NCC RADIO TEST REPORT

Equipment	:	AC1300 + AV600 全家庭 Hybrid Mesh Wi-Fi 系統
Brand Name	:	tp-link
Model Name	:	Deco P7
Applicant	:	聯洲國際有限公司 新北市板橋區中山路一段 156 號 13 樓
Manufacturer	:	普聯技術有限公司 深圳市南山區深南路科技園工業廠房 24 棟南段 1,3,4,5 層，28 棟 1-4 層
Standard	:	LP0002 Section 3.10.1 (2018-01-10)

The product was received on Nov. 21, 2018, and testing was started from Jan. 25, 2019 and completed on Mar. 04, 2019. 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 variant 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: Cliff Chang

SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory
No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)

Table of Contents

History of this test report **3**

Summary of Test Result **4**

1 General Description **5**

1.1 Information 5
1.2 Testing Applied Standards 8
1.3 Testing Location Information 8
1.4 Measurement Uncertainty 8

2 Test Configuration of EUT **9**

2.1 The Worst Case Measurement Configuration 9
2.2 EUT Operation during Test 10
2.3 Accessories 10
2.4 Support Equipment 11
2.5 Test Setup Diagram 12

3 Transmitter Test Result **14**

3.1 AC Power-line Conducted Emissions 14
3.2 Emissions in Restricted Frequency Bands 16

4 Test Equipment and Calibration Data **21**

Appendix A. Test Results of AC Power-line Conducted Emissions

Appendix B. Test Results of Emissions in Restricted Frequency Bands

Appendix C. Test Photos

Photographs of EUT v01

History of this test report

Report No.	Version	Description	Issued Date
TR672842-04AA	01	Initial issue of report	Mar. 12, 2019

Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
1.1.2	3.10.1.4	Antenna Requirement	PASS	-
3.1	2.3	AC Power-line Conducted Emissions	PASS	-
3.2	3.10.1.5	Emissions in Restricted Frequency Bands	PASS	-

Declaration of Conformity:
The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.
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: Cliff Chang
Report Producer: Wendy Pan

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), ac (VHT20)	2412-2462	1-11 [11]
2400-2483.5	n (HT40), ac (VHT40)	2422-2452	3-9 [7]

Band	Mode	BWch (MHz)	Nant
2.4G	11b	20	2
2.4G	11g	20	2
2.4G	HT20	20	2
2.4G	HT20,BF	20	2
2.4G	VHT20	20	2
2.4G	VHT20,BF	20	2
2.4G	HT40	40	2
2.4G	HT40,BF	40	2
2.4G	VHT40	40	2
2.4G	VHT40,BF	40	2

Note:
- 2.4G is the 2.4GHz Band (2.4-2.4835GHz).
- 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.
- VHT20, VHT40 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM modulation.
- BWch is the nominal channel bandwidth.
- 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.	Port	Brand	P/N	Antenna Type	Connector	Gain (dBi)			
						WLAN 2.4G	WLAN 5G B1	WLAN 5G B4	Bluetooth
1	1	TP-LINK	3101501201	Omni-Directional Antenna	I-PEX	1.30	-	-	-
2	2	TP-LINK	3101501201	Omni-Directional Antenna	I-PEX	1.30	-	-	-
3	1	TP-LINK	5G2-M5	Omni-Directional Antenna	N/A	-	0.64	0.88	-
4	2	TP-LINK	5G2-M5	Omni-Directional Antenna	N/A	-	0.64	0.88	-
5	1	TP-LINK	Bluetooth-M5	Omni-Directional Antenna	N/A	-	-	-	1.40

Note: The above information was declared by manufacturer.

For 2.4GHz IEEE 802.11b/g/n/ac mode (2TX/2RX):

Ant. 1 and Ant. 2 could transmit/receive simultaneously.

For 5GHz IEEE 802.11n/a/ac mode (2TX/2RX):

Ant. 3 and Ant. 4 could transmit/receive simultaneously.

For bluetooth mode (1TX/1RX):

Only Ant. 5 could transmit/receive.

1.1.3 Table for EUT support function

Operating Mode	WLAN	Bluetooth 4.0	PLC
AP Router	2.4GHz/ 5GHz Band 1+4	V	X
Extender	2.4GHz/ 5GHz Band 1+4	X	V
Description			
The EUT has two operating modes for detail as below: 1. At the AP router mode, it can support WLAN 2.4GHz + 5GHz and Bluetooth 4.0 simultaneous action. 2. At the Extender mode, only WLAN 2.4GHz + 5GHz simultaneous operation is supported.			

Note: The above information was declared by manufacturer.

1.1.4 Table for Slight Change

This product is an extension of original one reported under Sporton project number: TR672842AA

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

Modifications	Performance Checking
1. Adding a model name: Deco P7. for the detail differences as below: a. Adding an adapter and the model name is T120120-2B5 with support PLC function at extender mode only. b. Removing BT2.0.	1.AC power-line conducted emissions 2.Emissions in Restricted Frequency Bands (Intentional and Unintentional <1GHz and Unintentional>1GHz)
2.Updating test standard to “NCC LP0002 (Jan. 10, 2018) Section 3.10.1” from “LP0002 Section 3.10.1 (2016-08-23)”.	Do not affect the test results.

1.1.5 EUT Operational Condition

EUT Power Type	From Power Adapter			
Beamforming Function	☒	With beamforming for 802.11n/ac	☐	Without beamforming
Test Software Version	QRCT			

1.2 Testing Applied Standards

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

- NCC LP0002 (2018-01-10)
- ANSI C63.10-2013
- FCC KDB 558074 D01 v05r01
- FCC KDB 662911 D01 v02r01

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
Radiated (Intentional and Unintentional <1GHz and Unintentional >1GHz)	03CH01-CB	KJ Chang	22°C / 54%	Jan. 25, 2019 ~ Mar. 04, 2019
AC Conduction	CO02-CB	Max Lin	23~25°C / 51~58%	Jan. 28, 2019 ~ Jan. 29, 2019

Test site Designation No. TW0006 with FCC.
Test site registered number IC 4086B 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)	2.0 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%

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
Operating Mode	Unintentional - Normal Link
1	EUT - (AP Router Mode) + WLAN: 2.4GHz + 5GHz + BT
2	EUT - (Extender Mode) + WLAN: 2.4GHz + 5GHz
For operating mode 2 is the worst case and it was record in this test report.	

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	Unintentional - CRX
1	EUT CRX with BT
2	EUT CRX with WLAN 2.4GHz
3	EUT CRX with WLAN 5GHz
For operating mode 3 is the worst case and it was record in this test report.	
Operating Mode < 1GHz	Intentional - CTX
1	EUT CTX with BT
2	EUT CTX with WLAN 2.4GHz
3	EUT CTX with WLAN 5GHz
For operating mode 3 is the worst case and it was record in this test report.	

Operating Mode unintentional 1GHz~5th	According to the Emissions in Restricted Frequency Bands emission below 1GHz test for Unintentional - CRX, the Mode 3 generated the worst test result. And the measurement for Emissions in Restricted Frequency Bands emission above 1GHz test for unintentional 1GHz~5th will follow this same test configuration.
	Unintentional - CRX
1	EUT CRX with WLAN 5GHz

Note: The EUT only uses in Z axis.

2.2 EUT Operation during Test

For CTX/CRX Mode:

The EUT was programmed to be in continuously transmitting/receiving mode.

For Normal Link:

During the test, the EUT operation to normal function.

2.3 Accessories

Accessories			
Equipment Name	**Brand Name**	**Model Name**	**Rating**
Adapter	TP-Link	T120120-2B5	Input: 100-240Vac ~ 50/60Hz, 0.4A Output: 5Vdc, 1.2A, 12Vdc, 1.2A

2.4 Support Equipment

For Test Site No: CO02-CB
For Unintentional - Normal Link test

Support Equipment				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
A	WAN NB	DELL	E6430	N/A
B	2.4G NB	DELL	E6430	N/A
C	5G NB	DELL	E6430	N/A
D	LAN NB	DELL	E6430	N/A
E	AC1300 + AV600 全家庭 Hybrid Mesh Wi-Fi 系統 (Device)	tp-link	Deco P7	TE7P7
F	Router	TP-LINK	Archer C55	N/A
G	Device NB	DELL	E6430	N/A

For Test Site No: 03CH01-CB (below 1GHz)
For Intentional - CTX and Unintentional - CRX test

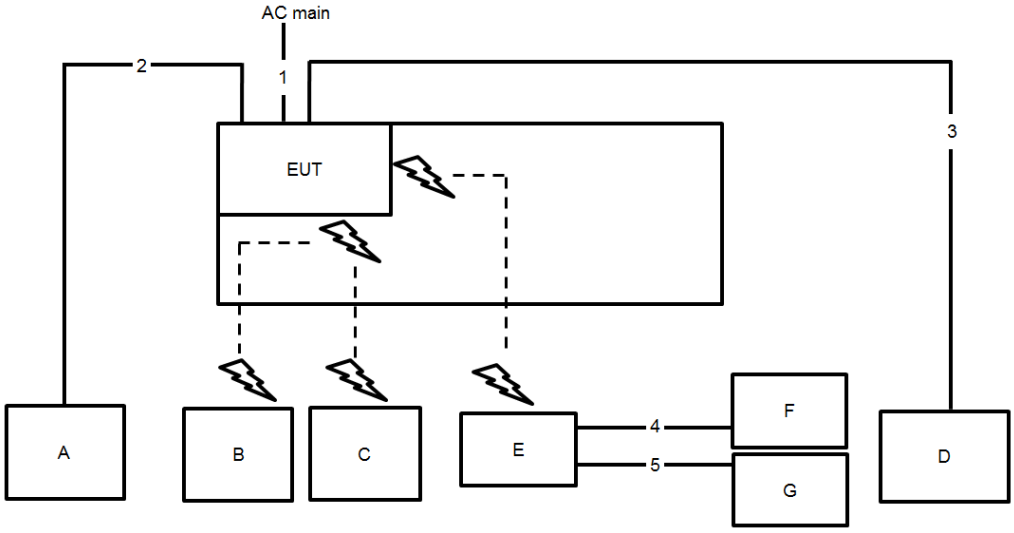
Support Equipment				
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**
A	NB	DELL	E4300	N/A

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

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

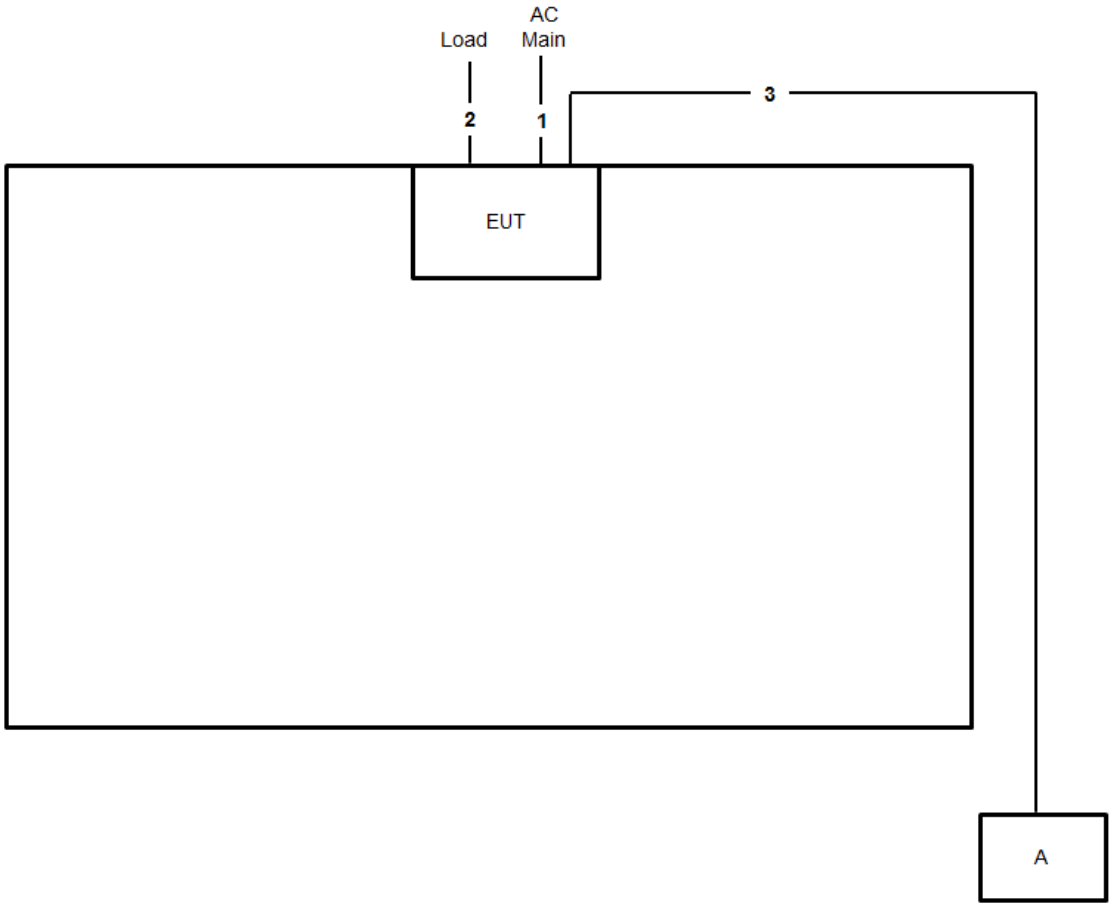
2.5 Test Setup Diagram

Test Setup Diagram – AC Line Conducted Emission



Item	Connection	Shielded	Length
1	Power cable	No	1.6m
2	RJ-45 cable	No	10m
3	RJ-45 cable	No	10m
4	RJ-45 cable	No	3m
5	RJ-45 cable	No	3m

Test Setup Diagram - Radiated <1G Unintentional and Intentional test and Radiated >1G Unintentional test



Item	Connection	Shielded	Length
1	Power cable	No	1.6m
2	RJ-45 cable	No	1.5m
3	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

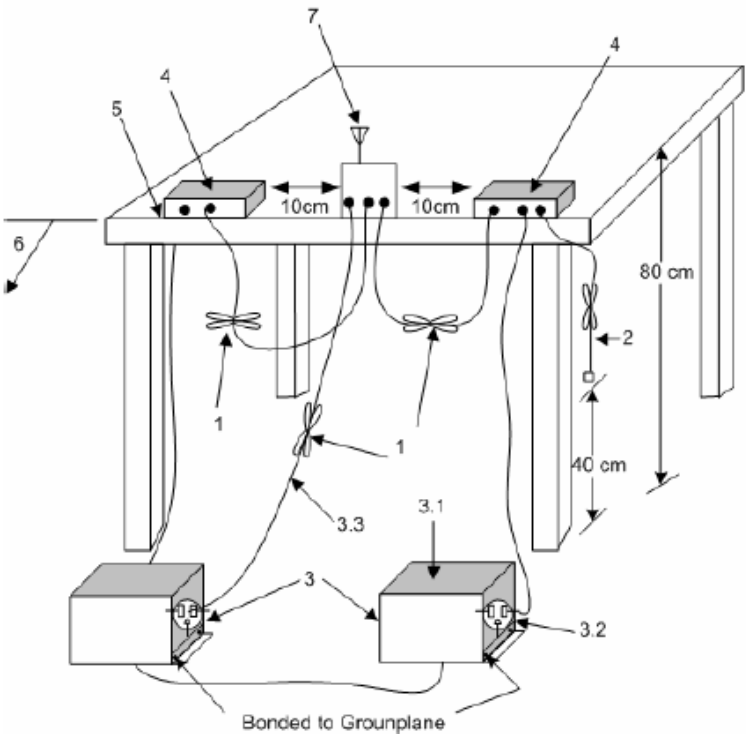
Refer a test equipment and calibration data table in this test report.

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 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

3.2.2 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.

3.2.3 Measuring Instruments

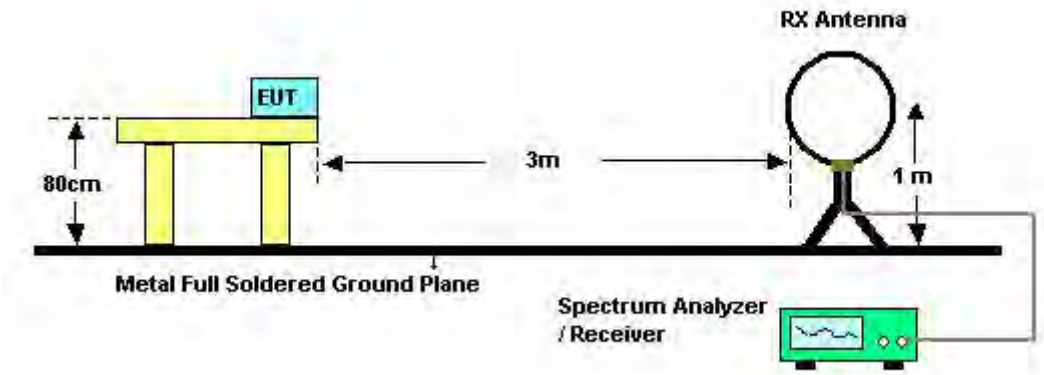
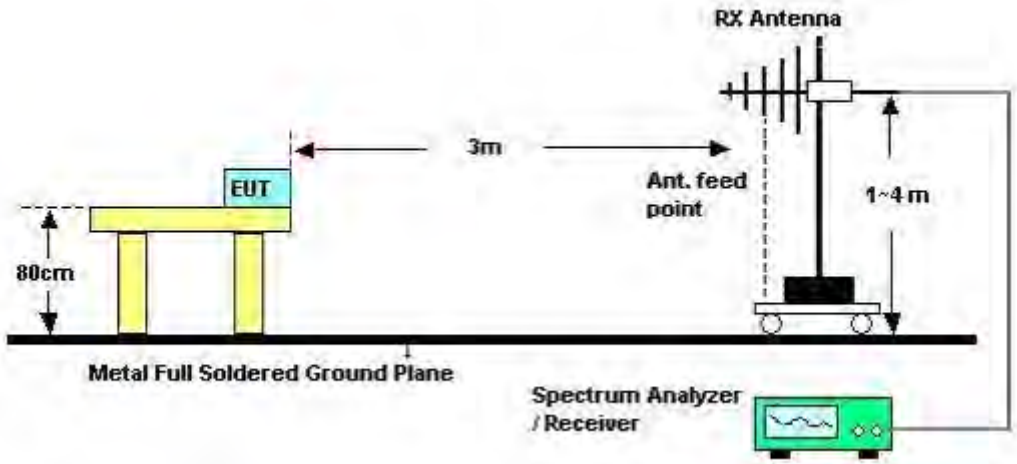
Refer a test equipment and calibration data table in this test report.

3.2.4 Test Procedures

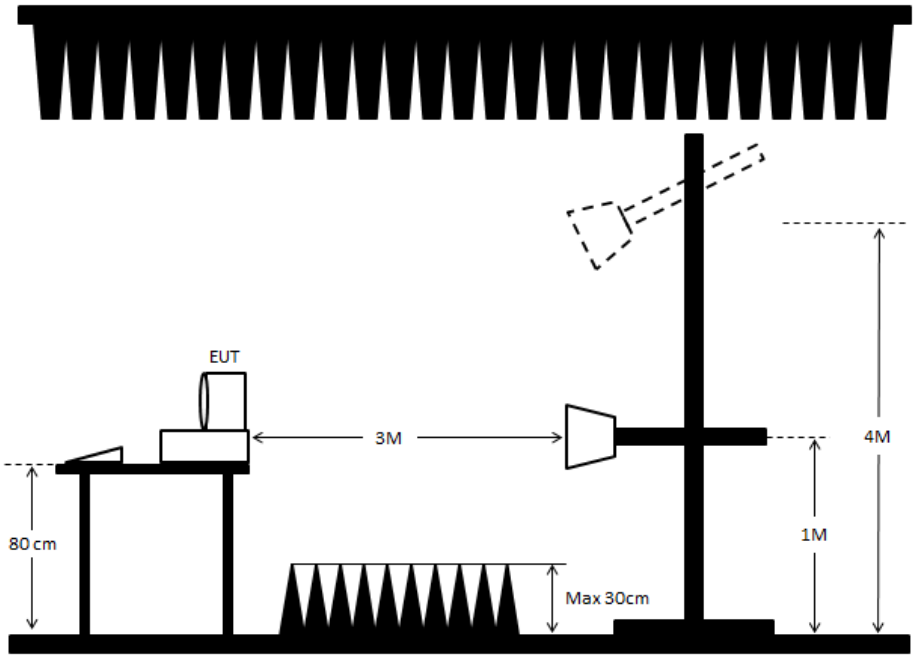
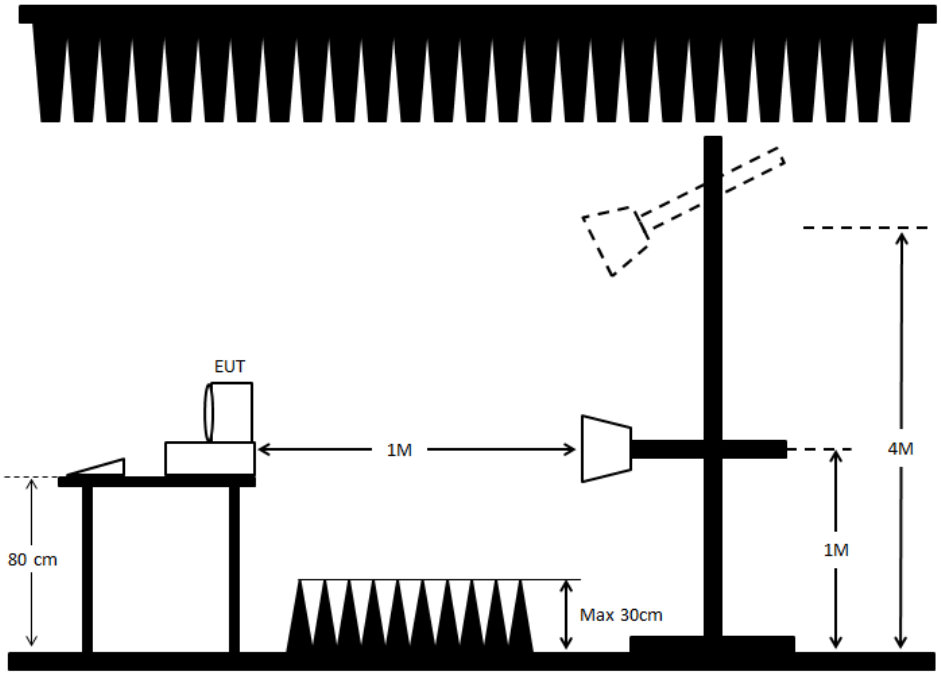
Test Method		
▪ The average emission levels shall be measured in [duty cycle ≥ 98 or duty factor].		
▪ Refer as ANSI C63.10, clause 6.10.3 band-edge testing shall be performed at the lowest frequency channel and highest frequency channel within the allowed operating band.		
▪ For the transmitter unwanted 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.	

3.2.5 Test Setup

For Unintentional and Intentional

Transmitter Radiated Emissions
9kHz ~30MHz

30MHz~1GHz


For Unintentional - 1GHz~5th

Transmitter Radiated Emissions
1GHz~18GHz

18GHz~30GHz


3.2.6 Emissions in Restricted Frequency Bands (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.
The radiated emissions were investigated from 9 kHz or the lowest frequency generated within the device, up to the 10 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

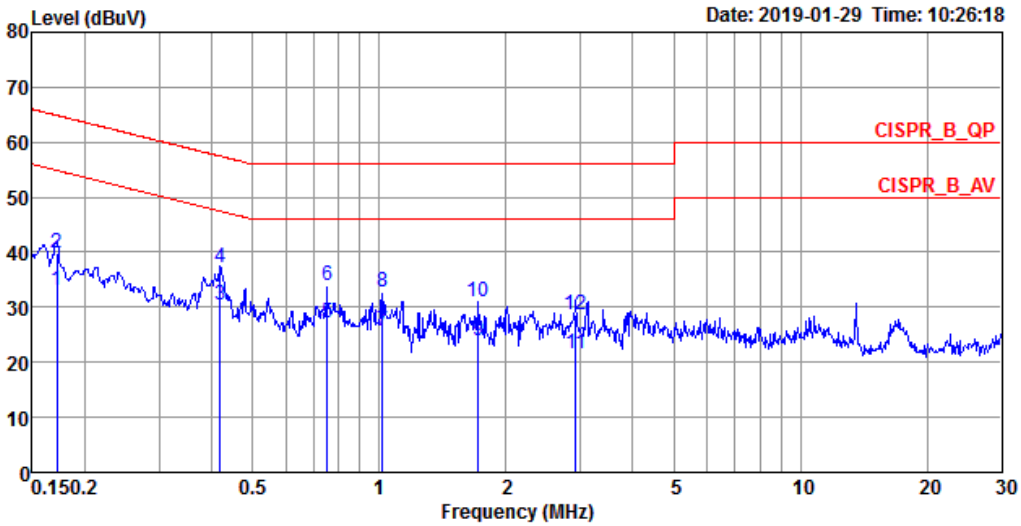
Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
LISN	Schwarzbeck	NSLK 8127	8127650	9kHz ~ 30MHz	Nov. 21, 2018	Nov. 20, 2019	Conduction (CO02-CB)
LISN	Schwarzbeck	NSLK 8127	8127478	9kHz ~ 30MHz	Nov. 05, 2018	Nov. 04, 2019	Conduction (CO02-CB)
EMI Receiver	Agilent	N9038A	MY52260140	9kHz ~ 8.4GHz	Jan. 16, 2019	Jan. 15, 2020	Conduction (CO02-CB)
COND Cable	Woken	Cable	2	0.15MHz ~ 30MHz	Nov. 06, 2018	Nov. 05, 2019	Conduction (CO02-CB)
Software	Audix	E3	6.120210n	-	N.C.R.	N.C.R.	Conduction (CO02-CB)
BILOG ANTENNA with 6dB Attenuator	TESEQ & EMCI	CBL6112D & N-6-06	37880 & AT-N0609	20MHz ~ 2GHz	Aug. 27, 2018	Aug. 26, 2019	Radiation (03CH01-CB)
Loop Antenna	Teseq	HLA 6120	24155	9kHz - 30 MHz	Mar. 16, 2018	Mar. 15, 2019	Radiation (03CH01-CB)
Horn Antenna	EMCO	3115	00075790	750MHz ~ 18GHz	Nov. 13, 2018	Nov. 12, 2019	Radiation (03CH01-CB)
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Jun. 28, 2018	Jun. 27, 2019	Radiation (03CH01-CB)
Pre-Amplifier	EMCI	EMC330N	980332	20MHz ~ 3GHz	May 02, 2018	May 01, 2019	Radiation (03CH01-CB)
Pre-Amplifier	Agilent	8449B	3008A02310	1GHz ~ 26.5GHz	Jan. 08, 2019	Jan. 07, 2020	Radiation (03CH01-CB)
Pre-Amplifier	MITEQ	TTA1840-35-HG	1864479	18GHz ~ 40GHz	Jul. 04, 2018	Jul. 03, 2019	Radiation (03CH01-CB)
Spectrum Analyzer	R&S	FSP-40	100019	9kHz ~ 40GHz	Apr. 25, 2018	Apr. 24, 2019	Radiation (03CH01-CB)
EMI Test Receiver	R&S	ESCS	100359	9kHz ~ 2.75GHz	Jul. 03, 2018	Jul. 02, 2019	Radiation (03CH01-CB)
RF Cable-low	Woken	Low Cable-16+17	N/A	30 MHz ~ 1 GHz	Oct. 08, 2018	Oct. 07, 2019	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-16	N/A	1 GHz ~ 18 GHz	Oct. 08, 2018	Oct. 07, 2019	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-16+17	N/A	1 GHz ~ 18 GHz	Oct. 08, 2018	Oct. 07, 2019	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-40G#1	N/A	18GHz ~ 40 GHz	Jul. 27, 2018	Jul. 26, 2019	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-40G#2	N/A	18GHz ~ 40 GHz	Jul. 27, 2018	Jul. 26, 2019	Radiation (03CH01-CB)

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

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

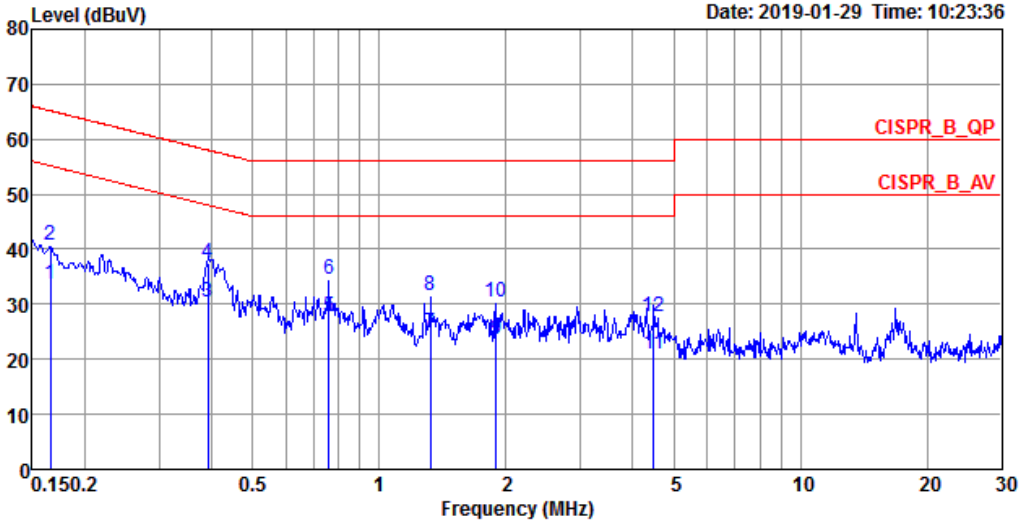
Test Mode	Mode 2	Frequency Range	0.15 MHz to 30 MHz

Line



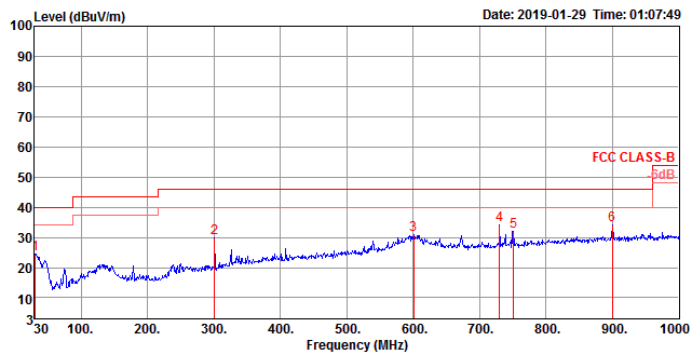
	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark	Pol/Phase
	MHz	dBuV	dB	dBuV	dBuV	dB	dB		
1	0.1712	33.02	-21.88	54.90	22.85	10.15	0.02	Average	LINE
2	0.1712	39.83	-25.07	64.90	29.66	10.15	0.02	QP	LINE
3	0.4193	30.37	-17.09	47.46	20.19	10.16	0.02	Average	LINE
4	0.4193	37.11	-20.35	57.46	26.93	10.16	0.02	QP	LINE
5	0.7509	27.02	-18.98	46.00	16.83	10.17	0.02	Average	LINE
6	0.7509	33.93	-22.07	56.00	23.74	10.17	0.02	QP	LINE
7	1.0157	25.72	-20.28	46.00	15.53	10.17	0.02	Average	LINE
8	1.0157	32.64	-23.36	56.00	22.45	10.17	0.02	QP	LINE
9	1.7162	23.90	-22.10	46.00	13.67	10.19	0.04	Average	LINE
10	1.7162	30.97	-25.03	56.00	20.74	10.19	0.04	QP	LINE
11	2.9307	21.58	-24.42	46.00	11.31	10.21	0.06	Average	LINE
12	2.9307	28.58	-27.42	56.00	18.31	10.21	0.06	QP	LINE

Neutral



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark	Pol/Phase
	MHz	dBuV	dB	dBuV	dBuV	dB	dB		
1	0.1659	33.56	-21.60	55.16	23.41	10.13	0.02	Average	NEUTRAL
2	0.1659	40.60	-24.56	65.16	30.45	10.13	0.02	QP	NEUTRAL
3	0.3914	30.53	-17.50	48.03	20.37	10.14	0.02	Average	NEUTRAL
4	0.3914	37.54	-20.49	58.03	27.38	10.14	0.02	QP	NEUTRAL
5	0.7589	27.69	-18.31	46.00	17.53	10.14	0.02	Average	NEUTRAL
6	0.7589	34.42	-21.58	56.00	24.26	10.14	0.02	QP	NEUTRAL
7	1.3238	24.76	-21.24	46.00	14.58	10.15	0.03	Average	NEUTRAL
8	1.3238	31.63	-24.37	56.00	21.45	10.15	0.03	QP	NEUTRAL
9	1.8979	23.49	-22.51	46.00	13.28	10.16	0.05	Average	NEUTRAL
10	1.8979	30.27	-25.73	56.00	20.06	10.16	0.05	QP	NEUTRAL
11	4.4777	20.96	-25.04	46.00	10.70	10.19	0.07	Average	NEUTRAL
12	4.4777	27.83	-28.17	56.00	17.57	10.19	0.07	QP	NEUTRAL

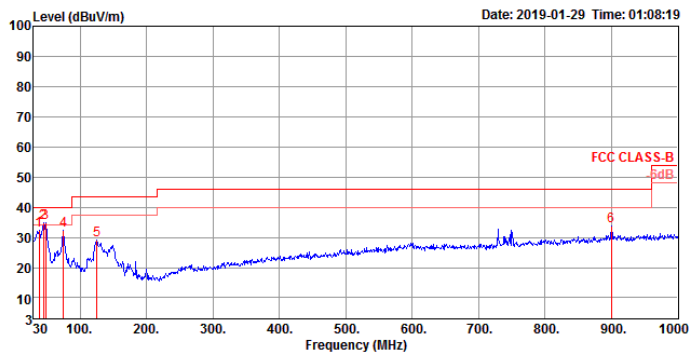
RSE below 1GHz Result			
Operating Mode	3	**Polarization**	Horizontal
Operating Function	Unintentional - CRX		



	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	30.97	24.64	40.00	-15.36	30.30	0.69	25.11	31.46	100	360	Peak	HORIZONTAL
2	300.63	29.71	46.00	-16.29	39.69	2.22	19.80	32.00	100	360	Peak	HORIZONTAL
3	600.36	30.78	46.00	-15.22	34.99	3.31	24.90	32.42	100	360	Peak	HORIZONTAL
4	730.34	34.20	46.00	-11.80	37.19	3.57	25.96	32.52	100	360	Peak	HORIZONTAL
5	750.71	32.06	46.00	-13.94	34.75	3.64	26.20	32.53	100	360	Peak	HORIZONTAL
6	900.09	34.01	46.00	-11.99	34.69	4.09	27.70	32.47	100	360	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.)

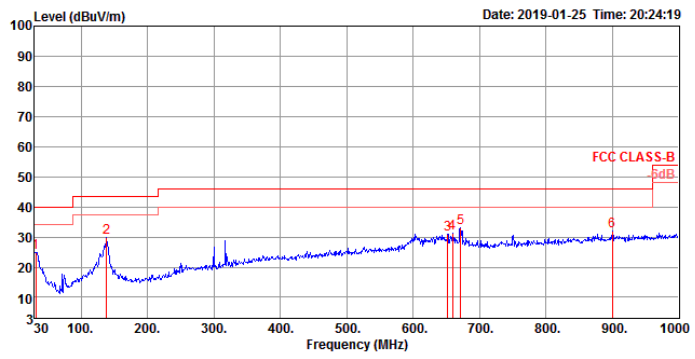
RSE below 1GHz Result			
Operating Mode	3	**Power Phase**	Vertical
Operating Function	Unintentional - CRX		



	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	38.73	32.26	40.00	-7.74	42.58	0.81	20.51	31.64	100	0	Peak	VERTICAL
2	44.55	34.69	40.00	-5.31	48.25	0.89	17.25	31.70	100	0	Peak	VERTICAL
3	48.43	34.84	40.00	-5.16	50.20	0.92	15.46	31.74	100	0	Peak	VERTICAL
4	74.62	32.42	40.00	-7.58	50.22	1.12	12.93	31.85	100	0	Peak	VERTICAL
5	125.06	29.20	43.50	-14.30	41.05	1.44	18.60	31.89	100	0	Peak	VERTICAL
6	900.09	33.86	46.00	-12.14	34.54	4.09	27.70	32.47	100	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.)

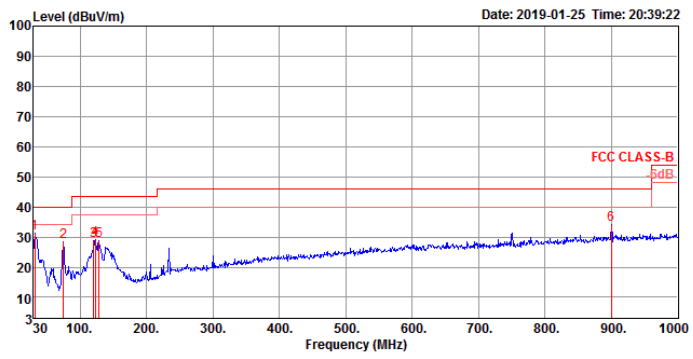
RSE below 1GHz Result			
Operating Mode	3	**Polarization**	Horizontal
Operating Function	Intentional - CTX		



	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	31.94	24.90	40.00	-15.10	31.17	0.71	24.51	31.49	400	0	Peak	HORIZONTAL
2	138.64	29.92	43.50	-13.58	42.43	1.51	17.87	31.89	400	0	Peak	HORIZONTAL
3	651.77	30.92	46.00	-15.08	34.61	3.26	25.50	32.45	400	0	Peak	HORIZONTAL
4	659.53	31.19	46.00	-14.81	34.84	3.29	25.52	32.46	400	0	Peak	HORIZONTAL
5	671.17	33.06	46.00	-12.94	36.65	3.34	25.54	32.47	400	0	Peak	HORIZONTAL
6	900.09	32.07	46.00	-13.93	32.75	4.09	27.70	32.47	400	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.)

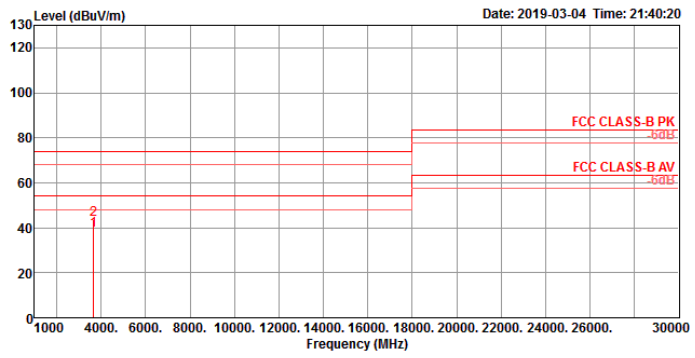
RSE below 1GHz Result			
Operating Mode	3	**Power Phase**	Vertical
Operating Function	Intentional - CTX		



	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	31.94	31.39	40.00	-8.61	37.66	0.71	24.51	31.49	100	360	Peak	VERTICAL
2	74.62	28.24	40.00	-11.76	46.04	1.12	12.93	31.85	100	360	Peak	VERTICAL
3	120.21	28.95	43.50	-14.55	40.73	1.42	18.69	31.89	100	360	Peak	VERTICAL
4	123.12	28.98	43.50	-14.52	40.81	1.43	18.63	31.89	100	360	Peak	VERTICAL
5	128.94	28.70	43.50	-14.80	40.61	1.46	18.52	31.89	100	360	Peak	VERTICAL
6	900.09	34.05	46.00	-11.95	34.73	4.09	27.70	32.47	100	360	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.)

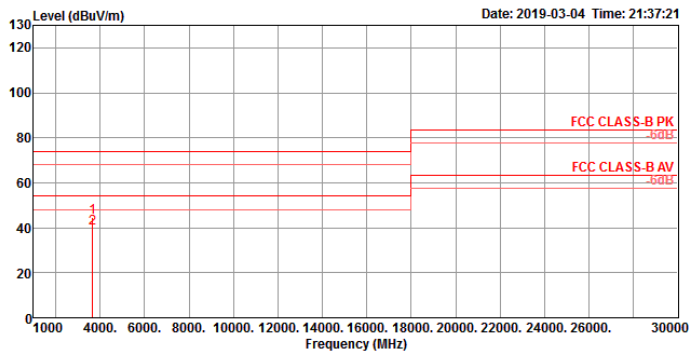
Unintentional 1GHz~5th Harmonic Result			
Operating Mode	1	**Polarization**	Horizontal
Operating Function	Unintentional - CRX		



	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	3666.65	38.70	54.00	-15.30	41.74	4.44	29.14	36.62	260	173	Average	HORIZONTAL
2	3666.65	43.59	74.00	-30.41	46.63	4.44	29.14	36.62	260	173	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.)

Unintentional 1GHz~5th Harmonic Result			
Operating Mode	1	**Power Phase**	Vertical
Operating Function	Unintentional - CRX		



	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	3666.60	44.67	74.00	-29.33	47.71	4.44	29.14	36.62	105	159	Peak	VERTICAL
2	3666.65	39.95	54.00	-14.05	42.99	4.44	29.14	36.62	105	159	Average	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.)