Testing Laboratory 3787

RADIO TEST REPORT

FCC ID	:	2AXJ4X50
Equipment	:	AX3000 Whole Home Mesh Wi-Fi 6 System AX1800 Whole Home Mesh Wi-Fi 6 System
Brand Name	:	tp-link
Model Name	:	Deco W6000、Deco X60、Deco X25、Deco X20
Applicant	:	TP-Link Corporation Limited Room 901, 9/F. , New East Ocean Centre, 9 Science Museum Road, Tsim Sha Tsui, Kowloon, Hong Kong
Manufacturer	:	TP-Link Corporation Limited Room 901, 9/F. , New East Ocean Centre, 9 Science Museum Road, Tsim Sha Tsui, Kowloon, Hong Kong
Standard	:	47 CFR FCC Part 15.247

The product was received on Dec. 23, 2021, and testing was started from Jan. 05, 2022 and completed on Jan. 11, 2022. We, Sporton International Inc. Hsinchu Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013 and shown compliance with the applicable technical standards.

The test results in this variant report apply exclusively to the tested model / sample. Without written approval of Sporton International Inc. Hsinchu Laboratory, the test report shall not be reproduced except in full.

Approved by: Sam Chen

Sporton International Inc. Hsinchu Laboratory
No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County 302010, Taiwan (R.O.C.)

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History of this test report

Report No.	Version	Description	Issued Date
FR171316-01AA	01	Initial issue of report	Feb. 22, 2022

Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
1.1.2	15.203	Antenna Requirement	PASS	-
3.1	15.207	AC Power-line Conducted Emissions	PASS	-
3.2	15.247(d)	Emissions in Restricted Frequency Bands	PASS	-

Declaration of Conformity:
1. The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers. It's means measurement values may risk exceeding the limit of regulation standards, if measurement uncertainty is include in test results. 2. The measurement uncertainty please refer to report "Measurement Uncertainty".
Comments and Explanations:
The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

Reviewed by: Sam Chen
Report Producer: Viola Huang

1 General Description

1.1 Information

1.1.1 RF General Information

Frequency Range (MHz)	IEEE Std. 802.11	Ch. Frequency (MHz)	Channel Number
2400-2483.5	b, g, n (HT20), ax (HEW20)	2412-2462	1-11 [11]
2400-2483.5	n (HT40), ax (HEW40)	2422-2452	3-9 [7]

Band	Mode	BWch (MHz)	Nant
2.4-2.4835GHz	802.11b	20	2TX
2.4-2.4835GHz	802.11g	20	2TX
2.4-2.4835GHz	802.11n HT20	20	2TX
2.4-2.4835GHz	802.11ax HEW20	20	2TX
2.4-2.4835GHz	802.11n HT40	40	2TX
2.4-2.4835GHz	802.11ax HEW40	40	2TX

Note:
- 11b mode uses a combination of DSSS-DBPSK, DQPSK, CCK modulation.
- 11g, HT20 and HT40 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM modulation.
- HEW20, HEW40 use a combination of OFDMA-BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM modulation.
- BWch is the nominal channel bandwidth.

1.1.2 Antenna Information

Ant.	Port	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	
						2.4GHz	5GHz
1	2	tp-link	3101502756	Dipole Antenna	I-PEX	1.93	0.9
2	1	tp-link	3101502757	Dipole Antenna	I-PEX	1.94	0.97

Note: The above information was declared by manufacturer.

<For 2.4GHz Function>

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

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

Port 1 and Port 2 could transmit/receive simultaneously.

<For 5GHz Function>

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

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

Port 1 and Port 2 could transmit/receive simultaneously.

1.1.3 Mode Test Duty Cycle

Mode	DC	DCF(dB)	T(s)	VBW(Hz) ≥ 1/T
802.11b	0.943	0.25	9.995m	300
802.11g	0.939	0.27	1.978m	1k
802.11ax HEW20	0.909	0.41	5.446m	300
802.11ax HEW40	0.905	0.43	5.446m	300

Note:
- DC is Duty Cycle.
- DCF is Duty Cycle Factor.

1.1.4 EUT Operational Condition

EUT Power Type	From Power Adapter			
Beamforming Function	☐	With beamforming	☒	Without beamforming
Function	☒	Point-to-multipoint	☐	Point-to-point
Test Software Version	QSPR Version 5.0-00196			

Note: The above information was declared by manufacturer.

1.1.5 Table for Multiple Listing

EUT	Equipment Name	Model Name	LAN Port	WLAN Function	The color of the top cover on the EUT
1	AX3000 Whole Home Mesh Wi-Fi 6 System	Deco W6000	2	2.4GHz + 5GHz UNII 1 / UNII 2A (160M) / UNII 3	White
-		Deco X60	2		White
2	AX1800 Whole Home Mesh Wi-Fi 6 System	Deco X25	2	2.4GHz + 5GHz UNII 1 / UNII 3	Black
-		Deco X20	2		White

Note 1: From the above models, model: Deco W6000 was selected as representative model for the test and its data was recorded in this report.

Note 2: The above information was declared by manufacturer.

1.1.6 Table for Permissive Change

This product is an extension of original one reported under Sporton project number: FR171316AA.

Below is the table for the change of the product with respect to the original one.

Modifications	Performance Checking
1. Add 4 models “Deco W6000、Deco X60、Deco X25、Deco X20”. The difference with the original model Deco X50 is below:	1. AC Conducted Emissions. 2. Radiated Emissions below 1GHz. 3. Radiated Emissions above 1GHz. (For items 3 after evaluating, the worst case is found at 802.11g CH6 (2437MHz) and retest this channel only and for above 1GHz will be based on original output power to retest)

Equipment Name	Model Name	LAN Port	WLAN Function	The color of the top cover on the EUT
AX3000 Whole Home Mesh Wi-Fi 6 System	Deco X50	3	2.4GHz + 5GHz UNII 1 / UNII 2A (160M) / UNII 3	White
	Deco W6000	2		White
	Deco X60	2		White
AX1800 Whole Home Mesh Wi-Fi 6 System	Deco X25	2	2.4GHz + 5GHz UNII 1 / UNII 3	Black
	Deco X20	2		White

1.1.7 Table for EUT Supports Functions

Function
AP Router
Mesh

Note: After evaluating, there is only AP Router mode was selected to test and record in the report.

1.2 Applicable Standards

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

- 47 CFR FCC Part 15.247
- ANSI C63.10-2013

The following reference test guidance is not within the scope of accreditation of TAF.

- FCC KDB 558074 D01 v05r02
- FCC KDB 662911 D01 v02r01
- FCC KDB 414788 D01 v01r01

1.3 Testing Location Information

Testing Location Information	
Test Lab.：Sporton International Inc. Hsinchu Laboratory	
Hsinchu (TAF: 3787)	ADD: No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County 302010, Taiwan (R.O.C.) TEL: 886-3-656-9065 FAX: 886-3-656-9085 Test site Designation No. TW3787 with FCC. Conformity Assessment Body Identifier (CABID) TW3787 with ISED.

Test Condition	Test Site No.	Test Engineer	Test Environment (°C / %)	Test Date
Radiated below 1GHz	03CH05-CB	Eason Chen	23.5~24.6 / 55~59	Jan. 05, 2022
Radiated above 1GHz	03CH02-CB	Simmon Cheng	24.4~25.5 / 55~58	Jan. 05, 2022~Jan. 06, 2022
AC Conduction	CO01-CB	Peter Wu	22~23 / 60~62	Jan. 11, 2022

1.4 Measurement Uncertainty

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

Test Items	Uncertainty	Remark
Conducted Emission (150kHz ~ 30MHz)	2.0 dB	Confidence levels of 95%
Radiated Emission (9kHz ~ 30MHz)	4.2 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	5.5 dB	Confidence levels of 95%
Radiated Emission (1GHz ~ 18GHz)	4.7 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	4.2 dB	Confidence levels of 95%

2 Test Configuration of EUT

2.1 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 Test Voltage: 120Vac / 60Hz
Operating Mode	Normal Link
1	AP Router mode-EUT 1 + Adapter

The Worst Case Mode for Following Conformance Tests	
Tests Item	Emissions in Restricted Frequency Bands
Test Condition	Radiated measurement If EUT consist of multiple antenna assembly (multiple antenna are used in EUT regardless of spatial multiplexing MIMO configuration), the radiated test should be performed with highest antenna gain of each antenna type.
Operating Mode < 1GHz	Normal Link
1	AP Router mode-EUT 1 in X axis + Adapter
2	AP Router mode-EUT 1 in Y axis + Adapter
3	AP Router mode-EUT 1 in Z axis + Adapter
For operating mode 2 is the worst case and it was record in this test report.	
Operating Mode > 1GHz	CTX
	The EUT was performed at X axis, Y axis and Z axis position for Emissions in Restricted Frequency Bands above 1GHz test, and the worst case was found at Y axis. So the measurement will follow this same test configuration.
1	EUT in Y axis

The Worst Case Mode for Following Conformance Tests	
Tests Item	Simultaneous Transmission Analysis - Co-location RF Exposure Evaluation
Operating Mode	
1	EUT 1-WLAN 2.4GHz + WLAN 5GHz (UNII 1 / UNII 2A (160M) / UNII 3)
2	EUT 2-WLAN 2.4GHz + WLAN 5GHz (5GHz UNII 1 / UNII 3)
Refer to Sporton Test Report No.: FA171316-01 for Co-location RF Exposure Evaluation.	

2.2 EUT Operation during Test

For CTX Mode:

The EUT was programmed to be in continuously transmitting mode.

For Normal Link Mode:

During the test, the EUT operation to normal function.

2.3 Accessories

Accessories			
Equipment Name	**Brand Name**	**Model Name**	**Rating**
Adapter	tp-link	T120150-2B4	Input: 100-240V~50/60Hz, 0.6A Output: 12V, 1.5A

2.4 Support Equipment

For AC Conduction:

Support Equipment				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
A	LAN NB	DELL	E6430	N/A
B	2G NB	DELL	E6430	N/A
C	5G NB	DELL	E6430	N/A
D	Router	ASUS	RP-N53	MSQ-RPN53

For Radiated (below 1GHz):

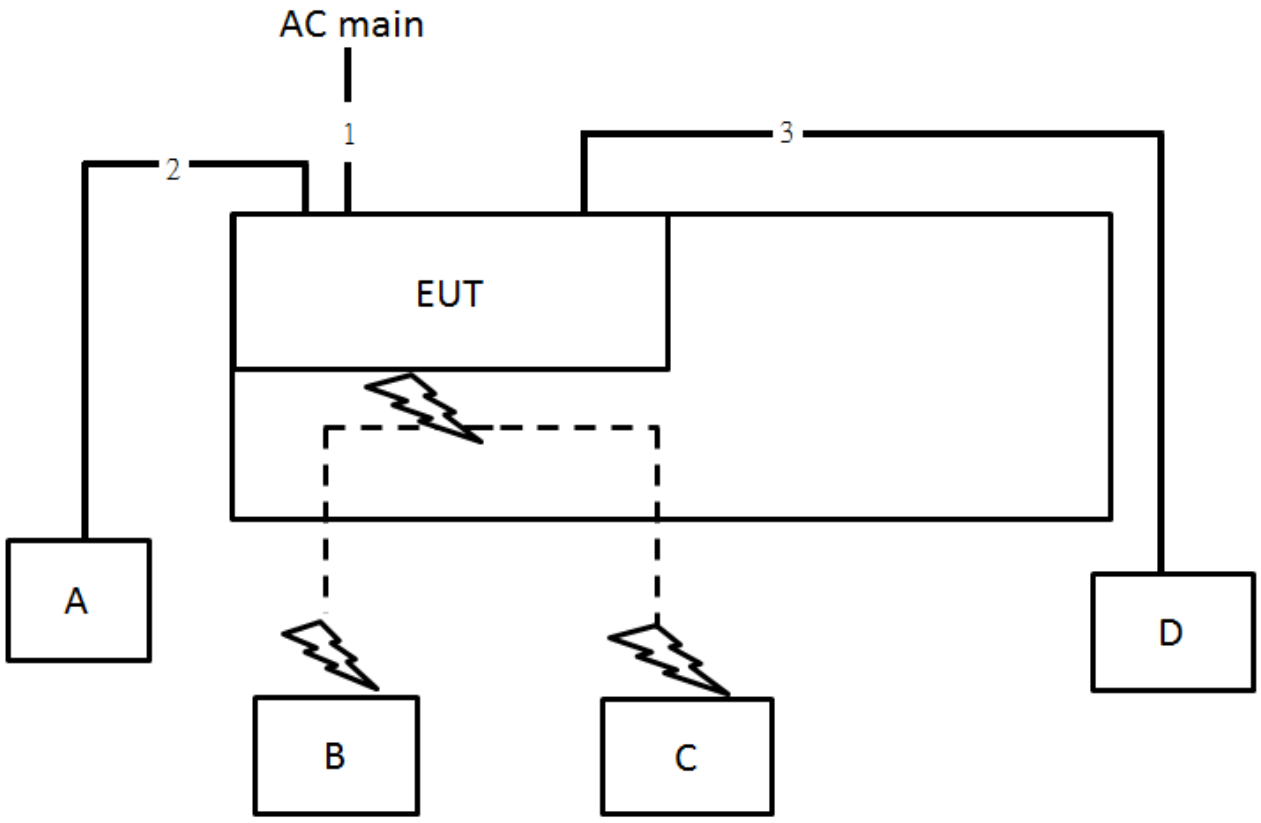
Support Equipment				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
A	(Lan) Notebook	DELL	E4300	N/A
B	(2.4G WiFi) Notebook	DELL	E4300	N/A
C	(5G WiFi) Notebook	DELL	E4300	N/A
D	WLAN AP	Netgear	R8000	N/A

For Radiated (above 1GHz):

Support Equipment				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
A	NB	DELL	E4300	N/A

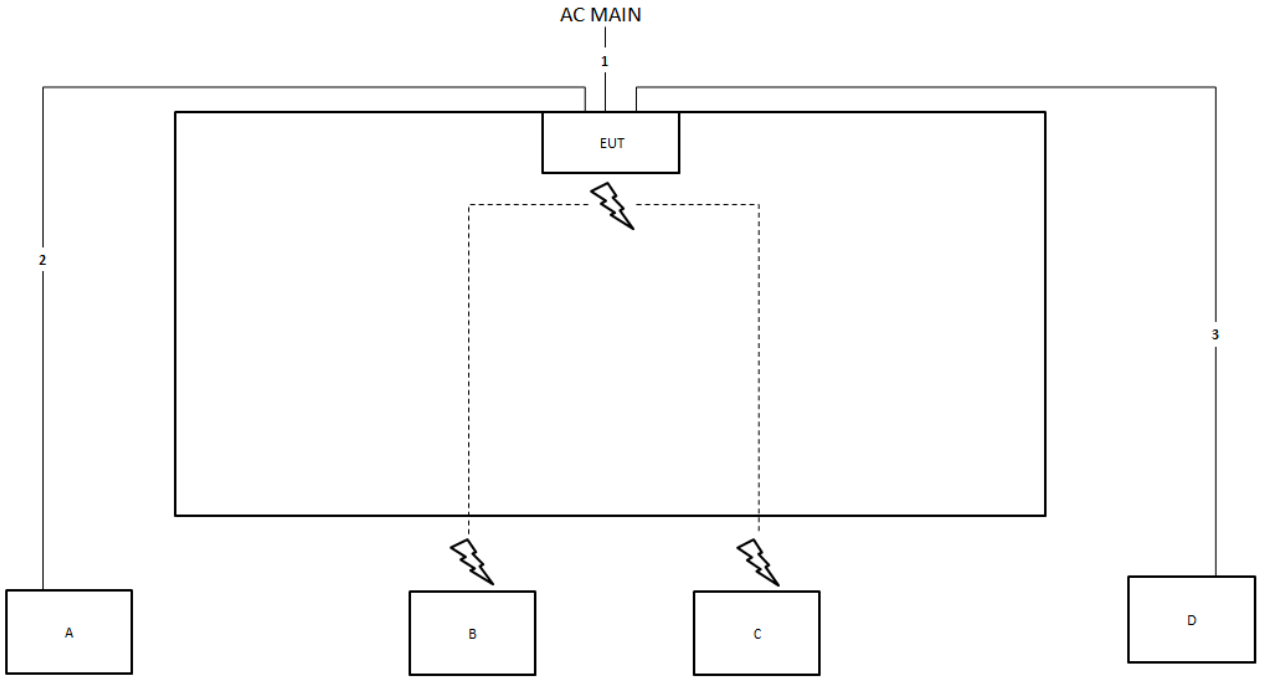
2.5 Test Setup Diagram

Test Setup Diagram – AC Line Conducted Emission Test



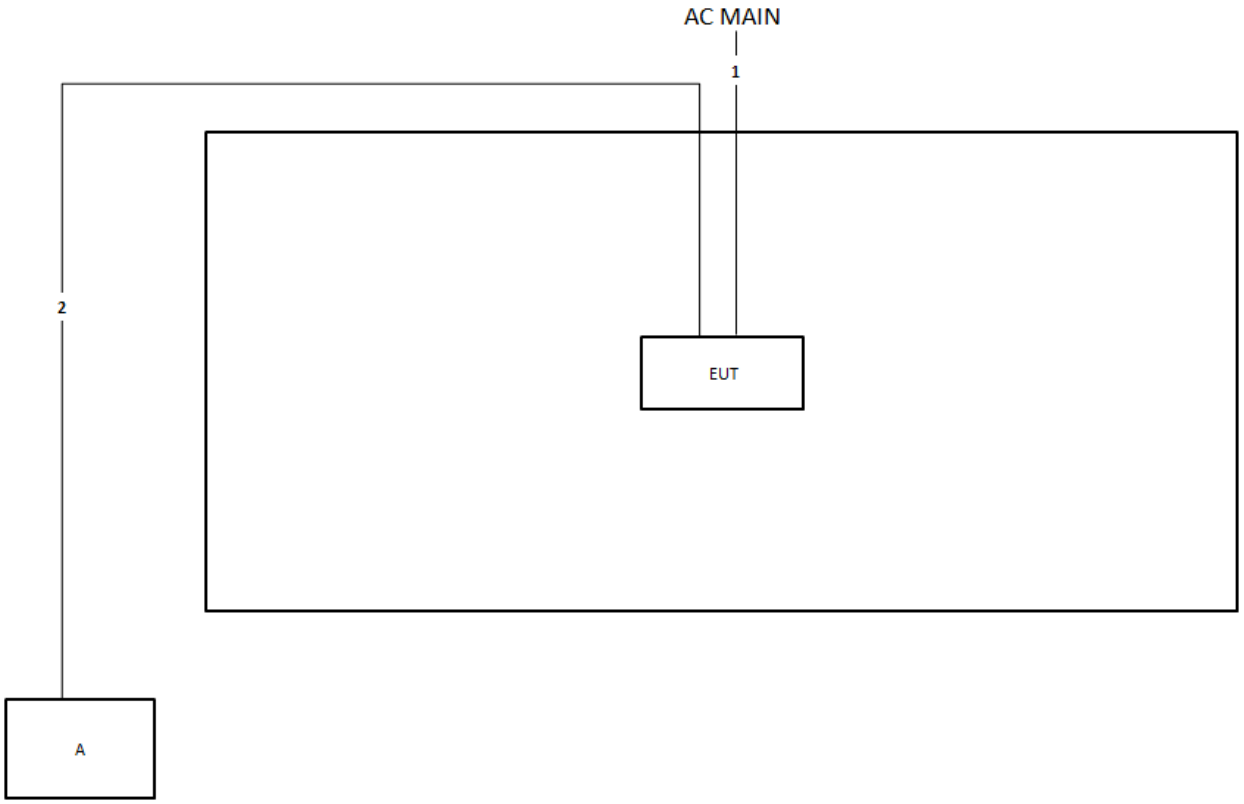
Item	Connection	Shielded	Length
1	Power cable	No	1.5m
2	RJ45 cable	No	10m
3	RJ45 cable	No	10m

Test Setup Diagram - Radiated Test < 1GHz



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

Test Setup Diagram - Radiated Test > 1GHz



Item	Connection	Shielded	Length
1	Power cable	No	1.5m
2	RJ-45 cable	No	10m

3 Transmitter Test Result

3.1 AC Power-line Conducted Emissions

3.1.1 AC Power-line Conducted Emissions Limit

AC Power-line Conducted Emissions Limit		
Frequency Emission (MHz)	**Quasi-Peak**	**Average**
0.15-0.5	66 - 56 *	56 - 46 *
0.5-5	56	46
5-30	60	50
Note 1: * Decreases with the logarithm of the frequency.		

3.1.2 Measuring Instruments

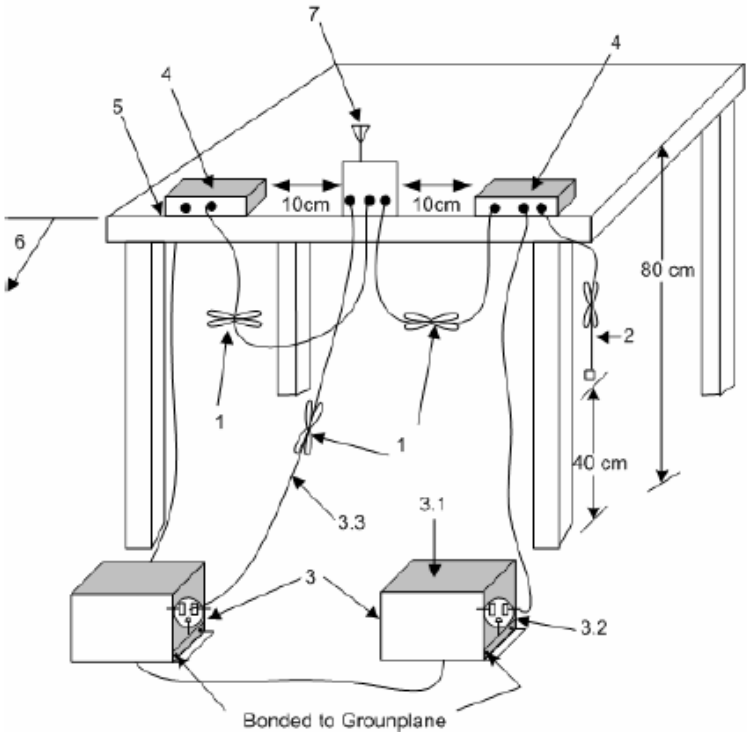
Refer a test equipment and calibration data table in this test report.

3.1.3 Test Procedures

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

3.1.4 Test Setup

AC Power-line Conducted Emissions



1—Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 cm to 40 cm long.
2—The I/O cables that are not connected to an accessory shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
3—EUT connected to one LISN. Unused LISN measuring port connectors shall be terminated in 50 Ω loads. LISN may be placed on top of, or immediately beneath, reference ground plane.
3.1—All other equipment powered from additional LISN(s).
3.2—A multiple-outlet strip may be used for multiple power cords of non-EUT equipment.
3.3—LISN at least 80 cm from nearest part of EUT chassis.
4—Non-EUT components of EUT system being tested.
5—Rear of EUT, including peripherals, shall all be aligned and flush with edge of tabletop.
6—Edge of tabletop shall be 40 cm removed from a vertical conducting plane that is bonded to the ground plane.
7—Antenna can be integral or detachable. If detachable, then the antenna shall be attached for this test.

3.1.5 Measurement Results Calculation

The measured Level is calculated using:

a. Corrected Reading: LISN Factor (LISN) + Attenuator (AT/AUX) + Cable Loss (CL) + Read Level (Raw) = Level

b. Margin = -Limit + Level

3.1.6 Test Result of AC Power-line Conducted Emissions

Refer as Appendix A

3.2 Emissions in Restricted Frequency Bands

3.2.1 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.

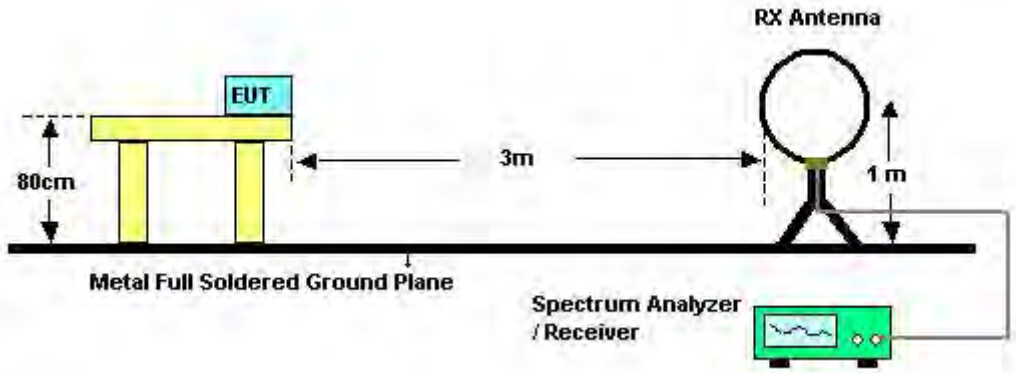
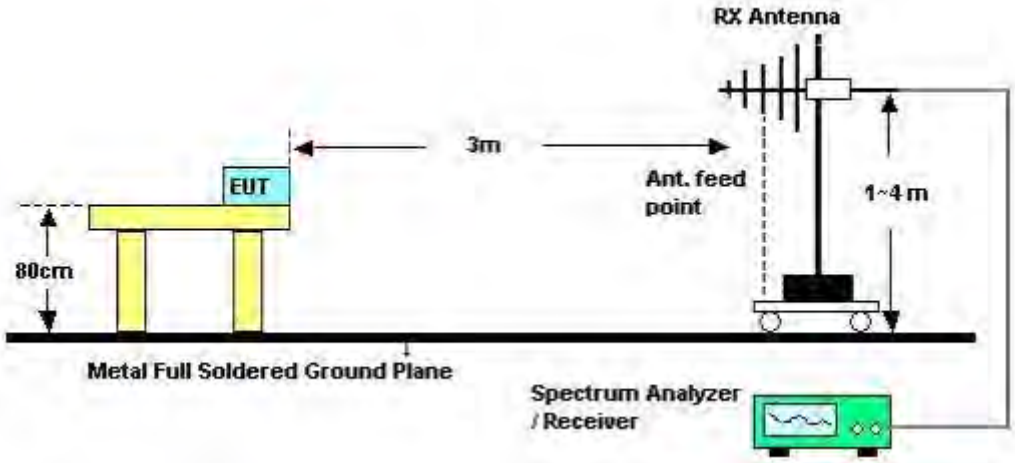
3.2.2 Measuring Instruments

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

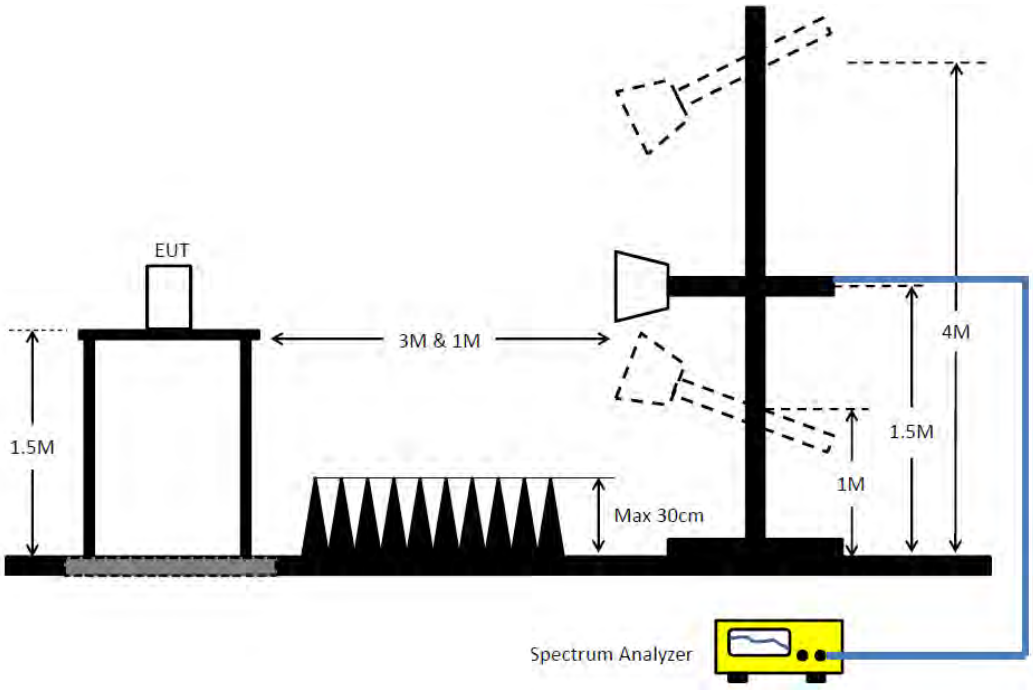
3.2.3 Test Procedures

Test Method			
▪ The average emission levels shall be measured in [duty cycle ≥ 98 or duty factor].			
▪ Refer as ANSI C63.10, clause 6.10.3 band-edge testing shall be performed at the lowest frequency channel and highest frequency channel within the allowed operating band.			
▪ For the transmitter unwanted emissions shall be measured using following options below:			
	▪ Refer as FCC KDB 558074, clause 8.6 for unwanted emissions into restricted bands.		
		☐	Refer as FCC KDB 558074, clause 8.6 & C63.10 clause 11.12.2.5.1(trace averaging for duty cycle ≥98%).
		☐	Refer as FCC KDB 558074, clause 8.6 & C63.10 clause 11.12.2.5.2(trace averaging + duty factor).
		☒	Refer as FCC KDB 558074, clause 8.6 & C63.10 clause 11.12.2.5.3(Reduced VBW≥1/T).
		☐	Refer as ANSI C63.10, clause 11.12.2.5.3 (Reduced VBW). VBW ≥ 1/T, where T is pulse time.
		☐	Refer as ANSI C63.10, clause 7.5 average value of pulsed emissions.
		☒	Refer as FCC KDB 558074, clause 8.6 & C63.10 clause 11.12.2.4 measurement procedure peak limit.
▪ For the transmitter band-edge emissions shall be measured using following options below:			
	▪ Refer as FCC KDB 558074 clause 8.7 & C63.10 clause 11.13.1, When the performing peak or average radiated measurements, emissions within 2 MHz of the authorized band edge may be measured using the marker-delta method described below.		
	▪ Refer as FCC KDB 558074, clause 8.7 (ANSI C63.10, clause 6.10.6) for marker-delta method for band-edge measurements.		
	▪ Refer as FCC KDB 558074, clause 8.7 for narrower resolution bandwidth (100kHz) using the band power and summing the spectral levels (i.e., 1 MHz).		
	▪ For conducted unwanted emissions into restricted bands (absolute emission limits). Devices with multiple transmit chains using options given below: (1) Measure and sum the spectra across the outputs or (2) Measure and add 10 log(N) dB		
	▪ For FCC KDB 662911 The methodology described here may overestimate array gain, thereby resulting in apparent failures to satisfy the out-of-band limits even if the device is actually compliant. In such cases, compliance may be demonstrated by performing radiated tests around the frequencies at which the apparent failures occurred.		

3.2.4 Test Setup

Radiated - Emissions in Restricted Frequency Bands
9kHz ~30MHz

30MHz~1GHz


Above 1GHz



3.2.5 Measurement Results Calculation

The measured Level is calculated using:
Corrected Reading: Antenna factor (AF) + Cable loss (CL) + Read level (Raw) - Preamp factor (PA)(if applicable) = Level.

3.2.6 Emissions in Restricted Frequency Bands (Below 30MHz)

There is a comparison data of both open-field test site and alternative test site - semi-Anechoic chamber according to KDB414788 Radiated Test Site, and the result came out very similar.
All amplitude of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported.
The radiated emissions were investigated from 9 kHz or the lowest frequency generated within the device, up to the 10th harmonic or 40 GHz, whichever is appropriate.

3.2.7 Test Result of Emissions in Restricted Frequency Bands

Refer as Appendix B

4 Test Equipment and Calibration Data

Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
EMI Receiver	Agilent	N9038A	My52260123	9kHz ~ 8.4GHz	Mar. 03, 2021	Mar. 02, 2022	Conduction (CO01-CB)
LISN	Schwarzbeck	NSLK 8127	8127478	9kHz ~ 30MHz	Dec. 22, 2021	Dec. 21, 2022	Conduction (CO01-CB)
LISN	Schwarzbeck	NSLK 8127	8127647	9kHz ~ 30MHz	Mar. 07, 2021	Mar. 06, 2022	Conduction (CO01-CB)
Pulse Limiter	Rohde& Schwarz	ESH3-Z2	100430	9kHz ~ 30MHz	Jan. 30, 2021	Jan. 29, 2022	Conduction (CO01-CB)
COND Cable	Woken	Cable	Low cable-CO01	9kHz ~ 30MHz	May 19, 2021	May 18, 2022	Conduction (CO01-CB)
Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Conduction (CO01-CB)
Loop Antenna	Teseq	HLA 6120	24155	9kHz - 30 MHz	Apr. 14, 2021	Apr. 13, 2022	Radiation (03CH05-CB)
3m Semi Anechoic Chamber NSA	TDK	SAC-3M	03CH05-CB	30 MHz ~ 1 GHz	Aug. 09, 2021	Aug. 08, 2022	Radiation (03CH05-CB)
Bilog Antenna with 6dB Attenuator	TESEQ & EMCI	CBL 6112D & N-6-06	35236 & AT-N0610	30MHz ~ 2GHz	Mar. 26, 2021	Mar. 25, 2022	Radiation (03CH05-CB)
Pre-Amplifier	EMCI	EMC330N	980331	20MHz ~ 3GHz	Apr. 27, 2021	Apr. 26, 2022	Radiation (03CH05-CB)
Signal Analyzer	R&S	FSV40	101903	9kHz ~ 40GHz	Mar. 22, 2021	Mar. 21, 2022	Radiation (03CH05-CB)
EMI Test Receiver	R&S	ESCS	826547/017	9kHz ~ 2.75GHz	Jun. 21, 2021	Jun. 20, 2022	Radiation (03CH05-CB)
RF Cable-low	Woken	RG402	Low Cable-04+23	30MHz~1GHz	Oct. 13, 2021	Oct. 12, 2022	Radiation (03CH05-CB)
Test Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Radiation (03CH05-CB)
3m Semi Anechoic Chamber VSWR	RIKEN	SAC-3M	03CH02-CB	1GHz ~18GHz 3m	Mar. 27, 2021	Mar. 26, 2022	Radiation (03CH02-CB)
Horn Antenna	EMCO	3115	9610-4976	1GHz ~ 18GHz	May 04, 2021	May 03, 2022	Radiation (03CH02-CB)
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Aug. 05, 2021	Aug. 04, 2022	Radiation (03CH02-CB)
Pre-Amplifier	Agilent	83017A	MY39501305	1GHz ~ 26.5GHz	Jul. 12, 2021	Jul. 11, 2022	Radiation (03CH02-CB)
Pre-Amplifier	MITEQ	TTA1840-35-H G	1864479	18GHz ~ 40GHz	Jul. 13, 2021	Jul. 12, 2022	Radiation (03CH02-CB)
Spectrum analyzer	R&S	FSU	100015	9kHz~26GHz	Oct. 25, 2021	Oct. 24, 2022	Radiation (03CH02-CB)

Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
RF Cable-high	Woken	RG402	High Cable-18	1GHz ~ 18GHz	Oct. 04, 2021	Oct. 03, 2022	Radiation (03CH02-CB)
RF Cable-high	Woken	RG402	High Cable-18+19	1GHz ~ 18GHz	Oct. 04, 2021	Oct. 03, 2022	Radiation (03CH02-CB)
High Cable	Woken	WCA0929M	40G#5+7	1GHz ~ 40 GHz	Dec. 14, 2021	Dec. 13, 2022	Radiation (03CH02-CB)
High Cable	Woken	WCA0929M	40G#5	1GHz ~ 40 GHz	Dec. 08, 2021	Dec. 07, 2022	Radiation (03CH02-CB)
High Cable	Woken	WCA0929M	40G#7	1GHz ~ 40 GHz	Dec. 14, 2021	Dec. 13, 2022	Radiation (03CH02-CB)
Test Software	SPORTON	SENSE	V5.10	-	N.C.R.	N.C.R.	Radiation (03CH02-CB)

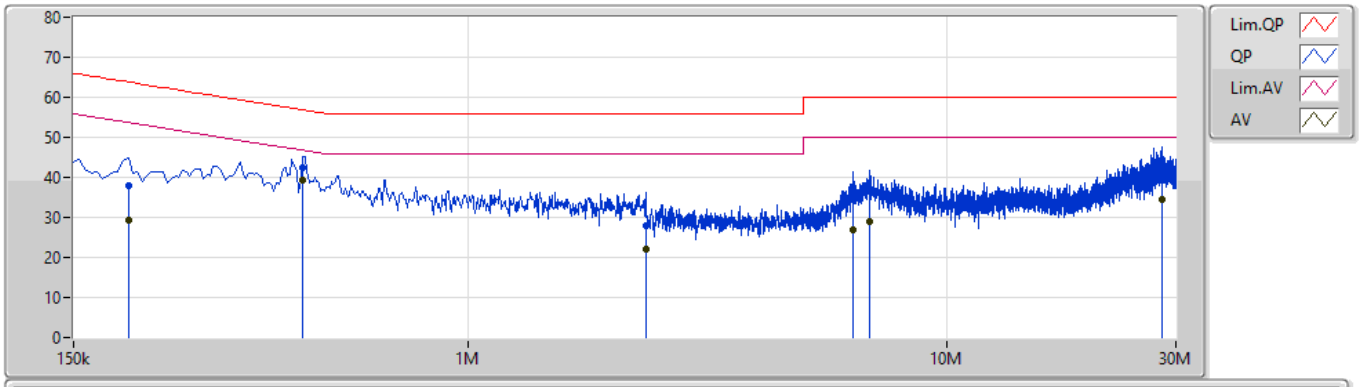
Note: Calibration Interval of instruments listed above is one year.

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

Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 1	Pass	AV	451.5k	39.24	46.84	-7.60	Line

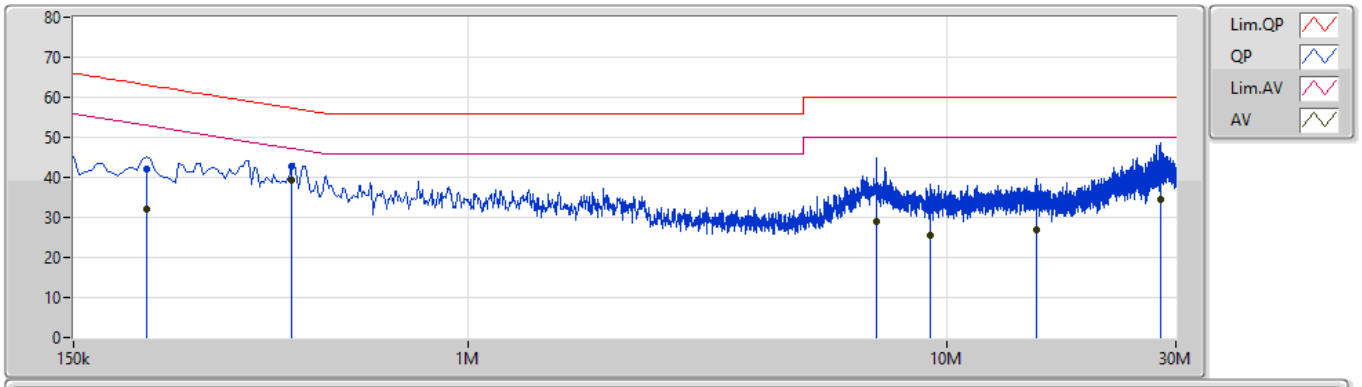
Mode 1



Type	Freq	Level	Limit	Margin	Factor	Condition	Comment	Raw	LISN	CL	AT
	(Hz)	(dBuV)	(dBuV)	(dB)	(dB)			(dBuV)	(dB)	(dB)	(dB)
QP	195k	38.00	63.82	-25.82	9.89	Line	-	28.11	0.04	0.04	9.81
AV	195k	29.38	53.82	-24.44	9.89	Line	-	19.49	0.04	0.04	9.81
QP	451.5k	42.52	56.84	-14.32	9.90	Line	-	32.62	0.04	0.04	9.82
AV	451.5k	39.24	46.84	-7.60	9.90	Line	"Worst"	29.34	0.04	0.04	9.82
QP	2.346M	28.09	56.00	-27.91	10.01	Line	-	18.08	0.10	0.08	9.83
AV	2.346M	22.24	46.00	-23.76	10.01	Line	-	12.23	0.10	0.08	9.83
QP	6.347M	35.70	60.00	-24.30	10.21	Line	-	25.49	0.18	0.14	9.89
AV	6.347M	27.03	50.00	-22.97	10.21	Line	-	16.82	0.18	0.14	9.89
QP	6.878M	37.30	60.00	-22.70	10.21	Line	-	27.09	0.18	0.14	9.89
AV	6.878M	29.08	50.00	-20.92	10.21	Line	-	18.87	0.18	0.14	9.89
QP	28.041M	42.84	60.00	-17.16	10.68	Line	-	32.16	0.37	0.29	10.02
AV	28.041M	34.55	50.00	-15.45	10.68	Line	-	23.87	0.37	0.29	10.02

Mode 1

11/01/2022

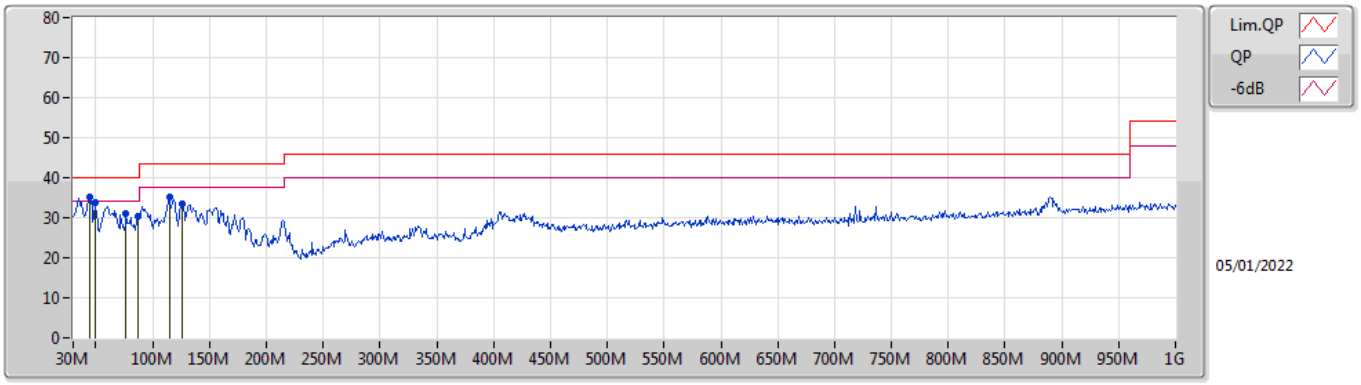


Type	Freq	Level	Limit	Margin	Factor	Condition	Comment	Raw	LISN	CL	AT
	(Hz)	(dBuV)	(dBuV)	(dB)	(dB)			(dBuV)	(dB)	(dB)	(dB)
QP	213k	42.18	63.09	-20.91	9.88	Neutral	-	32.30	0.03	0.04	9.81
AV	213k	32.24	53.09	-20.85	9.88	Neutral	-	22.36	0.03	0.04	9.81
QP	429k	42.59	57.28	-14.69	9.89	Neutral	-	32.70	0.03	0.04	9.82
AV	429k	39.31	47.28	-7.97	9.89	Neutral	"Worst"	29.42	0.03	0.04	9.82
QP	7.103M	36.63	60.00	-23.37	10.20	Neutral	-	26.43	0.16	0.15	9.89
AV	7.103M	29.13	50.00	-20.87	10.20	Neutral	-	18.93	0.16	0.15	9.89
QP	9.245M	33.55	60.00	-26.45	10.25	Neutral	-	23.30	0.19	0.16	9.90
AV	9.245M	25.55	50.00	-24.45	10.25	Neutral	-	15.30	0.19	0.16	9.90
QP	15.342M	33.70	60.00	-26.30	10.35	Neutral	-	23.35	0.26	0.17	9.92
AV	15.342M	26.83	50.00	-23.17	10.35	Neutral	-	16.48	0.26	0.17	9.92
QP	27.798M	42.95	60.00	-17.05	10.72	Neutral	-	32.23	0.41	0.29	10.02
AV	27.798M	34.32	50.00	-15.68	10.72	Neutral	-	23.60	0.41	0.29	10.02

Summary

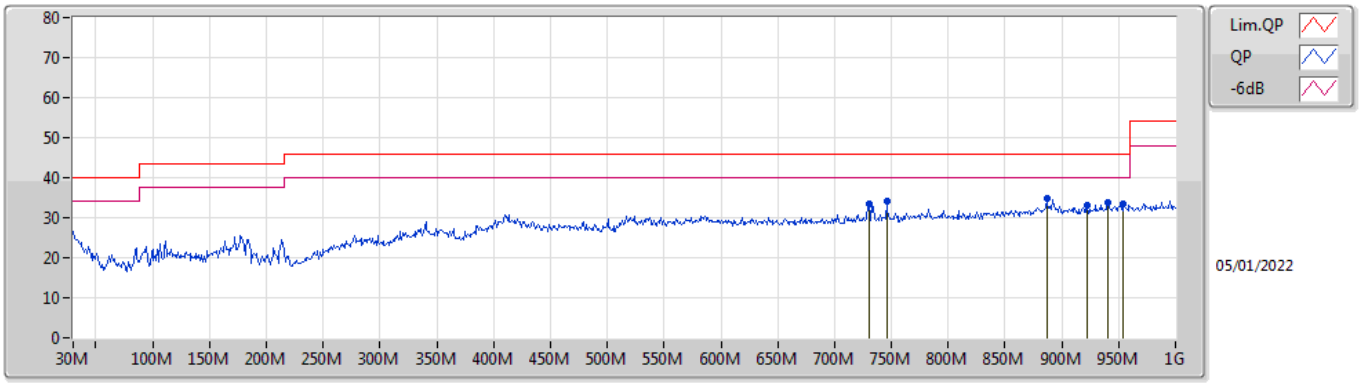
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Condition
Mode 2	Pass	PK	44.55M	35.27	40.00	-4.73	Vertical

Mode 2



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB/m)	(m)		(°)	(m)		(dBuV/m)	(dB/m)	(dB)	(dB)
PK	44.55M	35.27	40.00	-4.73	-14.34	3	Vertical	358	1.00	"Worst"	49.61	16.38	0.99	31.71
PK	49.4M	33.72	40.00	-6.28	-16.53	3	Vertical	37	1.50	-	50.25	14.14	1.09	31.76
PK	76.56M	31.00	40.00	-9.00	-18.17	3	Vertical	211	1.25	-	49.17	12.41	1.33	31.91
PK	87.23M	30.33	40.00	-9.67	-16.42	3	Vertical	109	1.00	-	46.75	14.05	1.44	31.91
PK	114.39M	35.11	43.50	-8.39	-12.41	3	Vertical	214	1.00	-	47.52	17.94	1.57	31.92
PK	126.03M	33.42	43.50	-10.08	-12.38	3	Vertical	142	1.00	-	45.80	17.91	1.66	31.95

Mode 2



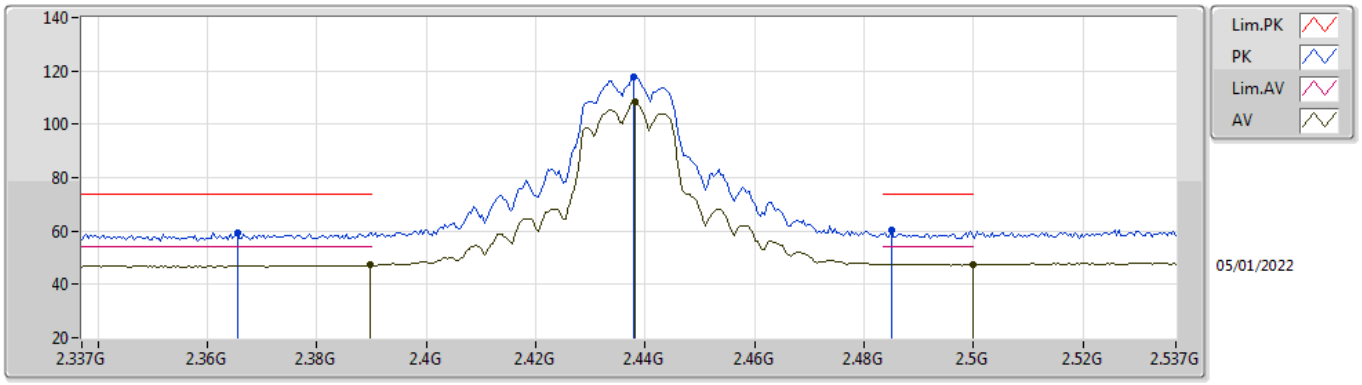
Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB/m)	(m)		(°)	(m)		(dBuV/m)	(dB/m)	(dB)	(dB)
PK	730.34M	33.43	46.00	-12.57	-3.11	3	Horizontal	301	1.00	-	36.54	24.96	4.62	32.69
PK	745.86M	34.20	46.00	-11.80	-2.86	3	Horizontal	321	1.25	-	37.06	25.17	4.68	32.71
PK	886.51M	34.74	46.00	-11.26	-1.21	3	Horizontal	163	1.00	"Worst"	35.95	26.19	5.25	32.65
PK	922.4M	33.09	46.00	-12.91	-1.02	3	Horizontal	308	1.50	-	34.11	26.17	5.43	32.62
PK	940.83M	33.86	46.00	-12.14	-0.70	3	Horizontal	136	1.25	-	34.56	26.35	5.54	32.59
PK	954.41M	33.33	46.00	-12.67	-0.43	3	Horizontal	302	3.00	-	33.76	26.54	5.60	32.57

Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comments
2.4-2.4835GHz	-	-	-	-	-	-	-	-	-	-	-
802.11g_Nss1,(6Mbps)_2TX	Pass	AV	2.4835G	47.98	54.00	-6.02	3	Horizontal	57	2.82	-

802.11g_Nss1,(6Mbps)_2TX

2437MHz_TX

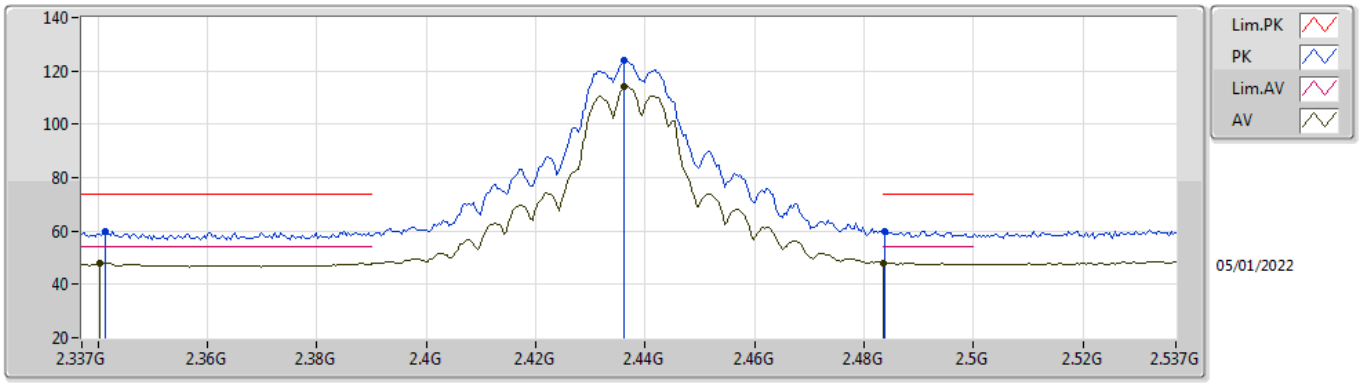


EUT Y_2TX
Setting 26
02-B-S-5

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	2.3654G	59.48	74.00	-14.52	28.37	3	Vertical	127	2.77	-	28.33	2.78	-
AV	2.3898G	47.26	54.00	-6.74	16.09	3	Vertical	127	2.77	-	28.38	2.79	-
PK	2.4378G	117.92	Inf	-Inf	86.68	3	Vertical	127	2.77	-	28.40	2.84	-
AV	2.4382G	108.40	Inf	-Inf	77.16	3	Vertical	127	2.77	-	28.40	2.84	-
PK	2.485G	60.26	74.00	-13.74	28.83	3	Vertical	127	2.77	-	28.54	2.89	-
AV	2.4998G	47.55	54.00	-6.45	16.05	3	Vertical	127	2.77	-	28.60	2.90	-

802.11g_Nss1,(6Mbps)_2TX

2437MHz_TX

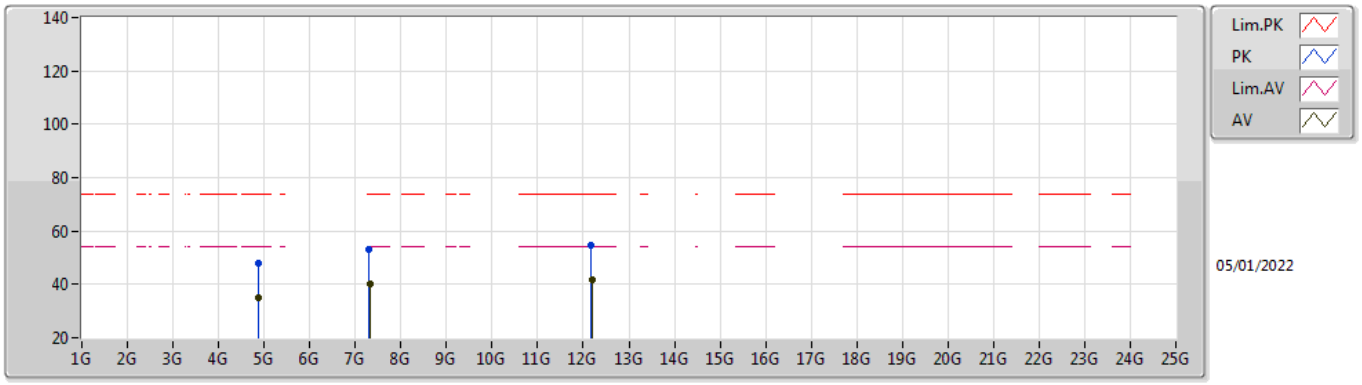


EUT Y_2TX
Setting 26
02-B-S-5

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	2.3414G	59.81	74.00	-14.19	28.77	3	Horizontal	57	2.82	-	28.27	2.77	-
AV	2.3402G	47.90	54.00	-6.10	16.87	3	Horizontal	57	2.82	-	28.26	2.77	-
PK	2.4362G	123.99	Inf	-Inf	92.75	3	Horizontal	57	2.82	-	28.40	2.84	-
AV	2.4362G	114.24	Inf	-Inf	83.00	3	Horizontal	57	2.82	-	28.40	2.84	-
PK	2.4838G	59.89	74.00	-14.11	28.47	3	Horizontal	57	2.82	-	28.54	2.88	-
AV	2.4835G	47.98	54.00	-6.02	16.57	3	Horizontal	57	2.82	-	28.53	2.88	-

802.11g_Nss1,(6Mbps)_2TX

2437MHz_TX

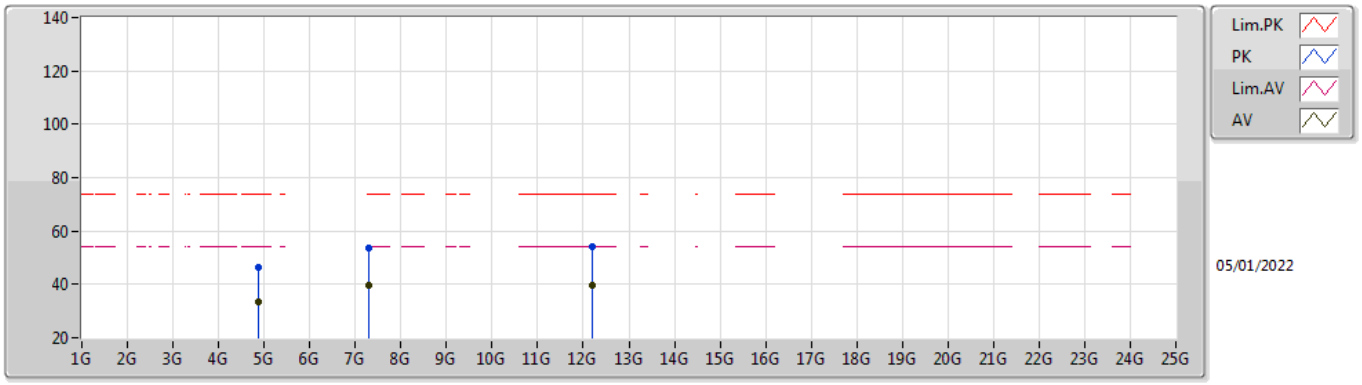


EUT Y_2TX
Setting 26
02-B-S-5

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.87432G	47.78	74.00	-26.22	41.94	3	Vertical	294	2.32	-	32.95	5.10	32.21
AV	4.87244G	34.75	54.00	-19.25	28.92	3	Vertical	294	2.32	-	32.94	5.10	32.21
PK	7.30556G	53.11	74.00	-20.89	43.36	3	Vertical	201	1.82	-	36.41	6.15	32.81
AV	7.31032G	39.98	54.00	-14.02	30.22	3	Vertical	201	1.82	-	36.42	6.16	32.82
PK	12.1794G	54.40	74.00	-19.60	40.68	3	Vertical	16	1.33	-	38.92	8.19	33.39
AV	12.18484G	41.55	54.00	-12.45	27.83	3	Vertical	16	1.33	-	38.92	8.19	33.39

802.11g_Nss1,(6Mbps)_2TX

2437MHz_TX



EUT Y_2TX
Setting 26
02-B-S-5

Type	Freq	Level	Limit	Margin	Raw	Dist	Condition	Azimuth	Height	Comment	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dBuV)	(m)		(°)	(m)		(dB)	(dB)	(dB)
PK	4.87736G	46.53	74.00	-27.47	40.68	3	Horizontal	321	1.80	-	32.95	5.10	32.20
AV	4.87208G	33.67	54.00	-20.33	27.84	3	Horizontal	321	1.80	-	32.94	5.10	32.21
PK	7.30928G	53.49	74.00	-20.51	43.74	3	Horizontal	280	1.90	-	36.42	6.15	32.82
AV	7.30928G	39.81	54.00	-14.19	30.06	3	Horizontal	280	1.90	-	36.42	6.15	32.82
PK	12.18388G	54.03	74.00	-19.97	40.31	3	Horizontal	126	1.80	-	38.92	8.19	33.39
AV	12.1844G	39.52	54.00	-14.48	25.80	3	Horizontal	126	1.80	-	38.92	8.19	33.39