TEST REPORT

CERTIFICATE OF CONFORMITY

Standard: **47 CFR FCC Part 15, Subpart C (Section 15.247)**
47 CFR FCC Part 15, Subpart E (Section 15.407)

Report No.: RFBENL-WTW-P24060724-7

FCC ID: RYK-WNFQ291BEBT

Product: WiFi 7/BT module

Brand: Sparklan

Model No.: WNFQ-291BEI(BT)

Series Model: WNFQ-291BE(BT)

Received Date: 2024/8/16

Test Date: 2025/2/20 ~ 2025/3/3

Issued Date: 2025/4/11

Applicant: SparkLAN Communications, Inc.

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Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
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FCC Registration / Designation Number: 723255 / TW2022

Approved by: _____ , **Date:** 2025/4/11
May Chen / Manager

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Prepared by : Phoenix Huang / Specialist

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Release Control Record

Issue No.	Description	Date Issued
RFBENL-WTW-P24060724-7	Original release.	2025/4/11

1 Certificate

Product:	WiFi 7/BT module
Brand:	Sparklan
Test Model:	WNFQ-291BEI(BT)
Series Model:	WNFQ-291BE(BT)
Sample Status:	Engineering sample
Applicant:	SparkLAN Communications, Inc.
Test Date:	2025/2/20 ~ 2025/3/3
Standard:	47 CFR FCC Part 15, Subpart C (Section 15.247) 47 CFR FCC Part 15, Subpart E (Section 15.407)
Measurement procedure:	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.

2 Summary of Test Results

Standard / Clause	Test Item	Result	Remark
15.205 /15.209 /15.247(d) 15.407(b)(9)	Unwanted Emissions below 1 GHz	Pass	Meet the requirement of limit.
15.205 /15.209 /15.247(d) 15.407(b) (1/2/3/4(i)/10) 15.407(b)(5)/15.407(b)(10) 15.407(b)(6)/15.407(b)(10)	Unwanted Emissions above 1 GHz	Pass	Meet the requirement of limit.
15.247(d)	Conducted Out of Band Emissions	Pass	Meet the requirement of limit.

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:

Parameter	Specification	Uncertainty (±)
Radiated Spurious Emissions below 1GHz	9 kHz ~ 30 MHz	3.1 dB
Radiated Spurious Emissions below 1GHz	30 MHz ~ 1 GHz	5.1 dB
Radiated Spurious Emissions above 1GHz	1 GHz ~ 18 GHz	5.1 dB
	18 GHz ~ 40 GHz	5.3 dB
Conducted Out of Band Emissions	9 kHz ~ 40 GHz	2.6 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 General Description of EUT

Product	WiFi 7/BT module
Brand	Sparklan
Test Model	WNFQ-291BEI(BT)
Series Model	WNFQ-291BE(BT)
Modulation Technology	**WLAN**: DSSS, OFDM, OFDMA **BT-EDR / QHS:** FHSS **BT-LE:** DTS
Operating Frequency	**WLAN**: **2.4GHz:** 2.412 ~ 2.472 GHz **5GHz:** 5.18 GHz ~ 5.25 GHz 5.26 GHz ~ 5.32 GHz 5.5 GHz ~ 5.72 GHz 5.745 GHz ~ 5.825 GHz **5.9GHz:** 5.815 GHz ~ 5.885 GHz **6GHz:** 5.935 GHz ~ 6.415 GHz 6.425 GHz ~ 6.525 GHz 6.535 GHz ~ 6.865 GHz 6.875 GHz ~ 7.115 GHz **BT-EDR/BT-LE:** 2.402 GHz ~ 2.48 GHz **QHS:** 2.404 GHz ~ 2.478 GHz

Note:

1. This report is prepared for FCC class II permissive change. The difference compared with the original design is as the following:
   - ◆ Add Dipole antenna and Chip antenna (Refer to section 3.2)
   - ◆ Change shielding case and add thermal pad.
   - ◆ Change temperature operating range to -40 °C ~ 85 °C
2. According to above condition, all test items need to be performed. And all data was verified to meet the requirements.
3. All models are listed as below.

Brand	Model	Difference
Sparklan	WNFQ-291BEI(BT)	All models are electrically identical, different model names are for marketing purpose.
	WNFQ-291BE(BT)	
From the above models, model: WNFQ-291BEI(BT) was selected as representative model for the test and its data was recorded in this report.		

4. There are Bluetooth (EDR, BLE, QHS) and WLAN (2.4 GHz & 5 GHz & 5.9 GHz & 6 GHz) technology used for the EUT.

5. Simultaneously transmission combination.

DBS			
Combination	Technology		
1	WLAN(2.4GHz)_Ant 0+1	WLAN(5GHz) _Ant 0+1	
2	WLAN(2.4GHz) _Ant 0+1	WLAN(6GHz) _Ant 0+1	
HBS+BT			
Combination	Technology		
3	Bluetooth_Ant 0+1	WLAN(5GHz) _Ant 0+1	
4	Bluetooth_Ant 0+1	WLAN(6GHz) _Ant 0+1	
5	WLAN(5GHz_U-NII-1, U-NII-2A) _Ant 0+1	WLAN(5GHz_U-NII-2C, U-NII-3, U-NII-4) _Ant 0+1	Bluetooth
6	WLAN(5GHz_U-NII-1, U-NII-2A) _Ant 0+1	WLAN(6GHz) _Ant 0+1	Bluetooth
Note: The emission of the simultaneous operation has been evaluated and no non-compliance was found.			

3.2 Antenna Description of EUT

1. The antenna information is listed as below.

Original

Antenna Set	RF Chain No.	Brand	Model	Antenna Net Gain (dBi)	Frequency Range (GHz)	Cable Loss (dB)	Antenna Type	Connector Type	Cable Length (mm)
1	Chain0/1	Hong-Bo	260-25094	3.53 3.06 3.07 4.81 4.2	2.4~2.4835 5.15~5.25 5.25~5.35 5.47~5.725 5.725~5.850	0.74 1.16 1.18 1.26 1.28	PIFA	MHF 4L	300
2	Chain0/1	Hong-Bo	260-25083	5.09 5.14 5.09 5.16 5.12	5.850~5.895 5.925~6.425 6.425~6.525 6.525~6.875 6.875~7.125	1.29 1.35 1.38 1.45 1.50	PIFA	MHF 4L	300
3	Chain0/1	Hong-Bo	260-25084	3.22 3.35 3.42 4.77 4.72 4.71 4.75 4.29 4.81 4.74	2.4~2.4835 5.150~5.250 5.250~5.350 5.470~5.725 5.725~5.850 5.850~5.895 5.925~6.425 6.425~6.525 6.525~6.875 6.875~7.125	0.49 0.76 0.77 0.80 0.84 0.84 0.86 0.91 0.96 0.98	Monopole	MHF 4L	200

Newly

Antenna Set	RF Chain No.	Brand	Model	Antenna Net Gain (dBi)	Frequency Range (GHz)	Antenna Type	Connector Type	Cable Length (mm)
4	Chain0/1	SparkLAN	AD-513AX	3.11 4.46 4.07 4.53 4.06 4.04 3.97	2.4~2.4835 5.150~5.850 5.850~5.895 5.925~6.425 6.425~6.525 6.525~6.875 6.875~7.125	Dipole	I-PEX MHF4	150
5	Chain0/1	SparkLAN	AD-510AX	2.27 2.88 2.6 3.23 3.34 3.52 3.52	2.4~2.4835 5.150~5.850 5.850~5.895 5.925~6.425 6.425~6.525 6.525~6.875 6.875~7.125	Dipole	RP-SMA (M)	150
6	Chain0/1	SparkLAN	AD-512AX	2.35 3.00 2.80 2.87 3.02 3.02 2.61	2.4~2.4835 5.150~5.850 5.850~5.895 5.925~6.425 6.425~6.525 6.525~6.875 6.875~7.125	Dipole	RP-SMA (M)	150
7	Chain0/1	SparkLAN	AD-516AX	1.65 4.3 3.98 4 4 3.91 3.78	2.4~2.4835 5.150~5.850 5.850~5.895 5.925~6.425 6.425~6.525 6.525~6.875 6.875~7.125	Dipole	I-PEX MHF4	250
8	Chain0/1	Johanson	2450AD18A6050	2 1.5 2.7 2.7 2.7 2.7 2.7	2.4~2.4835 5.150~5.850 5.850~5.895 5.925~6.425 6.425~6.525 6.525~6.875 6.875~7.125	Chip	MHF4L to SMA-F	-

* Detail antenna specification please refer to antenna datasheet and/or antenna measurement report.

3.3 Test Mode Applicability and Tested Channel Detail

Pre-Scan:	1. The Dipole and Chip of antenna type in antennas can be used in the following ways: X / Y / Z axis. Pre-scan in these ways and find the worst case as a representative test condition. 2. Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates.
Worst Case:	1. Dipole antenna the worst case was found when positioned on (X / Y / Z axis): Y axis 2. Chip antenna the worst case was found when positioned on (X / Y / Z axis): Y axis

Following channel(s) was (were) selected for the final test as listed below:

Test Item	EUT Configure Mode	Combination	Mode	Tested Channel
Unwanted Emissions below 1 GHz	A, B	1	802.11b	1
			802.11be (EHT20)	116
		2	802.11b	1
			802.11be (EHT20)	45
		3	BT-LE 1M	19
			802.11be (EHT20)	116
		4	BT-LE 1M	19
			802.11be (EHT20)	45
		5	802.11be (EHT20)	52
			802.11be (EHT20)	116
			BT-LE 1M	19
		6	802.11be (EHT20)	52
			802.11be (EHT20)	45
			BT-LE 1M	19
Unwanted Emissions above 1 GHz	C, D	1	802.11b	1
			802.11be (EHT20)	116
		2	802.11b	1
			802.11be (EHT20)	45
		3	BT-LE 1M	19
			802.11be (EHT20)	116
		4	BT-LE 1M	19
			802.11be (EHT20)	45
		5	802.11be (EHT20)	52
			802.11be (EHT20)	116
			BT-LE 1M	19
		6	802.11be (EHT20)	52
			802.11be (EHT20)	45
			BT-LE 1M	19
Conducted Out of Band Emissions	A	1	802.11b	1
			802.11be (EHT20)	116
		2	802.11b	1
			802.11be (EHT20)	45
		3	BT-LE 1M	19
			802.11be (EHT20)	116
		4	BT-LE 1M	19
			802.11be (EHT20)	45
		5	802.11be (EHT20)	52
			802.11be (EHT20)	116
			BT-LE 1M	19
		6	802.11be (EHT20)	52
			802.11be (EHT20)	45
			BT-LE 1M	19
EUT Configure Mode:	A	EUT only (remove 50 ohm terminator and Connect to the appropriate equipment)		
	B	EUT with 50 ohm terminator		
	C	EUT with Dipole antenna (Model: AD-513AX)		
	D	EUT with Chip antenna (Model: 2450AD18A6050)		

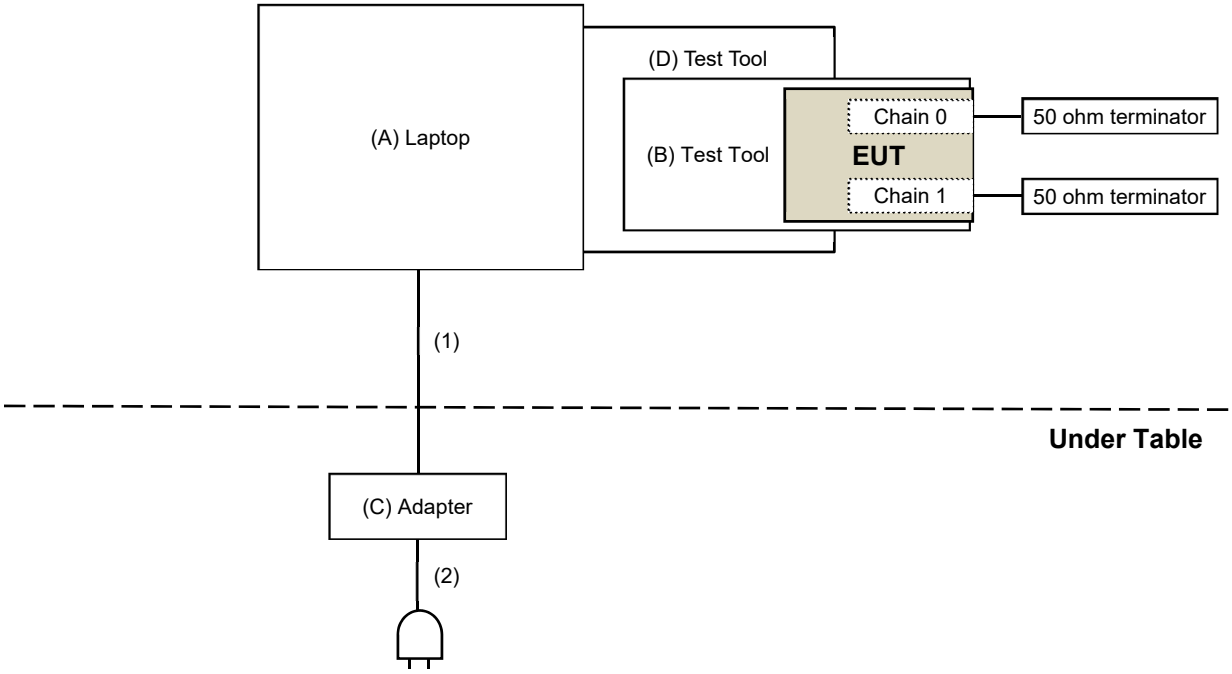
3.4 Test Program Used and Operation Descriptions

Controlling software (WiFi: WLQN QRCT Module V4.0.00195.4 / BT: Bluetooth and ANT QRCT Module V4.0.00031.1) has been activated to set the EUT under transmission condition continuously at specific channel frequency.

3.5 Connection Diagram of EUT and Peripheral Devices

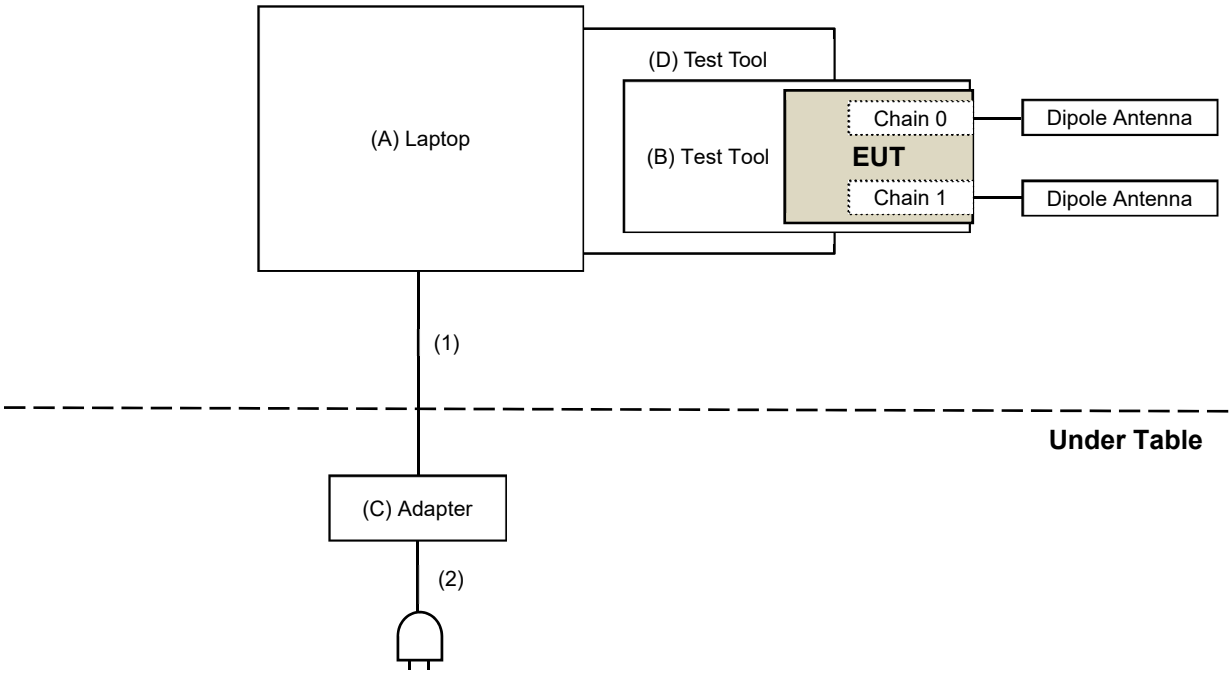
For Unwanted Emission test below 1G:

Mode B

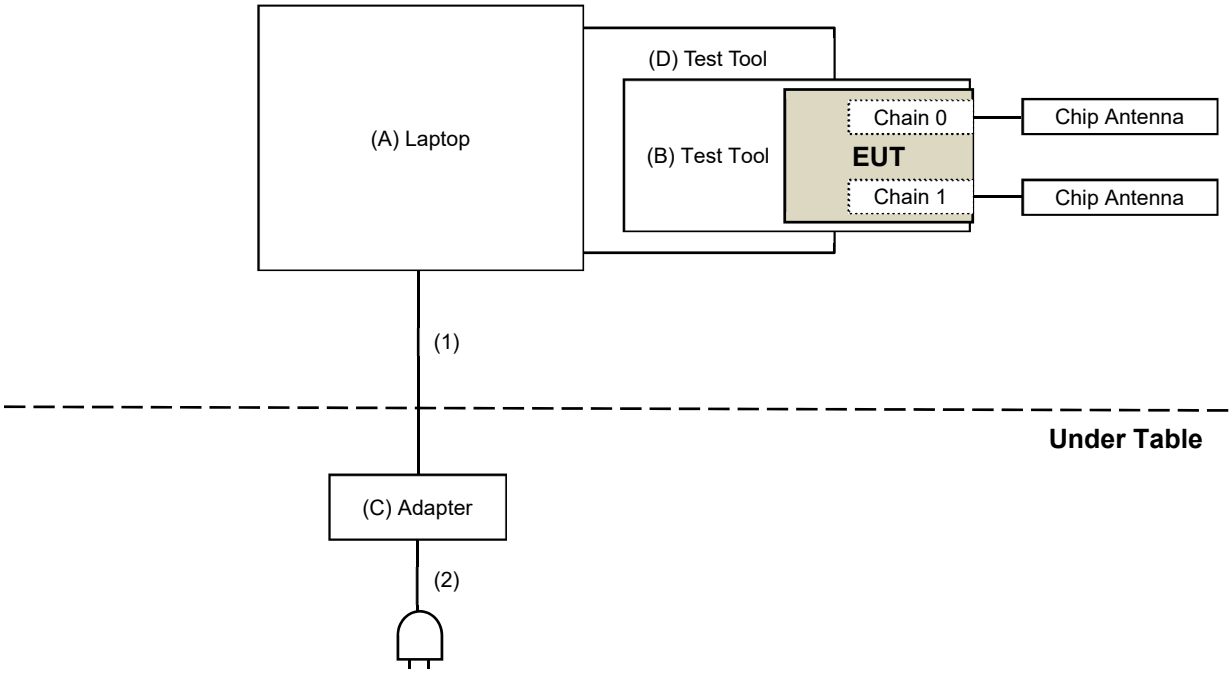


For Unwanted Emission test above 1G

Mode C



Mode D



3.6 Configuration of Peripheral Devices and Cable Connections

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A	Laptop	Dell	E6430	N/A	N/A	Supplied by applicant
B	Test Tool	Qualcomm	N/A	N/A	N/A	Supplied by applicant
C	Adapter	Dell	LA65NM130	N/A	N/A	Supplied by applicant
D	Test Tool	Qualcomm	N/A	N/A	N/A	Supplied by applicant

ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1	DC Cable	1	1.8	No	0	Supplied by applicant
2	AC Cable	1	1.5	No	0	Supplied by applicant

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 Unwanted Emissions below 1 GHz

Mode A

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
PXA Signal Analyzer Keysight	N9030A	MY55410176	2024/6/12	2025/6/11
Software	ADT_RF Test Software V7.6.5.4	N/A	N/A	N/A

Notes:

1. The test was performed in Oven room 2.
2. Tested Date:2025/2/26 ~ 2025/3/3

Mode B

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Bi_Log Antenna Schwarzbeck	VULB 9168	9168-0842	2024/10/8	2025/10/7
Boresight Antenna Tower & Turn Table Max-Full	MF-7802BS	MF780208530	N/A	N/A
EMI Test Receiver R&S	ESR7	102026	2024/3/25	2025/3/24
Fixed Attenuator Mini-Circuits	UNAT-5+	PAD-ATT5-02	2024/3/30	2025/3/29
Loop Antenna TESEQ	HLA 6121	63620	2024/10/17	2025/10/16
Preamplifier EMCI	EMC330N	980538	2024/3/30	2025/3/29
	EMC001340	980142	2025/2/17	2026/2/16
PXA Signal Analyzer Keysight	N9030B	MY57141948	2024/5/20	2025/5/19
RF Coaxial Cable PEWC	8D	966-5-1	2024/3/30	2025/3/29
		966-5-2	2024/3/30	2025/3/29
		966-5-3	2024/3/30	2025/3/29
Software	ADT_Radiated_V8.7.08	N/A	N/A	N/A

Notes:

1. The test was performed in 966 Chamber No. 5.
2. Tested Date: 2025/2/20

4.2 Unwanted Emissions above 1 GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Boresight Antenna Tower & Turn Table Max-Full	MF-7802BS	MF780208530	N/A	N/A
EMI Test Receiver R&S	ESR7	102026	2024/3/25	2025/3/24
Horn Antenna Schwarzbeck	BBHA 9120D	9120D-1819	2024/11/10	2025/11/9
	BBHA 9170	9170-739	2024/11/10	2025/11/9
Preamplifier EMCI	EMC12630SE	980509	2025/1/18	2026/1/17
	EMC184045SE	980387	2024/8/8	2025/8/7
PXA Signal Analyzer Keysight	N9030B	MY57141948	2024/5/20	2025/5/19
RF Coaxial Cable EMCI	EMC102-KM-KM-1200	160924	2025/1/24	2026/1/23
	EMC102-KM-KM-4000	200214	2025/1/24	2026/1/23
	EMC104-SM-SM-1500	180503	2024/3/16	2025/3/15
	EMC104-SM-SM-2000	180501	2024/3/16	2025/3/15
	EMC104-SM-SM-6000	180506	2024/3/16	2025/3/15
Software	ADT_Radiated_V8.7.08	N/A	N/A	N/A

Notes:

1. The test was performed in 966 Chamber No. 5.
2. Tested Date: 2025/2/20 ~ 2025/2/25

4.3 Conducted Out of Band Emissions

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
PXA Signal Analyzer Keysight	N9030A	MY55410176	2024/6/12	2025/6/11
Software	ADT_RF Test Software V7.6.5.4	N/A	N/A	N/A

Notes:

1. The test was performed in Oven room 2.
2. Tested Date: 2025/2/24

5 Limits of Test Items

5.1 Unwanted Emissions below 1 GHz

For FCC 15.247:

Frequencies (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 ~ 0.490	2400/F(kHz)	300
0.490 ~ 1.705	24000/F(kHz)	30
1.705 ~ 30.0	30	30
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

Notes:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).

For FCC 15.407:
Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table.

Frequencies (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 ~ 0.490	2400/F(kHz)	300
0.490 ~ 1.705	24000/F(kHz)	30
1.705 ~ 30.0	30	30
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

Notes:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).

5.2 Unwanted Emissions above 1 GHz

For FCC 15.247:

Frequencies (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
Above 960	500	3

Notes:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. For frequencies above 1000 MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20 dB under any condition of modulation.

For FCC 15.407 transmitters operating in the 5.150-5.850 GHz band:
Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table.

Frequencies (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
Above 960	500	3

Notes:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. For frequencies above 1000 MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20 dB under any condition of modulation.

Limits of unwanted emission out of the restricted bands

Applicable To	Limit	
789033 D02 General UNII Test Procedure New Rules v02r01	Field Strength at 3 m	
	PK: 74 (dBμV/m)	AV: 54 (dBμV/m)

Applicable To	EIRP Limit	Equivalent Field Strength at 3 m
15.407(b)(1)	PK: -27 (dBm/MHz)	PK: 68.2 (dBμV/m) *
15.407(b)(2)	PK: -27 (dBm/MHz)	PK: 68.2 (dBμV/m) *
15.407(b)(3)	PK: -27 (dBm/MHz)	PK: 68.2 (dBμV/m) *
15.407(b)(4)(i)	PK: -27 (dBm/MHz) *1 PK: 10 (dBm/MHz) *2 PK: 15.6 (dBm/MHz) *3 PK: 27 (dBm/MHz) *4	PK: 68.2 (dBμV/m) *1 PK: 105.2 (dBμV/m) *2 PK: 110.8 (dBμV/m) *3 PK: 122.2 (dBμV/m) *4
*1 beyond 75 MHz or more above of the band edge. *2 below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above. *3 below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above. *4 from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.		

Note: The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

$$E = \frac{1000000\sqrt{30P}}{3}$$ μV/m, where P is the eirp (Watts).

For transmitters operating in the 5.850-5.925 GHz band:

(i) For an indoor access point or subordinate device, all emissions at or above 5.895 GHz shall not exceed an e.i.r.p. of 15 dBm/MHz and shall decrease linearly to an e.i.r.p. of −7 dBm/MHz at or above 5.925 GHz.

(ii) For a client device, all emissions at or above 5.895 GHz shall not exceed an e.i.r.p. of −5 dBm/MHz and shall decrease linearly to an e.i.r.p. of −27 dBm/MHz at or above 5.925 GHz.

(iii) For a client device or indoor access point or subordinate device, all emissions below 5.725 GHz shall not exceed an e.i.r.p. of −27 dBm/MHz at 5.65 GHz increasing linearly to 10 dBm/MHz at 5.7 GHz, and from 5.7 GHz increasing linearly to a level of 15.6 dBm/MHz at 5.72 GHz, and from 5.72 GHz increasing linearly to a level of 27 dBm/MHz at 5.725 GHz.

Note:

The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

$$E = \frac{1000000\sqrt{30P}}{3}$$ μV/m, where P is the eirp (Watts).

For FCC 15.407 transmitters operating in the 5.925-7.125 GHz band:

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table.

Frequencies (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
Above 960	500	3

Notes:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. For frequencies above 1000 MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20 dB under any condition of modulation.

Limits of unwanted emission out of the restricted bands

Frequencies (MHz)	EIRP Limit	Equivalent Field Strength at 3 m
5925 MHz > F > 7125 MHz	Peak: -7 (dBm/MHz)	88.2 (dBuV/m)
	Average: -27 (dBm/MHz)	68.2 (dBuV/m)

Note: The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

5.3 Conducted Out of Band Emissions

Below 20 dB of the highest emission level of operating band (in 100 kHz Resolution Bandwidth).

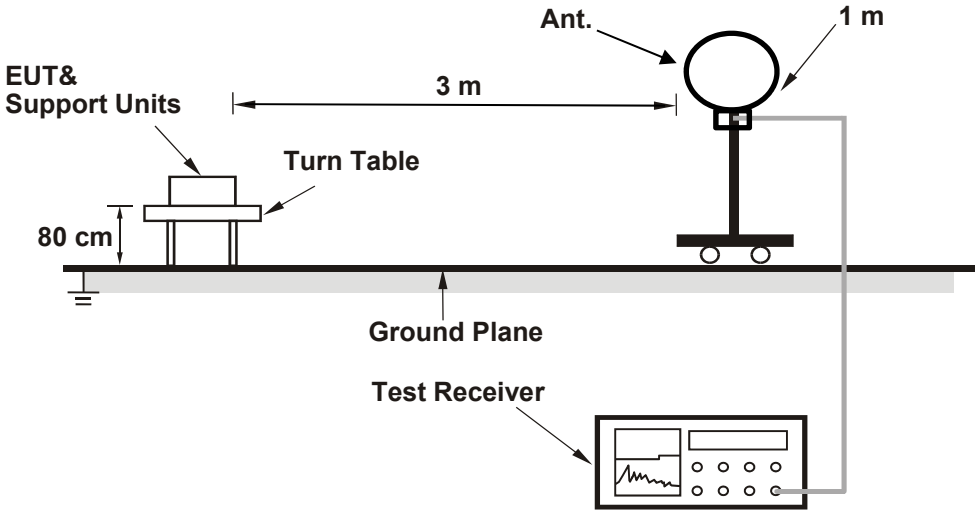
6 Test Arrangements

6.1 Unwanted Emissions below 1 GHz

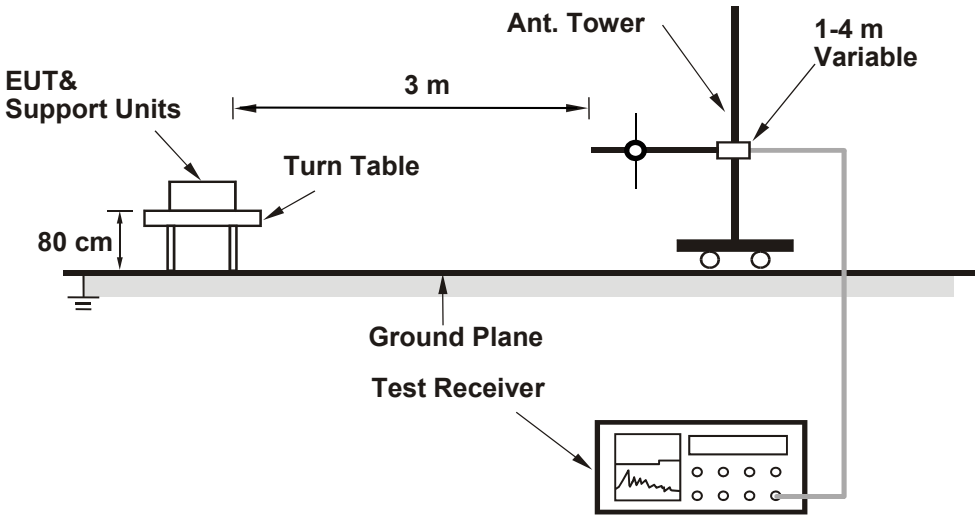
6.1.1 Test Setup

For Radiated Configuration:

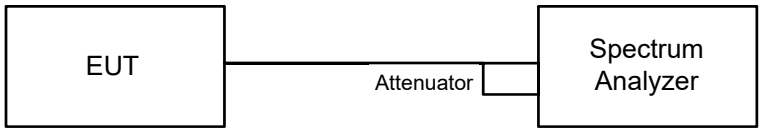
For Radiated emission below 30 MHz



For Radiated emission above 30 MHz



For Conducted Configuration:



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

6.1.2 Test Procedure

Radiated versus Conducted Measurement.
The unwanted emission limits in both the restricted and non-restricted bands are based on antenna-port conducted measurements in conjunction with cabinet emissions tests are permitted to demonstrate compliance.
The following steps was performed:

a. Cabinet emissions measurements. Radiated measurement was performed to ensure that cabinet emissions are below the emission limits. For the cabinet-emission measurements the antenna was replaced by a termination matching the nominal impedance of the antenna.
b. Conducted tests was performed using equipment that matches the nominal impedance of the antenna assembly used with the EUT.
c. EIRP calculation. A value representative of an upper bound on out-of-band antenna gain (in dBi) shall be added to the measured antenna-port conducted emission power to compute EIRP within the specified measurement bandwidth. (For emissions in the restricted bands, additional calculations are required to convert EIRP to field strength at the specified distance.) The upper bound on antenna gain for a device with a single RF output shall be selected as the maximum in-band gain of the antenna across all operating bands or 2 dBi, whichever is greater.
d. EIRP adjustments for multiple outputs. (Follow the procedures specified in FCC KDB Publication 662911)
e. For all of Radiation emission test

For Radiated emission below 30 MHz

e-1.1. The EUT was placed on the top of a rotating table 0.8 meters above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.

e-1.2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

e-1.3. Parallel, perpendicular, and ground-parallel orientations of the antenna are set to make the measurement.

e-1.4. 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-1.5. The test-receiver system was set to Quasi-Peak Detect Function and Specified Bandwidth with Maximum Hold Mode, except for the frequency band (9 kHz to 90 kHz and 110 kHz to 490 kHz) set to average detect function and peak detect function.

Notes:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 200 Hz at frequency below 150 kHz.
2. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 9 kHz or 10 kHz at frequency (150 kHz to 30 MHz).
3. All modes of operation were investigated and the worst-case emissions are reported.

For Radiated emission above 30 MHz

e-2.1. The EUT was placed on the top of a rotating table 0.8 meters above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.

e-2.2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

e-2.3. 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.

e-2.4. 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-2.5. 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.

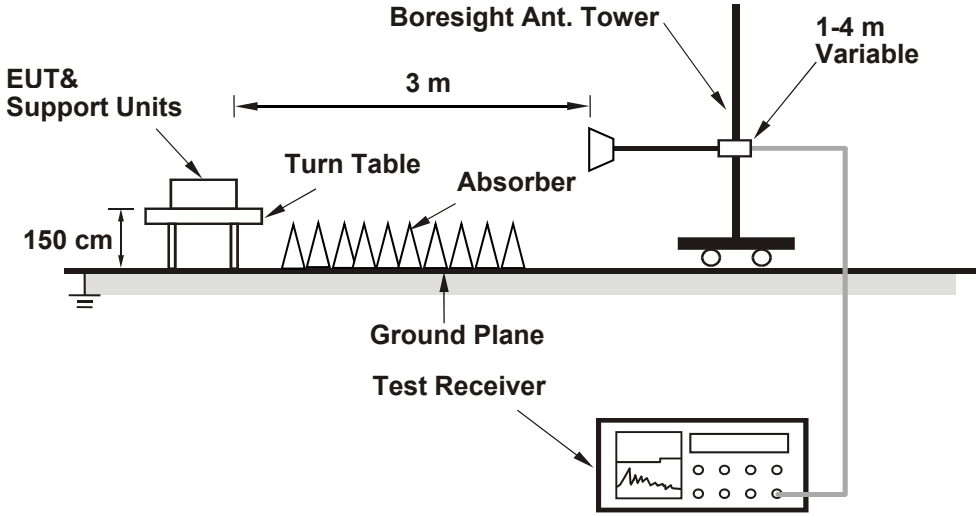
Notes:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasi-peak detection (QP) at frequency below 1 GHz.
2. All modes of operation were investigated and the worst-case emissions are reported.

Radiated versus Conducted Measurement
For Radiated measurement: The level of unwanted emissions was measured when radiated by the cabinet or structure of the equipment with the antenna connector(s) terminated by a specified load (cabinet radiation). For Conducted measurement: The level of unwanted emissions was measured as their power in a specified load (conducted spurious emissions).
Conducted Unwanted Emission Convert Formula
a. Emission Level (dBuV/m) = EIRP Level (dBm) – 20log(d) + 104.8 d = measurement distance in 3 meters. b. EIRP Level (dBm) = Raw Value(dBm) + Correction Factor(dB) c. Correction Factor is directional gain, and the composite gain will be used when signal support the correlated signal. For the out of band spurious the gain for the specific band may have been used rather than the highest gain across all bands. For the band edge the gain for the specific band may have been used. Notes: 1. In restricted bands below 1000 MHz, add upper bound on ground plane reflection: For frequencies between 30 MHz and 1000 MHz, add 4.7 dB. 2. The conducted emission test was considered some factor to compute test result.

6.2 Unwanted Emissions above 1 GHz

6.2.1 Test Setup



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

6.2.2 Test Procedure

a. The EUT was placed on the top of a rotating table 1.5 meters 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.

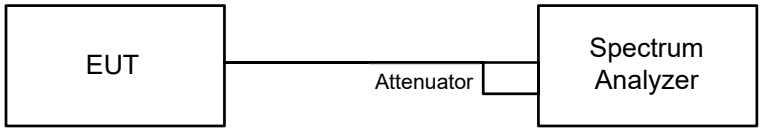
e. The test-receiver system was set to peak and average detects function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

Notes:

1. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) and Average detection (AV) at frequency above 1 GHz.
2. For fundamental and harmonic signal measurement, the resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is ≥ 1/T (Duty cycle < 98%) or 10 Hz (Duty cycle ≥ 98%) for Average detection (AV) at frequency above 1 GHz.
3. All modes of operation were investigated and the worst-case emissions are reported.

6.3 Conducted Out of Band Emissions

6.3.1 Test Setup



6.3.2 Test Procedure

MEASUREMENT PROCEDURE REF

a. Set the RBW = 100 kHz.
b. Set the VBW ≥ 300 kHz.
c. Detector = peak.
d. Sweep time = auto couple.
e. Trace mode = max hold.
f. Allow trace to fully stabilize.
g. Use the peak marker function to determine the maximum power level in any 100 kHz band segment within the fundamental EBW.

MEASUREMENT PROCEDURE OOBE

a. Set RBW = 100 kHz.
b. Set VBW ≥ 300 kHz.
c. Detector = peak.
d. Sweep = auto couple.
e. Trace Mode = max hold.
f. Allow trace to fully stabilize.
g. Use the peak marker function to determine the maximum amplitude level.

7 Test Results of Test Item

7.1 Unwanted Emissions below 1 GHz

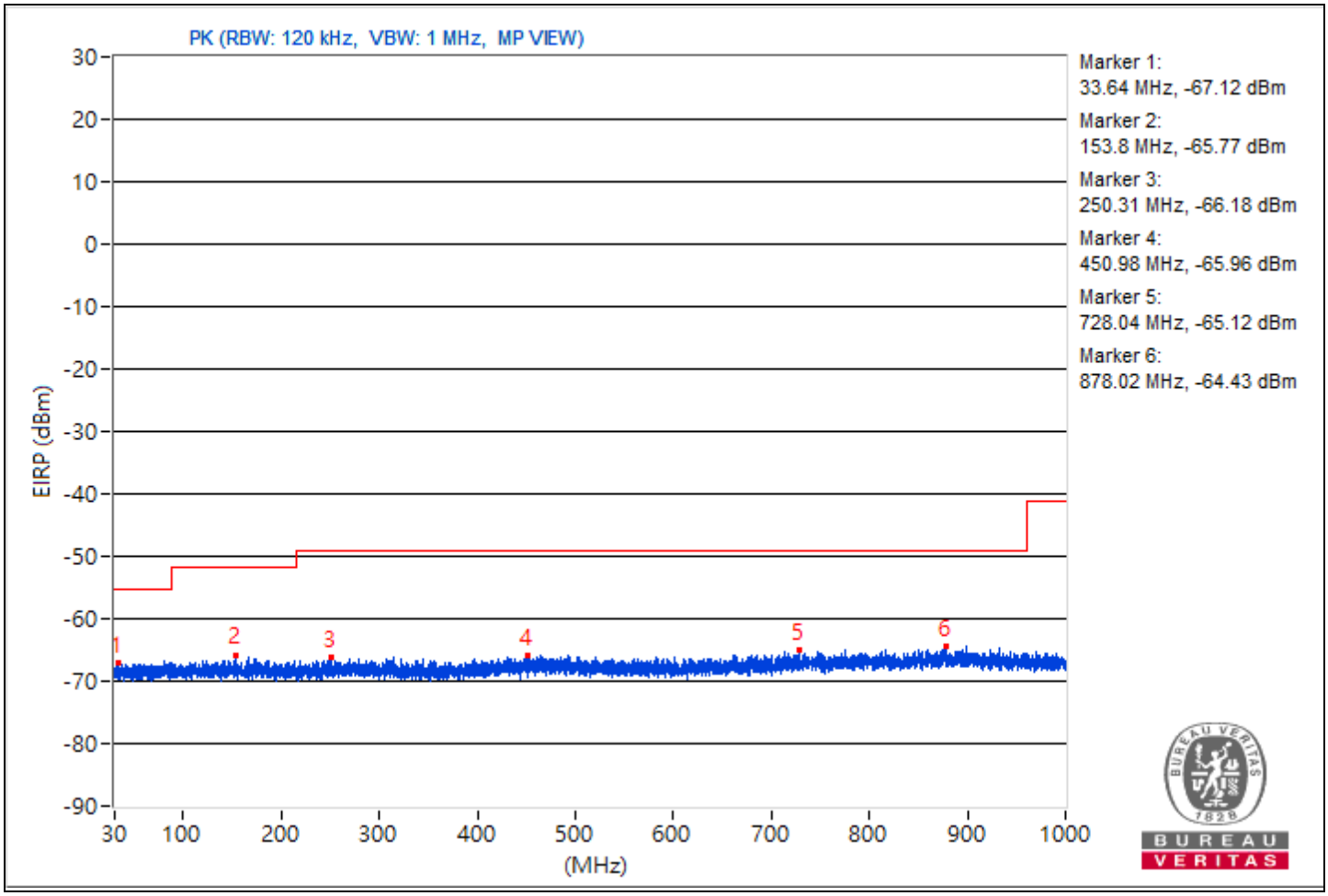
Mode A

Combination	1		
RF Mode	WIFI2.4G+5G		
Frequency Range	30 MHz ~ 1 GHz	Environmental Conditions	20°C, 60% RH
Tested By	Kevin Ko		

Conducted Unwanted Emissions								
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value Chain 0 (dBm)	Raw Value Chain 1 (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	33.64	28.14 PK	40	-11.86	-82.02	-84.28	12.87	-67.12
2	153.8	29.49 PK	43.5	-14.01	-83.63	-80.29	12.87	-65.77
3	250.31	29.08 PK	46	-16.92	-83.4	-81.04	12.87	-66.18
4	450.98	29.3 PK	46	-16.7	-80.7	-83.38	12.87	-65.96
5	728.04	30.14 PK	46	-15.86	-79.81	-82.65	12.87	-65.12
6	878.02	30.83 PK	46	-15.17	-83.11	-78.62	12.87	-64.43

Notes:

1. Margin value = Emission Level - Limit value
2. The frequency range 9 kHz ~ 30 MHz: all emissions are more than 20 dB below the limit, therefore do not be recorded in this report.

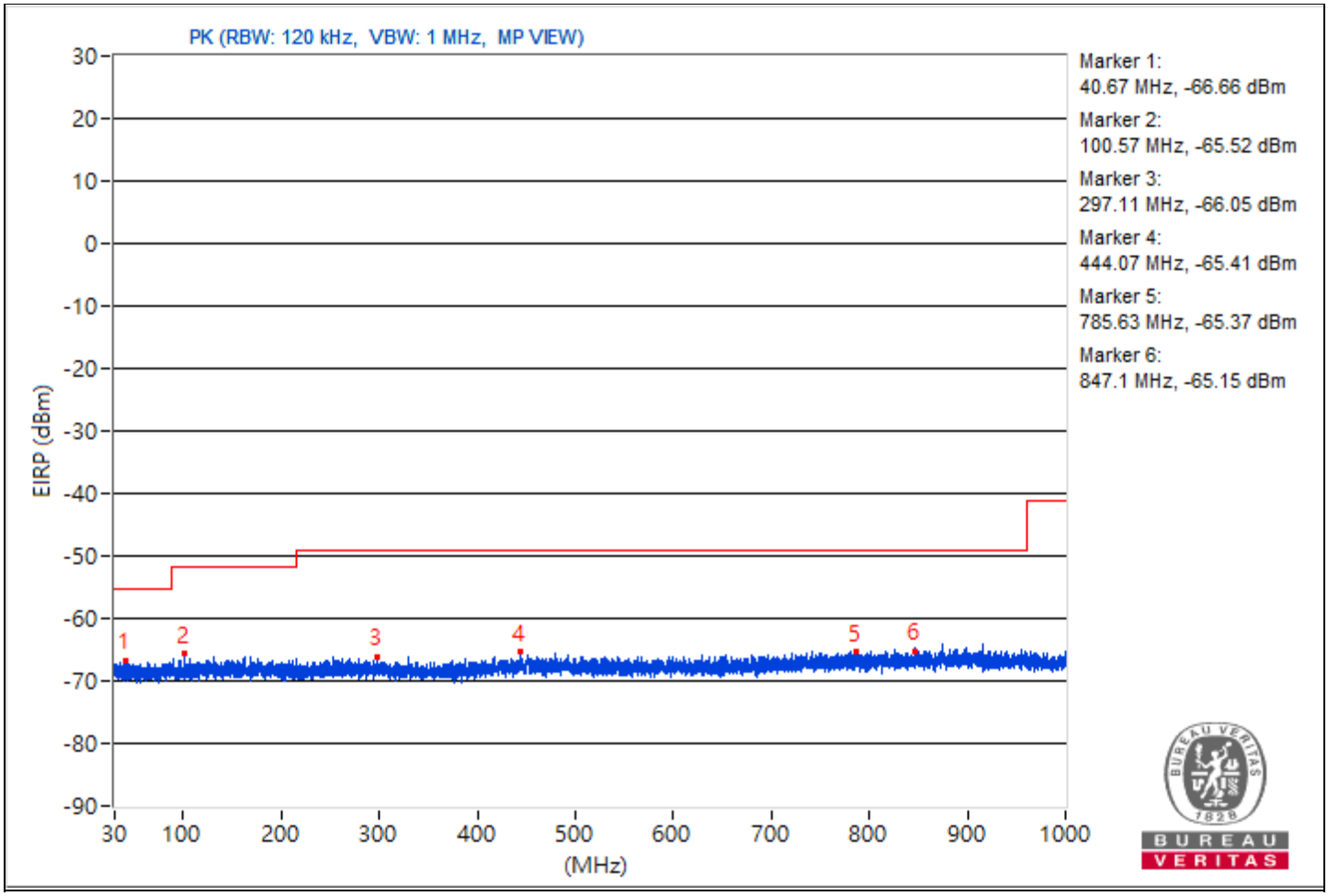


Combination	2		
RF Mode	WIFI2.4G+6G		
Frequency Range	30 MHz ~ 1 GHz	Environmental Conditions	20°C, 60% RH
Tested By	Henry		

Conducted Unwanted Emissions								
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value Chain 0 (dBm)	Raw Value Chain 1 (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	40.67	28.6 PK	40	-11.4	-83.36	-81.84	12.87	-66.66
2	100.57	29.74 PK	43.5	-13.76	-80.09	-83.29	12.87	-65.52
3	297.11	29.21 PK	46	-16.79	-84.08	-80.5	12.87	-66.05
4	444.07	29.85 PK	46	-16.15	-82.52	-80.33	12.87	-65.41
5	785.63	29.89 PK	46	-16.11	-79.62	-83.88	12.87	-65.37
6	847.1	30.11 PK	46	-15.89	-83.41	-79.51	12.87	-65.15

Notes:

1. Margin value = Emission Level - Limit value
2. The frequency range 9 kHz ~ 30 MHz: all emissions are more than 20 dB below the limit, therefore do not be recorded in this report.

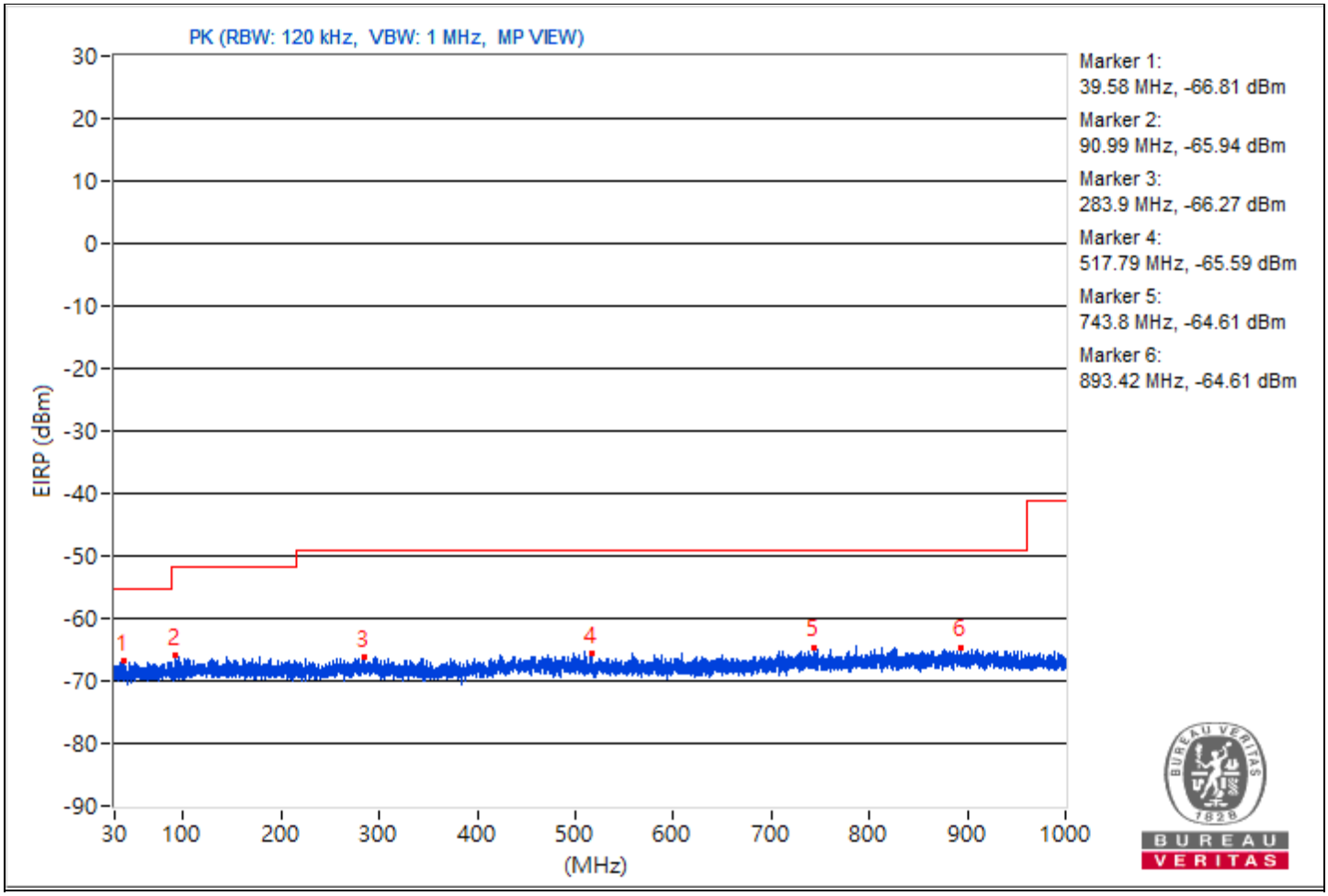


Combination	3		
RF Mode	BT+5G		
Frequency Range	30 MHz ~ 1 GHz	Environmental Conditions	20°C, 60% RH
Tested By	Henry		

Conducted Unwanted Emissions								
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value Chain 0 (dBm)	Raw Value Chain 1 (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	39.58	28.45 PK	40	-11.55	-81.34	-84.67	12.87	-66.81
2	90.99	29.32 PK	43.5	-14.18	-84.24	-80.27	12.87	-65.94
3	283.9	28.99 PK	46	-17.01	-83.63	-81.05	12.87	-66.27
4	517.79	29.67 PK	46	-16.33	-79.65	-84.66	12.87	-65.59
5	743.8	30.65 PK	46	-15.35	-81.66	-79.57	12.87	-64.61
6	893.42	30.65 PK	46	-15.35	-81.92	-79.41	12.87	-64.61

Notes:

1. Margin value = Emission Level - Limit value
2. The frequency range 9 kHz ~ 30 MHz: all emissions are more than 20 dB below the limit, therefore do not be recorded in this report.

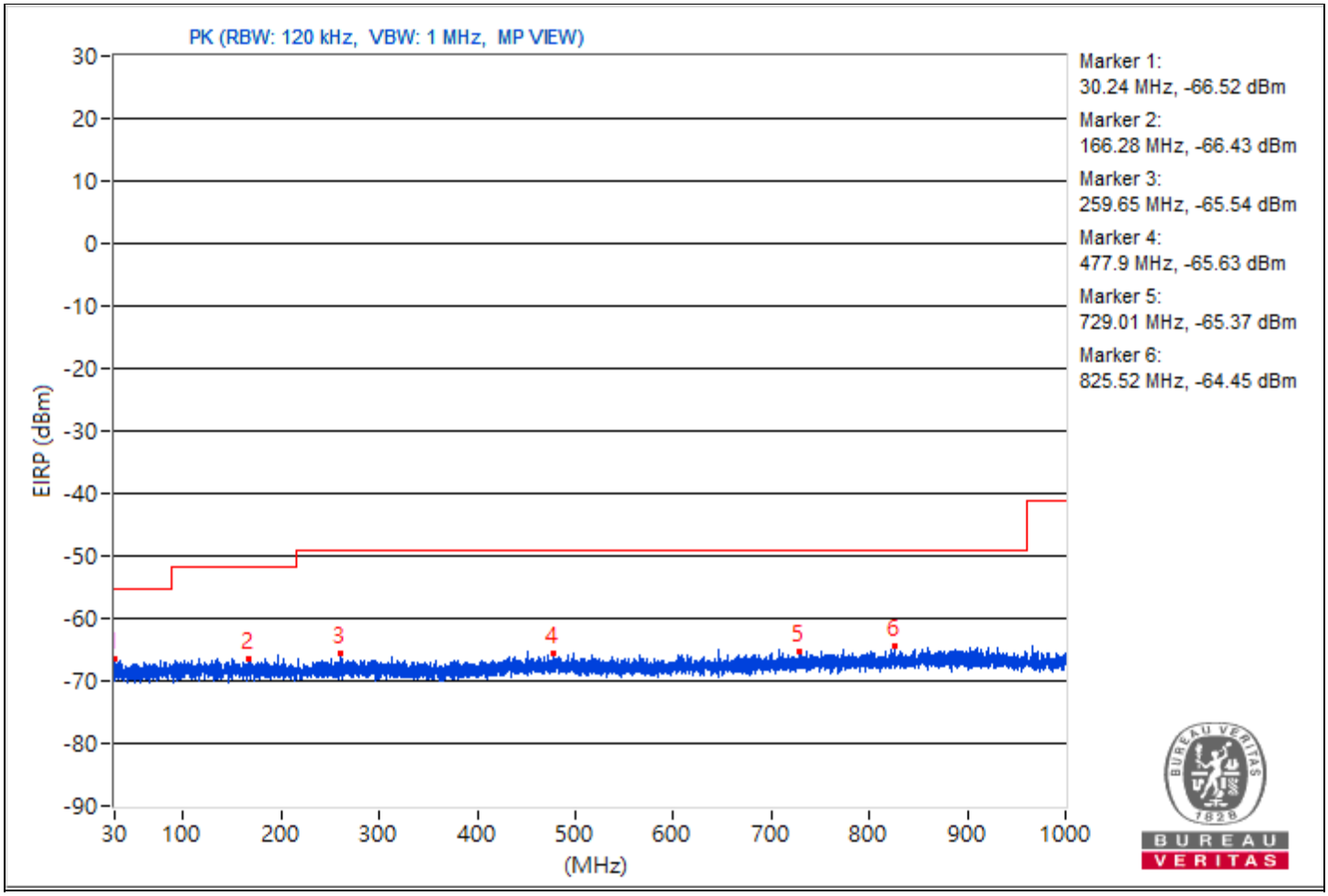


Combination	4		
RF Mode	BT+6G		
Frequency Range	30 MHz ~ 1 GHz	Environmental Conditions	20°C, 60% RH
Tested By	Henry		

Conducted Unwanted Emissions								
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value Chain 0 (dBm)	Raw Value Chain 1 (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	**30.24**	**28.74 PK**	**40**	**-11.26**	**-81.69**	**-83.26**	**12.87**	**-66.52**
2	166.28	28.83 PK	43.5	-14.67	-80.57	-85.23	12.87	-66.43
3	259.65	29.72 PK	46	-16.28	-83.03	-80.25	12.87	-65.54
4	477.9	29.63 PK	46	-16.37	-83.41	-80.2	12.87	-65.63
5	729.01	29.89 PK	46	-16.11	-79.94	-83.12	12.87	-65.37
6	825.52	30.81 PK	46	-15.19	-78.99	-82.28	12.87	-64.45

Notes:

1. Margin value = Emission Level - Limit value
2. The frequency range 9 kHz ~ 30 MHz: all emissions are more than 20 dB below the limit, therefore do not be recorded in this report.

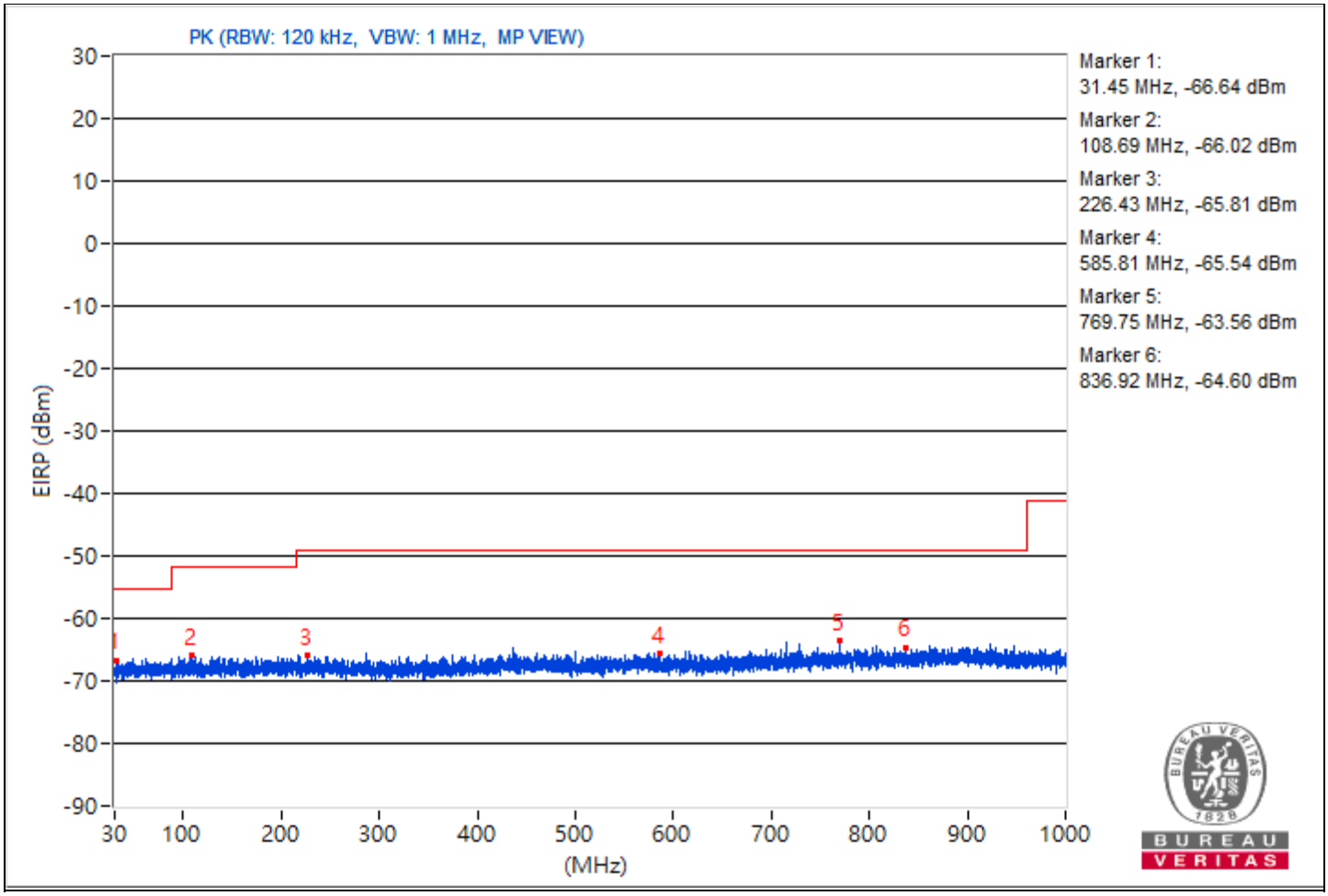


Combination	5		
RF Mode	BT+5GB1+5GB3		
Frequency Range	30 MHz ~ 1 GHz	Environmental Conditions	24°C, 67% RH
Tested By	Kevin Ko		

Conducted Unwanted Emissions								
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value Chain 0 (dBm)	Raw Value Chain 1 (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	31.45	28.62 PK	40	-11.38	-81.62	-83.67	12.87	-66.64
2	108.69	29.24 PK	43.5	-14.26	-80.55	-83.89	12.87	-66.02
3	226.43	29.45 PK	46	-16.55	-83.6	-80.37	12.87	-65.81
4	585.81	29.72 PK	46	-16.28	-80.16	-83.2	12.87	-65.54
5	769.75	31.7 PK	46	-14.3	-77.85	-81.96	12.87	-63.56
6	836.92	30.66 PK	46	-15.34	-81.96	-79.38	12.87	-64.6

Notes:

1. Margin value = Emission Level - Limit value
2. The frequency range 9 kHz ~ 30 MHz: all emissions are more than 20 dB below the limit, therefore do not be recorded in this report.

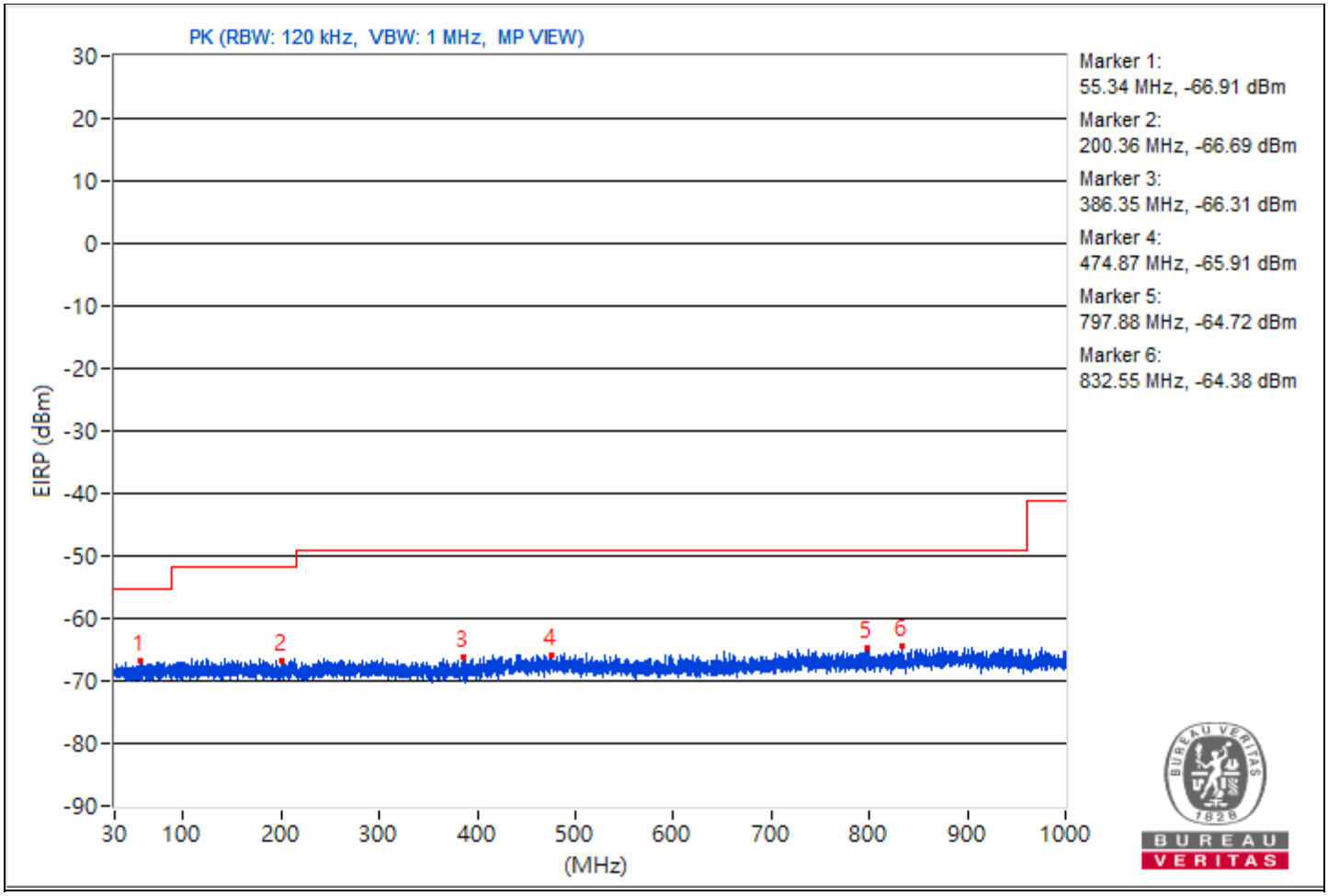


Combination	6		
RF Mode	BT+5GB1+6G		
Frequency Range	30 MHz ~ 1 GHz	Environmental Conditions	20°C, 60% RH
Tested By	Henry		

Conducted Unwanted Emissions								
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Raw Value Chain 0 (dBm)	Raw Value Chain 1 (dBm)	Correction Factor (dB)	EIRP Level (dBm)
1	55.34	28.35 PK	40	-11.65	-81.25	-85.19	12.87	-66.91
2	200.36	28.57 PK	43.5	-14.93	-85.21	-80.94	12.87	-66.69
3	386.35	28.95 PK	46	-17.05	-83.37	-81.27	12.87	-66.31
4	474.87	29.35 PK	46	-16.65	-80.21	-84.29	12.87	-65.91
5	797.88	30.54 PK	46	-15.46	-79.04	-83.06	12.87	-64.72
6	832.55	30.88 PK	46	-15.12	-81.55	-79.27	12.87	-64.38

Notes:

1. Margin value = Emission Level - Limit value
2. The frequency range 9 kHz ~ 30 MHz: all emissions are more than 20 dB below the limit, therefore do not be recorded in this report.



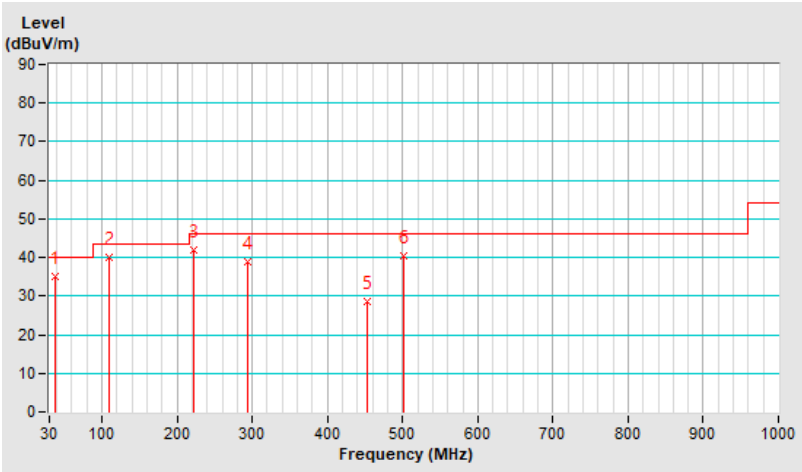
Mode B

Combination	1		
Frequency Range	30 MHz ~ 1 GHz	**Detector Function & Bandwidth**	QP: RB=120kHz, DET=Quasi-Peak
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	24 °C, 73 % RH
Tested By	Willy Lin		

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	37	35.1 QP	40.0	-4.9	2.92 H	244	53.2	-18.1
2	110.2	39.9 QP	43.5	-3.6	2.03 H	344	60.5	-20.6
3	222.1	41.9 QP	46.0	-4.1	1.00 H	87	62.5	-20.6
4	294.3	38.8 QP	46.0	-7.2	1.00 H	194	55.9	-17.1
5	452.4	28.7 QP	46.0	-17.3	1.97 H	282	41.3	-12.6
6	501.7	40.5 QP	46.0	-5.5	1.78 H	261	52.4	-11.9

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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30 MHz ~ 1 GHz.
5. The frequency range 9 kHz ~ 30 MHz: all emissions are more than 20 dB below the limit, therefore do not be recorded in this report.

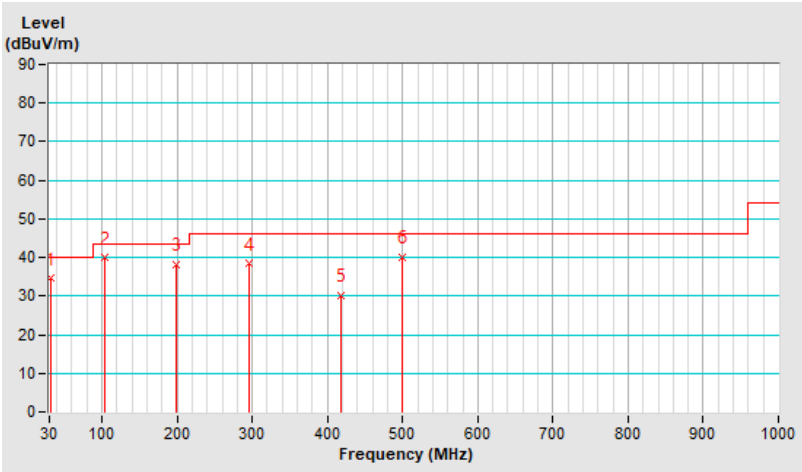


Combination	1		
Frequency Range	30 MHz ~ 1 GHz	**Detector Function & Bandwidth**	QP: RB=120kHz, DET=Quasi-Peak
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	24 °C, 73 % RH
Tested By	Willy Lin		

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	32	34.7 QP	40.0	-5.3	3.07 V	224	53.3	-18.6
2	104.3	39.9 QP	43.5	-3.6	2.14 V	328	61.2	-21.3
3	199.1	38.3 QP	43.5	-5.2	1.62 V	139	59.2	-20.9
4	295.1	38.6 QP	46.0	-7.4	1.00 V	196	55.6	-17.0
5	418.1	30.3 QP	46.0	-15.7	2.00 V	178	44.0	-13.7
6	499.2	40.2 QP	46.0	-5.8	1.56 V	316	52.2	-12.0

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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30 MHz ~ 1 GHz.
5. The frequency range 9 kHz ~ 30 MHz: all emissions are more than 20 dB below the limit, therefore do not be recorded in this report.

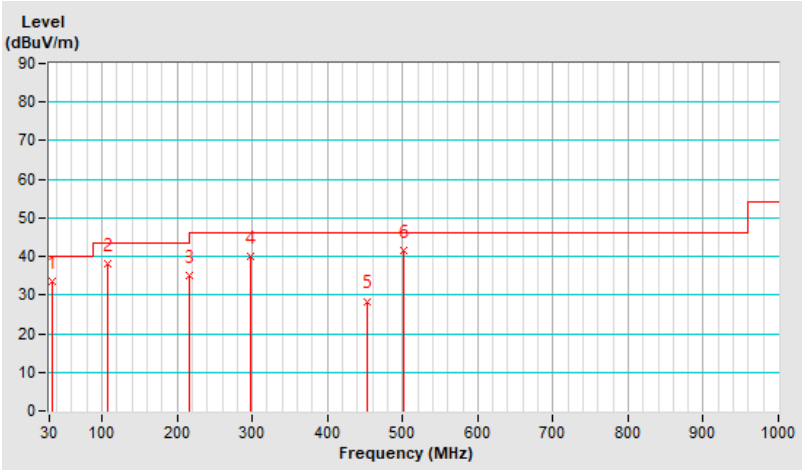


Combination	2		
Frequency Range	30 MHz ~ 1 GHz	**Detector Function & Bandwidth**	QP: RB=120kHz, DET=Quasi-Peak
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	24 °C, 73 % RH
Tested By	Willy Lin		

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	34.7	33.6 QP	40.0	-6.4	2.03 H	291	52.0	-18.4
2	107.3	38.1 QP	43.5	-5.4	2.05 H	299	58.9	-20.8
3	216.1	34.9 QP	46.0	-11.1	1.51 H	146	55.8	-20.9
4	297.4	40.0 QP	46.0	-6.0	1.46 H	203	57.0	-17.0
5	453	28.4 QP	46.0	-17.6	3.03 H	336	41.0	-12.6
6	501.2	41.5 QP	46.0	-4.5	1.70 H	200	53.5	-12.0

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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30 MHz ~ 1 GHz.
5. The frequency range 9 kHz ~ 30 MHz: all emissions are more than 20 dB below the limit, therefore do not be recorded in this report.

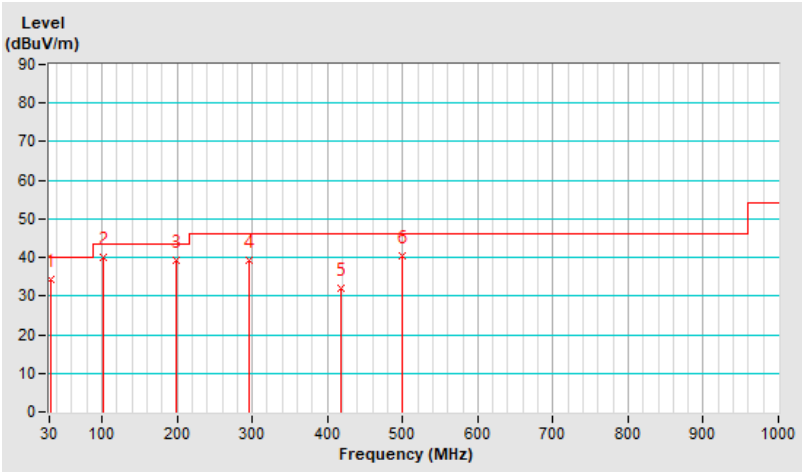


Combination	2		
Frequency Range	30 MHz ~ 1 GHz	**Detector Function & Bandwidth**	QP: RB=120kHz, DET=Quasi-Peak
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	24 °C, 73 % RH
Tested By	Willy Lin		

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	32.1	34.3 QP	40.0	-5.7	1.33 V	273	52.9	-18.6
2	102.4	39.9 QP	43.5	-3.6	1.57 V	302	61.6	-21.7
3	198.8	39.3 QP	43.5	-4.2	1.95 V	184	60.1	-20.8
4	296.5	39.1 QP	46.0	-6.9	1.08 V	181	56.1	-17.0
5	418	32.0 QP	46.0	-14.0	1.57 V	240	45.7	-13.7
6	498.8	40.5 QP	46.0	-5.5	2.71 V	316	52.5	-12.0

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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30 MHz ~ 1 GHz.
5. The frequency range 9 kHz ~ 30 MHz: all emissions are more than 20 dB below the limit, therefore do not be recorded in this report.

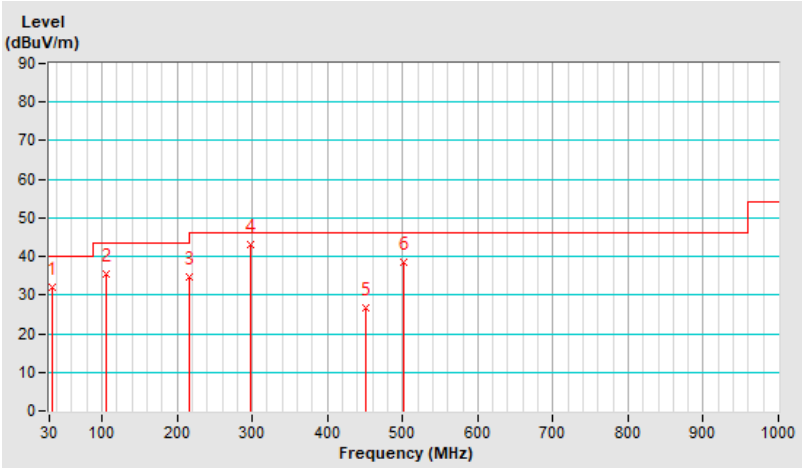


Combination	3		
Frequency Range	30 MHz ~ 1 GHz	**Detector Function & Bandwidth**	QP: RB=120kHz, DET=Quasi-Peak
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	24 °C, 73 % RH
Tested By	Willy Lin		

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	34	32.1 QP	40.0	-7.9	1.98 H	259	50.6	-18.5
2	106.6	35.6 QP	43.5	-7.9	2.10 H	360	56.5	-20.9
3	216.1	34.6 QP	46.0	-11.4	1.52 H	164	55.5	-20.9
4	298.4	43.2 QP	46.0	-2.8	1.00 H	185	60.2	-17.0
5	450.9	26.8 QP	46.0	-19.2	1.00 H	355	39.6	-12.8
6	500.8	38.5 QP	46.0	-7.5	1.36 H	178	50.5	-12.0

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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30 MHz ~ 1 GHz.
5. The frequency range 9 kHz ~ 30 MHz: all emissions are more than 20 dB below the limit, therefore do not be recorded in this report.

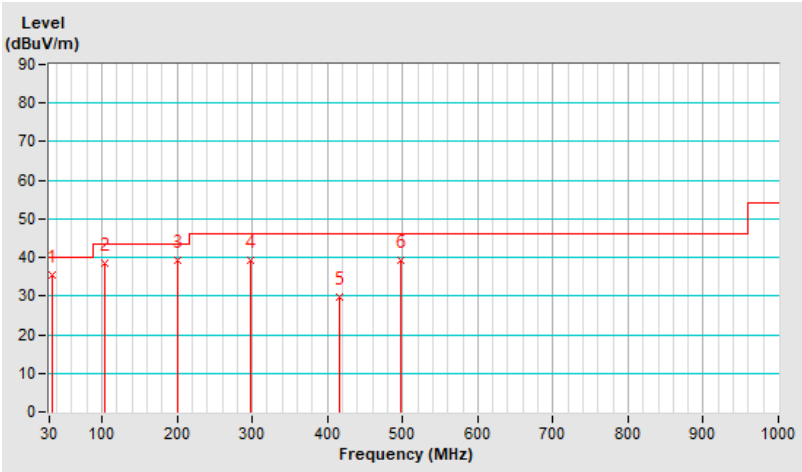


Combination	3		
Frequency Range	30 MHz ~ 1 GHz	**Detector Function & Bandwidth**	QP: RB=120kHz, DET=Quasi-Peak
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	24 °C, 73 % RH
Tested By	Willy Lin		

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	33	35.5 QP	40.0	-4.5	1.41 V	294	54.2	-18.7
2	104.4	38.5 QP	43.5	-5.0	3.06 V	294	59.8	-21.3
3	200.8	39.2 QP	43.5	-4.3	2.96 V	163	60.1	-20.9
4	296.8	39.1 QP	46.0	-6.9	1.94 V	199	56.1	-17.0
5	416	29.8 QP	46.0	-16.2	1.45 V	166	43.6	-13.8
6	498.1	39.1 QP	46.0	-6.9	1.63 V	296	51.1	-12.0

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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30 MHz ~ 1 GHz.
5. The frequency range 9 kHz ~ 30 MHz: all emissions are more than 20 dB below the limit, therefore do not be recorded in this report.

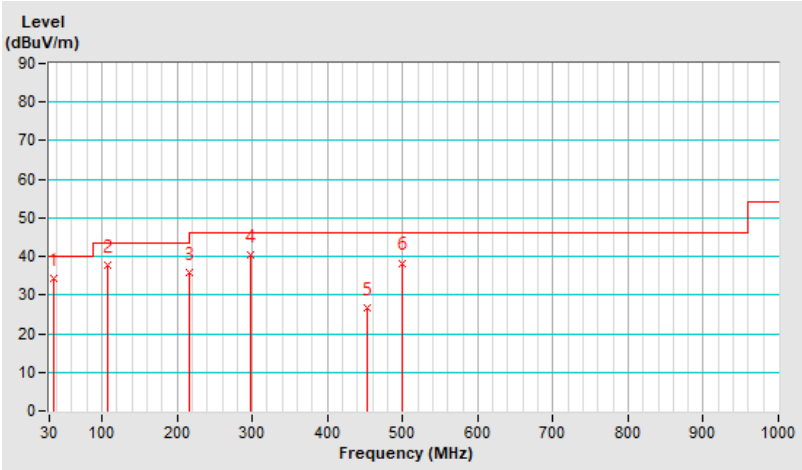


Combination	4		
Frequency Range	30 MHz ~ 1 GHz	**Detector Function & Bandwidth**	QP: RB=120kHz, DET=Quasi-Peak
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	24 °C, 73 % RH
Tested By	Willy Lin		

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	36.6	34.3 QP	40.0	-5.7	1.47 H	336	52.5	-18.2
2	107.6	37.9 QP	43.5	-5.6	2.09 H	300	58.7	-20.8
3	217.2	35.9 QP	46.0	-10.1	2.08 H	122	56.7	-20.8
4	297	40.5 QP	46.0	-5.5	2.97 H	198	57.5	-17.0
5	452	26.8 QP	46.0	-19.2	2.12 H	360	39.4	-12.6
6	498.6	38.3 QP	46.0	-7.7	1.04 H	162	50.3	-12.0

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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30 MHz ~ 1 GHz.
5. The frequency range 9 kHz ~ 30 MHz: all emissions are more than 20 dB below the limit, therefore do not be recorded in this report.

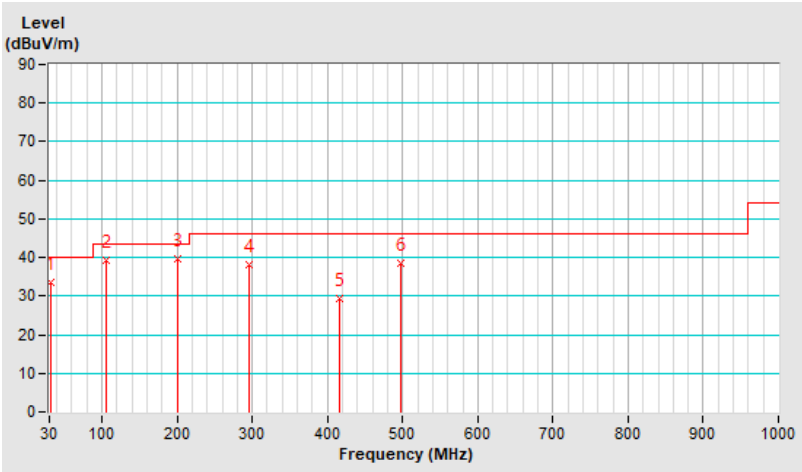


Combination	4		
Frequency Range	30 MHz ~ 1 GHz	**Detector Function & Bandwidth**	QP: RB=120kHz, DET=Quasi-Peak
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	24 °C, 73 % RH
Tested By	Willy Lin		

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	32.3	33.6 QP	40.0	-6.4	3.10 V	254	52.2	-18.6
2	104.8	39.2 QP	43.5	-4.3	1.55 V	303	60.5	-21.3
3	200.6	39.8 QP	43.5	-3.7	1.00 V	146	60.7	-20.9
4	296.7	38.1 QP	46.0	-7.9	1.90 V	247	55.1	-17.0
5	416.7	29.4 QP	46.0	-16.6	2.08 V	212	43.2	-13.8
6	497.3	38.5 QP	46.0	-7.5	1.00 V	360	50.5	-12.0

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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30 MHz ~ 1 GHz.
5. The frequency range 9 kHz ~ 30 MHz: all emissions are more than 20 dB below the limit, therefore do not be recorded in this report.

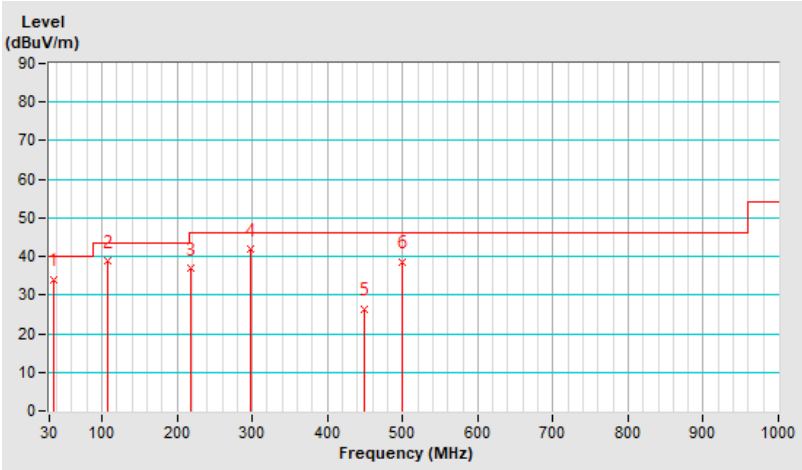


Combination	5		
Frequency Range	30 MHz ~ 1 GHz	**Detector Function & Bandwidth**	QP: RB=120kHz, DET=Quasi-Peak
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	24 °C, 73 % RH
Tested By	Willy Lin		

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	35.7	34.1 QP	40.0	-5.9	1.95 H	294	52.5	-18.4
2	108.4	39.0 QP	43.5	-4.5	1.47 H	329	59.7	-20.7
3	217.9	37.0 QP	46.0	-9.0	1.39 H	177	57.8	-20.8
4	298.4	41.8 QP	46.0	-4.2	1.00 H	204	58.8	-17.0
5	449.8	26.5 QP	46.0	-19.5	1.89 H	291	39.3	-12.8
6	499.8	38.7 QP	46.0	-7.3	3.03 H	173	50.7	-12.0

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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30 MHz ~ 1 GHz.
5. The frequency range 9 kHz ~ 30 MHz: all emissions are more than 20 dB below the limit, therefore do not be recorded in this report.

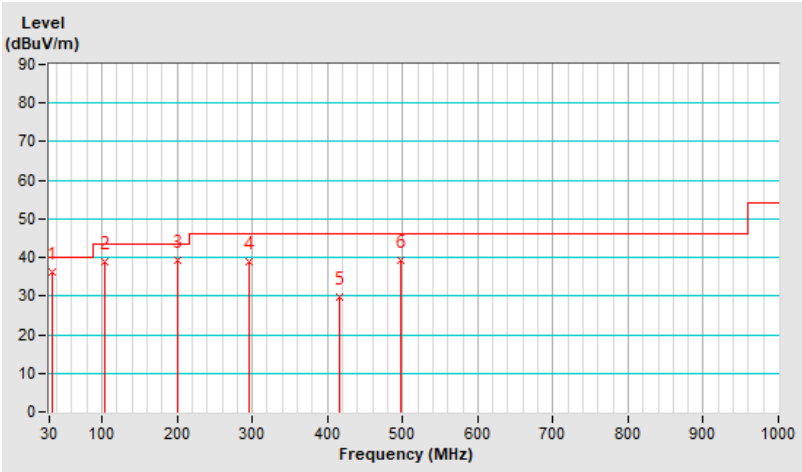


Combination	5		
Frequency Range	30 MHz ~ 1 GHz	**Detector Function & Bandwidth**	QP: RB=120kHz, DET=Quasi-Peak
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	24 °C, 73 % RH
Tested By	Willy Lin		

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	34.7	36.1 QP	40.0	-3.9	1.00 V	267	54.5	-18.4
2	103.1	38.9 QP	43.5	-4.6	3.00 V	329	60.4	-21.5
3	200.3	39.4 QP	43.5	-4.1	2.08 V	146	60.3	-20.9
4	295.1	38.8 QP	46.0	-7.2	1.05 V	180	55.8	-17.0
5	416.5	29.8 QP	46.0	-16.2	3.97 V	237	43.6	-13.8
6	497.2	39.1 QP	46.0	-6.9	1.56 V	314	51.1	-12.0

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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30 MHz ~ 1 GHz.
5. The frequency range 9 kHz ~ 30 MHz: all emissions are more than 20 dB below the limit, therefore do not be recorded in this report.

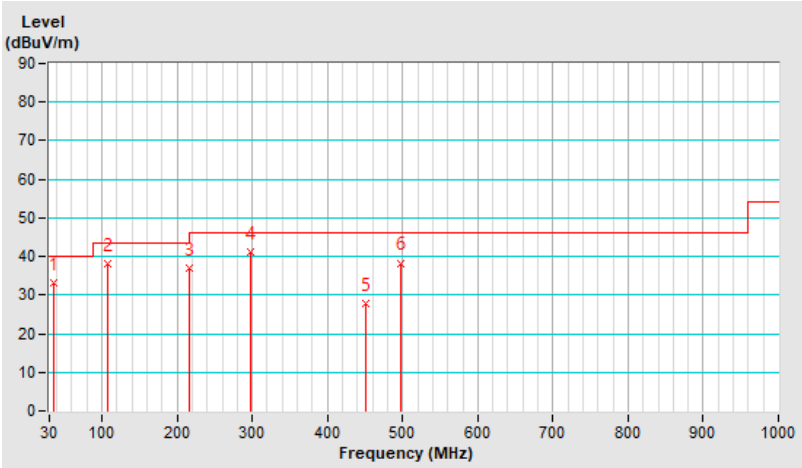


Combination	6		
Frequency Range	30 MHz ~ 1 GHz	**Detector Function & Bandwidth**	QP: RB=120kHz, DET=Quasi-Peak
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	24 °C, 73 % RH
Tested By	Willy Lin		

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	35.1	33.3 QP	40.0	-6.7	1.51 H	264	51.6	-18.3
2	108.2	38.1 QP	43.5	-5.4	1.49 H	348	58.8	-20.7
3	216.9	37.1 QP	46.0	-8.9	2.01 H	151	57.9	-20.8
4	297.7	41.3 QP	46.0	-4.7	1.00 H	184	58.3	-17.0
5	451	27.8 QP	46.0	-18.2	1.44 H	280	40.6	-12.8
6	498.5	38.3 QP	46.0	-7.7	2.85 H	201	50.3	-12.0

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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30 MHz ~ 1 GHz.
5. The frequency range 9 kHz ~ 30 MHz: all emissions are more than 20 dB below the limit, therefore do not be recorded in this report.

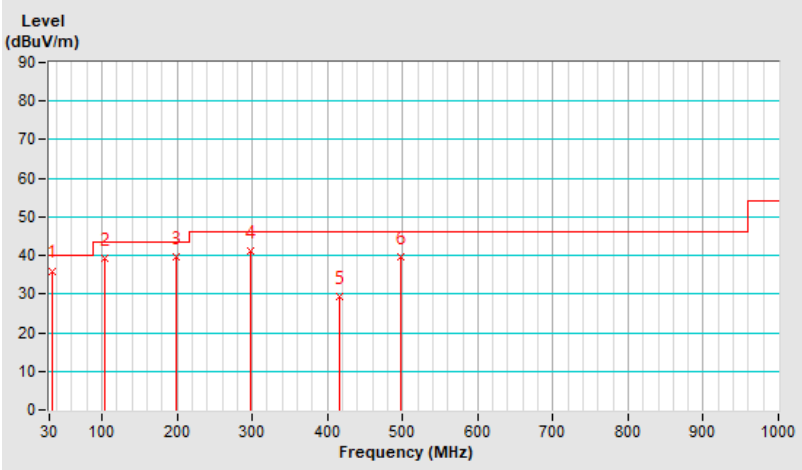


Combination	6		
Frequency Range	30 MHz ~ 1 GHz	**Detector Function & Bandwidth**	QP: RB=120kHz, DET=Quasi-Peak
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	24 °C, 73 % RH
Tested By	Willy Lin		

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	33.2	36.0 QP	40.0	-4.0	1.46 V	292	54.7	-18.7
2	103.8	39.4 QP	43.5	-4.1	1.48 V	284	60.8	-21.4
3	199.4	39.5 QP	43.5	-4.0	2.14 V	200	60.4	-20.9
4	297	41.0 QP	46.0	-5.0	3.04 V	160	58.0	-17.0
5	416.3	29.2 QP	46.0	-16.8	1.02 V	237	43.0	-13.8
6	496.8	39.5 QP	46.0	-6.5	2.03 V	347	51.5	-12.0

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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30 MHz ~ 1 GHz.
5. The frequency range 9 kHz ~ 30 MHz: all emissions are more than 20 dB below the limit, therefore do not be recorded in this report.



7.2 Unwanted Emissions above 1 GHz

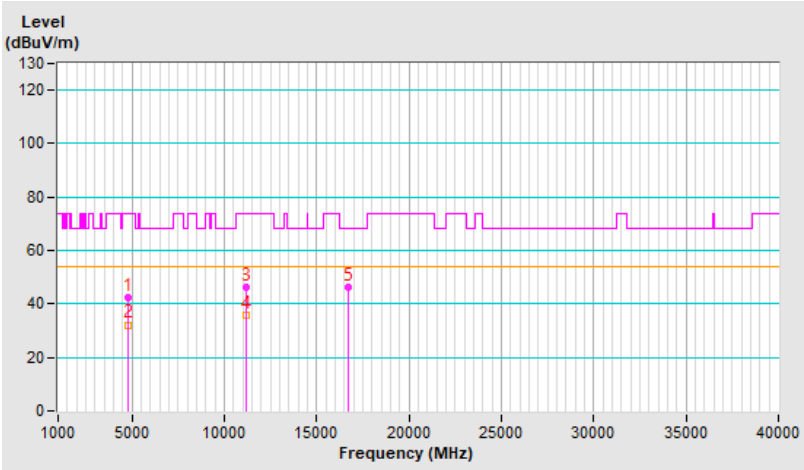
Mode C

Combination	1		
Frequency Range	1 GHz ~ 40 GHz	**Detector Function & Bandwidth**	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	24 °C, 73 % RH
Tested By	Willy Lin		

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	4824	42.2 PK	74.0	-31.8	1.70 H	129	40.9	1.3
2	4824	32.2 AV	54.0	-21.8	1.70 H	129	30.9	1.3
3	11160	46.0 PK	74.0	-28.0	1.15 H	210	33.5	12.5
4	11160	35.7 AV	54.0	-18.3	1.15 H	210	23.2	12.5
5	#16740	46.0 PK	68.2	-22.2	1.12 H	205	30.1	15.9

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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " # ": The radiated frequency is out of the restricted band.

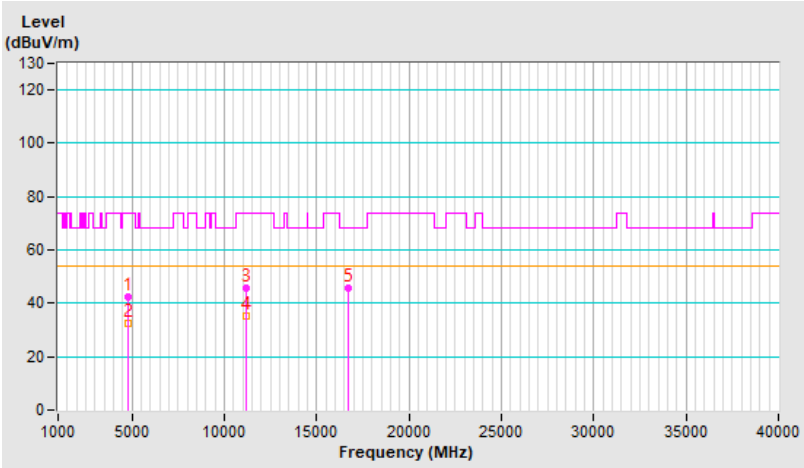


Combination	1		
Frequency Range	1 GHz ~ 40 GHz	**Detector Function & Bandwidth**	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	24 °C, 73 % RH
Tested By	Willy Lin		

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	4824	42.6 PK	74.0	-31.4	1.62 V	171	41.3	1.3
2	4824	32.6 AV	54.0	-21.4	1.62 V	171	31.3	1.3
3	11160	45.5 PK	74.0	-28.5	1.15 V	198	33.0	12.5
4	11160	35.0 AV	54.0	-19.0	1.15 V	198	22.5	12.5
5	#16740	45.5 PK	68.2	-22.7	1.03 V	195	29.6	15.9

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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " # ": The radiated frequency is out of the restricted band.

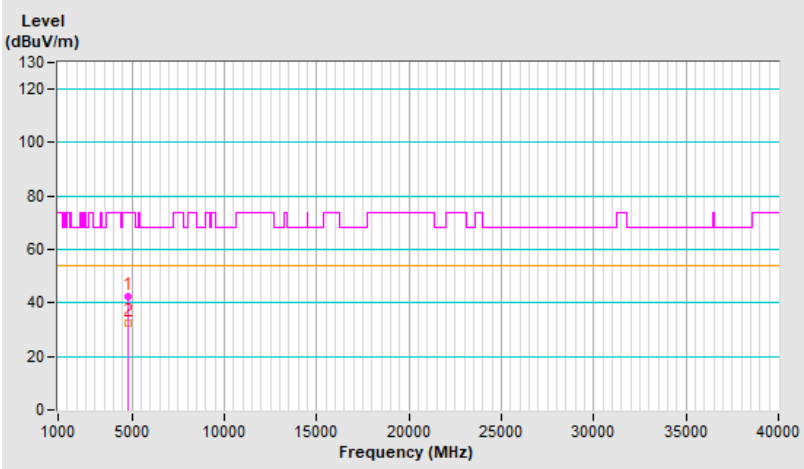


Combination	2		
Frequency Range	1 GHz ~ 40 GHz	**Detector Function & Bandwidth**	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	24 °C, 73 % RH
Tested By	Willy Lin		

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	4824	42.4 PK	74.0	-31.6	1.70 H	115	41.1	1.3
2	4824	32.5 AV	54.0	-21.5	1.70 H	115	31.2	1.3

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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.

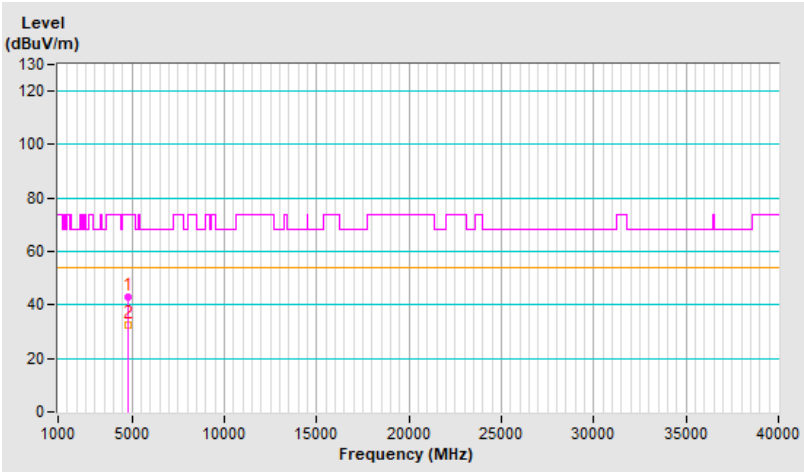


Combination	2		
Frequency Range	1 GHz ~ 40 GHz	**Detector Function & Bandwidth**	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	24 °C, 73 % RH
Tested By	Willy Lin		

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	4824	42.7 PK	74.0	-31.3	1.58 V	181	41.4	1.3
2	4824	32.5 AV	54.0	-21.5	1.58 V	181	31.2	1.3

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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.

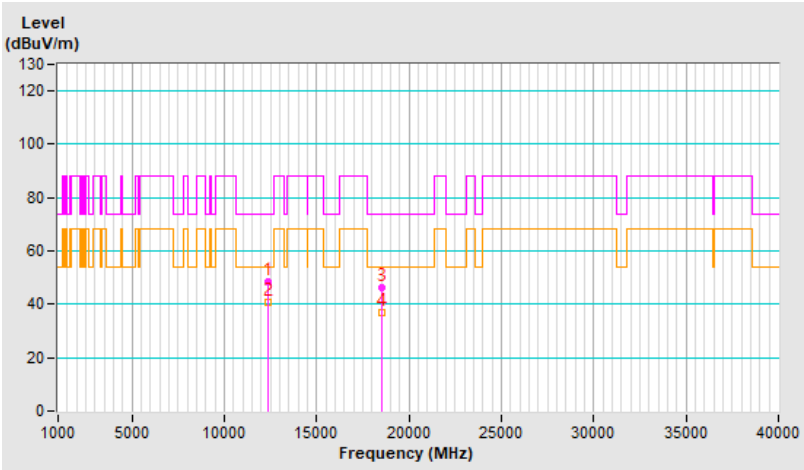


Combination	2		
Frequency Range	1 GHz ~ 40 GHz	**Detector Function & Bandwidth**	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	25 °C, 74 % RH
Tested By	Willy Lin		

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	12350	48.7 PK	74.0	-25.3	1.00 H	215	76.0	-27.3
2	12350	40.6 AV	54.0	-13.4	1.00 H	215	67.9	-27.3
3	18525	46.2 PK	74.0	-27.8	1.16 H	176	50.9	-4.7
4	18525	37.1 AV	54.0	-16.9	1.16 H	176	41.8	-4.7

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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.

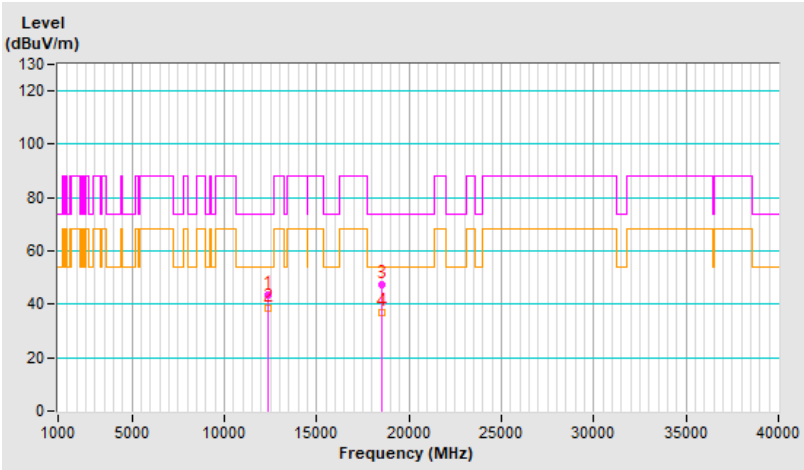


Combination	2		
Frequency Range	1 GHz ~ 40 GHz	**Detector Function & Bandwidth**	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	25 °C, 74 % RH
Tested By	Willy Lin		

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	12350	43.6 PK	74.0	-30.4	1.17 V	197	70.9	-27.3
2	12350	38.5 AV	54.0	-15.5	1.17 V	197	65.8	-27.3
3	18525	47.6 PK	74.0	-26.4	1.05 V	173	52.3	-4.7
4	18525	37.0 AV	54.0	-17.0	1.05 V	173	41.7	-4.7

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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.

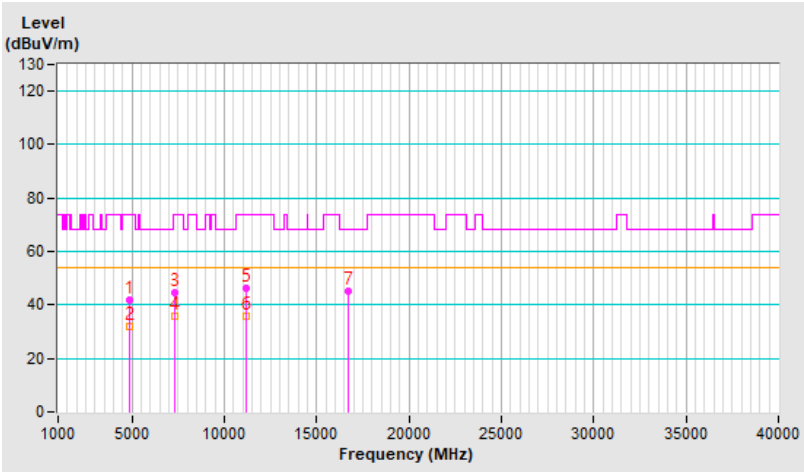


Combination	3		
Frequency Range	1 GHz ~ 40 GHz	**Detector Function & Bandwidth**	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=3 kHz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	24 °C, 73 % RH
Tested By	Willy Lin		

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	4880	41.7 PK	74.0	-32.3	1.64 H	144	40.3	1.4
2	4880	31.8 AV	54.0	-22.2	1.64 H	144	30.4	1.4
3	7320	44.7 PK	74.0	-29.3	1.81 H	252	37.5	7.2
4	7320	35.8 AV	54.0	-18.2	1.81 H	252	28.6	7.2
5	11160	46.0 PK	74.0	-28.0	1.11 H	207	33.5	12.5
6	11160	35.9 AV	54.0	-18.1	1.11 H	207	23.4	12.5
7	#16740	45.4 PK	68.2	-22.8	1.13 H	207	29.5	15.9

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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " # ": The radiated frequency is out of the restricted band.

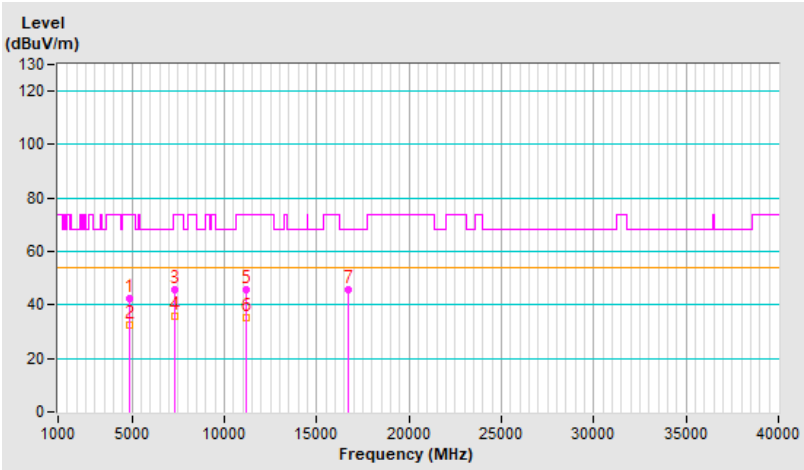


Combination	3		
Frequency Range	1 GHz ~ 40 GHz	**Detector Function & Bandwidth**	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=3 kHz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	24 °C, 73 % RH
Tested By	Willy Lin		

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	4880	42.6 PK	74.0	-31.4	1.65 V	157	41.2	1.4
2	4880	32.4 AV	54.0	-21.6	1.65 V	157	31.0	1.4
3	7320	45.8 PK	74.0	-28.2	1.95 V	299	38.6	7.2
4	7320	35.9 AV	54.0	-18.1	1.95 V	299	28.7	7.2
5	11160	45.7 PK	74.0	-28.3	1.20 V	208	33.2	12.5
6	11160	35.1 AV	54.0	-18.9	1.20 V	208	22.6	12.5
7	#16740	45.8 PK	68.2	-22.4	1.03 V	204	29.9	15.9

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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " # ": The radiated frequency is out of the restricted band.

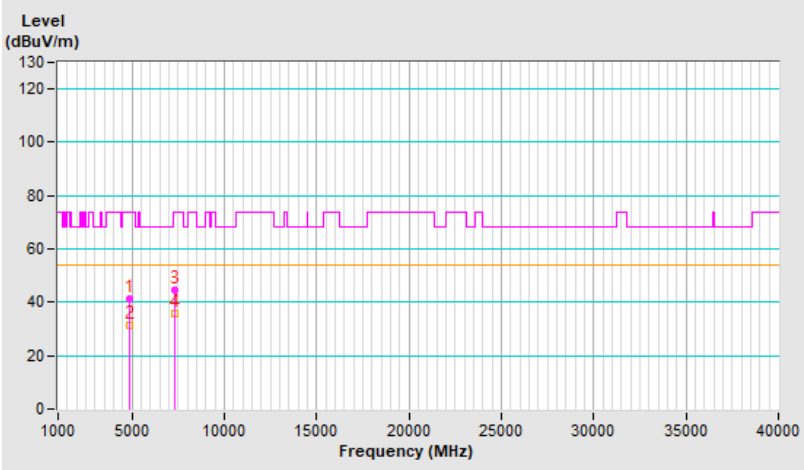


Combination	4		
Frequency Range	1 GHz ~ 40 GHz	**Detector Function & Bandwidth**	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=3 kHz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	24 °C, 73 % RH
Tested By	Willy Lin		

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	4880	41.3 PK	74.0	-32.7	1.68 H	140	39.9	1.4
2	4880	31.6 AV	54.0	-22.4	1.68 H	140	30.2	1.4
3	7320	44.4 PK	74.0	-29.6	1.84 H	243	37.2	7.2
4	7320	35.6 AV	54.0	-18.4	1.84 H	243	28.4	7.2

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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.

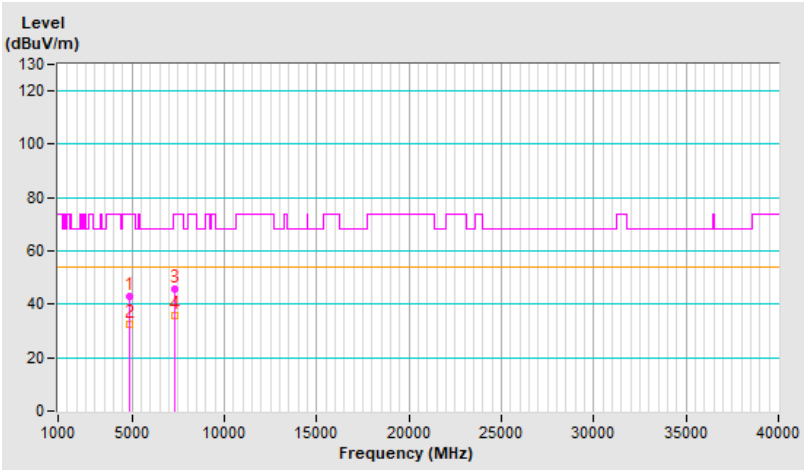


Combination	4		
Frequency Range	1 GHz ~ 40 GHz	**Detector Function & Bandwidth**	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=3 kHz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	24 °C, 73 % RH
Tested By	Willy Lin		

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	4880	42.9 PK	74.0	-31.1	1.62 V	162	41.5	1.4
2	4880	32.4 AV	54.0	-21.6	1.62 V	162	31.0	1.4
3	7320	45.5 PK	74.0	-28.5	1.94 V	306	38.3	7.2
4	7320	35.6 AV	54.0	-18.4	1.94 V	306	28.4	7.2

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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.

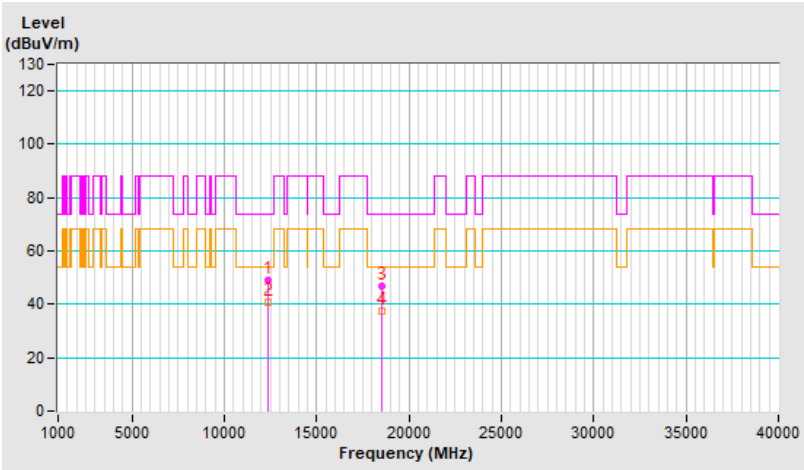


Combination	4		
Frequency Range	1 GHz ~ 40 GHz	**Detector Function & Bandwidth**	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=3 kHz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	25 °C, 74 % RH
Tested By	Willy Lin		

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	12350	48.8 PK	74.0	-25.2	1.00 H	202	76.1	-27.3
2	12350	40.7 AV	54.0	-13.3	1.00 H	202	68.0	-27.3
3	18525	46.6 PK	74.0	-27.4	1.16 H	178	51.3	-4.7
4	18525	37.3 AV	54.0	-16.7	1.16 H	178	42.0	-4.7

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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.

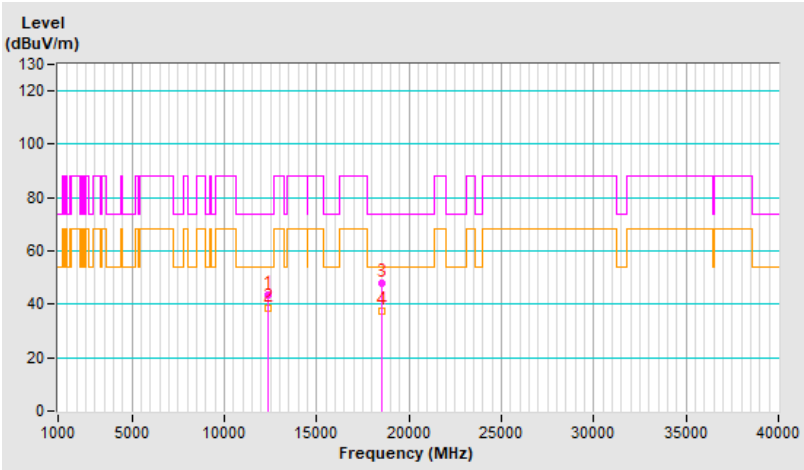


Combination	4		
Frequency Range	1 GHz ~ 40 GHz	**Detector Function & Bandwidth**	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=3 kHz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	25 °C, 74 % RH
Tested By	Willy Lin		

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	12350	43.7 PK	74.0	-30.3	1.16 V	207	71.0	-27.3
2	12350	38.5 AV	54.0	-15.5	1.16 V	207	65.8	-27.3
3	18525	48.0 PK	74.0	-26.0	1.04 V	162	52.7	-4.7
4	18525	37.4 AV	54.0	-16.6	1.04 V	162	42.1	-4.7

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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.

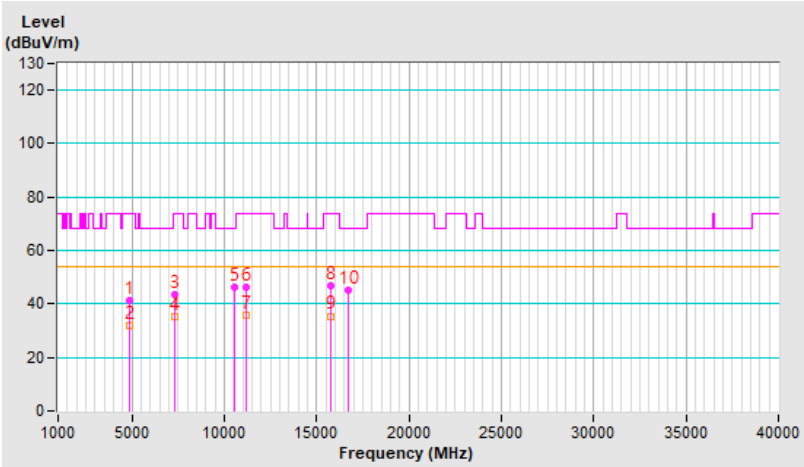


Combination	5		
Frequency Range	1 GHz ~ 40 GHz	**Detector Function & Bandwidth**	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=3 kHz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	24 °C, 73 % RH
Tested By	Willy Lin		

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	4880	41.3 PK	74.0	-32.7	1.69 H	133	39.9	1.4
2	4880	31.8 AV	54.0	-22.2	1.69 H	133	30.4	1.4
3	7320	43.7 PK	74.0	-30.3	1.86 H	244	36.5	7.2
4	7320	35.1 AV	54.0	-18.9	1.86 H	244	27.9	7.2
5	#10520	46.0 PK	68.2	-22.2	1.00 H	186	34.1	11.9
6	11160	46.2 PK	74.0	-27.8	1.10 H	207	33.7	12.5
7	11160	35.8 AV	54.0	-18.2	1.10 H	207	23.3	12.5
8	15780	46.6 PK	74.0	-27.4	1.31 H	211	35.1	11.5
9	15780	35.5 AV	54.0	-18.5	1.31 H	211	24.0	11.5
10	#16740	45.4 PK	68.2	-22.8	1.09 H	195	29.5	15.9

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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " # ": The radiated frequency is out of the restricted band.

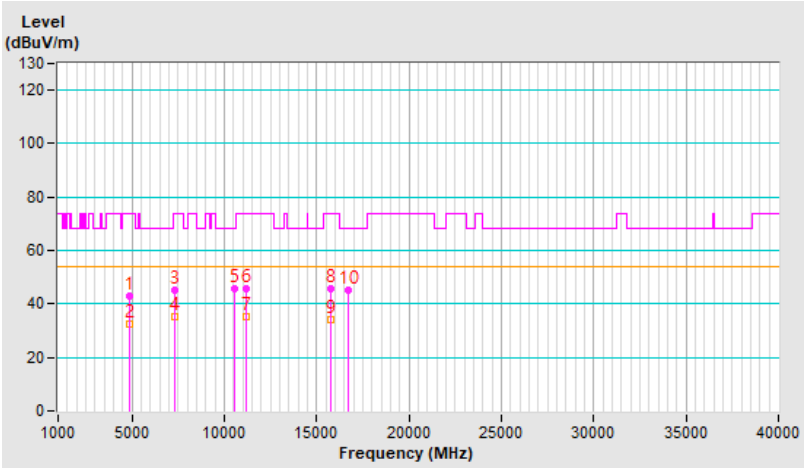


Combination	5		
Frequency Range	1 GHz ~ 40 GHz	**Detector Function & Bandwidth**	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=3 kHz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	24 °C, 73 % RH
Tested By	Willy Lin		

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	4880	43.1 PK	74.0	-30.9	1.68 V	155	41.7	1.4
2	4880	32.6 AV	54.0	-21.4	1.68 V	155	31.2	1.4
3	7320	45.4 PK	74.0	-28.6	1.99 V	314	38.2	7.2
4	7320	35.3 AV	54.0	-18.7	1.99 V	314	28.1	7.2
5	#10520	45.6 PK	68.2	-22.6	1.13 V	196	33.7	11.9
6	11160	45.9 PK	74.0	-28.1	1.25 V	213	33.4	12.5
7	11160	35.4 AV	54.0	-18.6	1.25 V	213	22.9	12.5
8	15780	45.8 PK	74.0	-28.2	1.06 V	203	34.3	11.5
9	15780	34.0 AV	54.0	-20.0	1.06 V	203	22.5	11.5
10	#16740	45.3 PK	68.2	-22.9	1.05 V	213	29.4	15.9

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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " # ": The radiated frequency is out of the restricted band.

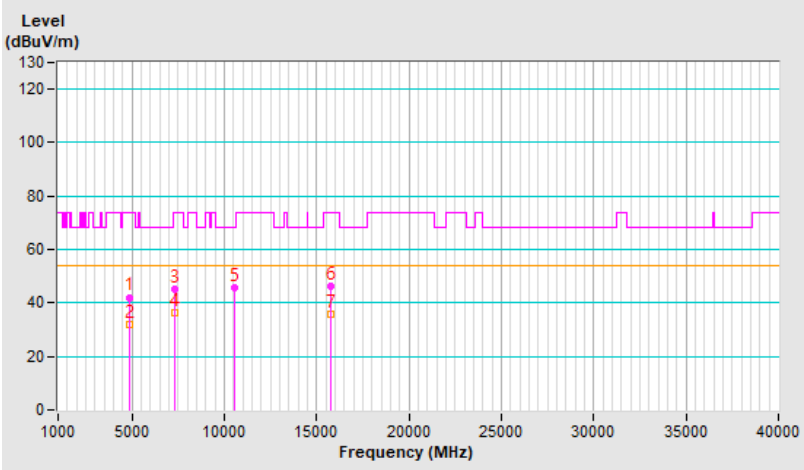


Combination	6		
Frequency Range	1 GHz ~ 40 GHz	**Detector Function & Bandwidth**	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=3 kHz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	24 °C, 73 % RH
Tested By	Willy Lin		

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	4880	42.1 PK	74.0	-31.9	1.59 H	140	40.7	1.4
2	4880	32.0 AV	54.0	-22.0	1.59 H	140	30.6	1.4
3	7320	45.2 PK	74.0	-28.8	1.76 H	268	38.0	7.2
4	7320	36.2 AV	54.0	-17.8	1.76 H	268	29.0	7.2
5	#10520	45.8 PK	68.2	-22.4	1.01 H	179	33.9	11.9
6	15780	46.4 PK	74.0	-27.6	1.29 H	214	34.9	11.5
7	15780	35.6 AV	54.0	-18.4	1.29 H	214	24.1	11.5

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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " # ": The radiated frequency is out of the restricted band.

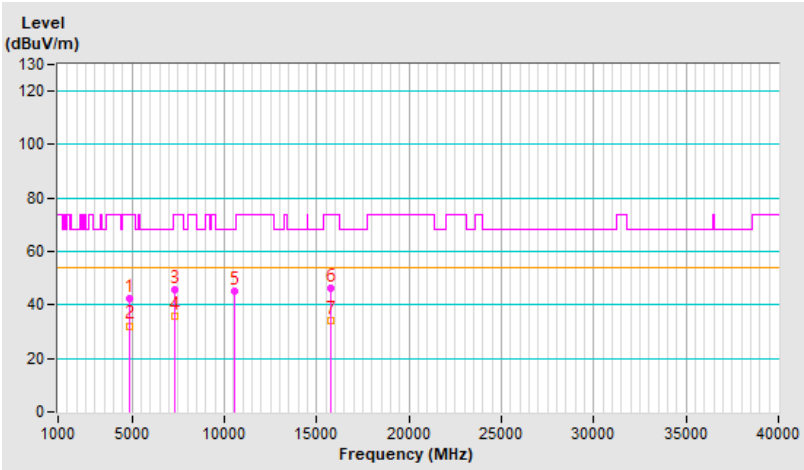


Combination	6		
Frequency Range	1 GHz ~ 40 GHz	**Detector Function & Bandwidth**	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=3 kHz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	24 °C, 73 % RH
Tested By	Willy Lin		

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	4880	42.3 PK	74.0	-31.7	1.61 V	151	40.9	1.4
2	4880	32.2 AV	54.0	-21.8	1.61 V	151	30.8	1.4
3	7320	45.9 PK	74.0	-28.1	1.99 V	302	38.7	7.2
4	7320	36.0 AV	54.0	-18.0	1.99 V	302	28.8	7.2
5	#10520	45.4 PK	68.2	-22.8	1.10 V	193	33.5	11.9
6	15780	46.2 PK	74.0	-27.8	1.02 V	205	34.7	11.5
7	15780	34.2 AV	54.0	-19.8	1.02 V	205	22.7	11.5

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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " # ": The radiated frequency is out of the restricted band.

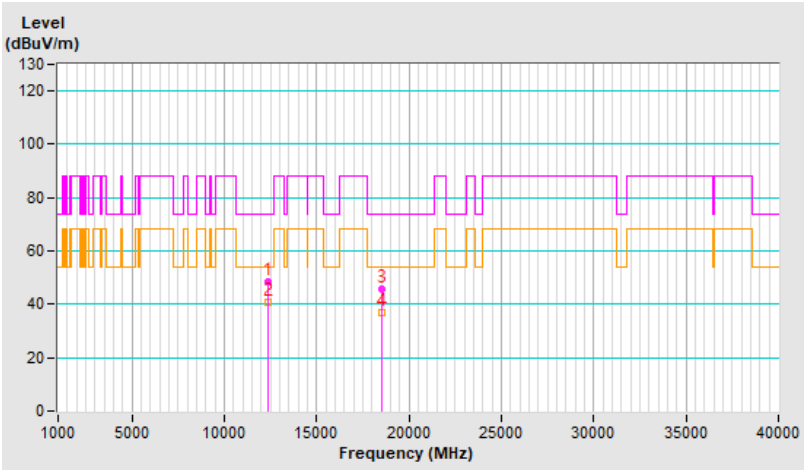


Combination	6		
Frequency Range	1 GHz ~ 40 GHz	**Detector Function & Bandwidth**	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=3 kHz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	25 °C, 74 % RH
Tested By	Willy Lin		

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	12350	48.5 PK	74.0	-25.5	1.00 H	230	75.8	-27.3
2	12350	40.6 AV	54.0	-13.4	1.00 H	230	67.9	-27.3
3	18525	45.9 PK	74.0	-28.1	1.17 H	181	50.6	-4.7
4	18525	36.7 AV	54.0	-17.3	1.17 H	181	41.4	-4.7

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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.

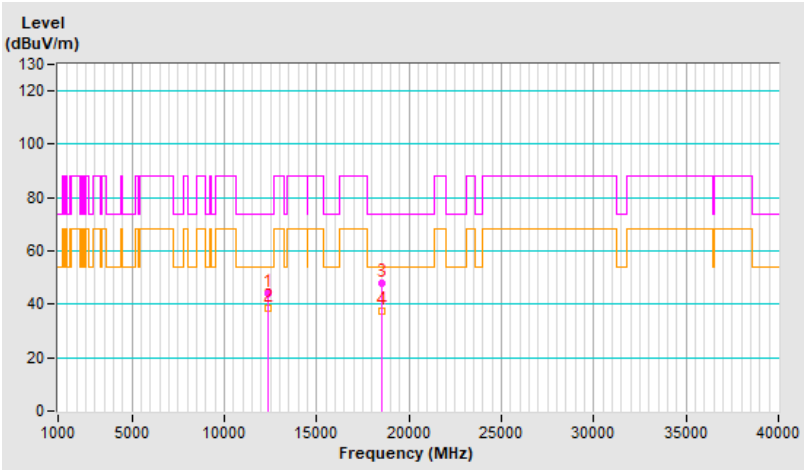


Combination	6		
Frequency Range	1 GHz ~ 40 GHz	**Detector Function & Bandwidth**	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=3 kHz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	25 °C, 74 % RH
Tested By	Willy Lin		

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	12350	44.0 PK	74.0	-30.0	1.13 V	188	71.3	-27.3
2	12350	38.7 AV	54.0	-15.3	1.13 V	188	66.0	-27.3
3	18525	47.8 PK	74.0	-26.2	1.00 V	187	52.5	-4.7
4	18525	37.4 AV	54.0	-16.6	1.00 V	187	42.1	-4.7

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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.



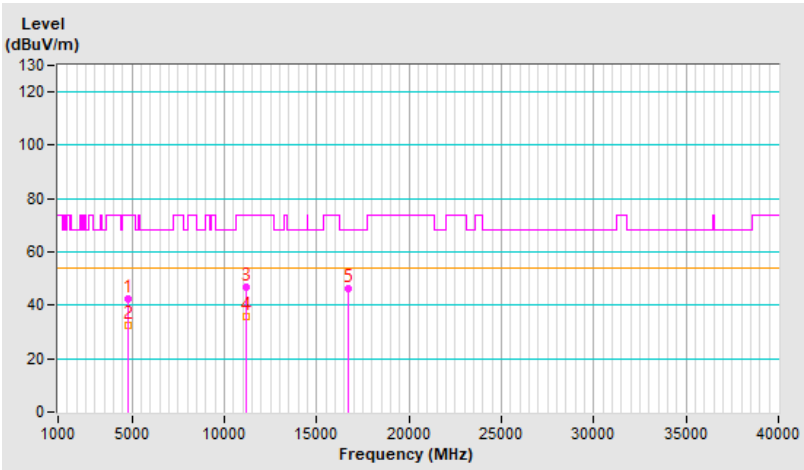
Mode D

Combination	1		
Frequency Range	1 GHz ~ 40 GHz	**Detector Function & Bandwidth**	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	23 °C, 70 % RH
Tested By	Willy Lin		

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	4824	42.6 PK	74.0	-31.4	1.63 H	123	41.3	1.3
2	4824	32.6 AV	54.0	-21.4	1.63 H	123	31.3	1.3
3	11160	46.6 PK	74.0	-27.4	1.20 H	208	34.1	12.5
4	11160	35.9 AV	54.0	-18.1	1.20 H	208	23.4	12.5
5	#16740	46.4 PK	68.2	-21.8	1.07 H	195	30.5	15.9

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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " # ": The radiated frequency is out of the restricted band.

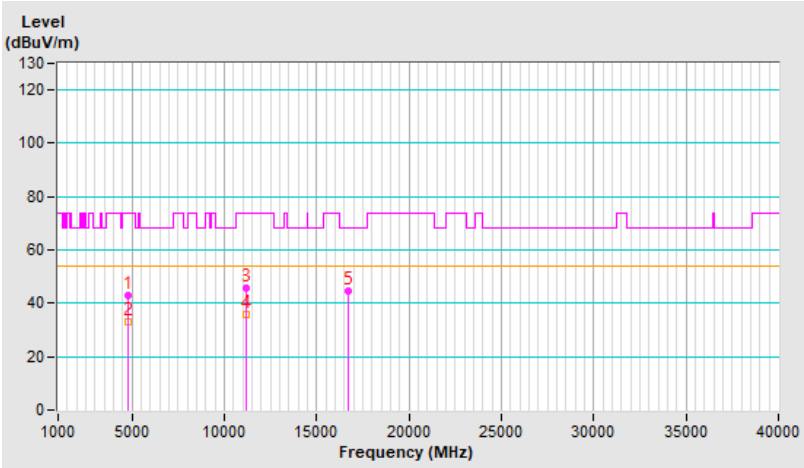


Combination	1		
Frequency Range	1 GHz ~ 40 GHz	**Detector Function & Bandwidth**	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	23 °C, 70 % RH
Tested By	Willy Lin		

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	4824	42.9 PK	74.0	-31.1	1.55 V	167	41.6	1.3
2	4824	32.9 AV	54.0	-21.1	1.55 V	167	31.6	1.3
3	11160	45.6 PK	74.0	-28.4	1.30 V	171	33.1	12.5
4	11160	35.7 AV	54.0	-18.3	1.30 V	171	23.2	12.5
5	#16740	44.4 PK	68.2	-23.8	1.00 V	177	28.5	15.9

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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " # ": The radiated frequency is out of the restricted band.

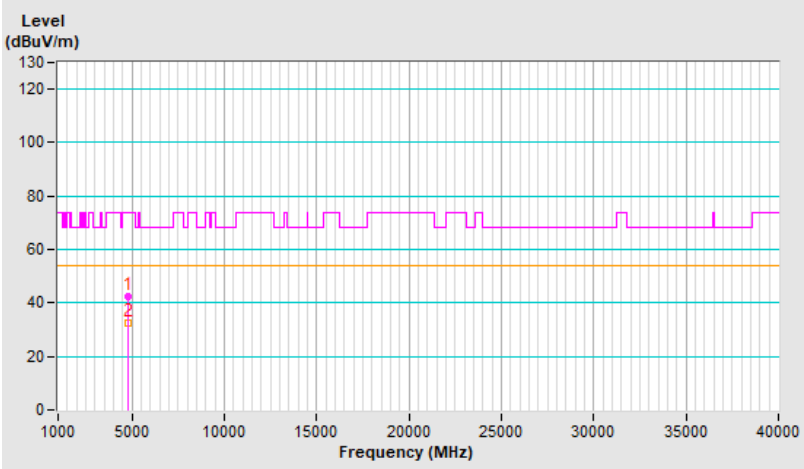


Combination	2		
Frequency Range	1 GHz ~ 40 GHz	**Detector Function & Bandwidth**	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	23 °C, 70 % RH
Tested By	Willy Lin		

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	4824	42.3 PK	74.0	-31.7	1.80 H	118	41.0	1.3
2	4824	32.6 AV	54.0	-21.4	1.80 H	118	31.3	1.3

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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.

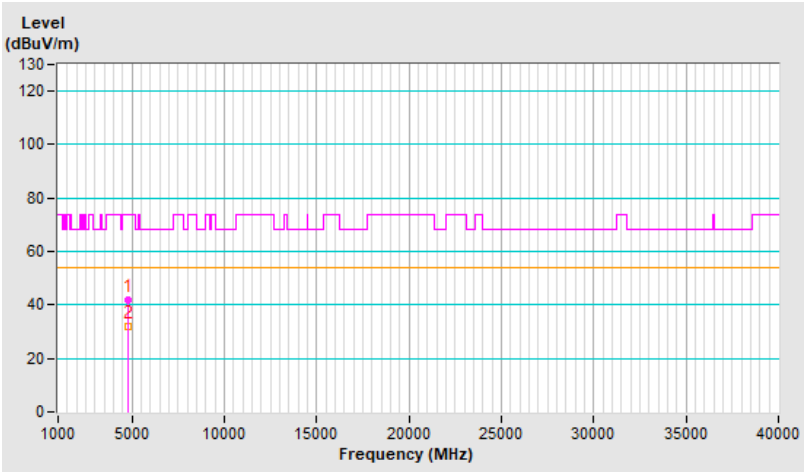


Combination	2		
Frequency Range	1 GHz ~ 40 GHz	**Detector Function & Bandwidth**	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	23 °C, 70 % RH
Tested By	Willy Lin		

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	4824	42.1 PK	74.0	-31.9	1.70 V	160	40.8	1.3
2	4824	32.2 AV	54.0	-21.8	1.70 V	160	30.9	1.3

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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.

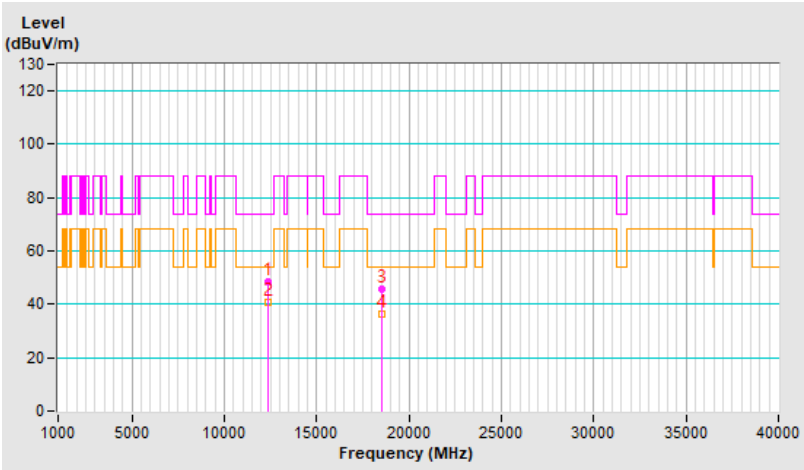


Combination	2		
Frequency Range	1 GHz ~ 40 GHz	**Detector Function & Bandwidth**	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	23 °C, 70 % RH
Tested By	Willy Lin		

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	12350	48.5 PK	74.0	-25.5	1.04 H	181	37.2	11.3
2	12350	40.9 AV	54.0	-13.1	1.04 H	181	29.6	11.3
3	18525	45.5 PK	74.0	-28.5	1.19 H	168	45.5	0.0
4	18525	36.5 AV	54.0	-17.5	1.19 H	168	36.5	0.0

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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.

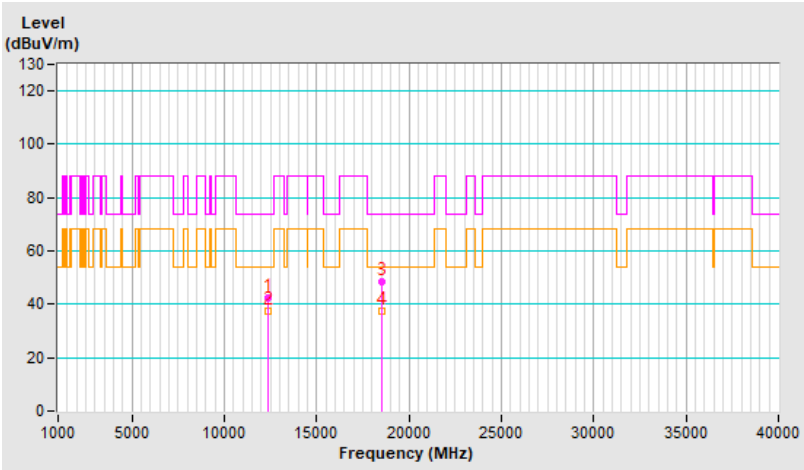


Combination	2		
Frequency Range	1 GHz ~ 40 GHz	**Detector Function & Bandwidth**	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=10 Hz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	23 °C, 70 % RH
Tested By	Willy Lin		

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	12350	42.4 PK	74.0	-31.6	1.17 V	188	31.1	11.3
2	12350	37.4 AV	54.0	-16.6	1.17 V	188	26.1	11.3
3	18525	48.2 PK	74.0	-25.8	1.11 V	160	48.2	0.0
4	18525	37.4 AV	54.0	-16.6	1.11 V	160	37.4	0.0

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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.

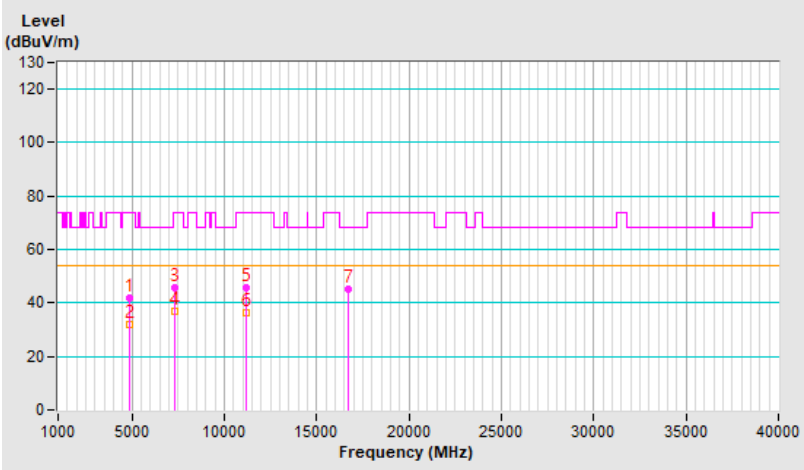


Combination	3		
Frequency Range	1 GHz ~ 40 GHz	**Detector Function & Bandwidth**	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=3 kHz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	23 °C, 70 % RH
Tested By	Willy Lin		

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	4880	41.8 PK	74.0	-32.2	1.64 H	169	40.4	1.4
2	4880	31.9 AV	54.0	-22.1	1.64 H	169	30.5	1.4
3	7320	45.9 PK	74.0	-28.1	1.77 H	238	38.7	7.2
4	7320	36.7 AV	54.0	-17.3	1.77 H	238	29.5	7.2
5	11160	45.9 PK	74.0	-28.1	1.08 H	207	33.4	12.5
6	11160	36.1 AV	54.0	-17.9	1.08 H	207	23.6	12.5
7	#16740	45.2 PK	68.2	-23.0	1.12 H	195	29.3	15.9

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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " # ": The radiated frequency is out of the restricted band.

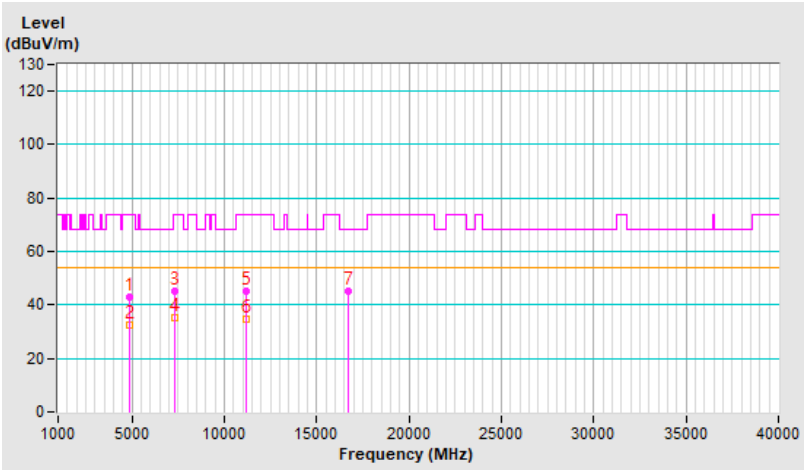


Combination	3		
Frequency Range	1 GHz ~ 40 GHz	**Detector Function & Bandwidth**	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=3 kHz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	23 °C, 70 % RH
Tested By	Willy Lin		

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	4880	42.9 PK	74.0	-31.1	1.43 V	161	41.5	1.4
2	4880	32.4 AV	54.0	-21.6	1.43 V	161	31.0	1.4
3	7320	45.2 PK	74.0	-28.8	1.85 V	308	38.0	7.2
4	7320	35.4 AV	54.0	-18.6	1.85 V	308	28.2	7.2
5	11160	45.1 PK	74.0	-28.9	1.18 V	207	32.6	12.5
6	11160	34.9 AV	54.0	-19.1	1.18 V	207	22.4	12.5
7	#16740	45.2 PK	68.2	-23.0	1.05 V	208	29.3	15.9

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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " # ": The radiated frequency is out of the restricted band.

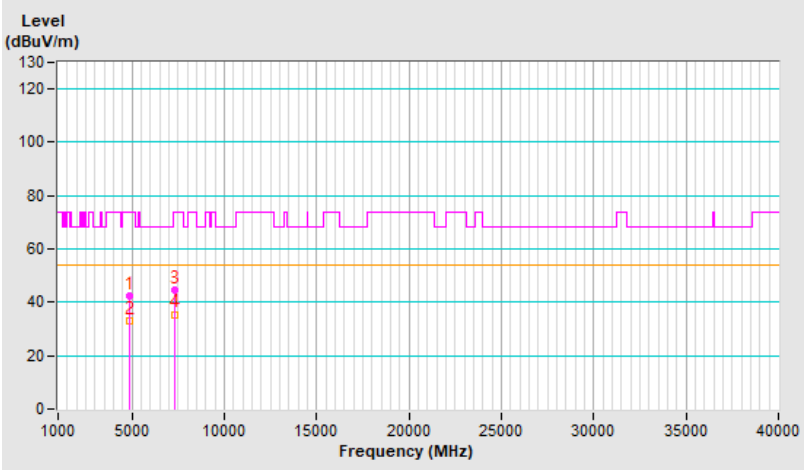


Combination	4		
Frequency Range	1 GHz ~ 40 GHz	**Detector Function & Bandwidth**	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=3 kHz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	23 °C, 70 % RH
Tested By	Willy Lin		

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	4880	42.2 PK	74.0	-31.8	1.58 H	147	40.8	1.4
2	4880	32.9 AV	54.0	-21.1	1.58 H	147	31.5	1.4
3	7320	44.4 PK	74.0	-29.6	1.90 H	265	37.2	7.2
4	7320	35.5 AV	54.0	-18.5	1.90 H	265	28.3	7.2

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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.

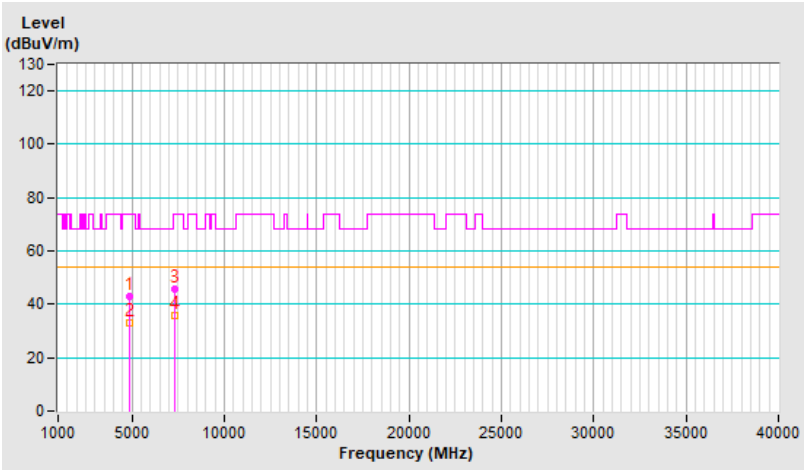


Combination	4		
Frequency Range	1 GHz ~ 40 GHz	**Detector Function & Bandwidth**	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=3 kHz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	23 °C, 70 % RH
Tested By	Willy Lin		

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	4880	42.7 PK	74.0	-31.3	1.71 V	173	41.3	1.4
2	4880	32.8 AV	54.0	-21.2	1.71 V	173	31.4	1.4
3	7320	45.8 PK	74.0	-28.2	1.88 V	292	38.6	7.2
4	7320	36.0 AV	54.0	-18.0	1.88 V	292	28.8	7.2

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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.

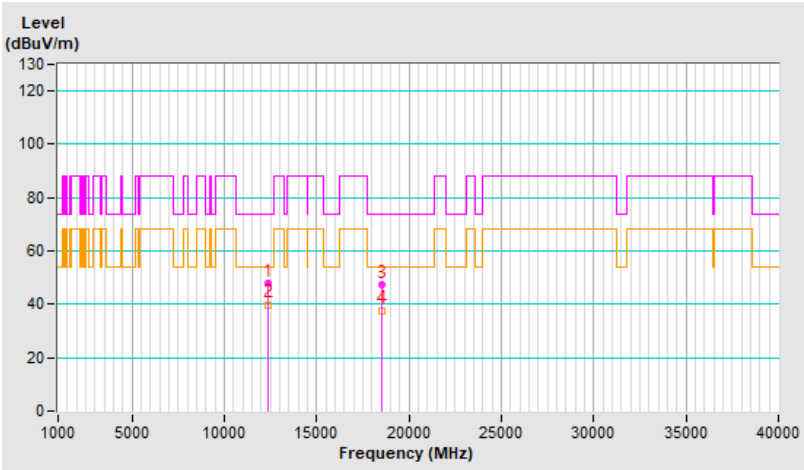


Combination	4		
Frequency Range	1 GHz ~ 40 GHz	**Detector Function & Bandwidth**	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=3 kHz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	23 °C, 70 % RH
Tested By	Willy Lin		

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	12350	48.0 PK	74.0	-26.0	1.00 H	170	36.7	11.3
2	12350	39.9 AV	54.0	-14.1	1.00 H	170	28.6	11.3
3	18525	47.4 PK	74.0	-26.6	1.12 H	161	47.4	0.0
4	18525	37.7 AV	54.0	-16.3	1.12 H	161	37.7	0.0

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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.

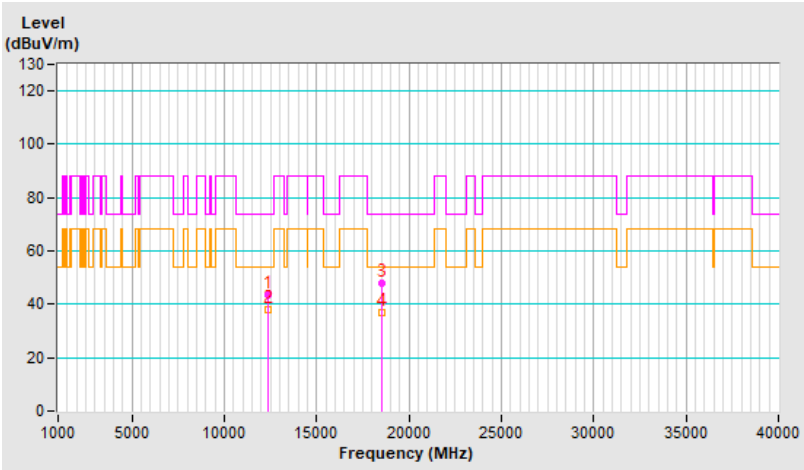


Combination	4		
Frequency Range	1 GHz ~ 40 GHz	**Detector Function & Bandwidth**	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=3 kHz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	23 °C, 70 % RH
Tested By	Willy Lin		

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	12350	43.5 PK	74.0	-30.5	1.18 V	207	32.2	11.3
2	12350	37.9 AV	54.0	-16.1	1.18 V	207	26.6	11.3
3	18525	47.9 PK	74.0	-26.1	1.01 V	148	47.9	0.0
4	18525	37.0 AV	54.0	-17.0	1.01 V	148	37.0	0.0

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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.

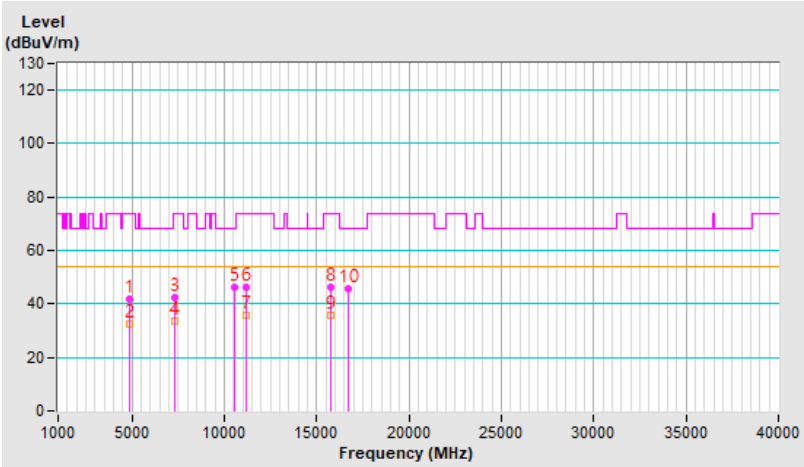


Combination	5		
Frequency Range	1 GHz ~ 40 GHz	**Detector Function & Bandwidth**	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=3 kHz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	23 °C, 70 % RH
Tested By	Willy Lin		

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	4880	41.8 PK	74.0	-32.2	1.88 H	113	40.4	1.4
2	4880	32.4 AV	54.0	-21.6	1.88 H	113	31.0	1.4
3	7320	42.5 PK	74.0	-31.5	1.96 H	257	35.3	7.2
4	7320	33.7 AV	54.0	-20.3	1.96 H	257	26.5	7.2
5	#10520	46.4 PK	68.2	-21.8	1.00 H	180	34.5	11.9
6	11160	46.5 PK	74.0	-27.5	1.22 H	215	34.0	12.5
7	11160	35.9 AV	54.0	-18.1	1.22 H	215	23.4	12.5
8	15780	46.5 PK	74.0	-27.5	1.13 H	213	35.0	11.5
9	15780	35.9 AV	54.0	-18.1	1.13 H	213	24.4	11.5
10	#16740	45.8 PK	68.2	-22.4	1.22 H	176	29.9	15.9

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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " # ": The radiated frequency is out of the restricted band.

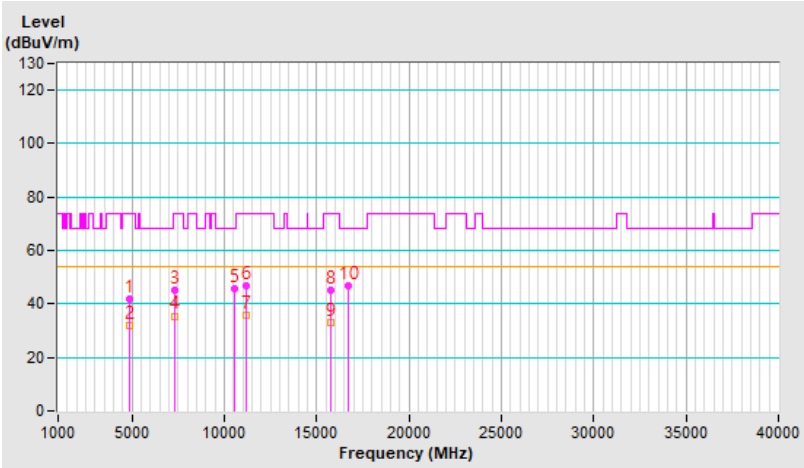


Combination	5		
Frequency Range	1 GHz ~ 40 GHz	**Detector Function & Bandwidth**	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=3 kHz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	23 °C, 70 % RH
Tested By	Willy Lin		

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	4880	41.7 PK	74.0	-32.3	1.60 V	149	40.3	1.4
2	4880	31.8 AV	54.0	-22.2	1.60 V	149	30.4	1.4
3	7320	45.2 PK	74.0	-28.8	1.96 V	355	38.0	7.2
4	7320	35.5 AV	54.0	-18.5	1.96 V	355	28.3	7.2
5	#10520	45.6 PK	68.2	-22.6	1.08 V	205	33.7	11.9
6	11160	46.8 PK	74.0	-27.2	1.24 V	195	34.3	12.5
7	11160	35.9 AV	54.0	-18.1	1.24 V	195	23.4	12.5
8	15780	45.1 PK	74.0	-28.9	1.02 V	171	33.6	11.5
9	15780	32.9 AV	54.0	-21.1	1.02 V	171	21.4	11.5
10	#16740	46.7 PK	68.2	-21.5	1.00 V	198	30.8	15.9

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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " # ": The radiated frequency is out of the restricted band.

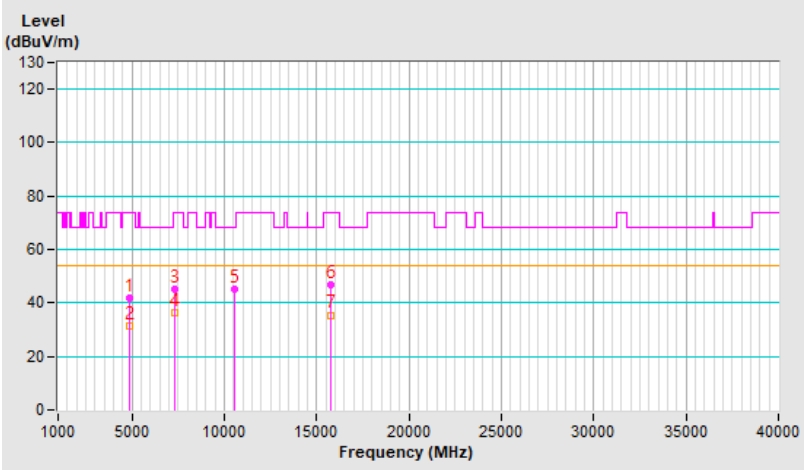


Combination	6		
Frequency Range	1 GHz ~ 40 GHz	**Detector Function & Bandwidth**	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=3 kHz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	23 °C, 70 % RH
Tested By	Willy Lin		

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	4880	41.7 PK	74.0	-32.3	1.59 H	135	40.3	1.4
2	4880	31.4 AV	54.0	-22.6	1.59 H	135	30.0	1.4
3	7320	45.4 PK	74.0	-28.6	1.84 H	279	38.2	7.2
4	7320	36.2 AV	54.0	-17.8	1.84 H	279	29.0	7.2
5	#10520	45.2 PK	68.2	-23.0	1.00 H	200	33.3	11.9
6	15780	46.6 PK	74.0	-27.4	1.29 H	230	35.1	11.5
7	15780	35.5 AV	54.0	-18.5	1.29 H	230	24.0	11.5

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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " # ": The radiated frequency is out of the restricted band.

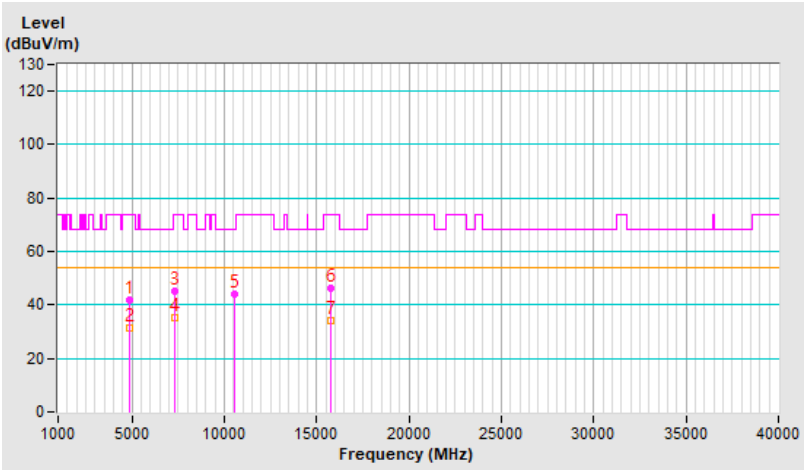


Combination	6		
Frequency Range	1 GHz ~ 40 GHz	**Detector Function & Bandwidth**	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=3 kHz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	23 °C, 70 % RH
Tested By	Willy Lin		

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	4880	41.8 PK	74.0	-32.2	1.69 V	134	40.4	1.4
2	4880	31.4 AV	54.0	-22.6	1.69 V	134	30.0	1.4
3	7320	45.2 PK	74.0	-28.8	2.06 V	324	38.0	7.2
4	7320	35.3 AV	54.0	-18.7	2.06 V	324	28.1	7.2
5	#10520	44.1 PK	68.2	-24.1	1.14 V	194	32.2	11.9
6	15780	46.4 PK	74.0	-27.6	1.00 V	199	34.9	11.5
7	15780	34.2 AV	54.0	-19.8	1.00 V	199	22.7	11.5

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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " # ": The radiated frequency is out of the restricted band.

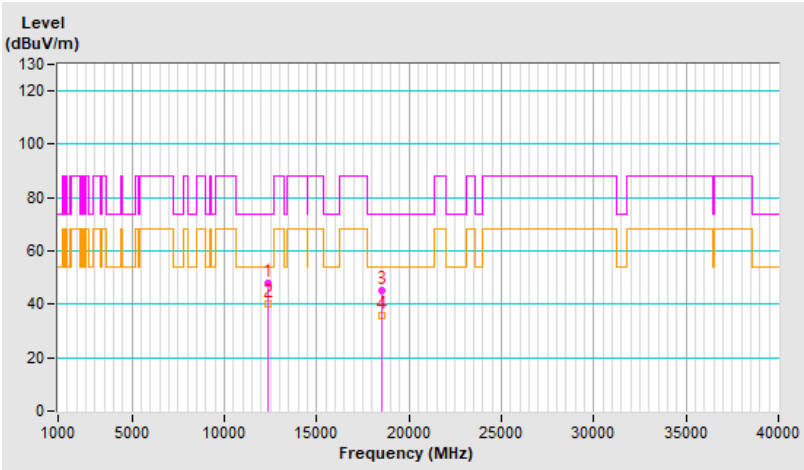


Combination	6		
Frequency Range	1 GHz ~ 40 GHz	**Detector Function & Bandwidth**	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=3 kHz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	23 °C, 70 % RH
Tested By	Willy Lin		

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	12350	47.7 PK	74.0	-26.3	1.08 H	215	36.4	11.3
2	12350	40.3 AV	54.0	-13.7	1.08 H	215	29.0	11.3
3	18525	45.1 PK	74.0	-28.9	1.13 H	164	45.1	0.0
4	18525	35.7 AV	54.0	-18.3	1.13 H	164	35.7	0.0

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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.

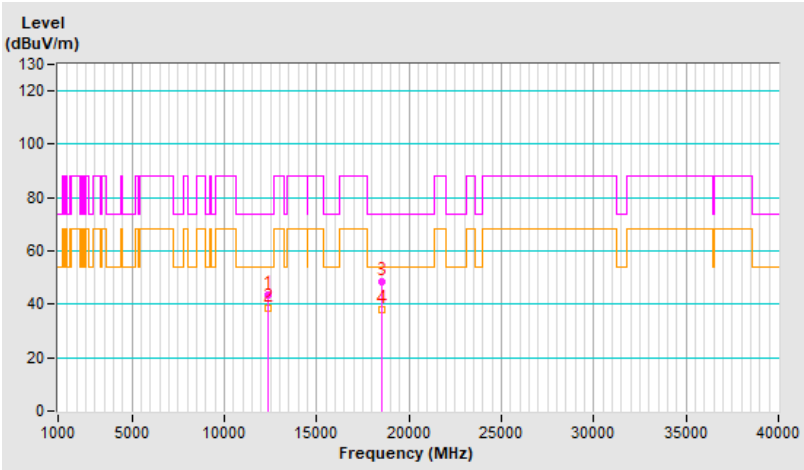


Combination	6		
Frequency Range	1 GHz ~ 40 GHz	**Detector Function & Bandwidth**	PK: RB=1 MHz, VB=3 MHz, DET=Peak AV: RB=1 MHz, VB=3 kHz, DET=Peak
Input Power (System)	120 Vac, 60 Hz	**Environmental Conditions**	23 °C, 70 % RH
Tested By	Willy Lin		

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	12350	43.6 PK	74.0	-30.4	1.07 V	141	32.3	11.3
2	12350	38.6 AV	54.0	-15.4	1.07 V	141	27.3	11.3
3	18525	48.2 PK	74.0	-25.8	1.07 V	194	48.2	0.0
4	18525	38.0 AV	54.0	-16.0	1.07 V	194	38.0	0.0

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. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.

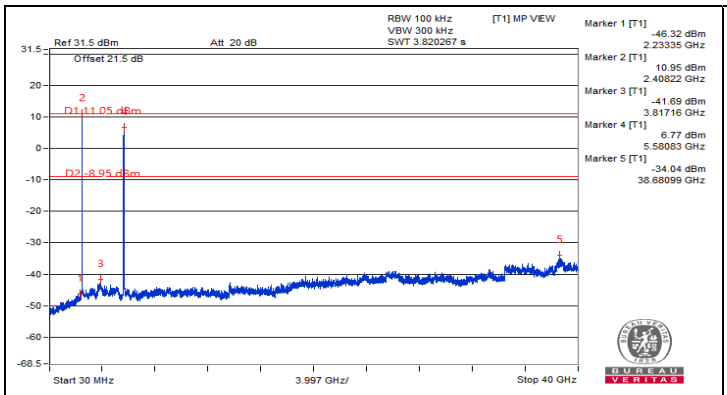


7.3 Conducted Out of Band Emissions

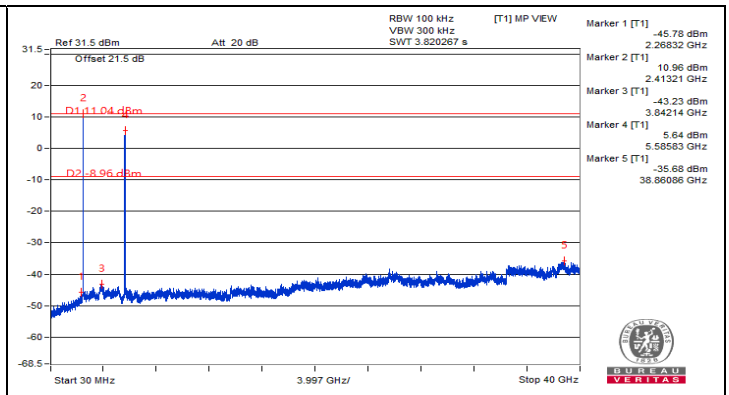
Environmental Conditions:	20°C, 60% RH	Tested By:	Henry Hsu

Mode A

Combination 1

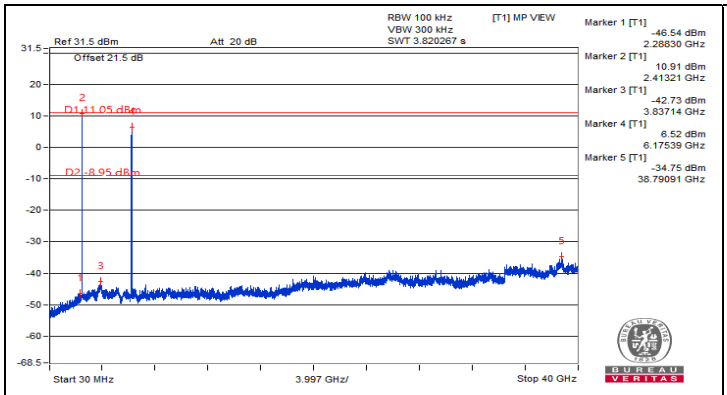


CHAIN0

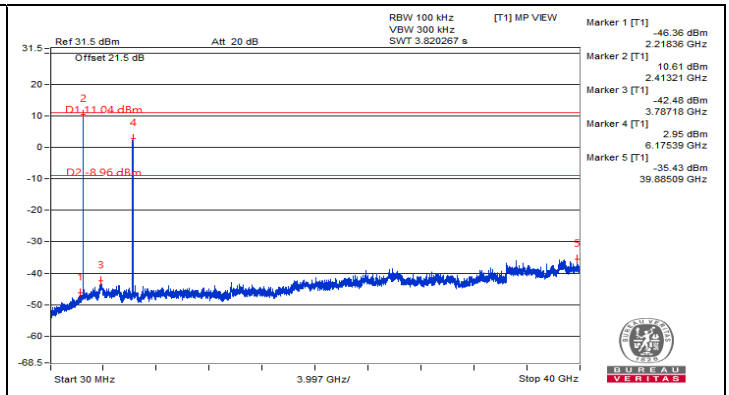


CHAIN1

Combination 2

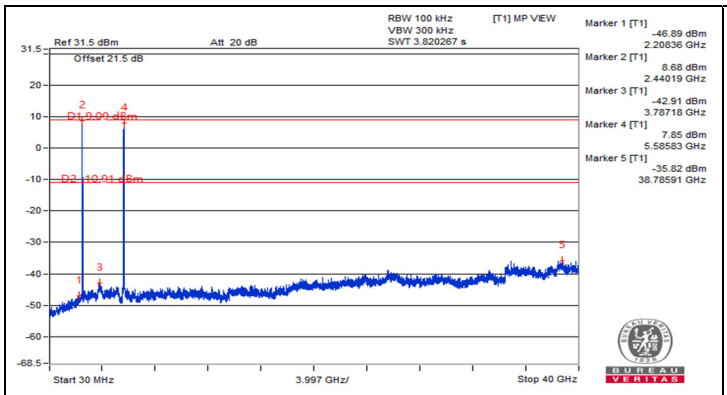


CHAIN0



CHAIN1

Combination 3



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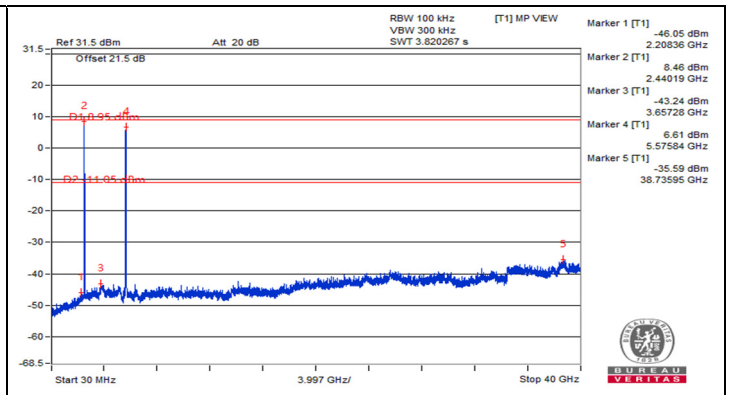
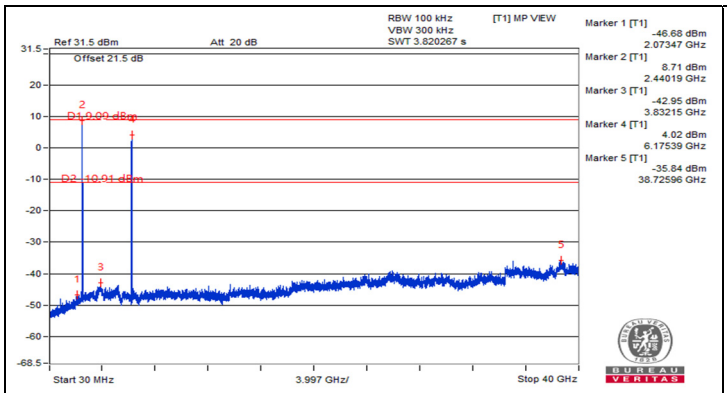


CHAIN1

Combination 4



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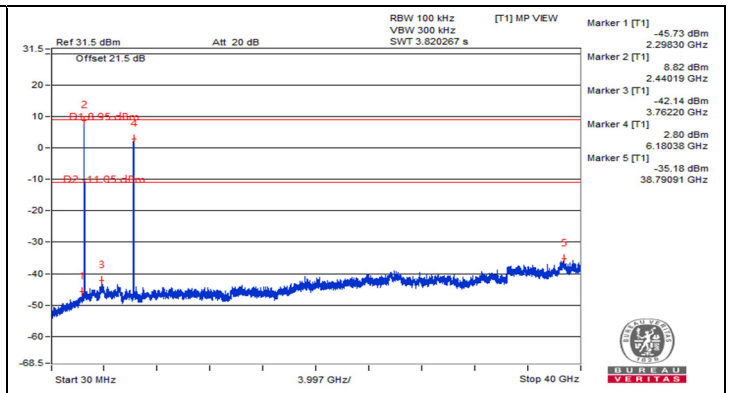
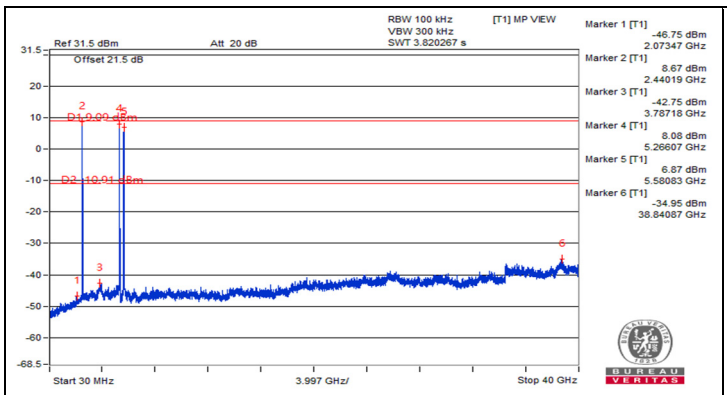


CHAIN1

Combination 5



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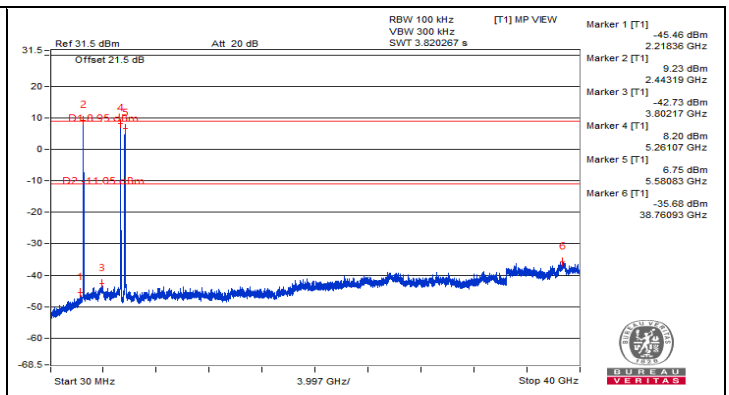
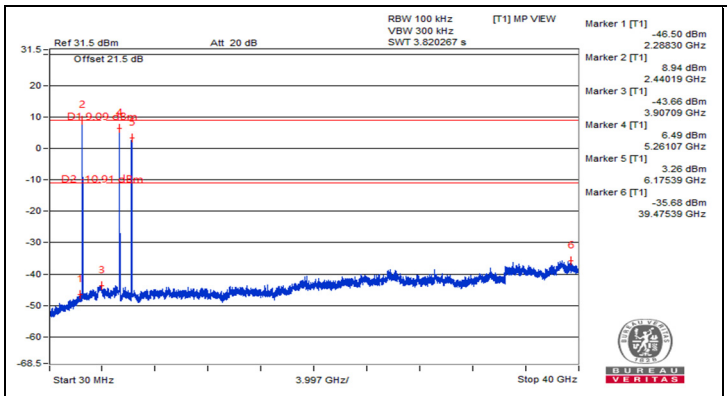


CHAIN1

Combination 6



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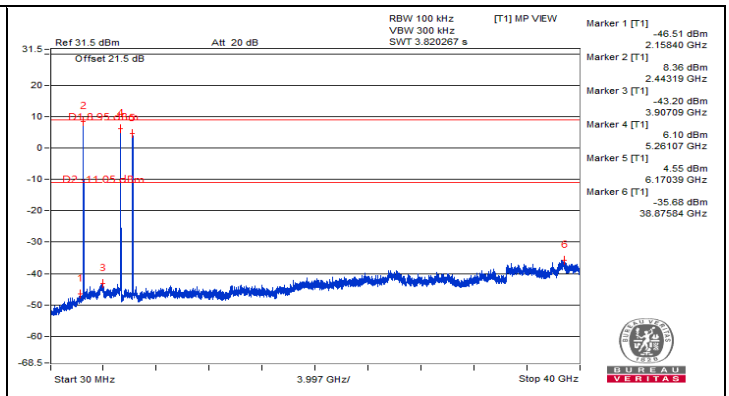

CHAIN1

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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Fax: 886-2-26051924

Hsin Chu EMC/RF/Telecom Lab
Tel: 886-3-6668565
Fax: 886-3-6668323

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Tel: 886-3-3183232
Fax: 886-3-3270892

Email: service.adt@bureauveritas.com
Web Site: http://ee.bureauveritas.com.tw

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

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