TEST REPORT

CERTIFICATE OF CONFORMITY

Standard:	**47 CFR FCC Part 15, Subpart B, Class B** **ANSI C63.4:2014**
Report No.:	FCBEMI-WTW-P22010621
FCC ID:	NOIKBN506
Model No.:	N506
Received Date:	2021/1/18
Test Date:	2022/3/12
Issued Date:	2022/5/13
Applicant:	NETRONIX, INC.
Address:	No 945, Boai St, Jubei City. Hsinchu, 30265 Taiwan
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch Hsin Chu Laboratory
Lab Address:	E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300, Taiwan
Test Location:	No. 49, Ln. 206, Wende Rd., Shangshan Tsuen, Chiung Lin Hsiang, Hsin Chu Hsien 307, Taiwan
FCC Registration / Designation Number:	960022 / TW1058

Approved by: _____ , **Date:** 2022/5/13

Ken Lu / Manager

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Prepared by : Cherry Chuo / Specialist

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Release Control Record

Issue No.	Description	Date Issued
FCBEMI-WTW-P22010621	Original release.	2022/5/13

1 Certificate

Product:	Electronic Display Device
Brand:	Rakuten kobo
Test Model:	N506
Sample Status:	Engineering sample
Applicant:	NETRONIX, INC.
Test Date:	2022/3/12
Standard:	47 CFR FCC Part 15, Subpart B, Class B ANSI C63.4:2014

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 EMC characteristics under the conditions specified in this report.

2 Summary of Test Results

The test items that the EUT need to perform in accordance with its interfaces, evaluated functions, are as follows:

Standard / Clause	Test Item	Result	Remark
FCC Part 15.107	Conducted Emissions from Power Ports	Pass	Minimum passing Class B margin is -17.56 dB at 0.53672 MHz
FCC Part 15.109	Radiated Emissions up to 1 GHz	Pass	Minimum passing Class B margin is -4.21 dB at 58.47 MHz
FCC Part 15.109	Radiated Emissions above 1 GHz	Pass	Minimum passing Class B margin is -15.33 dB at 24934.28 MHz

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	Specification	Expanded Uncertainty (k=2) (±)	Maximum allowable uncertainty (±)
Conducted Emissions from Power Ports	9 kHz ~ 30 MHz	1.8 dB	3.4 dB (U_{cispr})
Radiated Emissions up to 1 GHz	30 MHz ~ 1 GHz	4.43 dB	6.3 dB (U_{cispr})
Radiated Emissions above 1 GHz	1 GHz ~ 6 GHz	4.4 dB	5.2 dB (U_{cispr})
	6 GHz ~ 18 GHz	5.0 dB	5.5 dB (U_{cispr})
	18 GHz ~ 40 GHz	5.1 dB	-

The other instruments specified are routine verified to remain within the calibrated levels, no measurement uncertainty is required to be calculated.

2.2 Supplementary Information

There is not any deviation from the test standards for the test method, and no modifications required for compliance.

3 General Information

3.1 Description of EUT

Product	Electronic Display Device
Brand	Rakuten kobo
Test Model	N506
Sample Status	Engineering sample
Operating Software	NA
Power Supply Rating	3.7Vdc from battery or 5 Vdc from USB interface
Accessory Device	NA
Cable Supplied	Refer to Note
Wireless Operating Frequency	**For WLAN:** **2.4GHz:** 2.412 ~ 2.462 GHz **5GHz:** 5.180 ~ 5.240 MHz, 5.745 ~ 5.825 GHz **For BT-EDR, BT-LE:** 2.402 ~ 2.480 GHz

Note:

1. There are WLAN and Bluetooth technology used for the EUT.
2. Simultaneously transmission condition.

Condition	Technology
1	WLAN (2.4GHz) + Bluetooth
2	WLAN (5GHz) + Bluetooth

3. The EUT could be supplied with USB cable as following table:

Brand	Material	Model	Signal Line
Yih Fone	PVC	SH-0422	Shielded : Y , 1.0M , Core: N/A
Yih Fone	TPE	SH-0418	

4. The EUT could be supplied with MicroSD card and following different models could be chosen:

No.	Model	Remark
1	SDSDQAB-016G	1st source MicroSD
2	SDSDQAB-032G-1	2nd source MicroSD

3.2 Primary Clock Frequencies of Internal Source

The highest frequency generated or used within the EUT or on which the EUT operates or tunes is 5850MHz, provided by NETRONIX, INC., for detailed internal source, please refer to the manufacturer's specifications.

3.3 Features of EUT

The tests reported herein were performed according to the method specified by NETRONIX, INC., for detailed feature description, please refer to the manufacturer's specifications or user's manual.

3.4 Operating Modes of EUT and Determination of Worst Case Operating Mode

The EUT has been pre-tested under following test modes.

Test Condition	
Mode	Radiated Emissions up to 1 GHz
1	**USB Mode+MicroSD Card(SDSDQAB-032G-1)+USB Cable(PVC,SH-0422)+BT(Link)+Arrangement(Horizontal Placement)**
2	USB Mode+MicroSD Card(SDSDQAB-032G-1)+USB Cable(TPE,SH-0418)+BT(Link)+Arrangement(Horizontal Placement)
3	USB Mode+MicroSD Card(SDSDQAB-016G)+USB Cable(PVC,SH-0422)+BT(Link)+Arrangement(Horizontal Placement)
4	WiFi+MicroSD Card(SDSDQAB-032G-1)+USB Cable(PVC,SH-0422)+WiFi(2.4G)+BT(Link)+Arrangement(Horizontal Placement)
5	WiFi+MicroSD Card(SDSDQAB-032G-1)+USB Cable(PVC,SH-0422)+WiFi(2.4G)+BT(Link)+Arrangement(Vertical Placement)
6	WiFi+MicroSD Card(SDSDQAB-032G-1)+USB Cable(PVC,SH-0422)+WiFi(2.4G)+BT(Link)+Arrangement(Side Placement)
7	WiFi+MicroSD Card(SDSDQAB-032G-1)+USB Cable(PVC,SH-0422)+WiFi(5G)+BT(Link)+Arrangement(Horizontal Placement)
Note: The worst case is that mode 1 is shown in bold.	

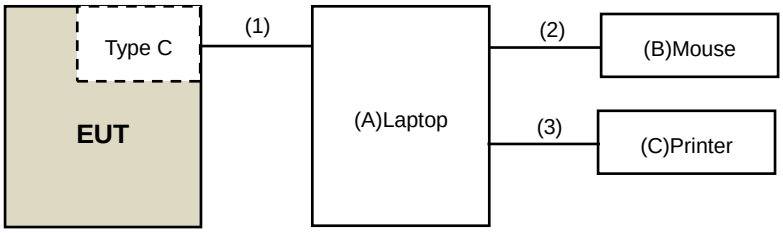
Test modes are presented in the report as below.

Test Condition	
Mode	Conducted Emissions from Power Ports
A	USB Mode+MicroSD Card(SDSDQAB-032G-1)+USB Cable(PVC,SH-0422)+BT(Link)+Arrangement(Horizontal Placement)
Mode	Radiated Emissions up to 1 GHz
A	USB Mode+MicroSD Card(SDSDQAB-032G-1)+USB Cable(PVC,SH-0422)+BT(Link)+Arrangement(Horizontal Placement)
Mode	Radiated Emissions above 1 GHz
A	USB Mode+MicroSD Card(SDSDQAB-032G-1)+USB Cable(PVC,SH-0422)+BT(Link)+Arrangement(Horizontal Placement)

3.5 Test Program Used and Operation Descriptions

1. Turn on the power of all equipment.
2. Support unit A (Laptop) runs “EMC.bat” to enable EUT under R/W mode by USB cable.
3. Support unit A (Laptop) runs “EMC test.exe” then sends “H” messages to itself.

3.6 Connection Diagram of EUT and Peripheral Devices



3.7 Configuration of Peripheral Devices and Cable Connections

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A	Laptop	DELL	Latitude 5511	N/A	N/A	Provided by lab
B	Mouse	Logitech	M-U0026	810-002182_008	DoC	Provided by Lab
C	Printer	EPSON	LQ-300+II	G88Y074085	DoC	Provided by Lab

ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1	USB cable	1	1	Yes	0	Provided by applicant
2	USB cable	1	1.8	Yes	0	Provided by lab
3	USB cable	1	1.8	Yes	0	Provided by lab

4 Test Instruments

The calibration interval of the all test instruments are 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

4.1 Conducted Emissions from Power Ports

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
50 ohm terminal resistance	N/A	EMC-03	2021/10/1	2022/9/30
		EMC-04	2021/10/27	2022/10/26
DC LISN TESEQ	HV-AN 150	45176	2021/4/23	2022/4/22
		45177	2021/4/23	2022/4/22
Fixed attenuator STI	STI02-2200-10	006	2021/8/27	2022/8/26
LISN Schwarzbeck	NSLK 8127	8127-522	2021/9/11	2022/9/10
LISN R&S	ENV216	100072	2021/6/16	2022/6/15
LISN Schwarzbeck	NNLK 8121	0809	2022/3/4	2023/3/3
RF Coaxial Cable JYEBO	5D-FB	COACAB-002	2021/9/6	2022/9/5
Software BV	BVADT_Cond_ V7.3.7.4	N/A	N/A	N/A
TEST RECEIVER R&S	ESCS30	100375	2021/5/11	2022/5/10

Notes:

1. The test was performed in HC - Conduction 3.
2. Tested Date: 2022/3/12

4.2 Radiated Emissions up to 1 GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Antenna Tower & Turn Table CT	N/A	N/A	N/A	N/A
Fixed attenuator Mini-Circuits	UNAT-5+	CHF-001	2021/9/1	2022/8/31
		CHF-002	2021/9/1	2022/8/31
Pre_Amplifier Sonoma	310N	352926	2021/7/28	2022/7/27
		352925	2021/7/28	2022/7/27
RF Coaxial Cable COMMATE/PEWC	8D-FB	CHFCAB-001-1	2021/9/13	2022/9/12
		CHFCAB-001-3	2021/9/13	2022/9/12
		CHFCAB-001-4	2021/9/13	2022/9/12
		CHFCAB-002-1	2021/9/13	2022/9/12
		CHFCAB-002-3	2021/9/13	2022/9/12
		CHFCAB-002-4	2021/9/13	2022/9/12
		CHFCAB-003-1	2021/9/13	2022/9/12
		CHFCAB-003-3	2021/9/13	2022/9/12
	8D	8DCAB-001	2021/9/13	2022/9/12
Software BV	ADT_Radiated_V8.7.08	N/A	N/A	N/A
Test Receiver Agilent	N9038A	MY50010125	2021/4/9	2022/4/8
		MY50010132	2021/6/23	2022/6/22
Trilog Broadband Antenna Schwarzbeck	VULB 9168	9168-359	2021/10/27	2022/10/26
	VULB 9168	9168-358	2021/10/27	2022/10/26

Notes:

1. The test was performed in HC - 10m Chamber 1. The test site validated date: 2021/7/10 (NSA)
2. Tested Date: 2022/3/12

4.3 Radiated Emissions above 1 GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Agilent 8449B preamplifier Agilent	8449B	3008A01975	2022/2/16	2023/2/15
Antenna Tower & Turn Table CT	N/A	N/A	N/A	N/A
Fix tool for Boresight BV	BAF-01	5	N/A	N/A
Horn Antenna RFSPIN	DRH18-E	210306A18-ES	2021/11/14	2022/11/13
Horn Antenna Schwarzbeck	BBHA 9170	9170-424	2021/11/14	2022/11/13
Pre_Amplifier EMCI	EMC118A45SE	980817	2021/7/16	2022/7/15
	EMC184045SE	980770	2021/7/16	2022/7/15
RF Cable(46GHz /1.5M) SUHNER	SUCOFLEX 102	36432/2	2022/1/4	2023/1/3
RF Coaxial Cable EMCI	EMC104-SM-SM-2500	170209	2022/3/2	2023/3/1
	EMC104-SM-SM-6000	170208	2022/3/2	2023/3/1
	EMC104-SM-SM-11000	170206	2022/3/2	2023/3/1
RF Coaxial Cable EMEC	EM102-KMKM-450	21090301	2021/9/11	2022/9/10
Software BV	ADT_Radiated_V8.7.08	N/A	N/A	N/A
Spectrum Analyzer Agilent	E4446A	MY48250254	2021/11/18	2022/11/17
Test Receiver Agilent	N9038A	MY50010125	2021/4/9	2022/4/8

Notes:

1. The test was performed in HC - 10m Chamber 1. The test site validated date: 2021/12/25 (VSWR)
2. Tested Date: 2022/3/12

5 Limits of Test Items

5.1 Conducted Emissions from Power Ports

Frequency (MHz)	Class A (dBuV)		Class B (dBuV)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 - 0.5	79	66	66 - 56	56 - 46
0.5 - 5.0	73	60	56	46
5.0 - 30.0	73	60	60	50

Notes: 1. The lower limit shall apply at the transition frequencies.
2. The limit decreases linearly with the logarithm of the frequency in the range of 0.15 to 0.50 MHz.

5.2 Radiated Emissions up to 1 GHz

Radiated Emissions Limits at 10 meters (dBµV/m)				
Frequencies (MHz)	FCC Part 15B, Class A	FCC Part 15B, Class B	CISPR 22, Class A	CISPR 22, Class B
30-88	39	29.5	40	30
88-216	43.5	33.1		
216-230	46.4	35.6		
230-960			47	37
960-1000	49.5	43.5		

Radiated Emissions Limits at 3 meters (dBµV/m)				
Frequencies (MHz)	FCC Part 15B, Class A	FCC Part 15B, Class B	CISPR 22, Class A	CISPR 22, Class B
30-88	49.5	40	50.5	40.5
88-216	54	43.5		
216-230	56.9	46		
230-960			57.5	47.5
960-1000	60	54		

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

5.3 Radiated Emissions above 1 GHz

Frequency Range (For unintentional radiators)

Highest frequency generated or used in the device or on which the device operates or tunes (MHz)	Upper frequency of measurement range (MHz)
Below 1.705	30
1.705-108	1000
108-500	2000
500-1000	5000
Above 1000	5th harmonic of the highest frequency or 40GHz, whichever is lower

Radiated Emissions Limits at 3 meters (dBµV/m)		
Frequency range	Class A	Class B
Above 1GHz	Avg: 60 Peak: 80	Avg: 54 Peak: 74

Notes: 1. These limit levels apply for a measurement distance of 3 m. If using a different measurement distance, the measured levels shall be extrapolated to the 3 m limit distance using a factor of 20 dB per decade of distance. The measurement distance shall place the measurement antenna in the far field of the ITE or digital apparatus under test.

6 Test Arrangements

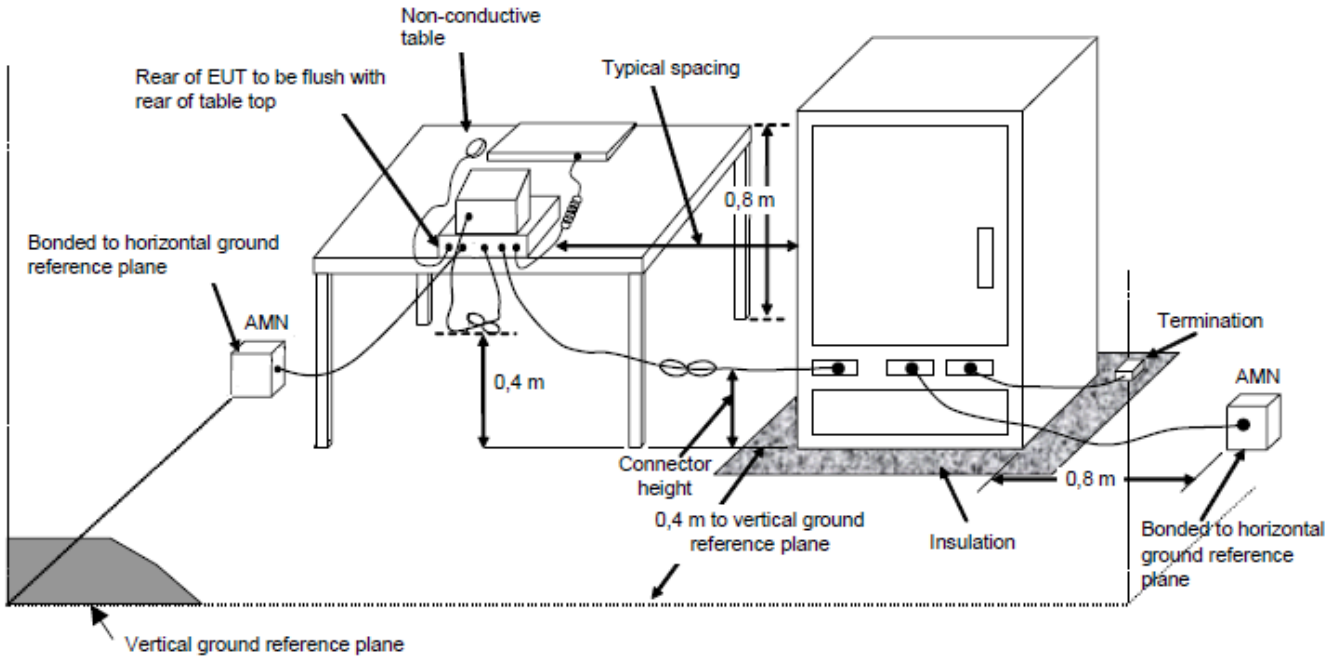
6.1 Conducted Emissions from Power Ports

a. For the table-top EUT is placed on a 0.8 meter to the top of rotating table; for the the floor standing EUT shall be insulated (by insulation of 12 mm) from the horizontal reference ground plane. The EUT is 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 are connected to the power mains through another LISN. They provide coupling impedance for the measuring instrument.

b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

c. The test results of conducted emissions at mains ports are recorded of six worst margins for quasi-peak (mandatory) [and average (if necessary)] values against the limits at frequencies of interest unless the margin is 20 dB or greater.

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.

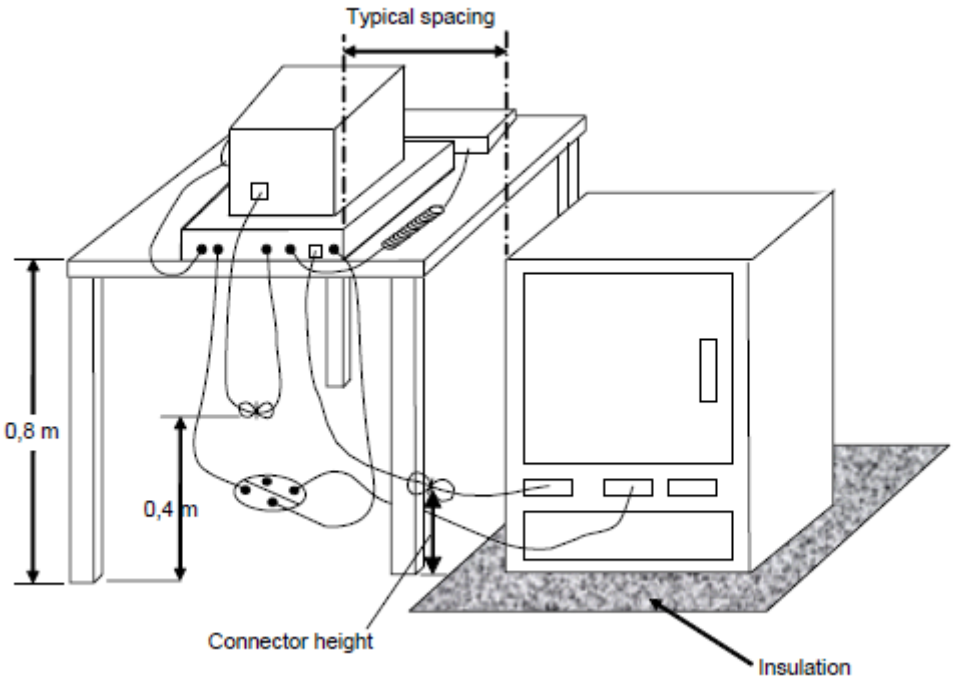


For the actual test configuration, please refer to the related Item – Photographs of the Test Configuration.

6.2 Radiated Emissions up to 1 GHz

a. For the table-top EUT is placed on a 0.8 meter to the top of rotating table; for the the floor standing EUT shall be insulated (by insulation of 12 mm) from the horizontal reference ground plane. The rotating table is rotated 360 degrees to determine the position of the highest radiation. If the equipment requires a dedicated ground connection, this shall be provided and bonded to the RGP.
b. The EUT was set 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
c. The antenna is a broadband antenna, and its height 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 up to 1 GHz.

Note: The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for quasi-peak detection (QP) at frequency up to 1GHz.

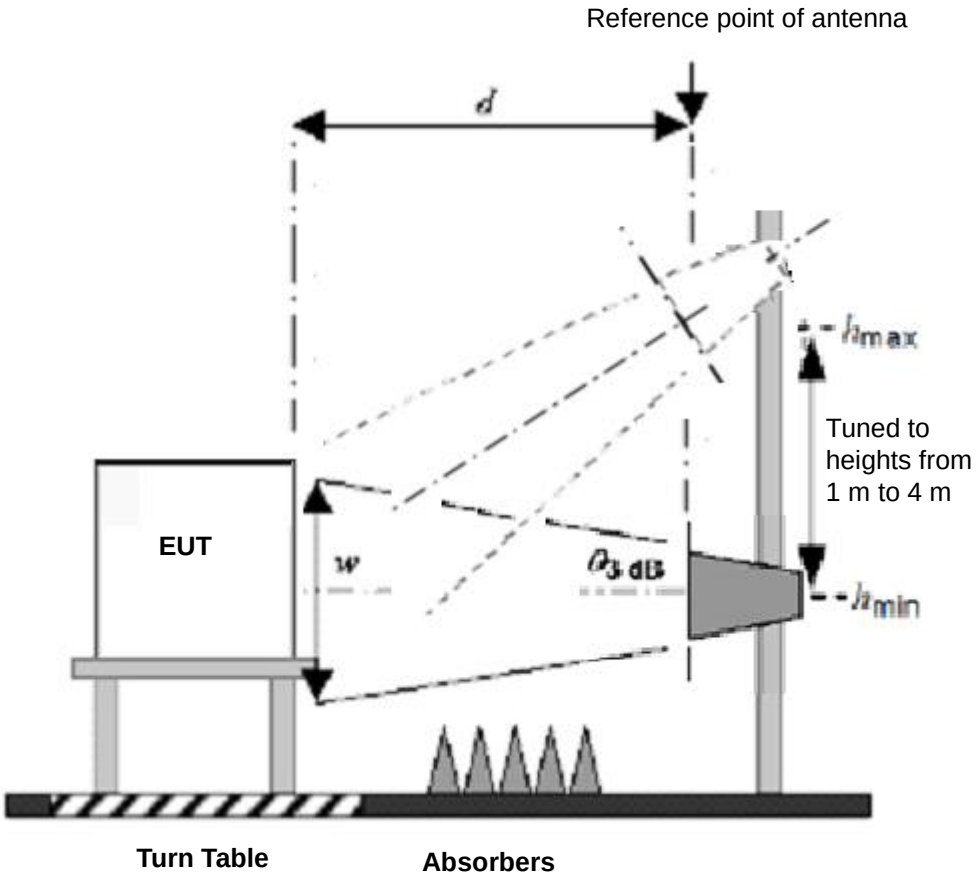


For the actual test configuration, please refer to the related Item – Photographs of the Test Configuration.

6.3 Radiated Emissions above 1 GHz

a. For the table-top EUT is placed on a 0.8 meter to the top of rotating table; for the the floor standing EUT shall be insulated (by insulation of 12 mm) from the horizontal reference ground plane. The rotating table is rotated 360 degrees to determine the position of the highest radiation. If the equipment requires a dedicated ground connection, this shall be provided and bonded to the RGP.
b. The EUT was set *d* = 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 can be varied from one meter to four meters, the height of adjustment depends on the EUT height and the antenna 3dB beamwidth both, to detect 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 and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
e. The spectrum analyzer system was set to peak and average detects function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz.

Note: The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection (PK) at frequency above 1GHz. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz for Average detection (AV) at frequency above 1GHz.



For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

7 Test Results of Test Item

7.1 Conducted Emissions from Power Ports

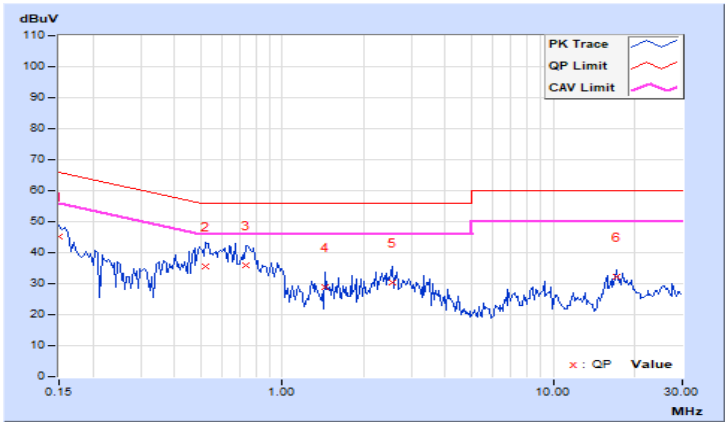
Mode A

Frequency Range	150 kHz ~ 30 MHz	**Detector Function & Resolution Bandwidth**	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	24°C, 65% RH
Tested by	Paul Chen		

Phase Of Power : Line (L)										
No	**Frequency (MHz)**	**Correction Factor (dB)**	**Reading Value (dBuV)**		**Emission Level (dBuV)**		**Limit (dBuV)**		**Margin (dB)**	
			Q.P.	**AV.**	**Q.P.**	**AV.**	**Q.P.**	**AV.**	**Q.P.**	**AV.**
1	0.15000	9.98	35.28	13.26	45.26	23.24	66.00	56.00	-20.74	-32.76
2	0.52109	9.98	25.63	8.55	35.61	18.53	56.00	46.00	-20.39	-27.47
3	0.73594	9.99	25.91	10.28	35.90	20.27	56.00	46.00	-20.10	-25.73
4	1.43359	10.04	18.94	7.35	28.98	17.39	56.00	46.00	-27.02	-28.61
5	2.55078	10.09	20.10	10.70	30.19	20.79	56.00	46.00	-25.81	-25.21
6	17.17188	10.46	21.86	14.57	32.32	25.03	60.00	50.00	-27.68	-24.97

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

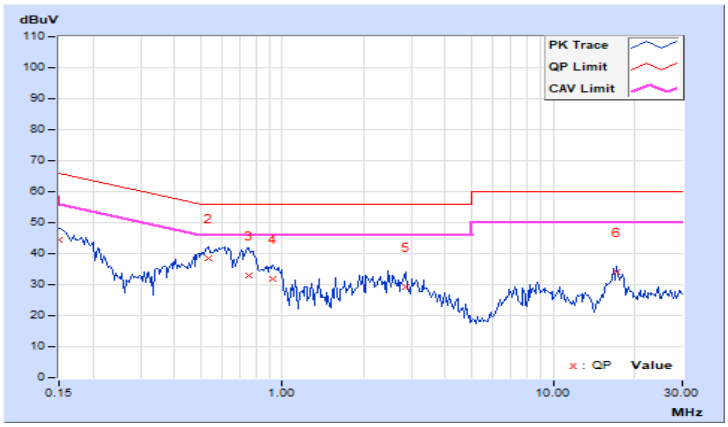


Frequency Range	150 kHz ~ 30 MHz	**Detector Function & Resolution Bandwidth**	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	24°C, 65% RH
Tested by	Paul Chen		

Phase Of Power : Neutral (N)										
No	**Frequency (MHz)**	**Correction Factor (dB)**	**Reading Value (dBuV)**		**Emission Level (dBuV)**		**Limit (dBuV)**		**Margin (dB)**	
			Q.P.	**AV.**	**Q.P.**	**AV.**	**Q.P.**	**AV.**	**Q.P.**	**AV.**
1	0.15000	9.97	34.61	15.09	44.58	25.06	66.00	56.00	-21.42	-30.94
2	**0.53672**	**9.97**	**28.47**	**12.90**	**38.44**	**22.87**	**56.00**	**46.00**	**-17.56**	**-23.13**
3	0.75156	9.98	23.10	9.32	33.08	19.30	56.00	46.00	-22.92	-26.70
4	0.92344	9.99	21.71	8.26	31.70	18.25	56.00	46.00	-24.30	-27.75
5	2.87500	10.07	19.06	9.88	29.13	19.95	56.00	46.00	-26.87	-26.05
6	17.17578	10.45	23.49	13.11	33.94	23.56	60.00	50.00	-26.06	-26.44

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



7.2 Radiated Emissions up to 1 GHz

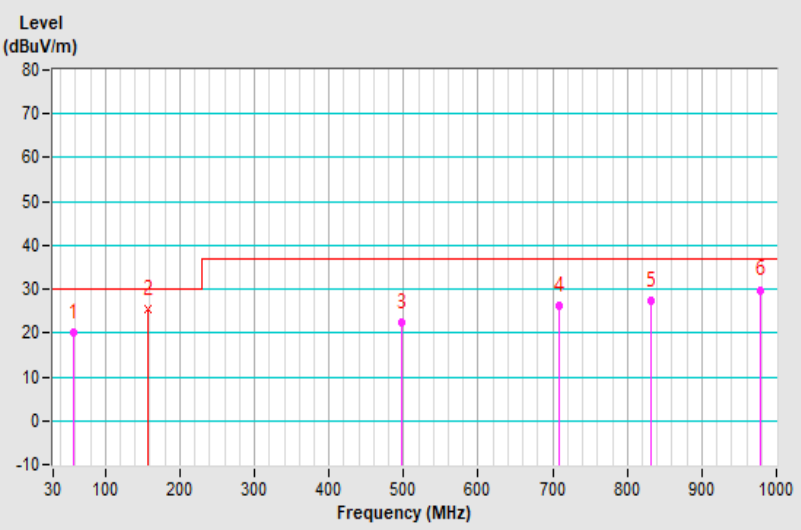
Mode A

Frequency Range	30MHz ~ 1GHz	**Detector Function & Resolution Bandwidth**	Quasi-Peak (QP), 120kHz
Input Power	DC 5 V From Host	**Environmental Conditions**	24°C, 65% RH
Tested By	Paul Chen		

Antenna Polarity & Test Distance : Horizontal at 10 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	58.13	20.08 QP	30.00	-9.92	4.00 H	13	33.27	-13.19
2	157.49	25.56 QP	30.00	-4.44	4.00 H	11	37.21	-11.65
3	497.37	22.32 QP	37.00	-14.68	1.87 H	32	27.84	-5.52
4	708.44	26.07 QP	37.00	-10.93	1.00 H	62	27.46	-1.39
5	831.37	27.40 QP	37.00	-9.60	2.03 H	55	26.15	1.25
6	978.34	29.81 QP	37.00	-7.19	3.32 H	73	25.43	4.38

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

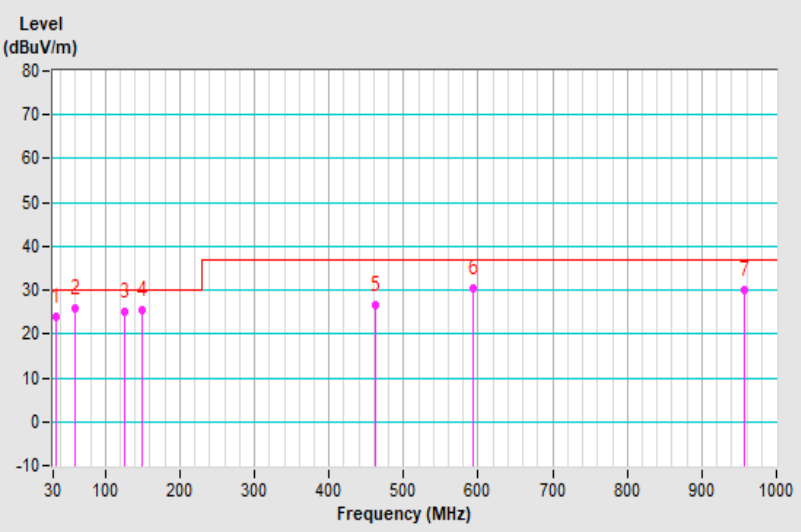


Frequency Range	30MHz ~ 1GHz	**Detector Function & Resolution Bandwidth**	Quasi-Peak (QP), 120kHz
Input Power	DC 5 V From Host	**Environmental Conditions**	24°C, 65% RH
Tested By	Paul Chen		

Antenna Polarity & Test Distance : Vertical at 10 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	33.03	24.05 QP	30.00	-5.95	1.36 V	318	38.19	-14.14
2	**58.47**	**25.79 QP**	**30.00**	**-4.21**	**1.45 V**	**227**	**38.90**	**-13.11**
3	125.81	24.91 QP	30.00	-5.09	1.00 V	228	38.34	-13.43
4	148.70	25.36 QP	30.00	-4.64	1.00 V	146	37.28	-11.92
5	461.99	26.56 QP	37.00	-10.44	3.62 V	66	32.26	-5.70
6	593.98	30.52 QP	37.00	-6.48	3.33 V	324	33.23	-2.71
7	956.98	30.04 QP	37.00	-6.96	1.84 V	258	25.75	4.29

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



7.3 Radiated Emissions above 1 GHz

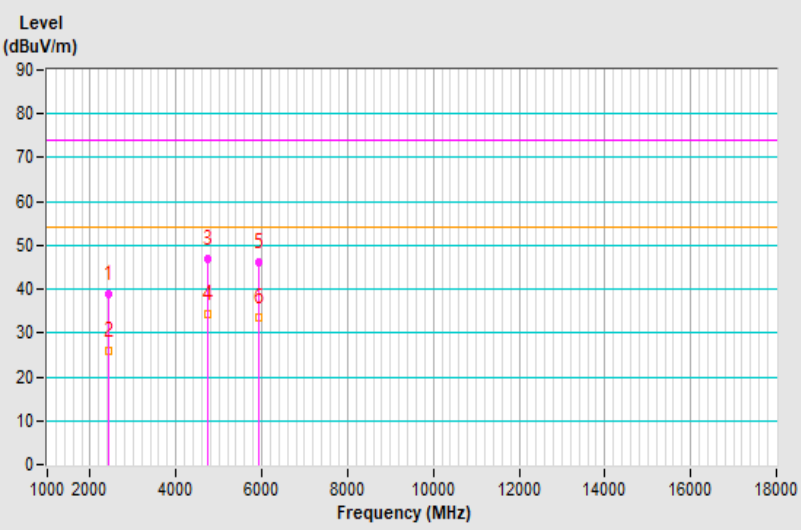
Mode A

Frequency Range	1GHz ~ 18GHz	**Detector Function & Resolution Bandwidth**	Peak (PK) / Average (AV), 1MHz
Input Power	DC 5 V From Host	**Environmental Conditions**	24°C, 65% RH
Tested By	Paul Chen		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	2423.96	38.84 PK	74.00	-35.16	1.23 H	103	38.92	-0.08
2	2423.96	25.86 AV	54.00	-28.14	1.23 H	103	25.94	-0.08
3	4754.32	47.02 PK	74.00	-26.98	1.55 H	190	35.54	11.48
4	4754.32	34.36 AV	54.00	-19.64	1.55 H	190	22.88	11.48
5	5938.35	46.13 PK	74.00	-27.87	2.07 H	247	34.47	11.66
6	5938.35	33.42 AV	54.00	-20.58	2.07 H	247	21.76	11.66

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

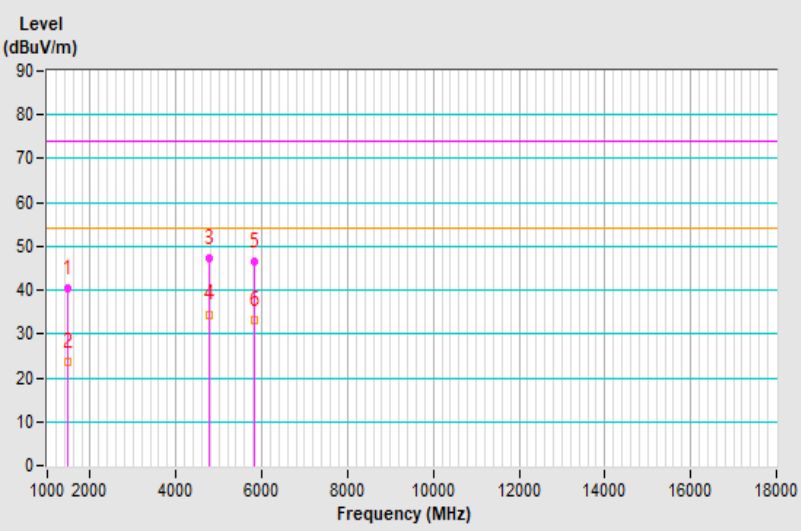


Frequency Range	1GHz ~ 18GHz	**Detector Function & Resolution Bandwidth**	Peak (PK) / Average (AV), 1MHz
Input Power	DC 5 V From Host	**Environmental Conditions**	24°C, 65% RH
Tested By	Paul Chen		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	1465.07	40.50 PK	74.00	-33.50	1.34 V	209	44.66	-4.16
2	1465.07	23.46 AV	54.00	-30.54	1.34 V	209	27.62	-4.16
3	4774.88	47.18 PK	74.00	-26.82	1.55 V	360	35.11	12.07
4	4774.88	34.48 AV	54.00	-19.52	1.55 V	360	22.41	12.07
5	5817.11	46.58 PK	74.00	-27.42	2.07 V	144	34.96	11.62
6	5817.11	33.21 AV	54.00	-20.79	2.07 V	144	21.59	11.62

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

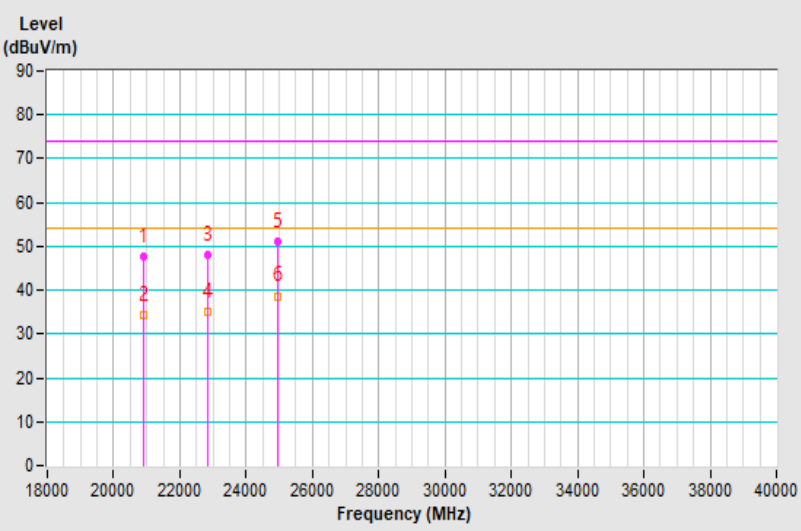


Frequency Range	18GHz ~ 29.25GHz	**Detector Function & Resolution Bandwidth**	Peak (PK) / Average (AV), 1MHz
Input Power	DC 5 V From Host	**Environmental Conditions**	24°C, 65% RH
Tested By	Paul Chen		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	20919.55	47.71 PK	74.00	-26.29	1.50 H	36	53.47	-5.76
2	20919.55	34.24 AV	54.00	-19.76	1.50 H	36	40.00	-5.76
3	22823.21	47.96 PK	74.00	-26.04	1.42 H	252	51.78	-3.82
4	22823.21	34.98 AV	54.00	-19.02	1.42 H	252	38.80	-3.82
5	24934.28	51.21 PK	74.00	-22.79	1.18 H	230	53.66	-2.45
6	**24934.28**	**38.67 AV**	**54.00**	**-15.33**	**1.18 H**	**230**	**41.12**	**-2.45**

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

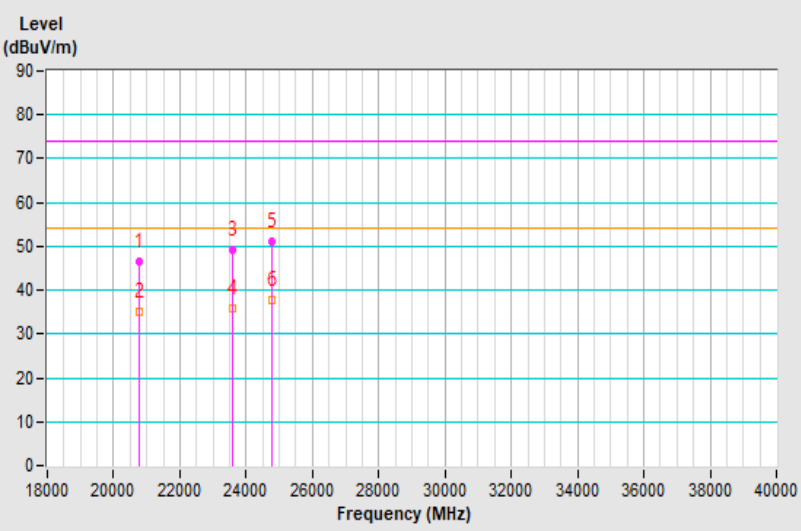


Frequency Range	18GHz ~ 29.25GHz	**Detector Function & Resolution Bandwidth**	Peak (PK) / Average (AV), 1MHz
Input Power	DC 5 V From Host	**Environmental Conditions**	24°C, 65% RH
Tested By	Paul Chen		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	20785.25	46.66 PK	74.00	-27.34	1.00 V	223	52.86	-6.20
2	20785.25	35.11 AV	54.00	-18.89	1.00 V	223	41.31	-6.20
3	23585.14	49.21 PK	74.00	-24.79	1.55 V	291	52.81	-3.60
4	23585.14	35.77 AV	54.00	-18.23	1.55 V	291	39.37	-3.60
5	24754.77	51.22 PK	74.00	-22.78	1.82 V	96	53.54	-2.32
6	24754.77	37.59 AV	54.00	-16.41	1.82 V	96	39.91	-2.32

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



8 Pictures of Test Arrangements

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

9 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 according to ISO/IEC 17025.

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

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

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