
FCC Test Report

Report No.: AGC00M110101-3F1

FCC ID : ZDIK2-544DW
PRODUCT DESIGNATION : 11N Wireless USB Dongle
BRAND NAME : KINGNET
MODEL NAME : K2-544DW
CLIENT : Shenzhen Kingnet Technology Co.,Ltd
DATE OF ISSUE : Mar.24,2011
STANDARD(S) : FCC Part 15 Rules

Attestation of Global Compliance Co., Ltd.

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TABLE OF CONTENTS

1. VERIFICATION OF COMPLIANCE	2
2. PRODUCT INFORMATION	3
3. TEST FACILITY	4
4. SUPPORT EQUIPMENT LIST	5
5. SYSTEM DESCRIPTION	5
6. FCC LINE CONDUCTED EMISSION TEST	6
6.1. TEST EQUIPMENT OF LINE CONDUCTED EMISSION TEST	6
6.2 .LIMITS OF LINE CONDUCTED EMISSION TEST	6
6.3. BLOCK DIAGRAM OF LINE CONDUCTED EMISSION TEST.....	6
6.4. PROCEDURE OF LINE CONDUCTED EMISSION TEST.....	7
6.5 TEST RESULT OF LINE CONDUCTED EMISSION TEST	8
7. FCC RADIATED EMISSION TEST.....	10
7.1. TEST EQUIPMENT OF RADIATED EMISSION	10
7.2. LIMITS OF RADIATED EMISSION TEST	10
7.3 BLOCK DIAGRAM OF RADIATED EMISSION TEST	10
7.4 PROCEDURE OF RADIATED EMISSION TEST	11
7.5 TEST RESULT OF RADIATED EMISSION TEST	12
APPENDIX 1	14
PHOTOGRAPHS OF TEST SETUP	14
APPENDIX 2	15
PHOTOGRAPHS OF EUT	15

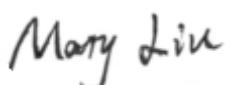
1. VERIFICATION OF COMPLIANCE

Product Designation:	11N Wireless USB Dongle
Brand name:	KINGNET
Model Name:	K2-544D,K2-544DW,VNT9271BU05K
Model difference	The models all the same except for model name
Applicant:	Shenzhen Kingnet Technology Co.,Ltd 3F, Building 5, Civil Science Industry Zone, Pingshan, Xili, Nanshan, Shenzhen China
Manufacturer:	Shenzhen Kingnet Electronic Co.,Ltd 1-4F, Building 5, Civil Science Industry Zone, Pingshan, Xili, Nanshan, Shenzhen China
FCC ID:	ZDIK2-544DW
Measurement Procedure:	ANSI C63.4: 2003
File Number:	AGC00M110101-3F1
Date of test:	February 18-February 23, 2011
Deviation:	None
Condition of Test Sample:	Normal

The above equipment was tested by Attestation Of Global Compliance Co., Ltd. for compliance with the requirements set forth in the FCC Rules and Regulations Part 15, the measurement procedure according to ANSI C63.4:2003. This said equipment in the configuration described in this report shows the maximum emission levels emanating from equipment are within the compliance requirements.

The test results of this report relate only to the tested sample identified in this report.

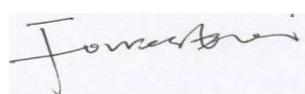
Checked By :



Mary Liu

Mar.24, 2011

Authorized By :



Forrest Lei

Mar.24, 2011

2. PRODUCT INFORMATION

Housing Type: Plastic

EUT Rating Voltage: DC 5V by PC

I/O Port Information (Applicable Not Applicable)

I/O Port of EUT			
I/O Port Type	Q'TY	Cable	Tested with
USB	1	N/A	1

3. TEST FACILITY

Facility	Attestation of Global Compliance Co., Ltd.
Location:	1F, No.2 Building, Huafeng No.1 Technical, Industrial Park, Sanwei, Xixiang, Baoan District, Shenzhen, China
Description:	The test site is constructed and calibrated to meet the FCC requirements in documents ANSI C63.4:2003.
Site Filing:	The FCC Registration Number is 259865
Instrument Tolerance:	All measuring equipment is in accord with ANSI C63.4 requirements that meet industry regulatory agency and accreditation agency requirement.

4. SUPPORT EQUIPMENT LIST

Device Type	Manufacturer	Model Name	Serial No.	Data Cable	Power Cable
PC	Lenovo	X63H	N/A	N/A	1.5m unshielded

**Note: All the above equipment/cables were placed in worse case positions to maximize emission signals during emission test.

5. SYSTEM DESCRIPTION

EUT test procedure:

1. Connect EUT and peripheral devices (if need).
2. Power on the EUT, the EUT begins to work.
3. Make sure the EUT operates normally during the test.

6. FCC LINE CONDUCTED EMISSION TEST

6.1. TEST EQUIPMENT OF LINE CONDUCTED EMISSION TEST

Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Spectrum Analyzer	Agilent	E4440A	N/A	06/29/2010	06/28/2011
EMI Test Receiver	H.P.	8546A	N/A	06/29/2010	06/28/2011
LISN	EMCO	3825/2	N/A	06/29/2010	06/28/2011

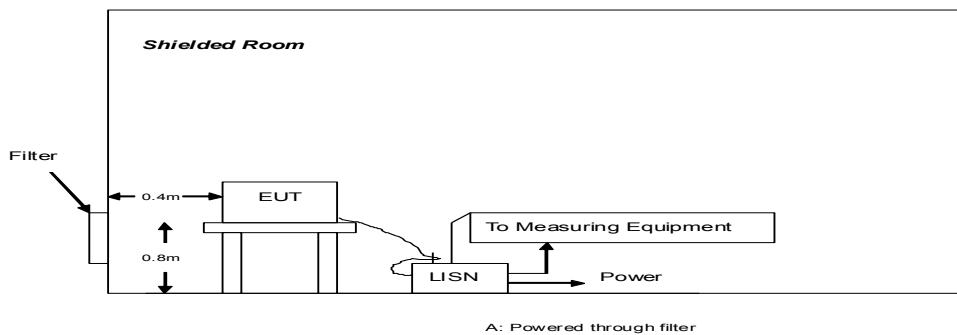
6.2 .LIMITS OF LINE CONDUCTED EMISSION TEST

Frequency	Maximum RF Line Voltage	
	Q.P.(dBuV)	Average(dBuV)
150kHz~500kHz	66-56	56-46
500kHz~5MHz	56	46
5MHz~30MHz	60	50

**Note: 1. The lower limit shall apply at the transition frequency.

2. The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz

6.3. BLOCK DIAGRAM OF LINE CONDUCTED EMISSION TEST



6.4. PROCEDURE OF LINE CONDUCTED EMISSION TEST

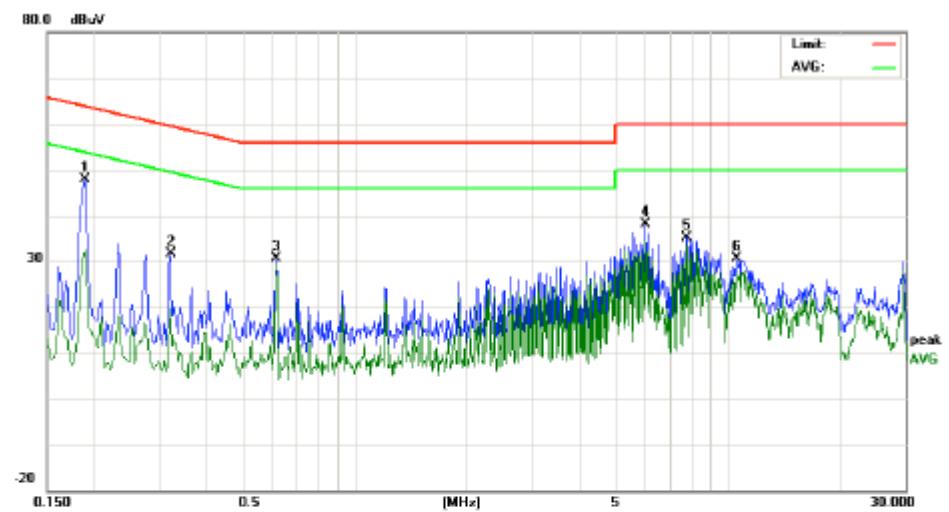
- 1) The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. When the EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.4 (see Test Facility for the dimensions of the ground plane used). When the EUT is a floor-standing equipment, it is placed on the ground plane which has a 3-12 mm non-conductive covering to insulate the EUT from the ground plane.
- 2) Support equipment, if needed, was placed as per ANSI C63.4.
- 3) All I/O cables were positioned to simulate typical actual usage as per ANSI C63.4.
- 4) The EUT received DC 5V power by PC. All support equipments received AC 120V/60Hz power from socket under the turntable, if any.
- 5) The EUT test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
- 6) Analyzer / Receiver scanned from 150 kHz to 30MHz for emissions in each of the test modes.
- 7) During the above scans, the emissions were maximized by cable manipulation.
- 8) A scan was taken on both power lines, Line 1 and Line 2, recording at least the six highest emissions.
- 9) Emission frequency and amplitude were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit. If EUT emission level was less -2dB to the A.V. limit in Peak mode, then the emission signal was re-checked using Q.P and Average detector.

The test data of the worst case condition(s) was reported on the Summary Data page.

6.5 TEST RESULT OF LINE CONDUCTED EMISSION TEST

LINE CONDUCTED EMISSION - L

Conducted Emission Measurement



Site: Conduction Phase: **L1** Temperature: 26
Limit: FCC Class B Conduction(QP) Power: **60.00** Humidity: 60 %
EUT: 11N Wireless USB Dongle
M/N: K2-544DW
Mode:
Note:

No.	Freq. (MHz)	Reading_Level (dBuV)			Correct Factor	Measurement (dBuV)			Limit (dBuV)		Margin (dB)		P/F	Comment
		Peak	QP	Avg		dB	Peak	QP	Avg	QP	Avg	QP	Avg	
1	0.1900	37.63		22.39	10.20	47.83		32.59	64.03	54.03	-16.20	-21.44	P	
2	0.3220	21.30		9.33	10.30	31.60		19.63	59.65	49.65	-28.05	-30.02	P	
3	0.6180	20.38		19.07	10.32	30.70		29.39	56.00	46.00	-25.30	-16.61	P	
4	6.0180	27.84		24.36	10.28	38.12		34.64	60.00	50.00	-21.88	-15.36	P	
5	7.8020	24.88		23.07	10.34	35.22		33.41	60.00	50.00	-24.78	-16.59	P	
6	10.5780	20.62		17.28	10.10	30.72		27.38	60.00	50.00	-29.28	-22.62	P	

LINE CONDUCTED EMISSION – N

Conducted Emission Measurement



Site: Conduction Phase: **N** Temperature: 26
Limit: FCC Class B Conduction(QP) Power: Humidity: 60 %
EUT: 11N Wireless USB Dongle
M/N: K2-544DW
Mode:
Note:

No.	Freq. (MHz)	Reading_Level (dBuV)			Correct Factor	Measurement (dBuV)			Limit (dBuV)			Margin (dB)			P/F	Comment
		Peak	QP	AVG		dB	Peak	QP	AVG	QP	AVG	QP	AVG	QP	AVG	
1	0.1940	40.50		23.72	10.21	50.71		33.93	63.86	53.86	-13.15	-19.93	P			
2	0.3280	26.34		14.53	10.30	36.64		24.83	59.65	49.55	-22.91	-24.72	P			
3	0.6180	19.79		19.03	10.32	30.11		29.35	56.00	46.00	-25.89	-16.65	P			
4	5.6820	27.20		22.55	10.26	37.48		32.81	60.00	50.00	-22.54	-17.19	P			
5	7.8660	25.04		22.13	10.34	35.38		32.47	60.00	50.00	-24.62	-17.53	P			
6	11.0380	20.62		19.12	10.10	30.62		29.22	60.00	50.00	-29.38	-20.78	P			

1-4m

7. FCC RADIATED EMISSION TEST

7.1. TEST EQUIPMENT OF RADIATED EMISSION

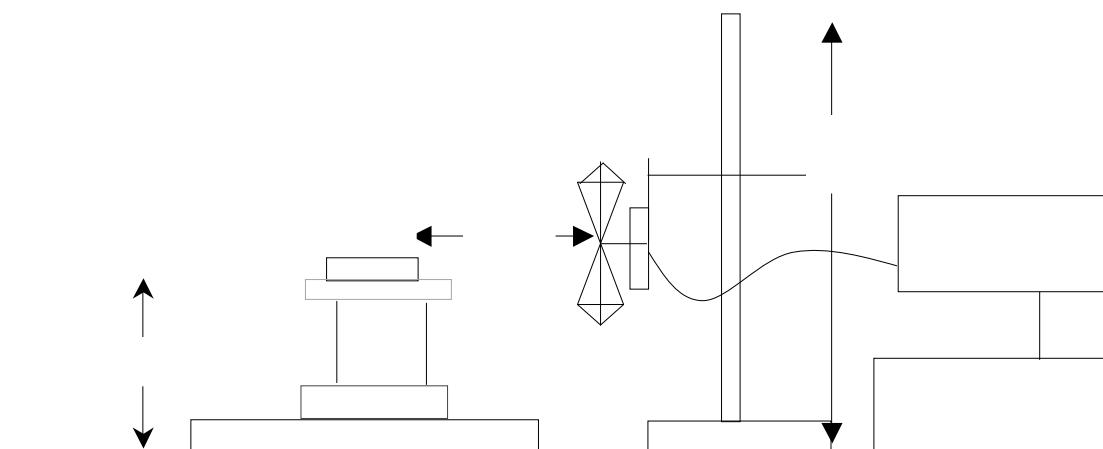
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
0.8m PSA SERIES SPECTRUM ANALYZER	AGILENT	E4440A	Spectrum Analyzer US41421290	06/29/2010	06/28/2011
ANTENNA	A.H.	SAS-521-4	128	06/29/2010	06/28/2011
HORN ANTENNA	EM	EM-AH-10180	N/A	06/29/2010	06/28/2011
AMPLIFIER	EM	EM30180	0607030	06/29/2010	06/28/2011
POSITIONING CONTROLLER	MF	MF-7802	MF780208147	06/29/2010	06/28/2011

7.2. LIMITS OF RADIATED EMISSION TEST

Frequency (MHz)	Distance (m)	Maximum Field Strength Limit (dBuV/m/ Q.P.)
30~88	3	40.0
88~216	3	43.5
216~960	3	46.0
Above 960	3	54.0

**Note: The lower limit shall apply at the transition frequency.

7.3 BLOCK DIAGRAM OF RADIATED EMISSION TEST



7.4 PROCEDURE OF RADIATED EMISSION TEST

- 1) The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. When the EUT is a tabletop system, a wooden turntable with a height of 0.8 meters is used which is placed on the ground plane as per ANSI C63.4 (see Test Facility for the dimensions of the ground plane used). When the EUT is floor-standing equipment, it is placed on the ground plane which has a 3-12 mm non-conductive covering to insulate the EUT from the ground plane.
- 2) Support equipment, if needed, was placed as per ANSI C63.4.
- 3) All I/O cables were positioned to simulate typical actual usage as per ANSI C63.4.
- 4) The EUT received DC 5V by PC. All support equipments received AC 120V/60Hz power from socket under the turntable, if any.
- 5) The antenna was placed at 3 meter away from the EUT as stated in FCC Part 15. The antenna connected to the Analyzer via a cable and at times a pre-amplifier would be used.
- 6) The Analyzer / Receiver quickly scanned from 30MHz to 1000MHz. The EUT test program was started. Emissions were scanned and measured rotating the EUT to 360 degrees and positioning the antenna 1 to 4 meters above the ground plane, in both the vertical and the horizontal polarization, to maximize the emission reading level.
- 7) The test mode(s) were scanned during the test:
- 8) Recorded at least the six highest emissions. Emission frequency, amplitude, antenna position, polarization and turntable position were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit and Q.P./Peak reading is presented.

The test data of the worst case condition (s) was reported on the Summary Data page.

7.5 TEST RESULT OF RADIATED EMISSION TEST

Radiated Emission Test –Horizontal -3m

Radiated Emission Measurement

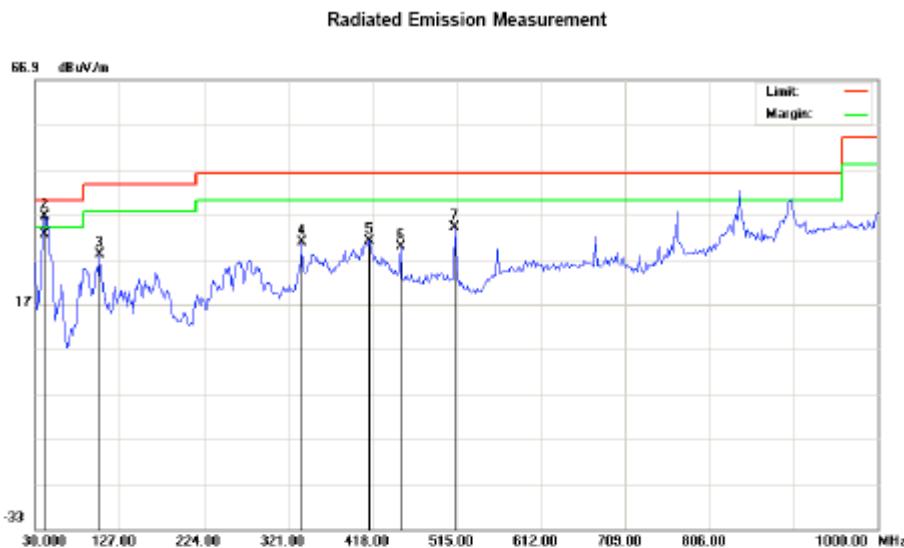


Site: site #1
Limit: FCC Class B 3M Radiation
EUT: 11N Wireless USB Dongle
MN: K2-544DW
Mode: Wifi
Note:

Polarization: **Horizontal**
Power: **17**
Distance: 3m
Temperature: 26
Humidity: 60 %

No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna	Table	Comment
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		Height	Degree	
1		41.3167	7.35	14.44	21.79	40.00	-18.21	peak			
2		146.4000	7.27	13.03	20.30	43.50	-23.20	peak			
3		172.2667	9.40	16.41	25.81	43.50	-17.69	peak			
4		262.8000	14.59	16.86	31.45	46.00	-14.55	peak			
5	*	337.1666	19.08	18.89	37.97	46.00	-8.03	peak			
6		513.3832	6.94	21.17	28.11	46.00	-17.89	peak			

Radiated Emission Test –Vertical -3m



Site: site #1 Polarization: **Vertical** Temperature: 26
Limit: FCC Class B 3M Radiation Power: Humidity: 60 %
EUT: 11N Wireless USB Dongle Distance: 3m
M/N: K2-544DW
Mode:Wifi
Note:

No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	degree	
1		41.0796	18.20	14.22	32.42	40.00	-7.58	QP	100	205	
2	*	41.3187	22.02	14.44	36.46	40.00	-3.54	peak			
3		104.3867	12.08	15.90	27.98	43.50	-15.52	peak			
4		337.1866	11.91	18.89	30.80	46.00	-15.20	peak			
5		414.7667	9.87	21.28	31.15	46.00	-14.85	peak			
6		450.3333	8.19	21.50	29.69	46.00	-16.31	peak			
7		513.3832	12.94	21.17	34.11	46.00	-11.89	peak			

APPENDIX 1 PHOTOGRAPHS OF TEST SETUP

FCC LINE CONDUCTED EMISSION TEST SETUP



FCC RADIATED EMISSION TEST SETUP



APPENDIX 2 PHOTOGRAPHS OF EUT

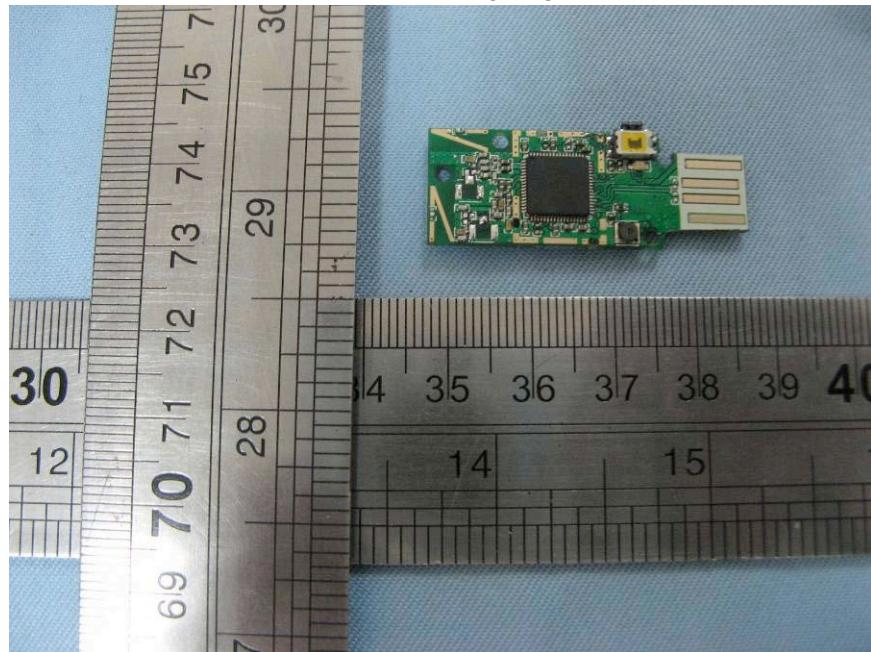
TOP VIEW OF EUT



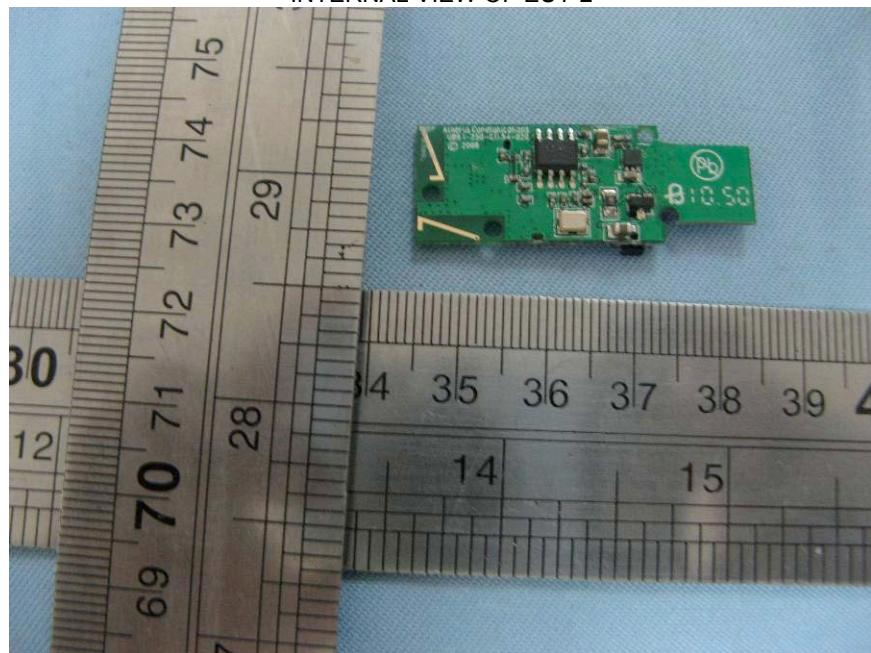
BOTTOM VIEW OF EUT



INTERNAL VIEW OF EUT-1



INTERNAL VIEW OF EUT-2



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