FCC TEST REPORT
for
Anker Technology Co., Limited

PowerTouch 5
Model No.: A2516

Prepared for	:	Anker Technology Co., Limited
Address	:	Room 1318-19, Hollywood Plaza, 610 Nathan Road, Mongkok, Kowloon, Hong Kong

Prepared By	:	Shenzhen Anbotek Compliance Laboratory Limited
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Report Number	:	R011610151Y
Date of Test	:	Oct. 11~ Nov. 07, 2016
Date of Report	:	Nov. 08, 2016

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TEST REPORT

Applicant	:	Anker Technology Co., Limited
Manufacturer	:	Anker Technology Co., Limited
EUT	:	PowerTouch 5
Model No.	:	A2516
Serial No.	:	N.A.
Trade Mark	:	ANKER
Rating	:	Input DC 5V, 2A, Output DC 5V, 0.95A

Measurement Procedure Used:
FCC Part15 Subpart C 2016, Paragraph 15.209

The device described above is tested by Shenzhen Anbotek Compliance Laboratory Limited to determine the maximum emission levels emanating from the device and the severe levels of the device can endure and its performance criterion. The measurement results are contained in this test report and Shenzhen Anbotek Compliance Laboratory Limited is assumed full of responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT (Equipment Under Test) is technically compliant with the FCC Part 15 Subpart C requirements.

This report applies to above tested sample only and shall not be reproduced in part without written approval of Shenzhen Anbotek Compliance Laboratory Limited.

Date of Test : Oct. 11~ Nov. 07, 2016

Prepared by : Baron Wen

(Tested Engineer / Baron Wen)

Reviewer : Amy Ding

(Project Manager / Amy Ding)

Approved & Authorized Signer : Tom Chen

(Manager / Tom Chen)

1. GENERAL INFORMATION

1.1. Description of Device (EUT)

EUT	:	PowerTouch 5
Model Number	:	A2516
Test Power Supply	:	DC 5V
Frequency	:	110~ 205kHz
Antenna Type	:	Loop Antenna
Antenna Gain	:	2dBi
Applicant	:	Anker Technology Co., Limited
Address	:	Room 1318-19, Hollywood Plaza, 610 Nathan Road, Mongkok, Kowloon, Hong Kong
Manufacturer	:	Anker Technology Co., Limited
Address	:	Room 1318-19, Hollywood Plaza, 610 Nathan Road, Mongkok, Kowloon, Hong Kong
Factory	:	SHENZHEN RUIJING INDUSTRIAL CO., LTD.
Address	:	5-6 Floor, Building 3, Minqi Industrial Area, Lishan Road, Nanshan Shenzhen, Guangdong, 518055 China
Date of receiver	:	Oct. 11, 2016
Date of Test	:	Oct. 11~ Nov. 07, 2016

1.2. Auxiliary Equipment Used during Test

Adapter	:	Model No.: ETA-U90CBC Manufacturer: SAMSUNG Input: AC 100-240V, 50-60Hz, 0.35A Output: DC 5V, 2A
Mobile Phone	:	Model No.: GALAXY S7 Edge G9350 Manufacturer: SAMSUNG

1.3. Description of Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

FCC-Registration No.: 752021
Shenzhen Anbotek Compliance Laboratory Limited, EMC Laboratory has been registed and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration 752021, July 06, 2016.

IC-Registration No.: 8058A-1
Shenzhen Anbotek Compliance Laboratory Limited., EMC Laboratory has been registered and fully described in a report filed with the (IC) Industry Canada. The acceptance letter from the IC is maintained in our files. Registration 8058A, Jun. 13, 2016.

Test Location
All Emissions tests were performed at
Shenzhen Anbotek Compliance Laboratory Limited. at 1/F., Building 1, SEC Industrial Park, No.0409 Qianhai Road, Nanshan District, Shenzhen, Guangdong, China

1.4. Measurement Uncertainty

Radiation Uncertainty	:	Ur = 4.1 dB (Horizontal) Ur = 4.3 dB (Vertical)
Conduction Uncertainty	:	Uc = 3.4dB

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.10: 2013 and FCC Part 15, Paragraph 15.209.

2.1. Summary of Test Results

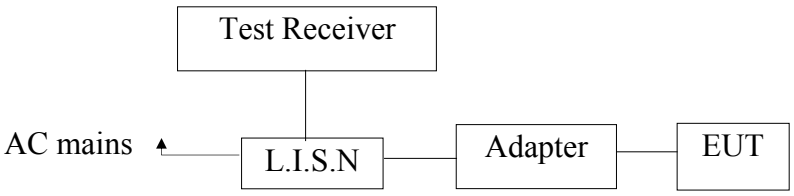
The EUT has been tested according to the following specifications:

Standard	Test Type	Result	Notes
FCC Part 15, Paragraph 15.207	Conducted Emission Test	PASS	Complies
FCC Part 15, Paragraph 15.209(a)(f)	Spurious Emission	PASS	Complies

3. Conducted Emission Test

3.1. Block Diagram of Test Setup

3.1.1. Block diagram of connection between the EUT and simulators



3.2. Power Line Conducted Emission Measurement Limits (15.207)

Frequency MHz	Limits dB(μV)	
	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.

3.3. Configuration of EUT on Measurement

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

3.4. Operating Condition of EUT

3.4.1. Setup the EUT and simulator as shown as Section 3.1.

3.4.2. Turn on the power of all equipment.

3.4.3. Let the EUT work in test mode (Charging) and measure it.

3.5. Test Procedure

The EUT system 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 line 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 FCC ANSI C63.10-2013 on Conducted Emission Measurement.

The bandwidth of test receiver (ESCI) set at 9KHz.

The frequency range from 150KHz to 30MHz is checked.

The test results are reported on Section 3.7.

3.6. Test equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Two-Line V-network	Rohde & Schwarz	ENV216	100055	Apr. 17, 2016	1 Year
2.	EMI Test Receiver	Rohde & Schwarz	ESCI	100627	Apr. 17, 2016	1 Year
3.	RF Switching Unit	Compliance Direction	RSU-M2	38303	Apr. 17, 2016	1 Year

3.7. Power Line Conducted Emission Measurement Results

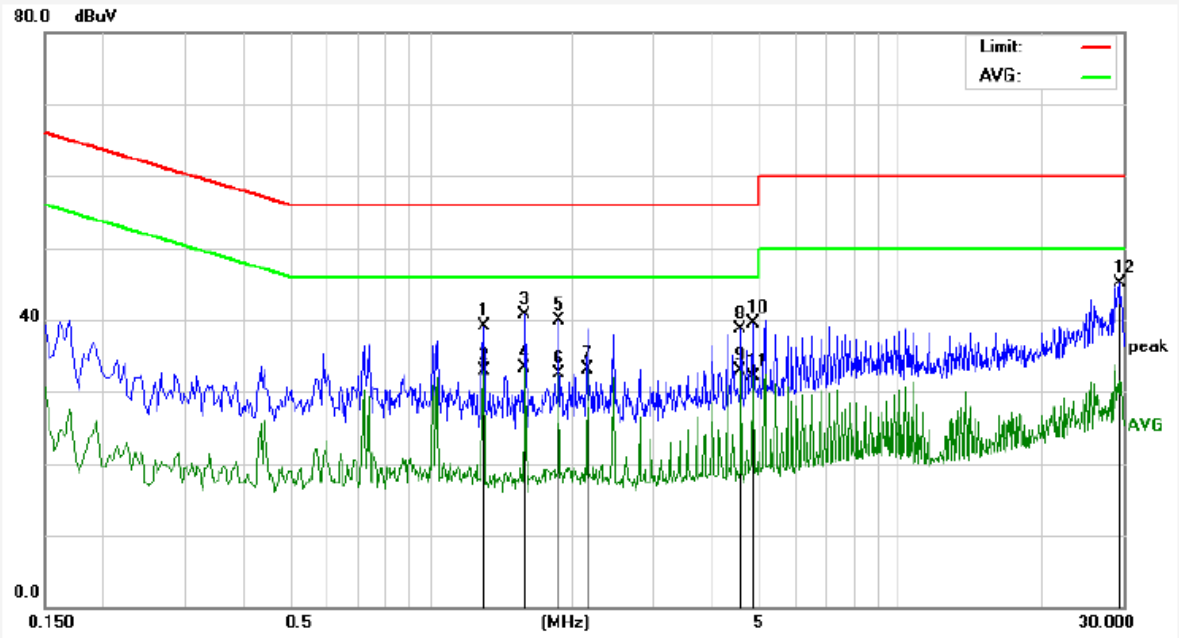
PASS.

The frequency range from 150KHz to 30 MHz is investigated.

Please refer the following pages.

CONDUCTED EMISSION TEST DATA

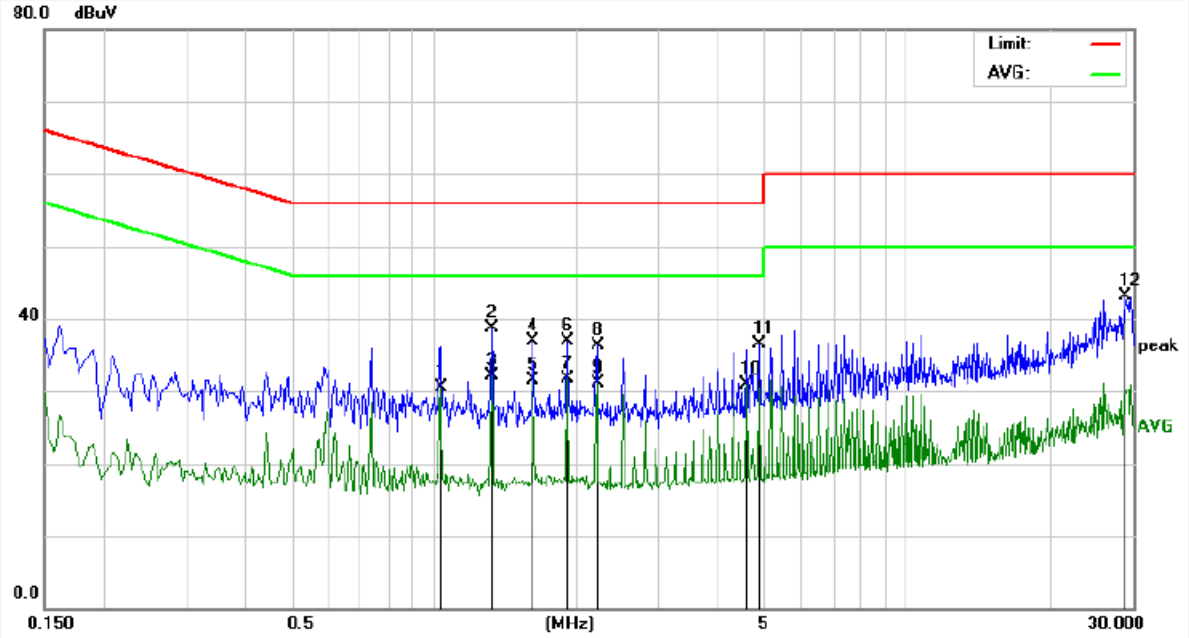
Test Site:	1# Shielded Room
Operating Condition:	Charging
Test Specification:	AC 120V, 60Hz for adapter
Comment:	Live Line
	Tem.:24℃ Hum.:49%



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit dBuV	Over Limit (dB)	Detector	Remark
1	1.2980	19.05	20.13	39.18	56.00	-16.82	QP	
2	1.2980	12.84	20.13	32.97	46.00	-13.03	AVG	
3	1.5859	20.53	20.13	40.66	56.00	-15.34	QP	
4	1.5859	13.12	20.13	33.25	46.00	-12.75	AVG	
5	1.8740	19.69	20.14	39.83	56.00	-16.17	QP	
6	1.8740	12.42	20.14	32.56	46.00	-13.44	AVG	
7	2.1619	13.00	20.14	33.14	46.00	-12.86	AVG	
8	4.5780	18.52	20.20	38.72	56.00	-17.28	QP	
9	4.5780	12.77	20.20	32.97	46.00	-13.03	AVG	
10	4.8700	19.30	20.20	39.50	56.00	-16.50	QP	
11	4.8700	11.88	20.20	32.08	46.00	-13.92	AVG	
12	29.5220	24.88	20.27	45.15	60.00	-14.85	QP	

CONDUCTED EMISSION TEST DATA

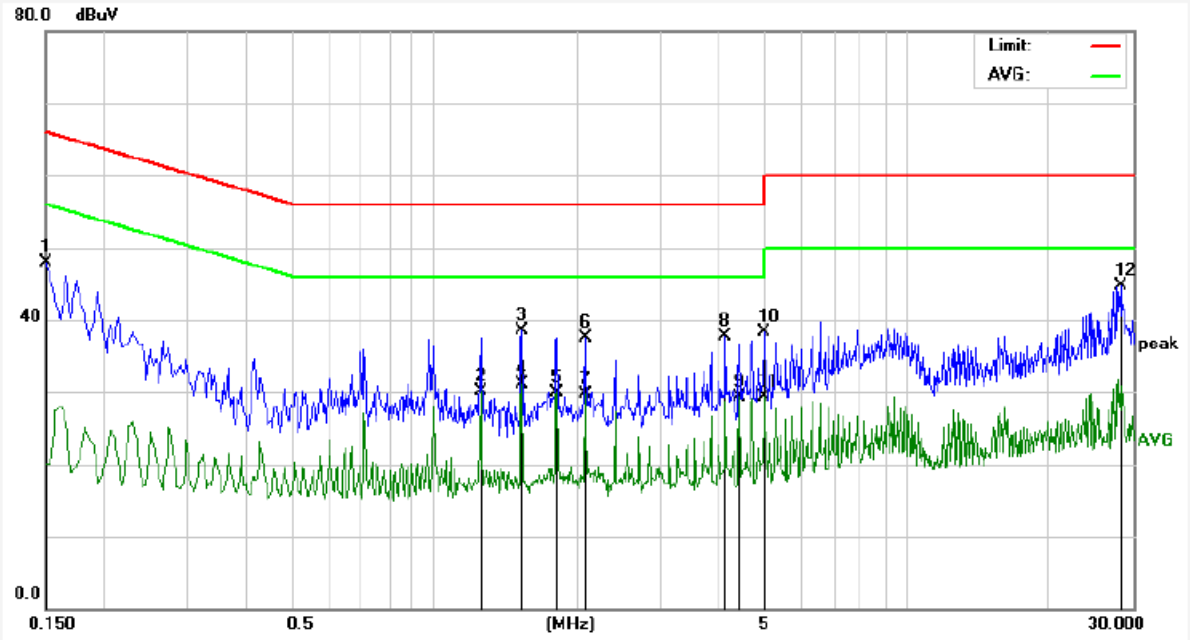
Test Site:	1# Shielded Room
Operating Condition:	Charging
Test Specification:	AC 120V, 60Hz for adapter
Comment:	Neutral Line
	Tem.:24℃ Hum.:49%



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit dBuV	Over Limit (dB)	Detector	Remark
1	1.0339	10.31	20.12	30.43	46.00	-15.57	AVG	
2	1.3300	18.57	20.13	38.70	56.00	-17.30	QP	
3	1.3300	11.98	20.13	32.11	46.00	-13.89	AVG	
4	1.6260	16.82	20.13	36.95	56.00	-19.05	QP	
5	1.6260	11.34	20.13	31.47	46.00	-14.53	AVG	
6	1.9180	16.70	20.14	36.84	56.00	-19.16	QP	
7	1.9180	11.59	20.14	31.73	46.00	-14.27	AVG	
8	2.2139	16.15	20.14	36.29	56.00	-19.71	QP	
9	2.2139	10.91	20.14	31.05	46.00	-14.95	AVG	
10	4.5739	10.80	20.20	31.00	46.00	-15.00	AVG	
11	4.8700	16.38	20.20	36.58	56.00	-19.42	QP	
12	28.9260	22.80	20.27	43.07	60.00	-16.93	QP	

CONDUCTED EMISSION TEST DATA

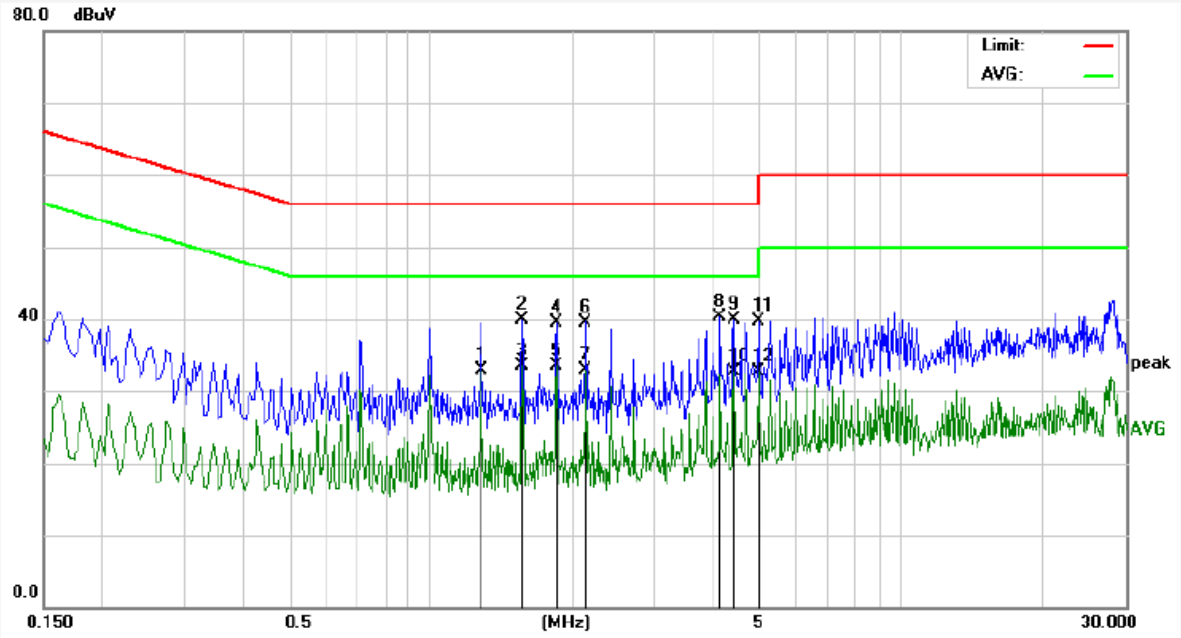
Test Site:	1# Shielded Room
Operating Condition:	Charging
Test Specification:	AC 240V, 60Hz for adapter
Comment:	Live Line
	Tem.:24℃ Hum.:49%



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit dBuV	Over Limit (dB)	Detector	Remark
1	0.1500	28.02	19.90	47.92	65.99	-18.07	QP	
2	1.2500	9.89	20.12	30.01	46.00	-15.99	AVG	
3	1.5300	18.43	20.13	38.56	56.00	-17.44	QP	
4	1.5300	11.05	20.13	31.18	46.00	-14.82	AVG	
5	1.8100	9.78	20.14	29.92	46.00	-16.08	AVG	
6	2.0860	17.42	20.14	37.56	56.00	-18.44	QP	
7	2.0860	9.60	20.14	29.74	46.00	-16.26	AVG	
8	4.1300	17.51	20.18	37.69	56.00	-18.31	QP	
9	4.4140	9.16	20.19	29.35	46.00	-16.65	AVG	
10	4.9820	18.11	20.21	38.32	56.00	-17.68	QP	
11	4.9820	9.08	20.21	29.29	46.00	-16.71	AVG	
12	28.1700	24.51	20.27	44.78	60.00	-15.22	QP	

CONDUCTED EMISSION TEST DATA

Test Site:	1# Shielded Room
Operating Condition:	Charging
Test Specification:	AC 240V, 60Hz for adapter
Comment:	Neutral Line
	Tem.:24℃ Hum.:49%



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit dBuV	Over Limit (dB)	Detector	Remark
1	1.2820	12.71	20.13	32.84	46.00	-13.16	AVG	
2	1.5660	19.77	20.13	39.90	56.00	-16.10	QP	
3	1.5660	13.37	20.13	33.50	46.00	-12.50	AVG	
4	1.8500	19.42	20.14	39.56	56.00	-16.44	QP	
5	1.8500	13.37	20.14	33.51	46.00	-12.49	AVG	
6	2.1340	19.46	20.14	39.60	56.00	-16.40	QP	
7	2.1340	12.75	20.14	32.89	46.00	-13.11	AVG	
8	4.1260	20.08	20.18	40.26	56.00	-15.74	QP	
9	4.4100	19.64	20.19	39.83	56.00	-16.17	QP	
10	4.4100	12.48	20.19	32.67	46.00	-13.33	AVG	
11	4.9780	19.59	20.21	39.80	56.00	-16.20	QP	
12	4.9780	12.59	20.21	32.80	46.00	-13.20	AVG	

4. RADIATED EMISSIONS

4.6.1.1. Test Limits (< 30 MHZ)

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meter)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30

4.6.1.2. Test Limits (≥ 30 MHz)

FIELD STRENGTH of Fundamental: @3M	FIELD STRENGTH of Harmonics	S15.209 30 - 88 MHz	40 dBuV/m
902-928 MHZ		88 - 216 MHz	43.5
2.4-2.4835 GHz		216 - 960 MHz	46
94 dBμV/m @3m	54 dBμV/m @3m	ABOVE 960 MHz	54dBuV/m

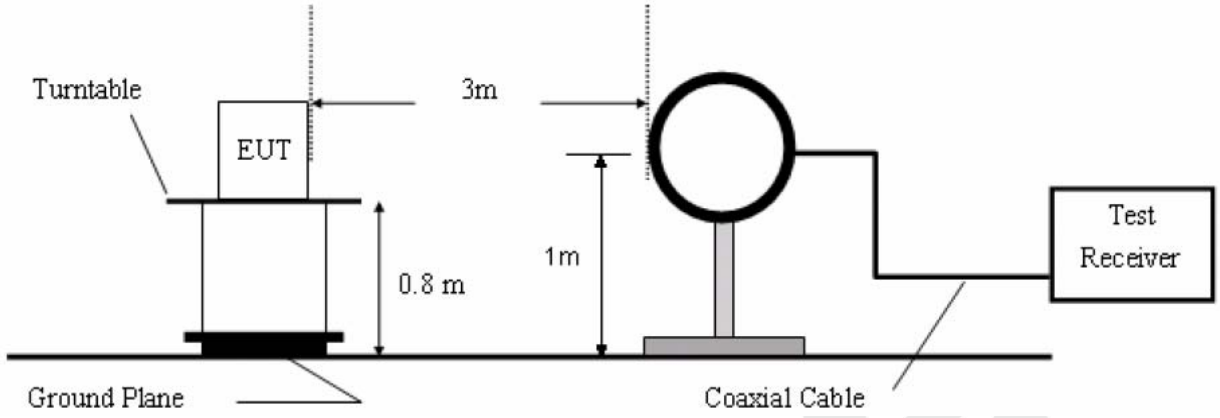
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

Test Equipment

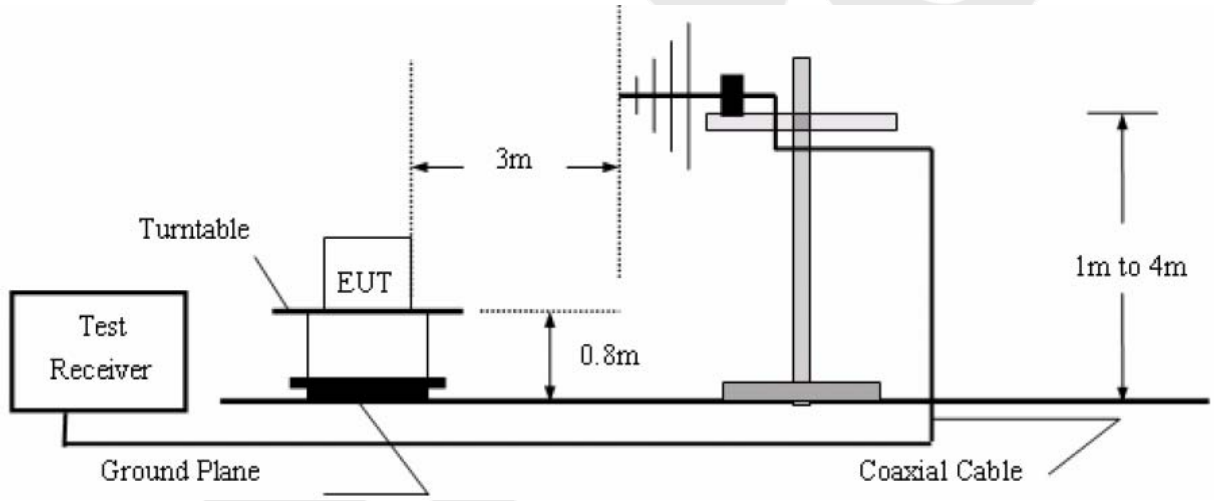
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum Analysis	Agilent	E4407B	US39390582	Apr. 17, 2016	1 Year
2.	Preamplifier	Instruments corporation	EMC011830	980100	Apr. 17, 2016	1 Year
3.	EMI Test Receiver	Rohde & Schwarz	ESPI	101604	Apr. 17, 2016	1 Year
4.	Loop antenna	Schwarzbeck	FMZB 1516	452456	Apr. 20, 2016	1 Year
5.	Bilog Broadband Antenna	Schwarzbeck	VULB9163	VULB 9163-289	Apr. 20, 2016	1 Year
6.	Pre-amplifier	SONOMA	310N	186860	Apr. 17, 2016	1 Year
7.	EMI Test Software EZ-EMC	SHURPLE	N/A	N/A	N/A	N/A
8	Power Sensor	DAER	RPR3006W	15I00041SN046	Jun 30, 2016	1 Year
9	MXA Spectrum Analysis	Agilent	N9020A	MY51170037	Jun 30, 2016	1 Year
10	MXG RF Vector Signal Generator	Agilent	N5182A	MY48180656	Jun 30, 2016	1 Year
11	Signal Generator	Agilent	E4421B	MY41000743	Jun 30, 2016	1 Year
12	DC Power supply	IV	IV-8080	YQSB0096	Jun 30, 2016	1 Year
13	TEMP&HUMI PROGRAMMABLE CHAMBER	Bell Group	BE-THK-150M8	SE-0137	Mar 16, 2016	1 Year

4.6.2. Test Configuration:

4.6.2.1. 9k to 30MHz emissions:



4.6.2.2. 30M to 1GHz emissions:



4.6.3. Test Procedure

For below 1GHz: The EUT is placed on a turntable, which is 0.8m above the ground plane. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT is set 3 meters away from the receiving antenna which is mounted on a antenna tower. The antenna can be moved up and down from 1 to 4 meters to find out the maximum emission level. Both horizontal and vertical polarization of the antenna are set on test.

All readings from 30MHz to 1GHz are quasi-peak values with a resolution bandwidth of 120kHz.

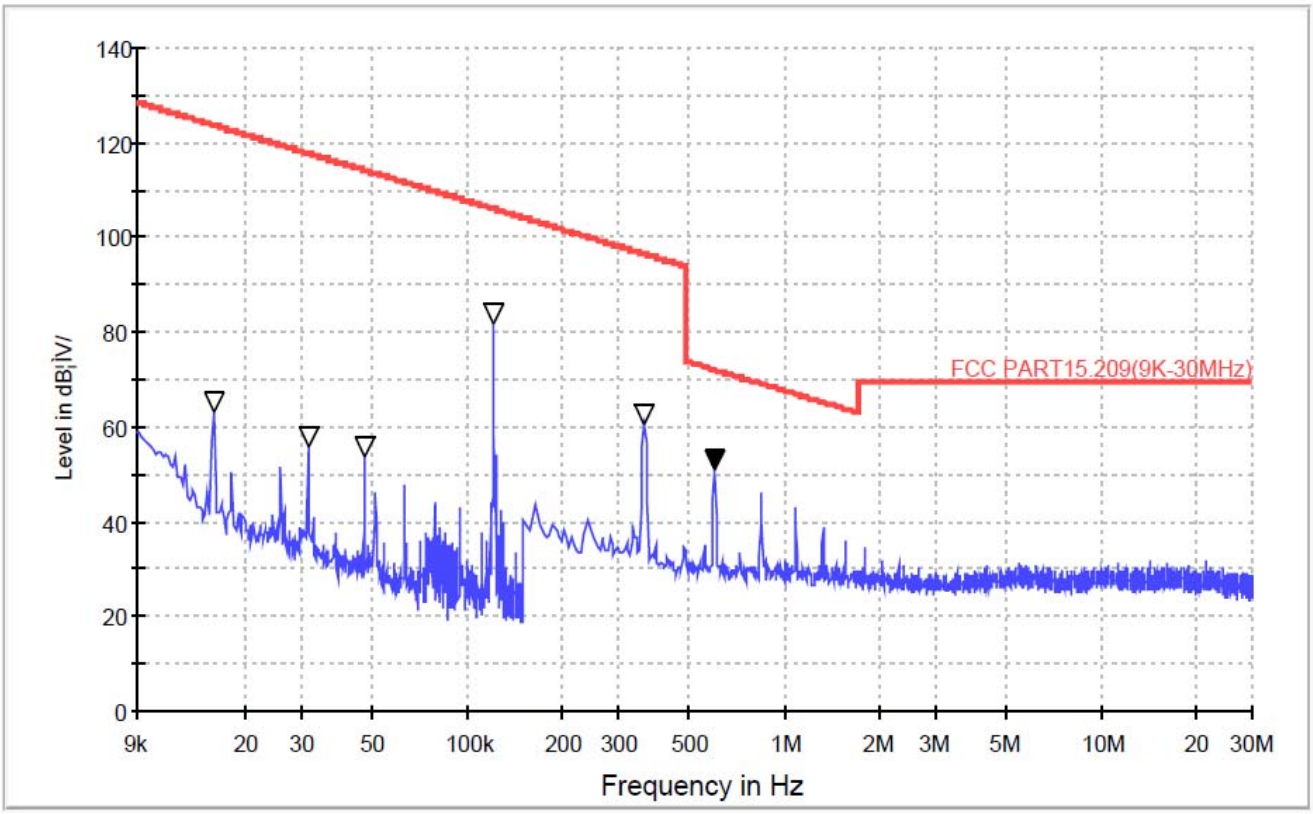
The EUT is tested in 9*6*6 Chamber. The device is evaluated in xyz orientation.

The test results are listed in Section 4.6.4.

4.6.4. Test Results

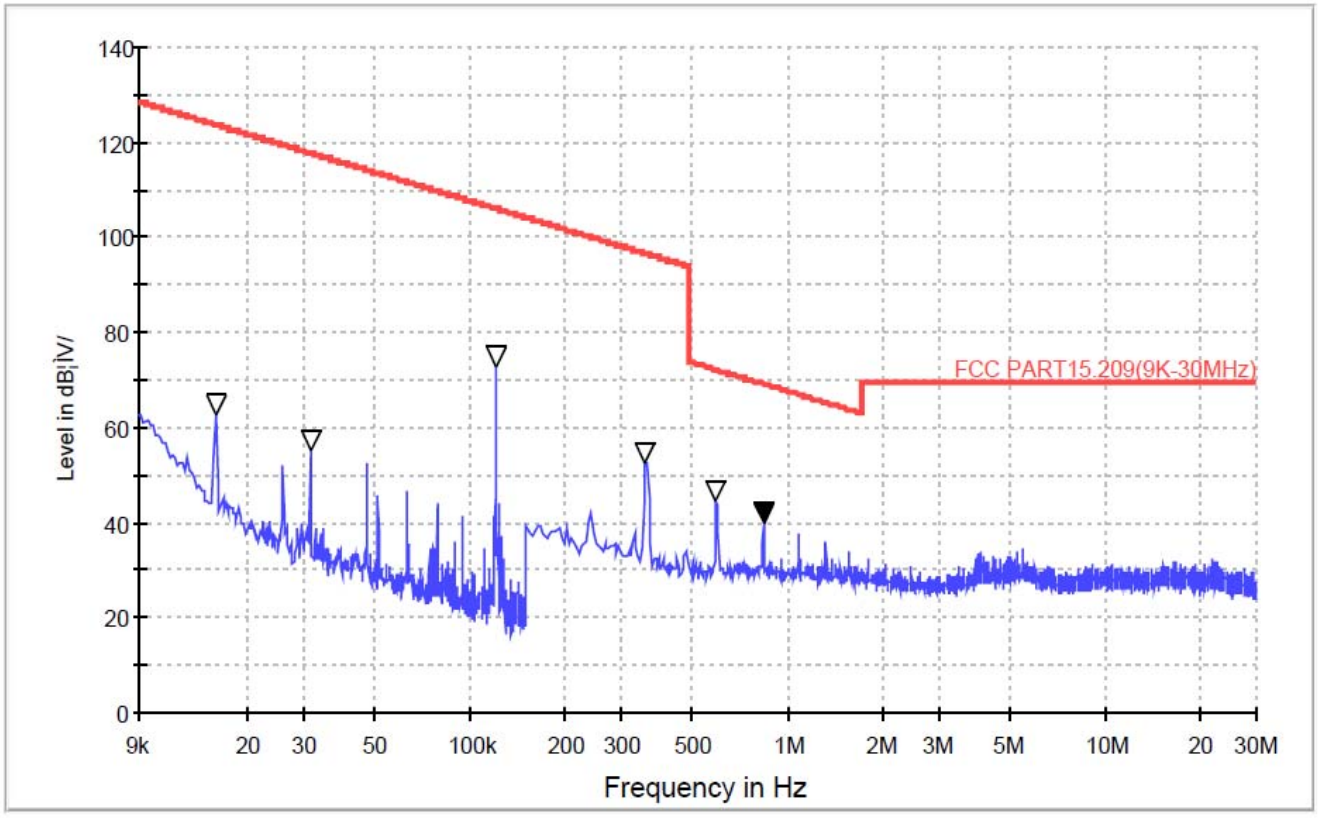
(Between 9KHz – 30 MHz)

Job No.:	**011610151I**	**Plarization:**	**Horizontal**
Standard:	**FCC PART15 C _3m**	**Power Source:**	**AC 120V, 60Hz for adapter**
Test item:	**Radiation Test**	**Temp.(C)/Hum.(%RH):**	**24.4(C)/50%RH**
Test Mode:	**Charging**	**Distance:**	**3m**



Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Remark
0.0158	41.874	18.59	2.38	0	62.844	Pass
0.0314	34.708	18.67	2.39	0	55.768	Pass
0.0472	31..784	19.45	2.38	0	53.614	Pass
0.1208	58.689	20.58	2.39	0	81.659	Pass
0.3620	36.063	21.53	2.76	0	60.353	Pass
0.6020	25.646	22.86	2.53	0	51.036	Pass

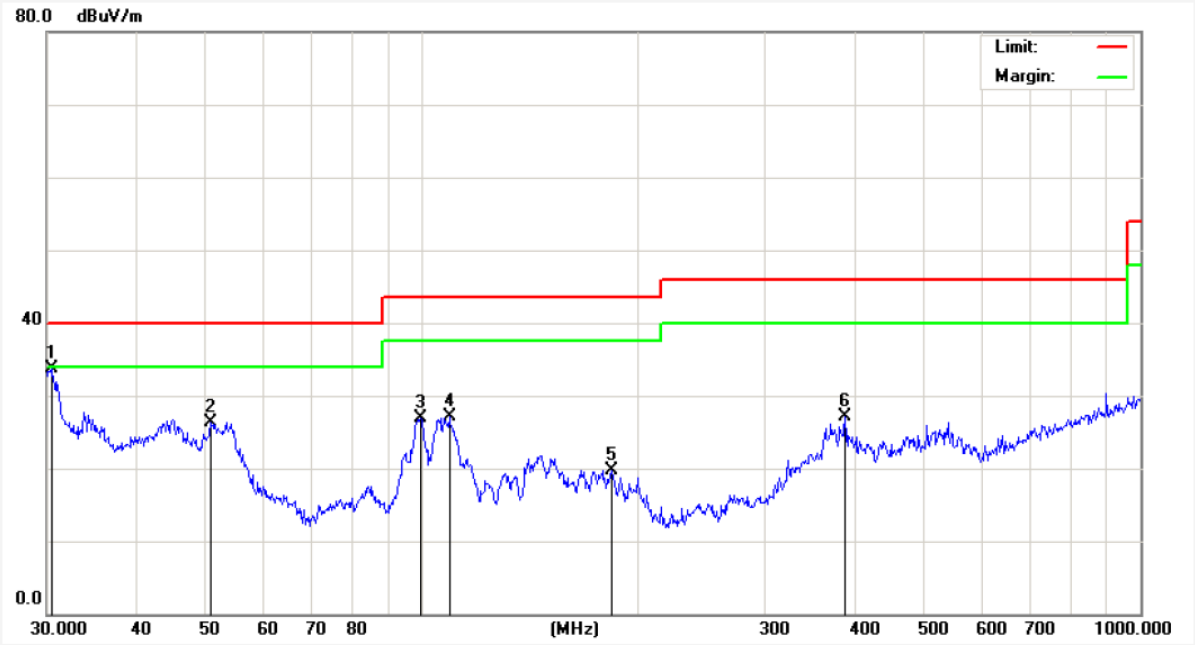
Job No.:	**011610151I**	**Plarization:**	**Vertical**
Standard:	**FCC PART15 C _3m**	**Power Source:**	**AC 120V, 60Hz for adapter**
Test item:	**Radiation Test**	**Temp.(C)/Hum.(%RH):**	**24.4(C)/50%RH**
Test Mode:	**Charging**	**Distance:**	**3m**



Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Remark
0.0158	41.610	18.59	2.38	0	62.580	Pass
0.0314	34.162	18.67	2.39	0	55.222	Pass
0.1208	49.840	20.58	2.39	0	72.810	Pass
0.3580	27.961	21.53	2.76	0	52.251	Pass
0.5980	18.901	22.86	2.53	0	44.291	Pass
0.8420	14.645	22.86	2.53	0	40.035	Pass

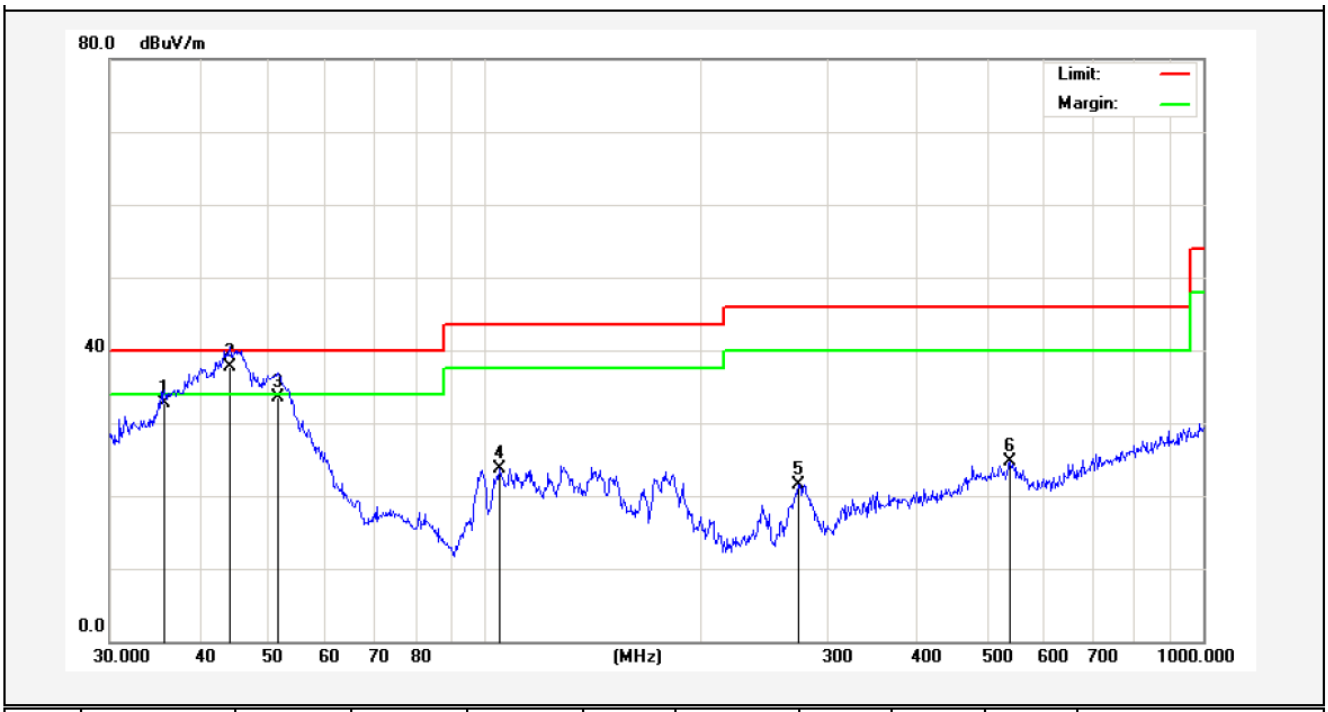
(Between 30MHz –1000 MHz)

Job No.:	**011610151I**	**Plarization:**	**Horizontal**
Standard:	**FCC PART15 C _3m**	**Power Source:**	**AC 120V, 60Hz for adapter**
Test item:	**Radiation Test**	**Temp.(C)/Hum.(%RH):**	**24.4(C)/50%RH**
Test Mode:	**Charging**	**Distance:**	**3m**



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	30.4238	50.43	-16.72	33.71	40.00	-6.29	peak			
2	50.7637	40.99	-14.63	26.36	40.00	-13.64	peak			
3	99.5281	47.75	-20.79	26.96	43.50	-16.54	peak			
4	109.0286	47.81	-20.63	27.18	43.50	-16.32	peak			
5	183.2005	41.31	-21.55	19.76	43.50	-23.74	peak			
6	387.9920	40.18	-13.11	27.07	46.00	-18.93	peak			

Job No.:	**011610151I**	**Plarization:**	**Vertical**
Standard:	**FCC PART15 C _3m**	**Power Source:**	**AC 120V, 60Hz for adapter**
Test item:	**Radiation Test**	**Temp.(C)/Hum.(%RH):**	**24.4(C)/50%RH**
Test Mode:	**Charging**	**Distance:**	**3m**

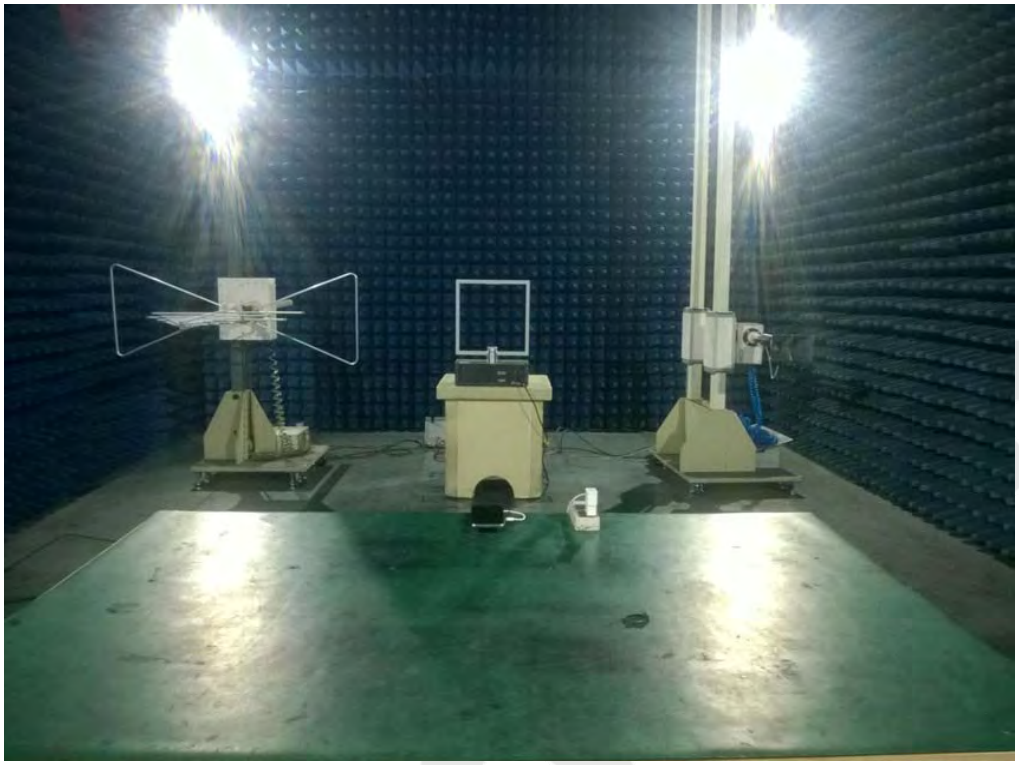


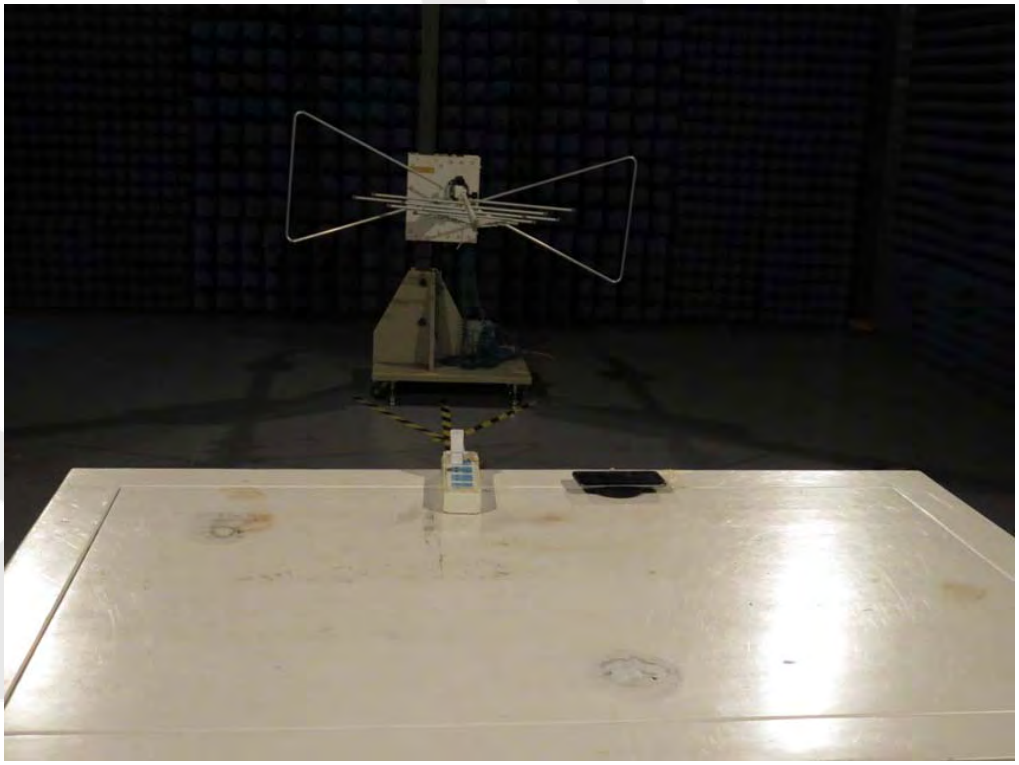
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	35.7490	46.46	-13.70	32.76	40.00	-7.24	QP	100	360	
2	44.1202	49.68	-11.98	37.70	40.00	-2.30	QP	100	0	
3	51.4807	48.14	-14.68	33.46	40.00	-6.54	QP	100	0	
4	104.5361	39.35	-15.69	23.66	43.50	-19.84	peak			
5	273.2341	36.36	-14.81	21.55	46.00	-24.45	peak			
6	537.5891	35.05	-10.31	24.74	46.00	-21.26	peak			

6. PHOTOGRAPH

6.1 Photo of Conducted Emission Test

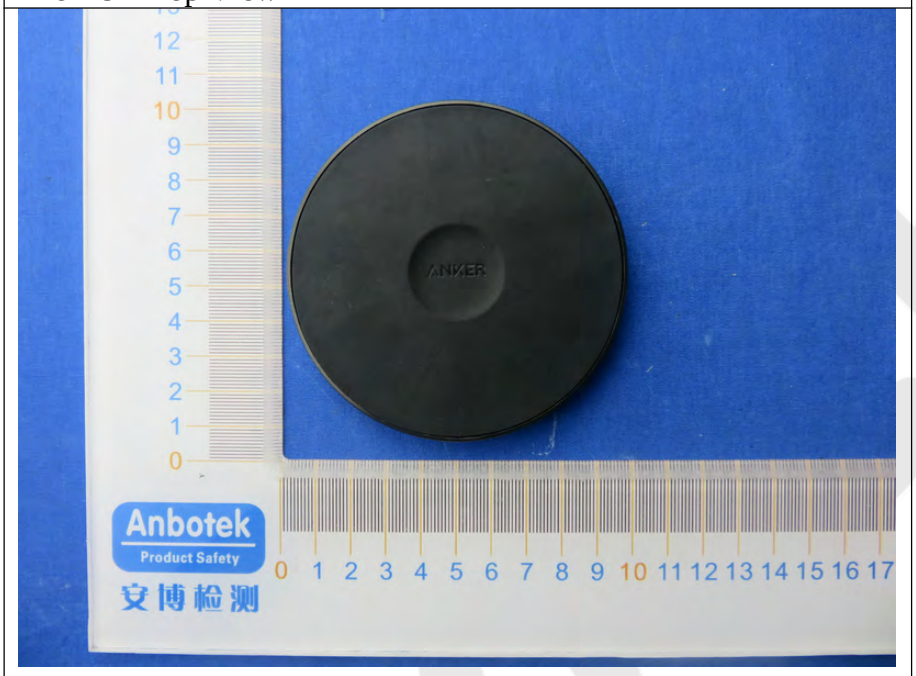
6.2 Photo of Radiation Emission Test



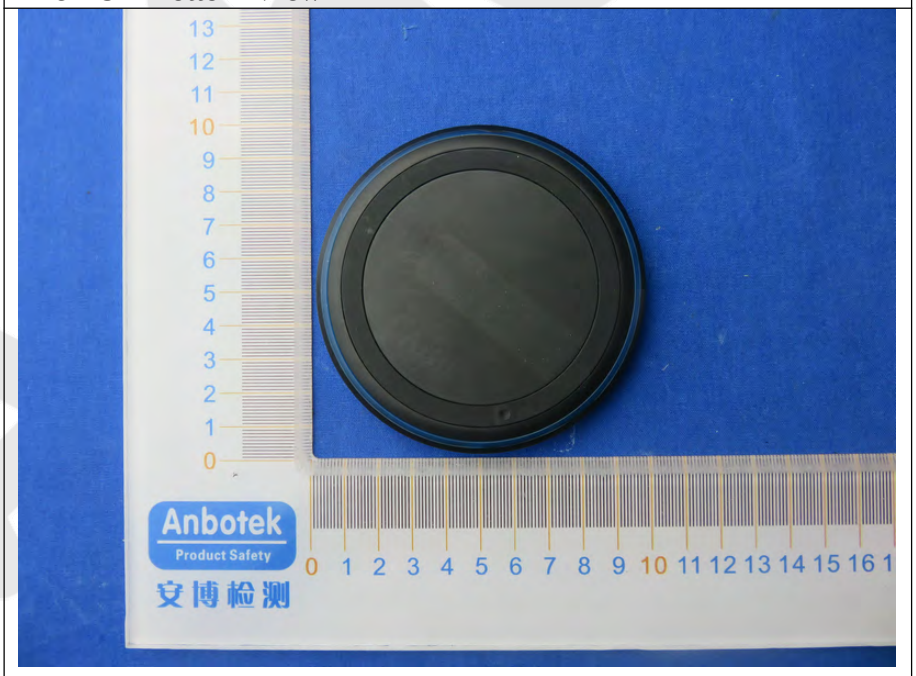


APPENDIX I (EXTERNAL PHOTOS)

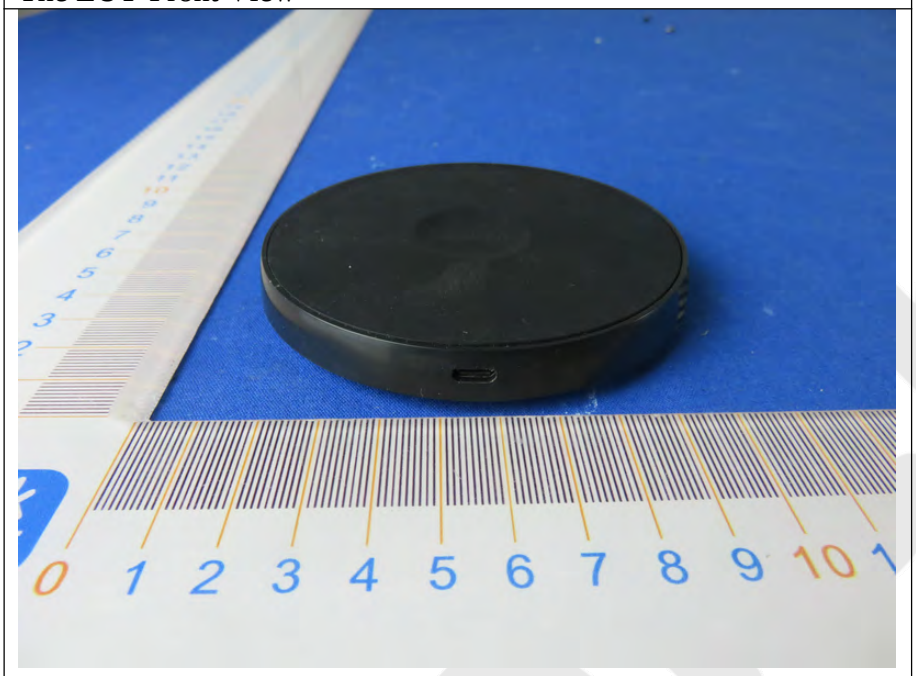
1. Figure
The EUT-Top View



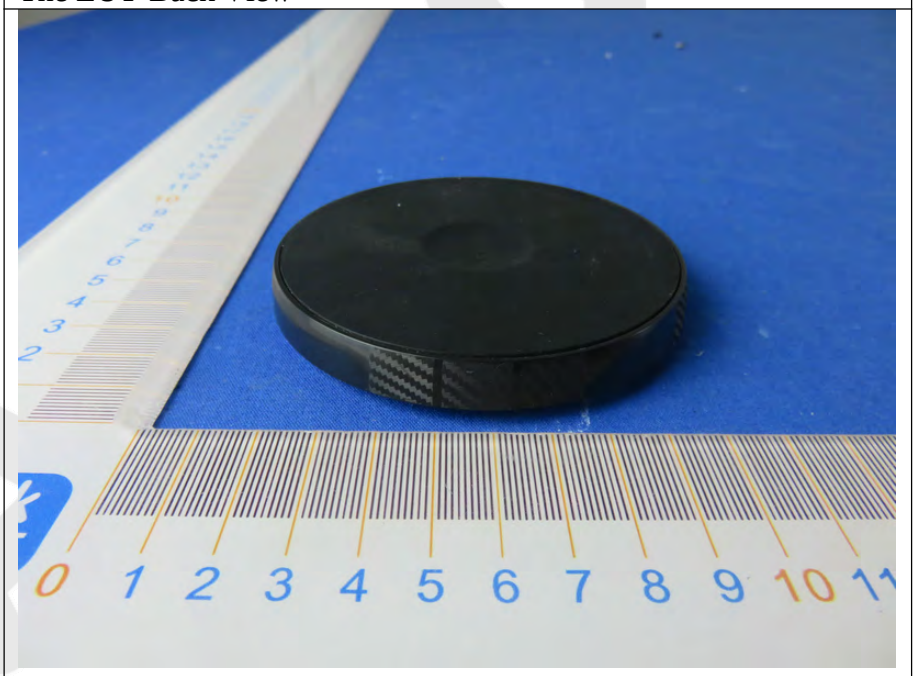
2. Figure
The EUT-Bottom View



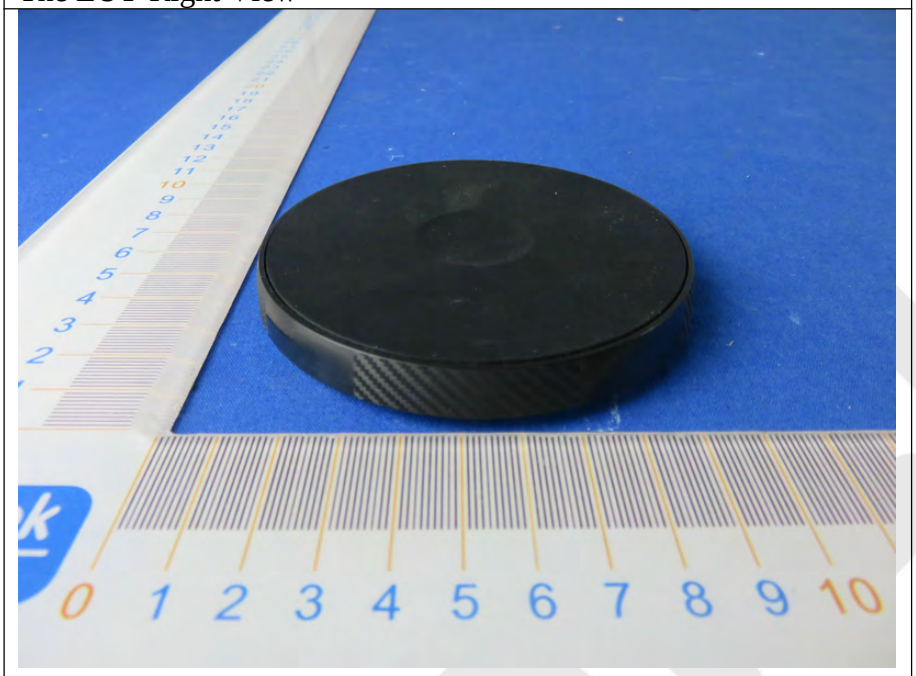
3. Figure
The EUT-Front View



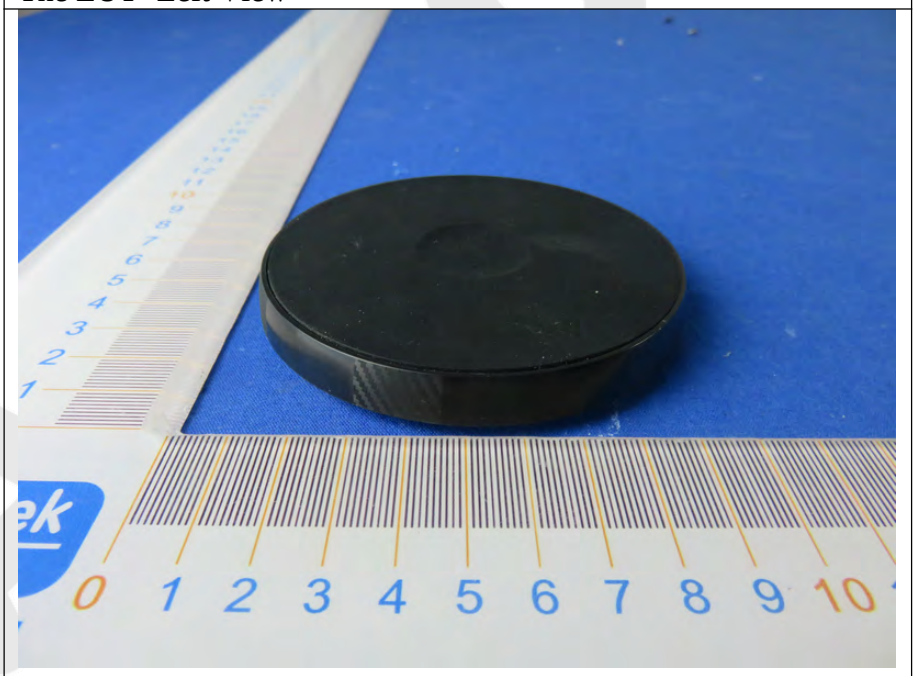
4. Figure
The EUT-Back View



5. Figure
The EUT-Right View

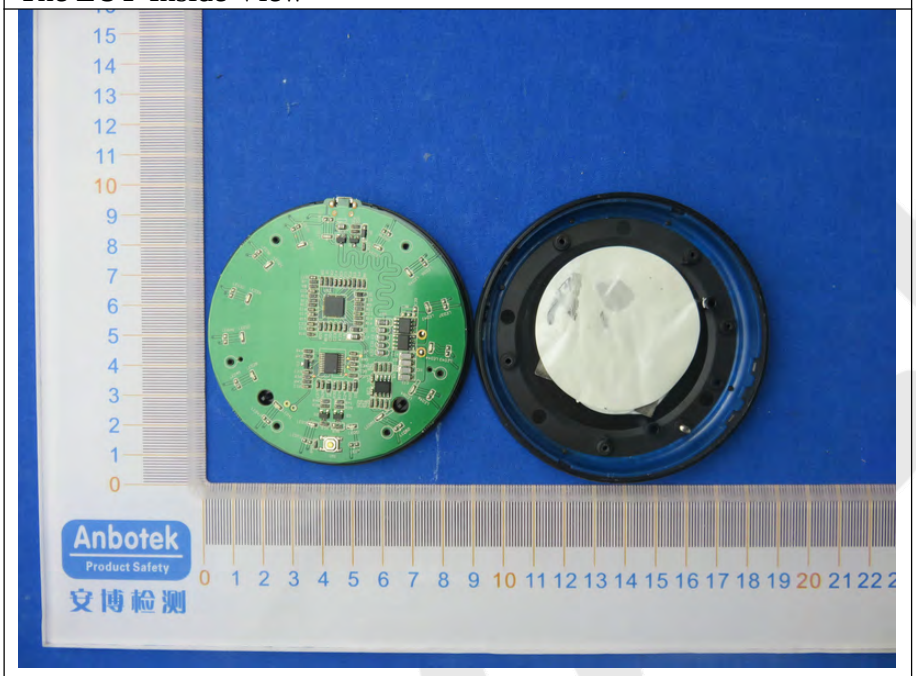


6. Figure
The EUT- Left View

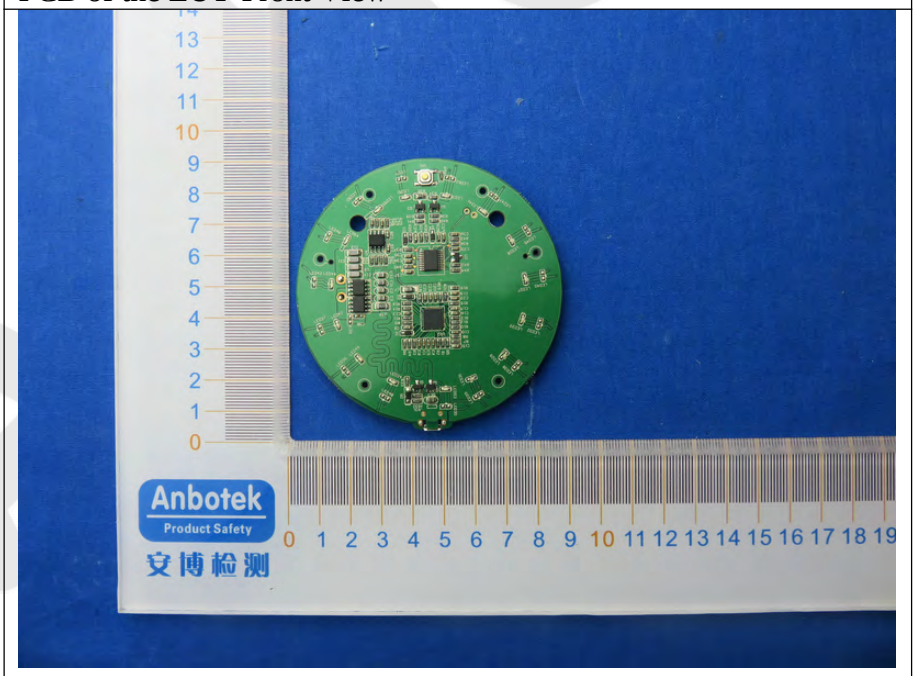


APPENDIX Ⅱ(INTERNAL PHOTOS)

1. Figure
The EUT-Inside View

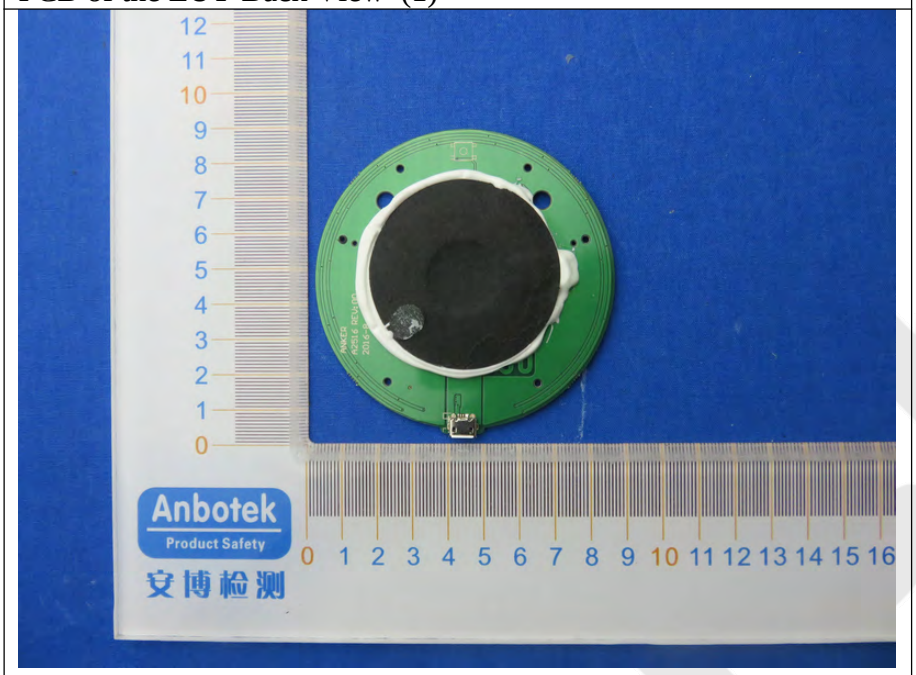


2. Figure
PCB of the EUT-Front View



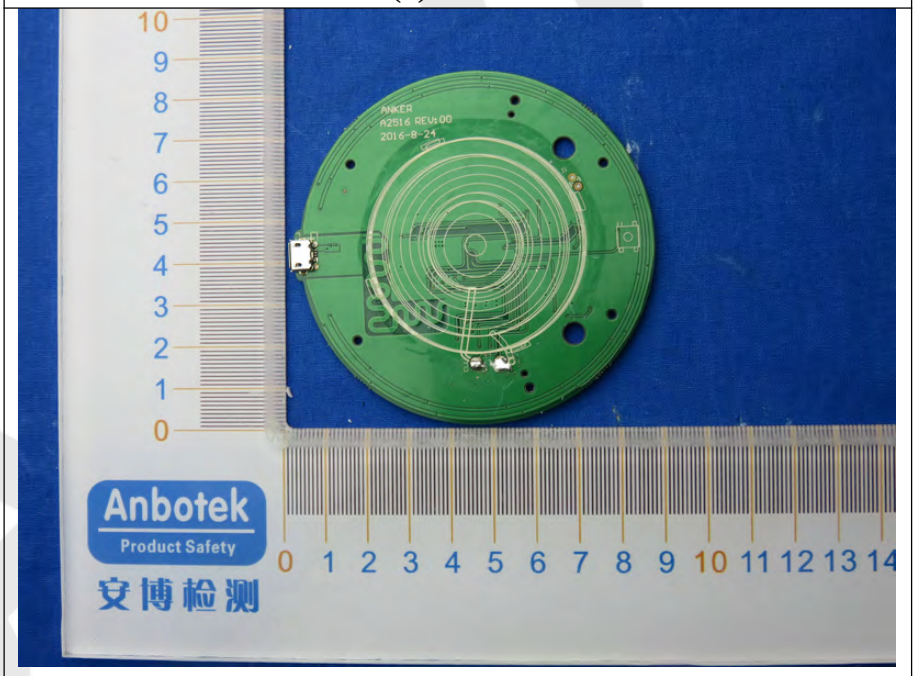
3. Figure

PCB of the EUT-Back View (1)

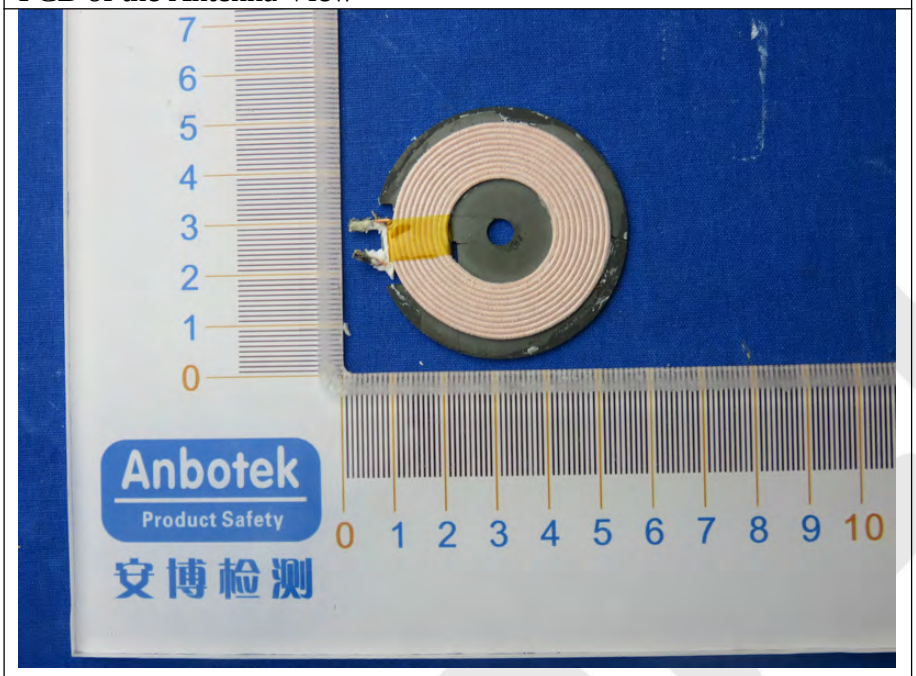


4. Figure

PCB of the EUT-Back View (2)



5. Figure
PCB of the Antenna View



6. Figure
PCB of the Antenna View