

TEST REPORT

CERTIFICATE OF CONFORMITY

Standard: 47 CFR FCC Part 15, Subpart C (Section 15.247)
Report No.: RFBCKS-WTW-P23110556A-2
FCC ID: 2ABLKGS5229XX
Product: GigaSpire BLAST u6t
Brand: Calix
Model No.: u6t GS5229E
Series Model: u6txg GS5229XG
Received Date: 2024/2/26
Test Date: 2024/3/22 ~ 2024/3/23
Issued Date: 2024/4/3

Applicant: Calix Inc.
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Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
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Test Location: E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300, Taiwan

FCC Registration / 723255 / TW2022
Designation Number:

Approved by: _____



, Date: _____

2024/4/3

Wen Yu / Assistant Manager

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Prepared by : Phoenix Huang / Specialist

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Table of Contents

Release Control Record	3
1 Certificate	4
2 Summary of Test Results	5
2.1 Measurement Uncertainty	5
2.2 Supplementary Information	5
3 General Information	6
3.1 General Description	6
3.2 Antenna Description of EUT	8
3.3 Channel List	9
3.4 Test Mode Applicability and Tested Channel Detail	10
3.5 Test Program Used and Operation Descriptions	11
3.6 Connection Diagram of EUT and Peripheral Devices	11
3.7 Configuration of Peripheral Devices and Cable Connections	13
4 Test Instruments	14
4.1 AC Power Conducted Emissions	14
4.2 Unwanted Emissions below 1 GHz	14
5 Limits of Test Items	15
5.1 AC Power Conducted Emissions	15
5.2 Unwanted Emissions below 1 GHz	15
6 Test Arrangements	16
6.1 AC Power Conducted Emissions	16
6.1.1 Test Setup	16
6.1.2 Test Procedure	16
6.2 Unwanted Emissions below 1 GHz	17
6.2.1 Test Setup	17
6.2.2 Test Procedure	18
7 Test Results of Test Item	19
7.1 AC Power Conducted Emissions	19
7.2 Unwanted Emissions below 1 GHz	21
8 Pictures of Test Arrangements	23
9 Information of the Testing Laboratories	24

Release Control Record

Issue No.	Description	Date Issued
RFBCKS-WTW-P23110556A-2	Original release.	2024/4/3

1 Certificate

Product: GigaSpire BLAST u6t

Brand: Calix

Test Model: u6t GS5229E

Series Model: u6txg GS5229XG

Sample Status: Engineering sample

Applicant: Calix Inc.

Test Date: 2024/3/22 ~ 2024/3/23

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

Measurement ANSI C63.10-2013

procedure:

KDB 558074 D01 15.247 Meas Guidance v05r02

KDB 662911 D01 Multiple Transmitter Output v02r01

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

47 CFR FCC Part 15, Subpart C (Section 15.247)			
Standard / Clause	Test Item	Result	Remark
15.247(b)	RF Output Power	N/A	Refer to Note 1 below
15.247(e)	Power Spectral Density	N/A	Refer to Note 1 below
15.247(a)(2)	6 dB Bandwidth	N/A	Refer to Note 1 below
15.247(d)	Conducted Out of Band Emissions	N/A	Refer to Note 1 below
15.207	AC Power Conducted Emissions	Pass	Minimum passing margin is -10.84 dB at 8.71484 MHz
15.205 / 15.209 / 15.247(d)	Unwanted Emissions below 1 GHz	Pass	Minimum passing margin is -7.4 dB at 62.16 MHz
15.205 / 15.209 / 15.247(d)	Unwanted Emissions above 1 GHz	N/A	Refer to Note 1 below
15.203	Antenna Requirement	Pass	Antenna connector is ipex(MHF) not a standard connector.

Note:

1. Only AC Power Conducted Emissions and Unwanted Emissions below 1 GHz test items were performed for this addendum. The others testing data refer to original test report.
2. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

2.1 Measurement Uncertainty

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

Measurement	Specification	Expanded Uncertainty (k=2) (±)
AC Power Conducted Emissions	150 kHz ~ 30 MHz	1.9 dB
Unwanted Emissions below 1 GHz	9 kHz ~ 30 MHz	3.1 dB
	30 MHz ~ 1 GHz	5.5 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

Product	GigaSpire BLAST u6t
Brand	Calix
Test Model	u6t GS5229E
Series Model	u6txg GS5229XG
Status of EUT	Engineering sample
Power Supply Rating	12 Vdc from power adapter or UPS
Modulation Type	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM 256QAM for OFDM in VHT mode 1024QAM for OFDMA in 11ax mode
Modulation Technology	DSSS, OFDM, OFDMA
Transfer Rate	802.11b: up to 11 Mbps 802.11g: up to 54 Mbps 802.11n: up to 300 Mbps VHT: up to 400 Mbps 802.11ax: up to 573.5 Mbps
Operating Frequency	2.412 GHz ~ 2.462 GHz
Number of Channel	802.11b, 802.11g, 802.11n (HT20), VHT20: 11 802.11n (HT40), VHT40, 802.11ax (HE40): 7
Output Power	CDD Mode: 983.234 mW (29.93 dBm) Beamforming Mode: 975.315 mW (29.89 dBm)

Note:

1. This report is prepared for FCC class II permissive change. The difference compared with the Report No.: RFBCKS-WTW-P23110556 as the following:

- ◆ Add DFS band <5.26 ~ 5.32 GHz, 5.50 ~ 5.72 GHz> by software.
- ◆ Add 2nd source combination.

Condition	Combination 1 (Original)	Combination 2 (2 nd source)
Status	With Absorber	Without Absorber
Heatsink (In the BOSA area)	Without cut	With cut
Shielding cover	flat	concave
BOSA	-	Brand: Potron
PTC	-	Brand: semitel
10G transformer	-	Brand: Mingtek

2. According to above conditions, for Combination 2 also verify for 2.4 GHz worse channel for Unwanted Emissions below 1 GHz and AC Power Conducted Emissions test items need to be performed and all data was verified to meet the requirements.

3. The EUT has below model names, more detailed information as below table.

Model	u6t GS5229E	u6txg GS5229XG
WiFi bands	2.4 / 5 GHz	2.4 / 5 GHz
WiFi version	WiFi 6	WiFi 6
Configuration	Dual band 2x2 (2.4 GHz) + 4x4 (5 GHz)	Dual band 2x2 (2.4 GHz) + 4x4 (5 GHz)
WAN ports	10GE	XGS PON
LAN/WAN	10GE	10GE
LAN ports	4 x GE	4 x GE
USB	1 x 2.0	1 x 2.0
LED	Single pin hole tri-color LED	Single pin hole tri-color LED
POTS	2	2
Other buttons	Reset and WPS	Reset and WPS
UPS Connector	8 pin UPS connector	8 pin UPS connector
Supporting Ambient Temperature	0 to 40°C	0 to 40°C
Desktop and Wall Mount	Required	Required

4. The EUT has two heatsink types as below table.

Type	Description
1 st	HEATSPREADER, MAIN, LCS7
2 nd	HEATSPREADER, MAIN, TYPE2, LCS7

5. The EUT has two transformer sources as below table.

Item	1 st Transformer	2 nd Transformer
PN	76.1S220.005	76.1S602.007
Vendor	UDE	HDT

6. The EUT uses following accessories.

AC Adapter 1		
Brand	Model	Specification
AMIGO	AMS157-1203000FU	AC Input : 100-240 V~, 50/60 Hz, 1 A DC Output : 12 V = 3.0 A Specification : 1.45 m
AC Adapter 2		
Brand	Model	Specification
MOSO	MS-V3000R120-036L0-US	AC Input : 100-240 V~, 50/60 Hz, 1.0 A DC Output : 12 V = 3.0 A Specification : 1.535 m

7. There are WLAN (2.4 GHz) and WLAN (5 GHz) technology used for the EUT.

8. Simultaneously transmission condition.

Condition	Technology	
1	WLAN (2.4 GHz)	WLAN (5 GHz)

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

9. The above EUT information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or user's manual.

3.2 Antenna Description of EUT

1. The antenna information is listed as below.

Antenna No.	RF Chain No.	Antenna Net Gain (dBi)	Frequency Range (GHz)	Antenna Type	Connector Type
2G1	Chain 0	3.69	2.4~2.4835	Dipole	ipex(MHF)
2G2	Chain 1	3.63	2.4~2.4835	Dipole	ipex(MHF)
5G1	Chain 0	3.96	5.15~5.25	Dipole	ipex(MHF)
		3.96	5.25~5.35		
		3.90	5.47~5.725		
		3.06	5.725~5.85		
5G2	Chain 1	4.63	5.15~5.25	Dipole	ipex(MHF)
		4.28	5.25~5.35		
		5.02	5.47~5.725		
		4.27	5.725~5.85		
5G3	Chain 2	3.06	5.15~5.25	Dipole	ipex(MHF)
		2.25	5.25~5.35		
		1.91	5.47~5.725		
		3.57	5.725~5.85		
5G4	Chain 3	3.18	5.15~5.25	Dipole	ipex(MHF)
		3.45	5.25~5.35		
		4.60	5.47~5.725		
		3.72	5.725~5.85		

2. The directional gain table:

Frequency Range (GHz)	Directional Antenna Gain (dBi)	Antenna Type	Connector Type
2.4~2.4835	5.84	Dipole	ipex(MHF)
5.15 ~ 5.25	6.11	Dipole	ipex(MHF)
5.25 ~ 5.35	5.43	Dipole	ipex(MHF)
5.47 ~ 5.725	6.89	Dipole	ipex(MHF)
5.725 ~ 5.85	4.94	Dipole	ipex(MHF)

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

4. The EUT incorporates a MIMO function:

2.4 GHz Band		
Modulation Mode	TX & RX Configuration	
802.11b	2TX	2RX
802.11g	2TX	2RX
802.11n (HT20)	2TX	2RX
802.11n (HT40)	2TX	2RX
VHT20	2TX	2RX
VHT40	2TX	2RX
802.11ax (HE20)	2TX	2RX
802.11ax (HE40)	2TX	2RX

Note:

1. All of modulation mode support beamforming function except 802.11b/g modulation mode.
2. The EUT support Beamforming and CDD mode, therefore both mode were investigated and the worst case scenario was identified. The worst case data were presented in test report.

3.3 Channel List

11 channels are provided for 802.11b, 802.11g, 802.11n (HT20), VHT20, 802.11ax (HE20):

Channel	Frequency	Channel	Frequency
1	2412 MHz	7	2442 MHz
2	2417 MHz	8	2447 MHz
3	2422 MHz	9	2452 MHz
4	2427 MHz	10	2457 MHz
5	2432 MHz	11	2462 MHz
6	2437 MHz		

7 channels are provided for 802.11n (HT40), VHT40, 802.11ax (HE40):

Channel	Frequency	Channel	Frequency
3	2422 MHz	7	2442 MHz
4	2427 MHz	8	2447 MHz
5	2432 MHz	9	2452 MHz
6	2437 MHz		

3.4 Test Mode Applicability and Tested Channel Detail

Pre-Scan:	<ol style="list-style-type: none"> 1. The Power Supply has the following models: Adapter 1 (AMS157-1203000FU) / Adapter 2 (MS-V3000R120-036L0-US) / UPS. Pre-scan these models of Power Supply and find the worst case as a representative test condition. 2. The device has the following models: u6t GS5229E / u6txg GS5229XG. Pre-scan these models of device and find the worst case as a representative test condition. 3. The device has the Heatsink following types: Type 1 / Type 2. Pre-scan these models of device and find the worst case as a representative test condition. 4. The device has the LAN Transformer following sources: Main / Second. Pre-scan these sources of device and find the worst case as a representative test condition. 5. Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture). 6. Pre-Scan 2nd Source (Please refer to Section 3.1 Combination 2)
Worst Case:	<ol style="list-style-type: none"> 1. Power Supply Worst Condition: <ul style="list-style-type: none"> ➤ Unwanted Emission Below 1GHz: Adapter 1 (AMS157-1203000FU) ➤ AC Power Line Conduction Emission: UPS 2. The device Worst Condition: u6t GS5229E 3. The device worst heatsink condition: Type 2 4. LAN Transformer Worst Condition: Main source

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

Test Item	Mode	Signal Mode	Tested Channel	Modulation	Data Rate Parameter
AC Power Conducted Emissions	802.11b	CDD	6	DBPSK	1Mb/s
Unwanted Emissions below 1 GHz	802.11b	CDD	6	DBPSK	1Mb/s

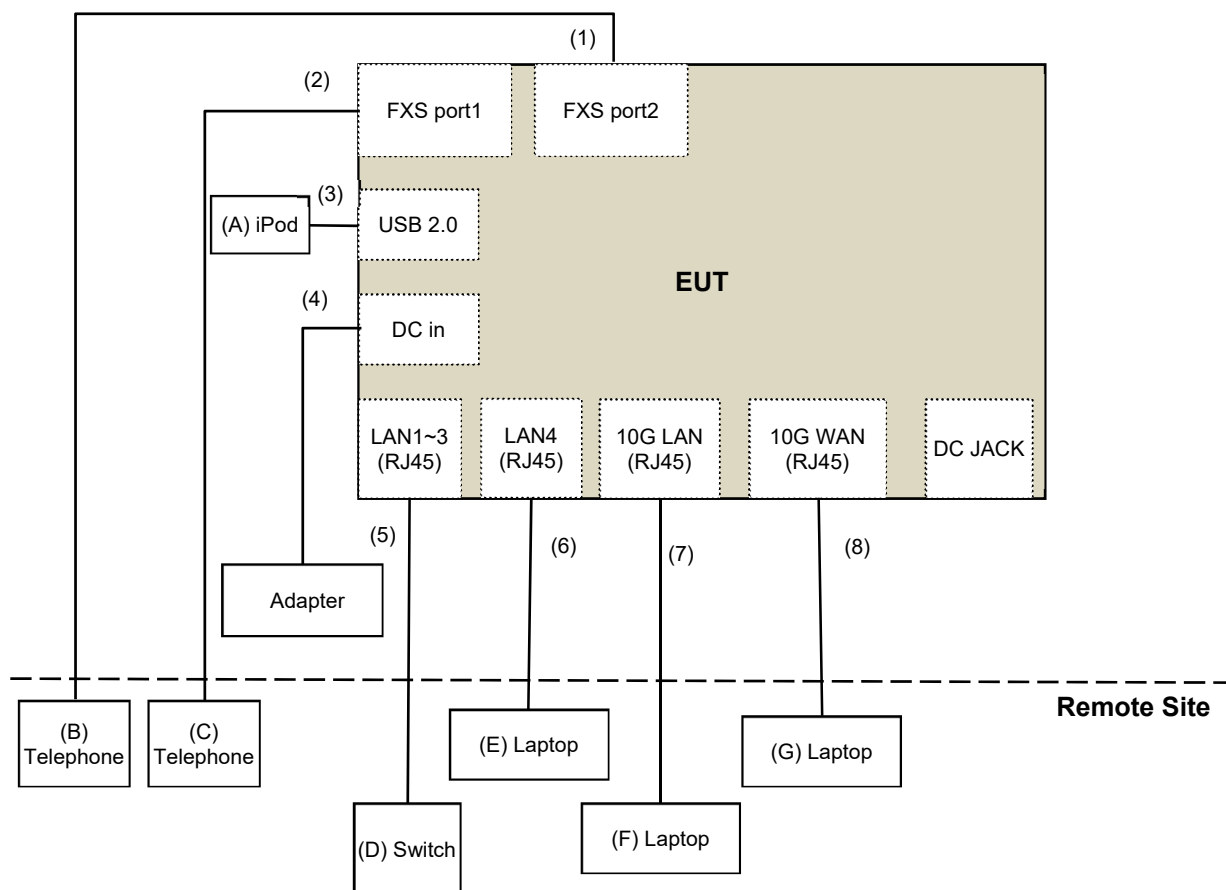
<p>Note:</p> <ol style="list-style-type: none"> 1. Partial RU (resource unit) mechanism is not supported. 2. Combination 2 verify for 2.4 GHz worse channel for AC Power Conducted Emissions and Unwanted Emissions below 1 GHz. The worse still refer to the original after evaluation.
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3.5 Test Program Used and Operation Descriptions

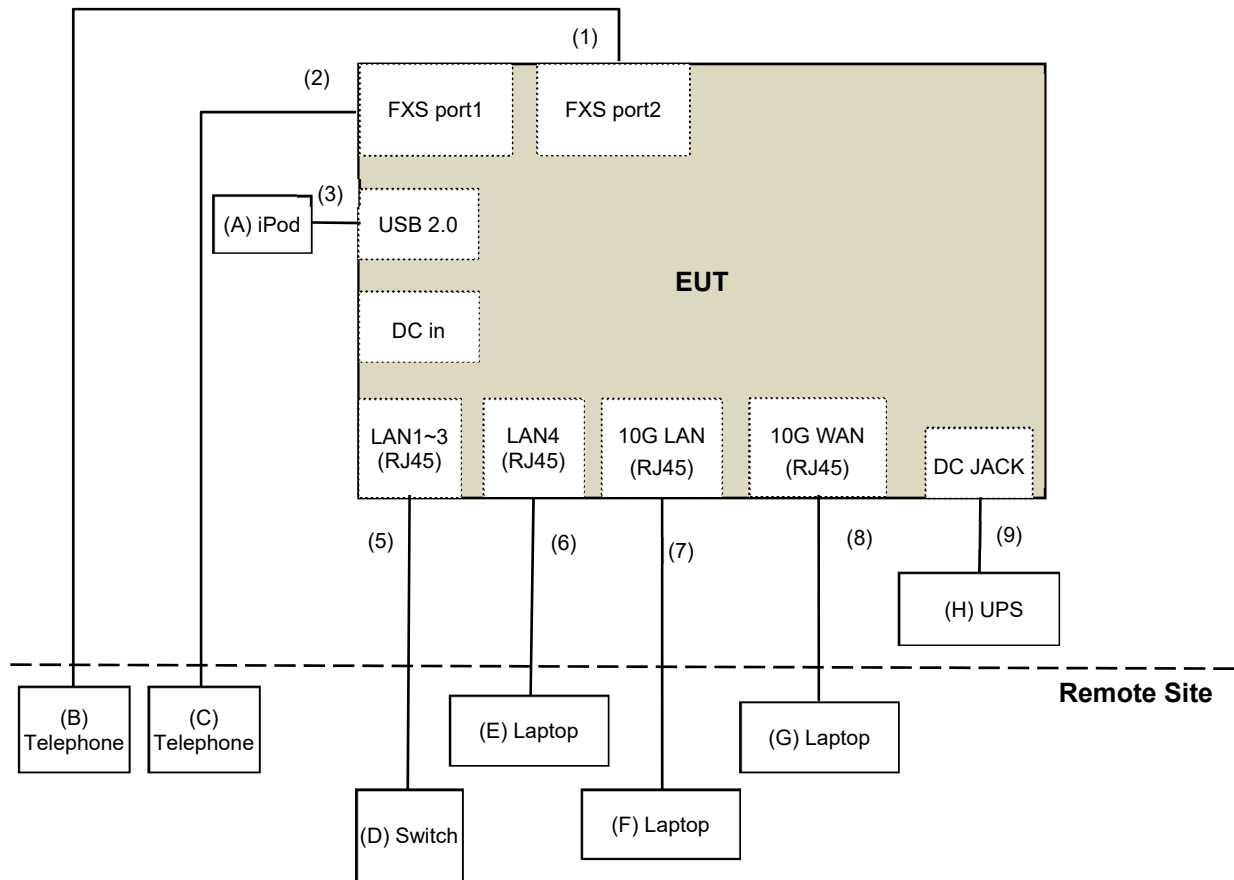
Controlling software (qdart_conn.win.1.0_installer_00097.1) has been activated to set the EUT under transmission condition continuously at specific channel frequency.

3.6 Connection Diagram of EUT and Peripheral Devices

For Unwanted Emission test:



For AC Power Conducted Emission test:



3.7 Configuration of Peripheral Devices and Cable Connections

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A	iPod	Apple	A1373	CC4DN25WDFDM	N/A	Provided by Lab
B	Telephone	WONDER	WD-303	7C17KA 04011	N/A	Provided by Lab
C	Telephone	Romeo	TE-812	97280903	N/A	Provided by Lab
D	Switch	D-Link	DGS-1005D	DR8WC92000523	N/A	Provided by Lab
E	Laptop	DELL	E5430	4YV4VY1	DoC	Provided by Lab
F	Laptop	DELL	E5430	HYV4VY1	DoC	Provided by Lab
G	Laptop	DELL	E6420	H62T3R1	DoC	Provided by Lab
H	UPS	CyberPower	DTC36U12V3-G	N/A	N/A	Supplied by applicant

ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1	RJ-11 Cable	1	10	No	0	Provided by Lab
2	RJ-11 Cable	1	10	No	0	Provided by Lab
3	USB Cable	1	0.1	Yes	0	Provided by Lab
4	DC Cable	1	1.45	No	0	Supplied by applicant
5	RJ-45 Cable	3	10	No	0	Provided by Lab
6	RJ-45 Cable	1	10	No	0	Provided by Lab
7	RJ-45 Cable	1	10	No	0	Provided by Lab
8	RJ-45 Cable	1	10	No	0	Provided by Lab
9	DC Cable	1	2.5	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 AC Power Conducted Emissions

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
50 ohm terminal resistance Telegartner	50 ohm	3	2023/10/20	2024/10/19
EMI Test Receiver R&S	ESCS 30	847124/029	2023/10/18	2024/10/17
Fixed Attenuator STI	STI02-2200-10	005	2024/2/19	2025/2/18
LISN R&S	ESH3-Z5	835239/001	2023/4/6	2024/4/5
		848773/004	2023/10/13	2024/10/12
RF Coaxial Cable JYEBAO	5D-FB	COCCAB-001	2024/2/19	2025/2/18
Software BVADT	BVADT_Cond_V7.3.7.4	N/A	N/A	N/A

Notes:

1. The test was performed in Conduction 1
2. Tested Date: 2024/3/22

4.2 Unwanted Emissions below 1 GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Bi_Log Antenna Schwarzbeck	VULB 9168	9168-406	2023/10/13	2024/10/12
Boresight Antenna Tower & Turn Table Max-Full	MF-7802BS	MF780208530	N/A	N/A
Fixed Attenuator Mini-Circuits	UNAT-5+	PAD-ATT5-03	2024/2/17	2025/2/16
Loop Antenna Electro-Metrics	EM-6879	264	2024/2/23	2025/2/22
MXA Signal Analyzer Keysight	N9020B	MY60112408	2024/3/7	2025/3/6
MXE EMI Receiver Keysight	N9038A	MY59050100	2023/6/13	2024/6/12
Preamplifier EMCI	EMC330N	980701	2024/2/17	2025/2/16
	EMC001340	980142	2024/2/19	2025/2/18
RF Coaxial Cable JYEBAO	5D-FB	LOOPCAB-001	2024/2/19	2025/2/18
		LOOPCAB-002	2024/2/19	2025/2/18
RF Coaxial Cable mTJ	100100-CFD400LW-200	CFD400-200	2024/2/17	2025/2/16
	100100-CFD400LW-400	CFD400-400	2024/2/17	2025/2/16
	100100-CFD400LW-800	CFD400-800	2024/2/17	2025/2/16
Software	ADT_Radiated_V8.7.08	N/A	N/A	N/A

Notes:

1. The test was performed in 966 Chamber No. 4.
2. Tested Date: 2024/3/23

5 Limits of Test Items

5.1 AC Power Conducted Emissions

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

Notes:

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 0.50 MHz.

5.2 Unwanted Emissions below 1 GHz

Radiated emissions up to 1 GHz which fall in the restricted bands must comply with the radiated emission limits specified as below table. Other emissions shall be at least 30 dB below the highest level of the desired power:

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

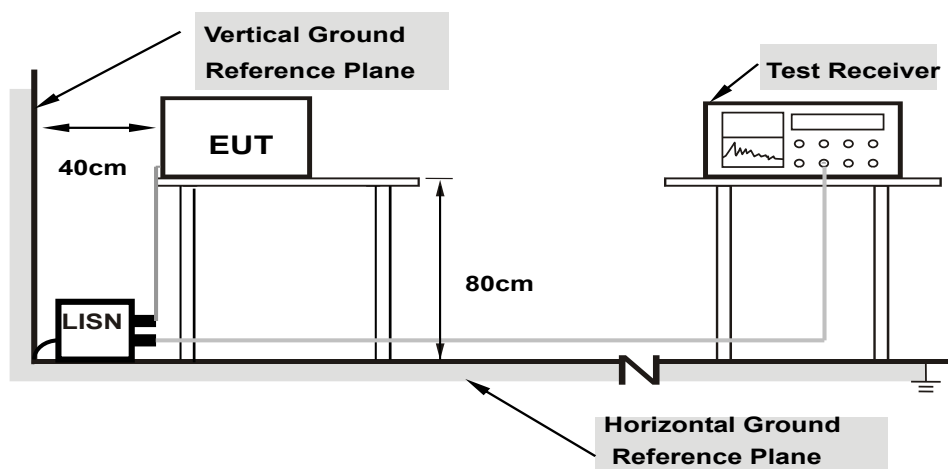
Notes:

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

6 Test Arrangements

6.1 AC Power Conducted Emissions

6.1.1 Test Setup



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

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

6.1.2 Test Procedure

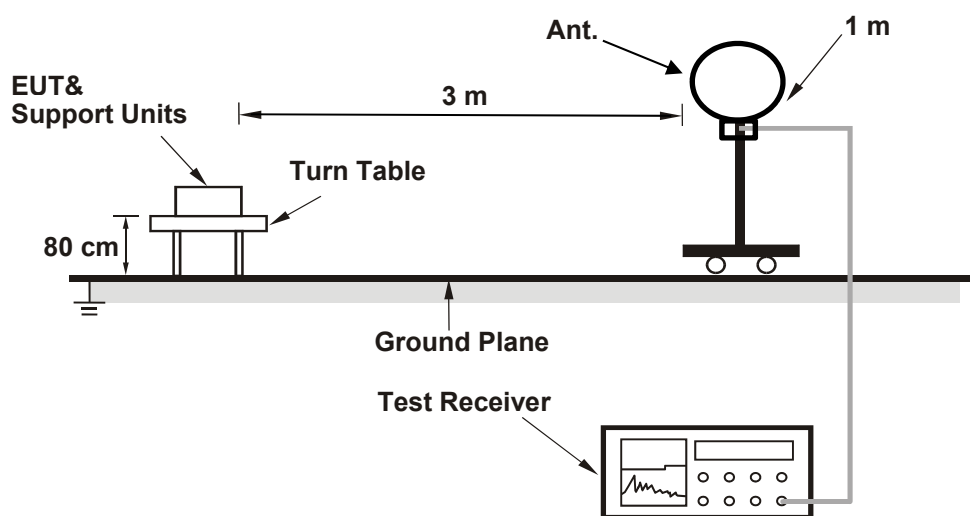
- The EUT was placed on a 0.8 meter to the top of table and placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50 uH of coupling impedance for the measuring instrument.
- Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- The frequency range from 150 kHz to 30 MHz was searched. Emission levels under (Limit – 20 dB) was not recorded.

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

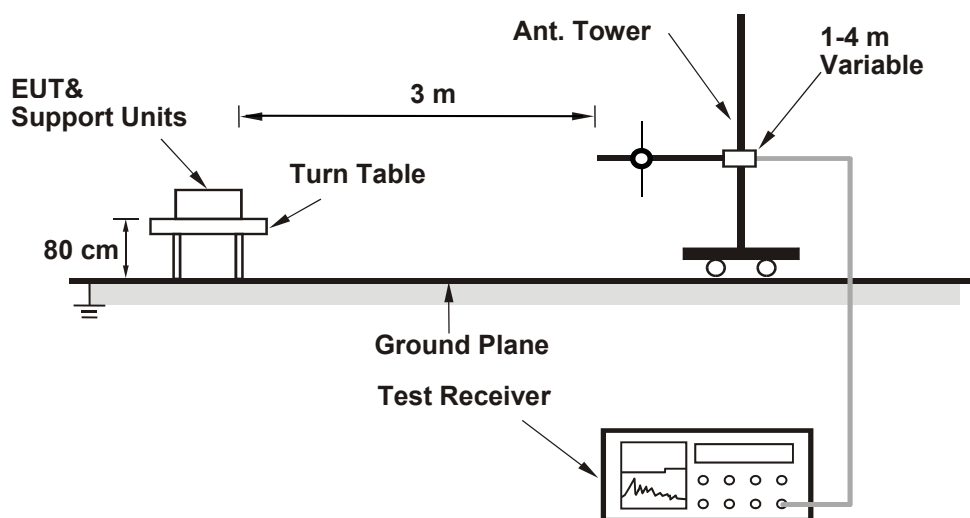
6.2 Unwanted Emissions below 1 GHz

6.2.1 Test Setup

For Radiated emission below 30 MHz



For Radiated emission above 30 MHz



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

6.2.2 Test Procedure

For Radiated emission below 30 MHz

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

- a. 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.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.

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.

7 Test Results of Test Item

7.1 AC Power Conducted Emissions

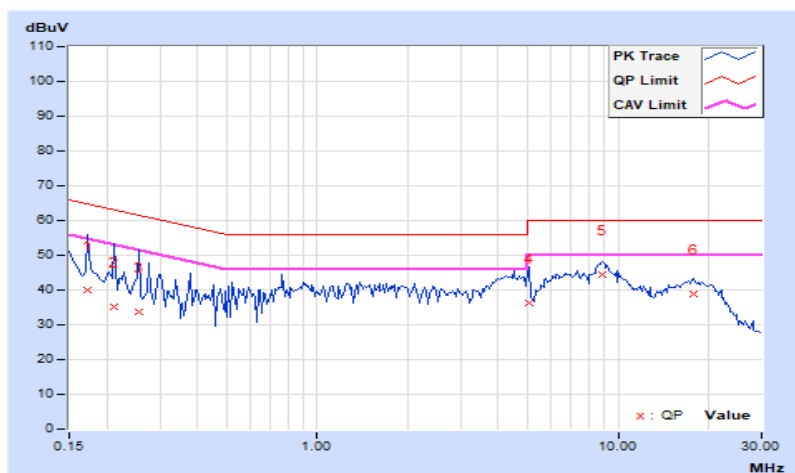
RF Mode	802.11b	Channel	CH 6 : 2437 MHz
Frequency Range	150 kHz ~ 30 MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	21°C, 66% RH
Tested By	Sampson Chen		

Phase Of Power : Line (L)

No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.17344	9.93	30.03	23.34	39.96	33.27	64.79	54.79	-24.83	-21.52
2	0.21250	9.93	25.34	7.72	35.27	17.65	63.11	53.11	-27.84	-35.46
3	0.25547	9.93	23.92	13.31	33.85	23.24	61.58	51.58	-27.73	-28.34
4	5.04297	10.18	26.10	18.86	36.28	29.04	60.00	50.00	-23.72	-20.96
5	8.90625	10.41	34.07	28.52	44.48	38.93	60.00	50.00	-15.52	-11.07
6	17.90625	11.01	27.74	23.30	38.75	34.31	60.00	50.00	-21.25	-15.69

Remarks:

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

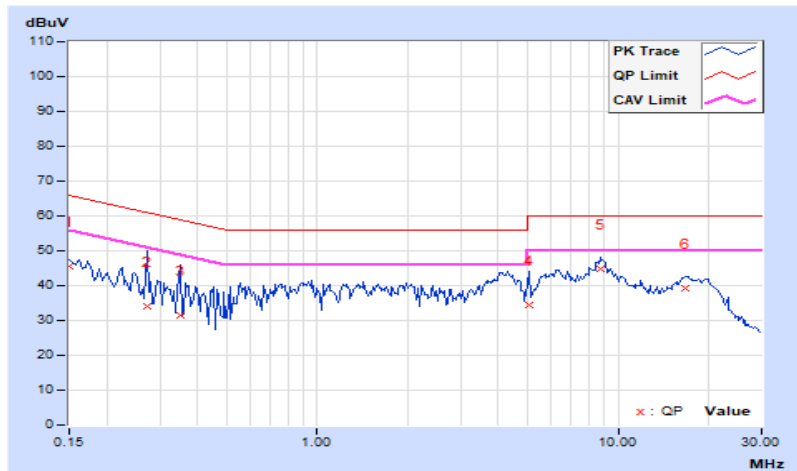


RF Mode	802.11b	Channel	CH 6 : 2437 MHz
Frequency Range	150 kHz ~ 30 MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120 Vac, 60 Hz	Environmental Conditions	21°C, 66% RH
Tested By	Sampson Chen		

Phase Of Power : Neutral (N)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	9.98	35.59	30.90	45.57	40.88	66.00	56.00	-20.43	-15.12
2	0.27109	9.99	24.06	18.46	34.05	28.45	61.08	51.08	-27.03	-22.63
3	0.34922	10.00	21.57	13.33	31.57	23.33	58.98	48.98	-27.41	-25.65
4	5.08203	10.21	24.30	16.21	34.51	26.42	60.00	50.00	-25.49	-23.58
5	8.71484	10.36	34.48	28.80	44.84	39.16	60.00	50.00	-15.16	-10.84
6	16.65234	10.74	28.35	23.06	39.09	33.80	60.00	50.00	-20.91	-16.20

Remarks:

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



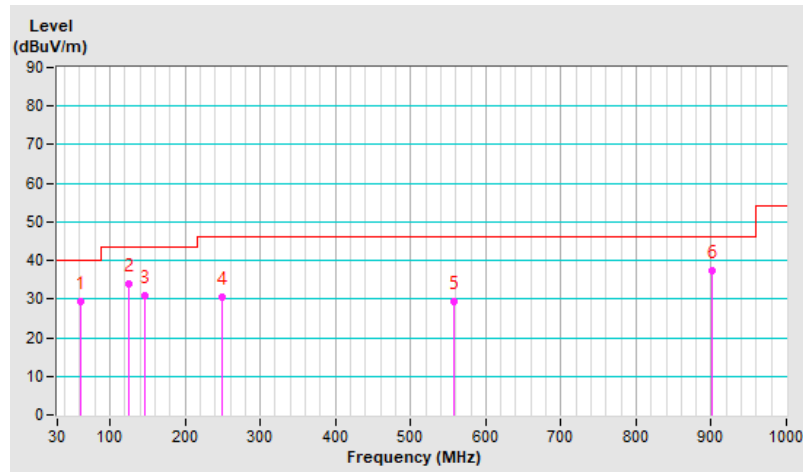
7.2 Unwanted Emissions below 1 GHz

RF Mode	802.11b	Channel	CH 6 : 2437 MHz
Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	QP: RB=120kHz, DET=Quasi-Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 63% RH
Tested By	Sampson Chen		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	60.89	29.4 QP	40.0	-10.6	2.00 H	360	43.2	-13.8
2	125.01	33.8 QP	43.5	-9.7	1.50 H	270	48.3	-14.5
3	146.23	30.9 QP	43.5	-12.6	1.50 H	75	43.8	-12.9
4	250.00	30.4 QP	46.0	-15.6	1.00 H	282	44.5	-14.1
5	556.88	29.4 QP	46.0	-16.6	1.50 H	274	35.8	-6.4
6	900.77	37.3 QP	46.0	-8.7	1.50 H	120	38.1	-0.8

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.

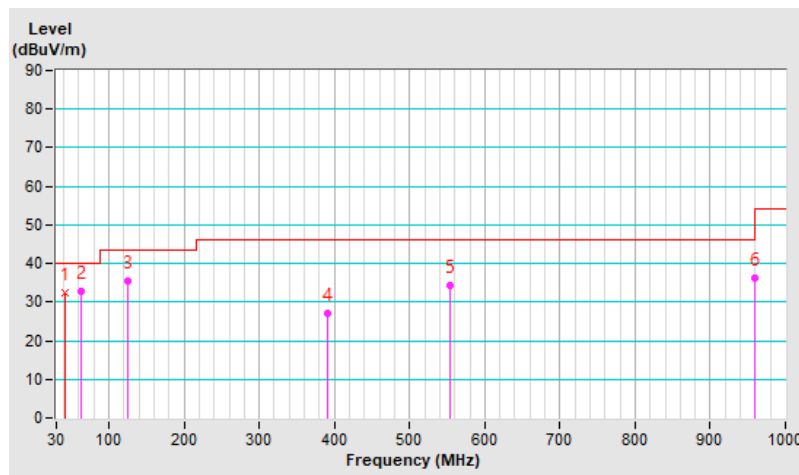


RF Mode	802.11b	Channel	CH 6 : 2437 MHz
Frequency Range	30 MHz ~ 1 GHz	Detector Function & Bandwidth	QP: RB=120kHz, DET=Quasi-Peak
Input Power	120 Vac, 60 Hz	Environmental Conditions	23°C, 63% RH
Tested By	Sampson Chen		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	41.03	32.3 QP	40.0	-7.7	1.00 V	220	45.3	-13.0
2	62.16	32.6 QP	40.0	-7.4	1.50 V	335	46.4	-13.8
3	125.01	35.3 QP	43.5	-8.2	1.00 V	235	49.8	-14.5
4	390.55	27.0 QP	46.0	-19.0	1.50 V	97	37.0	-10.0
5	553.82	34.2 QP	46.0	-11.8	1.00 V	87	40.7	-6.5
6	960.04	36.0 QP	54.0	-18.0	1.00 V	106	35.6	0.4

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.



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.

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

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