

FCC Test Report

Equipment : Control and Automation Controller CA-1
Brand Name : Control4
Model No. : C4-CA1
FCC ID : R33C4CA1
Standard : 47 CFR FCC Part 15.247
Operating Band : 2400 MHz – 2483.5 MHz
Function : ☒ Point-to-multipoint; ☐ Point-to-point
Applicant : Control4
11734 S. Election Road Draper, UT 84020
Manufacturer : Lite-On Network Communication (Dongguan) Limited
30#Keji Rd., Yin Hu Industrial Area, Qingxi Town,
DongGuan City, Guangdong, China 523648

The product sample received on Aug. 08, 2017 and completely tested on Dec. 13, 2017. We, SPORTON, 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., the test report shall not be reproduced except in full.


Phoenix Chen
SPORTON INTERNATIONAL INC.



Table of Contents

1	GENERAL DESCRIPTION	5
1.1	Information.....	5
1.2	Testing Applied Standards	6
1.3	Testing Location Information	6
1.4	Measurement Uncertainty	6
2	TEST CONFIGURATION OF EUT.....	7
2.1	Test Condition	7
2.2	Test Channel Mode	7
2.3	The Worst Case Measurement Configuration.....	8
2.4	Accessories	9
2.5	Support Equipment.....	9
2.6	Test Setup Diagram	9
3	TRANSMITTER TEST RESULT	11
3.1	AC Power-line Conducted Emissions	11
3.2	DTS Bandwidth.....	12
3.3	Maximum Conducted Output Power	13
3.4	Power Spectral Density	15
3.5	Emissions in Non-restricted Frequency Bands	16
3.6	Emissions in Restricted Frequency Bands.....	17
4	TEST EQUIPMENT AND CALIBRATION DATA	21
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 PHOTOS		
PHOTOGRAPHS OF EUT V01		

Summary of Test Result

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



SPORTON INTERNATIONAL INC.
TEL : 886-3-3273456
FAX : 886-3-3270973
FCC ID: R33C4CA1

1 General Description

1.1 Information

1.1.1 RF General Information

Frequency Range (MHz)	IEEE Std.	Ch. Frequency (MHz)	Channel Number
2400-2483.5	802.15.4	2405-2475	11-25[15]

Band	Mode	BWch (MHz)	Nant
2.4-2.4835GHz	Zigbee	5	1

Note:.

- ♦ Zigbee uses a O-QPSK (250kbps) modulation for DSSS.
- ♦ BWch is the nominal channel bandwidth.

1.1.2 Antenna Information

Ant.	Port	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	1	MDLINK	MBMC01551682G	Dipole	reverse SMA	2

1.1.3 EUT Information

Identify EUT	
Zigbee Chip	Brand: Ember / Model Name: EM357
Operational Condition	
EUT Power Type	From Power Adapter
Type of EUT	
☒	Stand-alone
☐	Combined (EUT where the radio part is fully integrated within another device)
	Combined Equipment - Brand Name / Model No.: ...
☐	Plug-in radio (EUT intended for a variety of host systems)
	Host System - Brand Name / Model No.: ...
☐	Other:

1.1.4 Mode Test Duty Cycle

Mode	DC	DCF(dB)	T(s)	VBW(Hz) $\geq 1/T$
Zigbee	1	0	n/a (DC $\geq$ 0.98)	n/a (DC $\geq$ 0.98)

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 v04

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	TH01-HY	Lisa	23.3°C / 65.7%	11/Sep/2017
Radiated	03CH02-HY	Lynus	23.5°C / 65%	12/Sep/2017
Radiated <Below 30MHz>	03CH02-HY	Jeff	21°C / 64.2%	13/Dec/2017
AC Conduction	CO04-HY	Bear	24.3°C / 55%	13/Sep/2017

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 (30MHz ~ 1,000MHz)	2.1 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	2.6 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	2.9 dB	Confidence levels of 95%
Conducted Emission	1.3 dB	Confidence levels of 95%

2 Test Configuration of EUT

2.1 Test Condition

Condition Item	Abbreviation/Remark	Remark
RF Conducted	Abbreviation	Remark
TnomVnom	Tnom	20°C
	Vnom	120V

2.2 Test Channel Mode

Test Software	DoS
---------------	-----

Mode	Power Setting
Zigbee	-
2405MHz	-2
2440MHz	-7
2475MHz	-E

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
Operating Mode	Normal Link
1	Bluetooth+WLAN 2.4GHz+Zigbee
Refer to Sporton Test Report No.: FA780502 for Co-location RF Exposure Evaluation.	

2.4 Accessories

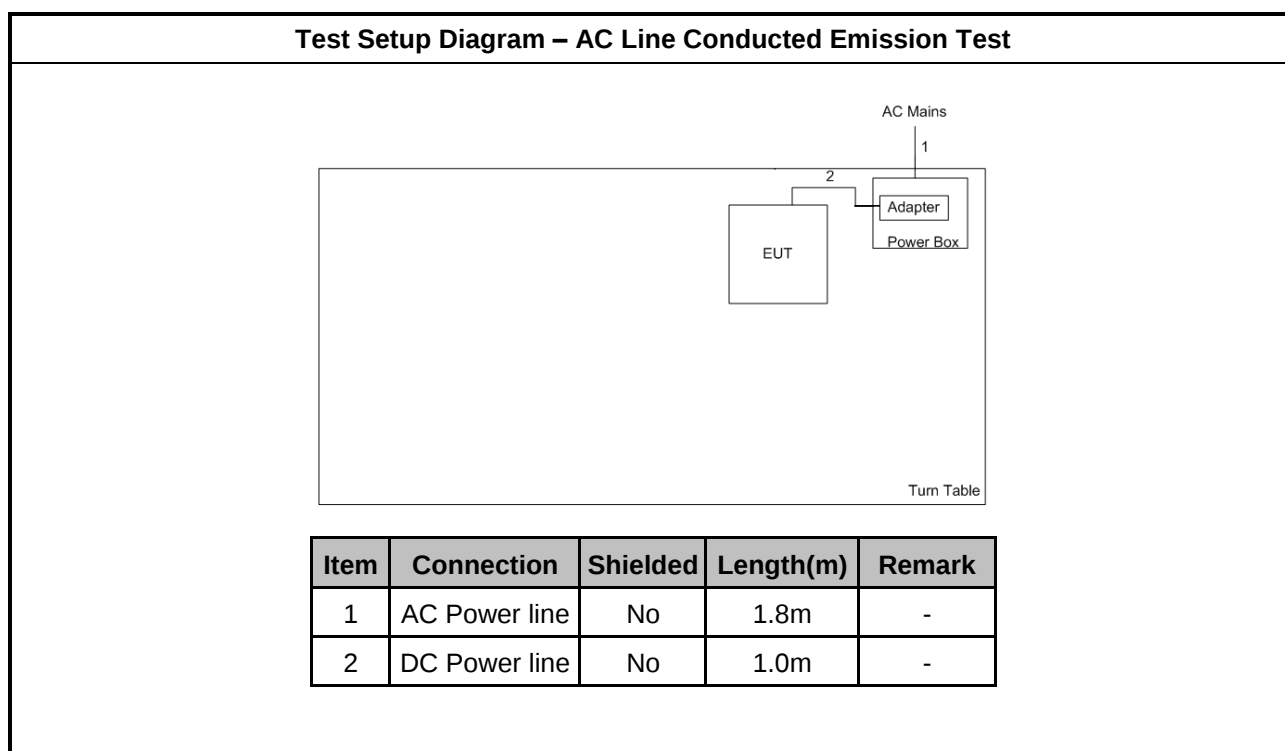
Accessories				
AC Adapter	Brand Name	Phihong	Model Name	PSC15R-050
	Power Rating	I/P: 100- 240Vac, 0.5 A, O/P: 5 Vdc, 3A		
	Power Cord	1.5 meter, non-shielded cable, with w/o ferrite core		

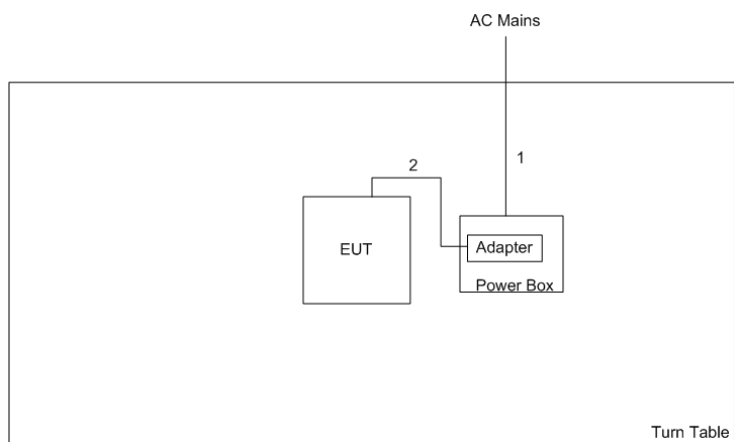
Reminder: Regarding to more detail and other information, please refer to user manual.

2.5 Support Equipment

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

2.6 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	1.0m	-

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.

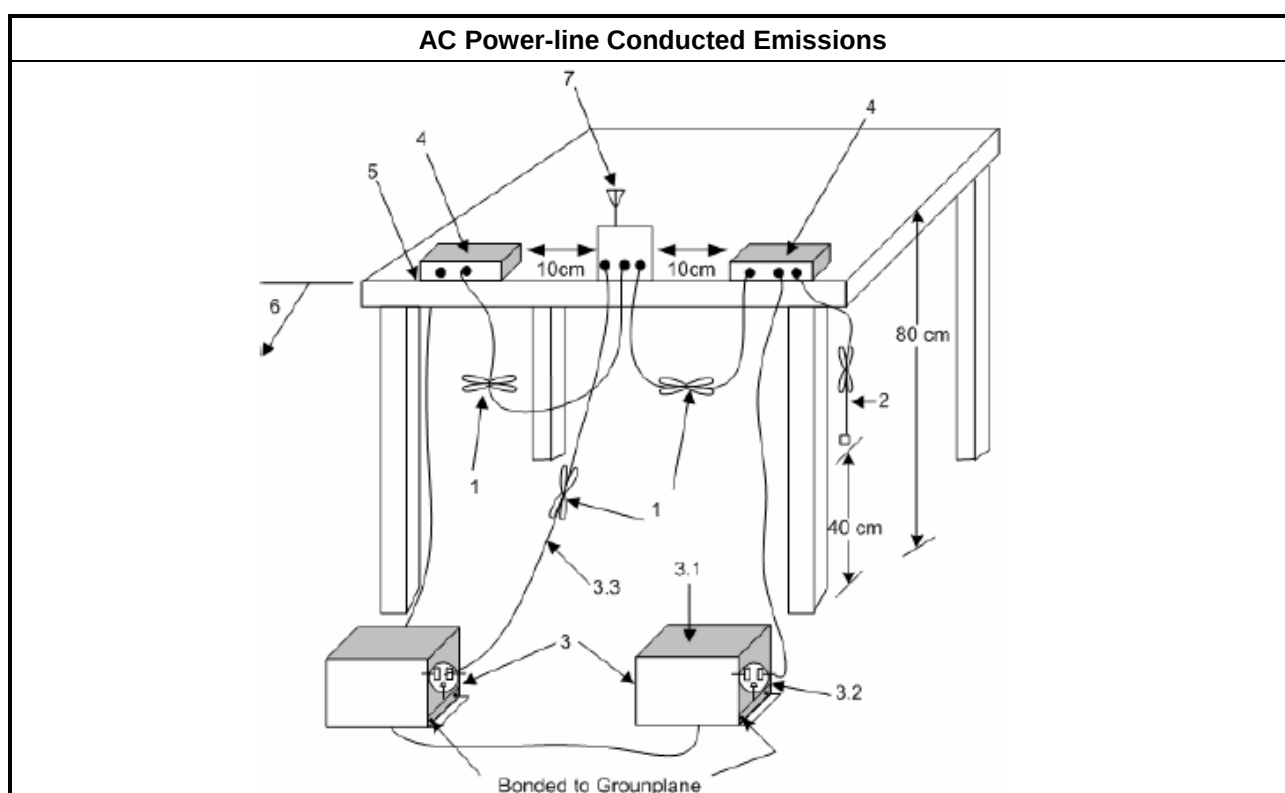
3.1.2 Measuring Instruments

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



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.

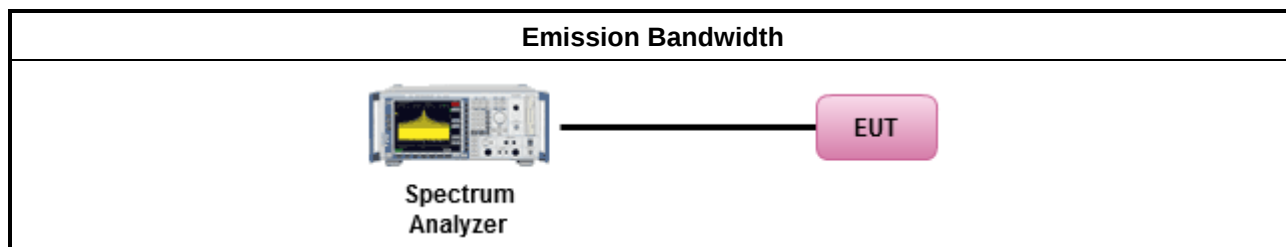
3.2.2 Measuring Instruments

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 8.1 Option 1 for 6 dB bandwidth measurement.
☐	Refer as KDB 558074, clause 8.2 Option 2 for 6 dB bandwidth measurement.
☐	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.		

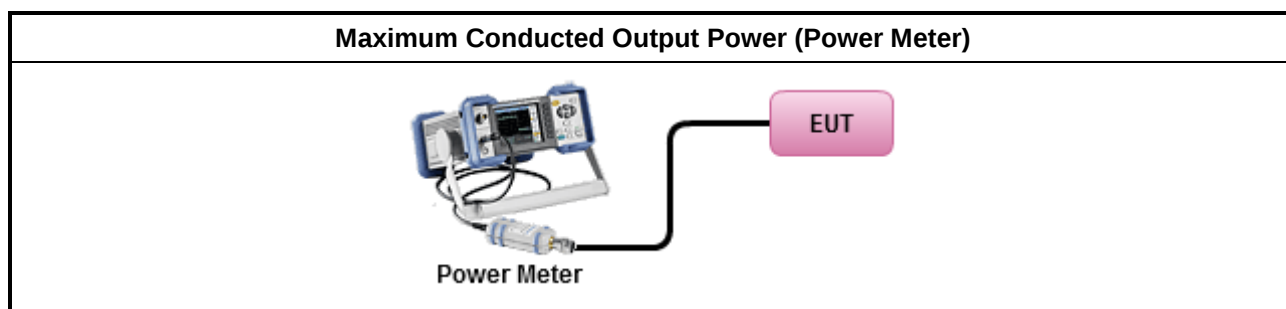
3.3.2 Measuring Instruments

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 9.1.1 Option 1 (RBW ≥ EBW method).
☐	Refer as KDB 558074, clause 9.1.2 Option 2 (integrated band power method)
☐	Refer as KDB 558074, clause 9.1.3 Option 3 (peak power meter for VBW ≥ DTS BW)
Maximum Average Conducted Output Power	
Duty cycle ≥ 98%	
☐	Refer as KDB 558074, clause 9.2.2.4 Method AVGSA-2 (spectral trace averaging).
Duty cycle < 98%	
☐	Refer as KDB 558074, clause 9.2.2.5 Method AVGSA-2 Alt. (slow sweep speed)
RF power meter and average over on/off periods with duty factor or gated trigger	
☒	Refer as KDB 558074, clause 9.2.3.1 Method AVGPM (using an RF average 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) $\leq$ 8 dBm/3kHz

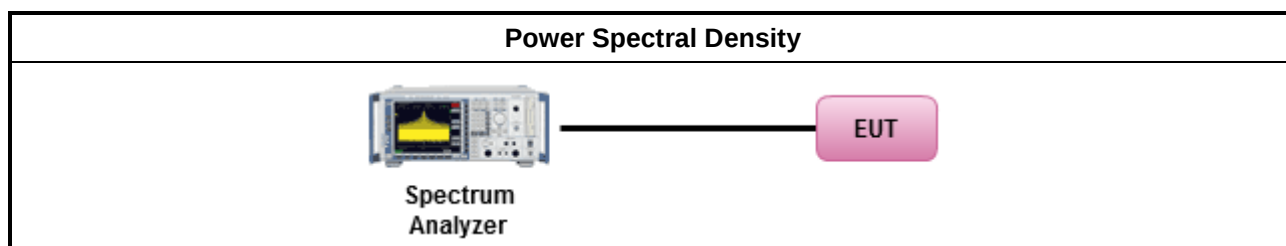
3.4.2 Measuring Instruments

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 10.2 Method PKPSD (RBW=3-100kHz; Detector=peak).
▪	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.	

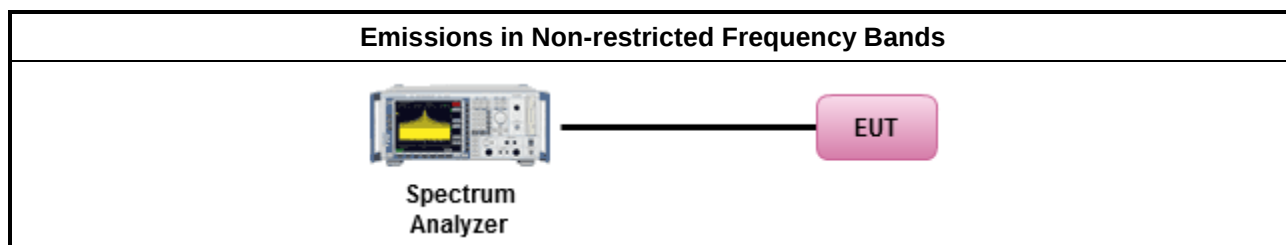
3.5.2 Measuring Instruments

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

3.5.3 Test Procedures

Test Method
Refer as KDB 558074, clause 11 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.

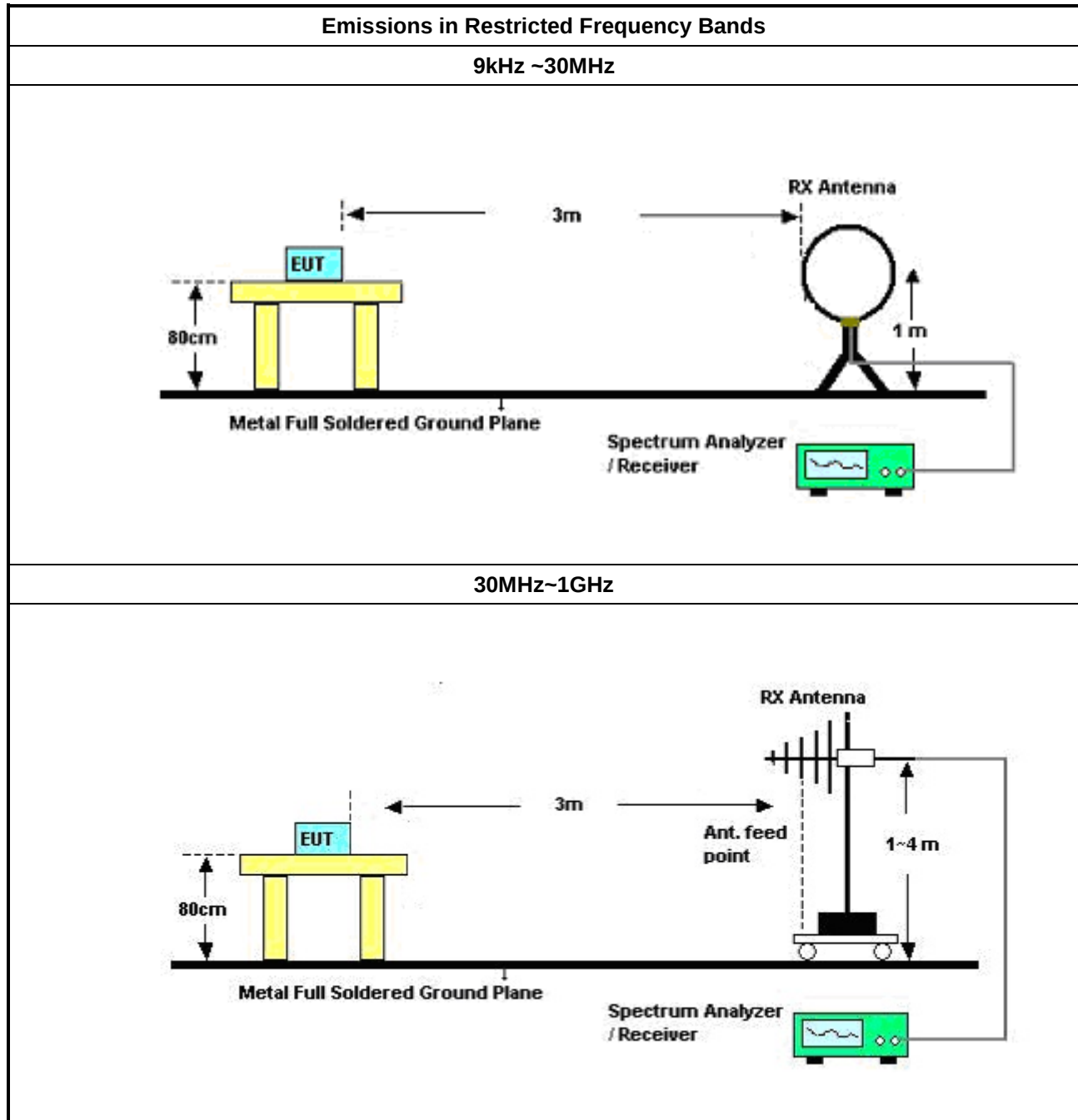
3.6.2 Measuring Instruments

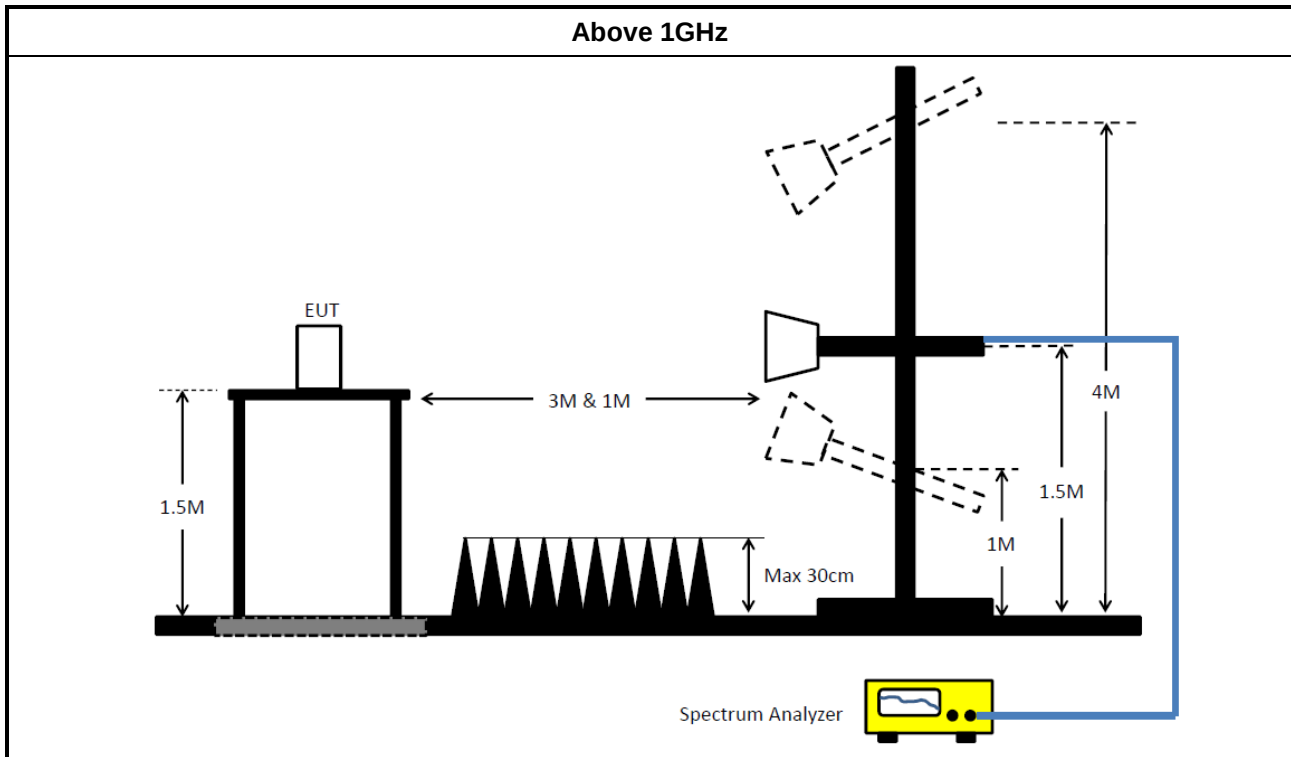
Refer a test equipment and calibration data table in this test report.

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 KDB 558074, clause 12 for unwanted emissions into restricted bands.
	☒ Refer as KDB 558074, clause 12.2.5.3 (ANSI C63.10, clause 4.1.4.2.3), Reduced VBW $\geq 1/T$.
	☒ Refer as KDB 558074, clause 12.2.4 measurement procedure peak limit.
For the transmitter band-edge emissions shall be measured using following options below:	
	Refer as KDB 558074 clause 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 KDB 558074, clause 13.2 (ANSI C63.10, clause 6.10.6) for marker-delta method for band-edge measurements.
	Refer as KDB 558074, clause 13.3 for narrower resolution bandwidth (100kHz) using the band power and summing the spectral levels (i.e., 1 MHz).
For conducted and cabinet radiation measurement, refer as KDB 558074, clause 12.2.2.	
	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 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 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	ESR3	102052	9KHz ~ 3.6GHz	29/Apr/2017	28/Apr/2018
LISN	R&S	ENV216	101295	9kHz ~ 30MHz	15/Nov/2016	14/Nov/2017
RF Cable-CON	HUBER+SUHNER	RG213/U	07611832020001	9kHz ~ 30MHz	24/Oct/2016	23/Oct/2017
AC POWER	APC	AFC-11005G	F310050055	47Hz~63Hz 5~300V	NCR	NCR
Impuls Begrenzer Pulse Limiter	R&S	ESH3-Z2	100921	10 kHz ~ 30 MHz	21/Oct/2016	20/Oct/2017

NCR : Non-Calibration Require

Instrument for Radiated Below 30MHz Test

Instrument	Manufacturer	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
Spectrum Analyzer	R&S	FSP 40	100305	9kHz~40GHz	30/Dec/2016	29/Dec/2017
3m Semi Anechoic	SIDT FRANKONIA	SAC-3M	03CH02-HY	30MHz-1GHz	20/Oct/2017	19/Oct/2018
Amplifier	Agilent	8449B	3008A02373	1GHz-26.5GHz	19/Sep/2017	18/Sep/2018
Bilog Antenna	SCHAFFNER	CBL6112B	2723	30MHz-1GHz	09/Sep/2017	08/Sep/2018
Loop Antenna	TESEQ	HLA 6120	31244	9KHz-30MHz	02/Mar/2017	01/Mar/2018
RF Cable-R03m	Jye Bao	RG142	CB017	9kHz ~ 1GHz	26/Jan/2017	25/Jan/2018
Receiver	R&S	ESU3	102052	9kHz ~ 3.6GHz	29/Apr/2017	28/Apr/2018

Instrument for Radiated above 30MHz Test

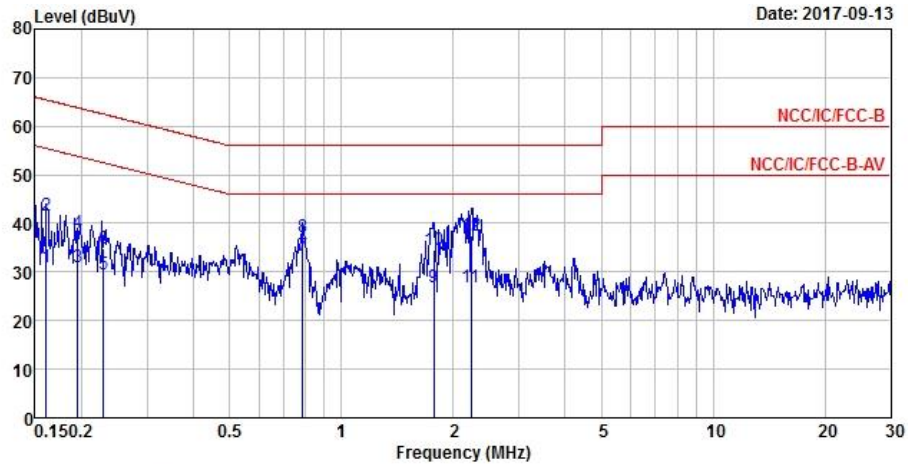
Instrument	Manufacturer	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
Spectrum Analyzer	R&S	FSP40	100593	9KHz - 40GHz	26/Oct/2016	25/Oct/2017
3m Semi Anechoic	SIDT FRANKONIA	SAC-3M	03CH02-HY	30MHz-1GHz	21/Oct/2016	20/Oct/2017
3m Semi Anechoic	SIDT FRANKONIA	SAC-3M	03CH02-HY	1GHz ~ 18GHz	12/Dec/2016	11/Dec/2017
Amplifier	Agilent	8447D	2944A11149	100KHz-1.3GHz	29/Jun/2017	28/Jun/2018
Amplifier	Agilent	8449B	3008A02373	1GHz-26.5GHz	20/Sep/2016	19/Sep/2017
Horn Antenna	SCHWARZBECK	BBHA9120D	BBHA9120D 01531	1GHz-18GHz	11/May/2017	10/May/2018
Horn Antenna	SCHWARZBECK	BBHA9170	BBHA9170154	18GHz-40GHz	06/Feb/2017	05/Feb/2018
Bilog Antenna	SCHAFFNER	CBL6112B	2723	30MHz-1GHz	01/Oct/2016	30/Sep/2017
Loop Antenna	TESEQ	HLA 6120	31244	9KHz-30MHz	02/Mar/2017	01/Mar/2018
RF Cable-high	SUHNER	SUCOFLEX104	MY34918/4	1GHz ~ 40GHz	26/Jan/2017	25/Jan/2018
RF Cable-R03m	Jye Bao	RG142	CB017	9kHz ~ 1GHz	26/Jan/2017	25/Jan/2018
Receiver	R&S	ESU-26	100422/026	20Hz ~ 26.5GHz	21/Sep/2016	20/Sep/2017

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	30/Dec/2016	29/Dec/2017
Power Sensor	Agilent	U2021XA	MY54320011	50MHz~18GHz	17/Aug/2017	16/Aug/2018
Power Sensor	Agilent	U2021XA	MY54320013	50MHz~18GHz	17/Aug/2017	16/Aug/2018
Signal Generator	R&S	SMR40	100116	10MHz ~ 40GHz	27/Jul/2017	26/Jul/2018
Temp. and Humidity Chamber	Giant Force	GTH-225-20-SP-SD	MAA1112-007	-20 ~ 100℃	10/May/2017	09/May/2018
RF Cable-0.2m	HUBER+SUHNER	SUCOFLEX_104	MY10710/4	30MHz ~ 26.5GHz	02/Oct/2016	01/Oct/2017
RF Cable-0.2m	HUBER+SUHNER	SUCOFLEX_104	MY10709/4	30MHz ~ 26.5GHz	02/Oct/2016	01/Oct/2017
RF Cable-0.5m	HUBER+SUHNER	SUCOFLEX_104	MY10713/4	30MHz ~ 26.5GHz	02/Oct/2016	01/Oct/2017
RF Cable-0.5m	HUBER+SUHNER	SUCOFLEX_104	MY10714/4	30MHz ~ 26.5GHz	02/Oct/2016	01/Oct/2017

AC Power-line Conducted Emissions Result

Operating Mode	1	Power Phase	Neutral
Operating Function	Adapter Mode		

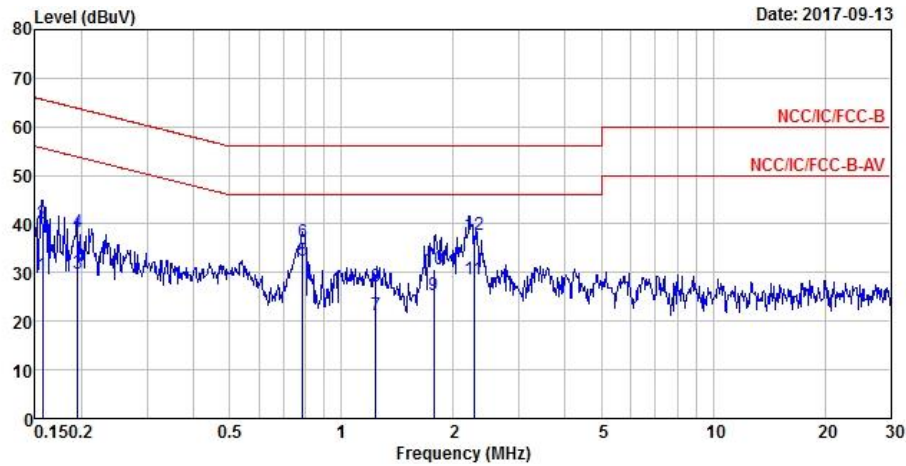


	Freq	Level	Over	Limit	Read	LISN	Cable	
	MHz	dBuV	Limit	Line	Level	Factor	Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.16050	30.99	-24.45	55.44	21.13	9.62	0.24	Average
2	0.16050	41.64	-23.80	65.44	31.78	9.62	0.24	QP
3	0.19550	30.94	-22.86	53.80	20.99	9.66	0.29	Average
4	0.19550	38.03	-25.77	63.80	28.08	9.66	0.29	QP
5	0.22918	29.61	-22.87	52.48	19.69	9.66	0.26	Average
6	0.22918	34.91	-27.57	62.48	24.99	9.66	0.26	QP
7 MAX	0.78761	33.44	-12.56	46.00	23.74	9.60	0.10	Average
8	0.78761	37.29	-18.71	56.00	27.59	9.60	0.10	QP
9	1.77162	26.72	-19.28	46.00	16.82	9.64	0.26	Average
10	1.77162	34.52	-21.48	56.00	24.62	9.64	0.26	QP
11	2.23675	26.98	-19.02	46.00	17.05	9.66	0.27	Average
12	2.23675	37.45	-18.55	56.00	27.52	9.66	0.27	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
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.15733	29.65	-25.95	55.60	19.76	9.66	0.23	Average
2	0.15733	40.27	-25.33	65.60	30.38	9.66	0.23	QP
3	0.19550	29.86	-23.94	53.80	19.92	9.65	0.29	Average
4	0.19550	38.28	-25.52	63.80	28.34	9.65	0.29	QP
5 MAX	0.78761	32.56	-13.44	46.00	22.82	9.64	0.10	Average
6	0.78761	36.45	-19.55	56.00	26.71	9.64	0.10	QP
7	1.23823	21.24	-24.76	46.00	11.40	9.68	0.16	Average
8	1.23823	27.07	-28.93	56.00	17.23	9.68	0.16	QP
9	1.77202	25.27	-20.73	46.00	15.25	9.76	0.26	Average
10	1.77202	30.63	-25.37	56.00	20.61	9.76	0.26	QP
11	2.27647	28.63	-17.37	46.00	18.58	9.79	0.26	Average
12	2.27647	37.69	-18.31	56.00	27.64	9.79	0.26	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	-	-	-	-	-
Zigbee	1.588M	2.405M	2M41G1D	1.544M	2.386M

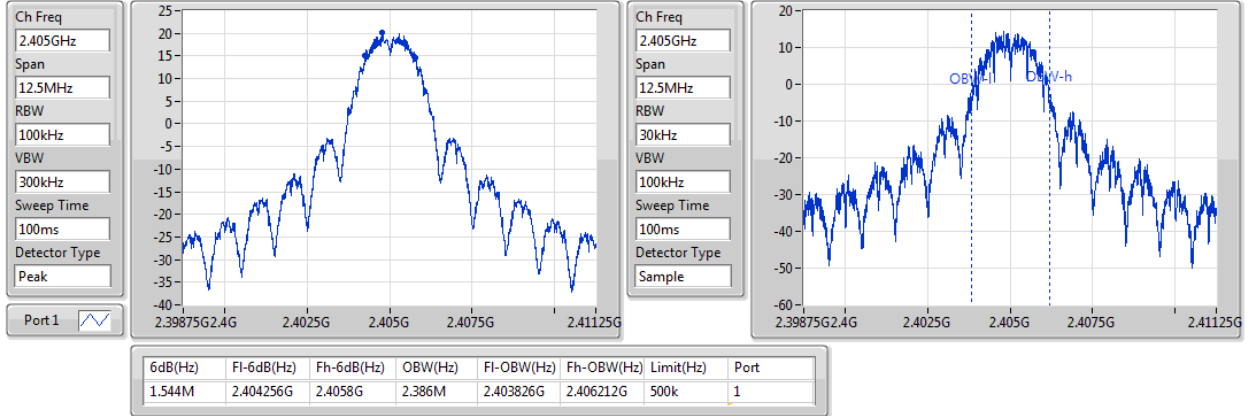
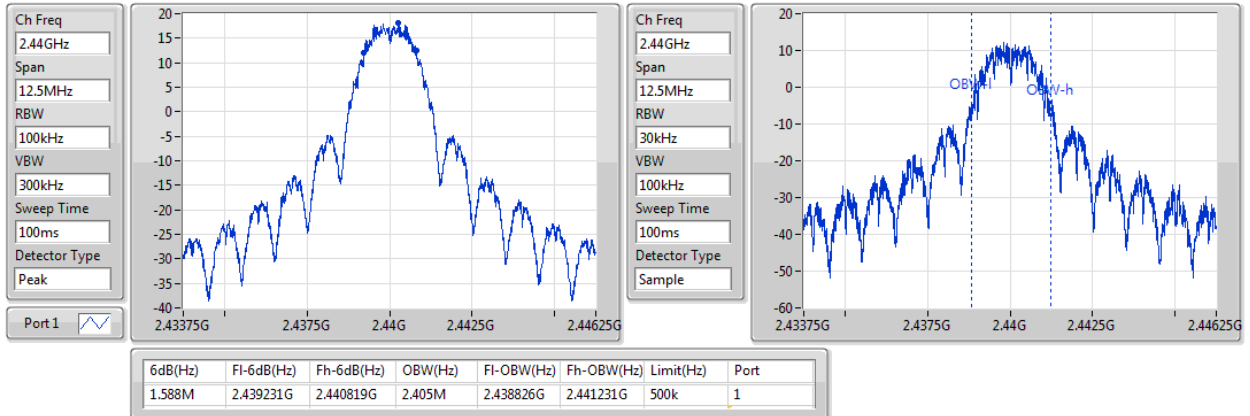
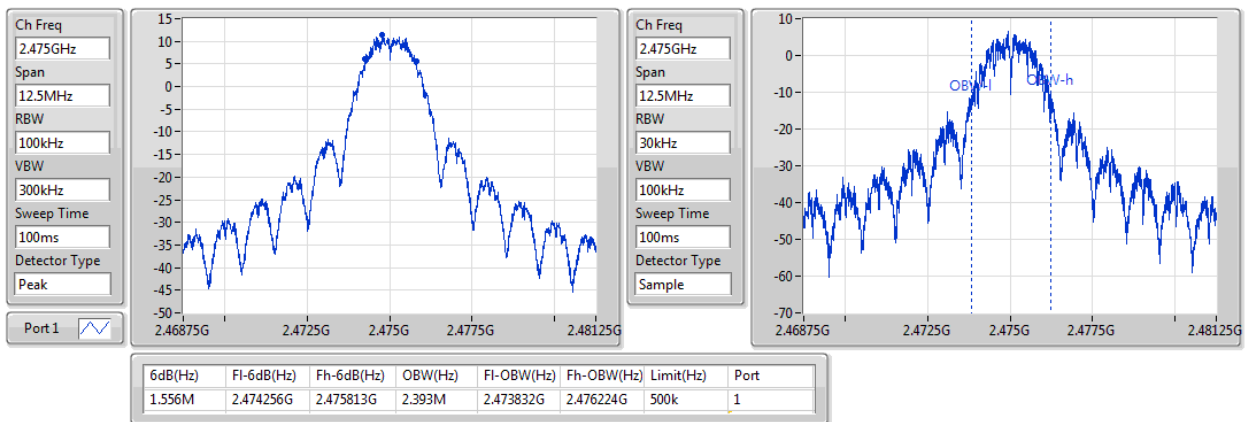
Max-N dB = Maximum 6dB down bandwidth; **Max-OBW** = Maximum 99% occupied bandwidth;

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)
Zigbee	-	-	-	-
2405MHz_TnomVnom	Pass	500k	1.544M	2.386M
2440MHz_TnomVnom	Pass	500k	1.588M	2.405M
2475MHz_TnomVnom	Pass	500k	1.556M	2.393M

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

Zigbee
EBW
2405MHz

Zigbee
EBW
2440MHz

Zigbee
EBW
2475MHz


**Summary**

Mode	Total Power (dBm)	Total Power (W)
2.4-2.4835GHz	-	-
Zigbee	22.02	0.15922

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Total Power (dBm)	Power Limit (dBm)
Zigbee	-	-	-	-	-
2405MHz_TnomVnom	Pass	2.00	22.02	22.02	30.00
2440MHz_TnomVnom	Pass	2.00	20.06	20.06	30.00
2475MHz_TnomVnom	Pass	2.00	12.93	12.93	30.00

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

Summary

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
Zigbee	6.14

RBW=3kHz.

Result

Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)
Zigbee	-	-	-	-	-
2405MHz_TnomVnom	Pass	2.00	6.14	6.14	8.00
2440MHz_TnomVnom	Pass	2.00	5.04	5.04	8.00
2475MHz_TnomVnom	Pass	2.00	-1.41	-1.41	8.00

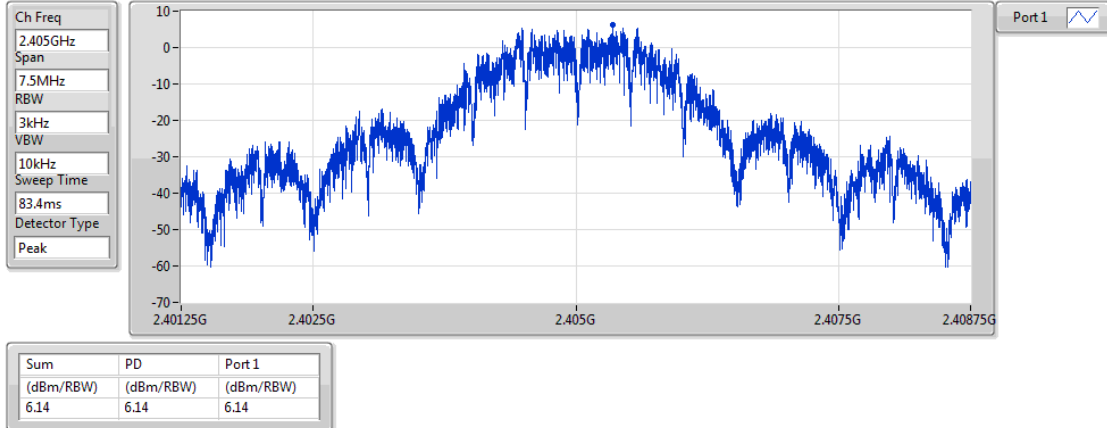
DG = Directional Gain; RBW=3kHz;

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

Zigbee

PSD

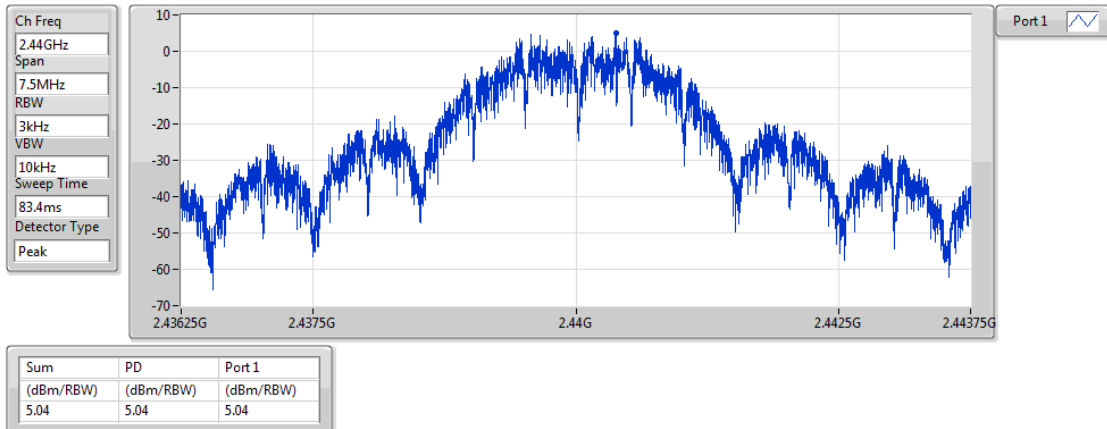
2405MHz



Zigbee

PSD

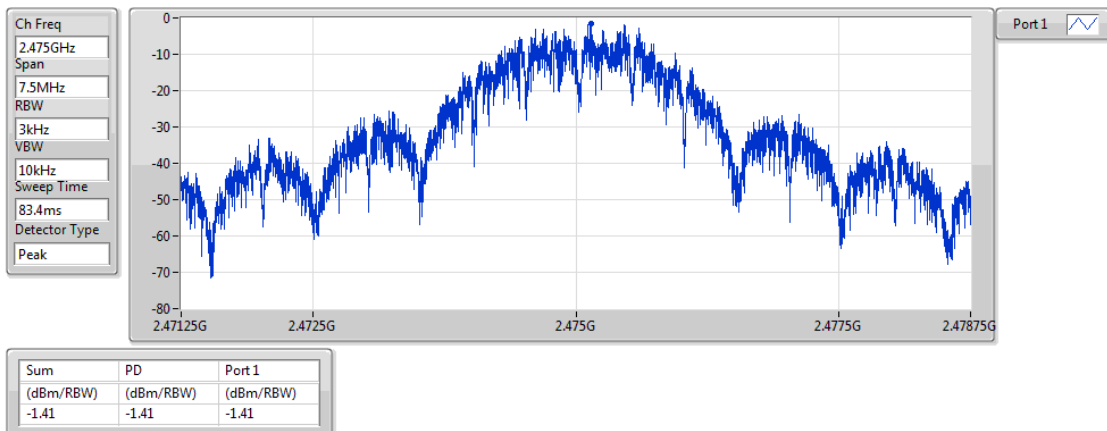
2440MHz



Zigbee

PSD

2475MHz



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	-	-	-	-	-	-	-	-	-	-	-	-	-
Zigbee	Pass	2.404676G	19.04	-10.96	2.0478G	-57.71	2.39992G	-21.13	2.49116G	-56.65	7.217052G	-37.35	1

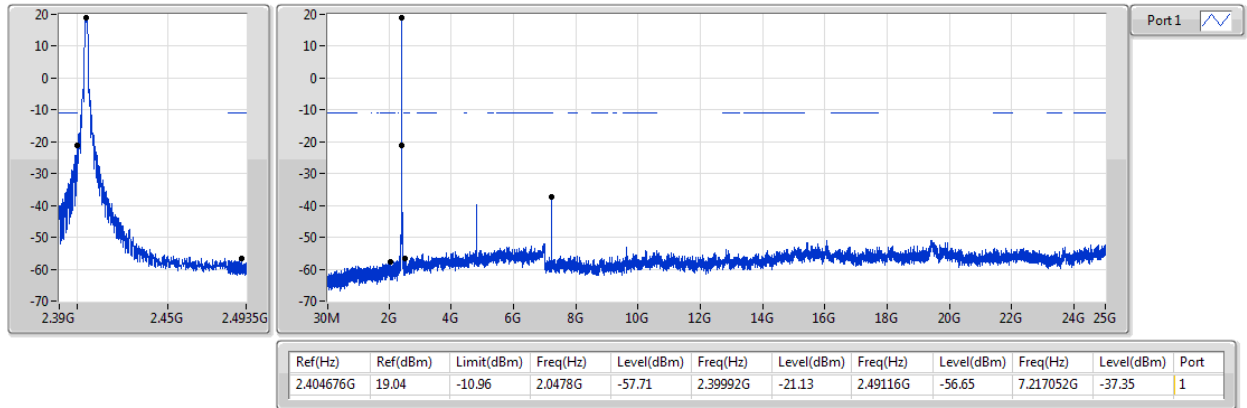
Result

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
Zigbee	-	-	-	-	-	-	-	-	-	-	-	-	-
2405MHz_TnomVnom	Pass	2.404676G	19.04	-10.96	2.0478G	-57.71	2.39992G	-21.13	2.49116G	-56.65	7.217052G	-37.35	1
2440MHz_TnomVnom	Pass	2.404676G	19.04	-10.96	1.99824G	-56.58	2.39814G	-54.39	2.48788G	-55.69	6.972294G	-51.03	1
2475MHz_TnomVnom	Pass	2.404676G	19.04	-10.96	2.1717G	-57.02	2.39072G	-57.07	2.48396G	-40.60	6.980733G	-51.07	1

Zigbee

CSE NdB

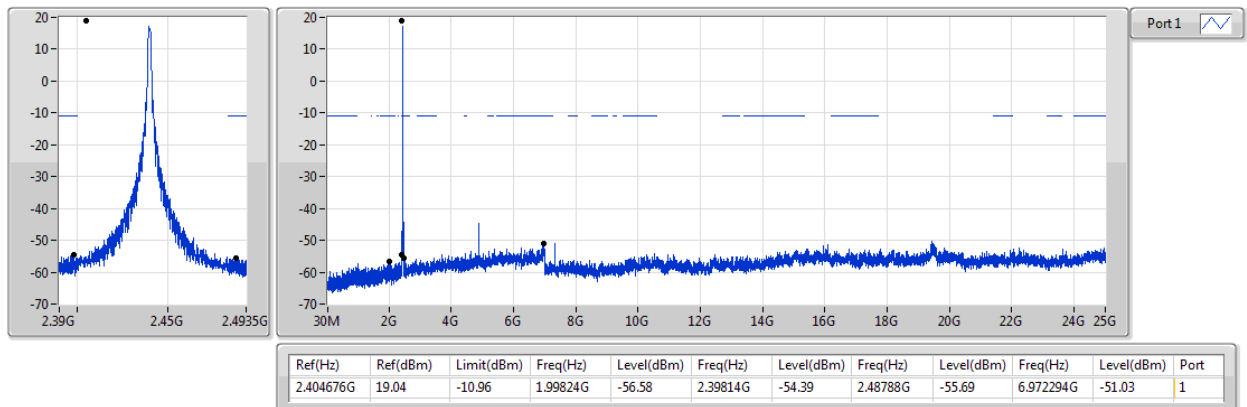
2405MHz



Zigbee

CSE NdB

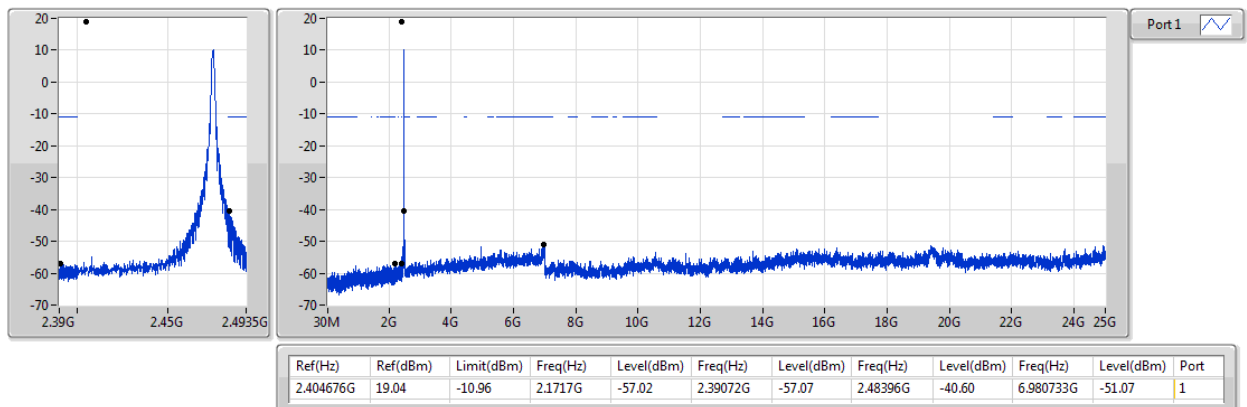
2440MHz



Zigbee

CSE NdB

2475MHz



Summary

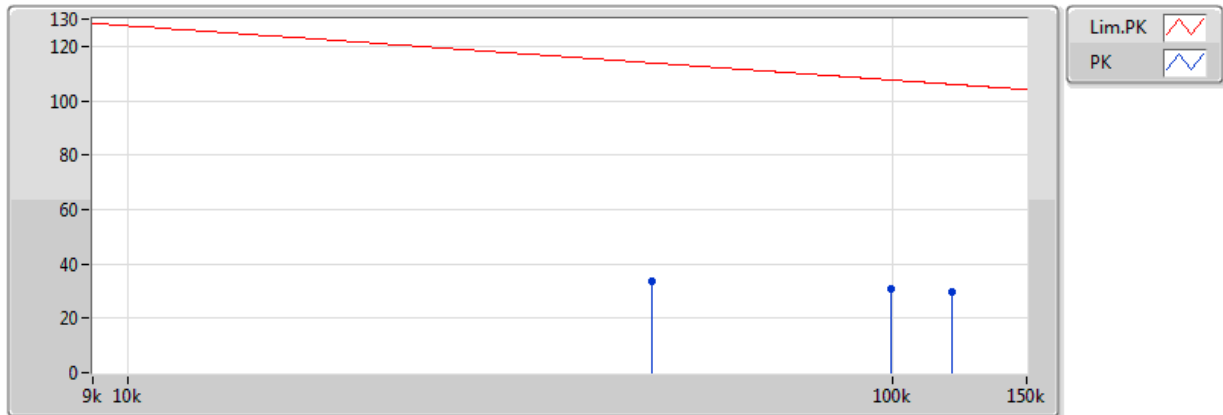
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-	-
Zigbee	Pass	PK	43.58M	31.00	40.00	-9.00	-10.94	3	Vertical	0	1.00	-

Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
Zigbee	-	-	-	-	-	-	-	-	-	-	-	-
2440MHz	Pass	PK	48.48k	33.40	113.87	-80.47	21.23	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	99.804k	30.87	107.61	-76.74	20.78	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	119.544k	29.84	106.03	-76.19	20.77	3	Horizontal	0	1.00	-
2440MHz	Pass	PK	1.5231M	34.78	63.98	-29.20	20.98	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	3.3141M	44.47	69.50	-25.03	20.83	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	10.4781M	37.73	69.50	-31.77	22.15	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	43.58M	27.20	40.00	-12.80	-10.94	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	130.88M	32.32	43.50	-11.18	-9.10	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	173.56M	32.93	43.50	-10.57	-10.95	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	328.76M	26.57	46.00	-19.43	-6.12	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	350.1M	28.60	46.00	-17.40	-5.52	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	371.44M	29.56	46.00	-16.44	-4.89	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	43.58M	31.00	40.00	-9.00	-10.94	3	Vertical	0	1.00	-
2440MHz	Pass	PK	138.64M	31.13	43.50	-12.37	-9.64	3	Vertical	0	1.00	-
2440MHz	Pass	PK	173.56M	33.28	43.50	-10.22	-10.95	3	Vertical	0	1.00	-
2440MHz	Pass	PK	350.1M	28.45	46.00	-17.55	-5.52	3	Vertical	0	1.00	-
2440MHz	Pass	PK	450.98M	28.63	46.00	-17.37	-3.13	3	Vertical	0	1.00	-
2440MHz	Pass	PK	703.18M	33.52	46.00	-12.48	-0.28	3	Vertical	0	1.00	-

Zigbee

2440MHz_Adapter

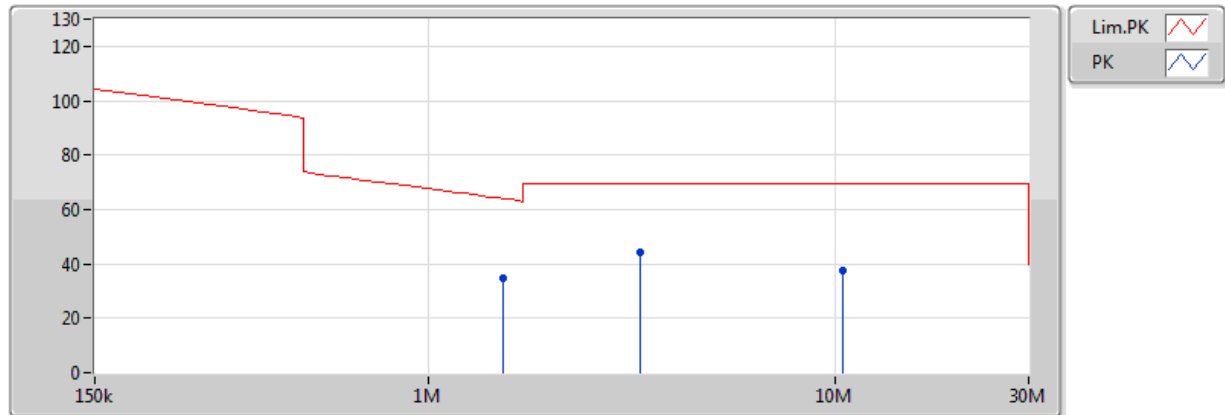


Eut : Y ANT : Y

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)
PK	48.48k	33.40	113.87	-80.47	21.23	3	Horizontal	0	1.00	-	12.17	21.16	0.07	-
PK	99.804k	30.87	107.61	-76.74	20.78	3	Horizontal	0	1.00	-	10.09	20.70	0.08	-
PK	119.544k	29.84	106.03	-76.19	20.77	3	Horizontal	0	1.00	-	9.07	20.68	0.09	-

Zigbee

2440MHz_Adapter

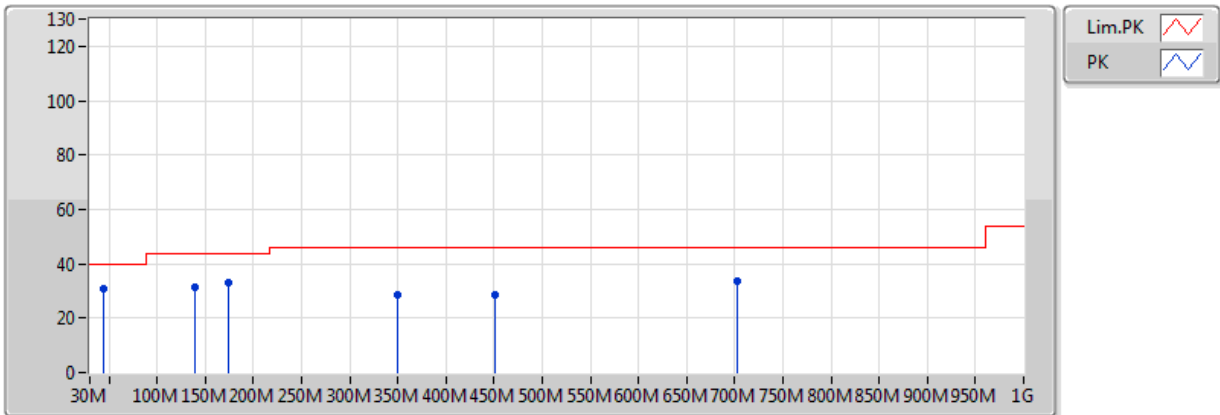


Eut : Y ANT : Y

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
PK	1.5231M	34.78	63.98	-29.20	20.98	3	Horizontal	360	1.00	-	13.80	20.63	0.35	-
PK	3.3141M	44.47	69.50	-25.03	20.83	3	Horizontal	360	1.00	-	23.63	20.44	0.39	-
PK	10.4781M	37.73	69.50	-31.77	22.15	3	Horizontal	360	1.00	-	15.58	21.54	0.60	-

Zigbee

2440MHz_Adapter

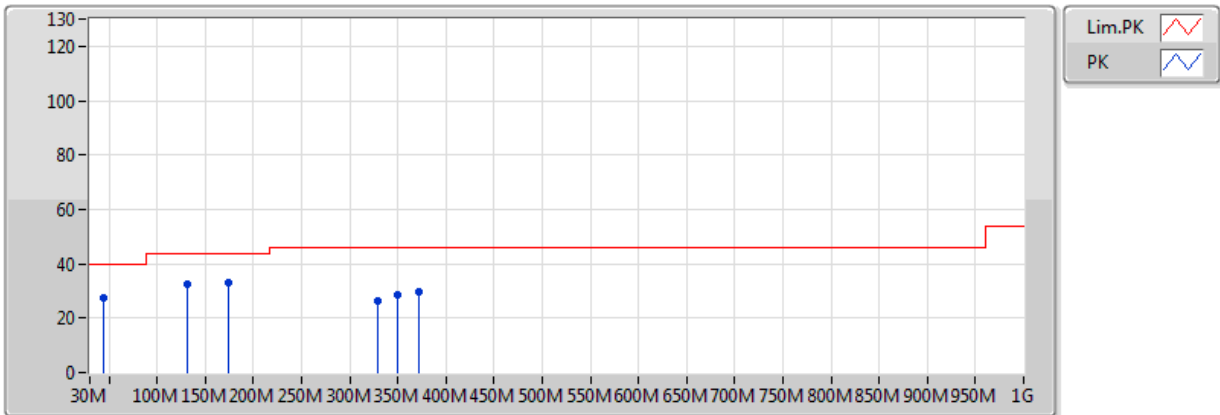


Eut : Y ANT : Y

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)
PK	43.58M	31.00	40.00	-9.00	-10.94	3	Vertical	0	1.00	-	41.94	15.73	0.98	27.65
PK	138.64M	31.13	43.50	-12.37	-9.64	3	Vertical	0	1.00	-	40.77	16.24	1.79	27.67
PK	173.56M	33.28	43.50	-10.22	-10.95	3	Vertical	0	1.00	-	44.23	14.66	1.93	27.54
PK	350.1M	28.45	46.00	-17.55	-5.52	3	Vertical	0	1.00	-	33.97	19.46	2.60	27.58
PK	450.98M	28.63	46.00	-17.37	-3.13	3	Vertical	0	1.00	-	31.76	21.84	3.25	28.23
PK	703.18M	33.52	46.00	-12.48	-0.28	3	Vertical	0	1.00	-	33.80	23.99	4.10	28.37

Zigbee

2440MHz_Adapter



Eut : Y ANT : Y

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)
PK	43.58M	27.20	40.00	-12.80	-10.94	3	Horizontal	360	1.00	-	38.14	15.73	0.98	27.65
PK	130.88M	32.32	43.50	-11.18	-9.10	3	Horizontal	360	1.00	-	41.42	16.88	1.72	27.70
PK	173.56M	32.93	43.50	-10.57	-10.95	3	Horizontal	360	1.00	-	43.88	14.66	1.93	27.54
PK	328.76M	26.57	46.00	-19.43	-6.12	3	Horizontal	360	1.00	-	32.69	18.73	2.57	27.42
PK	350.1M	28.60	46.00	-17.40	-5.52	3	Horizontal	360	1.00	-	34.12	19.46	2.60	27.58
PK	371.44M	29.56	46.00	-16.44	-4.89	3	Horizontal	360	1.00	-	34.45	20.08	2.77	27.74

Summary

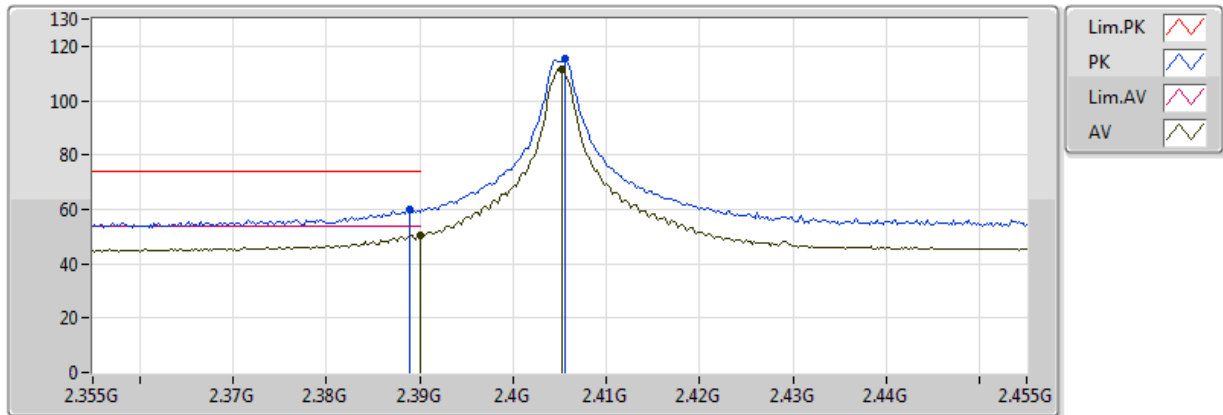
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
Zigbee	-	-	-	-	-	-	-	-	-	-	-	-
2.4-2.4835GHz	Pass	AV	2.483502G	53.80	54.00	-0.20	31.78	3	Vertical	72	2.08	-

Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
Zigbee	-	-	-	-	-	-	-	-	-	-	-	-
2405MHz	Pass	AV	2.39G	50.54	54.00	-3.46	30.93	3	Vertical	84	1.76	-
2405MHz	Pass	AV	2.4052G	111.70	Inf	-Inf	30.99	3	Vertical	84	1.76	-
2405MHz	Pass	PK	2.389G	59.93	74.00	-14.07	30.93	3	Vertical	84	1.76	-
2405MHz	Pass	PK	2.4056G	115.31	Inf	-Inf	30.99	3	Vertical	84	1.76	-
2405MHz	Pass	AV	4.81102G	37.62	54.00	-16.38	2.12	3	Horizontal	141	1.48	-
2405MHz	Pass	PK	4.81109G	48.36	74.00	-25.64	2.12	3	Horizontal	141	1.48	-
2405MHz	Pass	AV	4.81G	30.85	54.00	-23.15	2.12	3	Vertical	357	2.05	-
2405MHz	Pass	PK	4.81G	44.76	74.00	-29.24	2.12	3	Vertical	357	2.05	-
2440MHz	Pass	AV	2.3896G	45.13	54.00	-8.87	30.93	3	Vertical	84	1.87	-
2440MHz	Pass	AV	2.44G	114.25	Inf	-Inf	31.11	3	Vertical	84	1.87	-
2440MHz	Pass	AV	2.486G	46.13	54.00	-7.87	31.28	3	Vertical	84	1.87	-
2440MHz	Pass	PK	2.3476G	58.98	74.00	-15.02	30.79	3	Vertical	84	1.87	-
2440MHz	Pass	PK	2.4404G	117.73	Inf	-Inf	31.12	3	Vertical	84	1.87	-
2440MHz	Pass	PK	2.4948G	59.61	74.00	-14.39	31.31	3	Vertical	84	1.87	-
2440MHz	Pass	AV	7.31873G	52.60	54.00	-1.40	7.62	3	Horizontal	32	1.31	-
2440MHz	Pass	PK	7.32165G	62.65	74.00	-11.35	7.63	3	Horizontal	32	1.31	-
2440MHz	Pass	AV	4.879052G	44.50	54.00	-9.50	2.34	3	Vertical	343	1.50	-
2440MHz	Pass	AV	7.31872G	53.78	54.00	-0.22	7.62	3	Vertical	0	2.84	-
2440MHz	Pass	PK	4.880972G	53.92	74.00	-20.08	2.34	3	Vertical	343	1.50	-
2440MHz	Pass	PK	7.31859G	64.87	74.00	-9.13	7.62	3	Vertical	0	2.84	-
2475MHz	Pass	AV	2.475G	108.21	Inf	-Inf	31.75	3	Vertical	72	2.08	-
2475MHz	Pass	AV	2.483502G	53.80	54.00	-0.20	31.78	3	Vertical	72	2.08	-
2475MHz	Pass	PK	2.4746G	112.36	Inf	-Inf	31.75	3	Vertical	72	2.08	-
2475MHz	Pass	PK	2.483502G	63.98	74.00	-10.02	31.78	3	Vertical	72	2.08	-
2475MHz	Pass	AV	4.9491G	37.63	54.00	-16.37	2.56	3	Horizontal	140	1.28	-
2475MHz	Pass	PK	4.95093G	48.68	74.00	-25.32	2.56	3	Horizontal	140	1.28	-
2475MHz	Pass	AV	4.95G	37.00	54.00	-17.00	6.80	3	Vertical	6	1.50	-
2475MHz	Pass	PK	4.95G	48.59	74.00	-25.41	6.80	3	Vertical	6	1.50	-

Zigbee

2405MHz_TX

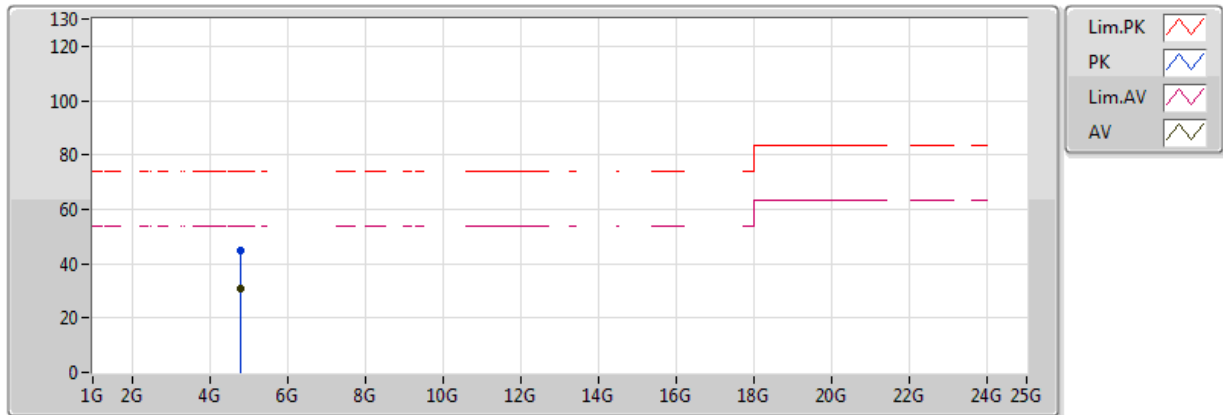


Eut : Y ANT : Y

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	2.39G	50.54	54.00	-3.46	30.93	3	Vertical	84	1.76	-	19.61	27.31	3.62	-
AV	2.4052G	111.70	Inf	-Inf	30.99	3	Vertical	84	1.76	-	80.71	27.35	3.64	-
PK	2.389G	59.93	74.00	-14.07	30.93	3	Vertical	84	1.76	-	29.00	27.31	3.62	-
PK	2.4056G	115.31	Inf	-Inf	30.99	3	Vertical	84	1.76	-	84.32	27.35	3.64	-

Zigbee

2405MHz_TX

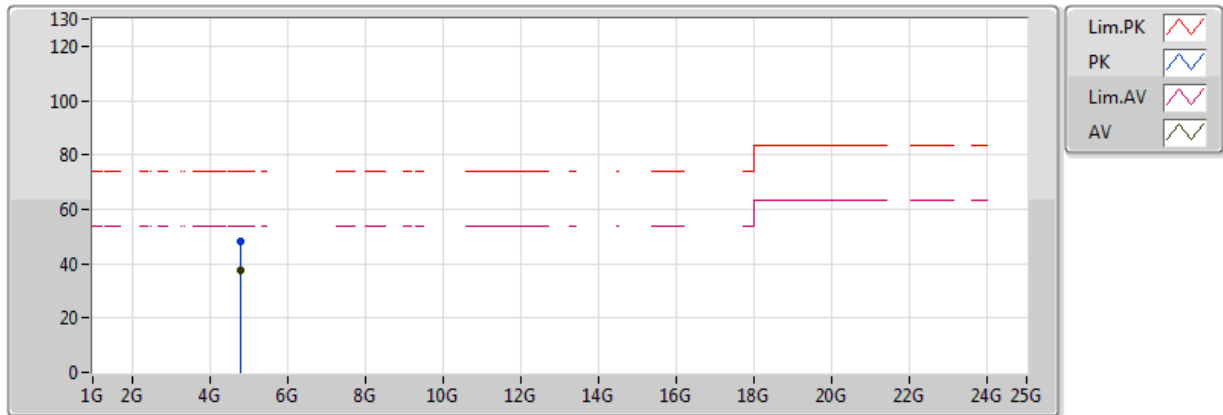


Eut : Y ANT : Y

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	4.81G	30.85	54.00	-23.15	2.12	3	Vertical	357	2.05	-	28.73	31.26	5.39	34.53
PK	4.81G	44.76	74.00	-29.24	2.12	3	Vertical	357	2.05	-	42.64	31.26	5.39	34.53

Zigbee

2405MHz_TX

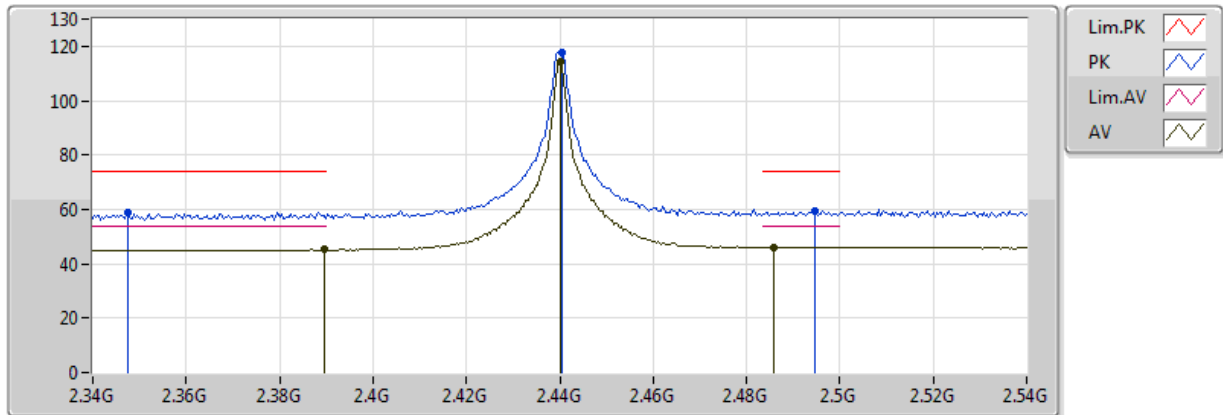


Eut : Y ANT : Y

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	4.81102G	37.62	54.00	-16.38	2.12	3	Horizontal	141	1.48	-	35.50	31.26	5.39	34.53
PK	4.81109G	48.36	74.00	-25.64	2.12	3	Horizontal	141	1.48	-	46.23	31.26	5.39	34.53

Zigbee

2440MHz_TX

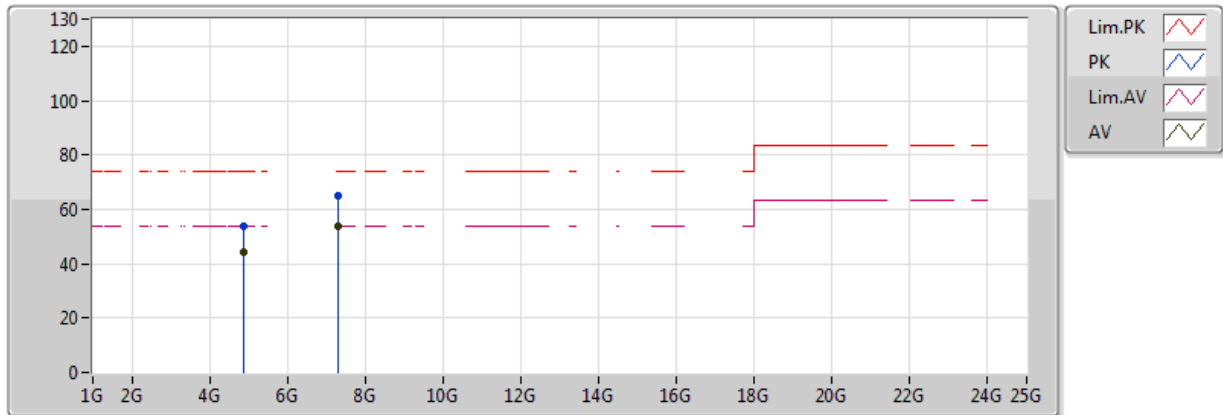


Eut : Y ANT : Y

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	2.3896G	45.13	54.00	-8.87	30.93	3	Vertical	84	1.87	-	14.20	27.31	3.62	-
AV	2.44G	114.25	Inf	-Inf	31.11	3	Vertical	84	1.87	-	83.14	27.44	3.67	-
AV	2.486G	46.13	54.00	-7.87	31.28	3	Vertical	84	1.87	-	14.85	27.56	3.72	-
PK	2.3476G	58.98	74.00	-15.02	30.79	3	Vertical	84	1.87	-	28.19	27.20	3.58	-
PK	2.4404G	117.73	Inf	-Inf	31.12	3	Vertical	84	1.87	-	86.61	27.45	3.67	-
PK	2.4948G	59.61	74.00	-14.39	31.31	3	Vertical	84	1.87	-	28.30	27.59	3.72	-

Zigbee

2440MHz_TX

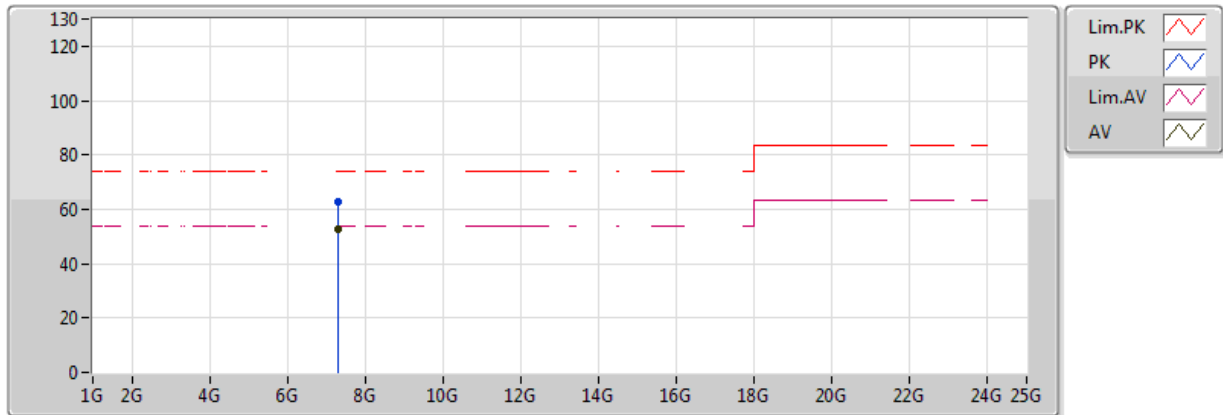


Eut : Y ANT : Y

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	4.879052G	44.50	54.00	-9.50	2.34	3	Vertical	343	1.50	-	42.16	31.38	5.47	34.51
AV	7.31872G	53.78	54.00	-0.22	7.62	3	Vertical	0	2.84	-	46.16	35.83	6.64	34.84
PK	4.880972G	53.92	74.00	-20.08	2.34	3	Vertical	343	1.50	-	51.58	31.39	5.47	34.51
PK	7.31859G	64.87	74.00	-9.13	7.62	3	Vertical	0	2.84	-	57.25	35.83	6.64	34.84

Zigbee

2440MHz_TX

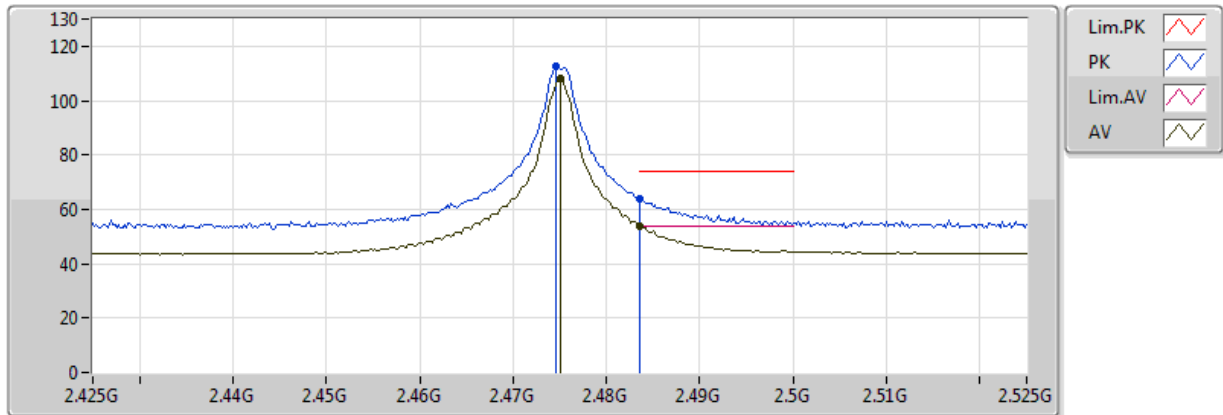


Eut : Y ANT : Y

Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments	Raw (dBuV)	AF (dB)	CL (dB)	PA (dB)
AV	7.31873G	52.60	54.00	-1.40	7.62	3	Horizontal	32	1.31	-	44.98	35.83	6.64	34.84
PK	7.32165G	62.65	74.00	-11.35	7.63	3	Horizontal	32	1.31	-	55.02	35.84	6.64	34.84

Zigbee

2475MHz_TX

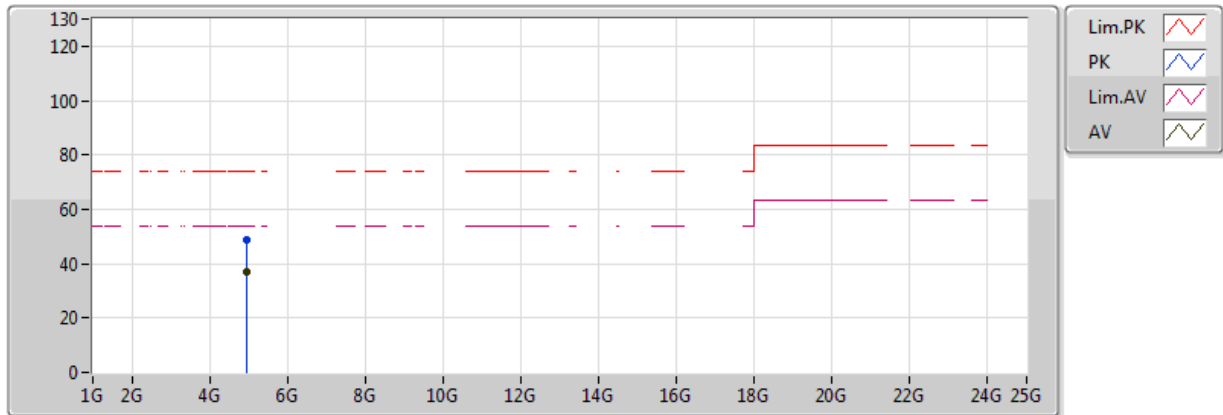


Eut : Y ANT : Y

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	2.475G	108.21	Inf	-Inf	31.75	3	Vertical	72	2.08	-	76.46	27.43	4.31	-
AV	2.483502G	53.80	54.00	-0.20	31.78	3	Vertical	72	2.08	-	22.02	27.46	4.32	-
PK	2.4746G	112.36	Inf	-Inf	31.75	3	Vertical	72	2.08	-	80.61	27.43	4.31	-
PK	2.483502G	63.98	74.00	-10.02	31.78	3	Vertical	72	2.08	-	32.20	27.46	4.32	-

Zigbee

2475MHz_TX

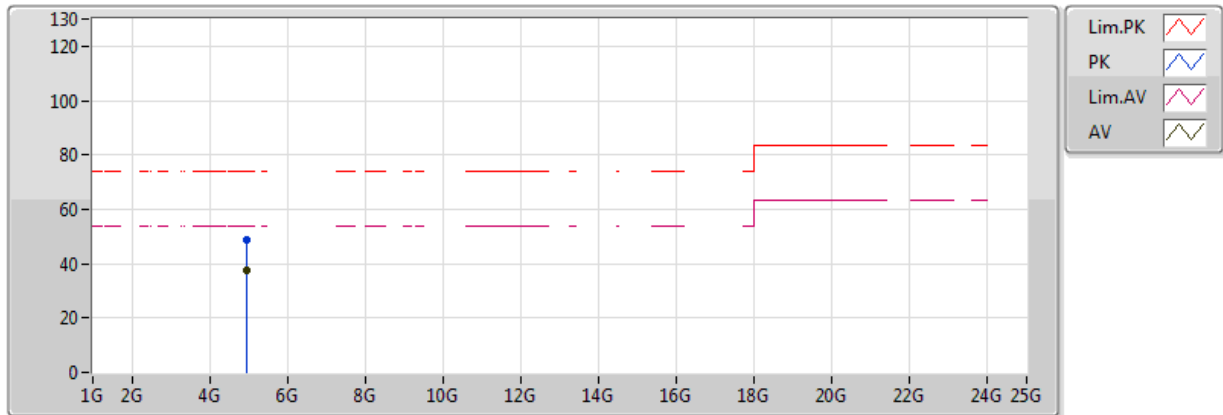


Eut : Y ANT : Y

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	4.95G	37.00	54.00	-17.00	6.80	3	Vertical	6	1.50	-	30.20	31.42	5.46	30.08
PK	4.95G	48.59	74.00	-25.41	6.80	3	Vertical	6	1.50	-	41.79	31.42	5.46	30.08

Zigbee

2475MHz_TX



Eut : Y ANT : Y

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	4.9491G	37.63	54.00	-16.37	2.56	3	Horizontal	140	1.28	-	35.07	31.51	5.54	34.50
PK	4.95093G	48.68	74.00	-25.32	2.56	3	Horizontal	140	1.28	-	46.11	31.51	5.55	34.49