

CO-LOCATION RADIO TEST REPORT

Product : IEEE 802.11ax/ac/a/b/g/n WiFi6E with BT5.2 Module

Model Name : ACB-QCA206x

Series Model : ACB-QCA2066-0WI1, ACB-QCA2066-0WX1,
ACB-QCA2066-5WI1, ACB-QCA2066-5WX1,
ACB-QCA2066-0WI4, ACB-QCA2066-0WX4,
ACB-QCA2066-5WI4, ACB-QCA2066-5WX4

FCC ID : 2AE3B-ACB-QCA206X

Test Regulation : FCC 47 CFR PART 15 Subpart C (Section 15.247)
FCC 47 CFR PART 15 Subpart E (Section 15.407)

Received Date : 2023/6/26

Test Date : 2023/7/1 ~ 2023/8/11

Issued Date : 2023/9/6

Applicant : VOXMICRO LTD
20955 Pathfinder Rd., STE 100, Diamond Bar, California
91765, USA

Issued By : Underwriters Laboratories Taiwan Co., Ltd.
Building A, B and E, No. 372-7, Sec. 4, Zhongxing Rd.,
Zhudong Township, Hsinchu County, Taiwan



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1. Attestation of Test Results

APPLICANT: VOXMICRO LTD
20955 Pathfinder Rd., STE 100, Diamond Bar, California 91765, USA

MANUFACTURER: VOXMICRO LTD
8F.-3, No.5, Aly. 22, Ln. 513, Rueiguang Rd., Neihu Dist., Taipei
City 114, Taiwan

EUT DESCRIPTION: IEEE 802.11ax/ac/a/b/g/n WiFi6E with BT5.2 Module

BRAND: AIRETOS

MODEL: ACB-QCA206x

SERIES MODEL: ACB-QCA2066-0W11, ACB-QCA2066-0WX1,
ACB-QCA2066-5W11, ACB-QCA2066-5WX1,
ACB-QCA2066-0W14, ACB-QCA2066-0WX4,
ACB-QCA2066-5W14, ACB-QCA2066-5WX4

SAMPLE STAGE: Engineering Verification Test sample

DATE of TESTED: 2023/7/1 ~ 2023/8/11

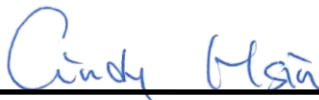
APPLICABLE STANDARDS

STANDARD	Test Results
FCC 47 CFR PART 15 Subpart C (Section 15.247)	PASS
FCC 47 CFR PART 15 Subpart E (Section 15.407)	PASS

Underwriters Laboratories Taiwan Co., Ltd. tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by Underwriters Laboratories Taiwan Co., Ltd. based on interpretations and/or observations of test results. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Note: The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by Underwriters Laboratories Taiwan Co., Ltd. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by Underwriters Laboratories Taiwan Co., Ltd. will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, any agency of the Federal Government, or any agency of any government.

Prepared By:



Cindy Hsin
Project Handler

Date : 2023/9/6

Approved and Authorized By:



Eric Lee
Senior Laboratory Engineer

Date : 2023/9/6

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Doc No: Form-ULID-004737 (DCS:17-EM-F0876) / 6.1

2. Summary of Test Results

Summary of Test Results		
FCC Clause	Test Items	Result
15.205 / 15.209 / 15.247(d) / 15.407(b) (1/2/3/4(i/ii)/9) /15.407(b)(5)(8)	Radiated Spurious Emission	PASS
15.207 15.407(b)(9)	AC Power Conducted Emission	PASS

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3. Test Methodology and Reference Procedures

The tests documented in this report were performed in accordance with 47 CFR FCC Part 2, KDB558074 D01 Meas Guidance v05r02, KDB 789033 D02 General UNII Test Procedure New Rules v02r01, KDB 987594 D02 U-NII 6 GHz EMC Measurement v01r01, KDB414788 D01 Radiated Test Site v01r01, ANSI C63.10-2013.

4. Facilities and Accreditation

Test Location	Underwriters Laboratories Taiwan Co., Ltd.
Address	Building A, B and E, No. 372-7, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County, Taiwan
Accreditation Certificate	Underwriters Laboratories Taiwan Co., Ltd. is accredited by TAF, Laboratory Code 3398.

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5. Measurement Uncertainty

For statement of conformity, Simple acceptance (Section 4.3.4 of ISO Guide 115) was applied as decision rule for measurement in this test report.

The following uncertainties have been calculated to provide a confidence level of 95 % using a coverage factor $k=2$.

Determining compliance based on the results of the compliance measurement, not considering measurement instrumentation uncertainty.

Measurement	Frequency	Uncertainty
Conducted disturbance at mains terminals ports	150kHz ~ 30MHz	± 3.1 dB
RF Conducted	9 kHz - 40GHz	± 2.3 dB
Radiated disturbance below 30MHz	9 kHz - 30 MHz	± 3.2 dB
Radiated disturbance below 1 GHz	30MHz ~ 1GHz	± 6.1 dB
Radiated disturbance above 1 GHz	1GHz ~ 40GHz	± 5.1 dB

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6. Equipment under Test

6.1. Description of EUT

Product	IEEE 802.11ax/ac/a/b/g/n WiFi6E with BT5.2 Module	
Brand Name	AIRETOS	
Model Name	ACB-QCA206x	
Series Model	ACB-QCA2066-0WI1, ACB-QCA2066-0WX1, ACB-QCA2066-5WI1, ACB-QCA2066-5WX1, ACB-QCA2066-0WI4, ACB-QCA2066-0WX4, ACB-QCA2066-5WI4, ACB-QCA2066-5WX4	
Operating Frequency	Bluetooth EDR	2402MHz ~ 2480MHz
	Bluetooth LE	2402MHz ~ 2480MHz
	WLAN	2.4GHz: 2412MHz ~ 2462MHz 5GHz: 5180MHz ~ 5240MHz 5260MHz ~ 5320MHz 5500MHz ~ 5720MHz 5745MHz ~ 5825MHz 6GHz: 5955MHz ~ 6415MHz 6435MHz ~ 6525MHz 6525MHz ~ 6875MHz 6875MHz ~ 7115MHz
Transfer Rate	Bluetooth EDR	Up to 3 Mbps
	Bluetooth LE	Up to 2 Mbps
	WLAN	802.11a: up to 54 Mbps 802.11b: up to 11 Mbps 802.11g: up to 54 Mbps 802.11n: up to MCS15 802.11ac: up to MCS9 802.11ax: up to MCS11
Normal Voltage	3.3 Vdc from host system	
Sample ID	6199534	

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Number of Channel	Bluetooth EDR	79
	Bluetooth LE	40
	2.4G WLAN 2412 ~ 2462 MHz	11 for 802.11b, 802.11g, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20) 7 for 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40)
	5G WLAN 5180 ~ 5240 MHz	4 for 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20)
		2 for 802.11n (HT40), 802.11 ac (VHT40), 802.11ax (HE40)
		1 for 802.11ac (VHT80), 802.11ax (HE80)
	5G WLAN 5260 ~ 5320 MHz	4 for 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20)
		2 for 802.11n (HT40), 802.11 ac (VHT40), 802.11ax (HE40)
		1 for 802.11ac (VHT80), 802.11ax (HE80)
		1 for 802.11ac (VHT160), 802.11ax (HE160)
	5G WLAN 5500 ~ 5720 MHz	12 for 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20)
		6 for 802.11n (HT40), 802.11 ac (VHT40), 802.11ax (HE40)
		3 for 802.11ac (VHT80), 802.11ax (HE80)
		1 for 802.11ac (VHT160), 802.11ax (HE160)
	5G WLAN 5745 ~ 5825 MHz	5 for 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20)
		2 for 802.11n (HT40), 802.11 ac (VHT40), 802.11ax (HE40)
		1 for 802.11ac (VHT80), 802.11ax (HE80)

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Number of Channel	6G WLAN 5925 ~ 6425MHz	25 for 802.11a, 802.11ax (HE20)
		12 for 802.11ax (HE40)
		6 for 802.11ax (HE80)
		3 for 802.11ax (HE160)
	6G WLAN 6425 ~ 6525MHz	5 for 802.11a,802.11ax (HE20)
		3 for 802.11ax (HE40)
		2 for 802.11ax (HE80)
		1 for 802.11ax (HE160)
	6G WLAN 6525 ~ 6855MHz	17 for 802.11a,802.11ax (HE20)
		8 for 802.11ax (HE40)
		3 for 802.11ax (HE80)
		1 for 802.11ax (HE160)
	6G WLAN 6875 ~ 7125MHz	13 for 802.11a,802.11ax (HE20)
		6 for 802.11ax (HE40)
		3 for 802.11ax (HE80)
		2 for 802.11ax (HE160)

Note:

1. The models difference table as below:

Model	Difference
ACB-QCA206x	Market assignment classification for application and grade finish
ACB-QCA2066-0WI1	
ACB-QCA2066-0WX1	
ACB-QCA2066-5WI1	
ACB-QCA2066-5WX1	
ACB-QCA2066-0WI4	
ACB-QCA2066-0WX4	
ACB-QCA2066-5WI4	
ACB-QCA2066-5WX4	

2. The EUT provides two completed transmitters and two receivers.

Modulation Mode	Tx,Rx Function
802.11a	2TX,2RX
802.11b	2TX,2RX
802.11g	2TX,2RX
802.11n (HT20)	2TX,2RX
802.11n (HT40)	2TX,2RX
802.11ac (VHT20)	2TX,2RX
802.11ac (VHT40)	2TX,2RX
802.11ac (VHT80)	2TX,2RX
802.11ac (VHT160)	2TX,2RX
802.11ax (HE20)	2TX,2RX
802.11ax (HE40)	2TX,2RX
802.11ax (HE80)	2TX,2RX
802.11ax (HE160)	2TX,2RX

* The modulation and bandwidth are similar for 802.11n mode for HT20 / HT40 and 802.11ac mode for VHT20 / VHT40 / VHT80 /VHT160 and 802.11ax mode for HE20 / HE40 / HE80 / HE160, therefore investigated worst case to representative mode in test report.

3. The EUT contains following accessory devices:

Product	Brand	Model	Description
Antenna	OXFORDTEC	WANT-4DBI-SMA	-

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

6.2. Test Condition

Test Item	Test Site No.	Environmental Condition	Input Power	Test Date	Tested by
Radiated Spurious Emission	966-2	21~28°C/ 51~69%RH	3.3 Vdc from host system	2023/07/01~ 2023/08/11	Rex Chen
AC power Line Conducted Emission	SR1	21~28°C/ 51~69%RH	3.3 Vdc from host system	2023/08/07~ 2023/08/11	Rex Chen

FCC Test Firm Registration Number: 498077

Sample Calculation:

Radiated Spurious Emission:

- Where relevant, the follow sample calculation is provided:
Result Value (dBuV/m) = Reading Value (dBuV) + Correction Factor (dB/m).
Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB) - Preamp Factor (dB).
Example: Result Value (34.5dBuV/m) = Reading Value (40.1dBuV) + Antenna Factor (18.7dB/m) + Cable Loss (4.2dB) - Preamp Factor (28.5dB).

AC power Line Conducted Emission:

- Where relevant, the follow sample calculation is provided:
Result Value (dBuV) = Reading Value (dBuV) + Correction Factor (dB).
Correction Factor (dB) = Insertion loss(dB) + Cable loss(dB).
Example: Result Value (53.7dBuV) = Reading Value (35.1dBuV) + Insertion loss(18.1dB) + Cable loss(0.5dB).

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6.3. Description of Available Antennas

Ant. No.	Transmitter Circuit	Brand Name	Model Name	Ant. Type	Maximum Gain (dBi)
1	Chain (0+1)	OXFORDTEC	WANT-4DBI-SMA	Omni	2.4~2.5GHz: 3.5 4.9~5.8GHz: 3.8 5.8~7.1GHz: 3.8

Note: The above antenna information was provided from customer and for more detailed features description, please refer the manufacturer's specification or user's manual, the laboratory shall not be held responsible.

6.4. Test Mode Applicability and Tested Channel Detail

Simultaneously transmission condition:

Condition	Technology	
1	BT-EDR	WLAN (2.4GHz)
2	BT-EDR	WLAN (5GHz)
3	BT-EDR	WLAN (6GHz)
4	WLAN (2.4GHz)	WLAN (5GHz)
5	WLAN (2.4GHz)	WLAN (6GHz)

Note: The emission of the simultaneous operation has been evaluated and no non-compliance was found.

7. Test Equipment

Test Equipment List					
Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Expired date
Radiated Spurious Emission					
Spectrum Analyzer	Keysight	N9010A	MY56070827	2023/4/7	2024/4/6
EMI Test Receiver	Rohde & Schwarz	ESR7	101754	2022/12/13	2023/12/12
Loop Antenna	ETS lindgren	6502	00213440	2023/1/4	2024/1/3
Trilog-Broadband Antenna with 5dB Attenuator	Schwarzbeck	VULB 9168 & N-6-05	774 & AT-N0538	2023/2/13	2024/2/12
Trilog-Broadband Antenna with 5dB Attenuator	Schwarzbeck	VULB 9168 & N-6-05	773 & AT-N0539	2023/4/13	2024/4/12
Horn Antenna (1-18 GHz)	Schwarzbeck	BBHA 9120 D	01690	2022/12/21	2023/12/20
Horn Antenna (1-18 GHz)	Schwarzbeck	BBHA 9120 D	01686	2022/12/9	2023/12/8
Horn Antenna (18-40 GHz)	Schwarzbeck	BBHA 9170	781	2022/12/30	2023/12/29
Horn Antenna (18-40 GHz)	Schwarzbeck	BBHA 9170	759	2022/12/5	2023/12/4
Preamplifier (30-1000 MHz)	EMCI	EMC330E	980405	2023/6/7	2024/6/6
Preamplifier (1-18 GHz)	EMCI	EMC051835BE	980406	2023/2/17	2024/2/16
Preamplifier (18-40GHz)	EMCI	EMC184040SEE	980426	2023/5/9	2024/5/8
Signal Generator	Keysight	N5173B	MY53271122	2023/1/16	2024/1/15
Cables	Hanyitek	K1K50-UP0264-K1K50-2500	170214-4 & 170425-2	2022/12/1	2023/11/30
Cables	Hanyitek	K1K50-UP0264-K1K50-2500	170214-1 & 170214-2	2022/12/1	2023/11/30

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Test Equipment List					
Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Expired date
AC power Line Conducted Emission					
EMI Test Receiver	Rohde & Schwarz	ESR7	101753	2022/11/10	2023/11/9
Attenuator	EMCI	EMC-40ATK2W10	17002	2022/12/9	2023/12/8
Two-Line V-Network	Rohde & Schwarz	ENV216	102136	2023/5/24	2024/5/23
Impuls-Begrenzer Pulse Limiter	Rohde & Schwarz	ESH3-Z2	102219-Qt	2022/8/30	2023/8/29
Cables	TITAN	CFD200	T0732ACFD200 20A300-2	2023/5/23	2024/5/22

UL Software		
Description	Name	Version
Radiated measurement	e3	6.191211 (V6)
AC power Line Conducted Emission	EZ_EMG	UL-3A1.2

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8. Description of Test Setup

Support Equipment

ID	Equipment	Brand Name	Model Name	S/N	Remark
A	Test Tool	NA	NA	NA	Supplied by client
B	Monitor	Dell	SE2417HG	NA	Provide by lab
C	Computer	Intel	Intel(R) Core(TW) i7-4790 CPU @ 3.60GHz	NA	Supplied by client
D	Keyboard	Dell	KB216t	NA	Provide by lab
E	Mouse	Dell	MS116p	NA	Provide by lab

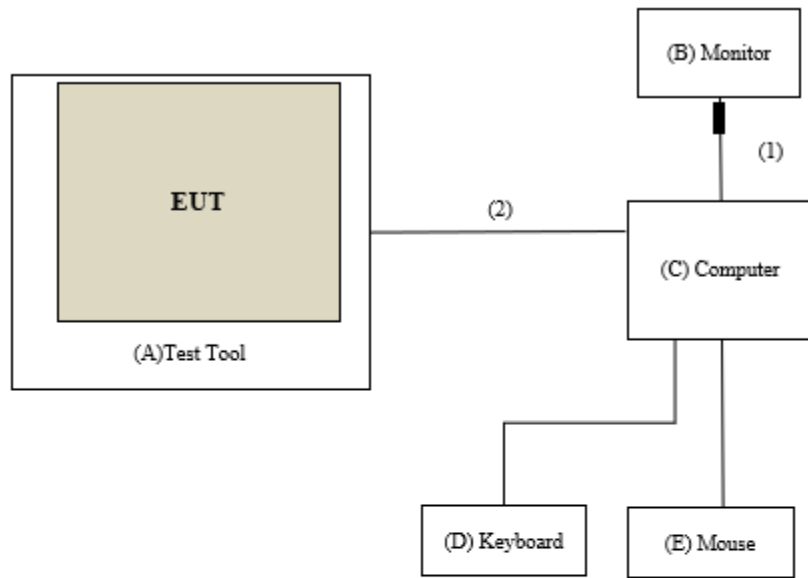
I/O Cables

ID	Equipment	Brand Name	Model Name	Length (m)	Remark
1	HDMI Cable	EATON	P568010	1.44	Provide by lab with one core
2	Fiber Cable	NA	NA	0.5	Supplied by client

Test Setup

Controlled using a bespoke application (QSPR Version 5.0-00202) on a test Notebook. The application was used to enable a continuous transmission mode and to select the test channels, data rates, modulation schemes and power setting as required.

Setup Diagram for Test



Under Table

Remote Site

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9. Test Results

9.1. Radiated Spurious Emission

Requirements

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table. Other emissions shall be at least 20dB below the highest level of the desired power:

Frequency(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

Note:

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 1000MHz, 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 20dB 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 3m	
		PK:74 (dBμ V/m)	AV:54 (dBμ V/m)
Frequency Band	Applicable To	EIRP Limit	Equivalent Field Strength at 3m
5150~5250 MHz	15.407(b)(1)	PK:-27 (dBm/MHz)	PK:68.2(dBμ V/m)
5250~5350 MHz	15.407(b)(2)		
5470~5725 MHz	15.407(b)(3)		
5725~5850 MHz	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(dBμ V/m) *1 PK:105.2 (dBμ V/m) *2 PK: 110.8(dBμ V/m) *3 PK:122.2 (dBμ V/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:

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

Test Procedures

[For 9 kHz ~ 30 MHz]

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. Parallel, perpendicular, and ground-parallel orientations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. For measurement below 30MHz, the initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured. If the emission level of the EUT measured by the peak detector is lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.

Note:

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

[For above 30 MHz]

- a. The EUT was placed on the top of a rotating table 0.8 meters (for 30MHz ~ 1GHz) / 1.5 meters (for above 1GHz) above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. For measurement below 1GHz, the initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured. If the emission level of the EUT measured by the peak detector is lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.
- f. 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.

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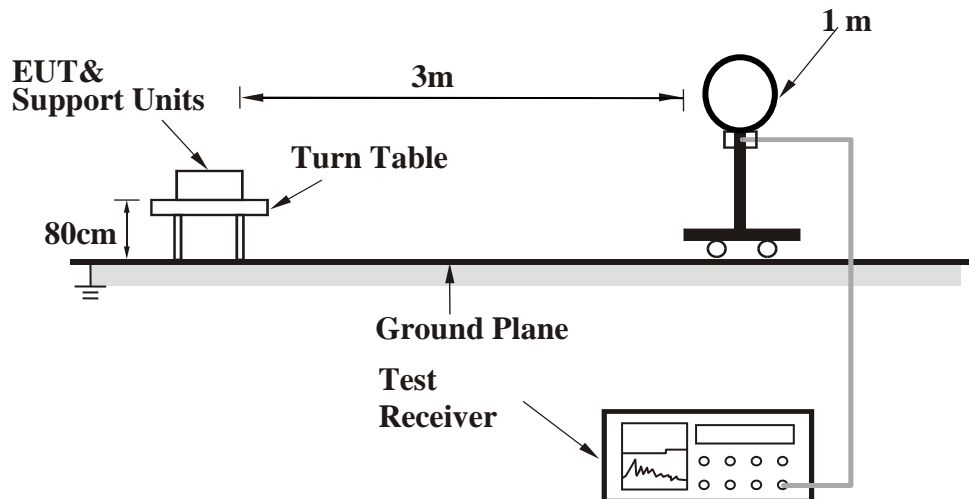
Doc No: Form-ULID-004737 (DCS:17-EM-F0876) / 6.1

Note:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is $\geq 1/T$ (Duty cycle $< 98\%$) or 10Hz (Duty cycle $\geq 98\%$) for Average detection (AV) at frequency above 1GHz.
4. All modes of operation were investigated (includes all external accessories) and the worst-case emissions are reported, the other emission levels were low against the limit.
5. Test data of Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
6. Test data of Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
7. Test data of Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
8. Test data of Notation "@" = Fundamental Frequency
9. Test data of Notation "*" = The peak result under 20 dB above and complies with AVG limit, AVG result is deemed to comply with AVG limit.

Test Setup

<Frequency Range 9 kHz ~ 30 MHz>

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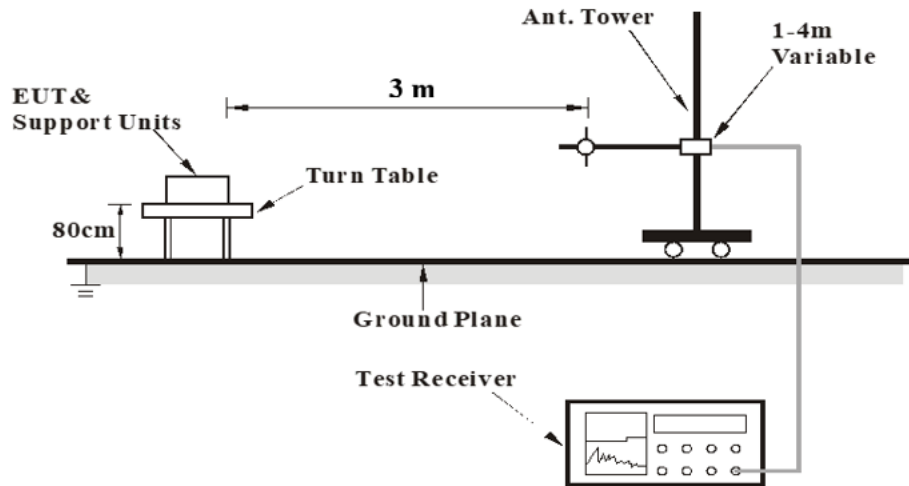
Building A, B and E, No. 372-7, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County, Taiwan

Telephone : +886-2-7737-3000

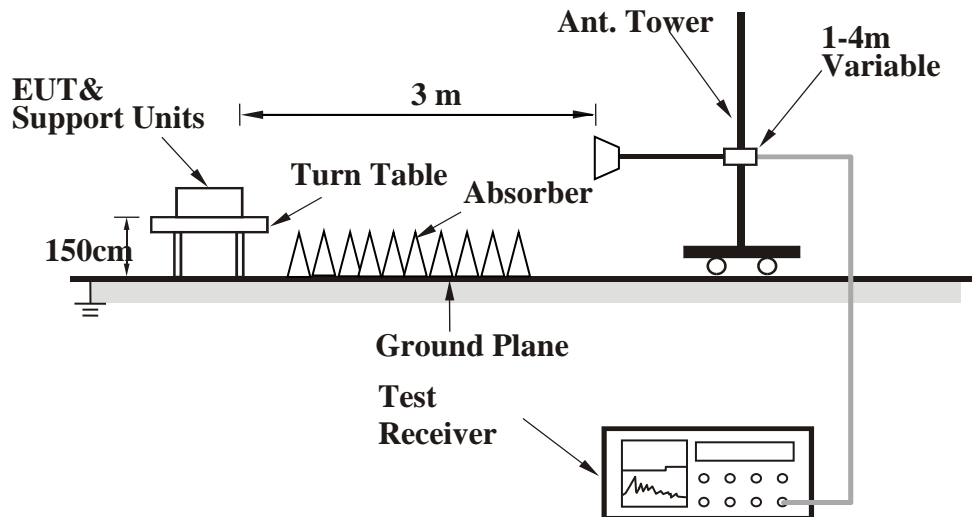
Facsimile (FAX) : +886-3-583-7948

Doc No: Form-ULID-004737 (DCS:17-EM-F0876) / 6.1

<Frequency Range 30 MHz ~ 1 GHz >



<Frequency Range above 1 GHz>



For the actual test configuration, please refer to the Setup Configurations.

Test Data

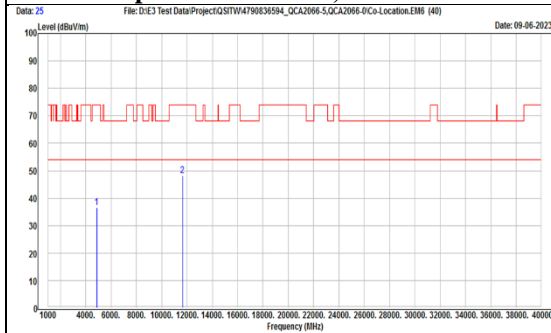
Above 1 GHz

Mode	BT-EDR 8DPSK & 5G 802.11a	Channel	39 & 165
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Polarization	Notation	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
Horizontal	*	4882	34.29	2.21	36.5	74	-37.5	PK
	*	11650	29.78	18.38	48.16	74	-25.84	PK
Vertical	*	4882	34.95	2.21	37.16	74	-36.84	PK
	*	11650	29.1	18.38	47.48	74	-26.52	PK

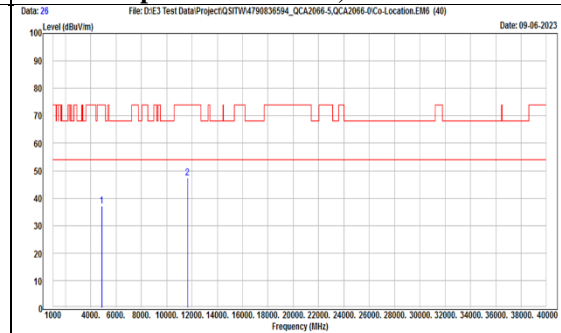
TX, BT-EDR 8DPSK (Ch 39)& 5G 802.11a (Ch 165)

Radiated Spurious Emission, Horizontal



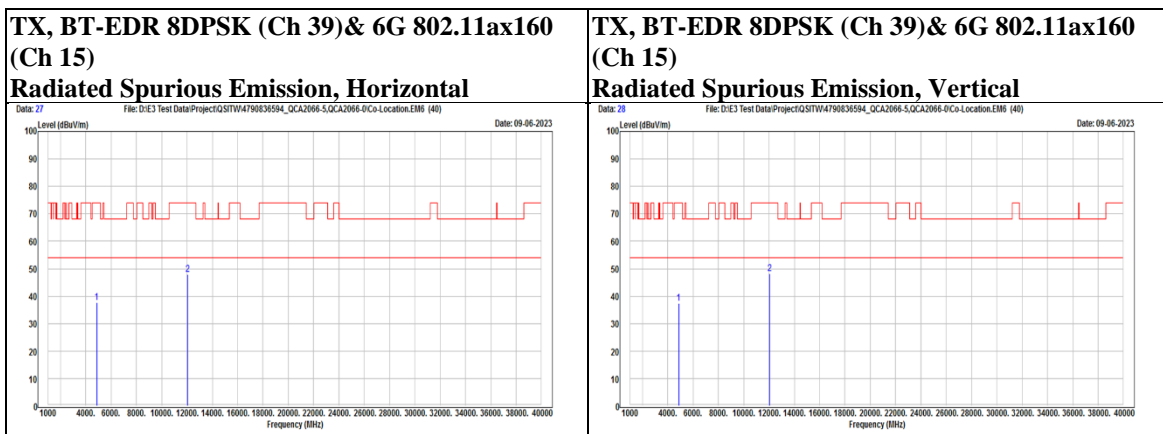
TX, BT-EDR 8DPSK (Ch 39)& 5G 802.11a (Ch 165)

Radiated Spurious Emission, Vertical



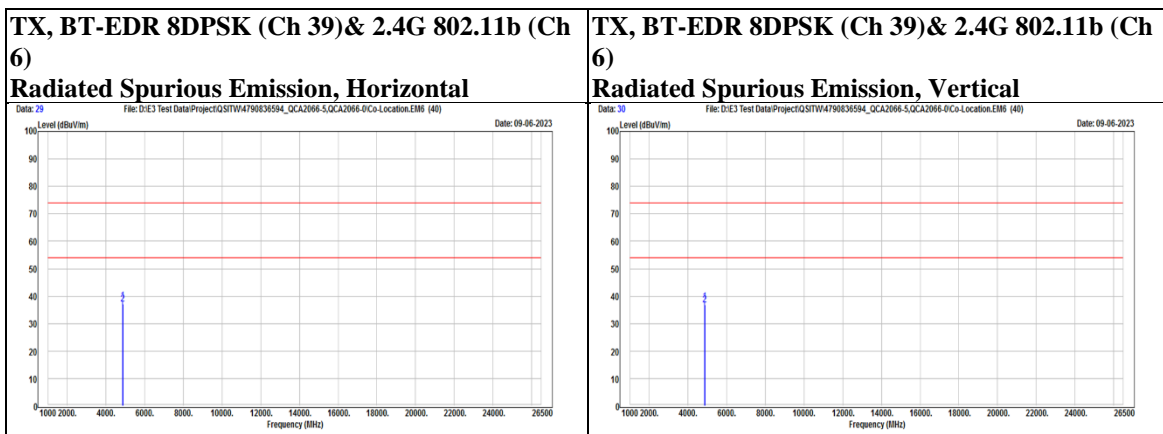
Mode	BT-EDR 8DPSK & 6G 802.11ax160	Channel	39 & 15
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Polarization	Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
		(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
Horizontal	*	4882	35.33	2.21	37.54	74	-36.46	PK
	*	12050	29.31	18.64	47.95	74	-26.05	PK
Vertical	*	4882	35.2	2.21	37.41	74	-36.59	PK
	*	12050	29.64	18.64	48.28	74	-25.72	PK



Mode	BT-EDR 8DPSK & 2.4G 802.11b	Channel	39 & 6
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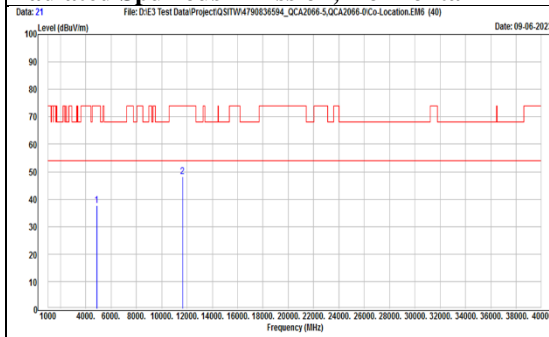
Polarization	Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
		(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
Horizontal	*	4874	35.98	2.2	38.18	74	-35.82	PK
	*	4882	34.79	2.21	37	74	-37	PK
Vertical	*	4874	35.66	2.2	37.86	74	-36.14	PK
	*	4882	34.67	2.21	36.88	74	-37.12	PK



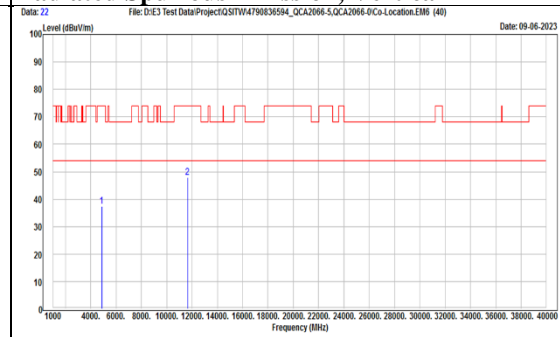
Mode	2.4G 802.11b & 5G 802.11a	Channel	6 & 165
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Polarization	Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
		(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
Horizontal	*	4874	35.57	2.2	37.77	74	-36.23	PK
	*	11650	29.76	18.38	48.14	74	-25.86	PK
Vertical	*	4874	35.18	2.2	37.38	74	-36.62	PK
	*	11650	29.61	18.38	47.99	74	-26.01	PK

**TX, 2.4G 802.11b (Ch 6)& 5G 802.11a (Ch 165)
 Radiated Spurious Emission, Horizontal**

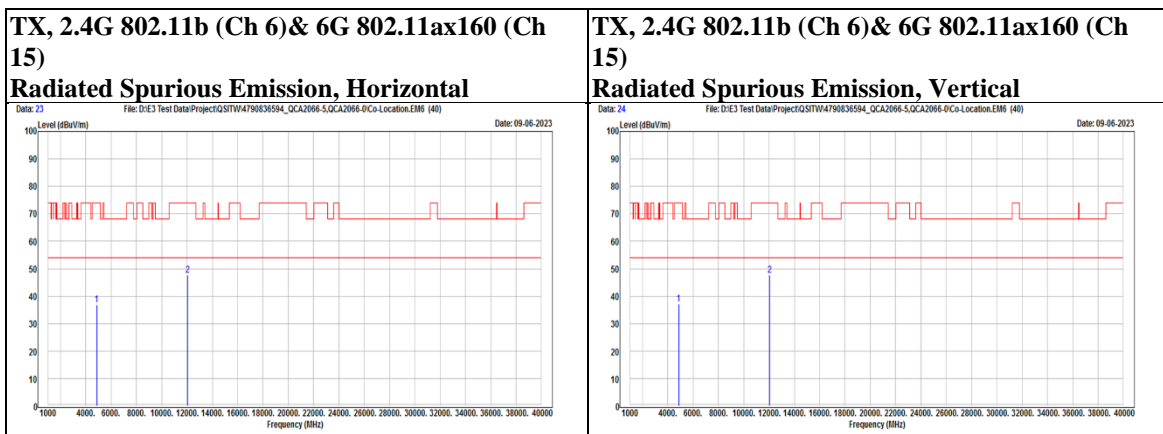


**TX, 2.4G 802.11b (Ch 6)& 5G 802.11a (Ch 165)
 Radiated Spurious Emission, Vertical**



Mode	2.4G 802.11b & 6G 802.11ax160	Channel	6 & 15
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Polarization	Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
		(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
Horizontal	*	4874	34.65	2.2	36.85	74	-37.15	PK
	*	12050	29.11	18.64	47.75	74	-26.25	PK
Vertical	*	4874	35.04	2.2	37.24	74	-36.76	PK
	*	12050	28.94	18.64	47.58	74	-26.42	PK



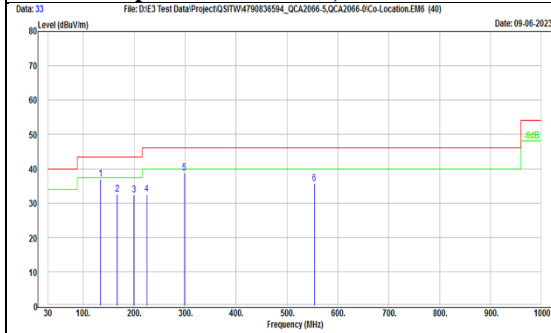
Below 1 GHz

Mode	BT-EDR 8DPSK & 5G 802.11a	Channel	39 & 165
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Polarization	Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
		(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
Horizontal		133.79	50.24	-13.34	36.9	43.5	-6.6	PK
		166.77	44.35	-11.88	32.47	43.5	-11.03	PK
		199.75	47.27	-14.81	32.46	43.5	-11.04	PK
		224.97	46.87	-14.19	32.68	46	-13.32	PK
		298.69	49.54	-10.67	38.87	46	-7.13	PK
		553.8	39.55	-3.97	35.58	46	-10.42	PK
Vertical		125.06	50.77	-14.16	36.61	43.5	-6.89	PK
		198.78	44.23	-14.82	29.41	43.5	-14.09	PK
		298.69	48.94	-10.67	38.27	46	-7.73	PK
		398.6	40.24	-7.76	32.48	46	-13.52	PK
		445.16	39.72	-6.17	33.55	46	-12.45	PK
		494.63	38.05	-5.19	32.86	46	-13.14	PK

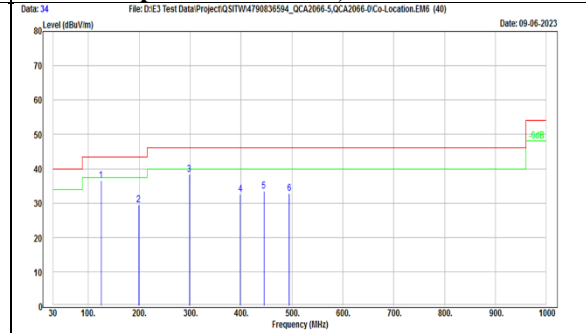
TX, BT-EDR 8DPSK (Ch 39)& 5G 802.11a (Ch 165)

Radiated Spurious Emission, Horizontal



TX, BT-EDR 8DPSK (Ch 39)& 5G 802.11a (Ch 165)

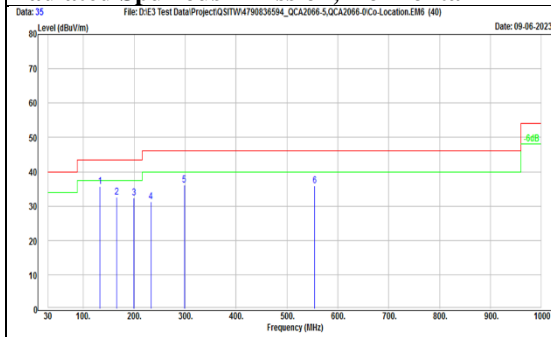
Radiated Spurious Emission, Vertical



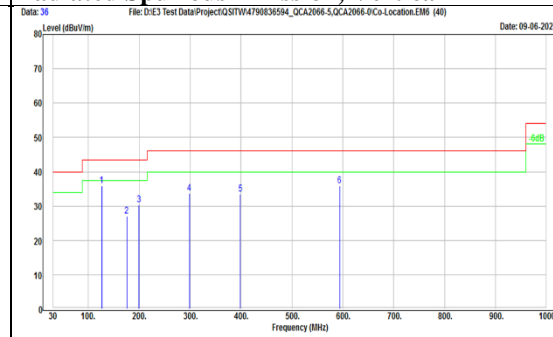
Mode	BT-EDR 8DPSK & 6G 802.11ax160	Channel	39 & 15
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Polarization	Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
		(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
Horizontal		132.82	49.19	-13.55	35.64	43.5	-7.86	PK
		165.8	44.28	-11.75	32.53	43.5	-10.97	PK
		199.75	47.14	-14.81	32.33	43.5	-11.17	PK
		232.73	44.73	-13.5	31.23	46	-14.77	PK
		298.69	46.78	-10.67	36.11	46	-9.89	PK
Vertical		554.77	39.91	-3.93	35.98	46	-10.02	PK
		126.03	50.06	-14.06	36	43.5	-7.5	PK
		175.5	39.44	-12.42	27.02	43.5	-16.48	PK
		199.75	45.18	-14.81	30.37	43.5	-13.13	PK
		298.69	44.32	-10.67	33.65	46	-12.35	PK
	398.6	41.12	-7.76	33.36	46	-12.64	PK	
	593.57	38.7	-2.76	35.94	46	-10.06	PK	

TX, BT-EDR 8DPSK (Ch 39)& 6G 802.11ax160 (Ch 15)
Radiated Spurious Emission, Horizontal



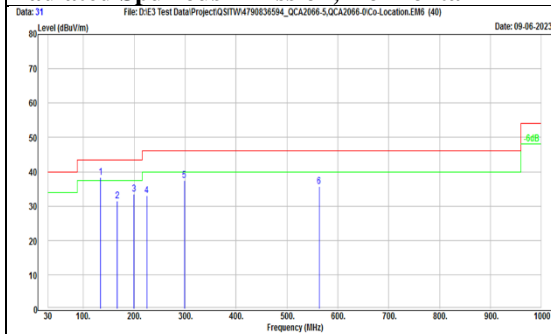
TX, BT-EDR 8DPSK (Ch 39)& 6G 802.11ax160 (Ch 15)
Radiated Spurious Emission, Vertical



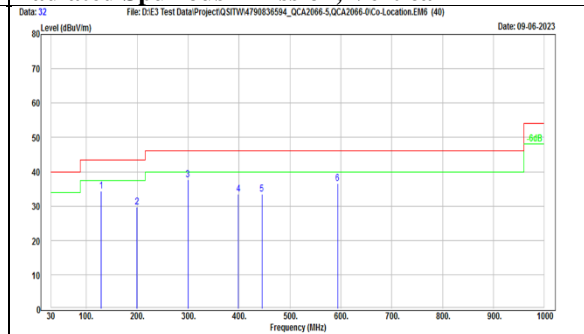
Mode	BT-EDR 8DPSK & 2.4G 802.11b	Channel	39 & 6
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Polarization	Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
		(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
Horizontal		133.79	51.68	-13.34	38.34	43.5	-5.16	PK
		166.77	43.28	-11.88	31.4	43.5	-12.1	PK
		199.75	48.33	-14.81	33.52	43.5	-9.98	PK
		224.97	47.16	-14.19	32.97	46	-13.03	PK
		298.69	48.07	-10.67	37.4	46	-8.6	PK
Vertical		563.5	39.4	-3.71	35.69	46	-10.31	PK
		128.94	48.32	-13.93	34.39	43.5	-9.11	PK
		199.75	44.51	-14.81	29.7	43.5	-13.8	PK
		299.66	48.4	-10.66	37.74	46	-8.26	PK
		398.6	41.25	-7.76	33.49	46	-12.51	PK
	445.16	39.7	-6.17	33.53	46	-12.47	PK	
	593.57	39.35	-2.76	36.59	46	-9.41	PK	

**TX, BT-EDR 8DPSK (Ch 39)& 2.4G 802.11b (Ch 6)
 Radiated Spurious Emission, Horizontal**



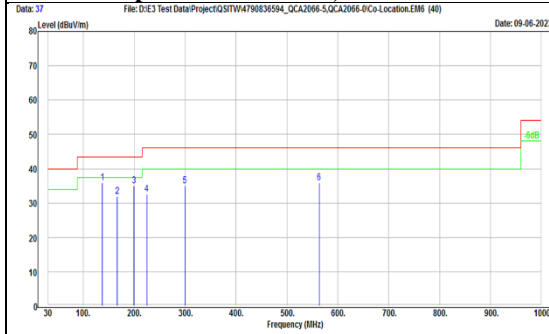
**TX, BT-EDR 8DPSK (Ch 39)& 2.4G 802.11b (Ch 6)
 Radiated Spurious Emission, Vertical**



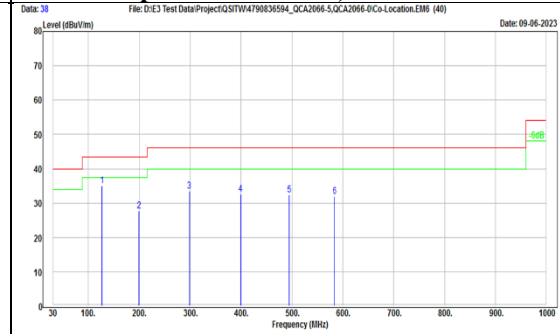
Mode	2.4G 802.11b & 5G 802.11a	Channel	6 & 165
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Polarization	Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
		(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
Horizontal		137.67	48.93	-12.99	35.94	43.5	-7.56	PK
		166.77	43.86	-11.88	31.98	43.5	-11.52	PK
		199.75	49.86	-14.81	35.05	43.5	-8.45	PK
		224.97	46.79	-14.19	32.6	46	-13.4	PK
		299.66	45.68	-10.66	35.02	46	-10.98	PK
		563.5	39.66	-3.71	35.95	46	-10.05	PK
Vertical		127	49.16	-14.05	35.11	43.5	-8.39	PK
		199.75	42.59	-14.81	27.78	43.5	-15.72	PK
		298.69	44.1	-10.67	33.43	46	-12.57	PK
		399.57	40.33	-7.75	32.58	46	-13.42	PK
		494.63	37.63	-5.19	32.44	46	-13.56	PK
		583.87	34.87	-3	31.87	46	-14.13	PK

TX, 2.4G 802.11b (Ch 6)& 5G 802.11a (Ch 165)
Radiated Spurious Emission, Horizontal

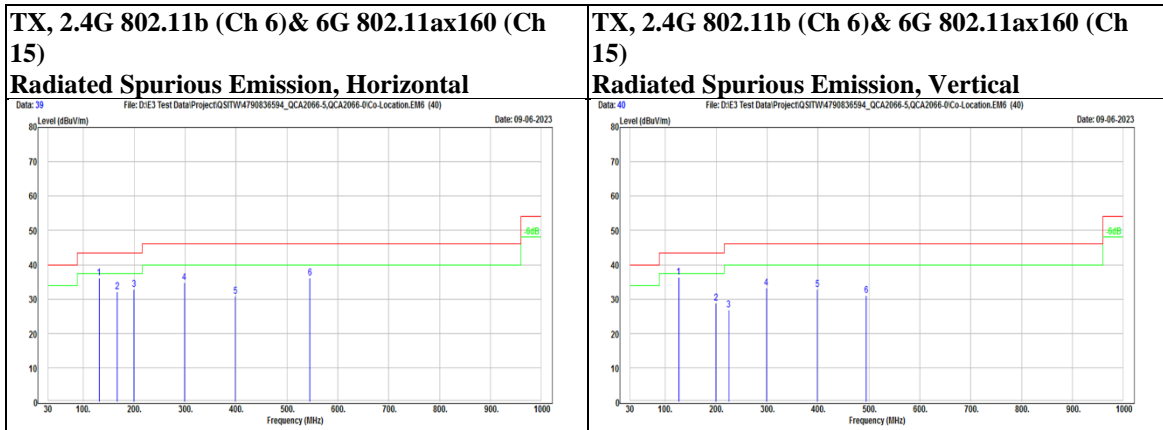


TX, 2.4G 802.11b (Ch 6)& 5G 802.11a (Ch 165)
Radiated Spurious Emission, Vertical



Mode	2.4G 802.11b & 6G 802.11ax160	Channel	6 & 15
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Polarization	Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
		(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
Horizontal		130.88	49.68	-13.54	36.14	43.5	-7.36	PK
		166.77	44.03	-11.88	32.15	43.5	-11.35	PK
		199.75	47.57	-14.81	32.76	43.5	-10.74	PK
		298.69	45.57	-10.67	34.9	46	-11.1	PK
		398.6	38.64	-7.76	30.88	46	-15.12	PK
		545.07	40.22	-4.1	36.12	46	-9.88	PK
Vertical		126.03	50.34	-14.06	36.28	43.5	-7.22	PK
		199.75	43.63	-14.81	28.82	43.5	-14.68	PK
		224.97	41.07	-14.19	26.88	46	-19.12	PK
		298.69	43.98	-10.67	33.31	46	-12.69	PK
		398.6	40.54	-7.76	32.78	46	-13.22	PK
		494.63	36.14	-5.19	30.95	46	-15.05	PK



9 kHz ~ 30 MHz Data:

For 9 kHz to 30 MHz radiated emission have performed all modes of operation were investigated. The amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required to be report.

No non-compliance noted:

KDB 414788 D01 OATS and Chamber Correlation Justification

- Base on FCC 15.31 (f) (2): measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field.
- OATs and chamber correlation testing had been performed and chamber measured test results is the worst case test result.

Although these tests were performed other than open area test site, adequate comparison measurements were confirmed against 30m open area test site. Therefore sufficient tests were made to demonstrate that the alternative site produces results that correlate with the ones of tests made in an open field based on KDB 414788.

9.2. AC Power Line Conducted Emission

Requirements

Frequency (MHz)	Conducted limit (dB μ V)	
	Quasi-peak	Average
0.15 - 0.5	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30	60	50

Note:

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

Test Procedures

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

NOTE:

1. The resolution bandwidth and video bandwidth of test receiver is 9kHz for quasi-peak detection (QP) and average detection (AV) at frequency 0.15MHz-30MHz.
2. All modes of operation were investigated (includes all external accessories) and the worst-case emissions are reported, the other emission levels were low against the limit.
3. Test data of Result value (dB μ V) = Reading value (dB μ V) + Correction Factor (dB).
4. Test data of Margin(dB) = Result value (dB μ V) - Limit value (dB μ V).
5. Test data of Correction Factor (dB) = Insertion loss(dB) + Cable loss(dB).

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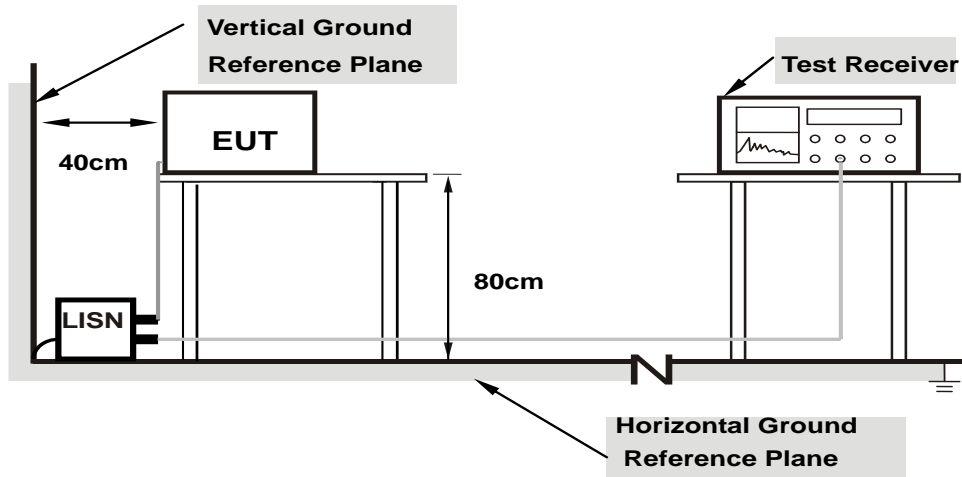
Building A, B and E, No. 372-7, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County, Taiwan

Telephone : +886-2-7737-3000

Facsimile (FAX) : +886-3-583-7948

Doc No: Form-ULID-004737 (DCS:17-EM-F0876) / 6.1

Test Setup

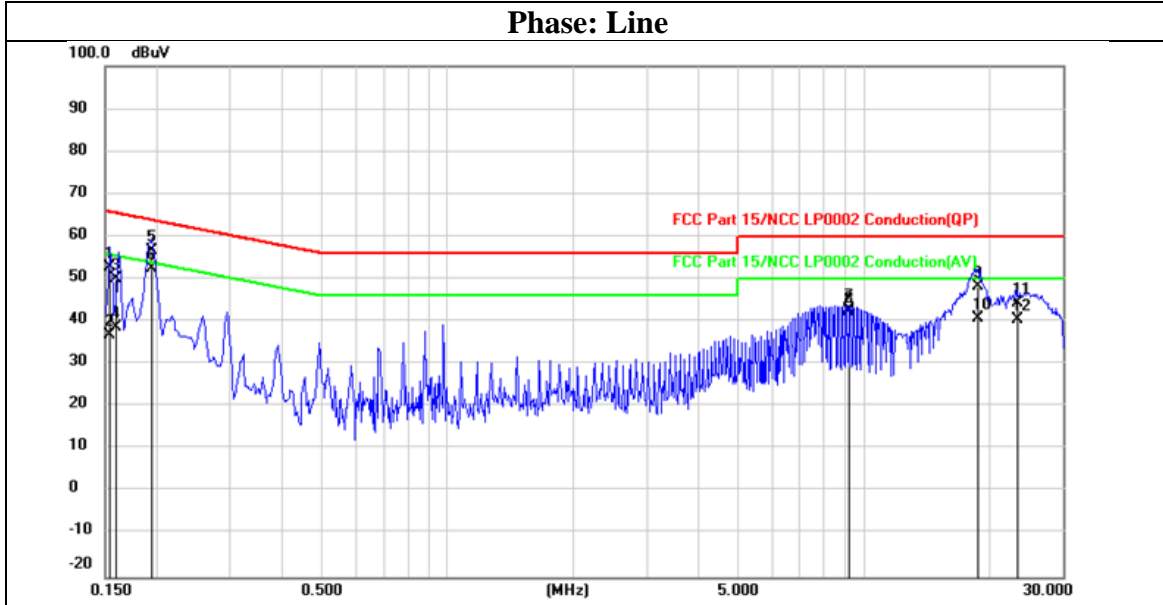


Note: 1.Support units were connected to second LISN.

For the actual test configuration, please refer to the Setup Configurations.

Test Data

Mode	11b_TX2437 & 11a_TX5825	Channel	6 & 165
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No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1532	42.87	9.96	52.83	65.82	-12.99	QP
2	0.1532	26.93	9.96	36.89	55.82	-18.93	AVG
3	0.1584	39.99	9.96	49.95	65.55	-15.60	QP
4	0.1584	28.75	9.96	38.71	55.55	-16.84	AVG
5	0.1932	46.63	9.96	56.59	63.90	-7.31	QP
6	0.1932	42.63	9.96	52.59	53.90	-1.31	AVG
7	9.1905	32.56	10.24	42.80	60.00	-17.20	QP
8	9.1905	32.06	10.24	42.30	50.00	-7.70	AVG
9	18.7689	37.86	10.46	48.32	60.00	-11.68	QP
10	18.7689	30.19	10.46	40.65	50.00	-9.35	AVG
11	23.2681	33.74	10.54	44.28	60.00	-15.72	QP
12	23.2681	29.84	10.54	40.38	50.00	-9.62	AVG

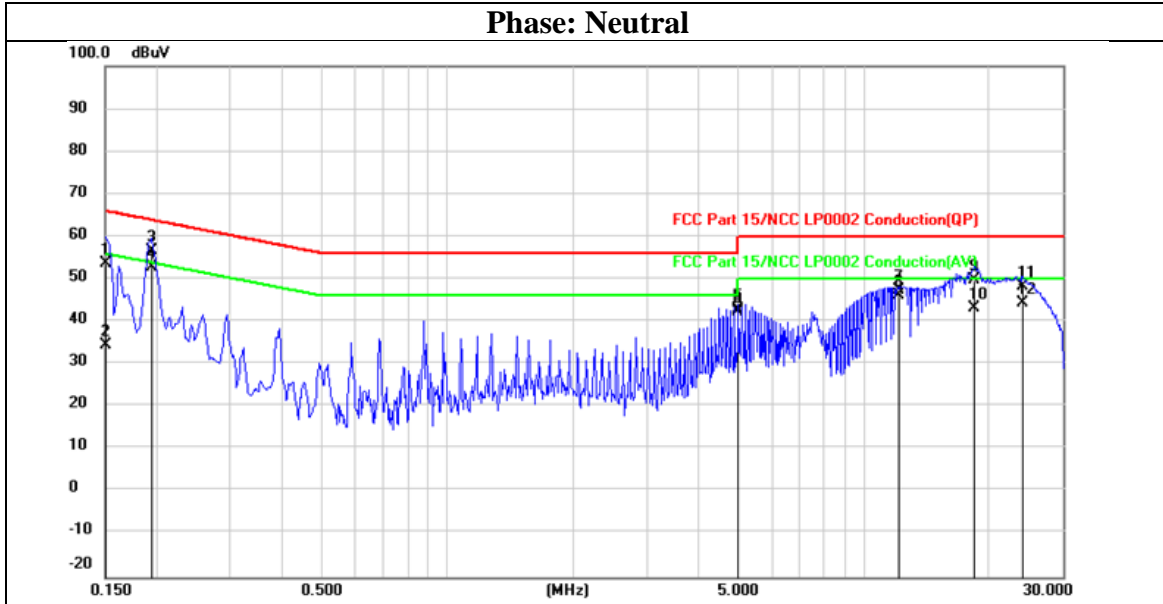
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Facsimile (FAX) : +886-3-583-7948

Mode	11b_TX2437 & 11a_TX5825	Channel	6 & 165
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No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dB)	
1	0.1510	43.68	9.95	53.63	65.94	-12.31	QP
2	0.1510	24.61	9.95	34.56	55.94	-21.38	AVG
3	0.1931	46.76	9.94	56.70	63.90	-7.20	QP
4	0.1931	42.75	9.94	52.69	53.90	-1.21	AVG
5	4.9865	32.86	10.11	42.97	56.00	-13.03	QP
6	4.9865	32.28	10.11	42.39	46.00	-3.61	AVG
7	12.1240	36.98	10.33	47.31	60.00	-12.69	QP
8	12.1240	35.97	10.33	46.30	50.00	-3.70	AVG
9	18.3810	39.38	10.49	49.87	60.00	-10.13	QP
10	18.3810	32.75	10.49	43.24	50.00	-6.76	AVG
11	24.0508	37.62	10.60	48.22	60.00	-11.78	QP
12	24.0508	33.90	10.60	44.50	50.00	-5.50	AVG

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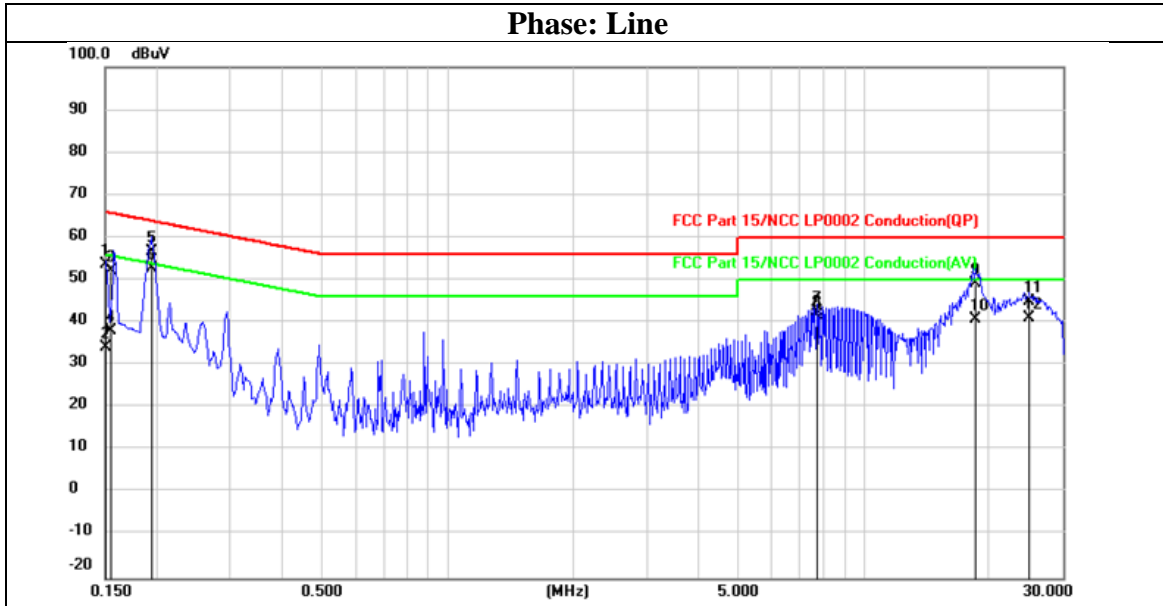
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Telephone : +886-2-7737-3000

Facsimile (FAX) : +886-3-583-7948

Doc No: Form-ULID-004737 (DCS:17-EM-F0876) / 6.1

Mode	11b_TX2437 & 11ax160_TX6025	Channel	6 & 15
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No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1501	43.69	9.96	53.65	65.99	-12.34	QP
2	0.1501	24.10	9.96	34.06	55.99	-21.93	AVG
3	0.1545	42.33	9.96	52.29	65.75	-13.46	QP
4	0.1545	28.03	9.96	37.99	55.75	-17.76	AVG
5	0.1929	46.67	9.96	56.63	63.91	-7.28	QP
6	0.1929	42.65	9.96	52.61	53.91	-1.30	AVG
7	7.7241	32.32	10.19	42.51	60.00	-17.49	QP
8	7.7241	31.52	10.19	41.71	50.00	-8.29	AVG
9	18.4470	38.72	10.45	49.17	60.00	-10.83	QP
10	18.4470	30.32	10.45	40.77	50.00	-9.23	AVG
11	25.0283	34.34	10.57	44.91	60.00	-15.09	QP
12	25.0283	30.49	10.57	41.06	50.00	-8.94	AVG

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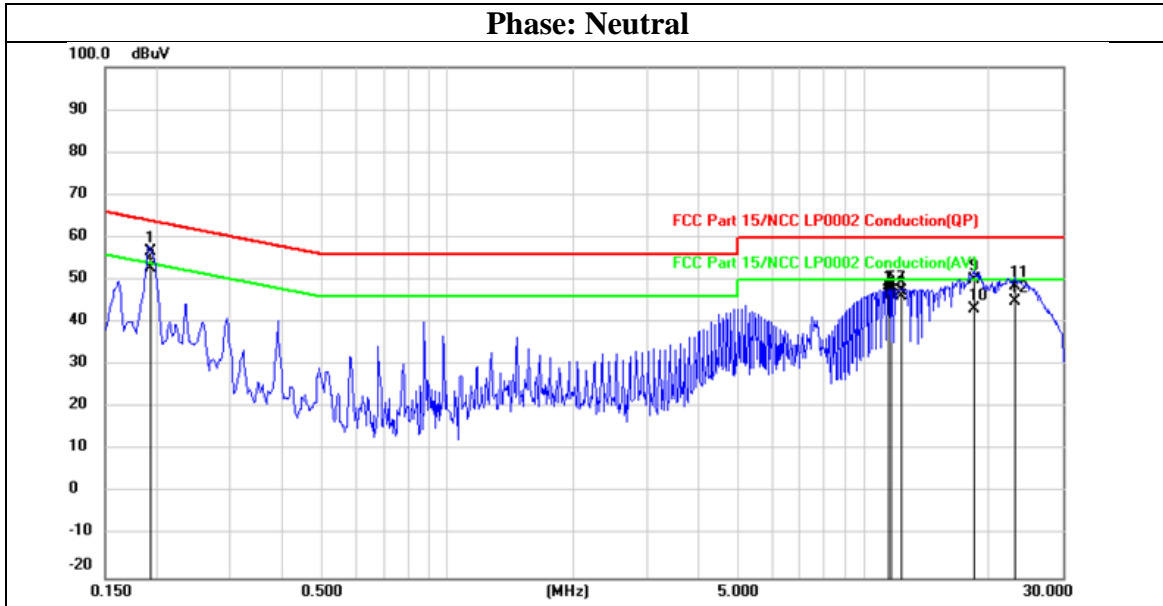
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Doc No: Form-ULID-004737 (DCS:17-EM-F0876) / 6.1

Mode	11b_TX2437 & 11ax160_TX6025	Channel	6 & 15
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No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1925	46.74	9.94	56.68	63.93	-7.25	QP
2	0.1925	42.75	9.94	52.69	53.93	-1.24	AVG
3	11.4397	36.91	10.30	47.21	60.00	-12.79	QP
4	11.4397	36.02	10.30	46.32	50.00	-3.68	AVG
5	11.6352	36.98	10.30	47.28	60.00	-12.72	QP
6	11.6352	36.06	10.30	46.36	50.00	-3.64	AVG
7	12.3196	36.92	10.33	47.25	60.00	-12.75	QP
8	12.3196	35.89	10.33	46.22	50.00	-3.78	AVG
9	18.3808	39.60	10.49	50.09	60.00	-9.91	QP
10	18.3808	32.76	10.49	43.25	50.00	-6.75	AVG
11	23.0734	38.05	10.58	48.63	60.00	-11.37	QP
12	23.0734	34.47	10.58	45.05	50.00	-4.95	AVG

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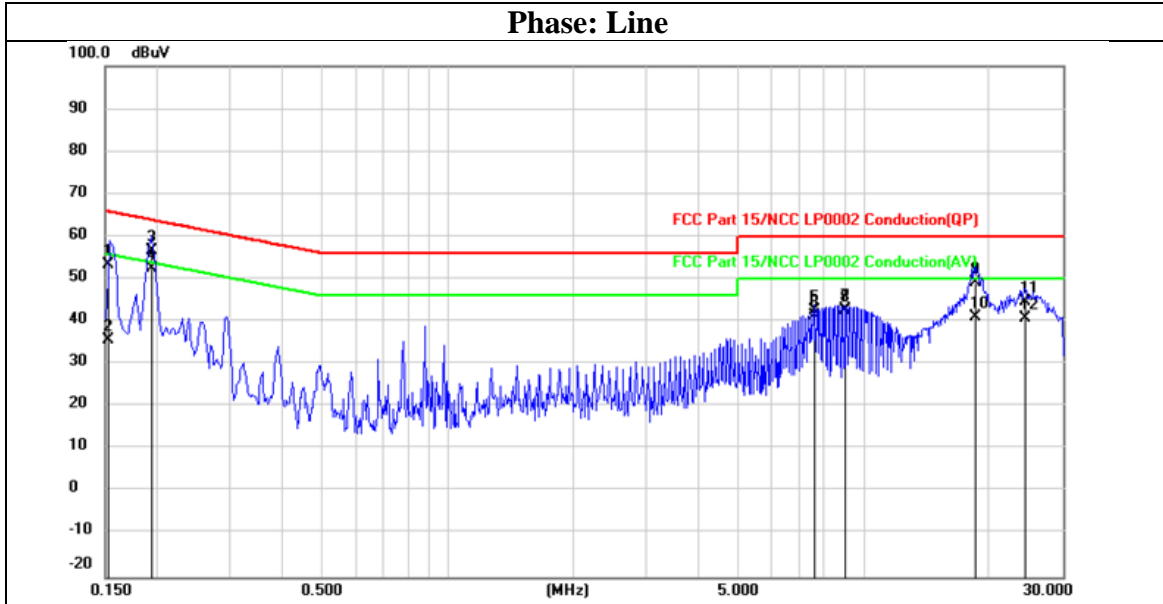
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Mode	3DH5_TX2441 & 11a_TX5825	Channel	39& 165
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No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dB)	
1	0.1520	43.44	9.96	53.40	65.89	-12.49	QP
2	0.1520	25.69	9.96	35.65	55.89	-20.24	AVG
3	0.1923	46.59	9.96	56.55	63.94	-7.39	QP
4	0.1923	42.58	9.96	52.54	53.94	-1.40	AVG
5	7.6285	32.23	10.19	42.42	60.00	-17.58	QP
6	7.6285	31.30	10.19	41.49	50.00	-8.51	AVG
7	8.9973	32.74	10.23	42.97	60.00	-17.03	QP
8	8.9973	32.29	10.23	42.52	50.00	-7.48	AVG
9	18.5729	38.81	10.45	49.26	60.00	-10.74	QP
10	18.5729	30.69	10.45	41.14	50.00	-8.86	AVG
11	24.4458	34.18	10.56	44.74	60.00	-15.26	QP
12	24.4458	30.32	10.56	40.88	50.00	-9.12	AVG

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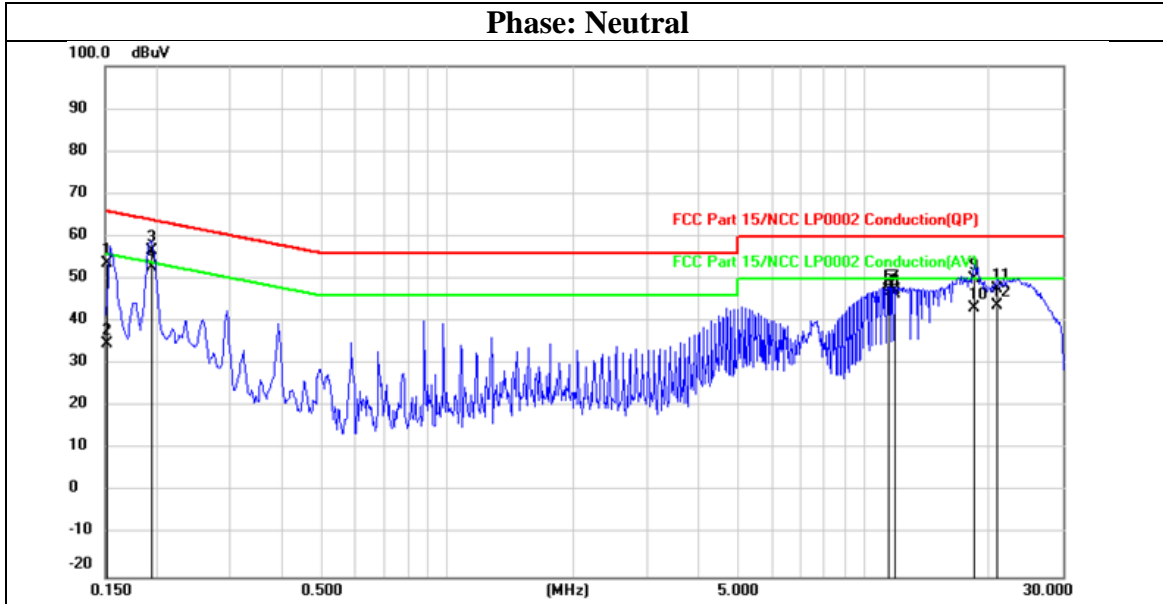
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Mode	3DH5_TX2441 & 11a_TX5825	Channel	39 & 165
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No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dB)	
1	0.1513	43.61	9.95	53.56	65.93	-12.37	QP
2	0.1513	24.86	9.95	34.81	55.93	-21.12	AVG
3	0.1931	46.76	9.94	56.70	63.90	-7.20	QP
4	0.1931	42.76	9.94	52.70	53.90	-1.20	AVG
5	11.4398	36.92	10.30	47.22	60.00	-12.78	QP
6	11.4398	36.06	10.30	46.36	50.00	-3.64	AVG
7	11.9285	37.00	10.33	47.33	60.00	-12.67	QP
8	11.9285	36.02	10.33	46.35	50.00	-3.65	AVG
9	18.3810	39.42	10.49	49.91	60.00	-10.09	QP
10	18.3810	32.80	10.49	43.29	50.00	-6.71	AVG
11	20.8249	37.03	10.52	47.55	60.00	-12.45	QP
12	20.8249	33.38	10.52	43.90	50.00	-6.10	AVG

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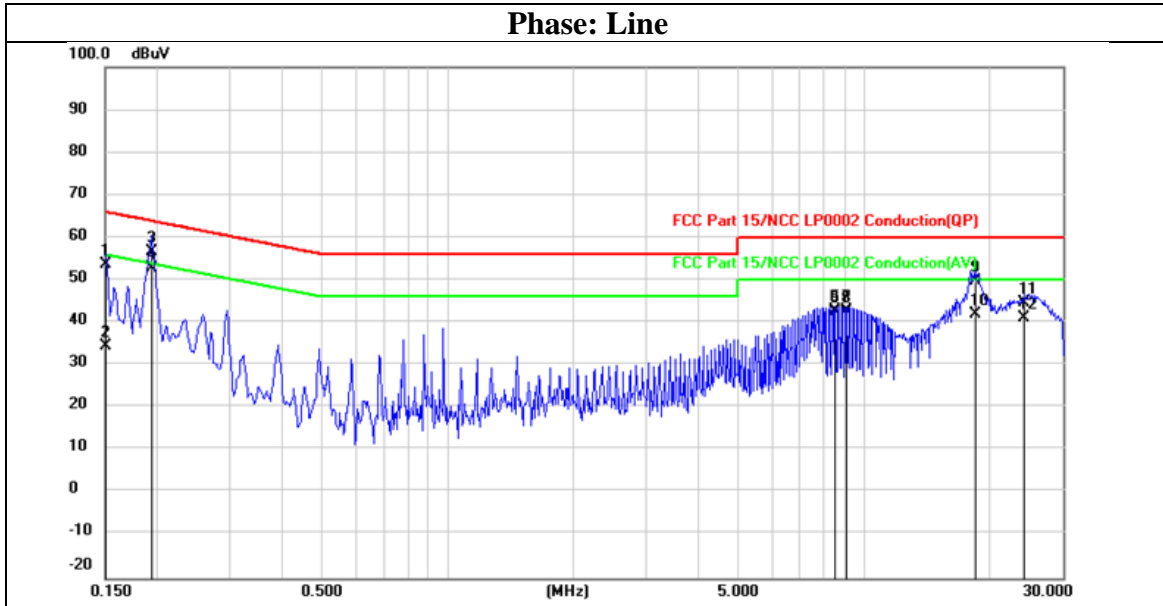
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Mode	3DH5_TX2441 & 11ax160_TX6025	Channel	39 & 15
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No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1504	43.73	9.96	53.69	65.98	-12.29	QP
2	0.1504	24.35	9.96	34.31	55.98	-21.67	AVG
3	0.1924	46.63	9.96	56.59	63.93	-7.34	QP
4	0.1924	42.66	9.96	52.62	53.93	-1.31	AVG
5	8.5067	32.66	10.21	42.87	60.00	-17.13	QP
6	8.5067	32.25	10.21	42.46	50.00	-7.54	AVG
7	9.0932	32.71	10.23	42.94	60.00	-17.06	QP
8	9.0932	32.22	10.23	42.45	50.00	-7.55	AVG
9	18.3802	39.35	10.45	49.80	60.00	-10.20	QP
10	18.3802	31.63	10.45	42.08	50.00	-7.92	AVG
11	24.1486	34.21	10.55	44.76	60.00	-15.24	QP
12	24.1486	30.39	10.55	40.94	50.00	-9.06	AVG

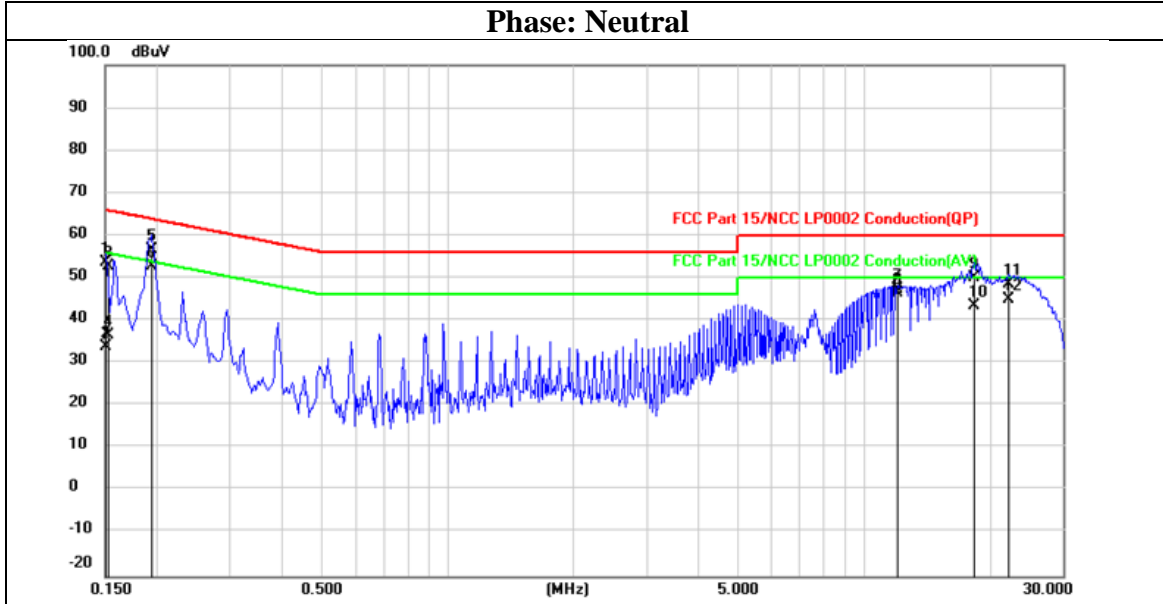
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Mode	3DH5_TX2441 & 11ax160_TX6025	Channel	39 & 15
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No.	Frequency (MHz)	Reading (dBuV)	Correct (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1500	43.71	9.95	53.66	66.00	-12.34	QP
2	0.1500	24.01	9.95	33.96	56.00	-22.04	AVG
3	0.1536	42.90	9.95	52.85	65.80	-12.95	QP
4	0.1536	26.67	9.95	36.62	55.80	-19.18	AVG
5	0.1929	46.78	9.94	56.72	63.91	-7.19	QP
6	0.1929	42.79	9.94	52.73	53.91	-1.18	AVG
7	12.0264	36.93	10.33	47.26	60.00	-12.74	QP
8	12.0264	35.98	10.33	46.31	50.00	-3.69	AVG
9	18.3808	39.49	10.49	49.98	60.00	-10.02	QP
10	18.3808	32.86	10.49	43.35	50.00	-6.65	AVG
11	22.1936	37.91	10.55	48.46	60.00	-11.54	QP
12	22.1936	34.41	10.55	44.96	50.00	-5.04	AVG

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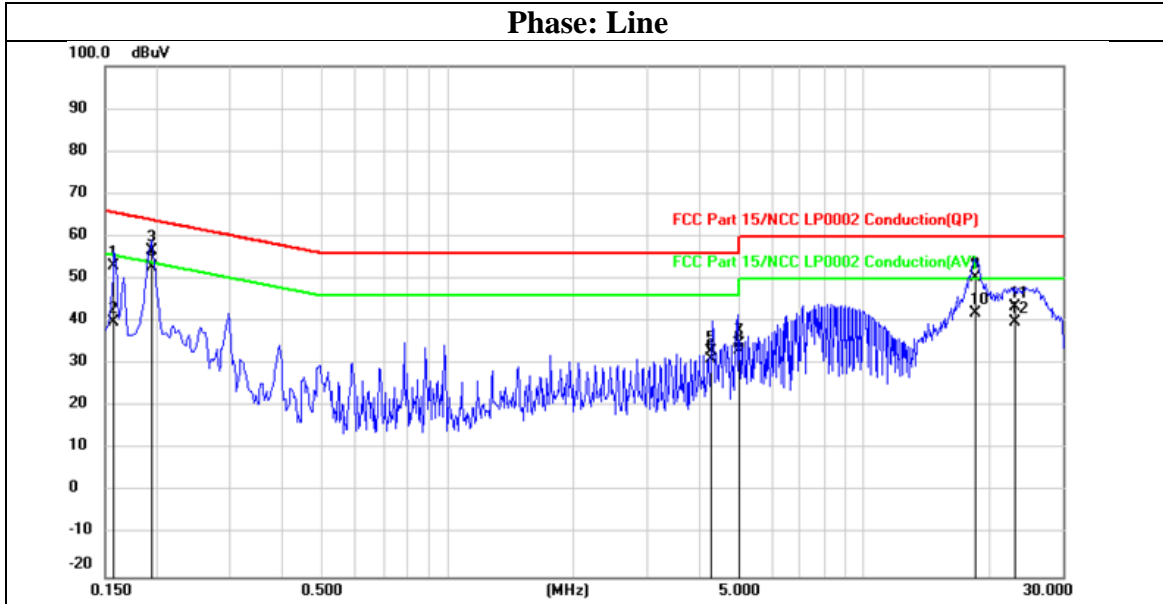
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Mode	3DH5_TX2441 & 11b_TX2437	Channel	39 & 6
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No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dB)	
1	0.1572	43.18	9.96	53.14	65.61	-12.47	QP
2	0.1572	29.81	9.96	39.77	55.61	-15.84	AVG
3	0.1928	46.65	9.96	56.61	63.92	-7.31	QP
4	0.1928	42.89	9.96	52.85	53.92	-1.07	AVG
5	4.3095	22.84	10.09	32.93	56.00	-23.07	QP
6	4.3095	20.96	10.09	31.05	46.00	-14.95	AVG
7	4.9934	24.69	10.11	34.80	56.00	-21.20	QP
8	4.9934	23.24	10.11	33.35	46.00	-12.65	AVG
9	18.5066	39.85	10.45	50.30	60.00	-9.70	QP
10	18.5066	31.45	10.45	41.90	50.00	-8.10	AVG
11	23.0938	33.02	10.53	43.55	60.00	-16.45	QP
12	23.0938	29.22	10.53	39.75	50.00	-10.25	AVG

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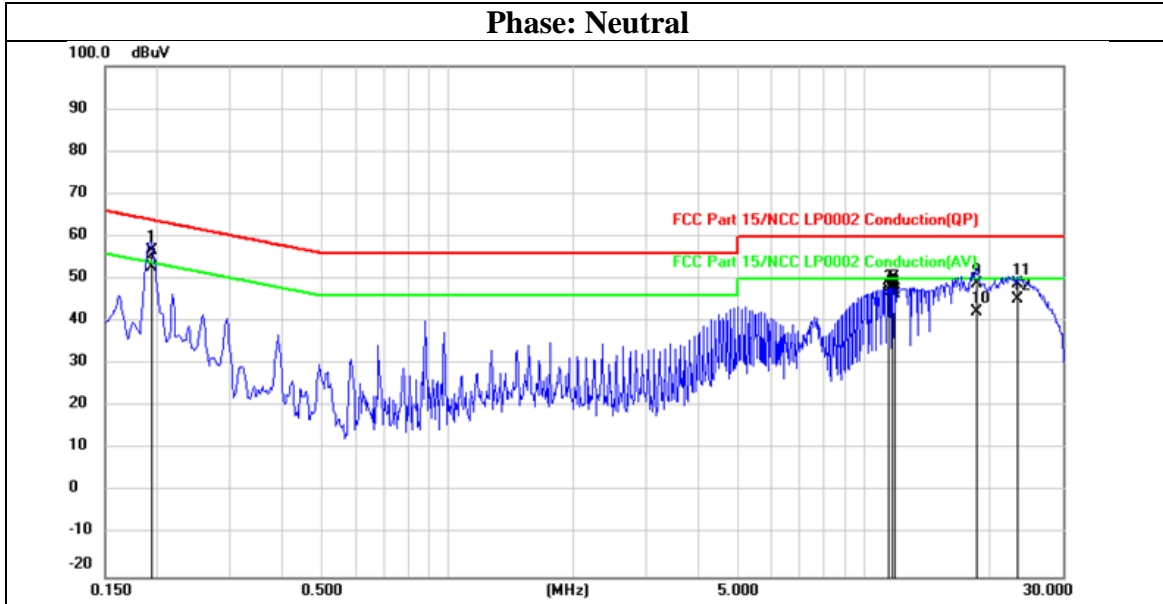
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Mode	3DH5_TX2441 & 11b_TX2437	Channel	39 & 6
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No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	(dB)	(dBuV)	(dBuV)	(dB)	
1	0.1930	46.78	9.94	56.72	63.91	-7.19	QP
2	0.1930	42.76	9.94	52.70	53.91	-1.21	AVG
3	11.4396	36.95	10.30	47.25	60.00	-12.75	QP
4	11.4396	36.06	10.30	46.36	50.00	-3.64	AVG
5	11.7329	37.04	10.31	47.35	60.00	-12.65	QP
6	11.7329	36.12	10.31	46.43	50.00	-3.57	AVG
7	11.9285	36.97	10.33	47.30	60.00	-12.70	QP
8	11.9285	36.02	10.33	46.35	50.00	-3.65	AVG
9	18.6746	38.51	10.49	49.00	60.00	-11.00	QP
10	18.6746	31.79	10.49	42.28	50.00	-7.72	AVG
11	23.2689	38.23	10.59	48.82	60.00	-11.18	QP
12	23.2689	34.58	10.59	45.17	50.00	-4.83	AVG

END OF REPORT

Underwriters Laboratories Taiwan Co., Ltd.

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