

FCC Test Report

Report No.: RF190423C24 R1

FCC ID: K7SF8J234V2

Test Model: F8J234V2

Received Date: Apr. 23, 2019

Test Date: Apr. 25 ~ Apr. 27, 2019

Issued Date: Jun. 05, 2019

Applicant: Belkin International, Inc.

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

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Test Location: No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, TAIWAN (R.O.C.)

FCC Registration / 788550 / TW0003
Designation Number:



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Release Control Record

Issue No.	Description	Date Issued
RF190423C24	Original release	May 09, 2019
RF190423C24 R1	Revised product name.	Jun. 05, 2019

1 Certificate of Conformity

Product: BOOST↑UP™ Special Edition Wireless Charging Dock for iPhone + Apple Watch

Brand: belkin

Test Model: F8J234V2

Sample Status: Engineering sample

Applicant: Belkin International, Inc.

Test Date: Apr. 25 ~ Apr. 27, 2019

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 : Celine Chou , **Date:** Jun. 05, 2019
Celine Chou / Senior Specialist

Approved by : Bruce Chen , **Date:** Jun. 05, 2019
Bruce Chen / 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 -15.62dB at 0.17737MHz.
15.209	Radiated Emission Test	Pass	Meet the requirement of limit. Minimum passing margin is -6.1dB at 111.560MHz and 109.620MHz

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) ($\pm$)
Conducted Emissions at mains ports	150kHz ~ 30MHz	2.94 dB
Radiated Emissions up to 1 GHz	9kHz ~ 30MHz	3.04 dB
	30MHz ~ 200MHz	3.86 dB
	200MHz ~ 1000MHz	3.87 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	BOOST↑UP™ Special Edition Wireless Charging Dock for iPhone + Apple Watch
Test Model	F8J234V2
Sample Status	Engineering sample
Power Supply Rating	15Vdc (Adapter)
Modulation Type	FSK
Operating Frequency	127.8 kHz 326.5 kHz
Antenna Type	Coil antenna
Field Strength	127.8 kHz: 74.6dBuV/m 326.5 kHz: 47.0dBuV/m
Dimension for iPhone charging coil	16.26cm ² (diameter = 45.5mm)
Dimension for Apple watch charging coil	7.95cm ² (diameter = 31.82mm)
Accessory Device	Adapter
Data Cable Supplied	NA
Maximum Power Output for Phone charging coil	7.5W
Maximum Power Output for Apple watch charging coil	5W

Note:

1. The EUT uses following adapter.

Brand	belkin
Model	2ADL045H NJ
Input Power	100-240Vac, 50/60Hz, 1.3A
Output Power	15Vdc, 3.0A
Power Line	1.5m DC cable without core attached on adapter

2. The EUT has WPC (Wireless Power Consortium) technology.

3. 326.5kHz mode is for Apple watch charging. Metal band is the worst case for final tests after pretesting plastic band and metal band.

3.2 Description of Test Modes

2 channels are provided to this EUT

Channel	Freq. (kHz)
1	127.8
2	326.5

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT CONFIGURE MODE	APPLICABLE TO		DESCRIPTION
	RE<1G	PLC	
A	√	√	EUT wireless charging to iPhone X + USB charging to iPhone
B	√	√	EUT wireless charging to Apple Watch + USB charging to iPhone
C	√	√	EUT wireless charging to iPhone X and Apple Watch + USB charging to iPhone
D	√	√	EUT USB charging to iPhone

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

PLC: Power Line Conducted Emission

Note:

1. The EUT is designed to be positioned on the **X-plane** only.
2. “-” means no effect.

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, 2	1
B	1, 2	2
C	1, 2	1, 2
D	1, 2	1, 2

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, 2	1
B	1, 2	2
C	1, 2	1, 2
D	1, 2	1, 2

Test Condition:

Applicable To	Environmental Conditions	Input Power	Tested by
RE<1G	22 deg. C, 64% RH	120Vac, 60Hz	Jones Chang Adair Peng
PLC	23 deg. C, 68% RH	120Vac, 60Hz	Adair Peng

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.

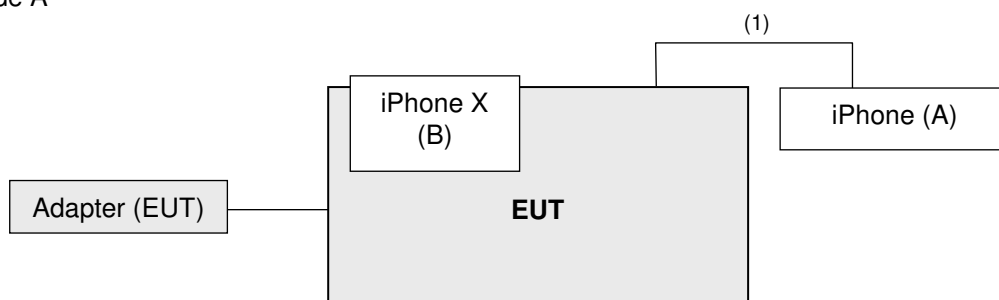
ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	iPhone	APPLE	A1897	NA	NA	-
B.	iPhone X	APPLE	A1901	NA	NA	-
C.	Apple Watch	APPLE	A1554	NA	NA	-

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	USB cable	1	1.15	Y	0	-

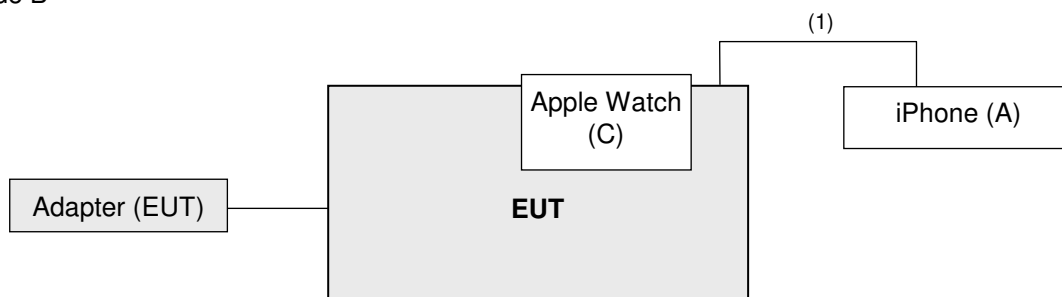
3.3.1 Configuration of System under Test

Charging Mode:

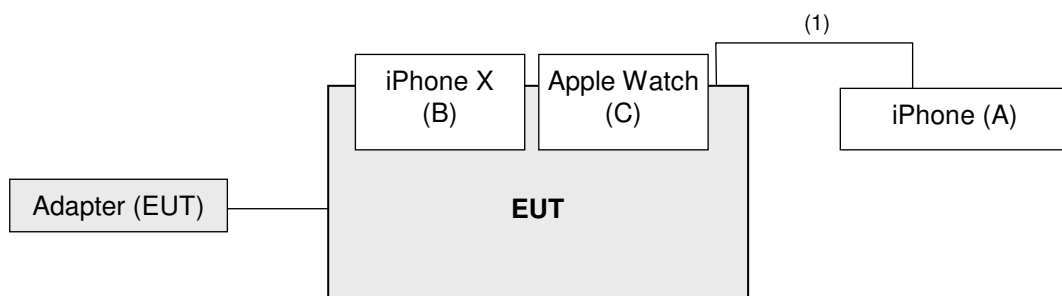
Test Mode A



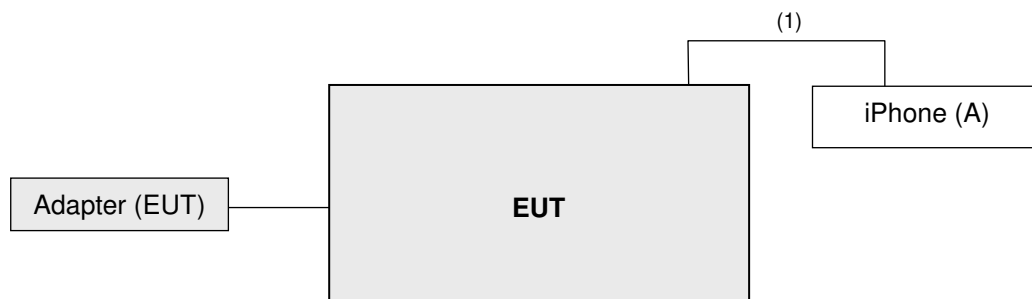
Test Mode B



Test Mode C



Standby Mode:
Test Mode D



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 ROHDE & SCHWARZ	ESIB7	100187	May 29, 2018	May 28, 2019
BILOG Antenna SCHWARZBECK	VULB9168	9168-171	Nov. 22, 2018	Nov. 21, 2019
HORN Antenna SCHWARZBECK	9120D	209	Nov. 25, 2018	Nov. 24, 2019
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Nov. 25, 2018	Nov. 24, 2019
Loop Antenna TESEQ	HLA 6121	45745	Jun. 14, 2018	Jun. 13, 2019
Preamplifier Agilent (Below 1GHz)	8447D	2944A10738	Aug. 21, 2018	Aug. 20, 2019
Preamplifier Agilent (Above 1GHz)	8449B	3008A02465	Mar. 27, 2019	Mar. 26, 2020
RF signal cable HUBER+SUHNER	SUCOFLEX 104	Cable-CH3-03 (223653/4)	Aug. 21, 2018	Aug. 20, 2019
RF signal cable HUBER+SUHNER& EMCI	SUCOFLEX 104&EMC104-SM-S M-8000	Cable-CH3-03 (309224+170907)	Aug. 21, 2018	Aug. 20, 2019
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	NA	NA	NA
Antenna Tower inn-co GmbH	MA 4000	013303	NA	NA
Antenna Tower Controller BV ADT	AT100	AT93021702	NA	NA
Turn Table BV ADT	TT100	TT93021702	NA	NA
Turn Table Controller BV ADT	SC100	SC93021702	NA	NA
Boresight Antenna Fixture	FBA-01	FBA-SIP01	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 Chamber 3.

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:

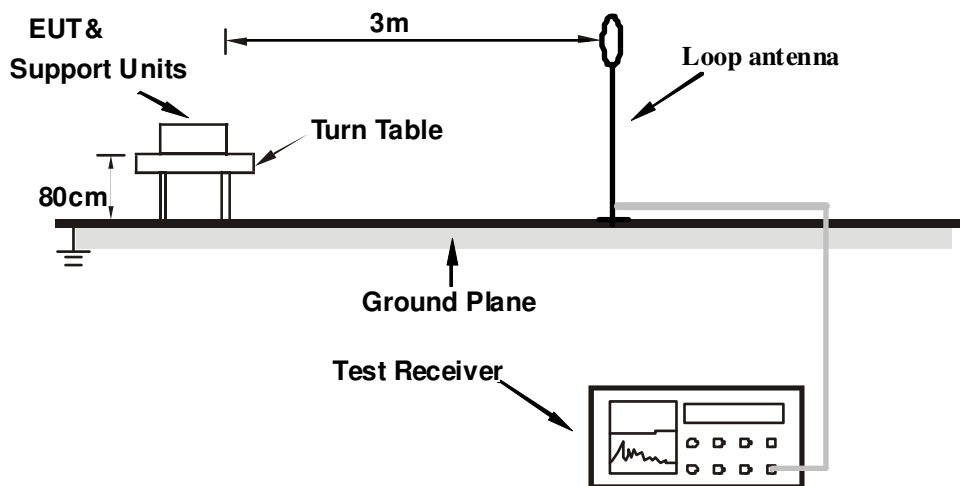
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
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

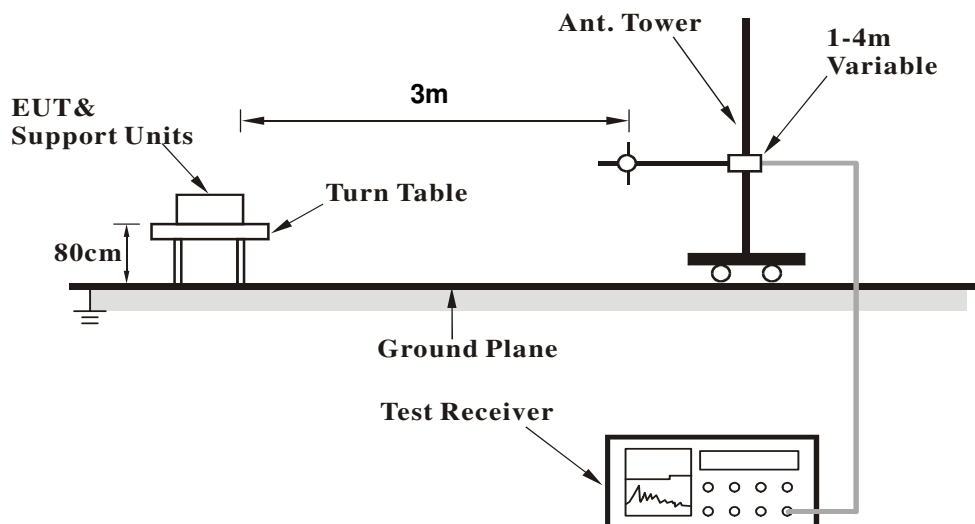
No deviation.

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

Charging Mode:

Test Mode A

- a. The EUT powered by adapter.
- b. Put the iPhone X on the EUT (wireless charging) during the test.
- c. The iPhone was charging by EUT via USB cable.

Test Mode B

- a. The EUT powered by adapter.
- b. Put the Apple Watch on the EUT (wireless charging) during the test.
- c. The iPhone was charging by EUT via USB cable.

Test Mode C

- a. The EUT powered by adapter.
- b. Put the iPhone X and Apple Watch on the EUT (wireless charging) during the test.
- c. The iPhone was charging by EUT via USB cable.

Standby Mode:

Test Mode D

- a. The EUT powered by adapter.
- b. The iPhone was charging by EUT via USB cable.

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: LOOP ANTENNA OPEN AT 3m								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*0.1278	73.7 AV	105.5	-31.8	1.00	67	54.0	19.7
2	0.970	42.8 QP	67.9	-25.1	1.00	335	22.7	20.1
3	3.229	38.0 QP	69.5	-31.5	1.00	232	18.4	19.6
4	9.045	35.6 QP	69.5	-33.9	1.00	154	14.0	21.6
5	16.206	36.9 QP	69.5	-32.6	1.00	127	15.1	21.8
6	21.637	36.5 QP	69.5	-33.0	1.00	22	14.6	21.9
7	25.963	50.0 QP	69.5	-19.5	1.00	125	27.9	22.1
ANTENNA POLARITY & TEST DISTANCE: LOOP ANTENNA CLOSE AT 3m								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*0.1278	68.9 AV	105.5	-36.6	1.00	160	49.2	19.7
2	0.970	39.4 QP	67.9	-28.5	1.00	266	19.3	20.1
3	4.190	35.2 QP	69.5	-34.3	1.00	37	15.1	20.1
4	8.997	35.5 QP	69.5	-34.0	1.00	122	14.0	21.5
5	14.380	35.0 QP	69.5	-34.5	1.00	99	13.2	21.8
6	20.580	36.0 QP	69.5	-33.5	1.00	303	14.1	21.9
7	24.473	34.5 QP	69.5	-35.0	1.00	334	12.5	22.0
ANTENNA POLARITY & TEST DISTANCE: LOOP ANTENNA GROUND-PARALLEL AT 3m								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*0.1278	71.8 AV	105.5	-33.7	1.00	90	52.1	19.7
2	0.874	39.7 QP	68.8	-29.1	1.00	312	19.6	20.1
3	4.046	35.2 QP	69.5	-34.3	1.00	101	15.2	20.0
4	8.660	35.7 QP	69.5	-33.8	1.00	193	14.2	21.5
5	14.187	36.0 QP	69.5	-33.5	1.00	15	14.2	21.8
6	18.561	35.8 QP	69.5	-33.7	1.00	166	14.0	21.8
7	25.578	43.0 QP	69.5	-26.5	1.00	129	21.0	22.0

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. “ * “: Fundamental frequency.
6. Loop antenna was used for all radiated emission below 30MHz.
7. Limit @3m=Limit@300m+40log(300 / 3)=Limit@300m+80
8. Limit @3m=Limit@30m+40log(30 / 3)=Limit@30m+40

Channel	TX Channel 2	Detector Function	Average (AV) Quasi-Peak (QP)
Frequency Range	9 kHz ~ 30 MHz		
Test Mode	B		

ANTENNA POLARITY & TEST DISTANCE: LOOP ANTENNA OPEN AT 3m

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*0.3265	46.5 AV	97.3	-50.8	1.00	333	26.4	20.1
2	0.874	38.6 QP	68.8	-30.2	1.00	285	18.5	20.1
3	3.229	38.7 QP	69.5	-30.8	1.00	187	19.1	19.6
4	6.786	36.2 QP	69.5	-33.3	1.00	37	15.2	21.0
5	14.091	35.7 QP	69.5	-33.8	1.00	130	13.9	21.8
6	17.792	38.9 QP	69.5	-30.6	1.00	296	17.1	21.8
7	25.963	48.9 QP	69.5	-20.6	1.00	25	26.8	22.1

ANTENNA POLARITY & TEST DISTANCE: LOOP ANTENNA CLOSE AT 3m

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*0.3265	43.7 AV	97.3	-53.6	1.00	119	23.6	20.1
2	0.634	39.7 QP	71.6	-31.9	1.00	44	19.5	20.2
3	3.181	35.9 QP	69.5	-33.6	1.00	202	16.3	19.6
4	10.006	35.1 QP	69.5	-34.4	1.00	174	13.3	21.8
5	15.966	35.8 QP	69.5	-33.7	1.00	359	14.0	21.8
6	20.676	36.0 QP	69.5	-33.5	1.00	268	14.1	21.9
7	25.578	39.9 QP	69.5	-29.6	1.00	37	17.9	22.0

ANTENNA POLARITY & TEST DISTANCE: LOOP ANTENNA GROUND-PARALLEL AT 3m

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*0.3265	44.6 AV	97.3	-52.7	1.00	203	24.5	20.1
2	0.634	37.0 QP	71.6	-34.6	1.00	210	16.8	20.2
3	3.085	34.8 QP	69.5	-34.7	1.00	41	15.2	19.6
4	8.612	36.7 QP	69.5	-32.8	1.00	226	15.3	21.4
5	13.755	36.2 QP	69.5	-33.3	1.00	69	14.4	21.8
6	20.532	37.5 QP	69.5	-32.0	1.00	171	15.6	21.9
7	25.963	43.0 QP	69.5	-26.5	1.00	301	20.9	22.1

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. “ * “: Fundamental frequency.
6. Loop antenna was used for all radiated emission below 30MHz.
7. Limit @3m=Limit@300m+40log(300 / 3)=Limit@300m+80
8. Limit @3m=Limit@30m+40log(30 / 3)=Limit@30m+40

Channel	TX Channel 1 + 2	Detector Function	Average (AV) Quasi-Peak (QP)
Frequency Range	9 kHz ~ 30 MHz		
Test Mode	C		

ANTENNA POLARITY & TEST DISTANCE: LOOP ANTENNA OPEN AT 3m								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*0.1278	74.6 AV	105.5	-30.9	1.00	101	54.9	19.7
2	*0.3265	47.0 AV	97.3	-50.3	1.00	344	26.9	20.1
3	0.634	41.1 QP	71.6	-30.5	1.00	49	20.9	20.2
4	4.815	36.3 QP	69.5	-33.2	1.00	63	15.9	20.4
5	9.189	36.1 QP	69.5	-33.4	1.00	303	14.5	21.6
6	15.870	35.0 QP	69.5	-34.5	1.00	150	13.2	21.8
7	19.522	41.6 QP	69.5	-27.9	1.00	276	19.8	21.8
8	25.578	44.8 QP	69.5	-24.7	1.00	9	22.8	22.0
ANTENNA POLARITY & TEST DISTANCE: LOOP ANTENNA CLOSE AT 3m								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*0.1278	69.5 AV	105.5	-36.0	1.00	181	49.8	19.7
2	*0.3265	44.2 AV	97.3	-53.1	1.00	123	24.1	20.1
3	1.307	36.1 QP	65.3	-29.2	1.00	90	16.1	20.0
4	5.825	34.8 QP	69.5	-34.7	1.00	19	14.1	20.7
5	8.756	35.1 QP	69.5	-34.4	1.00	111	13.6	21.5
6	16.687	38.6 QP	69.5	-30.9	1.00	145	16.8	21.8
7	19.522	41.2 QP	69.5	-28.3	1.00	153	19.4	21.8
8	24.905	44.7 QP	69.5	-24.8	1.00	173	22.7	22.0
ANTENNA POLARITY & TEST DISTANCE: LOOP ANTENNA GROUND-PARALLEL AT 3m								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*0.1278	72.5 AV	105.5	-33.0	1.00	111	52.8	19.7
2	*0.3265	45.0 AV	97.3	-52.3	1.00	215	24.9	20.1
3	1.307	37.8 QP	65.3	-27.5	1.00	12	17.8	20.0
4	3.229	38.8 QP	69.5	-30.7	1.00	303	19.2	19.6
5	11.832	35.7 QP	69.5	-33.8	1.00	81	13.9	21.8
6	17.792	42.8 QP	69.5	-26.7	1.00	194	21.0	21.8
7	21.012	49.2 QP	69.5	-20.3	1.00	91	27.3	21.9
8	25.963	52.4 QP	69.5	-17.1	1.00	243	30.3	22.1

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. “ * “: Fundamental frequency.
6. Loop antenna was used for all radiated emission below 30MHz.
7. Limit @3m=Limit@300m+40log(300 / 3)=Limit@300m+80
8. Limit @3m=Limit@30m+40log(30 / 3)=Limit@30m+40

Standby Mode

Channel	TX Channel 1 + 2	Detector Function	Average (AV)
Frequency Range	9 kHz ~ 30 MHz		Quasi-Peak (QP)
Test Mode	D		

ANTENNA POLARITY & TEST DISTANCE: LOOP ANTENNA OPEN AT 3m

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*0.1278	44.7 AV	105.5	-60.8	1.00	175	25.0	19.7
2	*0.3265	33.8 AV	97.3	-63.5	1.00	169	13.7	20.1
3	0.610	48.3 QP	71.9	-23.6	1.00	3	28.1	20.2
4	0.971	42.2 QP	67.9	-25.7	1.00	8	22.1	20.1
5	2.714	34.4 QP	69.5	-35.1	1.00	226	14.8	19.6
6	18.100	35.0 QP	69.5	-34.5	1.00	279	13.2	21.8
7	20.263	34.8 QP	69.5	-34.7	1.00	254	12.9	21.9
8	25.072	39.0 QP	69.5	-30.5	1.00	28	17.0	22.0

ANTENNA POLARITY & TEST DISTANCE: LOOP ANTENNA CLOSE AT 3m

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*0.1278	39.5 AV	105.5	-66.0	1.00	229	19.8	19.7
2	*0.3265	29.8 AV	97.3	-67.5	1.00	239	9.7	20.1
3	0.610	42.6 QP	71.9	-29.3	1.00	270	22.4	20.2
4	0.850	36.3 QP	69.0	-32.7	1.00	74	16.2	20.1
5	2.714	34.3 QP	69.5	-35.2	1.00	351	14.7	19.6
6	15.215	34.7 QP	69.5	-34.8	1.00	242	12.9	21.8
7	20.263	34.8 QP	69.5	-34.7	1.00	3	12.9	21.9
8	25.072	37.0 QP	69.5	-32.5	1.00	149	15.0	22.0

ANTENNA POLARITY & TEST DISTANCE: LOOP ANTENNA GROUND-PARALLEL AT 3m

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*0.1278	33.3 AV	105.5	-72.2	1.00	123	13.6	19.7
2	*0.3265	25.9 AV	97.3	-71.4	1.00	133	5.8	20.1
3	0.610	39.3 QP	71.9	-32.6	1.00	217	19.1	20.2
4	1.271	42.1 QP	65.5	-23.4	1.00	330	22.1	20.0
5	2.774	45.4 QP	69.5	-24.1	1.00	21	25.8	19.6
6	3.555	42.0 QP	69.5	-27.5	1.00	112	22.2	19.8
7	20.263	44.2 QP	69.5	-25.3	1.00	254	22.3	21.9
8	25.060	47.4 QP	69.5	-22.1	1.00	303	25.4	22.0

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. “ * “: Fundamental frequency.
6. Loop antenna was used for all radiated emission below 30MHz.
7. Limit @3m=Limit@300m+40log(300 / 3)=Limit@300m+80
8. Limit @3m=Limit@30m+40log(30 / 3)=Limit@30m+40

Below 1GHz Data:

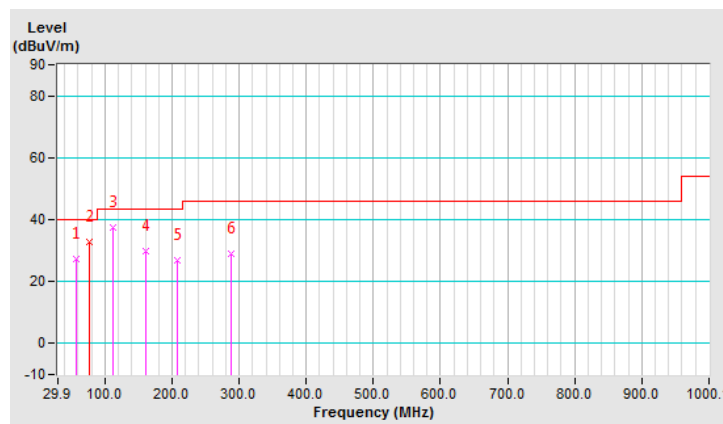
Charging Mode

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

Antenna Polarity & Test Distance: Horizontal At 3m								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	57.120	27.2 QP	40.0	-12.8	1.99 H	0	37.3	-10.1
2	77.710	32.6 QP	40.0	-7.4	1.00 H	258	46.1	-13.5
3	111.560	37.4 QP	43.5	-6.1	1.00 H	281	49.8	-12.4
4	160.170	30.0 QP	43.5	-13.5	1.49 H	114	39.0	-9.0
5	208.770	27.0 QP	43.5	-16.5	1.49 H	5	38.0	-11.0
6	288.490	29.0 QP	46.0	-17.0	1.00 H	121	36.6	-7.6

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value

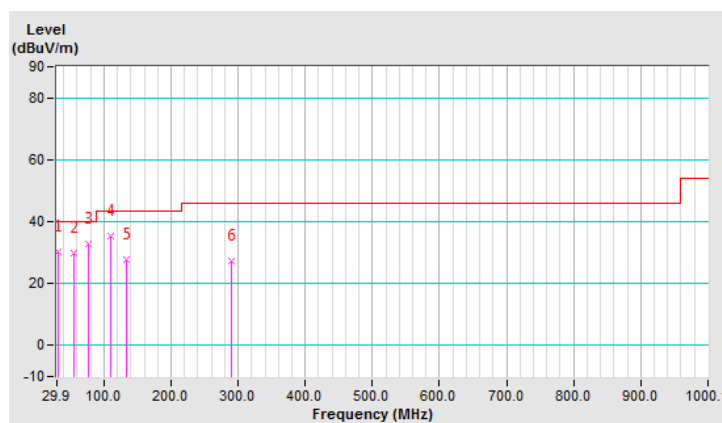


Channel	TX Channel 1	Detector Function	Quasi-Peak (QP)
Frequency Range	30MHz ~ 1GHz		
Test Mode	A		

Antenna Polarity & Test Distance: Vertical At 3m								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	30.900	30.4 QP	40.0	-9.6	1.01 V	108	42.0	-11.6
2	55.180	30.0 QP	40.0	-10.0	1.01 V	86	39.8	-9.8
3	76.560	32.7 QP	40.0	-7.3	1.99 V	293	46.1	-13.4
4	109.620	35.4 QP	43.5	-8.1	1.99 V	154	47.9	-12.5
5	132.950	27.6 QP	43.5	-15.9	1.99 V	242	37.8	-10.2
6	290.430	27.3 QP	46.0	-18.7	1.49 V	167	35.0	-7.7

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value

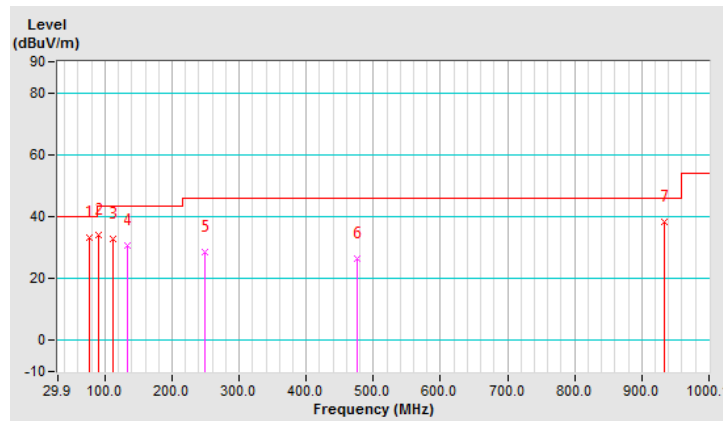


Channel	TX Channel 2	Detector Function	Quasi-Peak (QP)
Frequency Range	30MHz ~ 1GHz		
Test Mode	B		

Antenna Polarity & Test Distance: Horizontal At 3m								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	77.620	33.1 QP	40.0	-6.9	1.02 H	253	46.6	-13.5
2	91.510	34.2 QP	43.5	-9.3	1.98 H	267	48.7	-14.5
3	112.070	32.8 QP	43.5	-10.7	1.00 H	277	45.1	-12.3
4	132.950	30.8 QP	43.5	-12.7	1.49 H	90	41.0	-10.2
5	249.600	28.6 QP	46.0	-17.4	1.49 H	194	37.7	-9.1
6	475.140	26.4 QP	46.0	-19.6	1.99 H	201	30.5	-4.1
7	933.460	38.1 QP	46.0	-7.9	1.48 H	219	33.2	4.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value

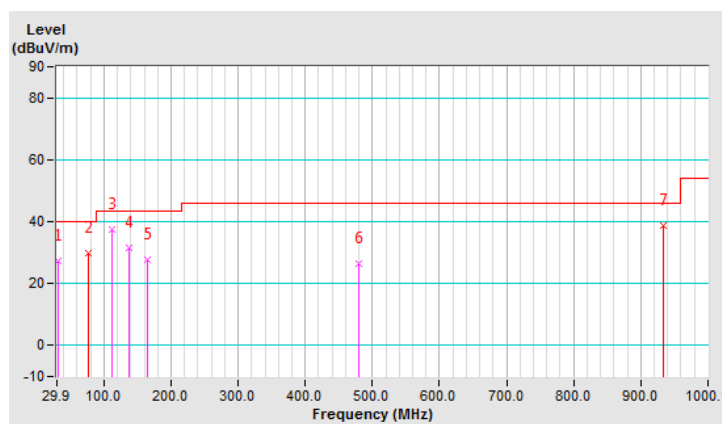


Channel	TX Channel 2	Detector Function	Quasi-Peak (QP)
Frequency Range	30MHz ~ 1GHz		
Test Mode	B		

Antenna Polarity & Test Distance: Vertical At 3m								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	30.900	27.3 QP	40.0	-12.7	1.50 V	276	38.9	-11.6
2	77.500	29.7 QP	40.0	-10.3	1.00 V	255	43.2	-13.5
3	111.560	37.4 QP	43.5	-6.1	1.00 V	229	49.8	-12.4
4	136.840	31.5 QP	43.5	-12.0	1.00 V	258	41.5	-10.0
5	164.060	27.6 QP	43.5	-15.9	1.00 V	297	36.6	-9.0
6	479.030	26.6 QP	46.0	-19.4	1.00 V	243	30.6	-4.0
7	933.090	38.7 QP	46.0	-7.3	1.00 V	351	33.8	4.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value

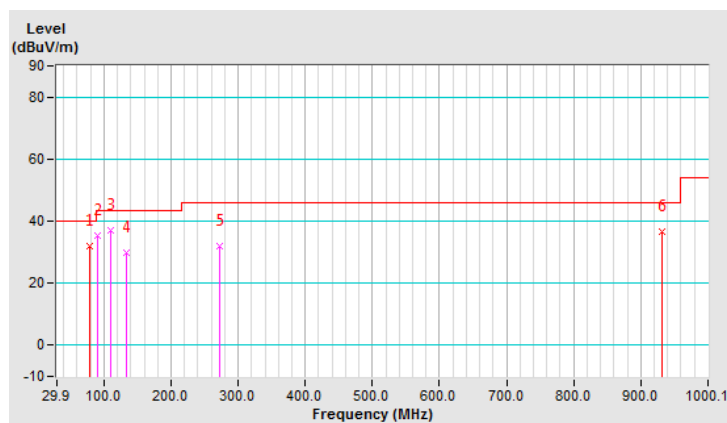


Channel	TX Channel 1 + 2	Detector Function	Quasi-Peak (QP)
Frequency Range	30MHz ~ 1GHz		
Test Mode	C		

Antenna Polarity & Test Distance: Horizontal At 3m								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	78.270	32.1 QP	40.0	-7.9	1.48 H	243	45.7	-13.6
2	90.170	35.4 QP	43.5	-8.1	1.99 H	289	50.0	-14.6
3	109.620	37.1 QP	43.5	-6.4	1.49 H	289	49.6	-12.5
4	132.950	29.9 QP	43.5	-13.6	1.99 H	62	40.1	-10.2
5	272.940	31.8 QP	46.0	-14.2	1.01 H	200	40.0	-8.2
6	930.890	36.5 QP	46.0	-9.5	1.48 H	138	31.6	4.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value

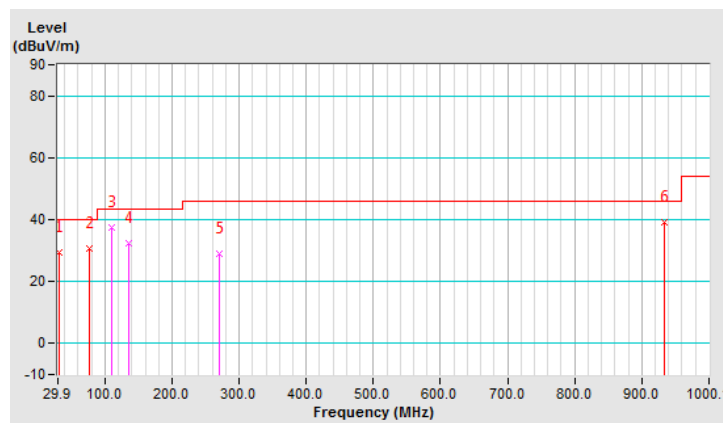


Channel	TX Channel 1 + 2	Detector Function	Quasi-Peak (QP)
Frequency Range	30MHz ~ 1GHz		
Test Mode	C		

Antenna Polarity & Test Distance: Vertical At 3m								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	31.910	29.5 QP	40.0	-10.5	1.50 V	114	41.0	-11.5
2	77.390	30.8 QP	40.0	-9.2	1.00 V	265	44.2	-13.4
3	109.620	37.4 QP	43.5	-6.1	1.00 V	233	49.9	-12.5
4	134.890	32.2 QP	43.5	-11.3	1.00 V	240	42.3	-10.1
5	270.990	29.0 QP	46.0	-17.0	1.00 V	145	37.3	-8.3
6	933.470	39.2 QP	46.0	-6.8	1.00 V	280	34.3	4.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value



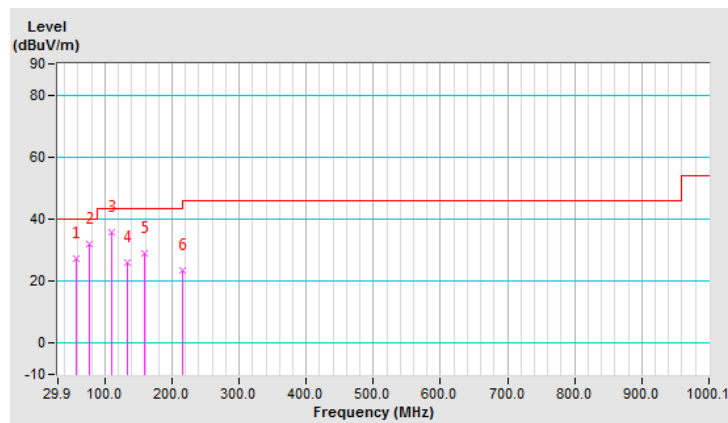
Standby Mode

Channel	TX Channel 1 + 2	Detector Function	Quasi-Peak (QP)
Frequency Range	30MHz ~ 1GHz		
Test Mode	D		

Antenna Polarity & Test Distance: Horizontal At 3m								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	57.120	27.5 QP	40.0	-12.5	1.99 H	150	37.6	-10.1
2	76.560	32.1 QP	40.0	-7.9	1.49 H	228	45.5	-13.4
3	109.620	35.7 QP	43.5	-7.8	1.49 H	108	48.2	-12.5
4	132.950	26.1 QP	43.5	-17.4	1.99 H	94	36.3	-10.2
5	158.220	29.0 QP	43.5	-14.5	1.49 H	99	38.1	-9.1
6	216.550	23.4 QP	46.0	-22.6	1.49 H	161	34.3	-10.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value

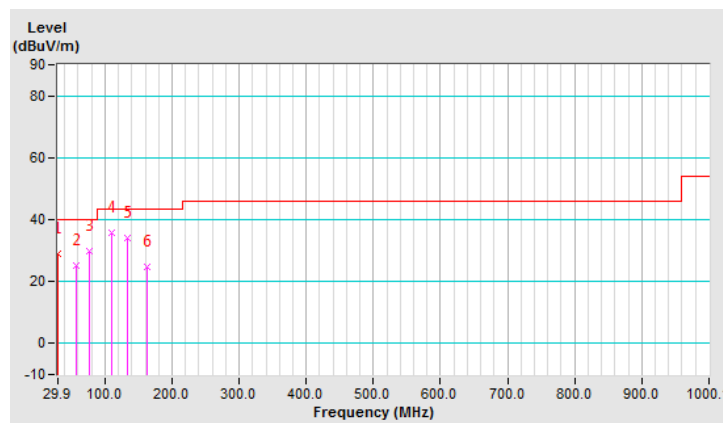


Channel	TX Channel 1 + 2	Detector Function	Quasi-Peak (QP)
Frequency Range	30MHz ~ 1GHz		
Test Mode	D		

Antenna Polarity & Test Distance: Vertical At 3m								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	30.140	29.0 QP	40.0	-11.0	1.01 V	141	40.5	-11.5
2	57.120	25.1 QP	40.0	-14.9	1.00 V	181	35.2	-10.1
3	76.560	30.0 QP	40.0	-10.0	1.51 V	211	43.4	-13.4
4	109.620	35.8 QP	43.5	-7.7	1.00 V	211	48.3	-12.5
5	132.950	33.9 QP	43.5	-9.6	1.00 V	253	44.1	-10.2
6	162.110	24.9 QP	43.5	-18.6	1.00 V	143	33.9	-9.0

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value



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. 10, 2018	Dec. 09, 2019
RF signal cable Woken	5D-FB	Cable-cond1-01	Sep. 05, 2018	Sep. 04, 2019
LISN ROHDE & SCHWARZ (EUT)	ENV216	101826	Feb. 21, 2019	Feb. 20, 2020
LISN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100311	Aug. 19, 2018	Aug. 18, 2019
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.

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

4.2.3 Test Procedures

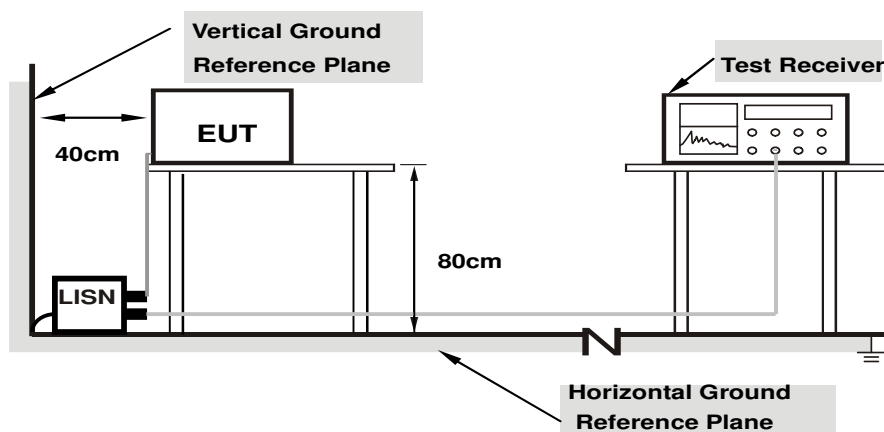
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance 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

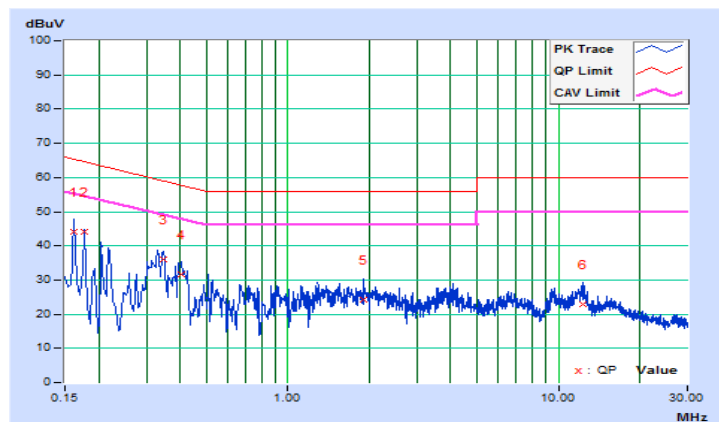
Charging Mode

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	0.16173	9.69	34.58	12.78	44.27	22.47	65.37	55.37	-21.10	-32.90
2	0.17737	9.68	34.43	17.37	44.11	27.05	64.61	54.61	-20.50	-27.56
3	0.34560	9.68	26.37	19.83	36.05	29.51	59.07	49.07	-23.02	-19.56
4	0.40373	9.68	22.12	11.67	31.80	21.35	57.78	47.78	-25.98	-26.43
5	1.90559	9.70	14.42	7.68	24.12	17.38	56.00	46.00	-31.88	-28.62
6	12.30619	9.89	13.08	6.78	22.97	16.67	60.00	50.00	-37.03	-33.33

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.

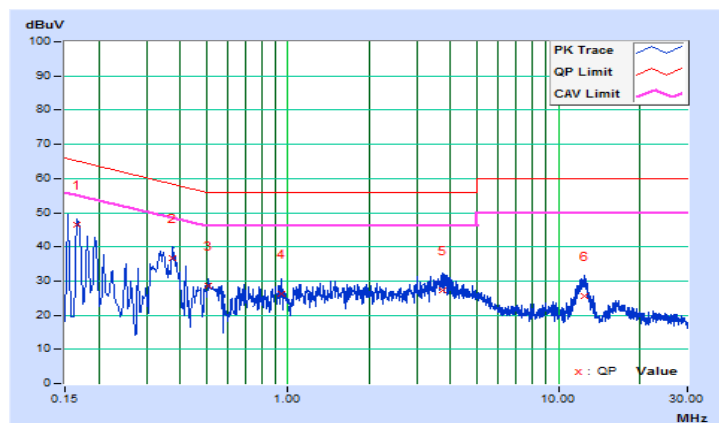


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	A		

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	0.16569	9.66	36.75	19.39	46.41	29.05	65.17	55.17	-18.76	-26.12
2	0.37678	9.65	27.10	18.90	36.75	28.55	58.35	48.35	-21.60	-19.80
3	0.50581	9.65	18.97	11.65	28.62	21.30	56.00	46.00	-27.38	-24.70
4	0.94764	9.64	16.46	8.35	26.10	17.99	56.00	46.00	-29.90	-28.01
5	3.75502	9.71	17.42	9.94	27.13	19.65	56.00	46.00	-28.87	-26.35
6	12.55643	9.89	15.71	9.71	25.60	19.60	60.00	50.00	-34.40	-30.40

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.

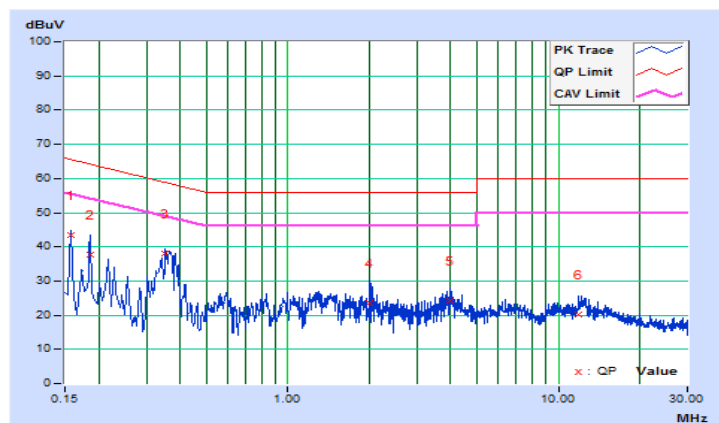


Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	B		

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
	[MHz]		[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15782	9.69	33.80	17.76	43.49	27.45	65.58	55.58	-22.09	-28.13
2	0.18519	9.68	28.09	12.35	37.77	22.03	64.25	54.25	-26.48	-32.22
3	0.35332	9.68	28.37	22.20	38.05	31.88	58.88	48.88	-20.83	-17.00
4	1.99943	9.70	14.03	7.38	23.73	17.08	56.00	46.00	-32.27	-28.92
5	4.00135	9.75	14.59	7.23	24.34	16.98	56.00	46.00	-31.66	-29.02
6	11.90737	9.88	10.17	4.30	20.05	14.18	60.00	50.00	-39.95	-35.82

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.

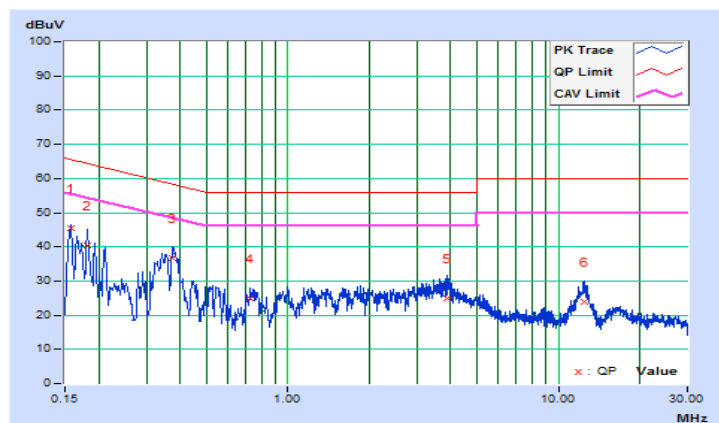


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	B		

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	0.15782	9.66	35.63	19.54	45.29	29.20	65.58	55.58	-20.29	-26.38
2	0.18128	9.66	30.83	11.11	40.49	20.77	64.43	54.43	-23.94	-33.66
3	0.37678	9.65	26.97	16.70	36.62	26.35	58.35	48.35	-21.73	-22.00
4	0.72465	9.64	15.18	7.33	24.82	16.97	56.00	46.00	-31.18	-29.03
5	3.89187	9.72	15.12	8.12	24.84	17.84	56.00	46.00	-31.16	-28.16
6	12.53297	9.89	13.94	7.98	23.83	17.87	60.00	50.00	-36.17	-32.13

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.

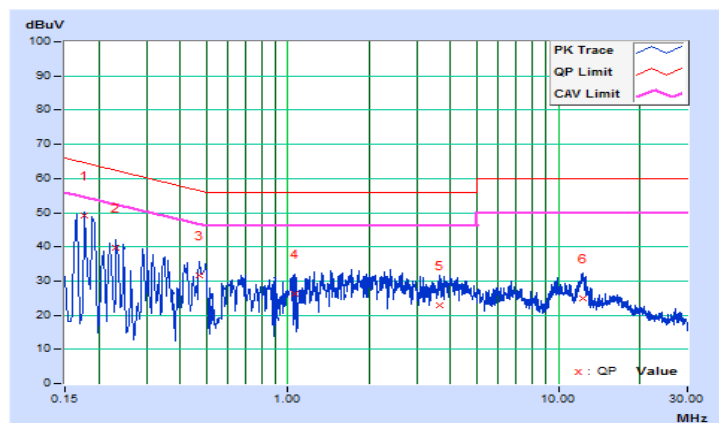


Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	C		

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	0.17737	9.68	39.31	24.05	48.99	33.73	64.61	54.61	-15.62	-20.88
2	0.23216	9.68	30.20	15.48	39.88	25.16	62.37	52.37	-22.49	-27.21
3	0.47062	9.68	22.08	9.34	31.76	19.02	56.50	46.50	-24.74	-27.48
4	1.05712	9.67	16.63	5.27	26.30	14.94	56.00	46.00	-29.70	-31.06
5	3.62599	9.74	13.29	5.19	23.03	14.93	56.00	46.00	-32.97	-31.07
6	12.26318	9.89	15.09	8.37	24.98	18.26	60.00	50.00	-35.02	-31.74

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.

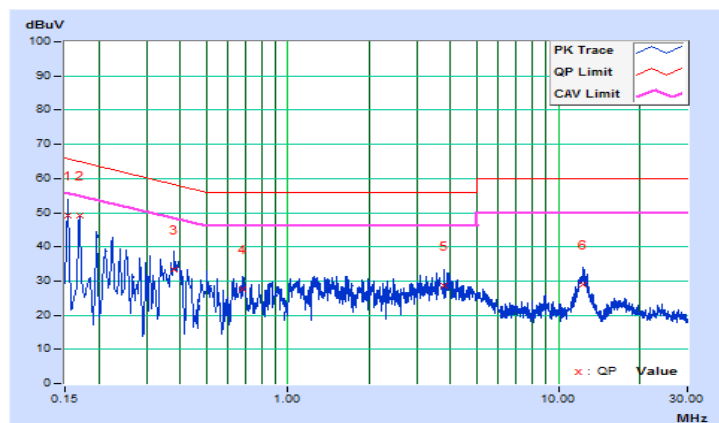


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	C		

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	0.15391	9.66	39.60	19.65	49.26	29.31	65.79	55.79	-16.53	-26.48
2	0.16955	9.66	39.55	21.44	49.21	31.10	64.98	54.98	-15.77	-23.88
3	0.38069	9.65	23.75	13.90	33.40	23.55	58.26	48.26	-24.86	-24.71
4	0.67785	9.65	17.98	6.82	27.63	16.47	56.00	46.00	-28.37	-29.53
5	3.75893	9.71	18.97	10.64	28.68	20.35	56.00	46.00	-27.32	-25.65
6	12.32183	9.89	19.14	12.74	29.03	22.63	60.00	50.00	-30.97	-27.37

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.



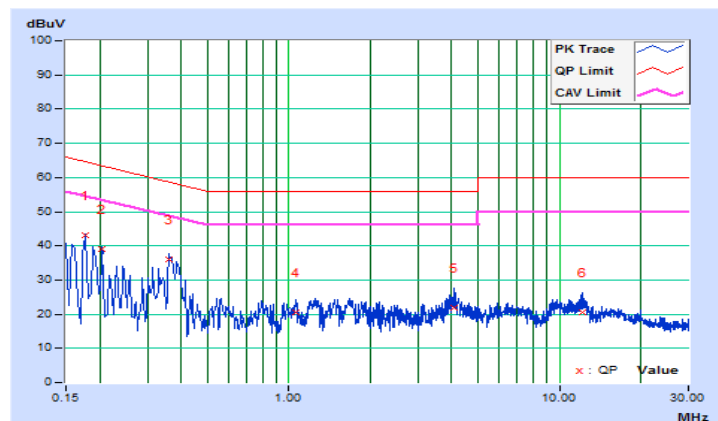
Standby Mode

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

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	0.17737	9.68	33.51	17.36	43.19	27.04	64.61	54.61	-21.42	-27.57
2	0.20474	9.68	29.53	15.30	39.21	24.98	63.42	53.42	-24.21	-28.44
3	0.36114	9.68	26.31	22.26	35.99	31.94	58.70	48.70	-22.71	-16.76
4	1.06103	9.67	10.76	3.54	20.43	13.21	56.00	46.00	-35.57	-32.79
5	4.05609	9.75	12.24	4.74	21.99	14.49	56.00	46.00	-34.01	-31.51
6	12.16152	9.89	10.64	4.43	20.53	14.32	60.00	50.00	-39.47	-35.68

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.

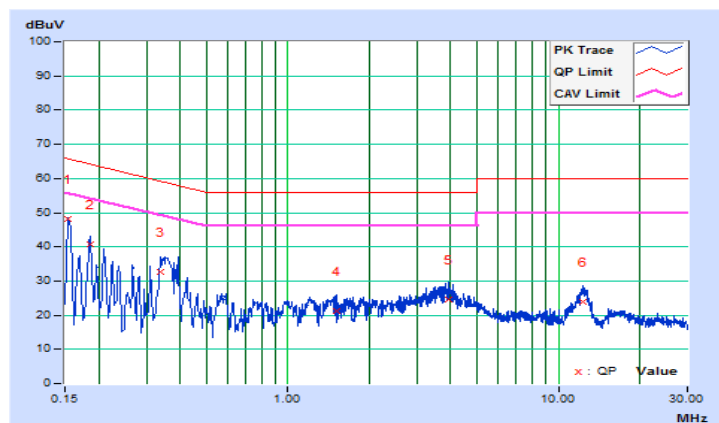


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Test Mode	D		

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	0.15391	9.66	38.33	22.05	47.99	31.71	65.79	55.79	-17.80	-24.08
2	0.18519	9.66	31.18	14.60	40.84	24.26	64.25	54.25	-23.41	-29.99
3	0.33768	9.65	23.04	16.95	32.69	26.60	59.26	49.26	-26.57	-22.66
4	1.50677	9.66	11.72	4.19	21.38	13.85	56.00	46.00	-34.62	-32.15
5	3.91142	9.72	15.02	7.52	24.74	17.24	56.00	46.00	-31.26	-28.76
6	12.25536	9.89	13.90	7.88	23.79	17.77	60.00	50.00	-36.21	-32.23

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.

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Web Site: 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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