



FCC Test Report

FCC ID : UDX-60082010
Equipment : Network Camera
Brand Name : CISCO
Model Name : MV32-HW
Applicant/ Manufacturer : Cisco Systems
170 West Tasman Drive
San Jose, California. 95134
United States
Standard : 47 CFR FCC Part 15.247

The product was received on May 24, 2018, and testing was started from Oct. 24, 2018 and completed on Oct. 26, 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

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TEST SETUP PHOTOS V01	
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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: >30 dBc
3.6	15.247(d)	Emissions in Restricted Frequency Bands	PASS	Restricted Bands: FCC 15.209

Declaration of Conformity:

The judgment of conformity in the report is based on the measurement results excluding the measurement uncertainty.

Comments and explanations:

None

Reviewed by: Sam Tsai

Report Producer: Michelle Tsai

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	ARISTOTLE	RFA-25-AP628-P1-U	PIFA Antenna	I-PEX
2	ARISTOTLE	RFA-25-AP628-P2-U	Dipole Antenna	I-PEX

Ant.	Gain (dBi)		
	2.4G	5G	BT
1	-2.22	-1.69	-2.22
2	-1.4	-1.36	-

For 2.4 GHz function:

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

The EUT support diversity function, Ant. 1 or Ant. 2 can be used as transmitting/receiving antenna.

For 5 GHz function:

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

The EUT support diversity function, Ant. 1 or Ant. 2 can be used as transmitting/receiving antenna.

For Bluetooth function:

For Bluetooth mode (1TX/1RX)

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

1.1.3 EUT Information

Operational Condition			
EUT Power Type	From PoE		
EUT Function	<input checked="" type="checkbox"/> Point-to-multipoint	<input type="checkbox"/> Point-to-point	
Type of EUT			
<input checked="" type="checkbox"/>	Stand-alone		
<input type="checkbox"/>	Combined (EUT where the radio part is fully integrated within another device)		
	Combined Equipment - Brand Name / Model No.: ...		
<input type="checkbox"/>	Plug-in radio (EUT intended for a variety of host systems)		
	Host System - Brand Name / Model No.: ...		
<input type="checkbox"/>	Other:		

1.1.4 Mode Test Duty Cycle

Mode	DC	DCF(dB)	T(s)	VBW(Hz) $\geq 1/T$
BT-LE(1Mbps)	0.628	2.02	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			
<input checked="" type="checkbox"/>	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.			
<input type="checkbox"/>	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	Dexter	25°C / 59%	24/Oct/2018
Radiated	03CH09-HY	Andy	23.9°C / 61%	24/Oct/2018
AC Conduction	CO04-HY	Andy	23.7°C / 61%	26/Oct/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 Version	QRCT V3.0.93.0
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Mode	PowerSetting
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	PoE Mode_PIFA Antenna

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	PoE Mode_PIFA Antenna		
Operating Mode > 1GHz	CTX		
Orthogonal Planes of EUT	X Plane	Y Plane	Z Plane
			
Worst Planes of EUT		V	

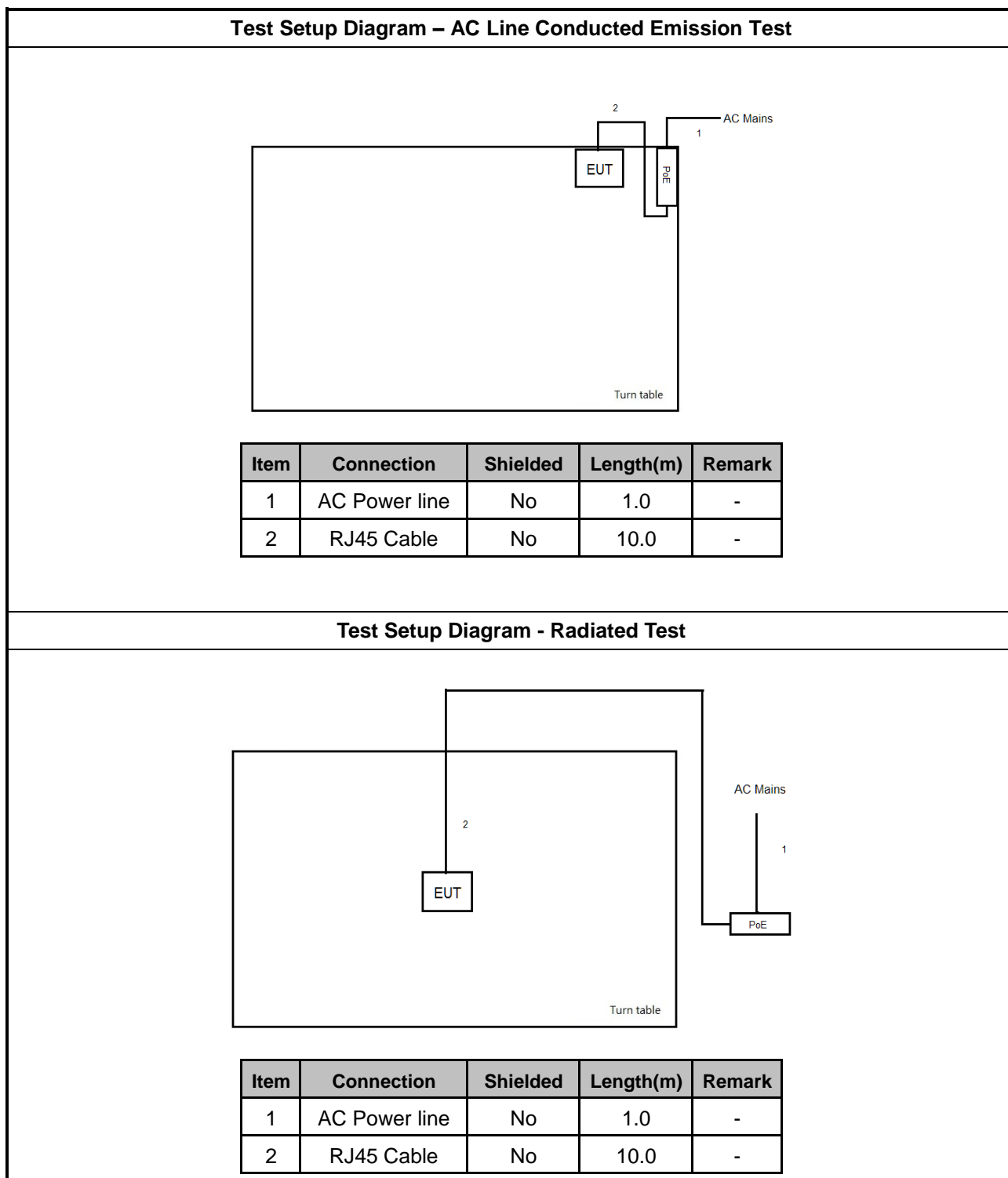
The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis
Test Condition	Radiated measurement
Operating Mode	Normal Link
1	Bluetooth+WLAN 2.4GHz
2	Bluetooth+WLAN 5GHz
Refer to Sporton Test Report No.: FA851627 for Co-location RF Exposure Evaluation and Appendix G for Radiated Emission Co-location.	

2.4 Accessories and 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
3	AC Power Source	GW	APS-9102	N/A

Support Equipment – Radiated Emission and AC Conduction				
No.	Equipment	Brand Name	Model Name	FCC ID
1	PoE (Client Provide)	CISCO	MA-INJ-4	N/A

2.5 Test Setup Diagram



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.

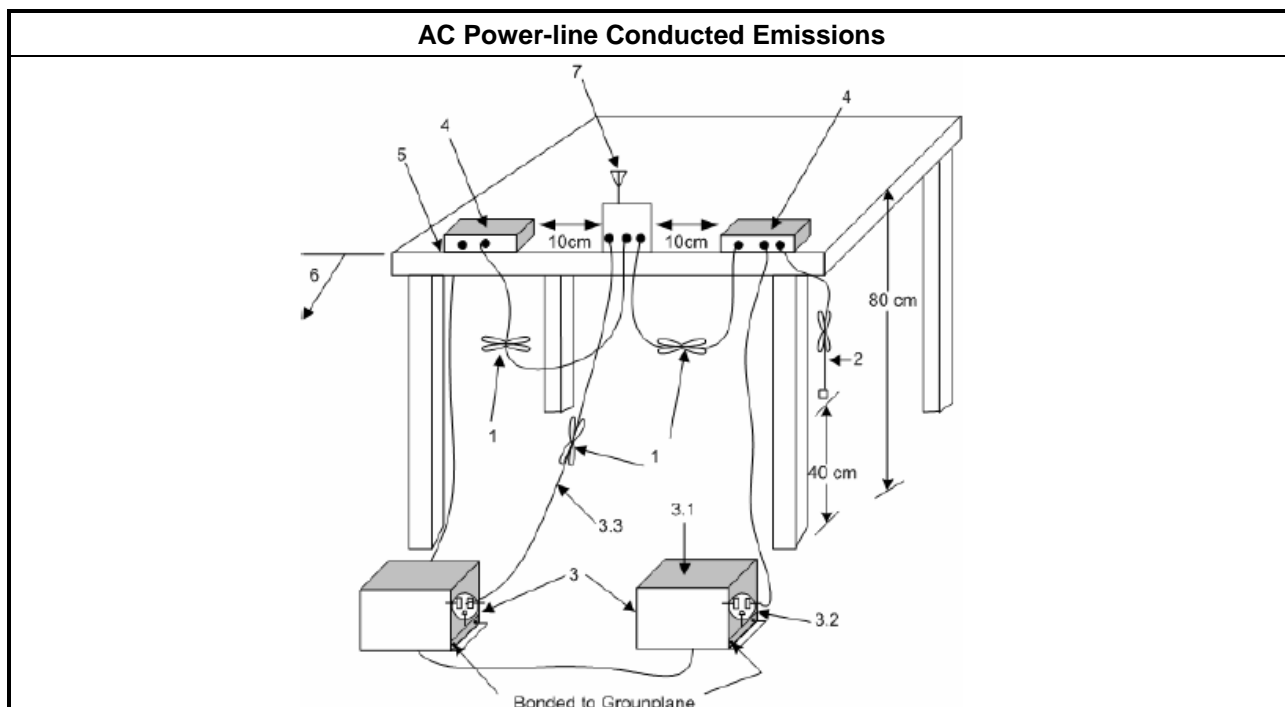
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

Test Method
<ul style="list-style-type: none"> 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.

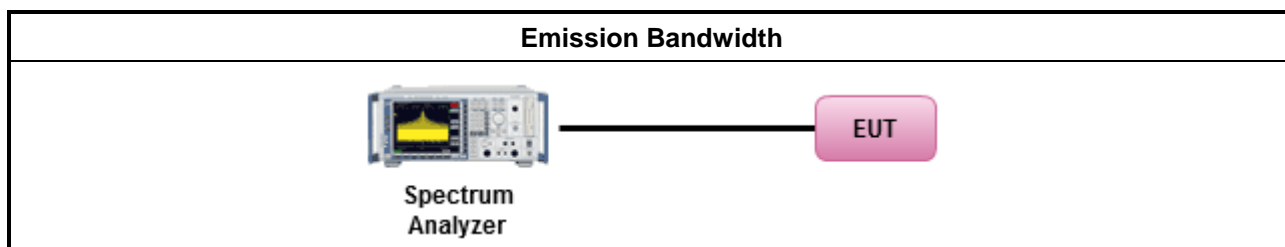
3.2.2 Measuring Instruments

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:	
<input checked="" type="checkbox"/>	Refer as KDB 558074, clause 8.2 (11.9.2.2 of ANSI C63.10) DTS bandwidth measurement.
<input type="checkbox"/>	Refer as RSS-Gen, clause 6.7 for occupied bandwidth testing.
<input type="checkbox"/>	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	
	<ul style="list-style-type: none"> If $G_{TX} \leq 6$ dBi, then $P_{Out} \leq 30$ dBm (1 W)
	<ul style="list-style-type: none"> Point-to-multipoint systems (P2M): If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)$ dBm
	<ul style="list-style-type: none"> Point-to-point systems (P2P): If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)/3$ dBm
	<ul style="list-style-type: none"> Smart antenna system (SAS):
	<ul style="list-style-type: none"> - Single beam: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)/3$ dBm
	<ul style="list-style-type: none"> - Overlap beam: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)/3$ dBm
	<ul style="list-style-type: none"> - 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:	
	<ul style="list-style-type: none"> 2400-2483.5 MHz Band
	<ul style="list-style-type: none"> Point-to-multipoint systems (P2M): $P_{eirp} \leq 36$ dBm (4 W)
	<ul style="list-style-type: none"> Point-to-point systems (P2P): $P_{eirp} \leq \text{MAX}(36, [P_{Out} + G_{TX}])$ dBm
	<ul style="list-style-type: none"> Smart antenna system (SAS)
	<ul style="list-style-type: none"> - Single beam: $P_{eirp} \leq \text{MAX}(36, P_{Out} + G_{TX})$ dBm
	<ul style="list-style-type: none"> - Overlap beam: $P_{eirp} \leq \text{MAX}(36, P_{Out} + G_{TX})$ dBm
	<ul style="list-style-type: none"> - 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.	

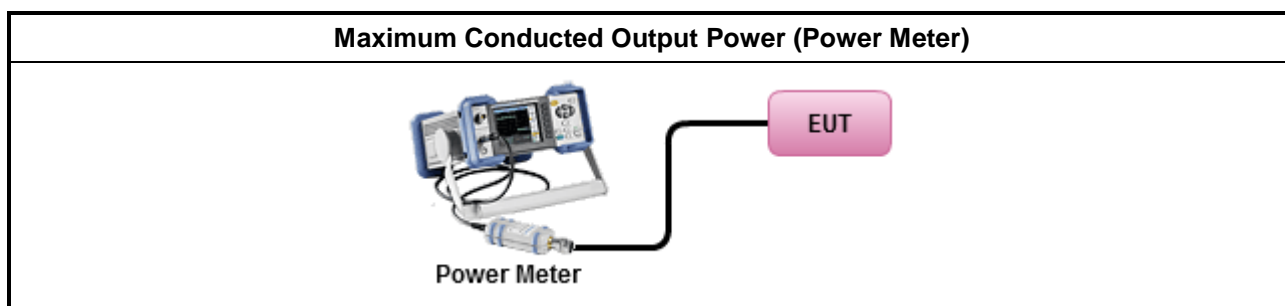
3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

Test Method	
<ul style="list-style-type: none"> Maximum Peak Conducted Output Power 	
<input type="checkbox"/>	Refer as KDB 558074, clause 8.3.1.1 (11.9.1.1 of ANSI C63.10) RBW ≥ EBW method.
<input type="checkbox"/>	Refer as KDB 558074, clause 8.3.1.2 (11.9.1.2 of ANSI C63.10) integrated band power method.
<input type="checkbox"/>	Refer as KDB 558074, clause 8.3.1.3 (11.9.1.3 of ANSI C63.10) peak power meter.
<ul style="list-style-type: none"> Maximum Average Conducted Output Power 	
<input type="checkbox"/>	Refer as KDB 558074, clause 8.3.2.2 (11.9.2.2 of ANSI C63.10) using a spectrum analyzer.
<input checked="" type="checkbox"/>	Refer as KDB 558074, clause 8.3.2.3 (11.9.2.3 of ANSI C63.10) using a power meter.
<ul style="list-style-type: none"> For conducted measurement. 	
<ul style="list-style-type: none"> 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. 	
<ul style="list-style-type: none"> 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

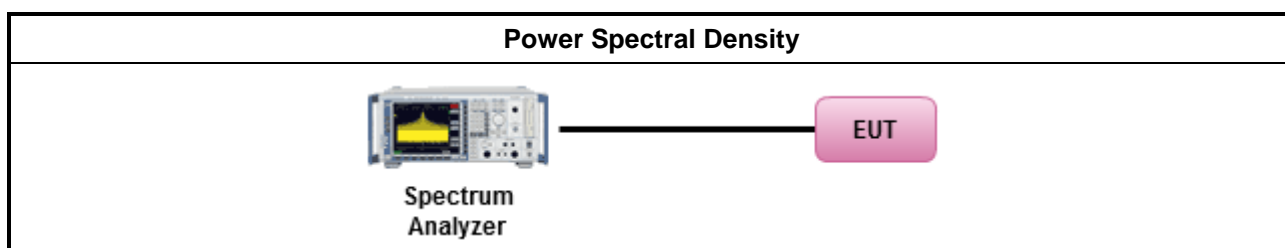
3.4.2 Measuring Instruments

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).
<input checked="" type="checkbox"/>	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
<p>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.</p> <p>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.</p>	

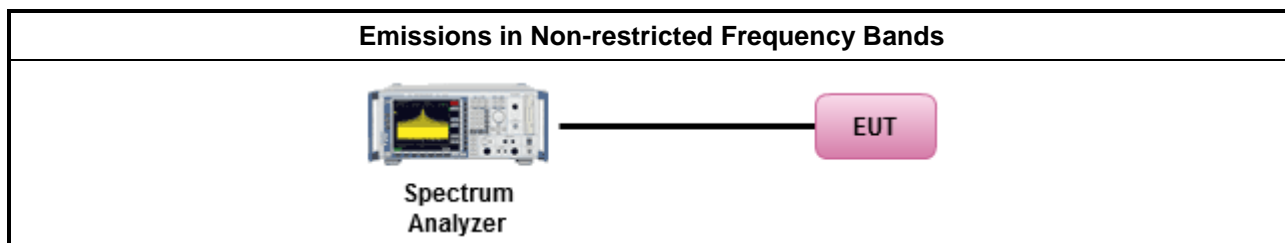
3.5.2 Measuring Instruments

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

3.5.3 Test Procedures

Test Method
<ul style="list-style-type: none"> 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.

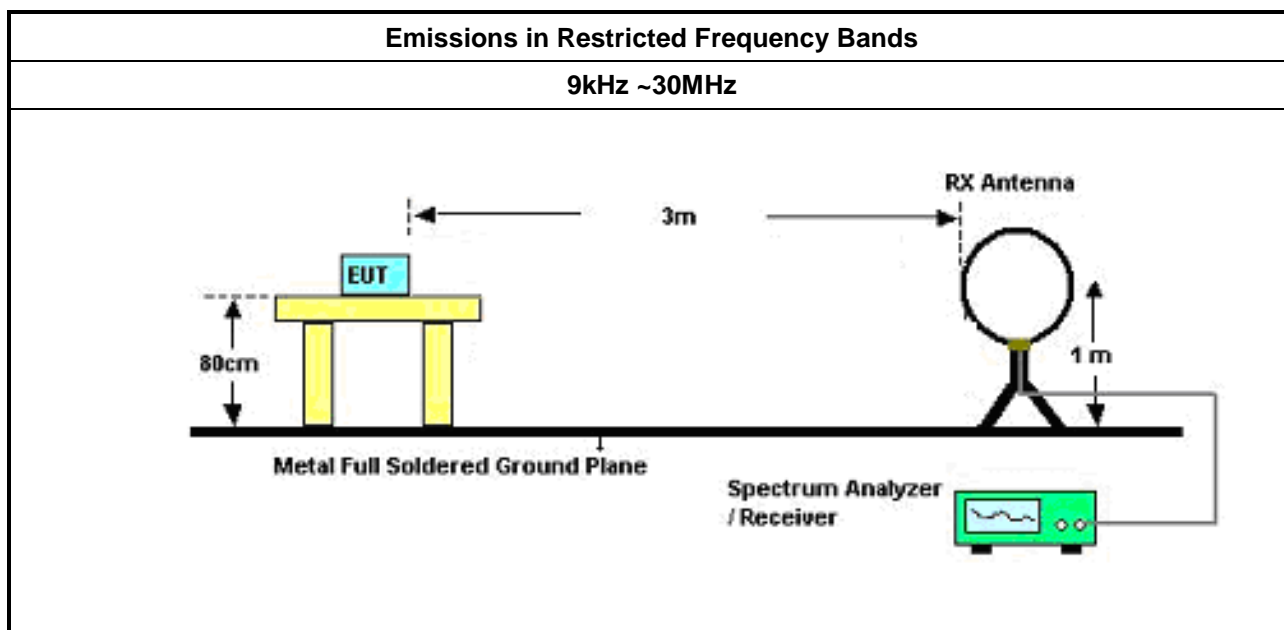
3.6.2 Measuring Instruments

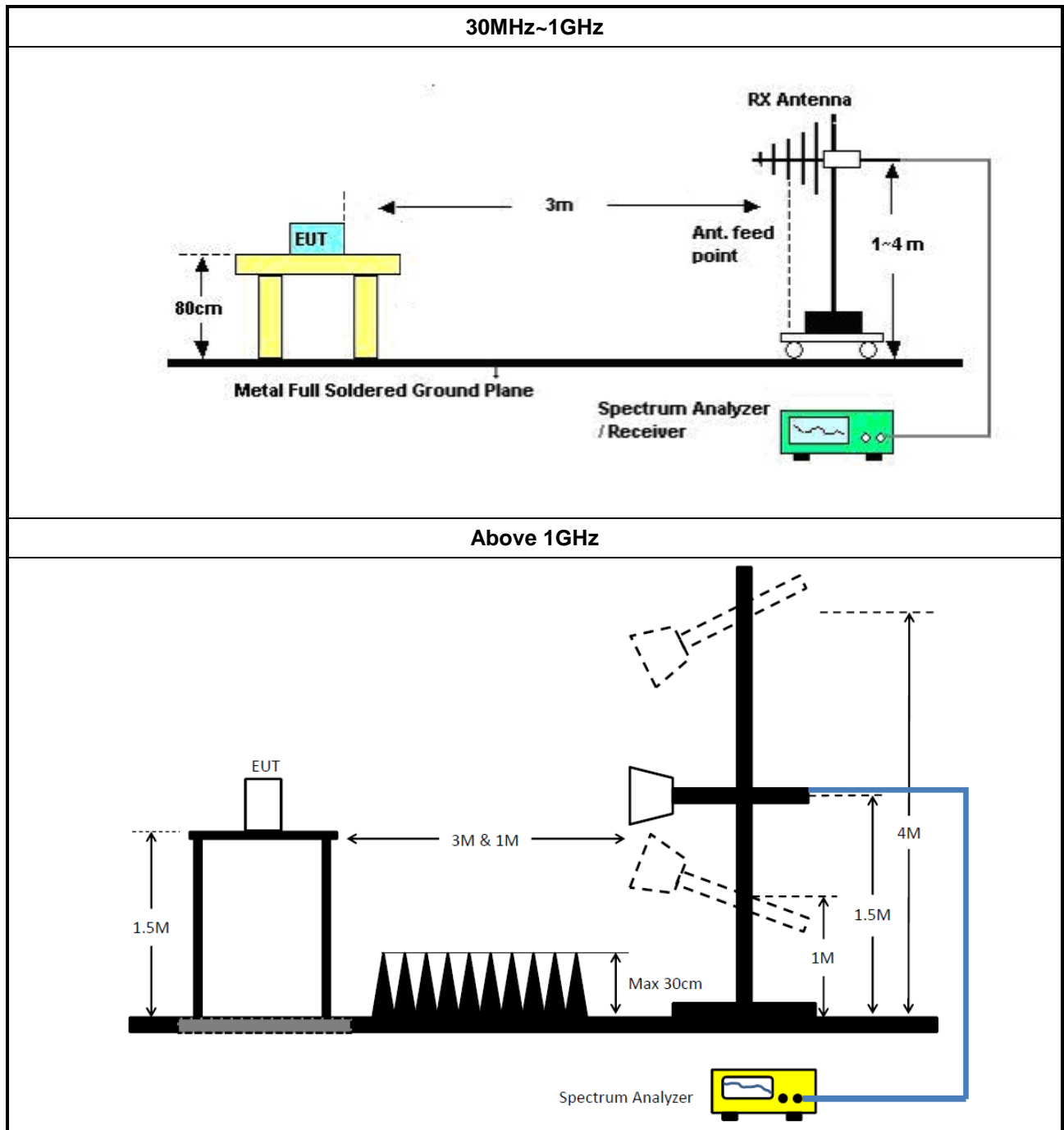
Refer a test equipment and calibration data table in this test report.

3.6.3 Test Procedures

Test Method	
	<ul style="list-style-type: none"> The average emission levels shall be measured in [duty cycle ≥ 98 or duty factor].
	<ul style="list-style-type: none"> 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.
	<ul style="list-style-type: none"> For the transmitter unwanted emissions shall be measured using following options below:
	<ul style="list-style-type: none"> Refer as KDB 558074, clause 8.6 (11.12 of ANSI C63.10) for restricted frequency bands.
	<ul style="list-style-type: none"> For the transmitter band-edge emissions shall be measured using following options below:
	<ul style="list-style-type: none"> 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.
	<ul style="list-style-type: none"> Refer as KDB 558074, clause 8.7.2 (6.10.6 of ANSI C63.10) for marker-delta method for band-edge measurements.
	<ul style="list-style-type: none"> 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	MTJ	RG142	CB002-CO	9kHz ~ 200MHz	17/Sep/2018	16/Sep/2019
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/2018	11/Oct/2019

NCR : Non-Calibration Require

Instrument for Radiated Test

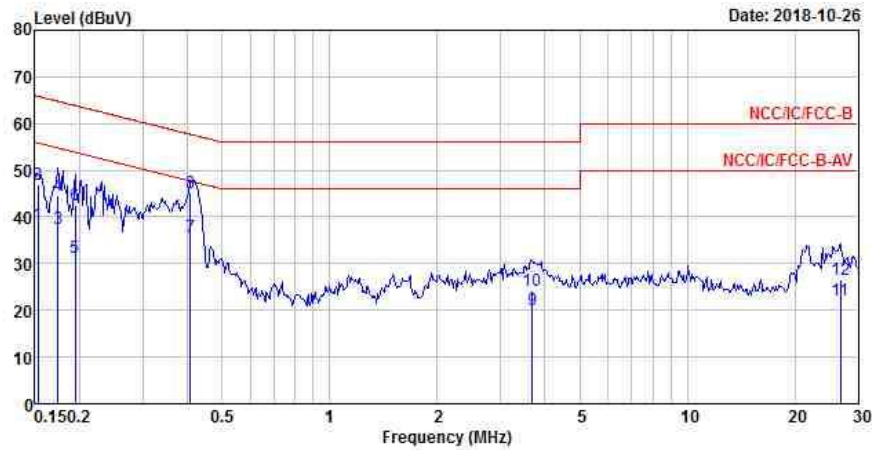
Instrument	Manufacturer	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
3m Semi Anechoic Chamber	TDK	SAC-3M	03CH09-HY	30MHz ~ 1GHz	23/Apr/2018	22/Apr/2019
3m Semi Anechoic Chamber	TDK	SAC-3M	03CH09-HY	1GHz ~ 18GHz	14/Jun/2018	13/Jun/2019
Microwave Preamplifier	Agilent	8449B	3008A02096	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	02/Oct/2018	03/Oct/2019
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

Instrument for Conducted Test

Instrument	Manufacturer	Model No.	Serial No.	Spec.	Calibration Date	Calibration Due Date
Signal Analyzer	R&S	FSV40	101500	10Hz ~ 40GHz	18/Jul/2018	17/Jul/2019
Power Sensor	Anritsu	MA2411B	1339407	300MHz ~ 40GHz	06/Nov/2017	05/Nov/2018
Power Meter	Anritsu	ML2495A	1517010	300MHz ~ 40GHz	06/Nov/2017	05/Nov/2018
RF Cable-1.5m	HUBER+SUHNER	SUCOFLEX_104	MY12585/4	30MHz ~ 26.5GHz	26/Jan/2018	25/Jan/2019
RF Cable-0.2m	HUBER+SUHNER	SUCOFLEX_104	MY10710/4	30MHz ~ 26.5GHz	26/Jan/2018	25/Jan/2019
RF Cable-0.2m	HUBER+SUHNER	SUCOFLEX_104	MY10709/4	30MHz ~ 26.5GHz	26/Jan/2018	25/Jan/2019
Signal Generator	R&S	SMB100A	175727	100kHz~40GHz	26/Oct/2017	25/Oct/2018

AC Power-line Conducted Emissions Result

Operating Mode	1	Power Phase	Neutral
Operating Function	PoE Mode_PIFA Antenna		

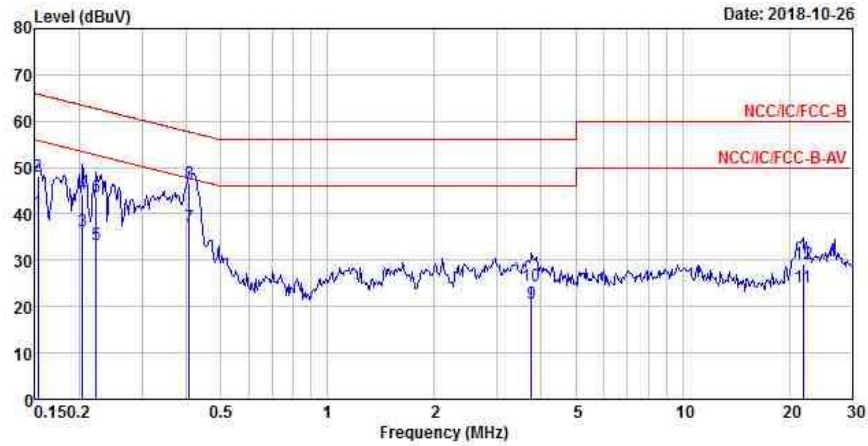


	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.15	38.26	-17.56	55.82	28.59	9.63	0.04	Average
2	0.15	46.91	-18.91	65.82	37.24	9.63	0.04	QP
3	0.17	37.59	-17.18	54.77	27.95	9.62	0.02	Average
4	0.17	44.47	-20.30	64.77	34.83	9.62	0.02	QP
5	0.19	31.39	-22.45	53.84	21.77	9.62	0.00	Average
6	0.19	42.54	-21.30	63.84	32.92	9.62	0.00	QP
7 MAX	0.41	35.75	-11.93	47.68	26.04	9.61	0.10	Average
8	0.41	45.20	-12.48	57.68	35.49	9.61	0.10	QP
9	3.68	20.22	-25.78	46.00	10.50	9.64	0.08	Average
10	3.68	24.29	-31.71	56.00	14.57	9.64	0.08	QP
11	26.84	22.25	-27.75	50.00	12.44	9.70	0.11	Average
12	26.84	26.49	-33.51	60.00	16.68	9.70	0.11	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	PoE Mode_PIFA Antenna		



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.15	40.35	-15.47	55.82	30.69	9.62	0.04	Average
2	0.15	48.03	-17.79	65.82	38.37	9.62	0.04	QP
3	0.20	36.24	-17.21	53.45	26.62	9.62	0.00	Average
4	0.20	44.17	-19.28	63.45	34.55	9.62	0.00	QP
5	0.22	33.42	-19.28	52.70	23.78	9.62	0.02	Average
6	0.22	43.78	-18.92	62.70	34.14	9.62	0.02	QP
7 MAX	0.41	37.12	-10.56	47.68	27.41	9.61	0.10	Average
8	0.41	46.51	-11.17	57.68	36.80	9.61	0.10	QP
9	3.76	20.62	-25.38	46.00	10.91	9.63	0.08	Average
10	3.76	24.63	-31.37	56.00	14.92	9.63	0.08	QP
11	21.83	24.24	-25.76	50.00	14.53	9.59	0.12	Average
12	21.83	29.16	-30.84	60.00	19.45	9.59	0.12	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)	682.5k	1.061M	1M06F1D	678.75k	1.052M

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;

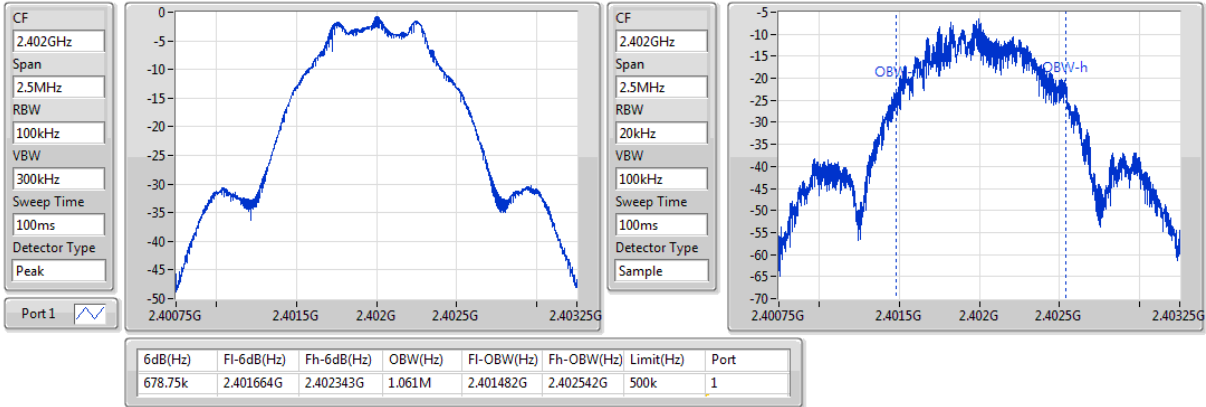
Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
BT-LE(1Mbps)	-	-	-	-
2402MHz_TnomVnom	Pass	500k	678.75k	1.061M
2440MHz_TnomVnom	Pass	500k	680k	1.059M
2480MHz_TnomVnom	Pass	500k	682.5k	1.052M

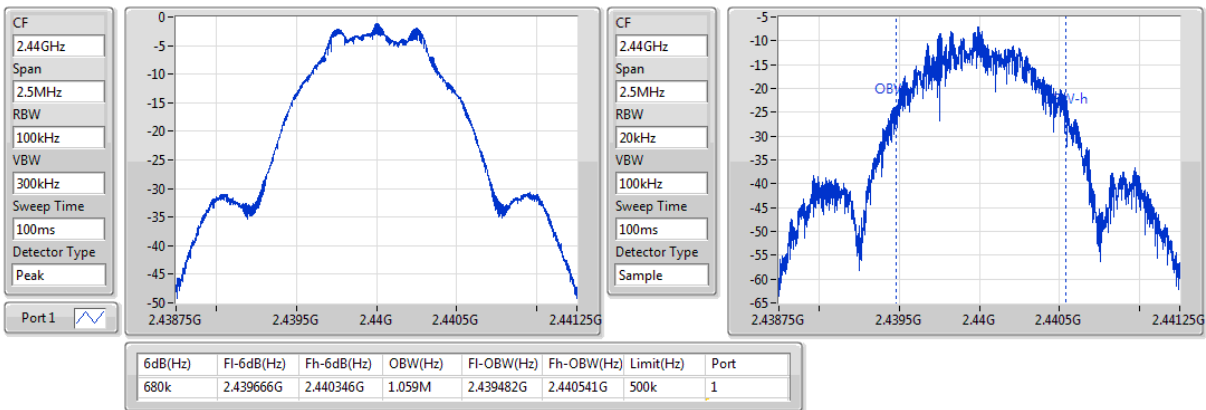
Port X-N dB = Port X 6dB down bandwidth; **Port X-OBW** = Port X 99% occupied bandwidth;

BT-LE(1Mbps)
EBW
2402MHz

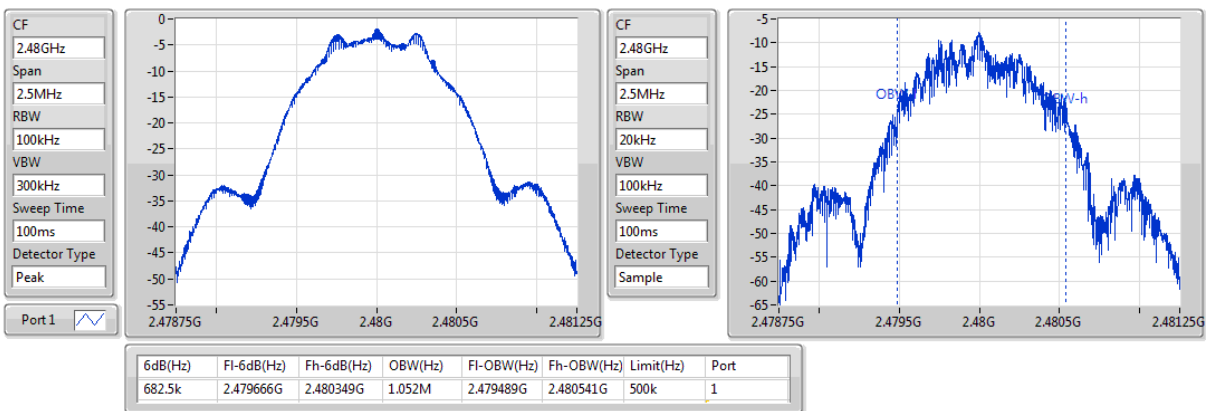
22/10/2018


BT-LE(1Mbps)
EBW
2440MHz

22/10/2018


BT-LE(1Mbps)
EBW
2480MHz

22/10/2018



Summary

Mode	Power	Power
	(dBm)	(W)
2.4-2.4835GHz	-	-
BT-LE(1Mbps)	-1.25	0.00075

Result

Mode	Result	Gain (dBi)	Power (dBm)	Power Limit (dBm)
BT-LE(1Mbps)	-	-	-	-
2402MHz_TnomVnom	Pass	-2.22	-1.25	30.00
2440MHz_TnomVnom	Pass	-2.22	-2.72	30.00
2480MHz_TnomVnom	Pass	-2.22	-3.37	30.00

Summary

Mode	PD (dBm/RBW)
2.4-2.4835GHz	-
BT-LE(1Mbps)	-16.00

RBW=3kHz.

Result

Mode	Result	Gain (dBi)	PD (dBm/RBW)	PD Limit (dBm/RBW)
BT-LE(1Mbps)	-	-	-	-
2402MHz_TnomVnom	Pass	-2.22	-16.00	8.00
2440MHz_TnomVnom	Pass	-2.22	-17.58	8.00
2480MHz_TnomVnom	Pass	-2.22	-17.20	8.00

RBW=3kHz.

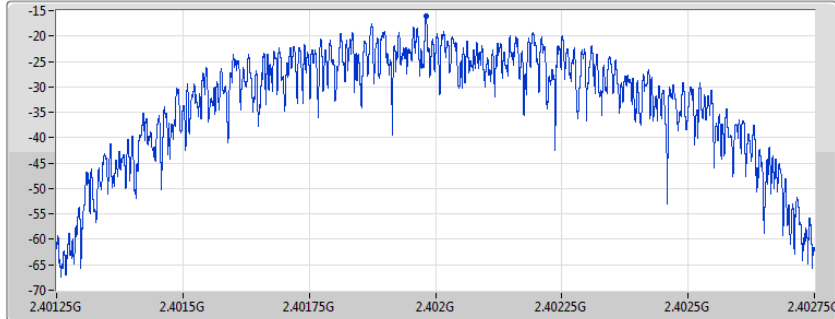
BT-LE(1Mbps)

PSD

2402MHz

22/10/2018

CF
2.402GHz
Span
1.5MHz
RBW
3kHz
VBW
10kHz
Sweep Time
32.1ms
Detector Type
Peak



Port 1

Sum	PD	Port 1
(dBm/Hz)	(dBm/Hz)	(dBm/Hz)
-16.00	-16.00	-16.00

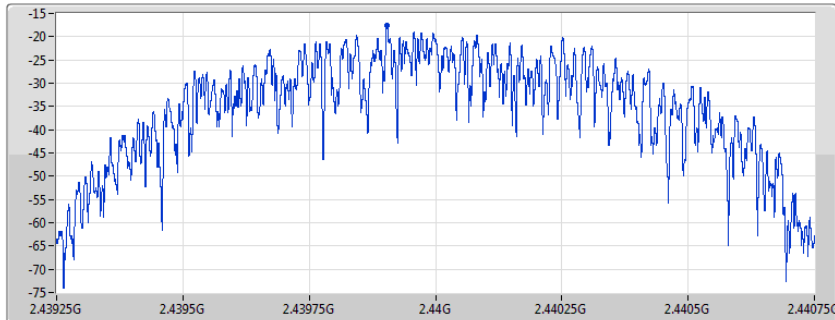
BT-LE(1Mbps)

PSD

2440MHz

22/10/2018

CF
2.44GHz
Span
1.5MHz
RBW
3kHz
VBW
10kHz
Sweep Time
32.1ms
Detector Type
Peak



Port 1

Sum	PD	Port 1
(dBm/Hz)	(dBm/Hz)	(dBm/Hz)
-17.58	-17.58	-17.58

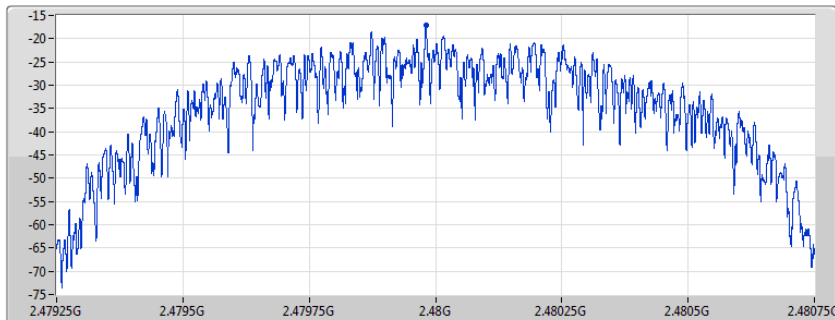
BT-LE(1Mbps)

PSD

2480MHz

22/10/2018

CF
2.48GHz
Span
1.5MHz
RBW
3kHz
VBW
10kHz
Sweep Time
32.1ms
Detector Type
Peak



Port 1

Sum	PD	Port 1
(dBm/Hz)	(dBm/Hz)	(dBm/Hz)
-17.20	-17.20	-17.20

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	2.40221G	-1.94	-31.94	2.09046G	-64.81	2.39901G	-63.78	2.48369G	-62.67	16.41353G	-49.57	1

Result

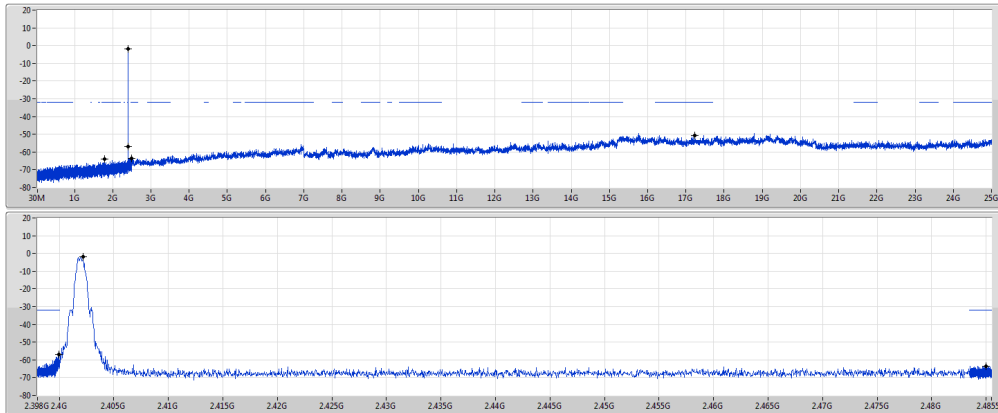
Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
BT-LE(1Mbps)	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz_TnomVnom	Pass	2.40221G	-1.94	-31.94	1.77818G	-64.15	2.39999G	-56.86	2.485G	-63.45	17.24094G	-50.72	1
2440MHz_TnomVnom	Pass	2.40221G	-1.94	-31.94	2.30506G	-64.77	2.39887G	-62.19	2.48481G	-63.58	15.26811G	-50.26	1
2480MHz_TnomVnom	Pass	2.40221G	-1.94	-31.94	2.09046G	-64.81	2.39901G	-63.78	2.48369G	-62.67	16.41353G	-49.57	1

BT-LE(1Mbps)
2402MHz

CSE NdB

22/10/2018

Port 1



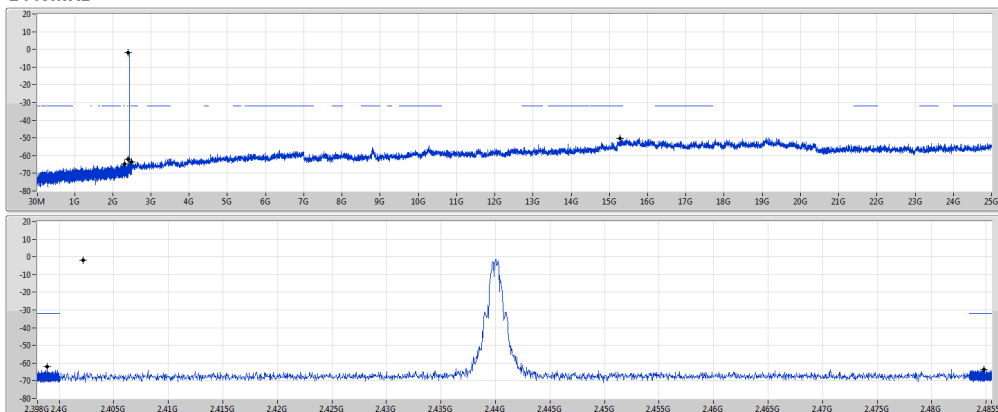
Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
240221G	-1.94	-31.94	177818G	-64.15	239999G	-56.86	2485G	-63.45	1724094G	-50.72	1

BT-LE(1Mbps)
2440MHz

CSE NdB

22/10/2018

Port 1



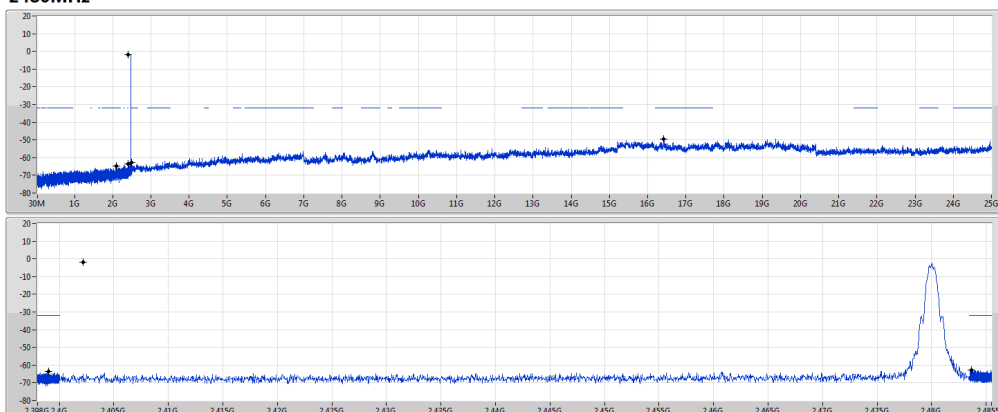
Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
240221G	-1.94	-31.94	230506G	-64.77	239887G	-62.19	248481G	-63.58	1526811G	-50.26	1

BT-LE(1Mbps)
2480MHz

CSE NdB

22/10/2018

Port 1



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
240221G	-1.94	-31.94	209046G	-64.81	239901G	-63.78	248369G	-62.67	1641353G	-49.57	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	QP	43.58M	35.60	40.00	-4.40	-20.25	3	Vertical	164	1.71	-

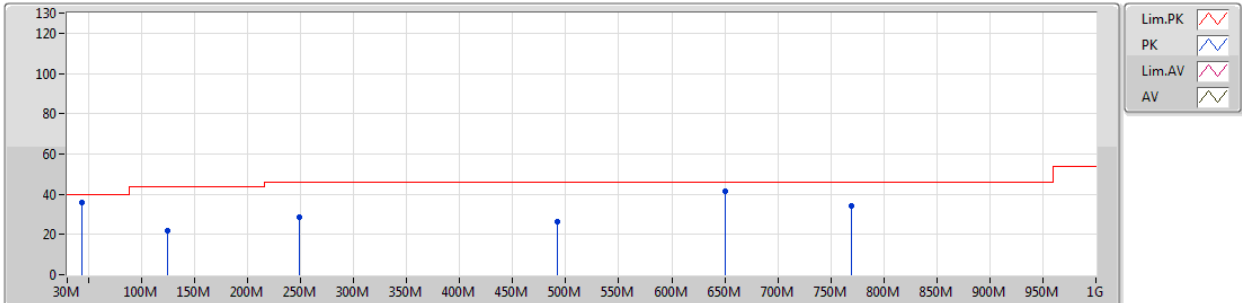
Result

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	125.06M	22.08	43.50	-21.42	-19.21	3	Vertical	0	1.00	-
2440MHz	Pass	PK	249.22M	28.31	46.00	-17.69	-17.26	3	Vertical	0	1.00	-
2440MHz	Pass	PK	491.72M	26.40	46.00	-19.60	-12.22	3	Vertical	0	1.00	-
2440MHz	Pass	PK	650.8M	41.39	46.00	-4.61	-9.96	3	Vertical	0	1.00	-
2440MHz	Pass	PK	769.14M	34.05	46.00	-11.95	-8.20	3	Vertical	0	1.00	-
2440MHz	Pass	QP	43.58M	35.60	40.00	-4.40	-20.25	3	Vertical	164	1.71	-
2440MHz	Pass	PK	43.58M	21.89	40.00	-18.11	-20.25	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	125.06M	22.05	43.50	-21.45	-19.21	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	249.22M	29.65	46.00	-16.35	-17.26	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	650.8M	40.38	46.00	-5.62	-9.96	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	710.94M	33.32	46.00	-12.68	-9.47	3	Horizontal	360	1.00	-
2440MHz	Pass	PK	953.44M	37.72	46.00	-8.28	-4.71	3	Horizontal	360	1.00	-

BT-LE(1Mbps)

2440MHz_PoE

24/10/2018

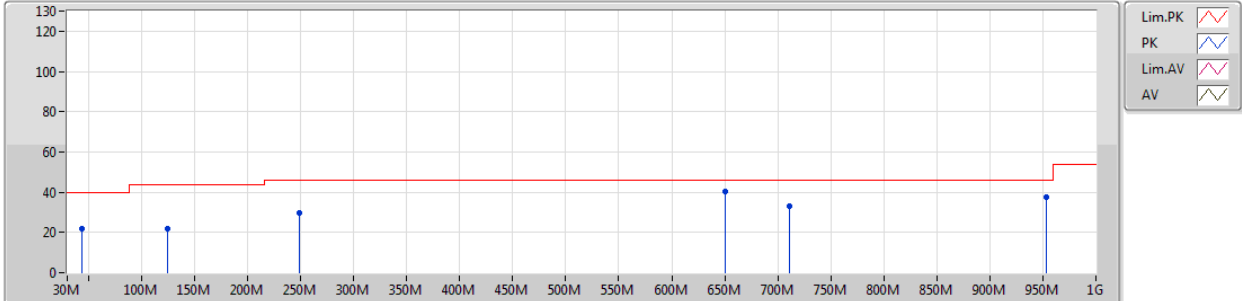


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
PK	125.06M	22.08	43.50	-21.42	-19.21	3	Vertical	0	1.00	-
PK	249.22M	28.31	46.00	-17.69	-17.26	3	Vertical	0	1.00	-
PK	491.72M	26.40	46.00	-19.60	-12.22	3	Vertical	0	1.00	-
PK	650.8M	41.39	46.00	-4.61	-9.96	3	Vertical	0	1.00	-
PK	769.14M	34.05	46.00	-11.95	-8.20	3	Vertical	0	1.00	-
QP	43.58M	35.60	40.00	-4.40	-20.25	3	Vertical	164	1.71	-

BT-LE(1Mbps)

2440MHz_PoE

24/10/2018



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
PK	43.58M	21.89	40.00	-18.11	-20.25	3	Horizontal	360	1.00	-
PK	125.06M	22.05	43.50	-21.45	-19.21	3	Horizontal	360	1.00	-
PK	249.22M	29.65	46.00	-16.35	-17.26	3	Horizontal	360	1.00	-
PK	650.8M	40.38	46.00	-5.62	-9.96	3	Horizontal	360	1.00	-
PK	710.94M	33.32	46.00	-12.68	-9.47	3	Horizontal	360	1.00	-
PK	953.44M	37.72	46.00	-8.28	-4.71	3	Horizontal	360	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	2.4964G	44.84	54.00	-9.16	31.16	3	Horizontal	46	1.81	-

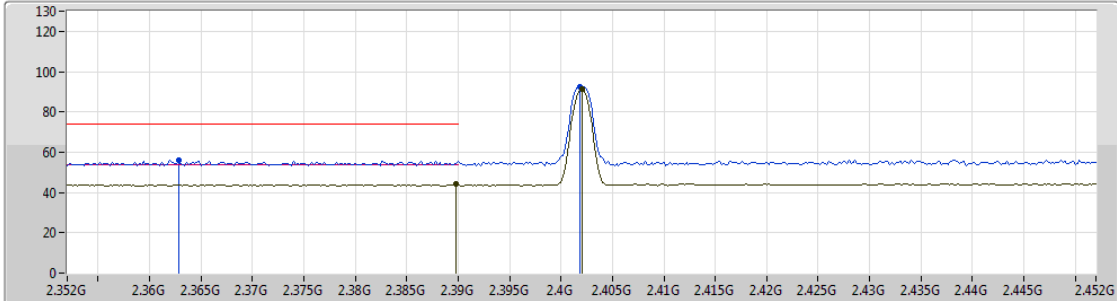
Result





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	2.3898G	44.02	54.00	-9.98	30.77	3	Vertical	299	1.03	-
2402MHz	Pass	AV	2.402G	91.32	Inf	-Inf	30.82	3	Vertical	299	1.03	-
2402MHz	Pass	PK	2.3628G	55.87	74.00	-18.13	30.68	3	Vertical	299	1.03	-
2402MHz	Pass	PK	2.4018G	92.35	Inf	-Inf	30.82	3	Vertical	299	1.03	-
2402MHz	Pass	AV	2.3624G	44.10	54.00	-9.90	30.67	3	Horizontal	340	1.97	-
2402MHz	Pass	AV	2.402G	91.33	Inf	-Inf	30.82	3	Horizontal	340	1.97	-
2402MHz	Pass	PK	2.3676G	56.25	74.00	-17.75	30.70	3	Horizontal	340	1.97	-
2402MHz	Pass	PK	2.4018G	92.34	Inf	-Inf	30.82	3	Horizontal	340	1.97	-
2402MHz	Pass	AV	4.80175G	31.72	54.00	-22.28	2.07	3	Vertical	263	1.48	-
2402MHz	Pass	PK	4.80336G	43.56	74.00	-30.44	2.08	3	Vertical	263	1.48	-
2402MHz	Pass	AV	4.80155G	31.46	54.00	-22.54	2.07	3	Horizontal	114	1.94	-
2402MHz	Pass	PK	4.80163G	43.52	74.00	-30.48	2.07	3	Horizontal	114	1.94	-
2440MHz	Pass	AV	2.386G	43.97	54.00	-10.03	30.76	3	Vertical	144	1.55	-
2440MHz	Pass	AV	2.44G	85.62	Inf	-Inf	30.95	3	Vertical	144	1.55	-
2440MHz	Pass	AV	2.49G	44.76	54.00	-9.24	31.13	3	Vertical	144	1.55	-
2440MHz	Pass	PK	2.3756G	55.39	74.00	-18.61	30.72	3	Vertical	144	1.55	-
2440MHz	Pass	PK	2.4396G	86.66	Inf	-Inf	30.95	3	Vertical	144	1.55	-
2440MHz	Pass	PK	2.5G	56.73	74.00	-17.27	31.17	3	Vertical	144	1.55	-
2440MHz	Pass	AV	2.36G	43.96	54.00	-10.04	30.67	3	Horizontal	46	1.81	-
2440MHz	Pass	AV	2.44G	91.07	Inf	-Inf	30.95	3	Horizontal	46	1.81	-
2440MHz	Pass	AV	2.4964G	44.84	54.00	-9.16	31.16	3	Horizontal	46	1.81	-
2440MHz	Pass	PK	2.384G	55.78	74.00	-18.22	30.76	3	Horizontal	46	1.81	-
2440MHz	Pass	PK	2.4404G	92.06	Inf	-Inf	30.95	3	Horizontal	46	1.81	-
2440MHz	Pass	PK	2.494G	56.36	74.00	-17.64	31.15	3	Horizontal	46	1.81	-
2440MHz	Pass	AV	4.8791G	31.06	54.00	-22.94	2.27	3	Vertical	54	2.13	-
2440MHz	Pass	PK	4.88018G	43.43	74.00	-30.57	2.27	3	Vertical	54	2.13	-
2440MHz	Pass	AV	4.87947G	30.97	54.00	-23.03	2.27	3	Horizontal	100	1.16	-
2440MHz	Pass	PK	4.8779G	42.63	74.00	-31.37	2.26	3	Horizontal	100	1.16	-
2480MHz	Pass	AV	2.48G	88.67	Inf	-Inf	31.09	3	Vertical	105	2.22	-
2480MHz	Pass	AV	2.4972G	44.54	54.00	-9.46	31.16	3	Vertical	105	2.22	-
2480MHz	Pass	PK	2.4798G	89.68	Inf	-Inf	31.09	3	Vertical	105	2.22	-
2480MHz	Pass	PK	2.4912G	56.62	74.00	-17.38	31.14	3	Vertical	105	2.22	-
2480MHz	Pass	AV	2.48G	92.42	Inf	-Inf	31.09	3	Horizontal	49	1.39	-
2480MHz	Pass	AV	2.4944G	44.61	54.00	-9.39	31.15	3	Horizontal	49	1.39	-
2480MHz	Pass	PK	2.4798G	93.40	Inf	-Inf	31.09	3	Horizontal	49	1.39	-
2480MHz	Pass	PK	2.4988G	56.16	74.00	-17.84	31.17	3	Horizontal	49	1.39	-
2480MHz	Pass	AV	4.95971G	31.05	54.00	-22.95	2.47	3	Vertical	13	1.12	-
2480MHz	Pass	PK	4.9615G	43.17	74.00	-30.83	2.47	3	Vertical	13	1.12	-
2480MHz	Pass	AV	4.95772G	31.09	54.00	-22.91	2.46	3	Horizontal	245	1.63	-
2480MHz	Pass	PK	4.96019G	43.44	74.00	-30.56	2.47	3	Horizontal	245	1.63	-

BT-LE(1Mbps)

2402MHz_TX

23/10/2018



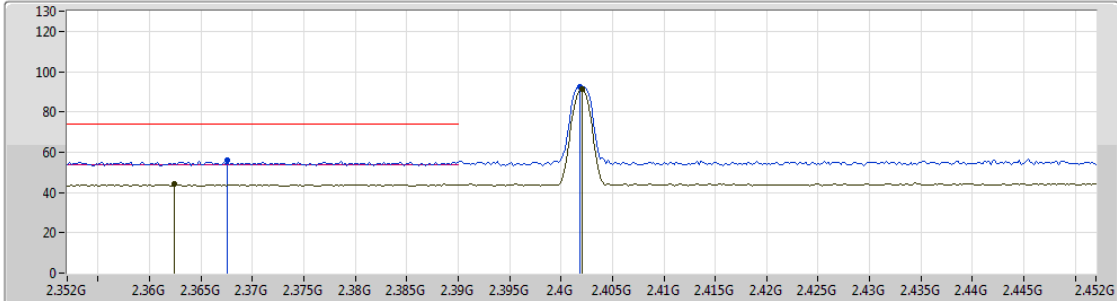
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PK	
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Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments								
AV	2.3898G	44.02	54.00	-9.98	30.77	3	Vertical	299	1.03	-								
AV	2.402G	91.32	Inf	-Inf	30.82	3	Vertical	299	1.03	-								
PK	2.3628G	55.87	74.00	-18.13	30.68	3	Vertical	299	1.03	-								
PK	2.4018G	92.35	Inf	-Inf	30.82	3	Vertical	299	1.03	-								

BT-LE(1Mbps)

2402MHz_TX

23/10/2018

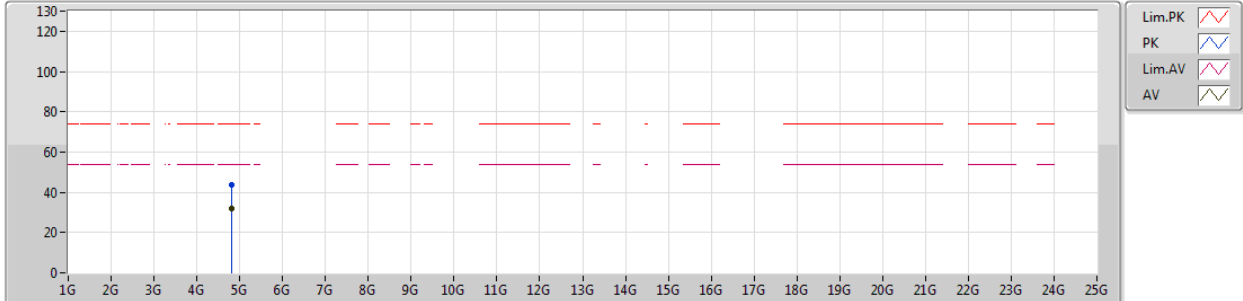


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments								
AV	2.3624G	44.10	54.00	-9.90	30.67	3	Horizontal	340	1.97	-								
AV	2.402G	91.33	Inf	-Inf	30.82	3	Horizontal	340	1.97	-								
PK	2.3676G	56.25	74.00	-17.75	30.70	3	Horizontal	340	1.97	-								
PK	2.4018G	92.34	Inf	-Inf	30.82	3	Horizontal	340	1.97	-								

BT-LE(1Mbps)

2402MHz_TX

24/10/2018

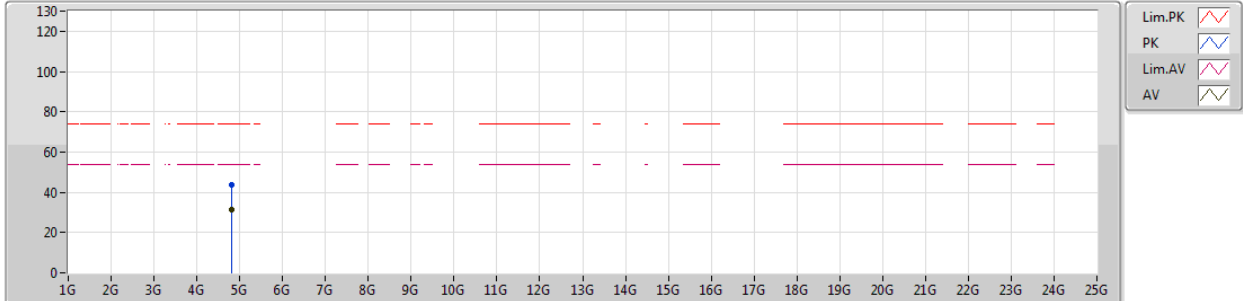


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments								
AV	4.80175G	31.72	54.00	-22.28	2.07	3	Vertical	263	1.48	-								
PK	4.80336G	43.56	74.00	-30.44	2.08	3	Vertical	263	1.48	-								

BT-LE(1Mbps)

2402MHz_TX

24/10/2018

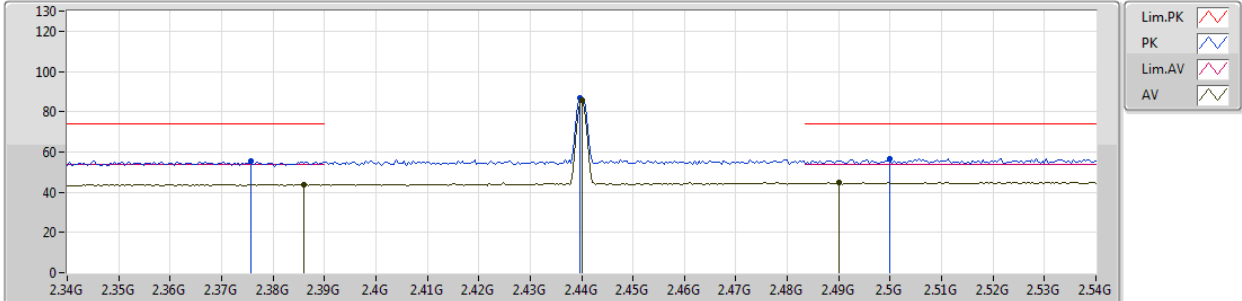


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments							
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)								
AV	4.80155G	31.46	54.00	-22.54	2.07	3	Horizontal	114	1.94	-							
PK	4.80163G	43.52	74.00	-30.48	2.07	3	Horizontal	114	1.94	-							

BT-LE(1Mbps)

2440MHz_TX

23/10/2018

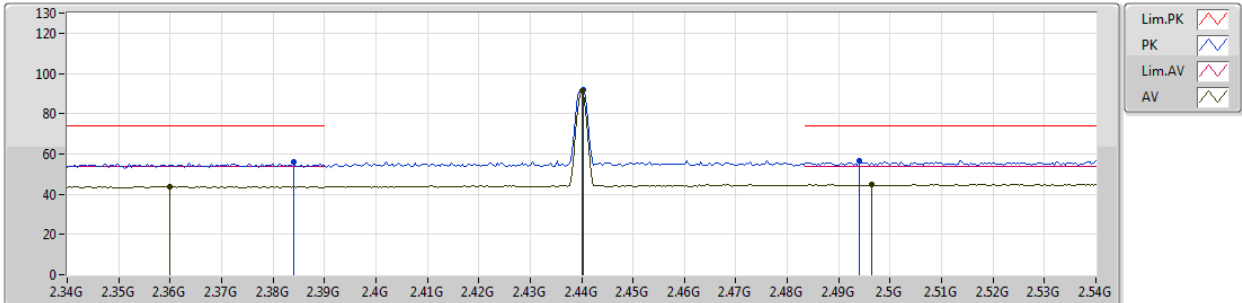


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
AV	2.386G	43.97	54.00	-10.03	30.76	3	Vertical	144	1.55	-
AV	2.44G	85.62	Inf	-Inf	30.95	3	Vertical	144	1.55	-
AV	2.49G	44.76	54.00	-9.24	31.13	3	Vertical	144	1.55	-
PK	2.3756G	55.39	74.00	-18.61	30.72	3	Vertical	144	1.55	-
PK	2.4396G	86.66	Inf	-Inf	30.95	3	Vertical	144	1.55	-
PK	2.5G	56.73	74.00	-17.27	31.17	3	Vertical	144	1.55	-

BT-LE(1Mbps)

2440MHz_TX

23/10/2018

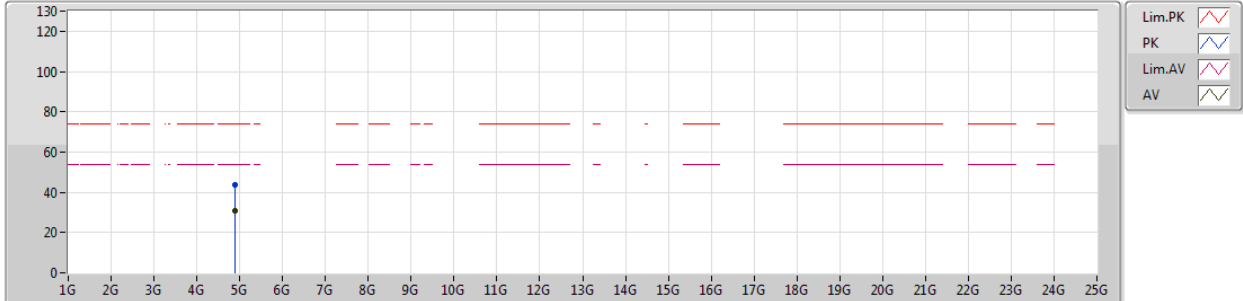


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
AV	2.36G	43.96	54.00	-10.04	30.67	3	Horizontal	46	1.81	-
AV	2.44G	91.07	Inf	-Inf	30.95	3	Horizontal	46	1.81	-
AV	2.4964G	44.84	54.00	-9.16	31.16	3	Horizontal	46	1.81	-
PK	2.384G	55.78	74.00	-18.22	30.76	3	Horizontal	46	1.81	-
PK	2.4404G	92.06	Inf	-Inf	30.95	3	Horizontal	46	1.81	-
PK	2.494G	56.36	74.00	-17.64	31.15	3	Horizontal	46	1.81	-

BT-LE(1Mbps)

2440MHz_TX

24/10/2018

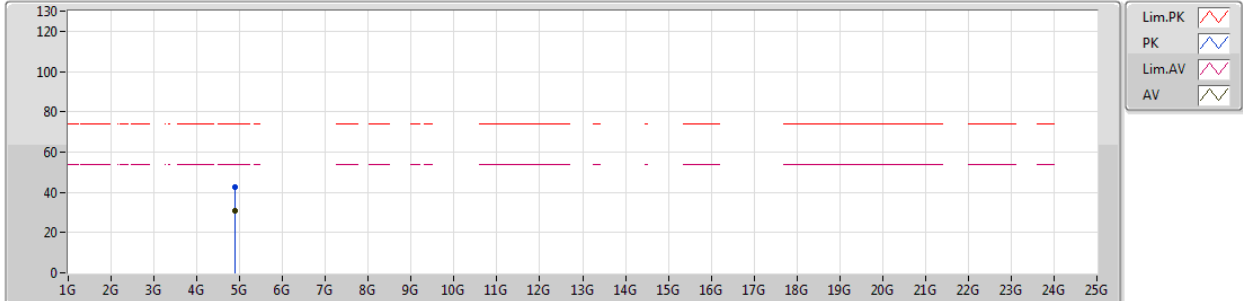


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments								
AV	4.8791G	31.06	54.00	-22.94	2.27	3	Vertical	54	2.13	-								
PK	4.88018G	43.43	74.00	-30.57	2.27	3	Vertical	54	2.13	-								

BT-LE(1Mbps)

2440MHz_TX

24/10/2018

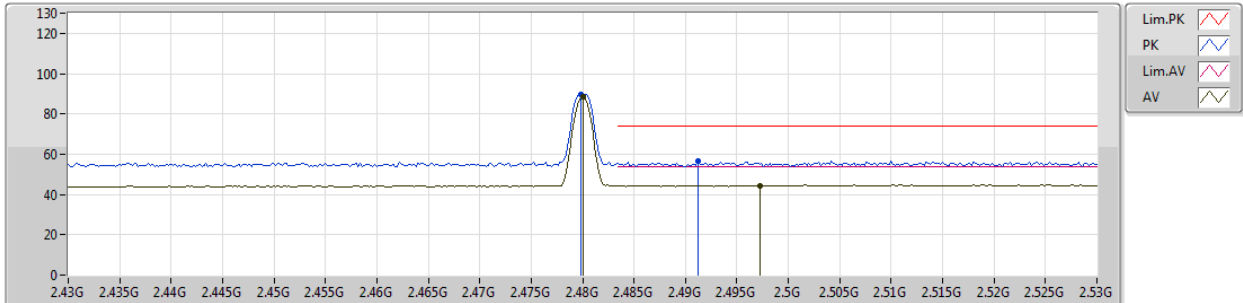


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments								
AV	4.87947G	30.97	54.00	-23.03	2.27	3	Horizontal	100	1.16	-								
PK	4.8779G	42.63	74.00	-31.37	2.26	3	Horizontal	100	1.16	-								

BT-LE(1Mbps)

2480MHz_TX

24/10/2018

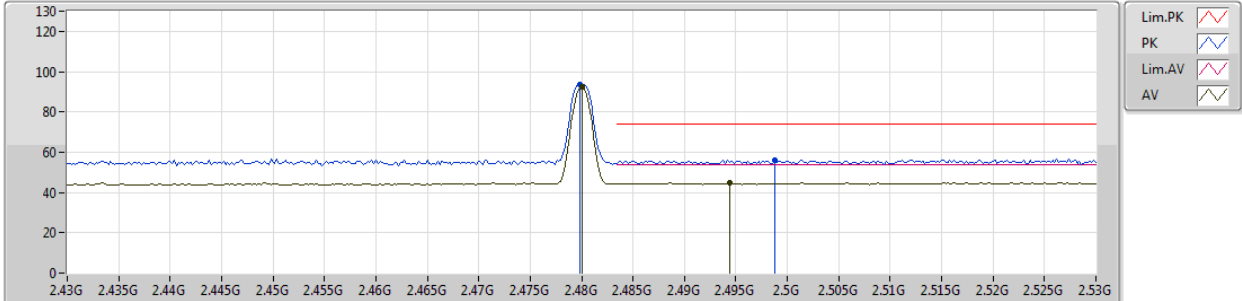


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
AV	2.48G	88.67	Inf	-Inf	31.09	3	Vertical	105	2.22	-
AV	2.4972G	44.54	54.00	-9.46	31.16	3	Vertical	105	2.22	-
PK	2.4798G	89.68	Inf	-Inf	31.09	3	Vertical	105	2.22	-
PK	2.4912G	56.62	74.00	-17.38	31.14	3	Vertical	105	2.22	-

BT-LE(1Mbps)

2480MHz_TX

24/10/2018

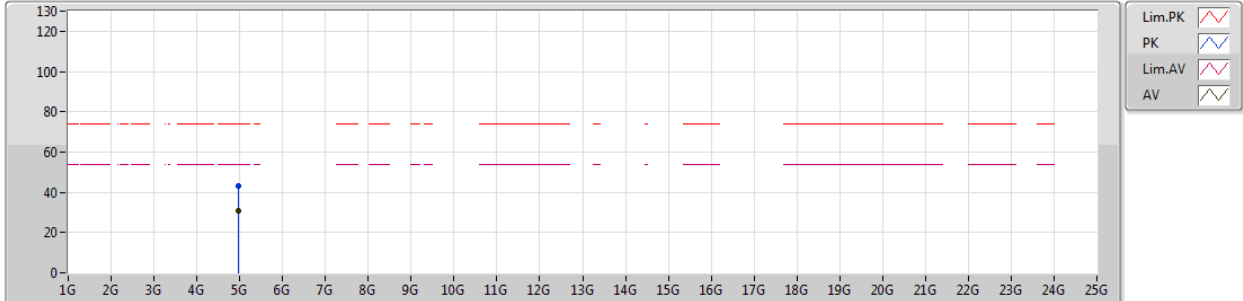


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
AV	2.48G	92.42	Inf	-Inf	31.09	3	Horizontal	49	1.39	-
AV	2.4944G	44.61	54.00	-9.39	31.15	3	Horizontal	49	1.39	-
PK	2.4798G	93.40	Inf	-Inf	31.09	3	Horizontal	49	1.39	-
PK	2.4988G	56.16	74.00	-17.84	31.17	3	Horizontal	49	1.39	-

BT-LE(1Mbps)

2480MHz_TX

24/10/2018

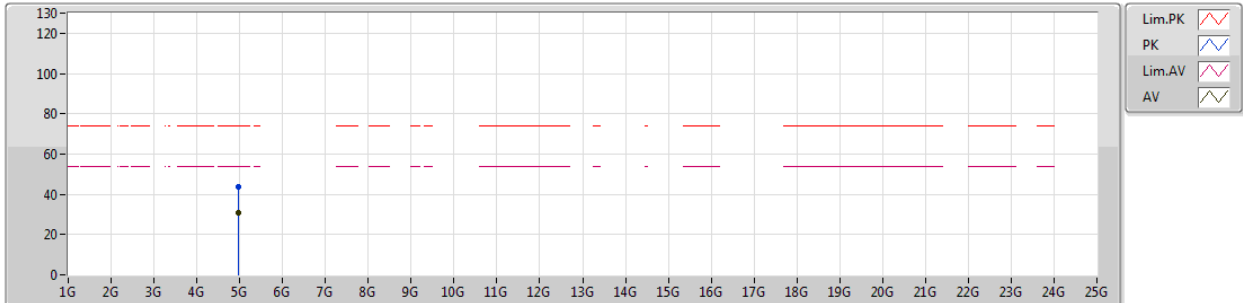


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments								
AV	4.95971G	31.05	54.00	-22.95	2.47	3	Vertical	13	1.12	-								
PK	4.9615G	43.17	74.00	-30.83	2.47	3	Vertical	13	1.12	-								

BT-LE(1Mbps)

2480MHz_TX

24/10/2018



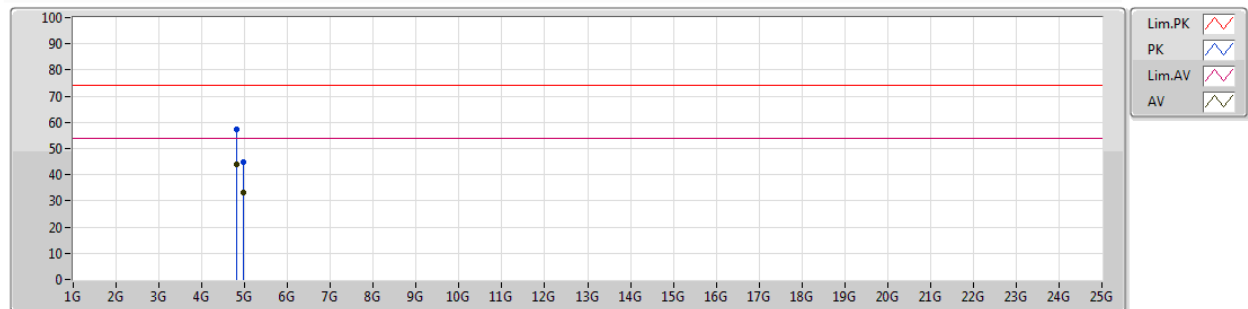
Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments							
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)								
AV	4.95772G	31.09	54.00	-22.91	2.46	3	Horizontal	245	1.63	-							
PK	4.96019G	43.44	74.00	-30.56	2.47	3	Horizontal	245	1.63	-							

Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)
Mode 1	Pass	AV	4.8224G	44.12	54.00	-9.88	2.13	3	Vertical	357	2.20
Mode 2	Pass	AV	10.35995G	47.61	54.00	-6.39	12.63	3	Vertical	17	2.44

Mode 1

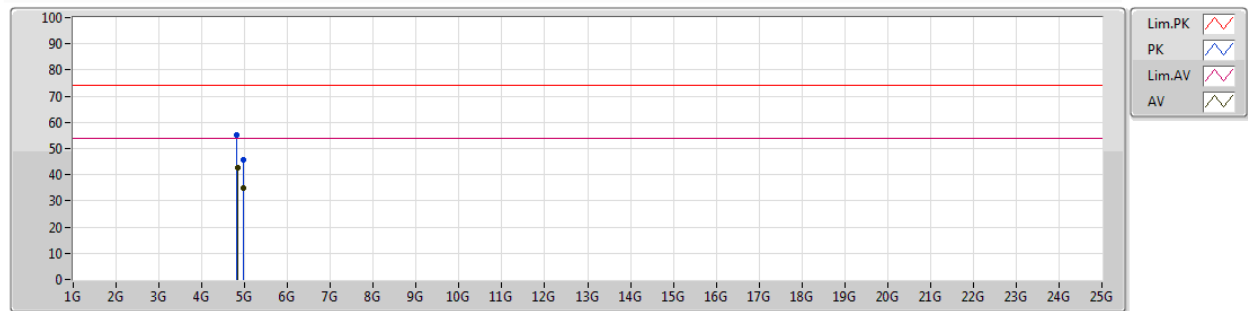
24/10/2018



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
AV	4.8224G	44.12	54.00	-9.88	2.13	3	Vertical	357	2.20	-
AV	4.95988G	33.39	54.00	-20.61	2.47	3	Vertical	358	2.34	-
PK	4.82G	57.52	74.00	-16.48	2.12	3	Vertical	357	2.20	-
PK	4.96004G	44.64	74.00	-29.36	2.47	3	Vertical	358	2.34	-

Mode 1

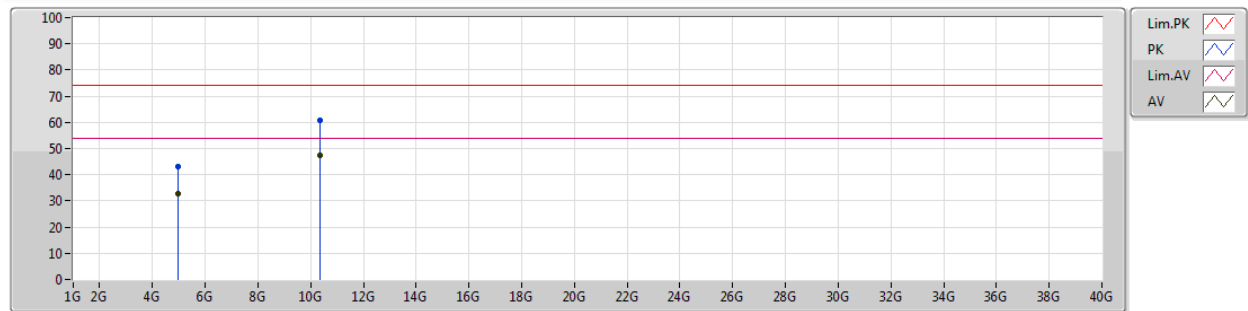
24/10/2018



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
AV	4.8256G	42.74	54.00	-11.26	2.14	3	Horizontal	357	1.17	-
AV	4.96G	34.78	54.00	-19.22	2.47	3	Horizontal	6	2.32	-
PK	4.8234G	55.34	74.00	-18.66	2.13	3	Horizontal	357	1.17	-
PK	4.96002G	45.56	74.00	-28.44	2.47	3	Horizontal	6	2.32	-

Mode 2

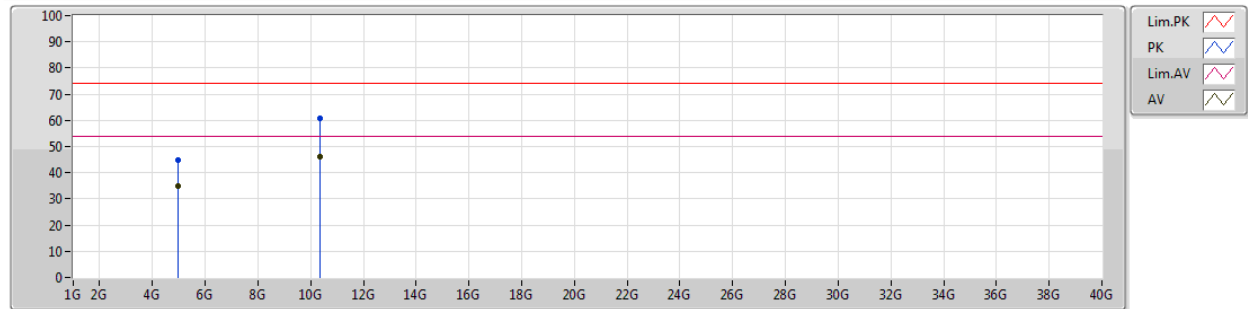
24/10/2018



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
AV	4.95964G	32.68	54.00	-21.32	2.47	3	Vertical	320	1.05	-
AV	10.35995G	47.61	54.00	-6.39	12.63	3	Vertical	17	2.44	-
PK	4.95964G	43.05	74.00	-30.95	2.47	3	Vertical	320	1.05	-
PK	10.3612G	60.99	74.00	-13.01	12.64	3	Vertical	17	2.44	-

Mode 2

24/10/2018



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
AV	4.95877G	35.04	54.00	-18.96	2.46	3	Horizontal	146	1.21	-
AV	10.36025G	46.04	54.00	-7.96	12.63	3	Horizontal	32	2.82	-
PK	4.95877G	45.04	74.00	-28.96	2.46	3	Horizontal	146	1.21	-
PK	10.3612G	60.93	74.00	-13.07	12.64	3	Horizontal	32	2.82	-