

FCC Test Report

APPLICANT : ZTE CORPORATION
EQUIPMENT : CDMA/LTE Multi-Mode Digital Mobile Phone
BRAND NAME : ZTE
MODEL NAME : ZTE N9810
FCC ID : Q78-ZTEN9810
STANDARD : FCC 47 CFR FCC Part 15 Subpart B
CLASSIFICATION : Certification

The product was received on Dec. 18, 2012 and completely tested on Jan. 31, 2013. We, SPORTON INTERNATIONAL (KUNSHAN) INC., would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.4-2003 and shown the compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL (KUNSHAN) INC., the test report shall not be reproduced except in full.

Reviewed by:



Jones Tsai / Manager



SPORTON INTERNATIONAL (KUNSHAN) INC.
No. 3-2, PingXiang Road, Kunshan, Jiangsu Province, P.R.C.



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SUMMARY OF TEST RESULT

Report Section	FCC Rule	IC Rule	Description	Limit	Result	Remark
3.1	15.107	7.2.4	AC Conducted Emission	< 15.107 limits < RSS-Gen table 2 limits	PASS	Under limit 11.49 dB at 5.770 MHz
3.2	15.109	7.2.3.2	Radiated Emission	< 15.109 limits or < RSS-Gen table 1 limits (Section 6)	PASS	3.29 dB at 239.790 MHz for Quasi-Peak

1. General Description

1.1. Applicant

ZTE CORPORATION

ZTE Plaza, Keji Road South, Hi-Tech, Industrial Park, Nanshan District, Shenzhen, Guangdong, 518057, P.R.China

1.2. Manufacturer

ZTE CORPORATION

ZTE Plaza, Keji Road South, Hi-Tech, Industrial Park, Nanshan District, Shenzhen, Guangdong, 518057, P.R.China

1.3. Feature of Equipment Under Test

Product Feature	
Equipment	CDMA/LTE Multi-Mode Digital Mobile Phone
Brand Name	ZTE
Model Name	ZTE N9810
FCC ID	Q78-ZTEN9810
EUT supports Radios application	CDMA/EV-DO/LTE/WLAN 11abgn/ Bluetooth/Bluetooth4.0 – LE/NFC
HW Version	c9zB
SW Version	N9810V1.0.0B01
EUT Stage	Identical Prototype

Remark: The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

1.4. Product Specification of Equipment Under Test

Product Specification subjective to this standard	
Tx Frequency	CDMA2000 BC0: 824.70 MHz ~ 848.31 MHz CDMA2000 BC1: 1815.25 MHz ~ 1908.75 MHz CDMA2000 BC10: 817.90 MHz ~ 823.10 MHz LTE Band 25: 1850.7 MHz ~ 1914.3 MHz 802.11b/g/n: 2412 MHz ~ 2462 MHz 802.11a/n: 5180 MHz ~ 5240 MHz, 5745~5805MHz Bluetooth: 2402 MHz ~ 2480 MHz NFC : 13.56 MHz
Rx Frequency Range	CDMA2000 BC0: 869.70 MHz ~ 893.31 MHz CDMA2000 BC1: 1931.25 MHz ~ 1988.75 MHz CDMA2000 BC10: 903.8 MHz ~ 914.2 MHz LTE Band 25: 1930.7 MHz ~ 1994.3 MHz 802.11b/g/n: 2412 MHz ~ 2462 MHz 802.11a/n: 5180 MHz ~ 5240 MHz, 5745~5805MHz Bluetooth: 2402 MHz ~ 2480 MHz NFC : 13.56 MHz GPS : 1.57542 GHz
Antenna Type	CDMA : PIFA Antenna LTE : PIFA Antenna WLAN : PIFA Antenna Bluetooth : PIFA Antenna NFC : Coil Antenna
Type of Modulation	CDMA2000 : QPSK CDMA2000 1xEV-DO : 8PSK LTE: QPSK / 16QAM 802.11b : DSSS (DBPSK / DQPSK / CCK) 802.11a/g/n : OFDM (BPSK / QPSK / 16QAM / 64QAM) Bluetooth BDR (1Mbps) : GFSK Bluetooth EDR (2Mbps) : $\pi/4$ -DQPSK Bluetooth EDR (3Mbps) : 8-DPSK Bluetooth v4.0 - LE: GFSK NFC: ASK GPS : BPSK

1.5. Test Site

Test Site	SPORTON INTERNATIONAL (KUNSHAN) INC.	
Test Site Location	No. 3-2, PingXiang Road, Kunshan, Jiangsu Province, P.R.C. TEL: +86-0512-5790-0158 FAX: +86-0512-5790-0958	
Test Site No.	Sporton Site No.	FCC/IC Registration No.
	CO01-KS	149928/4086E-1

Test Site	SPORTON INTERNATIONAL INC.	
Test Site Location	No. 52, Hwa Ya 1 st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C. TEL: +886-3-327-3456 FAX: +886-3-328-4978	
Test Site No.	Sporton Site No.	FCC/IC Registration No.
	03CH06-HY	722060/4086B-1

1.6. Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- FCC 47 CFR FCC Part 15 Subpart B
- ANSI C63.4-2003
- IC RSS-Gen Issue 3

Remark: All test items were verified and recorded according to the standards and without any deviation during the test.

2. Test Configuration of Equipment Under Test

2.1. Test Mode

The EUT has been associated with peripherals pursuant to ANSI C63.4-2003 and configuration operated in a manner tended to maximize its emission characteristics in a typical application.

Frequency range investigated: conduction (150 KHz to 30 MHz), radiation (30MHz to the 5th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower).

The following tables are showing the test modes as the worst cases and recorded in this report.

Item	EUT Configuration	Test Condition		
		EMI AC	EMI RE<1G	EMI RE≥1G
1.	Charging Mode (EUT with adapter)	☒	☒	Note 1
2.	Data application transferred mode (EUT with PC or notebook)	☒	☒	☒

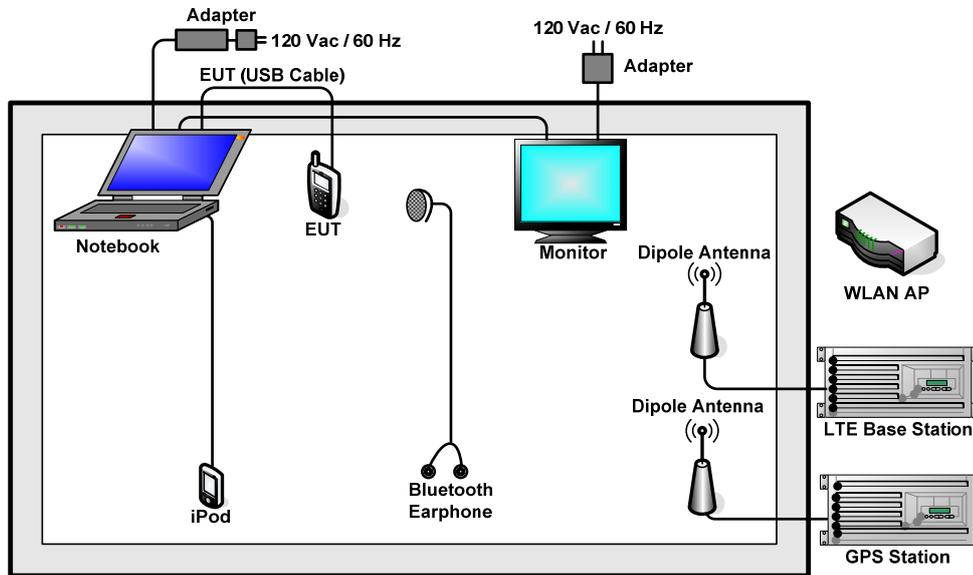
Abbreviations:

- EMI AC: AC conducted emissions
- EMI RE ≥ 1G: EUT radiated emissions ≥ 1GHz
- EMI RE < 1G: EUT radiated emissions < 1GHz

Note 1: Testing for this mode is not required or not the worst case.

Remark: For signal above 1GHz, the worst case was test item 2.

Test Items	EUT Configure Mode	Function Type
AC Conducted Emission	1/2	Mode 1: CDMA2000 BC0 Idle + Bluetooth Idle + WLAN Idle + USB Cable (Charging from Adapter) + Camera <Fig. 1> Mode 2: CDMA2000 BC10 Idle + Bluetooth Idle + WLAN Idle + USB Cable (Charging from Adapter) + MPEG4 <Fig. 1> Mode 3: CDMA2000 BC1 Idle + Bluetooth Idle + WLAN Idle + USB Cable (Charging from Adapter) + NFC Rx <Fig. 1> Mode 4: LTE Band 25 Idle + Bluetooth Idle + WLAN Idle + USB Cable (Data Link with PC) + GPS Rx <Fig. 2>
Radiated Emissions < 1GHz	1/2	Mode 1: CDMA2000 BC0 Idle + Bluetooth Idle + WLAN Idle + USB Cable (Charging from Adapter) + Camera <Fig. 1> Mode 2: CDMA2000 BC10 Idle + Bluetooth Idle + WLAN Idle + USB Cable (Charging from Adapter) + MPEG4 <Fig. 1> Mode 3: CDMA2000 BC1 Idle + Bluetooth Idle + WLAN Idle + USB Cable (Charging from Adapter) + NFC Rx <Fig. 1> Mode 4: LTE Band 25 Idle + Bluetooth Idle + WLAN Idle + USB Cable (Data Link with Notebook) + GPS Rx <Fig. 3>
Radiated Emissions ≥ 1GHz	2	Mode 1: LTE Band 25 Idle + Bluetooth Idle + WLAN Idle + USB Cable (Data Link with Notebook) + GPS Rx <Fig. 3>
Remark: <ol style="list-style-type: none"> The worst case of AC Conducted Emission is mode 1; the test data of this mode was reported. The worst case of AC Conducted Emission is mode 4; the test data of this mode was reported. The worst case of Radiated Emissions is mode 4; the test data of this mode was reported. Link with Notebook / PC means data application transferred mode between EUT and Notebook / PC. 		



<Fig. 3>

2.3. Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	System Simulator	R&S	CMU 200	N/A	N/A	Unshielded, 1.8 m
2.	LTE Base Station	Anritus	MT8820C	N/A	N/A	Unshielded, 1.8 m
3.	LTE Base Station	R&S	CMW 500	N/A	N/A	Unshielded, 1.8 m
4.	GPS Station	ADIVIC	MP9000	N/A	N/A	Unshielded, 1.8 m
5.	GPS Station	Pendulum	GSG-54	N/A	N/A	Unshielded, 1.8m
6.	PC	DELL	MT320	FCC DoC	N/A	Unshielded, 1.8 m
7.	Notebook	DELL	Latitude E6320	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
8.	WLAN AP	D-Link	DIR-855	KA2DIR855A2	N/A	Unshielded, 1.8 m
9.	WLAN AP	D-Link	DIR-628	KA2DIR628A2	N/A	Unshielded, 1.8 m
10.	Bluetooth Earphone	Nokia	BH-106	QTLBH-106	N/A	N/A
11.	Bluetooth Earphone	Sony Ericsson	MW600	PY7DDA-2029	Unshielded, 1.0m	N/A
12.	Monitor	DELL	E1910Hc	FCC DoC	Shielded, 1.2 m	Unshielded, 1.8 m
13.	LCD Monitor	DELL	U2410	FCC DoC	Shielded, 1.6m	Unshielded, 1.8m
14.	(USB) Keyboard	DELL	SK-8115	FCC DoC	Shielded, 1.8 m with Core	N/A
15.	(USB) Mouse	DELL	N231	FCC DoC	Shielded, 1.8 m	N/A
16.	Printer	HP	Laser Jet 1018	FCC DoC	Shielded, 1.8 m	Unshielded, 1.8 m
17.	iPod	Apple	A1199	FCC DoC	Shielded, 1.2 m	N/A
18.	iPod	Apple	A1285	FCC DoC	Shielded, 1.6m	N/A



2.4. Test Software

The EUT was in CDMA2000 or LTE idle mode during the testing. The EUT was synchronized to the BCCH, and is in continuous receiving mode by setting system simulator's paging reorganization.

At the same time, the EUT was attached to the Bluetooth earphone and WLAN AP, and the following programs installed in the EUT were programmed during the test.

1. Execute the program, "Winthrax" under WIN7 installed in notebook or PC for files transfer with EUT via USB cable.
2. Turn on GPS function to make the EUT receive continuous signals from GPS station.
3. Execute "Video Player" to play MPEG4 files.
4. Turn on camera to capture images.
5. Turn on NFC Rx function.

3. Test Result

3.1. Test of AC Conducted Emission Measurement

3.1.1 Limits of AC Conducted Emission

For equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 KHz to 30 MHz shall not exceed the limits in the following table.

Frequency of emission (MHz)	Conducted limit (dBuV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.

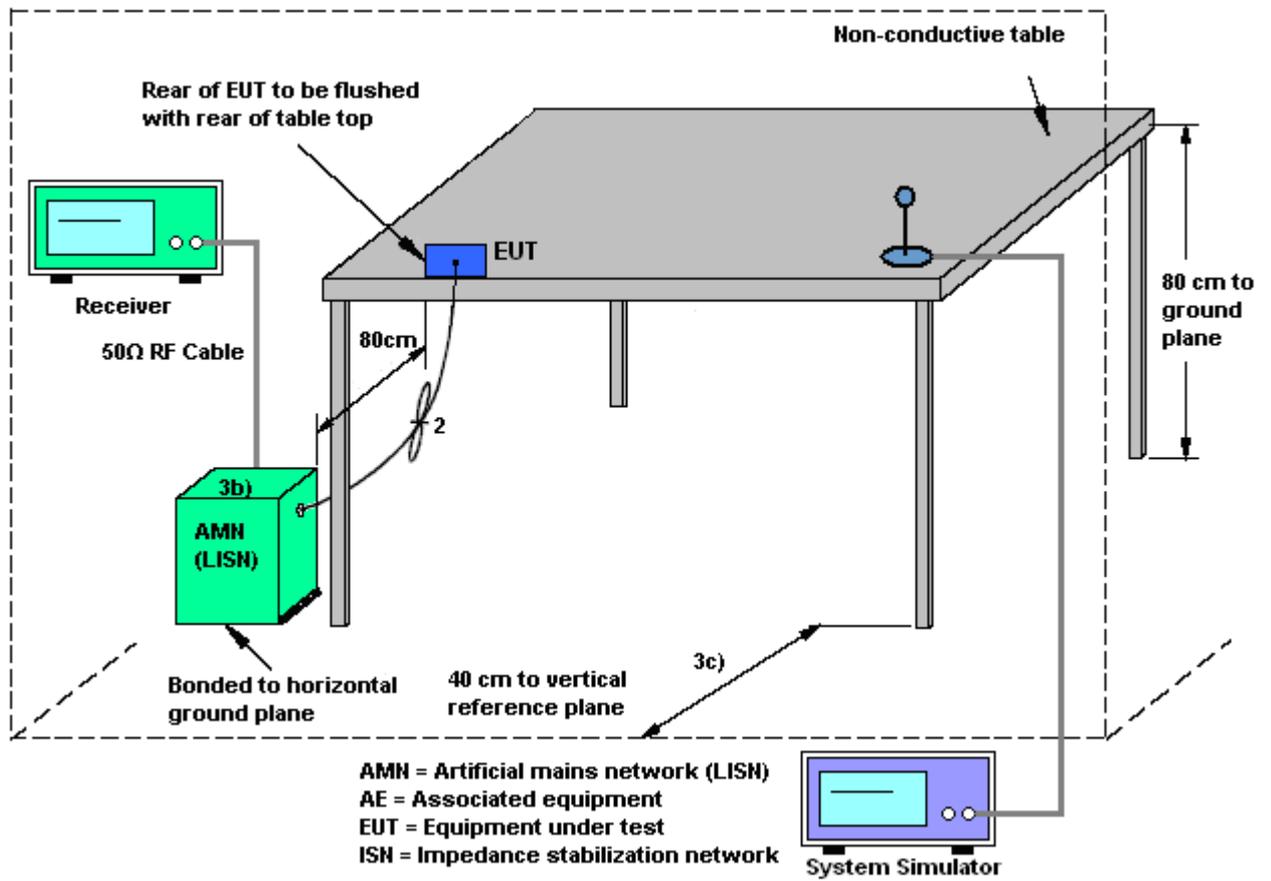
3.1.2 Measuring Instruments

See list of measuring instruments of this test report.

3.1.3 Test Procedure

1. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.
4. The LISN provides 50 ohm coupling impedance for the measuring instrument.
5. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
6. Both sides of AC line were checked for maximum conducted interference.
7. The frequency range from 150 KHz to 30 MHz was searched.
8. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode.

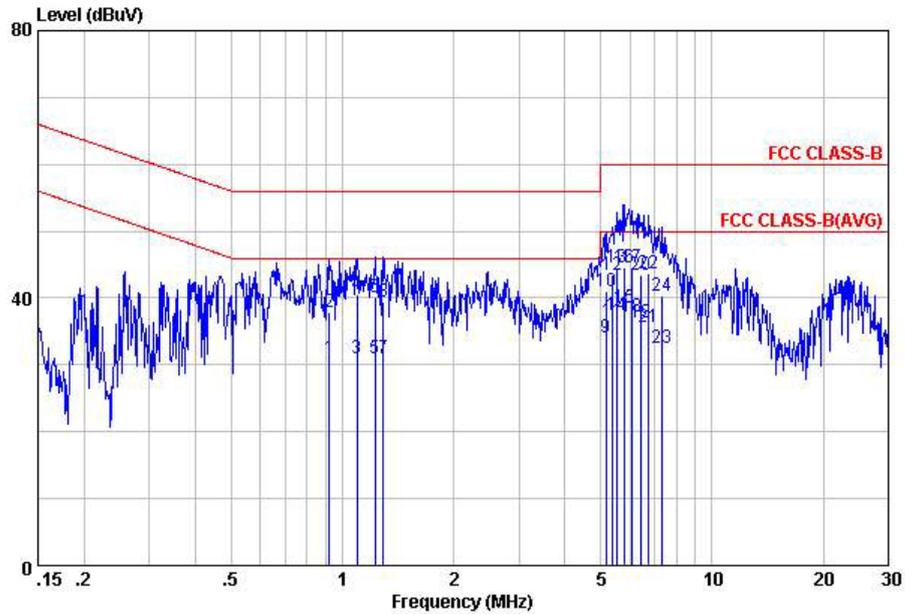
3.1.4 Test Setup





3.1.5 Test Result of AC Conducted Emission

Test Mode :	Mode 1	Temperature :	19~20°C
Test Engineer :	Tom Wang	Relative Humidity :	39~40%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	CDMA2000 BC0 Idle + Bluetooth Idle + WLAN Idle + USB Cable (Charging from Adapter) + Camera		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



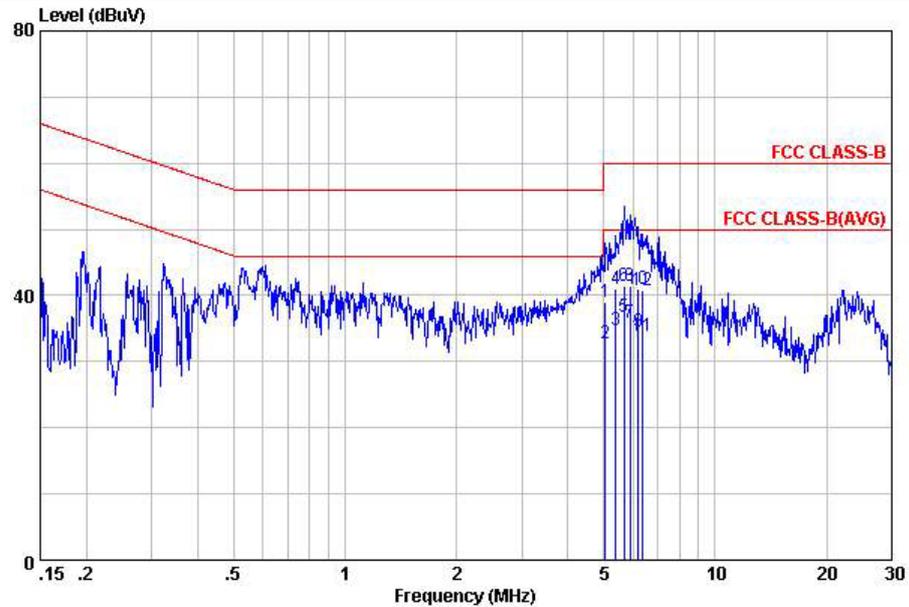
Site : C001-KS
 Condition: FCC CLASS-B LISN-111230 LINE

mode : Mode 1

	Freq	Level	Over	Limit	Read	LISN	Cable	Remark
	MHz	dBuV	Limit	Line	Level	Factor	Loss	
			dB	dBuV	dBuV	dB	dB	
1	0.92	31.08	-14.92	46.00	20.90	-0.10	10.28	Average
2	0.92	37.98	-18.02	56.00	27.80	-0.10	10.28	QP
3	1.09	30.88	-15.12	46.00	20.70	-0.10	10.28	Average
4	1.09	40.48	-15.52	56.00	30.30	-0.10	10.28	QP
5	1.22	31.08	-14.92	46.00	20.90	-0.10	10.28	Average
6	1.22	40.18	-15.82	56.00	30.00	-0.10	10.28	QP
7	1.29	30.98	-15.02	46.00	20.79	-0.10	10.29	Average
8	1.29	39.38	-16.62	56.00	29.19	-0.10	10.29	QP
9	5.17	34.21	-15.79	50.00	24.00	-0.13	10.34	Average
10	5.17	41.01	-18.99	60.00	30.80	-0.13	10.34	QP
11	5.39	36.61	-13.39	50.00	26.40	-0.13	10.34	Average
12	5.39	43.41	-16.59	60.00	33.20	-0.13	10.34	QP
13	5.53	44.51	-15.49	60.00	34.30	-0.13	10.34	QP
14	5.53	37.41	-12.59	50.00	27.20	-0.13	10.34	Average
15	5.77	38.51	-11.49	50.00	28.30	-0.13	10.34	Average
16	5.77	44.51	-15.49	60.00	34.30	-0.13	10.34	QP
17	6.09	44.51	-15.49	60.00	34.30	-0.13	10.34	QP
18	6.09	37.11	-12.89	50.00	26.90	-0.13	10.34	Average
19	6.42	36.32	-13.68	50.00	26.10	-0.13	10.35	Average
20	6.42	43.52	-16.48	60.00	33.30	-0.13	10.35	QP
21	6.73	35.62	-14.38	50.00	25.40	-0.13	10.35	Average
22	6.73	43.62	-16.38	60.00	33.40	-0.13	10.35	QP
23	7.33	32.62	-17.38	50.00	22.40	-0.13	10.35	Average
24	7.33	40.22	-19.78	60.00	30.00	-0.13	10.35	QP



Test Mode :	Mode 1	Temperature :	19~20°C
Test Engineer :	Tom Wang	Relative Humidity :	39~40%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	CDMA2000 BC0 Idle + Bluetooth Idle + WLAN Idle + USB Cable (Charging from Adapter) + Camera		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		

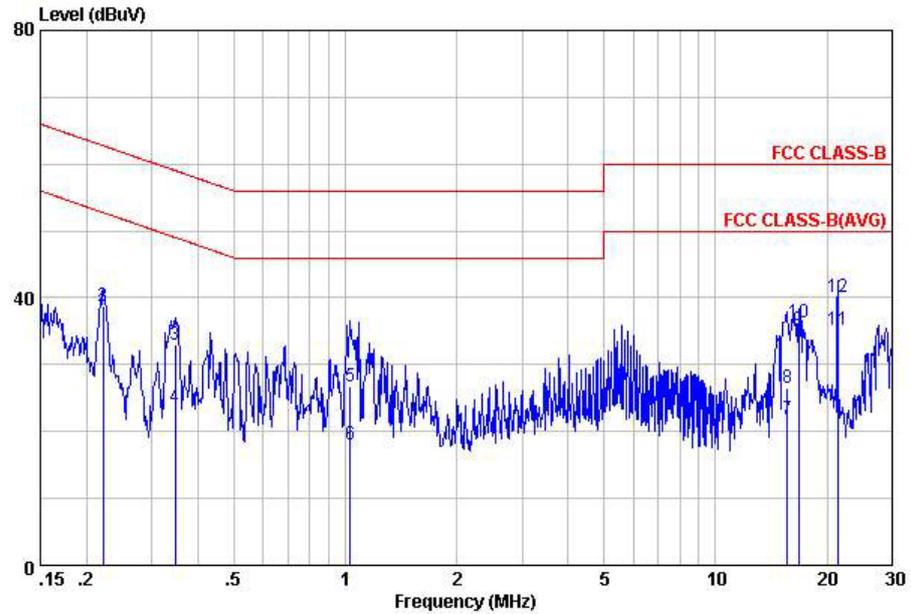


Site : C001-KS
 Condition: FCC CLASS-B LISN-111230 NEUTRAL
 mode : Mode 1

	Freq	Level	Over	Limit	Read	LISN	Cable	Remark
	MHz	dBuV	Limit	Line	Level	Factor	Loss	
			dB	dBuV	dBuV	dB	dB	
1	5.06	39.00	-21.00	60.00	28.80	-0.13	10.33	QP
2	5.06	32.80	-17.20	50.00	22.60	-0.13	10.33	Average
3	5.39	34.81	-15.19	50.00	24.60	-0.13	10.34	Average
4	5.39	40.91	-19.09	60.00	30.70	-0.13	10.34	QP
5	5.68	36.81	-13.19	50.00	26.60	-0.13	10.34	Average
6	5.68	41.51	-18.49	60.00	31.30	-0.13	10.34	QP
7	5.90	35.91	-14.09	50.00	25.70	-0.13	10.34	Average
8	5.90	41.41	-18.59	60.00	31.20	-0.13	10.34	QP
9	6.19	34.51	-15.49	50.00	24.30	-0.13	10.34	Average
10	6.19	41.01	-18.99	60.00	30.80	-0.13	10.34	QP
11	6.39	33.82	-16.18	50.00	23.60	-0.13	10.35	Average
12	6.39	40.82	-19.18	60.00	30.60	-0.13	10.35	QP



Test Mode :	Mode 4	Temperature :	19~20°C
Test Engineer :	Tom Wang	Relative Humidity :	39~40%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	LTE Band 25 Idle + Bluetooth Idle + WLAN Idle + USB Cable (Data Link with PC) + GPS Rx		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		

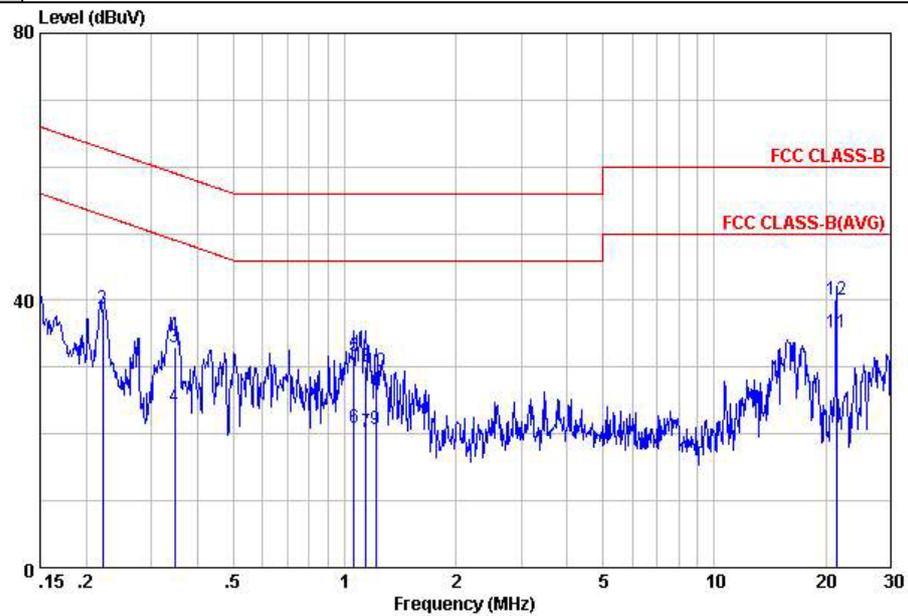


Site : C001-KS
 Condition: FCC CLASS-B LISN-111230 LINE
 mode : Mode 4

	Freq	Level	Over	Limit	Read	LISN	Cable	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.22	38.15	-14.59	52.74	28.00	-0.07	10.22	Average
2	0.22	38.75	-23.99	62.74	28.60	-0.07	10.22	QP
3	0.35	32.87	-26.18	59.05	22.70	-0.08	10.25	QP
4	0.35	23.67	-25.38	49.05	13.50	-0.08	10.25	Average
5	1.03	26.78	-29.22	56.00	16.60	-0.10	10.28	QP
6	1.03	18.08	-27.92	46.00	7.90	-0.10	10.28	Average
7	15.63	21.77	-28.23	50.00	11.39	-0.01	10.39	Average
8	15.63	26.57	-33.43	60.00	16.19	-0.01	10.39	QP
9	16.75	35.23	-14.77	50.00	24.80	0.01	10.42	Average
10	16.75	36.43	-23.57	60.00	26.00	0.01	10.42	QP
11	21.37	35.30	-14.70	50.00	24.70	0.09	10.51	Average
12	21.37	40.20	-19.80	60.00	29.60	0.09	10.51	QP



Test Mode :	Mode 4	Temperature :	19~20°C
Test Engineer :	Tom Wang	Relative Humidity :	39~40%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	LTE Band 25 Idle + Bluetooth Idle + WLAN Idle + USB Cable (Data Link with PC) + GPS Rx		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



Site : C001-RS
 Condition: FCC CLASS-B LISN-111230 NEUTRAL
 mode : Mode 4

	Freq	Level	Over	Limit	Read	LISN	Cable	Remark
	MHz	dBuV	Limit	Line	Level	Factor	Loss	
			dB	dBuV	dBuV	dB	dB	
1	0.22	37.35	-15.39	52.74	27.20	-0.07	10.22	Average
2	0.22	38.85	-23.89	62.74	28.70	-0.07	10.22	QP
3	0.35	32.87	-26.18	59.05	22.70	-0.08	10.25	QP
4	0.35	23.97	-25.08	49.05	13.80	-0.08	10.25	Average
5	1.06	31.58	-24.42	56.00	21.39	-0.09	10.28	QP
6	1.06	20.98	-25.02	46.00	10.79	-0.09	10.28	Average
7	1.14	20.38	-25.62	46.00	10.19	-0.09	10.28	Average
8	1.14	30.10	-25.90	56.00	19.91	-0.09	10.28	QP
9	1.22	20.78	-25.22	46.00	10.59	-0.09	10.28	Average
10	1.22	29.38	-26.62	56.00	19.19	-0.09	10.28	QP
11	21.37	35.30	-14.70	50.00	24.72	0.07	10.51	Average
12	21.37	40.20	-19.80	60.00	29.62	0.07	10.51	QP

3.2. Test of Radiated Emission Measurement

3.2.1. Limit of Radiated Emission

The emissions from an unintentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
30 – 88	100	3
88 – 216	150	3
216 - 960	200	3
Above 960	500	3

3.2.2. Measuring Instruments

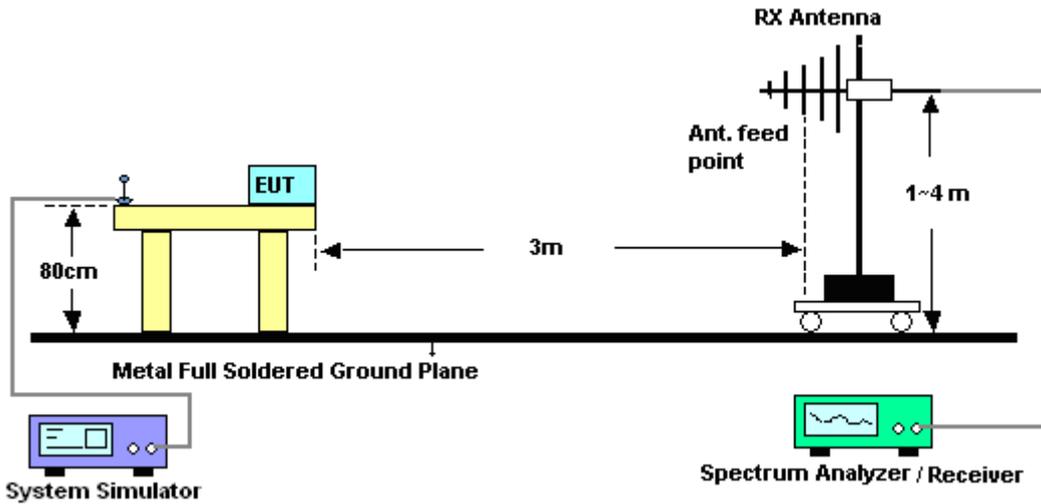
See list of measuring instruments of this test report.

3.2.3. Test Procedures

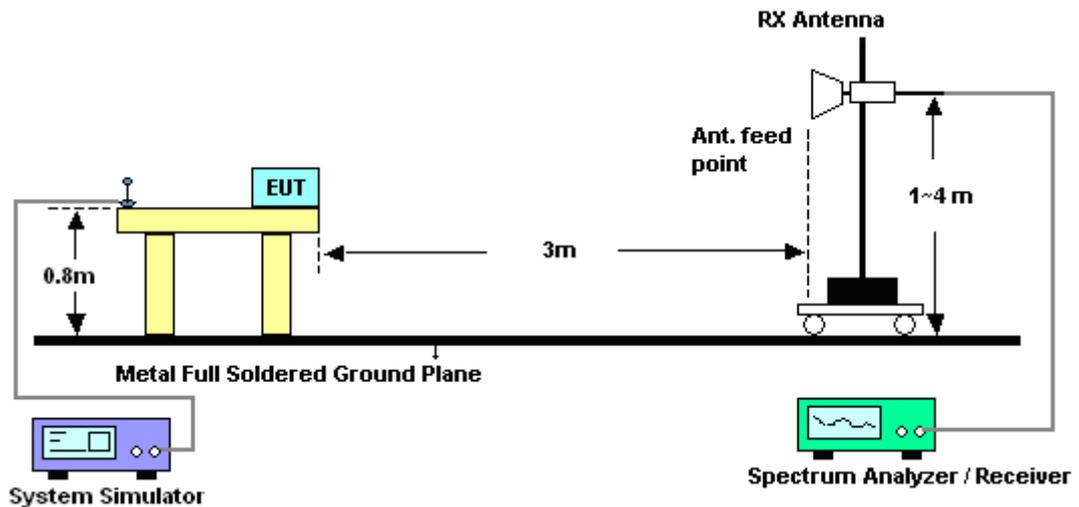
1. The EUT was placed on a turntable with 0.8 meter above ground.
2. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest radiation.
4. The antenna height is adjusted between one to four meters above ground to find the maximum value of the field strength for both horizontal polarization and vertical polarization of the antenna.
5. For each suspected emission, the EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading.
6. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode.
7. If the emission level of the EUT in peak mode was 3 dB lower than the limit specified, peak values of EUT will be reported. Otherwise, the emission will be repeated by using the quasi-peak method and reported.
8. Emission level (dBuV/m) = 20 log Emission level (uV/m)
9. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor= Level

3.2.4. Test Setup of Radiated Emission

For radiated emissions from 30MHz to 1GHz



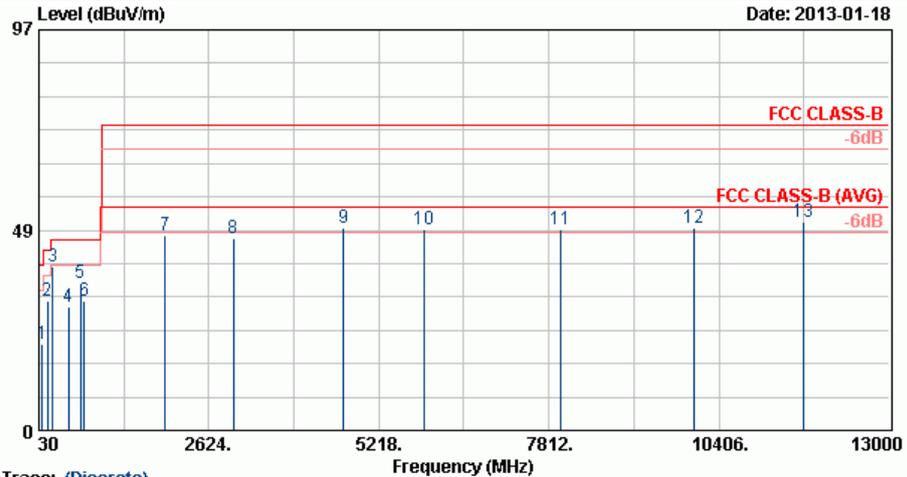
For radiated emissions above 1GHz





3.2.5. Test Result of Radiated Emission

Test Mode :	Mode 4	Temperature :	22~23°C
Test Engineer :	Kai Wang	Relative Humidity :	43~44%
Test Distance :	3m	Polarization :	Horizontal
Function Type :	LTE Band 25 Idle + Bluetooth Idle + WLAN Idle + USB Cable (Data Link with Notebook) + GPS Rx		



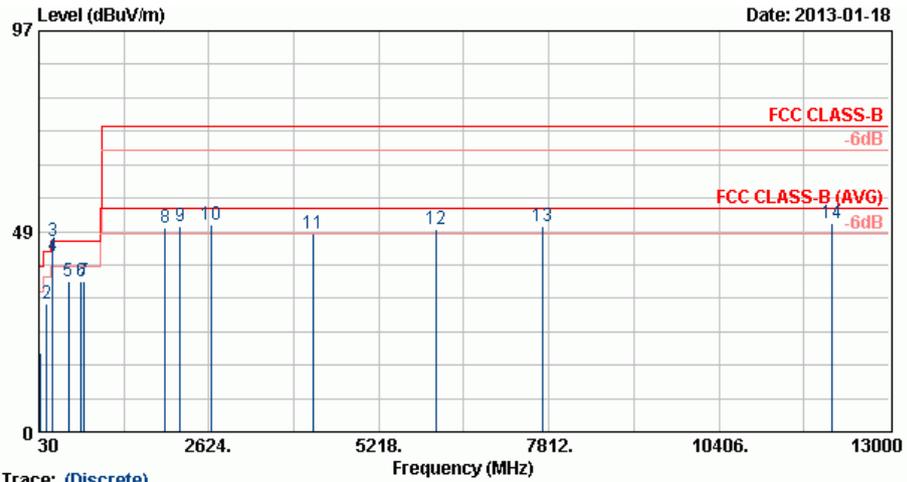
Trace: (Discrete)
 Site : 03CR06-HY
 Condition : FCC CLASS-B HF-ANT_120801 HORIZONTAL

Mode : Mode 4

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	86.43	20.97	-19.03	40.00	43.45	7.82	1.03	31.33	---	---	Peak
2	160.14	31.51	-11.99	43.50	51.31	10.00	1.47	31.26	---	---	Peak
3	239.79	39.79	-6.21	46.00	57.88	11.30	1.69	31.08	183	269	Peak
4	479.90	29.85	-16.15	46.00	41.00	17.40	2.30	30.85	---	---	Peak
5	663.30	35.52	-10.48	46.00	44.81	19.16	2.82	31.28	---	---	Peak
6	719.30	31.20	-14.80	46.00	40.59	19.20	2.95	31.54	---	---	Peak
7	1962.50	47.33	-26.67	74.00	64.00	31.53	5.79	53.99	---	---	Peak
8	2998.00	46.56	-27.44	74.00	59.87	33.10	7.59	54.00	---	---	Peak
9	4684.00	49.02	-24.98	74.00	59.31	34.92	10.12	55.34	---	---	Peak
10	5916.00	48.85	-25.15	74.00	58.16	35.68	11.68	56.67	---	---	Peak
11	7988.00	48.83	-25.17	74.00	57.45	36.10	10.98	55.71	---	---	Peak
12	10024.00	49.16	-24.84	74.00	56.92	37.43	10.57	55.76	---	---	Peak
13	11698.00	50.45	-23.55	74.00	54.26	38.70	11.17	53.69	100	0	Peak



Test Mode :	Mode 4	Temperature :	22~23°C
Test Engineer :	Kai Wang	Relative Humidity :	43~44%
Test Distance :	3m	Polarization :	Vertical
Function Type :	LTE Band 25 Idle + Bluetooth Idle + WLAN Idle + USB Cable (Data Link with Notebook) + GPS Rx		



Trace: (Discrete)
 Site : 03CR06-HY
 Condition : FCC CLASS-B HF-ANT_120601 VERTICAL

Mode : Mode 4

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	44.04	19.22	-20.78	40.00	38.77	11.20	0.76	31.50	---	---	Peak
2	153.39	30.96	-12.54	43.50	50.64	10.20	1.38	31.26	---	---	Peak
3 @	239.79	46.21	0.21	46.00	64.29	11.30	1.69	31.08	100	250	Peak
4 !	239.79	42.71	-3.29	46.00	60.80	11.30	1.69	31.08	100	250	QP
5	479.90	36.26	-9.74	46.00	47.41	17.40	2.30	30.85	---	---	Peak
6	672.40	36.24	-9.76	46.00	45.77	19.08	2.84	31.45	---	---	Peak
7	719.30	36.47	-9.53	46.00	45.85	19.20	2.95	31.54	---	---	Peak
8	1962.50	49.54	-24.46	74.00	66.21	31.53	5.79	53.99	---	---	Peak
9	2184.00	49.90	-24.10	74.00	65.65	32.07	6.14	53.96	---	---	Peak
10	2658.00	50.13	-23.87	74.00	64.44	32.70	6.92	53.93	---	---	Peak
11	4208.00	47.91	-26.09	74.00	59.11	34.32	9.41	54.94	---	---	Peak
12	6096.00	48.93	-25.07	74.00	57.84	35.88	11.79	56.58	---	---	Peak
13	7710.00	49.62	-24.38	74.00	58.40	36.10	10.93	55.81	---	---	Peak
14	12138.00	50.51	-23.49	74.00	53.16	39.31	11.35	53.31	100	0	Peak



4. List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
EMI Receiver	R&S	ESCI7	100768	9kHz~7GHz	Jun. 01, 2012	Jan. 31, 2013	May 31, 2013	Conduction (CO01-KS)
LISN	MessTec	AN3016	60103	9kHz~30MHz	Dec. 29, 2012	Jan. 31, 2013	Dec. 28, 2013	Conduction (CO01-KS)
LISN	MessTec	AN3016	60105	9kHz~30MHz	Dec. 29, 2012	Jan. 31, 2013	Dec. 28, 2013	Conduction (CO01-KS)
AC Power Source	Chroma	61602	ABP000000811	N/A	Nov. 15, 2012	Jan. 31, 2013	Nov. 14, 2013	Conduction (CO01-KS)
System Simulator	R&S	CMU200	837587/066	2G Full-Band	Dec. 29, 2012	Jan. 31, 2013	Dec. 28, 2013	Conduction (CO01-KS)
GPS Station	ADIVIC	MP9000	MP9000-111046	N/A	N/A	Jan. 31, 2013	N/A	Conduction (CO01-KS)
LTE Base Station	Anritsu	MT8820C	6201074235	LTE_FDD full band	Dec. 29, 2012	Jan. 31, 2013	Dec. 28, 2013	Conduction (CO01-KS)
Spectrum Analyzer	R&S	FSP30	101352	9kHz~30GHz	Nov. 07, 2012	Jan. 18, 2013	Nov. 06, 2013	Radiation (03CH06-HY)
EMI Test Receiver	R&S	ESVS10	834468/0003	20MHz~1000MHz	May 04, 2012	Jan. 18, 2013	May 03, 2013	Radiation (03CH06-HY)
Bilog Antenna	SCHAFFNER	CBL6112B	2885	30MHz~2GHz	Oct. 06, 2012	Jan. 18, 2013	Oct. 05, 2013	Radiation (03CH06-HY)
Double Ridge Horn Antenna	EMCO	3117	00066583	1GHz ~ 18GHz	Aug. 01, 2012	Jan. 18, 2013	Jul. 31, 2013	Radiation (03CH06-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170251	15GHz~40GHz	Sep. 28, 2012	Jan. 18, 2013	Sep. 27, 2013	Radiation (03CH06-HY)
Preamplifier	Agilent	8449B	3008A01917	1GHz~26.5GHz	Apr. 13, 2012	Jan. 18, 2013	Apr. 12, 2013	Radiation (03CH06-HY)
Amplifier	Agilent	310N	186713	9kHz~1GHz	Apr. 11, 2012	Jan. 18, 2013	Apr. 10, 2013	Radiation (03CH06-HY)
Pre Amplifier	EMCI	EMC0518 45	SN980048	1GHz~18GHz	Jul. 21, 2012	Jan. 18, 2013	Jul. 20, 2013	Radiation (03CH06-HY)
Loop Antenna	R&S	HFH2-Z2	860004/001	9KHz~30MHz	Jul. 03, 2012	Jan. 18, 2013	Jul. 02, 2013	Radiation (03CH06-HY)
System Simulator	R&S	CMU200	117591	N/A	Oct. 21, 2011	Jan. 18, 2013	Oct. 20, 2013	Radiation (03CH06-HY)
GPS Station	Pendulum	GSG-54	N/A	N/A	N/A	Jan. 18, 2013	N/A	Radiation (03CH06-HY)
LTE Base Station	R&S	CMW500	123471	70MHz~3.3GHz	May 29, 2012	Jan. 18, 2013	May 28, 2013	Radiation (03CH06-HY)

5. Uncertainty of Evaluation

Uncertainty of Conducted Emission Measurement (150 KHz ~ 30 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	2.26
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Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	2.54
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Uncertainty of Radiated Emission Measurement (1 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.72
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Appendix A. Photographs of EUT

Please refer to Sporton report number EP2D1804 as below.