Adapter
Mode 1 has been evaluated to be the worst case between Mode 1~2, thus measurement for Mode 3 will follow this same test mode.	
3	AP Router: EUT in Y axis + PoE
For operating mode 3 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 Y 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 + Bluetooth
Refer to Sporton Test Report No.: FA002913 for Co-location RF Exposure Evaluation.	

Note1: The console port can not be used by end-user. It is generally used for updating FW by professional installer.

Note2: The PoE below is for measurement only, would not be marketed.

The PoE information as below:

Support Unit	Brand	Model Number
PoE	Cambium Networks	P060V04

2.3 EUT Operation during Test

For CTX Mode:

The EUT was programmed to be in continuously transmitting mode.

For Normal Link:

During the test, the EUT operation to normal function.

2.4 Accessories

Accessories			
Equipment Name	Brand Name	Model Name	Rating
Adapter	APD	WB-24J12R	Input: 100-240V~50-60Hz 0.7A Max. Output: 12.0V, 2.0A 24.0W
Other			
Plug*1			
Console cable*1: Non-Shielded, 1.5m			
Wall-mounted*1			



2.5 Support Equipment

For AC Conduction:

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	LAN NB	DELL	E6430	N/A
B	2.5G PoE LAN PC	DELL	T3400	N/A
C	2.4G NB	DELL	E6430	N/A
D	5G NB	DELL	E6430	N/A
E	Smart phone	Samsung	Galaxy J2	A3LSMJ200F
F	Flash disk3.0	Transcend	JetFlash-700	N/A
G	PoE	Cambium Networks	P060V04	N/A

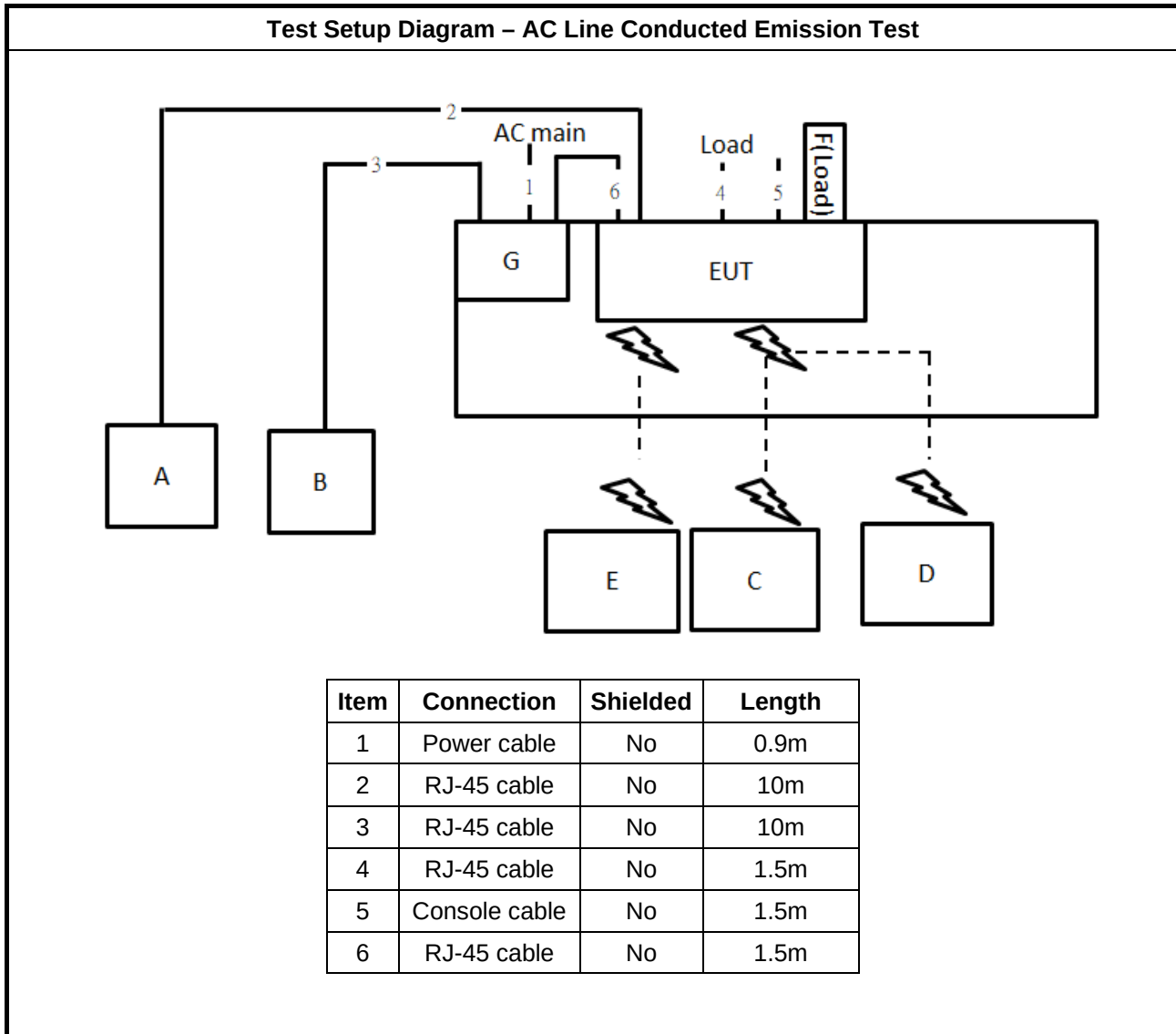
For Radiated (below 1GHz):

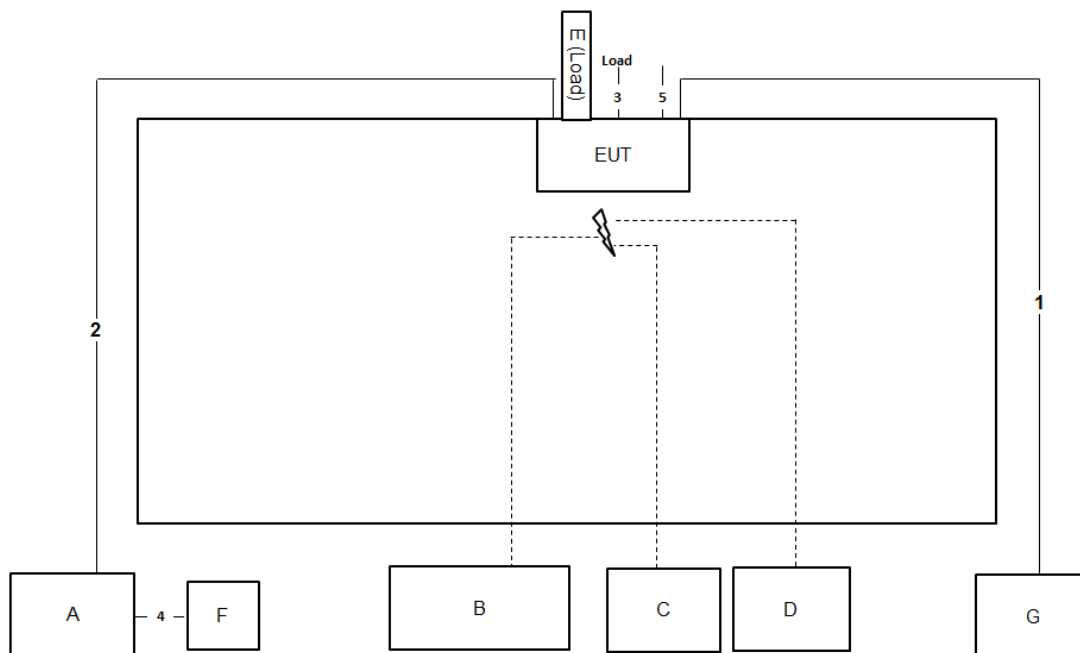
Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	PoE	Cambium Networks	P060V04	N/A
B	2.4G NB	DELL	E4300	N/A
C	5G NB	DELL	E4300	N/A
D	Smart phone	SamSung	Galaxy J2	A3LSMJ200F
E	Flash disk3.0	Silicon Power	B06	N/A
F	PoE NB	DELL	E4300	N/A
G	LAN NB	DELL	E4300	N/A

For Radiated (above 1GHz) and RF Conducted:

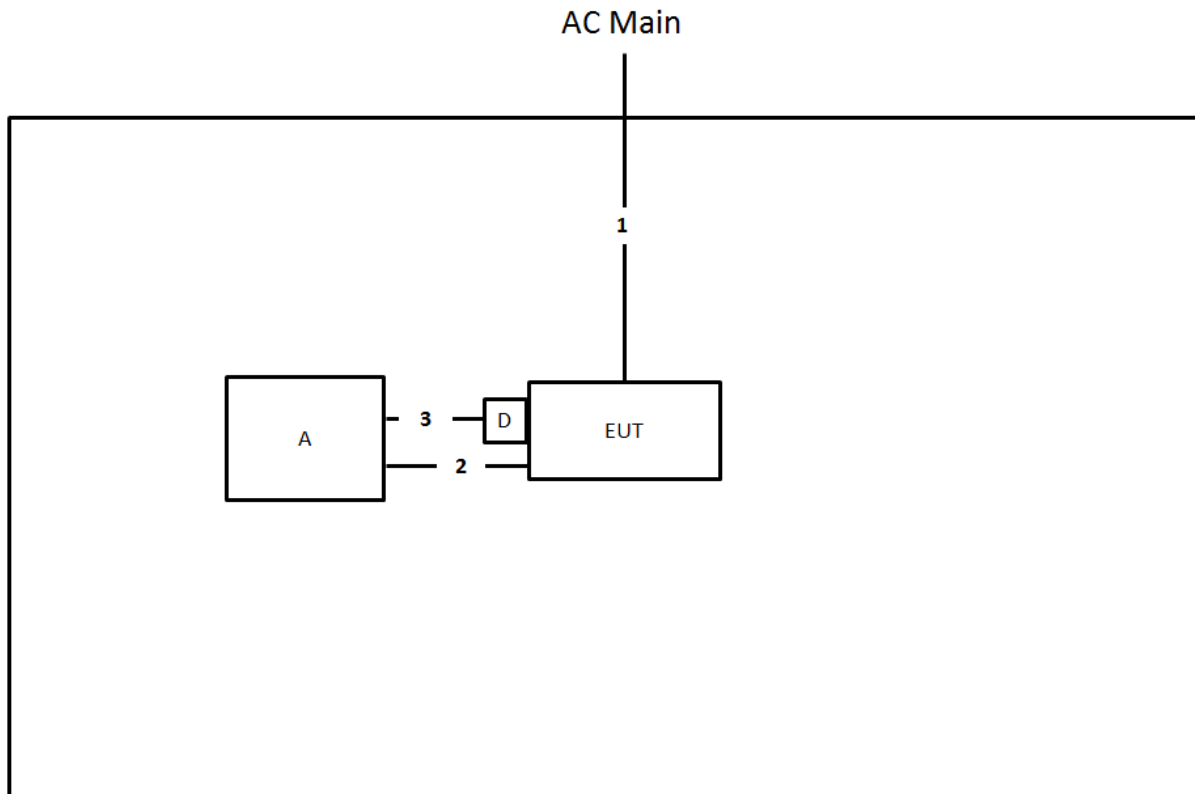
Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	NB	DELL	E4300	N/A
D	Test fixture	N/A	TJ-2	N/A

2.6 Test Setup Diagram



Test Setup Diagram - Radiated Test < 1GHz


Item	Connection	Shielded	Length
1	RJ-45 cable	No	10m
2	RJ-45 cable	No	10m
3	RJ-45 cable	No	1.5m
4	RJ-45 cable	No	1.5m
5	Console cable	No	1.5m

Test Setup Diagram - Radiated Test > 1GHz


Item	Connection	Shielded	Length
1	Power cable	No	1.5m
2	RJ-45 cable	No	1.5m
3	Console cable	Yes	1.5m



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.

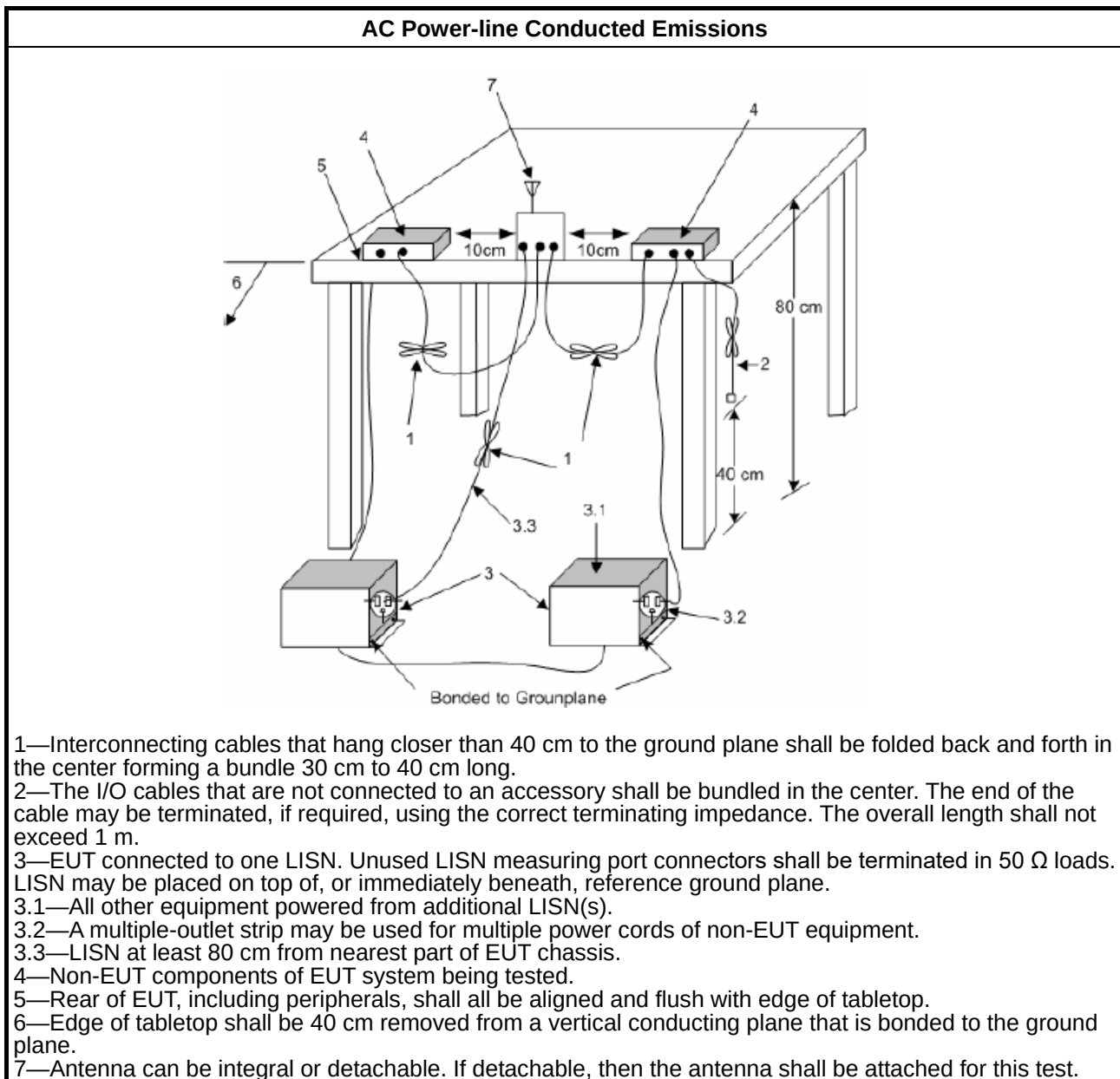
3.1.2 Measuring Instruments

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.

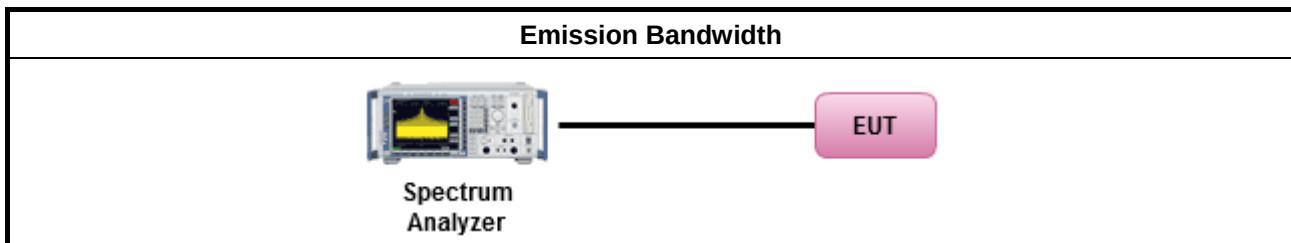
3.2.2 Measuring Instruments

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.	

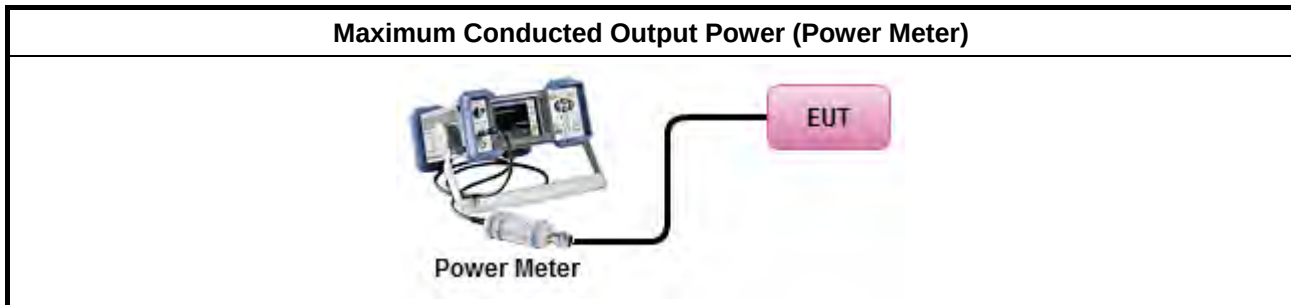
3.3.2 Measuring Instruments

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

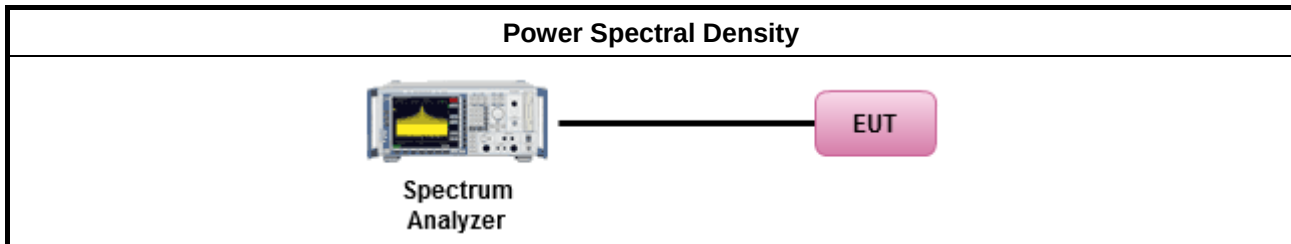
3.4.2 Measuring Instruments

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.	

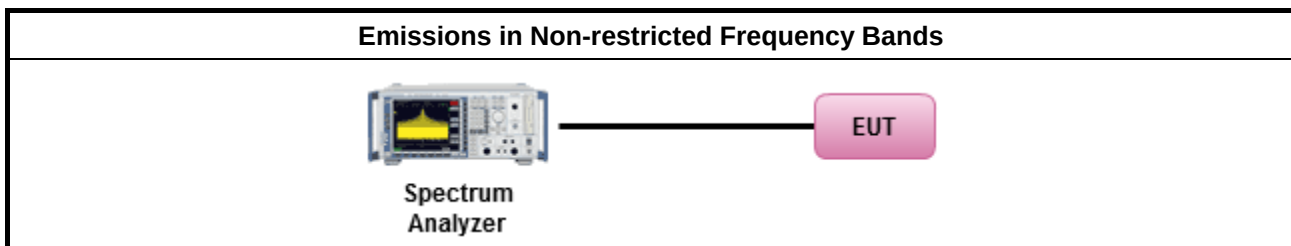
3.5.2 Measuring Instruments

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

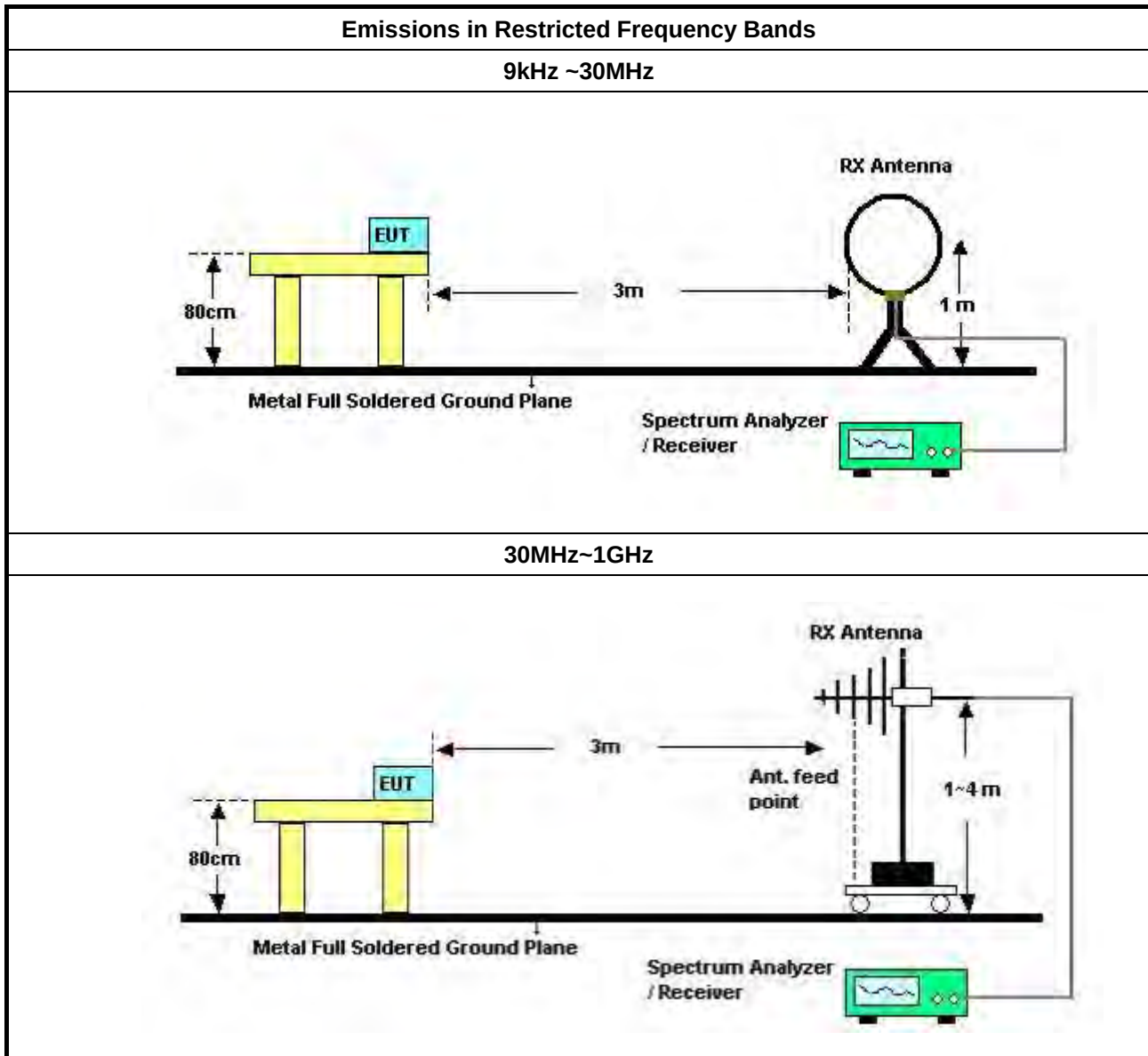
Refer a test equipment and calibration data table in this test report.

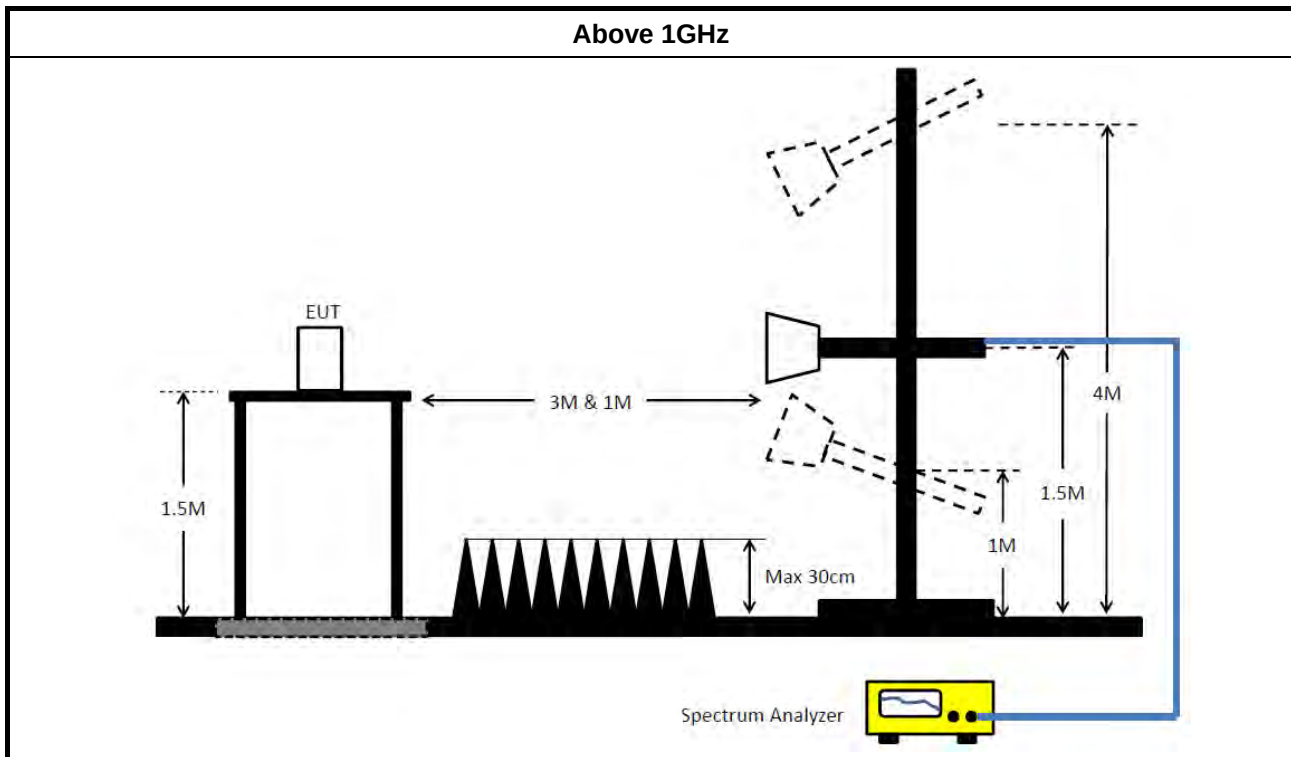


3.6.3 Test Procedures

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	Dec. 25, 2019	Dec. 24, 2020	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)
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)
Loop Antenna	Teseq	HLA 6120	24155	9kHz - 30 MHz	Apr. 13, 2020	Apr. 12, 2021	Radiation (03CH05-CB)
Pre-Amplifier	EMCI	EMC330N	980331	20MHz ~ 3GHz	Apr. 28, 2020	Apr. 27, 2021	Radiation (03CH05-CB)
Signal Analyzer	R&S	FSV40	101904	9kHz ~ 40GHz	May 12, 2020	May 11, 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)
3m Semi Anechoic Chamber VSWR	TDK	SAC-3M	03CH04-CB	1GHz ~18GHz 3m	Feb. 26, 2020	Feb. 25, 2021	Radiation (03CH04-CB)
Horn Antenna	ETS • Lindgren	3115	00143147	750MHz~18GHz	Oct. 23, 2020	Oct. 22, 2021	Radiation (03CH04-CB)
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Jul. 21, 2020	Jul. 20, 2021	Radiation (03CH04-CB)
Pre-Amplifier	Agilent	310N	187291	0.1MHz ~ 1GHz	Nov. 05, 2020	Nov. 04, 2021	Radiation (03CH04-CB)
Pre-Amplifier	Agilent	83017A	MY53270063	0.5GHz ~ 26.5GHz	Jul. 14, 2020	Jul. 13, 2021	Radiation (03CH04-CB)
Pre-Amplifier	MITEQ	TTA1840-35-HG	1864479	18GHz ~ 40GHz	Jul. 08, 2020	Jul. 07, 2021	Radiation (03CH04-CB)
Spectrum Analyzer	R&S	FSP40	100142	9kHz~40GHz	Dec. 18, 2019	Dec. 17, 2020	Radiation (03CH04-CB)



Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
RF Cable-high	Woken	RG402	High Cable-21	1GHz - 18GHz	Oct. 05, 2020	Oct. 04, 2021	Radiation (03CH04-CB)
RF Cable-high	Woken	RG402	High Cable-21+67	1GHz - 18GHz	Nov. 05, 2020	Nov. 04, 2021	Radiation (03CH04-CB)
RF Cable-high	Woken	RG402	High Cable-40G#1	18GHz ~ 40 GHz	Jul. 16, 2020	Jul. 15, 2021	Radiation (03CH04-CB)
RF Cable-high	Woken	RG402	High Cable-40G#2	18GHz ~ 40 GHz	Jul. 16, 2020	Jul. 15, 2021	Radiation (03CH04-CB)
Test Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Radiation (03CH04-CB)
Spectrum analyzer	R&S	FSV40	101027	9kHz~40GHz	Jul. 27, 2020	Jul. 26, 2021	Conducted (TH02-CB)
Power Sensor	Anritsu	MA2411B	1126203	300MHz~40GHz	Sep. 17, 2020	Sep. 16, 2021	Conducted (TH02-CB)
Power Meter	Anritsu	ML2495A	1210004	300MHz~40GHz	Sep. 17, 2020	Sep. 16, 2021	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-01	1 GHz – 26.5 GHz	Oct. 05, 2020	Oct. 04, 2021	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-02	1 GHz – 26.5 GHz	Oct. 05, 2020	Oct. 04, 2021	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-03	1 GHz – 26.5 GHz	Oct. 05, 2020	Oct. 04, 2021	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-04	1 GHz – 26.5 GHz	Oct. 05, 2020	Oct. 04, 2021	Conducted (TH02-CB)
RF Cable-high	Woken	RG402	High Cable-05	1 GHz – 26.5 GHz	Oct. 05, 2020	Oct. 04, 2021	Conducted (TH02-CB)
Test Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Conducted (TH02-CB)

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

NCR means Non-Calibration required.



Conducted Emissions at Powerline

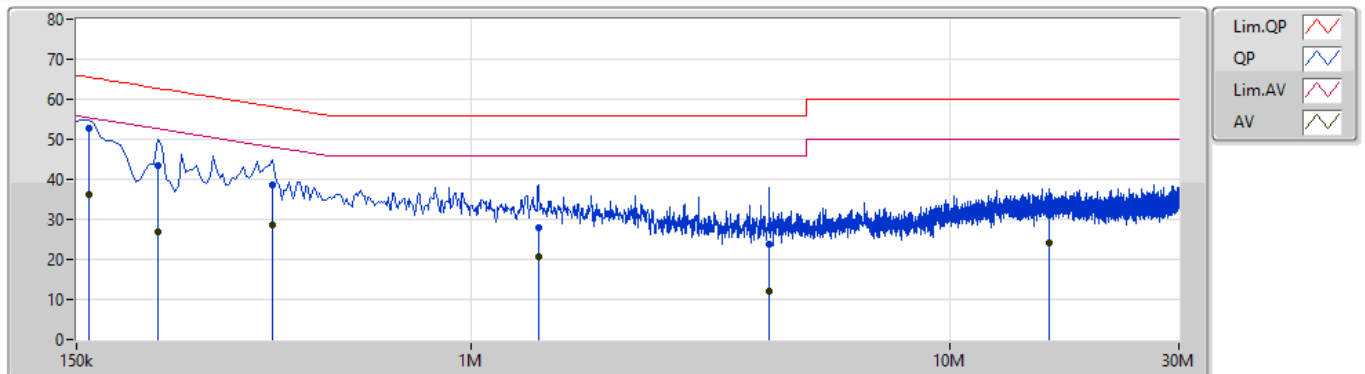
Appendix A

Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 2	Pass	AV	370.5k	36.67	48.49	-11.82	Neutral

Mode 2

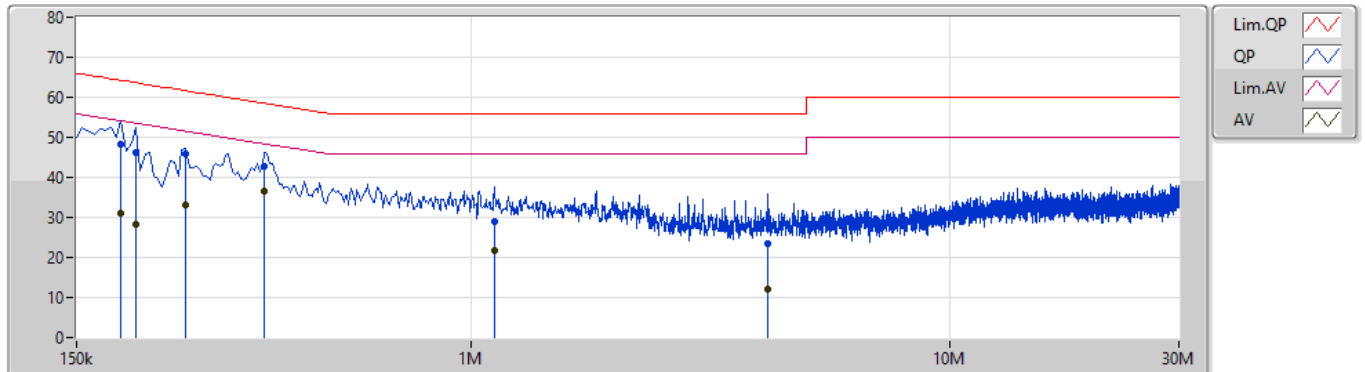
18/11/2020



Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)			
QP	159k	52.63	65.52	-12.89	9.89	Line	"Worst"	42.74	0.05	0.03	9.81			
AV	159k	36.24	55.52	-19.28	9.89	Line	-	26.35	0.05	0.03	9.81			
QP	222k	43.34	62.75	-19.41	9.89	Line	-	33.45	0.04	0.03	9.82			
AV	222k	26.80	52.75	-25.95	9.89	Line	-	16.91	0.04	0.03	9.82			
QP	384k	38.68	58.20	-19.52	9.90	Line	-	28.78	0.04	0.03	9.83			
AV	384k	28.68	48.20	-19.52	9.90	Line	-	18.78	0.04	0.03	9.83			
QP	1.383M	28.10	56.00	-27.90	9.94	Line	-	18.16	0.05	0.05	9.84			
AV	1.383M	20.74	46.00	-25.26	9.94	Line	-	10.80	0.05	0.05	9.84			
QP	4.191M	23.78	56.00	-32.22	10.06	Line	-	13.72	0.09	0.13	9.84			
AV	4.191M	12.03	46.00	-33.97	10.06	Line	-	1.97	0.09	0.13	9.84			
QP	16.098M	31.10	60.00	-28.90	10.40	Line	-	20.70	0.22	0.25	9.93			
AV	16.098M	24.29	50.00	-25.71	10.40	Line	-	13.89	0.22	0.25	9.93			

Mode 2

18/11/2020



Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	LISN (dB)	CL (dB)	AT (dB)			
QP	186k	48.23	64.20	-15.97	9.89	Neutral	-	38.34	0.04	0.03	9.82			
AV	186k	31.04	54.20	-23.16	9.89	Neutral	-	21.15	0.04	0.03	9.82			
QP	199.5k	46.21	63.63	-17.42	9.89	Neutral	-	36.32	0.04	0.03	9.82			
AV	199.5k	28.17	53.63	-25.46	9.89	Neutral	-	18.28	0.04	0.03	9.82			
QP	253.5k	45.79	61.64	-15.85	9.89	Neutral	-	35.90	0.04	0.03	9.82			
AV	253.5k	33.04	51.64	-18.60	9.89	Neutral	-	23.15	0.04	0.03	9.82			
QP	370.5k	42.74	58.49	-15.75	9.90	Neutral	-	32.84	0.04	0.03	9.83			
AV	370.5k	36.67	48.49	-11.82	9.90	Neutral	"Worst"	26.77	0.04	0.03	9.83			
QP	1.118M	28.97	56.00	-27.03	9.93	Neutral	-	19.04	0.06	0.04	9.83			
AV	1.118M	21.63	46.00	-24.37	9.93	Neutral	-	11.70	0.06	0.04	9.83			
QP	4.169M	23.41	56.00	-32.59	10.06	Neutral	-	13.35	0.09	0.13	9.84			
AV	4.169M	12.16	46.00	-33.84	10.06	Neutral	-	2.10	0.09	0.13	9.84			

**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)	701.25k	1.049M	1M05F1D	696.25k	1.046M
BT-LE(2Mbps)	1.133M	2.051M	2M05F1D	1.128M	2.046M

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

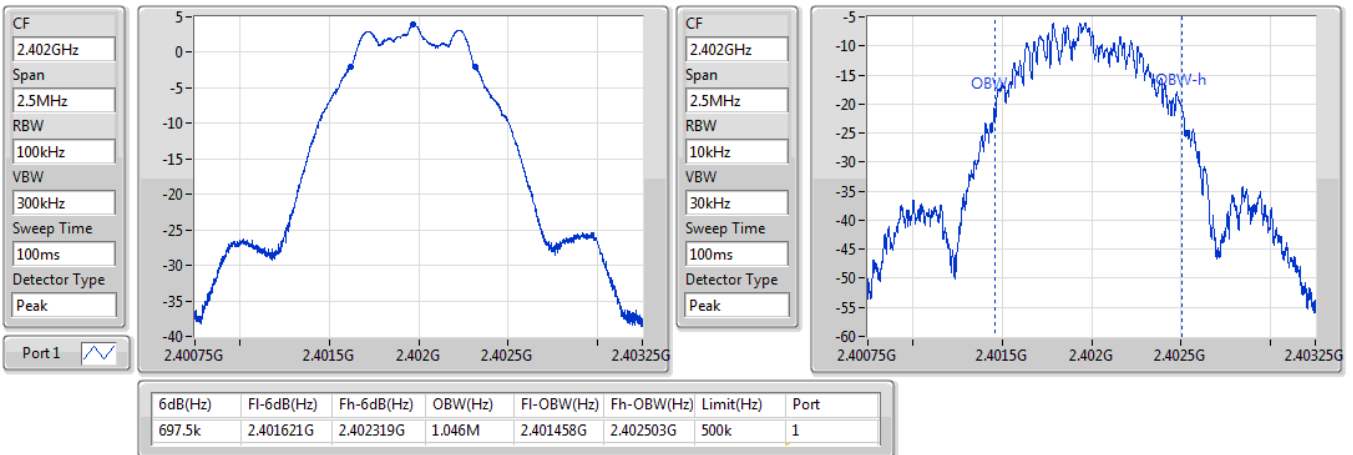
Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	500k	697.5k	1.046M
2440MHz	Pass	500k	701.25k	1.047M
2480MHz	Pass	500k	696.25k	1.049M
BT-LE(2Mbps)	-	-	-	-
2402MHz	Pass	500k	1.128M	2.046M
2440MHz	Pass	500k	1.133M	2.046M
2480MHz	Pass	500k	1.13M	2.051M

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

BT-LE(1Mbps)

2402MHz

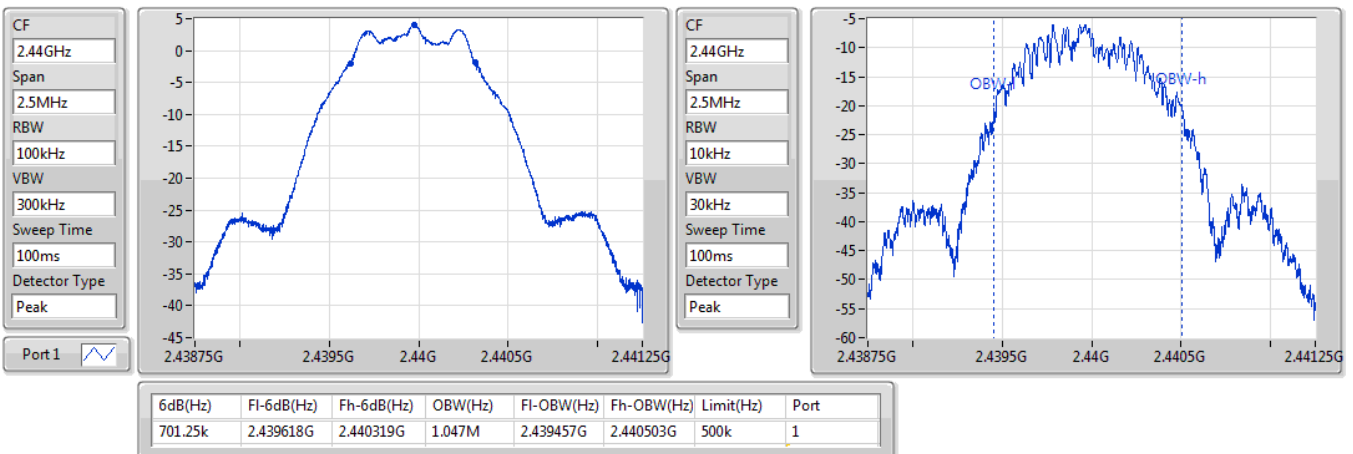
25/11/2020



BT-LE(1Mbps)

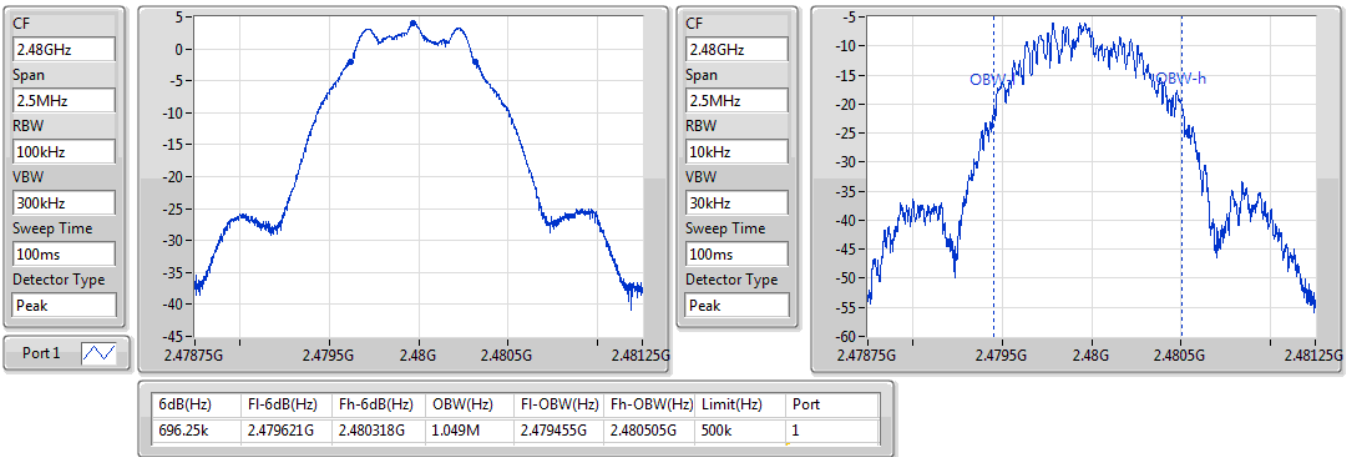
2440MHz

25/11/2020

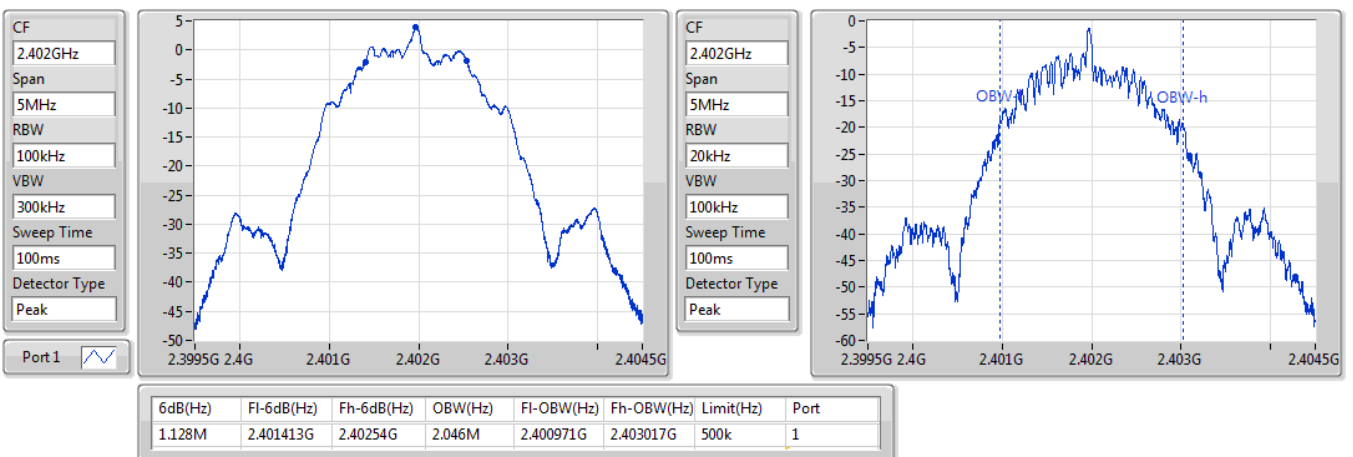


BT-LE(1Mbps)
EBW
2480MHz

25/11/2020

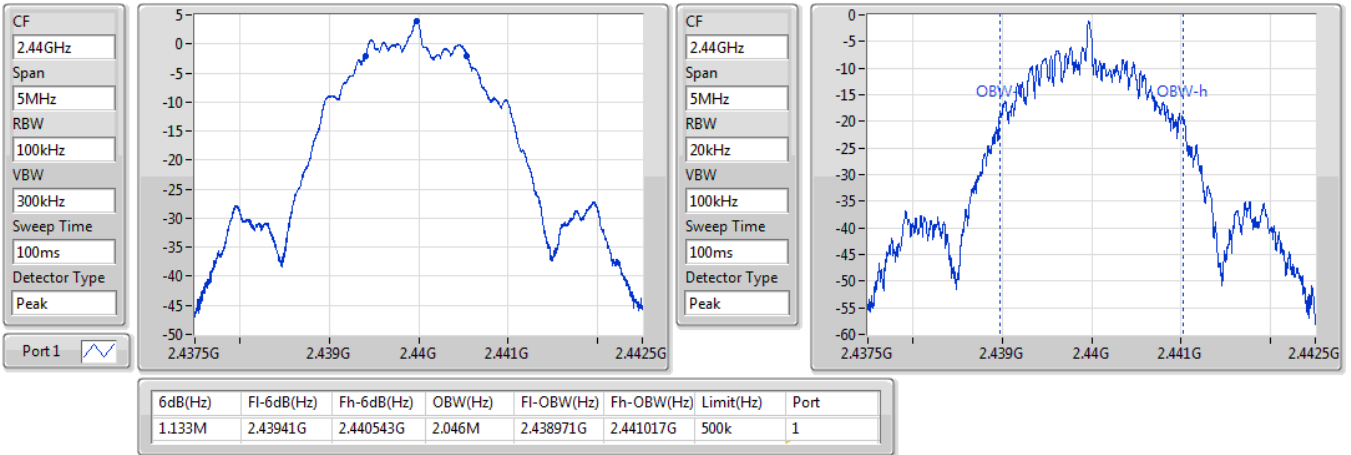

BT-LE(2Mbps)
EBW
2402MHz

25/11/2020

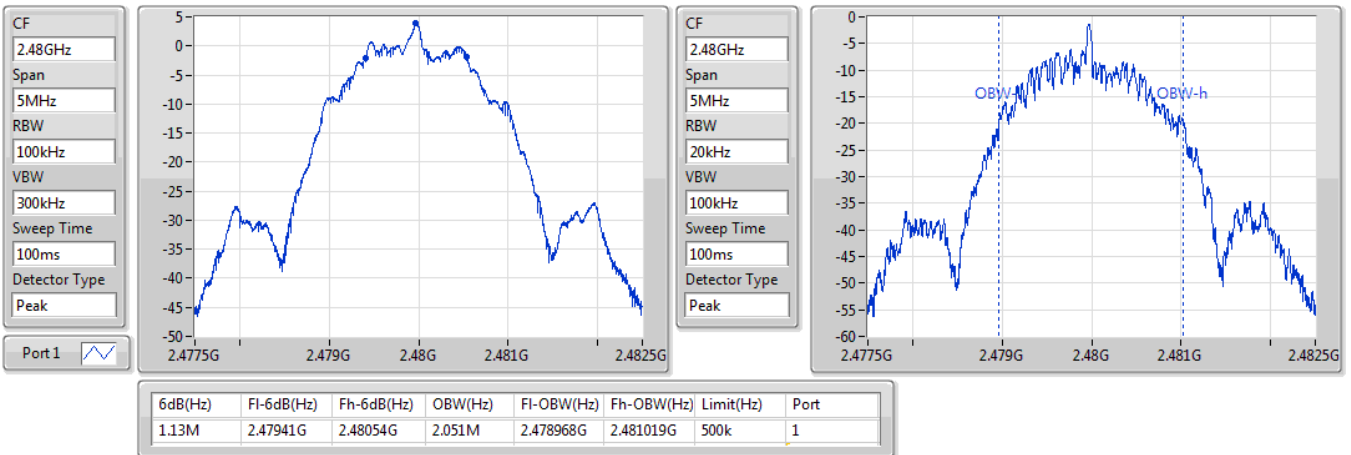


BT-LE(2Mbps)
EBW
2440MHz

25/11/2020


BT-LE(2Mbps)
EBW
2480MHz

25/11/2020





Summary

Mode	Power (dBm)	Power (W)
2.4-2.4835GHz	-	-
BT-LE(1Mbps)	3.81	0.00240
BT-LE(2Mbps)	3.70	0.00234



Result

Mode	Result	Gain (dBi)	Power (dBm)	Power Limit (dBm)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	4.60	3.71	30.00
2440MHz	Pass	4.60	3.81	30.00
2480MHz	Pass	4.60	3.79	30.00
BT-LE(2Mbps)	-	-	-	-
2402MHz	Pass	4.60	3.53	30.00
2440MHz	Pass	4.60	3.70	30.00
2480MHz	Pass	4.60	3.65	30.00

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



Summary

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
BT-LE(1Mbps)	-11.60
BT-LE(2Mbps)	-13.96

RBW=3 kHz.

Result

Mode	Result	Gain (dBi)	PD (dBm/RBW)	PD Limit (dBm/RBW)
BT-LE(1Mbps)	-	-	-	-
2402MHz	Pass	4.60	-11.66	8.00
2440MHz	Pass	4.60	-11.60	8.00
2480MHz	Pass	4.60	-11.99	8.00
BT-LE(2Mbps)	-	-	-	-
2402MHz	Pass	4.60	-14.14	8.00
2440MHz	Pass	4.60	-13.96	8.00
2480MHz	Pass	4.60	-16.82	8.00

DG = Directional Gain; RBW=3 kHz;

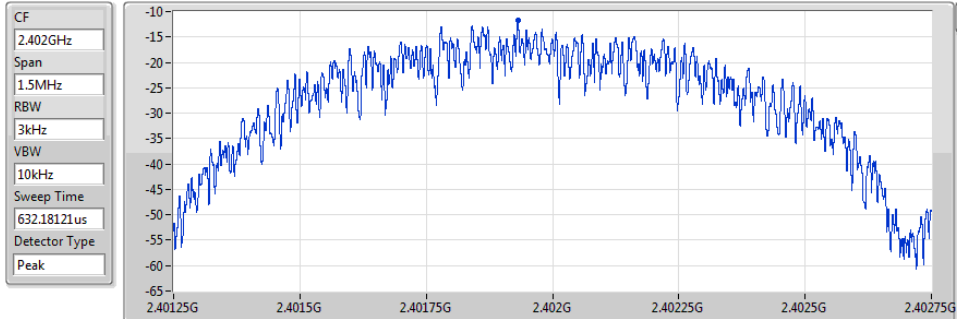
PD = trace bin-by-bin of each transmits port summing can be performed maximum power density; **Port X** = Port X power density;

BT-LE(1Mbps)

PSD

2402MHz

25/11/2020



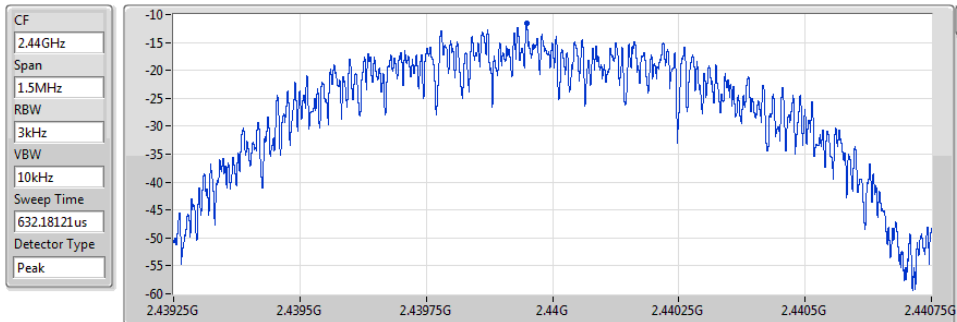
Sum	PD	Port 1
(dBm/100kHz)	(dBm/100kHz)	(dBm/100kHz)
-11.66	-11.66	-11.66

BT-LE(1Mbps)

PSD

2440MHz

25/11/2020



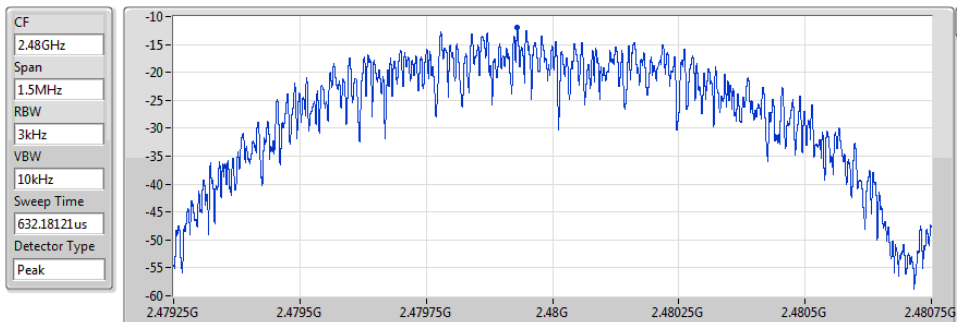
Sum	PD	Port 1
(dBm/100kHz)	(dBm/100kHz)	(dBm/100kHz)
-11.60	-11.60	-11.60

BT-LE(1Mbps)

PSD

2480MHz

25/11/2020



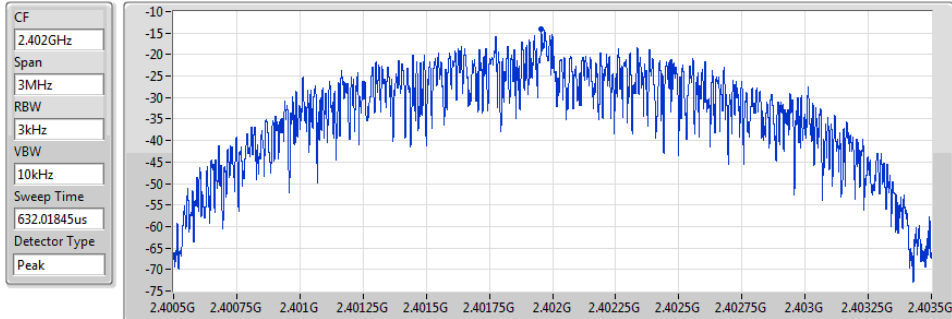
Sum	PD	Port 1
(dBm/100kHz)	(dBm/100kHz)	(dBm/100kHz)
-11.99	-11.99	-11.99

BT-LE(2Mbps)

PSD

2402MHz

25/11/2020



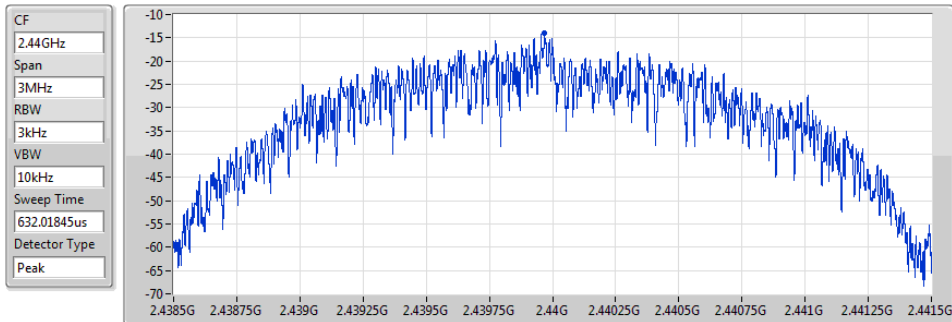
Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-14.14	-14.14	-14.14

BT-LE(2Mbps)

PSD

2440MHz

25/11/2020



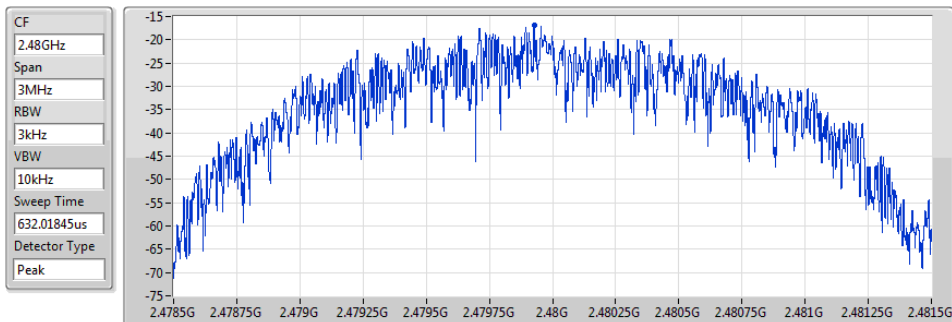
Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-13.96	-13.96	-13.96

BT-LE(2Mbps)

PSD

2480MHz

25/11/2020



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-16.82	-16.82	-16.82

**Summary**

Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BT-LE(1Mbps)	Pass	2.44G	3.44	-26.56	2.30598G	-51.97	2.39959G	-47.71	2.4G	-50.76	2.49796G	-51.25	23.59959G	-44.15	1
BT-LE(2Mbps)	Pass	2.43995G	3.82	-26.18	159.84M	-53.49	2.39996G	-28.42	2.4G	-29.96	2.50261G	-52.00	23.35494G	-42.79	1

**Result**

Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
BT-LE(1Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.44G	3.44	-26.56	2.30598G	-51.97	2.39959G	-47.71	2.4G	-50.76	2.49796G	-51.25	23.59959G	-44.15	1
2440MHz	Pass	2.44G	3.44	-26.56	159.84M	-52.97	2.39456G	-52.24	2.4835G	-54.55	2.50131G	-51.73	17.63802G	-43.99	1
2480MHz	Pass	2.44G	3.44	-26.56	159.84M	-52.12	2.39312G	-51.34	2.4G	-53.97	2.48399G	-50.33	23.30995G	-42.83	1
BT-LE(2Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.43995G	3.82	-26.18	159.84M	-53.49	2.39996G	-28.42	2.4G	-29.96	2.50261G	-52.00	23.35494G	-42.79	1
2440MHz	Pass	2.43995G	3.82	-26.18	1.88826G	-53.62	2.39204G	-52.28	2.4835G	-55.37	2.49131G	-51.70	24.60069G	-43.61	1
2480MHz	Pass	2.43995G	3.82	-26.18	2.30363G	-52.79	2.39969G	-52.47	2.4835G	-51.01	2.48352G	-49.76	24.50508G	-43.61	1

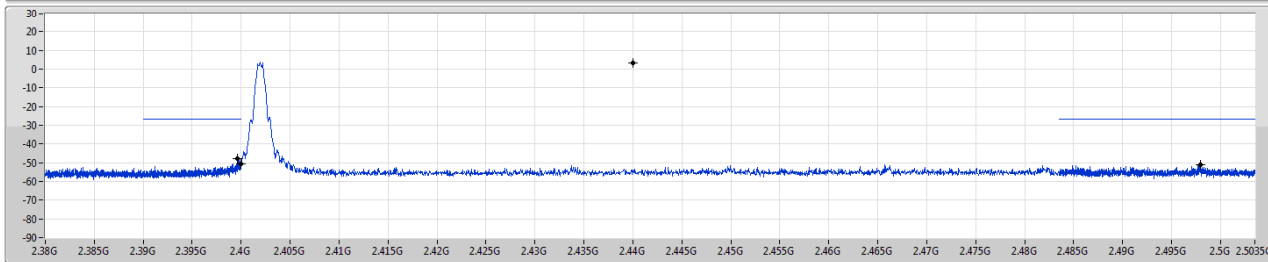
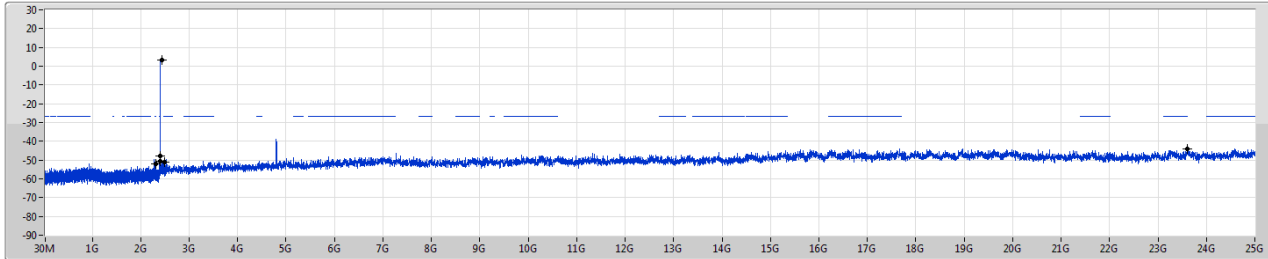
BT-LE(1Mbps)

2402MHz

CSE NdB

25/11/2020

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
2.44G	3.44	-26.56	2.30598G	-51.97	2.39959G	-47.71	2.4G	-50.76	2.49796G	-51.25	23.59999G	-44.15	1

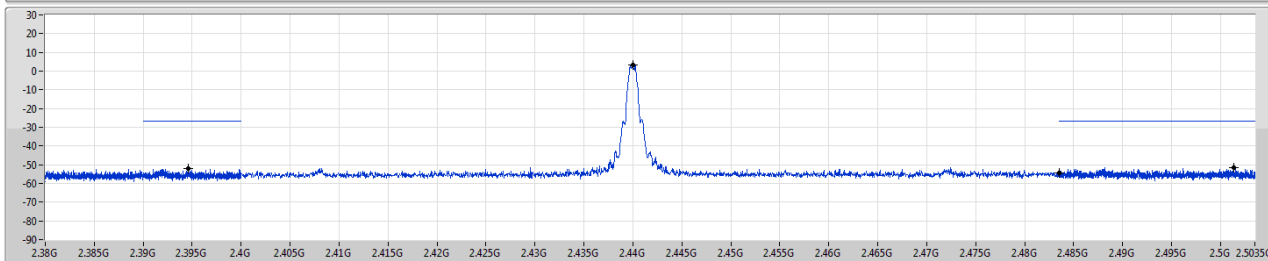
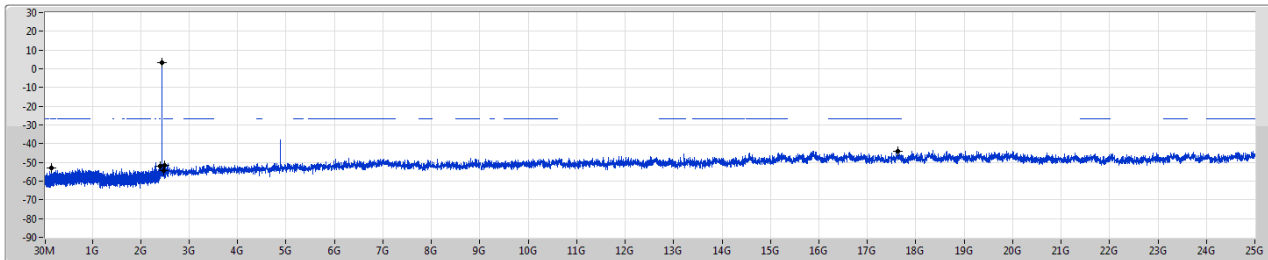
BT-LE(1Mbps)

2440MHz

CSE NdB

25/11/2020

Port1



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

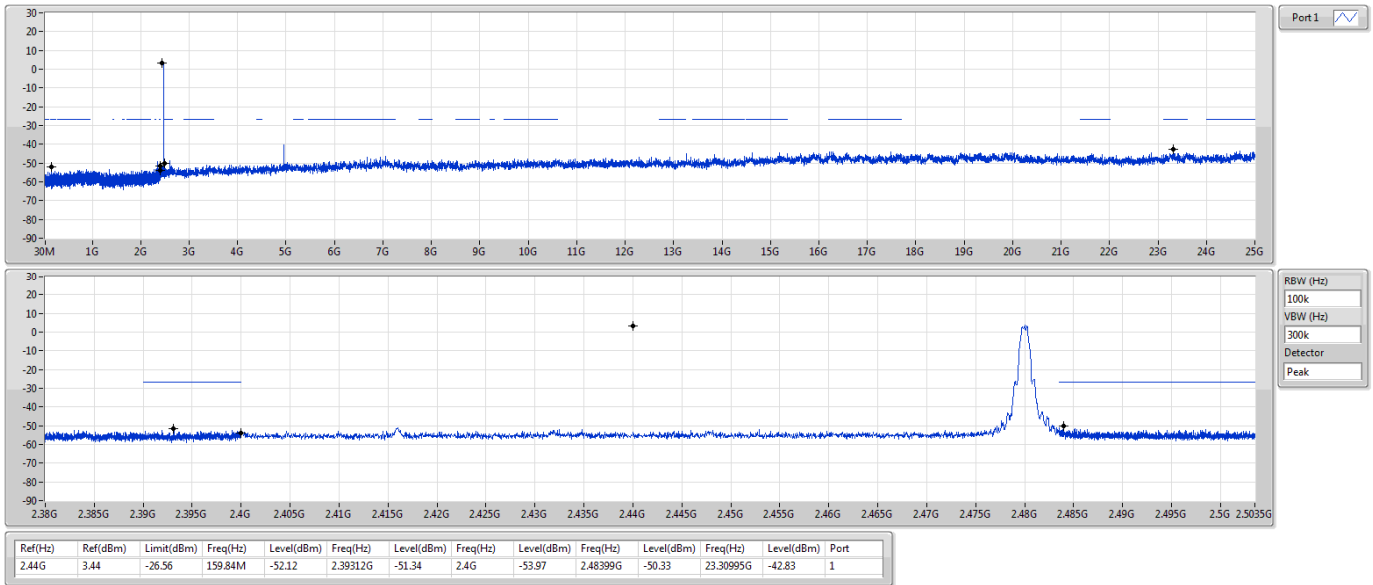
Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.44G	3.44	-26.56	159.84M	-52.97	2.39456G	-52.24	2.4835G	-54.55	2.50131G	-51.73	17.63802G	-43.99	1

BT-LE(1Mbps)

2480MHz

CSE NdB

25/11/2020

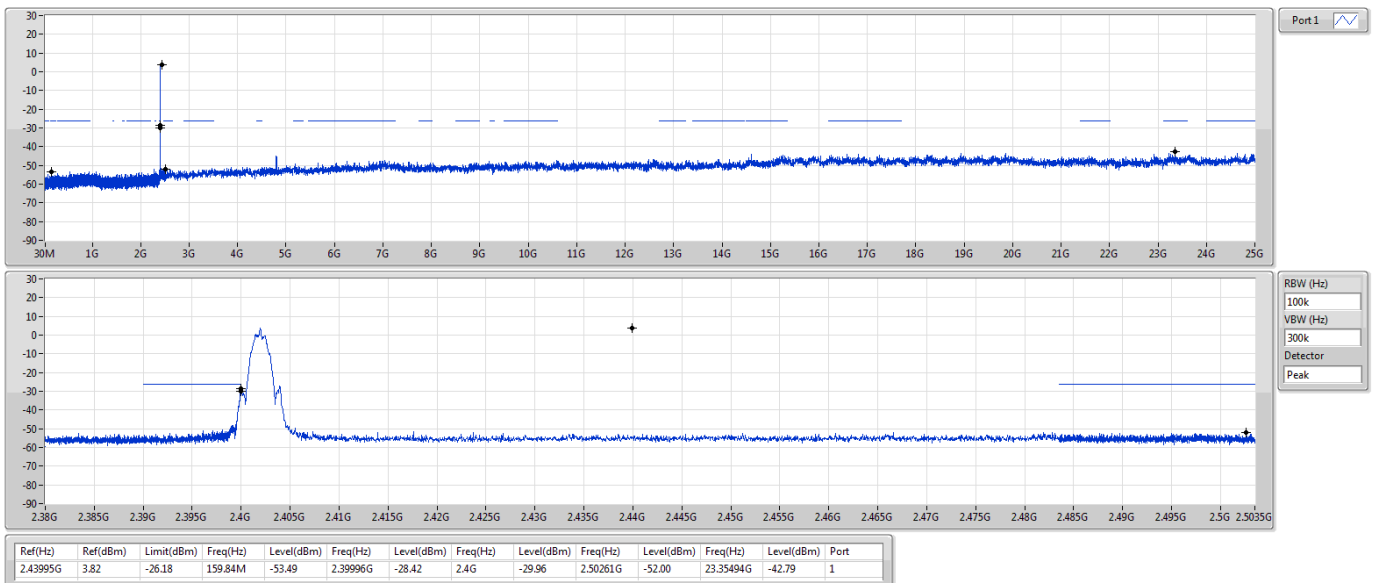


BT-LE(2Mbps)

2402MHz

CSE NdB

25/11/2020

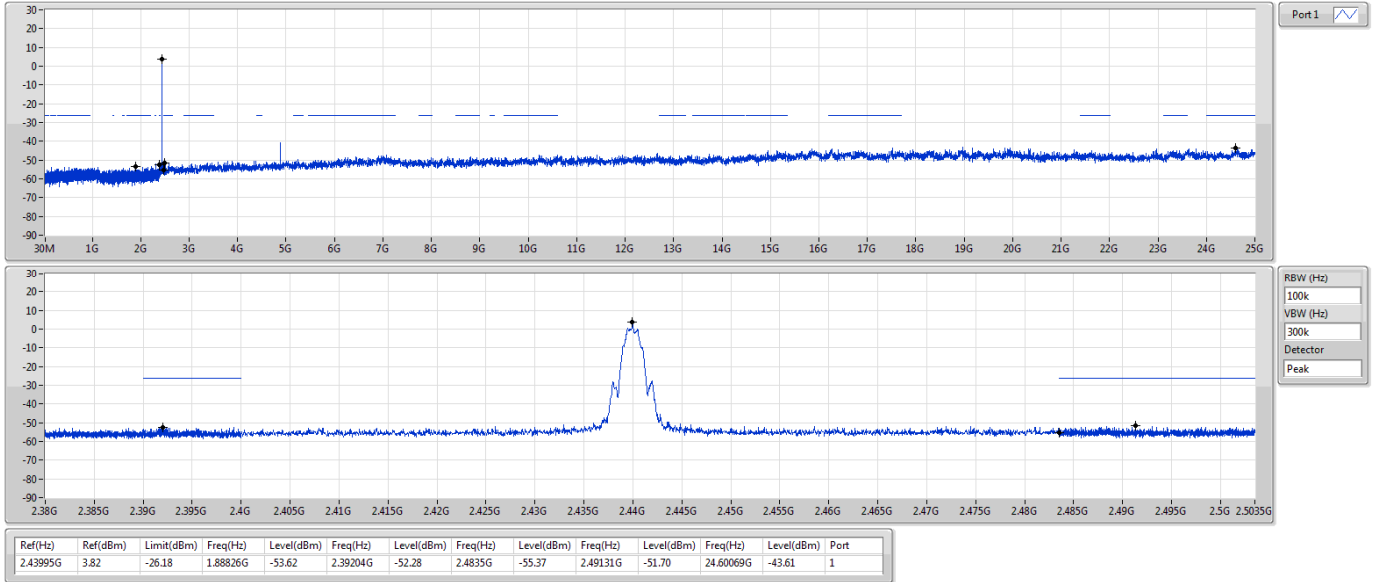


BT-LE(2Mbps)

2440MHz

CSE NdB

25/11/2020

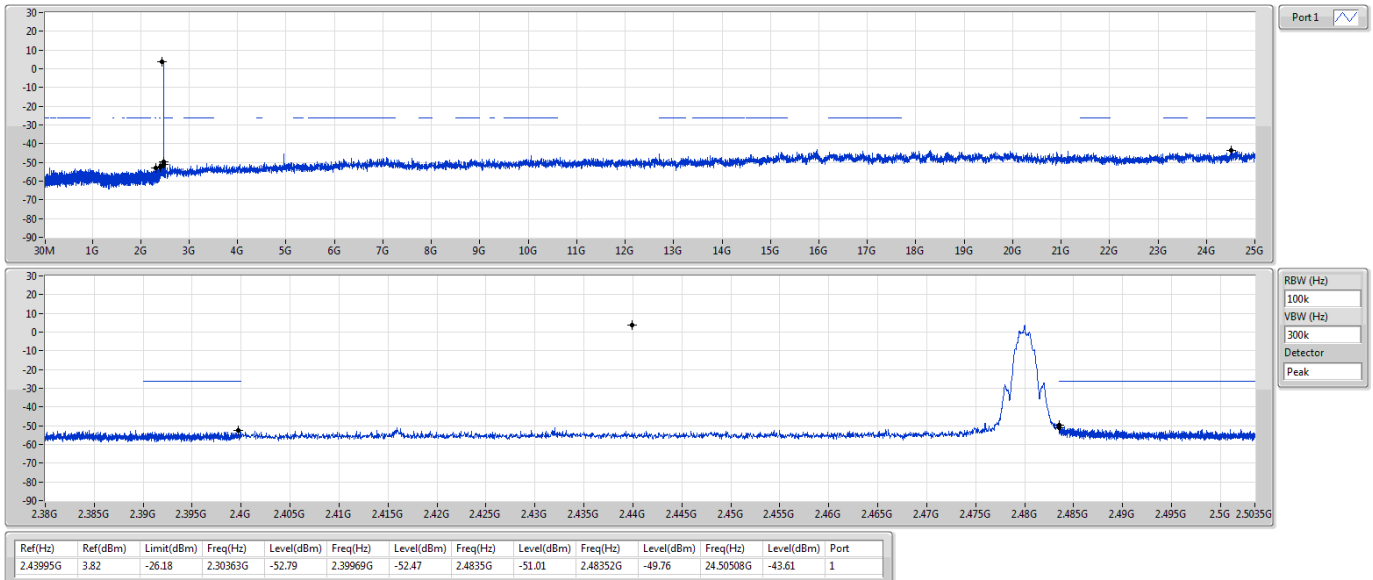


BT-LE(2Mbps)

2480MHz

CSE NdB

25/11/2020





Radiated Emissions below 1GHz

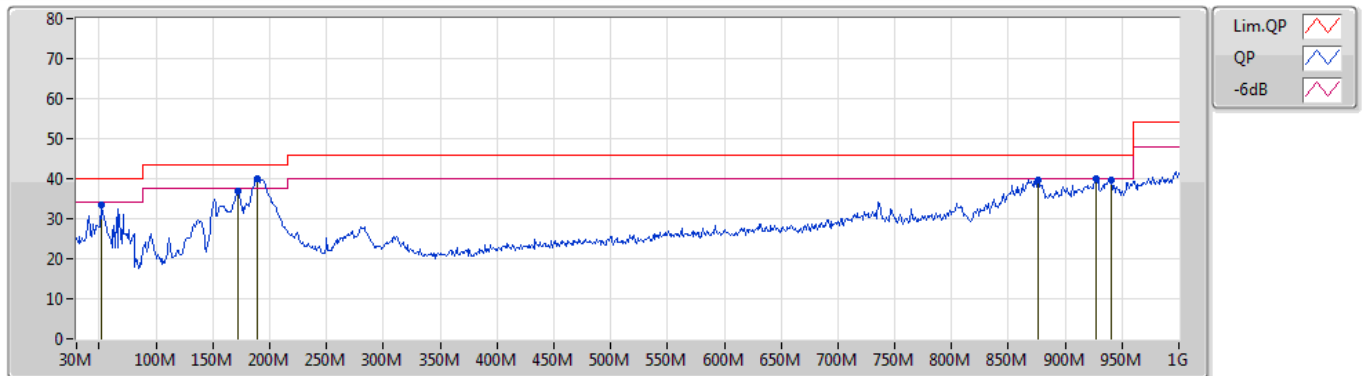
Appendix F.1

Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Condition
Mode 3	Pass	PK	189.08M	40.11	43.50	-3.39	Vertical

Mode 3

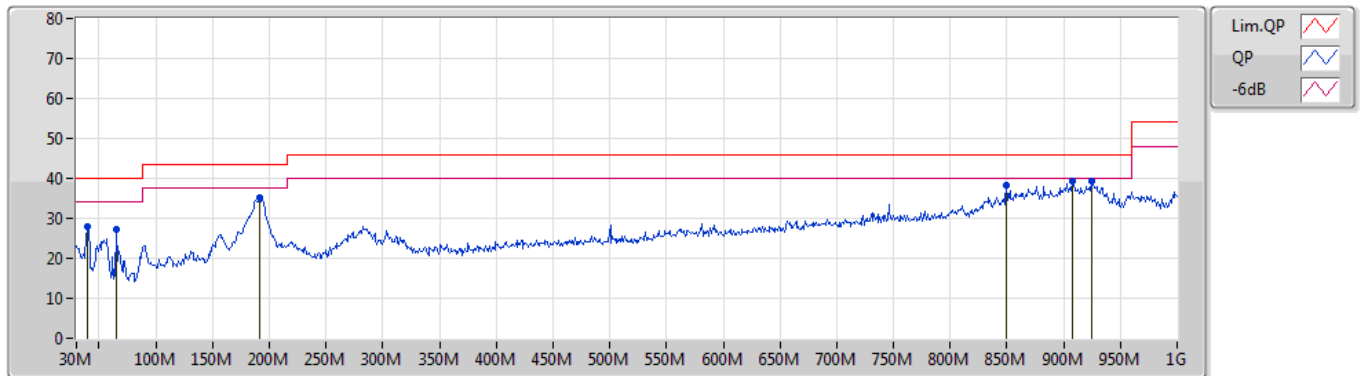
17/11/2020



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	51.34M	33.56	40.00	-6.44	-16.89	3	Vertical	334	1.50	-	50.45	14.13	0.63	31.65
PK	171.62M	36.88	43.50	-6.62	-14.88	3	Vertical	140	1.00	-	51.76	15.51	1.46	31.85
PK	189.08M	40.11	43.50	-3.39	-15.34	3	Vertical	9	1.00	"Worst"	55.45	14.95	1.59	31.88
PK	875.84M	39.71	46.00	-6.29	-2.37	3	Vertical	169	1.50	-	42.08	25.87	4.11	32.35
PK	927.25M	40.09	46.00	-5.91	-1.93	3	Vertical	147	1.25	-	42.02	25.98	4.30	32.21
PK	940.83M	39.78	46.00	-6.22	-1.72	3	Vertical	173	1.25	-	41.50	26.13	4.30	32.15

Mode 3

17/11/2020



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	39.7M	28.08	40.00	-11.92	-11.61	3	Horizontal	359	1.50	-	39.69	19.23	0.59	31.43
PK	64.92M	27.07	40.00	-12.93	-18.55	3	Horizontal	201	1.50	-	45.62	12.47	0.80	31.82
PK	191.02M	35.19	43.50	-8.31	-15.30	3	Horizontal	161	1.50	-	50.49	14.96	1.61	31.87
PK	849.65M	38.20	46.00	-7.80	-2.84	3	Horizontal	159	1.25	-	41.04	25.62	3.90	32.36
PK	907.85M	39.45	46.00	-6.55	-2.13	3	Horizontal	307	1.25	"Worst"	41.58	25.88	4.30	32.31
PK	924.34M	39.40	46.00	-6.60	-1.98	3	Horizontal	143	1.00	-	41.38	25.95	4.30	32.23



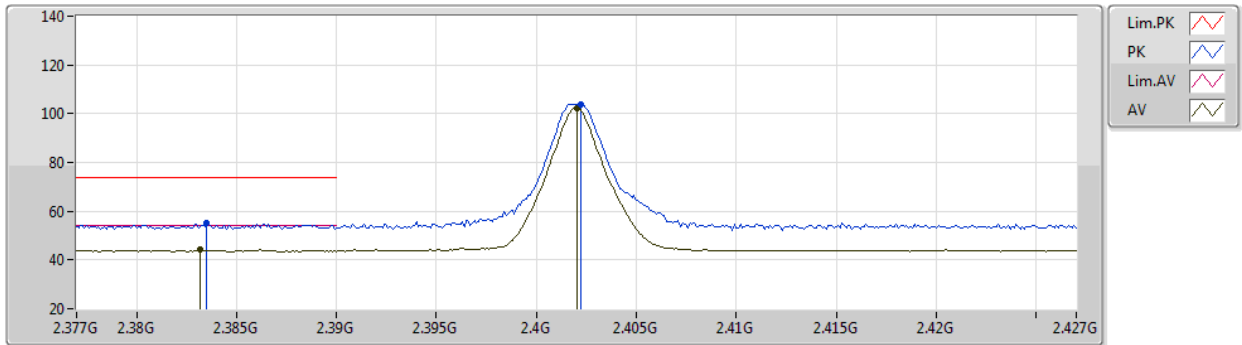
Summary

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(2Mbps)	Pass	AV	4.95899G	52.12	54.00	-1.88	3	Horizontal	101	2.51	-

BT-LE(1Mbps)

25/11/2020

2402MHz_TX



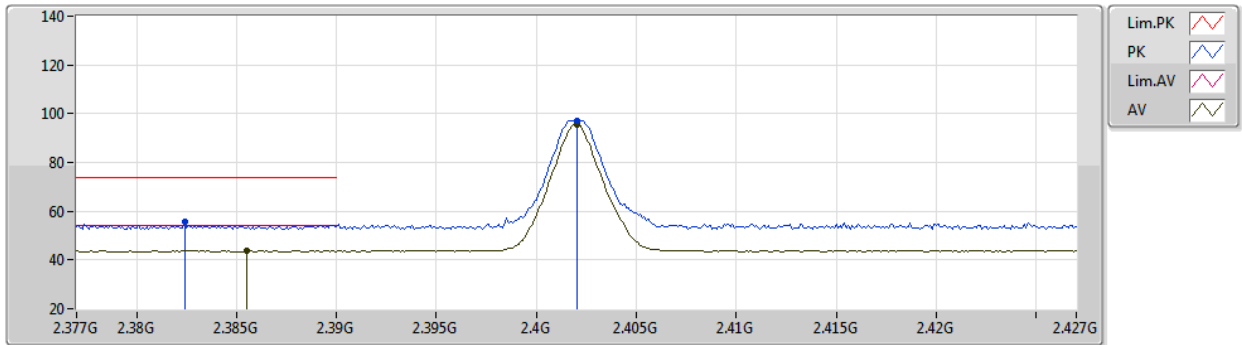
EUT Y_1TX
Setting Default
04-F-S-5

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	2.3835G	55.16	74.00	-18.84	24.49	3	Vertical	0	2.19	-	27.47	3.20	-
AV	2.3832G	44.15	54.00	-9.85	13.48	3	Vertical	0	2.19	-	27.47	3.20	-
PK	2.4022G	103.90	Inf	-Inf	73.20	3	Vertical	0	2.19	-	27.50	3.20	-
AV	2.402G	102.41	Inf	-Inf	71.71	3	Vertical	0	2.19	-	27.50	3.20	-

BT-LE(1Mbps)

25/11/2020

2402MHz_TX



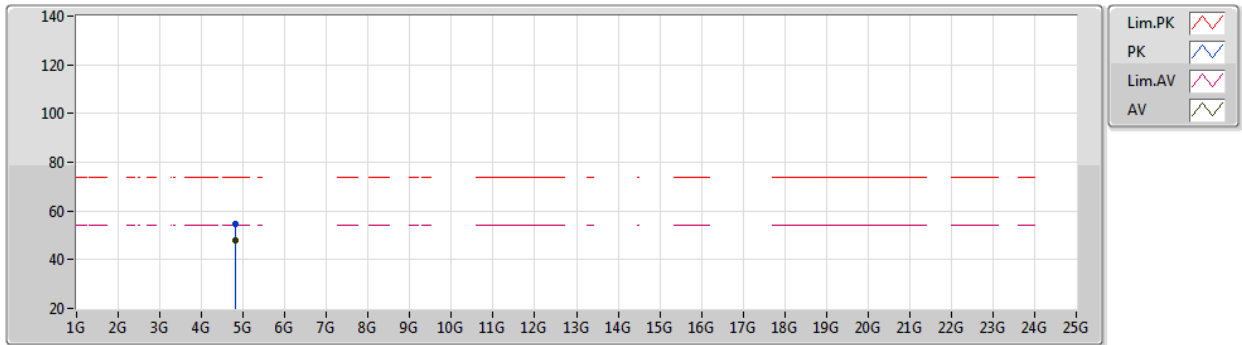
EUT Y_1TX
Setting Default
04-F-S-5

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	2.3824G	55.90	74.00	-18.10	25.24	3	Horizontal	37	2.33	-	27.46	3.20	-
AV	2.3855G	43.88	54.00	-10.12	13.21	3	Horizontal	37	2.33	-	27.47	3.20	-
PK	2.402G	97.11	Inf	-Inf	66.41	3	Horizontal	37	2.33	-	27.50	3.20	-
AV	2.402G	95.71	Inf	-Inf	65.01	3	Horizontal	37	2.33	-	27.50	3.20	-

BT-LE(1Mbps)

25/11/2020

2402MHz_TX



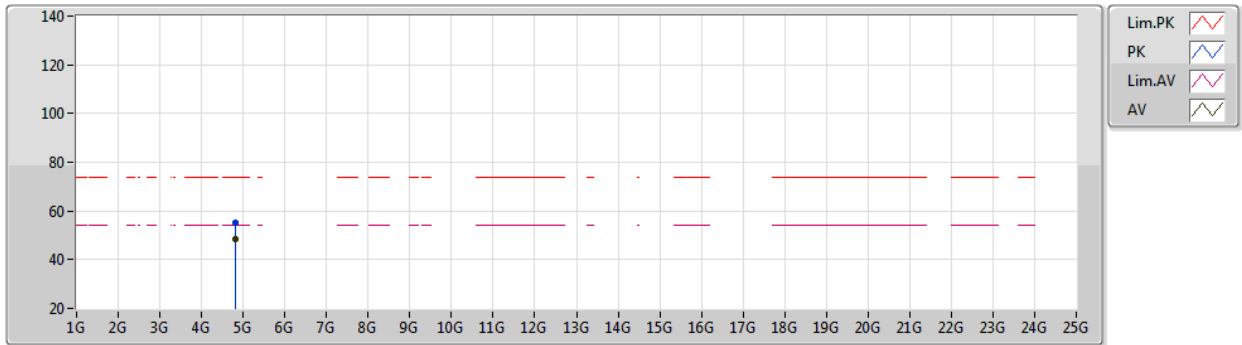
EUT Y_1TX
Setting Default
04-F-S-5

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	4.8041G	54.43	74.00	-19.57	49.49	3	Vertical	141	1.00	-	32.42	5.40	32.88
AV	4.804G	47.69	54.00	-6.31	42.75	3	Vertical	141	1.00	-	32.42	5.40	32.88

BT-LE(1Mbps)

25/11/2020

2402MHz_TX



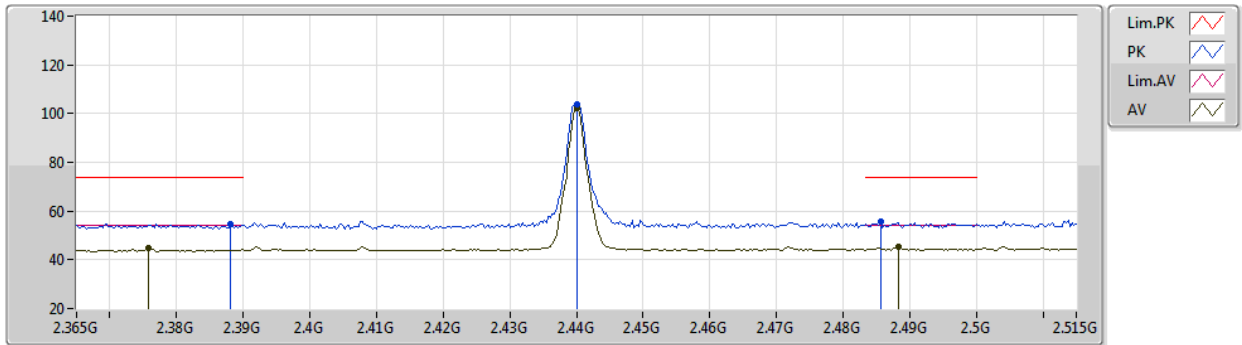
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Setting Default
04-F-S-5

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	4.80441G	55.00	74.00	-19.00	50.05	3	Horizontal	206	2.43	-	32.43	5.40	32.88
AV	4.80389G	48.33	54.00	-5.67	43.39	3	Horizontal	206	2.43	-	32.42	5.40	32.88

BT-LE(1Mbps)

2440MHz_TX

25/11/2020



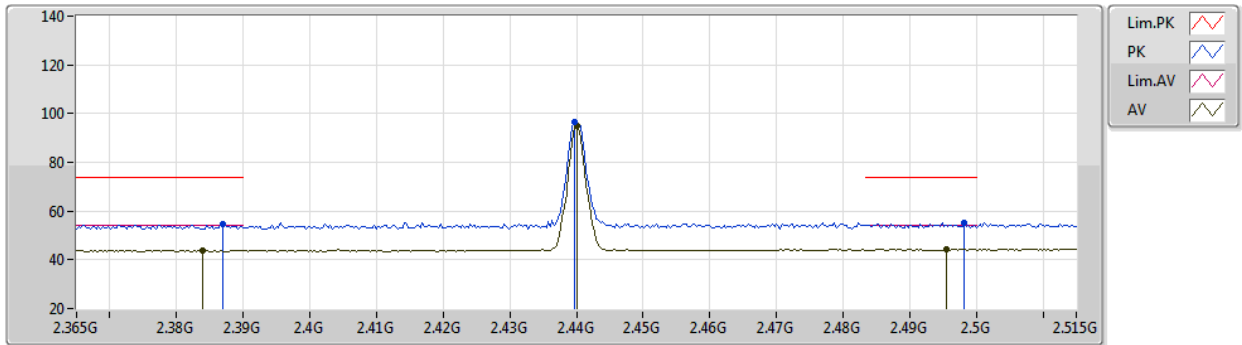
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Setting Default
04-F-S-5

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	2.3881G	54.86	74.00	-19.14	24.18	3	Vertical	360	2.62	-	27.48	3.20	-
AV	2.3758G	44.87	54.00	-9.13	14.22	3	Vertical	360	2.62	-	27.45	3.20	-
PK	2.44G	103.86	Inf	-Inf	73.04	3	Vertical	360	2.62	-	27.58	3.24	-
AV	2.44G	102.38	Inf	-Inf	71.56	3	Vertical	360	2.62	-	27.58	3.24	-
PK	2.4856G	55.48	74.00	-18.52	24.45	3	Vertical	360	2.62	-	27.74	3.29	-
AV	2.4883G	45.19	54.00	-8.81	14.15	3	Vertical	360	2.62	-	27.75	3.29	-

BT-LE(1Mbps)

2440MHz_TX

25/11/2020



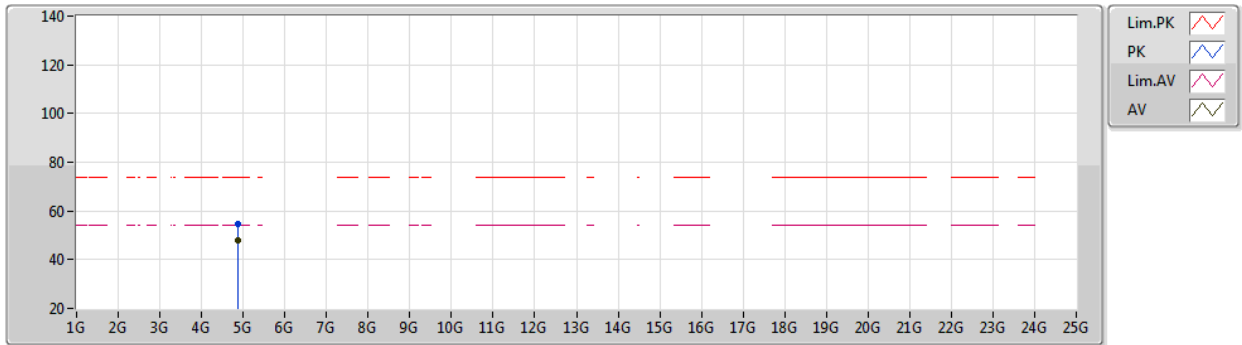
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Setting Default
04-F-S-5

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	2.3869G	54.82	74.00	-19.18	24.15	3	Horizontal	31	2.22	-	27.47	3.20	-
AV	2.3839G	43.98	54.00	-10.02	13.31	3	Horizontal	31	2.22	-	27.47	3.20	-
PK	2.4397G	96.31	Inf	-Inf	65.49	3	Horizontal	31	2.22	-	27.58	3.24	-
AV	2.44G	94.83	Inf	-Inf	64.01	3	Horizontal	31	2.22	-	27.58	3.24	-
PK	2.4982G	55.19	74.00	-18.81	24.10	3	Horizontal	31	2.22	-	27.79	3.30	-
AV	2.4955G	44.48	54.00	-9.52	13.40	3	Horizontal	31	2.22	-	27.78	3.30	-

BT-LE(1Mbps)

2440MHz_TX

25/11/2020



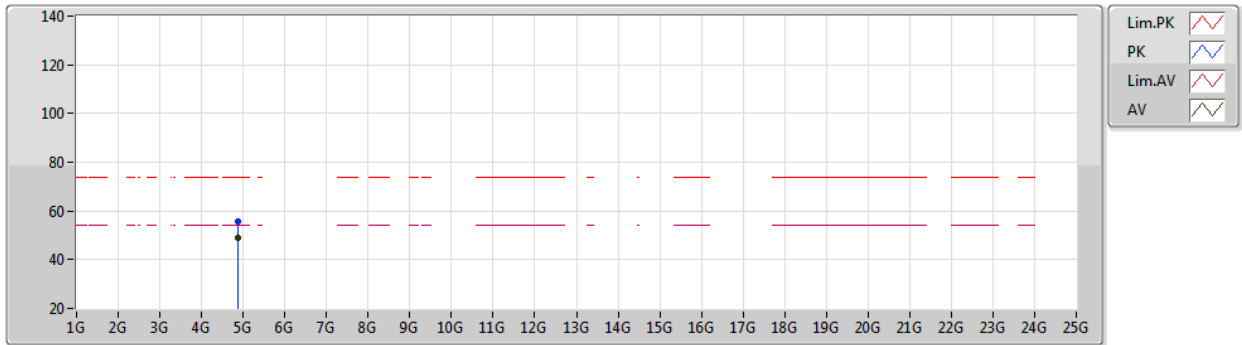
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Setting Default
04-F-S-5

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	4.88036G	54.76	74.00	-19.24	49.43	3	Vertical	147	1.11	-	32.76	5.44	32.87
AV	4.87992G	47.95	54.00	-6.05	42.62	3	Vertical	147	1.11	-	32.76	5.44	32.87

BT-LE(1Mbps)

25/11/2020

2440MHz_TX



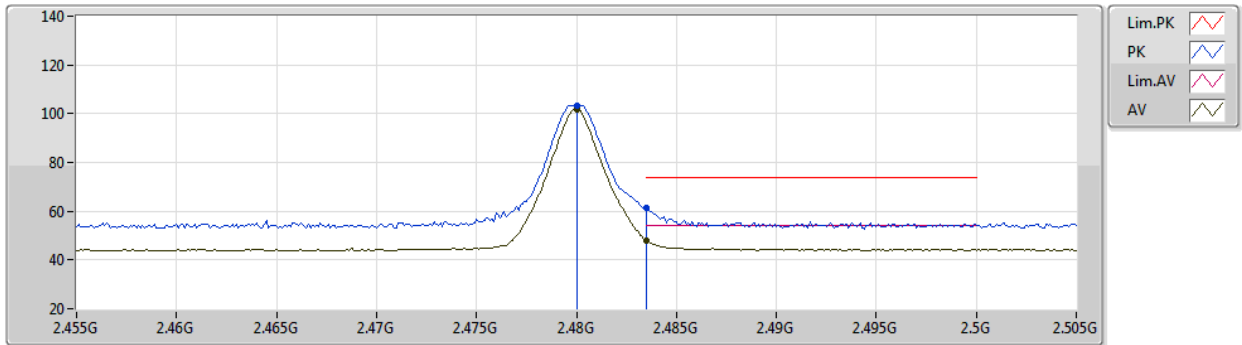
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Setting Default
04-F-S-5

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	4.87952G	55.52	74.00	-18.48	50.19	3	Horizontal	210	2.49	-	32.76	5.44	32.87
AV	4.87992G	49.13	54.00	-4.87	43.80	3	Horizontal	210	2.49	-	32.76	5.44	32.87

BT-LE(1Mbps)

2480MHz_TX

25/11/2020



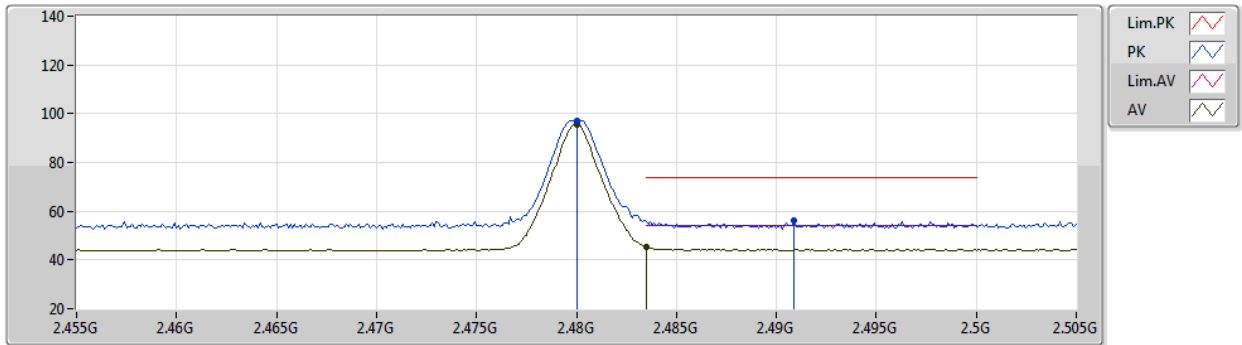
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Setting Default
04-F-S-5

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	2.48G	103.18	Inf	-Inf	72.18	3	Vertical	10	2.59	-	27.72	3.28	-
AV	2.48G	101.69	Inf	-Inf	70.69	3	Vertical	10	2.59	-	27.72	3.28	-
PK	2.4835G	61.23	74.00	-12.77	30.22	3	Vertical	10	2.59	-	27.73	3.28	-
AV	2.4835G	48.07	54.00	-5.93	17.06	3	Vertical	10	2.59	-	27.73	3.28	-

BT-LE(1Mbps)

2480MHz_TX

25/11/2020



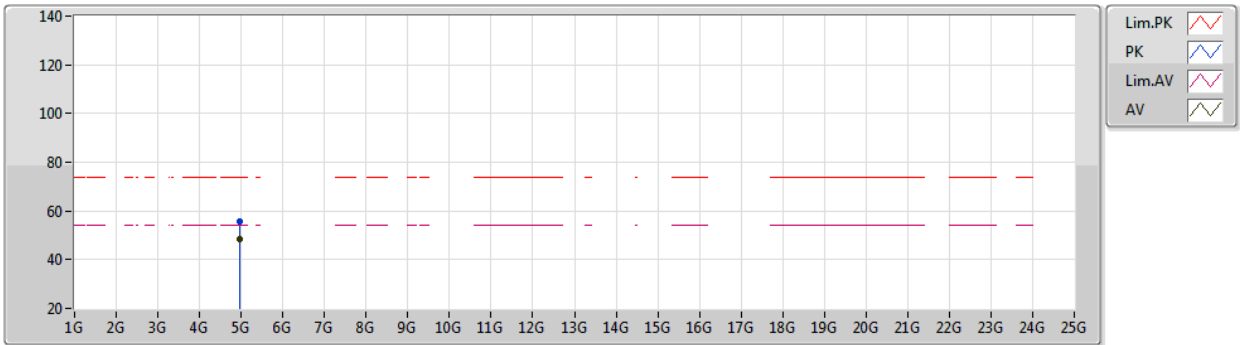
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Setting Default
04-F-S-5

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	2.48G	96.92	Inf	-Inf	65.92	3	Horizontal	291	2.60	-	27.72	3.28	-
AV	2.48G	95.46	Inf	-Inf	64.46	3	Horizontal	291	2.60	-	27.72	3.28	-
PK	2.4909G	56.35	74.00	-17.65	25.30	3	Horizontal	291	2.60	-	27.76	3.29	-
AV	2.4835G	45.15	54.00	-8.85	14.14	3	Horizontal	291	2.60	-	27.73	3.28	-

BT-LE(1Mbps)

25/11/2020

2480MHz_TX



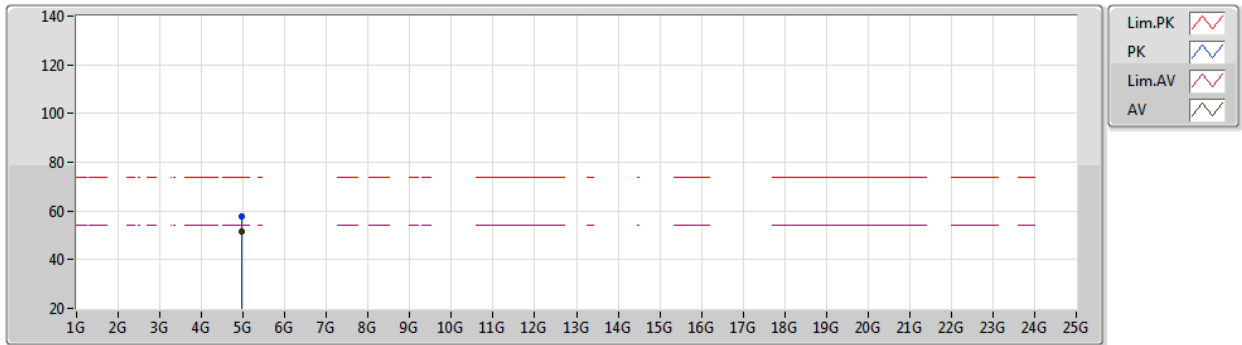
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Setting Default
04-F-S-5

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	4.9594G	55.45	74.00	-18.55	49.85	3	Vertical	185	1.20	-	32.98	5.48	32.86
AV	4.95998G	48.59	54.00	-5.41	42.99	3	Vertical	185	1.20	-	32.98	5.48	32.86

BT-LE(1Mbps)

25/11/2020

2480MHz_TX



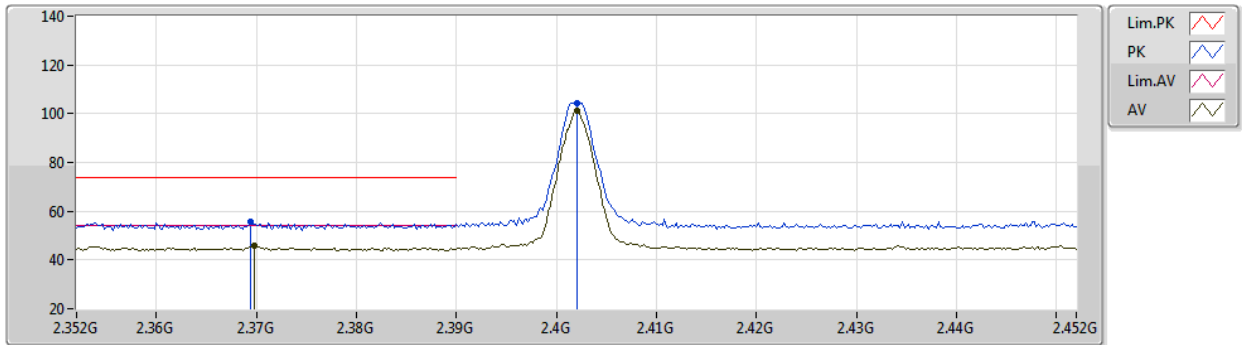
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Setting Default
04-F-S-5

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	4.96038G	57.86	74.00	-16.14	52.26	3	Horizontal	292	2.32	-	32.98	5.48	32.86
AV	4.95988G	51.54	54.00	-2.46	45.94	3	Horizontal	292	2.32	-	32.98	5.48	32.86

BT-LE(2Mbps)

2402MHz_TX

16/11/2020



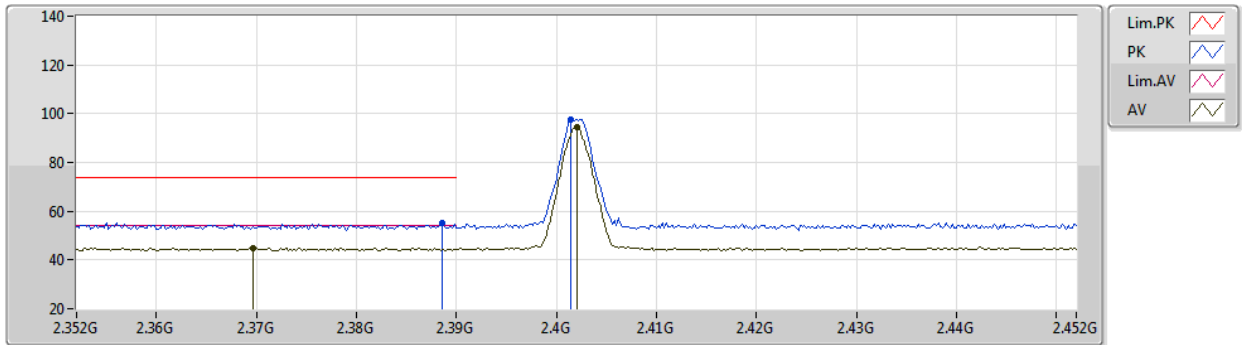
EUT Y_1TX
Setting Default
04-F-J-7

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	2.3694G	55.72	74.00	-18.28	25.08	3	Vertical	305	1.05	-	27.44	3.20	-
AV	2.3698G	46.05	54.00	-7.95	15.41	3	Vertical	305	1.05	-	27.44	3.20	-
PK	2.402G	104.23	Inf	-Inf	73.53	3	Vertical	305	1.05	-	27.50	3.20	-
AV	2.402G	101.35	Inf	-Inf	70.65	3	Vertical	305	1.05	-	27.50	3.20	-

BT-LE(2Mbps)

2402MHz_TX

16/11/2020



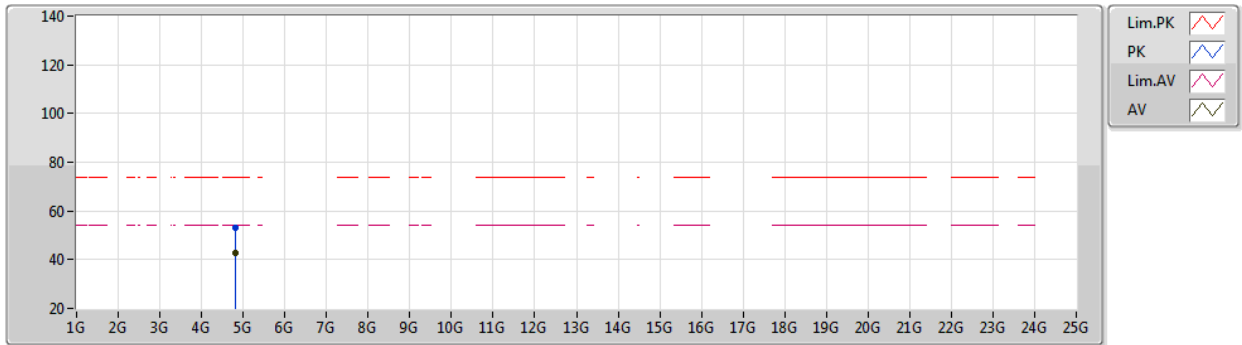
EUT Y_1TX
Setting Default
04-F-J-7

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	2.3886G	55.21	74.00	-18.79	24.53	3	Horizontal	243	1.51	-	27.48	3.20	-
AV	2.3696G	45.05	54.00	-8.95	14.41	3	Horizontal	243	1.51	-	27.44	3.20	-
PK	2.4014G	97.50	Inf	-Inf	66.80	3	Horizontal	243	1.51	-	27.50	3.20	-
AV	2.402G	94.65	Inf	-Inf	63.95	3	Horizontal	243	1.51	-	27.50	3.20	-

BT-LE(2Mbps)

2402MHz_TX

16/11/2020



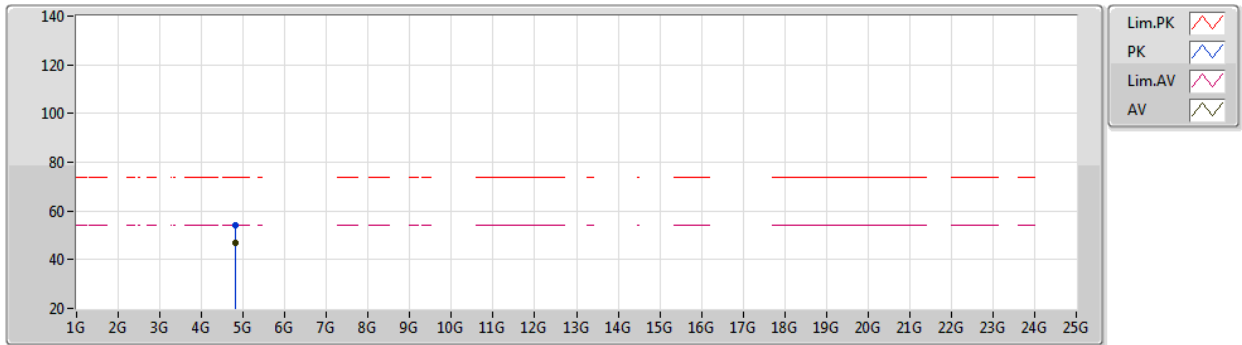
EUT Y_1TX
Setting Default
04-F-J-7

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	4.80418G	52.95	74.00	-21.05	48.00	3	Vertical	11	2.19	-	32.43	5.40	32.88
AV	4.80293G	42.54	54.00	-11.46	37.60	3	Vertical	11	2.19	-	32.42	5.40	32.88

BT-LE(2Mbps)

16/11/2020

2402MHz_TX



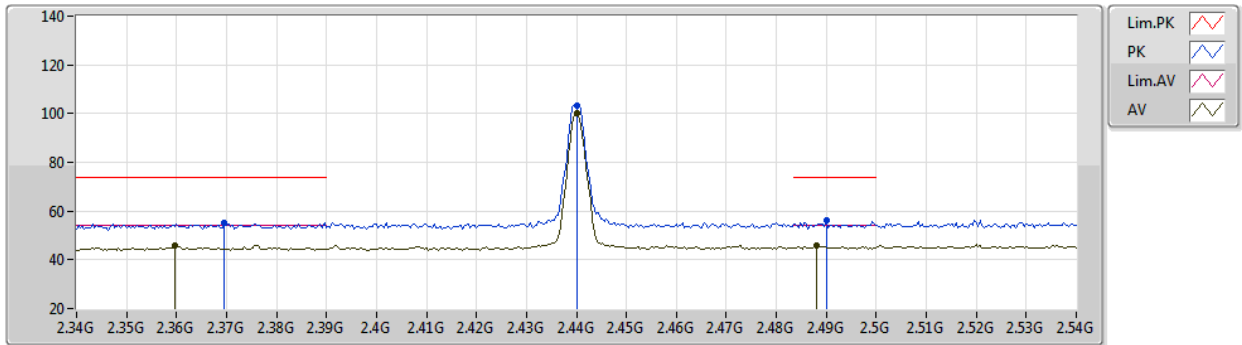
EUT Y_1TX
Setting Default
04-F-J-7

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	4.80392G	54.27	74.00	-19.73	49.33	3	Horizontal	108	2.40	-	32.42	5.40	32.88
AV	4.80298G	46.93	54.00	-7.07	41.99	3	Horizontal	108	2.40	-	32.42	5.40	32.88

BT-LE(2Mbps)

2440MHz_TX

16/11/2020



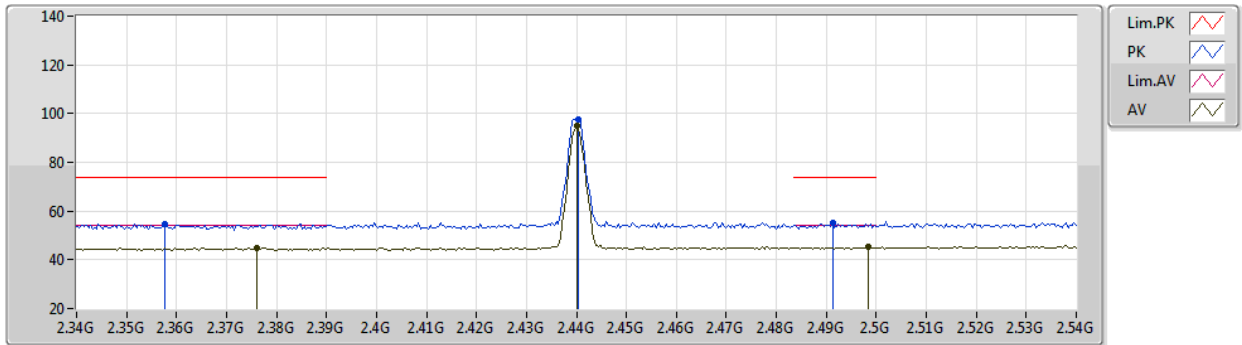
EUT_Y_1TX
Setting Default
04-F-J-7

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	2.3696G	55.28	74.00	-18.72	24.64	3	Vertical	284	1.41	-	27.44	3.20	-
AV	2.3596G	46.05	54.00	-7.95	15.43	3	Vertical	284	1.41	-	27.42	3.20	-
PK	2.44G	103.26	Inf	-Inf	72.44	3	Vertical	284	1.41	-	27.58	3.24	-
AV	2.44G	100.33	Inf	-Inf	69.51	3	Vertical	284	1.41	-	27.58	3.24	-
PK	2.49G	56.32	74.00	-17.68	25.27	3	Vertical	284	1.41	-	27.76	3.29	-
AV	2.488G	45.74	54.00	-8.26	14.70	3	Vertical	284	1.41	-	27.75	3.29	-

BT-LE(2Mbps)

2440MHz_TX

16/11/2020



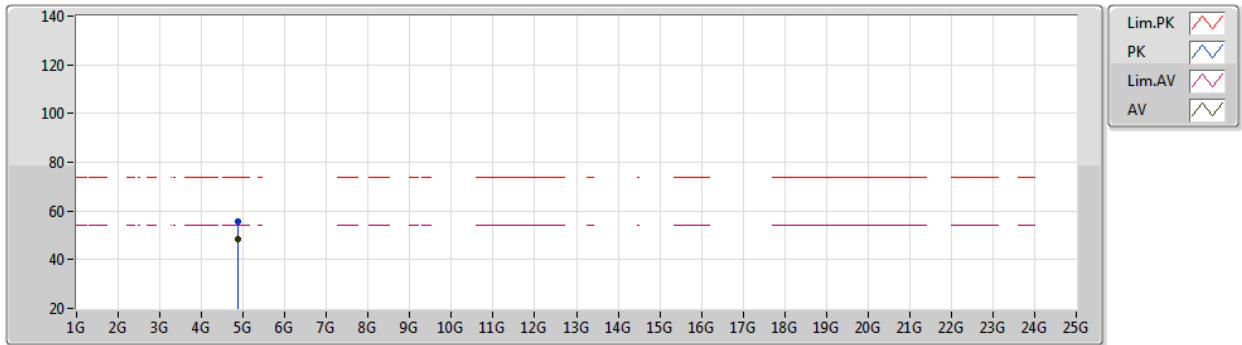
EUT Y_1TX
Setting Default
04-F-J-7

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	2.3576G	54.89	74.00	-19.11	24.27	3	Horizontal	242	1.80	-	27.42	3.20	-
AV	2.376G	44.94	54.00	-9.06	14.29	3	Horizontal	242	1.80	-	27.45	3.20	-
PK	2.4404G	97.59	Inf	-Inf	66.77	3	Horizontal	242	1.80	-	27.58	3.24	-
AV	2.44G	94.79	Inf	-Inf	63.97	3	Horizontal	242	1.80	-	27.58	3.24	-
PK	2.4912G	55.29	74.00	-18.71	24.24	3	Horizontal	242	1.80	-	27.76	3.29	-
AV	2.4984G	45.49	54.00	-8.51	14.40	3	Horizontal	242	1.80	-	27.79	3.30	-

BT-LE(2Mbps)

2440MHz_TX

16/11/2020



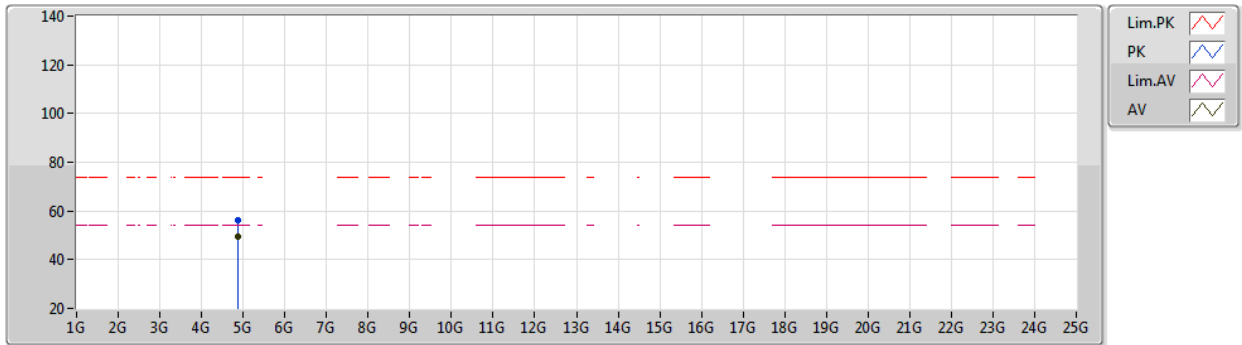
EUT Y_1TX
Setting Default
04-F-J-7

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	4.87897G	55.47	74.00	-18.53	50.14	3	Vertical	18	2.95	-	32.76	5.44	32.87
AV	4.87883G	48.63	54.00	-5.37	43.30	3	Vertical	18	2.95	-	32.76	5.44	32.87

BT-LE(2Mbps)

2440MHz_TX

16/11/2020



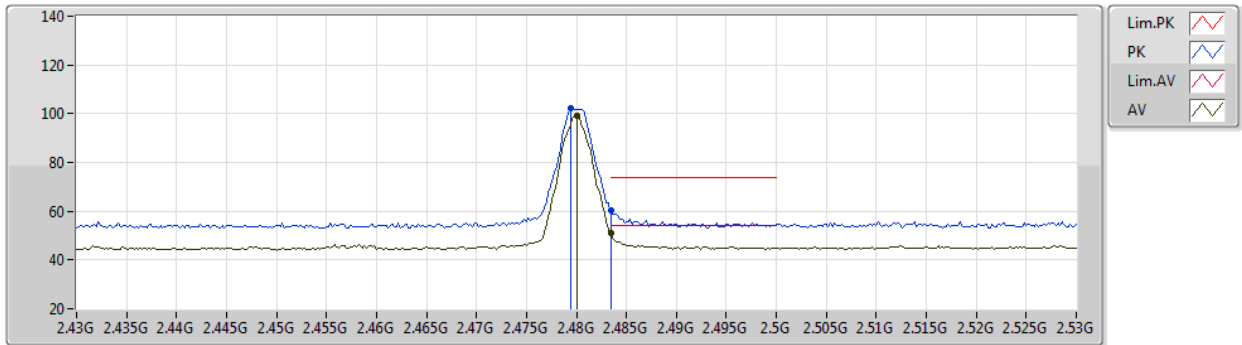
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Setting Default
04-F-J-7

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	4.88003G	56.27	74.00	-17.73	50.94	3	Horizontal	253	2.43	-	32.76	5.44	32.87
AV	4.87891G	49.33	54.00	-4.67	44.00	3	Horizontal	253	2.43	-	32.76	5.44	32.87

BT-LE(2Mbps)

2480MHz_TX

16/11/2020



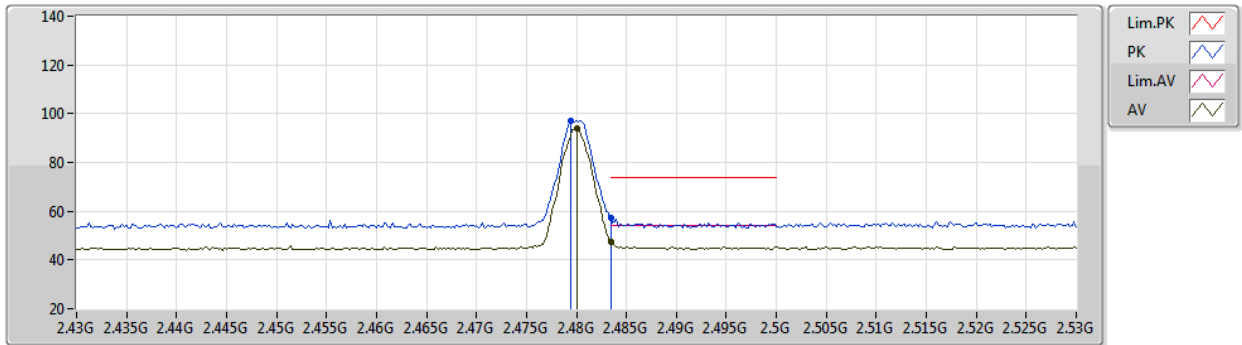
EUT Y_1TX
Setting Default
04-F-J-7

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	2.4794G	101.99	Inf	-Inf	70.99	3	Vertical	284	1.19	-	27.72	3.28	-
AV	2.48G	99.13	Inf	-Inf	68.13	3	Vertical	284	1.19	-	27.72	3.28	-
PK	2.4835G	60.53	74.00	-13.47	29.52	3	Vertical	284	1.19	-	27.73	3.28	-
AV	2.4835G	50.84	54.00	-3.16	19.83	3	Vertical	284	1.19	-	27.73	3.28	-

BT-LE(2Mbps)

2480MHz_TX

16/11/2020



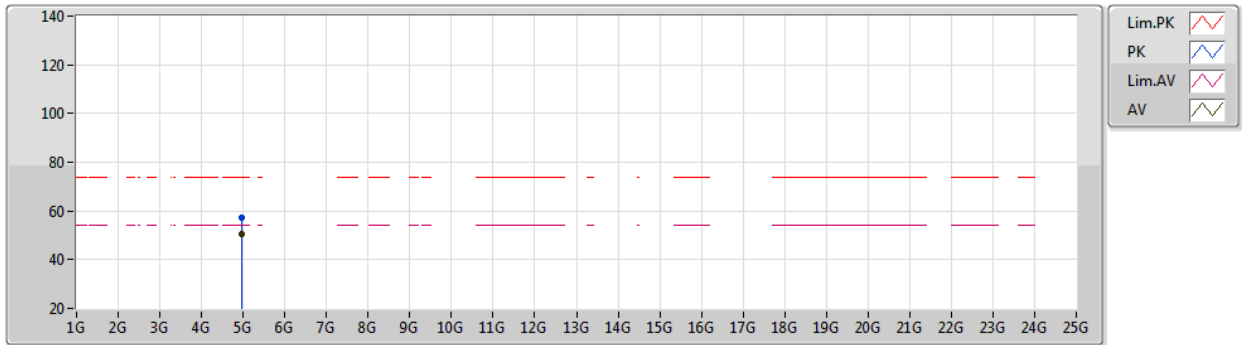
EUT Y_1TX
Setting Default
04-F-J-7

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	2.4794G	96.93	Inf	-Inf	65.93	3	Horizontal	241	1.79	-	27.72	3.28	-
AV	2.48G	94.04	Inf	-Inf	63.04	3	Horizontal	241	1.79	-	27.72	3.28	-
PK	2.4835G	57.25	74.00	-16.75	26.24	3	Horizontal	241	1.79	-	27.73	3.28	-
AV	2.4835G	47.54	54.00	-6.46	16.53	3	Horizontal	241	1.79	-	27.73	3.28	-

BT-LE(2Mbps)

16/11/2020

2480MHz_TX



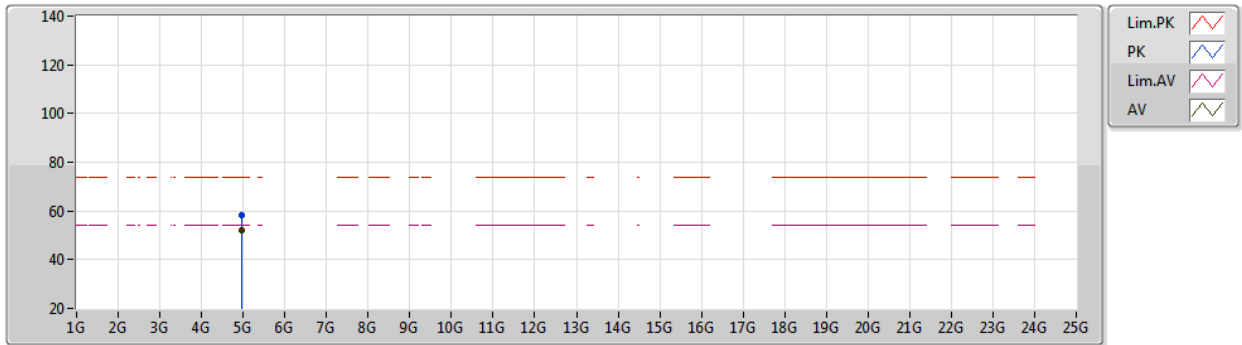
EUT Y_1TX
Setting Default
04-F-J-7

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	4.9589G	57.14	74.00	-16.86	51.54	3	Vertical	12	2.43	-	32.98	5.48	32.86
AV	4.95892G	50.67	54.00	-3.33	45.07	3	Vertical	12	2.43	-	32.98	5.48	32.86

BT-LE(2Mbps)

2480MHz_TX

16/11/2020



EUT Y_1TX
Setting Default
04-F-J-7

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	4.95894G	58.28	74.00	-15.72	52.68	3	Horizontal	101	2.51	-	32.98	5.48	32.86
AV	4.95899G	52.12	54.00	-1.88	46.52	3	Horizontal	101	2.51	-	32.98	5.48	32.86