FCC Test Report

Equipment	:	AC5400 MU-MIMO Tri-Band Wi-Fi Router
Brand Name	:	TP-Link
Model No.	:	Archer C5400X
FCC ID	:	TE7C5400X
Standard	:	47 CFR FCC Part 15.247
Frequency	:	2400 MHz – 2483.5 MHz
Function	:	☒Point-to-multipoint; ☐Point-to-point
Applicant	:	TP-Link Technologies Co., Ltd. Building 24 (floors 1,3,4,5) and 28 (floors1-4) Central Science and Technology Park,Shennan Rd, Nanshan, Shenzhen,China
Manufacturer	:	TP-Link Technologies Co., Ltd. Building 24 (floors 1,3,4,5) and 28 (floors1-4) Central Science and Technology Park,Shennan Rd, Nanshan, Shenzhen,China

The product sample received on Mar. 14, 2017 and completely tested on Apr. 26, 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 INTERNATIONALINC., the test report shall not be reproduced except in full.

Cliff Chang
SPORTON INTERNATIONAL INC.

Testing Laboratory
1190

Table of Contents

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

Revision History

Report No.	Version	Description	Issued Date
FR731332AC	Rev. 01	Initial issue of report	Jun. 02, 2017

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	1	1TX

Note:
- Bluetooth LE uses a GFSK (1Mbps) modulation for DSSS.
- BWch is the channel separation
- Nss-Min is the minimum number of spatial streams.
- Nant is the number of outputs. e.g., 2(2, 3) means have 2 outputs for port 2 and port 3. 2 means have 2 outputs for port 1 and port 2.

1.1.2 Antenna Information

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	TP-LINK	Archer C5400X(US)1.0	Dipole	I-PEX	1.8
2	TP-LINK	Archer C5400X(US)1.0	Dipole	I-PEX	1.8
3	TP-LINK	Archer C5400X(US)1.0	Dipole	I-PEX	1.8
4	TP-LINK	Archer C5400X(US)1.0	Dipole	I-PEX	1.8
5	TP-LINK	Archer C5400X(US)1.0	Dipole	I-PEX	1.8
6	TP-LINK	Archer C5400X(US)1.0	Dipole	I-PEX	1.8
7	TP-LINK	Archer C5400X(US)1.0	Dipole	I-PEX	1.8
8	TP-LINK	Archer C5400X(US)1.0	Dipole	I-PEX	1.8

Note:
There are four radios, Radio 1, Radio 2, Radio 3 and Radio 4 are respectively.
Radio 1 supports WLAN 2.4GHz function.
Radio 2 supports WLAN 5GHz Band1 / Band2 function.
Radio 3 supports WLAN 5GHz Band3 / Band4 function.
Radio 4 supports Bluetooth function.

The EUT has eight antennas.

For 2.4GHz function:

Ant1 connect to port 1, Ant 2 connect to port 2, Ant 3 connect to port 3, Ant 4 connect to port 4.

For IEEE 802.11b/g/n/ac mode (4TX/4RX):

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

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

For 5GHz (Band 1) function:

Ant 1 connect to port 1, Ant 2 connect to port 2, Ant 3 connect to port 3, Ant 4 connect to port 4.

For IEEE 802.11a/n/ac mode (4TX/4RX):

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

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

For 5GHz (Band 4) function:

Ant 5 connect to port 1, Ant 6 connect to port 2, Ant 7 connect to port 3, Ant 8 connect to port 4.

For IEEE 802.11 a/n/ac mode (4TX/4RX):

Ant 5 (Port 1), Ant 6 (Port 2), Ant 7 (Port 3) and Ant 8 (Port 4) can be used as transmitting/receiving antenna.

Ant 5 (Port 1), Ant 6 (Port 2), Ant 7 (Port 3) and Ant 8 (Port 4) could transmit/receive simultaneously.

For Bluetooth function(1TX/1RX):

Ant 5 connect to port 1.

Only Ant 5 (Port 1) can be used as transmitting/receiving antenna.

1.1.3 Mode Test Duty Cycle

Mode	DC	DCF(dB)
BT-LE	0.626	2.034

1.1.4 EUT Operational Condition

EUT Power Type	From Power Adapter

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
- FCC KDB 558074 D01 v04
- FCC KDB 412172 D01 v01r01

1.3 Testing Location Information

Testing Location			
☐	HWA YA	ADD :	No. 52, Hwa Ya 1st Rd., Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.
		TEL :	886-3-327-3456 FAX : 886-3-318-0055
☒	JHUBEI	ADD :	No.8, Lane 724, Bo-ai St., Jhubei City, HsinChu County 302, Taiwan, R.O.C.
		TEL :	886-3-656-9065 FAX : 886-3-656-9085

Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
RF Conducted	TH01-CB	Brian Sun	26°C / 57%	Mar. 27, 2017~Apr. 26, 2017
Radiated	03CH01-CB	Welson Chen / Justin Lin	22°C / 54%	Mar. 25, 2017~Apr. 26, 2017
AC Conduction	CO01-CB	Rick Yeh / Ryo Fan	25°C / 60%	Apr. 22, 2017

Test site Designation No. TW0006 with FCC.
Test site registered number IC 4086D with Industry Canada.

1.4 Measurement Uncertainty

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2)

Test Items	Uncertainty	Remark
Conducted Emission (150kHz ~ 30MHz)	3.2 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	3.6 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	3.7 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	3.5 dB	Confidence levels of 95%
Conducted Emission	1.7 dB	Confidence levels of 95%
Output Power Measurement	1.33 dB	Confidence levels of 95%
Power Density Measurement	1.27 dB	Confidence levels of 95%
Bandwidth Measurement	9.74×10^{-8}	Confidence levels of 95%

2 Test Configuration of EUT

2.1 Test Channel Mode

Mode	PowerSetting
BT-LE_Nss1_1TX	-
2402MHz	Default
2440MHz	Default
2480MHz	Default

2.2 The Worst Case Measurement Configuration

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

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

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

The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis - Radiated Emission Co-location
Test Condition	Radiated measurement
Operating Mode	Normal Link
1	Radio 1-WLAN 2.4G + Radio 2-WLAN 5G Band 1
2	Radio 3-WLAN 5G Band 4 + Radio 4-Bluetooth
Refer to Appendix G for Radiated Emission Co-location.	

The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis - Co-location RF Exposure Evaluation
Operating Mode	
1	Radio 1-WLAN 2.4G + Radio 2-WLAN 5G Band 1 + Radio 3-WLAN 5G Band 4 + Radio 4-Bluetooth
Refer to Sporton Test Report No.: FA731332 for Co-location RF Exposure Evaluation.	

Note: 1. The EUT can only be used in Z-axis position.
2. All the specification of test configurations and test modes were based on customer's request.

2.3 EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

2.4 Accessories

Accessories					
No.	**Equipment Name**	**Brand Name**	**Model Name**	**Rating**	**DC Power Line**
1	Adapter	HuntKey	HKA06012050-7G	Input: 100-240V-1.5A 50/60Hz Output: 12.0V, 5A	Non-Shielded, 1.2m
Other					
Power Cable*1, Non Shielded, 1.5m					

2.5 Support Equipment

For Test Site No: CO01-CB

Support Equipment				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
1	NB*5	DELL	E6430	DoC
2	iPad	Apple	A1430	DoC
3	Flash disk3.0	ADATA	C103	DoC
4	Flash disk3.0	Transcend	JetFlash-700	DoC
1	NB*5	DELL	E6430	DoC

For Test Site No: 03CH01-CB (below 1GHz)

Support Equipment				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
1	NB*2	DELL	E4300	DoC
2	NB*3	Apple	Mac Book	DoC
3	iPad	Apple	A1430	DoC
4	Flash disk3.0*2	Silicon Power	B06	DoC

For Test Site No: 03CH01-CB (above 1GHz)

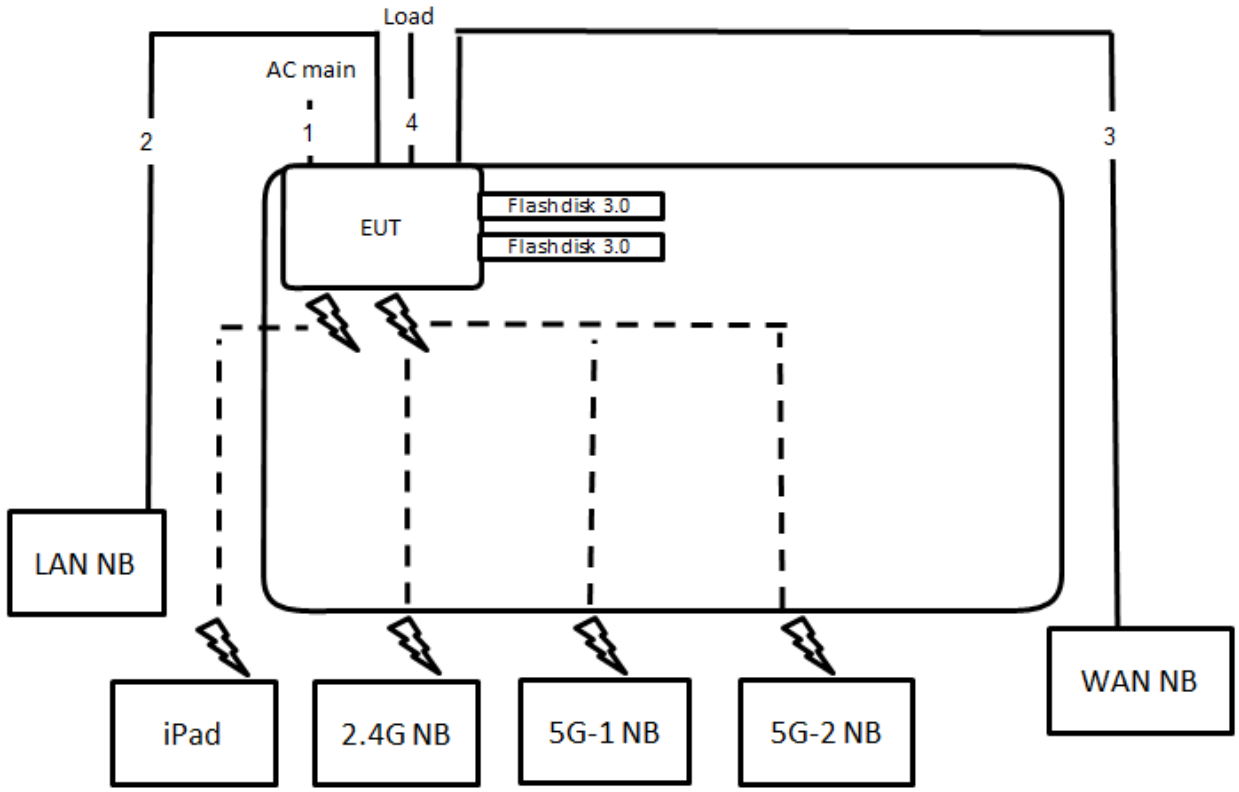
Support Equipment				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
1	NB	DELL	E4300	DoC

For Test Site No: TH01-CB

Support Equipment				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
1	NB	DELL	E4300	DoC

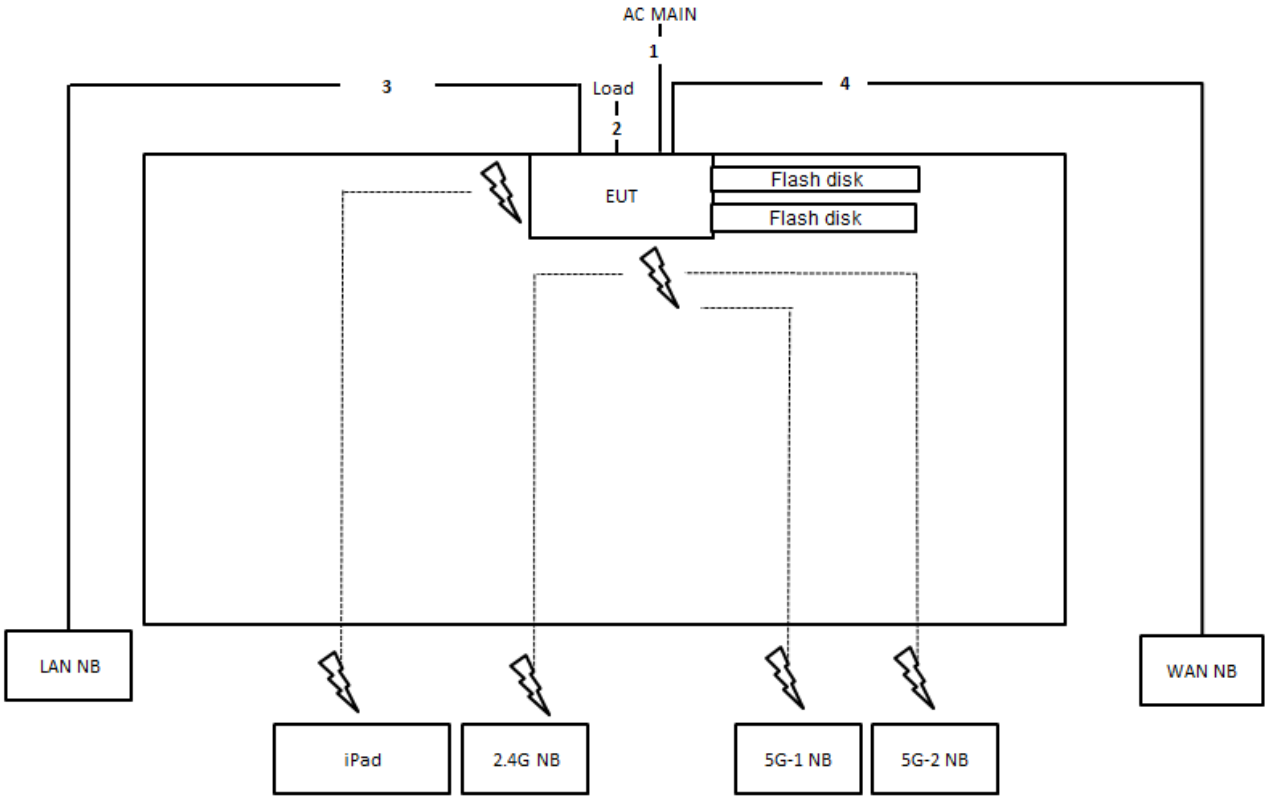
2.6 Test Setup Diagram

Test Setup Diagram – AC Line Conducted Emission Test



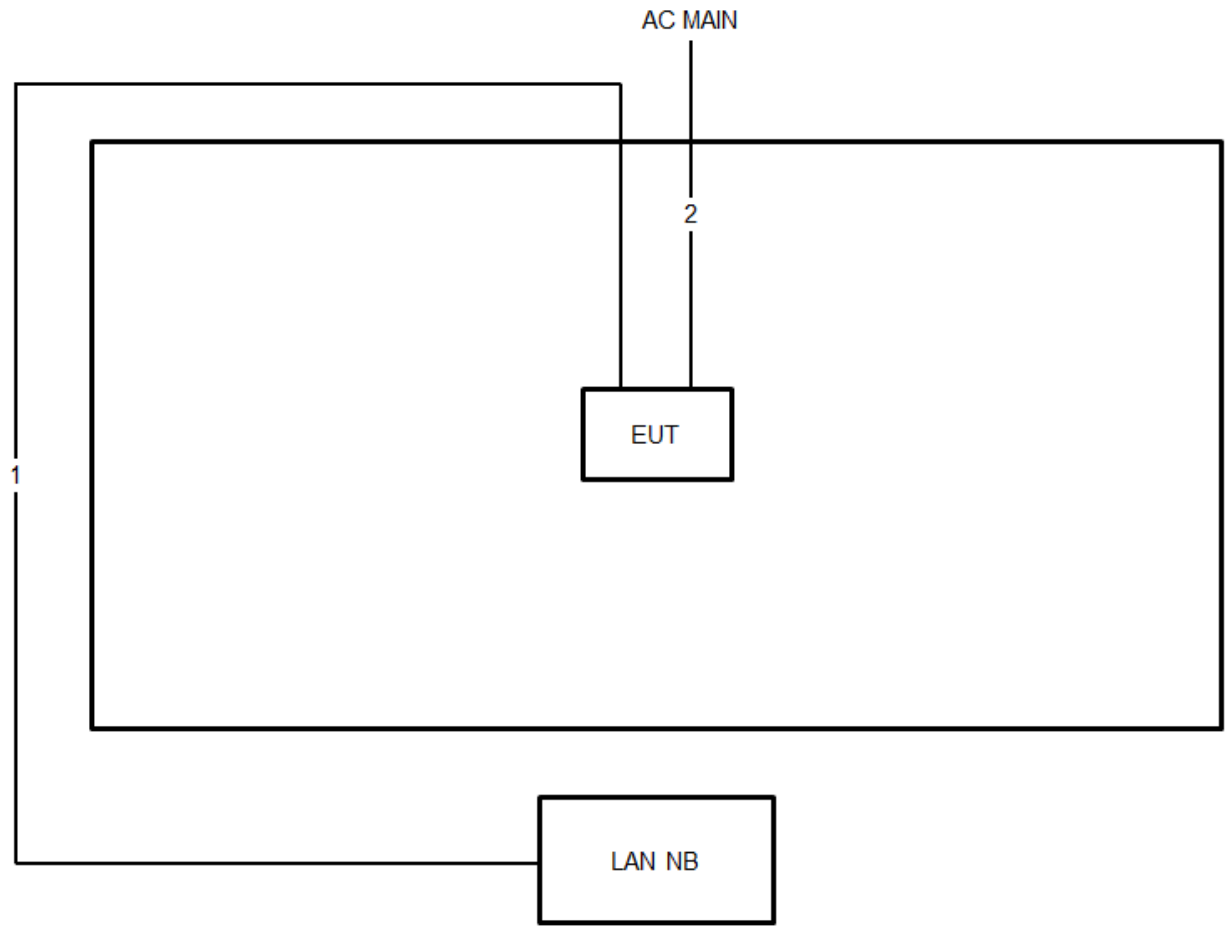
Item	Connection	Shielded	Length
1	Power cable	No	2.7m
2	RJ-45 cable	No	10m
3	RJ-45 cable	No	10m
4	RJ-45 cable*7	No	1.5m

Test Setup Diagram - Radiated Test < 1GHz



Item	Connection	Shielded	Length
1	Power cable	No	2.7m
2	RJ-45 cable*7	No	0.3m
3	RJ-45 cable	No	10m
4	RJ-45 cable	No	10m

Test Setup Diagram - Radiated Test > 1GHz



Item	Connection	Shielded	Length
1	RJ-45 cable	No	10m
2	Power cable	No	2.7m

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

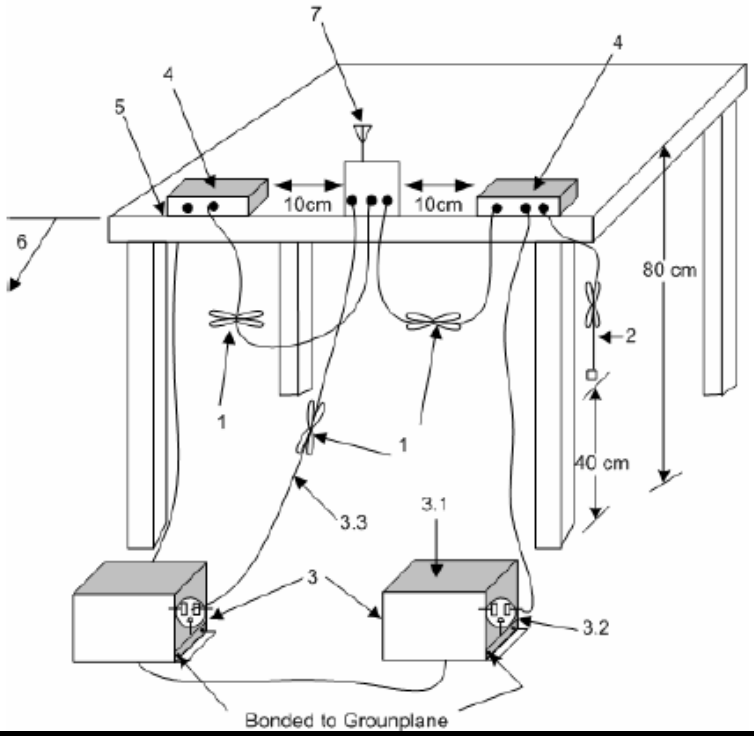
Refer a test equipment and calibration data table in this test report.

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

AC Power-line Conducted Emissions



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 ≥ 500 kHz.

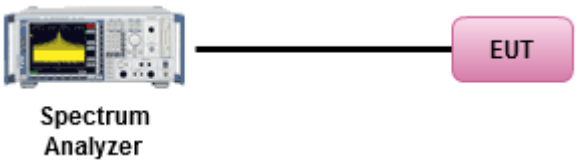
3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

Test Method	
▪ For the emission bandwidth shall be measured using one of the options below:	
	☒ Refer as FCC KDB 558074, clause 8.1 Option 1 for6 dB bandwidth measurement.
	☐ Refer as FCC KDB 558074, clause 8.2 Option 2 for6 dB bandwidth measurement.
	☐ Refer as ANSI C63.10, clause 6.9.1 for occupied bandwidth testing.

3.2.4 Test Setup

Emission Bandwidth


3.2.5 Test Result of Emission Bandwidth

Refer as Appendix B

3.3 Maximum Conducted Output Power

3.3.1 Maximum Conducted Output Power Limit

Maximum Conducted Output Power Limit		
	▪ If $G_{TX} \leq 6$ dBi, then $P_{Out} \leq 30$ dBm (1 W)	
	▪ Point-to-multipoint systems (P2M): If $G_{TX} > 6$ dBi, then $P_{Out} = 30 – (G_{TX} – 6)$ dBm	
	▪ Point-to-point systems (P2P): If $G_{TX} > 6$ dBi, then $P_{Out} = 30 – (G_{TX} – 6)/3$ dBm	
	▪ Smart antenna system (SAS):	
		- Single beam: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 – (G_{TX} – 6)/3$ dBm
		- Overlap beam: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 – (G_{TX} – 6)/3$ dBm
		- Aggregate power on all beams: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 – (G_{TX} – 6)/3 + 8$dB dBm
P_{Out} = maximum peak conducted output power or maximum conducted output power in dBm, **G_{TX}** = the maximum transmitting antenna directional gain in dBi.		

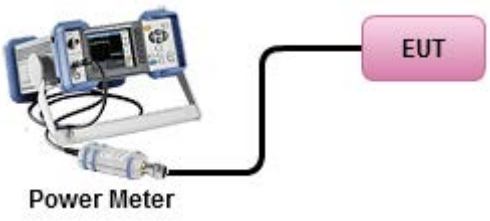
3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

Test Method	
▪ Maximum Peak Conducted Output Power	
	☐ Refer as FCC KDB 558074, clause 9.1.1 Option 1 (RBW ≥ EBW method).
	☐ Refer as FCC KDB 558074, clause 9.1.2 Option 2 (peak power meter for VBW ≥ DTS BW)
▪ Maximum Conducted Output Power	
	[duty cycle ≥ 98% or external video / power trigger]
	☐ Refer as FCC KDB 558074, clause 9.2.2.2 Method AVGSA-1 (spectral trace averaging).
	☐ Refer as FCC KDB 558074, clause 9.2.2.3 Method AVGSA-1 Alt. (slow sweep speed)
	duty cycle < 98% and average over on/off periods with duty factor
	☐ Refer as FCC KDB 558074, clause 9.2.2.4 Method AVGSA-2 (spectral trace averaging).
	☐ Refer as FCC 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 FCC KDB 558074, clause 9.2.3 Method AVGPM-G (using an RF average power meter).
▪ For conducted measurement.	
	▪ If the EUT supports multiple transmit chains using options given below: Refer as FCC KDB 662911, In-band power measurements. Using the measure-and-sum approach, measured all transmit ports individually. Sum the power (in linear power units e.g., mW) of all ports for each individual sample and save them.
	▪ If multiple transmit chains, EIRP calculation could be following as methods: $P_{total} = P_1 + P_2 + \ldots + P_n$ (calculated in linear unit [mW] and transfer to log unit [dBm]) $EIRP_{total} = P_{total} + DG$

3.3.4 Test Setup

Maximum Conducted Output Power (Power Meter)


3.3.5 Test Result of Maximum Conducted Output Power

Refer as Appendix C

3.4 Power Spectral Density

3.4.1 Power Spectral Density Limit

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

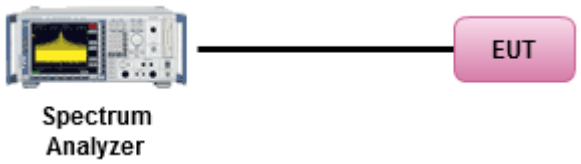
3.4.2 Measuring Instruments

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

3.4.3 Test Procedures

Test Method		
▪ Peak power spectral density procedures that the same method as used to determine the conducted output power. If maximum peak conducted output power was measured to demonstrate compliance to the output power limit, then the peak PSD procedure below (Method PKPSD) shall be used. If maximum conducted output power was measured to demonstrate compliance to the output power limit, then one of the average PSD procedures shall be used, as applicable based on the following criteria (the peak PSD procedure is also an acceptable option).		
	☒ Refer as FCC KDB 558074, clause 10.2 Method PKPSD (RBW=3-100kHz; Detector=peak).	
	[duty cycle ≥ 98% or external video / power trigger]	
	☐ Refer as FCC KDB 558074, clause 10.3 Method AVGPSD-1 (spectral trace averaging).	
	☐ Refer as FCC KDB 558074, clause 10.4 Method AVGPSD-2 (slow sweep speed)	
	duty cycle < 98% and average over on/off periods with duty factor	
	☐ Refer as FCC KDB 558074, clause 10.5 Method AVGPSD-1 Alt (spectral trace averaging).	
	☐ Refer as FCC KDB 558074, clause 10.6 Method AVGPSD-2 Alt. (slow sweep speed)	
▪ For conducted measurement.		
	▪ If The EUT supports multiple transmit chains using options given below:	
		☒ Option 1: Measure and sum the spectra across the outputs. Refer as FCC KDB 662911, In-band power spectral density (PSD). Sample all transmit ports simultaneously using a spectrum analyzer for each transmit port. Where the trace bin-by-bin of each transmit port summing can be performed. (i.e., in the first spectral bin of output 1 is summed with that in the first spectral bin of output 2 and that from the first spectral bin of output 3, and so on up to the NTX output to obtain the value for the first frequency bin of the summed spectrum.). Add up the amplitude (power) values for the different transmit chains and use this as the new data trace.
		☐ Option 2: Measure and sum spectral maxima across the outputs. With this technique, spectra are measured at each output of the device at the required resolution bandwidth. The maximum value (peak) of each spectrum is determined. These maximum values are then summed mathematically in linear power units across the outputs. These operations shall be performed separately over frequency spans that have different out-of-band or spurious emission limits,
		☐ Option 3: Measure and add 10 log(N) dB, where N is the number of transmit chains. Refer as FCC KDB 662911, In-band power spectral density (PSD). Performed at each transmit chains and each transmit chains shall be compared with the limit have been reduced with 10 log(N). Or each transmit chains shall be add 10 log(N) to compared with the limit.

3.4.4 Test Setup

Power Spectral Density


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.	

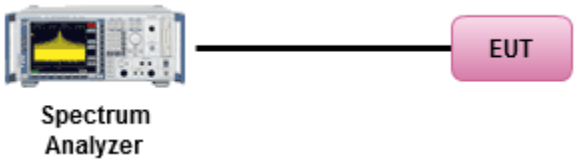
3.5.2 Measuring Instruments

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

3.5.3 Test Procedures

Test Method
▪ Refer as FCC KDB 558074, clause 11 for unwanted emissions into non-restricted bands.

3.5.4 Test Setup

Emissions in Non-restricted Frequency Bands


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 below30 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.

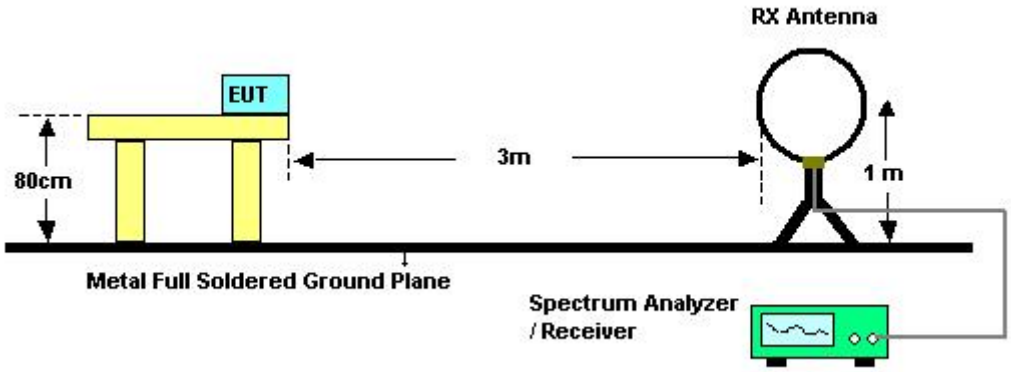
3.6.3 Test Procedures

Test Method		
▪ The average emission levels shall be measured in [duty cycle ≥ 98 or duty factor].		
▪ Refer as ANSI C63.10, clause 6.9.2.2 band-edge testing shall be performed at the lowest frequency channel and highest frequency channel within the allowed operating band.		
▪ For the transmitter unwanted emissions shall be measured using following options below:		
	▪ Refer as FCC KDB 558074, clause 12 for unwanted emissions into restricted bands.	
		☐ Refer as FCC KDB 558074, clause 12.2.5.1 Option 1 (trace averaging for duty cycle ≥98%)
		☐ Refer as FCC KDB 558074, clause 12.2.5.2 Option 2 (trace averaging + duty factor).
		☒ Refer as FCC KDB 558074, clause 12.2.5.3 Option 3 (Reduced VBW≥1/T).
		☐ Refer as ANSI C63.10, clause 4.2.3.2.3 (Reduced VBW). VBW ≥ 1/T, where T is pulse time.
		☐ Refer as ANSI C63.10, clause 4.2.3.2.4 average value of pulsed emissions.
		☒ Refer as FCC 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 FCC 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 FCC KDB 558074, clause 13.2 (ANSI C63.10, clause 6.9.3) for marker-delta method for band-edge measurements.	
	▪ Refer as FCC 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 FCC 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 FCC KDB 662911 The methodology described here may overestimate array gain, thereby resulting in apparent failures to satisfy the out-of-band limits even if the device is actually compliant. In such cases, compliance may be demonstrated by performing radiated tests around the frequencies at which the apparent failures occurred.	

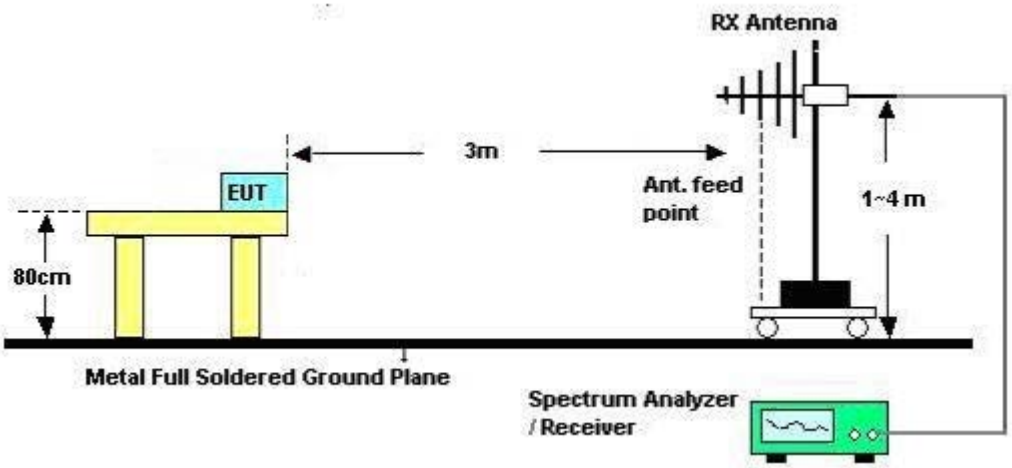
3.6.4 Test Setup

Transmitter Radiated Emissions

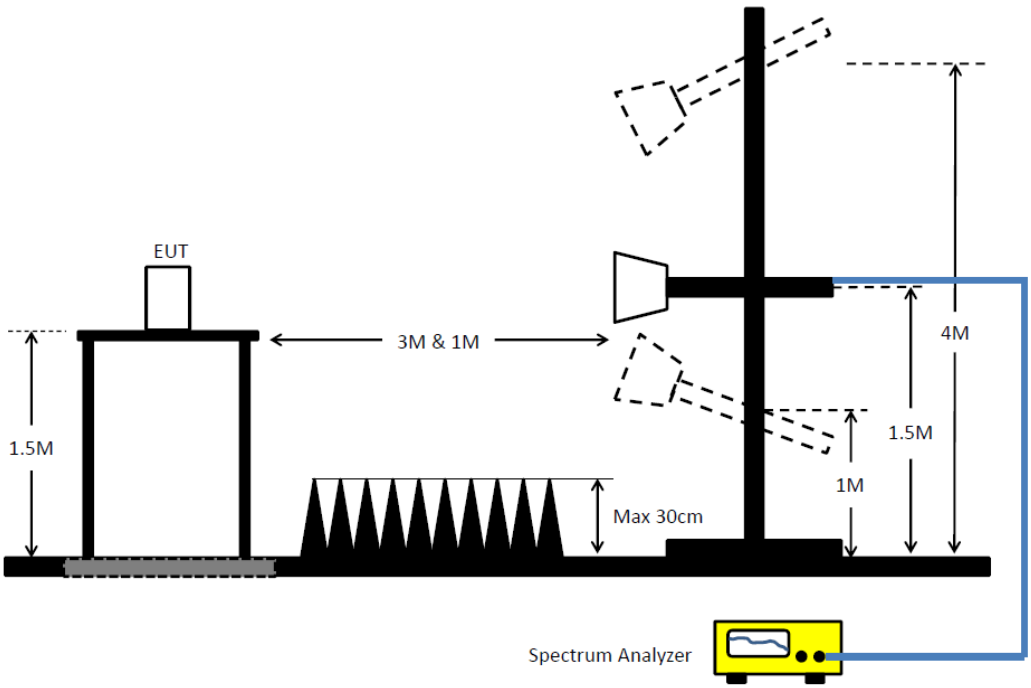
9kHz ~30MHz



30MHz~1GHz



Above 1GHz



3.6.5 Transmitter Radiated Unwanted Emissions (Below 30MHz)

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

3.6.6 Transmitter Radiated Unwanted Emissions

Refer as Appendix F

4 Test Equipment and Calibration Data

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
EMI Receiver	Agilent	N9038A	My52260123	9kHz ~ 8.45GHz	Jan. 23, 2017	Conduction (CO01-CB)
LISN	F.C.C.	FCC-LISN-50-16-2	04083	150kHz ~ 100MHz	Dec. 14, 2016	Conduction (CO01-CB)
LISN	Schwarzbeck	NSLK 8127	8127647	9kHz ~ 30MHz	Dec. 21, 2016	Conduction (CO01-CB)
COND Cable	Woken	Cable	01	150kHz ~ 30MHz	May 24, 2016	Conduction (CO01-CB)
Software	Audix	E3	6.120210n	-	N.C.R.	Conduction (CO01-CB)
BILOG ANTENNA with 6dB Attenuator	TESEQ & EMCI	CBL6112D & N-6-06	37880 & AT-N0609	20MHz ~ 2GHz	Aug. 30, 2016	Radiation (03CH01-CB)
Loop Antenna	Teseq	HLA 6120	24155	9kHz - 30 MHz	Mar. 16, 2016*	Radiation (03CH01-CB)
Horn Antenna	EMCO	3115	00075790	750MHz ~ 18GHz	Nov. 10, 2016	Radiation (03CH01-CB)
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Jul. 25, 2016	Radiation (03CH01-CB)
Pre-Amplifier	Agilent	8447D	2944A10991	0.1MHz ~ 1.3GHz	Mar. 13, 2017	Radiation (03CH01-CB)
Pre-Amplifier	Agilent	8449B	3008A02310	1GHz ~ 26.5GHz	Jan. 16, 2017	Radiation (03CH01-CB)
Pre-Amplifier	MITEQ	TTA1840-35-HG	1864479	18GHz ~ 40GHz	Jun. 28, 2016	Radiation (03CH01-CB)
Spectrum Analyzer	R&S	FSP40	100056	9kHz ~ 40GHz	Nov. 22, 2016	Radiation (03CH01-CB)
EMI Test	R&S	ESCS	100355	9kHz ~ 2.75GHz	May 16, 2016	Radiation (03CH01-CB)
RF Cable-low	Woken	Low Cable-16+17	N/A	30 MHz ~ 1 GHz	Oct. 24, 2016	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-16	N/A	1 GHz ~ 18 GHz	Oct. 24, 2016	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-16+17	N/A	1 GHz ~ 18 GHz	Oct. 24, 2016	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-40G#1	N/A	18GHz ~ 40 GHz	Oct. 24, 2016	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-40G#2	N/A	18GHz ~ 40 GHz	Oct. 24, 2016	Radiation (03CH01-CB)
Test Software	Audix	E3	6.2009-l0-7	N/A	N/A	Radiation (03CH01-CB)
Spectrum analyzer	R&S	FSV40	100979	9kHz~40GHz	Dec. 26, 2016	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-6	1 GHz – 26.5 GHz	Oct. 24, 2016	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-7	1 GHz –26.5 GHz	Oct. 24, 2016	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-8	1 GHz –26.5 GHz	Oct. 24, 2016	Conducted (TH01-CB)

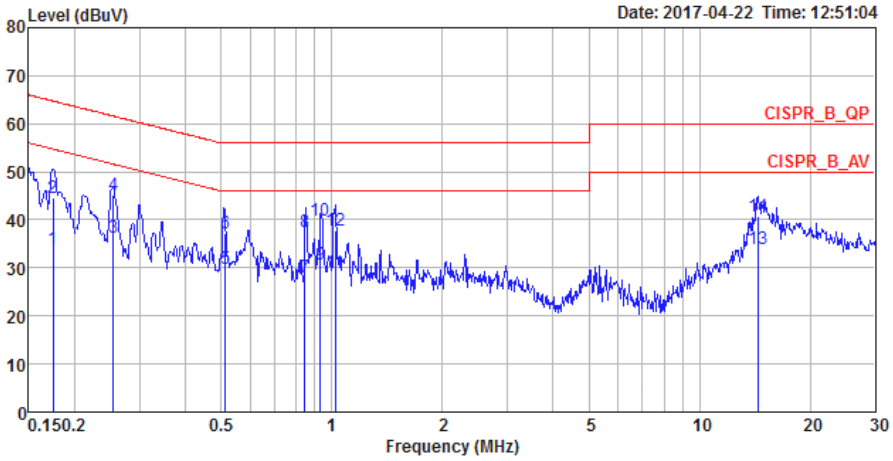
Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
RF Cable-high	Woken	RG402	High Cable-9	1 GHz –26.5 GHz	Oct. 24, 2016	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-10	1 GHz –26.5 GHz	Oct. 24, 2016	Conducted (TH01-CB)
Power Sensor	Agilent	U2021XA	MY53410001	50MHz~18GHz	Nov. 22, 2016	Conducted (TH01-CB)

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

"*" Calibration Interval of instruments listed above is two years.

N.C.R. means Non-Calibration required.

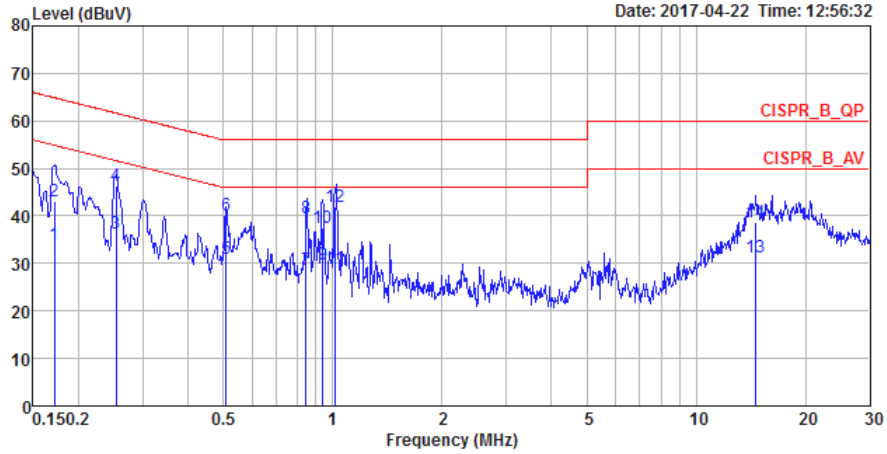
AC Power-line Conducted Emissions Result			
Operating Mode	1	**Power Phase**	Neutral
Operating Function	Normal Link		



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark	Pol/Phase
	MHz	dBuV	dB	dBuV	dBuV	dB	dB		
1	0.1749	33.95	-20.77	54.72	23.76	10.01	0.18	Average	NEUTRAL
2	0.1749	44.62	-20.10	64.72	34.43	10.01	0.18	QP	NEUTRAL
3	0.2547	36.29	-15.31	51.60	26.08	10.08	0.13	Average	NEUTRAL
4	0.2547	45.23	-16.37	61.60	35.02	10.08	0.13	QP	NEUTRAL
5	0.5128	29.84	-16.16	46.00	19.42	10.22	0.20	Average	NEUTRAL
6	0.5128	37.28	-18.72	56.00	26.86	10.22	0.20	QP	NEUTRAL
7	0.8449	28.16	-17.84	46.00	17.46	10.10	0.60	Average	NEUTRAL
8	0.8449	37.62	-18.38	56.00	26.92	10.10	0.60	QP	NEUTRAL
9	0.9331	30.80	-15.20	46.00	20.05	10.07	0.68	Average	NEUTRAL
10	0.9331	39.84	-16.16	56.00	29.09	10.07	0.68	QP	NEUTRAL
11	1.0211	28.94	-17.06	46.00	18.17	10.05	0.72	Average	NEUTRAL
12	1.0211	37.86	-18.14	56.00	27.09	10.05	0.72	QP	NEUTRAL
13	14.4623	33.96	-16.04	50.00	23.49	10.26	0.21	Average	NEUTRAL
14	14.4623	40.71	-19.29	60.00	30.24	10.26	0.21	QP	NEUTRAL

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	Normal Link		



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark	Pol/Phase
	MHz	dBuV	dB	dBuV	dBuV	dB	dB		
1	0.1712	33.83	-21.07	54.90	23.66	10.00	0.17	Average	LINE
2	0.1712	43.12	-21.78	64.90	32.95	10.00	0.17	QP	LINE
3	0.2534	36.44	-15.21	51.65	26.39	9.92	0.13	Average	LINE
4	0.2534	46.20	-15.45	61.65	36.15	9.92	0.13	QP	LINE
5	0.5101	30.86	-15.14	46.00	20.71	9.95	0.20	Average	LINE
6	0.5101	40.01	-15.99	56.00	29.86	9.95	0.20	QP	LINE
7	0.8461	28.51	-17.49	46.00	17.95	9.96	0.60	Average	LINE
8	0.8461	39.70	-16.30	56.00	29.14	9.96	0.60	QP	LINE
9	0.9381	29.78	-16.22	46.00	19.13	9.96	0.69	Average	LINE
10	0.9381	37.49	-18.51	56.00	26.84	9.96	0.69	QP	LINE
11	1.0170	28.81	-17.19	46.00	18.13	9.96	0.72	Average	LINE
12	1.0170	41.99	-14.01	56.00	31.31	9.96	0.72	QP	LINE
13	14.6011	31.36	-18.64	50.00	20.92	10.23	0.21	Average	LINE
14	14.6011	38.80	-21.20	60.00	28.36	10.23	0.21	QP	LINE

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)
BT-LE_Nss1_1TX	-	-	-	-	-
2.4-2.4835GHz	716.25k	1.053M	1M05F1D	715k	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;

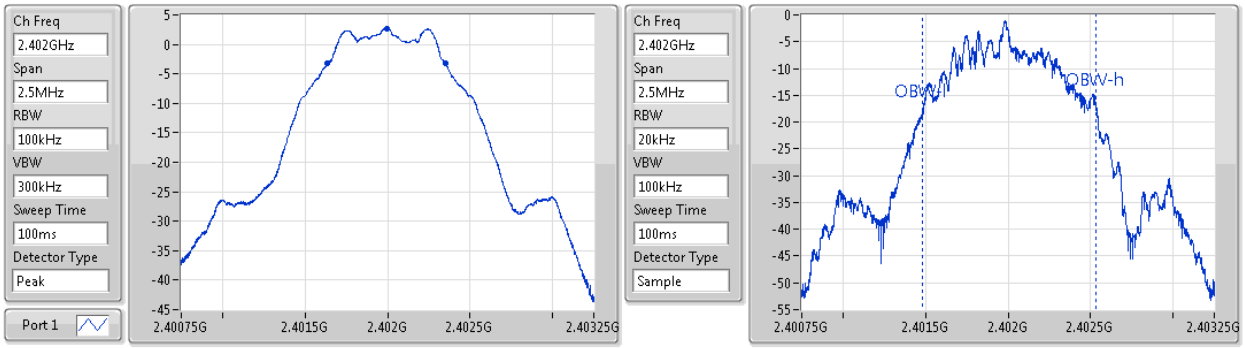
Result

Mode	Result	Limit (Hz)	Port 1-N dB (Hz)	Port 1-OBW (Hz)
BT-LE_Nss1_1TX	-	-	-	-
2402MHz	Pass	500k	715k	1.051M
2440MHz	Pass	500k	716.25k	1.053M
2480MHz	Pass	500k	715k	1.053M

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

BT-LE_Nss1_1TX **EBW**

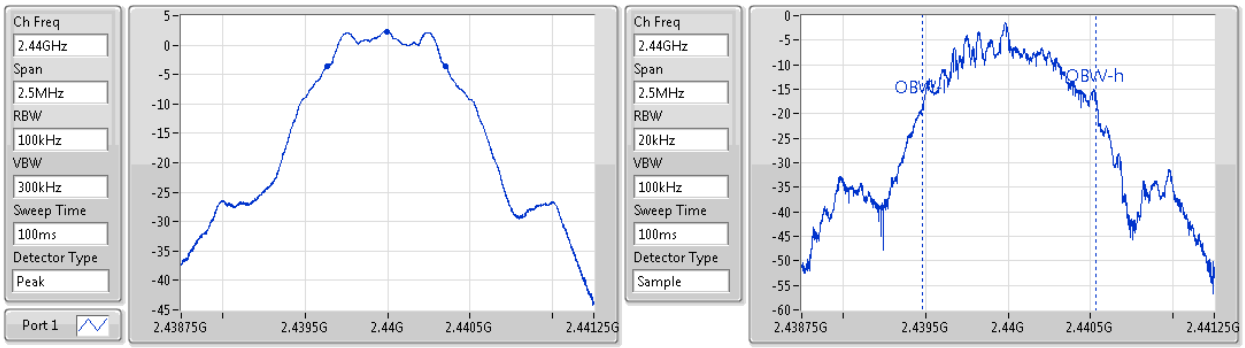
2402MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
715k	2.401638G	2.402353G	1.051M	2.401479G	2.40253G	500k	1

BT-LE_Nss1_1TX **EBW**

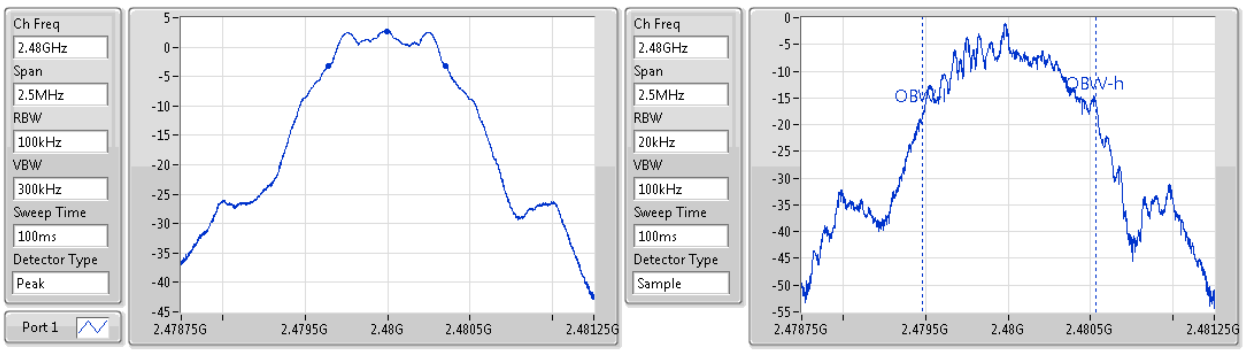
2440MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
716.25k	2.439634G	2.44035G	1.053M	2.439478G	2.440531G	500k	1

BT-LE_Nss1_1TX **EBW**

2480MHz



6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
715k	2.479639G	2.480354G	1.053M	2.47948G	2.480533G	500k	1

Summary

Mode	Total Power (dBm)	Total Power (W)
BT-LE_Nss1_1TX	-	-
2.4-2.4835GHz	4.93	0.00311

Result

Mode	Result	DG (dBi)	Port 1 (dBm)	Total Power (dBm)	Power Limit (dBm)
BT-LE_Nss1_1TX	-	-	-	-	-
2402MHz	Pass	1.80	4.93	4.93	30.00
2440MHz	Pass	1.80	4.39	4.39	30.00
2480MHz	Pass	1.80	4.81	4.81	30.00

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

Summary

Mode	PD (dBm/RBW)
BT-LE_Nss1_1TX	-
2.4-2.4835GHz	-10.56

RBW=3kHz.

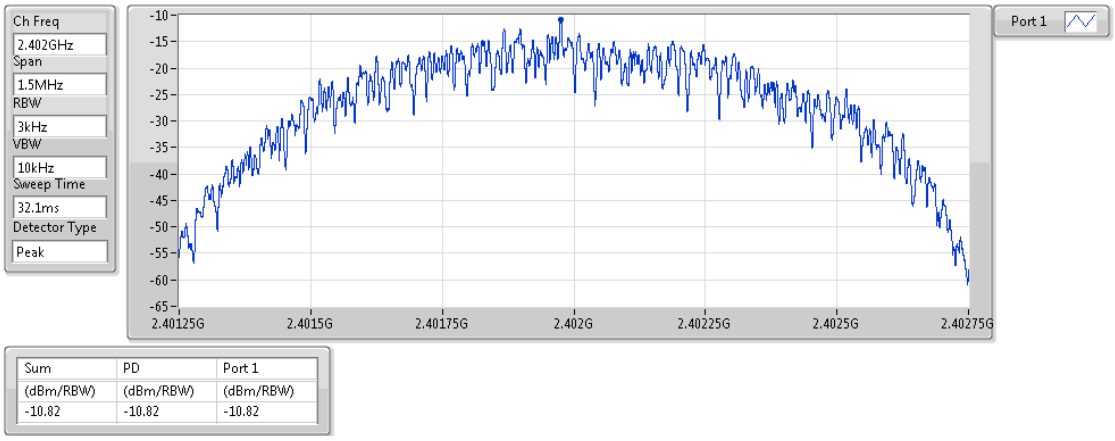
Result

Mode	Result	DG (dBi)	Port 1 (dBm/RBW)	PD (dBm/RBW)	PD Limit (dBm/RBW)
BT-LE_Nss1_1TX	-	-	-	-	-
2402MHz	Pass	1.80	-10.82	-10.82	8.00
2440MHz	Pass	1.80	-10.90	-10.90	8.00
2480MHz	Pass	1.80	-10.56	-10.56	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;

BT-LE_Nss1_1TX **PSD**

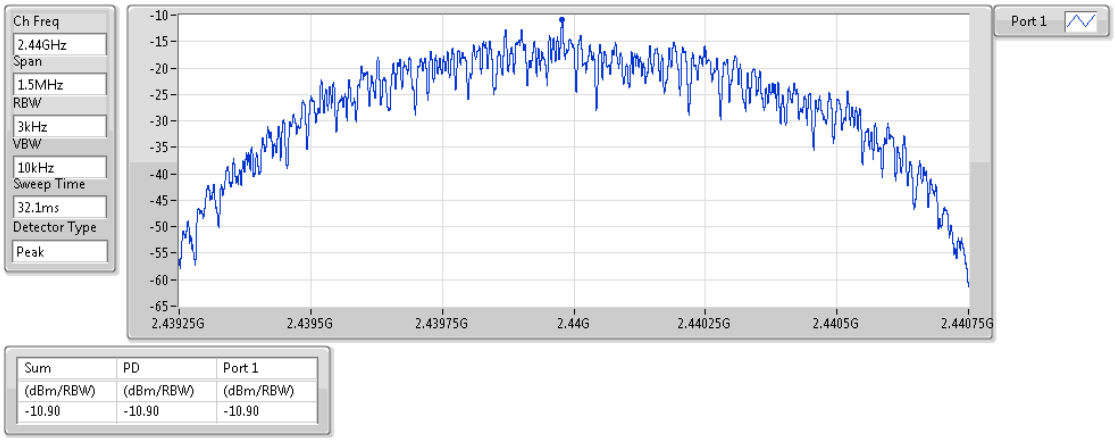
2402MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-10.82	-10.82	-10.82

BT-LE_Nss1_1TX **PSD**

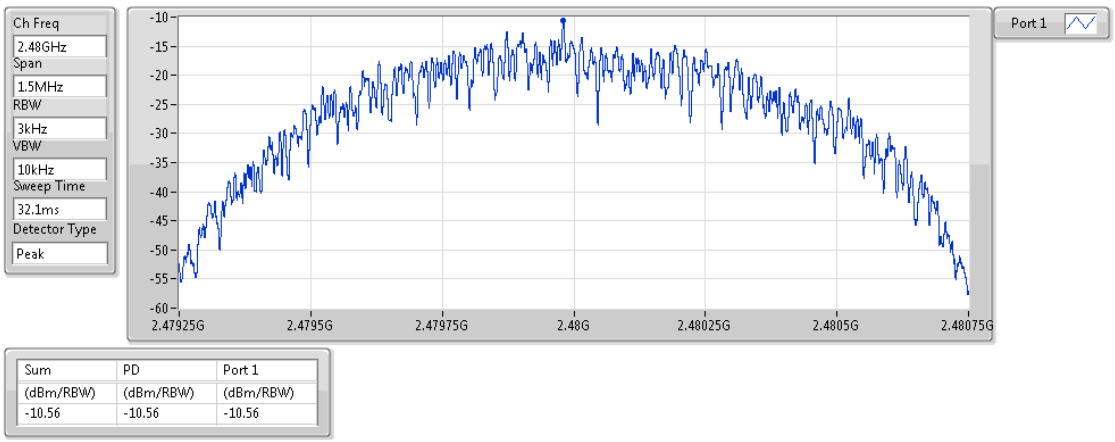
2440MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-10.90	-10.90	-10.90

BT-LE_Nss1_1TX **PSD**

2480MHz



Sum	PD	Port 1
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-10.56	-10.56	-10.56

Summary

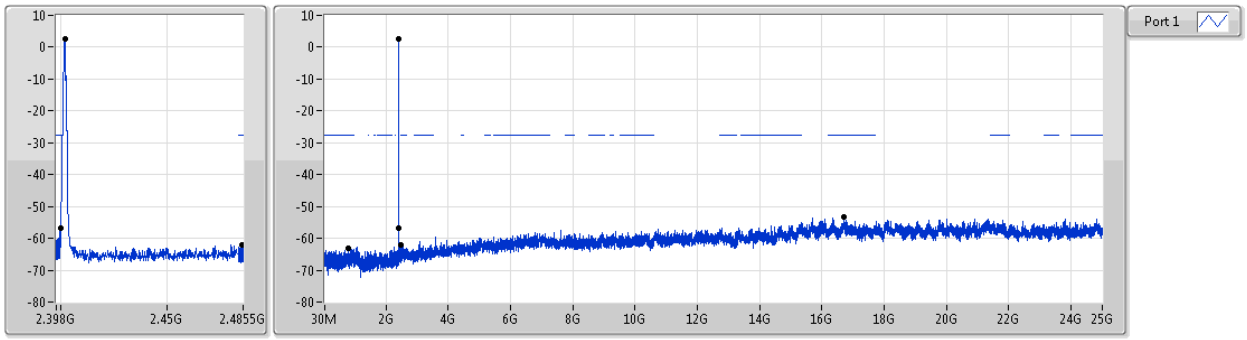
Mode	Result	Ref (Hz)	Ref (dBm)	Limit (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Freq (Hz)	Level (dBm)	Port
BT-LE_Nss1_1TX	-	-	-	-	-	-	-	-	-	-	-	-	-
2.4-2.4835GHz	Pass	2.402004G	2.47	-27.53	773.552M	-63.29	2.39998G	-56.74	2.485096G	-61.94	16.71185G	-53.35	1

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_Nss1_1TX	-	-	-	-	-	-	-	-	-	-	-	-	-
2402MHz	Pass	2.402004G	2.47	-27.53	773.552M	-63.29	2.39998G	-56.74	2.485096G	-61.94	16.71185G	-53.35	1
2440MHz	Pass	2.440247G	2.47	-27.53	711.984M	-60.85	2.3998G	-62.98	2.483608G	-62.14	16.725921G	-53.56	1
2480MHz	Pass	2.479993G	2.47	-27.53	1.967024G	-62.02	2.399944G	-62.18	2.483912G	-60.88	15.000748G	-53.87	1

BT-LE_Nss1_1TX **CSE NdB**

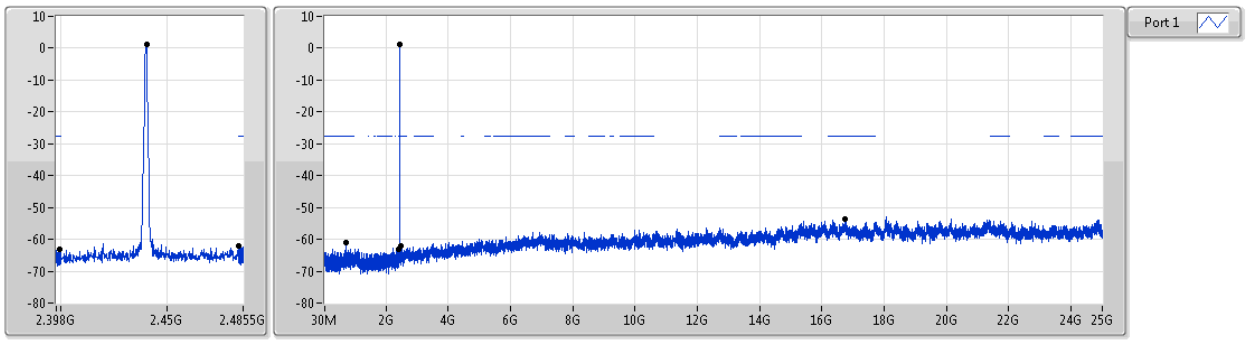
2402MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.402004G	2.47	-27.53	773.552M	-63.29	2.39998G	-56.74	2.485096G	-61.94	16.71185G	-53.35	1

BT-LE_Nss1_1TX **CSE NdB**

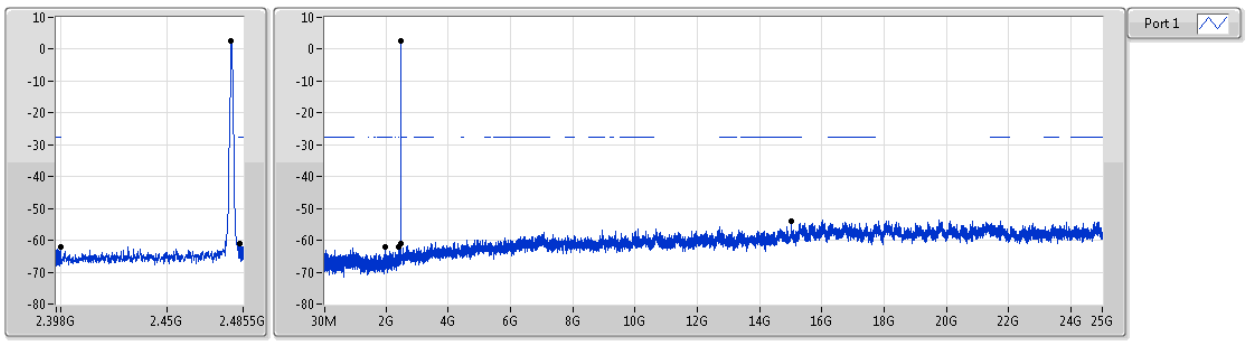
2440MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.440247G	2.47	-27.53	711.984M	-60.85	2.3998G	-62.98	2.483608G	-62.14	16.725921G	-53.56	1

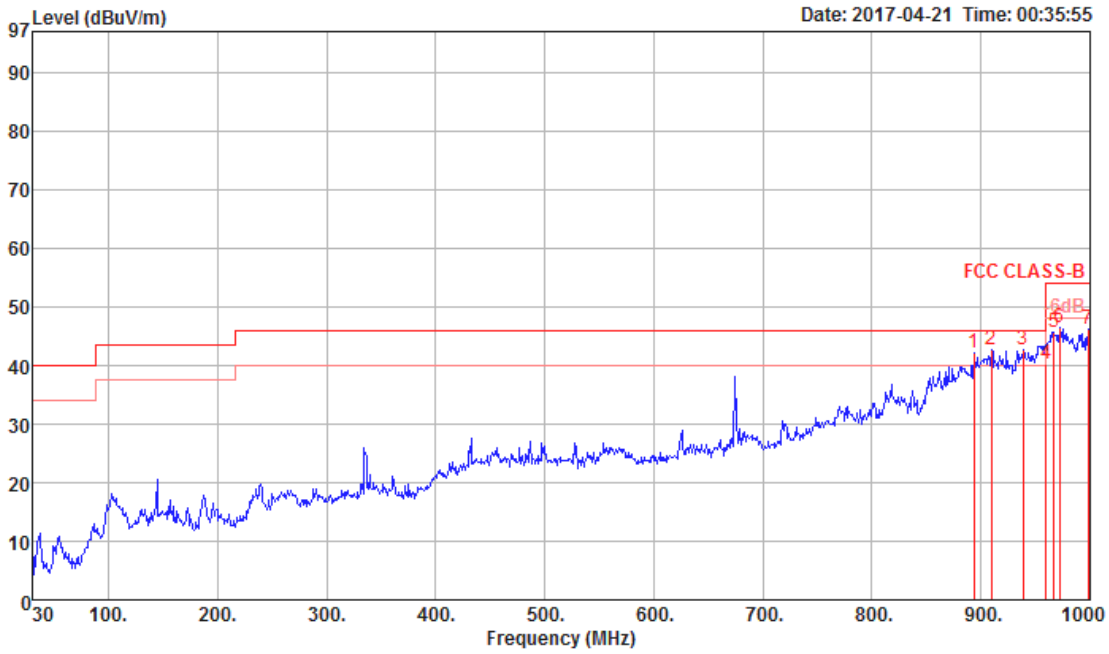
BT-LE_Nss1_1TX **CSE NdB**

2480MHz



Ref(Hz)	Ref(dBm)	Limit(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Freq(Hz)	Level(dBm)	Port
2.479993G	2.47	-27.53	1.967024G	-62.02	2.399944G	-62.18	2.483912G	-60.88	15.000748G	-53.87	1

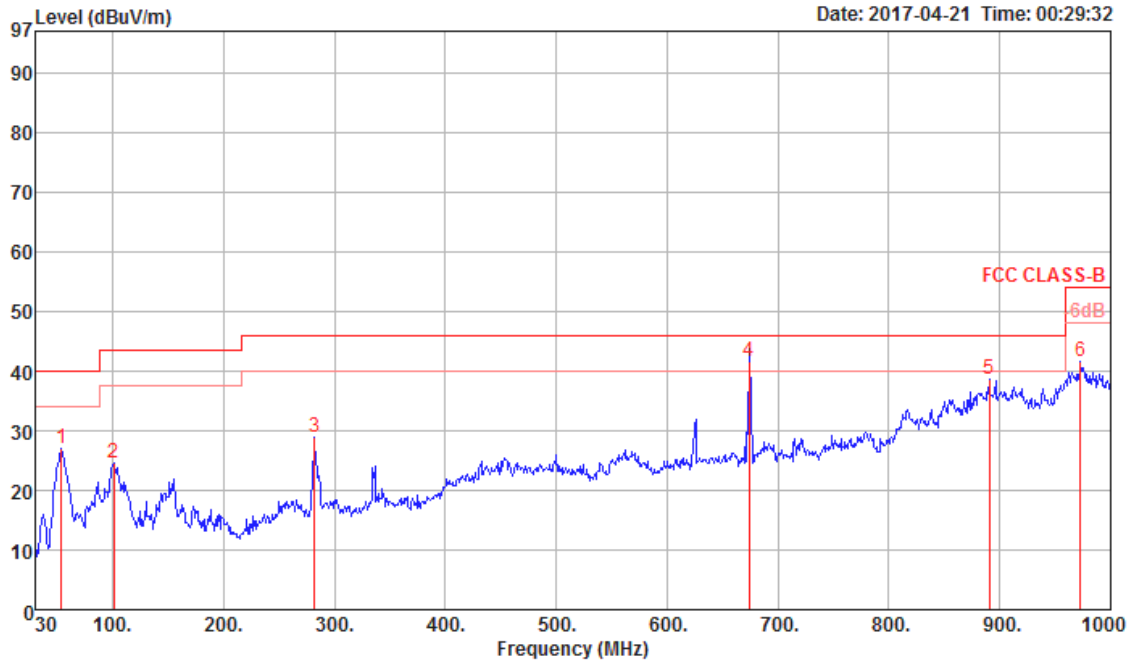
RSE below 1GHz Result			
Operating Mode	1	**Polarization**	Horizontal
Operating Function	Normal Link		



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	893.30	42.19	46.00	-3.81	45.36	4.53	26.43	28.83	100	0	Peak	HORIZONTAL
2	909.79	42.58	46.00	-3.42	45.32	4.57	26.48	28.79	100	0	Peak	HORIZONTAL
3	938.89	42.82	46.00	-3.18	46.19	4.64	26.68	28.69	100	0	Peak	HORIZONTAL
4	960.00	40.35	46.00	-5.65	42.32	4.70	26.97	28.64	122	35	QP	HORIZONTAL
5	967.02	45.68	54.00	-8.32	45.54	4.73	27.03	28.62	100	0	Peak	HORIZONTAL
6	971.87	46.50	54.00	-7.50	46.50	4.75	27.10	28.60	100	0	Peak	HORIZONTAL
7	998.06	46.20	54.00	-7.80	47.71	4.83	27.18	28.52	100	0	Peak	HORIZONTAL

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.)

RSE below 1GHz Result			
Operating Mode	1	**Polarization**	Vertical
Operating Function	Normal Link		



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	53.28	26.99	40.00	-13.01	51.51	2.17	13.20	28.56	300	0	Peak	VERTICAL
2	100.81	24.66	43.50	-18.84	40.99	2.22	16.66	28.42	300	0	Peak	VERTICAL
3	282.20	28.82	46.00	-17.18	42.31	2.71	18.65	27.85	300	0	Peak	VERTICAL
4	674.08	41.70	46.00	-4.30	47.92	3.94	25.18	29.34	159	258	QP	VERTICAL
5	890.39	38.62	46.00	-7.38	42.51	4.52	26.43	28.84	300	0	Peak	VERTICAL
6	972.84	41.64	54.00	-12.36	41.64	4.75	27.10	28.60	300	0	Peak	VERTICAL

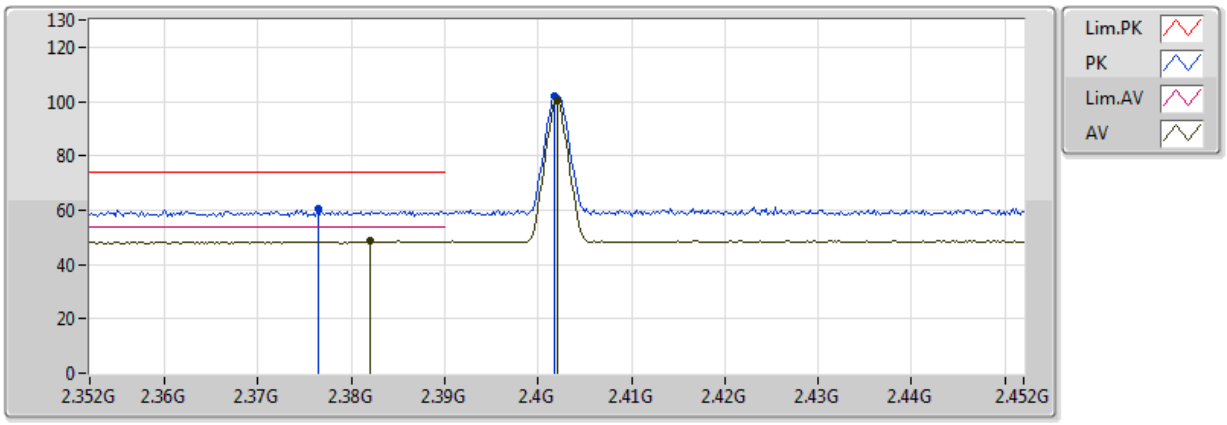
Note 1: “>20dB” means emission levels that exceed the level of 20 dB below the applicable limit.
Note 2: “N/F” means Nothing Found emissions (No emissions were detected.)

Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Pol. (H/V)	Azimuth (°)	Height (m)	Comments
BT-LE_Nss1_1TX	-	-	-	-	-	-	-	-	-	-	-	-
2.4-2.4835GHz	Pass	AV	2.4948G	48.93	54.00	-5.07	32.79	3	V	165	2.02	-

BT-LE_Nss1_1TX

2402MHz_TX

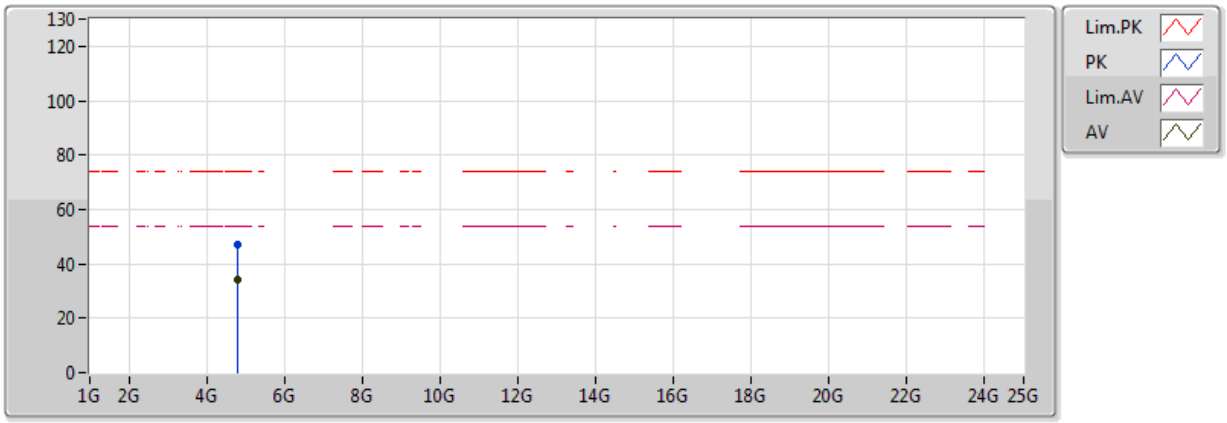


20170327
EUT Z 1TX Non-TXBF
Setting Default
04-M-01

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	2.382G	48.54	54.00	-5.46	32.66	3	V	177	2.99	-
AV	2.402G	100.36	Inf	-Inf	32.67	3	V	177	2.99	-
PK	2.3764G	60.48	74.00	-13.52	32.66	3	V	177	2.99	-
PK	2.4018G	101.79	Inf	-Inf	32.67	3	V	177	2.99	-

BT-LE_Nss1_1TX

2402MHz_TX

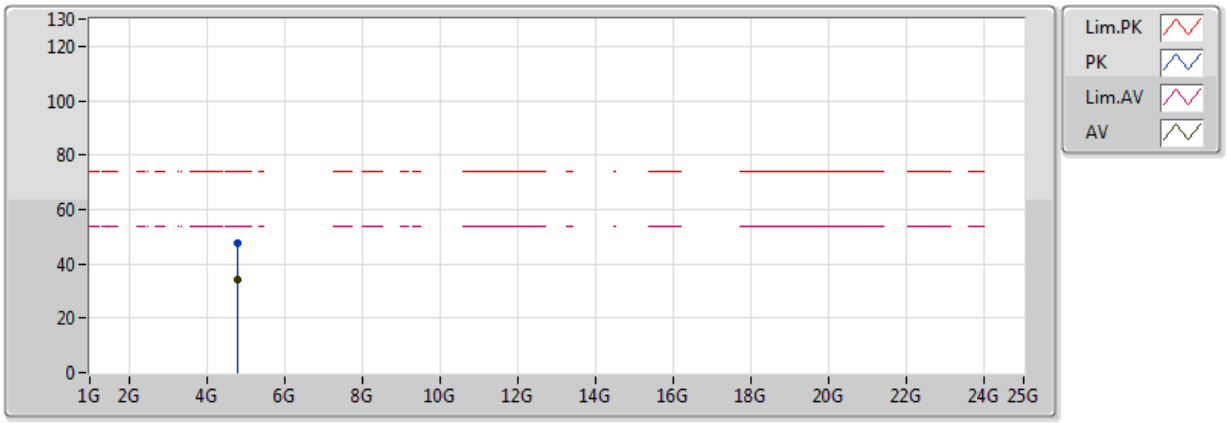


20170327
EUT Z 1TX Non-TXBF
Setting Default
04-M-01

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	4.80356G	34.31	54.00	-19.69	3.64	3	V	230	2.78	-
PK	4.79922G	47.12	74.00	-26.88	3.63	3	V	230	2.78	-

BT-LE_Nss1_1TX

2402MHz_TX

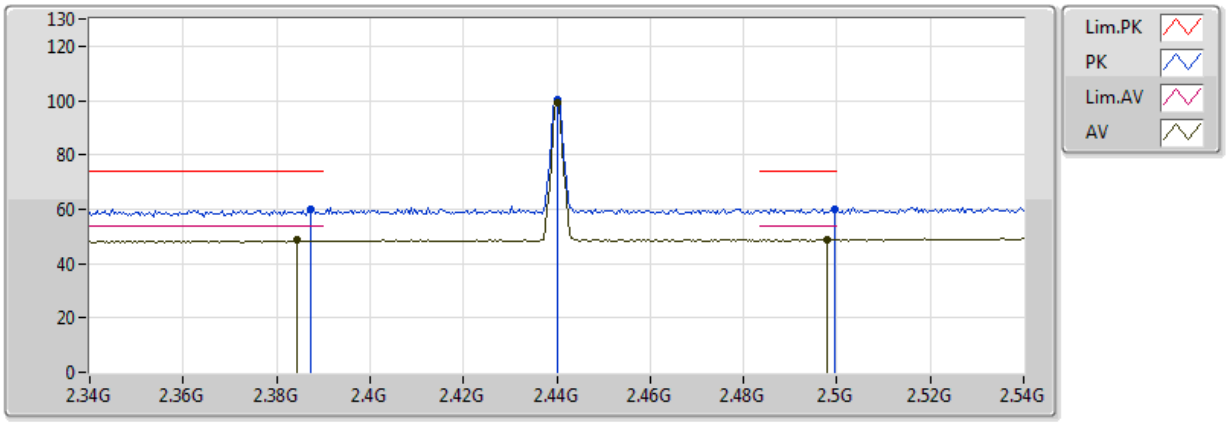


20170327
EUT Z 1TX Non-TXBF
Setting Default
04-M-01

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	4.80686G	34.07	54.00	-19.93	3.65	3	H	151	1.50	-
PK	4.79976G	47.58	74.00	-26.42	3.63	3	H	151	1.50	-

BT-LE_Nss1_1TX

2440MHz_TX

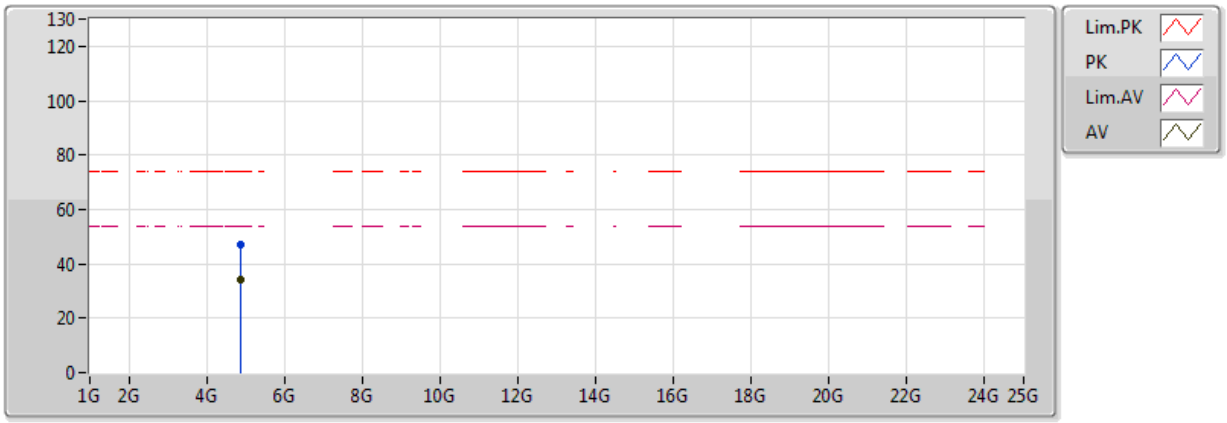


20170327
EUT Z 1TX Non-TXBF
Setting Default
04-M-01

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	2.3844G	48.50	54.00	-5.50	32.67	3	V	214	2.49	-
AV	2.44G	98.94	Inf	-Inf	32.72	3	V	214	2.49	-
AV	2.498G	48.78	54.00	-5.22	32.80	3	V	214	2.49	-
PK	2.3872G	59.89	74.00	-14.11	32.67	3	V	214	2.49	-
PK	2.44G	100.42	Inf	-Inf	32.72	3	V	214	2.49	-
PK	2.4996G	60.22	74.00	-13.78	32.80	3	V	214	2.49	-

BT-LE_Nss1_1TX

2440MHz_TX

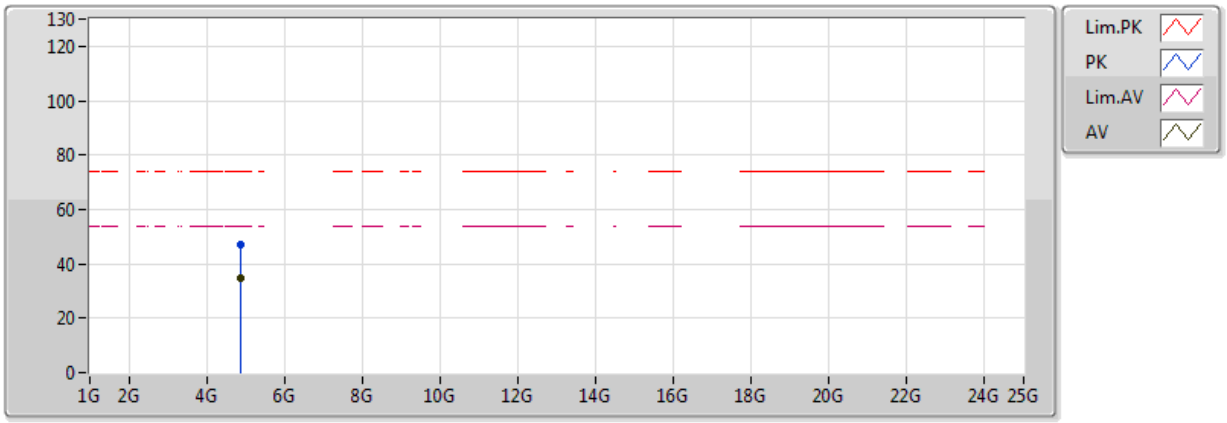


20170327
EUT Z 1TX Non-TXBF
Setting Default
04-M-01

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	4.8798G	34.16	54.00	-19.84	3.85	3	V	65	1.30	-
PK	4.87792G	47.21	74.00	-26.79	3.85	3	V	65	1.30	-

BT-LE_Nss1_1TX

2440MHz_TX

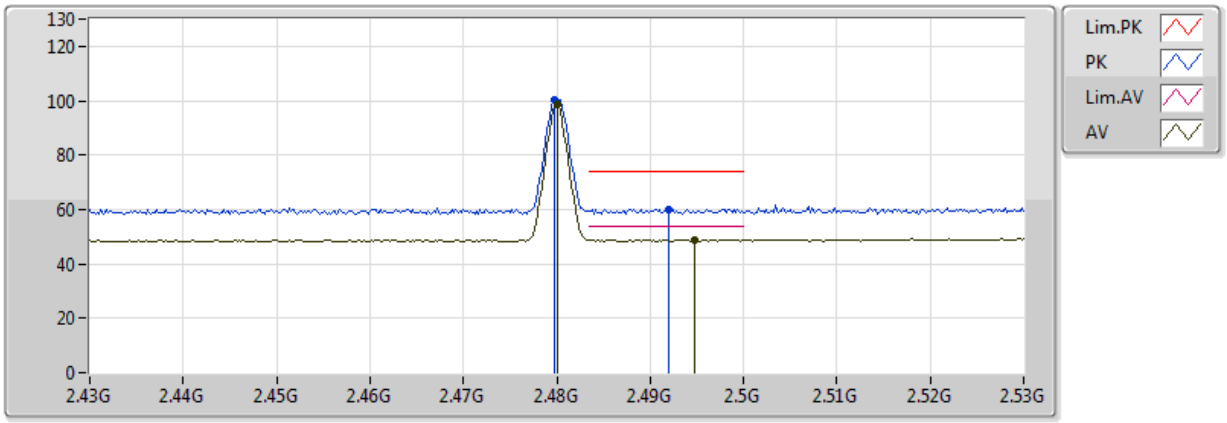


20170327
EUT Z 1TX Non-TXBF
Setting Default
04-M-01

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	4.87956G	34.49	54.00	-19.51	3.85	3	H	354	1.01	-
PK	4.87582G	47.03	74.00	-26.97	3.84	3	H	354	1.01	-

BT-LE_Nss1_1TX

2480MHz_TX

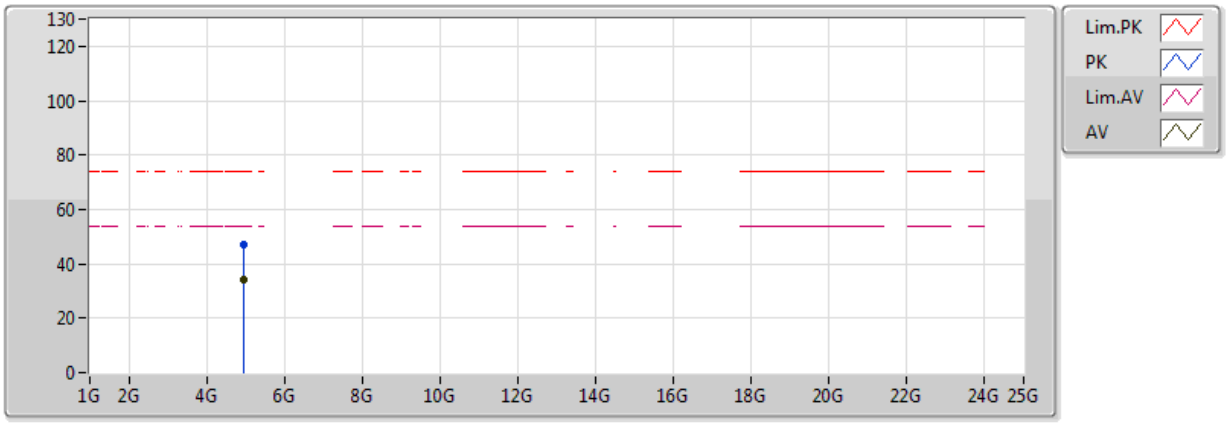


20170327
EUT Z 1TX Non-TXBF
Setting Default
04-M-01

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	2.48G	98.67	Inf	-Inf	32.77	3	V	165	2.02	-
AV	2.4948G	48.93	54.00	-5.07	32.79	3	V	165	2.02	-
PK	2.4798G	100.15	Inf	-Inf	32.77	3	V	165	2.02	-
PK	2.492G	60.20	74.00	-13.80	32.79	3	V	165	2.02	-

BT-LE_Nss1_1TX

2480MHz_TX

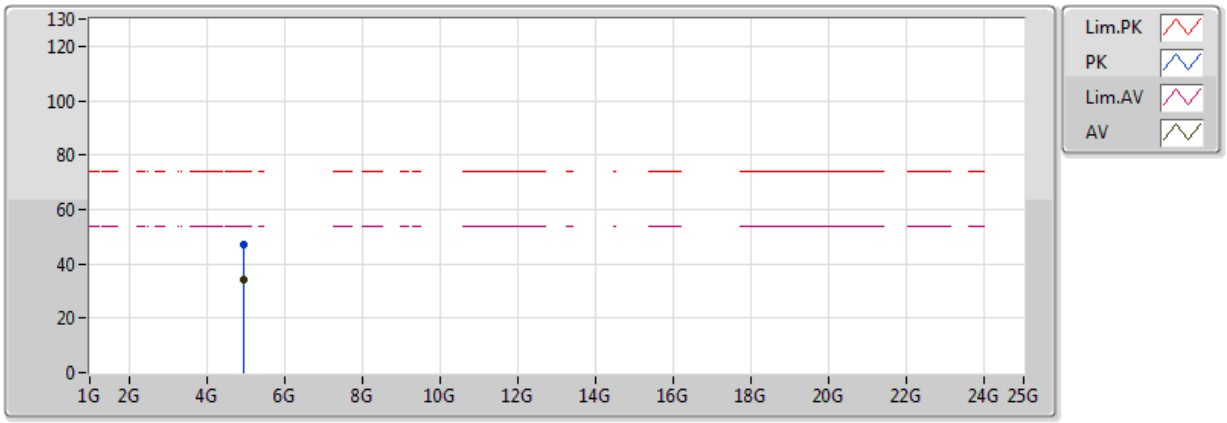


20170327
EUT Z 1TX Non-TXBF
Setting Default
04-M-01

Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	4.95808G	34.36	54.00	-19.64	4.08	3	V	198	2.16	-
PK	4.96142G	47.13	74.00	-26.87	4.09	3	V	198	2.16	-

BT-LE_Nss1_1TX

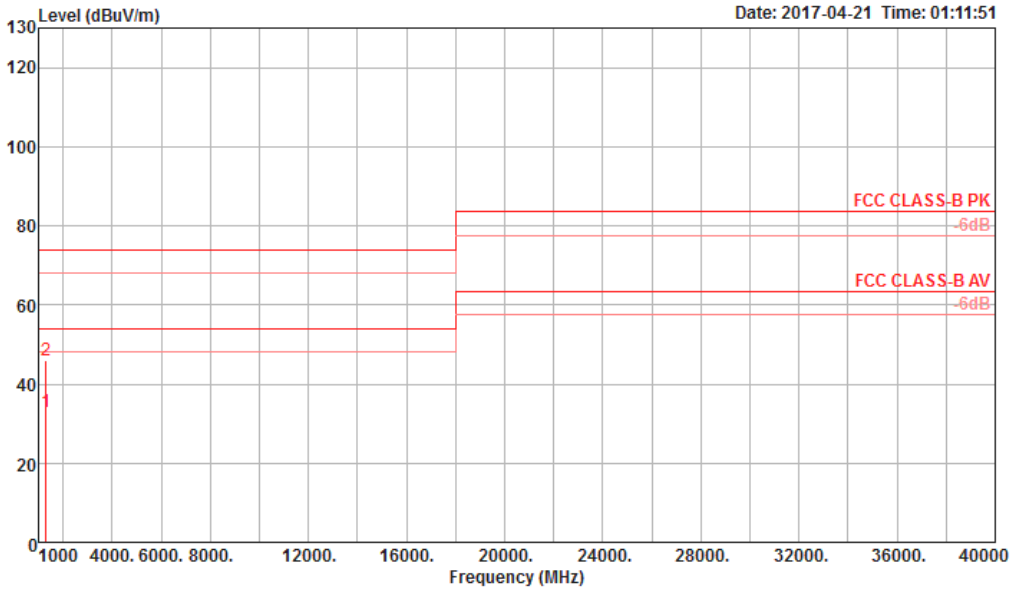
2480MHz_TX



20170327
EUT Z 1TX Non-TXBF
Setting Default
04-M-01

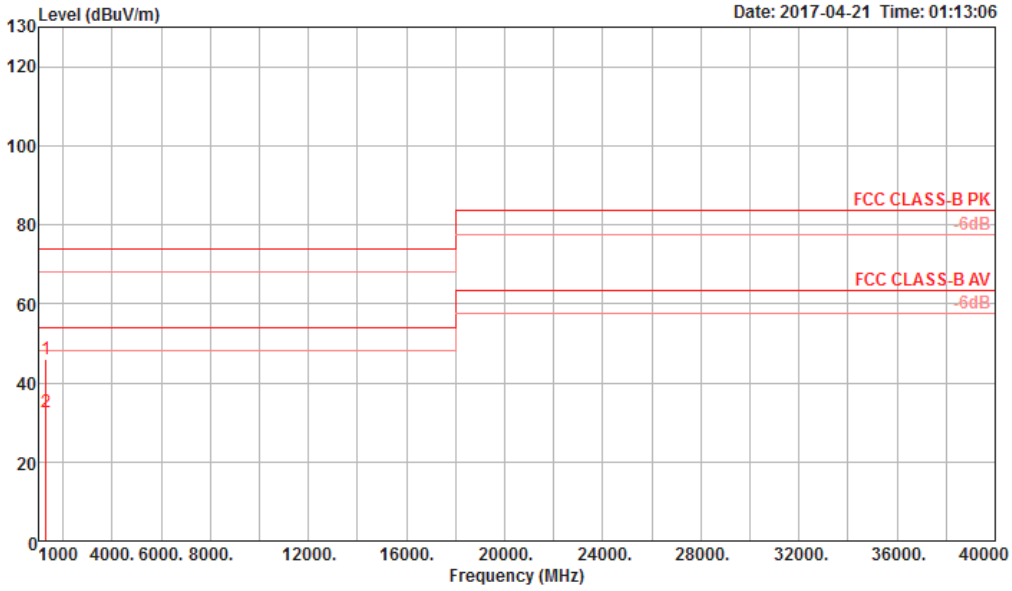
Type	Freq(Hz)	Level(dBuV/m)	Limit(dBuV/m)	Margin(dB)	Factor(dB)	Dist(m)	Pol.(H/V)	Azimuth(°)	Height(m)	Comments
AV	4.96478G	34.27	54.00	-19.73	4.10	3	H	243	1.50	-
PK	4.96388G	47.27	74.00	-26.73	4.10	3	H	243	1.50	-

RSE Co-location Result			
Operating Mode	1	**Polarization**	Horizontal
Operating Function	Normal Link		



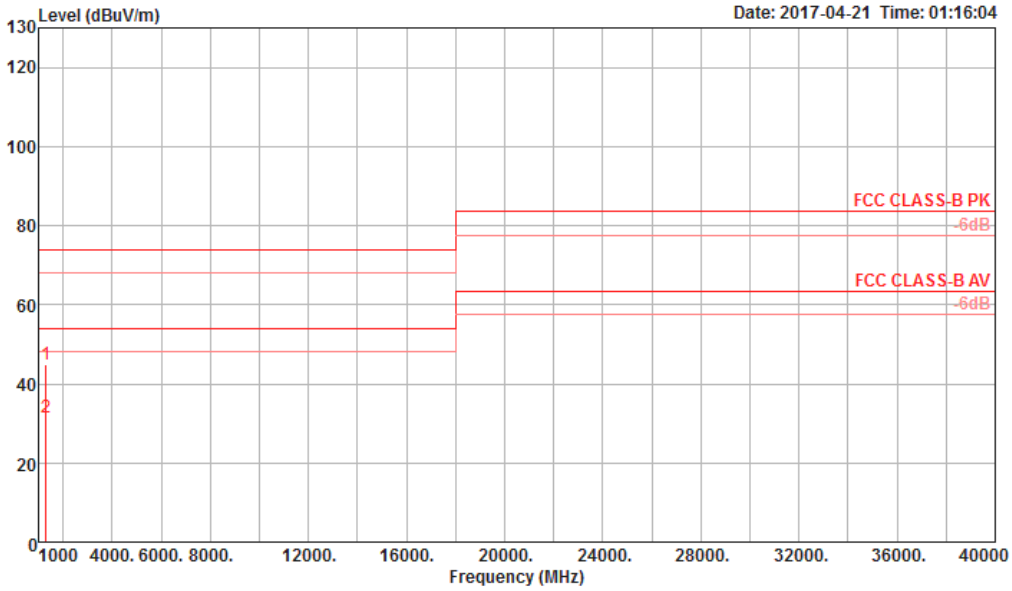
	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	1317.20	32.79	54.00	-21.21	39.37	3.09	24.75	34.42	117	341	Average	HORIZONTAL
2	1317.67	46.02	74.00	-27.98	52.60	3.09	24.75	34.42	117	341	Peak	HORIZONTAL

RSE Co-location Result			
Operating Mode	1	**Polarization**	Vertical
Operating Function	Normal Link		



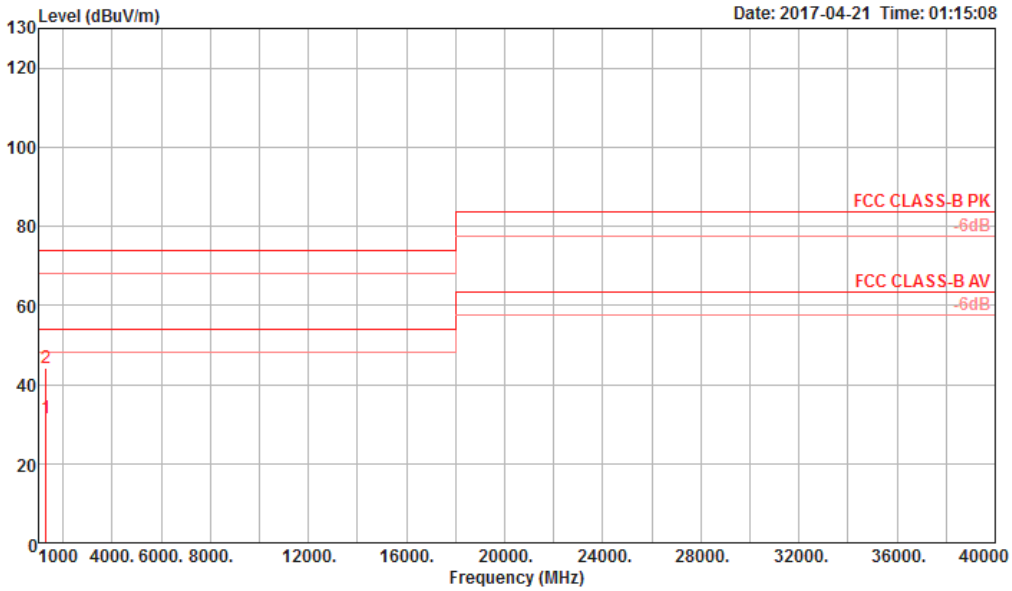
	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	1314.12	45.88	74.00	-28.12	52.45	3.09	24.75	34.41	167	251	Peak	VERTICAL
2	1314.97	32.65	54.00	-21.35	39.23	3.09	24.75	34.42	167	251	Average	VERTICAL

RSE Co-location Result			
Operating Mode	2	**Polarization**	Horizontal
Operating Function	Normal Link		



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	1318.46	44.79	74.00	-29.21	51.36	3.09	24.76	34.42	169	214	Peak	HORIZONTAL
2	1318.95	31.58	54.00	-22.42	38.15	3.09	24.76	34.42	169	214	Average	HORIZONTAL

RSE Co-location Result			
Operating Mode	2	**Polarization**	Vertical
Operating Function	Normal Link		



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	1315.39	31.68	54.00	-22.32	38.26	3.09	24.75	34.42	142	313	Average	VERTICAL
2	1316.41	44.04	74.00	-29.96	50.62	3.09	24.75	34.42	142	313	Peak	VERTICAL