



FCC ID: FSUKM018

APPLICATION OF CERTIFICATION

For

KYE SYSTEMS CORP.

Dongle

Model Number: A79D, KM001W

FCC ID: FSUKM018

Prepared for : KYE SYSTEMS CORP.

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City, Taiwan

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Report Number : ACS- F11215

Date of Test : Sep.25, 2011

Date of Report : Sep.26, 2011

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FCC ID: FSUKM018

TEST REPORT CERTIFICATION

Applicant : KYE SYSTEMS CORP.
 Manufacturer : KYE SYSTEMS CORP.
 EUT Description : Dongle
 FCC ID : FSUKM018

(A) MODEL NO. : A79D, KM001W
 (B) SERIAL NO. : N/A
 (C) POWER SUPPLY : DC 5V
 (D) TEST VOLTAGE : DC 5V From PC Input
 AC 120V/60Hz

Measurement Standard Used:

FCC Rules and Regulations Part 15 Subpart B Class B 2010, ANSI C63.4: 2009

The device described above is tested by AUDIX TECHNOLOGY (SHENZHEN) CO., LTD. to determine the maximum emission levels emanating from the device. The maximum emission levels are compared to the FCC Part 15 Subpart B Class B limits both conducted and radiated emissions. The test results are contained in this test report and AUDIX TECHNOLOGY (SHENZHEN) CO., LTD. is assumed of full responsibility for the accuracy and completeness of these tests. This report contains data that are not covered by the NVLAP accreditation.

After the test, our opinion is that EUT compliance with the requirement of the above standards.

This Report is made under FCC Part 2.1075. No modifications were required during testing to bring this product into compliance.

This report applies to above tested sample only. This report shall not be reproduced in parts without written approval of AUDIX TECHNOLOGY (SHENZHEN) CO., LTD.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government.

Date of Test : Sep.25, 2011 Report of date: Sep.26, 2011

Prepared by : Blove Ye Reviewed by : Sunny Lu
 Blove Ye / Assistant Sunny Lu / Supervisor



Approved & Authorized Signer : Ken Lu / Manager

1. SUMMARY OF STANDARDS AND RESULTS

1.1. Description of Standards and Results

The EUT have been tested according to the applicable standards as referenced below.

EMISSION			
Description of Test Item	Standard	Results	Remarks
Power Line Conducted Emission Test	FCC Part 15: 2010 ANSI C63.4: 2009	PASS	Meets Class B Limit Minimum passing margin is 16.35dB at 3.613MHz
Radiated Emission Test (30-1000MHz)	FCC Part 15: 2010 ANSI C63.4: 2009	PASS	Meets Class B Limit Minimum passing margin is 7.40dB at 175.500MHz
Radiated Emission Test (1-6GHz)	FCC Part 15: 2010 ANSI C63.4: 2009	PASS	Meets Class B Limit Minimum passing margin is 5.79dB at 1857.980MHz

2. GENERAL INFORMATION

2.1. Description of Device (EUT)

Product Name : Dongle
Model Number : A79D, KM001W
The device contains two module numbers, A79D and KM001W. The difference between them is module number only.

FCC ID : FSUKM018

Operation frequency : 2405MHz~2480MHz

Antenna : Integrated PCB antenna, 0dBi gain

Modulation : O-QPSK

Power Supply : DC 5V

Applicant : KYE SYSTEMS CORP.
No. 492, Sec. 5, Chongxin Rd., Sanchong Dist., New Taipei City, Taiwan

Manufacturer : KYE SYSTEMS CORP.
No. 492, Sec. 5, Chongxin Rd., Sanchong Dist., New Taipei City, Taiwan

Date of Test : Sep.25, 2011

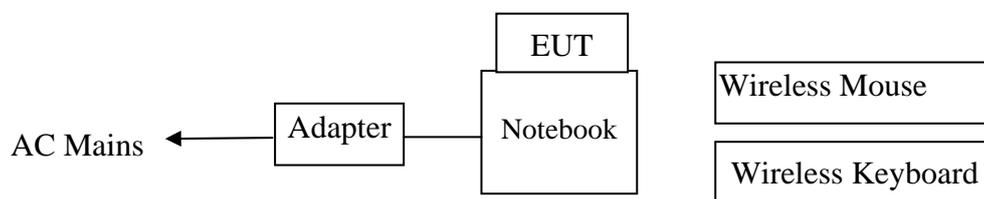
Date of Receipt : Sep.16, 2011

Sample Type : Prototype production

2.2. Tested Supporting System Details

No.	Description	ACS No.	Manufacturer	Model	Serial Number	Approved type
1.	Notebook	N/A	DELL	PP09S	N/A	<input checked="" type="checkbox"/> FCC DoC <input checked="" type="checkbox"/> BSMI ID: R41108
		Power Cord: Unshielded, Detachabled, 1.8m Power Adapter: Manufacturer: DELL, M/N: LA65NS1-00 Cable: Unshielded, Detachabled, 4.0m(Bond one ferrite core)				
3.	Wireless Mouse	M/N: A79M				
4.	Wireless Keyboard	M/N: A79K				

2.3. Block diagram of connection between the EUT and simulators



(EUT: Dongle)

2.4. Test Facility

Site Description

- Name of Firm : Audix Technology (Shenzhen) Co., Ltd.
No. 6, Ke Feng Rd., 52 Block, Shenzhen Science & Industrial Park, Nantou, Shenzhen, Guangdong, China
- 3m Anechoic Chamber : Certificated by FCC, USA
Registration Number: 90454
Valid Date: Mar.31, 2012
- 3m & 10m Anechoic Chamber : Certificated by FCC, USA
Registration Number: 794232
Valid Date: Dec.30, 2012
- EMC Lab. : Certificated by DAkkS, Germany
Registration No: D-PL-12151-01-01
Valid Date: Feb.01, 2014
- Accredited by NVLAP, USA
NVLAP Code: 200372-0
Valid Date: Mar.31, 2012

2.5. Measurement Uncertainty (95% confidence levels, k=2)

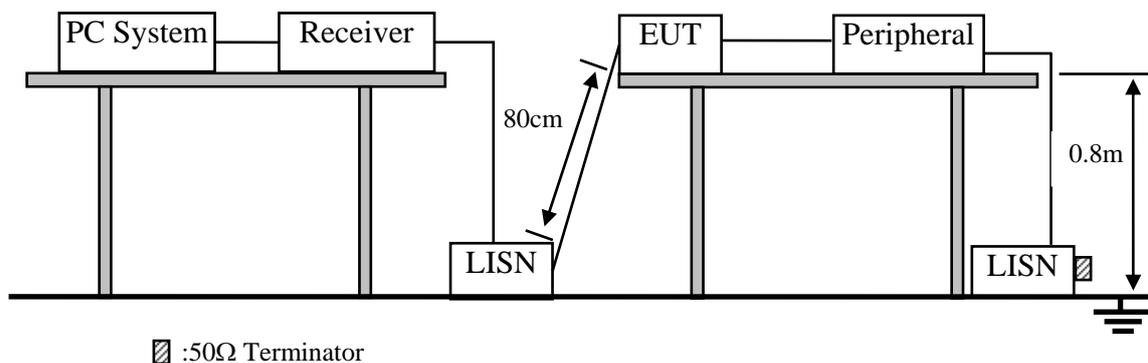
Test Item	Uncertainty
Uncertainty for Conduction emission test in No. 1 Conduction	3.2 dB
Uncertainty for Radiation Emission test in 3m chamber	3.6 dB(30~200MHz, Polarize: H)
	3.7 dB(30~200MHz, Polarize: V)
	4.0 dB(200M~1GHz, Polarize: H)
	3.7 dB(200M~1GHz, Polarize: V)
Uncertainty for test site temperature and humidity	3%
	0.6°C

3. POWER LINE CONDUCTED EMISSION TEST

3.1. Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Test Receiver	Rohde & Schwarz	ESHS10	838693/001	Nov.05, 10	1 Year
2.	L.I.S.N.#1	Rohde & Schwarz	ESH2-Z5	834066/011	Nov.05, 10	1 Year
3.	L.I.S.N.#3	Kyoritsu	KNW-242C	8-1920-1	May.08, 11	1 Year
4.	Terminator	Hubersuhner	50Ω	No. 1	May.08, 11	1 Year
5.	RF Cable	Fujikura	3D-2W	LISN Cable 1#	May.08, 11	1Year
6.	Coaxial Switch	Anritsu	MP59B	M55367	May.08, 11	1 Year
7.	Passive Probe	Rohde & Schwarz	ESH2-Z3	299.7810.52	May.08, 11	1 Year
8.	Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100341	May.08, 11	1 Year

3.2. Block Diagram of Test Setup



3.3. Power Line Conducted Emission Test Limits

Frequency	Maximum RF Line Voltage	
	Quasi-Peak Level dB(μV)	Average Level dB(μV)
150kHz ~ 500kHz	66 ~ 56*	56 ~ 46*
500kHz ~ 5MHz	56	46
5MHz ~ 30MHz	60	50

- Notes: 1. * Decreasing linearly with logarithm of frequency.
 2. The lower limit shall apply at the transition frequencies.

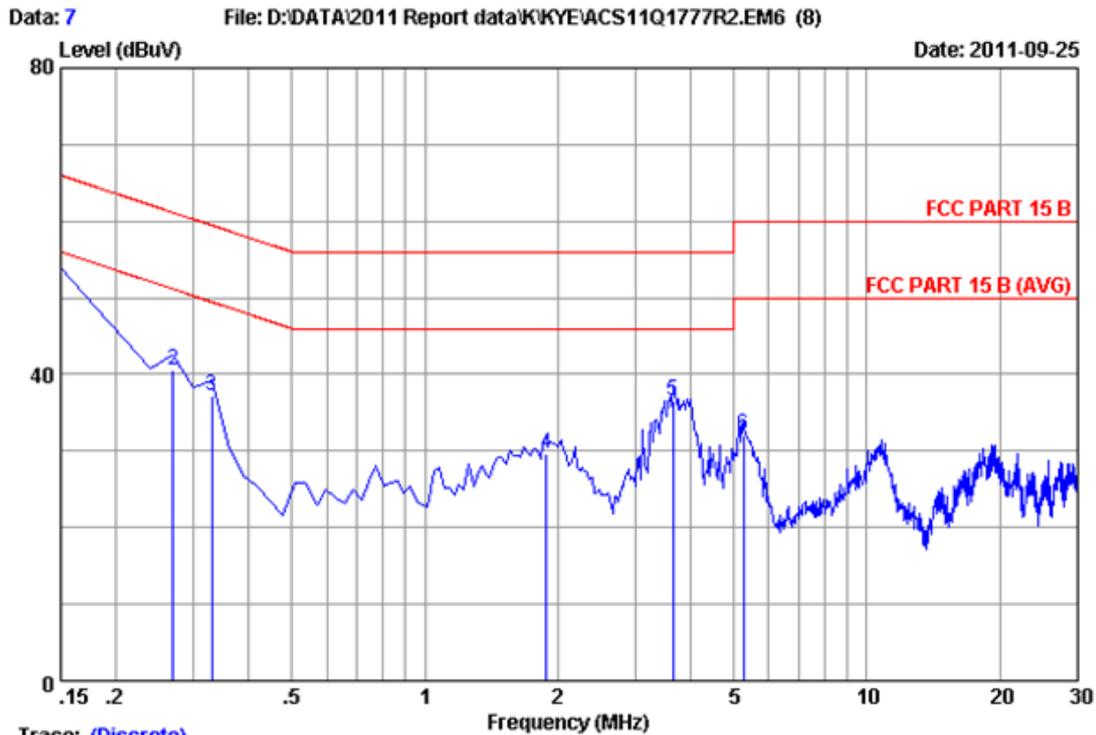
3.4. Configuration of EUT on Test

The following equipment are installed on Power Line Conducted Emission Test to meet the commission requirement and operating regulations in a manner which tends to maximize its emission characteristics in a normal application.

3.4.1. Dongle (EUT)

Model Number : A79D
 Serial Number : N/A

3.4.2. Support Equipment : As Tested Supporting System Detail, in Section 2.2.

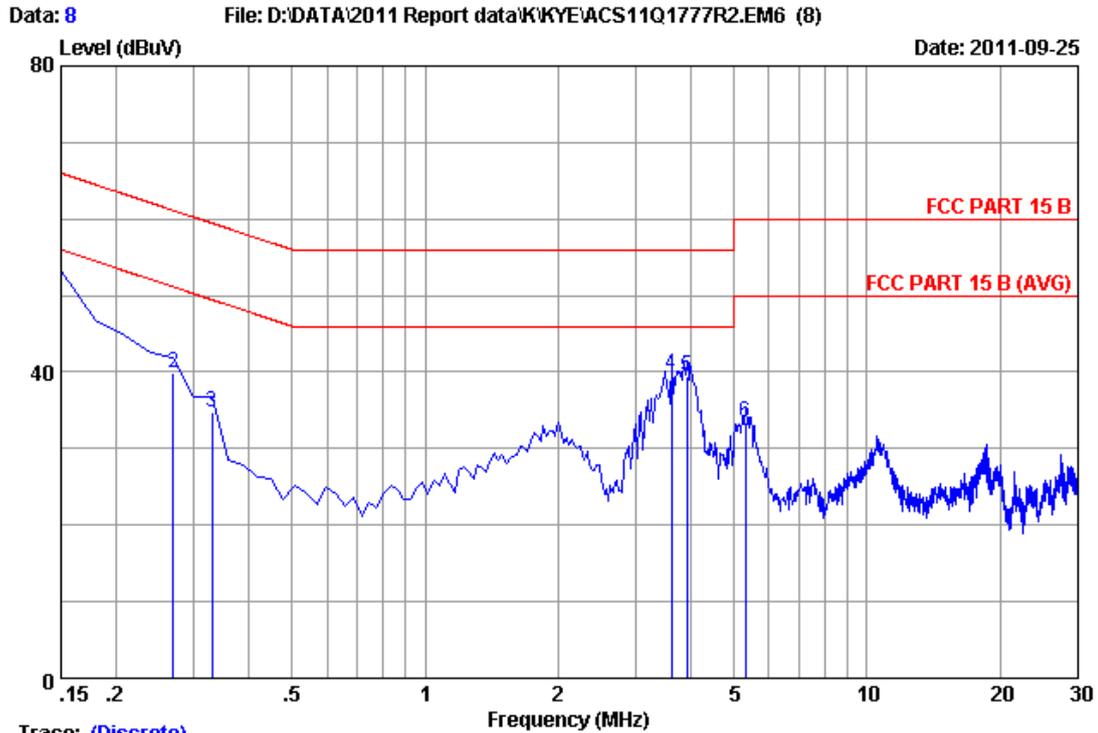


Trace: (Discrete)

Site no : 1#conduction Data No : 7
 Dis./Ant. : ** 2011 ESH2-Z5 LINE
 Limit : FCC PART 15 B
 Env./Ins. : 29.5°C/55% Engineer : Leo-Li
 EUT : Dongle
 Power Rating : DC 5V From PC Input AC 120V/60Hz
 Test Mode : Running
 M/N : A79D

No	Freq (MHz)	LISN Factor (dB)	Cable Loss (dB)	Reading (dBUV)	Emission Level (dBUV)	Limits (dBUV)	Margin (dB)	Remark
1	0.15000	0.17	9.98	36.69	46.84	66.00	19.16	QP
2	0.26940	0.18	9.98	30.31	40.47	61.14	20.67	QP
3	0.32910	0.18	9.98	27.07	37.23	59.47	22.24	QP
4	1.881	0.30	9.96	19.38	29.64	56.00	26.36	QP
5	3.642	0.34	9.94	26.30	36.58	56.00	19.42	QP
6	5.254	0.38	9.93	21.71	32.02	60.00	27.98	QP

Remarks: 1. Emission Level=LISN Factor+Cable Loss(Include 10dB pulse limit)+Reading.
 2. If the average limit is met when using a quasi-peak detector, the EUT shall be deemed to meet both limits and measurement with average detector is unnecessary.



Trace: (Discrete)

Site no :1#conduction Data No :8
 Dis./Ant. :** 2011 ESH2-Z5 NEUTRAL
 Limit :FCC PART 15 B
 Env./Ins. :29.5°C/55% Engineer :Leo-Li
 EUT :Dongle
 Power Rating :DC 5V From PC Input AC 120V/60Hz
 Test Mode :Running
 M/N : A79D

No	Freq (MHz)	LISN Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV)	Limits (dBuV)	Margin (dB)	Remark
1	0.15000	0.21	9.98	38.04	48.23	66.00	17.77	QP
2	0.26940	0.21	9.98	29.68	39.87	61.14	21.27	QP
3	0.32910	0.22	9.98	24.62	34.82	59.47	24.65	QP
4	3.613	0.30	9.94	29.41	39.65	56.00	16.35	QP
5	3.911	0.31	9.94	29.21	39.46	56.00	16.54	QP
6	5.314	0.34	9.93	23.18	33.45	60.00	26.55	QP

Remarks: 1.Emission Level=LISN Factor+Cable Loss(Include 10dB pulse limit)+Reading.
 2.If the average limit is met when using a quasi-peak detector, the EUT shall be deemed to meet both limits and measurement with average detector is unnecessary.

4. RADIATED EMISSION TEST

4.1. Test Equipment

4.1.1. For frequency range 30MHz~1000MHz

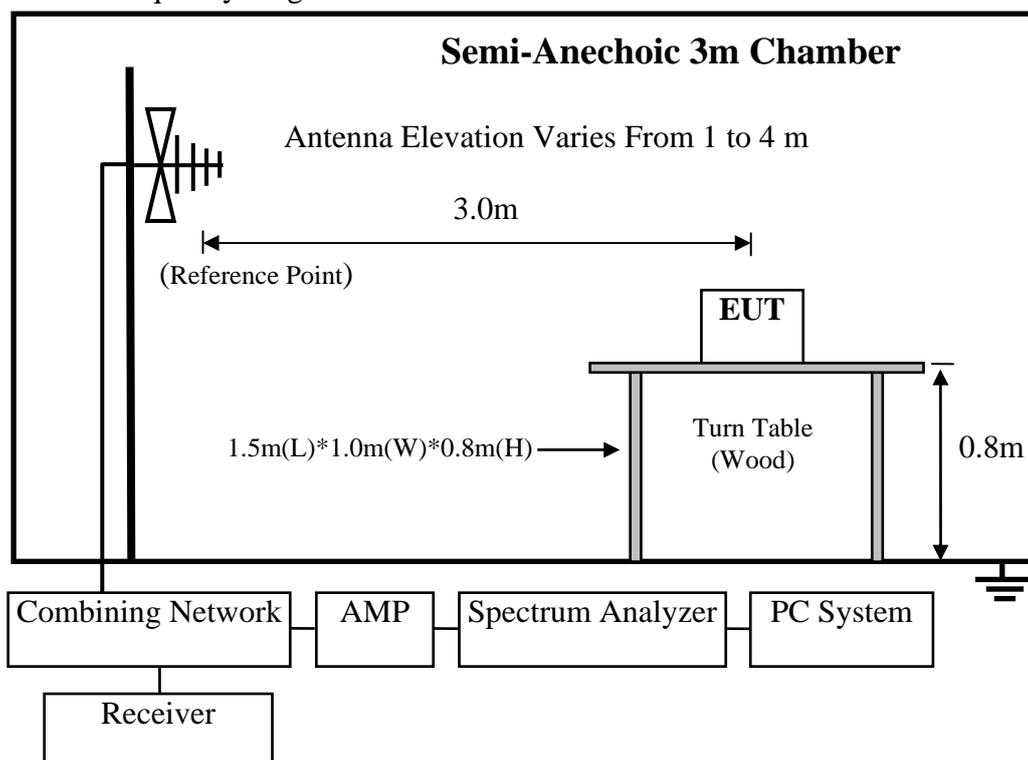
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1	3#Chamber	AUDIX	N/A	N/A	Dec.06,10	1 Year
2	EMI Spectrum	Agilent	E4407B	MY41440292	May.08, 11	1 Year
3	Test Receiver	Rohde & Schwarz	ESVS10	834468/011	May.08, 11	1 Year
4	Amplifier	HP	8447D	2648A04738	May.08, 11	1 Year
5	Bilog Antenna	Schaffner	CBL6111C	2598	Oct.26, 10	1 Year
6	RF Cable	MIYAZAKI	8D-FB	3# Chamber No.1	May.08, 11	1 Year
7	Coaxial Switch	Anritsu	MP59B	M73989	May.08, 11	1 Year

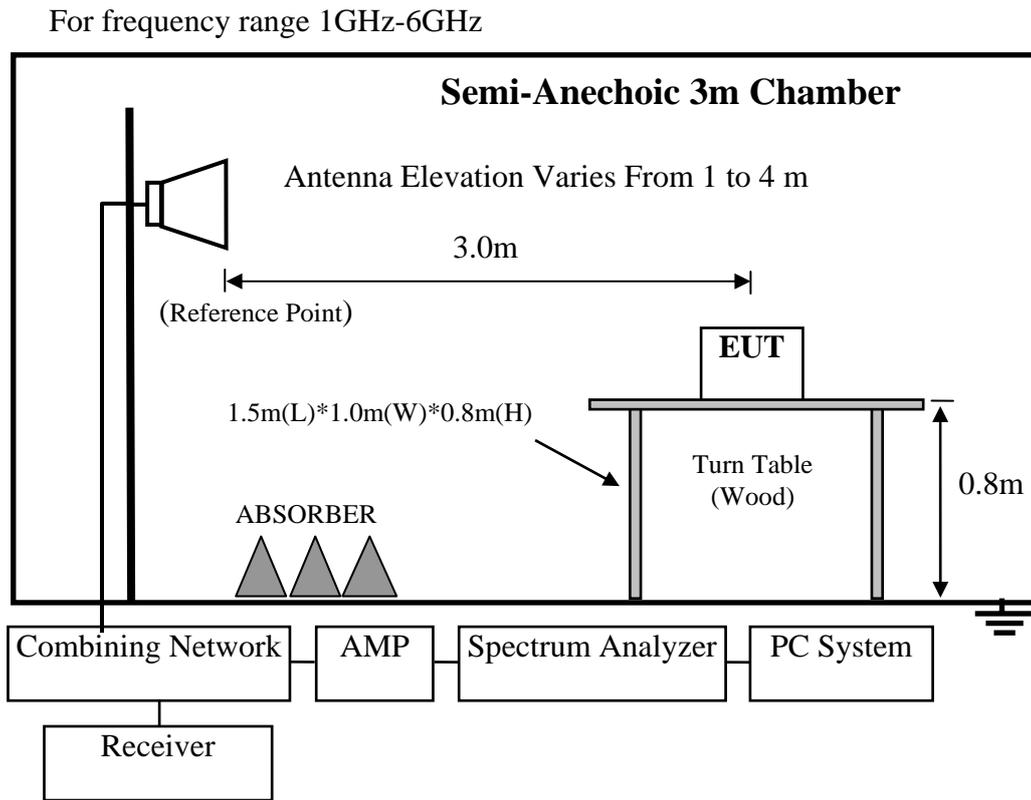
4.1.2. For frequency range 1GHz~2GHz

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1	Spectrum Analyzer	Agilent	E4407B	MY41440292	May.08, 11	1 Year
2	Horn Antenna	EMCO	3115	9607-4877	July.01, 11	1 Year
3	Amplifier	Agilent	8449B	3008A00863	May.08, 11	1 Year
4	RF Cable	Hubersuhner	SUCOFLEX102	28622/2	May.08, 11	1 Year
5	RF Cable	Hubersuhner	SUCOFLEX102	29091/2	May.08, 11	1 Year

4.2. Block Diagram of Test Setup

For frequency range 30MHz-1000MHz





4.3. Radiated Emission Limit

Frequency MHz	Distance (Meters)	Field Strengths Limits dB(μV)/m
30 ~ 88	3	40.0
88 ~ 216	3	43.5
216 ~ 960	3	46.0
960 ~ 1000	3	54.0
Above 1000	3	74(Peak)54(Average)

- Remark: (1) Emission level = Antenna Factor + Cable Loss + Reading
Emission level = Antenna Factor - Amp Factor + Cable Loss + Reading (above 1000MHz)
- (2) The smaller limit shall apply at the cross point between two frequency bands.
- (3) Distance is the distance in meters between the measuring instrument, antenna and the closest point of any part of the device or system.

4.4. EUT Configuration on Test

The configurations of EUT are listed in Section 3.4

4.5. Operating Condition of EUT

Same as Conducted Emission test that is listed in Section 3.5. except the test set up replaced by Section 4.2.

4.6. Test Procedure

The EUT was placed on a non-metallic table, 80 cm above the ground plane inside a semi-anechoic chamber. An antenna was located 3m from the EUT on an adjustable mast. A pre-scan was first performed in order to find prominent radiated emissions. For final emissions measurements at each frequency of interest, the EUT were rotated and the antenna height was varied between 1m and 4m in order to maximize the emission. Measurements in both horizontal and vertical polarities were made and the data was recorded. In order to find the maximum emission, the relative positions of equipments and all of the interface cables were changed according to ANSI C63.4: 2009 on Radiated Emission test.

The bandwidth of the EMI test receiver (R&S ESVS10) is set at 120kHz for frequency range from 30MHz to 1000 MHz.

The bandwidth of the Spectrum's RBW is set at 1MHz and VBW is set at 3MHz for peak emissions measurement above 1GHz and 1MHz RBW, 10Hz VBW for average emissions measure above 1GHz.

4.7. Radiated Disturbance Test Results

PASS. (All emissions not reported below are too low against the prescribed limits.)

EUT: Dongle Model No. : A79D

For frequency range 30MHz~1000MHz

The EUT with the following test modes were tested and selected to read Q.P values, all the test results are listed in next pages.

Test Date: Sep.25, 2011 Temperature: 24°C Humidity: 56%

The details of test modes are as follows :

No.	Test Mode	Reference Test Data No.	
		Horizontal	Vertical
1.	Running	#8	#7

For frequency range 1GHz~2GHz

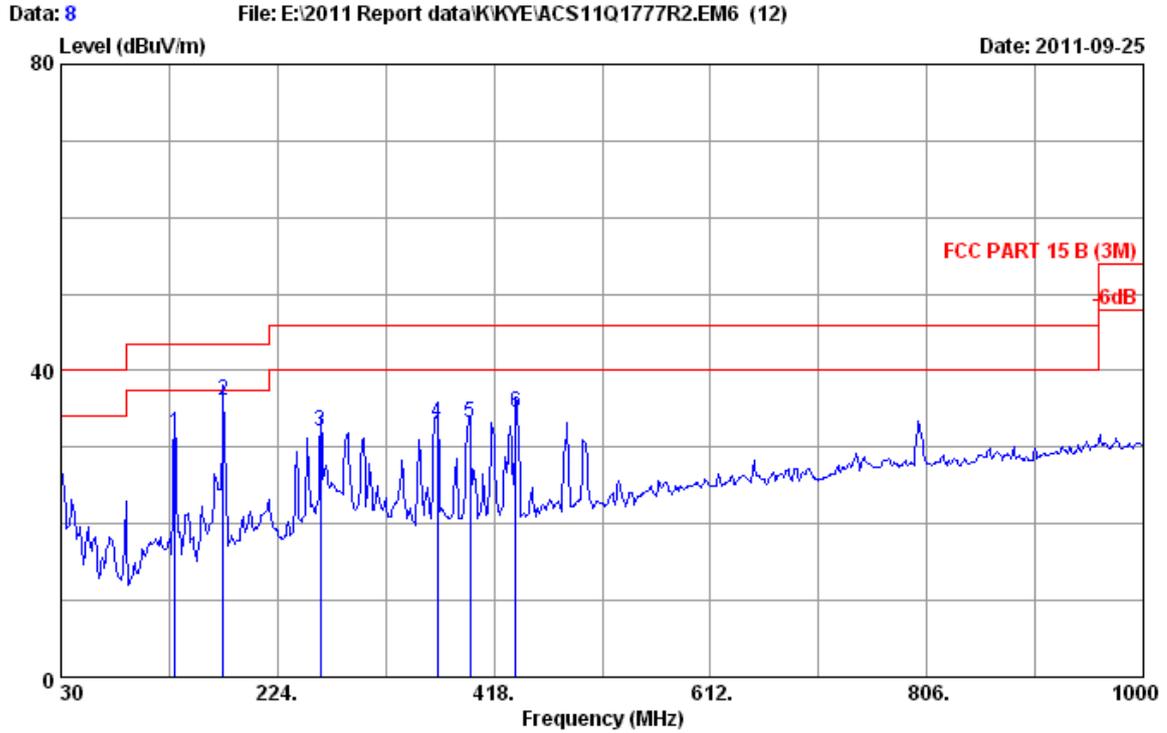
The EUT with below test mode were measured within Anechoic Chamber and the test results listed in next pages

Note: For all the emissions above 1GHz, the peak measured level comply with peak limit, so the average level were deemed to comply with average limit.

Test Date: Sep.25, 2011 Temperature: 24°C Humidity: 56%

No.	Test Mode	Reference Test Data No.	
		Horizontal	Vertical
1.	Running	#9	#10
2.		#11	#12

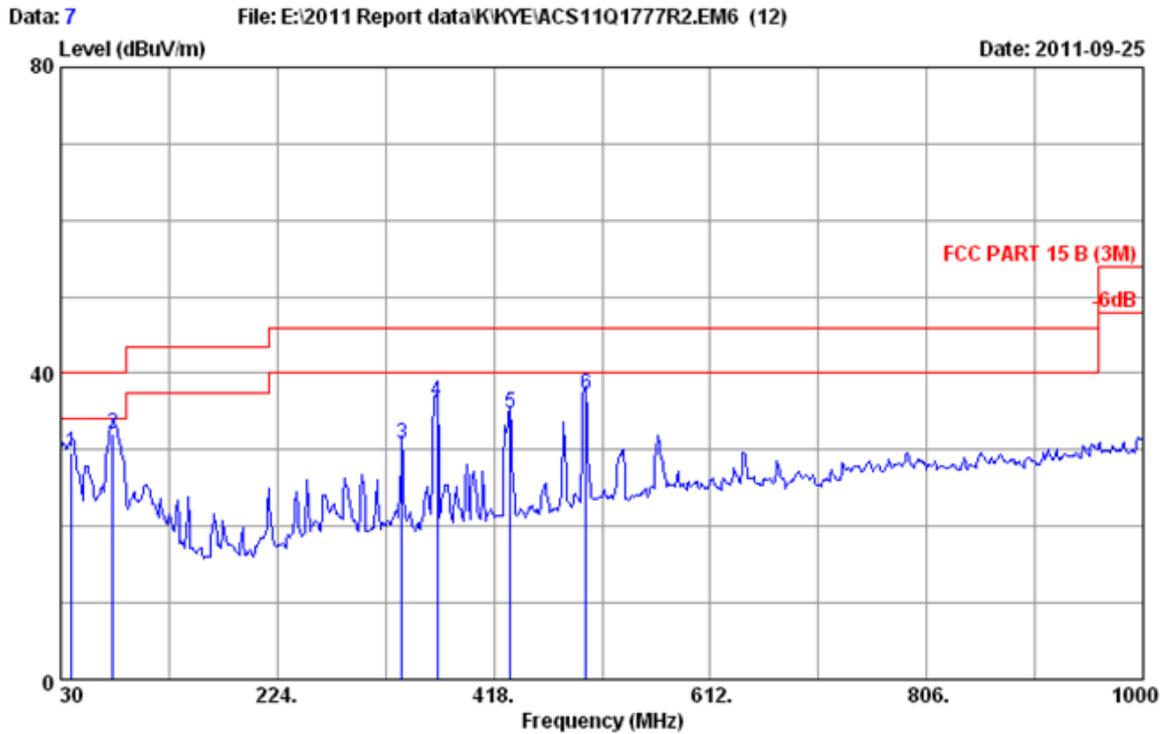
30MHz~1000MHz



Site no. : 3m Chamber Data no. : 8
 Dis. / Ant. : 3m 2010 CBL6111C 2598 Ant. pol. : HORIZONTAL
 Limit : FCC PART 15 B (3M)
 Env. / Ins. : 24°C/56% Engineer : Leo-Li
 EUT : Dongle
 Power rating : DC 5V From PC Input AC 120V/60Hz
 Test Mode : Running
 M/N : A79D

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	131.850	12.16	1.38	46.37	31.94	43.50	11.56	QP
2	175.500	9.65	1.66	52.86	36.10	43.50	7.40	QP
3	262.800	13.80	2.57	43.80	32.04	46.00	13.96	QP
4	367.560	15.53	3.22	42.64	33.22	46.00	12.78	QP
5	396.660	16.37	3.32	41.61	33.12	46.00	12.88	QP
6	437.400	17.28	3.58	41.77	34.48	46.00	11.52	QP

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

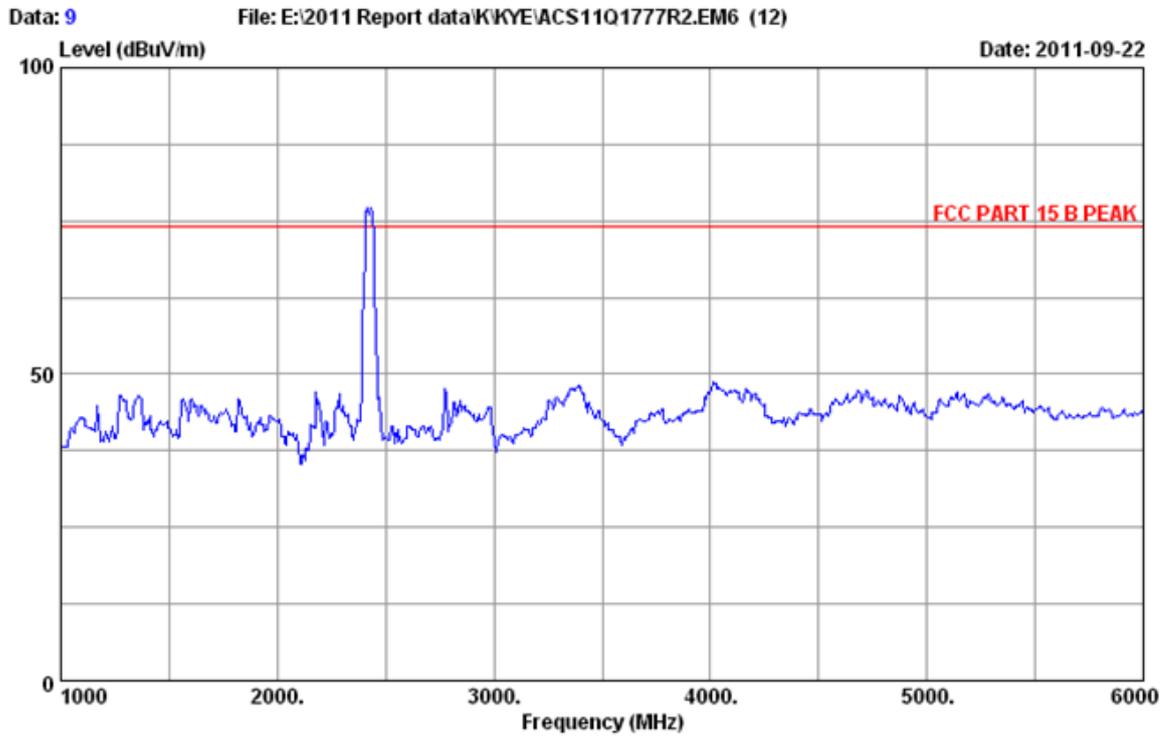


Site no. : 3m Chamber Data no. : 7
 Dis. / Ant. : 3m 2010 CBL6111C 2598 Ant. pol. : VERTICAL
 Limit : FCC PART 15 B (3M)
 Env. / Ins. : 24°C/56% Engineer : Leo-Li
 EUT : Dongle
 Power rating : DC 5V From PC Input AC 120V/60Hz
 Test Mode : Running
 M/N : A79D

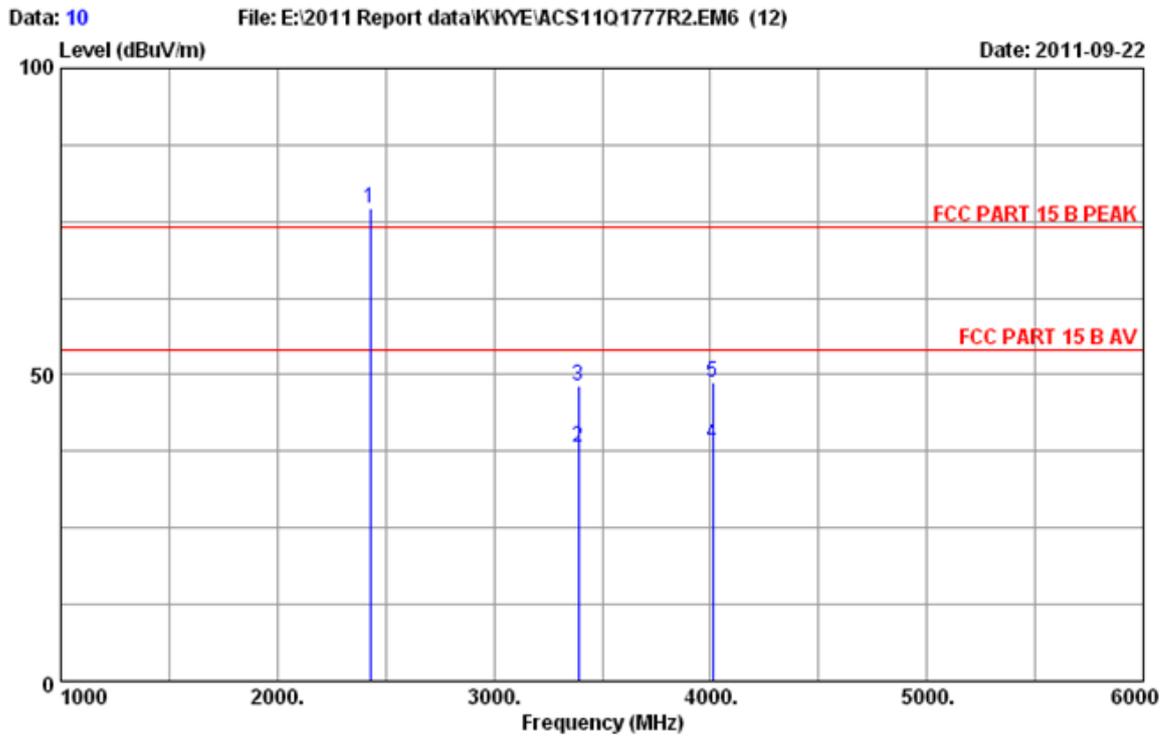
No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	39.700	14.50	0.71	42.48	29.58	40.00	10.42	QP
2	76.560	7.47	1.01	51.62	31.99	40.00	8.01	QP
3	335.550	14.62	3.12	41.26	30.85	46.00	15.15	QP
4	367.560	15.53	3.22	45.81	36.39	46.00	9.61	QP
5	432.550	17.42	3.55	41.95	34.76	46.00	11.24	QP
6	500.450	18.30	4.00	43.04	37.23	46.00	8.77	QP

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

1GHz~6GHz



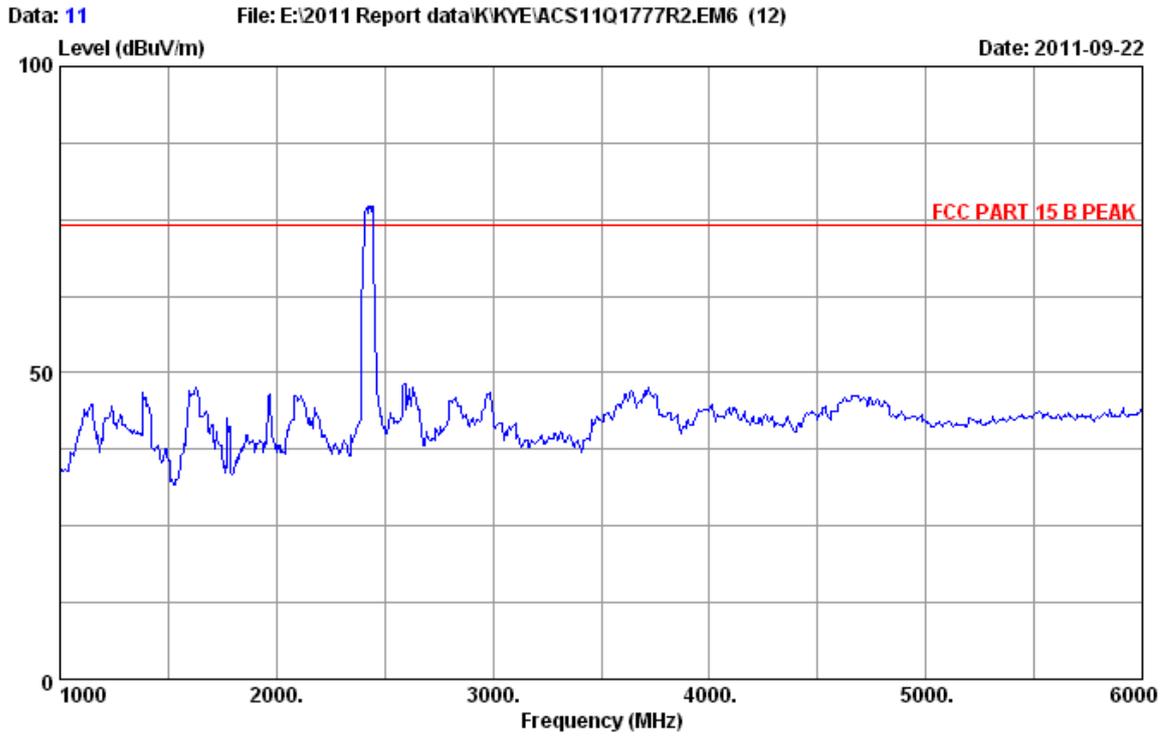
Site no.	: 3m Chamber	Data no.	: 9
Dis. / Ant.	: 3m 2011 3115 4580	Ant. pol.	: HORIZONTAL
Limit	: FCC PART 15 B PEAK		
Env. / Ins.	: 24°C/56%	Engineer	: Leo-Li
EUT	: Dongle		
Power Rating	: DC 5V From PC Input AC 120V/60Hz		
Test Mode	: Running		
M/N	: A79D		



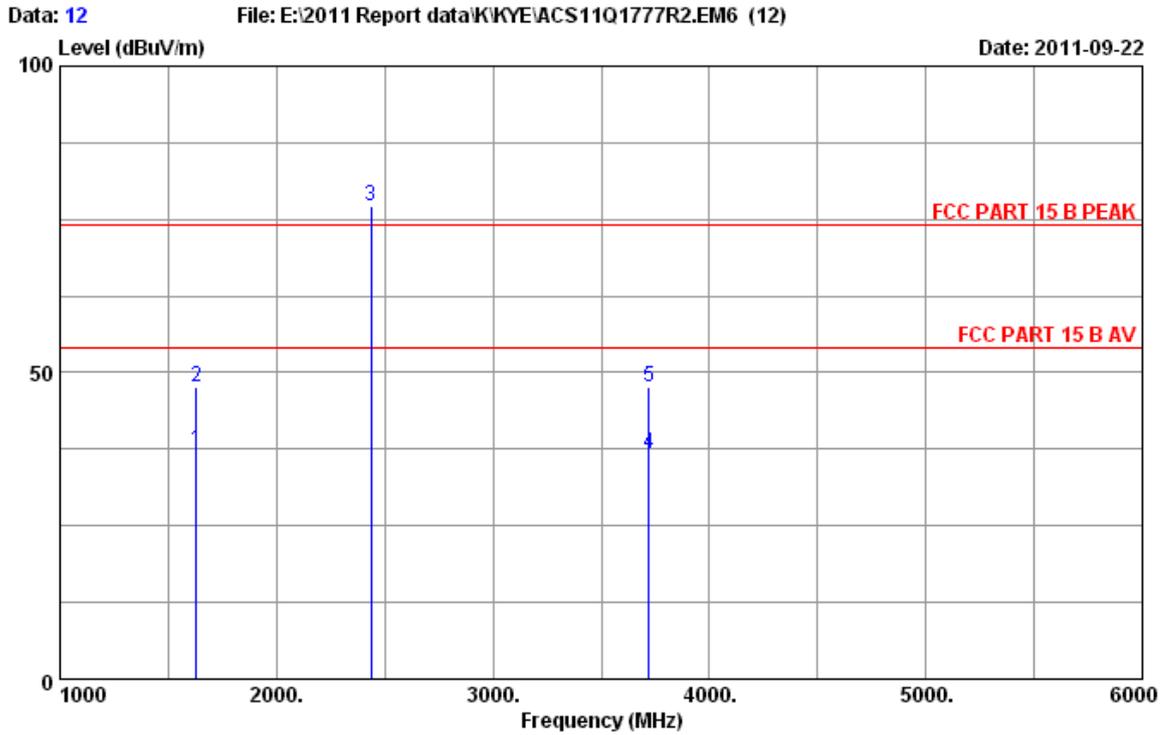
Site no. : 3m Chamber Data no. : 10
 Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : HORIZONTAL
 Limit : FCC PART 15 B PEAK
 Env. / Ins. : 24°C/56% Engineer : Leo-Li
 EUT : Dongle
 Power Rating : DC 5V From PC Input AC 120V/60Hz
 Test Mode : Running
 M/N : A79D

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dBuV)	Reading (dBuV/m)	Emission Level (dBuV/m)	Limits (dB)	Margin (dB)	Remark
1	2430.000	28.00	5.36	34.47	78.29	77.18	74.00	-3.18	Peak
2	3390.000	30.87	6.74	34.18	34.76	38.19	54.00	15.81	Average
3	3390.000	30.87	6.74	34.18	44.62	48.05	74.00	25.95	Peak
4	4010.000	32.30	7.45	34.00	33.09	38.84	54.00	15.16	Average
5	4010.000	32.30	7.45	34.00	43.13	48.88	74.00	25.12	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading - Amp Factor
 2. The emission levels that are 20dB below the official limit are not reported.



Site no.	: 3m Chamber	Data no.	: 11
Dis. / Ant.	: 3m 2011 3115 4580	Ant. pol.	: VERTICAL
Limit	: FCC PART 15 B PEAK		
Env. / Ins.	: 24°C/56%	Engineer	: Leo-Li
EUT	: Dongle		
Power Rating	: DC 5V From PC Input AC 120V/60Hz		
Test Mode	: Running		
M/N	: A79D		



Site no. : 3m Chamber Data no. : 12
 Dis. / Ant. : 3m 2011 3115 4580 Ant. pol. : VERTICAL
 Limit : FCC PART 15 B PEAK
 Env. / Ins. : 24°C/56% Engineer : Leo-Li
 EUT : Dongle
 Power Rating : DC 5V From PC Input AC 120V/60Hz
 Test Mode : Running
 M/N : A79D

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dBuV)	Reading (dBuV/m)	Emission Level (dBuV/m)	Limits (dB)	Margin (dB)	Remark
1	1630.000	25.86	4.03	34.90	42.37	37.36	54.00	16.64	Average
2	1630.000	25.86	4.03	34.90	52.65	47.64	74.00	26.36	Peak
3	2435.000	28.00	5.36	34.47	78.31	77.20	74.00	-3.20	Peak
4	3720.000	31.64	7.12	34.08	32.09	36.77	54.00	17.23	Average
5	3720.000	31.64	7.12	34.08	42.91	47.59	74.00	26.41	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading - Amp Factor
 2. The emission levels that are 20dB below the official limit are not reported.

5. RADIO FRREQUENCY EXPOSURE COMPLIANCE

RESULT : PASS

Test standard : FCC KDB Publication 447498

Since maximum peak output power of the transmitter is $<60/f(\text{GHz})\text{mW}$,
i.e. $0.22\text{mW} < 25(=60/2.4)\text{mW}$, hence the EUT is excluded from SAR evaluation according to FCC
KDB Publication 447498 D01:Mobile Portable RF Exposure.

6. TEST SOFTWARE

Manufacturer : G. tech Technology Ltd.

Version : NanoDongle.exe V1.1

The test software is used to control EUT work in TX mode and to change the test channel.

7. DEVIATION TO TEST SPECIFICATIONS

[NONE]