

FCC Test Report

FCC ID : QYLAP6255M
Equipment : Tablet
Brand Name : Getac
Model Name : MX50
Applicant : Getac Technology Corporation.
5F., Building A, No. 209, Sec.1, Nangang Rd.,
Nangang Dist., Taipei City 11568, Taiwan, R.O.C.
Standard : 47 CFR FCC Part 15.247

The product was received on Aug. 07, 2018, and testing was started from Aug. 29, 2018 and completed on Aug. 31, 2018. 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 report must not be used by the client to claim product certification, approval, or endorsement by TAF or any agency of government.

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



Approved by: Allen Lin

SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory

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

Table of Contents

HISTORY OF THIS TEST REPORT	3
SUMMARY OF TEST RESULT	4
1 GENERAL DESCRIPTION	5
1.1 Information.....	5
1.2 Testing Applied Standards	7
1.3 Testing Location Information	7
1.4 Measurement Uncertainty	7
2 TEST CONFIGURATION OF EUT.....	8
2.1 Test Condition	8
2.2 Test Channel Mode	8
2.3 The Worst Case Measurement Configuration.....	9
2.4 Accessories and Support Equipment	10
2.5 Test Setup Diagram	11
3 TRANSMITTER TEST RESULT	13
3.1 AC Power-line Conducted Emissions	13
3.2 DTS Bandwidth	15
3.3 Maximum Conducted Output Power	16
3.4 Power Spectral Density	18
3.5 Emissions in Non-restricted Frequency Bands	19
3.6 Emissions in Restricted Frequency Bands.....	20
4 TEST EQUIPMENT AND CALIBRATION DATA.....	23
APPENDIX A. TEST RESULTS OF AC POWER-LINE CONDUCTED EMISSIONS	
APPENDIX B. TEST RESULTS OF DTS BANDWIDTH	
APPENDIX C. TEST RESULTS OF MAXIMUM CONDUCTED OUTPUT POWER	
APPENDIX D. TEST RESULTS OF POWER SPECTRAL DENSITY	
APPENDIX E. TEST RESULTS OF EMISSIONS IN NON-RESTRICTED FREQUENCY BANDS	
APPENDIX F. TEST RESULTS OF EMISSIONS IN RESTRICTED FREQUENCY BANDS	
APPENDIX G. TEST RESULTS OF RADIATED EMISSION CO-LOCATION	
APPENDIX H. TEST PHOTOS	
PHOTOGRAPHS OF EUT V01	



History of this test report

[illegible]

Summary of Test Result

Report Clause	Ref. Std. Clause	Test Items	Result (PASS/FAIL)	Remark
1.1.2	15.203	Antenna Requirement	PASS	FCC 15.203
3.1	15.207	AC Power-line Conducted Emissions	PASS	FCC 15.207
3.2	15.247(a)	DTS Bandwidth	PASS	≥500kHz
3.3	15.247(b)	Maximum Conducted Output Power	PASS	Power [dBm]:30
3.4	15.247(e)	Power Spectral Density	PASS	PSD [dBm/3kHz]:8
3.5	15.247(d)	Emissions in Non-restricted Frequency Bands	PASS	Non-Restricted Bands: >20 dBc
3.6	15.247(d)	Emissions in Restricted Frequency Bands	PASS	Restricted Bands: FCC 15.209

Reviewed by: Sam Tsai

Report Producer: Jenny Yang

1 General Description

1.1 Information

1.1.1 RF General Information

Frequency Range (MHz)	Bluetooth Mode	Ch. Frequency (MHz)	Channel Number
2400-2483.5	LE	2402-2480	0-39 [40]

Band	Mode	BWch (MHz)	Nant
2.4-2.4835GHz	BT-LE(1Mbps)	1.0	1TX

Note:

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

1.1.2 Antenna Information

Ant.	Brand	Model Name	Antenna Type	Connector
1	Getac	MX_50	Chip antenna	I-PEX
2	-	-	PIFA antenna	I-PEX

Ant.	Port	Gain (dBi)						
		2.4G	5G				BT	GPS
			U-NII-1	U-NII-2A	U-NII-2C	U-NII-3		
1	1	0.94	-0.61	0.74	0.99	1	0.94	-
2	2	-	-	-	-	-	-	N/A

Note 1: The EUT has two antennas.

For 2.4GHz function:

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

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

For BT function:

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

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

For 5GHz function:

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

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

1.1.3 EUT Information

Operational Condition			
EUT Power Type	From AC Adapter		
EUT Function	☒ Point-to-multipoint	☐ Point-to-point	
Type of EUT			
☒	Stand-alone		
☐	Combined (EUT where the radio part is fully integrated within another device)		
	Combined Equipment - Brand Name / Model No.: ...		
☐	Plug-in radio (EUT intended for a variety of host systems)		
	Host System - Brand Name / Model No.: ...		
☐	Other:		

1.1.4 Mode Test Duty Cycle

Mode	DC	DCF(dB)	T(s)	VBW(Hz) ≥ 1/T
BT-LE(1Mbps)	0.627	2.027	392.5u	3k

1.2 Testing Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- ♦ 47 CFR FCC Part 15
- ♦ ANSI C63.10-2013
- ♦ KDB 558074 D01 v05

1.3 Testing Location Information

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

Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
RF Conducted	TH06-HY	Tim	26.3°C / 63%	30/Aug/2018
Radiated	03CH09-HY	Andy	22.5°C / 58%	31/Aug/2018
AC Conduction	CO04-HY	Jerry	24.5°C / 55.5%	31/Aug/2018

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)	3.6 dB	Confidence levels of 95%
Radiated Emission (9kHz ~ 30MHz)	3.0 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	4.3 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	3.9 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	3.5 dB	Confidence levels of 95%
Conducted Emission	1.3 dB	Confidence levels of 95%
Temperature	0.7 °C	Confidence levels of 95%
Humidity	4 %	Confidence levels of 95%

2 Test Configuration of EUT

2.1 Test Condition

RF Conducted	Abbreviation	Remark
TnomVnom	Tnom	20°C
-	Vnom	120V

2.2 Test Channel Mode

Test Software	RFTesTool
---------------	-----------

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

2.3 The Worst Case Measurement Configuration

The Worst Case Mode for Following Conformance Tests	
Tests Item	AC power-line conducted emissions
Condition	AC power-line conducted measurement for line and neutral
Operating Mode	CTX
1	Adapter Mode

The Worst Case Mode for Following Conformance Tests	
Tests Item	DTS Bandwidth Maximum Conducted Output Power Power Spectral Density Emissions in Non-restricted Frequency Bands
Test Condition	Conducted measurement at transmit chains

The Worst Case Mode for Following Conformance Tests			
Tests Item	Emissions in Restricted Frequency Bands		
Test Condition	Radiated measurement If EUT consist of multiple antenna assembly (multiple antenna are used in EUT regardless of spatial multiplexing MIMO configuration), the radiated test should be performed with highest antenna gain of each antenna type.		
Operating Mode < 1GHz	CTX		
1	Adapter Mode		
Operating Mode > 1GHz	CTX		
Orthogonal Planes of EUT	X Plane	Y Plane	Z Plane
			
Worst Planes of EUT			V

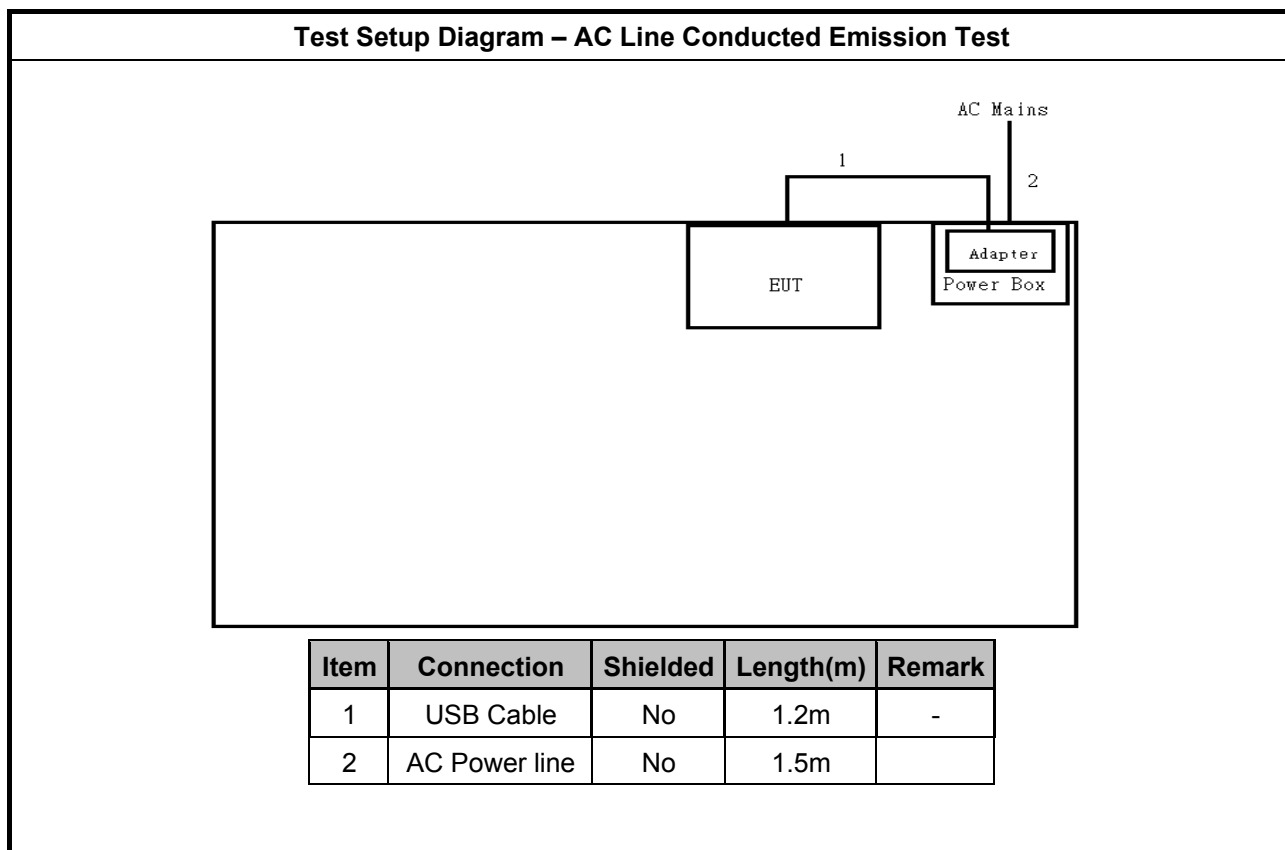
The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis
Test Condition	Radiated measurement
Operating Mode	Normal Link
1	Bluetooth+WLAN 2.4GHz
2	Bluetooth+WLAN 5GHz
Refer to Sporton Test Report No.: FA680937-09 for Co-location RF Exposure Evaluation and Appendix G for Radiated Emission Co-location.	

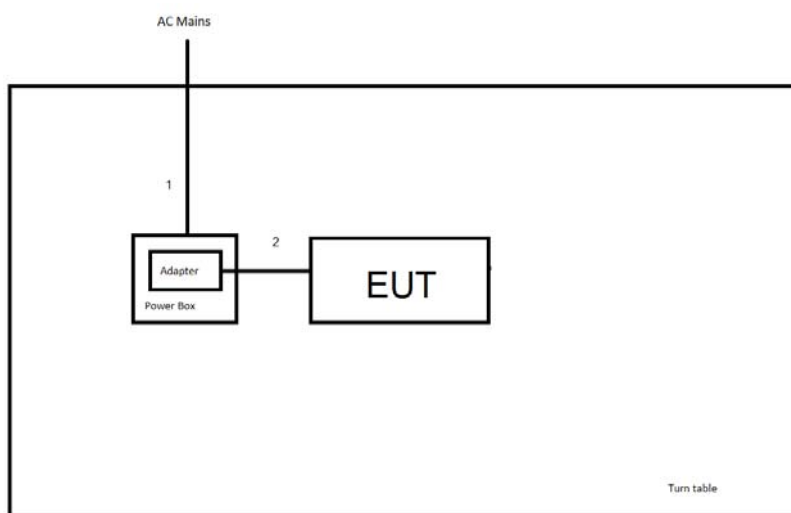
2.4 Accessories and Support Equipment

Accessories				
AC Adapter	Brand Name	TPT	Model Name	NSS050200BU
	Power Rating	I/P: 100-240Vac, 0.3A, O/P: 5Vdc, 2A		
Battery 1	Brand Name	Getac	Model Name	BP1S1P4240L
	Power Rating	3.8Vdc, 4240mAh	Type	Li-ion
WLAN Module	Brand Name	AMPAK	Model Name	AP6255
GPS Module	Brand Name	Ublox	Model Name	MAX-M8Q

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

2.5 Test Setup Diagram



Test Setup Diagram - Radiated Test


Item	Connection	Shielded	Length(m)	Remark
1	AC Power line	No	1.8m	-
2	DC Power line	No	1.2m	-

3 Transmitter Test Result

3.1 AC Power-line Conducted Emissions

3.1.1 AC Power-line Conducted Emissions Limit

AC Power-line Conducted Emissions Limit		
Frequency Emission (MHz)	Quasi-Peak	Average
0.15-0.5	66 - 56 *	56 - 46 *
0.5-5	56	46
5-30	60	50

Note 1: * Decreases with the logarithm of the frequency.

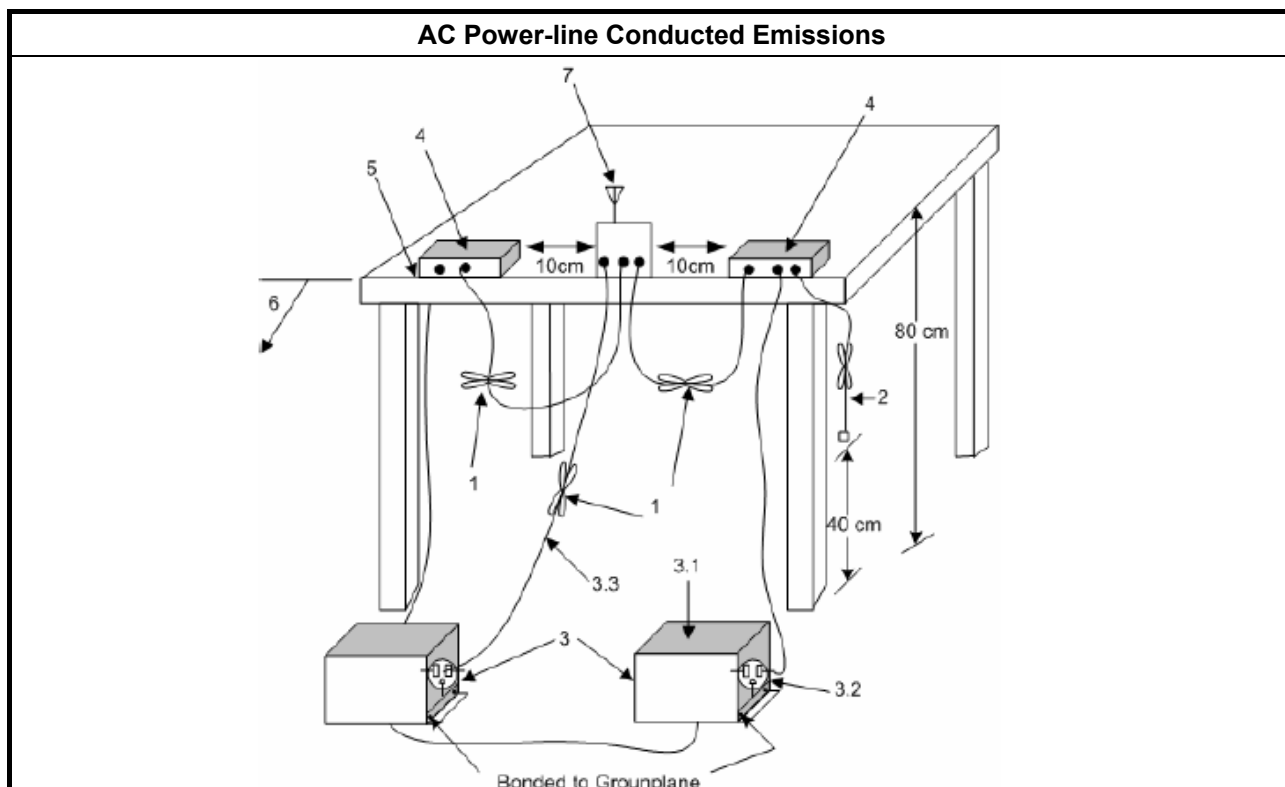
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

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

3.1.4 Test Setup





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.

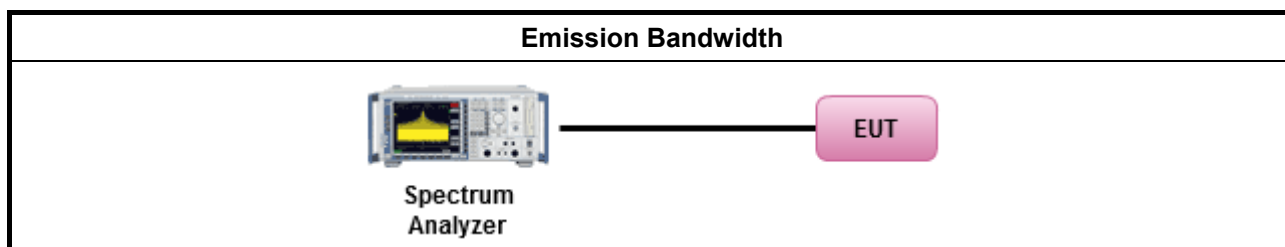
3.2.2 Measuring Instruments

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 KDB 558074, clause 8.2 (11.9.2.2 of ANSI C63.10) DTS bandwidth measurement.
☐	Refer as RSS-Gen, clause 6.7 for occupied bandwidth testing.
☐	Refer as ANSI C63.10, clause 6.9.3 for occupied bandwidth testing.

3.2.4 Test Setup



3.2.5 Test Result of Emission Bandwidth

Refer as Appendix B

3.3 Maximum Conducted Output Power

3.3.1 Maximum Conducted Output Power Limit

Maximum Conducted Output Power Limit	
	If $G_{TX} \leq 6$ dBi, then $P_{Out} \leq 30$ dBm (1 W)
	Point-to-multipoint systems (P2M): If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)$ dBm
	Point-to-point systems (P2P): If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)/3$ dBm
	Smart antenna system (SAS):
	- Single beam: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)/3$ dBm
	- Overlap beam: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)/3$ dBm
	- Aggregate power on all beams: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)/3 + 8$ dB dBm
e.i.r.p. Power Limit:	
	2400-2483.5 MHz Band
	Point-to-multipoint systems (P2M): $P_{eirp} \leq 36$ dBm (4 W)
	Point-to-point systems (P2P): $P_{eirp} \leq \text{MAX}(36, [P_{Out} + G_{TX}])$ dBm
	Smart antenna system (SAS)
	- Single beam: $P_{eirp} \leq \text{MAX}(36, P_{Out} + G_{TX})$ dBm
	- Overlap beam: $P_{eirp} \leq \text{MAX}(36, P_{Out} + G_{TX})$ dBm
	- Aggregate power on all beams: $P_{eirp} \leq \text{MAX}(36, [P_{Out} + G_{TX} + 8])$ dBm
P_{Out} = maximum peak conducted output power or maximum conducted output power in dBm, G_{TX} = the maximum transmitting antenna directional gain in dBi.	

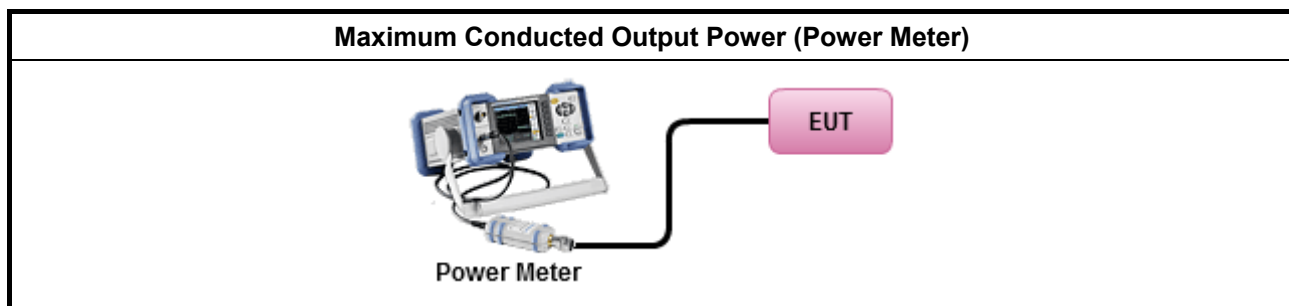
3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

Test Method	
Maximum Peak Conducted Output Power	
☐	Refer as KDB 558074, clause 8.3.1.1 (11.9.1.1 of ANSI C63.10) RBW ≥ EBW method.
☐	Refer as KDB 558074, clause 8.3.1.2 (11.9.1.2 of ANSI C63.10) integrated band power method.
☐	Refer as KDB 558074, clause 8.3.1.3 (11.9.1.3 of ANSI C63.10) peak power meter.
Maximum Average Conducted Output Power	
☐	Refer as KDB 558074, clause 8.3.2.2 (11.9.2.2 of ANSI C63.10) using a spectrum analyzer.
☒	Refer as KDB 558074, clause 8.3.2.3 (11.9.2.3 of ANSI C63.10) using a power meter.
For conducted measurement.	
If the EUT supports multiple transmit chains using options given below: Refer as KDB 662911, In-band power measurements. Using the measure-and-sum approach, measured all transmit ports individually. Sum the power (in linear power units e.g., mW) of all ports for each individual sample and save them.	
If multiple transmit chains, EIRP calculation could be following as methods: $P_{total} = P_1 + P_2 + \dots + P_n$ (calculated in linear unit [mW] and transfer to log unit [dBm]) $EIRP_{total} = P_{total} + DG$	

3.3.4 Test Setup



3.3.5 Test Result of Maximum Conducted Output Power

Refer as Appendix C

3.4 Power Spectral Density

3.4.1 Power Spectral Density Limit

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

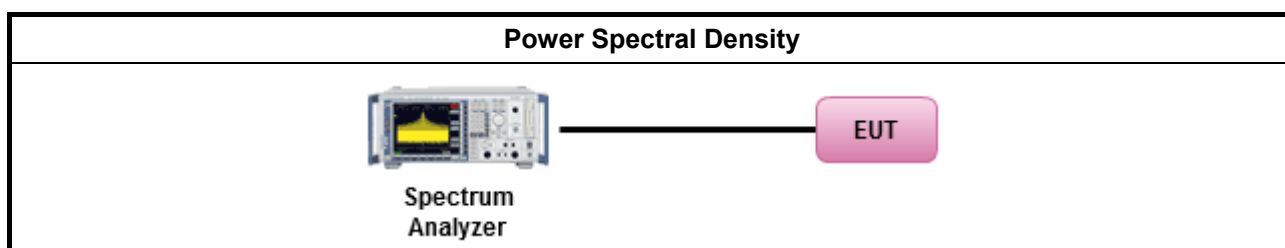
3.4.2 Measuring Instruments

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

3.4.3 Test Procedures

Test Method	
▪	Peak power spectral density procedures that the same method as used to determine the conducted output power. If maximum peak conducted output power was measured to demonstrate compliance to the output power limit, then the peak PSD procedure below (Method PKPSD) shall be used. If maximum conducted output power was measured to demonstrate compliance to the output power limit, then one of the average PSD procedures shall be used, as applicable based on the following criteria (the peak PSD procedure is also an acceptable option).
☒	Refer as KDB 558074, clause 8.4 (11.10 of ANSI C63.10) Method PKPSD.
▪	For conducted measurement.
▪	If The EUT supports multiple transmit chains using options given below:
▪	Measure and sum the spectra across the outputs. Refer as KDB 662911, In-band power spectral density (PSD). Sample all transmit ports simultaneously using a spectrum analyzer for each transmit port. Where the trace bin-by-bin of each transmit port summing can be performed. (i.e., in the first spectral bin of output 1 is summed with that in the first spectral bin of output 2 and that from the first spectral bin of output 3, and so on up to the NTX output to obtain the value for the first frequency bin of the summed spectrum.). Add up the amplitude (power) values for the different transmit chains and use this as the new data trace.

3.4.4 Test Setup



3.4.5 Test Result of Power Spectral Density

Refer as Appendix D

3.5 Emissions in Non-restricted Frequency Bands

3.5.1 Emissions in Non-restricted Frequency Bands Limit

Un-restricted Band Emissions Limit	
RF output power procedure	Limit (dB)
Peak output power procedure	20
Average output power procedure	30
Note 1: If the peak output power procedure is used to measure the fundamental emission power to demonstrate compliance to requirements, then the peak conducted output power measured within any 100 kHz outside the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum measured in-band peak 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.	

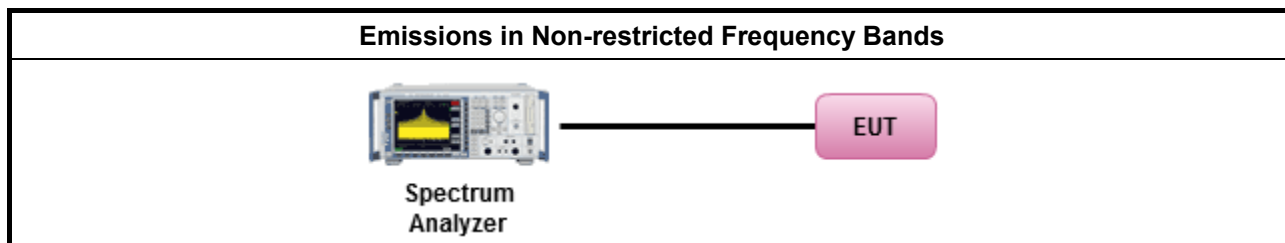
3.5.2 Measuring Instruments

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

3.5.3 Test Procedures

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

3.5.4 Test Setup



3.5.5 Test Result of Emissions in Non-restricted Frequency Bands

Refer as Appendix E

3.6 Emissions in Restricted Frequency Bands

3.6.1 Emissions in Restricted Frequency Bands Limit

Restricted Band Emissions Limit			
Frequency Range (MHz)	Field Strength (uV/m)	Field Strength (dBuV/m)	Measure Distance (m)
0.009~0.490	2400/F(kHz)	48.5 - 13.8	300
0.490~1.705	24000/F(kHz)	33.8 - 23	30
1.705~30.0	30	29	30
30~88	100	40	3
88~216	150	43.5	3
216~960	200	46	3
Above 960	500	54	3

Note 1: Test distance for frequencies at or above 30 MHz, measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements).

Note 2: Test distance for frequencies at below 30 MHz, measurements may be performed at a distance closer than the EUT limit distance; however, an attempt should be made to avoid making measurements in the near field. When performing measurements below 30 MHz at a closer distance than the limit distance, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two or more distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB / decade). The test report shall specify the extrapolation method used to determine compliance of the EUT.

Note 3: Using the distance of 1m during the test for above 18 GHz, and the test value to correct for the distance factor at 3m.

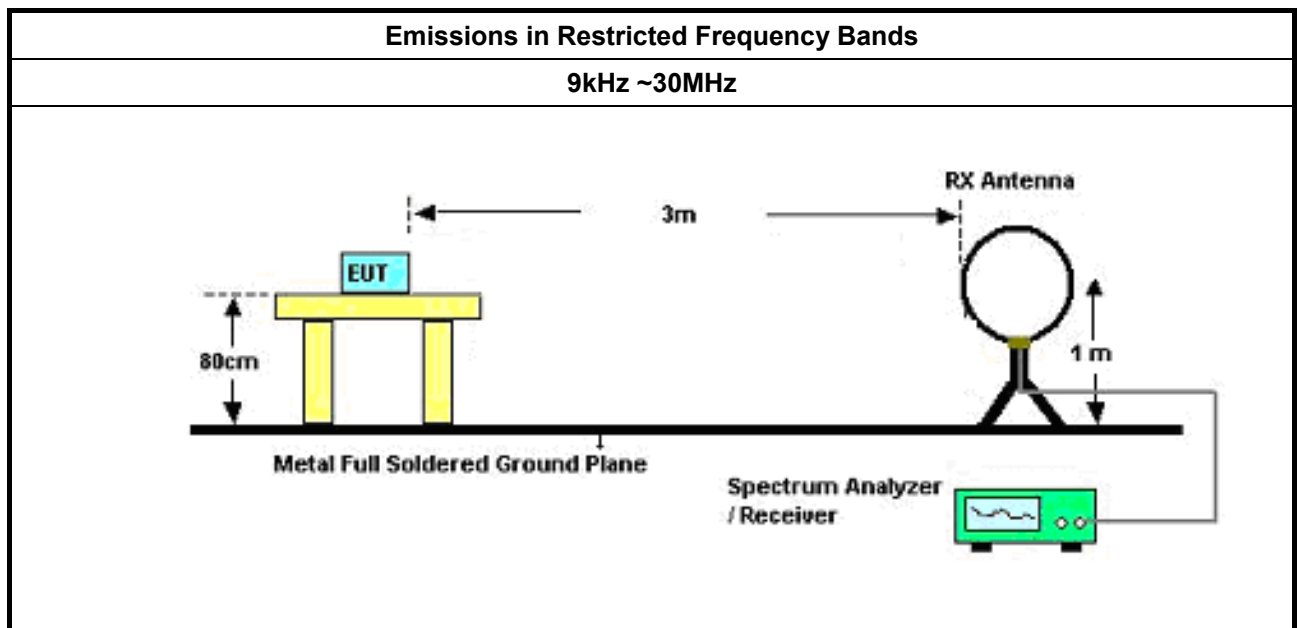
3.6.2 Measuring Instruments

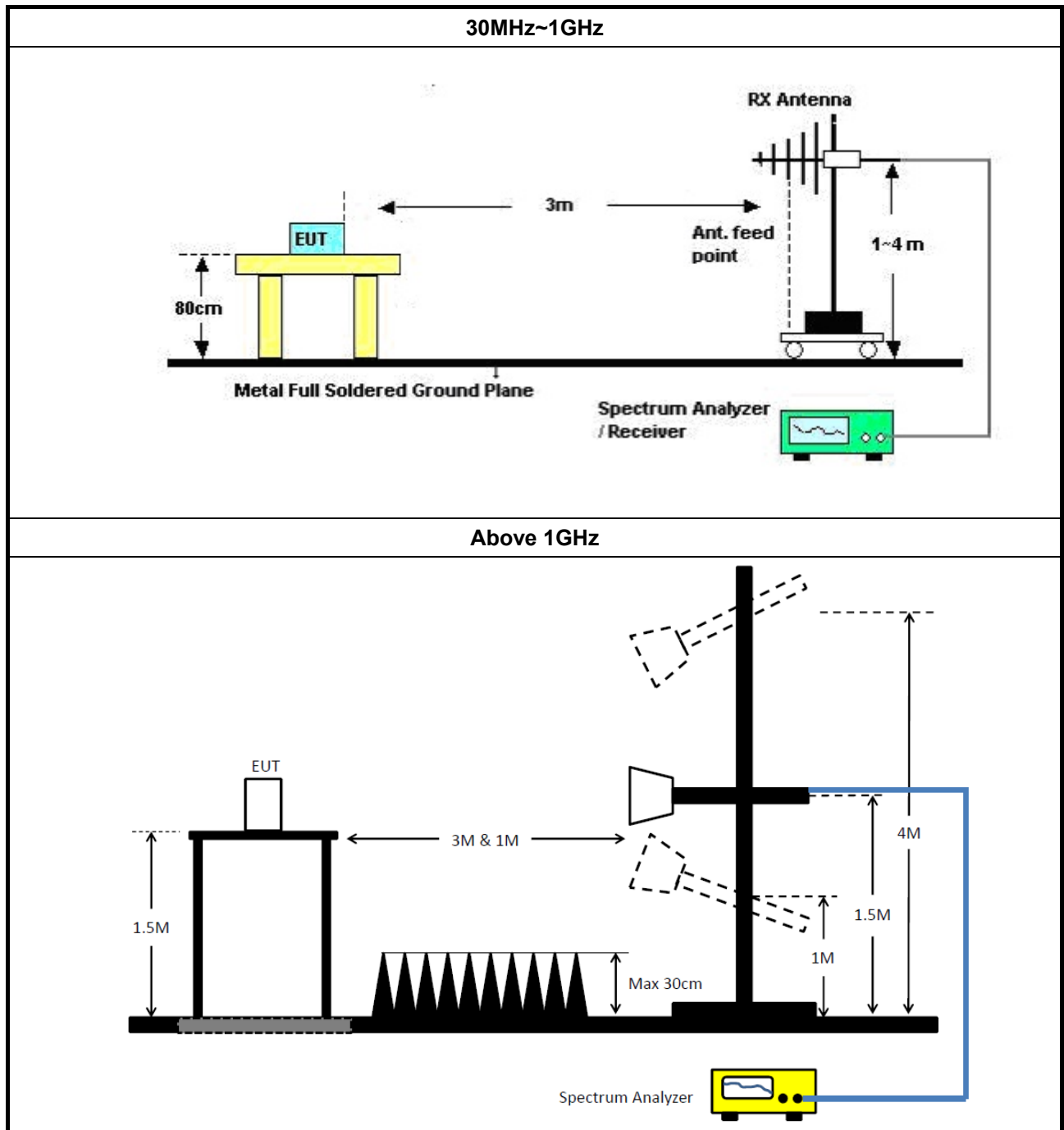
Refer a test equipment and calibration data table in this test report.

3.6.3 Test Procedures

Test Method	
	The average emission levels shall be measured in [duty cycle $\geq$ 98 or duty factor].
	Refer as ANSI C63.10, clause 6.10.3 band-edge testing shall be performed at the lowest frequency channel and highest frequency channel within the allowed operating band.
	For the transmitter unwanted emissions shall be measured using following options below:
	Refer as KDB 558074, clause 8.6 (11.12 of ANSI C63.10) for restricted frequency bands.
	For the transmitter band-edge emissions shall be measured using following options below:
	Refer as KDB 558074 clause 8.7.1, When the performing peak or average radiated measurements, emissions within 2 MHz of the authorized band edge may be measured using the marker-delta method described below.
	Refer as KDB 558074, clause 8.7.2 (6.10.6 of ANSI C63.10) for marker-delta method for band-edge measurements.
	Refer as KDB 558074, clause 8.7.3 for narrower resolution bandwidth (100kHz) using the band power and summing the spectral levels (i.e., 1 MHz).

3.6.4 Test Setup





3.6.5 Test Result of Emissions in Restricted Frequency Bands (Below 30MHz)

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

3.6.6 Test Result of Emissions in Restricted Frequency Bands

Refer as Appendix F

4 Test Equipment and Calibration Data

Instrument for AC Conduction

Instrument	Manufacturer	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
EMC Receiver	R&S	ESR	102051	9KHz ~ 3.6GHz	03/May/2018	02/May/2019
LISN	R&S	ENV216	101295	9kHz ~ 30MHz	17/Nov/2017	16/Nov/2018
RF Cable-CON	HUBER+SUHNER	RG213/U	07611832020001	9kHz ~ 30MHz	06/Oct/2017	05/Oct/2018
AC POWER	APC	AFC-11005G	F310050055	47Hz~63Hz 5~300V	NCR	NCR
Impuls Begrenzer Pulse Limiter	SCHWARZBECK	VTSD 9561-F	9561-F041	9 kHz ~ 30 MHz	12/Oct/2017	11/Oct/2018

NCR : Non-Calibration Require

Instrument for Conducted Test

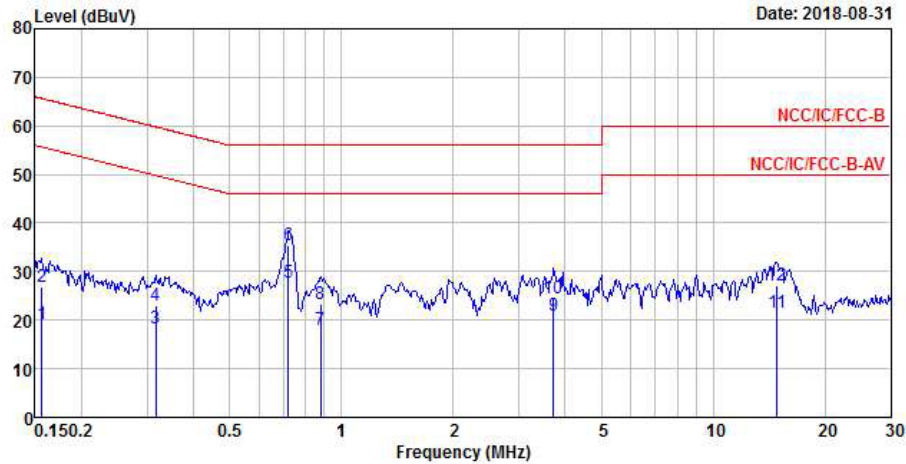
Instrument	Manufacturer	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
Spectrum Analyzer	R&S	FSV 40	101013	9kHz~40GHz	29/Dec/2017	28/Dec/2018
Signal Generator	R&S	SMB100A	175727	100kHz~40GHz	26/Oct/2017	25/Oct/2018
Pulse Power Sensor	Anritsu	MA2411B	1027452	300MHz ~ 40GHz	27/Feb/2018	26/Feb/2019
Power Meter	Anritsu	ML2495A	1124009	300MHz ~ 40GHz	27/Feb/2018	26/Feb/2019
CABLE 0.2m	HUBER	MY37960/4	RF Cable - 17	1 to 18GHz	17/Jan/2018	16/Jan/2019
CABLE 0.2m	HUBER	MY37960/4	RF Cable - 17	30 to 1000MHz	17/Jan/2018	16/Jan/2019
CABLE 0.5m	HUBER	MY37963/4	RF Cable - 22	1 to 18GHz	17/Jan/2018	16/Jan/2019

Instrument for Radiated Test

Instrument	Manufacturer	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
3m Semi Anechoic Chamber	TDK	SAC-3M	03CH09-HY	30MHz ~ 1GHz	23/Apr/2018	22/Apr/2019
3m Semi Anechoic Chamber	TDK	SAC-3M	03CH09-HY	1GHz ~ 18GHz	14/Jun/2018	13/Jun/2019
Microwave Preamplifier	Agilent	8449B	3008A02096	1GHz ~ 26.5GHz	10/May/2018	09/May/2019
Amplifier	EMC	EMC9135	980232	9KHz~1GHz	27/Apr/2018	26/Apr/2019
EXA Signal Analyzer	KEYSIGHT	N9010A	MY54200885	10Hz ~ 44GHz	31/Jul/2018	30/Jul/2019
Bilog Antenna & 5dB Attenuator	TESEQ & MTJ	CBL6111D & MTJ6102-05	35418 / 3	30MHz~1GHz	09/Sep/2017	08/Sep/2018
Double Ridged Guide Horn Antenna	SCHWARZBECK	BBHA 9120 D	BBHA9120 D 1534	1GHz~18GHz	30/Apr/2018	29/Apr/2019
Broadband Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170614	18GHz~40GHz	09/Feb/2018	08/Feb/2019
Preamplifier	MITEQ	TTA1840-35-HG	1864481	18GHz ~ 40GHz	24/Aug/2018	23/Aug/2019
Loop Antenna	TESEQ	HLA 6120	31244	9k-30MHz	29/Mar/2018	28/Mar/2019
RF Cable-R03m	Jye Bao	RG142	CB031	9kHz ~ 1GHz	1/Feb/2018	31/Jan/2019
RF Cable-high	HUBER+SUHNER	SUCOFLEX104	SN 556626/4 + 556627	1GHz ~ 40GHz	14/Mar/2018	13/Mar/2019

AC Power-line Conducted Emissions Result

Operating Mode	1	Power Phase	Neutral
Operating Function	Adapter Mode		

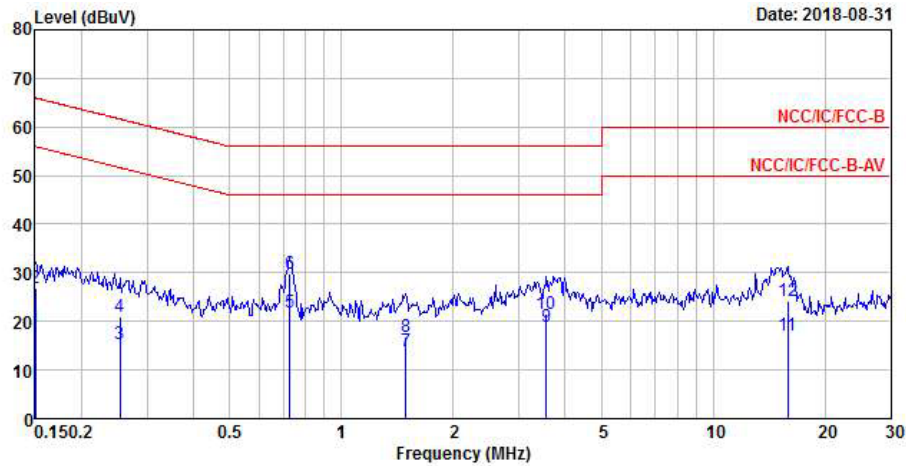


	Freq	Level	Over	Limit	Read	LISN	Cable	
	MHz	dBuV	Limit	Line	Level	Factor	Loss	Remark
			dB	dBuV	dBuV	dB	dB	
1	0.16	19.15	-36.50	55.65	9.48	9.63	0.04	Average
2	0.16	26.89	-38.76	65.65	17.22	9.63	0.04	QP
3	0.32	18.20	-31.60	49.80	8.52	9.61	0.07	Average
4	0.32	23.12	-36.68	59.80	13.44	9.61	0.07	QP
5 MAX	0.72	27.72	-18.28	46.00	18.06	9.62	0.04	Average
6	0.72	35.56	-20.44	56.00	25.90	9.62	0.04	QP
7	0.88	17.98	-28.02	46.00	8.35	9.62	0.01	Average
8	0.88	23.21	-32.79	56.00	13.58	9.62	0.01	QP
9	3.72	20.86	-25.14	46.00	11.14	9.64	0.08	Average
10	3.72	24.41	-31.59	56.00	14.69	9.64	0.08	QP
11	14.83	21.69	-28.31	50.00	11.98	9.70	0.01	Average
12	14.83	27.16	-32.84	60.00	17.45	9.70	0.01	QP

Note 1: ">20dB" means emission levels that exceed the level of 20 dB below the applicable limit.
 Note 2: "N/F" means Nothing Found emissions (No emissions were detected.)

AC Power-line Conducted Emissions Result

Operating Mode	1	Power Phase	Line
Operating Function	Adapter Mode		



	Freq	Level	Over	Limit	Read	LISN	Cable	
	MHz	dBuV	Limit	Line	Level	Factor	Loss	Remark
			dB	dBuV	dBuV	dB	dB	
1	0.15	19.01	-36.99	56.00	9.35	9.62	0.04	Average
2	0.15	26.83	-39.17	66.00	17.17	9.62	0.04	QP
3	0.25	15.32	-36.32	51.64	5.67	9.62	0.03	Average
4	0.25	21.01	-40.63	61.64	11.36	9.62	0.03	QP
5 MAX	0.73	21.92	-24.08	46.00	12.28	9.61	0.03	Average
6	0.73	29.70	-26.30	56.00	20.06	9.61	0.03	QP
7	1.49	13.99	-32.01	46.00	4.37	9.62	0.00	Average
8	1.49	16.87	-39.13	56.00	7.25	9.62	0.00	QP
9	3.57	18.82	-27.18	46.00	9.12	9.63	0.07	Average
10	3.57	21.69	-34.31	56.00	11.99	9.63	0.07	QP
11	15.89	17.06	-32.94	50.00	7.39	9.63	0.04	Average
12	15.89	24.11	-35.89	60.00	14.44	9.63	0.04	QP

Note 1: ">20dB" means emission levels that exceed the level of 20 dB below the applicable limit.
 Note 2: "N/F" means Nothing Found emissions (No emissions were detected.)

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)	715k	1.054M	1M05F1D	713.75k	1.051M

Max-N dB = Maximum 6dB down bandwidth; **Max-OBW** = Maximum 99% occupied bandwidth;

Min-N dB = Minimum 6dB down bandwidth; **Min-OBW** = Minimum 99% occupied bandwidth;

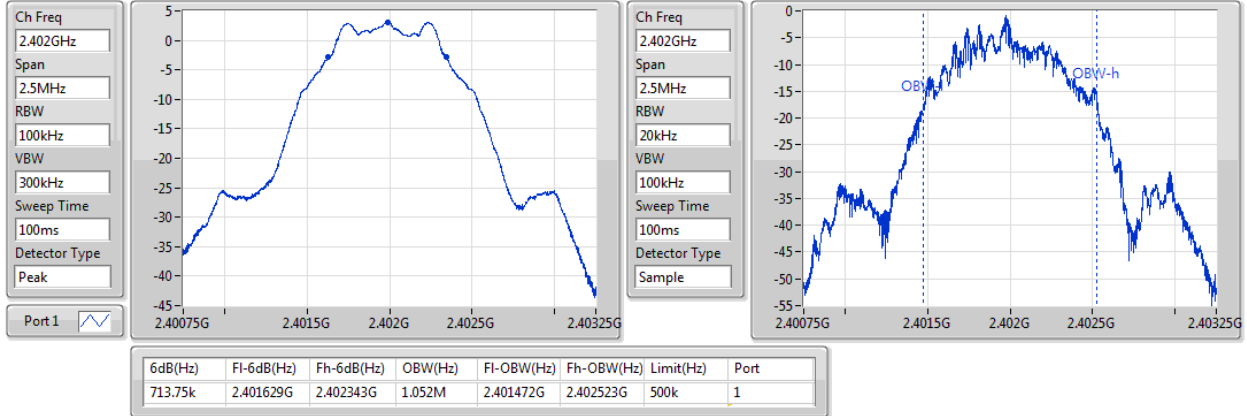
Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
BT-LE(1Mbps)	-	-	-	-
2402MHz_TnomVnom	Pass	500k	713.75k	1.052M
2440MHz_TnomVnom	Pass	500k	713.75k	1.051M
2480MHz_TnomVnom	Pass	500k	715k	1.054M

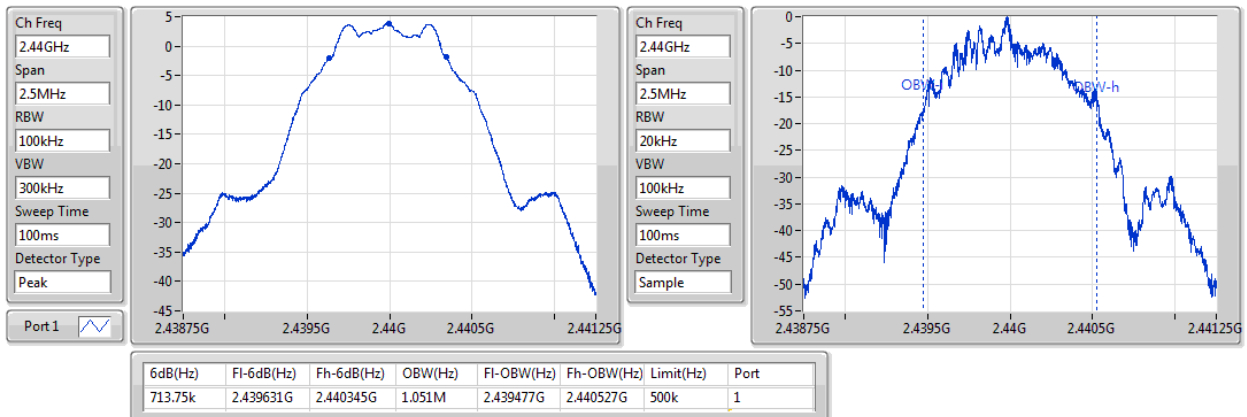
Port X-N dB = Port X 6dB down bandwidth; **Port X-OBW** = Port X 99% occupied bandwidth;

BT-LE(1Mbps)
EBW
2402MHz

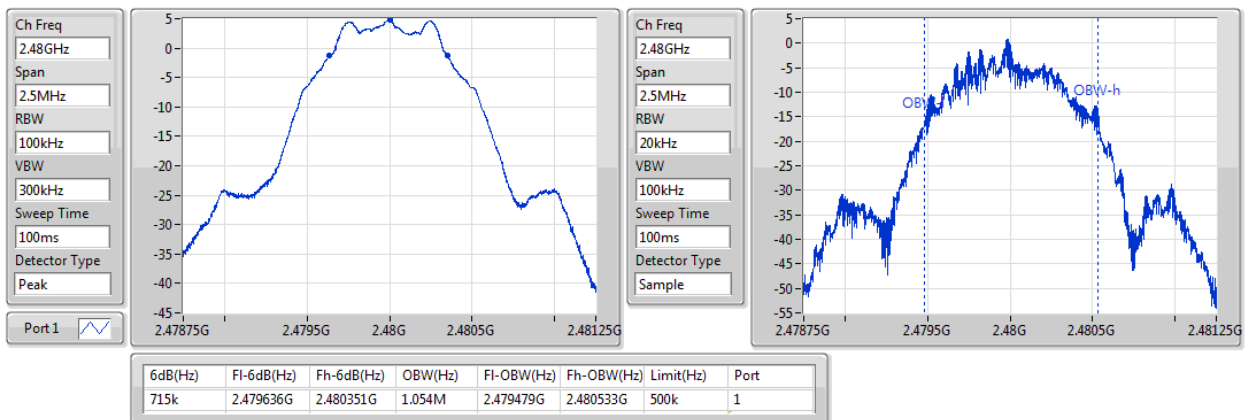
30/08/2018


BT-LE(1Mbps)
EBW
2440MHz

30/08/2018


BT-LE(1Mbps)
EBW
2480MHz

30/08/2018



**Summary**

Mode	Power (dBm)	Power (W)
2.4-2.4835GHz	-	-
BT-LE(1Mbps)	5.94	0.00393

Result

Mode	Result	Gain (dBi)	Power (dBm)	Power Limit (dBm)
BT-LE(1Mbps)	-	-	-	-
2402MHz_TnomVnom	Pass	0.94	4.63	Inf
2440MHz_TnomVnom	Pass	0.94	5.19	Inf
2480MHz_TnomVnom	Pass	0.94	5.94	Inf

Summary

Mode	Power	Power
	(dBm)	(W)
2.4-2.4835GHz	-	-
BT-LE(1Mbps)	4.71	0.00296

Result

Mode	Result	Gain (dBi)	Power (dBm)	Power Limit (dBm)
BT-LE(1Mbps)	-	-	-	-
2402MHz_TnomVnom	Pass	0.94	3.04	30.00
2440MHz_TnomVnom	Pass	0.94	3.87	30.00
2480MHz_TnomVnom	Pass	0.94	4.71	30.00

**Summary**

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
BT-LE(1Mbps)	-9.08

RBW=3kHz.

Result

Mode	Result	Gain (dBi)	PD (dBm/RBW)	PD Limit (dBm/RBW)
BT-LE(1Mbps)	-	-	-	-
2402MHz_TnomVnom	Pass	0.94	-11.73	8.00
2440MHz_TnomVnom	Pass	0.94	-10.11	8.00
2480MHz_TnomVnom	Pass	0.94	-9.08	8.00

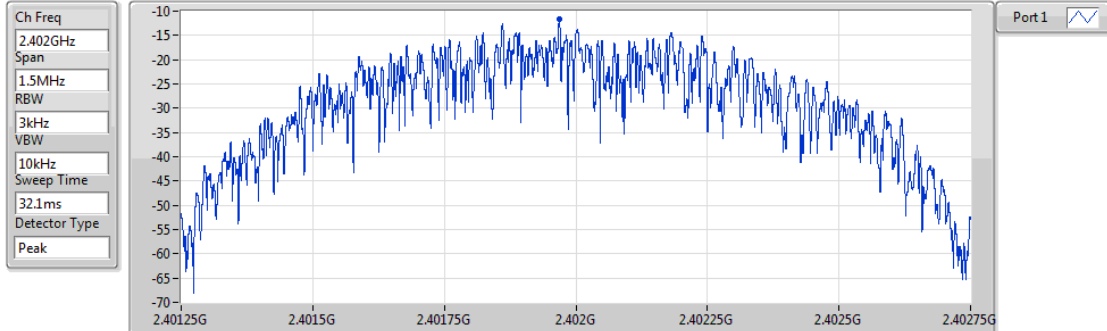
RBW=3kHz.

BT-LE(1Mbps)

PSD

2402MHz

30/08/2018



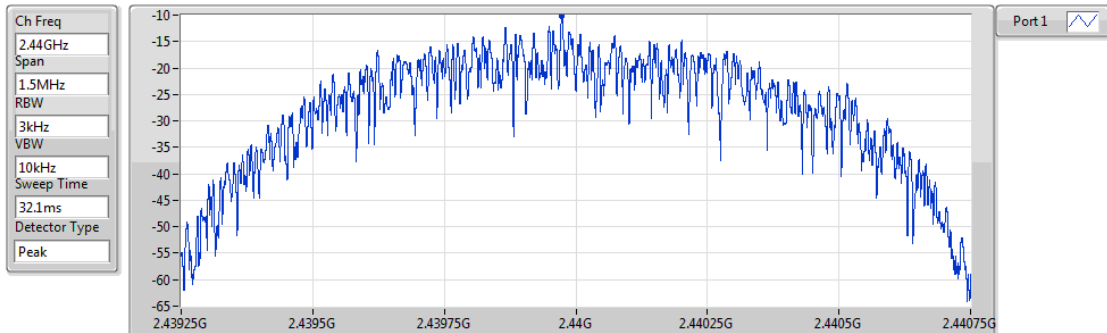
Sum	PD	Port 1
(dBm/Hz)	(dBm/Hz)	(dBm/Hz)
-11.73	-11.73	-11.73

BT-LE(1Mbps)

PSD

2440MHz

30/08/2018



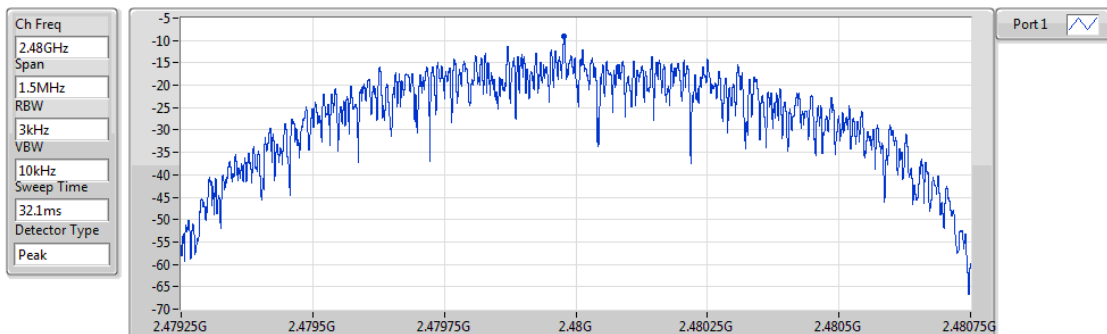
Sum	PD	Port 1
(dBm/Hz)	(dBm/Hz)	(dBm/Hz)
-10.11	-10.11	-10.11

BT-LE(1Mbps)

PSD

2480MHz

30/08/2018



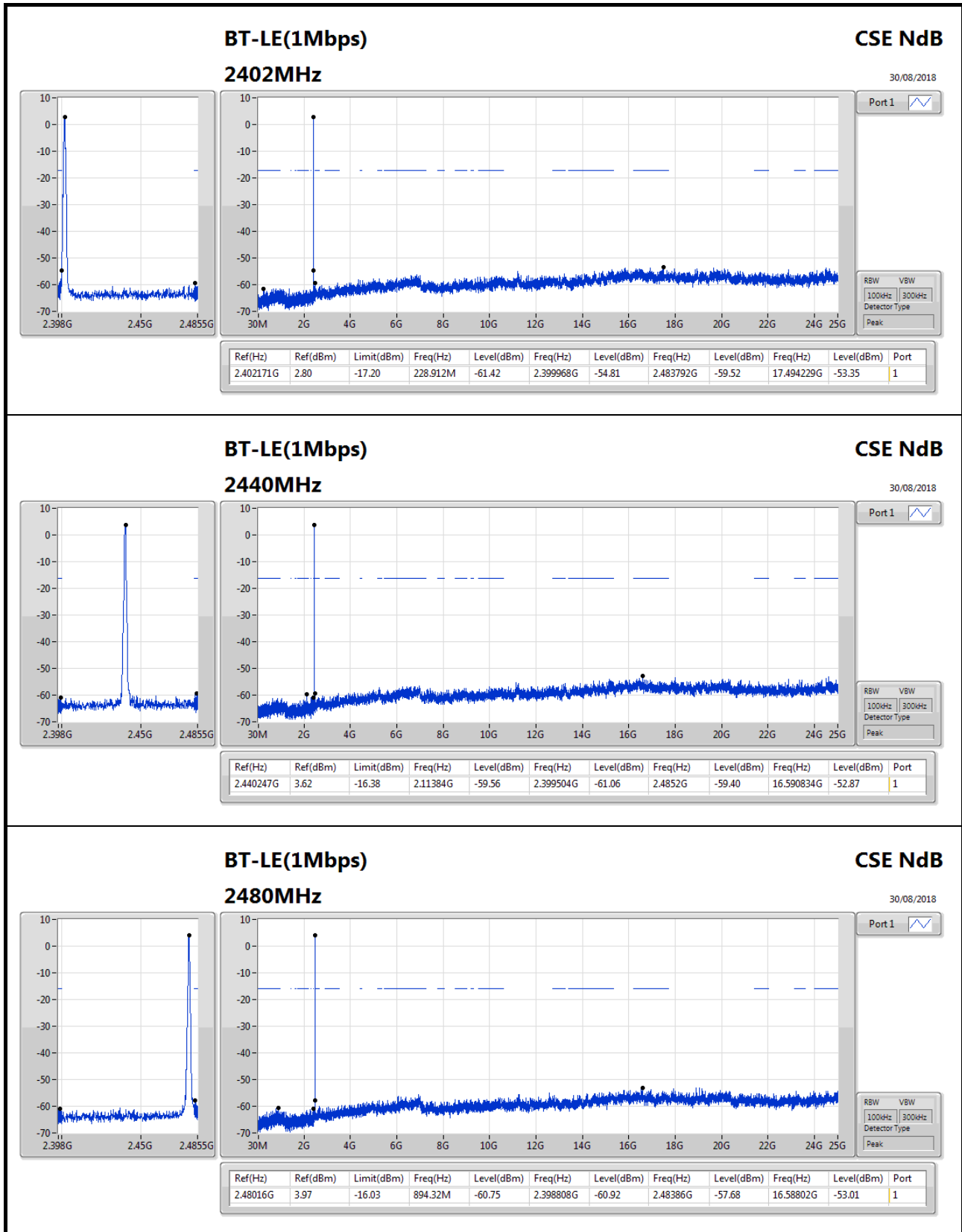
Sum	PD	Port 1
(dBm/Hz)	(dBm/Hz)	(dBm/Hz)
-9.08	-9.08	-9.08

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)	Port
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-	-
BT-LE(1Mbps)	Pass	2.402171G	2.80	-17.20	228.912M	-61.42	2.399968G	-54.81	2.483792G	-59.52	17.494229G	-53.35	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)	Port
BT-LE(1Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz_TnomVnom	Pass	2.402171G	2.80	-17.20	228.912M	-61.42	2.399968G	-54.81	2.483792G	-59.52	17.494229G	-53.35	1
2440MHz_TnomVnom	Pass	2.440247G	3.62	-16.38	2.11384G	-59.56	2.399504G	-61.06	2.4852G	-59.40	16.590834G	-52.87	1
2480MHz_TnomVnom	Pass	2.48016G	3.97	-16.03	894.32M	-60.75	2.398808G	-60.92	2.48386G	-57.68	16.58802G	-53.01	1



Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-
BT-LE(1Mbps)	Pass	PK	132.82M	36.80	43.50	-6.70	-19.19	3	Horizontal	0	1.00	-

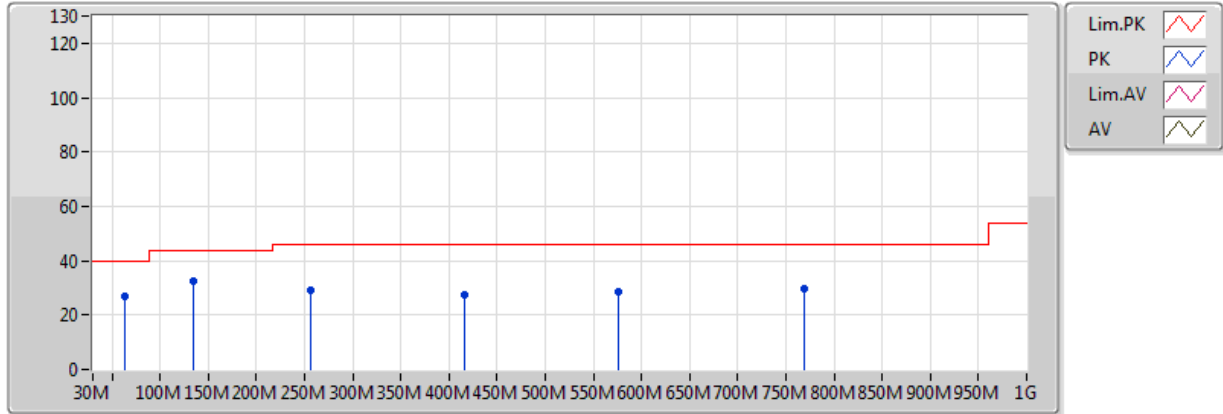
Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
BT-LE(1Mbps)	-	-	-	-	-	-	-	-	-	-	-	-
2440MHz	Pass	PK	62.98M	27.16	40.00	-12.84	-25.58	3	Vertical	360	1.00	-
2440MHz	Pass	PK	134.76M	32.75	43.50	-10.75	-19.21	3	Vertical	360	1.00	-
2440MHz	Pass	PK	256.98M	29.06	46.00	-16.94	-16.10	3	Vertical	360	1.00	-
2440MHz	Pass	PK	416.06M	27.18	46.00	-18.82	-13.38	3	Vertical	360	1.00	-
2440MHz	Pass	PK	575.14M	28.34	46.00	-17.66	-10.84	3	Vertical	360	1.00	-
2440MHz	Pass	PK	769.14M	29.47	46.00	-16.53	-8.20	3	Vertical	360	1.00	-
2440MHz	Pass	PK	57.16M	31.02	40.00	-8.98	-25.37	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	132.82M	36.80	43.50	-6.70	-19.19	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	222.06M	35.54	46.00	-10.46	-20.68	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	425.76M	27.76	46.00	-18.24	-13.16	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	476.2M	31.76	46.00	-14.24	-12.44	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	953.44M	32.67	46.00	-13.33	-4.71	3	Horizontal	0	1.00	-

BT-LE(1Mbps)

2440MHz_Adapter

29/08/2018

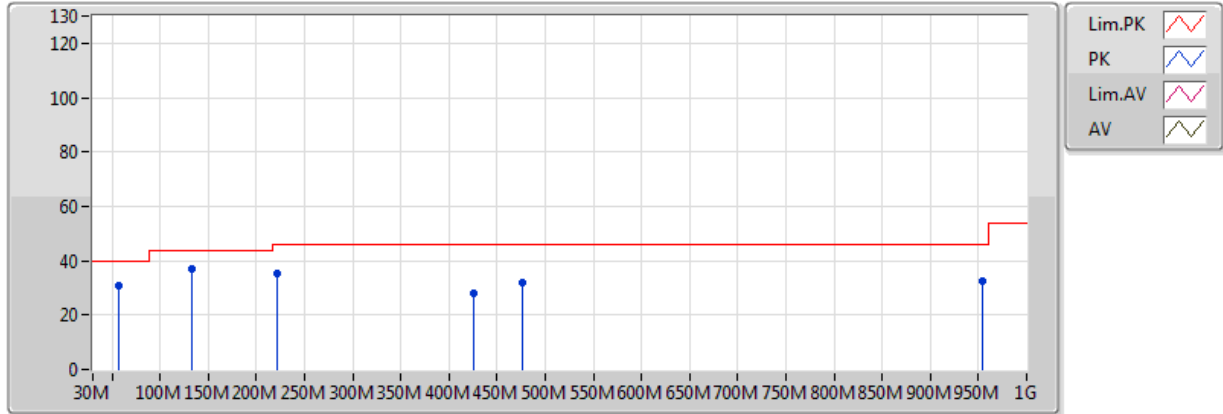


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
PK	62.98M	27.16	40.00	-12.84	-25.58	3	Vertical	360	1.00	-
PK	134.76M	32.75	43.50	-10.75	-19.21	3	Vertical	360	1.00	-
PK	256.98M	29.06	46.00	-16.94	-16.10	3	Vertical	360	1.00	-
PK	416.06M	27.18	46.00	-18.82	-13.38	3	Vertical	360	1.00	-
PK	575.14M	28.34	46.00	-17.66	-10.84	3	Vertical	360	1.00	-
PK	769.14M	29.47	46.00	-16.53	-8.20	3	Vertical	360	1.00	-

BT-LE(1Mbps)

2440MHz_Adapter

29/08/2018



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
PK	57.16M	31.02	40.00	-8.98	-25.37	3	Horizontal	0	1.00	-
PK	132.82M	36.80	43.50	-6.70	-19.19	3	Horizontal	0	1.00	-
PK	222.06M	35.54	46.00	-10.46	-20.68	3	Horizontal	0	1.00	-
PK	425.76M	27.76	46.00	-18.24	-13.16	3	Horizontal	0	1.00	-
PK	476.2M	31.76	46.00	-14.24	-12.44	3	Horizontal	0	1.00	-
PK	953.44M	32.67	46.00	-13.33	-4.71	3	Horizontal	0	1.00	-



Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-
BT-LE(1Mbps)	Pass	AV	2.4954G	47.18	54.00	-6.82	31.16	3	Vertical	352	1.01	-

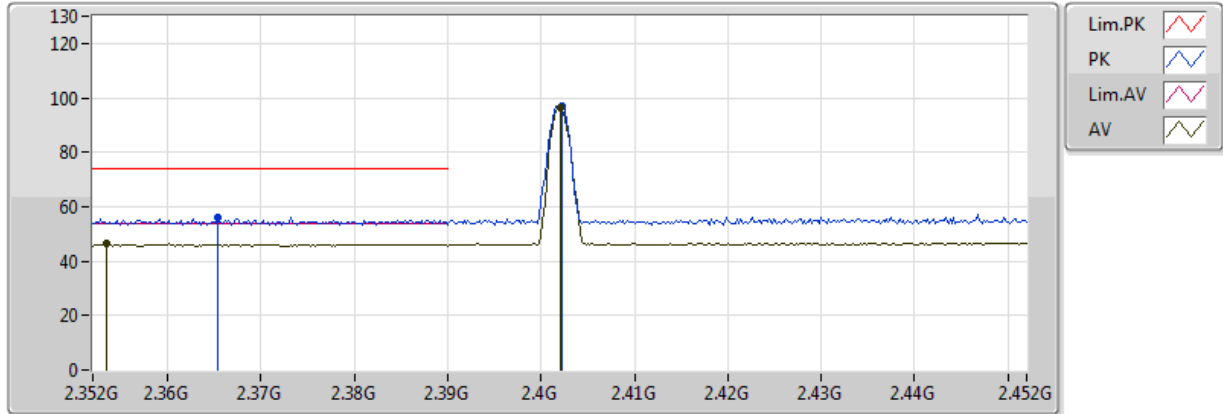
Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
BT-LE(1Mbps)	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	AV	2.3534G	46.30	54.00	-7.70	30.65	3	Vertical	277	2.23	-
2402MHz	Pass	AV	2.402G	96.21	Inf	-Inf	30.82	3	Vertical	277	2.23	-
2402MHz	Pass	PK	2.3654G	56.21	74.00	-17.79	30.69	3	Vertical	277	2.23	-
2402MHz	Pass	PK	2.4022G	96.84	Inf	-Inf	30.82	3	Vertical	277	2.23	-
2402MHz	Pass	AV	2.3864G	46.39	54.00	-7.61	30.76	3	Horizontal	125	2.14	-
2402MHz	Pass	AV	2.402G	98.89	Inf	-Inf	30.82	3	Horizontal	125	2.14	-
2402MHz	Pass	PK	2.3614G	55.84	74.00	-18.16	30.67	3	Horizontal	125	2.14	-
2402MHz	Pass	PK	2.4022G	99.48	Inf	-Inf	30.82	3	Horizontal	125	2.14	-
2402MHz	Pass	AV	4.80772G	31.87	54.00	-22.13	2.09	3	Vertical	325	1.66	-
2402MHz	Pass	PK	4.79836G	41.91	74.00	-32.09	2.07	3	Vertical	325	1.66	-
2402MHz	Pass	AV	4.80832G	31.84	54.00	-22.16	2.09	3	Horizontal	112	1.52	-
2402MHz	Pass	PK	4.79032G	41.57	74.00	-32.43	2.05	3	Horizontal	112	1.52	-
2440MHz	Pass	AV	2.3736G	46.58	54.00	-7.42	30.72	3	Vertical	278	2.71	-
2440MHz	Pass	AV	2.44G	97.61	Inf	-Inf	30.95	3	Vertical	278	2.71	-
2440MHz	Pass	AV	2.4968G	46.92	54.00	-7.08	31.16	3	Vertical	278	2.71	-
2440MHz	Pass	PK	2.3724G	56.19	74.00	-17.81	30.71	3	Vertical	278	2.71	-
2440MHz	Pass	PK	2.4404G	98.20	Inf	-Inf	30.96	3	Vertical	278	2.71	-
2440MHz	Pass	PK	2.499998G	56.67	74.00	-17.33	31.17	3	Vertical	278	2.71	-
2440MHz	Pass	AV	2.374G	46.30	54.00	-7.70	30.72	3	Horizontal	125	2.10	-
2440MHz	Pass	AV	2.44G	101.02	Inf	-Inf	30.95	3	Horizontal	125	2.10	-
2440MHz	Pass	AV	2.4984G	46.81	54.00	-7.19	31.17	3	Horizontal	125	2.10	-
2440MHz	Pass	PK	2.3408G	55.83	74.00	-18.17	30.60	3	Horizontal	125	2.10	-
2440MHz	Pass	PK	2.4396G	101.60	Inf	-Inf	30.95	3	Horizontal	125	2.10	-
2440MHz	Pass	PK	2.4928G	56.07	74.00	-17.93	31.14	3	Horizontal	125	2.10	-
2440MHz	Pass	AV	4.89422G	32.00	54.00	-22.00	2.31	3	Vertical	189	1.74	-
2440MHz	Pass	PK	4.8863G	42.17	74.00	-31.83	2.29	3	Vertical	189	1.74	-
2440MHz	Pass	AV	4.89374G	31.96	54.00	-22.04	2.30	3	Horizontal	185	2.22	-
2440MHz	Pass	PK	4.8671G	41.97	74.00	-32.03	2.24	3	Horizontal	185	2.22	-
2480MHz	Pass	AV	2.48G	93.76	Inf	-Inf	31.10	3	Vertical	352	1.01	-
2480MHz	Pass	AV	2.4954G	47.18	54.00	-6.82	31.16	3	Vertical	352	1.01	-
2480MHz	Pass	PK	2.4802G	94.42	Inf	-Inf	31.10	3	Vertical	352	1.01	-
2480MHz	Pass	PK	2.4838G	56.07	74.00	-17.93	31.11	3	Vertical	352	1.01	-
2480MHz	Pass	AV	2.48G	99.78	Inf	-Inf	31.10	3	Horizontal	122	2.27	-
2480MHz	Pass	AV	2.4956G	47.16	54.00	-6.84	31.16	3	Horizontal	122	2.27	-
2480MHz	Pass	PK	2.4798G	100.40	Inf	-Inf	31.10	3	Horizontal	122	2.27	-
2480MHz	Pass	PK	2.4932G	56.81	74.00	-17.19	31.14	3	Horizontal	122	2.27	-
2480MHz	Pass	AV	4.96408G	31.63	54.00	-22.37	2.48	3	Vertical	124	2.15	-
2480MHz	Pass	PK	4.96372G	41.45	74.00	-32.55	2.48	3	Vertical	124	2.15	-
2480MHz	Pass	AV	4.96018G	32.40	54.00	-21.60	2.47	3	Horizontal	78	1.56	-
2480MHz	Pass	PK	4.97488G	41.63	74.00	-32.37	2.51	3	Horizontal	78	1.56	-

BT-LE(1Mbps)

2402MHz_TX

29/08/2018

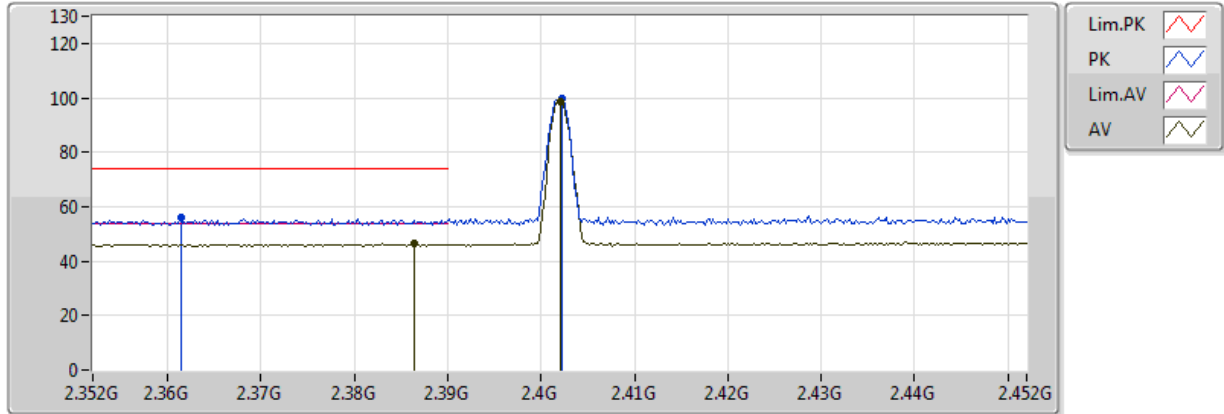


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
AV	2.3534G	46.30	54.00	-7.70	30.65	3	Vertical	277	2.23	-
AV	2.402G	96.21	Inf	-Inf	30.82	3	Vertical	277	2.23	-
PK	2.3654G	56.21	74.00	-17.79	30.69	3	Vertical	277	2.23	-
PK	2.4022G	96.84	Inf	-Inf	30.82	3	Vertical	277	2.23	-

BT-LE(1Mbps)

2402MHz_TX

29/08/2018

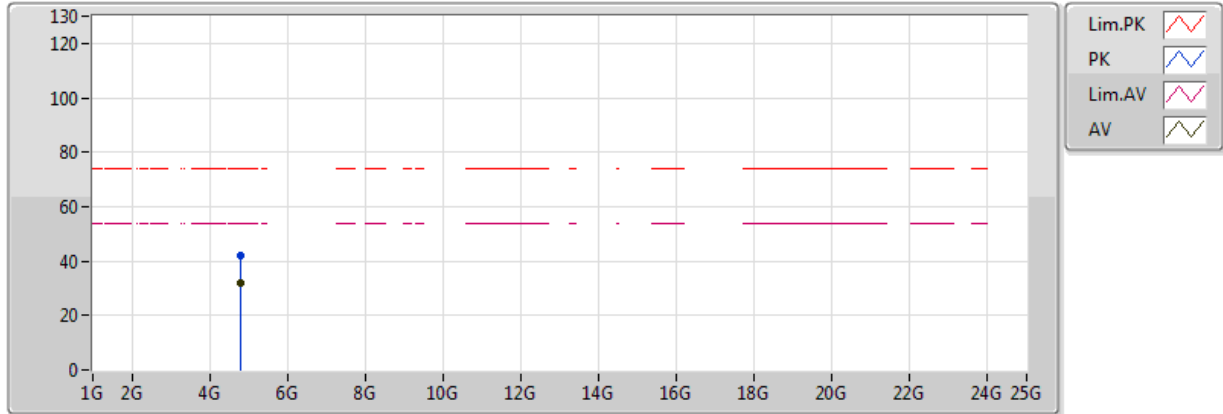


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
AV	2.3864G	46.39	54.00	-7.61	30.76	3	Horizontal	125	2.14	-
AV	2.402G	98.89	Inf	-Inf	30.82	3	Horizontal	125	2.14	-
PK	2.3614G	55.84	74.00	-18.16	30.67	3	Horizontal	125	2.14	-
PK	2.4022G	99.48	Inf	-Inf	30.82	3	Horizontal	125	2.14	-

BT-LE(1Mbps)

2402MHz_TX

29/08/2018

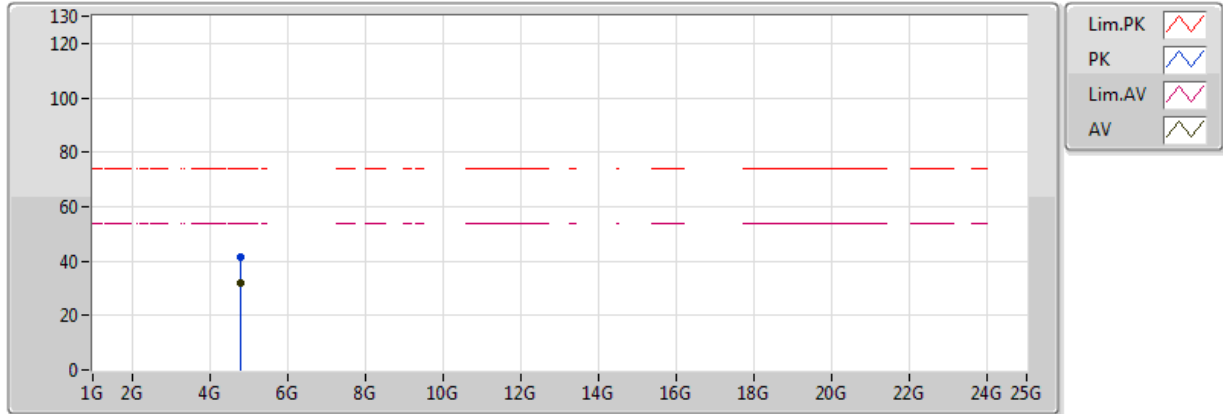


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
AV	4.80772G	31.87	54.00	-22.13	2.09	3	Vertical	325	1.66	-
PK	4.79836G	41.91	74.00	-32.09	2.07	3	Vertical	325	1.66	-

BT-LE(1Mbps)

2402MHz_TX

29/08/2018

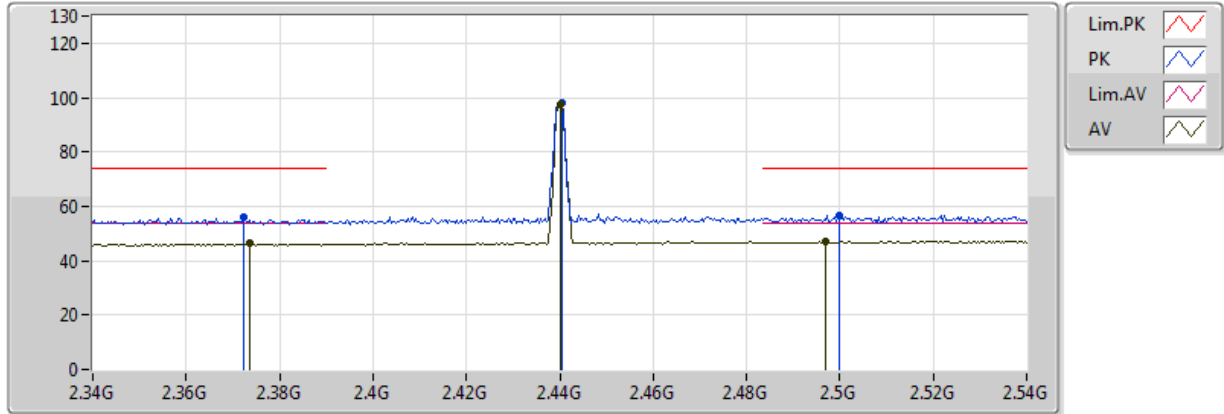


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
AV	4.80832G	31.84	54.00	-22.16	2.09	3	Horizontal	112	1.52	-
PK	4.79032G	41.57	74.00	-32.43	2.05	3	Horizontal	112	1.52	-

BT-LE(1Mbps)

2440MHz_TX

29/08/2018

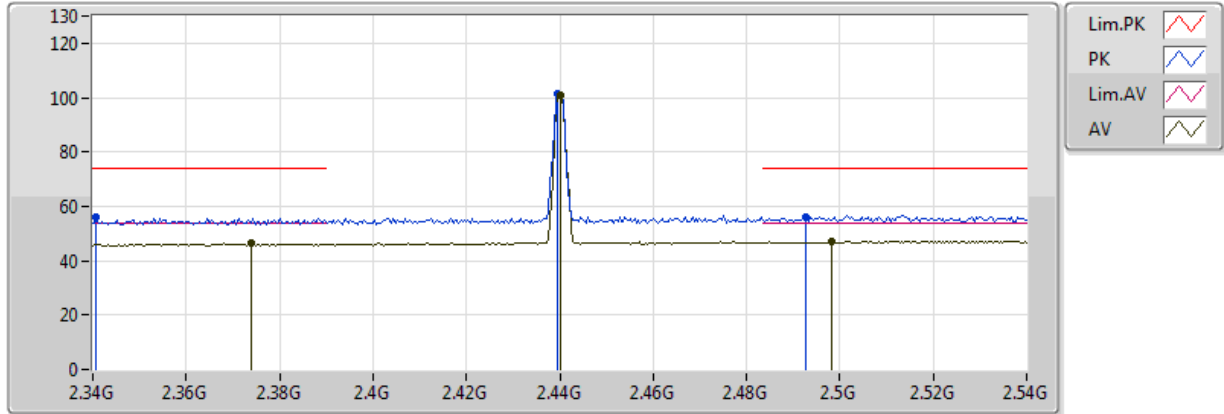


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
AV	2.3736G	46.58	54.00	-7.42	30.72	3	Vertical	278	2.71	-
AV	2.44G	97.61	Inf	-Inf	30.95	3	Vertical	278	2.71	-
AV	2.4968G	46.92	54.00	-7.08	31.16	3	Vertical	278	2.71	-
PK	2.3724G	56.19	74.00	-17.81	30.71	3	Vertical	278	2.71	-
PK	2.4404G	98.20	Inf	-Inf	30.96	3	Vertical	278	2.71	-
PK	2.499998G	56.67	74.00	-17.33	31.17	3	Vertical	278	2.71	-

BT-LE(1Mbps)

2440MHz_TX

29/08/2018

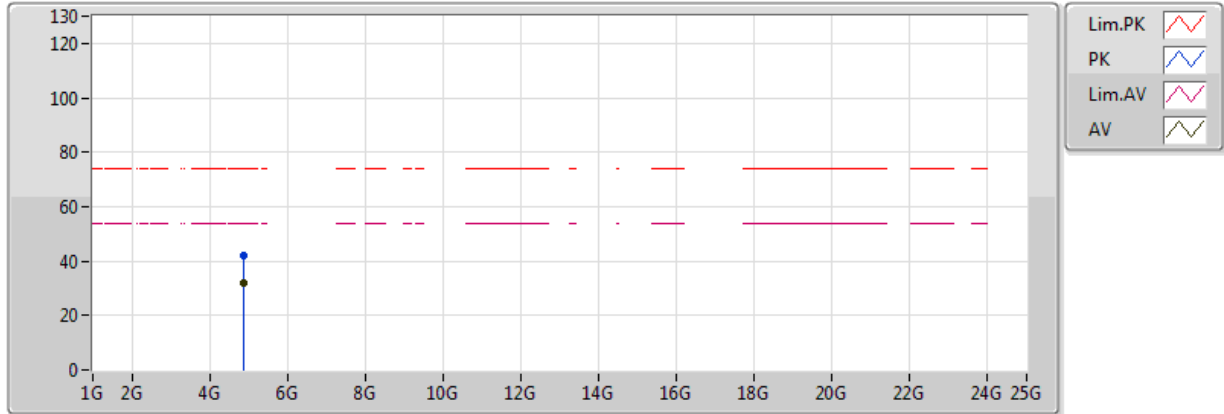


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
AV	2.374G	46.30	54.00	-7.70	30.72	3	Horizontal	125	2.10	-
AV	2.44G	101.02	Inf	-Inf	30.95	3	Horizontal	125	2.10	-
AV	2.4984G	46.81	54.00	-7.19	31.17	3	Horizontal	125	2.10	-
PK	2.3408G	55.83	74.00	-18.17	30.60	3	Horizontal	125	2.10	-
PK	2.4396G	101.60	Inf	-Inf	30.95	3	Horizontal	125	2.10	-
PK	2.4928G	56.07	74.00	-17.93	31.14	3	Horizontal	125	2.10	-

BT-LE(1Mbps)

2440MHz_TX

29/08/2018

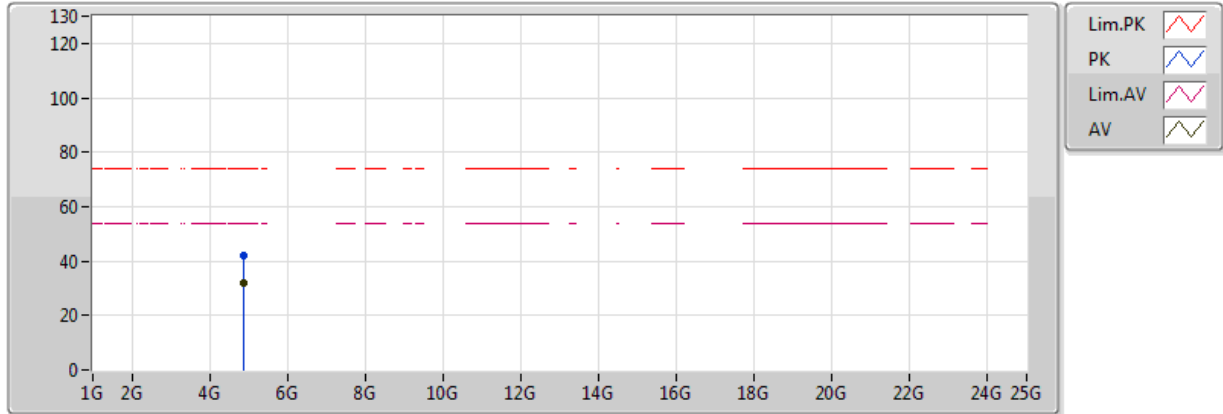


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
AV	4.89422G	32.00	54.00	-22.00	2.31	3	Vertical	189	1.74	-
PK	4.8863G	42.17	74.00	-31.83	2.29	3	Vertical	189	1.74	-

BT-LE(1Mbps)

2440MHz_TX

29/08/2018

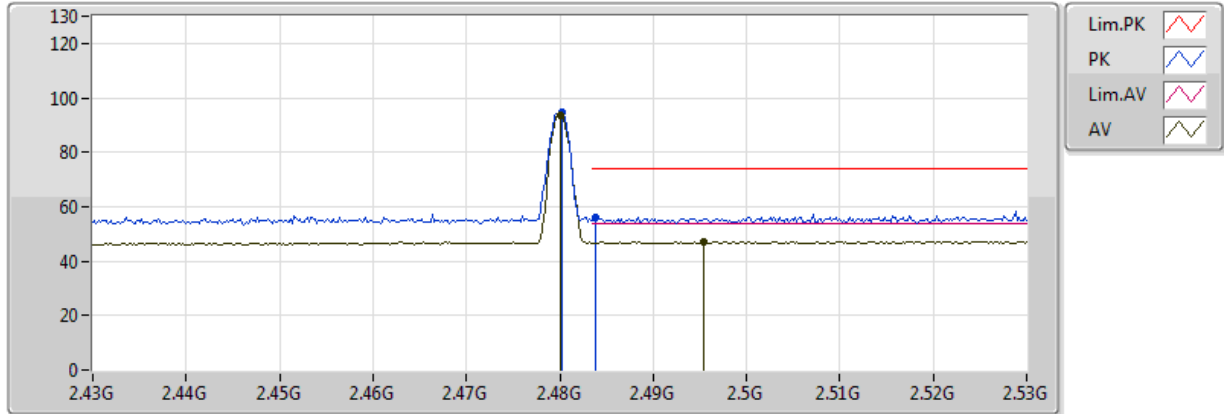


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
AV	4.89374G	31.96	54.00	-22.04	2.30	3	Horizontal	185	2.22	-
PK	4.8671G	41.97	74.00	-32.03	2.24	3	Horizontal	185	2.22	-

BT-LE(1Mbps)

2480MHz_TX

29/08/2018

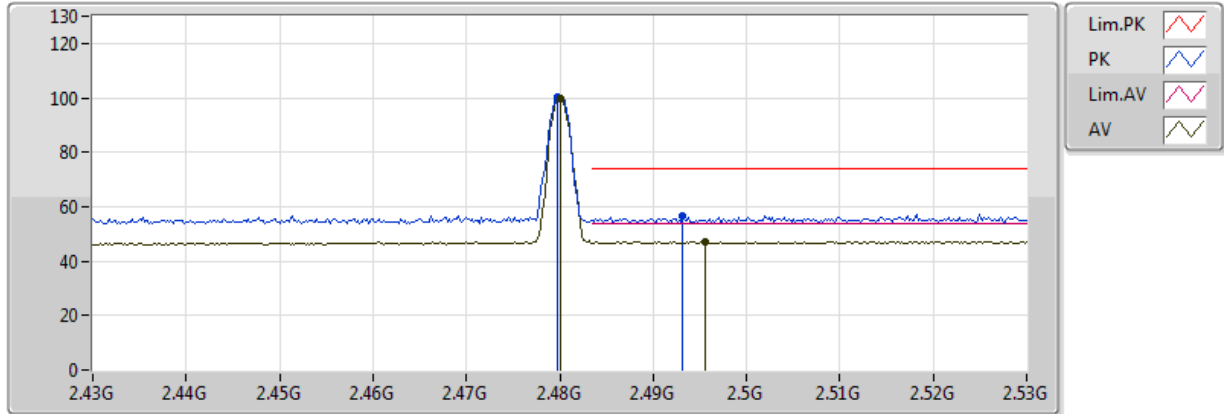


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
AV	2.48G	93.76	Inf	-Inf	31.10	3	Vertical	352	1.01	-
AV	2.4954G	47.18	54.00	-6.82	31.16	3	Vertical	352	1.01	-
PK	2.4802G	94.42	Inf	-Inf	31.10	3	Vertical	352	1.01	-
PK	2.4838G	56.07	74.00	-17.93	31.11	3	Vertical	352	1.01	-

BT-LE(1Mbps)

2480MHz_TX

29/08/2018

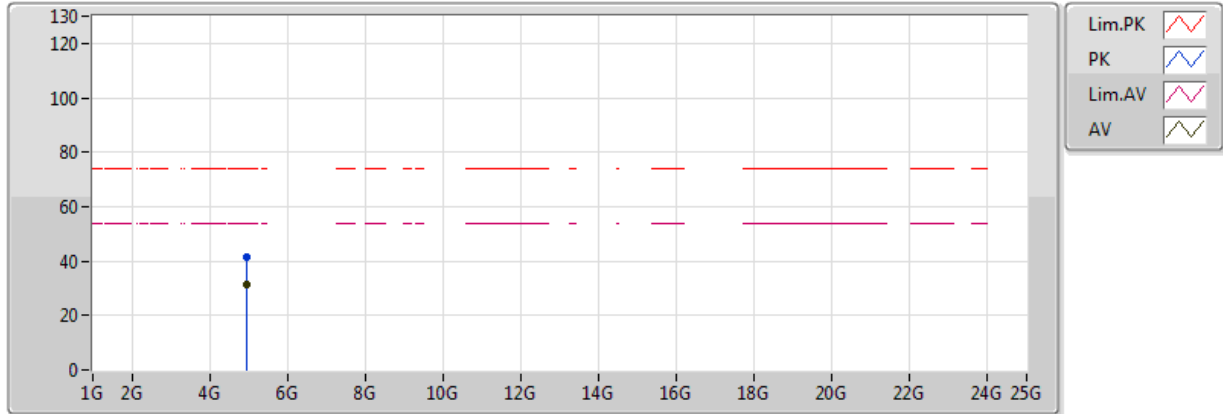


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
AV	2.48G	99.78	Inf	-Inf	31.10	3	Horizontal	122	2.27	-
AV	2.4956G	47.16	54.00	-6.84	31.16	3	Horizontal	122	2.27	-
PK	2.4798G	100.40	Inf	-Inf	31.10	3	Horizontal	122	2.27	-
PK	2.4932G	56.81	74.00	-17.19	31.14	3	Horizontal	122	2.27	-

BT-LE(1Mbps)

2480MHz_TX

29/08/2018

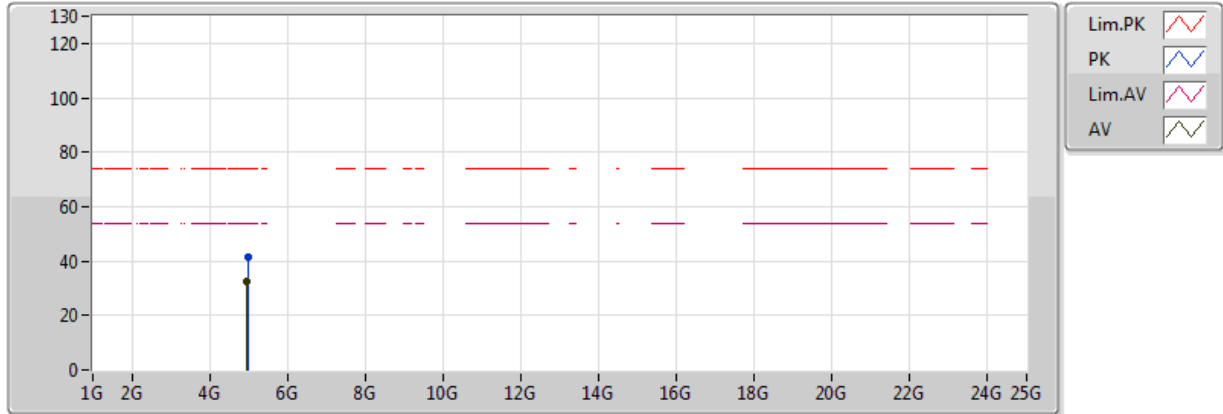


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
AV	4.96408G	31.63	54.00	-22.37	2.48	3	Vertical	124	2.15	-
PK	4.96372G	41.45	74.00	-32.55	2.48	3	Vertical	124	2.15	-

BT-LE(1Mbps)

2480MHz_TX

29/08/2018



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
AV	4.96018G	32.40	54.00	-21.60	2.47	3	Horizontal	78	1.56	-
PK	4.97488G	41.63	74.00	-32.37	2.51	3	Horizontal	78	1.56	-

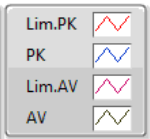
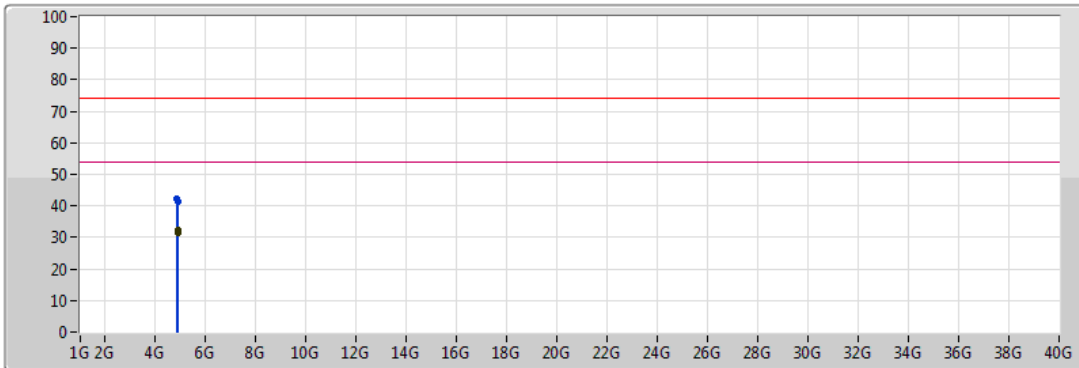


Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
Mode 1.	Pass	AV	4.824G	48.55	54.00	-5.45	2.13	3	Vertical	215	1.53	-
Mode 2.	Pass	AV	4.804G	47.56	54.00	-6.44	2.08	3	Vertical	175	1.67	-

Radiation-above 1GHz_Mode 1

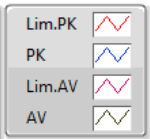
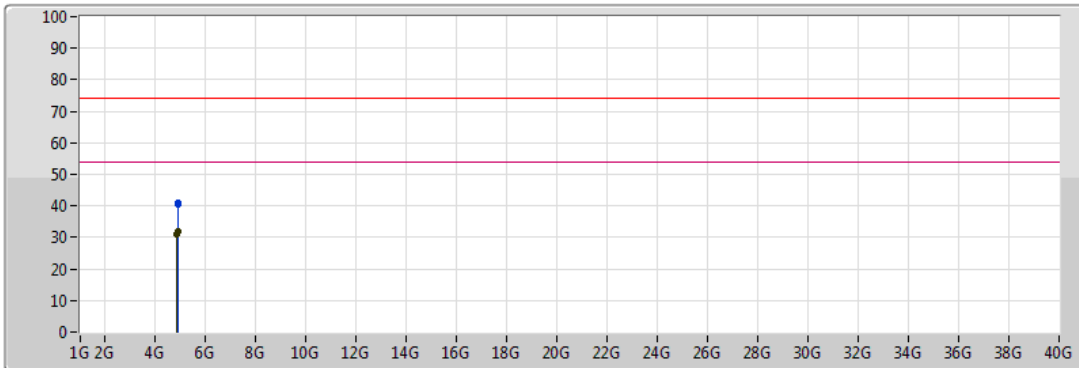
31/08/2018



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments	Raw	AF	CL	PA		
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)		
AV	4.889G	32.28	54.00	-21.72	1.40	3	Vertical	126	1.64	-	30.88	31.24	4.55	34.39		
AV	4.8942G	31.56	54.00	-22.44	1.42	3	Vertical	200	1.82	-	30.14	31.25	4.56	34.39		
PK	4.8626G	42.19	74.00	-31.81	1.36	3	Vertical	126	1.64	-	40.83	31.21	4.54	34.39		
PK	4.88631G	41.54	74.00	-32.46	1.40	3	Vertical	200	1.82	-	40.14	31.24	4.55	34.39		

Radiation-above 1GHz_Mode 1

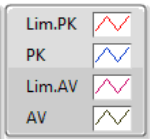
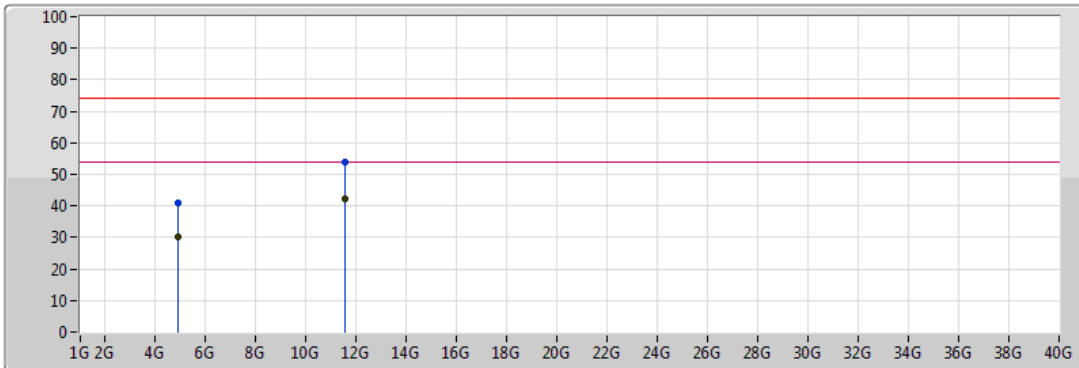
31/08/2018



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments	Raw	AF	CL	PA		
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)		
AV	4.86721G	31.24	54.00	-22.76	1.36	3	Horizontal	186	2.23	-	29.88	31.21	4.54	34.39		
AV	4.8891G	32.07	54.00	-21.93	1.40	3	Horizontal	311	2.01	-	30.67	31.24	4.55	34.39		
PK	4.88564G	41.11	74.00	-32.89	1.40	3	Horizontal	311	2.01	-	39.71	31.24	4.55	34.39		
PK	4.89374G	40.56	74.00	-33.44	1.42	3	Horizontal	186	2.23	-	39.14	31.25	4.56	34.39		

Radiation-above 1GHz_Mode 2

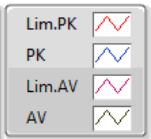
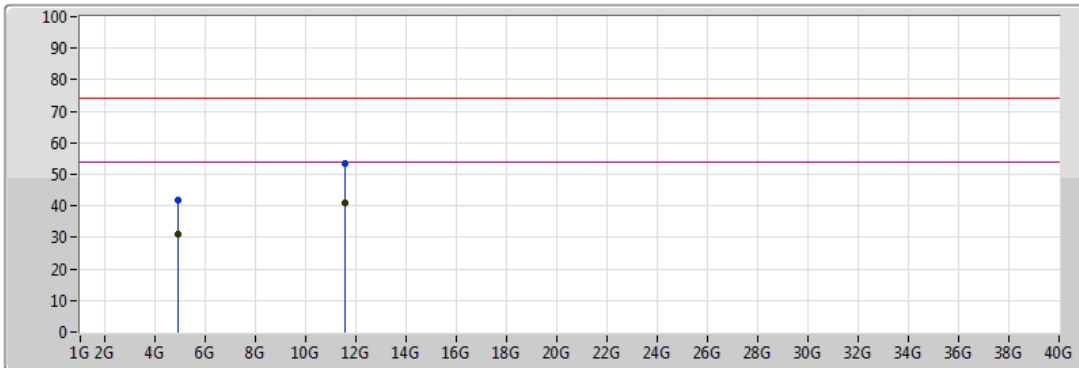
31/08/2018



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments	Raw	AF	CL	PA		
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)		
AV	4.883G	30.06	54.00	-23.94	1.40	3	Vertical	180	1.70	-	28.66	31.24	4.55	34.39		
AV	11.5458G	42.40	54.00	-11.60	12.04	3	Vertical	280	1.69	-	30.36	39.34	7.49	34.79		
PK	4.8814G	41.10	74.00	-32.90	1.39	3	Vertical	180	1.70	-	39.71	31.23	4.55	34.39		
PK	11.54564G	54.06	74.00	-19.94	12.04	3	Vertical	280	1.69	-	42.02	39.34	7.49	34.79		

Radiation-above 1GHz_Mode 2

31/08/2018



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments	Raw	AF	CL	PA		
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)		
AV	4.87314G	31.24	54.00	-22.76	1.38	3	Vertical	190	2.20	-	29.86	31.22	4.55	34.39		
AV	11.55273G	41.12	54.00	-12.88	12.03	3	Vertical	224	2.42	-	29.09	39.33	7.49	34.79		
PK	4.881G	41.75	74.00	-32.25	1.39	3	Vertical	190	2.20	-	40.36	31.23	4.55	34.39		
PK	11.553G	53.53	74.00	-20.47	12.03	3	Vertical	224	2.42	-	41.50	39.33	7.49	34.79		