



TEST REPORT

FCC ID: WYZPS2PS3

Applicant : Interactive Game Group,LLC
Address : C/O THE CORPORATION TRUST 1209 ORANGE STREET
WILMINGTON DELAWARE 19801-USA

Equipment under Test (EUT):

Name : Gene Simmons Axe Guitar
Model : GS-PS2PS3WII001

Standards : FCC PART 15, SUBPART C : 2008 (Section 15.249)

Report No. : STE081210662

Date of Test : December 10 , 2008~December 22,2008

Date of Issue : December 30 , 2008

Test Result :	PASS *
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* 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 Certification Technology Service Co., Ltd. Or test done by ShenZhen Certification Technology Service Co., Ltd. Approvals in connection with, distribution or use of the product described in this report must be approved by ShenZhen Certification Technology Service Co., Ltd. Approvals in writing.

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1 General Information

1.1 Description of Device (EUT)

Trade Name	: N/A
EUT	: Gene Simmons Axe Guitar
Model No.	: GS-PS2PS3WII001
Type of Antenna	: Integral Antenna
Operation Frequency	: 2402~2480MHZ
Modulation type	GFSK
Power Supply	: DC 6V
Rated RF output Power	75.88dBuV/M(Peak Detector)
Applicant	: Interactive Game Group,LLC
Address	: C/O THE CORPORATION TRUST 1209 ORANGE STREET WILMINGTON DELAWARE 19801-USA
Manufacturer	: KENXI INDUSTRIAL CO.,LTD
Address	: 3 rd Building,Shapu Industrial Road,Songgang,Bao'an ShenZhen,P.R.China

1.2 Description of Test Facility

SGS-CSTC Standards Technical Services Co., Ltd.
Guangzhou EMC Laboratory, No.198 Kezhu Road, Science Town
Economic& Technology Development District Guangzhou, China 510663

2 Test Equipment List

Equipment	Manufacture	Model No.	Serial No.	Last cal.	Cal Interval
3m Semi-Anechoic	ETS-LINDGREN	N/A	SEL0017	16/06/2008	1Year
Spectrum analyzer	Agilent	E4443A	MY46185649	06/06/2008	1Year
Receiver	R&S	ESCI	100492	04/06/2008	1Year
Receiver	R&S	ESCI	101202	07/01/2008	1Year
Bilog Antenna	Sunol	JB3	A121206	04/06/2008	1Year
Horn Antenna	EMCO	3115	640201028-06	04/06/2008	1Year
ETS Horn Antenna	ETS	3160	SEL0076	12/08/2008	1Year
Active Loop Antenna	Beijing Daze	ZN30900A	SEL0097	15/06/2008	1Year
Cable	Resenberger	N/A	No.1	04/06/2008	1Year
Cable	SCHWARZBECK	N/A	No.2	04/06/2008	1Year
Cable	SCHWARZBECK	N/A	No.3	04/06/2008	1Year
Pre-amplifier	R&S	AFS42-00101 800-25-S-42	SEL0081	18/06/2008	1Year
Pre-amplifier	R&S	AFS33-18002650 -30-8P-44	SEL0080	18/06/2008	1Year

3 Test Procedure

RADIATION INTERFERENCE:

The test procedure used was ANSI Standard C63.4-2003 using a Agilent 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:

Correct Factor=Meter Reading+Antenna Factor+Cable loss-Amplifier gain

For example: the Reading=33.2dBuV

Antenna factor=10.36dB

Cable loss=0.9dB

Amplifier gain=27.71dB

$33.20 \text{ dBuV} + 10.36 \text{ dB} + 0.9 \text{ dB} - 27.71 \text{ dB} = 16.75 \text{ dBuV/m @ 3m} = \text{Correct Factor}$

4 Summary of Measurement

Test Item	Test Requirement	Standard Paragraph	Result
Radiated Emission	FCC PART 15 : 2008	Section 15.249&15.209	Compliance
Conducted Emission	FCC PART 15: 2008	Section 15.207	Not applicable
Bandwidth requirement	FCC PART 15:2008	Section 15.249	Compliance
Bandedge Requirement	FCC PART 15:2008	Section 15.249	Compliance
Antenna Requirement	FCC PART 15 : 2008	Section 15.203	Compliance

Note: EUT is powered by battery only (nickel-cadmium battery be used), So the conducted emission test is not applicable.

5 Radiated Emission Measurement

5.1.1 Radiated Emission Limits(15.209)

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

Harmonic emissions limits comply with below 54 dBuV/m at 3m. Other 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 comply with the radiated emissions limits specified in section 15.209(a) limit in the table below has to be followed.

NOTE:

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

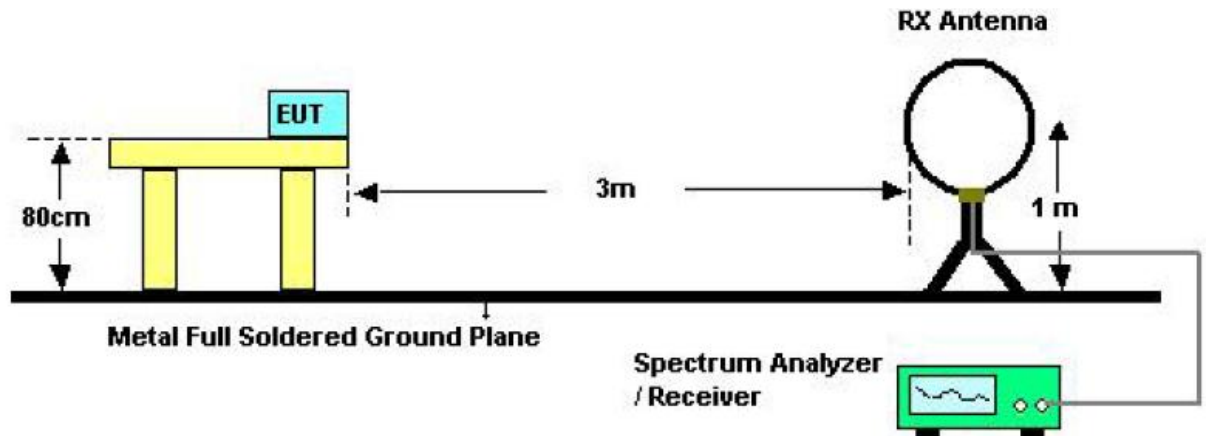
5.1.2 Limits of Radiation Emission Measurement(15.249)

FCC Part15 (15.249) , Subpart C	
Limit	Frequency Range (MHz)
Field strength of fundamental 50000 μ V/m (94 dB μ V/m) @ 3 m	2400-2483.5
Field strength of harmonics 500 μ V/m (54 dB μ V/m) @ 3 m	Above 2483.5

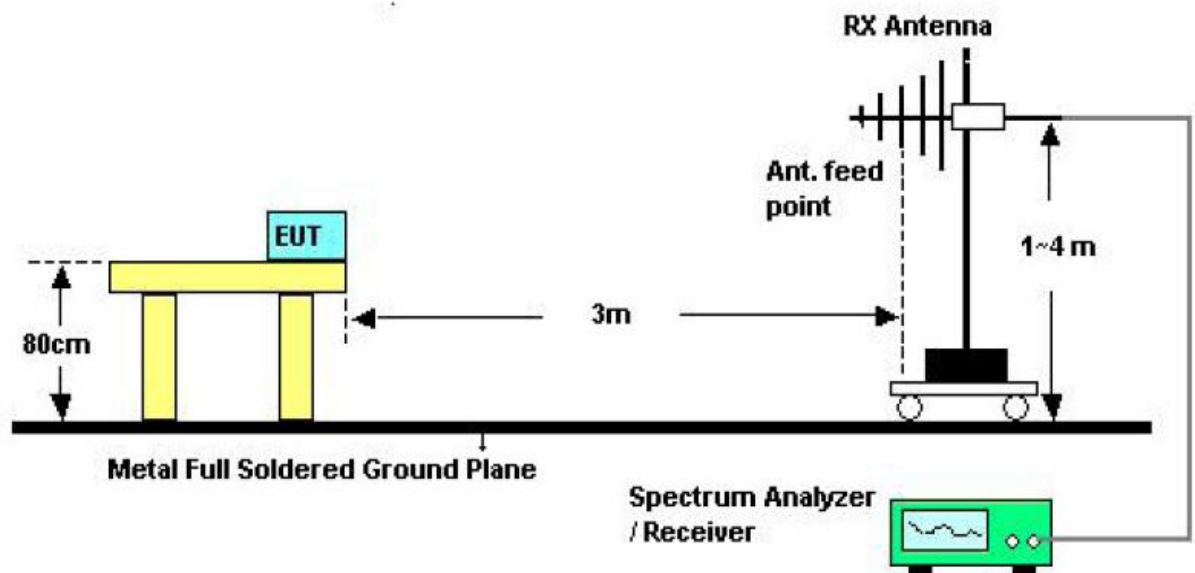
Remark: Emissions attenuated more than 20 dB below the permissible value are not reported.

5.2 Test Setup for Emission measurement

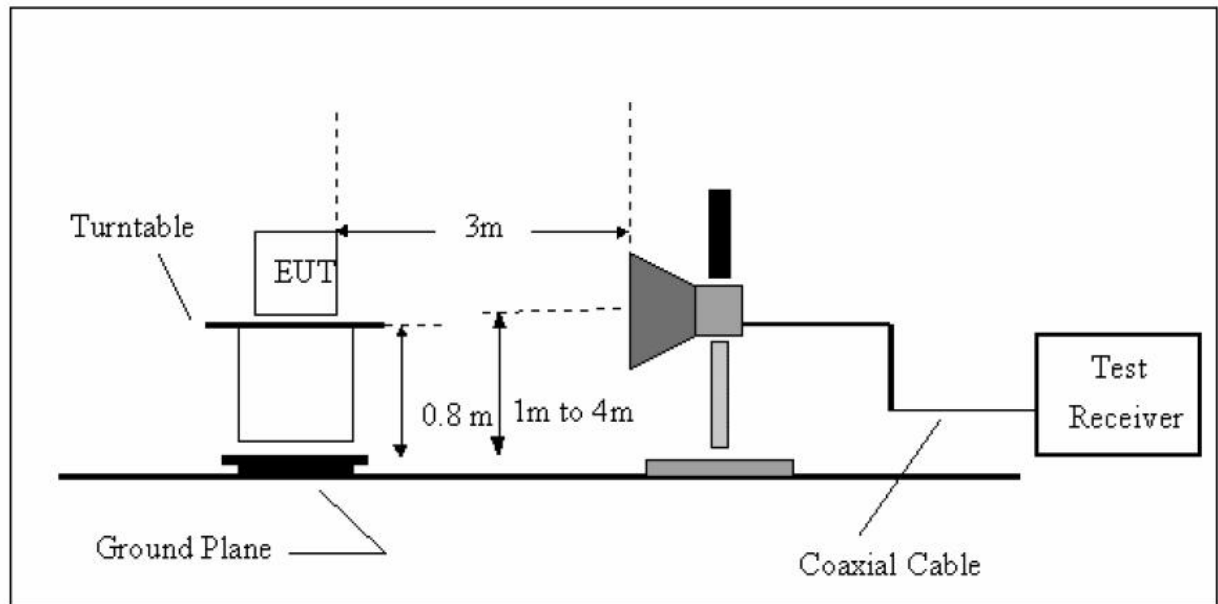
5.2.1 Test Setup for Emission below 30MHz



5.2.2 Test Setup for Emission above 30MHz



5.2.3 Test Setup for Emission above 1GHz



5.3 Test Procedure

- a) The measuring distance of 3m shall be used for measurements at frequency up to 1GHZ and above 1 GHZ, The EUT was placed on a rotating 0.8 m high above ground. The table was rotated 360 degrees to determine the position of the highest radiation
- b) The Test antenna shall vary between 1m and 4m. Both Horizontal and Vertical antenna are set to make measurement.
- c) 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 Qusia Peak Detector mode premeasured
- d) If Peak value comply with QP limit Below 1GHZ.The EUT deemed to comply with QP limit. But the Peak value and average value both need to comply with applicable limit above 1GHZ.
- e) For the actual test configuration, please see the test setup photo.
- f) Test Equipment Setting For emission test:

30MHZ~1GHZ:
(QP Detector) RBW 120KHZ VBW 300KHZ

Above 1GHZ :
RBW 1MHZ VBW 3MHZ for Peak value
RBW 1MHZ VBW 10HZ for Average Value

5.4 Test Condition

Continuous Transmitting in maximum power (The new battery be used during Test).We have scanned up the 10th harmonics about the EUT.Owing to the EUT is holdhand device, we tested on three axis .but Emissions attenuated more than 20 dB below the permissible value are not reported.

5.5 Test Results

5.5.1 Test Results for Emission Below 1GHz

EUT	Gene Simmons Axe Guitar	Model Name	GS-PS2PS3WII001
Temperature	26°C	Relative Humidity	55%
Pressure	960hPa	Test voltage	DC6V
Test Mode	TX	Antenna polarization	Horizontal/Vertical

Antenna polarization: Horizontal								
Frequency MHZ	Reading dBuV	Cable Loss dB	Antenna Factor dB	Amplifier Gain	Correct Factor dB	Measurement Result dBuV/m	Limit line dBuV/m	Over Margin
43.58	38.03	0.68	9.93	28.1	-17.49	20.54	40	-19.46
56.19	49.73	0.8	7.48	28.07	-19.79	29.94	40	-10.06
98.87	38.01	1.19	9.06	27.89	-17.64	20.37	43.5	-23.13
117.3	34.94	1.25	8.08	27.71	-18.38	16.56	43.5	-26.94
242.43	33.51	1.64	12.07	26.95	-13.24	20.27	46	-25.73
610.06	27.46	2.72	20.05	27.58	-4.81	22.65	46	-23.35

Antenna polarization: Vertical								
Frequency MHZ	Reading dBuV	Cable Loss dB	Antenna Factor dB	Amplifier Gain	Correct Factor dB	Measurement Result dBuV/m	Limit line dBuV/m	Over Margin
56.19	45.18	0.8	7.65	28.07	-19.62	25.56	40	-14.44
98.87	34.03	1.19	9.06	27.89	-17.64	16.39	43.5	-27.11
241.46	40.82	1.63	12.04	26.95	-13.28	27.54	46	-18.46
374.35	31.25	2.13	16	27.25	-9.12	22.13	46	-23.87
625.58	26.92	2.75	20.5	27.53	-4.28	22.64	46	-23.36
873.9	26.4	3.51	22.92	26.55	-0.12	26.28	46	-19.72

5.5.2 Test Results for Emission Above 1GHz

EUT	Gene Simmons Axe Guitar	Model Name	GS-PS2PS3WII001
Temperature	26°C	Relative Humidity	55%
Pressure	960hPa	Test voltage	DC6V
Test Mode	TX	Antenna polarization	Horizontal/Vertical

Channel Low													
Fre.	Plority	Reading		Antenna	Cable	Amplifier	Correct	Measure Result		Limit		Margin	
MHz	H/V	PK dBuV	AV dBuV	Factor dB	Loss dB	Gain dB	Factor dB	PK dBuV	AV dBuV	PK dBuV	AV dBuV	PK dBuV	AV dBuV
2390	H	70.58	55.58	33.58	2.5	46.68	-10.6	59.98	44.98	74	54	-14.02	-9.02
2402	H	83.16	65.48	33.68	2.61	45.52	-9.23	73.93	56.25	114	94	-40.07	-37.75
4808	H	67.32	49.07	34.04	2.71	45.4	-8.65	58.67	40.42	74	54	-15.33	-13.58
7222	H	64.51	46.15	36.29	3.15	44.49	-5.05	59.46	41.1	74	54	-14.54	-12.9
2400	V	70.18	57.25	33.75	2.56	46.18	-9.87	60.31	47.38	74	54	-13.69	-6.62
2402	V	85.11	67.19	33.68	2.61	45.52	-9.23	75.88	57.96	114	94	-38.12	-36.04
4808	V	67.51	48.93	34.04	2.7	45.4	-8.66	58.85	40.27	74	54	-15.15	-13.73
7222	V	61.38	46.32	36.29	3.15	44.49	-5.05	56.33	41.27	74	54	-17.67	-12.73

Notes:

Emissions attenuated more than 20 dB below the permissible value are not reported.

Channel Middle													
Fre.	Plority	Reading		Antenna	Cable	Amplifier	Correct	Measure Result		Limit		Margin	
MHz	H/V	PK dBuV	AV dBuV	Factor dB	Loss dB	Gain dB	Factor dB	PK dBuV	AV dBuV	PK dBuV	AV dBuV	PK dBuV	AV dBuV
2441	H	71.35	65.24	33.54	2.72	45.73	-9.47	61.88	55.77	114	94	-52.12	-38.23
2483.5	H	64.28	52.75	33.68	2.64	45.89	-9.57	54.71	43.18	74	54	-19.29	-10.82
4893	H	63.87	50.53	34.02	2.72	45.42	-8.68	55.19	41.85	74	54	-18.81	-12.15
7324	H	60.19	42.73	36.1	3.16	43.39	-4.13	56.06	38.6	74	54	-17.94	-15.4
2441	V	69.58	62.38	33.75	2.56	46.18	-9.87	59.71	52.51	114	94	-54.29	-41.49
4882.5	V	64.57	50.22	34.02	2.72	45.42	-8.68	55.89	41.54	74	54	-18.11	-12.46
7333.8	V	60.58	44.33	36.1	3.16	44.37	-5.11	55.47	39.22	74	54	-18.53	-14.78
12210	V	57.28	44.49	38.93	3.84	43.59	-0.82	56.46	43.67	74	54	-17.54	-10.33

Notes:

Emissions attenuated more than 20 dB below the permissible value are not reported.

Channel High													
Fre.	Plority	Reading		Antenna	Cable	Amplifier	Correct	Measure Result		Limit		Margin	
MHz	H/V	PK dBuV	AV dBuV	Factor dB	Loss dB	Gain dB	Factor dB	PK dBuV	AV dBuV	PK dBuV	AV dBuV	PK dBuV	AV dBuV
2480	H	73.25	65.24	45.74	2.63	45.83	2.54	75.79	67.78	114	94	-38.21	-26.22
2500	H	68.97	52.17	33.74	2.65	45.85	-9.46	59.51	42.71	74	54	-14.49	-11.29
4962	H	61.75	47.94	34.01	2.74	45.44	-8.69	53.06	39.25	74	54	-20.94	-14.75
7453	H	58.27	47.83	35.88	3.18	44.25	-5.19	53.08	42.64	74	54	-20.92	-11.36
2480	V	70.21	63.57	45.74	2.63	45.83	2.54	72.75	66.11	114	94	-41.25	-27.89
2483.5	V	69.25	54.85	33.68	2.64	45.89	-9.57	59.68	45.28	74	54	-14.32	-8.72
7443	V	60.24	47.82	35.91	3.18	44.26	-5.17	55.07	42.65	74	54	-18.93	-11.35
9925	V	56.37	48.07	37.23	3.49	41.92	-1.2	55.17	46.87	74	54	-18.83	-7.13

Notes:

Emissions attenuated more than 20 dB below the permissible value are not reported.

6 Bandwidth

6.1 Limit for Bandwidth

Please refer to section 15.215

6.2 Method of measurement

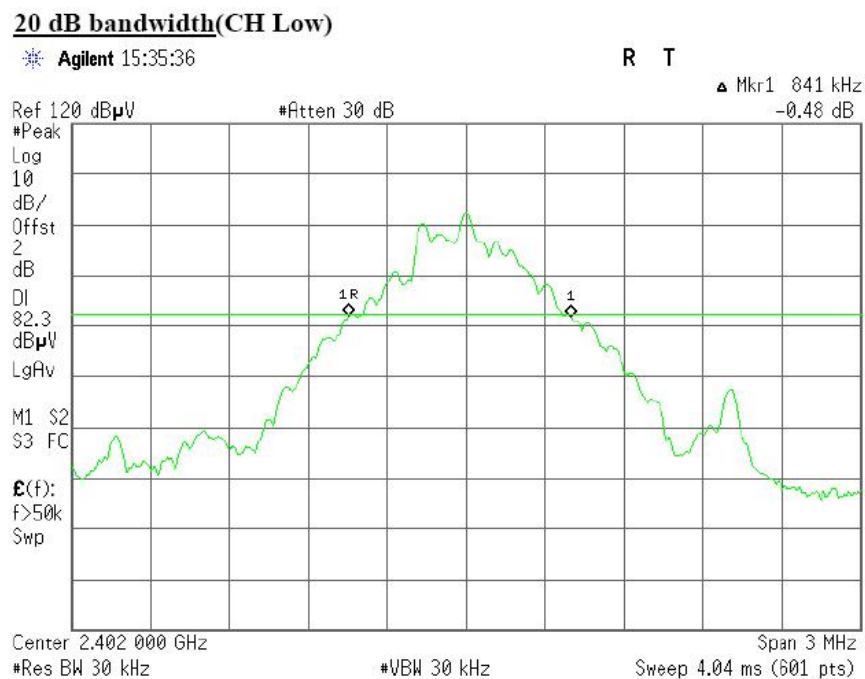
a) The bandwidth is measured at an amplitude level reduced 20dB from the reference level. The reference level is the level of the highest amplitude signal observed from the transmitter at the fundamental frequency. Once the reference level is established, the equipment is conditioned with typical modulating signal to produce the worst-case (i.e. the widest) bandwidth.

b) The test receiver RBW set 30KHZ, VBW set 30KHZ, Sweep time set 4.04ms

6.3 Test Setup

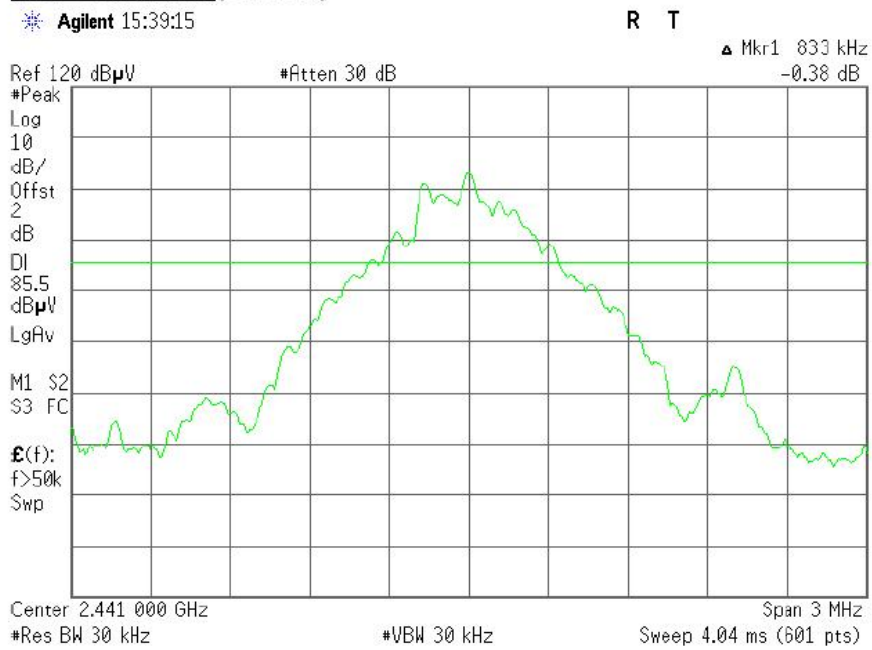
same as section 5.2

6.4 Test Results



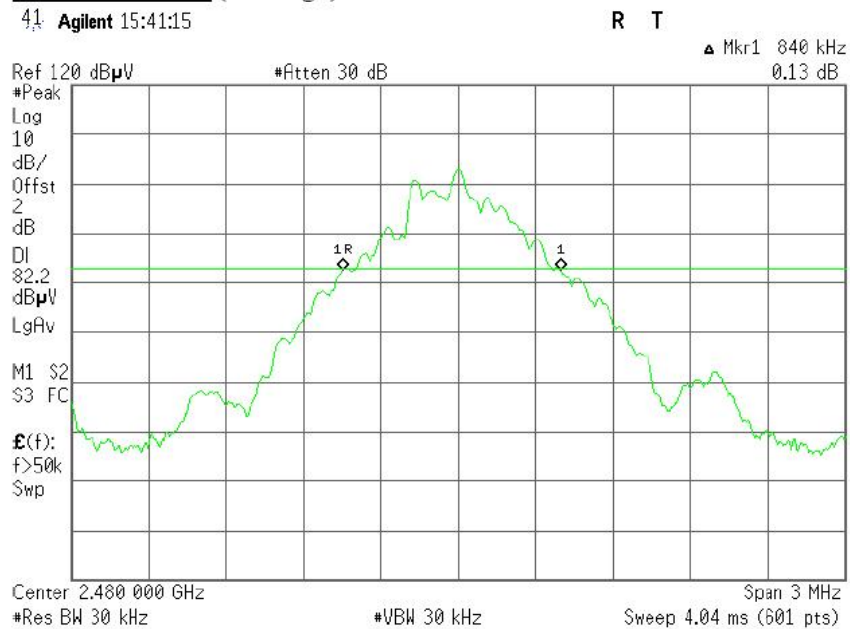
2402MHZ 20dB bandwidth test plot

20 dB bandwidth(CH Mid)



2441MHZ 20dB bandwidth test plot

20 dB bandwidth (CH High)



2480MHZ 20dB bandwidth test plot

7 Band Edge Test

7.1 Test Limit

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.

7.2 Test Procedure

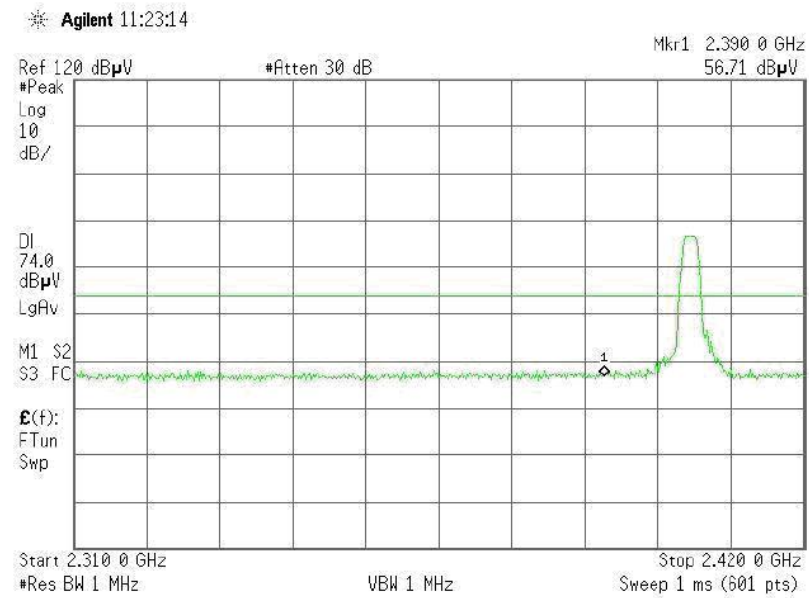
- a) Put the EUT on a 0.8m high table, power on the EUT. Emissions were scanned and measured rotating the EUT to 360 degrees, Find the maximum Emission
- b) Turning to Low and High frequency, then reduced 50dB from the reference level. The reference level is the level of the highest amplitude signal observed from the transmitter at the fundamental frequency.
- c) Check the spurious emissions out of band.
- d) RBW, VBW Setting, please see the following test plot.

7.3 Test Results

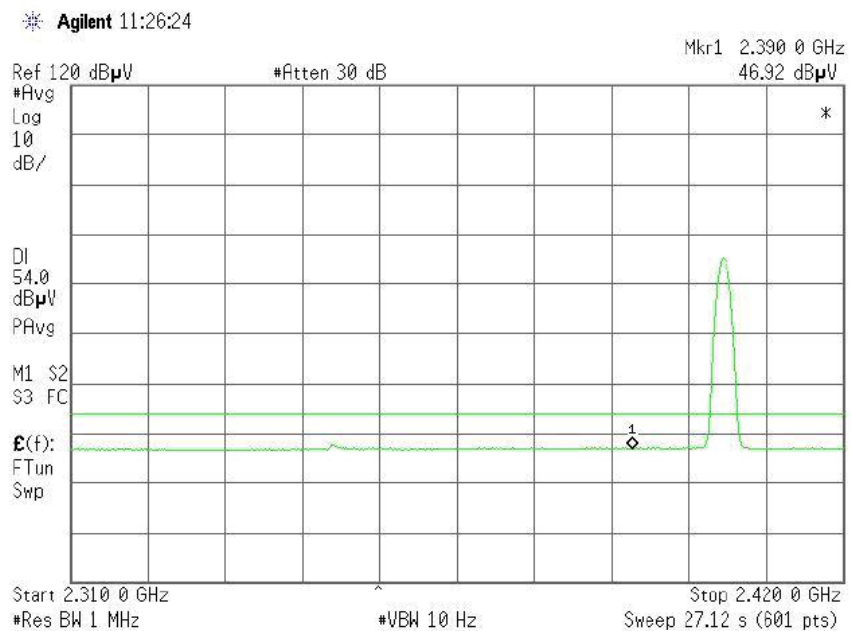
Pass

Detailed information, please see the following page.

Band Edges (CH-Low)

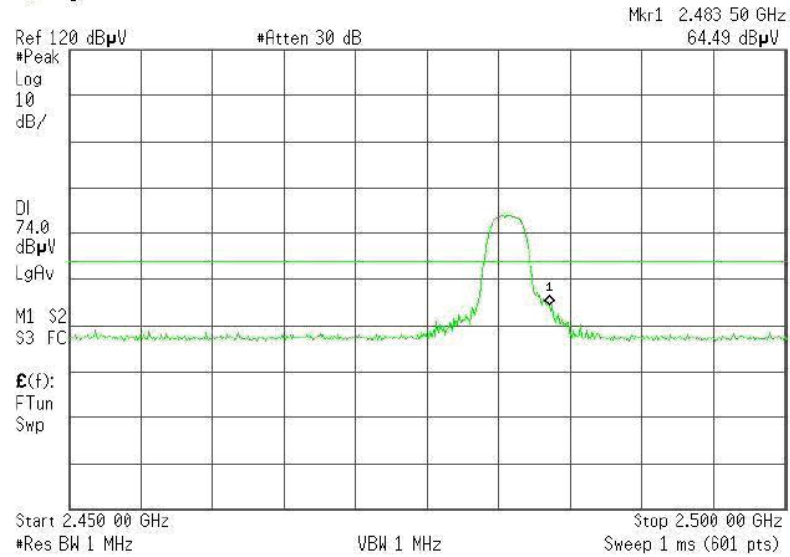


File Name: 11:23:14
File Path: C:\Users\user\Documents\11:23:14

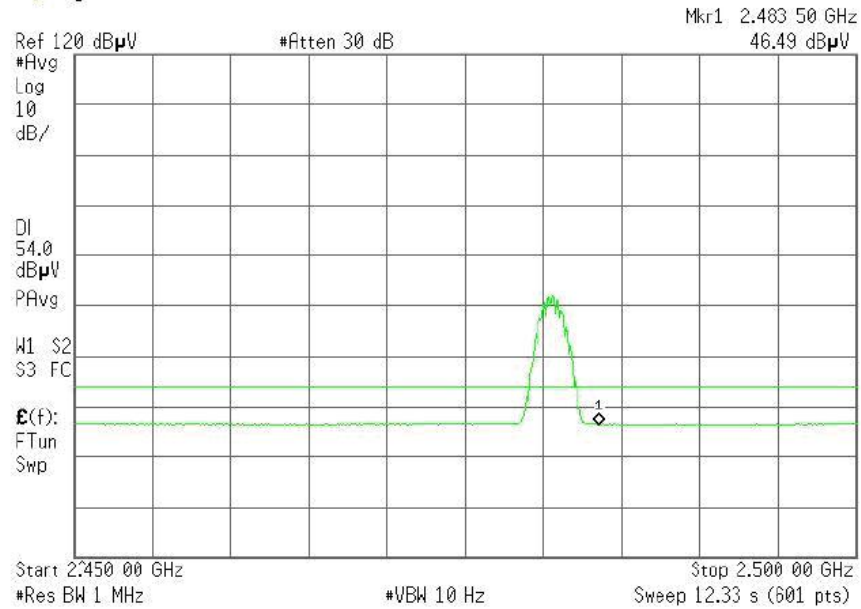


Band Edges (CH-High)

Agilent 10:39:19



Agilent 10:40:37



8 Antenna Requirements

8.1 Standard Requirement

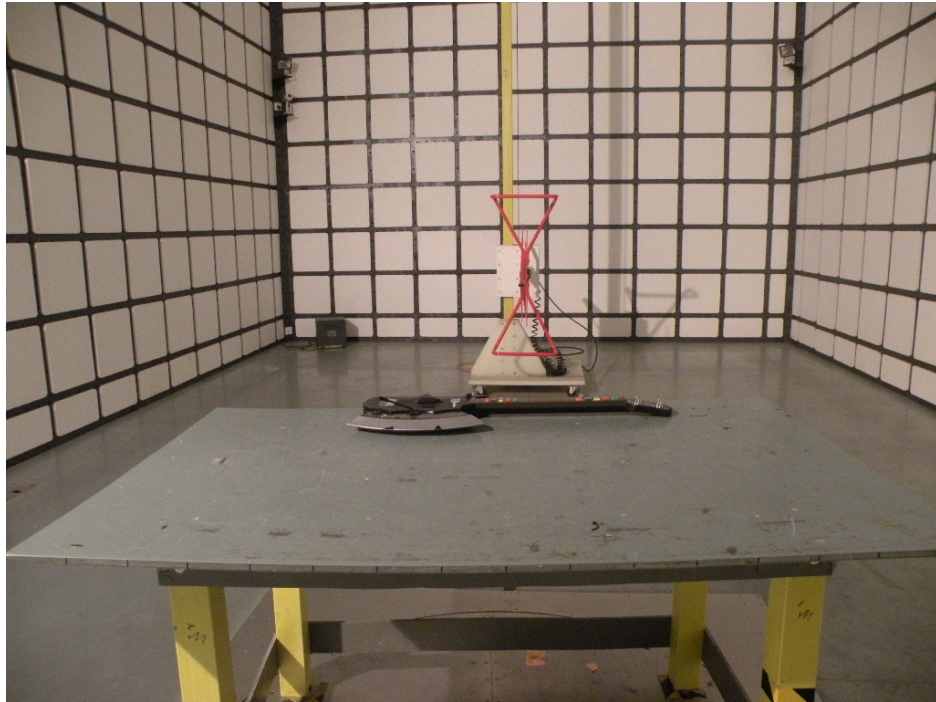
An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply 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.

8.2 Results

The EUT antenna is integral Antenna. It complies with the standard requirement.

9 Photographs of Test Setup

Photographs-Radiated Emission Test Setup in Chamber



10 Photographs of EUT

Figure 1

Photo of EUT

Front View []

Rear View []

Top View [✓]

Bottom View[]

Left View []

Right View []

Full View []



Figure 2

Photo of EUT

Front View []

Rear View []

Top View []

Bottom View[✓]

Left View []

Right View []

Full View []



Figure 3

Photo of EUT

Front View []

Rear View []

Top View []

Bottom View[]

Left View []

Right View []

Internal View [✓]

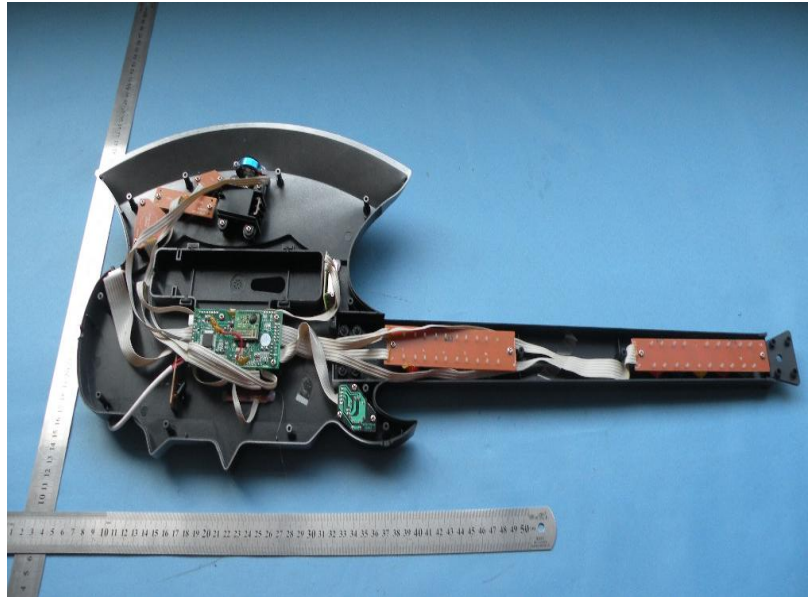


Figure 4

Photo of EUT

Front View []

Rear View []

Top View []

Bottom View[]

Left View []

Right View []

Internal View [✓]

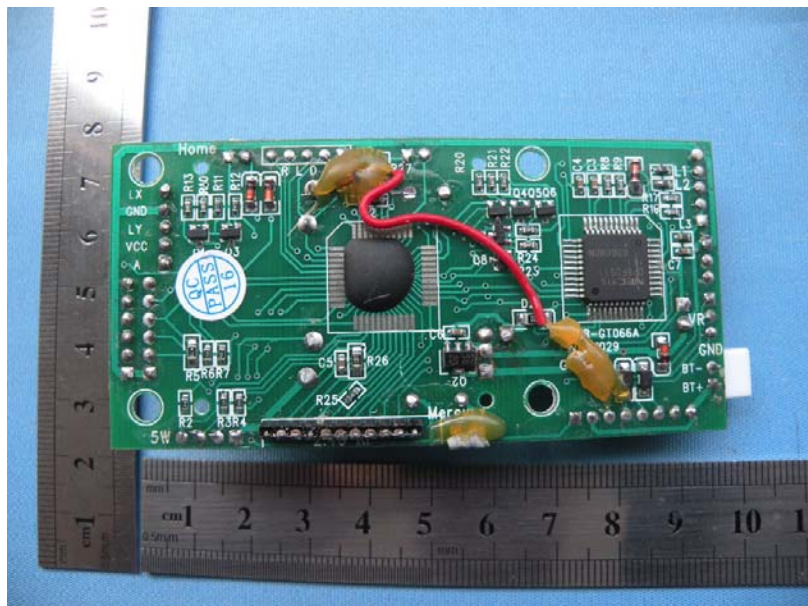


Figure 5

Photo of EUT

Front View []

Rear View []

Top View []

Bottom View[]

Left View []

Right View []

Internal View [✓]

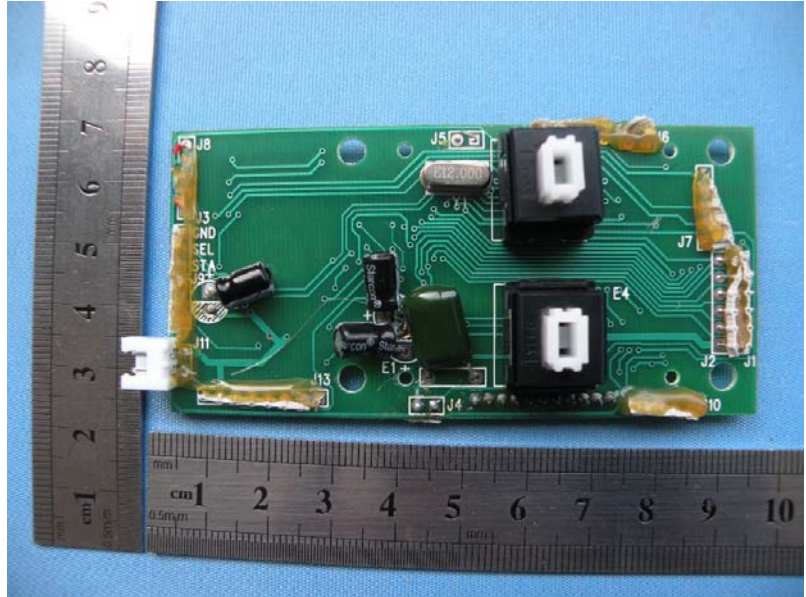


Figure 6

Photo of EUT

Front View []

Rear View []

Top View []

Bottom View[]

Left View []

Right View []

Internal View [✓]

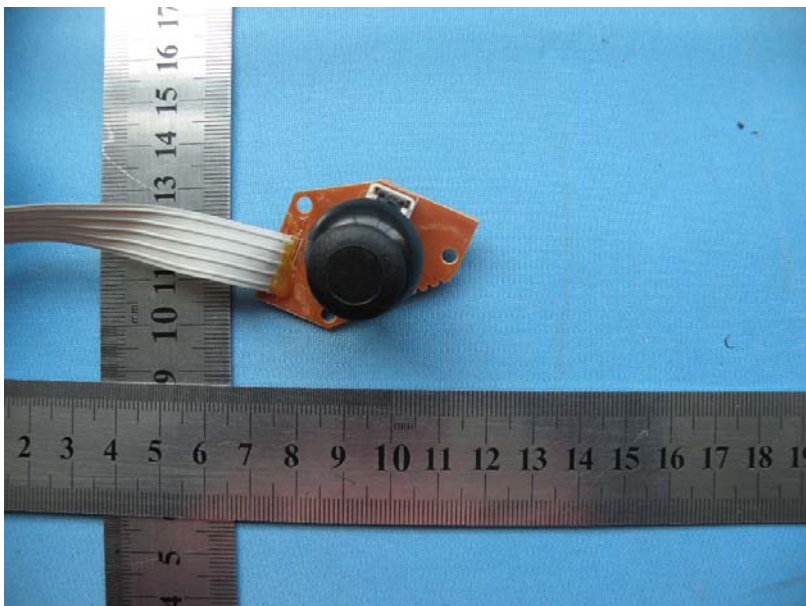


Figure 7

Photo of EUT

Front View []

Rear View []

Top View []

Bottom View[]

Left View []

Right View []

Internal View [✓]

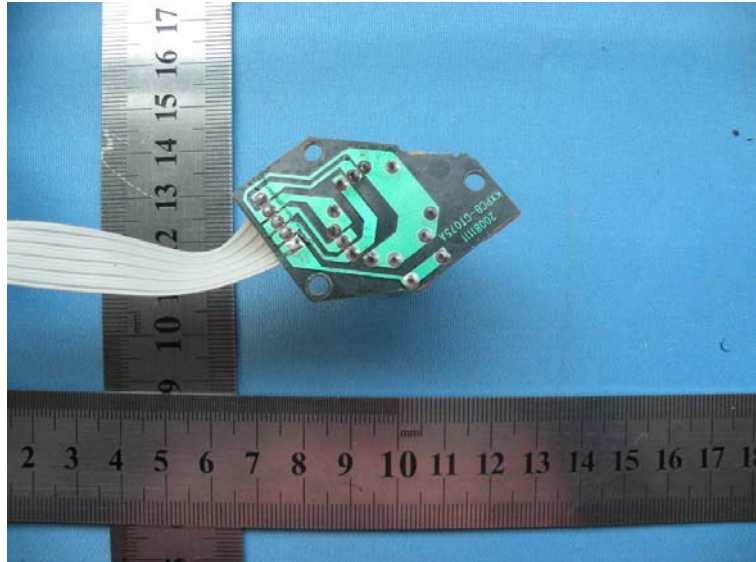


Figure 8

Photo of EUT

Front View []

Rear View []

Top View []

Bottom View[]

Left View []

Right View []

Internal View [✓]

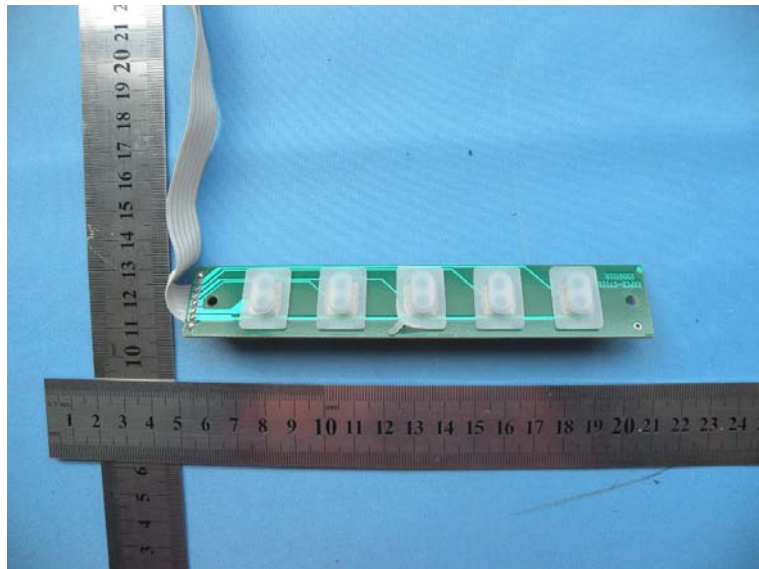


Figure 9

Photo of EUT

Front View []

Rear View []

Top View []

Bottom View[]

Left View []

Right View []

Internal View [✓]

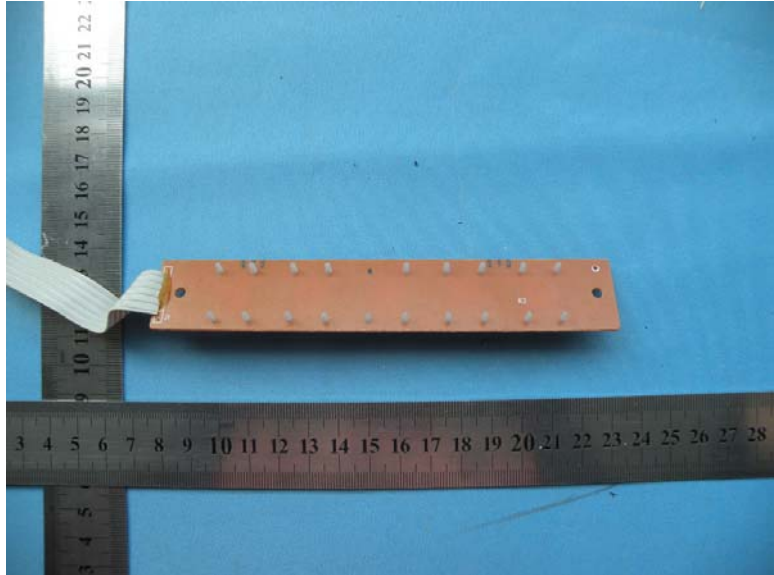


Figure 10

Photo of EUT

Front View []

Rear View []

Top View []

Bottom View[]

Left View []

Right View []

Internal View [✓]

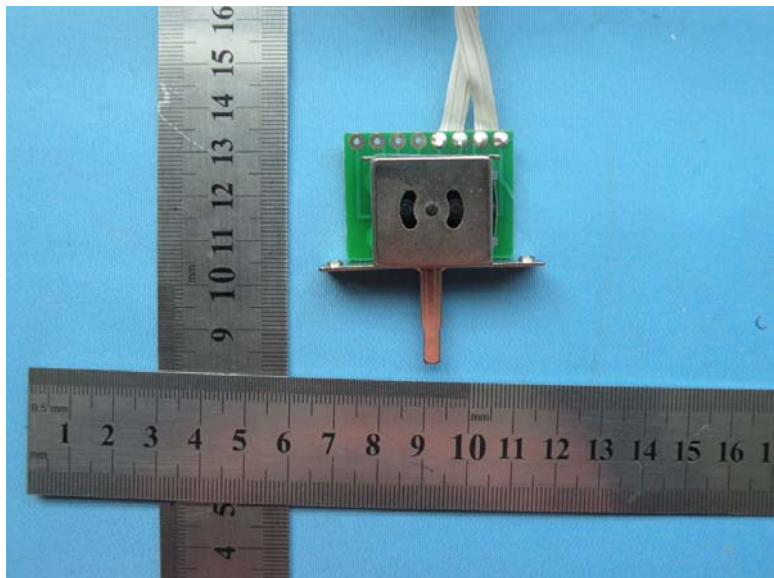


Figure 11

Photo of EUT

Front View []

Rear View []

Top View []

Bottom View[]

Left View []

Right View []

Internal View [✓]

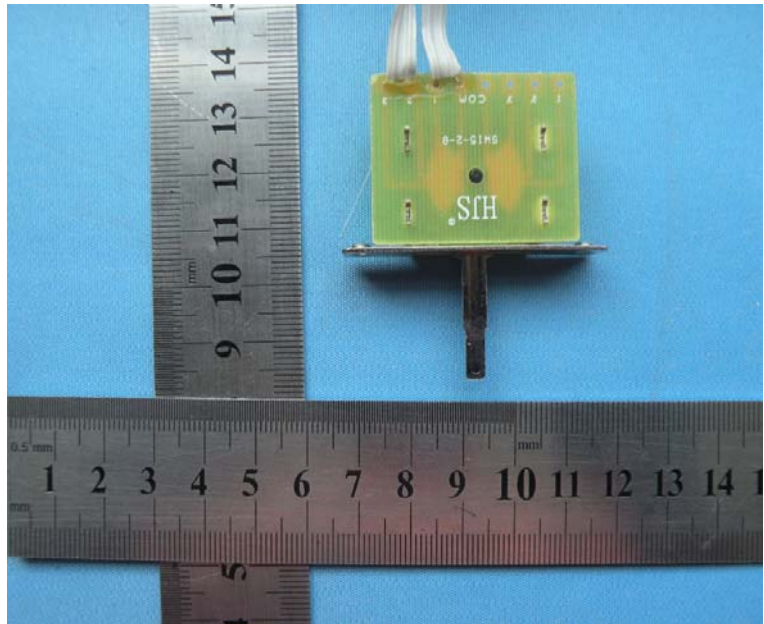


Figure 12

Photo of EUT

Front View []

Rear View []

Top View []

Bottom View[]

Left View []

Right View []

Internal View [✓]

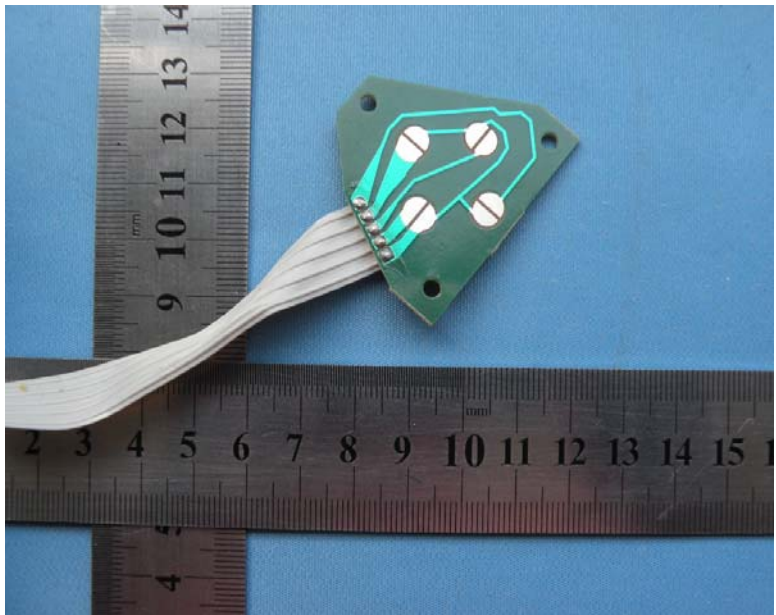


Figure 13

Photo of EUT

Front View []

Rear View []

Top View []

Bottom View[]

Left View []

Right View []

Internal View [✓]

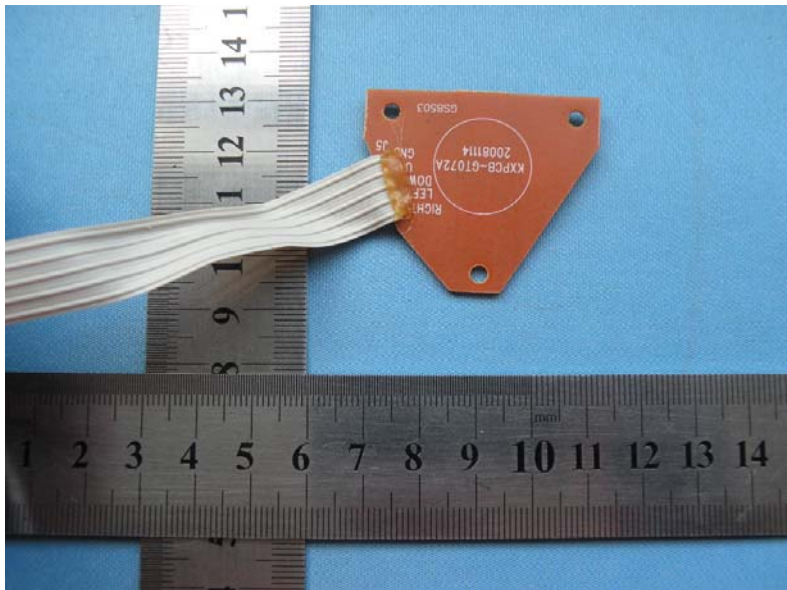


Figure 14

Photo of EUT

Front View []

Rear View []

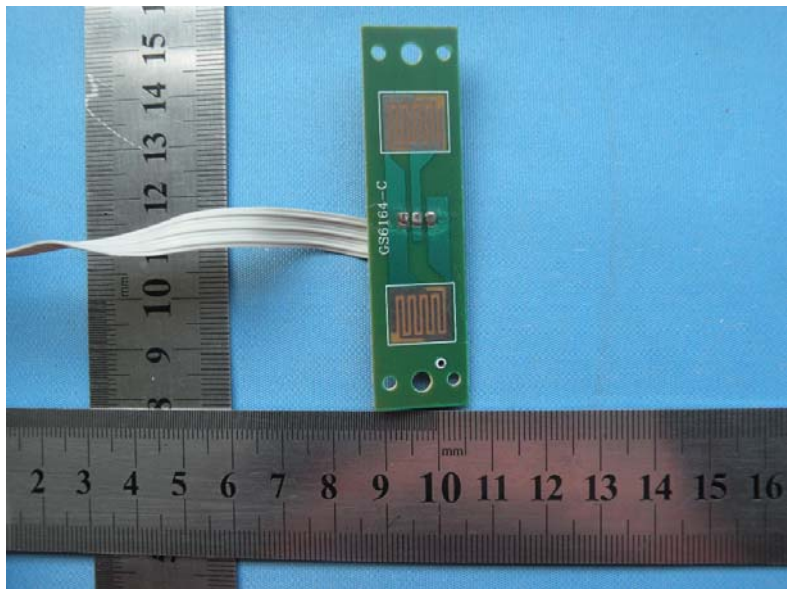
Top View []

Bottom View[]

Left View []

Right View []

Internal View [✓]



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