

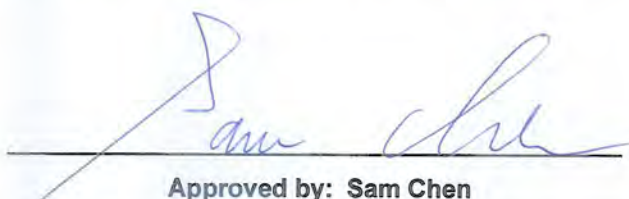


# FCC RADIO TEST REPORT

**FCC ID** : 2AHKM-CODA5519  
**Equipment** : DOCSIS 3.1 Wi-Fi 6 EMTA Gateway  
**Brand Name** : hitron  
**Model Name** : CODA-5519, CODA-5512, CODA-5719, CODA-5712, CODA-5610, CODA-5810, CODA-5814, CODA5610  
**Applicant** : Hitron Technologies Inc.  
No. 1-8, Li-Hsin 1st Rd. Hsinchu Science Park,  
Hsinchu 30078, Taiwan  
**Manufacturer** : Hitron Technologies Inc.  
No. 1-8, Li-Hsin 1st Rd. Hsinchu Science Park,  
Hsinchu 30078, Taiwan  
**Standard** : 47 CFR FCC Part 15.247

The product was received on Nov. 28, 2019, and testing was started from May 28, 2020 and completed on Jul. 23, 2020. 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 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: Sam Chen

**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 Applicable Standards .....9

1.3 Testing Location Information .....9

1.4 Measurement Uncertainty .....9

**2 Test Configuration of EUT .....10**

2.1 The Worst Case Measurement Configuration .....10

2.2 EUT Operation during Test .....11

2.3 Accessories .....11

2.4 Support Equipment.....12

2.5 Test Setup Diagram .....14

**3 Transmitter Test Result .....18**

3.1 AC Power-line Conducted Emissions .....18

3.2 Emissions in Restricted Frequency Bands.....20

**4 Test Equipment and Calibration Data .....24**

**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
FR020705-01AA	01	Initial issue of report	Aug. 24, 2020



### 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:**

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: **Sam Chen**  
Report Producer: **Cindy Peng**



# 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	ax (HEW40)	2422-2452	3-9 [7]

Band	Mode	BWch (MHz)	Nant
2.4-2.4835GHz	802.11b	20	1TX
2.4-2.4835GHz	802.11g	20	4TX
2.4-2.4835GHz	802.11n HT20	20	4TX
2.4-2.4835GHz	802.11ax HEW20	20	4TX
2.4-2.4835GHz	802.11ax HEW40	40	4TX

Note:

- ♦ 11b mode uses a combination of DSSS-DBPSK, DQPSK, CCK modulation.
- ♦ 11g, HT20 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	Type	Connector	Gain (dBi)				
						2.4GHz	5GHz Band 1	5GHz Band 2	5GHz Band 3	5GHz Band 4
1	3	WIESON	GY196HC112-011	PCB	MHF	2.8	2.6	3	3.4	3
2	2	WIESON	GY196HC112-012	PCB	MHF	2.8	2.6	3	3.4	3
3	1	WIESON	GY196HC112-013	PCB	MHF	2.8	2.6	3	3.4	3
4	4	WIESON	GY196HC112-014	PCB	MHF	2.8	2.6	3	3.4	3

Note: The above information was declared by manufacturer.

For 2.4GHz function:

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

The EUT supports the antenna with TX and RX diversity functions.

Port 1, Port 2, Port 3 and Port 4 support transmit and receive functions, but only one of them will be used at one time.

For IEEE 802.11g/n/ax mode (4TX/4RX)

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

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

For 5GHz function:

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

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

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

1.1.3 EUT Operational Condition

<b>EUT Power Type</b>	From power adapter			
<b>Beamforming Function</b>	<input checked="" type="checkbox"/>	With beamforming	<input type="checkbox"/>	Without beamforming
	The product has beamforming function for 802.11n/ac/ax in 5GHz.			
<b>Function</b>	<input checked="" type="checkbox"/>	Point-to-multipoint	<input type="checkbox"/>	Point-to-point
<b>Test Software Version</b>	DUT GUI V610.23			

Note: The above information was declared by manufacturer.



**1.1.4 Table for Multiple Listing**

The model names in the following table are all refer to the identical product.

EUT	Model Name	Frequency Configuration	MoCA	Voice (SLIC)	LAN	Wi-Fi	BBU	USB
1	CODA-5519	5~85 US	Yes	PEF42078	PHY: GPY212	WAV614+	Yes	Yes
		108 ~ 1002 DS			Switch: PEF7085	Wave624		
2	CODA-5512	5~85 US	Yes	No	PHY: GPY212	WAV614+	No	Yes
		108 ~ 1002 DS			Switch: PEF7085	Wave624		
3	CODA-5719	5-85/ 5~204MHz US	Yes	PEF42078	PHY: GPY212	WAV614+	Yes	Yes
		108 ~ 1002 / 258 ~ 1002Mhz DS			Switch: PEF7085	Wave624		
4	CODA-5712	5-85/ 5~204MHz US	Yes	No	PHY: GPY212	WAV614+	No	Yes
		108 ~ 1002 / 258 ~ 1002Mhz DS			Switch: PEF7085	Wave624		
5	CODA-5610	5-42/ 5~85MHz US	No	No	PHY: GPY212	WAV614+	No	Yes
		108 ~ 1002 DS			Switch: PEF7085	Wave624		
6	CODA-5810	5-85/ 5~204MHz US	No	No	PHY: GPY212	WAV614+	No	Yes
		108 ~ 1218 / 258 ~ 1218Mhz DS			Switch: PEF7085	Wave624		
7	CODA-5814	5-85/ 5~204MHz US	No	PEF42078	PHY: GPY212	WAV614+	Yes	Yes
					Switch: PEF7085	Wave624		
-	CODA5610	5-42/ 5~85MHz US	No	No	PHY: GPY212	WAV614+	No	Yes
		108 ~ 1002 DS			Switch: PEF7085	Wave624		

Note: The model "CODA-5610" and "CODA5610" are identical, different model names serve as marketing strategy.



### 1.1.5 Table for Class II Change

This product is an extension of original one reported under Sporton project number: FR020705AA

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

Modifications	Performance Checking
1. Changing the color of RJ-45 cable to “orange” from “yellow”. 2. Removing one adapter (Brand Name: APD, Model Name: DA-60Y12). 3. Adding 5GHz band 2 and band 3 (5250~5350 MHz, 5470~5725 MHz). 4. Adding the 160MHz bandwidth.	It does not affect the test result.
5. Changing the hardware of model names: CODA-5512, CODA-5719, CODA-5712, CODA-5610, the detail please refer to the section 1.1.5. 6. Adding three model names: CODA-5810, CODA-5814, CODA5610.	1. AC Power-line Conducted Emissions. 2. Emissions in Restricted Frequency Bands Below 1GHz.





### 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
- ◆ 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		
<input type="checkbox"/>	HWA YA	ADD : No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.) TEL : 886-3-327-3456 FAX : 886-3-327-0973
<input checked="" type="checkbox"/>	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	Remark
Radiated Below 1GHz	03CH04-CB	Paul Chen	25.4~26°C / 58~62%	May 28, 2020~Jul. 23, 2020	Mode 1~Mode 4
	03CH05-CB	Paul Chen	25.1~26.9°C / 58~60%	May 28, 2020~Jul. 23, 2020	Mode 5~Mode 6
AC Conduction	CO02-CB	GN Hou	22~23°C / 58~62%	Jun. 08, 2020	Mode 1~Mode 6

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)	2.0 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	5.6 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	
<b>Tests Item</b>	AC power-line conducted emissions
<b>Condition</b>	AC power-line conducted measurement for line and neutral
<b>Operating Mode</b>	Normal Link
1	EUT 2 + Adapter
2	EUT 3 + Adapter
3	EUT 4 + Adapter
4	EUT 5 + Adapter
5	EUT 6 + Adapter
6	EUT 7 + Adapter

The Worst Case Mode for Following Conformance Tests	
<b>Tests Item</b>	Emissions in Restricted Frequency Bands
<b>Test Condition</b>	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.
<b>Operating Mode &lt; 1GHz</b>	Normal Link
1	EUT 2 + Adapter
2	EUT 3 + Adapter
3	EUT 4 + Adapter
4	EUT 5 + Adapter
5	EUT 6 + Adapter
6	EUT 7 + Adapter

The Worst Case Mode for Following Conformance Tests	
<b>Tests Item</b>	Simultaneous Transmission Analysis - Co-location RF Exposure Evaluation
<b>Operating Mode</b>	
1	WLAN 2.4GHz + WLAN 5GHz

Refer to Sporton Test Report No.: FA020705-01 for Co-location RF Exposure Evaluation.

Note: The EUT can only be used at Y axis position



## 2.2 EUT Operation during Test

During the test, the EUT operation to normal function.

## 2.3 Accessories

Accessories				
Equipment Name	Brand Name	Model Name	Rating	DC Power Line
Adapter	Frecom	F60X-120450SPA	Input: 100-240~50/60Hz 1.6A Output: 12V, 4.5A	Non-Shielded, 1.5m
Others				
AC power cable*1: Non-Shielded, 1.2m				
RJ-45 cable*1:Non-Shielded 1.5m				



## 2.4 Support Equipment

For AC Conduction:

Mode 1, Mode 3, Mode 4 and Mode 5

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	2.5G LAN PC	DELL	T3400	N/A
B	LAN NB	DELL	E6430	N/A
C	CO (Terminal System)	Jinghong	D3 CMTS JH-HE3416B	N/A
D	Flash disk3.0	Transcend	C55210 2808	N/A
E	2.4G NB	DELL	E6430	N/A
F	5G NB	DELL	E6430	N/A

Mode 2 and Mode 6

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	2.5G LAN PC	DELL	T3400	N/A
B	LAN NB	DELL	E6430	N/A
C	Phone	SAMPO	HT-B 907WL	N/A
D	Phone	SAMPO	HT-B 907WL	N/A
E	CO (Terminal System)	Jinghong	D3 CMTS JH-HE3416B	N/A
F	Flash disk3.0	Transcend	C55210 2808	N/A
G	2.4G NB	DELL	E6430	N/A
H	5G NB	DELL	E6430	N/A

For Radiated (below 1GHz):

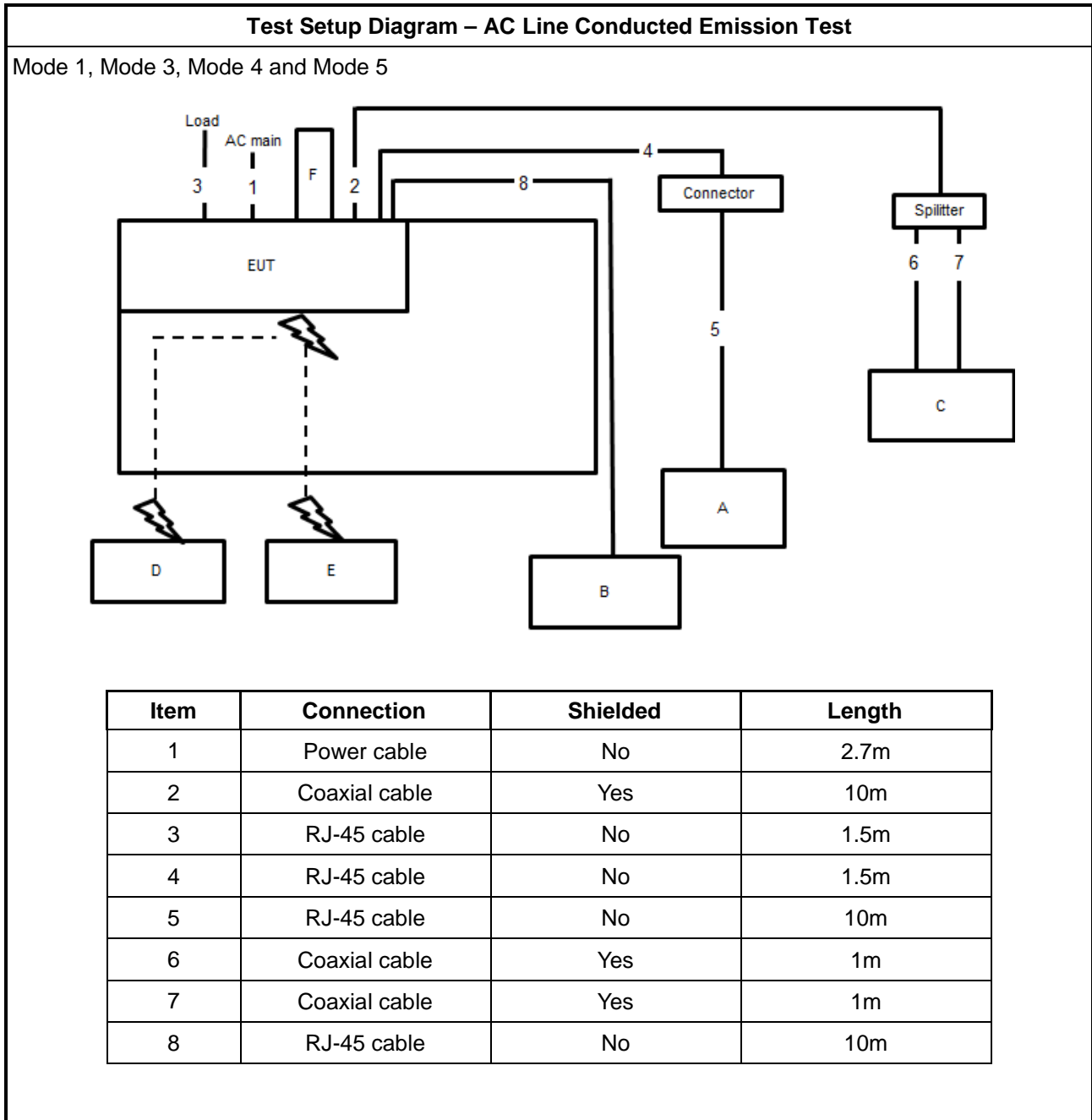
Mode 1, Mode 3, Mode 4 and Mode 5

Support Equipment				
No.	Equipment	Brand Name	Model Name	FCC ID
A	PC	DELL	T3400	N/A
B	NB	DELL	E4300	N/A
C	NB	DELL	E4300	N/A
D	Flash disk3.0	Transcend	C55210 2808	N/A
G	CO (Terminal System)	Jinghong	D3 CMTS JH-HE3416B	N/A
H	NB	DELL	E4300	N/A

**Mode 2 and Mode 6**

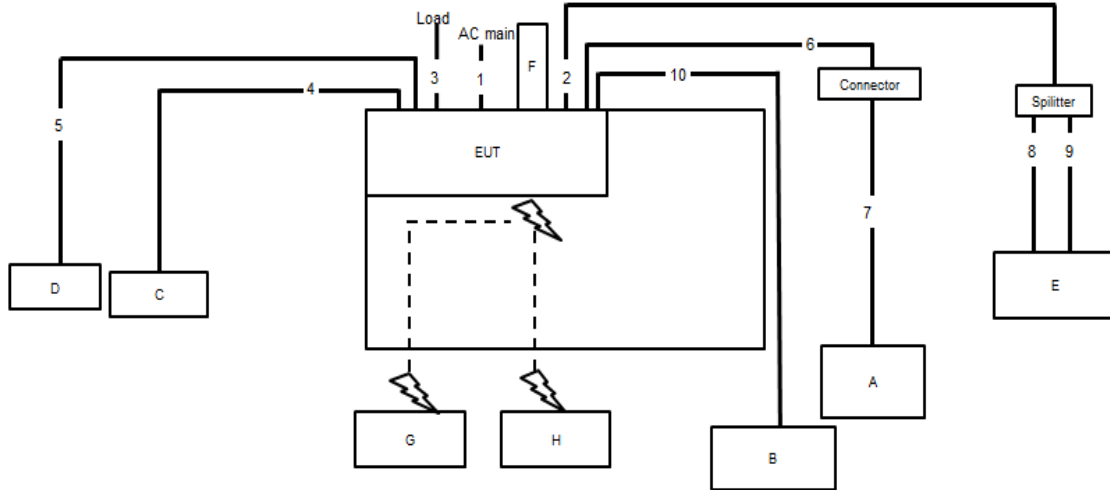
<b>Support Equipment</b>				
<b>No.</b>	<b>Equipment</b>	<b>Brand Name</b>	<b>Model Name</b>	<b>FCC ID</b>
A	PC	DELL	T3400	N/A
B	NB	DELL	E4300	N/A
C	NB	DELL	E4300	N/A
D	Flash disk3.0	Transcend	C55210 2808	N/A
E	Phone	PHILIPS	M20	N/A
F	Phone	PHILIPS	M20	N/A
G	CO (Terminal System)	Jinghong	D3 CMTS JH-HE3416B	N/A
H	NB	DELL	E4300	N/A

## 2.5 Test Setup Diagram



**Test Setup Diagram – AC Line Conducted Emission Test**

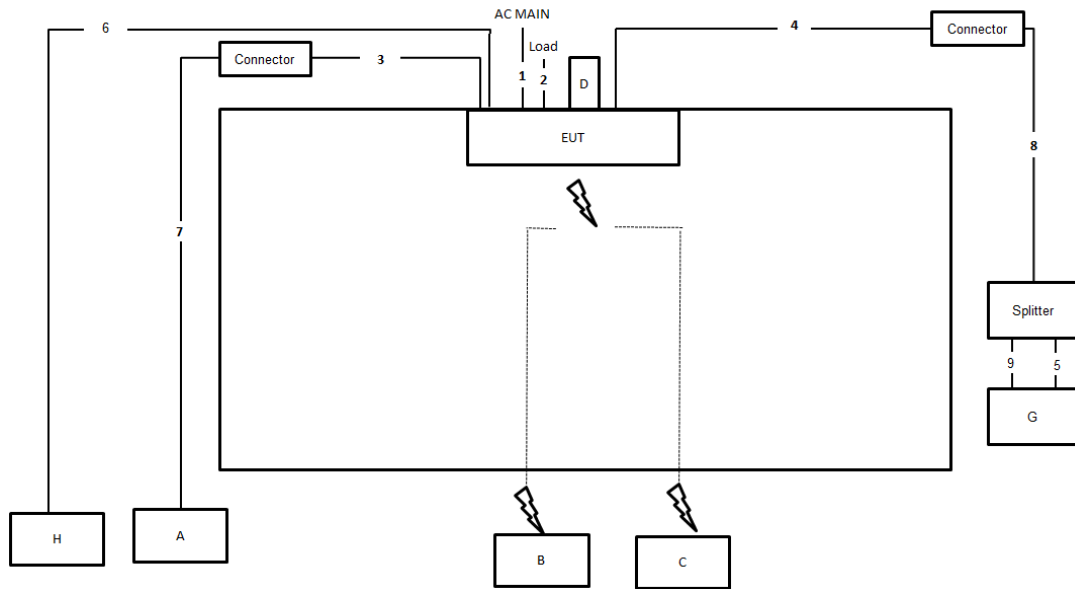
Mode 2 and Mode 6



Item	Connection	Shielded	Length
1	Power cable	No	2.7m
2	Coaxial cable	Yes	10m
3	RJ-45 cable	No	1.5m
4	RJ-11 cable	No	10m
5	RJ-11 cable	No	10m
6	RJ-45 cable	No	1.5m
7	RJ-45 cable	No	10m
8	Coaxial cable	Yes	1m
9	Coaxial cable	Yes	1m
10	RJ-45 cable	No	10m

**Test Setup Diagram - Radiated Test < 1GHz**

Mode 1, Mode 3, Mode 4 and Mode 5

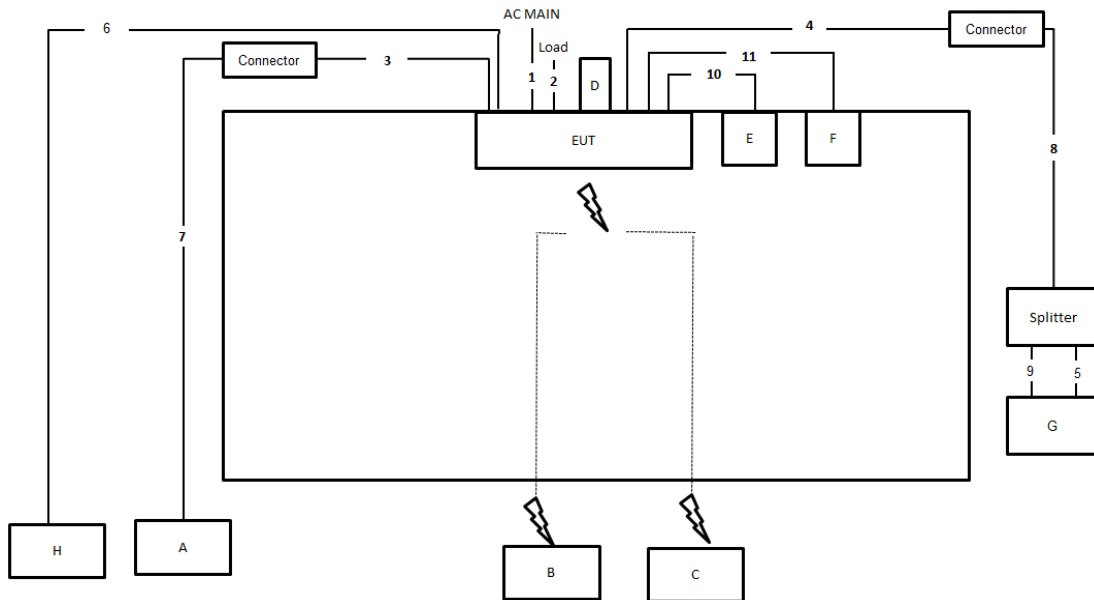


Item	Connection	Shielded	Length
1	Power cable	No	2.7m
2	RJ-45 cable	No	1.5m
3	RJ-45 cable	No	1.5m
4	Coaxial cable	Yes	10m
5	Coaxial cable	Yes	1.1m
6	RJ-45 cable	No	10m
7	RJ-45 cable	No	10m
8	Coaxial cable	Yes	1.7m
9	Coaxial cable	Yes	1.0m



**Test Setup Diagram - Radiated Test < 1GHz**

Mode 2 and Mode 6



Item	Connection	Shielded	Length
1	Power cable	No	2.7m
2	RJ-45 cable	No	1.5m
3	RJ-45 cable	No	1.5m
4	Coaxial cable	Yes	10m
5	Coaxial cable	Yes	1.1m
6	RJ-45 cable	No	10m
7	RJ-45 cable	No	10m
8	Coaxial cable	Yes	1.7m
9	Coaxial cable	Yes	1.0m
10	RJ-11 cable	No	1.5m
11	RJ-11 cable	No	1.5m



### 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.

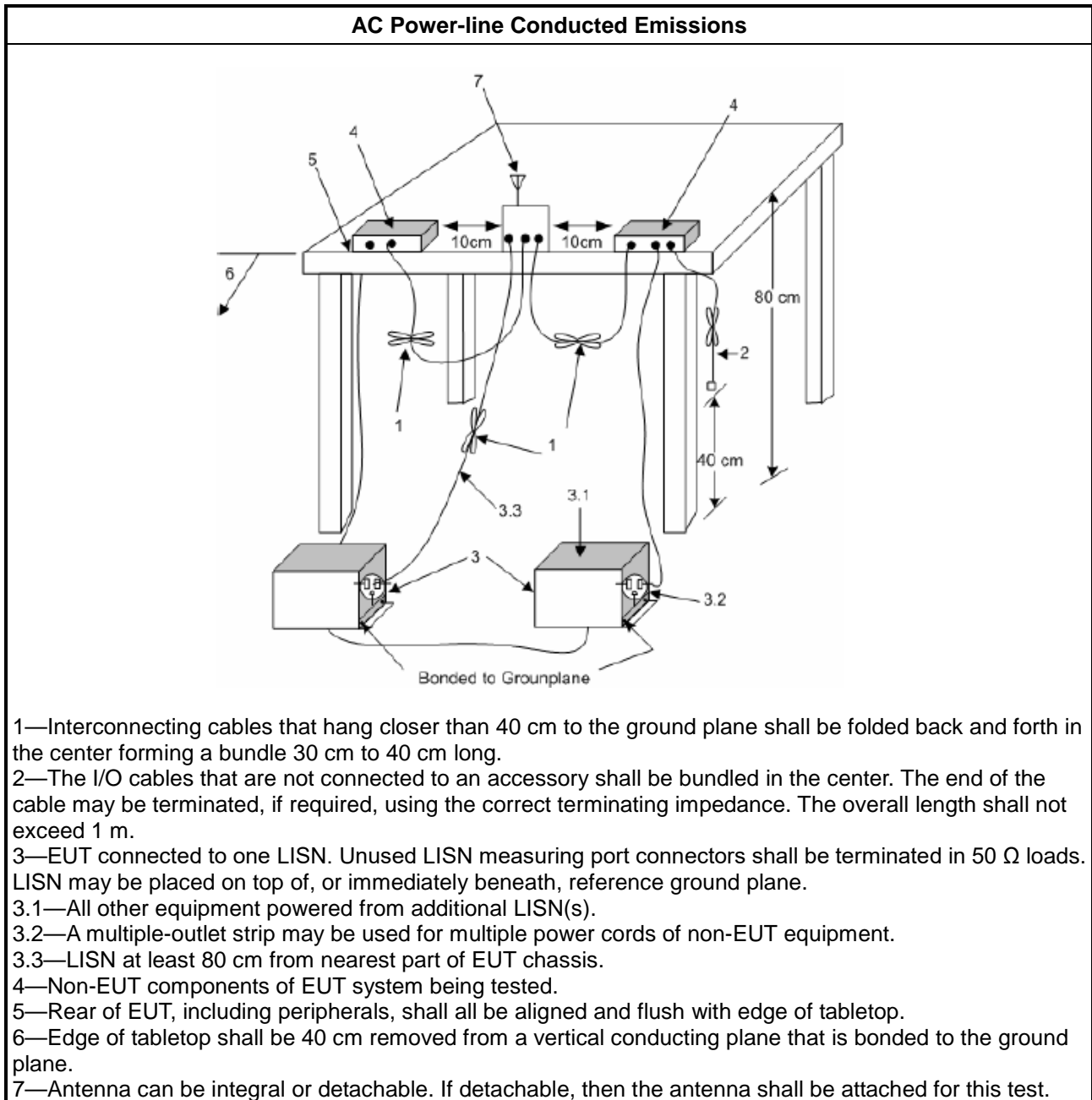
##### 3.1.2 Measuring Instruments

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

##### 3.1.3 Test Procedures

Test Method
<input checked="" type="checkbox"/> Refer as ANSI C63.10-2013, clause 6.2 for AC power-line conducted emissions.

### 3.1.4 Test Setup



### 3.1.5 Measurement Results Calculation

The measured Level is calculated using:

- Corrected Reading (dBuV) = LISN Factor + Cable Loss + Read Level = Level
- Margin = - Limit + (Read Level + LISN Factor + Cable Loss)

### 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

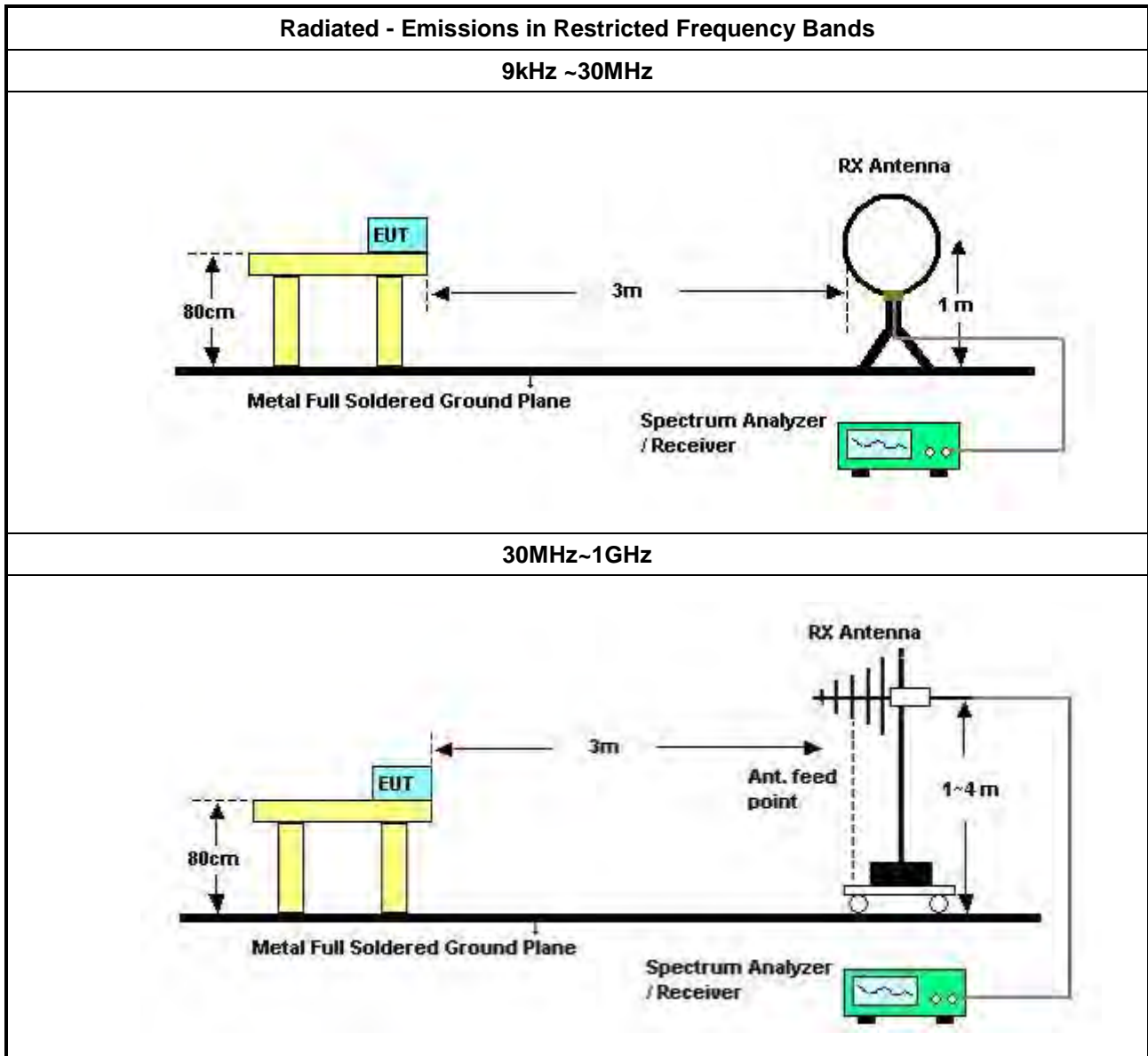
Refer a test equipment and calibration data table in this test report.



**3.2.3 Test Procedures**

Test Method	
<ul style="list-style-type: none"> <li>▪ The average emission levels shall be measured in [duty cycle <math>\geq</math> 98 or duty factor].</li> </ul>	
<ul style="list-style-type: none"> <li>▪ 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.</li> </ul>	
<ul style="list-style-type: none"> <li>▪ For the transmitter unwanted emissions shall be measured using following options below:</li> </ul>	
	<ul style="list-style-type: none"> <li>▪ Refer as FCC KDB 558074, clause 8.6 for unwanted emissions into restricted bands.</li> </ul>
	<input type="checkbox"/> Refer as FCC KDB 558074, clause 8.6 & C63.10 clause 11.12.2.5.1(trace averaging for duty cycle $\geq$ 98%).
	<input type="checkbox"/> Refer as FCC KDB 558074, clause 8.6 & C63.10 clause 11.12.2.5.2(trace averaging + duty factor).
	<input checked="" type="checkbox"/> Refer as FCC KDB 558074, clause 8.6 & C63.10 clause 11.12.2.5.3(Reduced VBW $\geq$ 1/T).
	<input type="checkbox"/> Refer as ANSI C63.10, clause 11.12.2.5.3 (Reduced VBW). VBW $\geq$ 1/T, where T is pulse time.
	<input type="checkbox"/> Refer as ANSI C63.10, clause 7.5 average value of pulsed emissions.
	<input checked="" type="checkbox"/> Refer as FCC KDB 558074, clause 8.6 & C63.10 clause 11.12.2.4 measurement procedure peak limit.
<ul style="list-style-type: none"> <li>▪ For the transmitter band-edge emissions shall be measured using following options below:</li> </ul>	
	<ul style="list-style-type: none"> <li>▪ Refer as FCC KDB 558074 clause 8.7 &amp; 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.</li> </ul>
	<ul style="list-style-type: none"> <li>▪ Refer as FCC KDB 558074, clause 8.7 (ANSI C63.10, clause 6.10.6) for marker-delta method for band-edge measurements.</li> </ul>
	<ul style="list-style-type: none"> <li>▪ 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).</li> </ul>
	<ul style="list-style-type: none"> <li>▪ 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             </li> </ul>
	<ul style="list-style-type: none"> <li>▪ 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.</li> </ul>

### 3.2.4 Test Setup



### 3.2.5 Measurement Results Calculation

The measured Level is calculated using:

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor (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	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
LISN	Schwarzbeck	NSLK 8127	8127650	9kHz ~ 30MHz	Nov. 21, 2019	Nov. 20, 2020	Conduction (CO02-CB)
LISN	Schwarzbeck	NSLK 8127	8127478	9kHz ~ 30MHz	Oct. 30, 2019	Oct. 29, 2020	Conduction (CO02-CB)
EMI Receiver	Agilent	N9038A	MY52260140	9kHz ~ 8.4GHz	Mar. 10, 2020	Mar. 09, 2021	Conduction (CO02-CB)
Pulse Limiter	Schwarzbeck	VTSD 9561F-N	00378	9kHz ~ 30MHz	Mar. 19, 2020	Mar. 18, 2021	Conduction (CO02-CB)
COND Cable	Woken	Cable	2	0.15MHz ~ 30MHz	Oct. 21, 2019	Oct. 20, 2020	Conduction (CO02-CB)
Software	Audix	E3	6.120210n	-	N.C.R.	N.C.R.	Conduction (CO02-CB)
Loop Antenna	Teseq	HLA 6120	24155	9kHz - 30 MHz	Mar. 29, 2019	Mar. 28, 2020	Radiation (03CH05-CB)
Loop Antenna	Teseq	HLA 6120	24155	9kHz - 30 MHz	Apr. 13, 2020	Apr. 12, 2021	Radiation (03CH05-CB)
Bilog Antenna with 6dB Attenuator	TESEQ & EMCI	CBL 6112D & N-6-06	35236 & AT-N0610	30MHz ~ 2GHz	Mar. 28, 2019	Mar. 27, 2020	Radiation (03CH05-CB)
Bilog Antenna with 6dB Attenuator	TESEQ & EMCI	CBL 6112D & N-6-06	35236 & AT-N0610	30MHz ~ 2GHz	Mar. 27, 2020	Mar. 26, 2021	Radiation (03CH05-CB)
Pre-Amplifier	EMCI	EMC330N	980331	20MHz ~ 3GHz	May 01, 2019	Apr. 30, 2020	Radiation (03CH05-CB)
Pre-Amplifier	EMCI	EMC330N	980331	20MHz ~ 3GHz	Apr. 28, 2020	Apr. 27, 2021	Radiation (03CH05-CB)
Spectrum Analyzer	R&S	FSP40	100304	9kHz ~ 40GHz	Aug. 15, 2019	Aug. 14, 2020	Radiation (03CH05-CB)
EMI Test Receiver	R&S	ESCS	826547/017	9kHz ~ 2.75GHz	May 15, 2019	May 14, 2020	Radiation (03CH05-CB)
EMI Test Receiver	R&S	ESCS	826547/017	9kHz ~ 2.75GHz	May 13, 2020	May 12, 2021	Radiation (03CH05-CB)
RF Cable-low	Woken	RG402	LOW Cable-04+23	30MHz~1GHz	Oct. 07, 2019	Oct. 06, 2020	Radiation (03CH05-CB)
Loop Antenna	Teseq	HLA 6120	24155	9kHz - 30 MHz	Apr. 13, 2020	Apr. 12, 2021	Radiation (03CH04-CB)
BILOG ANTENNA with 6 dB attenuator	Schaffner & EMCI	CBL6112B & N-6-06	22021&AT-N0607	30MHz ~ 1GHz	Oct. 12, 2019	Oct. 11, 2020	Radiation (03CH04-CB)
Pre-Amplifier	Agilent	83017A	MY53270063	0.5GHz ~ 26.5GHz	Mar. 11, 2020	Mar. 10, 2021	Radiation (03CH04-CB)
Spectrum Analyzer	R&S	FSP40	100142	9kHz~40GHz	Dec. 18, 2019	Dec. 17, 2020	Radiation (03CH04-CB)
EMI Test Receiver	R&S	ESCS	826547/017	9kHz ~ 2.75GHz	May 13, 2020	May 12, 2021	Radiation (03CH04-CB)
RF Cable-low	Woken	RG402	Low Cable-03+22	30MHz ~ 1GHz	Oct. 07, 2019	Oct. 06, 2020	Radiation (03CH04-CB)

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

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





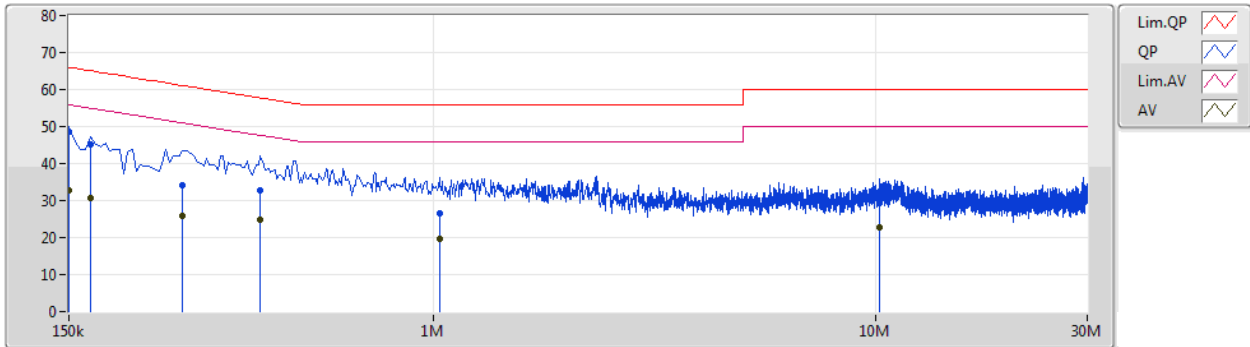
# AC Power Port Conducted Emission Result

Appendix A

<b>Test Mode</b>	Mode 1	<b>Frequency Range</b>	0.15 MHz to 30 MHz
------------------	--------	------------------------	--------------------

Line

08/06/2020

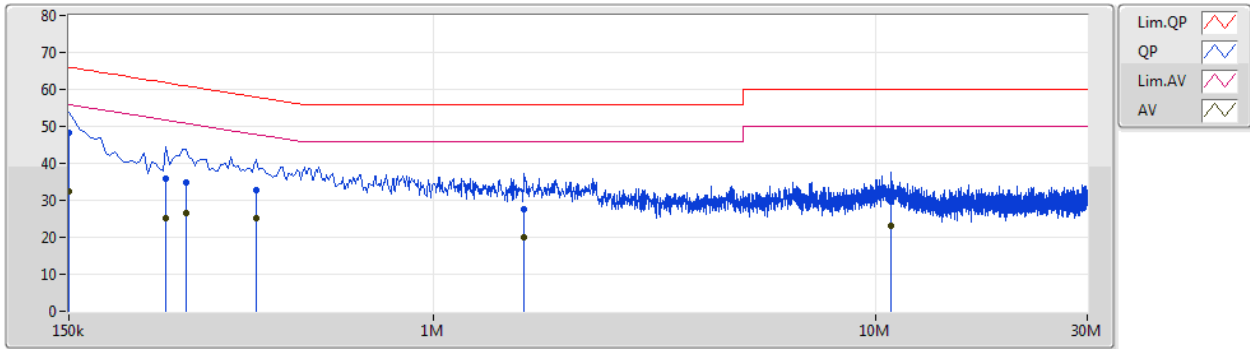


Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	AF (dB)	CL (dB)	AT (dB)
QP	150k	48.69	66.00	-17.31	10.20	Line	"Worst"	38.49	0.05	0.05	10.10
AV	150k	32.88	56.00	-23.12	10.20	Line	-	22.68	0.05	0.05	10.10
QP	168k	45.17	65.06	-19.89	10.21	Line	-	34.96	0.05	0.06	10.10
AV	168k	30.62	55.06	-24.44	10.21	Line	-	20.41	0.05	0.06	10.10
QP	271.5k	34.30	61.07	-26.77	10.22	Line	-	24.08	0.05	0.07	10.10
AV	271.5k	25.85	51.07	-25.22	10.22	Line	-	15.63	0.05	0.07	10.10
QP	406.5k	32.82	57.72	-24.90	10.23	Line	-	22.59	0.05	0.08	10.10
AV	406.5k	24.76	47.72	-22.96	10.23	Line	-	14.53	0.05	0.08	10.10
QP	1.032M	26.63	56.00	-29.37	10.28	Line	-	16.35	0.06	0.12	10.10
AV	1.032M	19.66	46.00	-26.34	10.28	Line	-	9.38	0.06	0.12	10.10
QP	10.167M	29.21	60.00	-30.79	10.50	Line	-	18.71	0.23	0.16	10.11
AV	10.167M	22.60	50.00	-27.40	10.50	Line	-	12.10	0.23	0.16	10.11



Neutral

08/06/2020



Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	AF (dB)	CL (dB)	AT (dB)
QP	150k	48.31	66.00	-17.69	10.20	Neutral	"Worst"	38.11	0.05	0.05	10.10
AV	150k	32.43	56.00	-23.57	10.20	Neutral	-	22.23	0.05	0.05	10.10
QP	249k	35.95	61.79	-25.84	10.22	Neutral	-	25.73	0.05	0.07	10.10
AV	249k	25.10	51.79	-26.69	10.22	Neutral	-	14.88	0.05	0.07	10.10
QP	276k	34.94	60.93	-25.99	10.22	Neutral	-	24.72	0.05	0.07	10.10
AV	276k	26.47	50.93	-24.46	10.22	Neutral	-	16.25	0.05	0.07	10.10
QP	397.5k	32.72	57.91	-25.19	10.23	Neutral	-	22.49	0.05	0.08	10.10
AV	397.5k	25.07	47.91	-22.84	10.23	Neutral	-	14.84	0.05	0.08	10.10
QP	1.604M	27.62	56.00	-28.38	10.32	Neutral	-	17.30	0.07	0.15	10.10
AV	1.604M	20.15	46.00	-25.85	10.32	Neutral	-	9.83	0.07	0.15	10.10
QP	10.829M	29.65	60.00	-30.35	10.48	Neutral	-	19.17	0.20	0.17	10.11
AV	10.829M	22.95	50.00	-27.05	10.48	Neutral	-	12.47	0.20	0.17	10.11



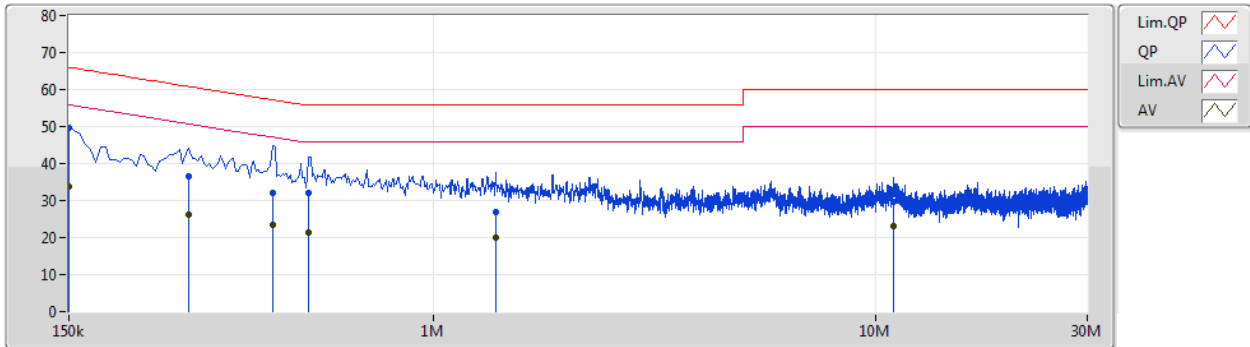
# AC Power Port Conducted Emission Result

Appendix A

<b>Test Mode</b>	Mode 2	<b>Frequency Range</b>	0.15 MHz to 30 MHz
------------------	--------	------------------------	--------------------

## Line

08/06/2020

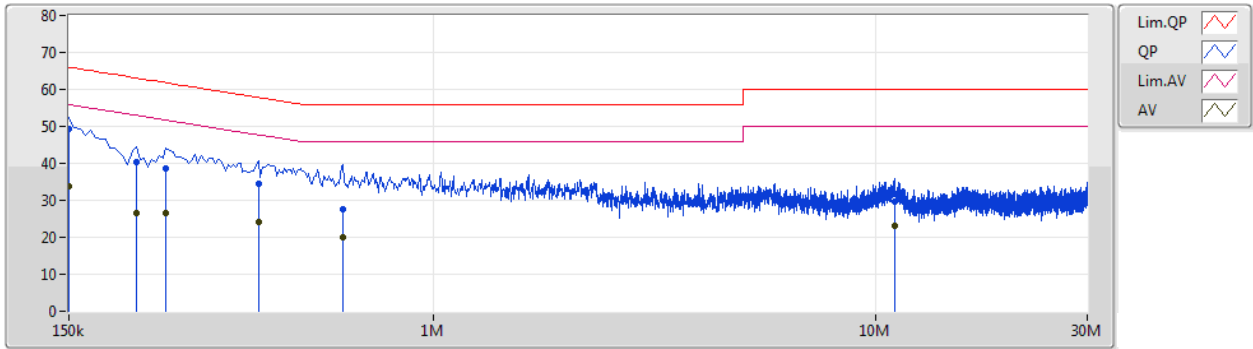


Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	AF (dB)	CL (dB)	AT (dB)
QP	150k	49.56	66.00	-16.44	10.20	Line	"Worst"	39.36	0.05	0.05	10.10
AV	150k	33.73	56.00	-22.27	10.20	Line	-	23.53	0.05	0.05	10.10
QP	280.5k	36.58	60.80	-24.22	10.22	Line	-	26.36	0.05	0.07	10.10
AV	280.5k	26.32	50.80	-24.48	10.22	Line	-	16.10	0.05	0.07	10.10
QP	433.5k	32.10	57.19	-25.09	10.23	Line	-	21.87	0.05	0.08	10.10
AV	433.5k	23.35	47.19	-23.84	10.23	Line	-	13.12	0.05	0.08	10.10
QP	523.5k	31.93	56.00	-24.07	10.24	Line	-	21.69	0.05	0.09	10.10
AV	523.5k	21.28	46.00	-24.72	10.24	Line	-	11.04	0.05	0.09	10.10
QP	1.383M	27.01	56.00	-28.99	10.31	Line	-	16.70	0.07	0.14	10.10
AV	1.383M	20.06	46.00	-25.94	10.31	Line	-	9.75	0.07	0.14	10.10
QP	10.946M	29.70	60.00	-30.30	10.53	Line	-	19.17	0.25	0.17	10.11
AV	10.946M	23.09	50.00	-26.91	10.53	Line	-	12.56	0.25	0.17	10.11



Neutral

08/06/2020



Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	AF (dB)	CL (dB)	AT (dB)
QP	150k	49.32	66.00	-16.68	10.20	Neutral	"Worst"	39.12	0.05	0.05	10.10
AV	150k	33.70	56.00	-22.30	10.20	Neutral	-	23.50	0.05	0.05	10.10
QP	213k	40.51	63.09	-22.58	10.22	Neutral	-	30.29	0.05	0.07	10.10
AV	213k	26.65	53.09	-26.44	10.22	Neutral	-	16.43	0.05	0.07	10.10
QP	249k	38.77	61.79	-23.02	10.22	Neutral	-	28.55	0.05	0.07	10.10
AV	249k	26.41	51.79	-25.38	10.22	Neutral	-	16.19	0.05	0.07	10.10
QP	402k	34.45	57.82	-23.37	10.23	Neutral	-	24.22	0.05	0.08	10.10
AV	402k	24.14	47.82	-23.68	10.23	Neutral	-	13.91	0.05	0.08	10.10
QP	622.5k	27.74	56.00	-28.26	10.25	Neutral	-	17.49	0.05	0.10	10.10
AV	622.5k	20.06	46.00	-25.94	10.25	Neutral	-	9.81	0.05	0.10	10.10
QP	11.036M	29.64	60.00	-30.36	10.48	Neutral	-	19.16	0.20	0.17	10.11
AV	11.036M	23.10	50.00	-26.90	10.48	Neutral	-	12.62	0.20	0.17	10.11



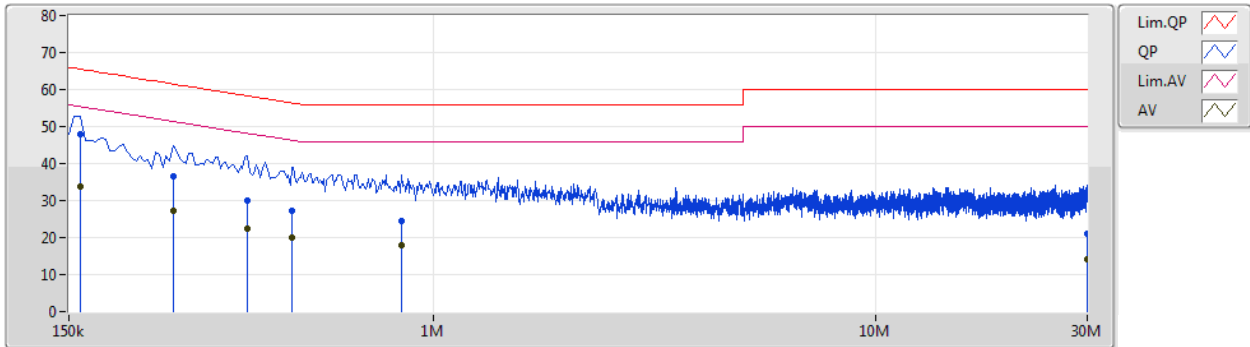
# AC Power Port Conducted Emission Result

Appendix A

<b>Test Mode</b>	Mode 3	<b>Frequency Range</b>	0.15 MHz to 30 MHz
------------------	--------	------------------------	--------------------

## Line

08/06/2020

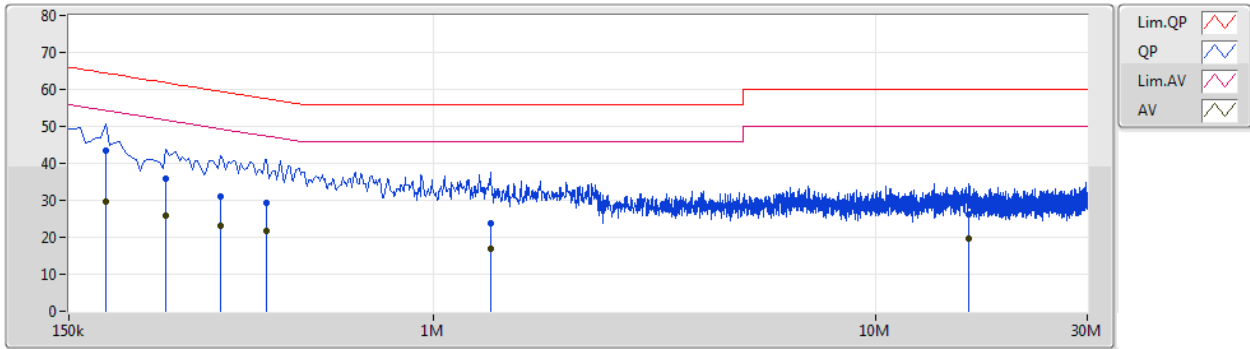


Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	AF (dB)	CL (dB)	AT (dB)
QP	159k	48.09	65.52	-17.43	10.21	Line	"Worst"	37.88	0.05	0.06	10.10
AV	159k	33.95	55.52	-21.57	10.21	Line	-	23.74	0.05	0.06	10.10
QP	258k	36.61	61.49	-24.88	10.22	Line	-	26.39	0.05	0.07	10.10
AV	258k	27.21	51.49	-24.28	10.22	Line	-	16.99	0.05	0.07	10.10
QP	379.5k	30.06	58.29	-28.23	10.23	Line	-	19.83	0.05	0.08	10.10
AV	379.5k	22.36	48.29	-25.93	10.23	Line	-	12.13	0.05	0.08	10.10
QP	478.5k	27.40	56.36	-28.96	10.24	Line	-	17.16	0.05	0.09	10.10
AV	478.5k	20.03	46.36	-26.33	10.24	Line	-	9.79	0.05	0.09	10.10
QP	847.5k	24.62	56.00	-31.38	10.27	Line	-	14.35	0.06	0.11	10.10
AV	847.5k	17.96	46.00	-28.04	10.27	Line	-	7.69	0.06	0.11	10.10
QP	29.985M	21.06	60.00	-38.94	11.00	Line	-	10.06	0.63	0.24	10.13
AV	29.985M	14.21	50.00	-35.79	11.00	Line	-	3.21	0.63	0.24	10.13



Neutral

08/06/2020



Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	AF (dB)	CL (dB)	AT (dB)
QP	181.5k	43.47	64.41	-20.94	10.21	Neutral	"Worst"	33.26	0.05	0.06	10.10
AV	181.5k	29.65	54.41	-24.76	10.21	Neutral	-	19.44	0.05	0.06	10.10
QP	249k	35.96	61.79	-25.83	10.22	Neutral	-	25.74	0.05	0.07	10.10
AV	249k	25.73	51.79	-26.06	10.22	Neutral	-	15.51	0.05	0.07	10.10
QP	330k	30.99	59.44	-28.45	10.23	Neutral	-	20.76	0.05	0.08	10.10
AV	330k	23.15	49.44	-26.29	10.23	Neutral	-	12.92	0.05	0.08	10.10
QP	420k	29.40	57.45	-28.05	10.23	Neutral	-	19.17	0.05	0.08	10.10
AV	420k	21.66	47.45	-25.79	10.23	Neutral	-	11.43	0.05	0.08	10.10
QP	1.343M	23.71	56.00	-32.29	10.31	Neutral	-	13.40	0.07	0.14	10.10
AV	1.343M	16.82	46.00	-29.18	10.31	Neutral	-	6.51	0.07	0.14	10.10
QP	16.184M	26.37	60.00	-33.63	10.56	Neutral	-	15.81	0.24	0.21	10.11
AV	16.184M	19.62	50.00	-30.38	10.56	Neutral	-	9.06	0.24	0.21	10.11



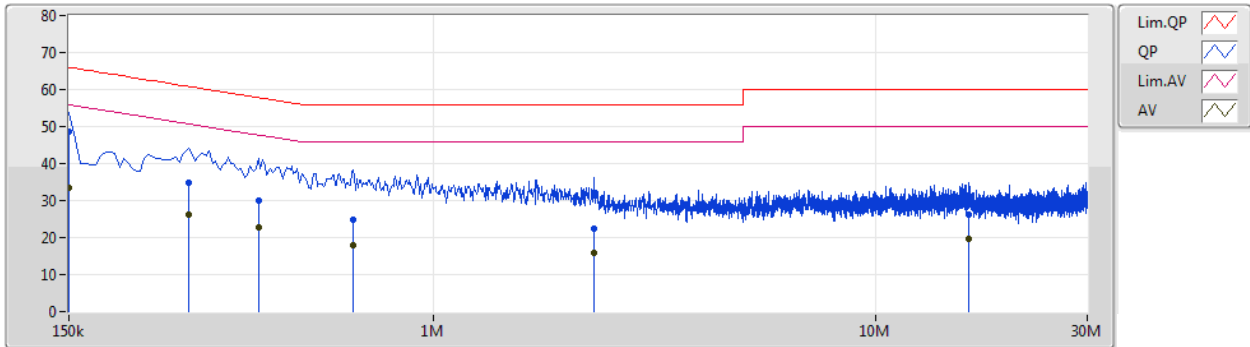
# AC Power Port Conducted Emission Result

Appendix A

<b>Test Mode</b>	Mode 4	<b>Frequency Range</b>	0.15 MHz to 30 MHz
------------------	--------	------------------------	--------------------

## Line

08/06/2020

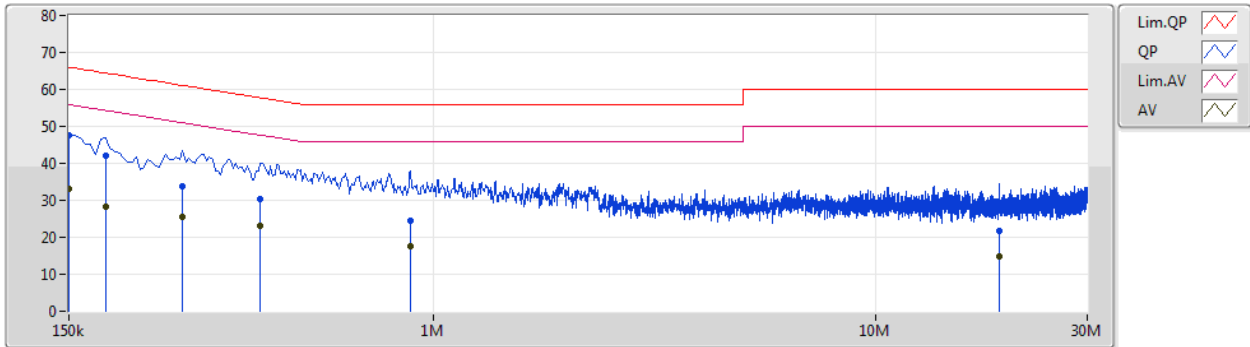


Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	AF (dB)	CL (dB)	AT (dB)
QP	150k	48.58	66.00	-17.42	10.20	Line	"Worst"	38.38	0.05	0.05	10.10
AV	150k	33.60	56.00	-22.40	10.20	Line	-	23.40	0.05	0.05	10.10
QP	280.5k	34.87	60.80	-25.93	10.22	Line	-	24.65	0.05	0.07	10.10
AV	280.5k	26.16	50.80	-24.64	10.22	Line	-	15.94	0.05	0.07	10.10
QP	402k	30.10	57.82	-27.72	10.23	Line	-	19.87	0.05	0.08	10.10
AV	402k	22.61	47.82	-25.21	10.23	Line	-	12.38	0.05	0.08	10.10
QP	658.5k	24.69	56.00	-31.31	10.26	Line	-	14.43	0.06	0.10	10.10
AV	658.5k	17.78	46.00	-28.22	10.26	Line	-	7.52	0.06	0.10	10.10
QP	2.301M	22.54	56.00	-33.46	10.36	Line	-	12.18	0.10	0.16	10.10
AV	2.301M	15.80	46.00	-30.20	10.36	Line	-	5.44	0.10	0.16	10.10
QP	16.22M	26.26	60.00	-33.74	10.67	Line	-	15.59	0.35	0.21	10.11
AV	16.22M	19.52	50.00	-30.48	10.67	Line	-	8.85	0.35	0.21	10.11



Neutral

08/06/2020



Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	AF (dB)	CL (dB)	AT (dB)
QP	150k	47.73	66.00	-18.27	10.20	Neutral	"Worst"	37.53	0.05	0.05	10.10
AV	150k	33.12	56.00	-22.88	10.20	Neutral	-	22.92	0.05	0.05	10.10
QP	181.5k	42.16	64.41	-22.25	10.21	Neutral	-	31.95	0.05	0.06	10.10
AV	181.5k	28.35	54.41	-26.06	10.21	Neutral	-	18.14	0.05	0.06	10.10
QP	271.5k	33.85	61.07	-27.22	10.22	Neutral	-	23.63	0.05	0.07	10.10
AV	271.5k	25.44	51.07	-25.63	10.22	Neutral	-	15.22	0.05	0.07	10.10
QP	406.5k	30.41	57.72	-27.31	10.23	Neutral	-	20.18	0.05	0.08	10.10
AV	406.5k	22.97	47.72	-24.75	10.23	Neutral	-	12.74	0.05	0.08	10.10
QP	888k	24.55	56.00	-31.45	10.27	Neutral	-	14.28	0.06	0.11	10.10
AV	888k	17.69	46.00	-28.31	10.27	Neutral	-	7.42	0.06	0.11	10.10
QP	18.951M	21.68	60.00	-38.32	10.57	Neutral	-	11.11	0.25	0.21	10.11
AV	18.951M	14.90	50.00	-35.10	10.57	Neutral	-	4.33	0.25	0.21	10.11





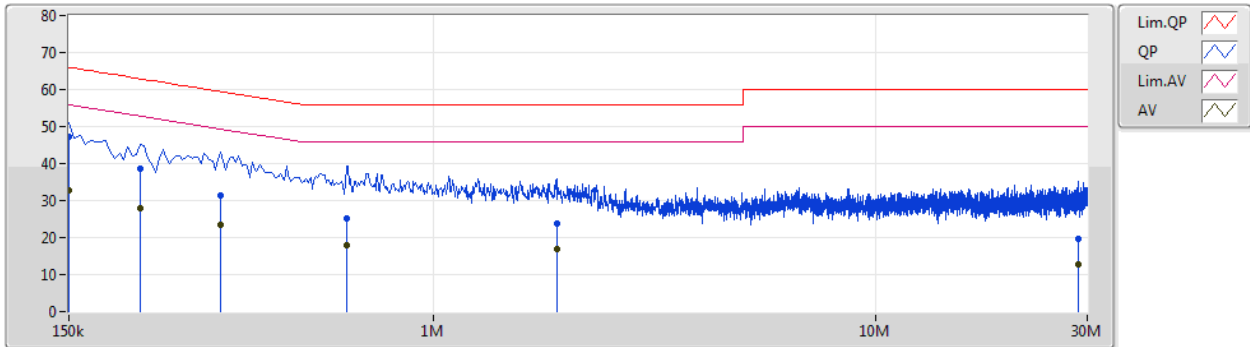
# AC Power Port Conducted Emission Result

Appendix A

<b>Test Mode</b>	Mode 5	<b>Frequency Range</b>	0.15 MHz to 30 MHz
------------------	--------	------------------------	--------------------

## Line

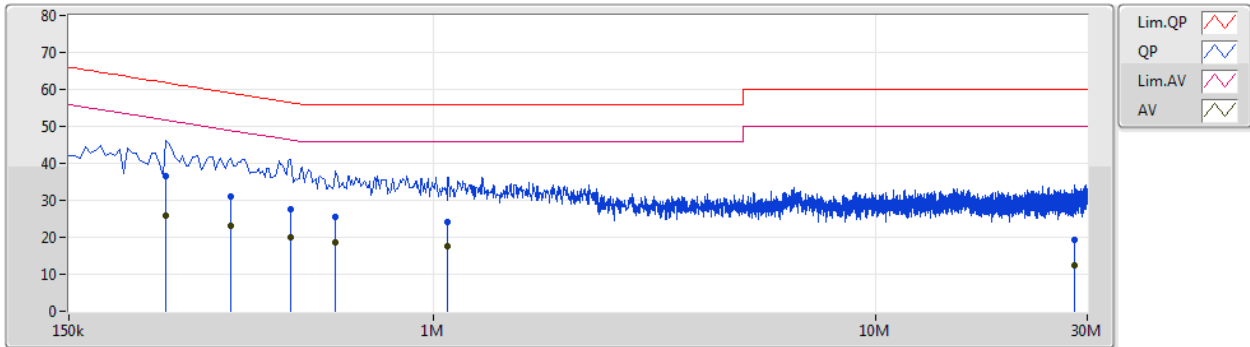
24/07/2020



Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	AF (dB)	CL (dB)	AT (dB)
QP	150k	47.37	66.00	-18.63	10.25	Line	"Worst"	37.12	0.05	0.05	10.15
AV	150k	32.84	56.00	-23.16	10.25	Line	-	22.59	0.05	0.05	10.15
QP	217.5k	38.57	62.92	-24.35	10.28	Line	-	28.29	0.05	0.07	10.16
AV	217.5k	27.92	52.92	-25.00	10.28	Line	-	17.64	0.05	0.07	10.16
QP	330k	31.45	59.44	-27.99	10.25	Line	-	21.20	0.05	0.08	10.12
AV	330k	23.36	49.44	-26.08	10.25	Line	-	13.11	0.05	0.08	10.12
QP	636k	25.25	56.00	-30.75	10.27	Line	-	14.98	0.06	0.10	10.11
AV	636k	18.08	46.00	-27.92	10.27	Line	-	7.81	0.06	0.10	10.11
QP	1.905M	23.75	56.00	-32.25	10.38	Line	-	13.37	0.09	0.16	10.13
AV	1.905M	17.00	46.00	-29.00	10.38	Line	-	6.62	0.09	0.16	10.13
QP	28.617M	19.69	60.00	-40.31	11.04	Line	-	8.65	0.60	0.24	10.20
AV	28.617M	12.84	50.00	-37.16	11.04	Line	-	1.80	0.60	0.24	10.20

Neutral

24/07/2020



Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	AF (dB)	CL (dB)	AT (dB)
QP	249k	36.57	61.79	-25.22	10.27	Neutral	"Worst"	26.30	0.05	0.07	10.15
AV	249k	25.91	51.79	-25.88	10.27	Neutral	-	15.64	0.05	0.07	10.15
QP	348k	31.16	59.00	-27.84	10.24	Neutral	-	20.92	0.05	0.08	10.11
AV	348k	23.09	49.00	-25.91	10.24	Neutral	-	12.85	0.05	0.08	10.11
QP	474k	27.59	56.44	-28.85	10.24	Neutral	-	17.35	0.05	0.09	10.10
AV	474k	20.09	46.44	-26.35	10.24	Neutral	-	9.85	0.05	0.09	10.10
QP	600k	25.59	56.00	-30.41	10.25	Neutral	-	15.34	0.05	0.10	10.10
AV	600k	18.49	46.00	-27.51	10.25	Neutral	-	8.24	0.05	0.10	10.10
QP	1.077M	24.18	56.00	-31.82	10.29	Neutral	-	13.89	0.06	0.12	10.11
AV	1.077M	17.52	46.00	-28.48	10.29	Neutral	-	7.23	0.06	0.12	10.11
QP	27.992M	19.20	60.00	-40.80	10.79	Neutral	-	8.41	0.35	0.24	10.20
AV	27.992M	12.31	50.00	-37.69	10.79	Neutral	-	1.52	0.35	0.24	10.20



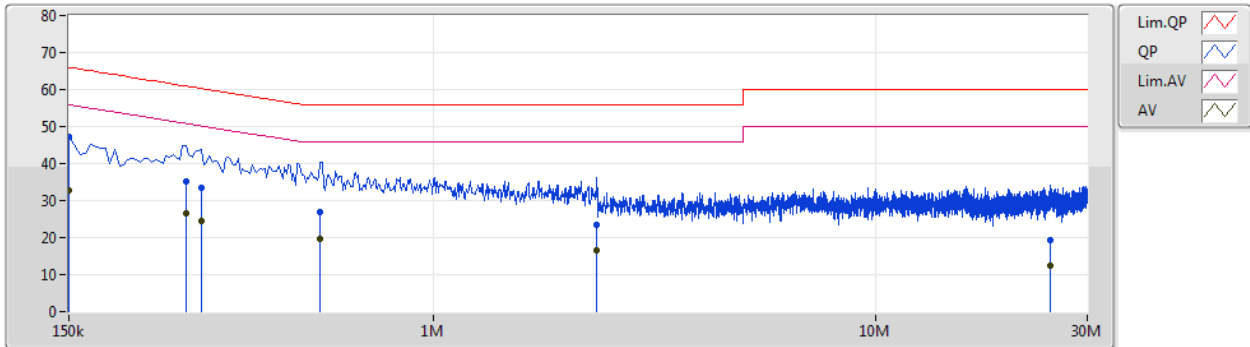
# AC Power Port Conducted Emission Result

Appendix A

<b>Test Mode</b>	Mode 6	<b>Frequency Range</b>	0.15 MHz to 30 MHz
------------------	--------	------------------------	--------------------

Line

24/07/2020

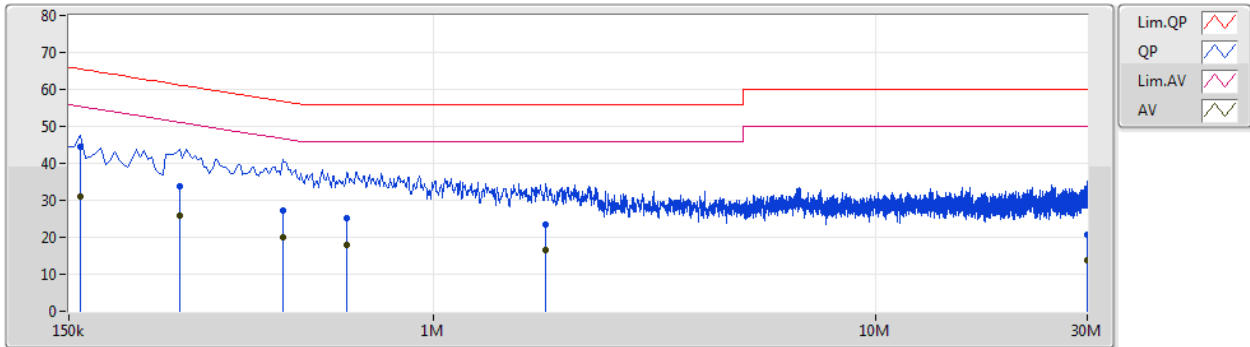


--	--	--	--	--	--	--	--	--	--	--	--

Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	AF (dB)	CL (dB)	AT (dB)
QP	150k	47.39	66.00	-18.61	10.25	Line	"Worst"	37.14	0.05	0.05	10.15
AV	150k	32.82	56.00	-23.18	10.25	Line	-	22.57	0.05	0.05	10.15
QP	276k	35.10	60.93	-25.83	10.26	Line	-	24.84	0.05	0.07	10.14
AV	276k	26.40	50.93	-24.53	10.26	Line	-	16.14	0.05	0.07	10.14
QP	298.5k	33.41	60.28	-26.87	10.26	Line	-	23.15	0.05	0.08	10.13
AV	298.5k	24.44	50.28	-25.84	10.26	Line	-	14.18	0.05	0.08	10.13
QP	555k	26.73	56.00	-29.27	10.24	Line	-	16.49	0.05	0.09	10.10
AV	555k	19.61	46.00	-26.39	10.24	Line	-	9.37	0.05	0.09	10.10
QP	2.342M	23.47	56.00	-32.53	10.39	Line	-	13.08	0.10	0.16	10.13
AV	2.342M	16.55	46.00	-29.45	10.39	Line	-	6.16	0.10	0.16	10.13
QP	24.738M	19.23	60.00	-40.77	10.94	Line	-	8.29	0.52	0.23	10.19
AV	24.738M	12.50	50.00	-37.50	10.94	Line	-	1.56	0.52	0.23	10.19

Neutral

24/07/2020



Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Factor (dB)	Condition	Comment	Raw (dBuV)	AF (dB)	CL (dB)	AT (dB)
QP	159k	44.35	65.52	-21.17	10.26	Neutral	"Worst"	34.09	0.05	0.06	10.15
AV	159k	31.10	55.52	-24.42	10.26	Neutral	-	20.84	0.05	0.06	10.15
QP	267k	33.75	61.20	-27.45	10.26	Neutral	-	23.49	0.05	0.07	10.14
AV	267k	25.72	51.20	-25.48	10.26	Neutral	-	15.46	0.05	0.07	10.14
QP	456k	27.40	56.76	-29.36	10.24	Neutral	-	17.16	0.05	0.09	10.10
AV	456k	20.16	46.76	-26.60	10.24	Neutral	-	9.92	0.05	0.09	10.10
QP	636k	25.07	56.00	-30.93	10.27	Neutral	-	14.80	0.06	0.10	10.11
AV	636k	18.02	46.00	-27.98	10.27	Neutral	-	7.75	0.06	0.10	10.11
QP	1.793M	23.37	56.00	-32.63	10.36	Neutral	-	13.01	0.08	0.15	10.13
AV	1.793M	16.61	46.00	-29.39	10.36	Neutral	-	6.25	0.08	0.15	10.13
QP	29.958M	20.82	60.00	-39.18	10.82	Neutral	-	10.00	0.37	0.24	10.21
AV	29.958M	13.83	50.00	-36.17	10.82	Neutral	-	3.01	0.37	0.24	10.21



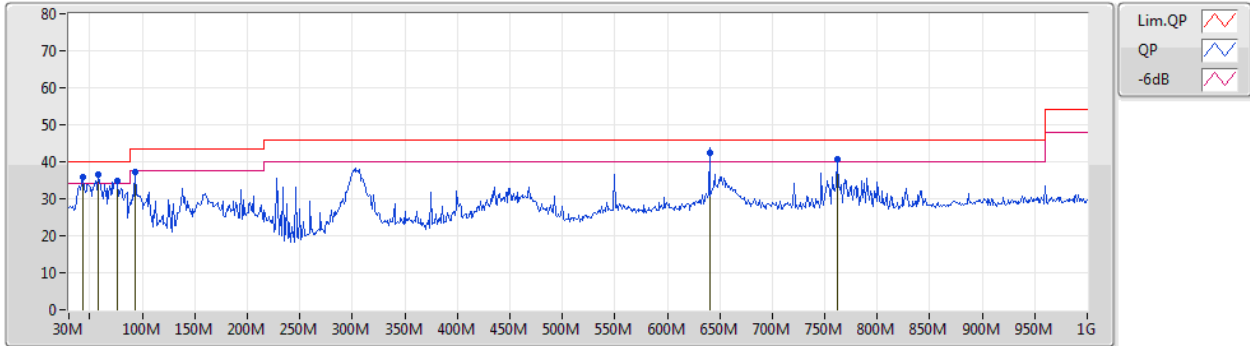
# Radiated Emission below 1GHz Result

Appendix B

<b>Test Mode</b>	Mode 1	<b>Frequency Range</b>	30 MHz to 1,000 MHz
------------------	--------	------------------------	---------------------

Vertical 30 MHz to 1,000 MHz

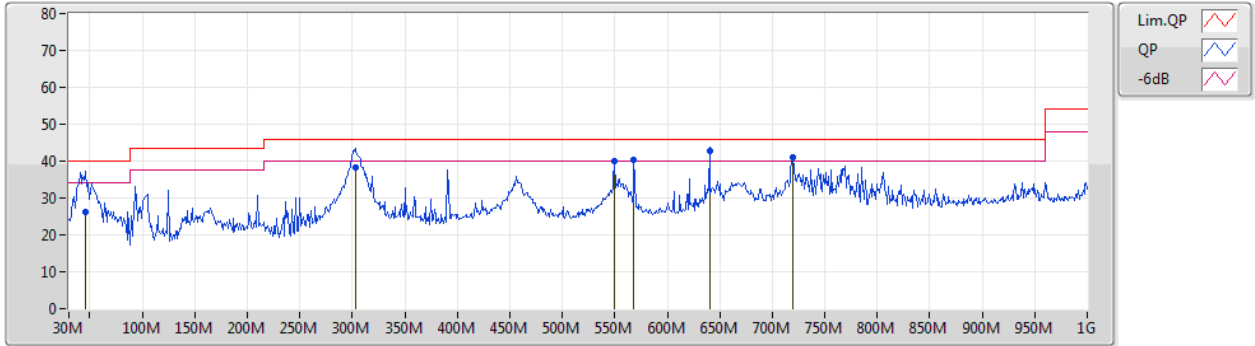
22/07/2020



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV/m)	AF (dB/m)	CL (dB)	PA (dB)
PK	43.58M	35.69	40.00	-4.31	-13.01	3	Vertical	214	1.00	-	48.70	17.19	1.26	31.46
PK	58.13M	36.49	40.00	-3.51	-17.83	3	Vertical	0	1.00	-	54.32	12.80	1.16	31.79
PK	76.56M	34.70	40.00	-5.30	-17.86	3	Vertical	218	1.25	-	52.56	12.56	1.33	31.75
PK	93.05M	37.19	43.50	-6.31	-15.05	3	Vertical	0	2.00	-	52.24	15.37	1.46	31.88
QP	640.13M	42.55	46.00	-3.45	-4.46	3	Vertical	269	1.00	"Worst"	47.01	24.44	3.58	32.48
PK	762.35M	40.68	46.00	-5.32	-3.17	3	Vertical	78	1.00	-	43.85	25.14	3.98	32.29

**Horizontal 30 MHz to 1,000 MHz**

22/07/2020



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV/m)	AF (dB/m)	CL (dB)	PA (dB)
QP	45.52M	26.16	40.00	-13.84	-13.87	3	Horizontal	315	2.00	-	40.03	16.42	1.20	31.49
QP	302.57M	38.26	46.00	-7.74	-10.85	3	Horizontal	147	1.25	-	49.11	18.66	2.51	32.02
PK	549.92M	40.08	46.00	-5.92	-4.64	3	Horizontal	74	1.00	-	44.72	24.33	3.30	32.27
PK	568.35M	40.18	46.00	-5.82	-4.70	3	Horizontal	357	1.50	-	44.88	24.21	3.37	32.28
QP	640.13M	42.81	46.00	-3.19	-4.46	3	Horizontal	92	1.50	"Worst"	47.27	24.44	3.58	32.48
PK	719.67M	41.13	46.00	-4.87	-3.92	3	Horizontal	269	1.00	-	45.05	24.58	3.88	32.38



# Radiated Emission below 1GHz Result

Appendix B

<b>Test Mode</b>	Mode 2	<b>Frequency Range</b>	30 MHz to 1,000 MHz
------------------	--------	------------------------	---------------------

## Vertical 30 MHz to 1,000 MHz

22/07/2020

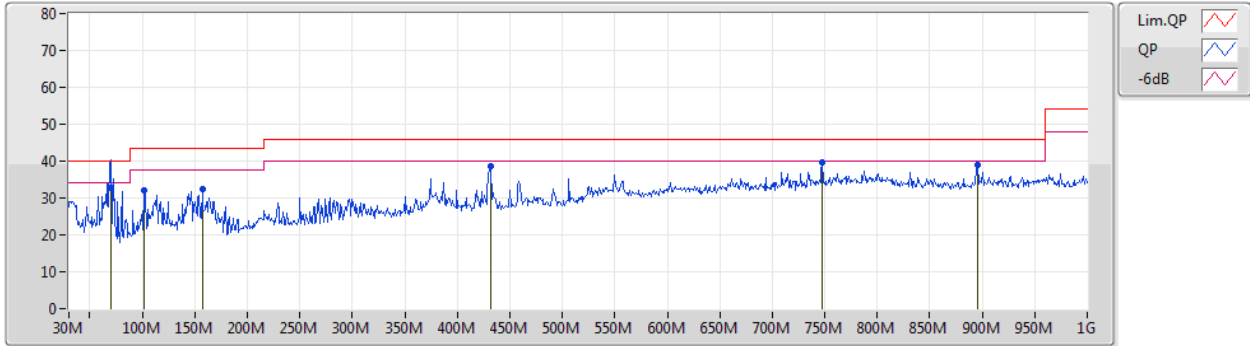


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV/m)	AF (dB/m)	CL (dB)	PA (dB)
QP	32.91M	33.99	40.00	-6.01	-8.32	3	Vertical	237	1.00	-	42.31	22.49	0.70	31.51
QP	47.46M	34.67	40.00	-5.33	-15.96	3	Vertical	159	1.00	-	50.63	14.73	0.85	31.54
QP	56.19M	32.84	40.00	-7.16	-18.28	3	Vertical	360	1.25	-	51.12	12.58	0.90	31.76
QP	68.8M	34.71	40.00	-5.29	-18.53	3	Vertical	360	3.00	-	53.24	12.28	0.98	31.79
QP	80.44M	36.18	40.00	-3.82	-17.95	3	Vertical	110	1.50	"Worst"	54.13	12.79	1.01	31.75
PK	146.4M	37.66	43.50	-5.84	-13.71	3	Vertical	96	1.00	-	51.37	16.76	1.43	31.90



Horizontal 30 MHz to 1,000 MHz

22/07/2020



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV/m)	AF (dB/m)	CL (dB)	PA (dB)
QP	69.77M	32.78	40.00	-7.22	-18.49	3	Horizontal	97	3.00	-	51.27	12.29	1.00	31.78
PK	101.78M	31.91	43.50	-11.59	-13.77	3	Horizontal	203	3.00	-	45.68	16.89	1.21	31.87
PK	157.07M	32.54	43.50	-10.96	-14.03	3	Horizontal	148	2.00	-	46.57	16.21	1.49	31.73
PK	431.58M	38.64	46.00	-7.36	-7.26	3	Horizontal	145	1.50	-	45.90	22.47	2.46	32.19
PK	747.8M	39.61	46.00	-6.39	-3.25	3	Horizontal	120	2.00	"Worst"	42.86	25.75	3.30	32.30
PK	895.24M	39.06	46.00	-6.94	-2.12	3	Horizontal	20	2.00	-	41.18	26.64	3.59	32.35





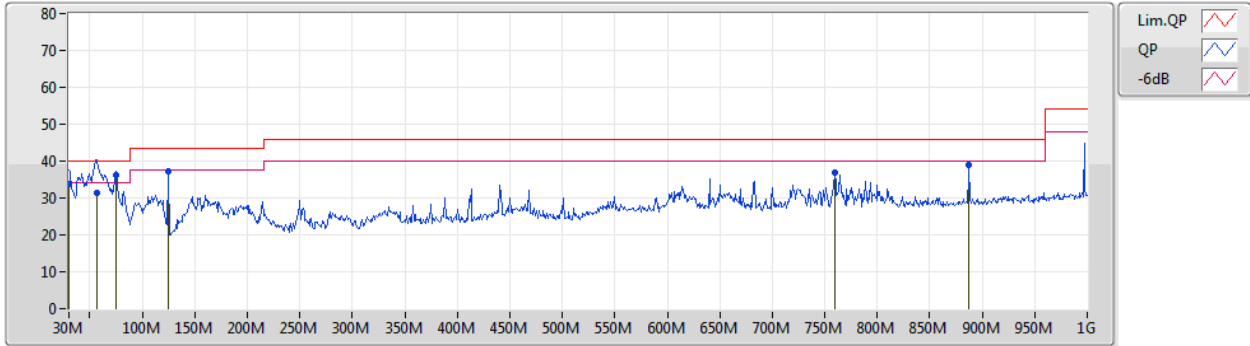
# Radiated Emission below 1GHz Result

Appendix B

<b>Test Mode</b>	Mode 3	<b>Frequency Range</b>	30 MHz to 1,000 MHz
------------------	--------	------------------------	---------------------

## Vertical 30 MHz to 1,000 MHz

05/06/2020



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV/m)	AF (dB/m)	CL (dB)	PA (dB)
QP	30M	33.95	40.00	-6.05	-7.55	3	Vertical	36	1.00	-	41.50	24.10	0.70	32.35
QP	56.19M	31.30	40.00	-8.70	-18.97	3	Vertical	193	1.50	-	50.27	12.58	0.90	32.45
QP	74.62M	36.20	40.00	-3.80	-19.25	3	Vertical	194	1.50	"Worst"	55.45	12.20	1.00	32.45
PK	125.06M	37.17	43.50	-6.33	-13.16	3	Vertical	73	1.00	-	50.33	17.95	1.33	32.44
PK	759.44M	36.92	46.00	-9.08	-3.10	3	Vertical	47	1.00	-	40.02	25.81	3.30	32.21
PK	887.48M	39.02	46.00	-6.98	-1.61	3	Vertical	191	1.25	-	40.63	26.58	3.57	31.76



**Horizontal 30 MHz to 1,000 MHz**

05/06/2020



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV/m)	AF (dB/m)	CL (dB)	PA (dB)
PK	663.41M	42.65	46.00	-3.35	-4.00	3	Horizontal	150	1.50	"Worst"	46.65	25.36	3.06	32.42
PK	725.49M	41.09	46.00	-4.91	-3.44	3	Horizontal	246	1.25	-	44.53	25.64	3.25	32.33
QP	744.89M	33.58	46.00	-12.42	-3.22	3	Horizontal	300	1.25	-	36.80	25.73	3.29	32.24
PK	762.35M	42.33	46.00	-3.67	-3.09	3	Horizontal	252	1.25	-	45.42	25.82	3.30	32.21
QP	768.17M	32.33	46.00	-13.67	-3.07	3	Horizontal	64	1.25	-	35.40	25.84	3.30	32.21
PK	809.88M	40.16	46.00	-5.84	-2.74	3	Horizontal	107	2.00	-	42.90	26.05	3.34	32.13



# Radiated Emission below 1GHz Result

Appendix B

<b>Test Mode</b>	Mode 4	<b>Frequency Range</b>	30 MHz to 1,000 MHz
------------------	--------	------------------------	---------------------

Vertical 30 MHz to 1,000 MHz

22/07/2020

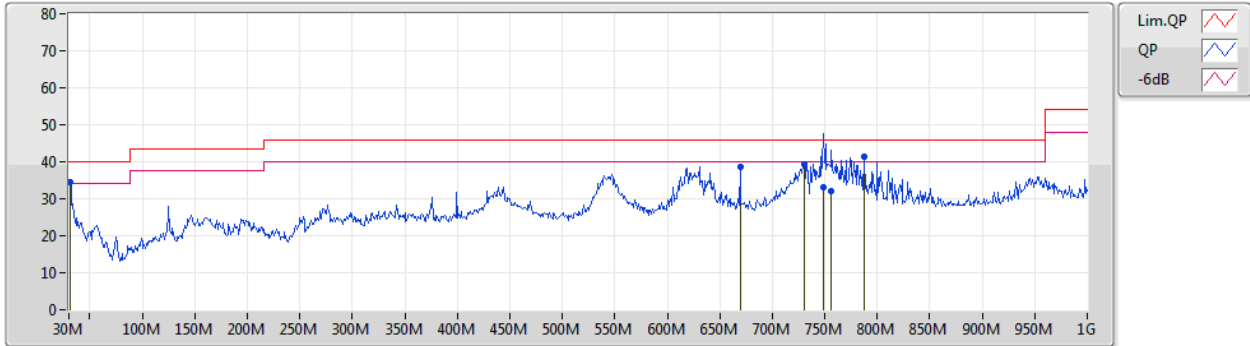


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV/m)	AF (dB/m)	CL (dB)	PA (dB)
PK	42.61M	33.50	40.00	-6.50	-14.79	3	Vertical	187	1.00	-	48.29	16.90	0.80	32.49
QP	56.19M	34.73	40.00	-5.27	-19.03	3	Vertical	214	1.25	-	53.76	12.52	0.90	32.45
PK	74.62M	35.03	40.00	-4.97	-19.29	3	Vertical	118	2.00	"Worst"	54.32	12.16	1.00	32.45
PK	125.06M	36.44	43.50	-7.06	-13.01	3	Vertical	248	1.00	-	49.45	18.10	1.33	32.44
PK	723.55M	39.14	46.00	-6.86	-3.46	3	Vertical	0	1.00	-	42.60	25.63	3.25	32.34
PK	757.5M	39.10	46.00	-6.90	-3.23	3	Vertical	143	1.50	-	42.33	25.68	3.30	32.21



**Horizontal 30 MHz to 1,000 MHz**

22/07/2020



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV/m)	AF (dB/m)	CL (dB)	PA (dB)
PK	30.97M	34.32	40.00	-5.68	-8.09	3	Horizontal	0	1.00	-	42.41	23.57	0.70	32.36
PK	669.23M	38.47	46.00	-7.53	-4.09	3	Horizontal	216	1.50	-	42.56	25.24	3.09	32.42
PK	730.34M	39.44	46.00	-6.56	-3.35	3	Horizontal	88	1.25	-	42.79	25.70	3.26	32.31
QP	748.77M	33.23	46.00	-12.77	-3.16	3	Horizontal	82	1.25	-	36.39	25.76	3.30	32.22
QP	756.53M	32.09	46.00	-13.91	-3.22	3	Horizontal	58	1.25	-	35.31	25.69	3.30	32.21
PK	787.57M	41.28	46.00	-4.72	-3.13	3	Horizontal	101	1.25	"Worst"	44.41	25.77	3.30	32.20



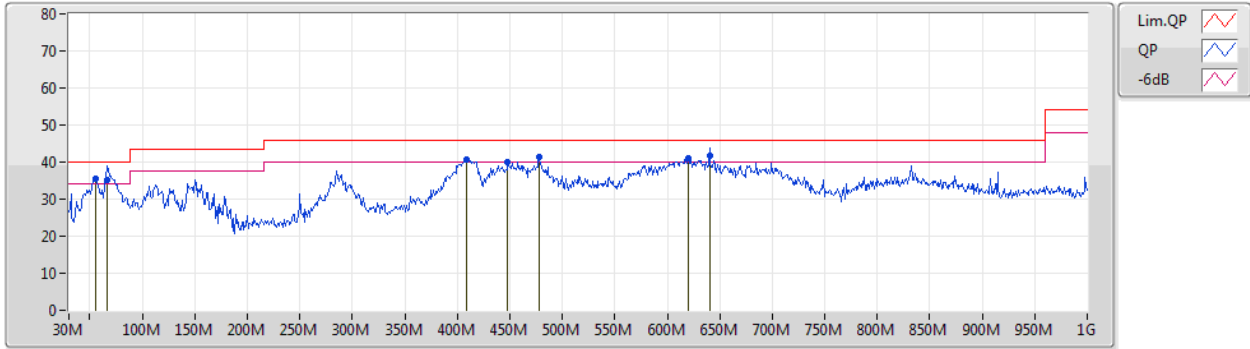
# Radiated Emission below 1GHz Result

Appendix B

<b>Test Mode</b>	Mode 5	<b>Frequency Range</b>	30 MHz to 1,000 MHz
------------------	--------	------------------------	---------------------

## Vertical 30 MHz to 1,000 MHz

22/07/2020

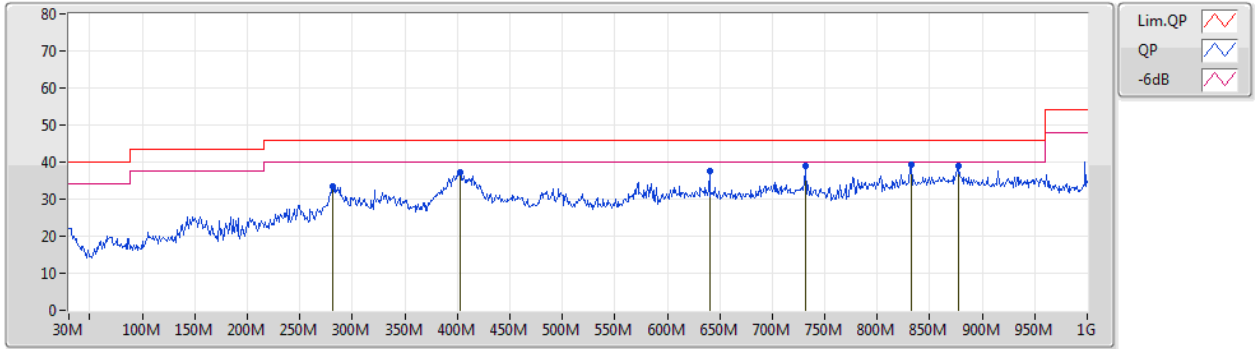


Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV/m)	AF (dB/m)	CL (dB)	PA (dB)
PK	55.22M	35.62	40.00	-4.38	-18.22	3	Vertical	305	1.00	-	53.84	12.63	0.90	31.75
QP	66.86M	35.03	40.00	-4.97	-18.60	3	Vertical	139	1.00	-	53.63	12.26	0.94	31.80
PK	409.27M	40.86	46.00	-5.14	-7.68	3	Vertical	186	1.00	-	48.54	22.04	2.42	32.14
PK	448.07M	40.00	46.00	-6.00	-6.93	3	Vertical	205	1.00	-	46.93	22.80	2.50	32.23
PK	478.14M	41.35	46.00	-4.65	-6.52	3	Vertical	169	1.00	-	47.87	23.23	2.56	32.31
PK	619.76M	40.98	46.00	-5.02	-4.49	3	Vertical	127	1.00	-	45.47	25.01	2.89	32.39
QP	640.13M	41.79	46.00	-4.21	-4.31	3	Vertical	292	1.00	"Worst"	46.10	25.20	2.97	32.48



Horizontal 30 MHz to 1,000 MHz

22/07/2020



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV/m)	AF (dB/m)	CL (dB)	PA (dB)
PK	281.23M	33.57	46.00	-12.43	-11.23	3	Horizontal	279	1.00	-	44.80	18.74	2.02	31.99
PK	402.48M	37.12	46.00	-8.88	-7.82	3	Horizontal	86	1.00	-	44.94	21.90	2.40	32.12
PK	402.48M	37.12	46.00	-8.88	-7.82	3	Horizontal	86	1.00	-	44.94	21.90	2.40	32.12
PK	640.13M	37.68	46.00	-8.32	-4.31	3	Horizontal	136	1.00	-	41.99	25.20	2.97	32.48
PK	732.28M	38.93	46.00	-7.07	-3.41	3	Horizontal	154	2.00	-	42.34	25.67	3.26	32.34
PK	832.19M	39.26	46.00	-6.74	-2.71	3	Horizontal	301	1.00	"Worst"	41.97	26.19	3.43	32.33
PK	877.78M	38.84	46.00	-7.16	-2.28	3	Horizontal	309	1.00	-	41.12	26.51	3.56	32.35



# Radiated Emission below 1GHz Result

Appendix B

<b>Test Mode</b>	Mode 6	<b>Frequency Range</b>	30 MHz to 1,000 MHz
------------------	--------	------------------------	---------------------

## Vertical 30 MHz to 1,000 MHz

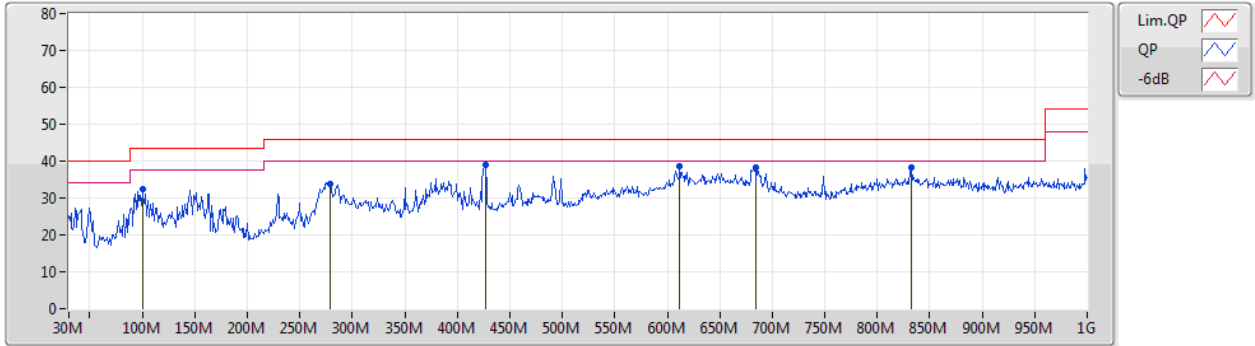
22/07/2020



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV/m)	AF (dB/m)	CL (dB)	PA (dB)
QP	40.67M	35.75	40.00	-4.25	-12.57	3	Vertical	228	2.00	"Worst"	48.32	18.07	0.80	31.44
QP	47.46M	32.48	40.00	-7.52	-15.96	3	Vertical	209	2.00	-	48.44	14.73	0.85	31.54
PK	425.76M	39.75	46.00	-6.25	-7.36	3	Vertical	159	1.00	-	47.11	22.37	2.45	32.18
PK	425.76M	39.75	46.00	-6.25	-7.36	3	Vertical	159	1.00	-	47.11	22.37	2.45	32.18
PK	561.56M	41.58	46.00	-4.42	-4.90	3	Vertical	199	1.00	-	46.48	24.65	2.72	32.27
PK	653.71M	41.60	46.00	-4.40	-4.18	3	Vertical	271	1.00	-	45.78	25.31	3.02	32.51
PK	663.41M	40.62	46.00	-5.38	-4.08	3	Vertical	271	1.00	-	44.70	25.36	3.06	32.50

**Horizontal 30 MHz to 1,000 MHz**

22/07/2020



Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Condition	Azimuth (°)	Height (m)	Comment	Raw (dBuV/m)	AF (dB/m)	CL (dB)	PA (dB)
PK	99.84M	32.37	43.50	-11.13	-13.97	3	Horizontal	118	2.00	-	46.34	16.72	1.20	31.89
PK	278.32M	33.81	46.00	-12.19	-11.29	3	Horizontal	263	1.50	-	45.10	18.69	2.01	31.99
PK	426.73M	38.85	46.00	-7.15	-7.35	3	Horizontal	252	1.00	"Worst"	46.20	22.38	2.45	32.18
PK	612M	38.45	46.00	-7.55	-4.57	3	Horizontal	153	1.50	-	43.02	24.93	2.85	32.35
PK	683.78M	38.12	46.00	-7.88	-3.88	3	Horizontal	246	1.50	-	42.00	25.45	3.14	32.47
PK	832.19M	38.21	46.00	-7.79	-2.71	3	Horizontal	296	1.00	-	40.92	26.19	3.43	32.33