Lab Code: 200707-0

ETSI EN 301 489-1 V1.9.2 (2011-09)
ETSI EN 301 489-6 V1.3.1 (2008-08)
MEASUREMENT AND TEST REPORT

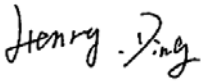
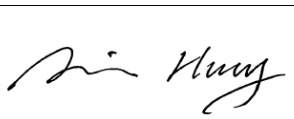
For

Yealink (Xiamen) Network Technology Co., Ltd.

4th-5th Floor, South Building, NO. 63 WangHai Road, 2nd Software Park, Xiamen, China

Model: W52P, W52H, W52Duo

Report Type:	**Product Type:**
Original Report	IP DECT Phone

Test Engineer:	Henry Ding	
Report Number:	RSZ120919006-02	
Report Date:	2012-12-04	
Reviewed By:	Alvin Huang RF Leader	
Test Laboratory:	Bay Area Compliance Laboratories Corp. (Shenzhen) 6/F, the 3rd Phase of WanLi Industrial Building ShiHua Road, FuTian Free Trade Zone Shenzhen, Guangdong, China Tel: +86-755-33320018 Fax: +86-755-33320008 www.baclcorp.com.cn	

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GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

The *Yealink (Xiamen) Network Technology Co., Ltd.*'s product, model number: *W52P* or the "EUT" in this report is a IP DECT Phone, the EUT was measured approximately 15.5 cm (L) x 11.0 cm (W) x 5.0 cm (H) for base and 14.5 cm (L) x 5.0 cm (W) x 2.0 cm (H) for handset, Rated input voltage: DC 5V adapter for base and DC 2.4V battery or DC 5V from adapter for charger.

Adapter Information: AC/DC SWITCHING ADAPTER
Model: OH-1048A0500600U2-VDE
Input: 100-240V~50/60Hz 250mA
Output: 5VDC 600mA

Note: The product IP DECT Phone, the model W52P, W52H and W52Duo are different in model number due to different combinations, the base unit of these three models is the same, the handset unit of these three models is the same, and W52P was selected to test, which was explained in the attached declaration letter.

** All measurement and test data in this report was gathered from production sample serial number: 1209094 (Assigned by BACL, Shenzhen). The EUT supplied by the applicant was received on 2012-09-19.*

Criterion A
Performance criterion for Continuous Phenomena applied to DECT Phone Transceivers part
The BER of the signal as measured shall not exceed 1X10-3 during the test sequence. Additionally for equipment containing analogue speech circuits the speech output signal level shall be at least 35dB less than the previously recorded reference level. At the conclusion of the test, the EUT shall operate as intended with no loss of user control functions or stored data and the communications link shall have been maintained during and after tests. Where the EUT is capable of transmission, tests shall be performed to ensure that unintentional transmission does not occur. The apparatus shall continue to operate as intended during and after the test. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the apparatus is used as intended.

Performance criterion for Continuous phenomena applied to DECT Phone Receivers part
The primary functions shall be verified during each individual exposure in the test sequence. Additionally for equipment containing analogue speech circuits the speech output signal level shall be at least 35 dB less than the previously recorded reference level. At the conclusion of the test, the EUT shall operate as intended with no loss of user control functions or stored data, as declared by the manufacturer, and the communications link shall have been maintained. This shall be verified by checking the primary functions.

Performance criterion for charger
The apparatus shall continue to operate as intended during and after the test. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the apparatus is used as intended.

Criterion B
Performance criterion for Transient phenomena applied to DECT Phone Transceivers part
At the conclusion of each exposure the EUT shall operate with no user noticeable loss of the communications link. At the conclusion of the total test comprising the series of individual exposures the EUT shall operate as intended with no loss of user control functions or stored data, as declared by the manufacturer, and the communications link shall have been maintained. Where the EUT is capable of transmission, tests shall be performed to ensure that unintentional transmission does not occur.

Performance criterion for Transient Continuous phenomena applied to DECT Phone Receivers part
At the conclusion of each exposure the EUT shall operate with no user noticeable loss of the communications link. At the conclusion of the total test comprising the series of individual exposures the EUT shall operate as intended with no loss of user control functions or stored data, as declared by the manufacturer, and the communications link shall have been maintained. This shall be verified by checking the primary functions.

Performance criterion for charger
The apparatus shall continue to operate as intended during and after the test. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the apparatus is used as intended.

Criterion C
Temporary loss of function is allowed, provided the function is self-recoverable or can be restored by the operation of the controls.

Immunity test configuration notes:

For all kinds of test the Fixed Part was supplied with 230 VAC.

During the immunity tests with audio break through, the Telephone line was supplied with 60 V DC by a battery and the audio signal was decoupled by a feeding bridge (Signals for MRP (Mouth Reference Point)).
The Audio signals at the Portable part were measured by an acoustical monitoring system with an optical microphone. (Signals for ERP (Ear Reference Point))The audio signals were measured with the help of an audio analyzer.

During the immunity tests with monitoring the BER (Bit Error Rate) FP (Fixed Part) was connected to a DECT communication Tester CMD 60, for measuring the BER.

During the immunity tests with monitoring the BER (Bit Error Rate) PP (Portable Part) was connected to a DECT communication Tester CMD 60, for measuring the BER.
During the other immunity tests a voice call was realized by using telephone private branch network. The call was monitored by the operator.
The volume setting of the Portable part was set to level 2 of 3 , this setting level was given by the applicant.

During the other immunity tests a phone call was realized by using telephone private branch network. The call was monitored by the operator.

Objective

The following test report is prepared on behalf of *Yealink (Xiamen) Network Technology Co., Ltd.* in accordance with ETSI EN 301 489-1 V1.9.2 (2011-09) Plus Provisions of ETSI EN 301 489-6 V1.3.1 (2008-08), Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 6: Specific conditions for Digital Enhanced Cordless Telecommunications (DECT) equipment.

The objective of the manufacturer is to determine compliance with ETSI EN 301 489-1 V1.9.2 (2011-09) Plus Provisions of ETSI EN 301 489-6 V1.3.1 (2008-08).

Related Submittal(s)/Grant(s)

No related submittal(s).

Test Methodology

All measurements contained in this report were conducted with ETSI EN 301 489-1 V1.9.2 (2011-09).

Test Facility

The Test site used by Bay Area Compliance Laboratories Corp.(Shenzhen) to collect test data is located on the 6/F, the 3rd Phase of WanLi Industrial Building, ShiHua Road, FuTian Free Trade Zone Shenzhen, Guangdong, China.

Test site at Bay Area Compliance Laboratories Corp. (Shenzhen) has been fully described in reports submitted to the Federal Communication Commission (FCC). The details of these reports have been found to be in compliance with the requirements of Section 2.948 of the FCC Rules on December 06, 2010. The facility also complies with the radiated and AC line conducted test site criteria set forth in ANSI C63.4-2009.

The Federal Communications Commission has the reports on file and is listed under FCC Registration No.: 382179. The test site has been approved by the FCC for public use and is listed in the FCC Public Access Link (PAL) database.

Additionally, Bay Area Compliance Laboratories Corp. (Shenzhen) is an ISO/IEC 17025 accredited laboratory, and is accredited by National Voluntary Laboratory Accredited Program (Lab Code 200707-0).

NVLAP®
Lab Code: 200707-0

The current scope of accreditations can be found at http://ts.nist.gov/Standards/scopes/2007070.htm

SYSTEM TEST CONFIGURATION

Description of Test Configuration

The system was configured for testing in a typical fashion (as normally used by a typical user).

Test Mode 1: Talking for base unit powered by AC Adapter

Test Mode 2: Talking for base unit powered by PoE Switch

Test Mode 3: Talking with handset loud speaker & charging for handset unit

Equipment Modifications

No modification was made to the EUT tested.

Local Support Equipment List and Details

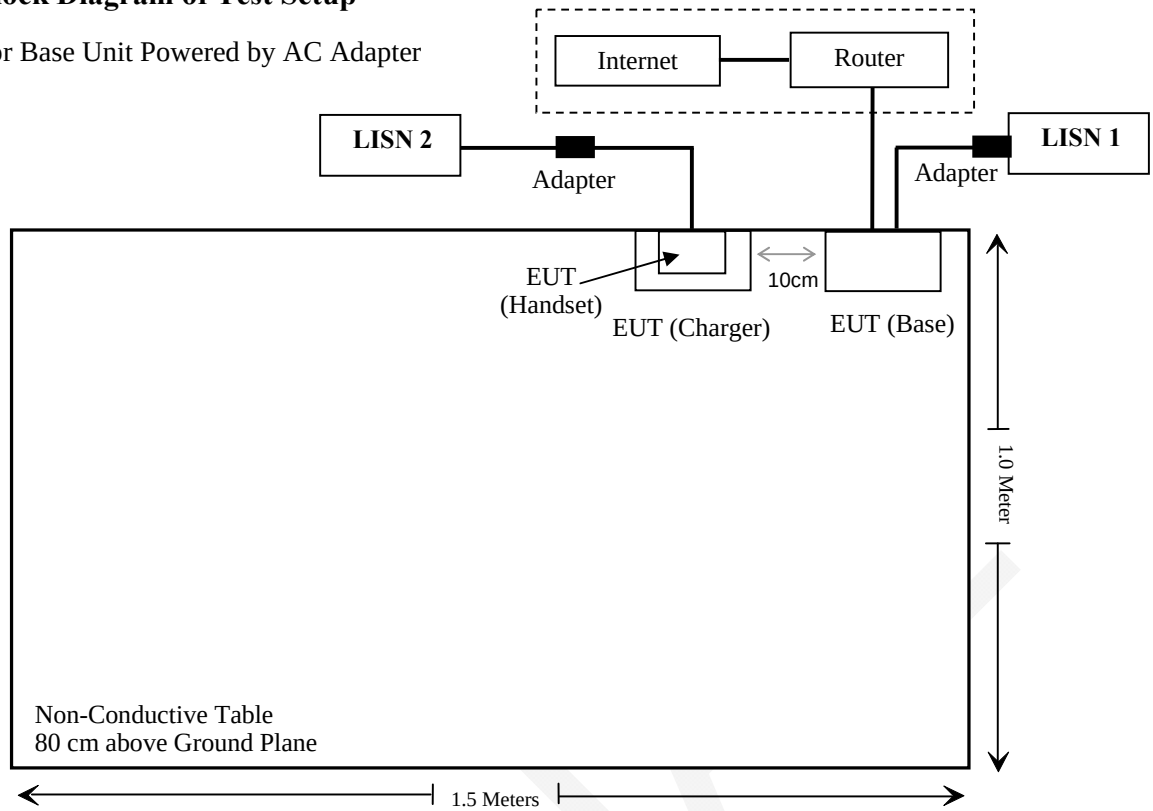
Manufacturer	Description	Model	Serial Number
R&S	Digital Radio Communication Tester	CMD60	829902/026
TP-Link	Router	TL-WR740N	N/A
Netgear	PoE Switch	FS108P	N/A

External I/O Cable

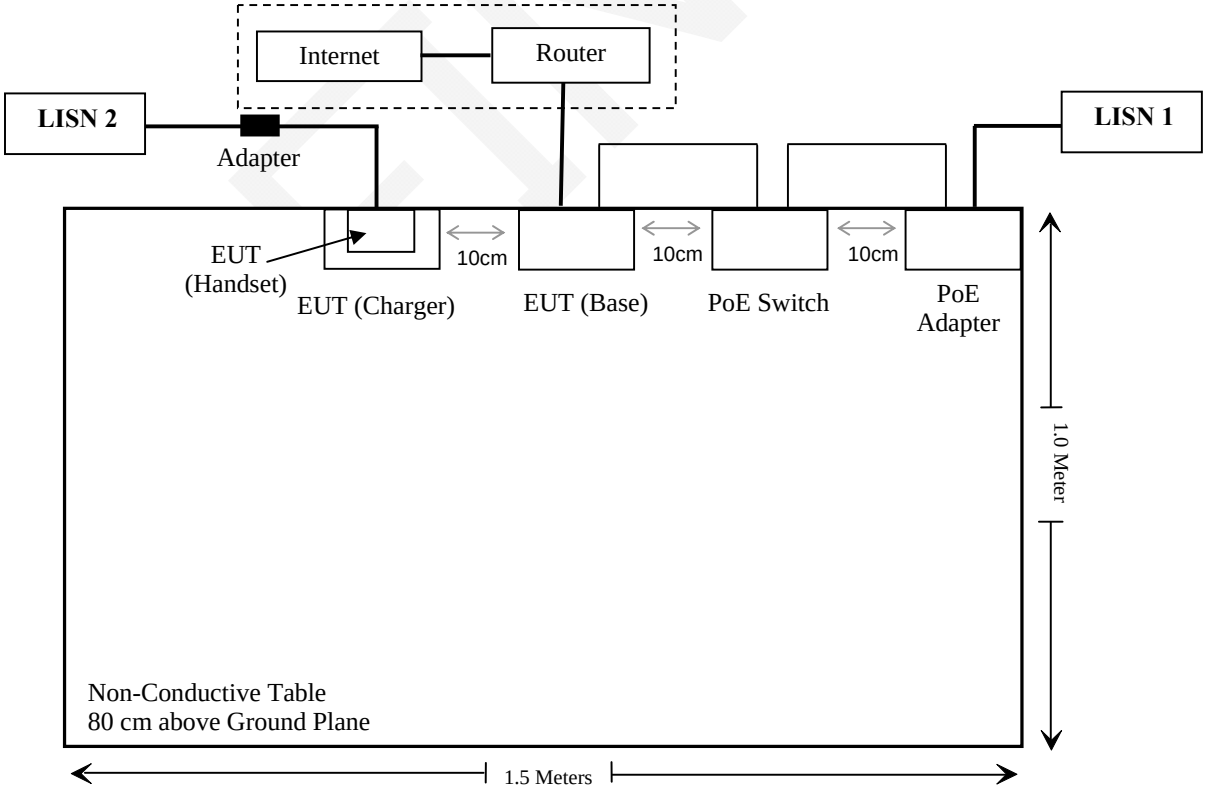
Cable Description	Length (m)	From	To
Unshielded Detectable DC Power Cable	1.8	EUT (Base)	Adapter
Unshielded Detectable RJ45 Cable	2.0	EUT (Base)	Router
Unshielded Detectable DC Power Cable	1.8	EUT (Charger)	Adapter
Unshielded Detachable RJ45 Cable	2.0	EUT (Base)	PoE Switch
Unshielded Detachable DC Power Cable	1.2	PoE Switch	PoE Adapter

Block Diagram of Test Setup

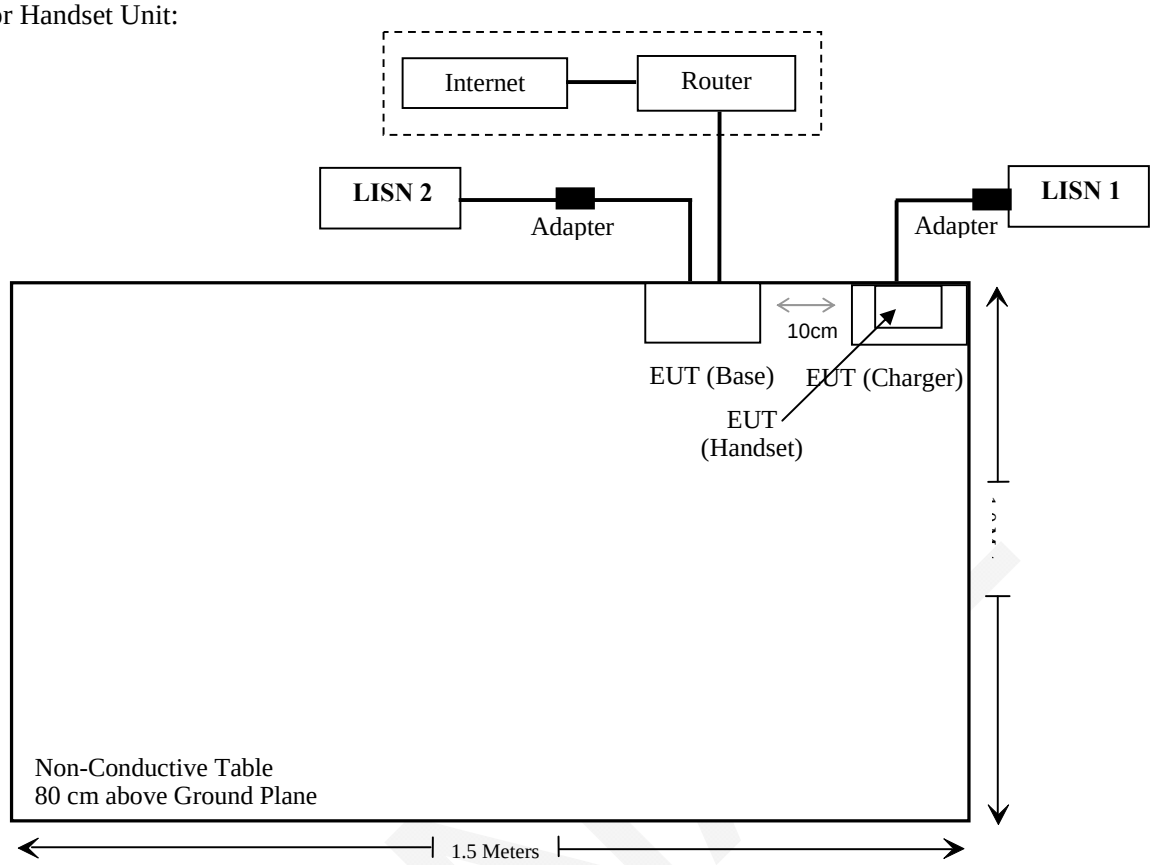
For Base Unit Powered by AC Adapter



For Base Unit Powered by PoE Switch



For Handset Unit:



SUMMARY OF TEST RESULTS

ETSI EN 301 489-6 V1.3.1 (2008-08)	Description of Test	Result
§7.1	Reference to clauses EN 301 489-1 §8.4 AC mains power input/output ports	Compliance
	Reference to clauses EN 301 489-1§8.3 DC power input/output ports	N/A
	Reference to clauses EN 301 489-1 §8.2 Enclosure of ancillary equipment measured on a stand alone basis	Compliance
	Reference to clauses EN 301 489-1 §8.5 Harmonic current emissions (AC mains input port)	Compliance
	Reference to clauses EN 301 489-1 §8.6 Voltage fluctuations and flicker (AC mains input port)	Compliance
	Reference to clauses EN 301 489-1§8.7 Telecommunication ports	Compliance
§7.2	Reference to clauses EN 301 489-1 §9.2 Radio frequency electromagnetic field (80 MHz to 1 000 MHz and 1 400 MHz to 2 700 MHz)(EN 61000-4-3)	Compliance
	Reference to clauses EN 301 489-1 §9.3 Electrostatic discharge (EN 61000-4-2)	Compliance
	Reference to clauses EN 301 489-1§9.4 Fast transients, common mode (EN 61000-4-4)	Compliance
	Reference to clauses EN 301 489-1§9.5 Radio frequency, common mode (EN 61000-4-6)	Compliance
	Reference to clauses EN 301 489-1 §9.6 Transients and surges in the vehicular environment (ISO 7637-2)	N/A
	Reference to clauses EN 301 489-1§9.8 Surges (EN 61000-4-5)	Compliance
	Reference to clauses EN 301 489-1§9.7 Voltage dips and interruptions (EN 61000-4-11)	Compliance

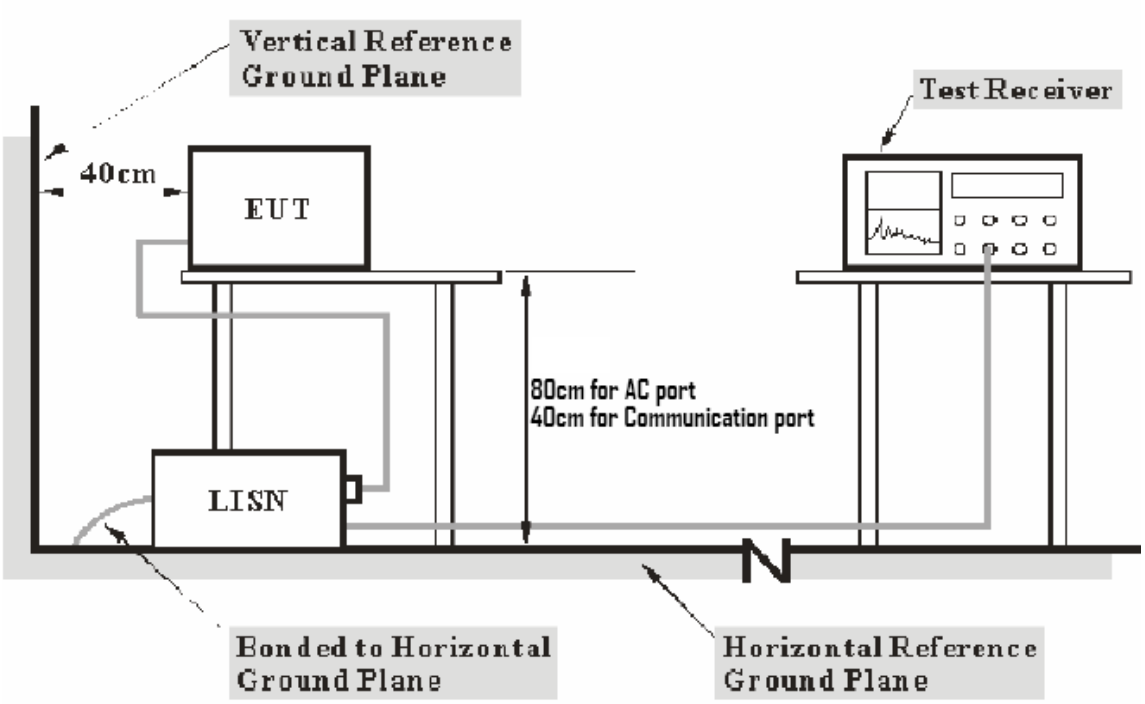
ETSI EN 301 489-6 V1.3.1 (2008-08) §7.1 - CONDUCTED EMISSIONS

Measurement Uncertainty

All measurements involve certain levels of uncertainties, especially in field of EMC. The factors contributing to uncertainties are spectrum analyzer, cable loss, and LISN.

Based on CISPR 16-4-2, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of any conducted emissions measurement at Bay Area Compliance Laboratories Corp. (Shenzhen) is 2.4 dB.(k=2, 95% confidence of level), and the uncertainty will not be taken into consideration for all the test data recorded in the report.

EUT Setup



Note: 1. Support units were connected to second LISN.
2. Both of LISNs (AMN) 80 cm from EUT and at the least 80 cm from other units and other metal planes support units.

The setup of EUT is according with per EN 301 489-1 measurement procedures. The specification used was with the EN 301 489-6 limits.

The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.

The spacing between the peripherals was 10 cm.

The adapter was connected to 230 VAC/50 Hz power source.

EMI Test Receiver Setup

The EMI test receiver was set to investigate the spectrum from 150 kHz to 30 MHz.

During the conducted emission test, the EMI test receiver was set with the following configurations:

Frequency Range	***IFBW***
150 kHz – 30 MHz	9 kHz

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	EMI Test Receiver	ESCS30	100176	2011-11-24	2012-11-23
Rohde & Schwarz	L.I.S.N.	ESH2-Z5	892107/021	2011-11-17	2012-11-16
SCHWARZBECK	8 Wire ISN	NTFM 8518	8158-0011	2011-11-17	2012-11-16
Com-Power	L.I.S.N.	LI-200	12005	N/A	N/A
Rohde & Schwarz	Attenuator	ESH3Z2	DE25985	2012-07-08	2013-07-07
BACL	CE Test software	BACL-CE	V1.0	-	-

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to National Institute of Metrology (NIM).

Test Procedure

During the conducted emission test, the adapter was connected to the outlet of LISN.

Maximizing procedure was performed on the six (6) highest emissions of the EUT.

All data was recorded in the Quasi-peak and average detection mode.

Corrected Factor & Margin Calculation

The Corrected factor is calculated by adding LISN/ISN VDF (Voltage Division Factor), Cable Loss and Pulse Limiter Attenuation. The basic equation is as follows:

Correction Factor = LISN VDF + Cable Loss + Pulse Limiter Attenuation

The "**Margin**" column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of 7dB means the emission is 7 dB below the limit. The equation for margin calculation is as follows:

Margin = Limit – Corrected Amplitude

Test Results Summary

According to the recorded data in following table, the EUT complied with the ETSI EN 301 489-1, with the worst margin reading of:

0.47 dB at **23.130 MHz** in the **RJ45 Port** conducted mode

Test Data

Environmental Conditions

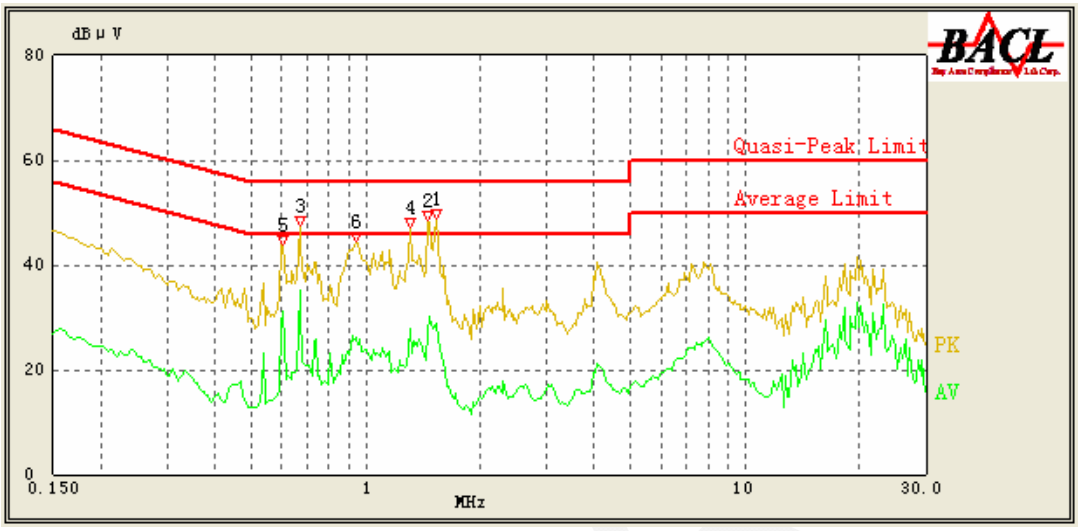
Temperature:	25 ° C
Relative Humidity:	55 %
ATM Pressure:	100.1 kPa

The testing was performed by Henry Ding on 2012-11-15.

Test Mode: Talking for base unit

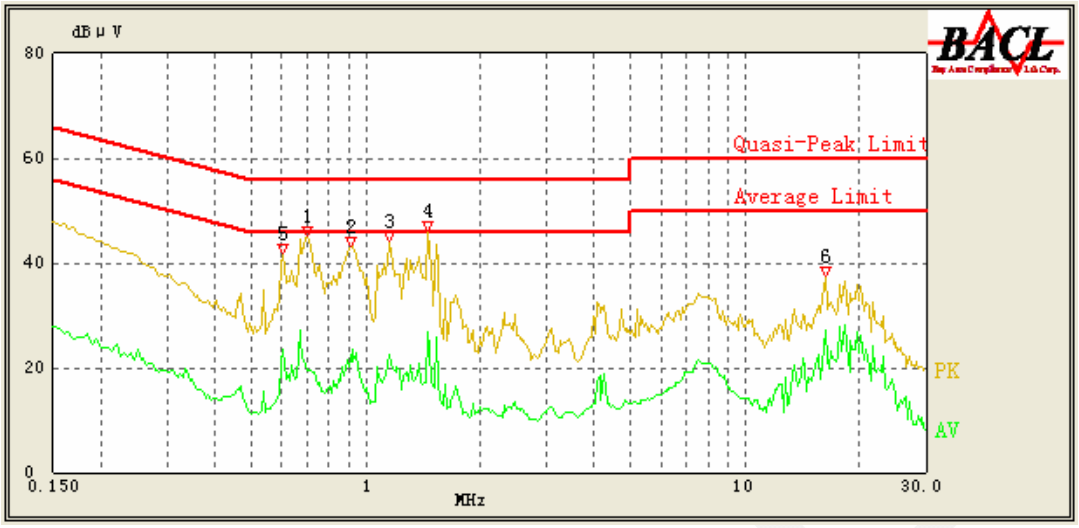
1) Powered by AC Adapter

AC 230V/50 Hz, Line:



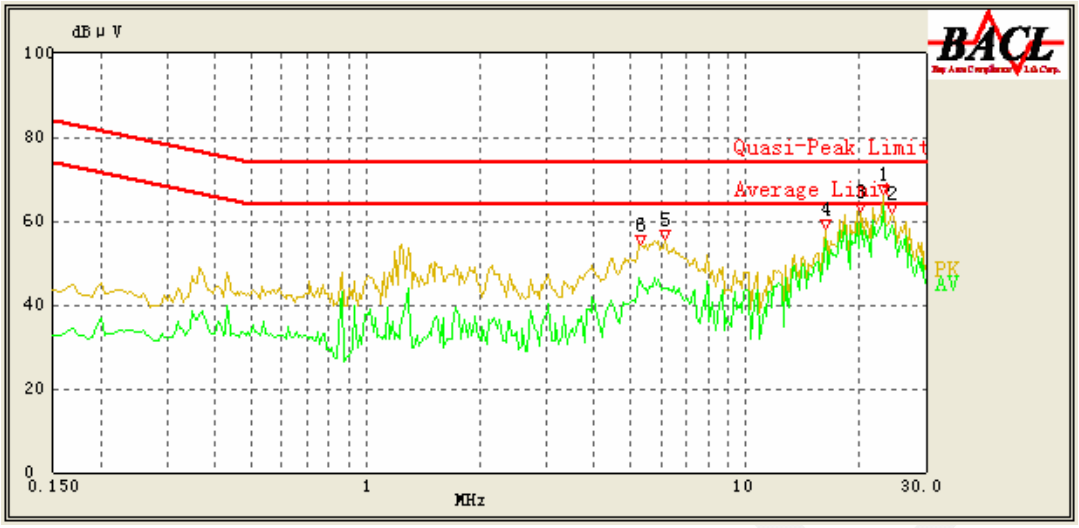
Conducted Emissions			EN 301489-6		
Frequency (MHz)	**Corrected Amplitude (dBµV)**	**Correction Factor (dB)**	**Limit (dBµV)**	**Margin (dB)**	**Detector (PK/Ave./QP)**
0.670	45.25	10.22	56.00	10.75	QP
0.670	35.16	10.22	46.00	10.84	Ave.
1.535	43.07	10.19	56.00	12.93	QP
1.460	41.39	10.18	56.00	14.61	QP
0.605	31.22	10.23	46.00	14.78	Ave.
0.605	40.65	10.23	56.00	15.35	QP
1.305	40.35	10.18	56.00	15.65	QP
1.535	28.88	10.19	46.00	17.12	Ave.
1.305	27.97	10.18	46.00	18.03	Ave.
1.460	27.32	10.18	46.00	18.68	Ave.
0.945	26.18	10.18	46.00	19.82	Ave.
0.945	33.50	10.18	56.00	22.50	QP

AC 230V/50 Hz, Neutral:



Conducted Emissions			EN 301489-6		
Frequency (MHz)	**Corrected Amplitude (dBµV)**	**Correction Factor (dB)**	**Limit (dBµV)**	**Margin (dB)**	**Detector (PK/Ave./QP)**
1.460	40.67	10.18	56.00	15.33	QP
0.605	38.43	10.23	56.00	17.57	QP
1.460	26.94	10.18	46.00	19.06	Ave.
1.155	36.80	10.17	56.00	19.20	QP
0.920	23.63	10.18	46.00	22.37	Ave.
0.605	23.40	10.23	46.00	22.60	Ave.
16.230	27.08	11.57	50.00	22.92	Ave.
1.155	22.39	10.17	46.00	23.61	Ave.
0.700	19.37	10.21	46.00	26.63	Ave.
0.700	27.36	10.21	56.00	28.64	QP
0.915	26.70	10.18	56.00	29.30	QP
16.230	29.91	11.57	60.00	30.09	QP

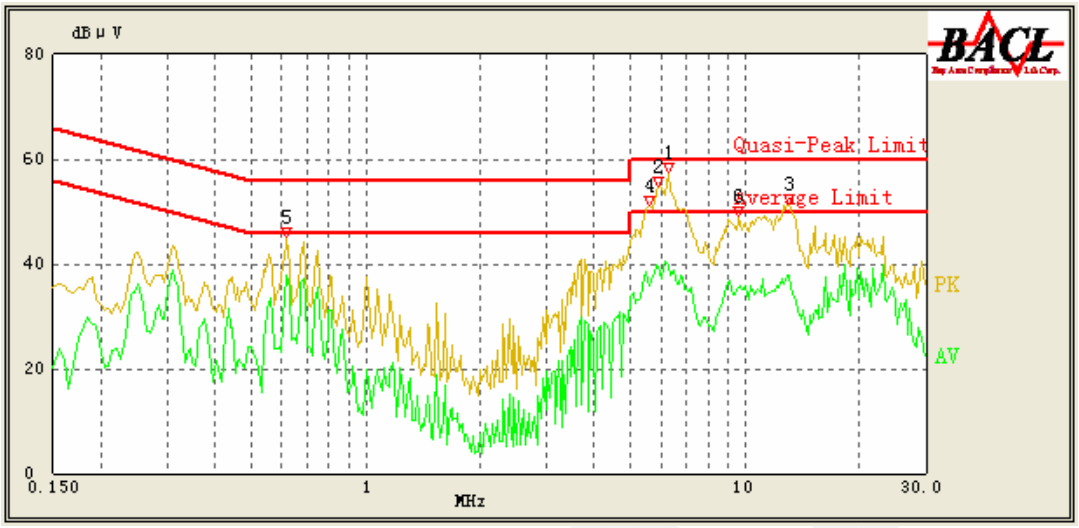
RJ45 Port:



Conducted Emissions			EN 301489-6		
Frequency (MHz)	Corrected Amplitude (dBµV)	Correction Factor (dB)	Limit (dBµV)	Margin (dB)	Detector (PK/Ave./QP)
23.130	63.53	22.01	64.00	0.47	Ave.
20.260	59.49	22.18	64.00	4.51	Ave.
24.350	58.93	21.94	64.00	5.07	Ave.
16.230	55.80	21.07	64.00	8.20	Ave.
23.130	65.06	22.01	74.00	8.94	QP
20.260	60.96	22.18	74.00	13.04	QP
24.350	60.73	21.94	74.00	13.27	QP
16.230	56.72	21.07	74.00	17.28	QP
5.295	45.55	19.51	64.00	18.45	Ave.
6.150	43.97	19.55	64.00	20.03	Ave.
5.300	50.77	19.51	74.00	23.23	QP
6.150	49.74	19.55	74.00	24.26	QP

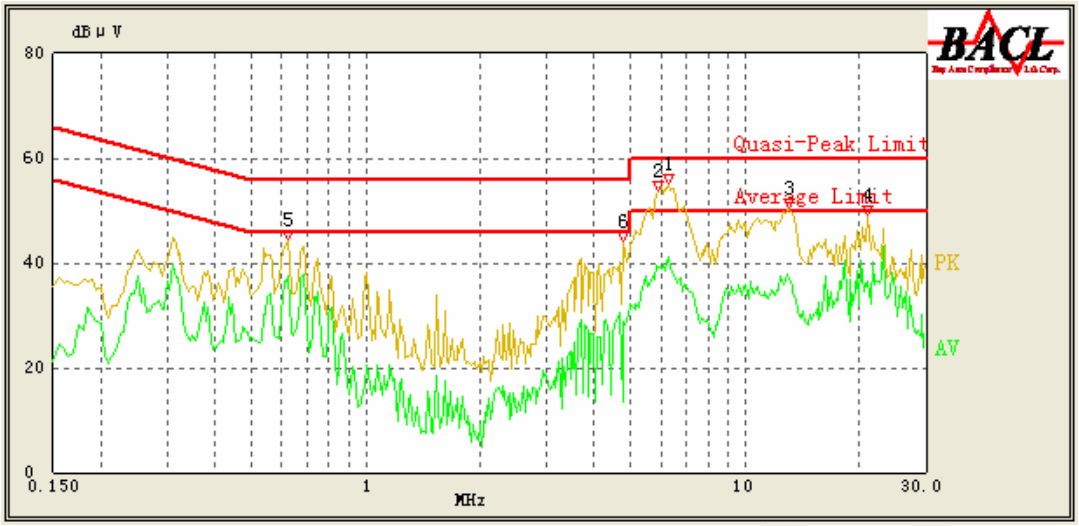
Powered by PoE Switch

AC 230V/50 Hz, Line:



Conducted Emissions			EN 301489-6		
Frequency (MHz)	**Corrected Amplitude (dBµV)**	**Correction Factor (dB)**	**Limit (dBµV)**	**Margin (dB)**	**Detector (PK/Ave./QP)**
0.620	37.96	10.23	46.00	8.04	Ave.
5.925	51.45	10.34	60.00	8.55	QP
6.305	39.67	10.35	50.00	10.33	Ave.
5.920	39.64	10.33	50.00	10.36	Ave.
5.615	49.03	10.32	60.00	10.97	QP
13.070	37.73	11.00	50.00	12.27	Ave.
13.070	47.33	11.00	60.00	12.67	QP
6.300	46.58	10.35	60.00	13.42	QP
5.615	35.85	10.32	50.00	14.15	Ave.
9.685	35.83	10.48	50.00	14.17	Ave.
0.620	40.43	10.23	56.00	15.57	QP
9.605	42.85	10.47	60.00	17.15	QP

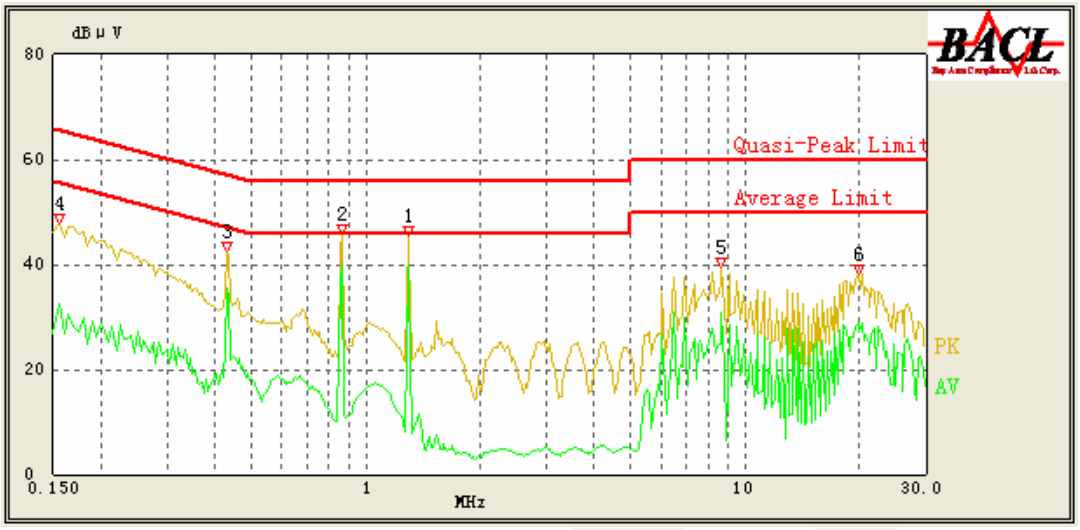
AC 230V/50 Hz, Neutral:



Conducted Emissions			EN 301489-6		
Frequency (MHz)	**Corrected Amplitude (dBµV)**	**Correction Factor (dB)**	**Limit (dBµV)**	**Margin (dB)**	**Detector (PK/Ave./QP)**
0.625	37.54	10.22	46.00	8.46	Ave.
6.300	41.02	10.34	50.00	8.98	Ave.
5.925	50.77	10.33	60.00	9.23	QP
5.925	39.11	10.33	50.00	10.89	Ave.
6.300	48.27	10.34	60.00	11.73	QP
12.980	37.84	10.94	50.00	12.16	Ave.
21.055	36.65	12.46	50.00	13.35	Ave.
12.995	45.65	10.94	60.00	14.35	QP
0.625	40.42	10.22	56.00	15.58	QP
4.770	28.89	10.28	46.00	17.11	Ave.
4.775	33.95	10.28	56.00	22.05	QP
20.985	37.33	12.46	60.00	22.67	QP

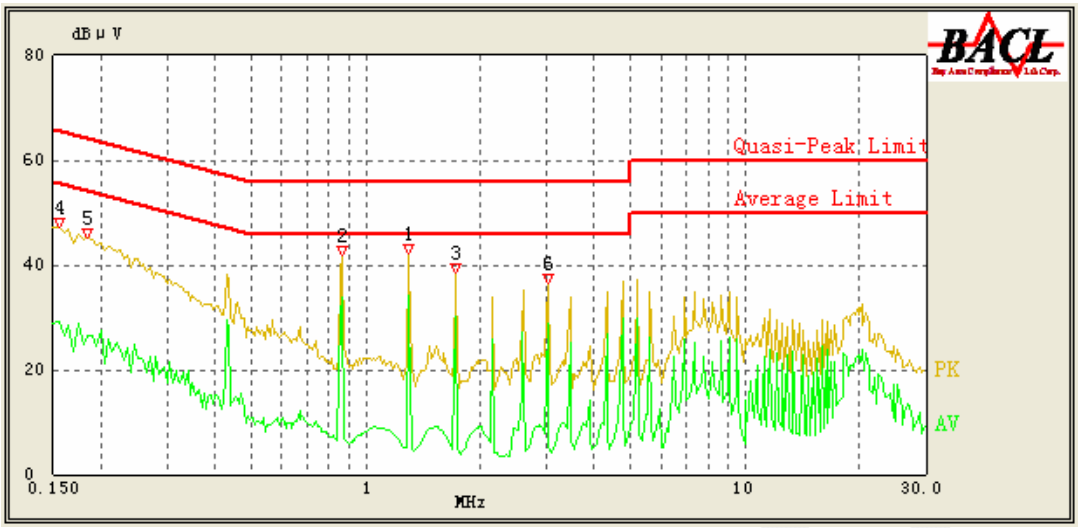
Test Mode: Talking with loud speaker & charging for handset unit

AC 230V/50 Hz, Line:



Conducted Emissions			EN 301489-6		
Frequency (MHz)	**Corrected Amplitude (dBµV)**	**Correction Factor (dB)**	**Limit (dBµV)**	**Margin (dB)**	**Detector (PK/Ave./QP)**
0.865	40.22	10.19	46.00	5.78	Ave.
1.295	39.90	10.18	46.00	6.10	Ave.
1.295	44.31	10.18	56.00	11.69	QP
0.865	44.09	10.19	56.00	11.91	QP
0.430	35.51	10.25	48.00	12.49	Ave.
0.430	40.23	10.25	58.00	17.77	QP
8.640	30.71	10.44	50.00	19.29	Ave.
0.155	46.20	10.24	65.86	19.66	QP
19.870	28.98	12.54	50.00	21.02	Ave.
0.155	32.54	10.24	55.86	23.32	Ave.
8.640	35.24	10.44	60.00	24.76	QP
19.870	34.24	12.54	60.00	25.76	QP

AC 230V/50 Hz, Neutral:



Conducted Emissions			EN 301489-6		
Frequency (MHz)	**Corrected Amplitude (dBµV)**	**Correction Factor (dB)**	**Limit (dBµV)**	**Margin (dB)**	**Detector (PK/Ave./QP)**
1.295	34.18	10.18	46.00	11.82	Ave.
0.865	33.79	10.19	46.00	12.21	Ave.
1.730	30.22	10.19	46.00	15.78	Ave.
0.865	39.25	10.19	56.00	16.75	QP
1.295	39.23	10.18	56.00	16.77	QP
3.025	28.84	10.23	46.00	17.16	Ave.
0.155	45.09	10.24	65.86	20.77	QP
1.730	35.02	10.19	56.00	20.98	QP
0.185	42.24	10.24	65.00	22.76	QP
3.025	32.59	10.23	56.00	23.41	QP
0.155	29.15	10.24	55.86	26.71	Ave.
0.185	26.41	10.24	55.00	28.59	Ave.

Note:

1) Corrected Amplitude = Reading + Correction Factor
2) Correction Factor =LISN/ISN VDF (Voltage Division Factor) + Cable Loss + Pulse Limiter Attenuation
   The corrected factor has been input into the transducer of the test software.
3) Margin = Limit – Corrected Amplitude

ETSI EN 301 489-6 V1.3.1 (2008-08) §7.1 - RADIATED EMISSIONS

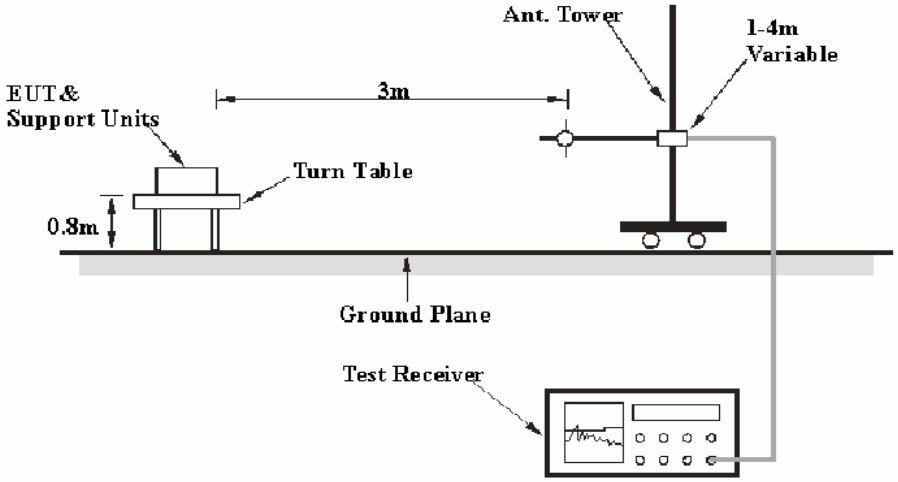
Measurement Uncertainty

All measurements involve certain levels of uncertainties, especially in field of EMC. The factors contributing to uncertainties are spectrum analyzer, cable loss, antenna factor calibration, antenna directivity, antenna factor variation with height, antenna phase center variation, antenna factor frequency interpolation, measurement distance variation, site imperfections, mismatch (average), and system repeatability.

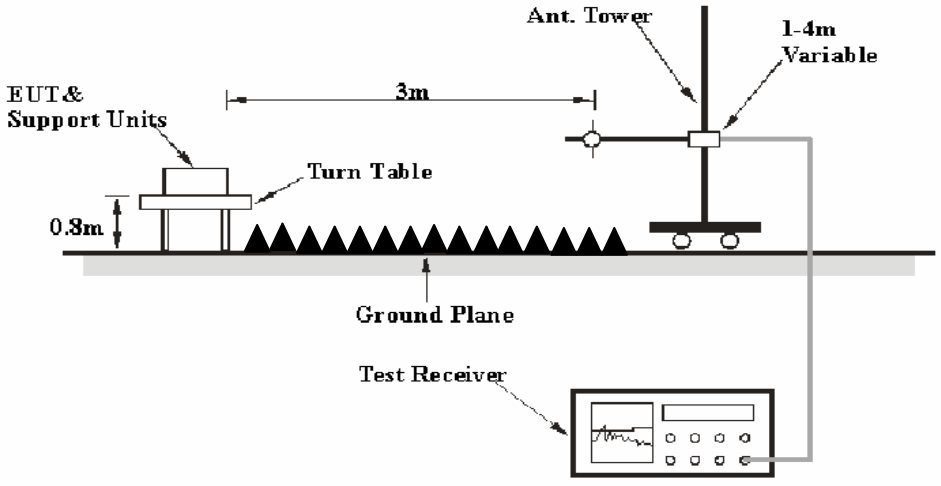
Based on CISPR 16-4-2, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of a radiation emissions measurement at Bay Area Compliance Laboratories Corp. (Shenzhen) is 4.0 dB for below 1GHz and above 1GHz.(k=2, 95% level of confidence), and the uncertainty will not be taken into consideration for all the test data recorded in the report.

Test System Setup

Below 1 GHz:



Above 1 GHz:



The radiated emission tests were performed in the 3 meters, using the setup accordance with the EN 301 489-1. The specification used was the EN 301 489-6.

The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.

The spacing between the peripherals was 10 cm.

The adapter was connected to a 230 VAC/50 Hz power source.

EMI Test Receiver Setup

The system was investigated from 30 MHz to 6 GHz.

During the radiated emission test, the EMI test receiver Setup was set with the following configurations:

Frequency Range	***RBW***	***Video B/W***	***Detector***
30MHz – 1000 MHz	100 kHz	300 kHz	QP
Above 1 GHz	1 MHz	3 MHz	PK
Above 1 GHz	1 MHz	10Hz	Ave.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
HP	Amplifier	8447E	1937A01046	2011-11-24	2012-11-23
Rohde & Schwarz	EMI Test Receiver	ESCI	101122	2012-08-08	2013-08-07
Sunol Sciences	Broadband Antenna	JB1	A040904-2	2011-11-28	2012-11-27
Rohde & Schwarz	Signal Analyzer	FSIQ26	8386001028	2011-11-24	2012-11-23
Mini-circuits	Pre-Amplifier	ZVA-213+	N/A	2011-11-24	2012-11-23
Sunol Sciences	Horn Antenna	DRH-118	A052304	2011-12-01	2012-11-30
R&S	Auto test Software	EMC32	V6.30	-	-

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

Test Procedure

Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all installation combinations.

All data was recorded in the Quasi-peak detection mode for below 1 GHz, and Peak and Average for above 1 GHz.

Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and Cable Loss, and subtracting the Amplifier Gain from the Meter Reading. The basic equation is as follows:

Corrected Amplitude = Meter Reading + Antenna Factor + Cable Loss - Amplifier Gain

The "**Margin**" column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of 7dB means the emission is 7dB below the limit for Class B. The equation for margin calculation is as follows:

Margin = Limit – Corrected Amplitude

Test Results Summary

According to the recorded data in following table, the EUT complied with the ETSI EN 301 489-1, with the worst margin reading of:

69.41 dB at **3790.3MHz** in the **Vertical** polarization

Test Data

Environmental Conditions

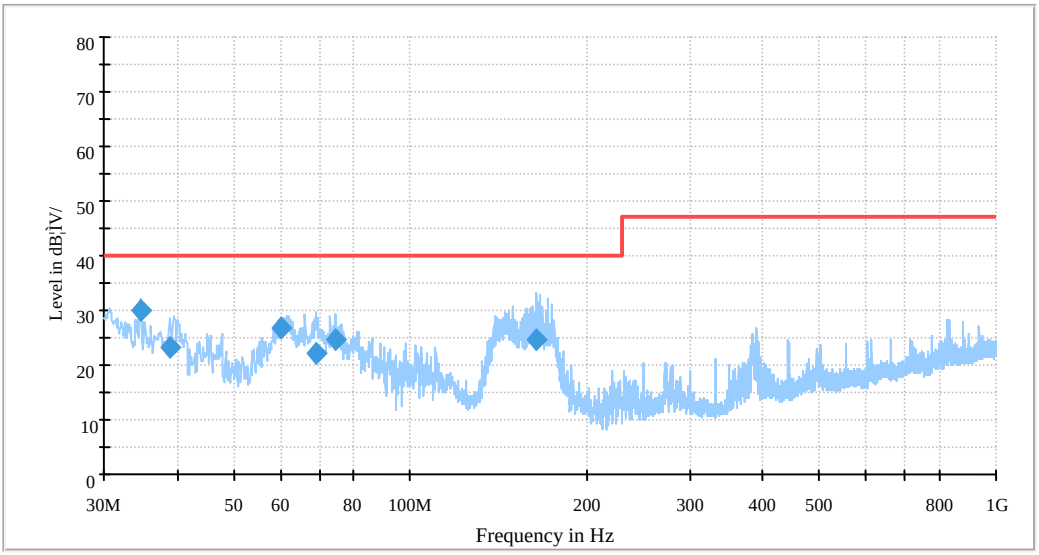
Temperature:	25 ° C
Relative Humidity:	55 %
ATM Pressure:	100.1 kPa

The testing was performed by Henry Ding on 2012-11-15.

Test Mode: Talking with loudspeaker & charging

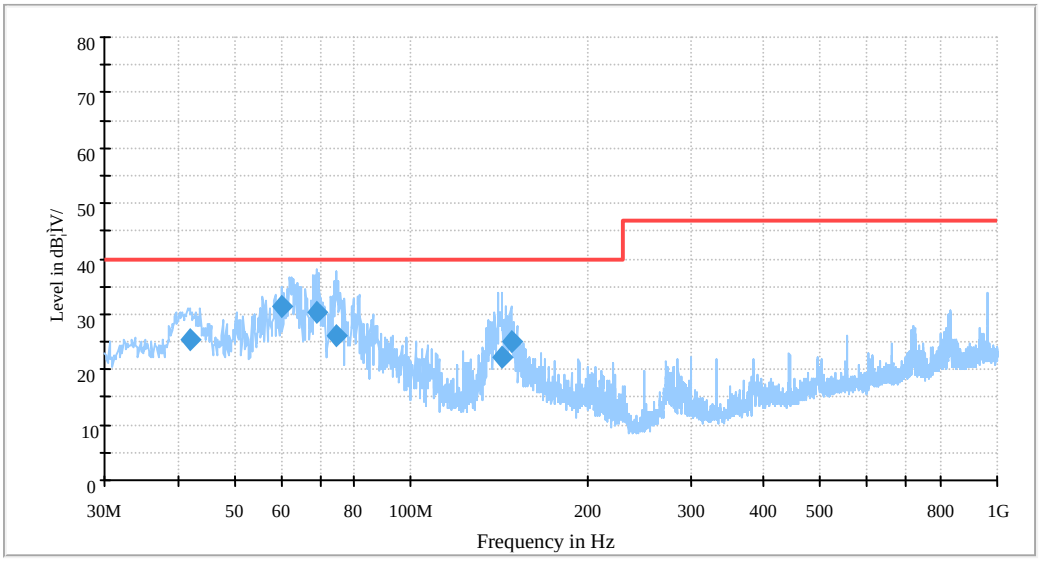
1) 30 MHz – 1 GHz:

Base unit powered by AC Adapter:



Frequency (MHz)	Corrected Amplitude (dBµV/m)	Antenna Height (cm)	Antenna Polarity	Turntable Position (Degree)	Correction Factor (dB)	Limit (dBµV/m)	Margin (dB)
34.639750	29.8	100.0	V	349.0	-10.4	40.0	10.2
60.228450	26.6	100.0	V	301.0	-20.7	40.0	13.4
164.056750	24.6	111.0	V	272.0	-15.3	40.0	15.4
74.544800	24.5	137.0	V	51.0	-20.2	40.0	15.5
38.956500	23.1	100.0	V	316.0	-13.6	40.0	16.9
69.066650	22.0	187.0	V	200.0	-20.6	40.0	18.0

Base unit powered by PoE:



Frequency (MHz)	Corrected Amplitude (dBµV/m)	Antenna Height (cm)	Antenna Polarity	Turntable Position (Degree)	Correction Factor (dB)	Limit (dBµV/m)	Margin (dB)
60.234375	31.5	100.0	V	0.0	-20.7	40.0	8.5
68.995250	30.4	112.0	V	0.0	-20.6	40.0	9.6
74.743100	26.2	100.0	V	0.0	-20.2	40.0	13.8
42.132400	25.2	100.0	V	0.0	-15.9	40.0	14.8
148.130050	25.1	112.0	V	150.0	-14.9	40.0	14.9
143.294000	22.2	112.0	V	80.0	-14.5	40.0	17.8

2) 1 GHz – 6 GHz:

Frequency	Receiver		Turntable	Rx Antenna		Corrected Factor (dB)	Corrected Amplitude (dBµV/m)	EN301489-6	
(MHz)	Reading (dBµV)	Detector (PK/QP/Ave.)	Degree	Height (m)	Polar (H/V)			Limit (dBµV/m)	Margin (dB)
3790.3	59.71	PK	332	1.2	V	9.70	69.41	74	4.59
3790.3	56.31	PK	62	1.3	H	9.70	66.01	74	7.99
3790.3	36.04	Ave.	332	1.2	V	9.70	45.74	54	8.26
5682.6	51.66	PK	28	1.1	V	12.98	64.64	74	9.36
5682.6	50.44	PK	15	1.2	H	12.98	63.42	74	10.58
3790.3	33.29	Ave.	62	1.3	H	9.70	42.99	54	11.01
5682.6	28.37	Ave.	15	1.2	H	12.98	41.35	54	12.65
5682.6	27.36	Ave.	28	1.1	V	12.98	40.34	54	13.66

ETSI EN 301 489-6 V1.3.1 (2008-08) §7.1 - HARMONIC CURRENT EMISSIONS

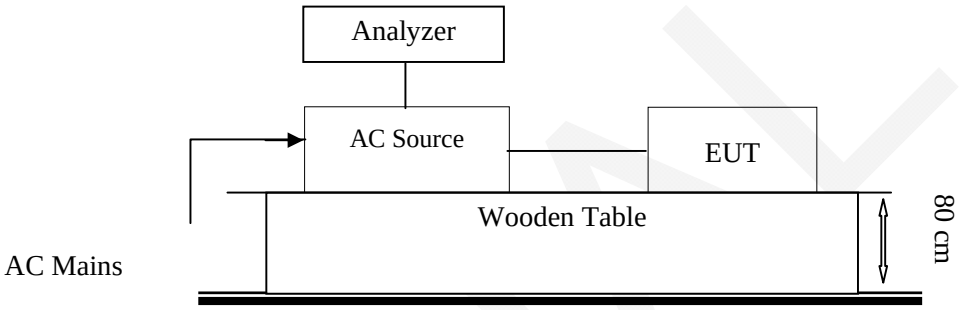
According to EN 61000-3-2:2006 + A1:2009 + A2:2009 section 7: Equipment with a rated power of 75 Watt or less, other than lighting equipment, are not included in this standard.

ETSI EN 301 489-6 V1.3.1 (2008-08) §7.1 - VOLTAGE FLUCTUATION AND FLICKER

Test Equipment

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
EM Test	Harmonic/Flicker Analyzer	DPA 500N	V0939105176	2011-11-17	2012-11-16
EM Test	AC Source	ACS500	303276	2012-04-11	2013-04-10

Test System Setup



Test Standard

EN 61000-3-3: 2008

Flicker Test Limits：

The limits shall be applicable to voltage fluctuations and flicker at the supply terminals of the equipment under test, measured or calculated according to clause 4 under test conditions described in clause 6 and annex A. Tests made to prove compliance with the limits are considered to be type tests.
The following limits apply:
– the value of Pst shall not be greater than 1,0;
– the value of Plt shall not be greater than 0,65;
– the value of d(t) during a voltage change shall not exceed 3,3 % for more than 500 ms;
– the relative steady-state voltage change, dc, shall not exceed 3,3 %;
– the maximum relative voltage change dmax, shall not exceed
a) 4 % without additional conditions;
b) 6 % for equipment which is:
– switched manually, or
– switched automatically more frequently than twice per day, and also has either a delayed restart (the delay being not less than a few tens of seconds), or manual restart, after a power supply interruption.

Note: The cycling frequency will be further limited by the Pst and Plt limit. For example: a dmax of 6 % producing a rectangular voltage change characteristic twice per hour will give a Plt of about 0,65.
c) 7 % for equipment which is
– attended whilst in use (for example: hair dryers, vacuum cleaners, kitchen equipment such as mixers, garden equipment such as lawn mowers, portable tools such as electric drills), or

– switched on automatically, or is intended to be switched on manually, no more than twice per day, and also has either a delayed restart (the delay being not less than a few tens of seconds) or manual restart, after a power supply interruption.

In the case of equipment having several separately controlled circuits in accordance with 6.6, limits b) and c) shall apply only if there is delayed or manual restart after a power supply interruption; for all equipment with automatic switching which is energized immediately on restoration of supply after a power supply interruption, limits a) shall apply; for all equipment with manual switching, limits b) or c) shall apply depending on the rate of switching. Pst and Plt requirements shall not be applied to voltage changes caused by manual switching. The limits shall not be applied to voltage changes associated with emergency switching or emergency interruptions.

Test Data and Setup Photo

Date of test:	15:35 22.Sep 2012
Tester:	Henry Ding
Standard used:	EN 61000-3-3 Flicker
Short time (Pst):	10 min
Observation time:	120 min (12 Flicker measurement)
Flickermeter:	230V / 50Hz
Customer:	Yealink (Xiamen) Network Technology Co., Ltd.
E. U. T.:	IP DECT Phone
Model:	W52P
Test mode:	Test Mode 1

Maximum Flicker results

	EUT values	Limit	Result
Pst	0.028	1.00	Pass
Plt	0.028	0.65	Pass
dc [%]	0.014	3.30	Pass
dmax [%]	0.058	4.00	Pass
dt [s]	0.000	0.50	Pass

Date of test:	11:54 14.Nov 2012
Tester:	Henry Ding
Standard used:	EN 61000-3-3 Flicker
Short time (Pst):	10 min
Observation time:	120 min (12 Flicker measurement)
Flickermeter:	230V / 50Hz
Customer:	Yealink (Xiamen) Network Technology Co., Ltd.
E. U. T.:	IP DECT Phone
Model:	W52P
Test mode:	Test Mode 2

Maximum Flicker results

	EUT values	Limit	Result
Pst	0.028	1.00	Pass
Plt	0.028	0.65	Pass
dc [%]	0.015	3.30	Pass
dmax [%]	0.279	4.00	Pass
dt [s]	0.000	0.50	Pass

Date of test:	11:37 21.Sep 2012
Tester:	Henry Ding
Standard used:	EN 61000-3-3 Flicker
Short time (Pst):	10 min
Observation time:	120 min (12 Flicker measurement)
Flickermeter:	230V / 50Hz
Customer:	Yealink (Xiamen) Network Technology Co., Ltd.
E. U. T.:	IP DECT Phone
Model:	W52P
Test mode:	Test Mode 3

Maximum Flicker results

	EUT values	Limit	Result
Pst	0.028	1.00	Pass
Plt	0.028	0.65	Pass
dc [%]	0.014	3.30	Pass
dmax [%]	0.057	4.00	Pass
dt [s]	0.000	0.50	Pass

Test Mode 1

Test Mode 2

Test Mode 3

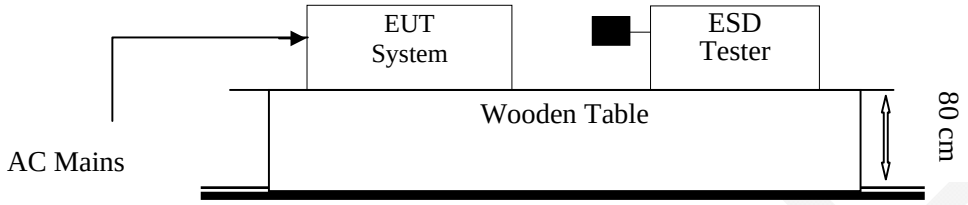
Test Setup Photos

ETSI EN 301 489-6 V1.3.1 (2008-08) §7.2 - ELECTROSTATIC DISCHARGE

Test Equipment

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
EM Test	ESD Tester	Dito	302105	2011-12-30	2012-12-29

Test System Setup



Remark: ■ is the tip of the electrode

EN 61000-4-2 specifies that a tabletop EUT shall be placed on a non-conducting table which is 80 centimeters above a ground reference plane and that floor mounted equipment shall be placed on a insulating support approximately 10 centimeters above a ground plane. During the tests, the EUT is positioned over a ground reference plane in conformance with this requirement.

For tabletop equipment, a 1.5 by 1.0-meter metal sheet (HCP) is placed on the table and connected to the ground plane via a metal strap with two 470 k Ohms resistors in series. The EUT and attached cables are isolated from this metal sheet by *0.5-millimeter* thick insulating material. A Vertical Coupling Plane (VCP) grounded on the ground plane through the same configuration as in the HCP is used.

Test Standard

EN 301 489-1 V1.9.2 (2011-09) / EN 61000-4-2:2009
Test Level 3 for Air Discharge at ±8 kV
Test Level 2 for Contact Discharge at ±4 kV

Test Level

Level	Test Voltage Contact Discharge (±kV)	Test Voltage Air Discharge (±kV)
1.	2	2
2.	4	4
3.	6	8
4.	8	15
X.	Special	Special

Performance criterion: B

Test Procedure

Air Discharge:

This test is done on a non-conductive surface. The round discharge tip of the discharge electrode shall be approached as fast as possible to touch the EUT. After each discharge, the discharge electrode shall be removed from the EUT. The generator is then re-triggered for a new single discharge and repeated 10 times for each pre-selected test point. This procedure shall be repeated until all the air discharge completed.

Contact Discharge:

All the procedure shall be same as Section 8.3.1 of EN 61000-4-2, except that the tip of the discharge electrode shall touch the EUT before the discharge switch is operated.

Indirect discharge for horizontal coupling plane

At least 20 single discharges shall be applied to the horizontal coupling plane, at points on each side of the EUT. The discharge electrode positions vertically at a distance of 0.1m from the EUT and with the discharge electrode touching the coupling plane.

Indirect discharge for vertical coupling plane

At least 20 single discharges shall be applied to the center of one vertical edge of the coupling plane. The coupling plane, of dimensions 0.5m X 0.5m, is placed parallel to, and positioned at a distance of 0.1m from the EUT. Discharges shall be applied to the coupling plane, with this plane in sufficient different positions that the four faces of the EUT are completely illuminated.

Test Data and Setup Photo

Environmental Conditions

Temperature:	25 ° C
Relative Humidity:	55 %
ATM Pressure:	100.1 kPa

The testing was performed by Henry Ding on 2012-11-15.

Test Mode 1:

Table 1: Electrostatic Discharge Immunity (Air Discharge)

EN 61000-4-2 Test Points Location	Test Levels							
	-2 kV	+2 kV	-4 kV	+4 kV	-8 kV	+8 kV	-15 kV	+15 kV
Surface crack (8 points)	A	A	A	A	A	A	/	/
Button (1 point)	A	A	A	A	A	A	/	/
LED indicator (3 points)	A	A	A	A	A	A	/	/
Charging port (1 point)	A	A	A	A	A	A	/	/
RJ45 port (1 point)	A	A	A	A	A	A	/	/

Table 2: Electrostatic Discharge Immunity (Direct Contact)

EN 61000-4-2 Test Points Location	Test Levels							
	-2 kV	+2 kV	-4 kV	+4 kV	-6 kV	+6 kV	-8 kV	+8 kV
/	/	/	/	/	/	/	/	/

Table 3: Electrostatic Discharge Immunity (Indirect Contact HCP)

EN 61000-4-2 Test Points Location	Test Levels							
	-2 kV	+2 kV	-4 kV	+4 kV	-6 kV	+6 kV	-8 kV	+8 kV
Front Side	A	A	A	A	/	/	/	/
Back Side	A	A	A	A	/	/	/	/
Left Side	A	A	A	A	/	/	/	/
Right Side	A	A	A	A	/	/	/	/

Table 4: Electrostatic Discharge Immunity (Indirect Contact VCP)

EN 61000-4-2 Test Points Location	Test Levels							
	-2 kV	+2 kV	-4 kV	+4 kV	-6 kV	+6 kV	-8 kV	+8 kV
Front Side	A	A	A	A	/	/	/	/
Back Side	A	A	A	A	/	/	/	/
Left Side	A	A	A	A	/	/	/	/
Right Side	A	A	A	A	/	/	/	/

Test Mode 2:

Table 1: Electrostatic Discharge Immunity (Air Discharge)

EN 61000-4-2 Test Points Location	Test Levels							
	-2 kV	+2 kV	-4 kV	+4 kV	-8 kV	+8 kV	-15 kV	+15 kV
Surface crack (8 points)	A	A	A	A	A	A	/	/
RJ45 port (4 points)	A	A	A	A	A	A	/	/
LED indicator (3 points)	A	A	A	A	A	A	/	/
Buttons (4 points)	A	A	A	A	A	A	/	/

Table 2: Electrostatic Discharge Immunity (Direct Contact)

EN 61000-4-2 Test Points Location	Test Levels							
	-2 kV	+2 kV	-4 kV	+4 kV	-6 kV	+6 kV	-8 kV	+8 kV
DC power port (1 point)	A	A	A	A	/	/	/	/

Table 3: Electrostatic Discharge Immunity (Indirect Contact HCP)

EN 61000-4-2 Test Points Location	Test Levels							
	-2 kV	+2 kV	-4 kV	+4 kV	-6 kV	+6 kV	-8 kV	+8 kV
Front Side	A	A	A	A	/	/	/	/
Back Side	A	A	A	A	/	/	/	/
Left Side	A	A	A	A	/	/	/	/
Right Side	A	A	A	A	/	/	/	/

Table 4: Electrostatic Discharge Immunity (Indirect Contact VCP)

EN 61000-4-2 Test Points Location	Test Levels							
	-2 kV	+2 kV	-4 kV	+4 kV	-6 kV	+6 kV	-8 kV	+8 kV
Front Side	A	A	A	A	/	/	/	/
Back Side	A	A	A	A	/	/	/	/
Left Side	A	A	A	A	/	/	/	/
Right Side	A	A	A	A	/	/	/	/

Test Mode 3 (without charging):

Table 1: Electrostatic Discharge Immunity (Air Discharge)

EN 61000-4-2 Test Points Location	Test Levels							
	-2 kV	+2 kV	-4 kV	+4 kV	-8 kV	+8 kV	-15 kV	+15 kV
Surface crack (8 points)	A	A	A	A	A	A	/	/
LCD screen (8 points)	A	A	A	A	A	A	/	/
Buttons (20 points)	A	A	A	A	A	A	/	/
Earphone port (1 point)	A	A	A	A	A	A	/	/
LED (1 point)	A	A	A	A	A	A	/	/
Charging port (1 point)	A	A	A	A	A	A	/	/
MIC (4 points)	A	A	A	A	A	A	/	/

Table 2: Electrostatic Discharge Immunity (Direct Contact)

EN 61000-4-2 Test Points Location	Test Levels							
	-2 kV	+2 kV	-4 kV	+4 kV	-6 kV	+6 kV	-8 kV	+8 kV
Charging port (2 points)	A	A	A	A	/	/	/	/

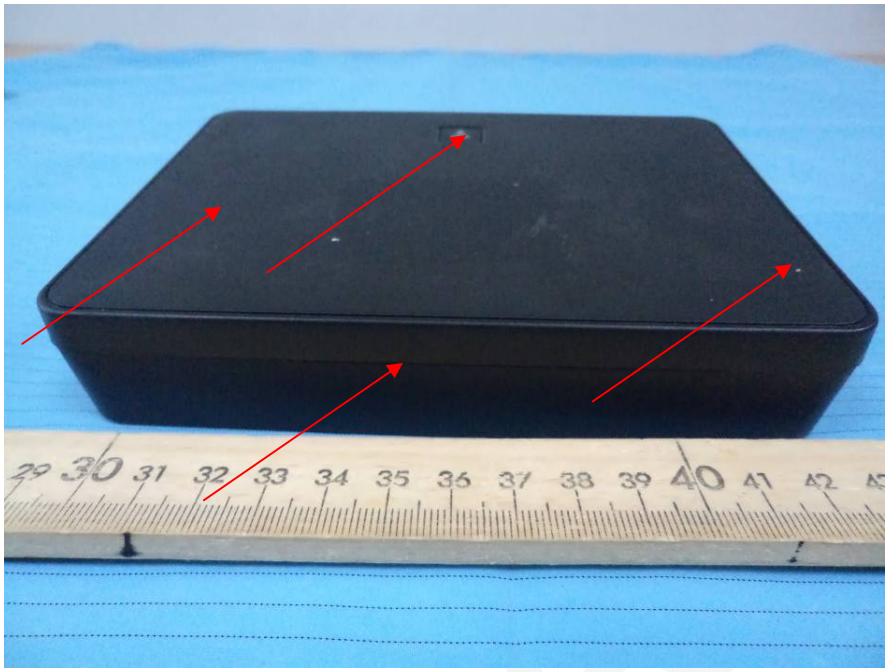
Table 3: Electrostatic Discharge Immunity (Indirect Contact HCP)

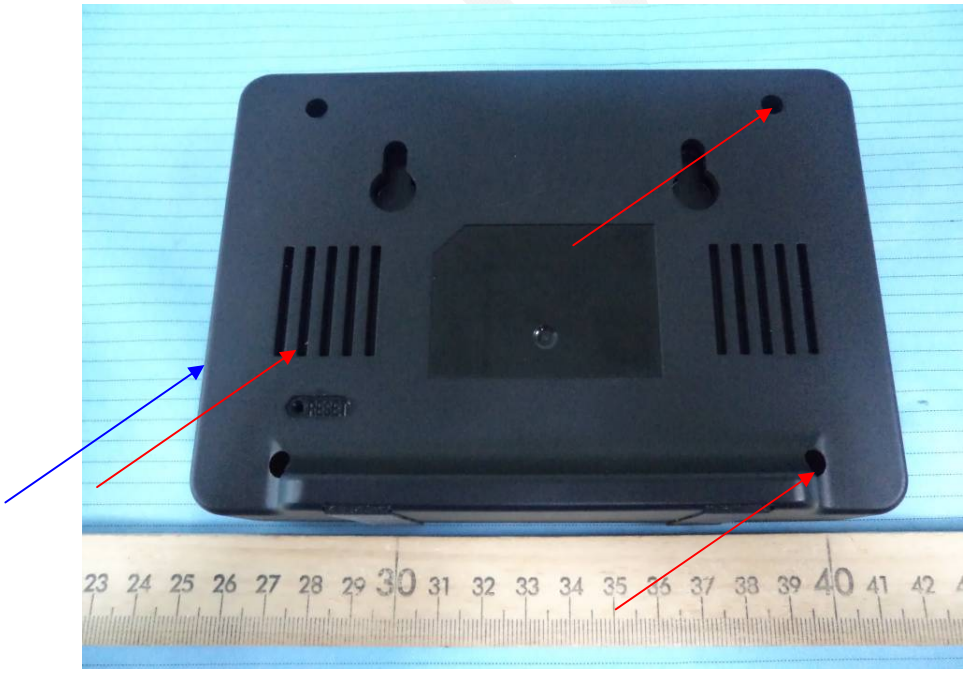
EN 61000-4-2 Test Points Location	Test Levels							
	-2 kV	+2 kV	-4 kV	+4 kV	-6 kV	+6 kV	-8 kV	+8 kV
Front Side	A	A	A	A	/	/	/	/
Back Side	A	A	A	A	/	/	/	/
Left Side	A	A	A	A	/	/	/	/
Right Side	A	A	A	A	/	/	/	/

Table 4: Electrostatic Discharge Immunity (Indirect Contact VCP)

EN 61000-4-2 Test Points Location	Test Levels							
	-2 kV	+2 kV	-4 kV	+4 kV	-6 kV	+6 kV	-8 kV	+8 kV
Front Side	A	A	A	A	/	/	/	/
Back Side	A	A	A	A	/	/	/	/
Left Side	A	A	A	A	/	/	/	/
Right Side	A	A	A	A	/	/	/	/

Base

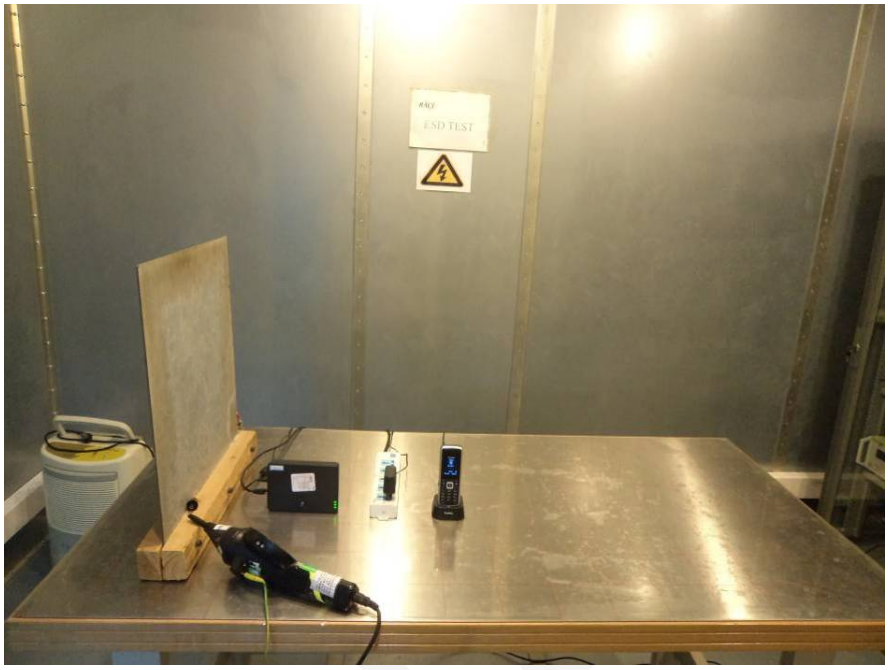




Handset

Note:→ represents air discharge, → represents direct contact

Test Mode 1



Test Mode 2

Test Mode 3

Test Setup photos

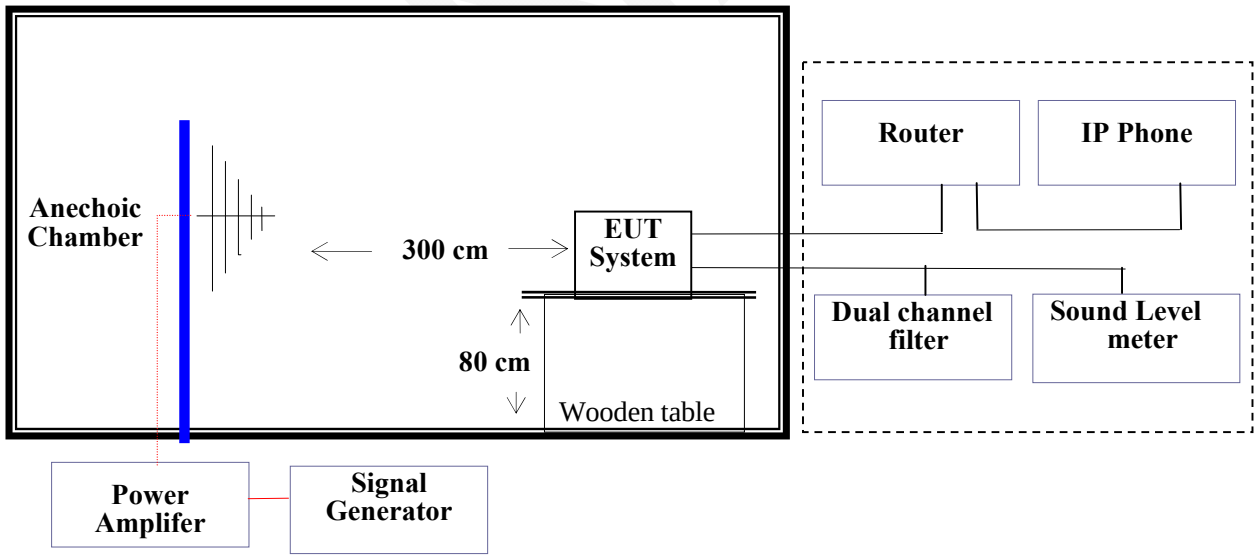
ETSI EN 301 489-6 V1.3.1 (2008-08) §7.2 - RF ELECTROMAGNETIC FIELD (80 to 1000 MHz, 1400 to 2700 MHz)

Test Equipment

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Amplifier Research	Amplifier Input/Output	200W1000/ M2	15893	2012-01-14	2013-01-13
Amplifier Research	Microware Amplifier	5S1G4	71377	2011-11-24	2012-11-23
Krohn-hite	Dual channel filter	3940	003096	2012-02-28	2013-02-27
LISTEN, Inc.	Microphone Power Supply	N/A	1199-PS165	2012-03-19	2013-03-18
HP	Signal Generator	8648C	3426A01345	2012-04-11	2013-04-10
Amplifier Research	Biconilog Antenna	JB1	A040904-2	2011-11-28	2012-11-27
Sunol Sciences	Horn Antenna	DRH-118	A052304	2011-12-01	2012-11-30
LISTEN	Power Supply	Sound Connect	1199PS165	2012-09-18	2013-09-17
BK Precision	Sound Level meter	735	07350087309 110025	2012-06-09	2013-06-08

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

Test System Setup



Test Standard

EN 301 489-1 V1.9.2 (2011-09) / EN 61000-4-3: 2006 + A1: 2008 + A2: 2010
Test Level 2 at 3V / m
Test Levels and Performance Criterion

Test Level

Level	Field Strength (V/m)
1.	1
2.	3
3.	10
X.	Special

Performance Criterion: A* (***Note: "A"** stand for, the speech output signal level shall be at least 35 dB less than the reference level recorded before the start of the test. This shall be verified by the procedure in EN 301 489-6 V1.3.1 clause 5.3.2.)

Note: During the test, the Bit Error Ratio is less than 1×10-3.

Test Procedure

The EUT and its simulators are placed on a turn table which is 0.8 meter above the ground. The EUT is set 3 meters away from the transmitting antenna which is mounted on an antenna tower. Both horizontal and vertical polarizations of the antenna are set on test. Each of the four sides of EUT must be faced this transmitting antenna and measured individually.

All the scanning conditions are as follows:

	Condition of Test	Remarks
1.	Field Strength	3 V/m (Test Level 2)
2.	Radiated Signal	Modulated
3.	Scanning Frequency	80 - 1000 MHz and 1400-2700MHz
4.	Sweeping time of radiated	0.0015 decade/s
5.	Dwell Time	1 Sec.

Test Data and Setup Photo

Environmental Conditions

Temperature:	25 ℃
Relative Humidity:	55 %
ATM Pressure:	100.1 kPa

The testing was performed by Henry Ding on 2012-11-15.

Test Mode 1 & Test Mode 2 & Test Mode 3

Frequency Range (MHz)	Front Side (3 V/m)		Rear Side (3 V/m)		Left Side (3 V/m)		Right Side (3 V/m)	
	VERT	HORI	VERT	HORI	VERT	HORI	VERT	HORI
80-1000	A	A	A	A	A	A	A	A
1400-2700	A	A	A	A	A	A	A	A

Note: During the test, the Maximum Bit Error Ratio of FP was less than 1×10^{-3}.

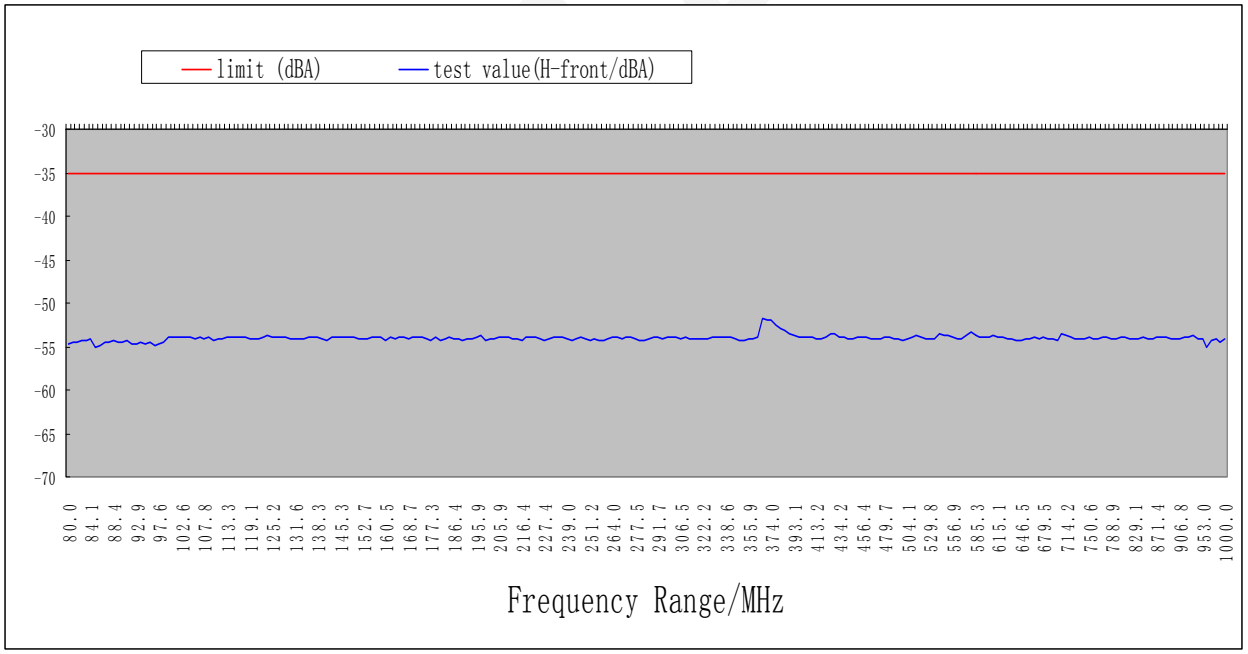
For test mode 1 & test mode 2 & test mode 3, the ERP was evaluated as the performance between the whole tests.

ERP Reference Level: 93.5 dBspl (0 dBA)

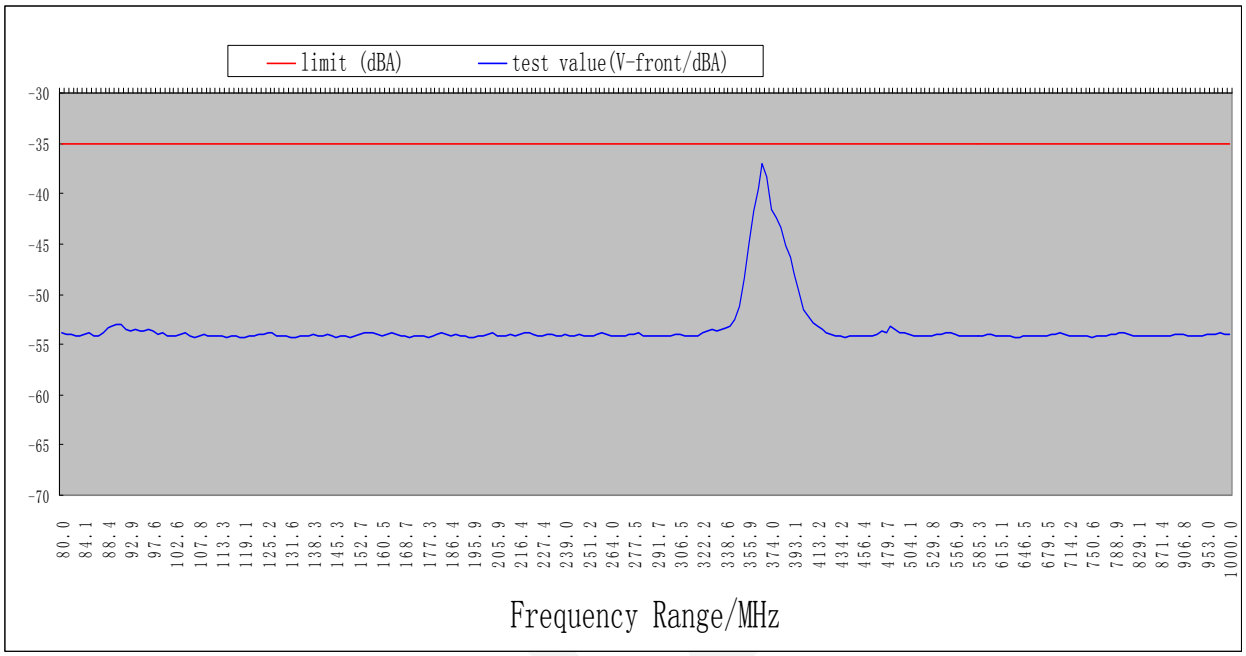
Limit= ERP Reference Level-35= 58.5 dBspl (-35 dBA)

Sound Pressure Level (SPL) at speaker port (worst case) for test result as follows:

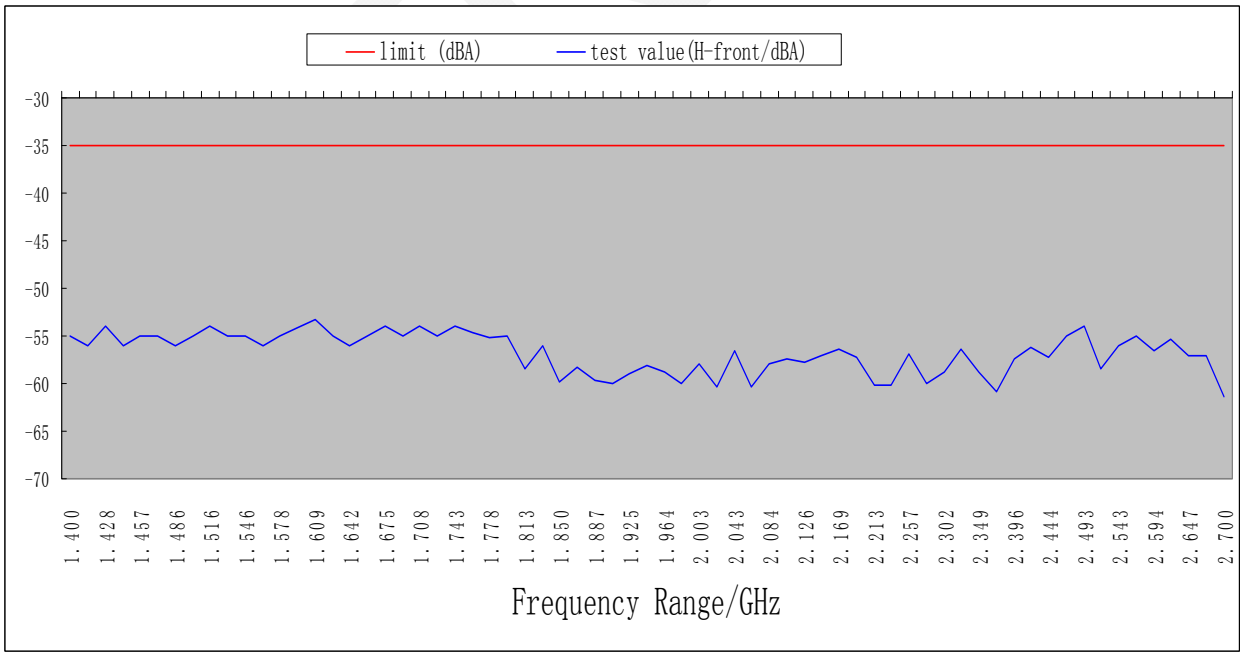
RS-Horizontal (80 MHz-1000 MHz)



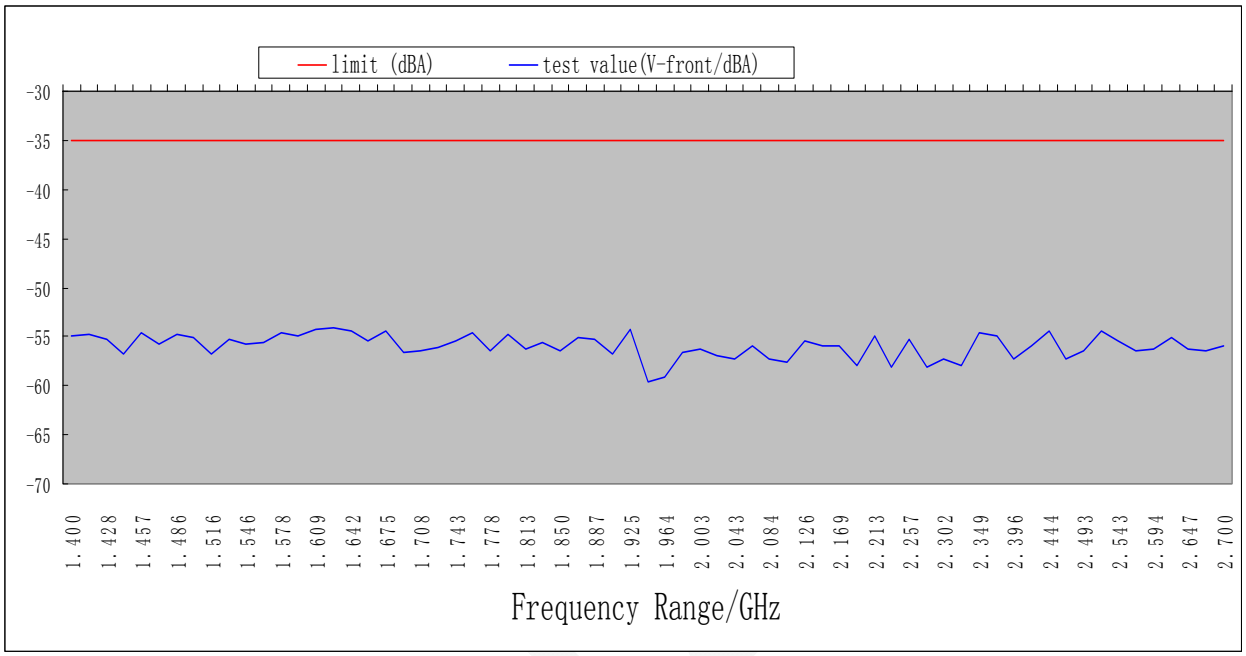
RS-Vertical (80 MHz-1000 MHz)

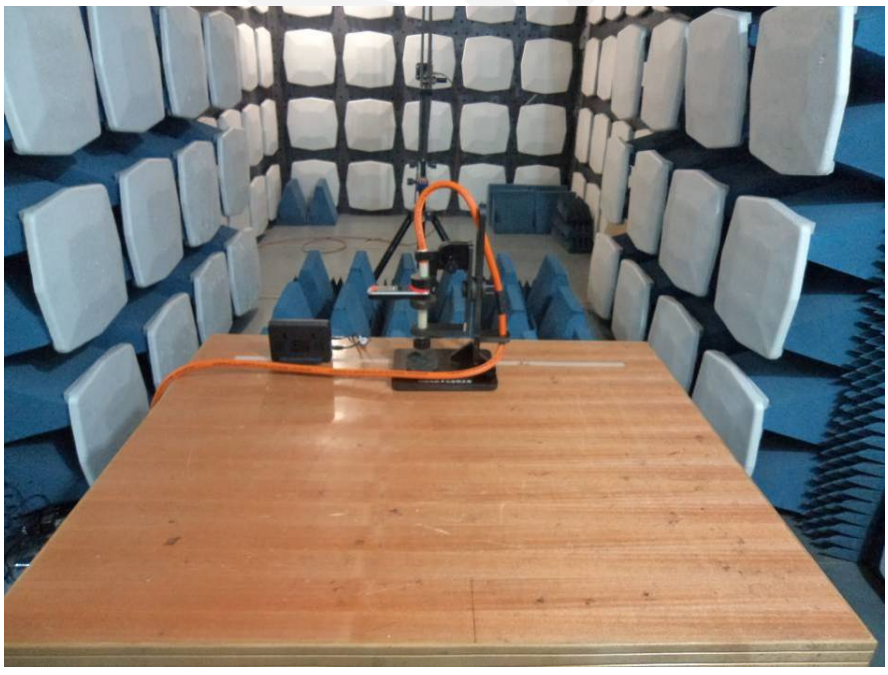


RS-Horizontal (1400 MHz-2700 MHz)



RS-Vertical (1400 MHz-2700 MHz)





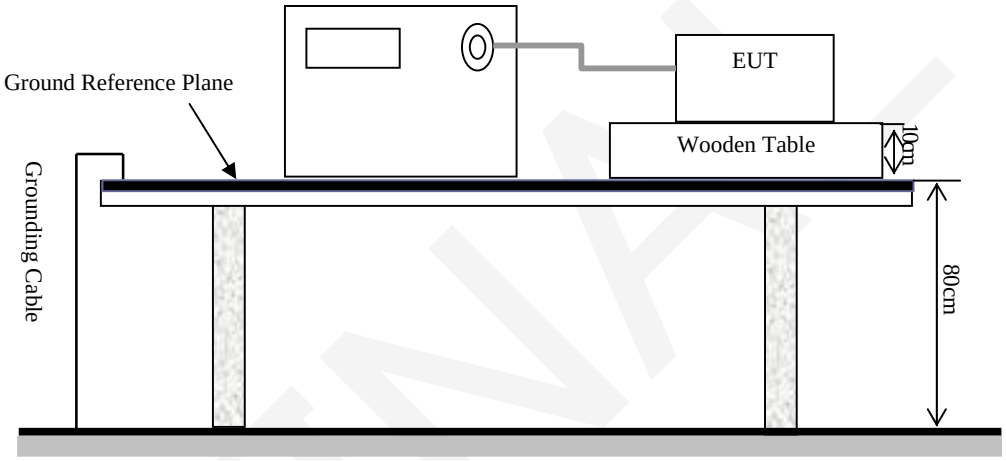
Test Setup photos

ETSI EN 301 489-6 V1.3.1 (2008-08) §7.2 - FAST TRANSIENT IMMUNITY COMMON MODE

Test Equipment

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
EM Test	Ultra Compact Generator	UCS 500 N5	V0939105172	2011-11-17	2012-11-16
EM Test	Auto-transformer	MV2616	V0939105173	2011-11-17	2012-11-16
EM Test	EFT Clamp	HFK	N/A	2011-11-17	2012-11-16

Test System Setup



Test Standard

EN 301 489-1 V1.9.2 (2011-09) / EN 61000-4-4: 2004 + A1: 2010
Test level 1 at 1 kV for Main port

Test Level

Open Circuit Output Test Voltage ±10%		
Level	**On Power Supply Lines**	**On I/O (Input/Output) Signal data and control lines**
1	0.5 kV	0.25 kV
2	1 kV	0.5 kV
3	2 kV	1 kV
4	4 kV	2 kV
X	Special	Special

Performance Criterion: B

Test Procedure

The EUT was arranged for Power Line Coupling and for I/O Line Coupling through a capacitive clamp, where applicable. (Note: The I/O coupling test using a capacitive clamp is performed on the I/O interface cables that are longer in length than 3 meters.) A metal ground plane 2.4 meter by 2.0 meter was placed between the floor and the table and is connected to the earth by a 2.0 meter ground rod. The ground rod is connected to the test facility's electrical earth.

Test Data and Setup Photo

Environmental Conditions

Temperature:	25 ℃
Relative Humidity:	55 %
ATM Pressure:	100.1 kPa

The testing was performed by Henry Ding on 2012-11-15.

Test Mode 1:

EN 61000-4-4 Test Points		Test Levels (kV)							
		+0. 5	-0. 5	+1.0	-1.0	+2.0	-2.0	+4.0	-4.0
AC mains Power input ports	L1	A	A	A	A	/	/	/	/
	L2	A	A	A	A	/	/	/	/
	Earth	/	/	/	/	/	/	/	/
	L1+L2	A	A	A	A	/	/	/	/
	L1 + Earth	/	/	/	/	/	/	/	/
	L2 + Earth	/	/	/	/	/	/	/	/
	L1+L2+Earth	/	/	/	/	/	/	/	/
Signal Port	RJ45 Port	A	A	/	/	/	/	/	/

Test Mode 2:

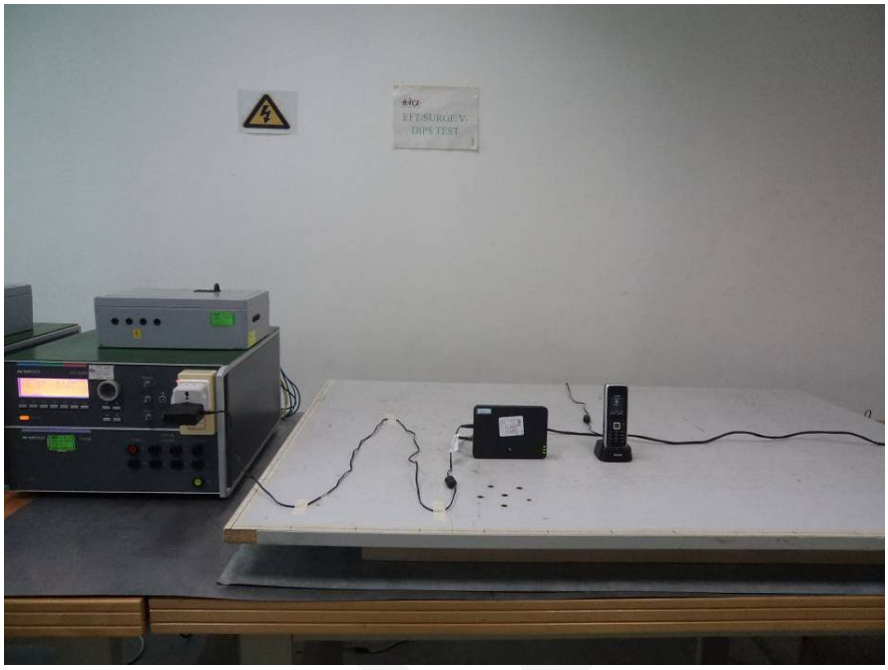
EN 61000-4-4 Test Points		Test Levels (kV)							
		+0. 5	-0. 5	+1.0	-1.0	+2.0	-2.0	+4.0	-4.0
AC mains Power input ports	L1	A	A	A	A	/	/	/	/
	L2	A	A	A	A	/	/	/	/
	Earth	A	A	A	A	/	/	/	/
	L1+L2	A	A	A	A	/	/	/	/
	L1 + Earth	A	A	A	A	/	/	/	/
	L2 + Earth	A	A	A	A	/	/	/	/
	L1+L2+Earth	A	A	A	A	/	/	/	/
Signal Port	RJ45 Port	A	A	/	/	/	/	/	/

Test Mode 3:

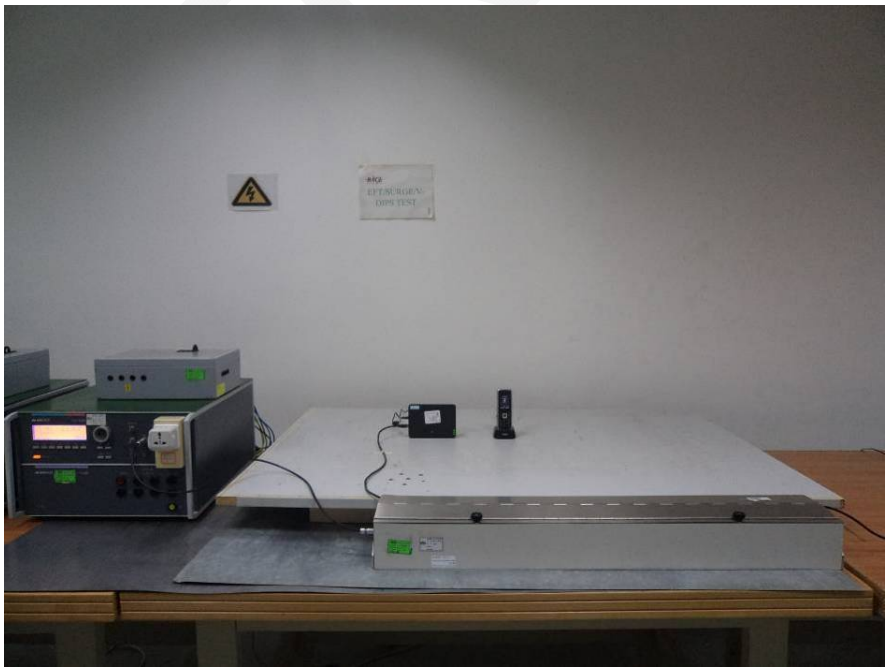
EN 61000-4-4 Test Points		Test Levels (kV)							
		+0. 5	-0. 5	+1.0	-1.0	+2.0	-2.0	+4.0	-4.0
AC mains Power input ports	L1	A	A	A	A	/	/	/	/
	L2	A	A	A	A	/	/	/	/
	Earth	/	/	/	/	/	/	/	/
	L1+L2	A	A	A	A	/	/	/	/
	L1 + Earth	/	/	/	/	/	/	/	/
	L2 + Earth	/	/	/	/	/	/	/	/
	L1+L2+Earth	/	/	/	/	/	/	/	/
Signal Port	/	/	/	/	/	/	/	/	/

Note: During the test, the Bit Error Ratio is less than 1×10-3.

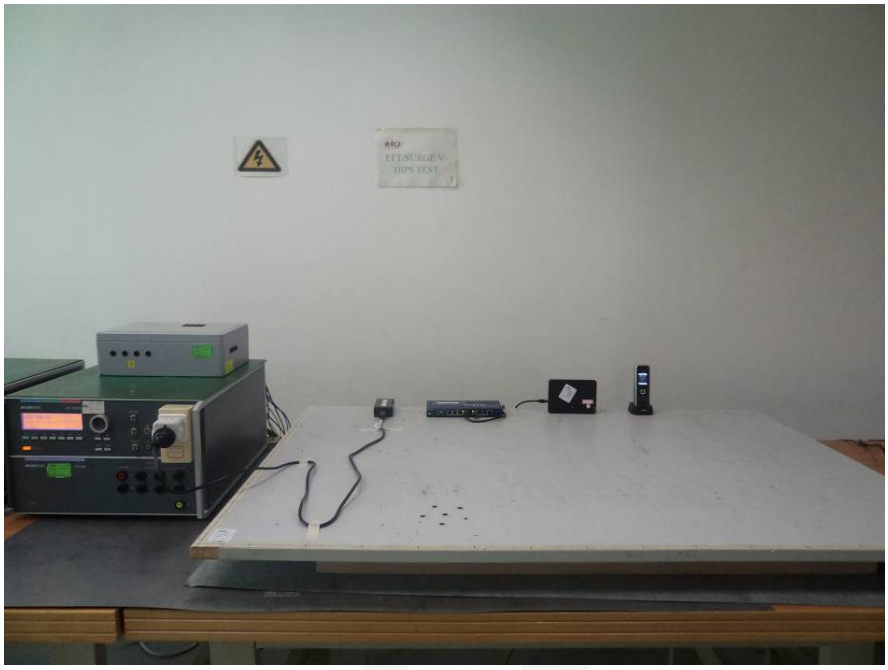
Test Mode 1 (AC Mains Port)



Test Mode 1 (RJ45 Port)

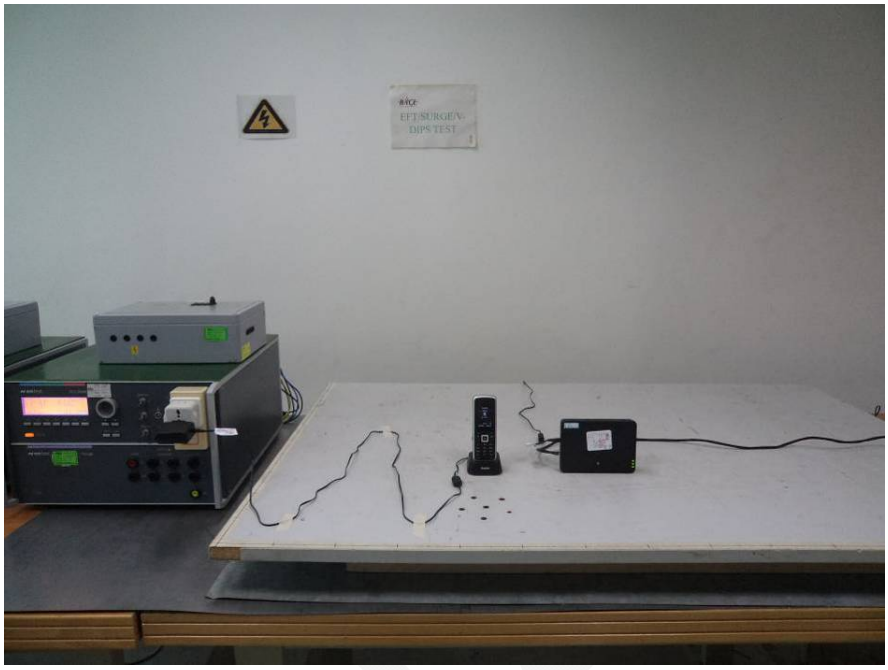


Test Mode 2 (AC Mains Port)



Test Mode 2 (RJ45 Port)

Test Mode 3



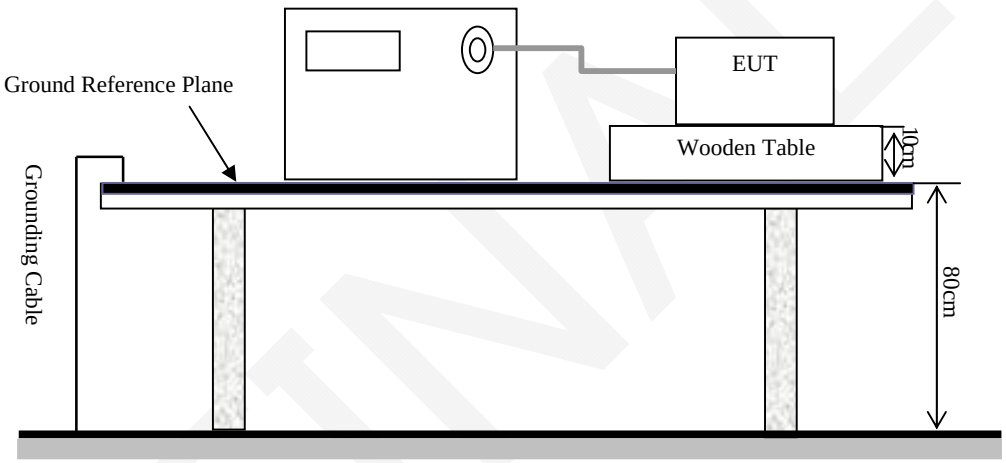
Test setup photos

ETSI EN 301 489-6 V1.3.1 (2008-08) §7.2 - SURGES, COMMON AND DIFFERENTIAL MODE

Test Equipment

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
EM Test	Ultra Compact Generator	UCS 500 N5	V0939105172	2011-11-17	2012-11-16
EM Test	Auto-transformer	MV2616	V0939105173	2011-11-17	2012-11-16
EM Test	CDN	CNV 504S1	V0939105175	2011-11-17	2012-11-16

Test System Setup



Test Standard

ETSI EN 301 489-1 V1.9.2 (2011-09) / EN 61000-4-5: 2006
AC Mains L-N: Test level 2 at 1 kV
RJ11 Port Line –ground Test level 2 at 1 kV

Test Level

Level	Open Circuit Output Test Voltage ±10%
1	0.5 kV
2	1 kV
3	2 kV
4	4 kV
X	Special

Performance Criterion: B

Test Procedure

1) For AC mains port, line to to line coupling mode,provide a 1.0kV 1.2/50 us voltage surge (at open-circuit condition), for signal port, line to to ground coupling mode,provide a 1.0kV 1.2/50 us voltage surge (at open-circuit condition);
2) At least 5 positive and 5 negative (polarity) tests with a maximum 1/min repetition rate are conducted during test.
3) Different phase angles are done individually.
4) Record the EUT operating situation during compliance test and decide the EUT immunity criterion for above each test.

Test Data and Setup Photo

Environmental Conditions

Temperature:	25 ° C
Relative Humidity:	55 %
ATM Pressure:	100.1 kPa

The testing was performed by Tiger ye on 2012-11-15.

Test Mode 1:

Table 1: AC mains power input port

Level	Voltage	Poll	Path	Pass	Fail
1	0.5 kV	±	L-N	A	/
2	1 kV	±	L-N	A	/
3	2 kV	±	L-PE, N-PE	/	/
4	4 kV	±	L-N, L-PE, N-PE	/	/

Table 2: RJ45 port

Level	Voltage	Poll	Path	Pass	Fail
1	0.5 kV	±	Line-Line, Line-Ground	A	/
2	1 kV	±	Line-Line, Line-Ground	A	/
3	2 kV	±	Line-Line, Line-Ground	/	/
4	4 kV	±	Line-Line, Line-Ground	/	/

Test Mode 2:

Table 1: AC mains power input port

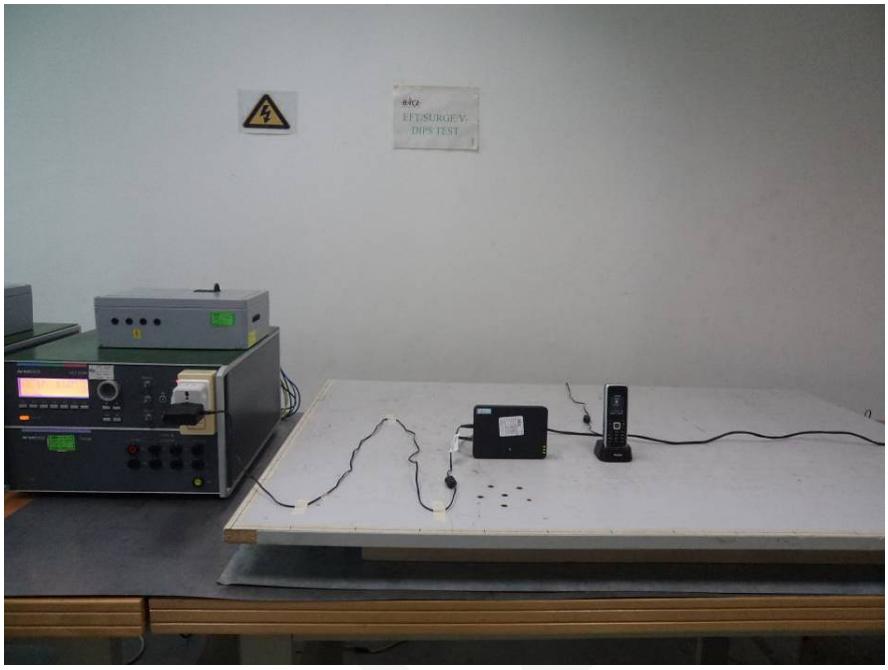
Level	Voltage	Poll	Path	Pass	Fail
1	0.5 kV	±	L-N, L-PE, N-PE, L-N-PE	A	/
2	1 kV	±	L-N, L-PE, N-PE, L-N-PE	A	/
3	2 kV	±	L-PE, N-PE	A	/
4	4 kV	±	L-N, L-PE, N-PE	/	/

Test Mode 3:

Table 1: AC mains power input port

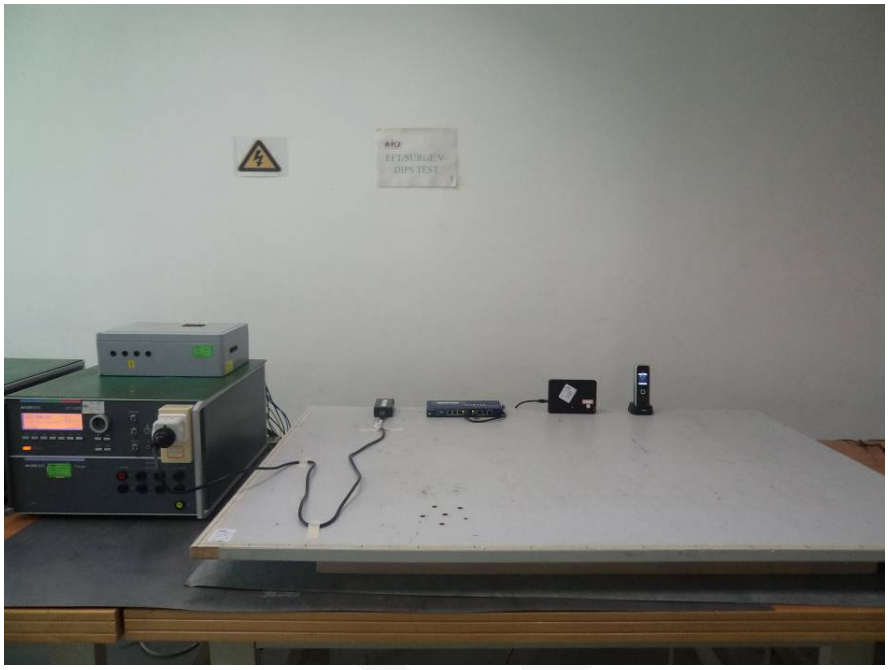
Level	Voltage	Poll	Path	Pass	Fail
1	0.5 kV	±	L-N	A	/
2	1 kV	±	L-N	A	/
3	2 kV	±	L-PE, N-PE	/	/
4	4 kV	±	L-N, L-PE, N-PE	/	/

Test Mode 1 (AC Mains Port)

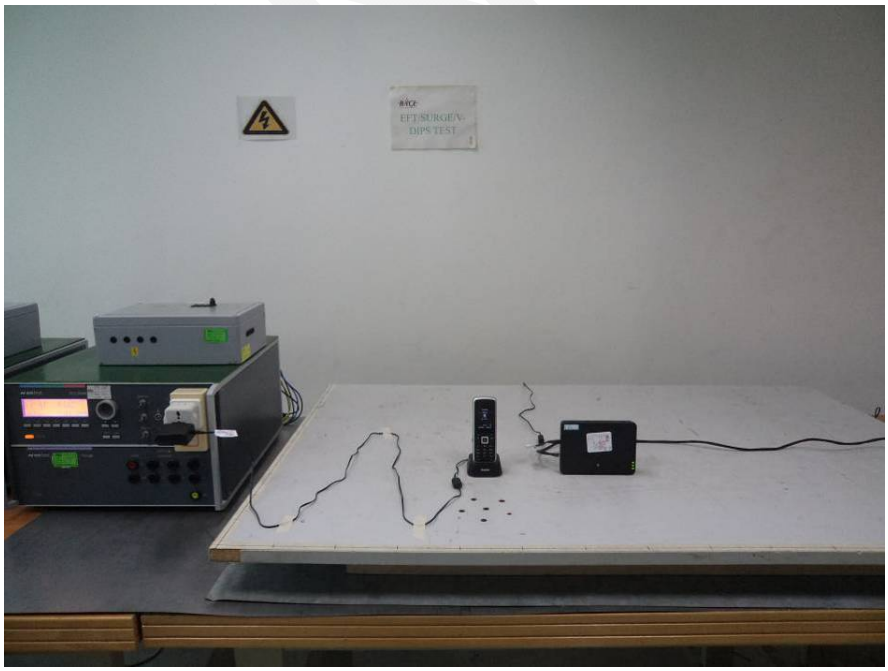


Test Mode 1 (RJ45 Port)

Test Mode 2 (AC Mains Port)



Test Mode 3



Test setup photos

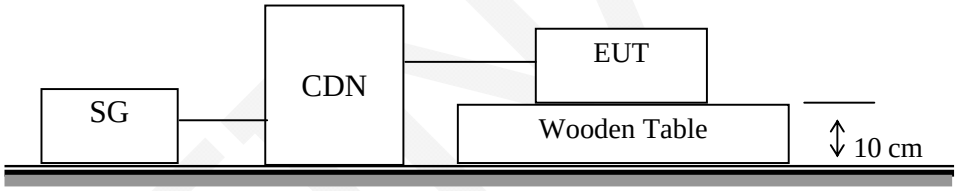
ETSI EN 301 489-6 V1.3.1 (2008-08) §7.2 - RF COMMON MODE, 0.15 MHz to 80 MHz)

Test Equipment

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
EM Test	CDN	M3	1201-05	2011-11-17	2012-11-16
EM Test	C/S Tester	CWS500	303277	2011-11-17	2012-11-16
EM Test	Attenuator	6dB	303282	2011-11-15	2012-11-14
EM Test	Attenuator	6dB	303283	N/A	N/A
FCC	Bulk Current Injection Probe	F-120-9A	303284	2012-04-11	2013-04-10
Brüel & Kjær	Ear Simulator	4185	2190351	2012-02-09	2013-02-08
Brüel & Kjær	Telephone Test Head	4602B	2174439	2012-02-09	2013-02-08
LISTEN, Inc.	Microphone Power Supply	N/A	1199-PS165	2012-02-09	2013-02-08
EM Test	CDN	T8RJ45	1101-04	2011-11-17	2012-11-16
BK Precision	Sound Level meter	735	07350087309110025	2012-06-09	2013-06-08

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attested that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

Test Setup



Test Standard

EN 301 489-1 V1.9.2 (2011-09) / EN 61000-4-6: 2009
Test level 2 at 3 V (e.m.s.), 0.15 MHz ~ 80 MHz,

Test Level

Level	Voltage Level (e.m.s.) (V)
1	1
2	3
3	10
X	Special

Performance Criterion: A* (*Note: "A" stand for, the speech output signal level shall be at least 35 dB less than the reference level recorded before the start of the test. This shall be verified by the procedure in EN 301 489-6 V1.3.1 clause 5.3.2.)

Test Procedure

1) Let the EUT work in test mode and test it.
2) The EUT are placed on an insulating support 0.1 m high above a ground reference plane. CDN (coupling and decoupling device) is placed on the ground plane about 0.3 m from EUT. Cables between CDN and EUT are as short as possible, and their height above the ground reference plane shall be between 30 and 50 mm (where possible).
3) The disturbance signal described below is injected to EUT through CDN.
4) The EUT operates within its operational mode(s) under intended climatic conditions after power on.
5) The frequency range is swept from 150 kHz to 80 MHz using 3V signal level, and with the disturbance signal 80% amplitude modulated with a 1 kHz sine wave.
6) The rate of sweep shall not exceed 1.5*10-3decades/s. Where the frequency is swept incrementally, the step size shall not exceed 1% of the start and thereafter 1% of the preceding frequency value.
7) Recording the EUT operating situation during compliance testing and decide the EUT immunity criterion.

Test Data and Setup Photo

Environmental Conditions

Temperature:	25 ° C
Relative Humidity:	55 %
ATM Pressure:	100.1 kPa

The testing was performed by Henry Ding on 2012-11-15.

Test Mode 1 & Test Mode 2 & Test Mode 3

Table 1: AC mains input port

Frequency range: 150 kHz to 80 MHz
Modulation: Amplitude 80%, 1 kHz sine wave
Test level: 3V e.m.s. unmodulated

Level	Voltage Level (e.m.s.) (U_0)	Pass	Fail
1	1	/	/
2	3	A	/
3	10	/	/
X	Special	/	/

Table 2: Signal Port: RJ45

Frequency range: 150 kHz to 80 MHz
Modulation: Amplitude 80%, 1 kHz sine wave
Test level: 3V e.m.s. unmodulated

Level	Voltage Level (e.m.s.) (U_0)	Pass	Fail
1	1	/	/
2	3	A	/
3	10	/	/
X	Special	/	/

Table 3: AC mains input port

Frequency range: 150 kHz to 80 MHz
Modulation: Amplitude 80%, 1 kHz sine wave
Test level: 3V e.m.s. unmodulated

Level	Voltage Level (e.m.s.) (U_0)	Pass	Fail
1	1	/	/
2	3	A	/
3	10	/	/
X	Special	/	/

Note: During the test, the Bit Error Ratio is less than $1\times10^{-3.}$

BER less or equal than 1×10^{-3} during the test

If the equipment contains analogue speech circuits the speech output signal level shall be at least 35 dB less than the reference level recorded before the start of the test. (However, in case of equipment containing analogue speech circuits, instead of BER the assessment of the speech output signal level is used.)

No loss of user control functions or stored data and maintained communication link during and after the tests

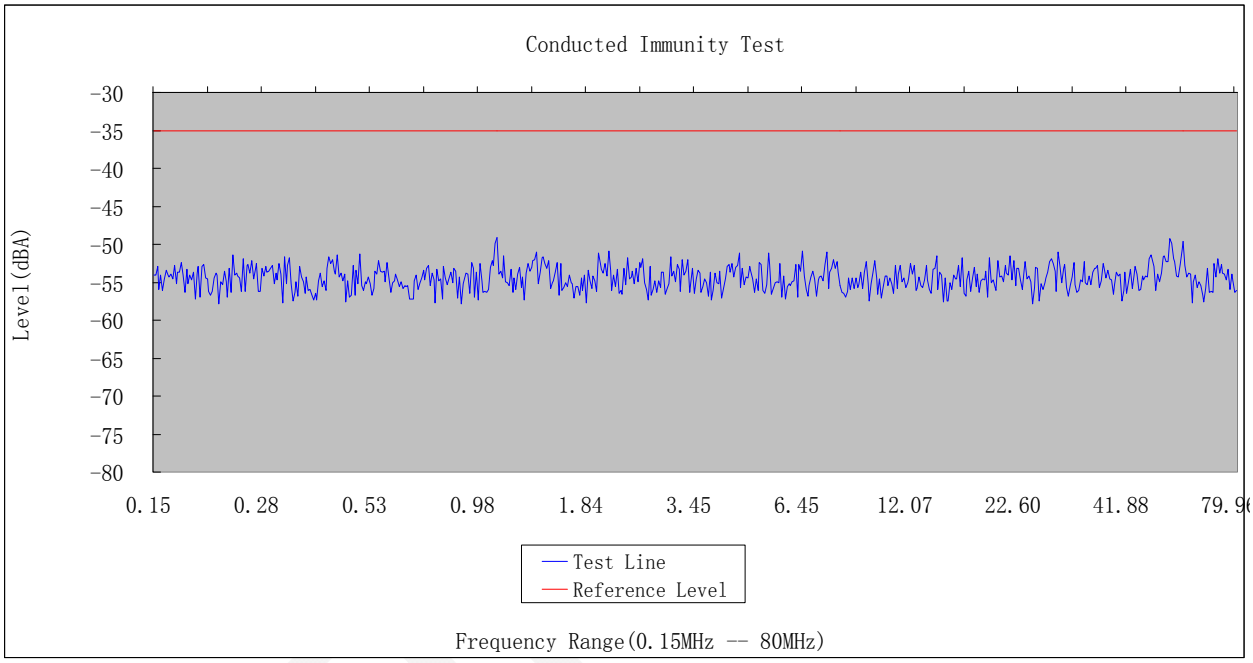
No unintentional transmission

ERP Reference Level: 93.5 dBspl (0 dBA)

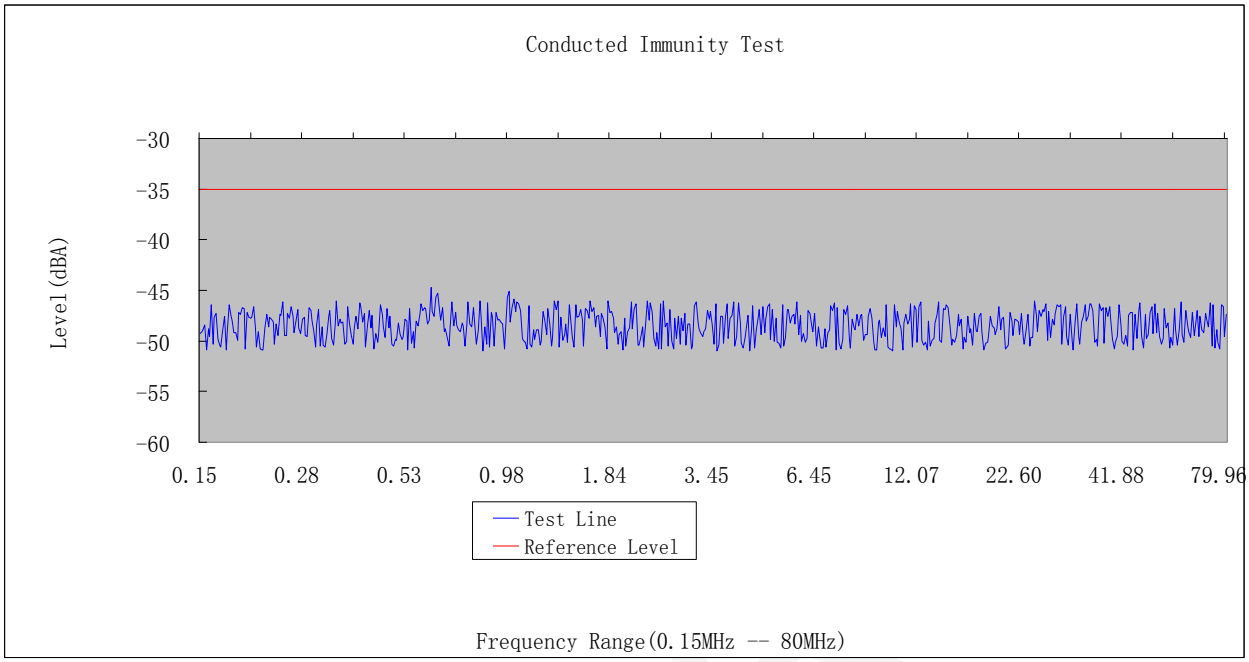
Limit= ERP Reference Level-35= 58.5 dBspl (-35 dBA)

Sound Pressure Level (SPL) at speaker port for test result as follows(worst case):

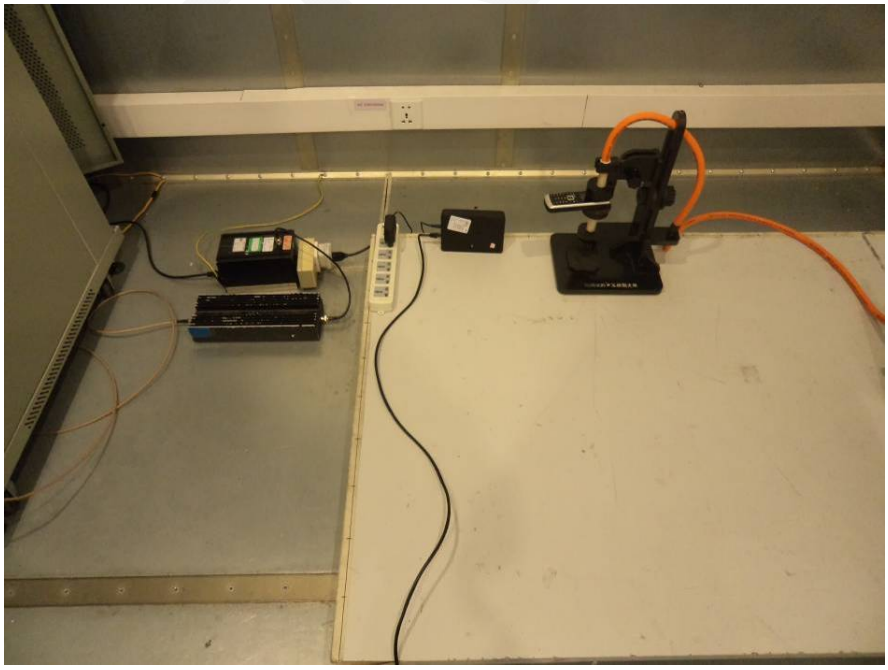
0.15 MHz-80 MHz (AC Mains port)



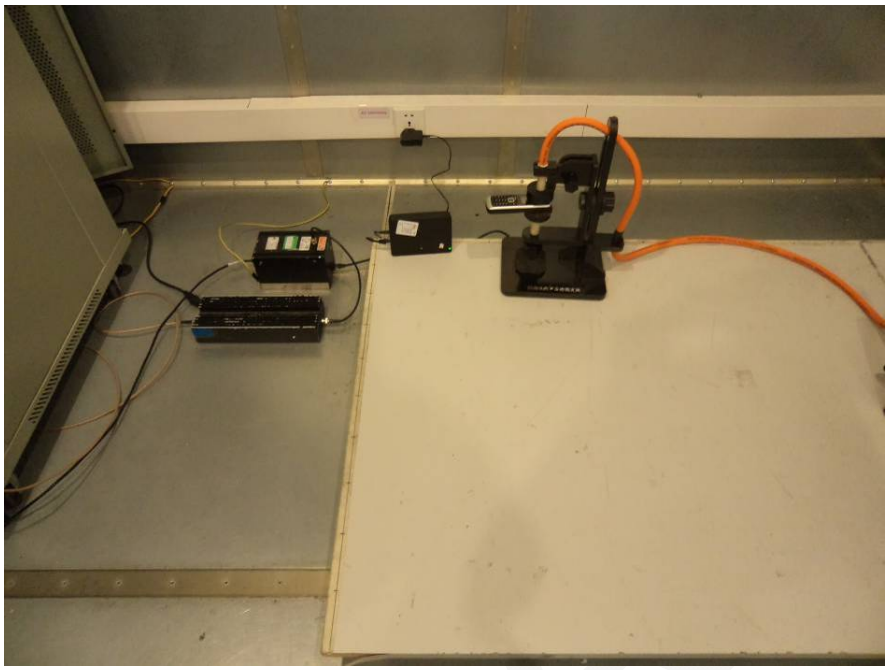
0.15 MHz-80 MHz (RJ45 port)



AC Mains port



RJ45 port



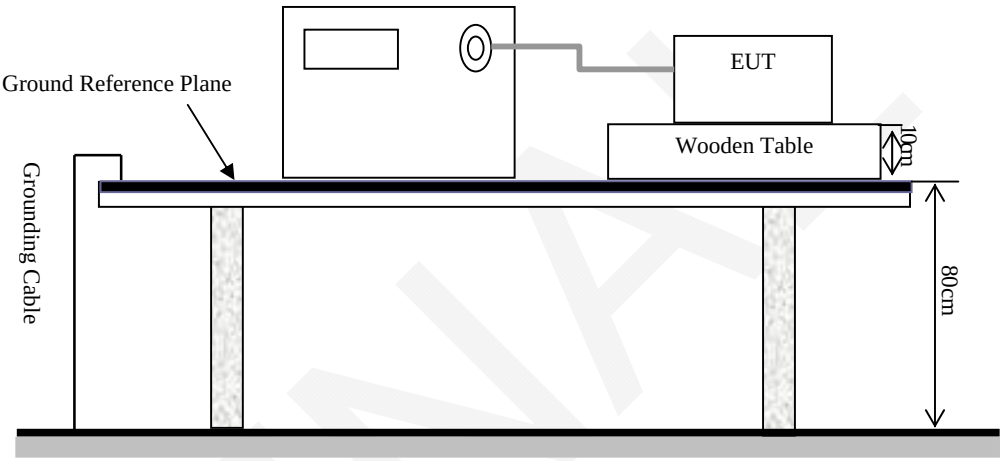
Test Setup photos

ETSI EN 301 489-6 V1.3.1 (2008-08) §7.2 - VOLTAGE DIPS AND INTERRUPTIONS

Test Equipment

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
EM Test	Ultra Compact Generator	UCS 500 N5	V0939105172	2011-11-17	2012-11-16
EM Test	Auto-transformer	MV2616	V0939105173	2011-11-17	2012-11-16

Test System Setup



Test Standard

ETSI EN 301 489-1 V1.9.2 (2011-09) / EN 61000-4-11: 2004
Test levels and Performance Criterion

Test Level

Test Level	Voltage dip and short interruptions %UT	Duration (in period)	Performance criterion:
1	0	0.5	B
2	0	1	B
3	70	25	C
4	0	250	C

Test Procedure

1) The interruption is introduced at selected phase angles with specified duration.
2) Record any degradation of performance.

Test Data and Setup Photo

Environmental Conditions

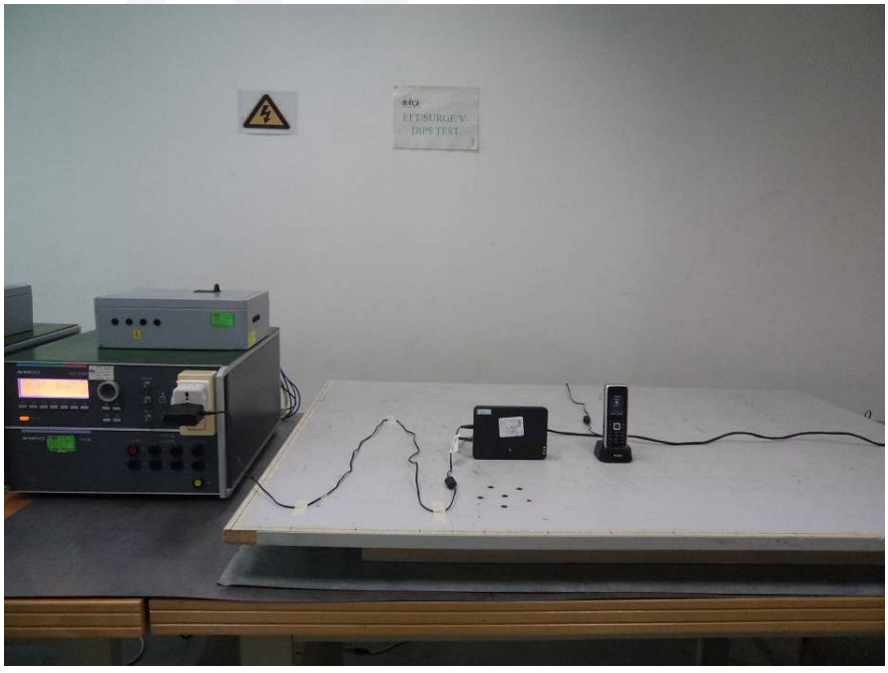
Temperature:	25 ℃
Relative Humidity:	55 %
ATM Pressure:	100.1 kPa

The testing was performed by Henry Ding on 2012-11-15.

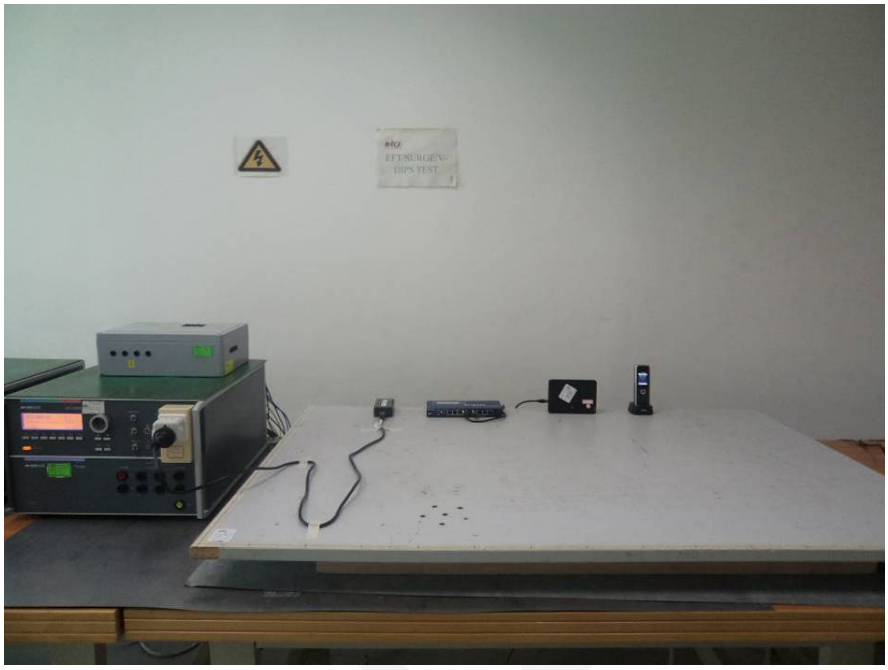
Test Mode 1 & Test Mode 2 & Test Mode 3

Level	Voltage dip and short interruptions (%)	Td (Periods)	Phase Angle	N	Pass	Fail
1	0	0.5	0/90/180/270	3	A	/
2	0	1	0/90/180/270	3	A	/
3	70	25	0/90/180/270	3	A	/
4	0	250	0/90/180/270	3	C	/

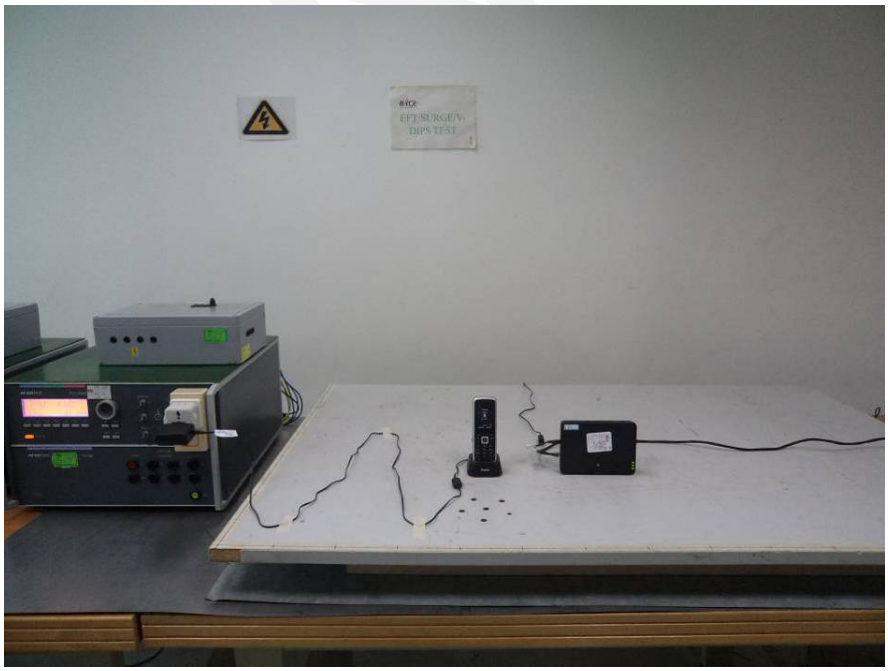
Test Mode 1



Test Mode 2



Test Mode 3

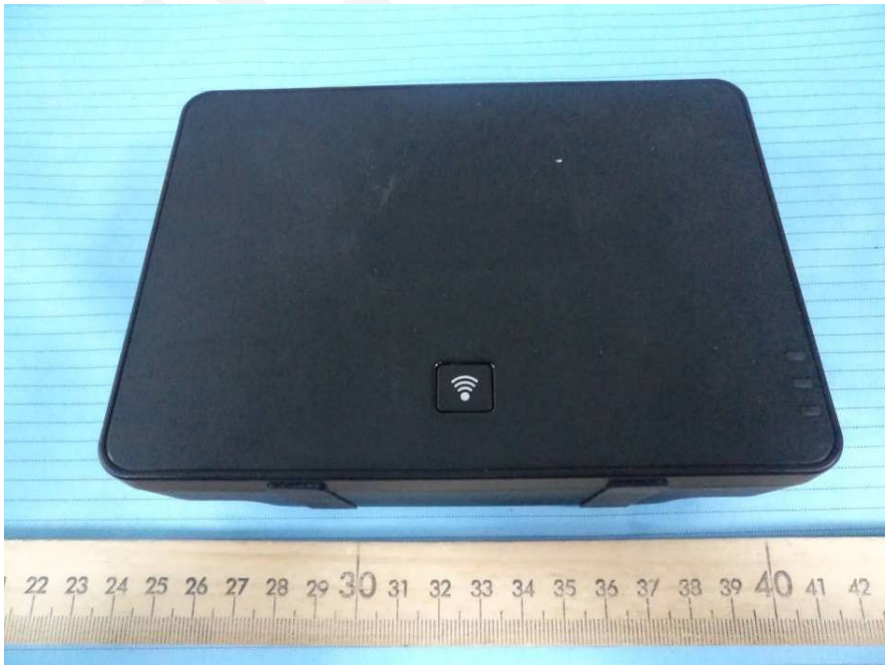


Test Setup photos

EXHIBIT A - EUT PHOTOGRAPHS

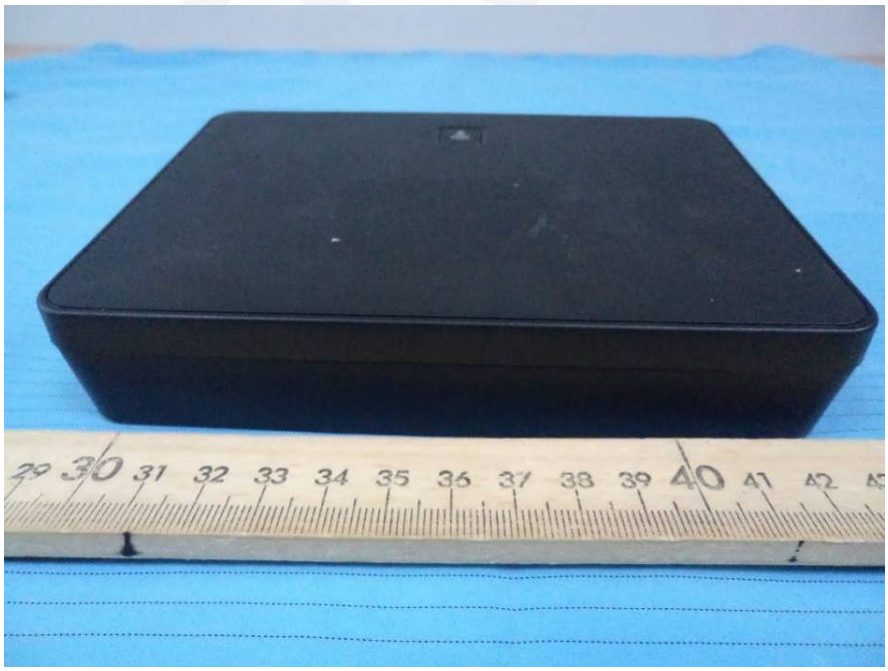
EUT – All View

EUT (Base) – Front View

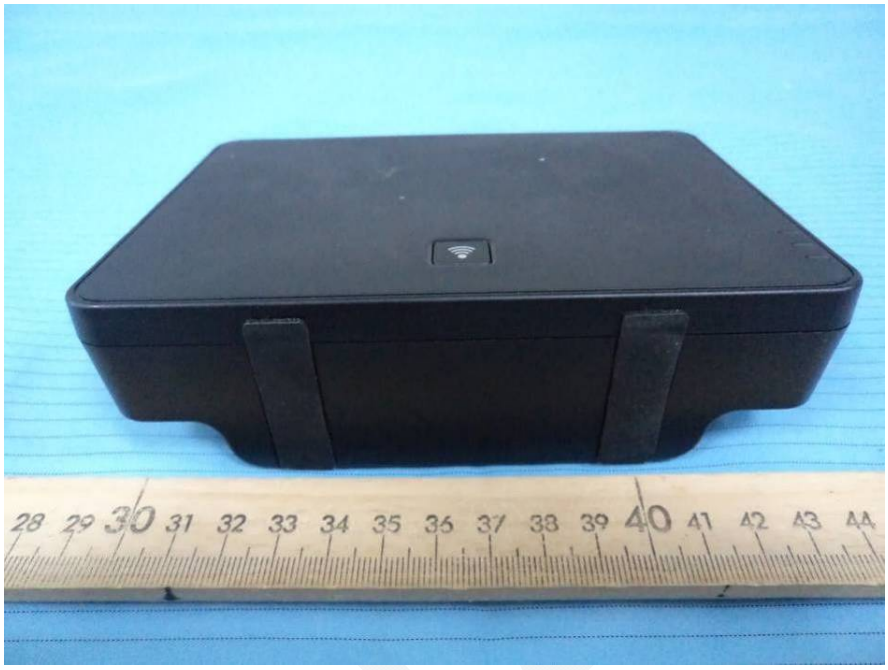


EUT (Base) – Rear View

EUT (Base) – Top View



EUT (Base) – Bottom View

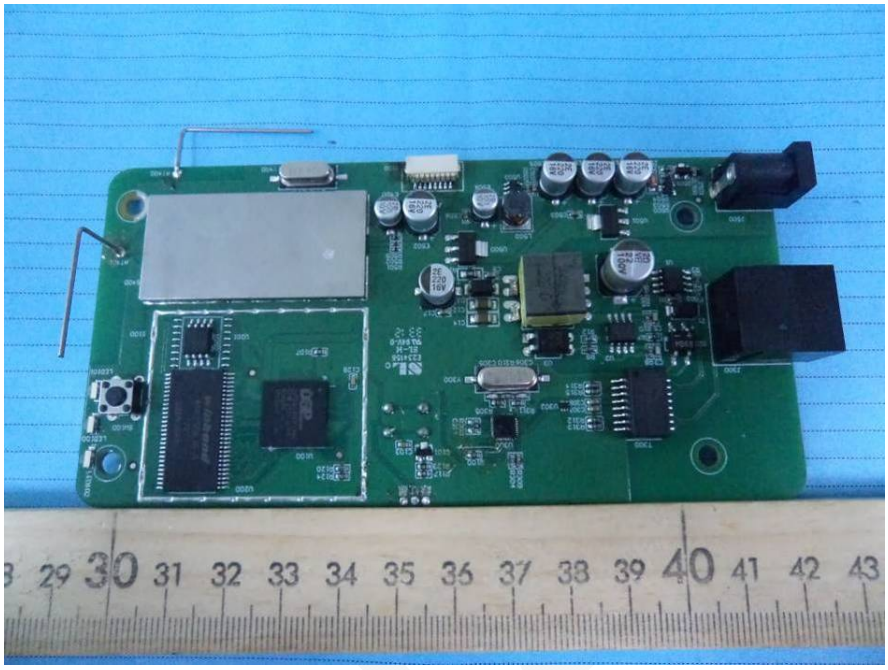


EUT (Base) – Left Side View

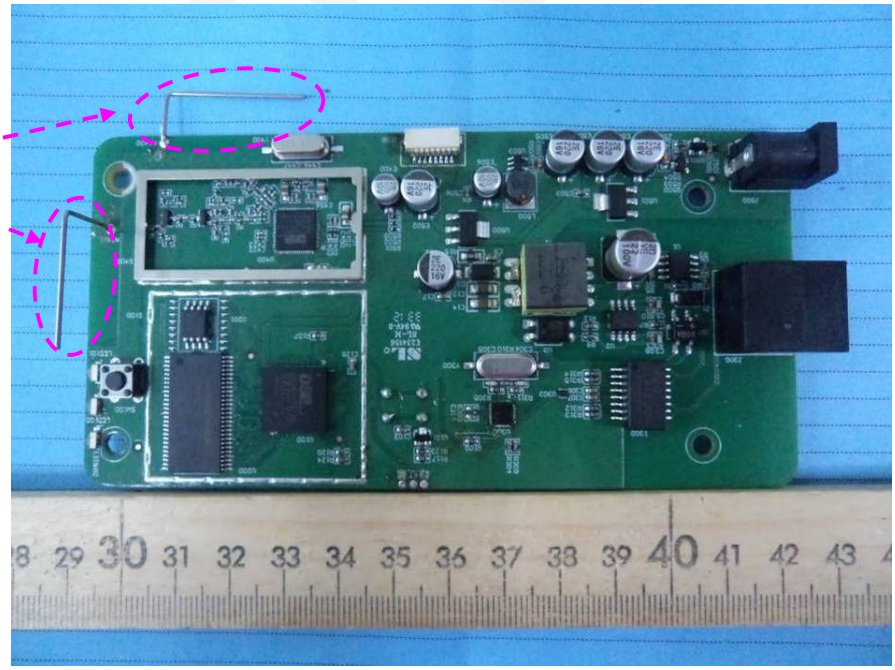
EUT (Base) – Right Sdie View

EUT (Base) – Cover off View

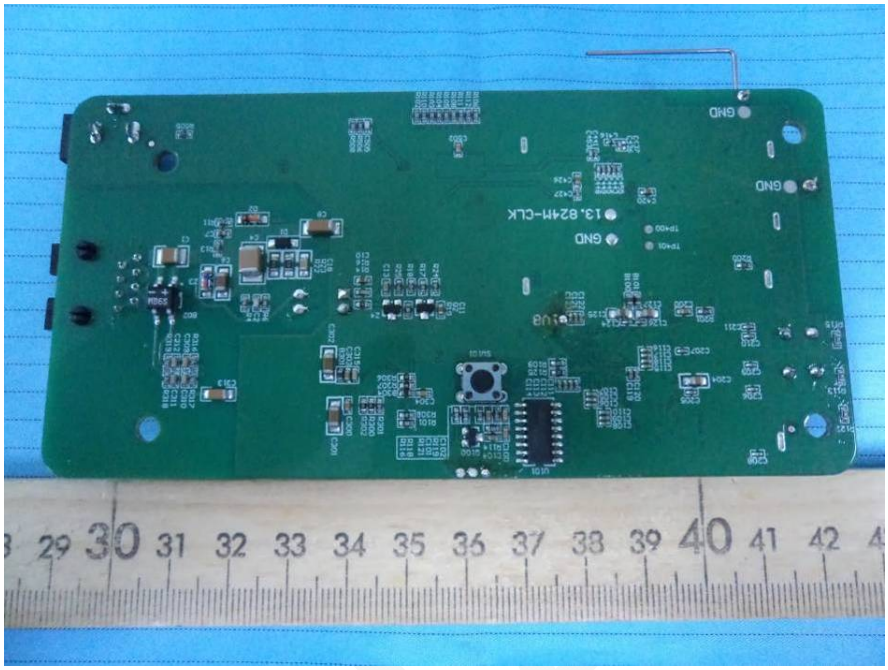
EUT (Base) – Main Board Top View



EUT (Base) – Main Board Top Shielding off View



EUT (Base) –Main Board Bottom View



EUT (Handset) – Front View

EUT (Handset) – Rear View

EUT (Handset) – Top View

EUT (Handset) – Bottom View

EUT (Handset) – Left Side View

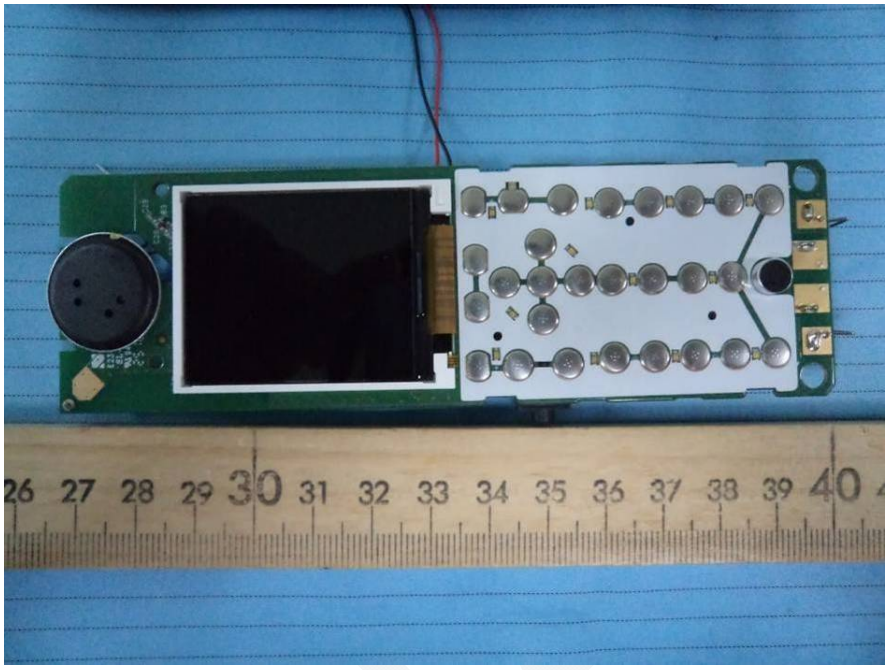
EUT (Handset) – Right Side View

EUT (Handset) – Battery off View

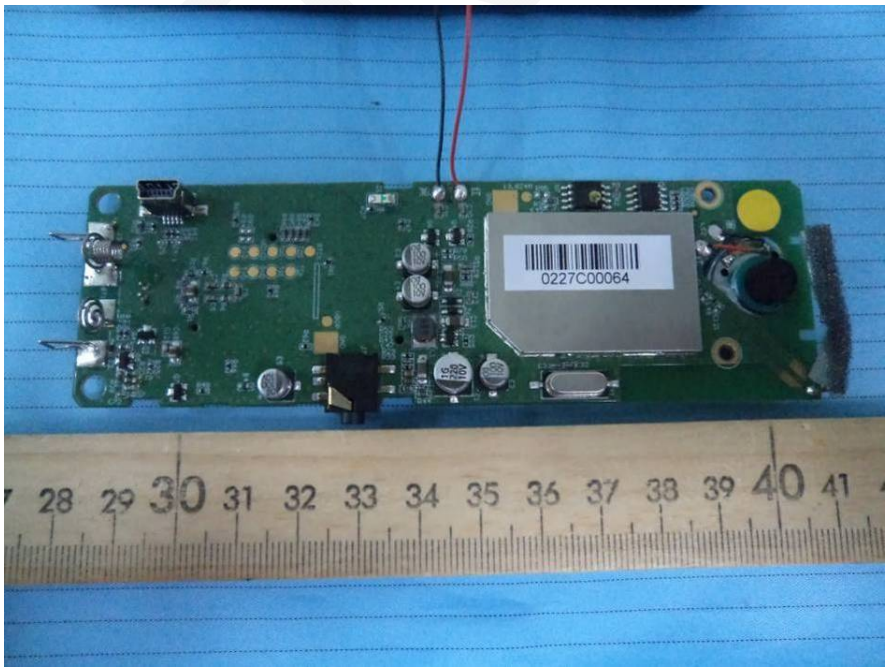
EUT (Handset) – Cover off View 1

EUT (Handset) – Cover off View 2

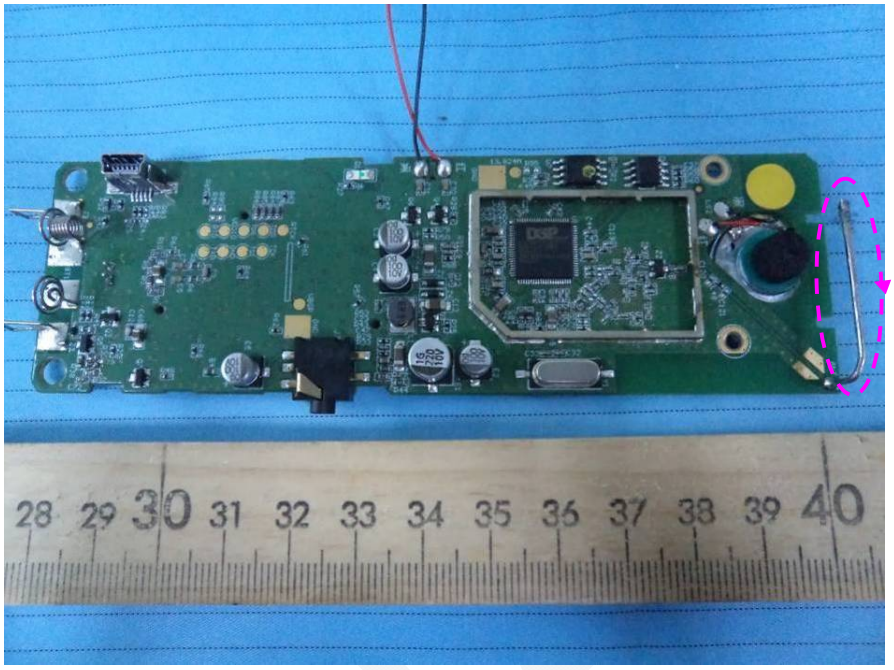
EUT (Handset) – Main Board Top with LCD & Keypad View



EUT (Handset) – Main Board Bottom View



EUT (Handset) – Main Board Bottom Shielding off View

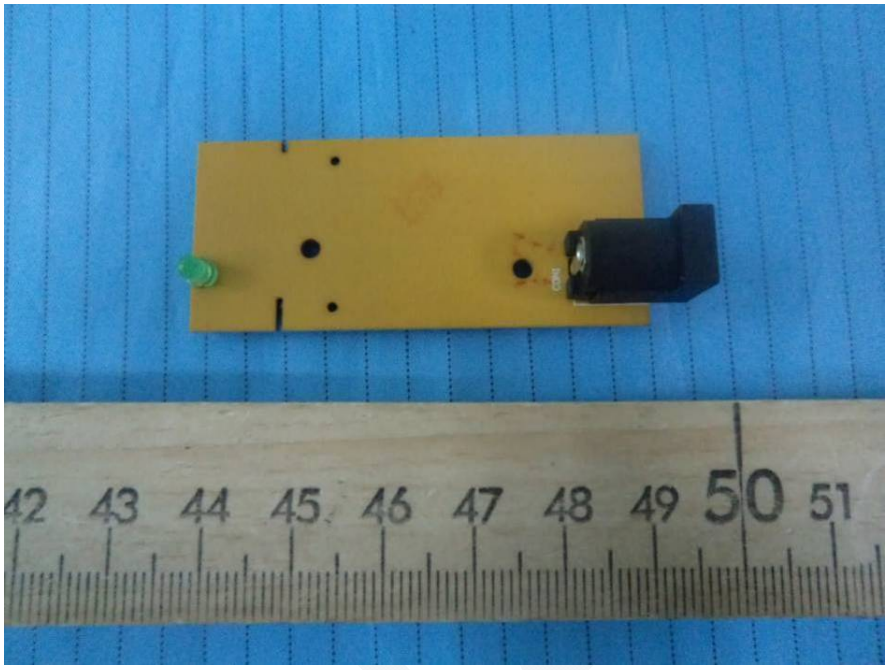


EUT (Charger) – Top View

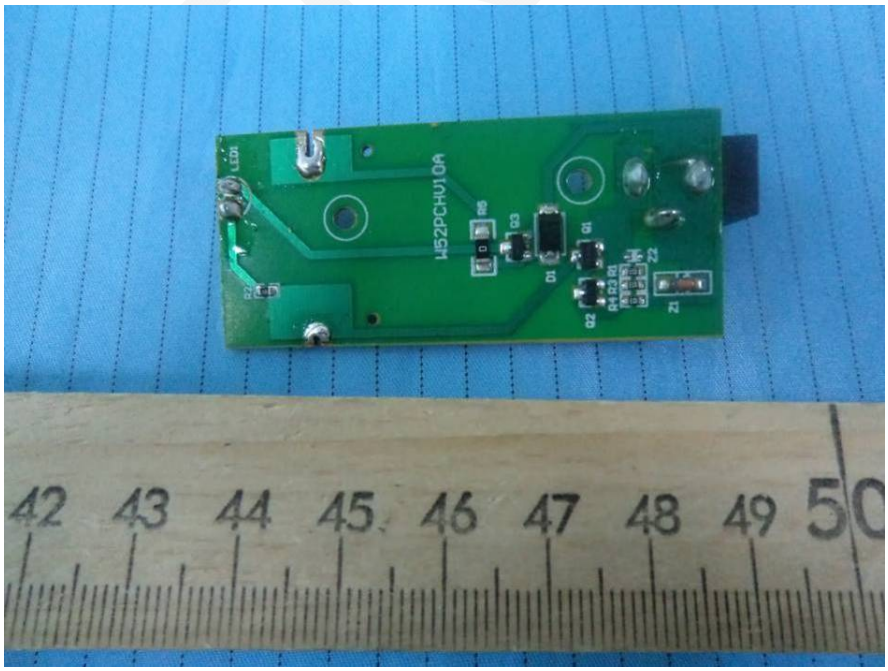
EUT (Charger) – Bottom View

EUT (Charger) – Cover off View

EUT (Charger) – Main Board Top View



EUT (Charger) – Main Board Bottom View



EUT (Charger) – Adapter View

EUT (Charger) – Adapter Label View

EXHIBIT B – TEST SETUP PHOTOGRAPHS

Conducted Emissions - Front View (Base Unit, AC Mains Port, Powered by AC Adapter)

Conducted Emissions - Side View (Base Unit, AC Mains Port, Powered by AC Adapter)

Conducted Emissions - Front View (Base Unit, RJ45 Port, Powered by AC Adapter)

Conducted Emissions - Side View (Base Unit, RJ45 Port, Powered by AC Adapter)

Conducted Emissions - Front View (Base Unit, Powered by PoE Switch)

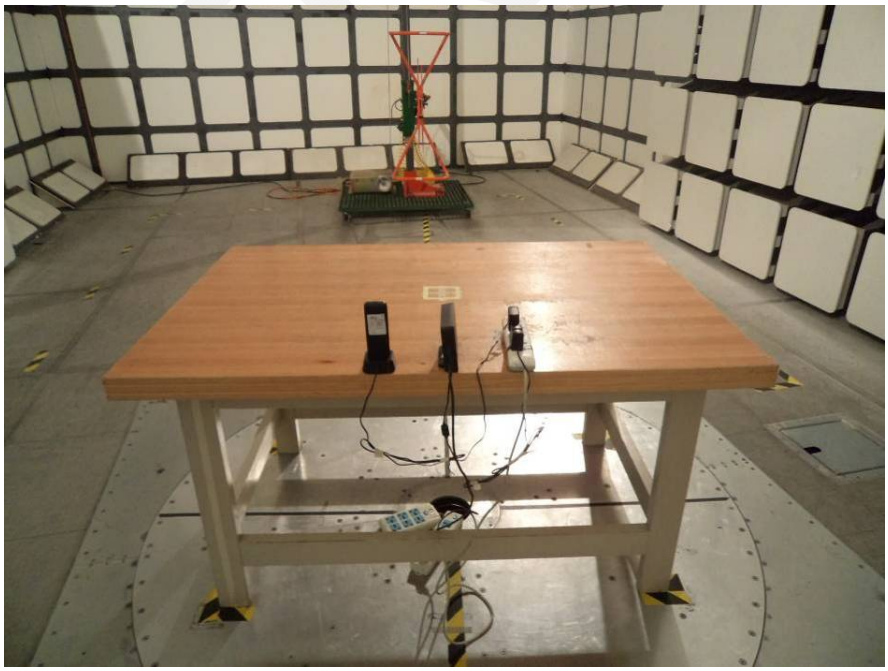
Conducted Emissions - Side View (Base Unit, Powered by PoE Switch)

Conducted Emissions - Front View (Handset Unit)

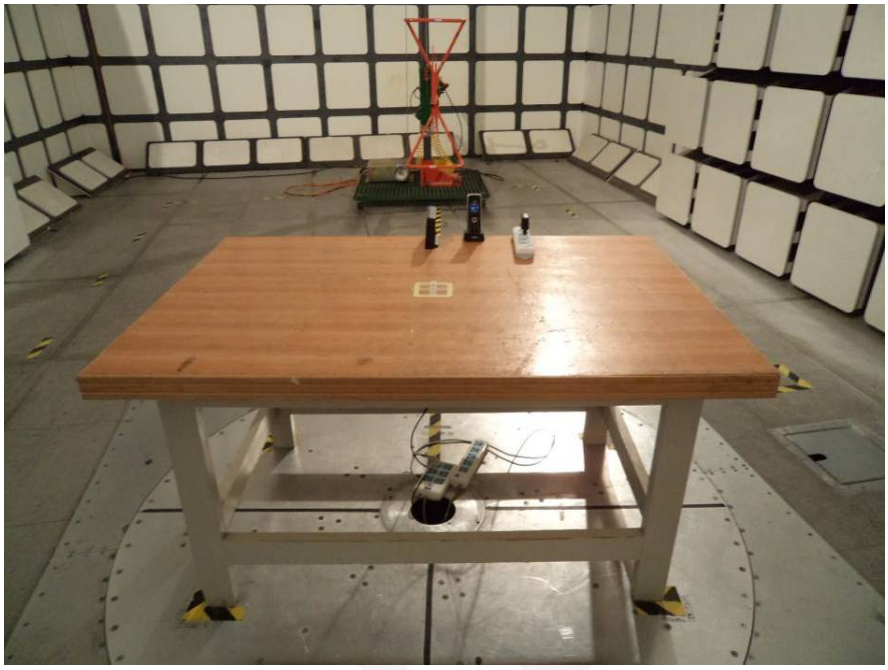
Conducted Emissions - Side View (Handset Unit)

Radiated Emissions - Front View (Powered by AC Adapter)

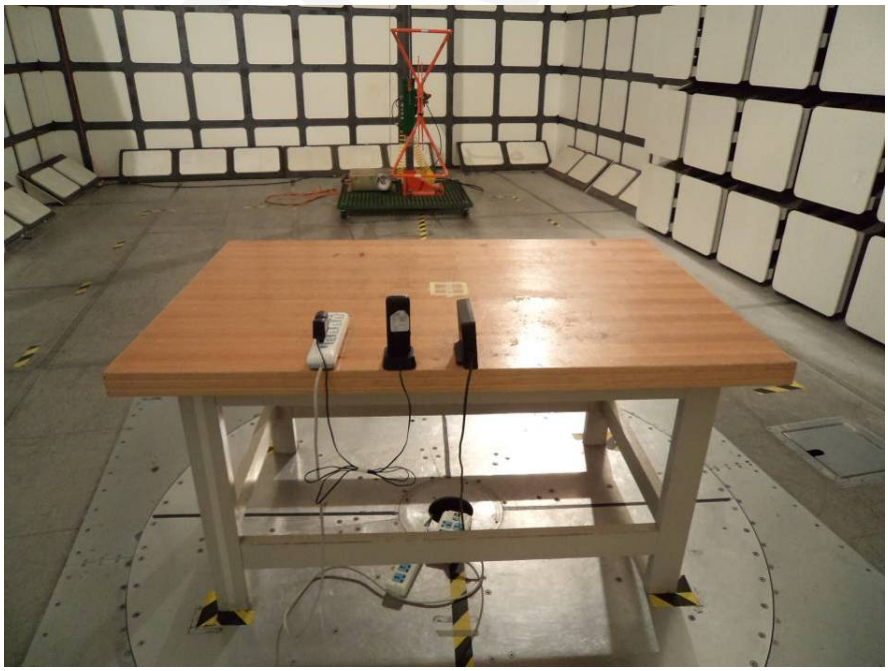
Radiated Emissions - Rear View (Powered by AC Adapter)



Radiated Emissions - Front View (Powered by PoE Switch)



Radiated Emissions - Rear View (Powered by PoE Switch)



DECLARATION LETTER

Yealink (Xiamen) Network Technology Co., LTD.
4th-5th Floor, South Building, No.63 Wanghai Road,2nd Software Park, Xiamen, China.
Tel: 86-592-5702000-2801 Fax: 86-592-5702455

2012-11-20

Product Similarity Declaration Letter

To Whom It May Concern,

We, Yealink （Xiamen）Network Technology Co.,Ltd. hereby declare that our product IP DECT Phone, the model W52P, W52H, W52Duo, the difference is W52P has one base and one handset, W52H has only one handset, and W52Duo has one base and two handsets. Model W52P was tested by BACL.

Please contact me if you have any question.

Signature:

Stone Lu：
Vice General Manager

******END OF REPORT******