

STS

L
A
B



RADIO TEST REPORT

Report No.: STS1806066W02

Issued for

PerimeterSafe Home Monitoring Limited

The Atrium, 1321 Blanshard Street, Suite 301 Victoria, British Columbia, BC V8W 0B6, Canada

Product Name:	Smart Baby Monitor (Parent Unit)
Brand Name:	Kodak
Model Name:	CHERISH C220PU
Series Model:	CHERISH C225PU
FCC ID:	2APVD-C220PU
IC ID:	23907-C220PU
HVIN:	C220PU
Test Standard:	CFR47 FCC Part 15: Subpart C Section 15.247 CFR47 FCC Part 15: Subpart C Section 15.207 CFR47 FCC Part 15: Subpart C Section 15.209 CFR47 FCC Part 15: Subpart B Section 15.107 CFR47 FCC Part 15: Subpart B Section 15.109 RSS-247 Issue 2 February 2017 RSS-Gen Issue 5 April 2018 ICES-003 Issue 6 January 2016

Any reproduction of this document must be done in full. No single part of this document may be reproduced without permission from STS. All Test Data Presented in this report is only applicable to presented Test sample.

Shenzhen STS Test Services Co., Ltd.
1/F., Building B, Zhuoke Science Park, No.190, Chongqing Road,
Fuyong Street, Bao'an District, Shenzhen, Guangdong, China
TEL: +86-755 3688 6288 FAX: +86-755 3688 6277 E-mail:sts@stsapp.com





TEST RESULT CERTIFICATION

Applicant's name : PerimeterSafe Home Monitoring Limited
Address : The Atrium, 1321 Blanshard Street, Suite 301 Victoria, British Columbia, BC V8W 0B6, Canada

Manufacture's Name : Cinatic Technology Limited
Address : Unit 805, 8/F, Tower3, Phase1, Enterprise Square 9 Sheung Yuet Rd, Kowloon Bay, Kowloon, Hong Kong

Product description

Product Name : Smart Baby Monitor (Parent Unit)

Brand Name : Kodak

Model Name : CHERISH C220PU

Series Model : CHERISH C225PU

Test Standards : CFR47 FCC Part 15: Subpart C Section 15.247
CFR47 FCC Part 15: Subpart C Section 15.207
CFR47 FCC Part 15: Subpart C Section 15.209
CFR47 FCC Part 15: Subpart B Section 15.107
CFR47 FCC Part 15: Subpart B Section 15.109
RSS-247 Issue 2 February 2017
RSS-Gen Issue 5 April 2018
ICES-003 Issue 6 January 2016

Test procedure : ANSI C63.10: 2013, ANSI C63.4: 2014

This device described above has been tested by STS, the test results show that the equipment under test (EUT) is in compliance with the FCC/IC requirements. And it is applicable only to the tested sample identified in the report.

This report shall not be reproduced except in full, without the written approval of STS, this document only be altered or revised by STS, personal only, and shall be noted in the revision of the document.

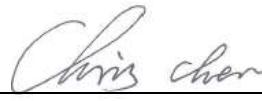
Date of Test

Date (s) of performance of tests : 11 Jun. 2018 - 26 Jun. 2018

Date of Issue : 27 Jun. 2018

Test Result : **Pass**

Testing Engineer

: 
(Chris Chen)

Technical Manager

: 
(Sean She)

Authorized Signatory

: 
(Vita Li)





Table of Contents	Page
1 SUMMARY OF TEST RESULTS.....	6
1.1 TEST FACTORY	7
1.2 MEASUREMENT UNCERTAINTY	7
2 GENERAL INFORMATION.....	8
2.1 GENERAL DESCRIPTION OF EUT.....	8
2.2 DESCRIPTION OF TEST MODES	10
2.3 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED	11
2.4 DESCRIPTION OF SUPPORT UNITS	11
2.5 EQUIPMENTS LIST FOR ALL TEST ITEMS	12
3 EMC EMISSION TEST	14
3.1 CONDUCTED EMISSION MEASUREMENT	14
3.2 RADIATED EMISSION MEASUREMENT	20
3.3 RADIATED SPURIOUS EMISSION MEASUREMENT.....	26
4 CONDUCTED SPURIOUS & BAND EDGE EMISSION	37
4.1 APPLIED PROCEDURES / LIMIT	37
4.2 TEST PROCEDURE	37
4.3 DEVIATION FROM STANDARD	37
4.4 TEST SETUP	37
4.5 EUT OPERATION CONDITIONS.....	37
4.6 TEST RESULTS	38
5 POWER SPECTRAL DENSITY TEST.....	50
5.1 APPLIED PROCEDURES / LIMIT	50
5.2 TEST PROCEDURE	50
5.3 DEVIATION FROM STANDARD	50
5.4 TEST SETUP	50
5.5 EUT OPERATION CONDITIONS.....	50
5.6 TEST RESULTS	51
6 BANDWIDTH TEST.....	59
6.1 APPLIED PROCEDURES / LIMIT	59
6.2 TEST PROCEDURE	59
6.3 DEVIATION FROM STANDARD	59
6.4 TEST SETUP	59
6.5 EUT OPERATION CONDITIONS.....	59
6.6 TEST RESULTS	60



7 PEAK OUTPUT POWER TEST	68
7.1 APPLIED PROCEDURES / LIMIT	68
7.2 TEST PROCEDURE	68
7.3 DEVIATION FROM STANDARD	68
7.4 TEST SETUP	68
7.5 EUT OPERATION CONDITIONS.....	68
7.6 TEST RESULTS	69
8 ANTENNA REQUIREMENT.....	70
8.1 STANDARD REQUIREMENT.....	70
8.2 EUT ANTENNA.....	70
9 APPENDIX - PHOTOS OF TEST SETUP	71



**Revision History**

Rev.	Issue Date	Report NO.	Effect Page	Contents
00	27 Jun. 2018	STS1806066W02	ALL	Initial Issue





1 SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

KDB 558074 D01 DTS Meas Guidance v04

FCC Part 15, Subpart C RSS-247 Issue 2			
Standard Section	Test Item	Judgment	Remark
FCC Part 15.207(a) RSS-Gen Clause 8.8	Conducted Emission	PASS	
FCC Part 15.247(a)(2) RSS-247 Clause 5.2(a)	6dB Bandwidth	PASS	
RSS-Gen Clause 6.6	99% Bandwidth	PASS	
FCC Part 15.247(b)(3) RSS-247 Clause 5.4(d)	Output Power	PASS	
FCC Part 15.247(d) RSS-247 Clause 3.3	Radiated Spurious Emission	PASS	
FCC Part 15.247(d) RSS-247 Clause 5.5	Conducted Spurious & Band Edge Emission	PASS	
FCC Part 15.247(e) RSS-247 Clause 5.2(b)	Power Spectral Density	PASS	
FCC Part 15.205	Restricted Band Edge Emission	PASS	
FCC Part 15.247(d) & 15.209(a) RSS-247 Clause 5.5	Band Edge Emission	PASS	
FCC Part 15.247(b)(4) & 15.203	Antenna Requirement	PASS	

FCC Part 15, Subpart B ICES-003 Issue 6			
Standard Section	Test Item	Judgment	Remark
FCC Part 15.107(a) ICES-003	Conducted Emission	PASS	Class B limit
FCC Part 15.109(a)) ICES-003	Radiated Emission	PASS	Class B limit

NOTE:

- 1) 'N/A' denotes test is not applicable in this test report
- 2) All tests were performed according to the procedures in ANSI C63.10: 2013 and ANSI C63.4: 2014.



1.1 TEST FACTORY

Shenzhen STS Test Services Co., Ltd.

Add. : 1/F., Building B, Zhuoke Science Park, No.190, Chongqing Road, Fuyong Street, Bao'an District, Shenzhen, Guangdong, China

CNAS Registration No.: L7649

FCC Registration No.: 625569

IC Registration No.: 12108A

A2LA Certificate No.: 4338.01

1.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement $y \pm U$, where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95 %.

No.	Item	Uncertainty
1	Conducted Emission (9KHz-150KHz)	$\pm 2.88\text{dB}$
2	Conducted Emission (150KHz-30MHz)	$\pm 2.67\text{dB}$
3	RF power,conducted	$\pm 0.71\text{dB}$
4	Spurious emissions,conducted	$\pm 0.63\text{dB}$
5	All emissions,radiated (9KHz-30MHz)	$\pm 3.02\text{dB}$
6	All emissions,radiated (30MHz-200MHz)	$\pm 3.80\text{dB}$
7	All emissions,radiated (200MHz-1000MHz)	$\pm 3.97\text{dB}$
8	All emissions,radiated(>1G)	$\pm 3.03\text{dB}$



2 GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Product Name	Smart Baby Monitor (Parent Unit)
Trade Name	Kodak
Model Name	CHERISH C220PU
Series Model	CHERISH C225PU
Model Difference	All models are fully identical except model name.
Product Description	<p>The EUT is a Smart Baby Monitor (Parent Unit) which supports Wi-Fi 802.11 b/g/n wireless technology.</p> <p>Operation Frequency: 2412 - 2462 MHz for 802.11b/g/n(HT20) 2422 - 2452 MHz for 802.11n(HT40)</p> <p>Modulation Type: DSSS(DBPSK/DQPSK/CCK) OFDM(BPSK/QPSK/16QAM/64QAM)</p> <p>Bit Rate of Transmitter: 1/2/5.5/11 Mbps for 802.11b 6/9/12/18/24/36/48/54 Mbps for 802.11g MCS0 ~ MCS7 for 802.11n</p> <p>Number Of Channel: 11 channels for 802.11b/g/n(HT20) 7 channels for 802.11n(HT40)</p> <p>Antenna Designation: Please see Note 4</p> <p>Antenna Gain (dBi): 0dBi</p> <p>Duty Cycle: >98%</p>
Channel List	Please refer to the Note 2.
Adapter	Model: TPA-97050150U01 (TianYin) Input: AC 100-240V~50/60Hz, 0.3A Output: DC 5.0V@1500mA
Battery	Model: I9300 (Tianmao) DC 3.8V@2100mAh/7.98Wh Li-ion battery Limited charge voltage: 4.35V
Hardware version	N/A
Software version	N/A
Radio Hardware version	N/A
Radio Software version	N/A
Test Software	SecureCRT
RF Power Setting TEST Software (power class)	2
Connecting I/O Port(s)	Please refer to the User's Manual



Note:

- 1 For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.

2

RF Channel and Frequency of Wi-Fi 802.11 b/g/n			
802.11b/g/n (HT20)		802.11n (HT40)	
RF Channel	Freq.(MHz)	RF Channel	Freq.(MHz)
01	2412	03	2422
02	2417	04	2427
03	2422	05	2432
04	2427	06	2437
05	2432	07	2442
06	2437	08	2447
07	2442	09	2452
08	2447	/	/
09	2452	/	/
10	2457	/	/
11	2462	/	/

3

Note:

- 1) In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test;
- 2) Test frequencies are lowest channel: 2412 MHz, middle channel: 2437 MHz and highest channel: 2462 MHz for 802.11b/g/n(HT20)
- 3) Test frequencies are lowest channel: 2422 MHz, middle channel: 2437 MHz and highest channel: 2452 MHz for 802.11n(HT40)

4

Ant	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	NOTE
1	N/A	C225(C525)	Integral Antenna	N/A	0	WLAN Antenna



2.2 DESCRIPTION OF TEST MODES

Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

Worst Mode	Description	Data Rate
Mode 1	TX IEEE 802.11b CH1	1 Mbps
Mode 2	TX IEEE 802.11b CH6	1 Mbps
Mode 3	TX IEEE 802.11 b CH11	1 Mbps
Mode 4	TX IEEE 802.11g CH1	6 Mbps
Mode 5	TX IEEE 802.11g CH6	6 Mbps
Mode 6	TX IEEE 802.11g CH11	6 Mbps
Mode 7	TX IEEE 802.11n HT20 CH1	MCS 0
Mode 8	TX IEEE 802.11n HT20 CH6	MCS 0
Mode 9	TX IEEE 802.11n HT20 CH11	MCS 0
Mode 10	TX IEEE 802.11n HT40 CH3	MCS 0
Mode 11	TX IEEE 802.11n HT40 CH6	MCS 0
Mode 12	TX IEEE 802.11n HT40 CH9	MCS 0
Mode13	Wi-Fi transmitting mode	/
Mode 14	Charging mode	/

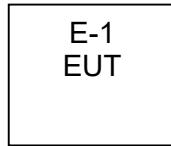
Note:

- 1) The measurements are performed at all Bit Rate of Transmitter, the worst data was reported
- 2) We have been tested for all available U.S. voltage and frequencies(For 120V,50/60Hz and 240V, 50/60Hz) for which the device is capable of operation, and the worst case of 120V/60Hz is shown in the report
- 3) Controlled using a bespoke application on the laptop PC supplied by the customer. The application was used to enable a continuous transmission mode and to select the test channels, data rates and modulation schemes as required.

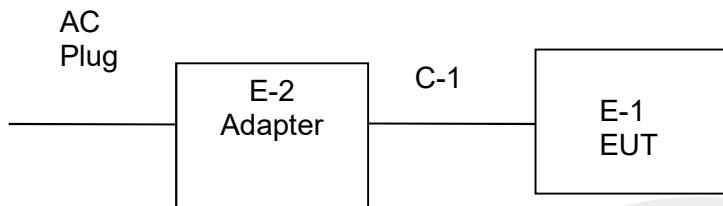


2.3 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

Radiation Test Set



Conduction Test Set



2.4 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Mfr/Brand	Model/Type No.	Serial No.	Note
E-2	Adapter	TianYin	TPA-97050150U01	201802001	N/A
E-3	Battery	Tianmao	I9300	N/A	N/A

Item	Shielded Type	Ferrite Core	Length	Note
C-1	Adapter DC Cable	NO	200cm	N/A

Note:

- 1) The support equipment was authorized by Declaration of Confirmation.
- 2) For detachable type I/O cable should be specified the length in cm in『Length』column.
- 3) "YES" is means "shielded" "with core"; "NO" is means "unshielded" "without core".



2.5 EQUIPMENTS LIST FOR ALL TEST ITEMS

Radiation Test Equipment

Kind of Equipment	Manufacturer	Type No.	Serial No.	Last Calibration	Calibrated Until
EMI Test Receiver	R&S	ESW	101535	2018.05.17	2019.05.16
Bilog Antenna	TESEQ	CBL6111D	34678	2017.11.02	2018.11.01
Horn Antenna	Schwarzbeck	BBHA 9120D	9120D-1343	2017.10.27	2018.10.26
SHF-EHF Horn Antenna (18G-40GHz)	A-INFO	LB-180400-KF	N/A	2018.03.11	2019.03.10
Temperature & Humidity	HH660	Mieo	N/A	2017.10.15	2018.10.14
Temperature & Humidity	HH660	Mieo	N/A	2017.10.15	2018.10.14
Pre-mplifier (0.1M-3GHz)	EM	EM330	60538	2018.03.11	2019.03.10
PreAmplifier (1G-26.5GHz)	Agilent	8449B	60538	2017.10.15	2018.10.14
Passive Loop (9K--30MHz)	ZHNAN	ZN3090C	16035	2018.03.11	2019.03.10
Low frequency cable	EM	R01	N/A	2018.03.11	2019.03.10
Low frequency cable	EM	R06	N/A	2018.03.11	2019.03.10
High frequency cable	SCHWARZBECK	R04	N/A	2018.03.11	2019.03.10
High frequency cable	SCHWARZBECK	R02	N/A	2018.03.11	2019.03.10
Semi-anechoic chamber	Changling	966	N/A	2017.10.15	2018.10.14
trun table	EM	SC100_1	60531	N/A	N/A
Antnna mast	EM	SC100	N/A	N/A	N/A
Max-full Antenna Corp	MF	MFA-440H	N/A	N/A	N/A

Conduction Test equipment

Kind of Equipment	Manufacturer	Type No.	Serial No.	Last Calibration	Calibrated Until
Test Receiver	R&S	ESCI	101427	2017.10.15	2018.10.14
LISN	R&S	ENV216	101242	2017.10.15	2018.10.14
conduction Cable	EM	C01	N/A	2018.03.11	2019.03.10
Temperature & Humidity	Mieo	HH660	N/A	2017.10.15	2018.10.14



RF Connected Test

Kind of Equipment	Manufacturer	Type No.	Serial No.	Last Calibration	Calibrated Until
USB RF power sensor	DARE	RPR3006W	15I00041SNO03	2017.10.15	2018.10.14
Power Meter	R&S	NRP	100510	2017.10.15	2018.10.14
Spectrum Analyzer	Agilent	N9020A	MY51110105	2018.03.08	2019.03.07
Signal Analyzer	Agilent	N9020A	MY49100060	2017.10.15	2018.10.14

Note:

The temporary antenna connector is soldered on the PCB board in order to perform conducted tests and this temporary antenna connector is listed in the equipment list.





3 EMC EMISSION TEST

3.1 CONDUCTED EMISSION MEASUREMENT

3.1.1 POWER LINE CONDUCTED EMISSION LIMITS

operating frequency band. In case the emission fall within the restricted band specified on Part 15. 207(a), 107(a), RSS-Gen Table3 and ICES-003 Table2 limit in the table below has to be followed.

This item was performed according to the procedures in ANSI C63.10: 2013 and ANSI C63.4: 2014.

FREQUENCY (MHz)	Conducted Emission limit (dBuV)	
	Quasi-peak	Average
0.15 -0.5	66 - 56 *	56 - 46 *
0.50 -5.0	56.00	46.00
5.0 -30.0	60.00	50.00

Note:

- 1) The tighter limit applies at the band edges.
- 2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

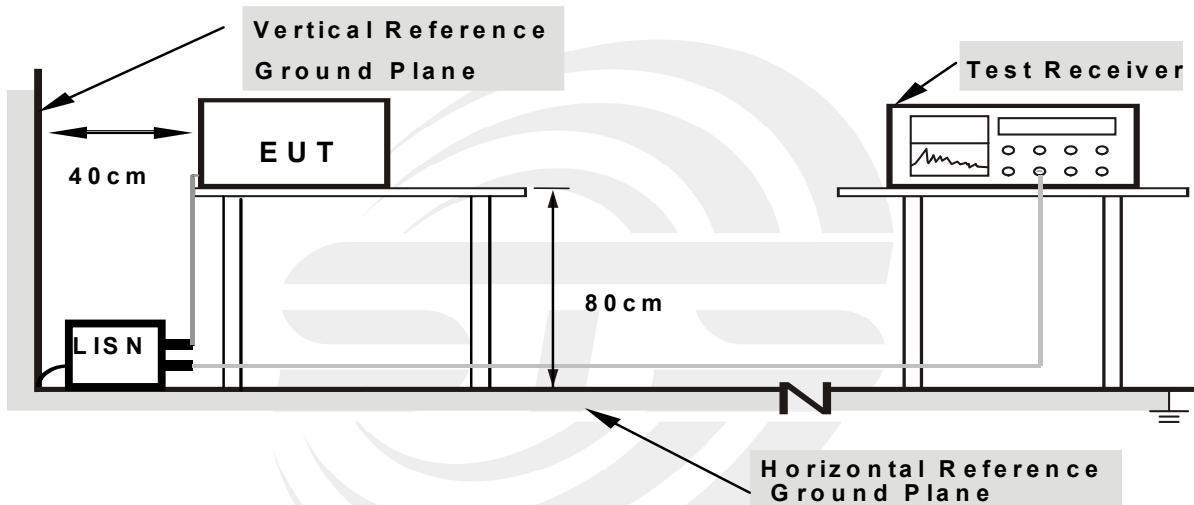
The following table is the setting of the receiver

Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

3.1.2 TEST PROCEDURE

- a. The EUT was 0.8 meters from the horizontal ground plane and 0.4 meters from the vertical ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
- c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- d. LISN at least 80 cm from nearest part of EUT chassis.
- e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

3.1.3 TEST SETUP



Note: 1. Support units were connected to second LISN.
2. Both of LISNs (AMN) are 80 cm from EUT and at least 80 cm from other units and other metal planes

3.1.4 EUT OPERATING CONDITIONS

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.



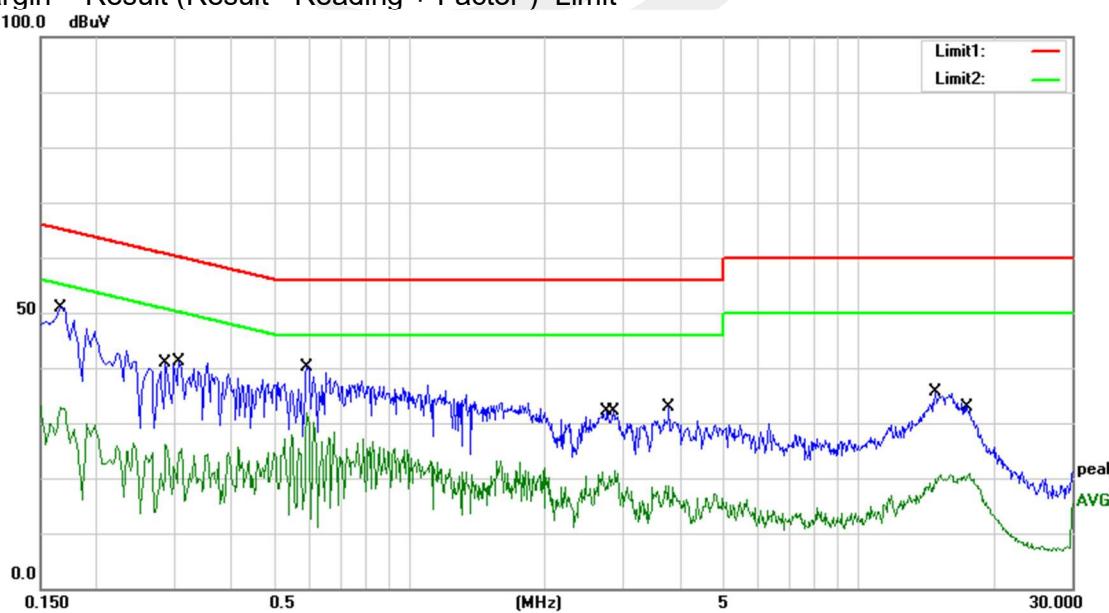
3.1.5 TEST RESULT

Temperature:	25 °C	Relative Humidity:	61%
Test Voltage:	AC 120V/60Hz	Phase:	L
Test Mode:	Mode 13		

Frequency (MHz)	Reading (dBuV)	Correct Factor(dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
0.1660	41.14	9.79	50.93	65.16	-14.23	QP
0.1677	22.88	9.79	32.67	55.07	-22.40	Avg
0.2860	15.88	10.21	26.09	50.64	-24.55	QP
0.3060	30.74	10.26	41.00	60.08	-19.08	Avg
0.5900	30.19	9.93	40.12	56.00	-15.88	QP
0.5900	22.03	9.93	31.96	46.00	-14.04	Avg
2.7540	22.27	9.90	32.17	56.00	-23.83	QP
2.8740	11.37	9.91	21.28	46.00	-24.72	Avg
3.7780	8.63	9.93	18.56	46.00	-27.44	QP
3.7940	23.03	9.93	32.96	56.00	-23.04	Avg
14.8780	25.54	10.07	35.61	60.00	-24.39	QP
17.6820	10.51	10.28	20.79	50.00	-29.21	Avg

Remark:

1. All readings are Quasi-Peak and Average values.
2. Margin = Result (Result =Reading + Factor)–Limit



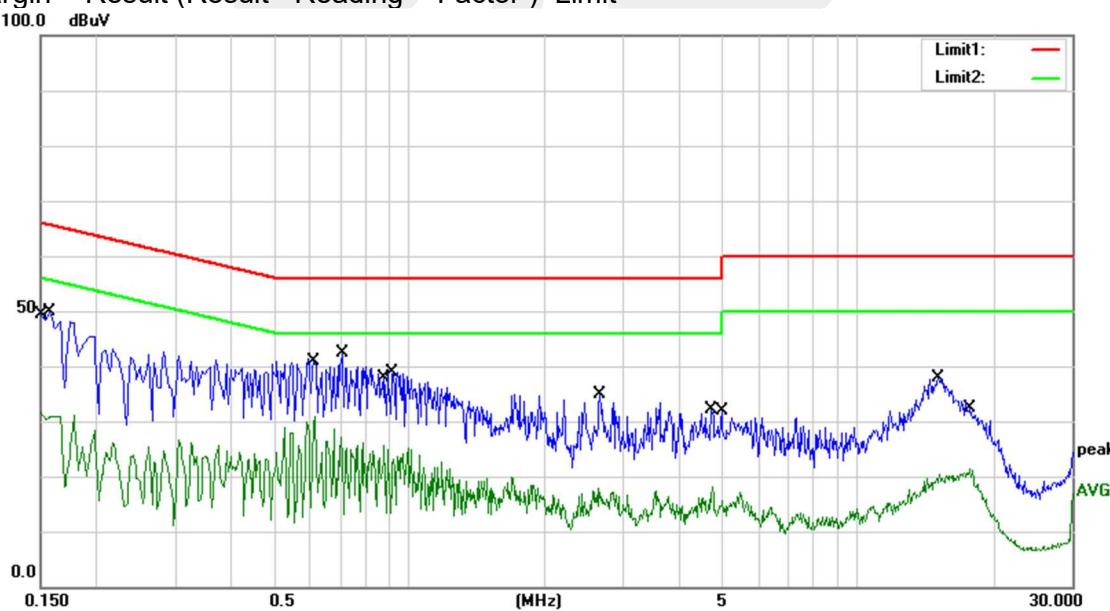


Temperature:	25 °C	Relative Humidity:	61%
Test Voltage:	AC 120V/60Hz	Phase:	N
Test Mode:	Mode 13		

Frequency (MHz)	Reading (dBuV)	Correct Factor(dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
0.1500	21.82	9.79	31.61	56.00	-24.39	QP
0.1580	40.15	9.79	49.94	65.57	-15.63	AVG
0.6140	20.97	9.92	30.89	46.00	-15.11	QP
0.7060	32.44	9.84	42.28	56.00	-13.72	AVG
0.8780	15.78	9.82	25.60	46.00	-20.40	QP
0.9220	29.09	9.81	38.90	56.00	-17.10	AVG
2.6300	8.03	9.80	17.83	46.00	-28.17	QP
2.6620	25.08	9.80	34.88	56.00	-21.12	AVG
4.7380	8.20	9.85	18.05	46.00	-27.95	QP
4.9740	21.96	9.85	31.81	56.00	-24.19	AVG
15.1300	27.67	10.24	37.91	60.00	-22.09	QP
17.7620	11.07	10.35	21.42	50.00	-28.58	AVG

Remark:

1. All readings are Quasi-Peak and Average values.
2. Margin = Result (Result =Reading + Factor)—Limit



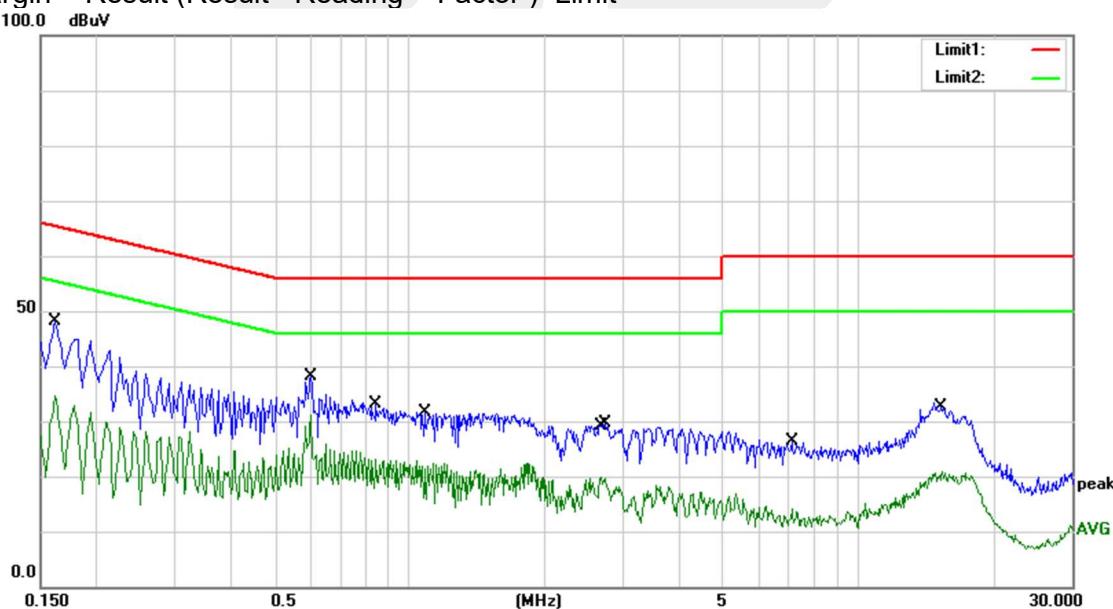


Temperature:	25 °C	Relative Humidity:	61%
Test Voltage:	AC 120V/60Hz	Phase:	N
Test Mode:	Mode 14 (Part 15B & ICES-003)		

Frequency (MHz)	Reading (dBuV)	Correct Factor(dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
0.1620	38.22	9.78	48.00	65.36	-17.36	QP
0.1620	24.75	9.78	34.53	55.36	-20.83	AVG
0.6020	28.18	9.92	38.10	56.00	-17.90	QP
0.6020	21.31	9.92	31.23	46.00	-14.77	AVG
0.8420	13.26	9.84	23.10	46.00	-22.90	QP
1.0820	21.71	9.81	31.52	56.00	-24.48	AVG
2.6660	9.86	9.90	19.76	46.00	-26.24	QP
2.7340	19.69	9.90	29.59	56.00	-26.41	AVG
7.1140	16.55	9.88	26.43	60.00	-33.57	QP
7.1140	4.21	9.88	14.09	50.00	-35.91	AVG
15.3900	10.83	10.11	20.94	50.00	-29.06	QP
15.4860	22.09	10.11	32.20	60.00	-27.80	AVG

Remark:

1. All readings are Quasi-Peak and Average values.
2. Margin = Result (Result =Reading + Factor)—Limit



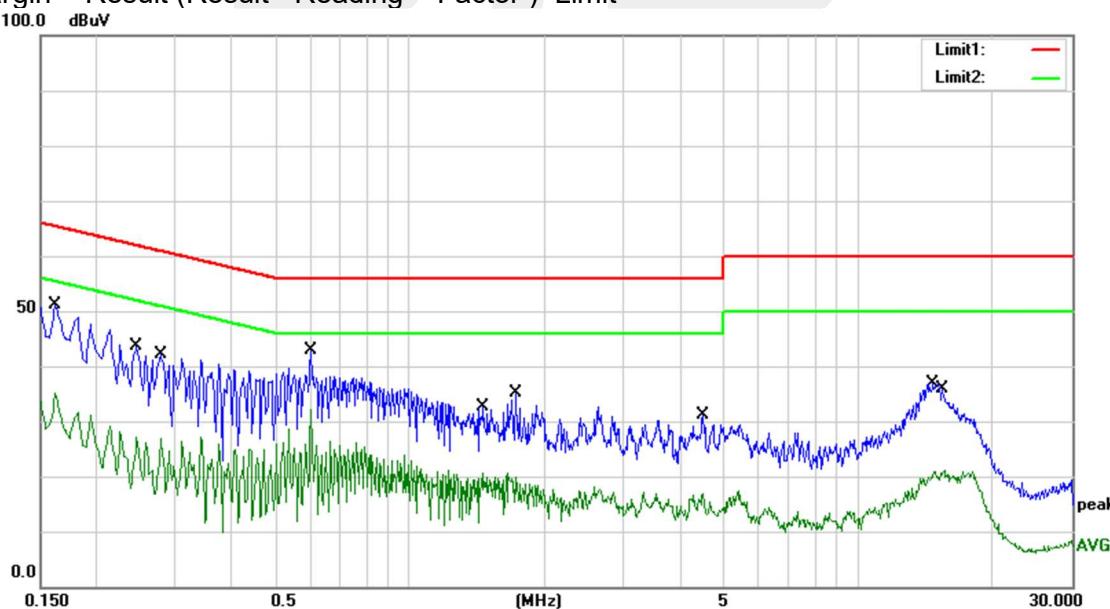


Temperature:	25 °C	Relative Humidity:	61%
Test Voltage:	AC 120V/60Hz	Phase:	L
Test Mode:	Mode 14 (Part 15B & ICES-003)		

Frequency (MHz)	Reading (dBuV)	Correct Factor(dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
0.1620	41.31	9.79	51.10	65.36	-14.26	QP
0.1620	25.26	9.79	35.05	55.36	-20.31	AVG
0.2460	17.26	9.99	27.25	51.89	-24.64	QP
0.2780	31.90	10.13	42.03	60.88	-18.85	AVG
0.6020	32.87	9.93	42.80	56.00	-13.20	QP
0.6020	22.20	9.93	32.13	46.00	-13.87	AVG
1.4620	10.82	9.79	20.61	46.00	-25.39	QP
1.7220	25.35	9.79	35.14	56.00	-20.86	AVG
4.5100	21.15	9.85	31.00	56.00	-25.00	QP
4.5100	7.03	9.85	16.88	46.00	-29.12	AVG
14.6820	26.76	10.23	36.99	60.00	-23.01	QP
15.6020	10.79	10.26	21.05	50.00	-28.95	AVG

Remark:

1. All readings are Quasi-Peak and Average values.
2. Margin = Result (Result =Reading + Factor)—Limit





3.2 RADIATED EMISSION MEASUREMENT

3.2.1 RADIATED EMISSION LIMITS

Frequencies (MHz)	Class A (at 10m)		Class B (at 3m)	
	dBuV/m		dBuV/m	
30~88		39.0		40.0
88~216		43.5		43.5
216~960		46.5		46.0
Above 960		49.5		54.0

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)

FREQUENCY (MHz)	Class A (dBuV/m) (at 3M)		Class B (dBuV/m) (at 3M)	
	PEAK	AVERAGE	PEAK	AVERAGE
Above 1000	80	60	74	54

Note:

- 1) The tighter limit applies at the band edges.
- 2) Emission level (dBuV/m)=20log Emission level (uV/m).

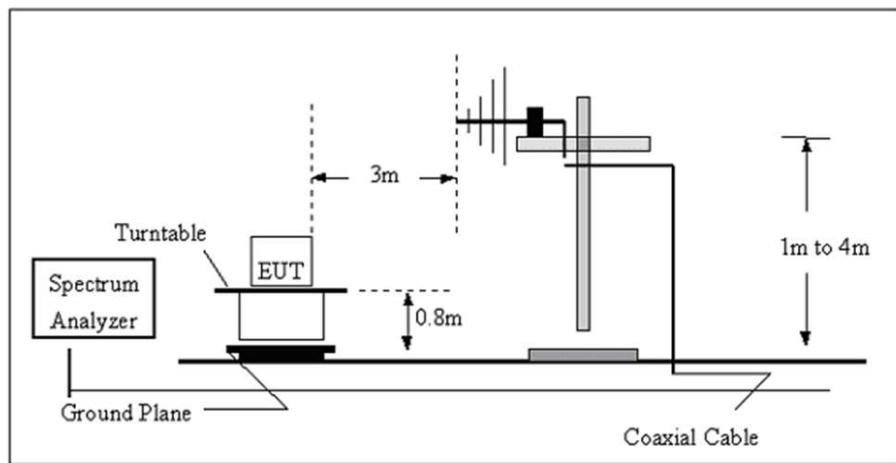
3.2.2 TEST PROCEDURE

- a) The measuring distance of at 3 m shall be used for measurements at frequency up to 1GHz. For frequencies above 1GHz, any suitable measuring distance may be used.
- b) The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter open area test site. The table was rotated 360 degrees to determine the position of the highest radiation.
- c) The height of the equipment or of the substitution antenna shall be 0.8 m; the height of the test antenna shall vary between 0.8 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d) 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.
- e) If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
- f) For the actual test configuration, please refer to the related Item –EUT Test Photos.

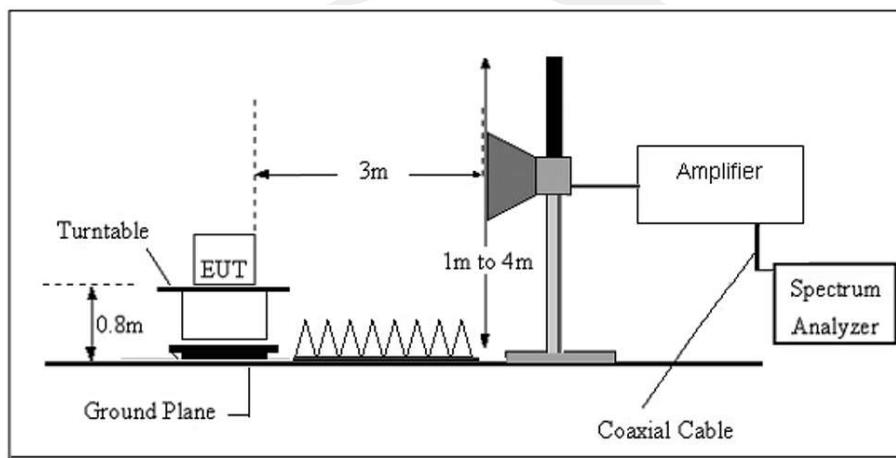
Note: Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported

3.2.3 TEST SETUP

a) Radiated Emission Test-Up Frequency 30MHz~1GHz



b) Radiated Emission Test-Up Frequency Above 1GHz



3.2.4 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.



3.2.5 TEST RESULTS

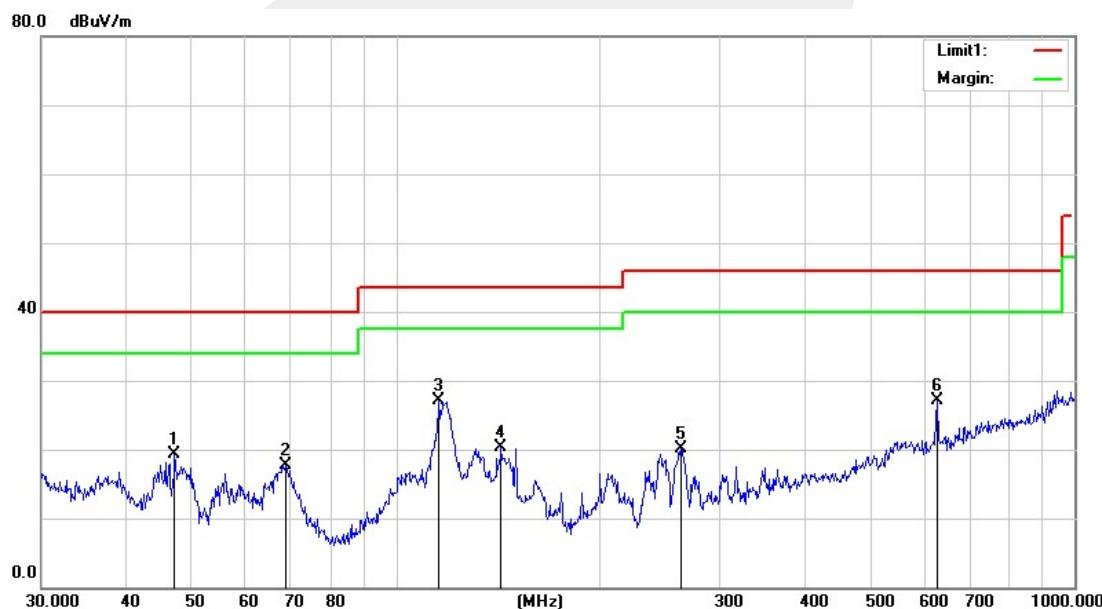
Between 30-1000MHz:

Temperature:	26 °C	Relative Humidity:	54%
Pressure:	1010hPa	Phase:	Horizontal
Test Voltage:	AC 120V/60Hz	Test Mode:	Mode 14 (Part 15B & ICES-003)

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	47.1600	39.35	-20.01	19.34	40.00	-20.66	QP
2	68.6310	41.86	-24.14	17.72	40.00	-22.28	QP
3	115.7256	44.98	-17.97	27.01	43.50	-16.49	QP
4	142.8243	37.92	-17.64	20.28	43.50	-23.22	QP
5	262.8955	35.28	-15.17	20.11	46.00	-25.89	QP
6	627.2738	33.47	-6.42	27.05	46.00	-18.95	QP

Remark:

1. All readings are Quasi-Peak .
2. Margin = Result (Result =Reading + Factor)–Limit





Temperature:	26 °C	Relative Humidity:	54%
Pressure:	1010hPa	Phase:	Vertical
Test Voltage:	AC 120V/60Hz	Test Mode:	Mode 14 (Part 15B & ICES-003)

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Results (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	37.6798	47.04	-15.13	31.91	40.00	-8.09	QP
2	57.7962	48.52	-23.70	24.82	40.00	-15.18	QP
3	116.5401	47.18	-17.91	29.27	43.50	-14.23	QP
4	144.8418	42.77	-17.74	25.03	43.50	-18.47	QP
5	263.8190	35.90	-15.22	20.68	46.00	-25.32	QP
6	627.2738	32.78	-6.42	26.36	46.00	-19.64	QP

Remark:

1. All readings are Quasi-Peak .
2. Margin = Result (Result =Reading + Factor)-Limit





Between 1GHz – 6GHz:



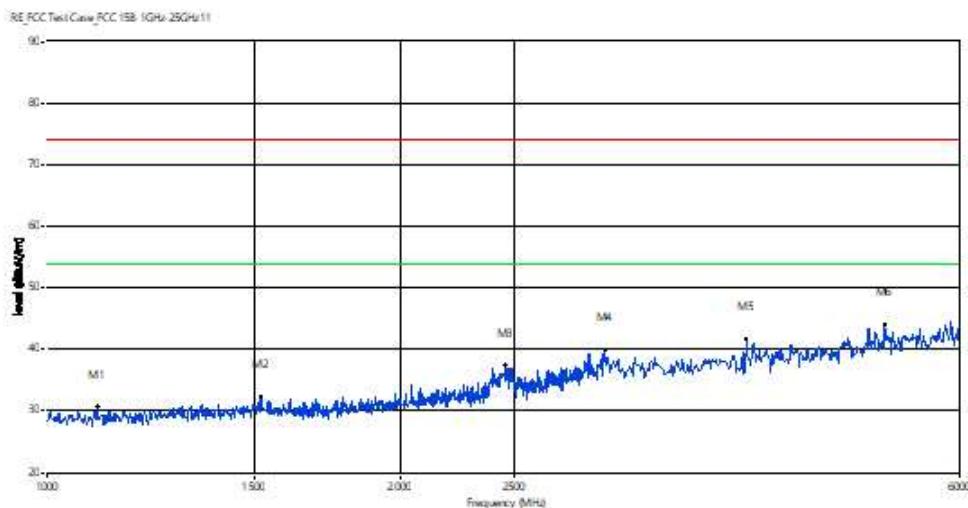
深华检测中心 Shenzhen STS Test Services C., Ltd.
Zhuoke Science Park, Chongqing Road, Fuyong, Baoan District, Shenzhen, China
Tel:(+86)-0755-36886288 FAX:(+86)-0755-36886277 <http://www.stsapp.com>

Test result

Project Number: STS1806066

Test Time: 2018-06-13_12.41.48

EUT Name:	Baby Monitor	Test Engineer:	Zhou GL
Model:	B225PU(B220PU)	Test Standard:	FCC Part15B
Model:	Charging mode	Work Addition:	Normal
Temp.(oC):	25	Ant.Polar.:	Horizontal
Hum.:	65%	Remark:	N.A



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	1103.898	30.85	-20.26	74.00	-43.15	Peak	1.00	100	Horizontal	Pass
1	1103.898	20.17	-20.26	54.00	-33.83	Avg	1.00	100	Horizontal	Pass
2	1521.479	32.48	-19.16	74.00	-41.52	Peak	344.10	100	Horizontal	Pass
2	1521.479	21.56	-19.16	54.00	-32.44	Avg	344.10	100	Horizontal	Pass
3	2460.539	37.44	-13.74	74.00	-36.56	Peak	3.10	100	Horizontal	Pass
3	2460.539	26.78	-13.74	54.00	-27.22	Avg	3.10	100	Horizontal	Pass
4	2990.010	40.03	-11.87	74.00	-33.97	Peak	136.10	100	Horizontal	Pass
4	2990.010	29.57	-11.87	54.00	-24.43	Avg	136.10	100	Horizontal	Pass
5	3949.051	41.76	-11.06	74.00	-32.24	Peak	64.30	100	Horizontal	Pass
5	3949.051	30.99	-11.06	54.00	-23.01	Avg	64.30	100	Horizontal	Pass
6	5177.822	44.12	-6.71	74.00	-29.88	Peak	228.30	100	Horizontal	Pass
6	5177.822	33.85	-6.71	54.00	-20.15	Avg	228.30	100	Horizontal	Pass



盛普华检测中心 Shenzhen STS Test Services C., Ltd.
Zhuoke Science Park, Chongqing Road, Fuyong, Bao'an District, Shenzhen, China
Tel:(+86)-0755-36886288 FAX:(+86)-0755-36886277 http://www.stsapp.com

Test result

Project Number: STS1806066

Test Time: 2018-06-13_12.47.53

EUT Name: Baby Monitor

Test Engineer: Zhou GL

Model: B225PU(B220PU)

Test Standard: FCC Part15B

Model: Charging mode

Work Addition: Normal

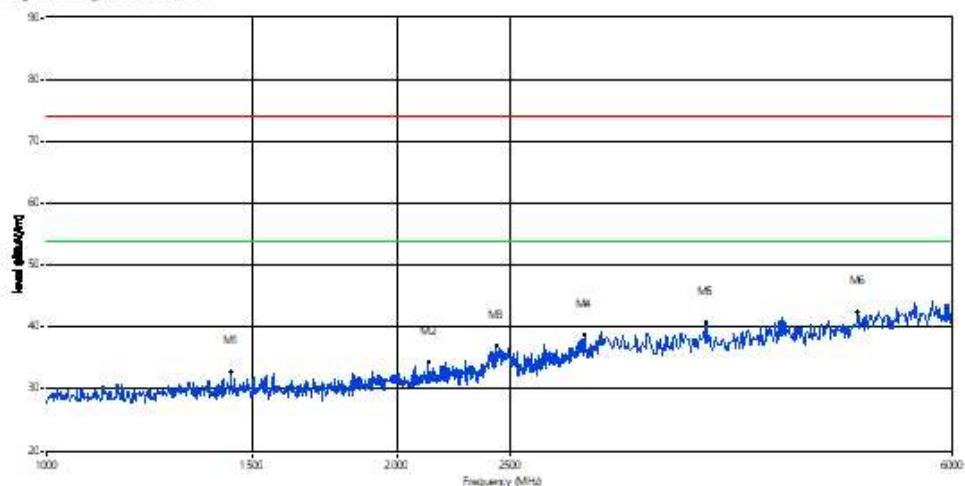
Temp.(oC): 25

Ant.Polar.: Vertical

Hum.: 65%

Remark: N.A

IEC_FCC Test Case: FCC 15B 1GHz-25GHz



No.	Frequency (MHz)	Results (dBc/m)	Factor (dB)	Limit (dBc/m)	Margin (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	1439.560	32.75	-19.06	74.00	-41.25	Peak	231.70	100	Vertical	Pass
1	1439.560	21.48	-19.06	54.00	-32.52	Avg	231.70	100	Vertical	Pass
2	2128.871	34.46	-17.04	74.00	-39.54	Peak	380.00	100	Vertical	Pass
2	2128.871	23.79	-17.04	54.00	-30.21	Avg	380.00	100	Vertical	Pass
3	2434.565	36.95	-13.94	74.00	-37.05	Peak	127.90	100	Vertical	Pass
3	2434.565	26.44	-13.94	54.00	-27.56	Avg	127.90	100	Vertical	Pass
4	2900.100	38.75	-13.03	74.00	-35.25	Peak	237.30	100	Vertical	Pass
4	2900.100	27.07	-13.03	54.00	-26.03	Avg	237.30	100	Vertical	Pass
5	3689.311	40.68	-11.68	74.00	-33.32	Peak	154.00	100	Vertical	Pass
5	3689.311	30.24	-11.68	54.00	-23.76	Avg	154.00	100	Vertical	Pass
6	4978.022	42.56	-7.86	74.00	-31.44	Peak	85.10	100	Vertical	Pass
6	4978.022	31.77	-7.86	54.00	-22.23	Avg	85.10	100	Vertical	Pass



3.3 RADIATED SPURIOUS EMISSION MEASUREMENT

3.3.1 RADIATED EMISSION LIMITS

in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the Restricted band specified on Part15.205(a)&209(a) and RSS-247 Issue 2 limit in the table and according to ANSI C63.10-2013 below has to be followed.

LIMITS OF RADIATED EMISSION MEASUREMENT (0.009MHz - 1000MHz)

Frequencies (MHz)	Field Strength (micorvolts/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

LIMITS OF RADIATED EMISSION MEASUREMENT (1000MHz-25GHz)

FREQUENCY (MHz)	(dBuV/m) (at 3M)	
	PEAK	AVERAGE
Above 1000	74	54

Notes:

- (1) The limit for radiated test was performed according to FCC PART 15C.
- (2) The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m)=20log Emission level (uV/m).

For Radiated Emission

Spectrum Parameter	Setting
Attenuation	Auto
Detector	Peak/AV
Start Frequency	1000 MHz(Peak/AV)
Stop Frequency	10th carrier hamonic(Peak/AV)
RB / VB (emission in restricted)	1 MHz /3MHz

For Band edge

Spectrum Parameter	Setting
Detector	Peak/AV
Start/Stop Frequency	Lower Band Edge: 2300 to 2422 MHz Upper Band Edge: 2452 to 2500 MHz
RB / VB (emission in restricted band)	1 MHz /3MHz



Receiver Parameter	Setting
Start ~ Stop Frequency	9kHz~90kHz / RB 200Hz for PK & AV
Start ~ Stop Frequency	90kHz~110kHz / RB 200Hz for QP
Start ~ Stop Frequency	110kHz~490kHz / RB 200Hz for PK & AV
Start ~ Stop Frequency	490kHz~30MHz / RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RB 120kHz for QP

3.3.2 TEST PROCEDURE

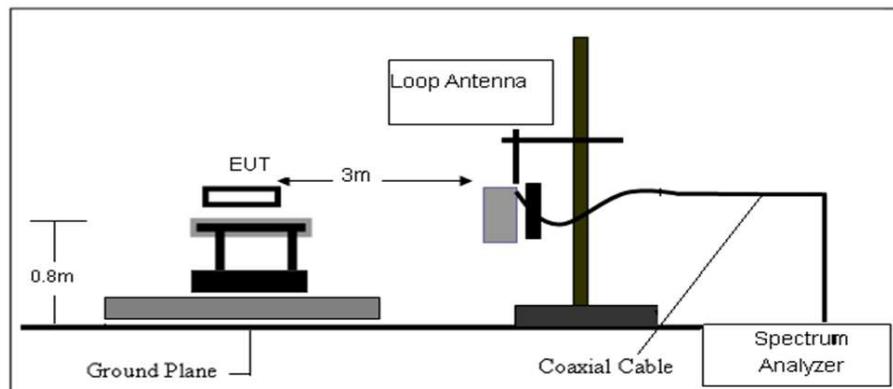
- a) The measuring distance of at 3 m shall be used for measurements at frequency 0.009MHz up to 1GHz. For frequencies above 1GHz, any suitable measuring distance may be used.
- b) The EUT was placed on the top of a rotating table 0.8 meters(above 1GHz is 1.5 m) above the ground at a 3 meter anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- c) The height of the equipment shall be 0.8 m(above 1GHz is 1.5 m); the height of the test antenna shall vary between 1 m to 4 m. Horizontal and vertical polarizations of the antenna are set to make the measurement
- d) 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.
- e) If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
- f) For the actual test configuration, please refer to the related Item –EUT Test Photos.

Note:

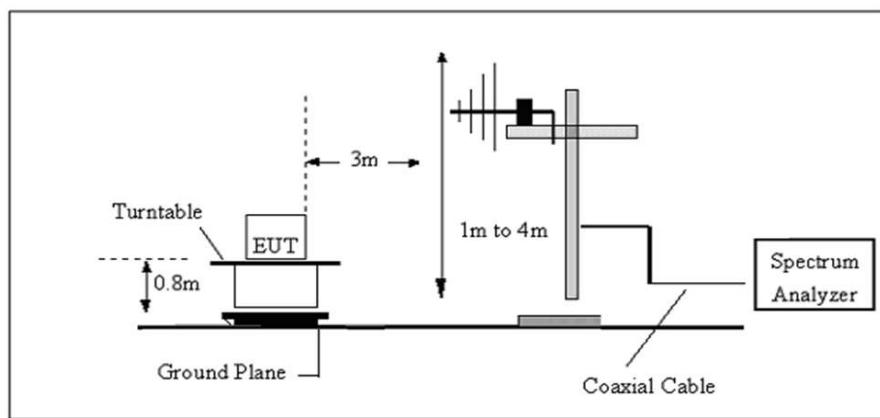
Both horizontal and vertical antenna polarities were tested and performed test to three orthogonal axis. The worst case emissions were reported

3.3.3 TEST SETUP

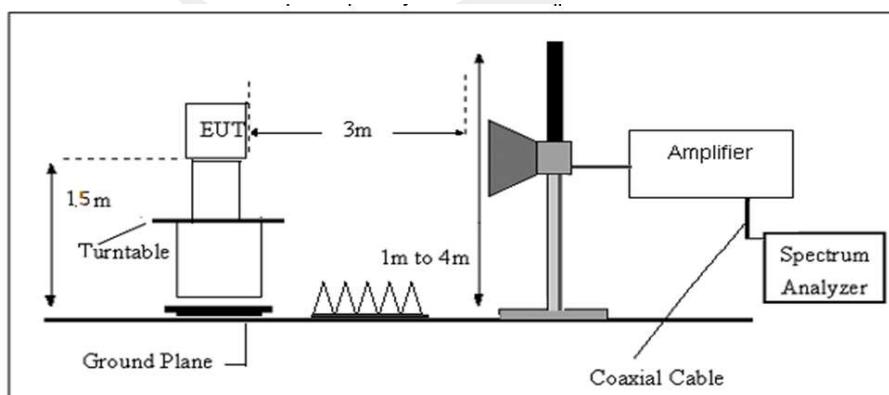
a) Radiated Emission Test-Up Frequency Below 30MHz



b) Radiated Emission Test-Up Frequency 30MHz~1GHz



c) Radiated Emission Test-Up Frequency Above 1GHz



3.3.4 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of 2.3 Unless otherwise a special operating condition is specified in the follows during the testing.



3.3.5 FIELD STRENGTH CALCULATION

The field strength is calculated by adding the Antenna Factor and Cable Factor and subtracting the Amplifier Gain and Duty Cycle Correction Factor (if any) from the measured reading. The basic equation with a sample calculation is as follows:

$$FS = RA + AF + CL - AG$$

Where

FS = Field Strength

CL = Cable Attenuation Factor (Cable Loss)

RA = Reading Amplitude

AG = Amplifier Gain

AF = Antenna Factor

For example

Frequency (MHz)	FS (dB μ V/m)	RA (dB μ V/m)	AF (dB)	CL (dB)	AG (dB)	Factor (dB)
300	40	58.1	12.2	1.6	31.9	-18.1

$$\text{Factor} = AF + CL - AG$$

3.3.6 TEST RESULT

9KHz-30MHz

Temperature:	25 °C	Relative Humidity:	61%
Test Voltage :	DC 3.8V From Battery	Polarization :	--
Test Mode :	TX Mode		

Freq. (MHz)	Reading (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	State	Test Result
				P/F	
--	--	--	--	--	PASS
--	--	--	--	--	PASS

Note:

The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

Distance extrapolation factor = $40 \log (\text{specific distance/test distance})$ (dB);

Limit line = specific limits(dBuV) + distance extrapolation factor.



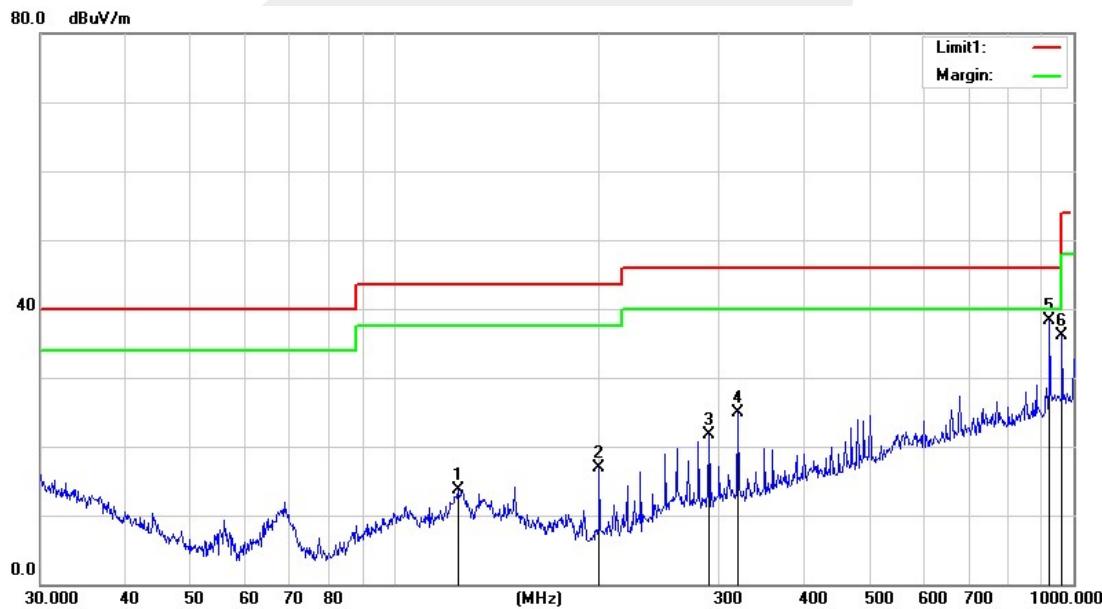
(30MHz - 1000MHz)

Temperature:	25.7 °C	Relative Humidity:	63%
Test Voltage :	DC 3.8V	Polarization :	Horizontal
Test Mode :	Mode 1/2/3/4/5/6/7/8/9/10/11/12 (Mode 2-1Mbps worst mode)		

Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
123.6984	31.35	-17.64	13.71	43.50	-29.79	QP
199.9856	37.05	-20.17	16.88	43.50	-26.62	QP
290.0172	37.17	-15.41	21.76	46.00	-24.24	QP
319.9370	39.12	-14.17	24.95	46.00	-21.05	QP
922.5157	39.70	-1.47	38.23	46.00	-7.77	QP
962.1622	36.19	-0.12	36.07	54.00	-17.93	QP

Remark:

1. Margin = Result (Result =Reading + Factor)–Limit



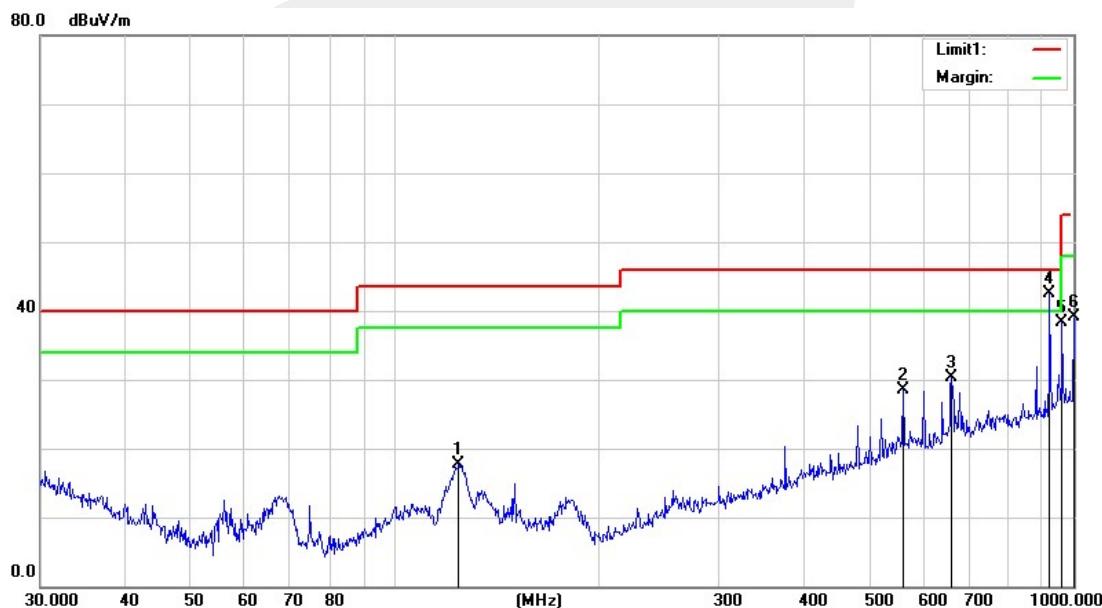


Temperature:	25.7 °C	Relative Humidity:	63%
Test Voltage :	DC 3.8V	Polarization :	Vertical
Test Mode :	Mode 1/2/3/4/5/6/7/8/9/10/11/12 (Mode 2-1Mbps worst mode)		

Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
124.1330	35.43	-17.64	17.79	43.50	-25.71	QP
560.6928	35.07	-6.57	28.50	46.00	-17.50	QP
661.1505	36.57	-6.23	30.34	46.00	-15.66	QP
922.5157	43.91	-1.47	42.44	46.00	-3.56	QP
962.1623	38.45	-0.12	38.33	54.00	-15.67	QP
1000.0000	39.10	-0.07	39.03	54.00	-14.97	QP

Remark:.

1. Margin = Result (Result =Reading + Factor)–Limit





(1000MHz-25GHz) Restricted band and Spurious emission Requirements

802.11b Low Channel

Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	ANT	Verdict
24916.084	60.75	7.08	74.00	-13.25	Peak	Vertical	Pass
24916.084	48.92	7.08	54.00	-5.08	Average	Vertical	Pass
16980.020	57.07	7.09	74.00	-16.93	Peak	Vertical	Pass
16980.020	45.58	7.09	54.00	-8.42	Average	Vertical	Pass
14114.885	56.32	3.96	74.00	-17.68	Peak	Vertical	Pass
14114.885	45.18	3.96	54.00	-8.82	Average	Vertical	Pass
9503.497	50.22	2.61	74.00	-23.78	Peak	Vertical	Pass
9503.497	38.47	2.61	54.00	-15.53	Average	Vertical	Pass
6836.164	46.79	-4.18	74.00	-27.21	Peak	Vertical	Pass
6836.164	35.24	-4.18	54.00	-18.76	Average	Vertical	Pass
2998.002	40.84	-11.24	74.00	-33.16	Peak	Vertical	Pass
2998.002	30.11	-11.24	54.00	-23.89	Average	Vertical	Pass
24280.719	60.83	6.76	74.00	-13.17	Peak	Horizontal	Pass
24280.719	49.63	6.76	54.00	-4.37	Average	Horizontal	Pass
16296.703	58.62	6.58	74.00	-15.38	Peak	Horizontal	Pass
16296.703	46.02	6.58	54.00	-7.98	Average	Horizontal	Pass
14078.921	55.55	2.59	74.00	-18.45	Peak	Horizontal	Pass
14078.921	44.23	2.59	54.00	-9.77	Average	Horizontal	Pass
9503.497	51.69	2.61	74.00	-22.31	Peak	Horizontal	Pass
9503.497	40.08	2.61	54.00	-13.92	Average	Horizontal	Pass
6806.194	48.00	-3.99	74.00	-26.00	Peak	Horizontal	Pass
6806.194	37.53	-3.99	54.00	-16.47	Average	Horizontal	Pass
2448.551	41.48	-13.79	74.00	-32.52	Peak	Horizontal	Pass
2448.551	30.11	-13.79	54.00	-23.89	Average	Horizontal	Pass



802.11b Mid Channel

Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	ANT	Verdict
23873.127	61.14	6.61	74.00	-12.86	Peak	Vertical	Pass
23873.127	49.87	6.61	54.00	-4.13	Average	Vertical	Pass
16296.703	58.13	6.58	74.00	-15.87	Peak	Vertical	Pass
16296.703	47.02	6.58	54.00	-6.98	Average	Vertical	Pass
14258.741	54.92	2.31	74.00	-19.08	Peak	Vertical	Pass
14258.741	42.13	2.31	54.00	-11.87	Average	Vertical	Pass
9503.497	51.19	2.61	74.00	-22.81	Peak	Vertical	Pass
9503.497	40.01	2.61	54.00	-13.99	Average	Vertical	Pass
6806.194	47.69	-3.99	74.00	-26.31	Peak	Vertical	Pass
6806.194	35.76	-3.99	54.00	-18.24	Average	Vertical	Pass
2990.010	40.31	-11.87	74.00	-33.69	Peak	Vertical	Pass
2990.010	30.07	-11.87	54.00	-23.93	Average	Vertical	Pass
24208.791	61.63	6.72	74.00	-12.37	Peak	Horizontal	Pass
24208.791	49.67	6.72	54.00	-4.33	Average	Horizontal	Pass
16980.020	57.43	7.09	74.00	-16.57	Peak	Horizontal	Pass
16980.020	46.03	7.09	54.00	-7.97	Average	Horizontal	Pass
14090.909	54.88	3.41	74.00	-19.12	Peak	Horizontal	Pass
14090.909	43.05	3.41	54.00	-10.95	Average	Horizontal	Pass
9503.497	50.56	2.61	74.00	-23.44	Peak	Horizontal	Pass
9503.497	39.82	2.61	54.00	-14.18	Average	Horizontal	Pass
6816.184	48.49	-3.86	74.00	-25.51	Peak	Horizontal	Pass
6816.184	26.27	-3.86	54.00	-27.73	Average	Horizontal	Pass
2992.008	40.43	-11.69	74.00	-33.57	Peak	Horizontal	Pass
2992.008	39.86	-11.69	54.00	-14.14	Average	Horizontal	Pass

**802.11b High Channel**

Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Margin (dB)	Detector	ANT	Verdict
24076.923	61.18	6.66	74.00	-12.82	Peak	Vertical	Pass
24076.923	49.97	6.66	54.00	-4.03	Average	Vertical	Pass
16344.655	57.39	5.70	74.00	-16.61	Peak	Vertical	Pass
16344.655	46.58	5.70	54.00	-7.42	Average	Vertical	Pass
14102.897	55.54	4.01	74.00	-18.46	Peak	Vertical	Pass
14102.897	44.11	4.01	54.00	-9.89	Average	Vertical	Pass
9503.497	50.56	2.61	74.00	-23.44	Peak	Vertical	Pass
9503.497	39.42	2.61	54.00	-14.58	Average	Vertical	Pass
6776.224	48.57	-4.10	74.00	-25.43	Peak	Vertical	Pass
6776.224	37.66	-4.10	54.00	-16.34	Average	Vertical	Pass
2996.004	39.79	-11.40	74.00	-34.21	Peak	Vertical	Pass
2996.004	30.21	-11.40	54.00	-23.79	Average	Vertical	Pass
24136.863	61.55	6.69	74.00	-12.45	Peak	Horizontal	Pass
24136.863	49.17	6.69	54.00	-4.83	Average	Horizontal	Pass
16164.835	57.66	6.07	74.00	-16.34	Peak	Horizontal	Pass
16164.835	46.42	6.07	54.00	-7.58	Average	Horizontal	Pass
14114.885	55.65	3.96	74.00	-18.35	Peak	Horizontal	Pass
14114.885	44.33	3.96	54.00	-9.67	Average	Horizontal	Pass
9623.377	50.62	-0.18	74.00	-23.38	Peak	Horizontal	Pass
9623.377	40.02	-0.18	54.00	-13.98	Average	Horizontal	Pass
6816.184	46.64	-3.86	74.00	-27.36	Peak	Horizontal	Pass
6816.184	35.42	-3.86	54.00	-18.58	Average	Horizontal	Pass
2998.002	40.94	-11.24	74.00	-33.06	Peak	Horizontal	Pass
2998.002	30.21	-11.24	54.00	-23.79	Average	Horizontal	Pass

Remark:

1. Factor = Antenna Factor + Cable Loss – Pre-amplifier.
2. Scan with 802.11b, 802.11g, 802.11n (HT-20), 802.11n (HT-40) the worst case is 802.11b.
Emission Level = Reading + Factor
Margin = Limit - Emission Level
3. The frequency emission of peak points that did not show above the forms are at least 20dB below the limit, the frequency emission is mainly from the environment noise.



3.3.7 TEST RESULTS (BAND EDGE REQUIREMENTS)

Frequency (MHz)	Reading (dB μ V)	Antenna Amplifier	Loss (dB)	Corrected Factor (dB/m)	Emission Factor (dB)	Emission				
						Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	Detector Type	Comment
802.11b										
2390.00	67.58	43.80	4.91	25.90	-12.99	54.59	74.00	-19.41	PK	Vertical
2390.00	53.79	43.80	4.91	25.90	-12.99	40.80	54.00	-13.20	AV	Vertical
2390.00	68.42	43.80	4.91	25.90	-12.99	55.43	74.00	-18.57	PK	Horizontal
2390.00	53.55	43.80	4.91	25.90	-12.99	40.56	54.00	-13.44	AV	Horizontal
2483.50	70.82	43.80	5.12	25.90	-12.78	58.04	74.00	-15.96	PK	Vertical
2483.50	53.23	43.80	5.12	25.90	-12.78	40.45	54.00	-13.55	AV	Vertical
2483.50	69.97	43.80	5.12	25.90	-12.78	57.19	74.00	-16.81	PK	Horizontal
2483.50	53.84	43.80	5.12	25.90	-12.78	41.06	54.00	-12.94	AV	Horizontal
802.11g										
2390.00	66.98	43.80	4.91	25.90	-12.99	53.99	74.00	-20.01	PK	Vertical
2390.00	52.64	43.80	4.91	25.90	-12.99	39.65	54.00	-14.35	AV	Vertical
2390.00	65.27	43.80	4.91	25.90	-12.99	52.28	74.00	-21.72	PK	Horizontal
2390.00	54.23	43.80	4.91	25.90	-12.99	41.24	54.00	-12.76	AV	Horizontal
2483.50	64.68	43.80	5.12	25.90	-12.78	51.90	74.00	-22.10	PK	Vertical
2483.50	53.17	43.80	5.12	25.90	-12.78	40.39	54.00	-13.61	AV	Vertical
2483.50	65.64	43.80	5.12	25.90	-12.78	52.86	74.00	-21.14	PK	Horizontal
2483.50	52.22	43.80	5.12	25.90	-12.78	39.44	54.00	-14.56	AV	Horizontal
802.11n20										
2390.00	66.31	43.80	4.91	25.90	-12.99	53.32	74.00	-20.68	PK	Vertical
2390.00	53.49	43.80	4.91	25.90	-12.99	40.50	54.00	-13.50	AV	Vertical
2390.00	65.27	43.80	4.91	25.90	-12.99	52.28	74.00	-21.72	PK	Horizontal
2390.00	53.08	43.80	4.91	25.90	-12.99	40.09	54.00	-13.91	AV	Horizontal
2483.50	65.96	43.80	5.12	25.90	-12.78	53.18	74.00	-20.82	PK	Vertical
2483.50	52.12	43.80	5.12	25.90	-12.78	39.34	54.00	-14.66	AV	Vertical
2483.50	64.58	43.80	5.12	25.90	-12.78	51.80	74.00	-22.20	PK	Horizontal
2483.50	51.44	43.80	5.12	25.90	-12.78	38.66	54.00	-15.34	AV	Horizontal



Frequency (MHz)	Reading (dB μ V)	Amplifier (dB)	Loss (dB)	Antenna		Corrected Factor (dB/m)	Emission			
				Factor (dB/m)	Factor (dB)		Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	
							Detector Type	Detector Type	Comment	
802.11n40										
2390.00	65.67	43.80	4.91	25.90	-12.99	52.68	74.00	-21.32	PK	Vertical
2390.00	53.04	43.80	4.91	25.90	-12.99	40.05	54.00	-13.95	AV	Vertical
2390.00	65.34	43.80	4.91	25.90	-12.99	52.35	74.00	-21.65	PK	Horizontal
2390.00	53.47	43.80	4.91	25.90	-12.99	40.48	54.00	-13.52	AV	Horizontal
2483.50	66.88	43.80	5.12	25.90	-12.78	54.10	74.00	-19.90	PK	Vertical
2483.50	52.43	43.80	5.12	25.90	-12.78	39.65	54.00	-14.35	AV	Vertical
2483.50	65.27	43.80	5.12	25.90	-12.78	52.49	74.00	-21.51	PK	Horizontal
2483.50	52.31	43.80	5.12	25.90	-12.78	39.53	54.00	-14.47	AV	Horizontal
<p>Remark: Factor = Antenna Factor + Cable Loss – Pre-amplifier.</p> <p>Low measurement frequencies is range from 2300 to 2422 MHz, high measurement frequencies is range from 2452 to 2500 MHz.</p> <p>Only show the worst point data of the emissions in the frequency 2300-2422 MHz and 2452-2500 MHz.</p>										



4 CONDUCTED SPURIOUS & BAND EDGE EMISSION

4.1 APPLIED PROCEDURES / LIMIT

According to FCC Part 15.247(d) and RSS-247 Clause 5.5, in any 100kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.

4.2 TEST PROCEDURE

Spectrum Parameter	Setting
Detector	Peak
Start/Stop Frequency	30 MHz to 10th carrier harmonic
RB / VB (emission in restricted band)	100 KHz/300 KHz
Trace-Mode:	Max hold

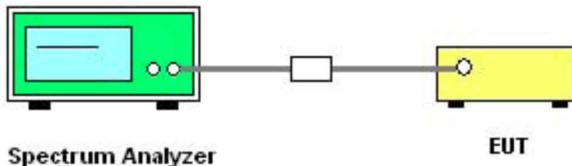
For Band edge

Spectrum Parameter	Setting
Detector	Peak
Start/Stop Frequency	Lower Band Edge: 2300 to 2422 MHz Upper Band Edge: 2452 to 2500 MHz
RB / VB (emission in restricted band)	100 KHz/300 KHz
Trace-Mode:	Max hold

4.3 DEVIATION FROM STANDARD

No deviation.

4.4 TEST SETUP



The EUT which is powered by the Battery, is coupled to the Spectrum Analyzer; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading.

Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 100 kHz. In order to make an accurate measurement, set the span greater than RBW.

4.5 EUT OPERATION CONDITIONS

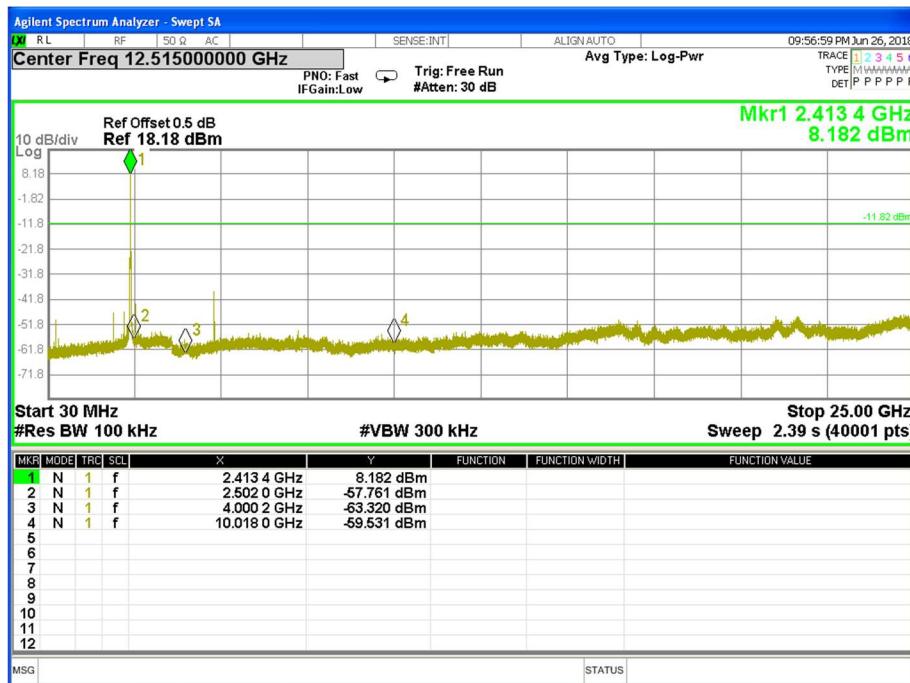
The EUT tested system was configured as the statements of 2.3 Unless otherwise a special operating condition is specified in the follows during the testing.



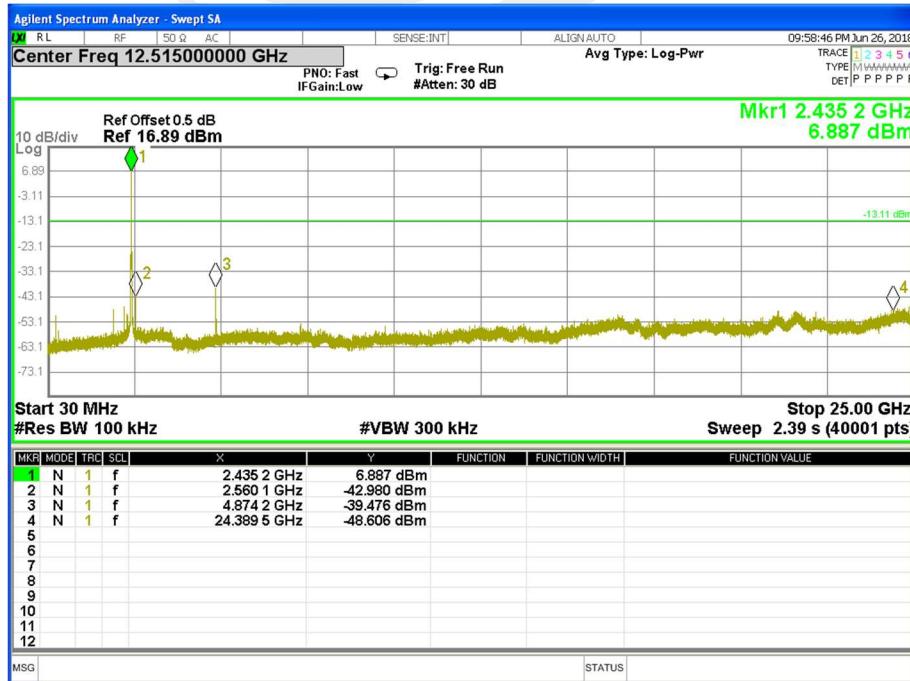
4.6 TEST RESULTS

Temperature :	25 °C	Relative Humidity :	60%
Test Voltage :	DC 3.8V	Test Mode :	TX b Mode /CH01, CH06, CH11

CH 01

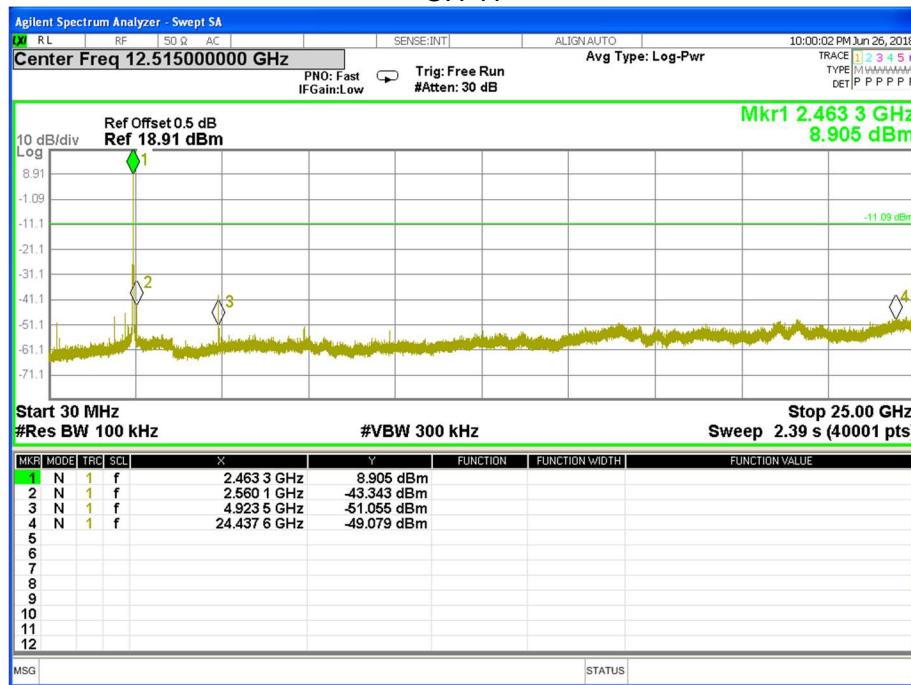


CH 06





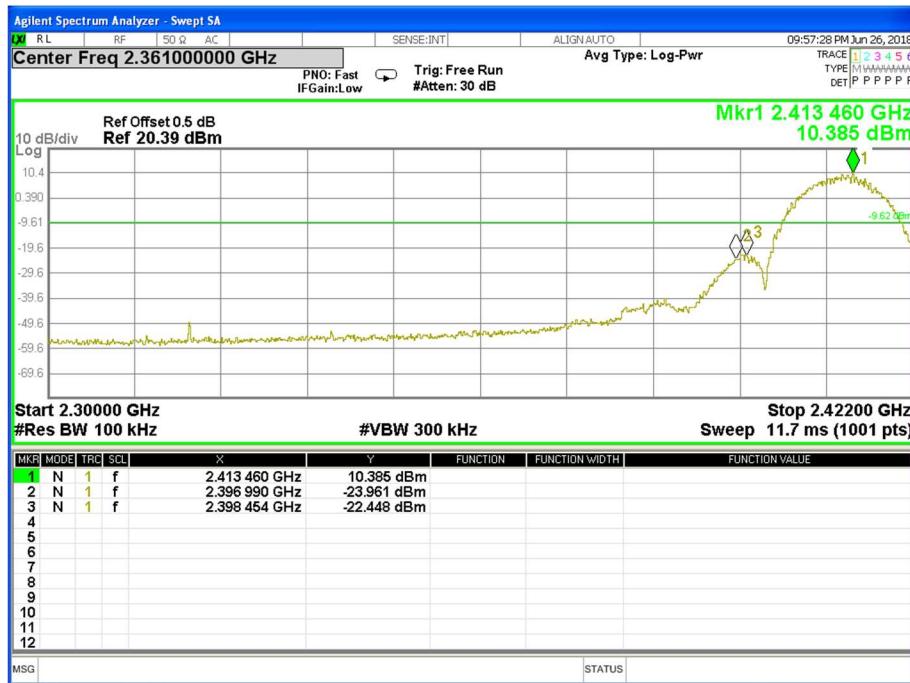
CH 11



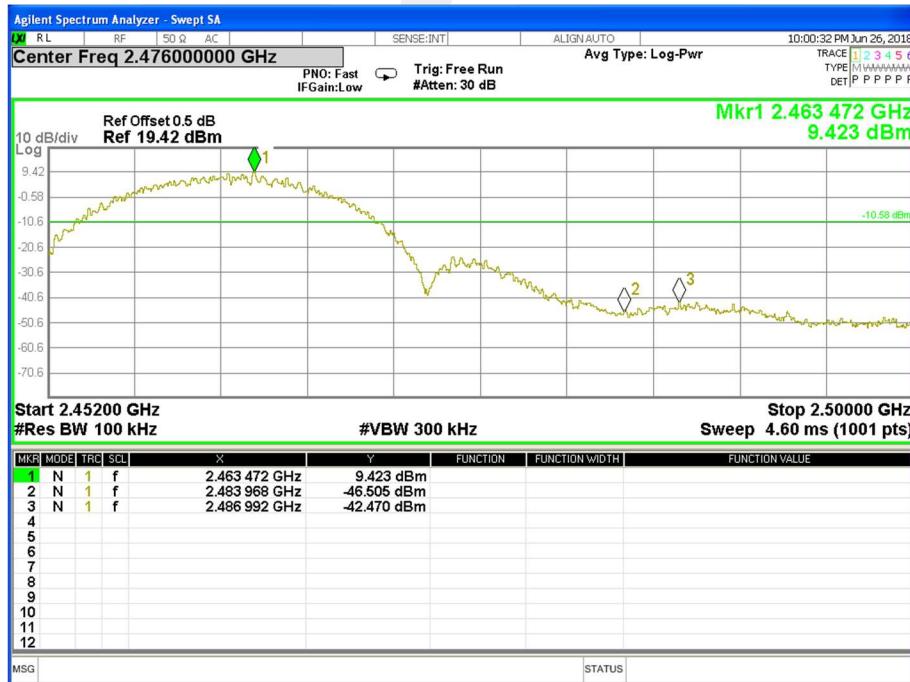


Band edge

CH 01



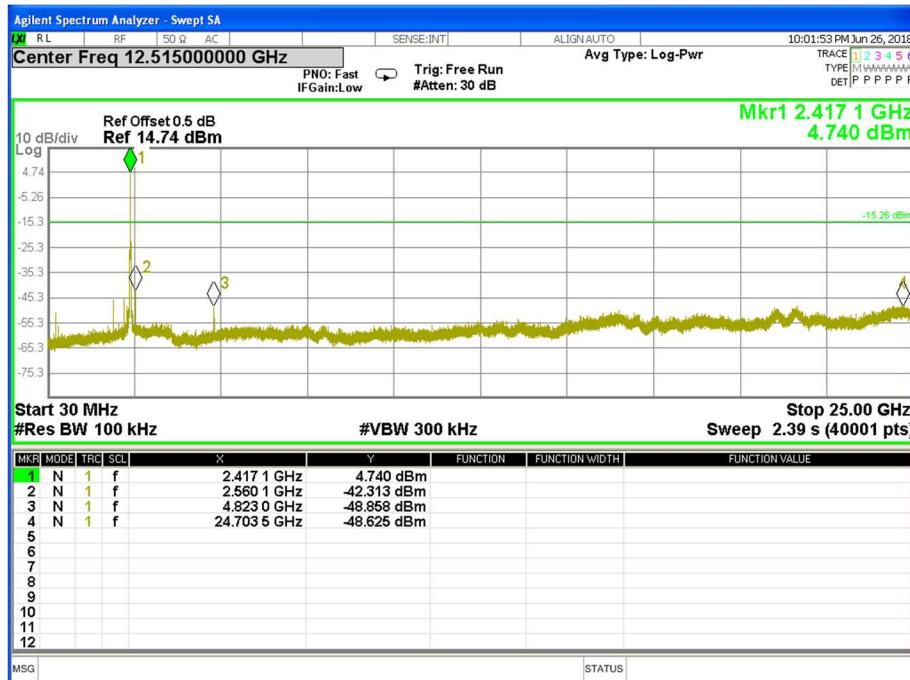
CH 11



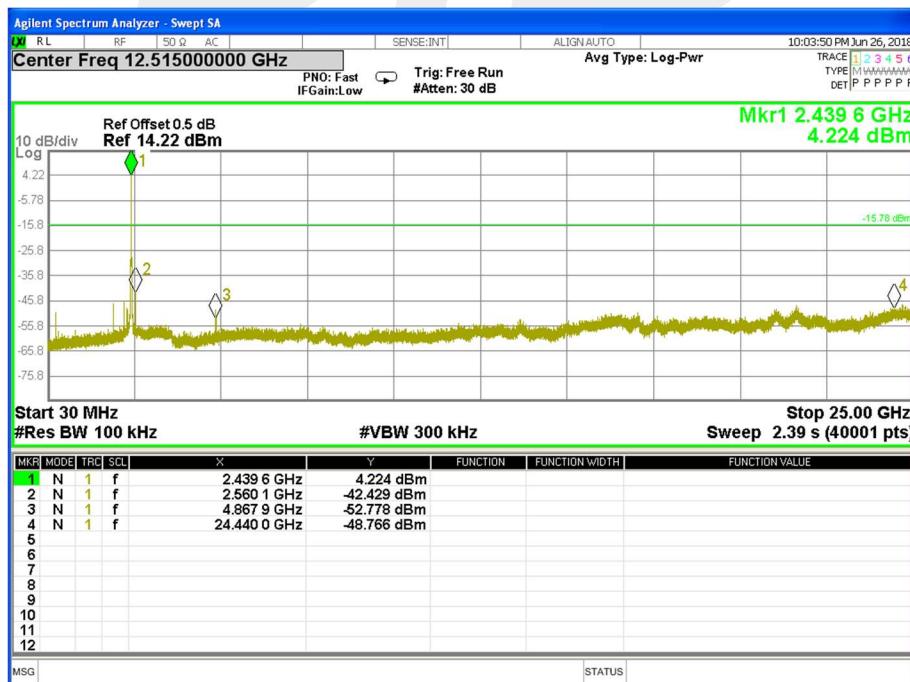


Temperature :	25 °C	Relative Humidity :	60%
Test Voltage :	DC 3.8V	Test Mode :	TX g Mode /CH01, CH06, CH11

CH 01



CH06





CH 11

