

## FCC Test Report

**Report No.:** RF200605C24-19

**FCC ID:** V65E7110

**Test Model:** E7110

**Received Date:** Jun. 29, 2020

**Test Date:** Nov. 18 ~ Nov. 23, 2020

**Issued Date:** Nov. 23, 2020

**Applicant:** Kyocera Corporation % Kyocera International, Inc.

**Address:** 8611 Balboa Avenue, San Diego, CA 92123

**Issued By:** Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch  
Lin Kou Laboratories

**Lab Address:** No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan

**Test Location:** No.19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City  
33383, Taiwan

**FCC Registration /** 788550 / TW0003  
**Designation Number:**



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### Release Control Record

Issue No.	Description	Date Issued
RF200605C24-19	Original release	Nov. 23, 2020

## 1 Certificate of Conformity

**Product:** Smart Phone

**Brand:** Kyocera

**Test Model:** E7110

**Sample Status:** Identical Prototype

**Applicant:** Kyocera Corporation % Kyocera International, Inc.

**Test Date:** Nov. 18 ~ Nov. 23, 2020

**Standards:** 47 CFR FCC Part 15, Subpart C (Section 15.209)  
ANSI C63.10: 2013

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's RF characteristics under the conditions specified in this report.

**Prepared by :** Pettie Chen, **Date:** Nov. 23, 2020  
Pettie Chen / Senior Specialist

**Approved by :** Bruce Chen, **Date:** Nov. 23, 2020  
Bruce Chen / Senior Project Engineer

## 2 Summary of Test Results

47 CFR FCC Part 15, Subpart C (Section 15.209)			
FCC Clause	Test Item	Result	Remarks
15.207	AC Power Conducted Emission	Pass	Meet the requirement of limit. Minimum passing margin is -6.52dB at 0.15400MHz.
15.209	Radiated Emission Test	Pass	Meet the requirement of limit. Minimum passing margin is -4.80dB at 31.94MHz

Note: Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

### 2.1 Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

Measurement	Frequency	Expanded Uncertainty (k=2) (±)
Conducted Emissions at mains ports	150kHz ~ 30MHz	2.94 dB
Radiated Emissions up to 1 GHz	9kHz ~ 30MHz	3.04 dB
	30MHz ~ 200MHz	2.93 dB
	200MHz ~ 1000MHz	2.95 dB

### 2.2 Modification Record

There were no modifications required for compliance.

### 3 General Information

#### 3.1 General Description of EUT

Product	Smart Phone
Brand	Kyocera
Test Model	E7110
Sample Status	Identical Prototype
Power Supply Rating	3.85 Vdc (Battery) 5 Vdc / 9 Vdc / 12 Vdc (Adapter)
Modulation Type	FSK
Operating Frequency	111kHz ~ 205kHz
Antenna Type	Loop antenna
Field Strength	-10.29dBuV/m
Accessory Device	Refer to Note as below
Data Cable Supplied	Refer to Note as below

Note:

1. The EUT contains following accessory devices.

Product	Brand	Model	Description
Adapter	Kyocera	SCP-53ADT	I/P: 100-240 Vac, 50/60 Hz, 0.6 A O/P: 5 Vdc, 3 A; 9 Vdc, 3 A; 15 Vdc, 1.8 A; 20 Vdc, 1.35 A
USB Cable	Kyocera	SCP-27SDC	-

2. The above Antenna information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications, the laboratory shall not be held responsible.
3. The above EUT information is declared by manufacturer and for more detailed features description, please refers to the manufacturer's specifications or user's manual.

#### 3.2 Description of Test Modes

1 channel is provided to this EUT

Channel	Freq. (kHz)
1	136

### 3.2.1 Test Mode Applicability and Tested Channel Detail

EUT CONFIGURE MODE	APPLICABLE TO		DESCRIPTION
	RE<1G	PLC	
A	√	√	Charging Mode
B	√	-	Standby Mode

Where **RE<1G**: Radiated Emission below 1GHz

**PLC**: Power Line Conducted Emission

Note: The EUT is designed to be positioned on the **X-plane** only.

#### Radiated Emission Test (Below 1GHz):

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Available Channel	Tested Channel
A	1	1
B	1	1

#### Power Line Conducted Emission Test:

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Available Channel	Tested Channel
A	1	1

#### Test Condition:

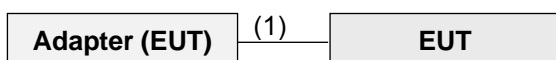
Applicable To	Environmental Conditions	Input Power	Tested by
<b>RE&lt;1G</b>	23 deg. C, 66% RH	120Vac, 60Hz	Tim Chen
<b>PLC</b>	25 deg. C, 65% RH	120Vac, 60Hz	Cyril Chen

### 3.3 Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	USB cable	1	1.0	Y	0	Accessory

#### 3.3.1 Configuration of System under Test



### 3.4 General Description of Applied Standards

The EUT is a RF Product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

#### FCC Part 15, Subpart C (15.209)

ANSI C63.10-2013

All test items have been performed and recorded as per the above standards.



## 4 Test Types and Results

### 4.1 Radiated Emission and Bandedge Measurement

#### 4.1.1 Limits of Radiated Emission and Bandedge Measurement

##### FOR FREQUENCY BELOW 30MHz

Frequency (MHz)	Field Strength (dBuV/m)		Measurement Distance (meters)
	uV/m	dBuV/m	
0.009 – 0.490	2400 / F (kHz)	48.52-13.80	300
0.490 – 1.705	24000 / F (kHz)	33.80-22.97	30
1.705 – 30.0	30	29.54	30

##### FOR FREQUENCY BETWEEN 30-1000MHz

Frequency (MHz)	Class A (at 10m)		Class B (at 3m)	
	uV/m	dBuV/m	uV/m	dBuV/m
30-88	90	39.1	100	40.0
88-216	150	43.5	150	43.5
216-960	210	46.4	200	46.0
Above 960	300	49.5	500	54.0

#### 4.1.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver Agilent	N9038A	MY51210203	Mar. 18, 2020	Mar. 17, 2021
Spectrum Analyzer Agilent	N9010A	MY52220314	Dec. 12, 2019	Dec. 11, 2020
Spectrum Analyzer ROHDE & SCHWARZ	FSU43	101261	Apr. 16, 2020	Apr. 15, 2021
HORN Antenna SCHWARZBECK	BBHA 9120D	9120D-969	Nov. 24, 2019	Nov. 23, 2020
BILOG Antenna SCHWARZBECK	VULB 9168	9168-472	Nov. 06, 2020	Nov. 05, 2021
Fixed Attenuator WORKEN	MDCS18N-10	MDCS18N-10-01	Apr. 14, 2020	Apr. 13, 2021
Loop Antenna	EM-6879	269	Sep. 17, 2020	Sep. 16, 2021
Preamplifier EMCI	EMC001340	980201	Oct. 21, 2020	Oct. 20, 2021
Bluetooth Tester	CBT	100946	Aug. 06, 2020	Aug. 05, 2022
Preamplifier EMCI	EMC 330H	980112	Oct. 07, 2020	Oct. 06, 2021
RF Coaxial Cable EMCI	EMC104-SM-SM-8000	171005	Oct. 07, 2020	Oct. 06, 2021
RF Coaxial Cable HUBER+SUHNNER	SUCOFLEX 104	EMC104-SM-SM-1000(140807)	Oct. 07, 2020	Oct. 06, 2021
RF Coaxial Cable Worken	8D-FB	Cable-Ch10-01	Oct. 07, 2020	Oct. 06, 2021
Boresight Antenna Fixture	FBA-01	FBA-SIP01	NA	NA
Software BV ADT	E3 6.120103	NA	NA	NA
Antenna Tower MF	MFA-440H	NA	NA	NA
Turn Table MF	MFT-201SS	NA	NA	NA
Antenna Tower & Turn Table Controller MF	MF-7802	NA	NA	NA

- NOTE:** 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The calibration interval of the loop antenna is 24 months and the calibrations are traceable to NML/ROC and NIST/USA.
3. The test was performed in HwaYa Chamber 10.

#### 4.1.3 Test Procedures

##### For Radiated emission below 30MHz

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. Parallel, perpendicular, and ground-parallel orientations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Quasi-Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

Note:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 9kHz at frequency below 30MHz.

##### For Radiated emission above 30MHz

- a. The EUT was placed on the top of a rotating table 0.8 meters (for below 1GHz) / 1.5 meters (for above 1GHz) above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.
- f. The test-receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

Note:

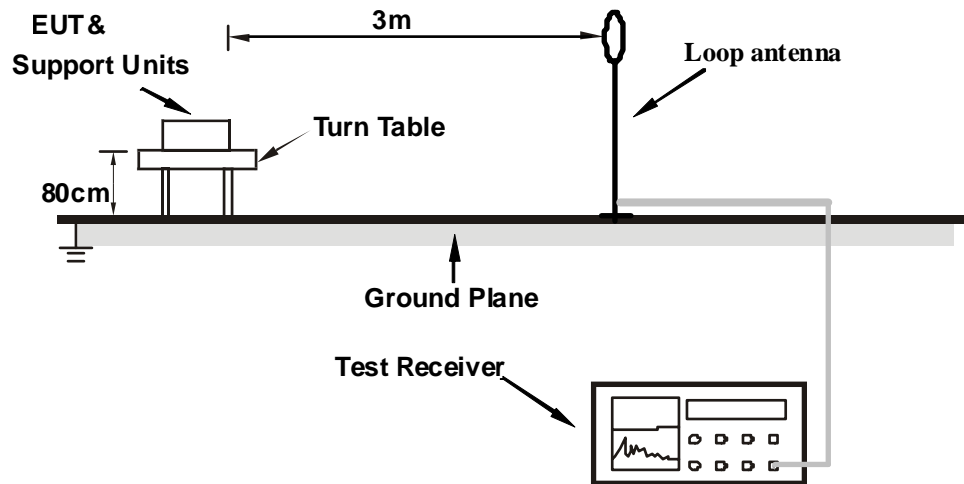
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is  $\geq 1/T$  (Duty cycle  $< 98\%$ ) or 10Hz (Duty cycle  $\geq 98\%$ ) for Average detection (AV) at frequency above 1GHz.
4. All modes of operation were investigated and the worst-case emissions are reported.

#### 4.1.4 Deviation from Test Standard

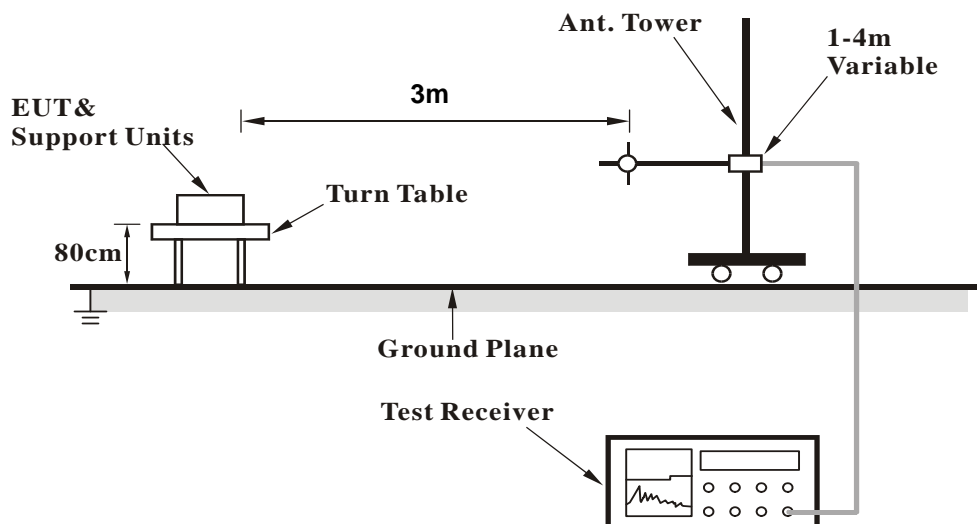
No deviation.

#### 4.1.5 Test Set Up

##### For Radiated emission below 30MHz



##### For Radiated emission 30MHz to 1GHz



For the actual test configuration, please refer to the attached file (Test Setup Photo).

#### 4.1.6 EUT Operating Conditions

- a. The EUT powered by adapter.

#### 4.1.7 Test Results

Below 30MHz Data:

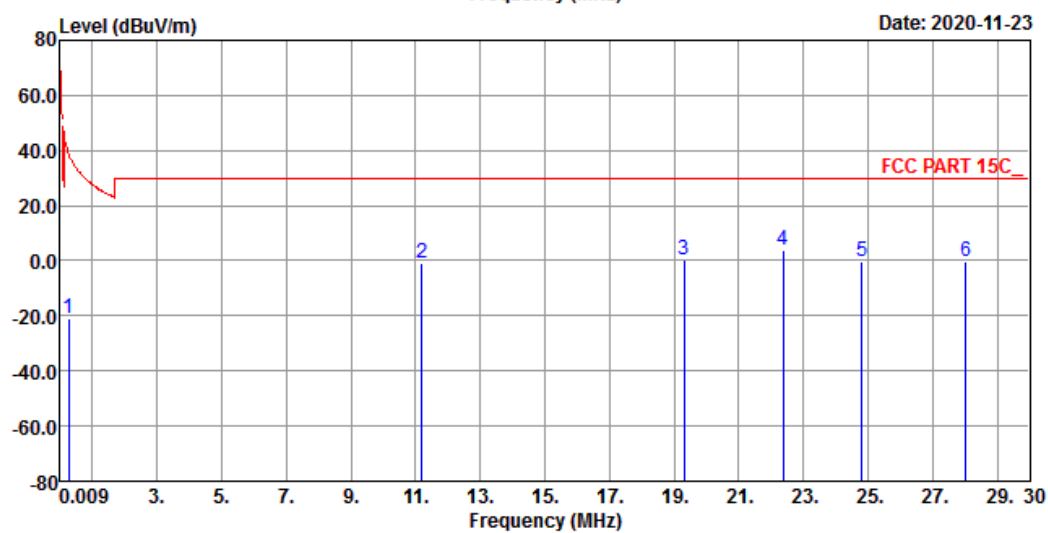
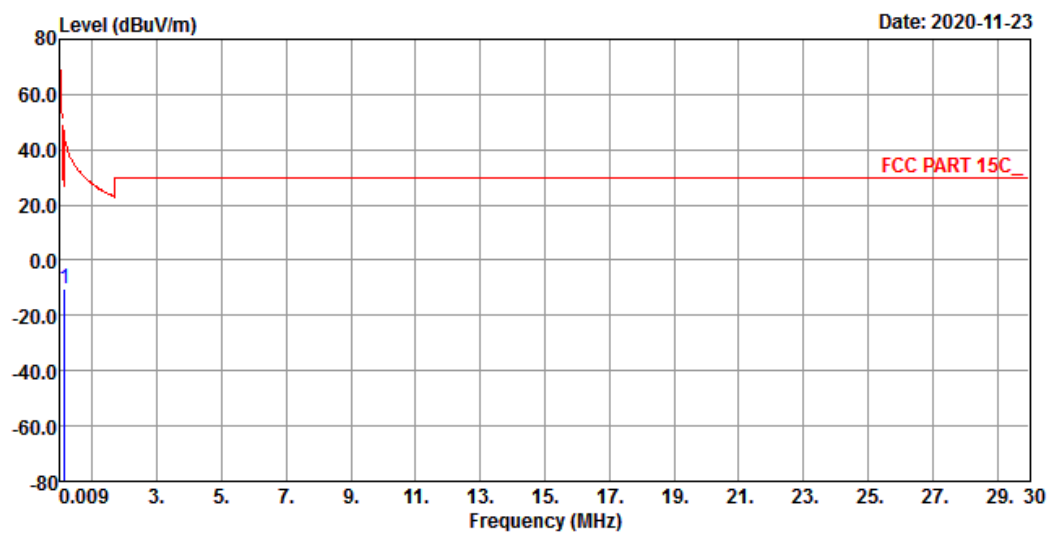
Charging Mode

Channel	TX Channel 1	Detector Function	Average (AV) Quasi-Peak (QP)
Frequency Range	9 kHz ~ 30 MHz		
Test Mode	A		

Antenna Polarity & Test Distance: Parallel at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*0.136	-10.29	50.27	-60.56	24.93	-35.22	100	360	Average
0.272	-20.98	39.26	-60.24	18.91	-39.89	100	360	Average
11.196	-0.84	17.90	-18.74	29.54	-30.38	100	360	QP
19.323	0.07	18.49	-18.42	29.54	-29.47	100	360	QP
22.390	4.05	22.39	-18.34	29.54	-25.49	100	360	QP
24.812	-0.11	18.18	-18.29	29.54	-29.65	100	360	QP
28.021	-0.50	17.73	-18.23	29.54	-30.04	100	360	QP

Remarks:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Factor (dB/m)
2. The other emission levels were very low against the limit.
3. Margin value = Emission level – Limit value.
4. Above limits have been translated by the formula

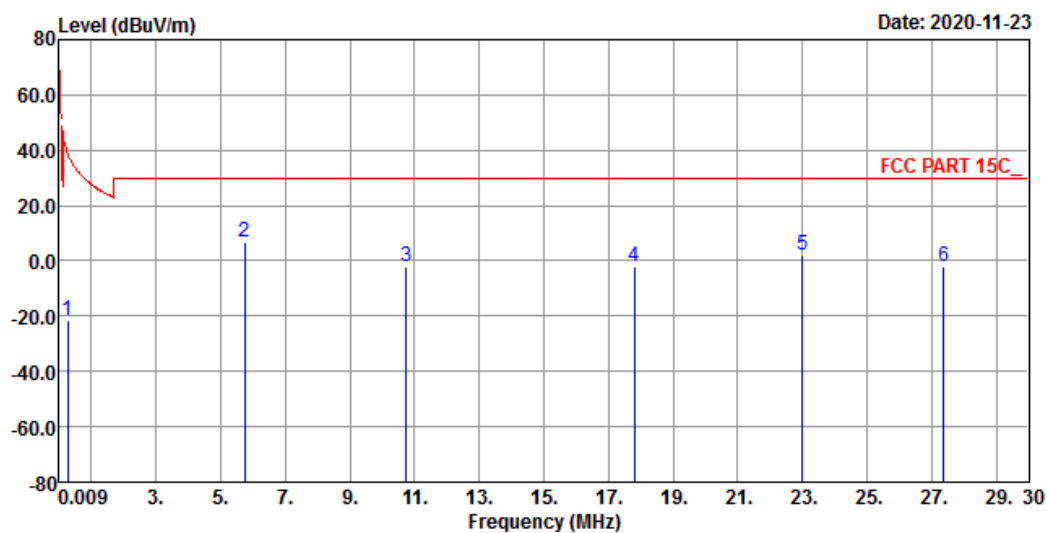
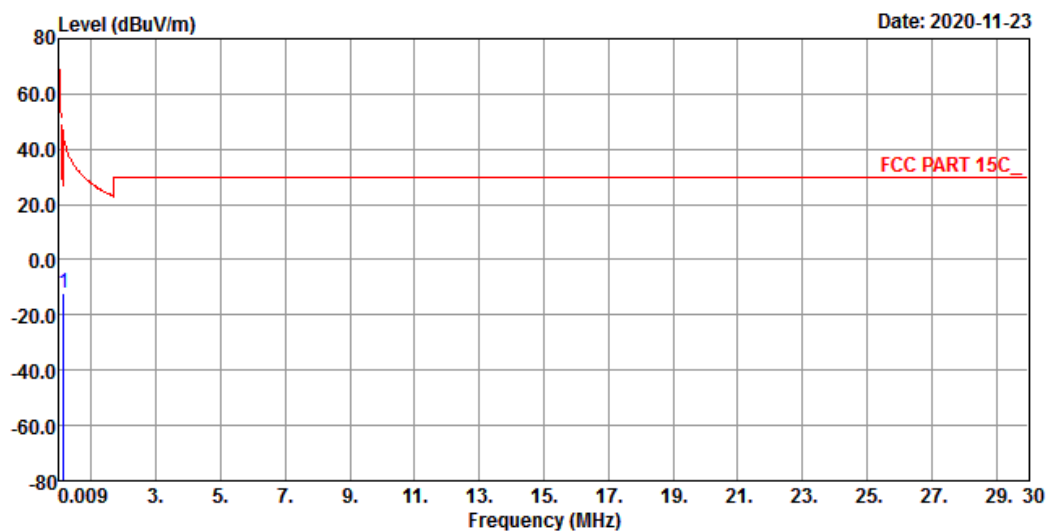


Channel	TX Channel 1	Detector Function	Average (AV) Quasi-Peak (QP)
Frequency Range	9 kHz ~ 30 MHz		
Test Mode	A		

Antenna Polarity & Test Distance: Perpendicular at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*0.136	-12.19	48.37	-60.56	24.93	-37.12	100	0	Average
0.272	-21.78	38.46	-60.24	18.91	-40.69	100	0	Average
5.737	6.52	26.20	-19.68	29.54	-23.02	100	0	QP
10.746	-1.91	16.85	-18.76	29.54	-31.45	100	0	QP
17.794	-1.85	16.62	-18.47	29.54	-31.39	100	0	QP
23.012	2.20	20.53	-18.33	29.54	-27.34	100	0	QP
27.391	-2.17	16.07	-18.24	29.54	-31.71	100	0	QP

Remarks:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Factor (dB/m)
2. The other emission levels were very low against the limit.
3. Margin value = Emission level – Limit value.
4. Above limits have been translated by the formula



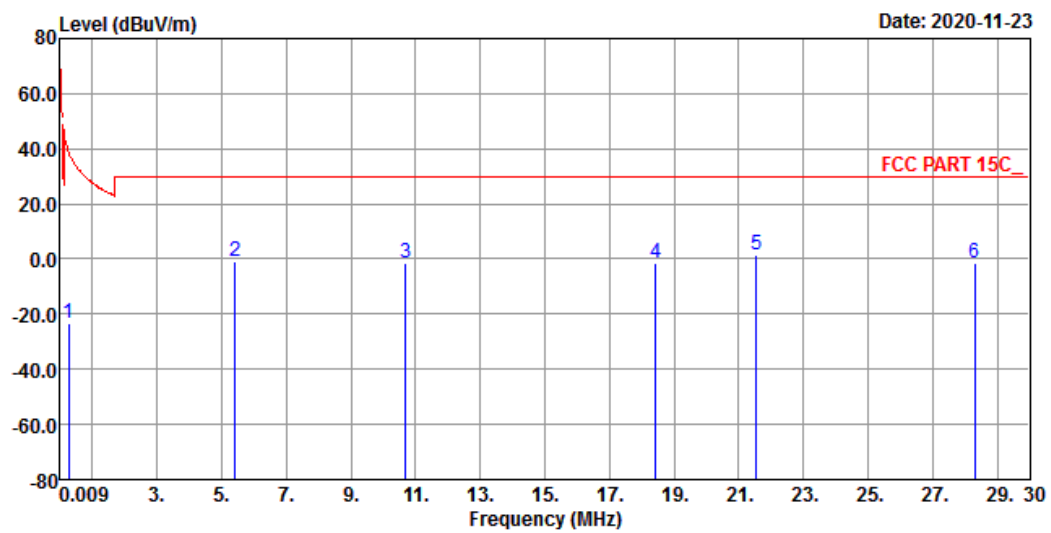
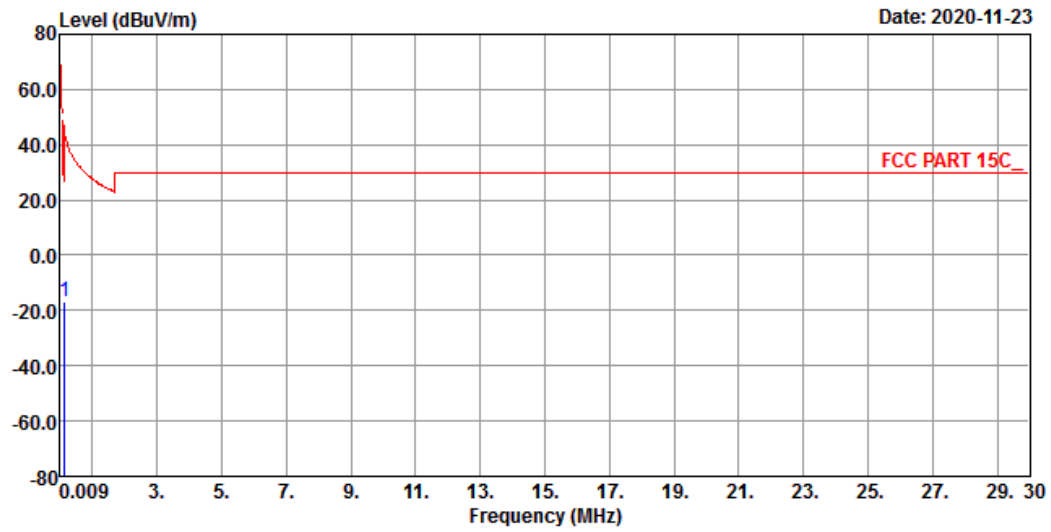


Channel	TX Channel 1	Detector Function	Average (AV) Quasi-Peak (QP)
Frequency Range	9 kHz ~ 30 MHz		
Test Mode	A		

Antenna Polarity & Test Distance: Ground-parallel at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
*0.136	-17.11	43.45	-60.56	24.93	-42.04	100	360	Average
0.272	-23.58	36.66	-60.24	18.91	-42.49	100	360	Average
5.407	-0.97	18.80	-19.77	29.54	-30.51	100	360	QP
10.686	-1.41	17.35	-18.76	29.54	-30.95	100	360	QP
18.423	-1.53	16.92	-18.45	29.54	-31.07	100	360	QP
21.543	1.24	19.60	-18.36	29.54	-28.30	100	360	QP
28.321	-1.42	16.81	-18.23	29.54	-30.96	100	360	QP

Remarks:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Factor (dB/m)
2. The other emission levels were very low against the limit.
3. Margin value = Emission level – Limit value.
4. Above limits have been translated by the formula



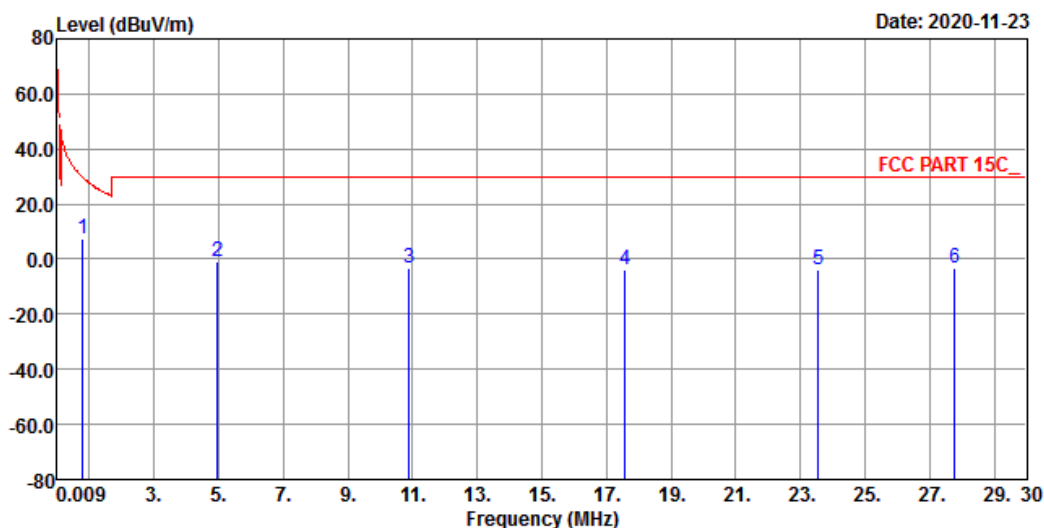
## Standby Mode

Channel	TX Channel 1	Detector Function	Average (AV)
Frequency Range	9 kHz ~ 30 MHz		Quasi-Peak (QP)
Test Mode	B		

Antenna Polarity & Test Distance: Parallel at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
0.78877	7.38	27.58	-20.20	29.66	-22.28	100	360	QP
4.958	-1.01	18.90	-19.91	29.54	-30.55	100	360	QP
10.896	-3.25	15.50	-18.75	29.54	-32.79	100	360	QP
17.584	-3.82	14.66	-18.48	29.54	-33.36	100	360	QP
23.552	-3.79	14.53	-18.32	29.54	-33.33	100	360	QP
27.781	-3.26	14.98	-18.24	29.54	-32.80	100	360	QP

### Remarks:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Factor (dB/m)
2. The other emission levels were very low against the limit.
3. Margin value = Emission level – Limit value.
4. Above limits have been translated by the formula

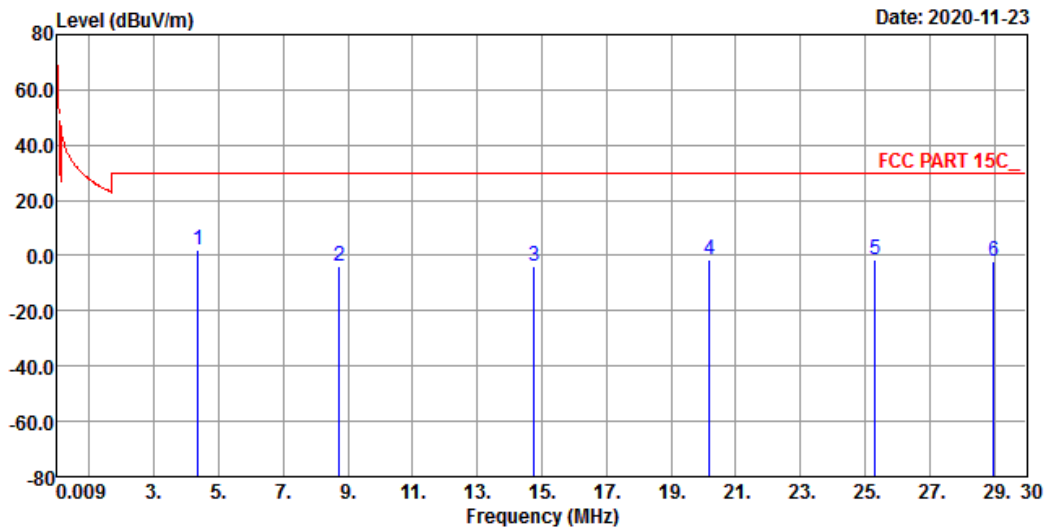


Channel	TX Channel 1	Detector Function	Average (AV) Quasi-Peak (QP)
Frequency Range	9 kHz ~ 30 MHz		
Test Mode	B		

Antenna Polarity & Test Distance: Perpendicular at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
4.358	2.19	22.31	-20.12	29.54	-27.35	100	0	QP
8.736	-3.83	15.19	-19.02	29.54	-33.37	100	0	QP
14.765	-4.01	14.56	-18.57	29.54	-33.55	100	0	QP
20.193	-1.61	16.79	-18.40	29.54	-31.15	100	0	QP
25.321	-1.65	16.63	-18.28	29.54	-31.19	100	0	QP
28.980	-2.10	16.12	-18.22	29.54	-31.64	100	0	QP

Remarks:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Factor (dB/m)
2. The other emission levels were very low against the limit.
3. Margin value = Emission level – Limit value.
4. Above limits have been translated by the formula

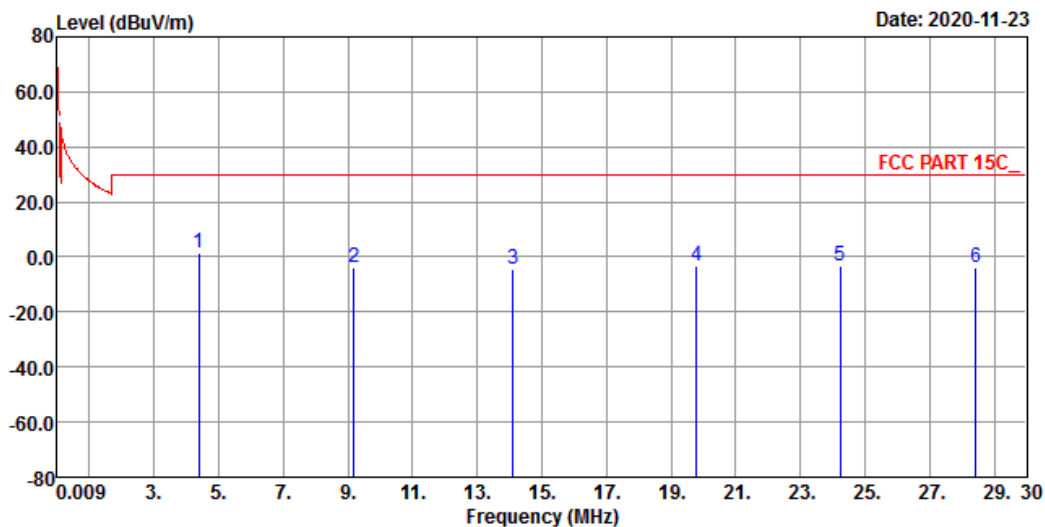


Channel	TX Channel 1	Detector Function	Average (AV) Quasi-Peak (QP)
Frequency Range	9 kHz ~ 30 MHz		
Test Mode	B		

Antenna Polarity & Test Distance: Ground-parallel at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
4.388	1.38	21.48	-20.1	29.54	-28.16	100	360	QP
9.186	-4.07	14.87	-18.94	29.54	-33.61	100	360	QP
14.105	-4.38	14.22	-18.6	29.54	-33.92	100	360	QP
19.803	-3.19	15.21	-18.4	29.54	-32.73	100	360	QP
24.242	-3.23	15.07	-18.3	29.54	-32.77	100	360	QP
28.440	-4.09	14.14	-18.23	29.54	-33.63	100	360	QP

Remarks:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Factor (dB/m)
2. The other emission levels were very low against the limit.
3. Margin value = Emission level – Limit value.
4. Above limits have been translated by the formula



Below 1GHz Data:

Charging Mode

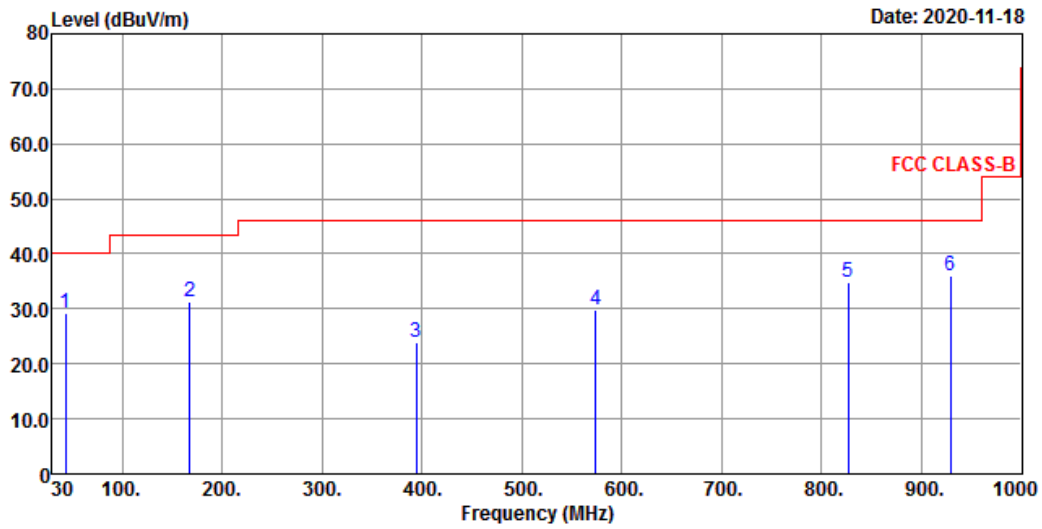
Channel	TX Channel 1	Detector Function	Quasi-Peak (QP)
Frequency Range	30MHz ~ 1GHz		
Test Mode	A		

Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
43.58	29.12	41.04	-11.92	40	-10.88	112	136	QP
167.74	31.19	43.35	-12.16	43.5	-12.31	104	18	QP
394.72	23.98	32.46	-8.48	46	-22.02	136	297	QP
574.17	29.92	33.53	-3.61	46	-16.08	125	188	QP
826.37	34.96	32.74	2.22	46	-11.04	102	53	QP
929.19	36.09	32.67	3.42	46	-9.91	101	107	QP
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
<b>31.94</b>	<b>35.2</b>	<b>48.11</b>	<b>-12.91</b>	<b>40</b>	<b>-4.8</b>	<b>108</b>	<b>197</b>	<b>QP</b>
165.8	26.56	38.56	-12	43.5	-16.94	124	144	QP
356.89	22.81	32.34	-9.53	46	-23.19	137	269	QP
621.7	29.83	31.83	-2	46	-16.17	147	183	QP
863.23	35.02	32.42	2.6	46	-10.98	111	305	QP
950.53	35.89	32.2	3.69	46	-10.11	178	22	QP

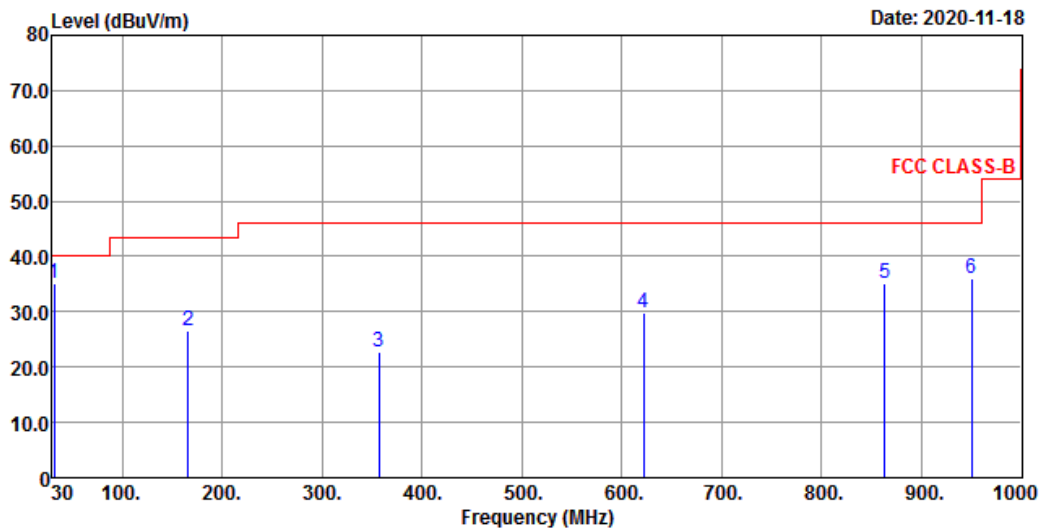
Remarks:

1. Emission Level = Read Level + Factor
2. Margin value = Emission level – Limit value.
3. The other emission levels were very low against the limit.

## Horizontal



## Vertical



### Standby Mode

Channel	TX Channel 1	Detector Function	Quasi-Peak (QP)
Frequency Range	30MHz ~ 1GHz		
Test Mode	B		

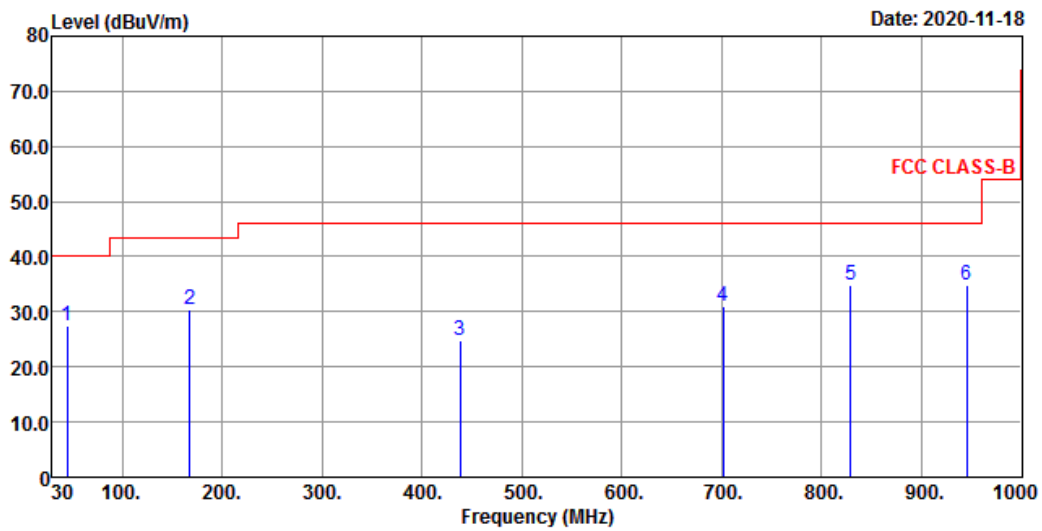
Antenna Polarity & Test Distance: Horizontal at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
44.55	27.33	39.2	-11.87	40	-12.67	127	198	QP
167.74	30.29	42.45	-12.16	43.5	-13.21	156	318	QP
438.37	24.86	31.58	-6.72	46	-21.14	105	187	QP
701.24	30.92	31.53	-0.61	46	-15.08	111	208	QP
829.28	34.82	32.6	2.22	46	-11.18	104	187	QP
945.68	34.77	31.12	3.65	46	-11.23	101	162	QP
Antenna Polarity & Test Distance: Vertical at 3 m								
Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
66.86	27.05	40.24	-13.19	40	-12.95	105	168	QP
165.8	24.18	36.18	-12	43.5	-19.32	111	147	QP
398.6	23.68	32.07	-8.39	46	-22.32	126	357	QP
657.59	30.53	32.04	-1.51	46	-15.47	100	58	QP
800.18	34.1	32.44	1.66	46	-11.9	112	309	QP
933.07	34.99	31.56	3.43	46	-11.01	127	151	QP

#### Remarks:

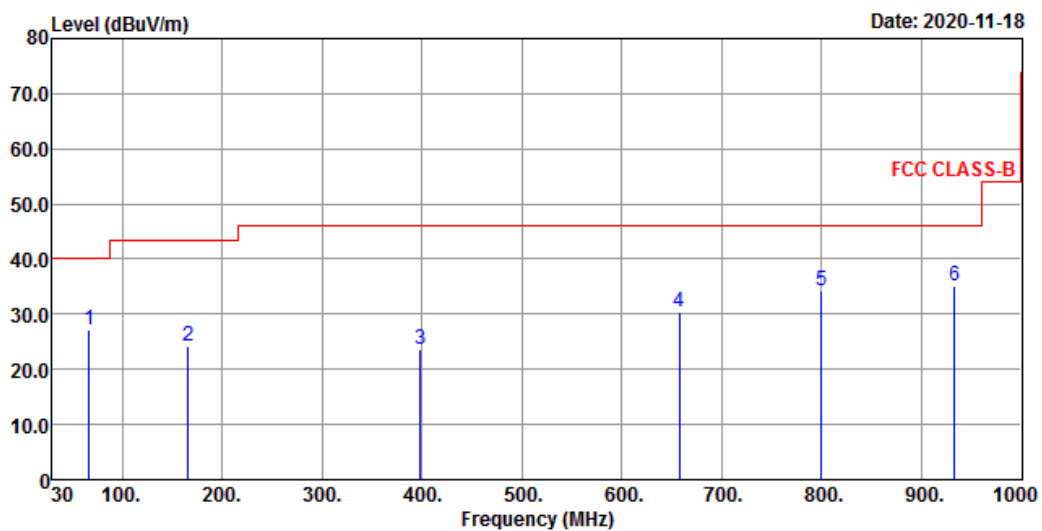
1. Emission Level = Read Level + Factor
2. Margin value = Emission level – Limit value.
3. The other emission levels were very low against the limit.



## Horizontal



## Vertical



## 4.2 Conducted Emission Measurement

### 4.2.1 Limits of Conducted Emission Measurement

Frequency (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15 - 0.5	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30.0	60	50

Note: 1. The lower limit shall apply at the transition frequencies.

2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

### 4.2.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESCI	100613	Dec. 11, 2019	Dec. 10, 2020
RF signal cable Woken	5D-FB	Cable-cond1-01	Sep. 04, 2020	Sep. 03, 2021
LISN ROHDE & SCHWARZ (EUT)	ENV216	101826	Feb. 20, 2020	Feb. 19, 2021
V-LISN SCHWARZBECK (Peripheral)	NNBL 8226-2	8226-142	Jul. 31, 2020	Jul. 30, 2021
Software ADT	BV ADT_Cond_ V7.3.7.4	NA	NA	NA

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

2. The test was performed in HwaYa Shielded Room 1 (Conduction 1).

3. The VCCI Site Registration No. is C-12040.

#### 4.2.3 Test Procedures

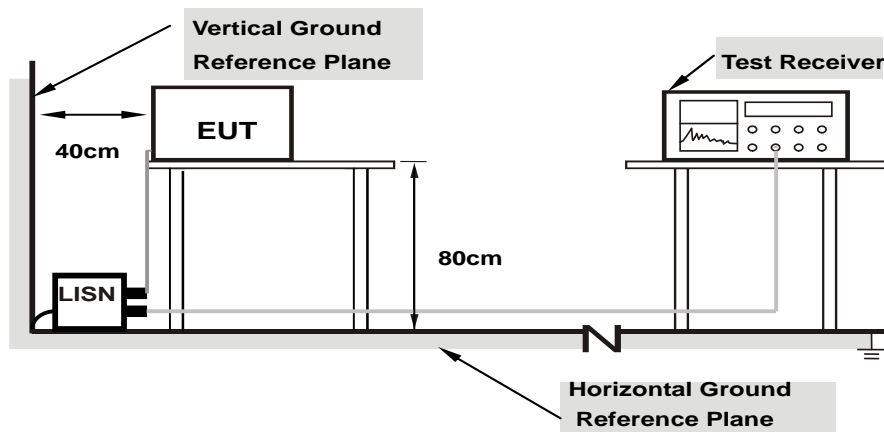
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.
- Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) were not recorded.

**NOTE:** The resolution bandwidth and video bandwidth of test receiver is 9kHz for quasi-peak detection (QP) and average detection (AV) at frequency 0.15MHz-30MHz.

#### 4.2.4 Deviation from Test Standard

No deviation.

#### 4.2.5 Test Setup



**Note:** 1.Support units were connected to second LISN.

For the actual test configuration, please refer to the attached file (Test Setup Photo).

#### 4.2.6 EUT Operating Conditions

Same as 4.1.6.

#### 4.2.7 Test Results

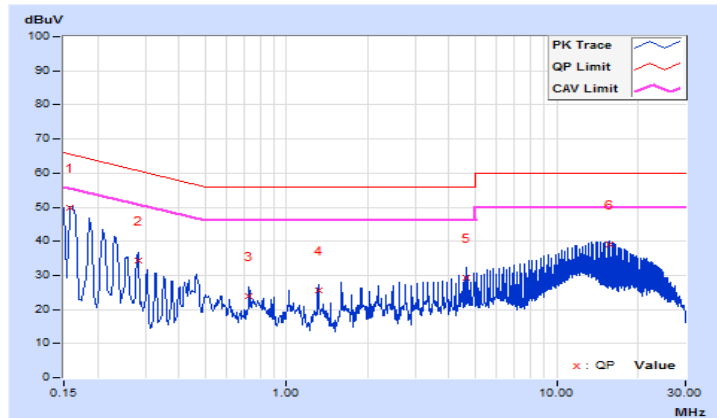
##### Charging Mode

Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	A		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
	[MHz]		[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15811	9.65	40.22	32.80	49.87	42.45	65.56	55.56	-15.69	-13.11
2	0.28200	9.66	24.80	18.28	34.46	27.94	60.76	50.76	-26.30	-22.82
3	0.72600	9.67	14.36	11.78	24.03	21.45	56.00	46.00	-31.97	-24.55
4	1.31000	9.68	15.79	12.44	25.47	22.12	56.00	46.00	-30.53	-23.88
5	4.66200	9.75	19.51	13.18	29.26	22.93	56.00	46.00	-26.74	-23.07
6	15.72200	9.85	29.19	27.95	39.04	37.80	60.00	50.00	-20.96	-12.20

##### Remarks:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level - Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value.

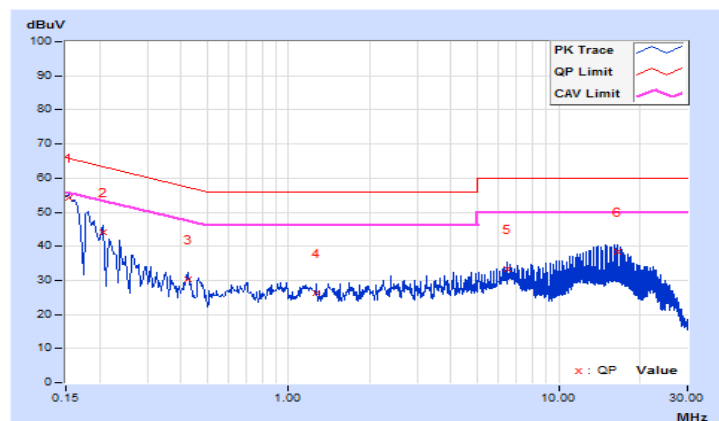


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	A		

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15400	9.68	44.47	39.58	54.15	49.26	65.78	55.78	-11.63	-6.52
2	0.20577	9.68	34.53	26.54	44.21	36.22	63.37	53.37	-19.16	-17.15
3	0.42577	9.68	20.77	15.92	30.45	25.60	57.33	47.33	-26.88	-21.73
4	1.26600	9.70	16.66	12.70	26.36	22.40	56.00	46.00	-29.64	-23.60
5	6.45800	9.79	23.46	20.24	33.25	30.03	60.00	50.00	-26.75	-19.97
6	16.56600	9.95	28.57	27.02	38.52	36.97	60.00	50.00	-21.48	-13.03

Remarks:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level - Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value.



## 5 Pictures of Test Arrangements

Please refer to the attached file (Test Setup Photo).

## Appendix – Information of the Testing Laboratories

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are FCC recognized accredited test firms and accredited and approved according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:

### Lin Kou EMC/RF Lab

Tel: 886-2-26052180

Fax: 886-2-26051924

### Hsin Chu EMC/RF/Telecom Lab

Tel: 886-3-6668565

Fax: 886-3-6668323

### Hwa Ya EMC/RF/Safety Lab

Tel: 886-3-3183232

Fax: 886-3-3270892

**Email:** [service.adt@tw.bureauveritas.com](mailto:service.adt@tw.bureauveritas.com)

**Web Site:** [www.bureauveritas-adt.com](http://www.bureauveritas-adt.com)

The address and road map of all our labs can be found in our web site also.

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