

FCC Test Report


APPLICANT : TCL Communication Ltd.
EQUIPMENT : Tablet PC
BRAND NAME : alcatel
MODEL NAME : 9015B
MARKETING NAME : Alcatel POP™ 7 LTE
FCC ID : 2ACCJB066
STANDARD : FCC 47 CFR FCC Part 15 Subpart B
CLASSIFICATION : Certification

The product was received on Jul. 05, 2016 and testing was completed on Jul. 19, 2016. We, SPORTON INTERNATIONAL (SHENZHEN) INC., would like to declare that the tested sample has been evaluated in accordance with the test procedures given in ANSI C63.4-2014 and has been in 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 (SHENZHEN) INC., the test report shall not be reproduced except in full.



Prepared by: Ken Chen / Manager



Approved by: Jones Tsai / Manager



SPORTON INTERNATIONAL (SHENZHEN) INC.

**1F & 2F, Building A, Morning Business Center, No. 4003 ShiGu Rd., Xili Town,
Nanshan District, Shenzhen, Guangdong, P. R. China**



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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FC670507	Rev. 01	Initial issue of report	Aug. 16, 2016



SUMMARY OF TEST RESULT

Report Section	FCC Rule	IC Rule	Description	Limit	Result	Remark
3.1	15.107	ICES003 Section 6.1	AC Conducted Emission	< 15.107 limits < ICES003 6.1 limits	PASS	Under limit 15.46 dB at 0.160 MHz
3.2	15.109	ICES003 Section 6.2	Radiated Emission	< 15.109 limits < ICES003 6.2 limits	PASS	Under limit 5.28 dB at 479.900 MHz for Quasi-Peak



1. General Description

1.1. Applicant

TCL Communication Ltd.

5F, C-Tower, No. 232, Liang Jing Road, ZhangJiang High-Tech Park, Pudong Area, Shanghai, 201203,
P. R. China

1.2. Manufacturer

TCL Communication Ltd.

5F, C-Tower, No. 232, Liang Jing Road, ZhangJiang High-Tech Park, Pudong Area, Shanghai, 201203,
P. R. China

1.3. Product Feature of Equipment Under Test

Product Feature	
Equipment	Tablet PC
Brand Name	alcatel
Model Name	9015B
Marketing Name	Alcatel POP™ 7 LTE
FCC ID	2ACCJB066
EUT supports Radios application	GPRS/EGPRS/WCDMA/HSPA/DC-HSDPA/ HSPA+(16QAM uplink is not supported)/LTE/ WLAN 2.4GHz 802.11b/g/n HT20 WLAN 5GHz 802.11a/n HT20/HT40 Bluetooth v3.0 + EDR/ Bluetooth v4.1 LE
IMEI Code	Conduction: 014732000100075 Radiation: 014732000100075
HW Version	Pixi4-7 4G TMO_MAIN_V03
SW Version	5RA2
EUT Stage	Production Unit

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

Standards-related Product Specification	
Tx Frequency	GSM850: 824.2 MHz ~ 848.8 MHz GSM1900: 1850.2 MHz ~ 1909.8MHz WCDMA Band V: 826.4 MHz ~ 846.6 MHz WCDMA Band IV : 1712.4 MHz ~ 1752.6 MHz WCDMA Band II: 1852.4 MHz ~ 1907.6 MHz LTE Band 5 : 824.7 MHz ~ 848.3 MHz LTE Band 2 : 1850.7 MHz ~ 1909.3 MHz LTE Band 4 : 1710.7 MHz ~ 1754.3 MHz LTE Band 7 : 2502.5 MHz ~ 2567.5 MHz LTE Band 12: 699.7 MHz ~ 715.3 MHz LTE Band 17 : 706.5 MHz ~ 713.5 MHz 802.11b/g/n: 2412 MHz ~ 2462 MHz 802.11a/n: 5180 MHz ~ 5240 MHz; 5260 MHz ~ 5320 MHz; 5745 MHz ~ 5805 MHz Bluetooth: 2402 MHz ~ 2480 MHz
Rx Frequency	GSM850: 869.2 MHz ~ 893.8 MHz GSM1900: 1930.2 MHz ~ 1989.8 MHz WCDMA Band V: 871.4 MHz ~ 891.6 MHz WCDMA Band IV : 2112.4 MHz ~ 2152.6 MHz WCDMA Band II: 1932.4 MHz ~ 1987.6 MHz LTE Band 5 : 869.7 MHz ~ 893.3 MHz LTE Band 2 : 1930.7 MHz ~ 1989.3 MHz LTE Band 4 : 2110.7 MHz ~ 2154.3 MHz LTE Band 7 : 2622.5MHz ~ 2687.5 MHz LTE Band 12 : 729.7 MHz ~ 745.3 MHz LTE Band 17 : 736.5 MHz ~ 743.5 MHz 802.11b/g/n: 2412 MHz ~ 2462 MHz 802.11a/n: 5180 MHz ~ 5240 MHz; 5260 MHz ~ 5320 MHz; 5745 MHz ~ 5805 MHz Bluetooth: 2402 MHz ~ 2480 MHz GPS : 1.57542 GHz Glonass: 1602 MHz + n× 0.5625MHz (n=-7,-6,-5,...0,...,6)
Antenna Type	WWAN : PIFA Antenna WLAN : PIFA Antenna Bluetooth : PIFA Antenna GPS/Glonass : IFA Antenna
Type of Modulation	GPRS: GMSK EDGE(MCS 0-4): GMSK / (MCS 5-9): 8PSK WCDMA : QPSK (Uplink) HSDPA/DC-HSDPA : QPSK (Uplink) HSUPA : QPSK (Uplink) HSPA+ : 16QAM (16QAM uplink is not supported) DC-HSDPA : 64QAM LTE: QPSK / 16QAM 802.11b : DSSS (DBPSK / DQPSK / CCK) 802.11a/g/n : OFDM (BPSK / QPSK / 16QAM / 64QAM /256QAM) Bluetooth (1Mbps) : GFSK Bluetooth (2Mbps) : π /4-DQPSK Bluetooth (3Mbps) : 8-DPSK



	Bluetooth v4.0 LE : GFSK Bluetooth v4.1 LE : GFSK GPS/Glonass : BPSK
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1.5. Specification of Accessory

Specification of Accessory				
AC Adapter	Brand Name	ALCATEL onetouch	Model Name	UC13US
	Power Rating	I/P: 100-240Vac, 400mA, O/P: 5.0Vdc, 2A		
	P/N	CBA0059AG0C2		
Battery	Brand Name	ALCATEL onetouch	Model Name	TLp032B2
	Power Rating	3.7Vdc, 3240mAh		
USB Cable	Brand Name	N/A	Model Name	N/A
	Signal Line Type	0.8m shielded without core		
	P/N	N/A		

1.6. Modification of EUT

No modifications are made to the EUT during all test items.

1.7. Test Location

Test Site	SPORTON INTERNATIONAL (SHENZHEN) INC.
Test Site Location	1F & 2F, Building A, Morning Business Center, No. 4003 ShiGu Rd., Xili Town, Nanshan District, Shenzhen, Guangdong, P. R. China TEL: +86-755-8637-9589 FAX: +86-755-8637-9595
Test Site No.	Sporton Site No. CO01-SZ

Test Site	SPORTON INTERNATIONAL (SHENZHEN) INC.	
Test Site Location	No. 3 Building, the third floor of south, Shahe River west, Fengzeyuan warehouse, Nanshan District, Shenzhen, Guangdong, P. R. China TEL: +86-755- 3320-2398	
Test Site No.	Sporton Site No. 03CH02-SZ	FCC/IC Registration No. 566869/4086F

1.8. Applicable 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 C63.4-2014
- IC ICES-003 Issue 6
- IC RSS-Gen Issue 4

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 C63.4-2014 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 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.

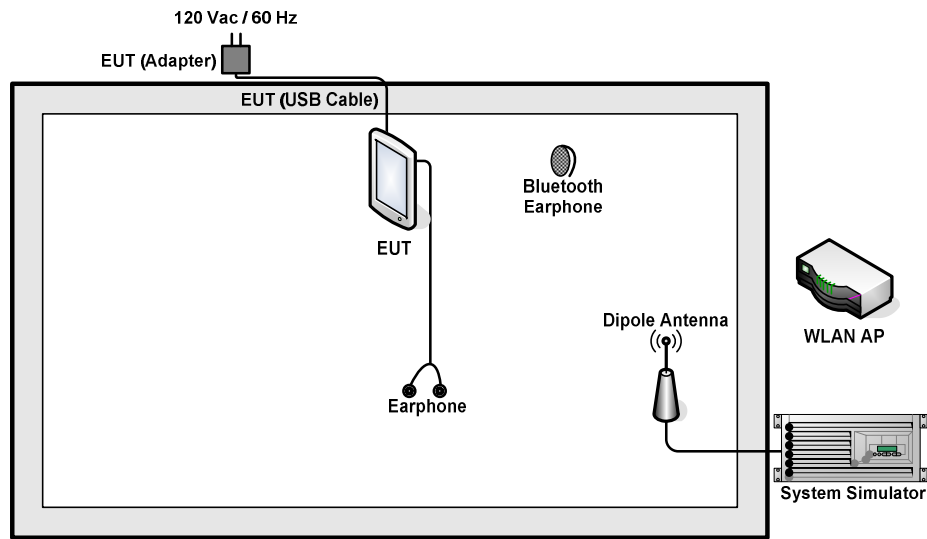
Test Items	EUT Configure Mode	Function Type
AC Conducted Emission	1/2	<p>Mode 1: GPRS 850 Idle + Bluetooth Idle + WLAN (2.4G) Idle + USB Cable (Charging from Adapter) + Earphone + Battery + Camera(front) + SD Card <Fig.1></p> <p>Mode 2: GPRS 1900 Idle + Bluetooth Idle + WLAN (5G) Idle + USB Cable (Charging from Adapter) + Earphone + Battery + Camera(back) + SD Card <Fig.1></p> <p>Mode 3: WCDMA Band V Idle + Bluetooth Idle + WLAN (2.4G) Idle + USB Cable (Charging from Adapter) + Earphone + Battery + MPEG4 + SD Card <Fig.1></p> <p>Mode 4: WCDMA Band II Idle + Bluetooth Idle + WLAN (5G) Idle + USB Cable (Charging from Adapter) + Earphone + Battery + H-Patten + SD Card <Fig.1></p> <p>Mode 5: WCDMA Band IV Idle + Bluetooth Idle + WLAN (2.4G) Idle + USB Cable (Data Link with Notebook) + Earphone + Battery + GPS Rx + SD Card + FM Rx <Fig.2></p> <p>Mode 6: LTE Band 4 Idle + Bluetooth Idle + WLAN (5G) Idle + USB Cable (Data Link with Notebook) + Earphone + Battery + Glonass Rx + SD Card + FM Rx <Fig.2></p>
Radiated Emissions < 1GHz	1/2	<p>Mode 1: GPRS 850 Idle + Bluetooth Idle + WLAN (2.4G) Idle + USB Cable (Charging from Adapter) + Earphone + Battery + Camera(front) + SD Card <Fig.1></p> <p>Mode 2: GPRS 1900 Idle + Bluetooth Idle + WLAN (5G) Idle + USB Cable (Charging from Adapter) + Earphone + Battery + Camera(back) + SD Card <Fig.1></p> <p>Mode 3: WCDMA Band V Idle + Bluetooth Idle + WLAN (2.4G) Idle + USB Cable (Charging from Adapter) + Earphone + Battery + MPEG4 + SD Card <Fig.1></p> <p>Mode 4: WCDMA Band II Idle + Bluetooth Idle + WLAN (5G) Idle + USB Cable (Charging from Adapter) + Earphone + Battery + H-Patten + SD Card <Fig.1></p> <p>Mode 5: WCDMA Band IV Idle + Bluetooth Idle + WLAN (2.4G) Idle + USB Cable (Data Link with Notebook) + Earphone + Battery + GPS Rx + SD Card + FM Rx <Fig.2></p> <p>Mode 6: LTE Band 4 Idle + Bluetooth Idle + WLAN (5G) Idle + USB Cable (Data Link with Notebook) + Earphone + Battery + Glonass Rx + SD Card + FM Rx <Fig.2></p>
Radiated Emissions ≥ 1GHz	2	<p>Mode 1: LTE Band 4 Idle + Bluetooth Idle + WLAN (5G) Idle + USB Cable (Data Link with Notebook) + Earphone + Battery + Glonass Rx + SD Card + FM Rx <Fig.2></p>



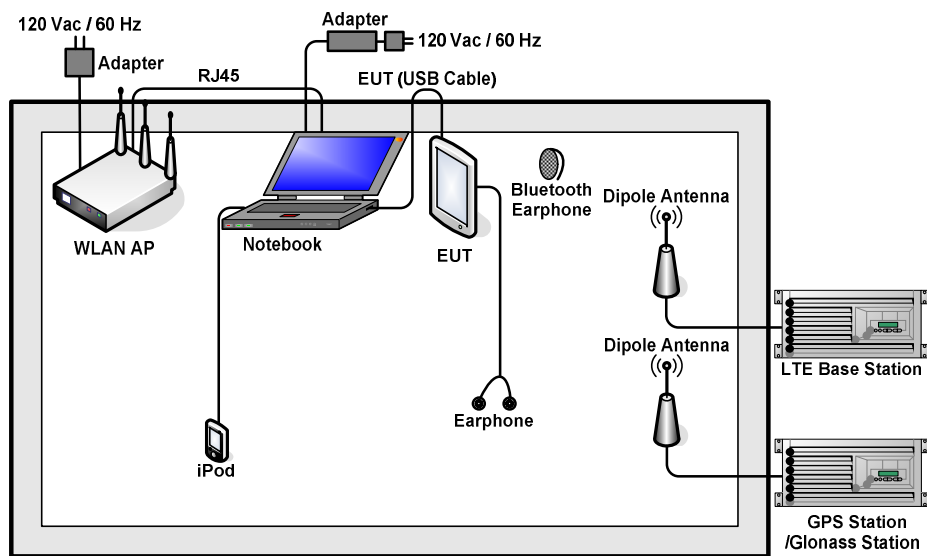
Remark:

1. The worst case of AC is mode 1; and the USB Link mode of AC is mode 5, only the test data of this mode was reported.
2. The worst case of RE < 1G is mode 6; only the test data of this mode was reported.
3. Data Link with Notebook means data application transferred mode between EUT and Notebook.

2.2. Connection Diagram of Test System



<Fig.1>



<Fig.2>

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.	GPS Station	ADIVIC	MP9000	N/A	N/A	Unshielded, 1.8 m
4.	Glonass Station	RACELOGIC	RLLS03-2P	N/A	N/A	Unshielded, 1.8 m
5.	WLAN AP	D-Link	DIR-820L	KA2IR810LA1	N/A	Unshielded, 1.8 m
6.	WLAN AP	ASUSTek	RT-AC66U	MSQ-RTAC66U	N/A	Unshielded, 2.7 m with Core
7.	Bluetooth Earphone	Samsung	HS3000	A3LHS3000	N/A	N/A
8.	Bluetooth Earphone	Nokia	BH-108	PYAHS-107W	N/A	N/A
9.	Notebook	Lenovo	E540	FCC DoC	N/A	AC I/P: Unshielded, 1.8 m DC O/P: Shielded, 1.8 m
10.	Notebook	Lenovo	E450	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
11.	SD Card	SanDisk	4G class 4	FCC DoC	N/A	N/A
12.	iPod	Apple	MC525 ZP/A	N/A	Shielded, 1.0 m	N/A
13.	iPod Earphone	Apple	MC690 ZP/A	FCC DoC	Shielded, 1.6 m	N/A

2.4. EUT Operation Test Setup

The EUT was in GPRS or WCDMA 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 or WLAN AP, and the following programs installed in the EUT were programmed during the test.

1. Data application is transferred between notebook and EUT via USB cable.
2. Execute "GPS/Glonass Test" to make the EUT receive continuous signals from GPS/Glonass station.
3. Execute "Video player" to play MPEG4 files.
4. Turn on camera to capture images.
5. Execute "H Pattern" to show H Pattern via HDMI Cable on the Monitor.
6. Turn on FM 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

The measuring equipment is listed in the section 4 of this test report.

3.1.3 Test Procedure

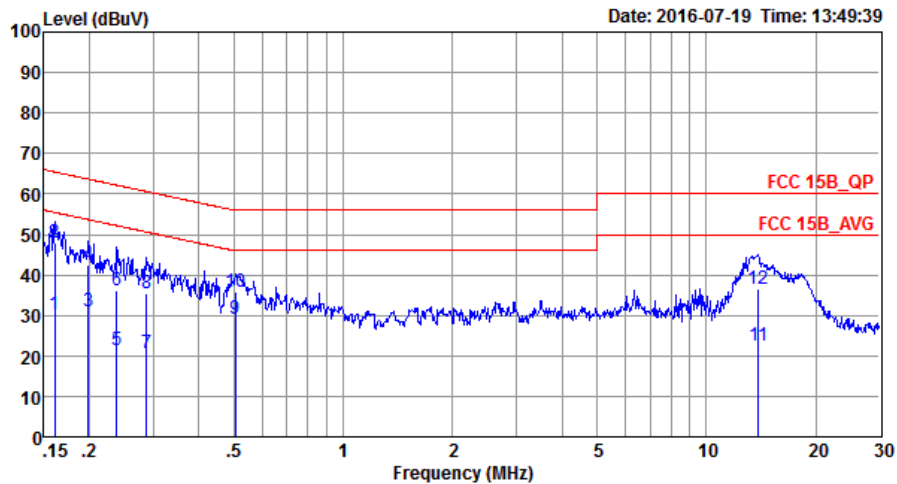
1. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.
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 (IF Bandwidth = 9kHz) with Maximum Hold Mode. Then measurement is also conducted by Average Detector and Quasi-Peak Detector Function respectively.

3.1.4 Test Setup



3.1.5 Test Result of AC Conducted Emission

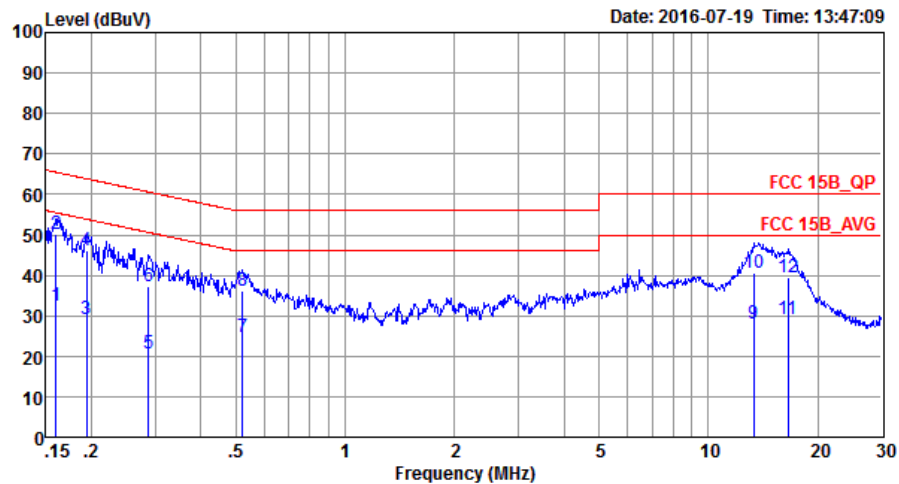
Test Mode :	Mode 1	Temperature :	21~23℃
Test Engineer :	Tao Cheng	Relative Humidity :	41~43%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	GPRS 850 Idle + Bluetooth Idle + WLAN (2.4G) Idle + USB Cable (Charging from Adapter) + Earphone + Battery + Camera(front) + SD Card		



Site : CO01-SZ
 Condition: FCC 15B_QP LISN_20160509 LINE
 Project : (FC)670507
 Mode : Mode 1
 IMEI : 014732000100075

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.16	30.11	-25.32	55.43	19.40	0.13	10.58	Average
2	0.16	47.91	-17.52	65.43	37.20	0.13	10.58	QP
3	0.20	30.81	-22.86	53.67	20.20	0.11	10.50	Average
4	0.20	42.51	-21.16	63.67	31.90	0.11	10.50	QP
5	0.24	21.28	-30.89	52.17	10.70	0.11	10.47	Average
6	0.24	36.18	-25.99	62.17	25.60	0.11	10.47	QP
7	0.29	20.84	-29.75	50.59	10.30	0.11	10.43	Average
8	0.29	35.44	-25.15	60.59	24.90	0.11	10.43	QP
9 *	0.50	29.23	-16.77	46.00	18.90	0.11	10.22	Average
10	0.50	35.63	-20.37	56.00	25.30	0.11	10.22	QP
11	13.91	22.58	-27.42	50.00	11.90	0.29	10.39	Average
12	13.91	36.68	-23.32	60.00	26.00	0.29	10.39	QP

Test Mode :	Mode 1	Temperature :	21~23℃
Test Engineer :	Tao Cheng	Relative Humidity :	41~43%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	GPRS 850 Idle + Bluetooth Idle + WLAN (2.4G) Idle + USB Cable (Charging from Adapter) + Earphone + Battery + Camera(front) + SD Card		

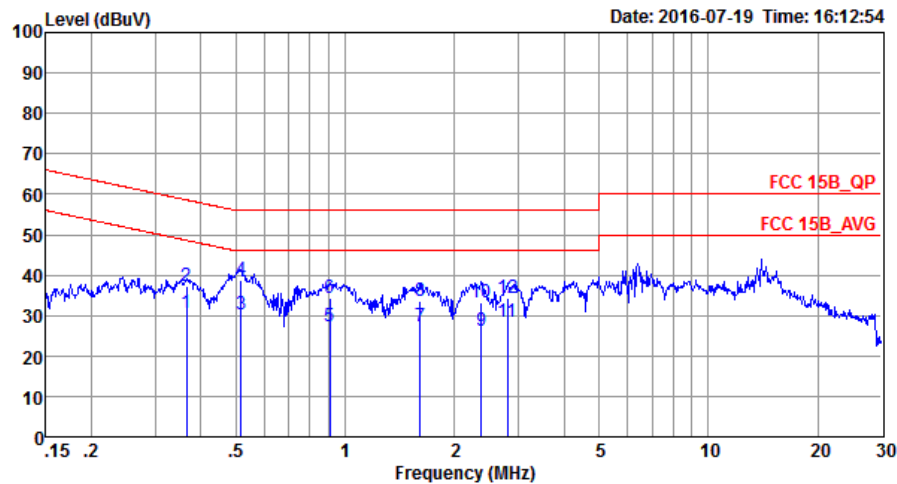


Site : CO01-SZ
 Condition: FCC 15B_QP LISN_20160509 NEUTRAL
 Project : (FC)670507
 Mode : Mode 1
 IMEI : 014732000100075

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.16	32.51	-22.96	55.47	21.80	0.13	10.58	Average
2 *	0.16	50.01	-15.46	65.47	39.30	0.13	10.58	QP
3	0.19	29.32	-24.52	53.84	18.70	0.11	10.51	Average
4	0.19	46.02	-17.82	63.84	35.40	0.11	10.51	QP
5	0.29	20.74	-29.85	50.59	10.20	0.11	10.43	Average
6	0.29	37.14	-23.45	60.59	26.60	0.11	10.43	QP
7	0.52	24.72	-21.28	46.00	14.40	0.11	10.21	Average
8	0.52	36.22	-19.78	56.00	25.90	0.11	10.21	QP
9	13.34	28.08	-21.92	50.00	17.40	0.29	10.39	Average
10	13.34	40.48	-19.52	60.00	29.80	0.29	10.39	QP
11	16.57	29.01	-20.99	50.00	18.20	0.32	10.49	Average
12	16.57	39.41	-20.59	60.00	28.60	0.32	10.49	QP



Test Mode :	Mode 5	Temperature :	21~23℃
Test Engineer :	Tao Cheng	Relative Humidity :	41~43%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	WCDMA Band IV Idle + Bluetooth Idle + WLAN (2.4G) Idle + USB Cable (Data Link with Notebook) + Earphone + Battery + GPS Rx + SD Card + FM Rx		

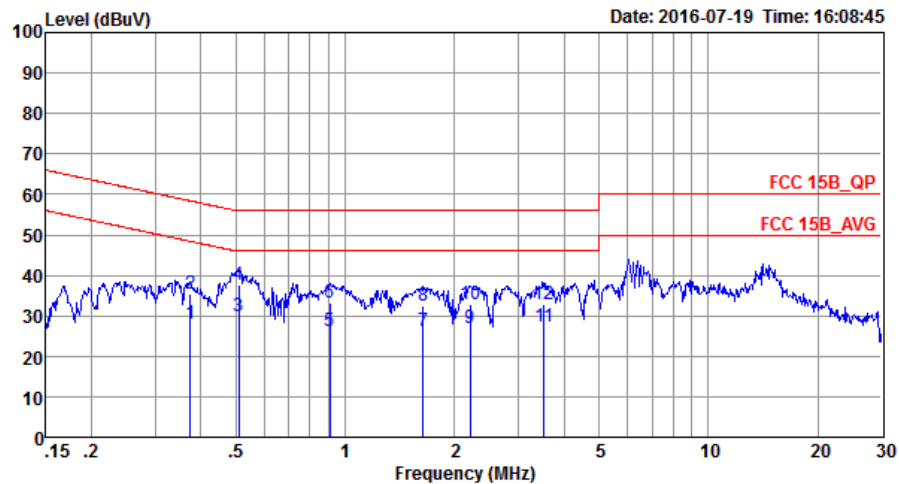


Site : CO01-SZ
Condition: FCC 15B_QP LISN_20160509 LINE
Project : (FC) 670507
Mode : Mode 5
IMEI : 014732000100075

	Freq	Level	Over	Limit	Read	LISN	Cable	
	MHz	dBuV	Limit	Line	Level	Factor	Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.37	30.51	-18.10	48.61	20.10	0.11	10.30	Average
2	0.37	37.21	-21.40	58.61	26.80	0.11	10.30	QP
3 *	0.52	30.22	-15.78	46.00	19.90	0.11	10.21	Average
4	0.52	38.62	-17.38	56.00	28.30	0.11	10.21	QP
5	0.91	27.47	-18.53	46.00	17.20	0.11	10.16	Average
6	0.91	34.37	-21.63	56.00	24.10	0.11	10.16	QP
7	1.61	27.18	-18.82	46.00	16.90	0.11	10.17	Average
8	1.61	33.68	-22.32	56.00	23.40	0.11	10.17	QP
9	2.37	26.30	-19.70	46.00	16.01	0.11	10.18	Average
10	2.37	33.20	-22.80	56.00	22.91	0.11	10.18	QP
11	2.79	28.41	-17.59	46.00	18.10	0.12	10.19	Average
12	2.79	34.21	-21.79	56.00	23.90	0.12	10.19	QP



Test Mode :	Mode 5	Temperature :	21~23℃
Test Engineer :	Tao Cheng	Relative Humidity :	41~43%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	WCDMA Band IV Idle + Bluetooth Idle + WLAN (2.4G) Idle + USB Cable (Data Link with Notebook) + Earphone + Battery + GPS Rx + SD Card + FM Rx		



Site : CO01-SZ
Condition: FCC 15B_QP LISN_20160509 NEUTRAL
Project : (FC)670507
Mode : Mode 5
IMEI : 014732000100075

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.38	28.20	-20.19	48.39	17.80	0.11	10.29	Average
2	0.38	35.60	-22.79	58.39	25.20	0.11	10.29	QP
3 *	0.51	29.73	-16.27	46.00	19.40	0.11	10.22	Average
4	0.51	37.63	-18.37	56.00	27.30	0.11	10.22	QP
5	0.91	26.27	-19.73	46.00	16.00	0.11	10.16	Average
6	0.91	33.17	-22.83	56.00	22.90	0.11	10.16	QP
7	1.64	26.08	-19.92	46.00	15.80	0.11	10.17	Average
8	1.64	32.48	-23.52	56.00	22.20	0.11	10.17	QP
9	2.21	26.99	-19.01	46.00	16.70	0.11	10.18	Average
10	2.21	32.99	-23.01	56.00	22.70	0.11	10.18	QP
11	3.53	27.14	-18.86	46.00	16.80	0.13	10.21	Average
12	3.53	32.74	-23.26	56.00	22.40	0.13	10.21	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

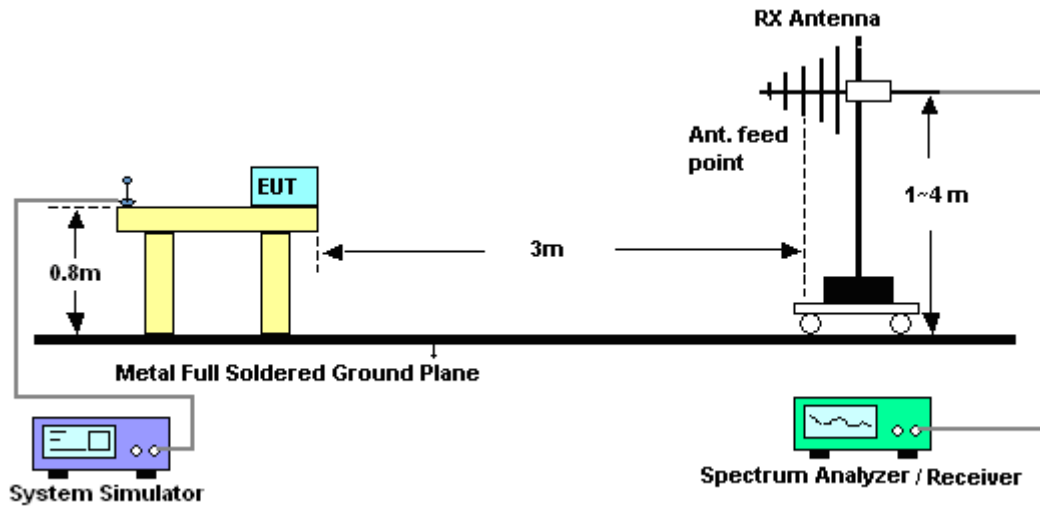
The measuring equipment is listed in the section 4 of this test report.

3.2.3. Test Procedures

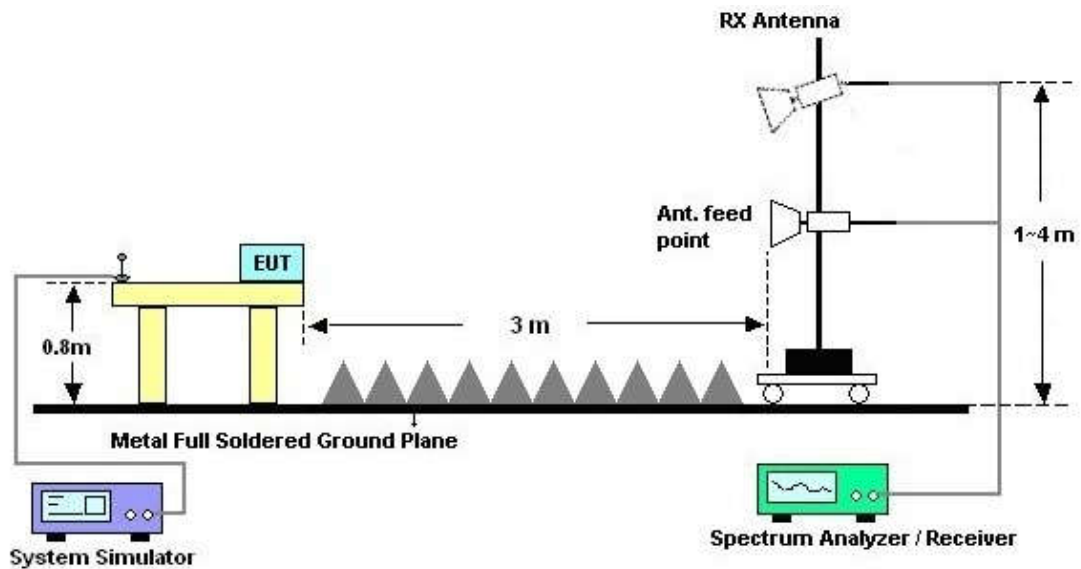
1. The EUT was placed on a turntable with 0.8 meter above ground.
2. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest radiation.
4. The antenna is a Bi-Log antenna and its 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 (RBW=120kHz/VBW=300kHz for frequency below 1GHz; RBW=1MHz VBW=3MHz (Peak), RBW=1MHz/VBW=10Hz (Average) for frequency above 1GHz).
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 (dBμV/m) = 20 log Emission level (μV/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



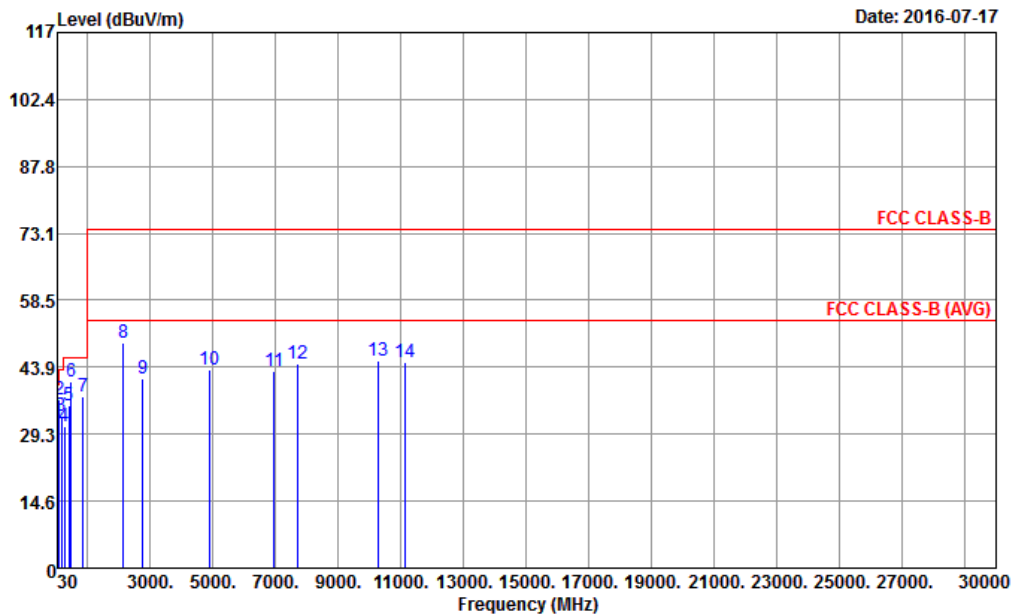
For radiated emissions above 1GHz





3.2.5. Test Result of Radiated Emission

Test Mode :	Mode 6	Temperature :	23~25°C
Test Engineer :	Leo Liao	Relative Humidity :	48~52%
Test Distance :	3m	Polarization :	Horizontal
Function Type :	LTE Band 4 Idle + Bluetooth Idle + WLAN (5G) Idle + USB Cable (Data Link with Notebook) + Earphone + Battery + Glonass Rx + SD Card + FM Rx		
Remark :	#8 is Base Station signal which can be ignored.		

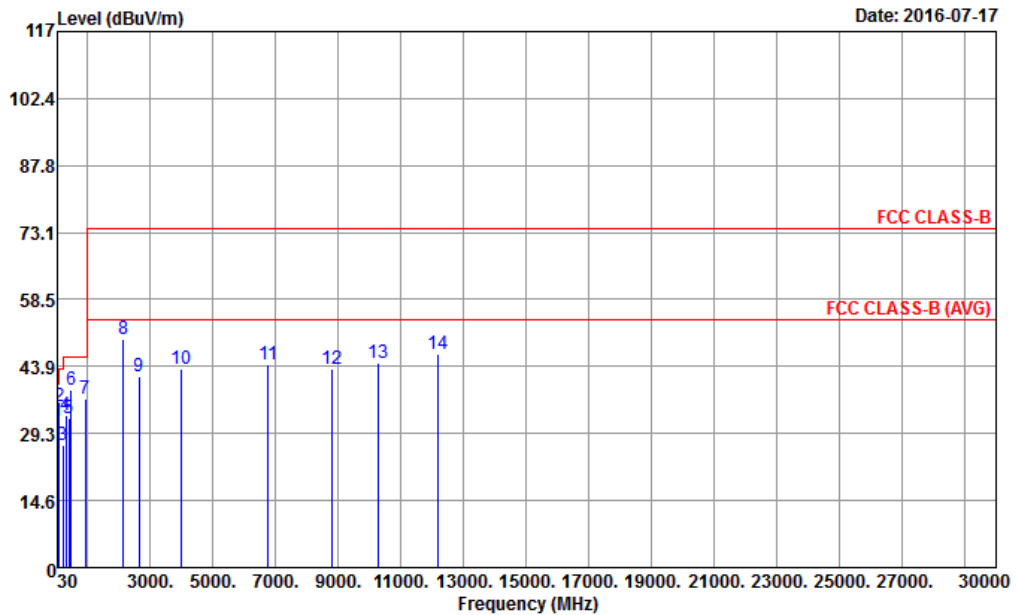


Site : 03CH02-SZ
Condition : FCC CLASS-B 3m LF_ANT(23188)6_15101 HORIZONTAL
Project : (FC) 670507
Mode : Mode 6
IMEI : 014732000100026
Plane : Y

	Freq	Level	Over	Limit	ReadAntenna	Cable	Preamp	A/Pos	T/Pos	Remark
	MHz	dBuV/m	Limit	Line	Level	Loss	Factor	cm	deg	
			dB	dBuV/m	dBuV	dB/m	dB	dB		
1	30.54	31.54	-8.46	40.00	30.63	26.22	0.75	26.06	---	Peak
2	99.66	36.76	-6.74	43.50	42.80	18.60	1.14	25.78	---	Peak
3	166.62	33.15	-10.35	43.50	40.54	16.83	1.20	25.42	---	Peak
4	257.61	31.08	-14.92	46.00	37.83	16.81	1.57	25.13	---	Peak
5	400.10	35.46	-10.54	46.00	36.12	23.13	2.03	25.82	---	Peak
6	479.90	40.72	-5.28	46.00	41.46	23.37	2.12	26.23	100	165 QP
7	850.20	37.46	-8.54	46.00	32.35	28.11	3.02	26.02	---	Peak
8	2132.00	49.13			70.67	32.34	4.80	58.68	---	Peak
9	2768.00	41.41	-32.59	74.00	61.98	32.91	5.57	59.05	---	Peak
10	4888.00	43.23	-30.77	74.00	60.01	34.44	7.53	58.75	---	Peak
11	6950.00	43.18	-30.82	74.00	55.29	36.12	9.26	57.49	---	Peak
12	7678.00	44.50	-29.50	74.00	56.54	36.37	10.33	58.74	---	Peak
13	10282.00	45.25	-28.75	74.00	53.72	38.33	12.17	58.97	100	0 Peak
14	11132.00	45.10	-28.90	74.00	53.22	38.91	12.58	59.61	---	Peak



Test Mode :	Mode 6	Temperature :	23~25°C
Test Engineer :	Leo Liao	Relative Humidity :	48~52%
Test Distance :	3m	Polarization :	Vertical
Function Type :	LTE Band 4 Idle + Bluetooth Idle + WLAN (5G) Idle + USB Cable (Data Link with Notebook) + Earphone + Battery + Glonass Rx + SD Card + FM Rx		
Remark :	#8 is Base Station signal which can be ignored.		



Site : 03CH02-SZ
 Condition : FCC CLASS-B 3m LF_ANT(23188)6_15101 VERTICAL
 Project : (FC) 670507
 Mode : Mode 6
 IMEI : 014732000100026
 Plane : Y

	Freq	Level	Over Limit	Limit Line	ReadAntenna Level Factor	Cable Loss	Preamp Factor	A/Pos	T/Pos	Remark	
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	30.27	31.95	-8.05	40.00	30.67	26.60	0.75	26.07	---	---	Peak
2	99.66	35.15	-8.35	43.50	41.19	18.60	1.14	25.78	---	---	Peak
3	199.29	26.62	-16.88	43.50	35.07	15.30	1.50	25.25	---	---	Peak
4	298.65	33.10	-12.90	46.00	37.97	18.46	1.71	25.04	---	---	Peak
5	399.40	32.52	-13.48	46.00	33.20	23.10	2.03	25.81	---	---	Peak
6	479.90	38.64	-7.36	46.00	39.38	23.37	2.12	26.23	152	200	Peak
7	924.40	36.96	-9.04	46.00	30.92	28.65	3.08	25.69	---	---	Peak
8	2132.00	49.95			71.49	32.34	4.80	58.68	---	---	Peak
9	2628.00	41.77	-32.23	74.00	62.51	32.81	5.36	58.91	---	---	Peak
10	4002.00	43.51	-30.49	74.00	62.73	33.91	6.73	59.86	---	---	Peak
11	6764.00	44.16	-29.84	74.00	56.86	36.20	9.03	57.93	---	---	Peak
12	8802.00	43.45	-30.55	74.00	53.85	36.56	10.90	57.86	---	---	Peak
13	10278.00	44.73	-29.27	74.00	53.20	38.33	12.17	58.97	---	---	Peak
14	12180.00	46.69	-27.31	74.00	54.95	39.42	12.71	60.39	200	305	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	100724	9kHz~3GHz;	Nov. 23, 2015	Jul. 19, 2016	Nov. 22, 2016	Conduction (CO01-SZ)
AC LISN	EMCO	3816/2SH	00103892	9kHz~30MHz	Jan. 12, 2016	Jul. 19, 2016	Jan. 11, 2017	Conduction (CO01-SZ)
AC LISN (for auxiliary equipment)	MessTec	3816/2SH	00103912	9kHz~30MHz	Jan. 12, 2016	Jul. 19, 2016	Jan. 11, 2017	Conduction (CO01-SZ)
AC Power Source	Chroma	61602	616020000891	100Vac~250Vac	Jul. 16, 2016	Jul. 19, 2016	Jul. 15, 2017	Conduction (CO01-SZ)
Pulse Limiter	COM-POWER	LIT-153 Transient Limiter	53139	150kHz~30MHz	Oct. 20, 2015	Jul. 19, 2016	Oct. 19, 2016	Conduction (CO01-SZ)
Spectrum Analyzer	R&S	FSV40	101041	10kHz~40GHz; Max 30dBm	Oct. 20, 2015	Jul. 17, 2016	Oct. 19, 2016	Radiation (03CH02-SZ)
Bilog Antenna	TeseQ	CBL6112D	35407	30MHz~2GHz	May 21, 2016	Jul. 17, 2016	May 20, 2017	Radiation (03CH02-SZ)
Double Ridge Horn Antenna	SCHWARZBECK	BBHA 9120D	9120D-1285	1GHz~18GHz	Jan. 11, 2016	Jul. 17, 2016	Jan. 10, 2017	Radiation (03CH02-SZ)
SHF-EHF Horn	com-power	AH-840	101071	18GHz~40GHz	Aug. 17, 2015	Jul. 17, 2016	Aug. 16, 2016	Radiation (03CH02-SZ)
Amplifier	HP	8447F	3113A04622	9kHz~1300MHz / 30 dB	Jul. 16, 2016	Jul. 17, 2016	Jul. 15, 2017	Radiation (03CH02-SZ)
HF Amplifier	MITEQ	AMF-7D-0010 1800-30-10P-R	1943528	1GHz~18GHz	Oct. 20, 2015	Jul. 17, 2016	Oct. 19, 2016	Radiation (03CH02-SZ)
Amplifier	Agilent	8449B	3008A01023	1GHz~26.5GHz	Oct. 20, 2015	Jul. 17, 2016	Oct. 19, 2016	Radiation (03CH02-SZ)
HF Amplifier	MITEQ	TTA1840-35-H G	1871923	18GHz~40GHz	Jul. 16, 2016	Jul. 17, 2016	Jul. 15, 2017	Radiation (03CH02-SZ)
AC Power Source	Chroma	61601	616010002470	N/A	NCR	Jul. 17, 2016	NCR	Radiation (03CH02-SZ)
Turn Table	Chaintek	T-200	N/A	0~360 degree	NCR	Jul. 17, 2016	NCR	Radiation (03CH02-SZ)
Antenna Mast	Chaintek	MBS-400	N/A	1 m~4 m	NCR	Jul. 17, 2016	NCR	Radiation (03CH02-SZ)

NCR: No Calibration Required

5. Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2U_c(y)$)	2.5dB
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Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2U_c(y)$)	5.0dB
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Uncertainty of Radiated Emission Measurement (1GHz ~ 18GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2U_c(y)$)	5.1dB
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Uncertainty of Radiated Emission Measurement (18GHz~40GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2U_c(y)$)	5.1dB
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