



TEST REPORT

FCC ID: 2AG6B9250

Applicant : Golden Technology Group Ltd
Address : No. 51 Guangtian Road, Luotian, Songgang Town, Bao' an,
Shenzhen

Equipment Under Test (EUT):

Name	:	2.4G USB dongle
Model	:	9250

In Accordance with: FCC PART 15, SUBPART C : 2015 (Section 15.249)

Report No : T1851850 01
Date of Test : December 04-26, 2015
Date of Issue : December 29, 2015
Test Result : PASS

In the configuration tested, the EUT complied with the standards specified above

Authorized Signature

(Mark Zhu)
General Manager

The manufacture should ensure that all the products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of Shenzhen Alpha Product Testing Co., Ltd. Or test done by Shenzhen Alpha Product Testing Co., Ltd. Approvals in connection with, distribution or use of the product described in this report must be approved by Shenzhen Alpha Product Testing Co., Ltd. Approvals in writing.

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1 General Information

1.1 Description of Device (EUT)

EUT	: 2.4G USB dongle
Model No.	: 9250
DIFF	N/A
Trade mark	: N/A
Power supply	: DC 5V From USB port
Radio Technology	: 2.4G ISM Band Radio
Operation frequency	: 2405-2470MHz
Channel No.	8Channels
Modulation	: GFSK
Data rate	: 250kbps
Hardware	: V1.0
Software	: V1.0
Antenna Type	: Integrated antenna with max gain 0dBi.
Applicant	: Golden Technology Group Ltd
Address	: No. 51 Guangtian Road, Luotian, Songgang Town, Bao' an, Shenzhen
Manufacturer	: Golden Technology Group Ltd
Address	: No. 51 Guangtian Road, Luotian, Songgang Town, Bao' an, Shenzhen

1.2 Description of Test Facility

Shenzhen Alpha Product Testing Co., Ltd.
Building B, East Area of Nanchang Second, Industrial Zone, Gushu 2nd Road,
Bao'an, Shenzhen, China

August 11, 2014 File on Federal Communication Commission

Registration Number: 203110

July 18, 2014 Certificated by IC

Registration Number: 12135A

2 EMC Equipment List

Equipment	Manufacture	Model No.	Serial No.	Last cal.	Cal Interval
3m Semi-Anechoic	ETS-LINDGREN	N/A	SEL0017	2015.01.19	1 Year
Spectrum analyzer	Agilent	E4407B	MY49510055	2015.01.19	1 Year
Receiver	R&S	ESCI	101165	2015.01.19	1 Year
Bilog Antenna	SCHWARZBECK	VULB 9168	9168-438	2015.01.21	2 Year
Horn Antenna	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D(1201)	2015.01.21	2 Year
Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA 9170 D(1432)	2015.01.21	2 Year
Active Loop Antenna	Beijing Daze	ZN30900A	SEL0097	2015.01.19	1 Year
Cable(9KHz-30MHz)	Resenberger	SUCOFLEX 104	MY6562/4	2015.01.19	1 Year
Cable(30MHz-1000MHz)	Resenberger	SUCOFLEX 104	309972/4	2015.01.19	1 Year
Cable(1GHz-25GHz)	Resenberger	SUCOFLEX 104	329112/4	2015.01.19	1 Year
Pre-amplifier	SCHWARZBECK	BBV9743	9743-019	2015.01.19	1 Year
Pre-amplifier	Quietek	AP-180C	CHM-0602012	2015.01.19	1 Year
Temporary antenna connector	Huber & Suhner	G042D	742-4012	2015.01.19	1 Year
L.I.S.N.#1	Schwarzbeck	NSLK8126	8126466	2015.01.19	1 Year
L.I.S.N.#2	ROHDE&SCHWARZ	ENV216	101043	2015.01.19	1 Year

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 Test Procedure

POWER LINE CONDUCTED INTERFERENCE: The test procedure used was ANSI Standard C63.10 2013 using a 50 u H LISN. Both Lines were observed. The bandwidth of the receiver was 10kHz with an appropriate sweep speed. The ambient temperature of the EUT was 25°C with a humidity of 58%.

RADIATION INTERFERENCE: The test procedure used was ANSI Standard C63.10 2013 using a ANRITSU spectrum analyzer with a pre-selector. The analyzer was calibrated in dB above a micro volt at the output of the antenna. The resolution bandwidth was 100kHz and the video bandwidth was 300 kHz up to 1 GHz and 1 MHz with a video BW of 3MHz above 1 GHz. The ambient temperature of the EUT was 25°C with a humidity of 58%.

FORMULA OF CONVERSION FACTORS: The Field Strength at 3m was established by adding the meter reading of the spectrum analyzer (which is set to read in units of dBuV) to the antenna correction factor supplied by the antenna manufacturer and cable loss. The antenna correction factors and cable loss are stated in terms of dB. The gain of the Pre-selector was accounted for in the Spectrum Analyzer Meter Reading.

Example:

Freq (MHz) METER READING + ACF + CABLE = FS

33.20 dBuV + 10.36 dB + 0.9 dB = 44.46 dBuV/m @ 3m

ANSI STANDARD C63.10 2013 10.1.7 MEASUREMENT PROCEDURES: The EUT was placed on a table 80 cm high and with dimensions of 1m by 1.5m. The EUT was placed in the center of the table (1.5m side). The table used for radiated measurements is capable of continuous rotation. When an emission was found, the table was rotated to produce the maximum signal strength. At this point, the antenna was raised and lowered from 1m to 4m. The antenna was placed in both the horizontal and vertical planes. The situation was similar for the conducted measurement except that the table did not rotate. The EUT was setup as described in ANSI Standard C63.10 2013 10.1.7 with the EUT 40 cm from the vertical ground wall.

4 Summary of Measurement

4.1 Summary of test result

Test Item	Test Requirement	Standard Paragraph	Result
Spurious Emission	FCC PART 15: 2015	Section 15.249&15.209	Compliance
Conduction Emission	FCC PART 15: 2015	Section 15.207	Compliance
Occupied bandwidth	FCC PART 15: 2015	Section 15.249	Compliance
Band edge Requirement	FCC PART 15: 2015	Section 15.249	Compliance
Antenna Requirement	FCC PART 15: 2015	Section 15.203	Compliance

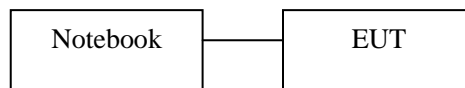
Note: The EUT has been tested at Continual Transmitting mode in maximum power level

EUT is configured to transmit continuously (Duty cycle) is 100% , average correction factor = $20 \log 1=0$

4.2 Test connection

1, EUT was placed on a turn table, which is 0.8 meter high above ground.

TX Mode:



4.3 Assistant equipment used for test

Description	:	Notebook	Adapter
Manufacturer	:	ACER	Chicony
Model No.	:	ZQT	A11-065N1A
Remark: FCC DOC approved			Input: AC100-240V, 50/60Hz Output: DC 19V/3.42A, 65W

4.4 Test mode

The Software (HID-Tool) was used to control EUT work in Continuous TX mode, and select test channel, wireless mode

Channel List

Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
1	2405	5	2440
2	2413	6	2450
3	2422	7	2460
4	2430	8	2470

Test channel

Channel No.	Frequency (MHz)
1	2405
4	2430
8	2470

4.5 Test Conditions

Temperature range	21-25°C
Humidity range	40-75%
Pressure range	86-106kPa

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

Item	MU	Remark
Uncertainty for Power point Conducted Emissions Test	2.42dB	
Uncertainty for Radiation Emission test in 3m chamber (below 30MHz)	2.13 dB	Polarize: V
	2.57dB	Polarize: H
Uncertainty for Radiation Emission test in 3m chamber (30MHz to 1GHz)	3.54dB	Polarize: V
	4.1dB	Polarize: H
Uncertainty for Radiation Emission test in 3m chamber (1GHz to 25GHz)	2.08dB	Polarize: H
	2.56dB	Polarize: V
Uncertainty for radio frequency	1×10^{-9}	
Uncertainty for DC and low frequency voltages	0.06%	

2 Radiation Emission

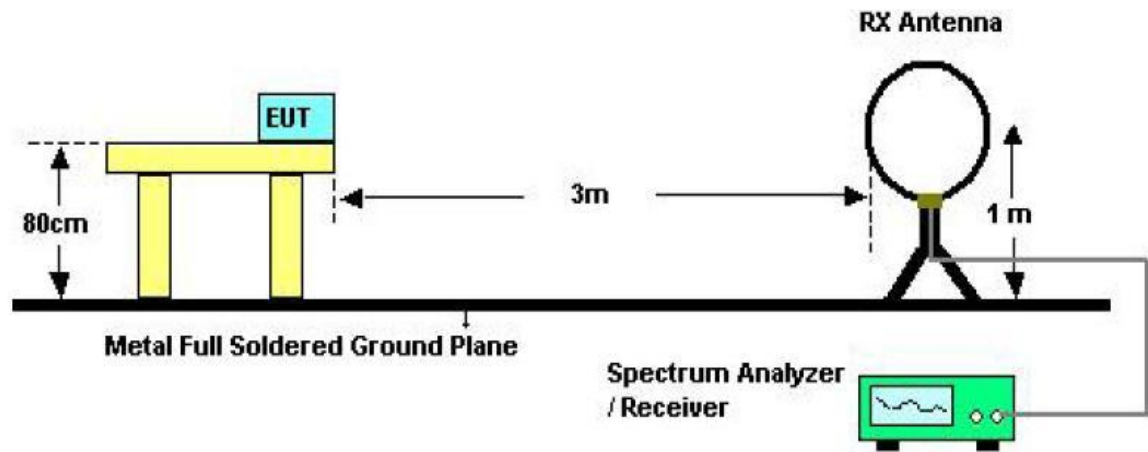
2.1 Radiation Emission Limits(15.209&249)

Frequency (MHz)	Field Strength Limits at 3 metres (watts, e.i.r.p.)		
	uV/m	dB uV/m	Measurement distance(m)
0.009-0.490	2400/F(kHz)	XX	300
0.490-1.705	24000/F(kHz)	XX	30
1.705-30	30	29.5	30
30~88	100(3nW)	40	3
88~216	150(6.8nW)	43.5	3
216~960	200(12nW)	46	3
Above960	500(75nW)	54	3
Carrier frequency		93.97(AV)	3
Carrier frequency		113.97(PK)	3

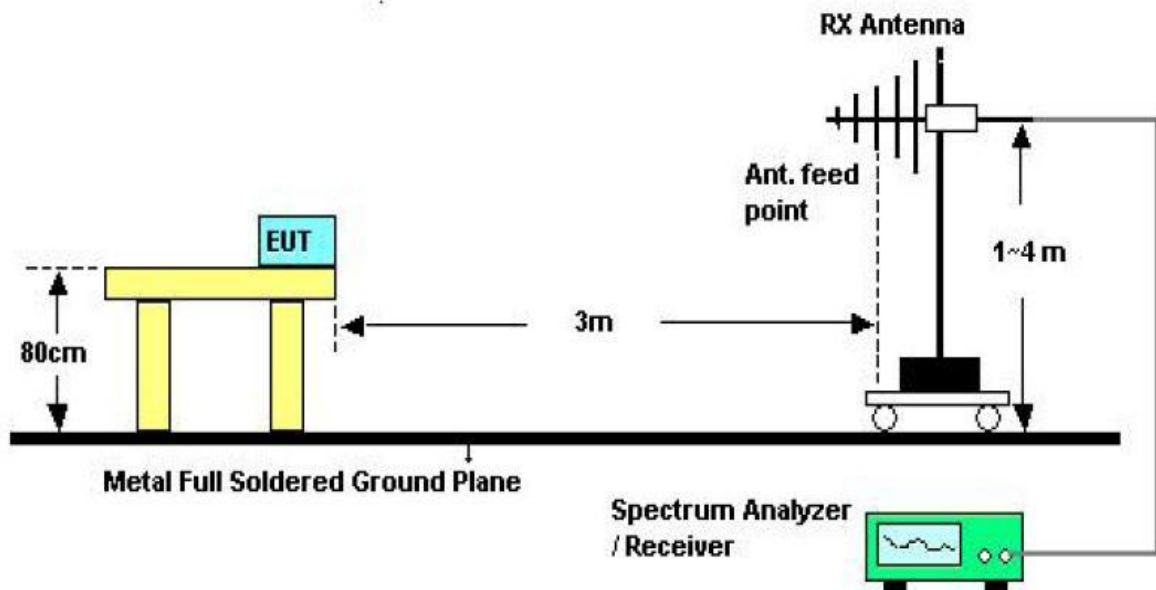
NOTE:

- The tighter limit applies at the band edges.
- Emission Level(dB uV/m)=20log Emission Level(Uv/m)

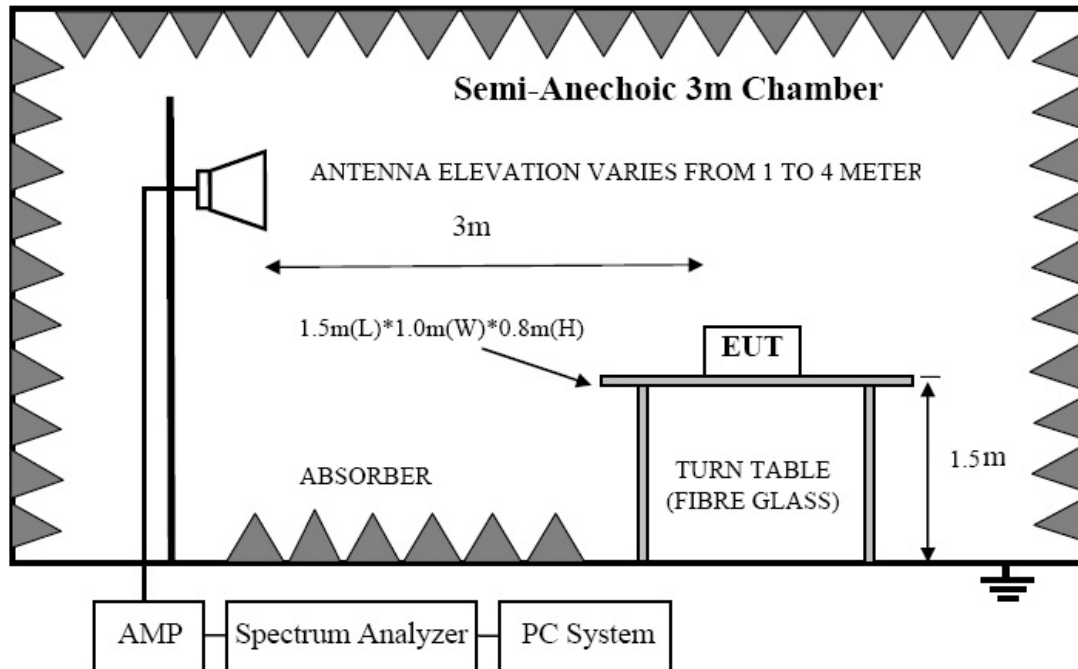
2.2 Test Setup



Below 30MHz Test Setup



Above 30MHz Test Setup



Above 1GHz Test Setup

Note: For harmonic emissions test a appropriate high pass filter was inserted in the input port of AMP.

2.3 Test Procedure

- (1) EUT was placed on a non-metallic table. Low 1G with 80 cm above the ground plane inside a semi-anechoic chamber. Above 1G with 150 cm above the ground plane inside a semi-anechoic chamber
- (2) For the actual test configuration, please see the test setup photo.
- (3) Test antenna was located 3m from the EUT on an adjustable mast. Below pre-scan procedure was first performed in order to find prominent radiated emissions.
 - (a) Change work frequency or channel of device if practicable.
 - (b) Rotated EUT though three orthogonal axes to determine the attitude of EUT arrangement produces highest emissions
- (4) Spectrum frequency from 9KHz to 25GHz (tenth harmonic of fundamental frequency) was investigated
- (5) 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 C63.10 2013 on Radiated Emission test.
- (6) For emissions above 1GHz, both Peak and Average level were measured with Spectrum Analyzer, and the RBW is set at 1MHz, VBW is set at 3MHz for Peak measure; RBW is set at 1MHz, VBW is set at 10Hz for Average measure.

(7) For the radiated emission test above 1GHz:

Place the measurement antenna away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane

2.4 Test Equipment Setting For emission test.

9KHz~150KHz	RBW 200Hz	VBW 1KHz
150KHz~30MHz	RBW 9KHz	VBW 30KHz
30MHz~1GHz	RBW 120KHz	VBW 300KHz
Above 1GHz	RBW 1MHz	VBW 3MHz

2.5 Test Condition

Continual Transmitting in maximum power.

2.6 Test Result

PASS.

Note: The Radiated emissions is showed the maximum power data of TX test mode and showed worst orthogonal axes with Z orthogonal axes.

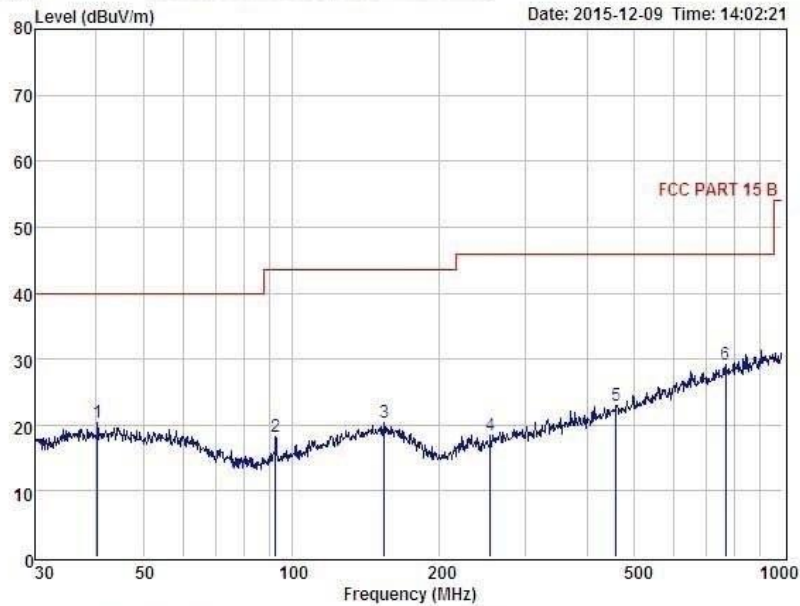
From 9KHz to 30MHz: Conclusion: **PASS**

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



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Data: 1



Condition : FCC PART 15 B 3m POL: VERTICAL
 EUT :
 Model No : 9250
 Test Mode : TX Mode
 Power : DC 5V from PC with AC 120V/60Hz
 Test Engineer : Eric
 Remark :
 Temp : 24.2℃
 Hum : 54%

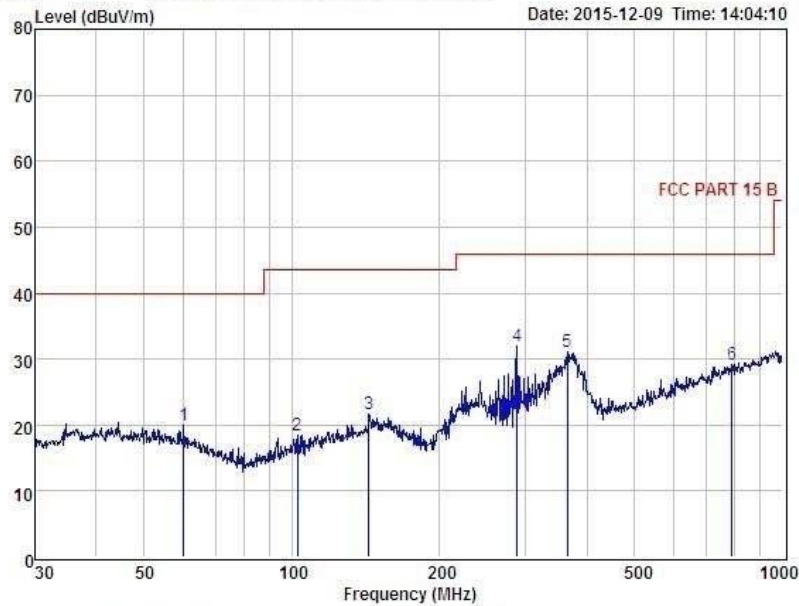
Item	Freq MHz	Read Level dBuV	Antenna Factor dB	Preamp Factor dB	Cable Loss dB	Level dBuV	Limit dBuV	Margin dBuV	Remark
1	40.28	37.92	14.07	31.89	0.18	20.28	40.00	-19.72	Peak
2	92.79	39.69	9.72	31.40	0.27	18.28	43.50	-25.22	Peak
3	154.28	36.91	14.15	31.18	0.40	20.28	43.50	-23.22	Peak
4	253.84	36.90	11.65	30.71	0.57	18.41	46.00	-27.59	Peak
5	457.51	35.73	16.04	29.91	1.16	23.02	46.00	-22.98	Peak
6	766.06	36.42	20.45	29.15	1.44	29.16	46.00	-16.84	Peak

Remark: Level = Read Level + Antenna Factor - Preamp Factor + Cable Loss



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Data: 2



Condition : FCC PART 15 B 3m POL: HORIZONTAL
 EUT :
 Model No : 9250
 Test Mode : TX Mode
 Power : DC 5V from PC with AC 120V/60Hz
 Test Engineer : Eric
 Remark :
 Temp : 24.2℃
 Hum : 54%

Item	Freq MHz	Read Level dBuV	Antenna Factor dB	Preamp Factor dB	Cable Loss dB	Level dBuV	Limit dBuV	Margin dBuV	Remark
1	60.28	38.75	12.75	31.75	0.24	19.99	40.00	-20.01	Peak
2	102.72	39.05	10.54	31.36	0.28	18.51	43.50	-24.99	Peak
3	143.83	38.66	13.77	31.21	0.38	21.60	43.50	-21.90	Peak
4	287.99	49.32	12.54	30.60	0.66	31.92	46.00	-14.08	Peak
5	364.26	46.65	14.12	30.45	0.70	31.02	46.00	-14.98	Peak
6	787.85	36.26	20.63	29.11	1.37	29.15	46.00	-16.85	Peak

Remark: Level = Read Level + Antenna Factor - Preamp Factor + Cable Loss

Notes: Above is below 1GHz test data. This report only shall the worst case mode for TX 2405MHz.

Radiated Emissions Result of Inside band (2405MHz)

EUT	2.4G USB dongle	Model Name	9250
Temperature	24°C	Relative Humidity	52%
Pressure	960hPa	Test voltage	DC 5V From USB port
Test Mode	TX Low	Antenna polarization	Horizontal/Vertical

Channel Low(2405MHz)									
Fre. MHz	Plority H/V	Reading dBuV	Antenna Factor dB	Cable Loss dB	Amplifier Gain dB	Correct Factor dB	Measure Result dBuV/m	Limit dBuV/m	Margin dB
2405	H	87.63 (PK)	27.61	3.92	34.97	-3.44	84.19	113.97	-29.78
2405	H	80.67(AV)	27.61	3.92	34.97	-3.44	77.23	93.97	-16.47
--	H	--	--	--	--	--	--	--	--
2405	V	87.95 (PK)	27.61	3.92	34.97	-3.44	84.47	113.97	-29.50
2405	V	79.15(AV)	27.61	3.92	34.97	-3.44	75.71	93.97	-18.26
--	V	--	--	--	--	--	--	--	--

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV)	AV Reading (dBuV)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
1487.32	H	52.33	---	-10.27	42.06	---	74.00	54.00	-31.94	Peak
1941.27	H	51.75	---	-8.86	42.89	---	74.00	54.00	-31.11	Peak
2654.63	H	49.63	---	-6.94	42.69	---	74.00	54.00	-31.31	Peak
4810.00	H	42.51	---	0.64	43.15	---	74.00	54.00	-30.85	Peak
N/A										
1219.11	V	51.45	---	-11.52	39.93	---	74.00	54.00	-34.07	Peak
1823.06	V	51.37	---	-9.16	42.21	---	74.00	54.00	-31.79	Peak
2794.43	V	49.49	---	-6.38	43.11	---	74.00	54.00	-30.89	Peak
4810.00	V	44.52		0.64	45.16	---	74.00	54.00	-28.84	Peak
N/A										

Notes: 1 --Means other frequency and mode comply with standard requirements and at least have 20dB margin. Correct Factor=Cable Loss+ Antenna Factor-Amplifier Gain
Measurement Result=Reading + Correct Factor
Margin=Measurement Result-Limit

2 –Spectrum setting:

- a. Peak setting 30MHz-1GHz, RBW=120KHz, VBW=300KHz.
Above 1G: RBW=1MHz, VBW=3MHz
- b. AV setting 30MHz-1GHz, RBW=1MHz, VBW=10Hz.
Above 1G: RBW=1MHz, VBW=10Hz

Radiated Emissions Result of Inside band (2430MHz)

EUT	2.4G USB dongle	Model Name	9250
Temperature	25°C	Relative Humidity	56%
Pressure	960hPa	Test voltage	DC 5V From USB port
Test Mode	TX Mid	Antenna polarization	Horizontal/Vertical

Channel Low(2430MHz)									
Fre. MHz	Plority H/V	Reading dBuV	Antenna Factor dB	Cable Loss dB	Amplifier Gain dB	Correct Factor dB	Measure Result dBuV/m	Limit dBuV/m	Margin dB
2430	H	90.56 (PK)	27.61	3.96	34.97	-3.4	87.16	113.97	-26.81
2430	H	85.71 (AV)	27.61	3.96	34.97	-3.4	82.31	93.97	-11.66
--	H	--	--	--	--	--	--	--	--
2430	V	89.07 (PK)	27.61	3.96	34.97	-3.4	85.67	113.97	-28.3
2430	V	82.15 (AV)	27.61	3.96	34.97	-3.4	78.75	93.97	-15.22
--	V	--	--	--	--	--	--	--	--

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV)	AV Reading (dBuV)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
1232.41	H	52.07	---	-11.52	41.80	---	74.00	54.00	-32.2	Peak
2214.08	H	50.15	---	-8.13	41.29	---	74.00	54.00	-32.71	Peak
2931.35	H	48.57	---	-5.72	41.63	---	74.00	54.00	-32.37	Peak
4860.00	H	44.85	---	0.83	45.49	---	74.00	54.00	-28.51	Peak
N/A										
1305.38	V	52.61	---	-10.84	41.09	---	74.00	54.00	-32.91	Peak
2305.21	V	48.75	---	-7.46	39.59	---	74.00	54.00	-34.41	Peak
3145.04	V	48.14	---	-5.63	41.76	---	74.00	54.00	-32.24	Peak
4860.00	V	44.72		0.83	45.36	---	74.00	54.00	-28.64	Peak
N/A										

Notes: 1 --Means other frequency and mode comply with standard requirements and at least have 20dB margin. Correct Factor=Cable Loss+ Antenna Factor-Amplifier Gain
Measurement Result=Reading + Correct Factor
Margin=Measurement Result-Limit

2 –Spectrum setting:

- Peak setting 30MHz-1GHz, RBW=120KHz, VBW=300KHz.
Above 1G: RBW=1MHz, VBW=3MHz
- AV setting 30MHz-1GHz, RBW=1MHz, VBW=10Hz.
Above 1G: RBW=1MHz, VBW=10Hz

Radiated Emissions Result of Inside band (2470MHz)

EUT	2.4G USB dongle	Model Name	9250
Temperature	25°C	Relative Humidity	56%
Pressure	960hPa	Test voltage	DC 5V From USB port
Test Mode	TX High	Antenna polarization	Horizontal/Vertical

Channel Low(2470MHz)									
Fre. MHz	Plority H/V	Reading dBuV	Antenna Factor dB	Cable Loss dB	Amplifier Gain dB	Correct Factor dB	Measure Result dBuV/m	Limit dBuV/m	Margin dB
2470	H	87.65 (PK)	27.82	3.98	34.97	-3.17	84.48	113.97	-29.49
2470	H	80.29 (AV)	27.82	3.98	34.97	-3.17	77.12	93.97	-16.85
--	H	--	--	--	--	--	--	--	--
2470	V	84.73 (PK)	27.82	3.98	34.97	-3.17	81.56	113.97	-32.41
2470	V	79.62 (AV)	27.82	3.98	34.97	-3.17	76.45	93.97	-17.52
--	V	--	--	--	--	--	--	--	--

Freq. (MHz)	Ant. Pol H/V	Peak Reading (dBuV)	AV Reading (dBuV)	Ant. / CL CF (dB)	Actual Fs		Peak Limit (dBuV/m)	AV Limit (dBuV/m)	Margin (dB)	Remark
					Peak (dBuV/m)	AV (dBuV/m)				
1257.31	H	51.44	---	-10.96	41.17	---	74.00	54.00	-32.83	Peak
1954.63	H	50.62	---	-8.64	41.76	---	74.00	54.00	-32.24	Peak
2915.25	H	47.39	---	-5.95	40.45	---	74.00	54.00	-33.55	Peak
4940.00	H	46.05	---	0.87	46.69	---	74.00	54.00	-27.31	Peak
1290.54	V	53.07	---	-10.96	41.55	---	74.00	54.00	-32.45	Peak
2109.37	V	52.82	---	-8.36	43.66	---	74.00	54.00	-30.34	Peak
3256.24	V	46.06	---	-5.39	39.68	---	74.00	54.00	-34.32	Peak
4940.00	V	45.61		0.87	46.25	---	74.00	54.00	-27.75	Peak
N/A										

Notes: 1 --Means other frequency and mode comply with standard requirements and at least have 20dB margin. Correct Factor=Cable Loss+ Antenna Factor-Amplifier Gain
Measurement Result=Reading + Correct Factor
Margin=Measurement Result-Limit

2 -Spectrum setting:

- a. Peak setting 30MHz-1GHz, RBW=120KHz, VBW=300KHz.
Above 1G: RBW=1MHz, VBW=3MHz
- b. AV setting 30MHz-1GHz, RBW=1MHz, VBW=10Hz.
Above 1G: RBW=1MHz, VBW=10Hz

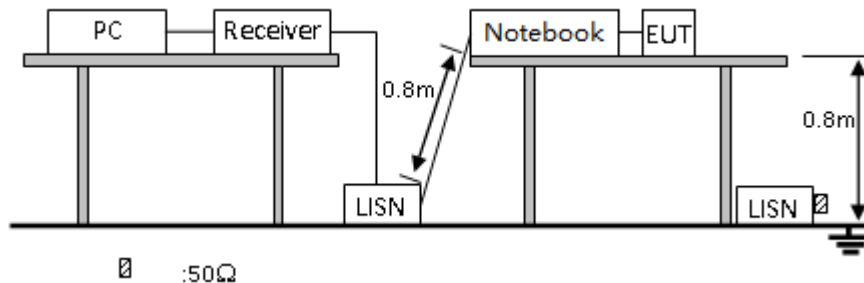
3 POWER LINE CONDUCTED EMISSION

3.1 Conducted Emission Limits(15.207)

Frequency MHz	Limits dB(μ V)	
	Quasi-peak Level	Average Level
0.15 -0.50	66 -56*	56 - 46*
0.50 -5.00	56	46
5.00 -30.00	60	50

- Notes: 1. *Decreasing linearly with logarithm of frequency.
 2. The lower limit shall apply at the transition frequencies.
 3. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50 MHz.

3.2 Test Setup



3.3 Test Procedure

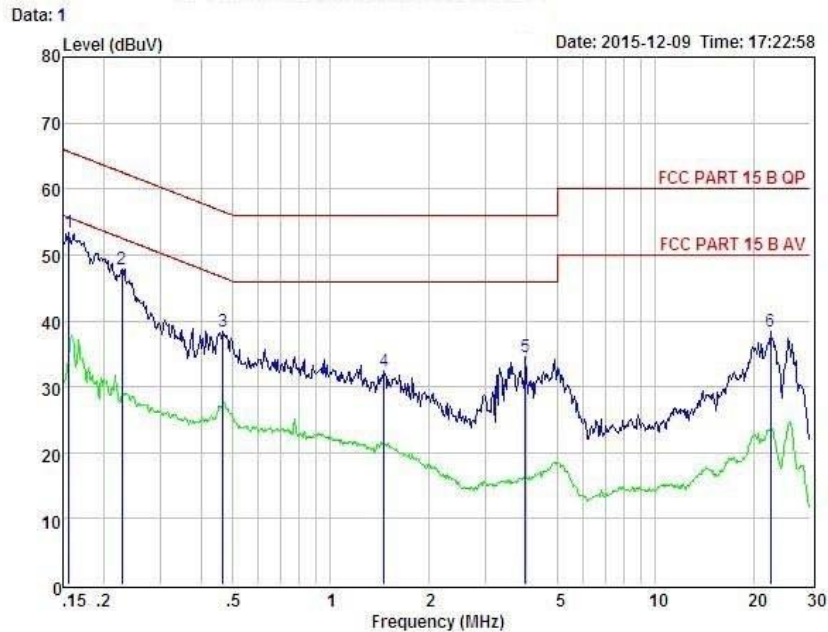
The EUT is put on the plane 0.8m high above the ground by insulating support and is connected to the power mains through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm coupling impedance for the EUT system. Please refer the block diagram of the test setup and photographs. Both sides of AC lines are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to ANSIC63.10 2013 on Conducted Emission Measurement. The bandwidth of test receiver (R & S ESCS30) is set at 9 kHz.

3.4 Test Results

PASS. (See below detailed test data)



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Gushu 2nd Road, Bao'an District, Shenzhen 518126, P.R. China
Tel: +86-755-29766001 FAX: +86-755-86375565
Website: http://www.a-lab.cn Email: service@a-lab.cn



Condition : FCC PART 15 B QP POL: NEUTRAL Temp:25.7 °C Hum:51 %
EUT :
Model No : 9250
Test Mode : TX Mode
Power : DC 5V from PC with AC 120V/60Hz
Test Engineer: Eric
Remark :

Item	Freq MHz	Read dBuV	LISN Factor dB	Preamp Factor dB	Cable Loss dB	Level dBuV	Limit dBuV	Margin dBuV	Remark
1	0.156	43.82	0.03	-9.52	0.10	53.47	65.65	-12.18	Peak
2	0.228	38.09	0.03	-9.52	0.10	47.74	62.52	-14.78	Peak
3	0.466	28.64	0.03	-9.58	0.10	38.35	56.58	-18.23	Peak
4	1.464	22.54	0.05	-9.68	0.10	32.37	56.00	-23.63	Peak
5	3.985	24.46	0.08	-9.88	0.12	34.54	56.00	-21.46	Peak
6	22.655	27.72	0.41	-9.81	0.42	38.36	60.00	-21.64	Peak

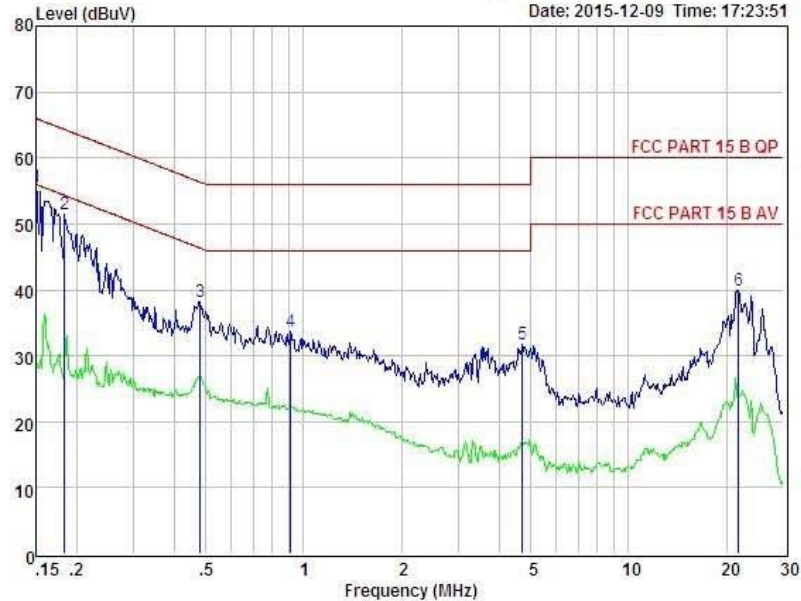
Remarks: Level = Read + LISN Factor - Preamp Factor + Cable loss



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 Website: http://www.a-lab.cn Email: service@a-lab.cn

Data: 3

Date: 2015-12-09 Time: 17:23:51



Condition : FCC PART 15 B QP POL: LINE Temp:25.7 °C Hum:51 %
 EUT :
 Model No : 9250
 Test Mode : TX Mode
 Power : DC 5V from PC with AC 120V/60Hz
 Test Engineer: Eric
 Remark :

Item	Freq	Read	LISN	Preamp	Cable	Level	Limit	Margin	Remark
	MHz	dBuV	Factor	Factor	Loss	dBuV	dBuV	dBuV	
			dB	dB	dB				
1	0.150	45.94	0.03	-9.49	0.10	55.56	66.00	-10.44	Peak
2	0.183	41.79	0.03	-9.52	0.10	51.44	64.33	-12.89	Peak
3	0.481	28.57	0.03	-9.58	0.10	38.28	56.32	-18.04	Peak
4	0.914	24.02	0.04	-9.62	0.10	33.78	56.00	-22.22	Peak
5	4.721	21.67	0.10	-9.91	0.12	31.80	56.00	-24.20	Peak
6	21.830	29.34	0.38	-9.81	0.39	39.92	60.00	-20.08	Peak

Remarks: Level = Read + LISN Factor - Preamp Factor + Cable loss

4 Occupied bandwidth

4.1 Test limit

Please refer section 15.249

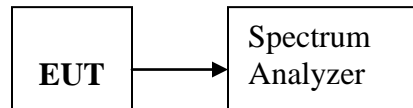
4.2 Method of measurement

a) The bandwidth is measured at an amplitude level reduced 20dB from the reference level.

The reference level is the level of the highest amplitude signal observed from the transmitter at the fundamental frequency. Once the reference level is established, the equipment is conditioned with typical modulating signal to produce the worst-case (i.e. the widest) bandwidth.

b) The test receiver RBW set 100KHz, VBW set 300KHz, Sweep time set auto.

4.3 Test Setup

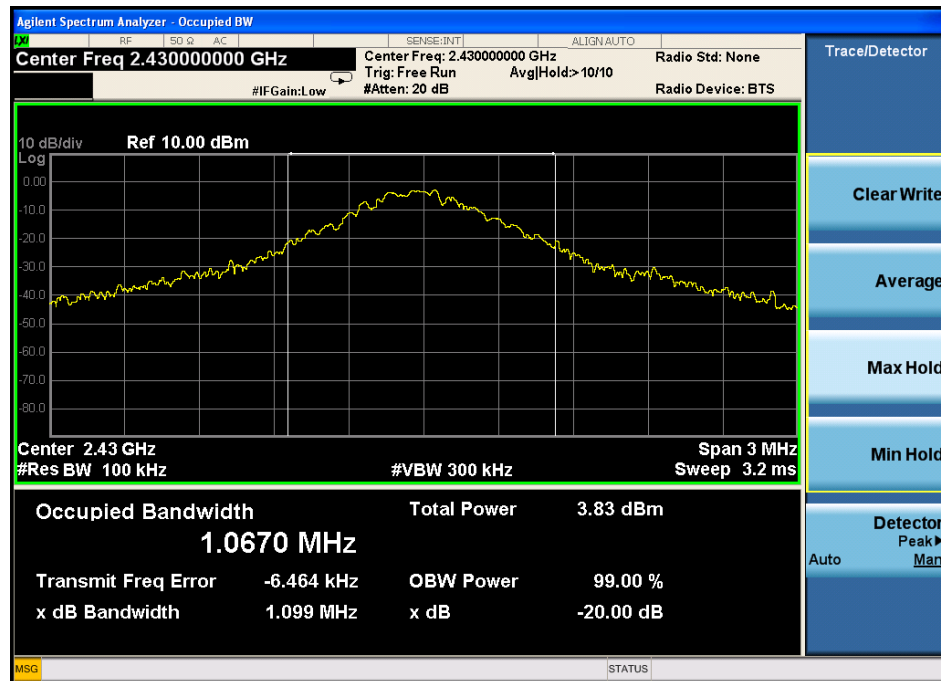
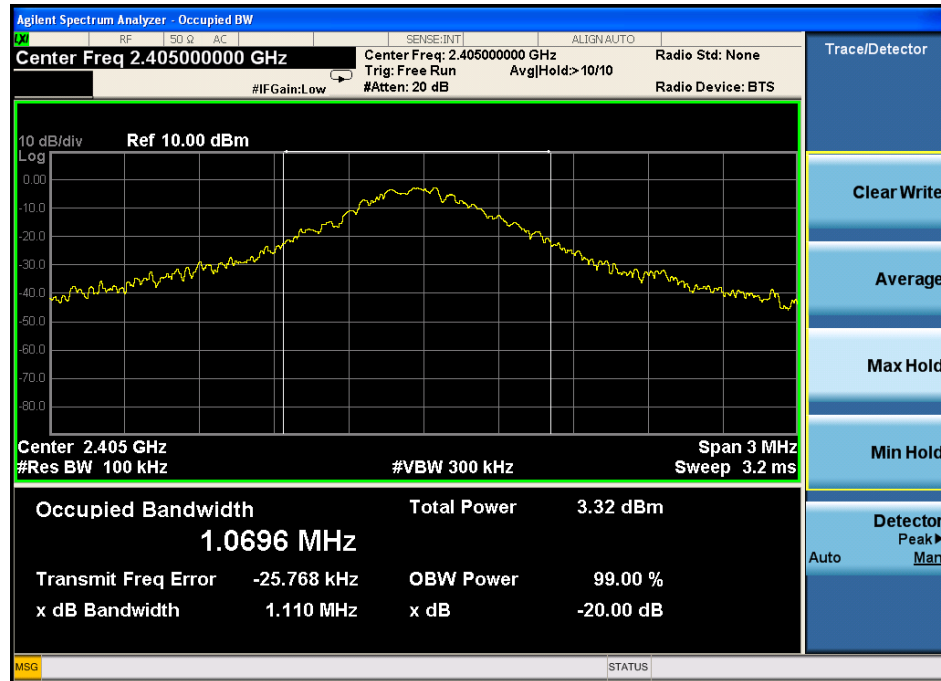


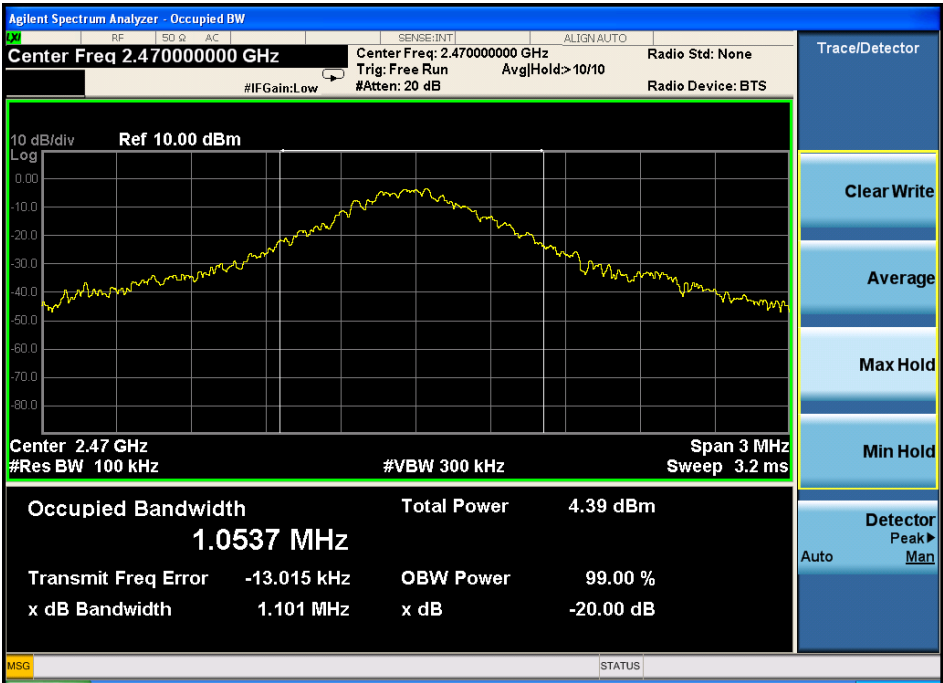
4.4 Test Results

PASS.

Mode	Freq (MHz)	20dB Bandwidth (MHz)	99% Bandwidth (MHz)	Limit (kHz)	Conclusion
FSK	2405	1110	/	/	PASS
	2430	1099	/	/	PASS
	2470	1101	/	/	PASS

Note: Detailed information please see the following page.





5 Band Edge Check

5.1 Test limit

Please refer section 15.249 and section 15.205.

249(d) Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in section 15.209, whichever is the lesser attenuation.

249(e) As show in section 15.35(b), for frequencies above 1000MHz, the above field strength limits in paragraphs (a) and (b) of this section are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For point-to-point operation under paragraph (b) of this section, the peak filed strength shall not exceed 2500 millivolts/meter at 3meters along the antenna azimuth.

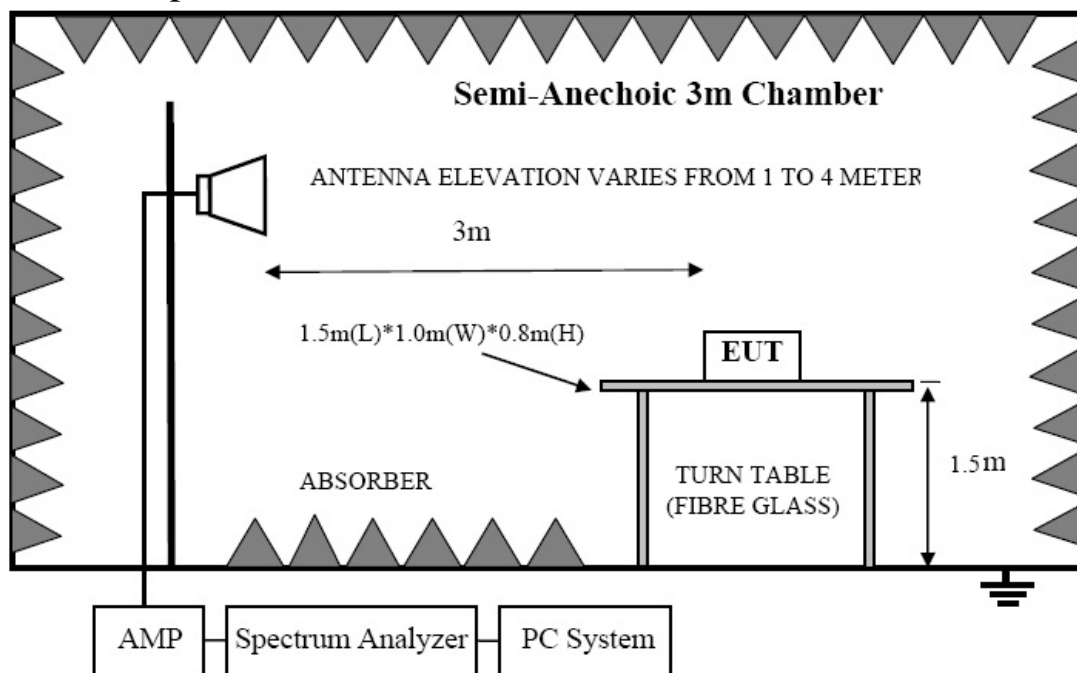
5.2 Test Procedure

All restriction band and non- restriction band have been tested , only worse case is reported.

For the radiated emission test above 1GHz:

Place the measurement antenna away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane.

5.3 Test Setup



Pass.

Band Edge Test result								
EUT: 2.4G USB dongle					M/N: 9250			
Power: DC 5V From USB port								
Test date: 2015-12-22 Test site: 3m Chamber Tested by: Eric								
Test mode: Tx CH Low 2405MHz								
Antenna polarity: Vertical								
Freq (MHz)	Read Level (dBuV/m)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2390	42.65	27.62	3.92	34.97	39.22	74	34.78	PK
2390	--	27.62	3.92	34.97	--	54	--	AV
2400	49.76	27.62	3.94	34.97	46.35	74	27.65	PK
2400	--	27.62	3.94	34.97	--	54	--	AV
Antenna Polarity: Horizontal								
2390	40.27	27.62	3.92	34.97	36.84	74	37.16	PK
2390	--	27.62	3.92	34.97	--	54	--	AV
2400	49.06	27.62	3.94	34.97	45.65	74	28.35	PK
2400	--	27.62	3.94	34.97	--	54	--	AV
Note:								
1, Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK								
2, Spectrum Set for AV measure: RBW=1MHz, VBW=10Hz, Sweep time=Auto, Detector: PK								
3, Result = Read level + Antenna factor + cable loss-Amp factor								
4, All the other emissions not reported were too low to read and deemed to comply with FCC limit.								

Band Edge Test result								
EUT: 2.4G USB dongle				M/N: 9250				
Power: DC 5V From USB port								
Test date: 2015-12-22			Test site: 3m Chamber		Tested by: Eric			
Test mode: Tx CH High 2470MHz								
Antenna polarity: Vertical								
Freq (MHz)	Read Level (dBuV/m)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2483.5	41.15	27.89	4	34.97	38.07	74	35.93	PK
2483.5		--	--	--	--	54	--	AV
Antenna Polarity: Horizontal								
2483.5	40.73	27.89	4	34.97	37.65	74	36.35	PK
2483.5		--	--	--	--	54	--	AV
Note:								
1, Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK								
2, Spectrum Set for AV measure: RBW=1MHz, VBW=10Hz, Sweep time=Auto, Detector: PK								
3, Result = Read level + Antenna factor + cable loss-Amp factor								
4, All the other emissions not reported were too low to read and deemed to comply with FCC limit.								

6 Antenna Requirement

6.1 Standard Requirement

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

6.2 Antenna Connected Construction

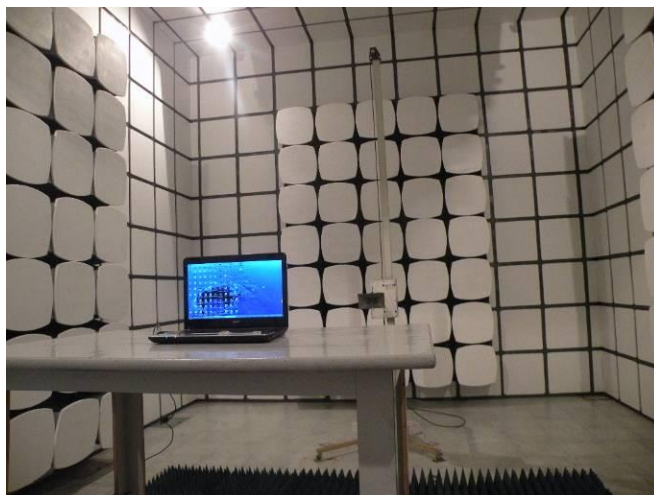
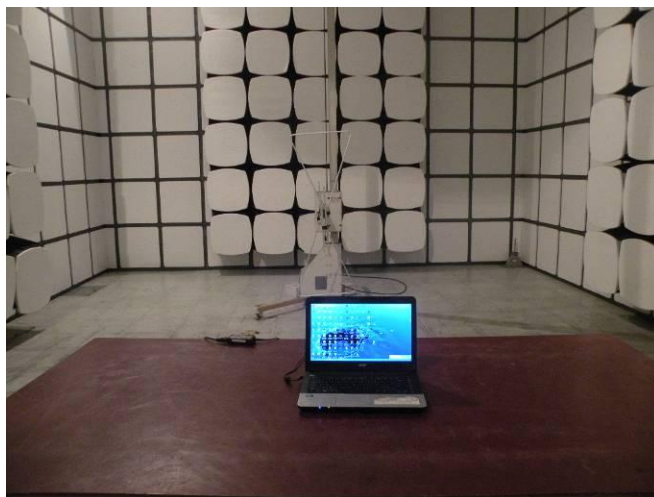
The directional gains of antenna used for transmitting is 0dBi, and the antenna is PCB antenna no consideration of replacement. Please see EUT photo for details.

6.3 Result

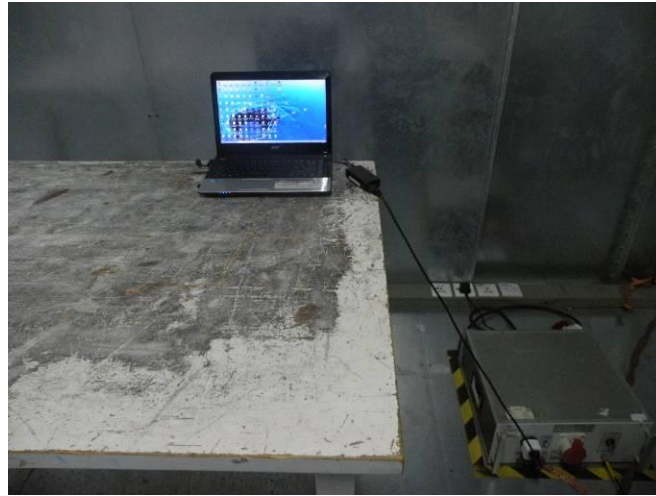
The EUT antenna is PCB Antenna. It comply with the standard requirement.

7 Photographs of Test Setup

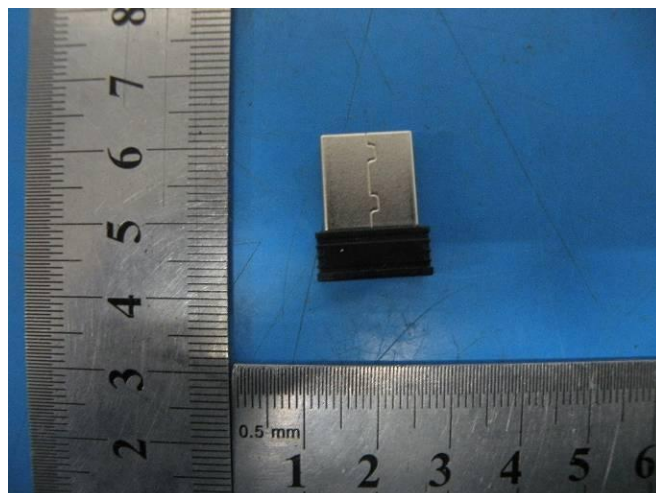
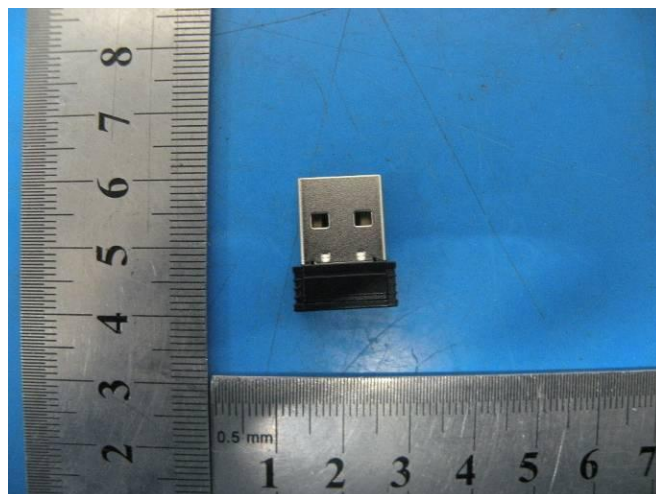
Photographs-Radiated Emission Test Setup in Chamber

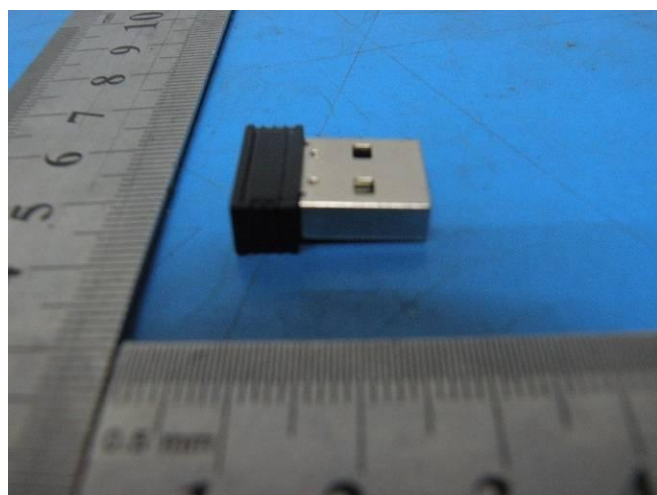
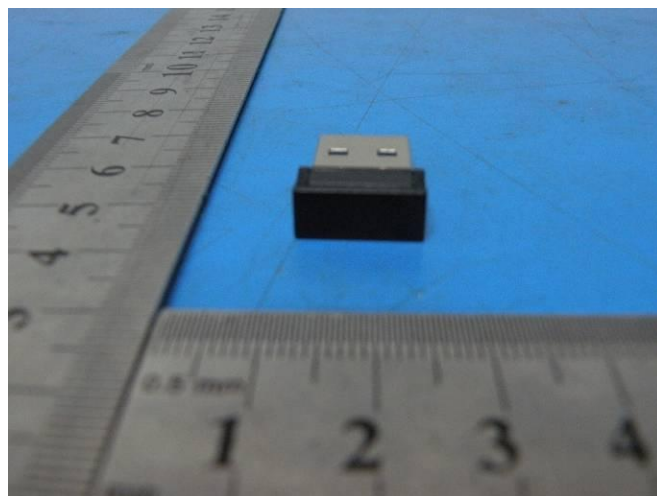


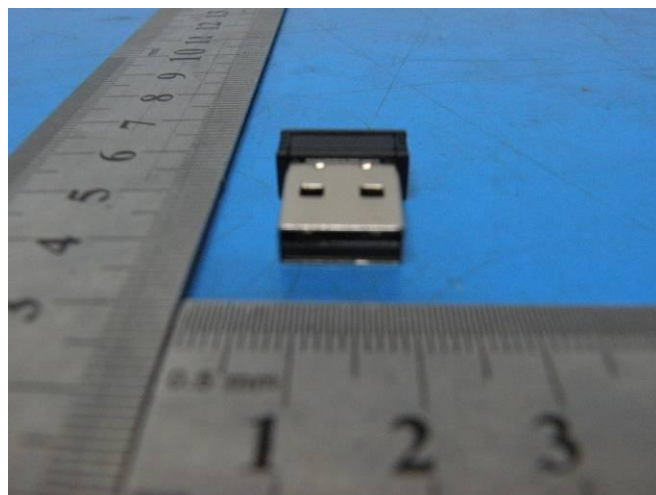
Photos of Conducted Emission test

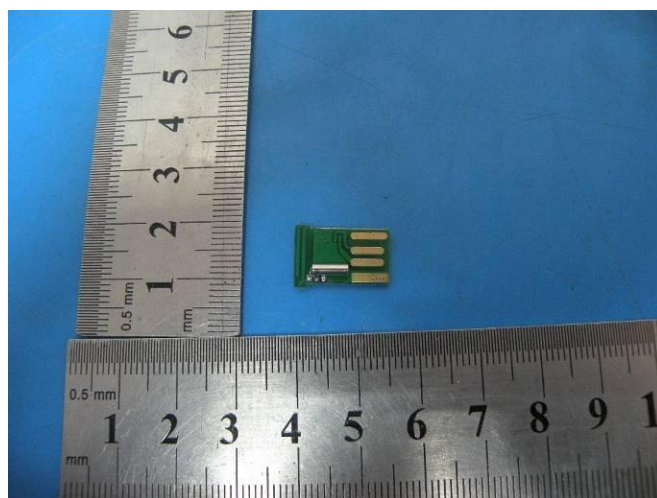


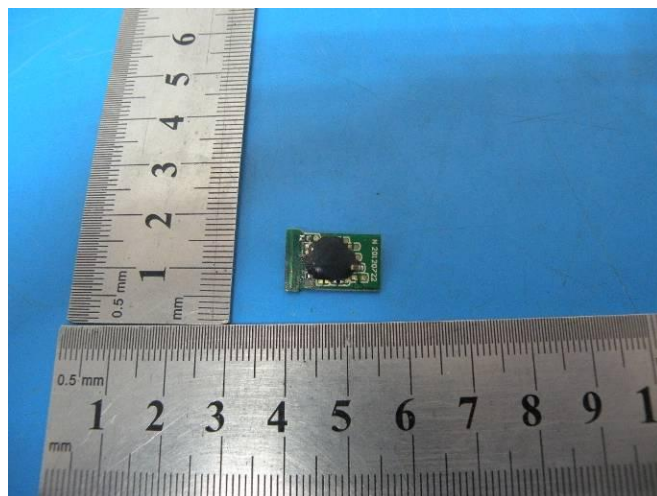
8 Photographs of EUT











-----THE END OF REPORT-----