TECHNICAL REPORT

ISO/IEC17025Accredited Lab.

Report No.:	FCC 1408162-02
File reference No.:	2014-09-09
Applicant:	Ceretec, Inc.
Product:	CareConnect
Model No.:	04-90026-Black, 04-90025-White, 04-90027-Red
Trademark:	N/A
Test Standards:	FCC Part 15.247
Test result:	It is herewith confirmed and found to comply with the requirements set up by ANSI C63.4, ,FCC Part 15 Subpart C, paragraph 15.247 regulations for the evaluation of electromagnetic compatibility

Approved By

Jack Chung

Manager

Dated: 2014-09-09

Results appearing herein relate only to the sample tested

The technical reports is issued errors and omissions exempt and is subject to Withdrawal at

SHENZHEN TIMEWAY TECHNOLOGY CONSULTING CO., LTD

5/F,Block 4,Anhua Industrial Zone.,No.8 Tanran Rd.CheGongMiao,Futian District, Shenzhen,CHINA.

Tel（755）83448688, Fax（755）83442996, e-Mail:info@timewaytech.com

Special Statement:

The testing quality ability of our laboratory meet with "Quality Law of People's Republic of China" Clause 19.

The testing quality system of our laboratory meet with ISO/IEC-17025 requirements, which is approved by CNAL. This approval result is accepted by MRA of APLAC.

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

CNAL-LAB Code: L2292

The EMC Laboratory has been assessed and in compliance with CNAL/AC01:2002 accreditation criteria for testing Laboratories (identical to ISO/IEC 17025:1999 General Requirements) for the Competence of testing Laboratories.

FCC-Registration No.: 899988

The EMC Laboratory has been registered 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 No.: 899988.

IC- Registration No.: IC5205A-02

The 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 IC No.: 5205A-02.

Test Report Conclusion

Content

1.0 General details

1.1 Test Lab Details

Name:	SHENZHEN TIMEWAY TECHNOLOGY CONSULTING CO., LTD
Address:	5/F,Block 4,Anhua Industrial Zone.,No.8 Tanran Rd. CheGong Miao, Futian District, Shenzhen, CHINA.
Telephone:	（755）83448688
Fax:	（755）83442996

Site on File with the Federal Communications Commission — United States

Registration Number: 899988

For 3m & 10m OATS

Site Listed with Industry Canada of Ottawa, Canada

Registration Number: IC: 5205A-02

For 3m & 10m OATS

1.2 Applicant Details

Applicant:	Ceretec, Inc.
Address:	7241 Garden Grove Blvd. Suite G, USA
Telephone:	--
Fax:	--

1.3 Description of EUT

Product:	CareConnect
Manufacturer:	Shenzhen BoLianXun technology CO., LTD.
Address:	Rm 1201, Tianliao building, Tian liao industrial zone A, Tao yuan street, Nanshan district, Shenzhen, Guangdong, China
Band Name:	N/A
Model No.:	04-90026-Black

Additional Model Number: 04-90025-White, 04-90027-Red

Type of Modulation	GFSK
Frequency range	2402 - 2480MHz
Number of Channel	40
Frequency Selection	By Software
Antenna Type	Internal Antenna Used, The Antenna Gain is 2.0dBi.
Rated Power Rating	Battery: 3.7V Charging Input: 5V

Bluetooth version 4.0

Data rate 1Mbps

1.4 Submitted Sample: 1 Sample

1.5 Test Duration

2014-08-15 to 2014-09-05

1.6 Test Uncertainty

Conducted Emissions Uncertainty = 3.6dB

Radiated Emissions Uncertainty = 4.7dB

1.7 Test Engineer

The sample tested by Terry Tang

Print Name: Terry Tang

Models difference

No.	***Model No.***
1	04-90026-Black
	04-90025-White
	04-90027-Red
Note: All models are identical in circuitry and electrical, mechanical and physical construction, only different on model name, color and silk-screen. All tests are carried out on 04-90026-Black.	

2.

Channel List			
Channel	***Frequency (MHz)***	***Channel***	***Frequency (MHz)***
0	2402	20	2442
1	2404	21	2444
2	2406	22	2446
3	2408	23	2448
4	2410	24	2450
5	2412	25	2452
6	2414	26	2454
7	2416	27	2456
8	2418	28	2458
9	2420	29	2460
10	2422	30	2462
11	2424	31	2464
12	2426	32	2466
13	2428	33	2468
14	2430	34	2470
15	2432	35	2472
16	2434	36	2474
17	2436	37	2476
18	2438	38	2478
19	2440	39	2480

Description Of Test Modes

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

Pretest Mode	Description
Mode 1	Low Channel(CH 0)
Mode 2	Middle Channel(CH 19)
Mode 3	High Channel(CH 39)
Mode 4	Normal Operating

For Conducted Emission	
Final Test Mode	Description
Mode 1	Low Channel(CH 0)

For Radiated Emission	
Final Test Mode	Description
Mode 1	Low Channel(CH 0)
Mode 2	Middle Channel(CH 19)
Mode 3	High Channel(CH 39)

Note:

(1) The measurements are performed at the highest, middle, lowest available channels.

(2) The EUT use new battery.

(3) Record the worst case of each test item in this report.

Note: The EUT was programmed to be in continuously transmitting mode and the transmit duty cycle is not less than 98%."

2.0	Test Equipments				
Instrument Type	***Manufacturer***	***Model***	***Serial No.***	***Date of Cal.***	***Due Date***
ESPI Test Receiver	ROHDE&SCHWARZ	ESPI 3	100379	2014-08-22	2015-08-21
TWO Line-V-NETW	ROHDE&SCHWARZ	EZH3-Z5	100294	2014-08-22	2015-08-21
TWO Line-V-NETW	ROHDE&SCHWARZ	EZH3-Z5	100253	2014-08-22	2015-08-21
Ultra Broadband ANT	ROHDE&SCHWARZ	HL562	100157	2014-08-24	2015-08-23
ESDV Test Receiver	ROHDE&SCHWARZ	ESDV	100008	2014-08-22	2015-08-21
Impuls-Begrenzer	ROHDE&SCHWARZ	ESH3-Z2	100281	2014-08-23	2015-08-22
System Controller	CT	SC100	-	--	--
Printer	EPSON	PHOTO EX3	CFNH234850	--	--
Computer	IBM	8434	IS8434KCE99B LXLO*	--	--
Loop Antenna	EMCO	6502	00042960	2014-08-22	2015-08-21
ESPI Test Receiver	ROHDE&SCHWARZ	ESI26	838786/013	2014-08-22	2015-08-21
3m OATS	--	--	N/A	2014-08-21	2015-08-20
Horn Antenna	SCHWARZBECK	BBHA9170	BBHA9170265	2014-08-23	2015-08-22
Horn Antenna	SCHWARZBECK	BBHA9120D	9120D-631	2014-08-23	2015-08-22
Power meter	Anritsu	ML2487A	6K00003613	2014-08-23	2015-08-22
Power meter	Anritsu	MA2491A	32263	2014-08-23	2015-08-22
Bilog Antenna	Schwarebeck	VULB9163	9163/340	2014-08-20	2015-08-19
LISN	AFJ	LS16C	10010947251	2014-08-20	2015-08-19
LISN(Three Phase)	Schwarebeck	NSLK 8126	8126453	2014-08-22	2015-08-21
9*6*6 Anechoic	--	--	N/A	2014-08-21	2015-08-20
EMI Test Receiver	RS	ESCS30	10039	2014-08-22	2015-08-21

3.0 Technical Details

3.1 Summary of test results

Test procedures according to the technical standards:

FCC Part15 (15.247) , Subpart C			
Standard Section	Test Item	Judgment	Remark
§15.203	Antenna Requirement	PASS	--
§15.207 (a)	Conducted Emissions	PASS	--
§15.247(d)	Spurious Emissions at Antenna Port	PASS	--
§15.205	Restricted Bands	PASS	--
§15.209, §15.205, 1§15.247(d)	Spurious Emissions	PASS	--
§15.247 (a)(2)	6 dB Bandwidth	PASS	--
§15.247(b)(3)	Maximum Peak Output Power	PASS	--
§15.247(d)	100kHz Bandwidth of Frequency Band Edge	PASS	--
§15.247(e)	Power Spectral Density	PASS	--

NOTE:

(1)" N/A" denotes test is not applicable in this Test Report

3.2 Test Standards

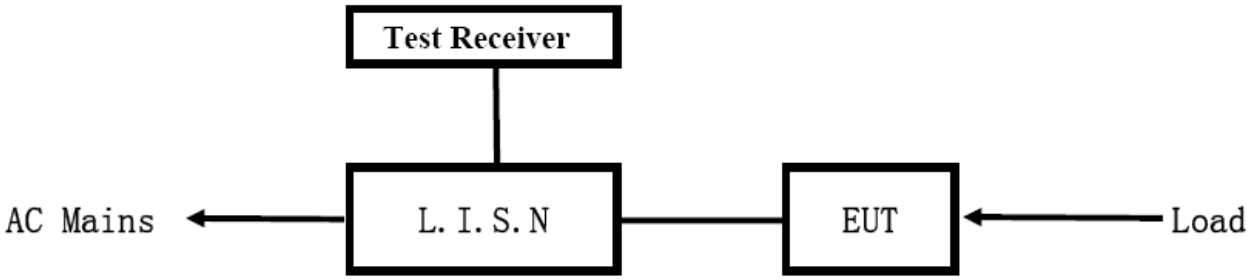
FCC Part 15 Subpart & Subpart C, Paragraph 15.247

4.0 EUT Modification

No modification by Shenzhen Timeway Technology Consulting Co., Ltd

5.0 Power Line Conducted Emission Test

5.1 Schematics of the test



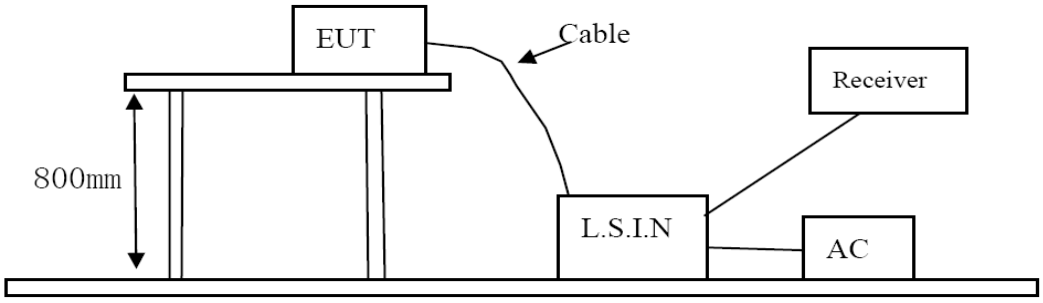
EUT: Equipment Under Test

5.2 Test Method and test Procedure

The EUT was tested according to ANSI C63.4-2003.The Frequency spectrum From 0.15MHz to 30MHz was investigated. The LISN used was 50ohm/50uH as specified by section 5.1 of ANSI C63.4 –2003.

Test Voltage: 120V~60Hz

Block diagram of Test setup



5.3 Configuration of the EUT

The EUT was configured according to ANSI C63.4-2003. All interface ports were connected to the appropriate peripherals. All peripherals and cables are listed below.

79 channels are provided to the EUT

A. EUT

Device	Manufacturer	Model	FCC ID
CareConnect	Shenzhen BoLianXun technology CO., LTD.	04-90026-Black	2AC3I04-90026

B. Internal Device

Device	Manufacturer	Model	FCC ID
--	--	--	--

C. Peripherals

Device	Manufacturer	Model	FCC ID
--	--	--	--

5.4 EUT Operating Condition

Operating condition is according to ANSI C63.4 -2003.

A Setup the EUT and simulators as shown on follow

B Enable AF signal and confirm EUT active to normal condition

5.5 Power line conducted Emission Limit according to Paragraph 15.107 ,15.207

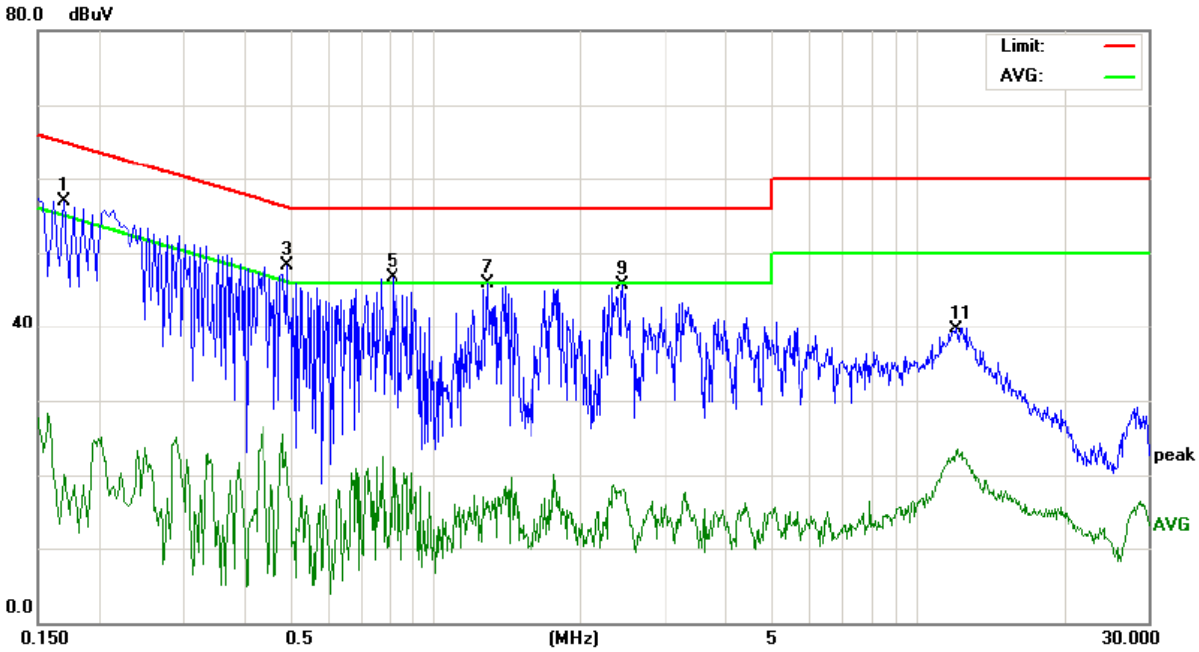
FREQUENCY (MHz)	Class A (dBuV)		Class B (dBuV)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 -0.5	79.00	66.00	66 - 56 *	56 - 46 *
0.50 -5.0	73.00	60.00	56.00	46.00
5.0 -30.0	73.00	60.00	60.00	50.00

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

5.6 Test Results

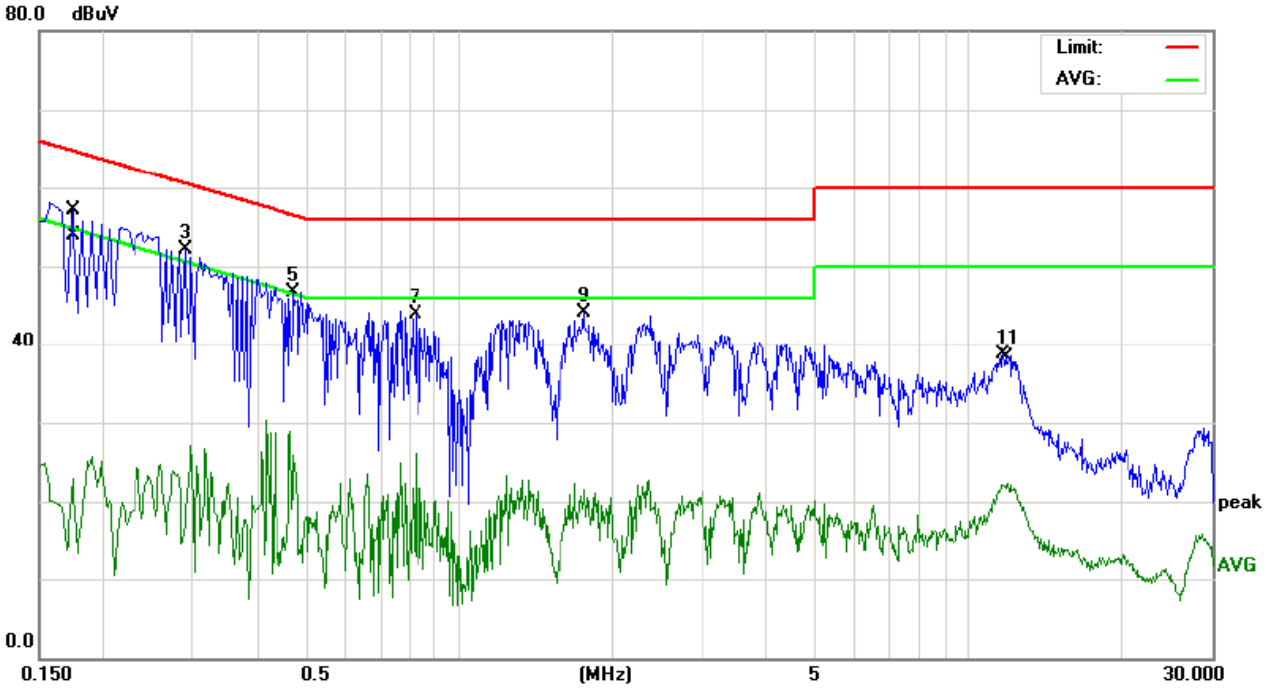
The frequency spectrum from 0.15MHz to 30MHz was investigated. All reading are quasi-peak values with a resolution bandwidth of 9kHz.

EUT：	CareConnect	Model Name ：	04-90026-Black
Temperature：	26 ℃	Relative Humidity：	54%
Pressure：	1010hPa	Phase :	L
Test Voltage ：	DC5 V(Adapter Input AC 120V, 60Hz)	Test Mode：	Mode 2
Test Date	August 19, 2014		



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1700	46.46	10.39	56.85	64.96	-8.11	peak	
2		0.1700	17.83	10.39	28.22	54.96	-26.74	AVG	
3	*	0.4940	37.85	10.41	48.26	56.10	-7.84	peak	
4		0.4940	15.05	10.41	25.46	46.10	-20.64	AVG	
5		0.8139	36.23	10.56	46.79	56.00	-9.21	peak	
6		0.8139	10.49	10.56	21.05	46.00	-24.95	AVG	
7		1.2860	35.11	10.74	45.85	56.00	-10.15	peak	
8		1.2860	4.74	10.74	15.48	46.00	-30.52	AVG	
9		2.4380	34.95	10.70	45.65	56.00	-10.35	peak	
10		2.4380	7.13	10.70	17.83	46.00	-28.17	AVG	
11		12.0499	29.23	10.42	39.65	60.00	-20.35	peak	
12		12.0499	12.69	10.42	23.11	50.00	-26.89	AVG	

EUT：	CareConnect	Model Name ：	04-90026-Black
Temperature：	26 ℃	Relative Humidity：	54%
Pressure：	1010hPa	Phase :	N
Test Voltage ：	DC 5 V(Adapter Input AC 120 V, 60 Hz)	Test Mode：	Mode 2
Test Date	August 19, 2014		



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1748	43.54	10.38	53.92	64.72	-10.80	peak	
2		0.1758	8.21	10.37	18.58	54.68	-36.10	AVG	
3	*	0.2900	41.51	10.62	52.13	60.52	-8.39	peak	
4		0.2940	12.05	10.63	22.68	50.41	-27.73	AVG	
5		0.4740	36.29	10.43	46.72	56.44	-9.72	peak	
6		0.4740	15.49	10.43	25.92	46.44	-20.52	AVG	
7		0.8180	33.42	10.58	44.00	56.00	-12.00	peak	
8		0.8180	15.51	10.58	26.09	46.00	-19.91	AVG	
9		1.7580	33.40	10.72	44.12	56.00	-11.88	peak	
10		1.7660	10.74	10.72	21.46	46.00	-24.54	AVG	
11		11.7379	28.31	10.42	38.73	60.00	-21.27	peak	
12		11.9819	11.97	10.42	22.39	50.00	-27.61	AVG	

6.0 Radiated Emission Measurement

6.1 Radiated Emission Limits (Frequency Range 9kHz-1000MHz)

20dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

Frequencies (MHz)	Field Strength (micorvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)

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

Notes:

(1) The limit for radiated test was performed according to FCC PART 15C.

(2) The tighter limit applies at the band edges.

(3) Emission level (dBuV/m)=20log Emission level (uV/m).

Spectrum Parameter	***Setting***
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RB / VB (emission in restricted band)	1 MHz / 1 MHz for Peak, 1 MHz / 10Hz for Average

Receiver Parameter	***Setting***
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RB 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RB 120kHz for QP

6.2 Test Procedure

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

Note:

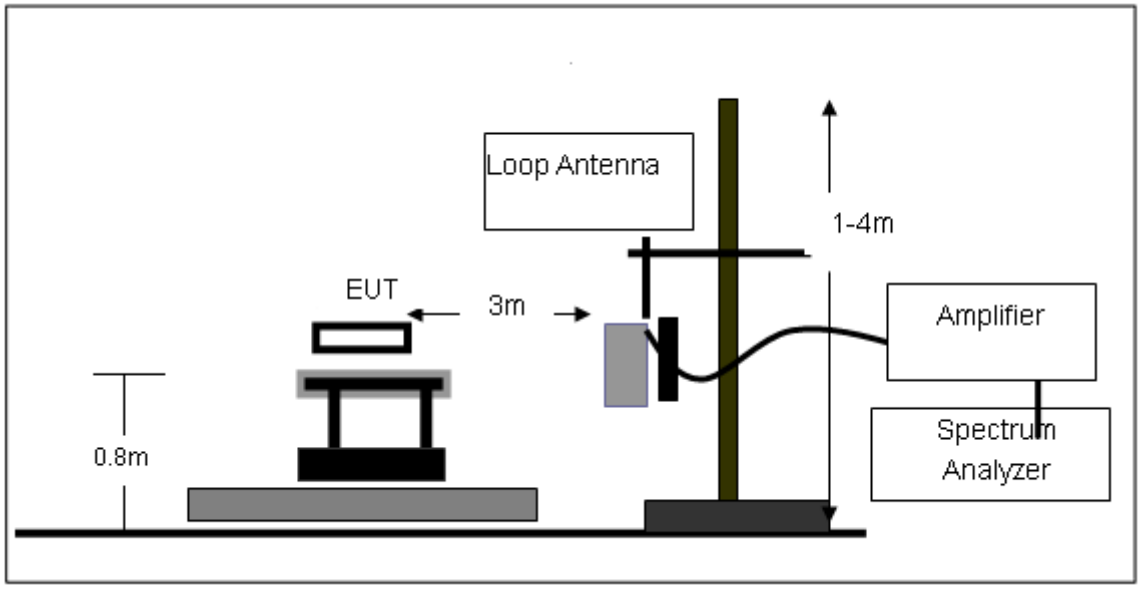
Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported

DEVIATION FROM TEST STANDARD

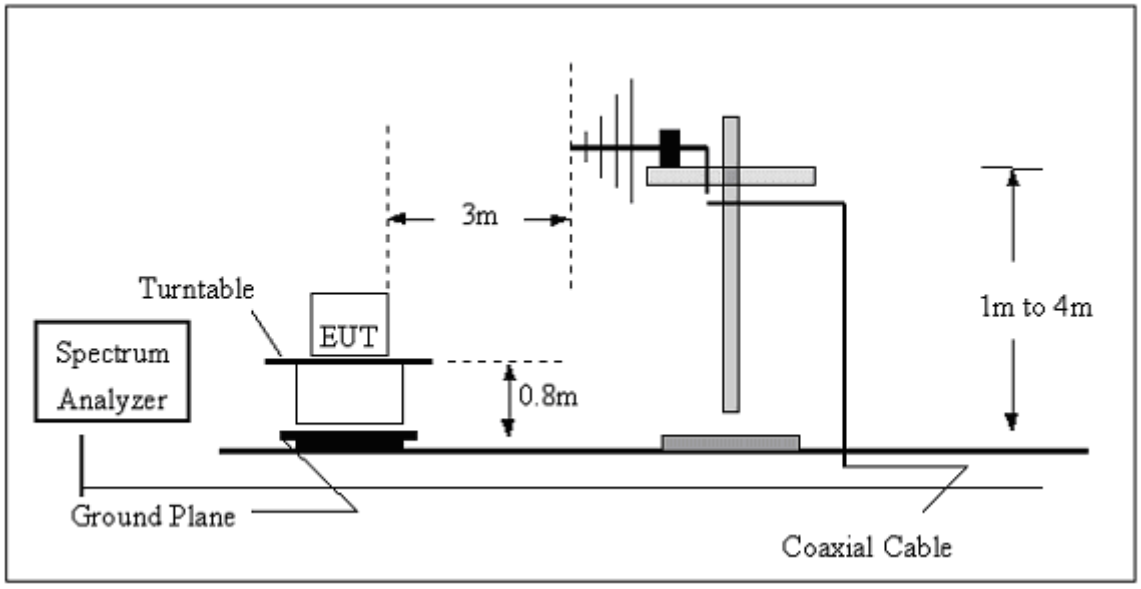
No deviation

6.3 Test Setup

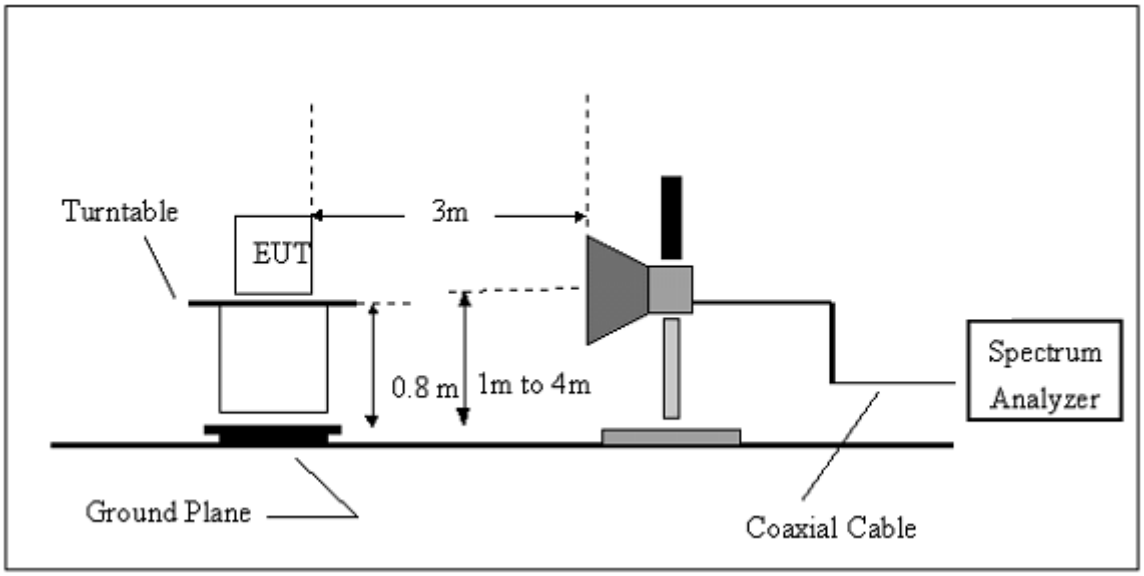
（A）Radiated Emission Test-Up Frequency Below 30MHz



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



（C）Radiated Emission Test-Up Frequency Above 1GHz



EUT OPERATING CONDITIONS

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

6.4 Test Results

(Below 30 MHz)

EUT：	CareConnect	Model Name ：	04-90026-Black
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Polarization :	---
Test Voltage ：	DC 5V(Adapter Input AC 120V, 60Hz)	Test Date	August 18, 2014
Test Mode ：	Mode 1/ Mode 2/ Mode 3		

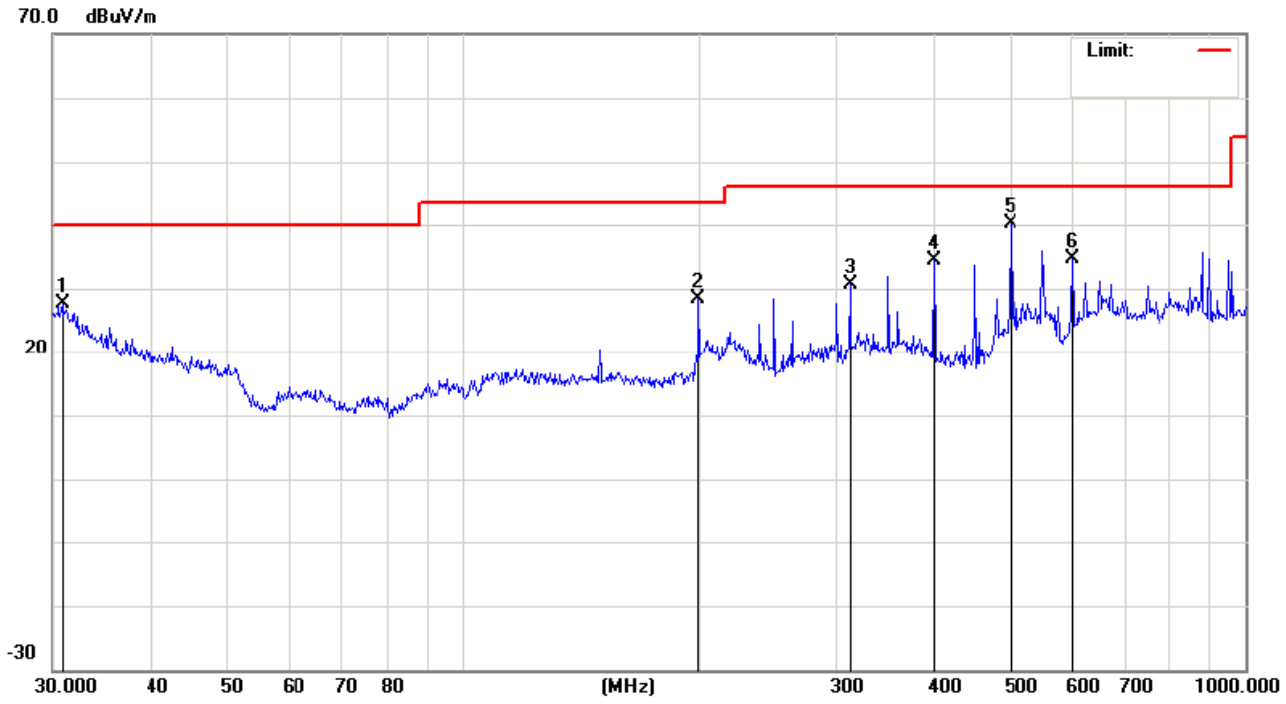
Freq.	Reading	Limit	Margin	State
(MHz)	(dBuV/m)	(dBuV/m)	(dB)	P/F
--	--	--	--	P
--	--	--	--	P

Note:

No result in this part for margin above 20dB.
Distance extrapolation factor =20 log (specific distance/test distance)(dB);
Limit line = specific limits(dBuV) + distance extrapolation factor.
All the x/y/z orientation has been investigated, and only worst case is presented in this report.

TEST RESULTS (Between 30M – 1000 MHz)

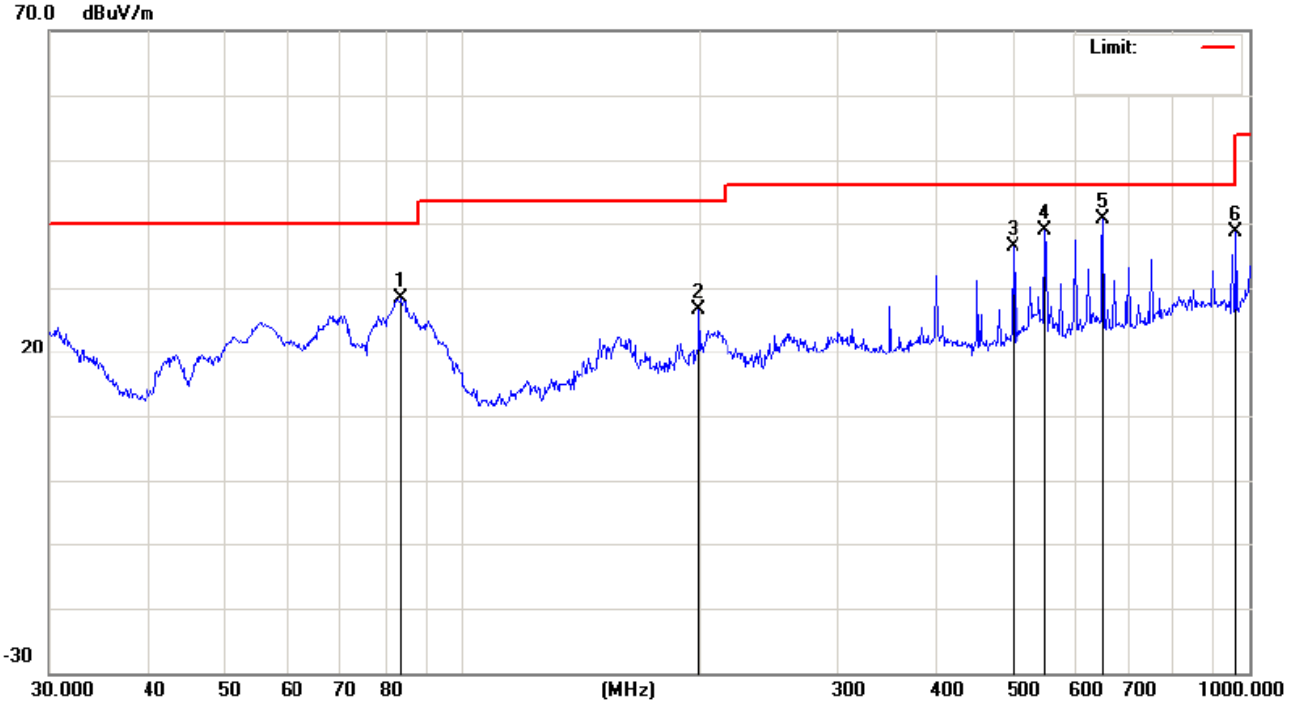
EUT：	CareConnect	Model Name ：	04-90026-Black
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Polarization :	Horizontal
Test Voltage ：	DC 5V(Adapter Input AC 120 V, 60 Hz)	Test Date	August 18, 2014
Test Mode ：	Mode 2		



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		30.8535	24.67	2.95	27.62	40.00	-12.38	peak			
2		199.9856	34.47	-5.97	28.50	43.50	-15.00	peak			
3		312.1792	33.63	-2.99	30.64	46.00	-15.36	peak			
4		400.4318	37.73	-3.46	34.27	46.00	-11.73	peak			
5	*	501.1789	39.90	0.20	40.10	46.00	-5.90	peak			
6		601.4265	33.00	1.67	34.67	46.00	-11.33	peak			

Remark: All of the Tx modes have been investigated, and only worst mode is presented in this report.

EUT：	CareConnect	Model Name ：	04-90026-Black
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Polarization :	Vertical
Test Voltage ：	DC 5V(Adapter Input AC 120 V, 60 Hz)	Test Date	August 18, 2014
Test Mode ：	Mode 2		



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		83.8156	41.28	-12.82	28.46	40.00	-11.54	peak			
2		199.9856	31.80	-5.21	26.59	43.50	-16.91	peak			
3		501.1788	37.66	-1.37	36.29	46.00	-9.71	peak			
4		550.9479	38.80	0.20	39.00	46.00	-7.00	peak			
5	*	651.9415	39.09	1.44	40.53	46.00	-5.47	peak			
6		962.1621	33.76	4.91	38.67	54.00	-15.33	peak			

Remark: All of the Tx modes have been investigated, and only worst mode is presented in this report.

TEST RESULTS (From 1000 MHz to 25GHz)

EUT：	CareConnect	Model Name ：	04-90026-Black
Temperature：	20℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Mode ：	CH 0
Test Voltage ：	DC 5V(Adapter Input AC 120 V, 60 Hz)	Test Date ：	August18, 2014

Freq. (MHz)	Ant.Pol. H/V	Emission Level(dBuV)		Limit 3m(dBuV/m)		Over(dB)	
		PK	AV	PK	AV	PK	AV
4804	V	61.1	44.2	74	54	-12.9	-9.8
7206	V	67.9	43.3	74	54	-6.1	-10.7
4804	H	62.6	39.0	74	54	-11.4	-15.0
7206	H	61.6	42.1	74	54	-12.4	-11.9

Remark:
All emissions not reported were more than 20dB below the specified limit or in the noise floor.
Factor = Antenna Factor + Cable Loss – Pre-amplifier.
All the x/y/z orientation has been investigated, and only worst case is presented in this report.

EUT：	CareConnect	Model Name ：	04-90026-Black
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Mode ：	CH 20
Test Voltage ：	DC 5V(Adapter Input AC 120 V, 60 Hz)	Test Date ：	August 18, 2014

Freq. (MHz)	Ant.Pol.	Emission Level(dBuV)		Limit 3m(dBuV/m)		Over(dB)	
	H/V	PK	AV	PK	AV	PK	AV
4882	V	66.0	38.6	74	54	-8.0	-15.4
7323	V	61.6	47.0	74	54	-12.4	-7.0
9764	V	62.0	45.1	74	54	-12.0	-8.9
4882	H	64.2	38.1	74	54	-9.8	-15.9
7323	H	60.4	47.2	74	54	-13.6	-6.8
9764	H	59.5	41.6	74	54	-14.5	-12.4

Remark:
All emissions not reported were more than 20dB below the specified limit or in the noise floor.
Factor = Antenna Factor + Cable Loss – Pre-amplifier.
All the x/y/z orientation has been investigated, and only worst case is presented in this report.

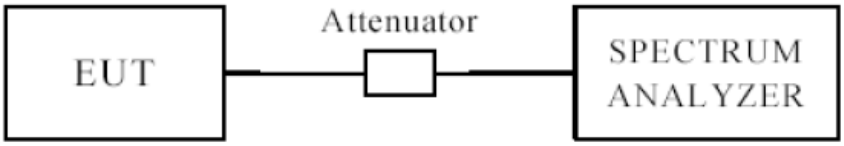
EUT：	CareConnect	Model Name ：	04-90026-Black
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Mode ：	CH 39
Test Voltage ：	DC 5 V(Adapter Input AC 120 V, 60 Hz)	Test Date	August 18, 2014

Freq. (MHz)	Ant.Pol.	Emission Level(dBuV)		Limit 3m(dBuV/m)		Over(dB)	
	H/V	PK	AV	PK	AV	PK	AV
4960	V	58.6	38.4	74	54	-15.4	-15.6
7440	V	63.8	42.0	74	54	-10.2	-12.0
4960	H	61.4	43.0	74	54	-12.6	-11.0
7440	H	67.7	42.3	74	54	-6.3	-11.7

Remark:
All emissions not reported were more than 20dB below the specified limit or in the noise floor.
Factor = Antenna Factor + Cable Loss – Pre-amplifier.
All the x/y/z orientation has been investigated, and only worst case is presented in this report.

7.0 6dB Bandwidth Measurement

7.1 Test Setup



7.2 Limits of 6dB Bandwidth Measurement

The minimum of 6dB Bandwidth Measurement is >500 kHz

7.3 Test Procedure

1. Set resolution bandwidth (RBW) = 100 kHz
2. Set the video bandwidth (VBW) ≥ 3 x RBW.
3. Detector = Peak.
4. Trace mode = max hold.
5. Sweep = auto couple.
6. Allow the trace to stabilize.
7. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

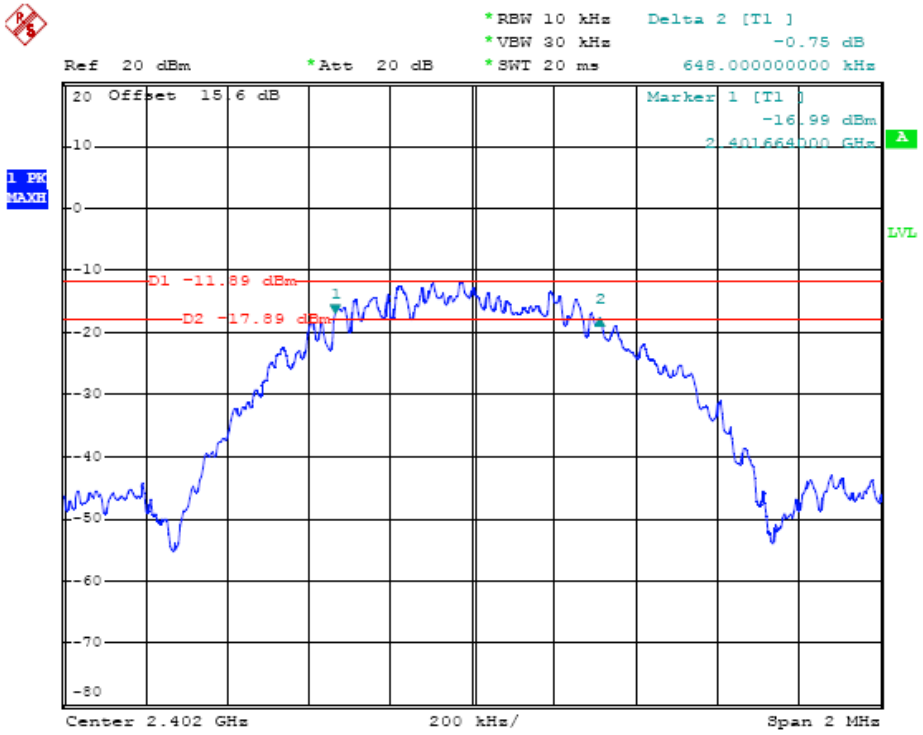
7.4 Test Result

6dB Occupied Bandwidth

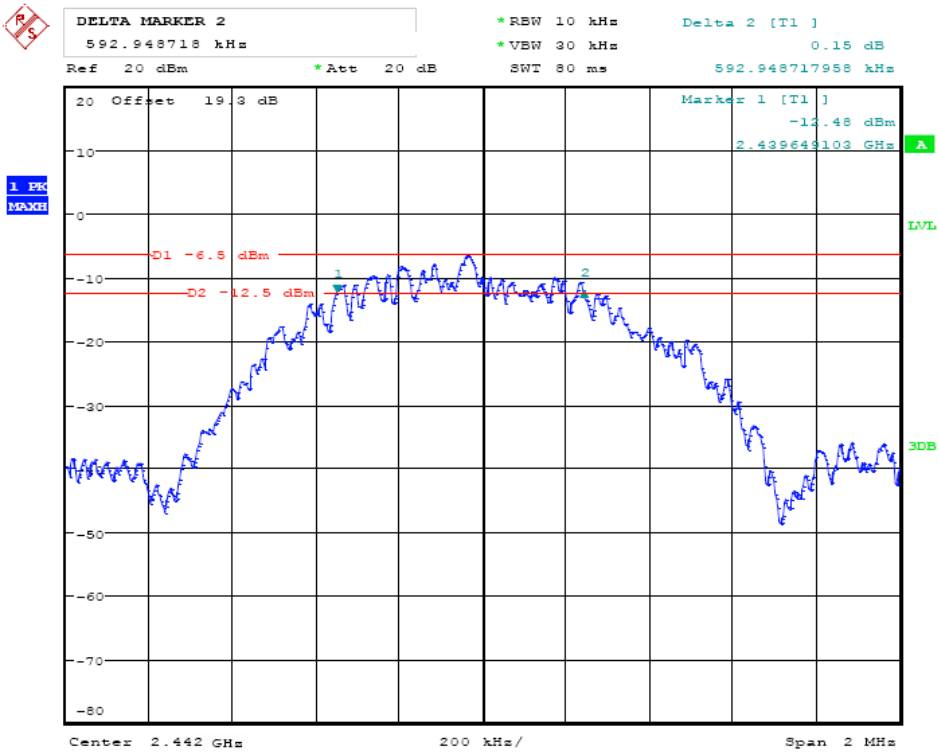
EUT	CareConnect	Model	04-90026-Black
Mode	802.11b	Input Voltage	DC3.7V
Temperature	24 deg. C,	Humidity	56% RH

Channel	Channel Frequency (MHz)	Data Transfer Rate (Mbps)	6 dB Bandwidth (kHz)	Minimum Limit (kHz)	Pass/ Fail
0	2402	1	648.0	>500	Pass
20	2442	1	592.9	>500	Pass
39	2480	1	648.0	>500	Pass

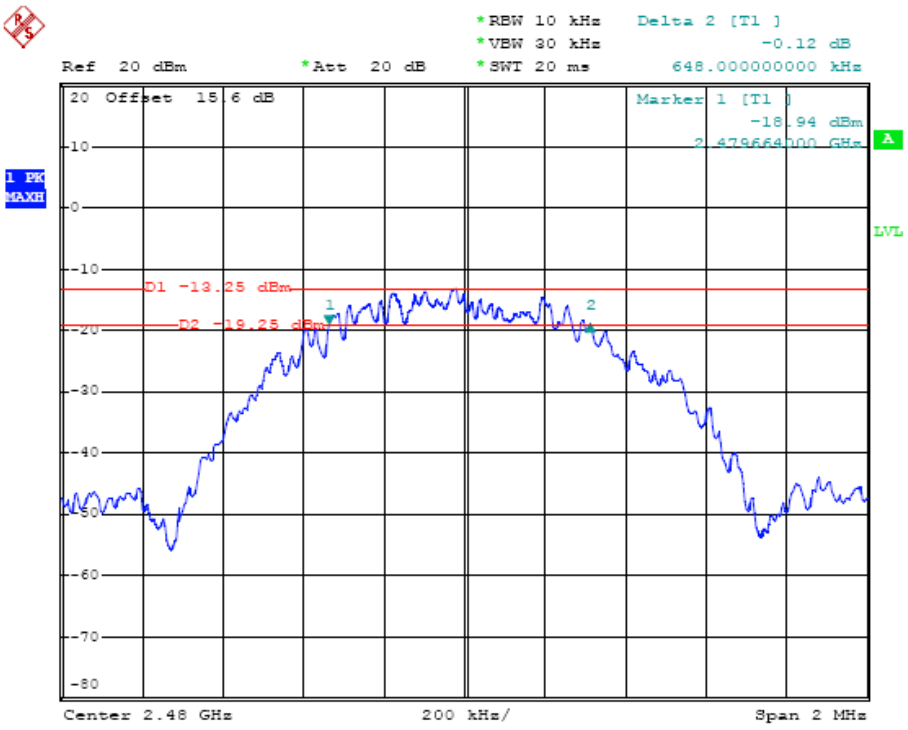
Low Channel



Middle Channel

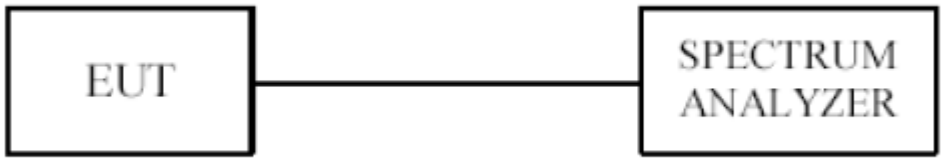


High Channel



8.0 Maximum conducted Power Spectral Density Measurement

8.1 Test Setup



8.2 Limits of Power Spectral Density Measurement

The Maximum Power Spectral Density Measurement is 8dBm.

8.3 Test Procedure

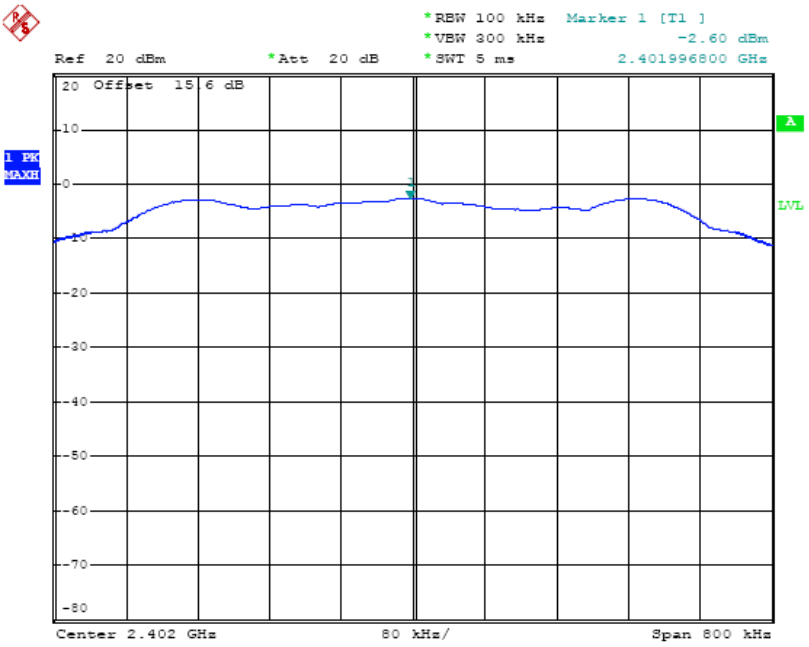
1. Use this procedure when the maximum peak conducted output power in the fundamental emission is used to demonstrate compliance.
2. Set the RBW = 3 kHz.
3. Set the VBW =10 kHz.
4. Set the span to 1.5 times the DTS channel bandwidth.
5. Detector = peak.
6. Sweep time = auto couple.
7. Trace mode = max hold.
8. Allow trace to fully stabilize.
9. Use the peak marker function to determine the maximum amplitude level.
10. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.
11. The resulting peak PSD level must be ≤ 8 dBm.

8.4 Test Result

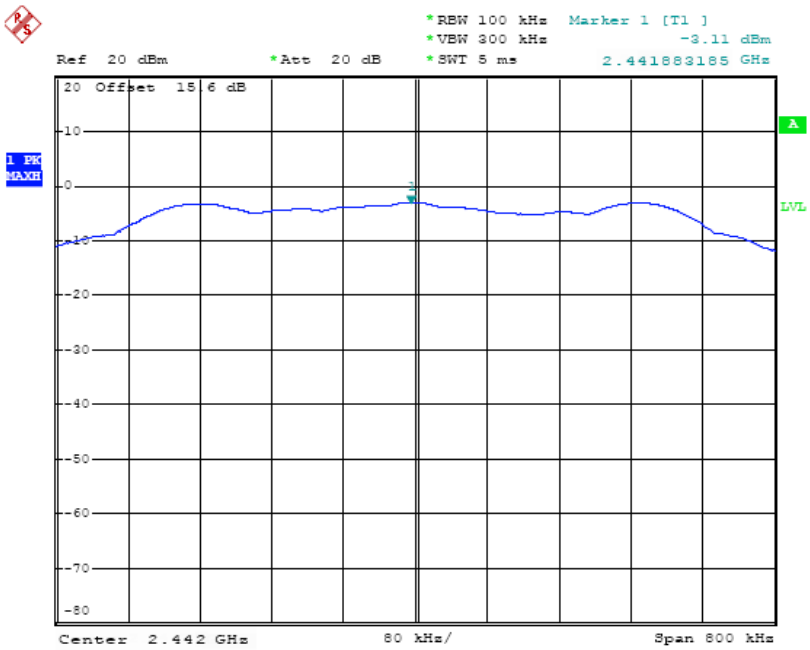
EUT	Tablet PC	Model	UH672G
Mode	802.11b	Input Voltage	DC3.7V
Temperature	24 deg. C,	Humidity	56% RH

Channel	Channel Frequency (MHz)	Power Density		Maximum Limit (dBm)	Pass/ Fail
		PSD/100kHz(dBm)	PSD/3kHz(dBm)		
0	2402	-2.60	-16.83	8	Pass
20	2442	-3.11	-17.30	8	Pass
39	2480	-4.03	-18.19	8	Pass

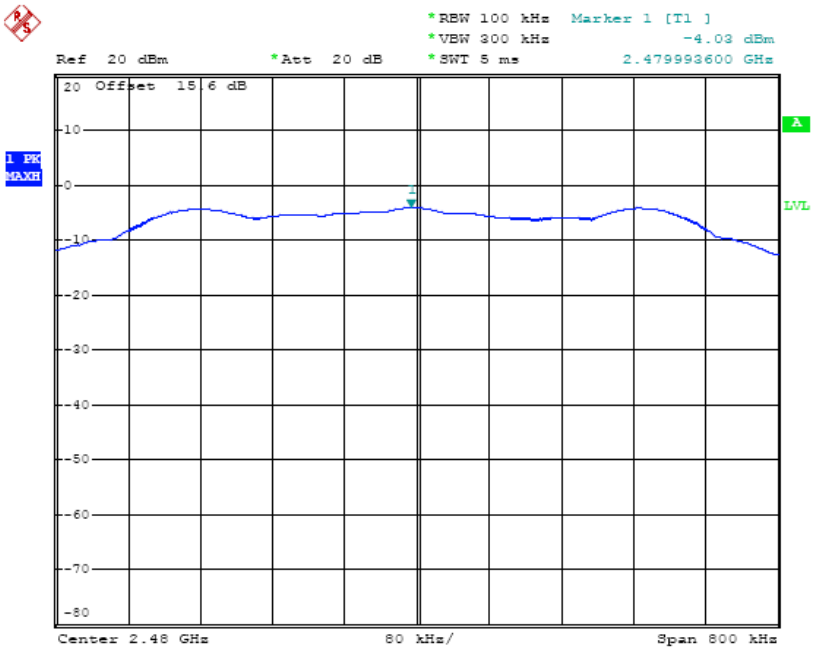
Low Channel



Middle Channel

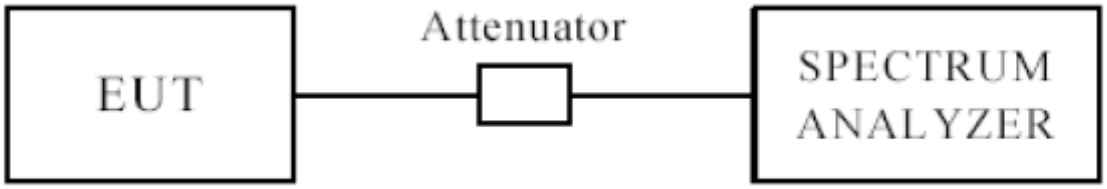


High Channel



9.0 100 kHz Bandwidth Of Frequency Band Edge

9.1 Test Setup for band edge



The restricted band requirement based on radiated emission test; please see the clause 6 for the test setup

9.2 Limits of Out of Band Emissions Measurement

1. Below –20dB of the highest emission level of operating band (in 100kHz Resolution Bandwidth).
2. Fall in the restricted bands listed in section 15.205. The maximum permitted average field strength is listed in section 15.209.

9.3 Test Procedure

For signals in the restricted bands above and below the 2.4-2.483GHz allocated band a measurement was made of radiated emission test.(Peak values with RBW=VBW=1MHz and PK detector. AV value with RBW=1MHz, VBW=10Hz and PK detector)
For bandage test, the spectrum set as follows: RBW=100, VBW=100 kHz. A conducted measurement used

9.4 Test Result

Please see next pages
Note: This is a handhold device. The radiated emissions should be tested under 3-axes position (Lying, Stand), After pre-test. It was found that the worse radiated emission was get at the lying position.

Radiated measurement:

Indicated		result PK/AV)	Table Angle Degree	Antenna		Correction Factor			FCC Part 15.247		
Frequency (MHz)	Receiver Reading (dBμV/m)			Height (m)	Polar (H/V)	Ant. Factor (dB/m)	Cable Loss (dB)	Pre-Amp. Gain (dB)	Cord. Amp. (dBμV/m)	Limit dBμV/m)	Margin (dB)
Low Channel (2402MHz)											
2390	41.79	AV	110	2	V	30.3	4.1	33.1	43.09	54	10.91
2390	45.53	AV	110	2	H	30.3	4.1	33.1	46.83	54	7.17
2390	57.07	PK	170	1	V	30.3	4.1	33.1	58.37	74	15.63
2390	61.59	PK	100	2	H	30.3	4.1	33.1	62.89	74	11.11
High Channel (2480MHz)											
2483.5	41.77	AV	210	2	V	31	4.4	32.7	44.47	54	9.53
2483.5	44.01	AV	260	1	H	31	4.4	32.7	46.71	54	7.29
2483.5	56.68	PK	330	2	V	31	4.4	32.7	59.38	74	14.62
2483.5	60.99	PK	270	1.5	H	31	4.4	32.7	63.69	74	10.31

10.0 Peak Output Power Test

10.1 Applied procedures / limit

FCC Part15 (15.247) , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247 (b)(i)	Peak Output Power	0.125 w or 20.96dBm	2400-2483.5	PASS

10.2 Test Procedure

a. The EUT was directly connected to the power meter and antenna output port as show in the block diagram below,

b. Setting : RBW ≥ the 20 dB bandwidth of the emission being measured
Span ≥ approximately 3 times the 20 dB bandwidth, centered on a hopping channel
VBW ≥ RBW
Sweep = auto
Detector function = peak
Trace = max hold

DEVIATION FROM STANDARD

No deviation.

10.3 Test Setup

EUT OPERATION CONDITIONS

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

10.4 Test Results

EUT：	Tablet PC	Model Name ：	04-90026-Black
Temperature：	25 ℃	Relative Humidity：	60%
Pressure：	1012 hPa	Test Mode ：	Mode 1/Mode 2/Mode 3
Test Voltage ：	DC 5 V(Adapter Input AC 120 V, 60 Hz)	Test Date	August 21, 2014

Test Channel	Frequency (MHz)	Peak Output Power (dBm)	LIMIT(dBm)	Result
CH0	2402	5.06	30	Pass
CH20	2442	4.73	30	Pass
CH39	2480	4.62	30	Pass

11.0 Antenna Application

Antenna requirement

The EUT'S antenna is met the requirement of FCC part 15C section 15.203 and 15.247

FCC part 15C section 15.247 requirements: Systems operating in the 2402-2480MHz band that are used exclusively for fixed, point-to-point operations may employ transmitting antennas with directional gain greater than 6dBi provided the maximum peak output power of the intentional radiator is reduced by 1dB for every 3dB that the directional gain of the antenna exceeds 6dBi.

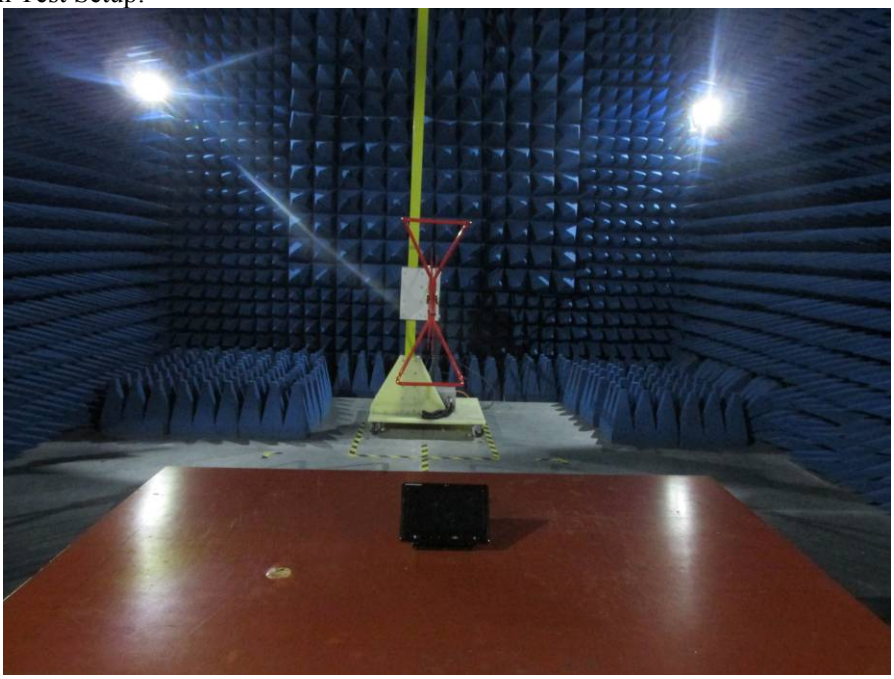
Result

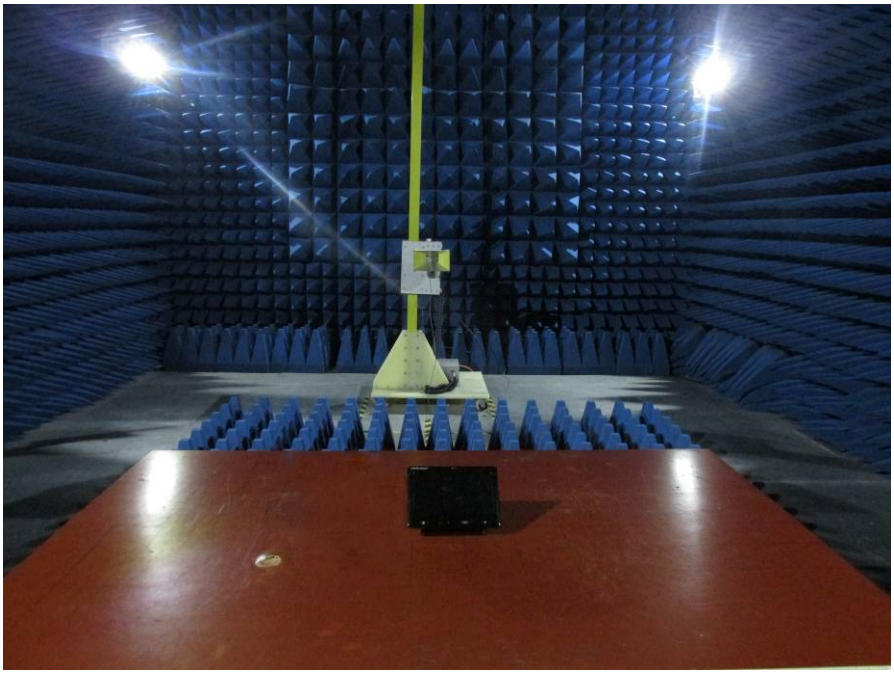
Internal Antenna Used, The Antenna Gain is 2.0dBi. Please refer to the EUT internal photos.

12.0 EUT Test Photos

Conducted Emission Test Setup:

Radiated Emission Test Setup:

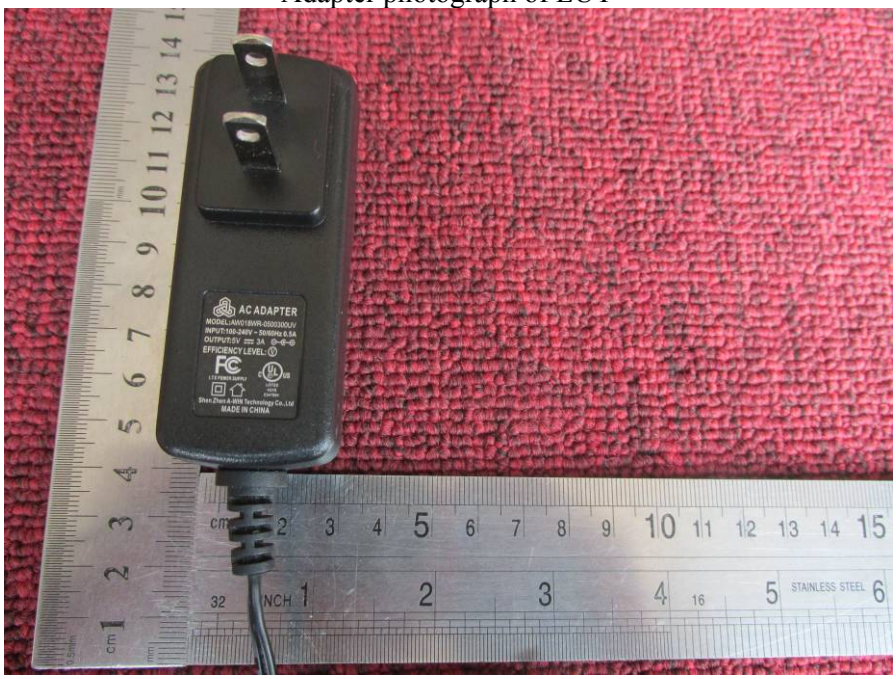




13.0 Photographs Of EUT

Appearance photograph of EUT

Adapter photograph of EUT



Appearance photograph of EUT

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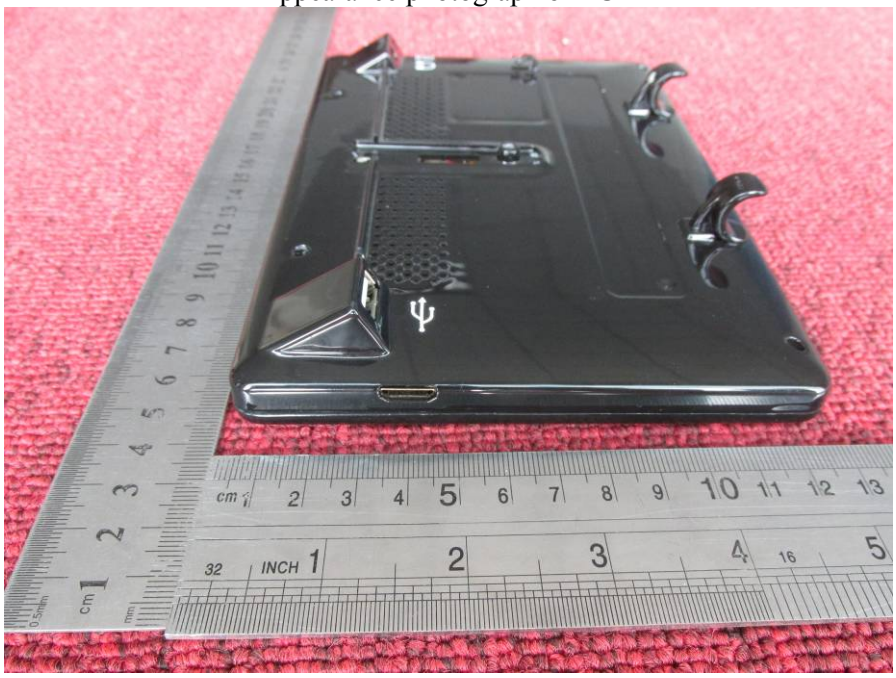
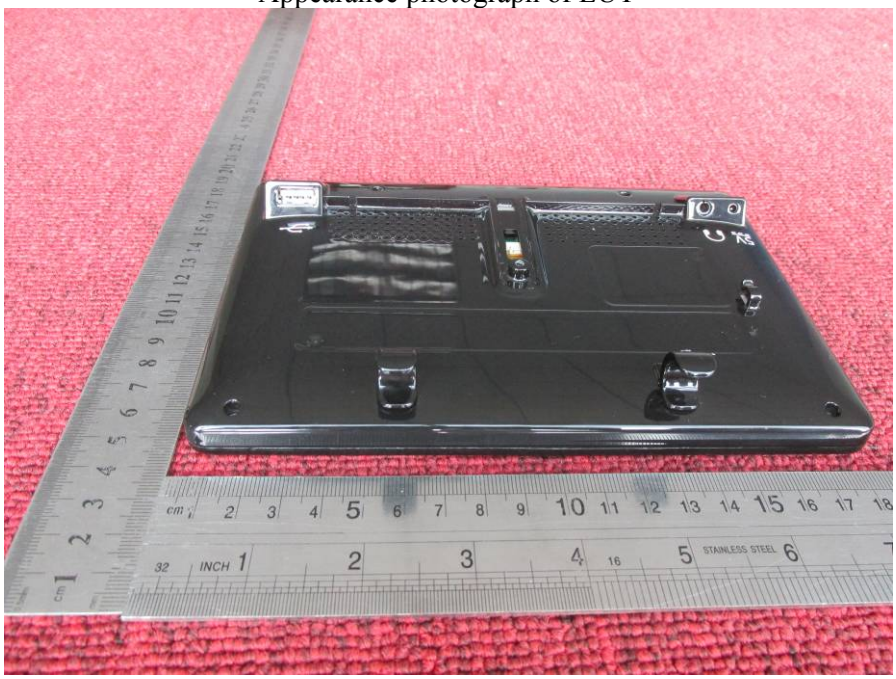
Appearance photograph of EUT



Appearance photograph of EUT



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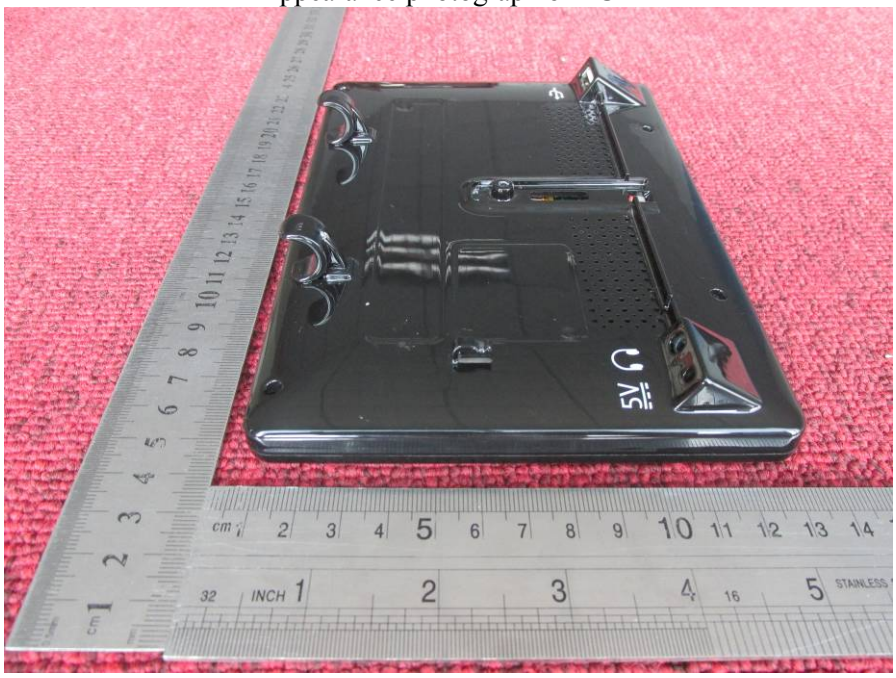
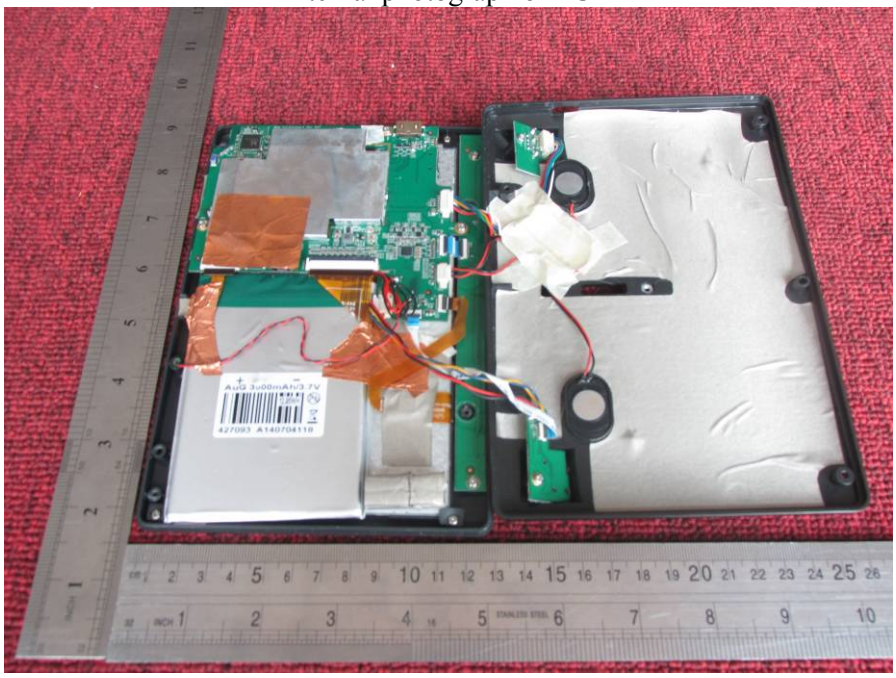


Appearance photograph of EUT

Appearance photograph of EUT

Appearance photograph of EUT

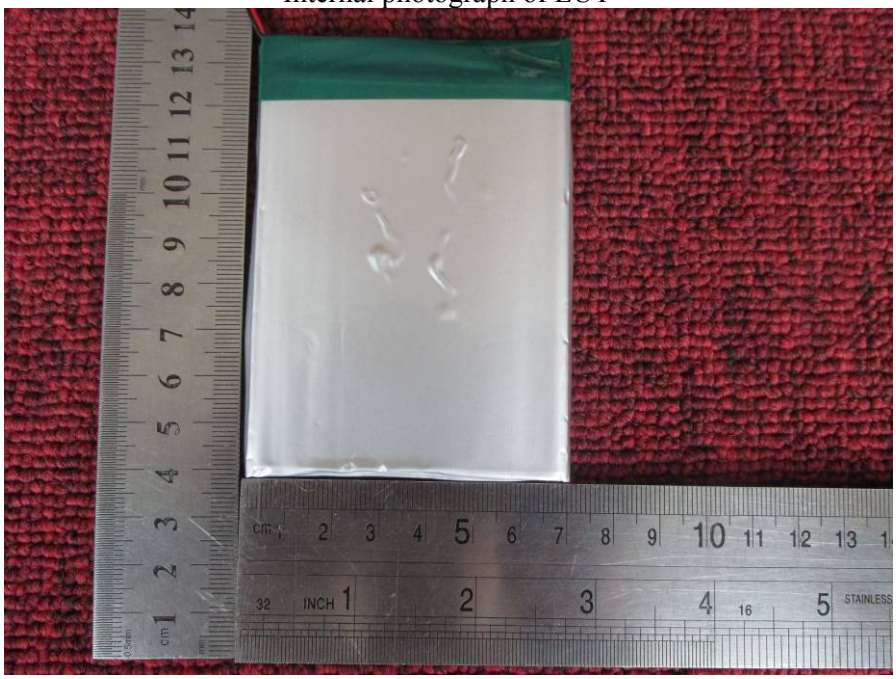
Internal photograph of EUT



Internal photograph of EUT

Internal photograph of EUT

Internal photograph of EUT



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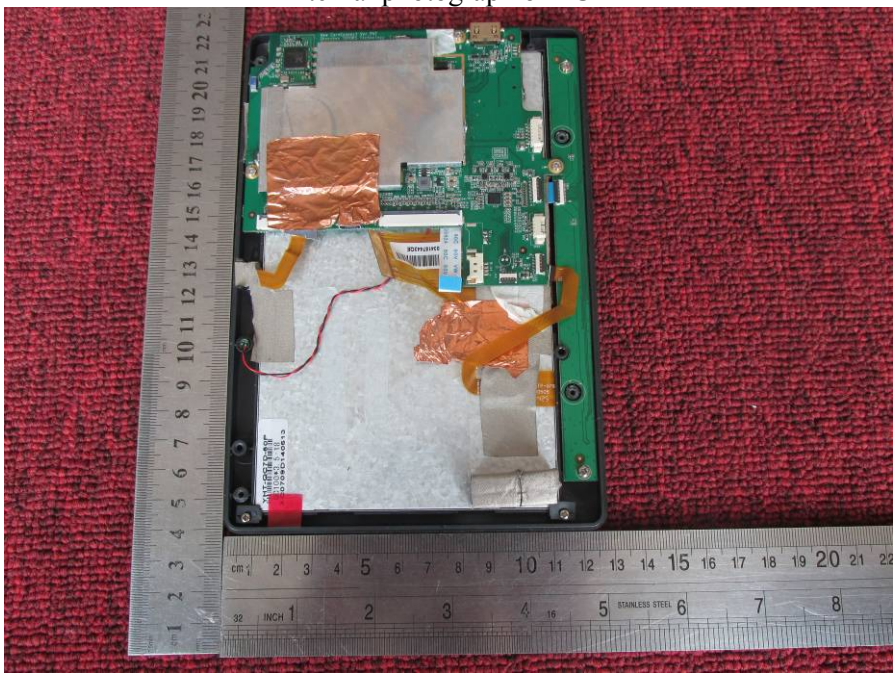

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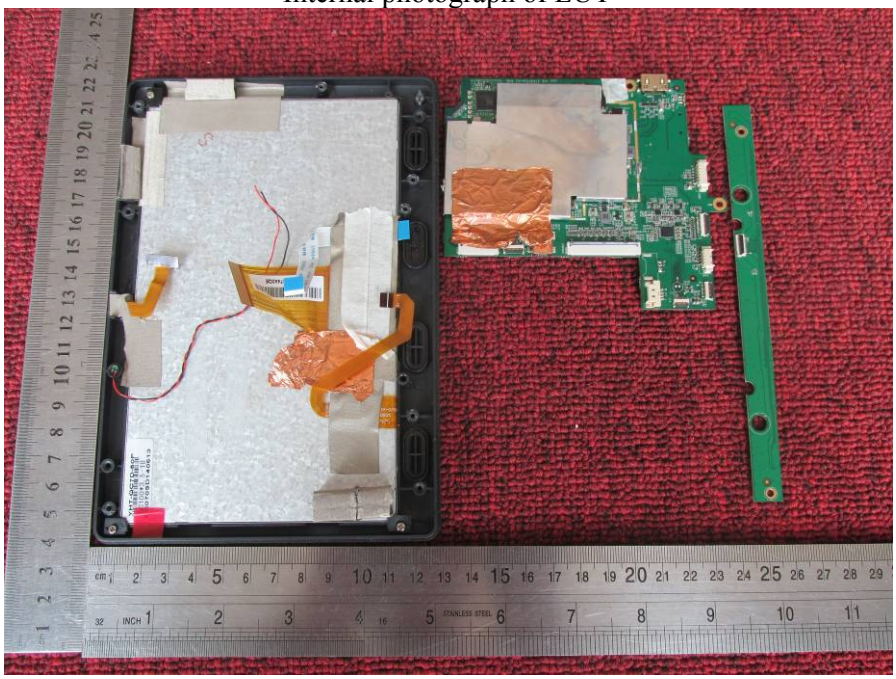
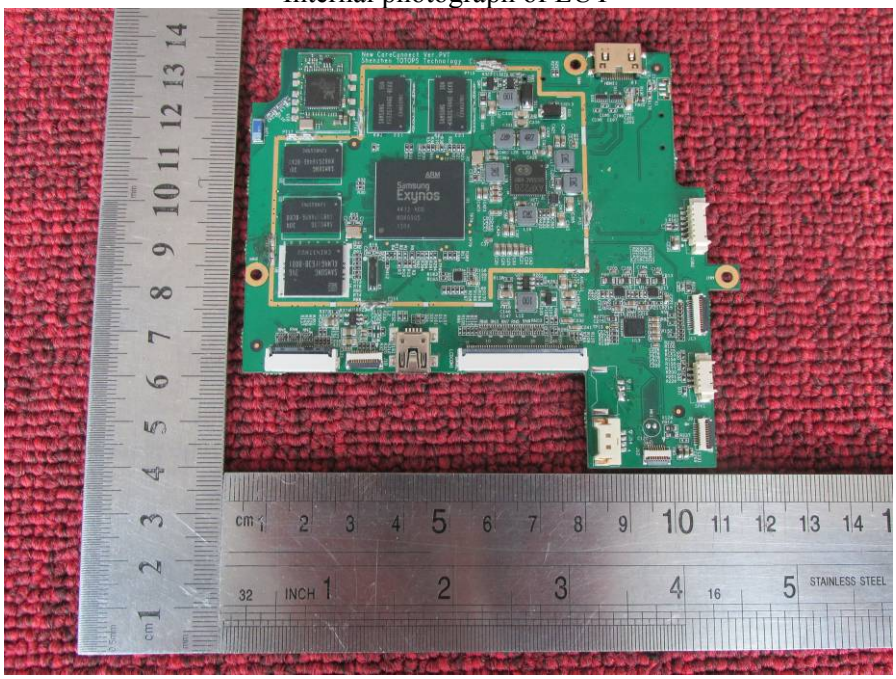
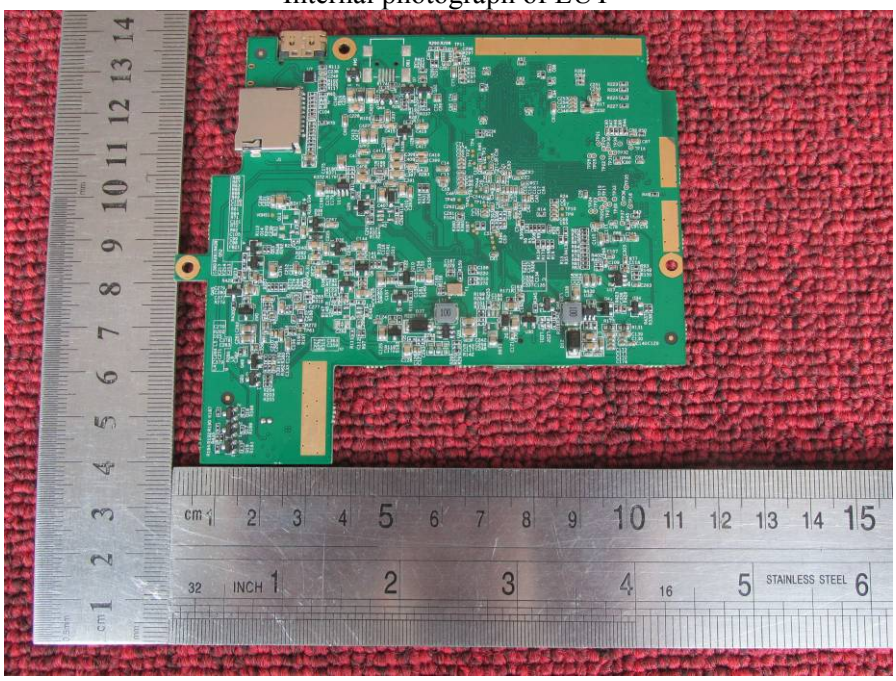


Internal photograph of EUT

Internal photograph of EUT



Internal photograph of EUT



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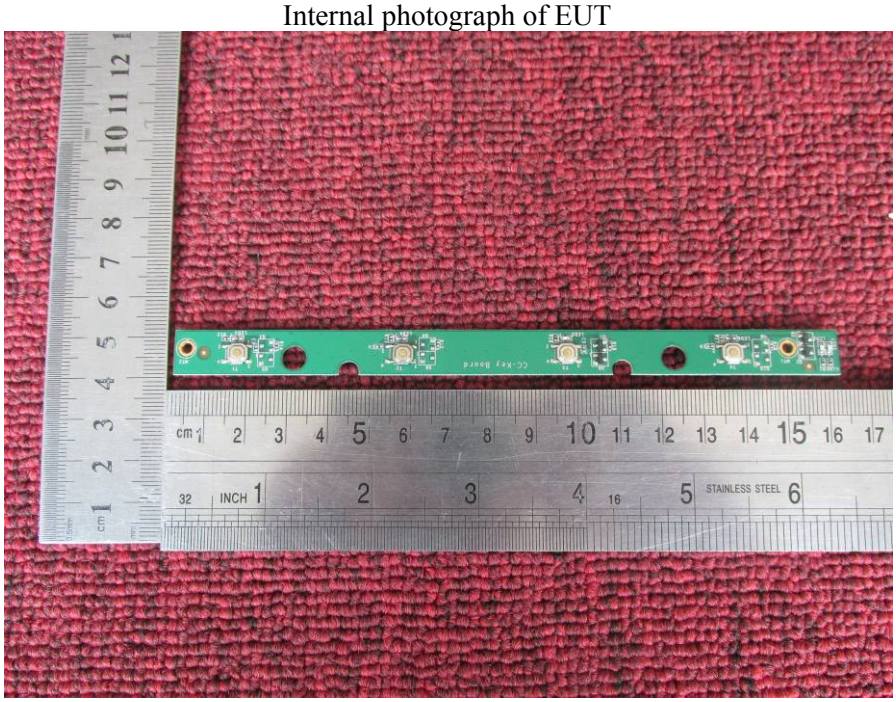

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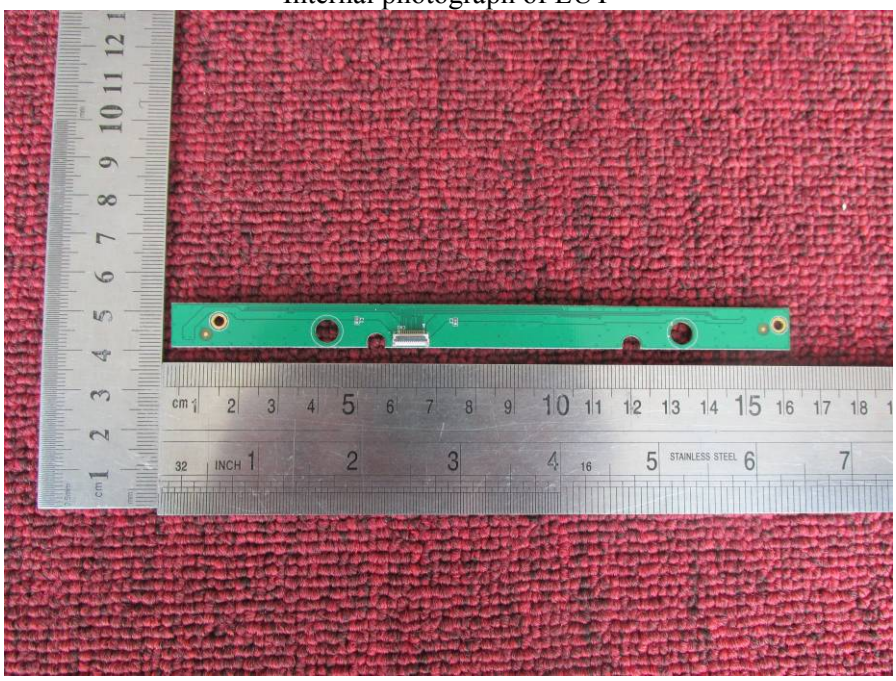

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