



Variant FCC RF Test Report

APPLICANT : ZTE CORPORATION
EQUIPMENT : LTE uFi
BRAND NAME : ZTE
MODEL NAME : MF923
FCC ID : SRQ-MF923
STANDARD : 47 CFR Part 2, 22(H), 24(E), 27(L), 27(H)
CLASSIFICATION : PCS Licensed Transmitter (PCB)

This is a variant report which is only valid together with the original test report. The product was received on Sep. 12, 2016 and completely tested on Sep. 29, 2016. We, SPORTON INTERNATIONAL (KUNSHAN) INC., would like to declare that the tested sample has been evaluated in accordance with the test procedures given in ANSI / TIA / EIA-603-D-2010 and the testing has shown the tested sample to be 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 (KUNSHAN) INC., the test report shall not be reproduced except in full.

Prepared by: James Huang / Manager

Approved by: Jones Tsai / Manager



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SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.4	§2.1046	Conducted Output Power	Reporting Only	PASS	-
4.4	§22.913(a)(2)	Effective Radiated Power (Band 5)	ERP < 7 Watt	PASS	-
	§27.50(c)(10)	Effective Radiated Power (Band 17)	ERP < 3 Watt		
	§24.232(c)	Equivalent Isotropic Radiated Power (Band 2)	EIRP < 2Watt		
	§27.50(d)(4)	Equivalent Isotropic Radiated Power (Band 4)	EIRP < 1Watt		
4.5	§2.1053 §22.917(a) §24.238(a) §27.53(g) §27.53(h)	Radiated Spurious Emission (Band 2) (Band 4) (Band 5) (Band 17)	< 43+10log ₁₀ (P[Watts])	PASS	Under limit 42.65 dB at 7484.360 MHz



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 Product Feature of Equipment Under Test

Product Feature	
Equipment	LTE uFi
Brand Name	ZTE
Model Name	MF923
FCC ID	SRQ-MF923
EUT supports Radios application	WCDMA/HSPA/DC-HSDPA/ HSPA+(16QAM uplink is not supported)/LTE/ WLAN 2.4GHz 802.11b/g/n HT20/HT40/ WLAN 5GHz 802.11a/n HT20/HT40/
IMEI Code	Radiation: 865135023724592 ERP&EIRP: N/A
HW Version	xx4A
SW Version	MF923V2.3
EUT Stage	Identical Prototype



1.4 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx Frequency	LTE Band 2 : 1850.7 MHz ~ 1909.3 MHz LTE Band 4 : 1710.7 MHz ~ 1754.3 MHz LTE Band 5 : 824.7 MHz ~ 848.3 MHz LTE Band 17 : 706.5 MHz ~ 713.5 MHz
Rx Frequency	LTE Band 2 : 1930.7 MHz ~ 1989.3 MHz LTE Band 4 : 2110.7 MHz ~ 2154.3 MHz LTE Band 5 : 869.7 MHz ~ 893.3 MHz LTE Band 17 : 736.5 MHz ~ 743.5 MHz
Bandwidth	LTE Band 2 : 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz LTE Band 4 : 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz LTE Band 5 : 1.4MHz / 3MHz / 5MHz / 10MHz LTE Band 17 : 5MHz / 10MHz
Maximum Output Power to Antenna	LTE Band 2 : 23.01 dBm LTE Band 4 : 23.22 dBm LTE Band 5 : 23.55 dBm LTE Band 17 : 23.47 dBm
Type of Modulation	QPSK / 16QAM

1.5 Modification of EUT

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



1.6 Maximum ERP/EIRP Power

LTE Band 2		QPSK	16QAM
BW (MHz)	Frequency Range (MHz)	Maximum EIRP(W)	Maximum EIRP(W)
1.4	1850.7 ~ 1909.3	0.3393	0.2625
3	1851.5 ~ 1908.5	0.3383	0.2591
5	1852.5 ~ 1907.5	0.3362	0.2506
10	1855.0 ~ 1905.0	0.3370	0.2439
15	1857.5 ~ 1902.5	0.3277	0.2492
20	1860.0 ~ 1900.0	0.3190	0.2478
LTE Band 4		QPSK	16QAM
BW (MHz)	Frequency Range (MHz)	Maximum EIRP(W)	Maximum EIRP(W)
1.4	1710.7 ~ 1754.3	0.3034	0.2351
3	1711.5 ~ 1753.5	0.3115	0.2384
5	1712.5 ~ 1752.5	0.3192	0.2447
10	1715.0 ~ 1750.0	0.3305	0.3110
15	1717.5 ~ 1747.5	0.3115	0.2425
20	1720.0 ~ 1745.0	0.3238	0.2362
LTE Band 5		QPSK	16QAM
BW (MHz)	Frequency Range (MHz)	Maximum ERP(W)	Maximum ERP(W)
1.4	824.7 ~ 848.3	0.1057	0.0830
3	825.5 ~ 847.5	0.1096	0.0829
5	826.5 ~ 846.5	0.1087	0.0808
10	829.0 ~ 844.0	0.1100	0.0814
LTE Band 17		QPSK	16QAM
BW (MHz)	Frequency Range (MHz)	Maximum ERP(W)	Maximum ERP(W)
5	706.5 ~ 713.5	0.0747	0.0505
10	709.0 ~ 711.0	0.0736	0.0550



1.7 Testing Location

Test Site	SPORTON INTERNATIONAL (KUNSHAN) INC.	
Test Site Location	No. 3-2, PingXiang Road, Kunshan, Jiangsu Province, P. R. China TEL: +86-0512-5790-0158 FAX: +86-0512-5790-0958	
Test Site No.	Sporton Site No.	FCC Registration No.
	03CH02-KS	418269
	03CH03-KS	306251

Note: The test site complies with ANSI C63.4 2014 requirement.

1.8 Applicable Standards

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

- 47 CFR Part 2, 22(H), 24(E), 27(L), 27(H)
- ANSI / TIA / EIA-603-D-2010
- FCC KDB 971168 D01 Power Meas. License Digital Systems v02r02

Remark:

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.



2 Test Configuration of Equipment Under Test

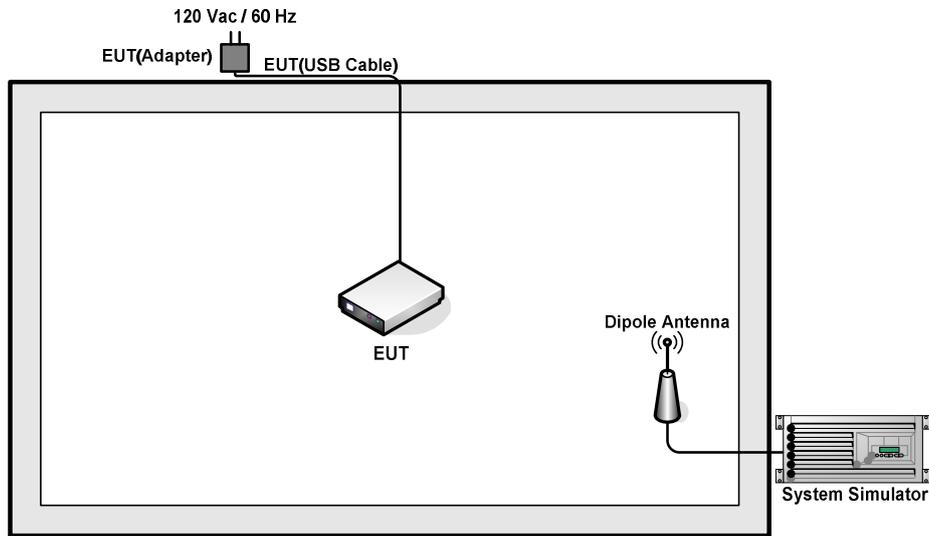
2.1 Test Mode

Antenna port conducted and radiated test items listed below are performed according to KDB 971168 D01 Power Meas. License Digital Systems v02r02 with maximum output power.

Radiated measurements are performed by rotating the EUT in three different orthogonal test planes to find the maximum emission.

Test Items	Band	Bandwidth (MHz)						Modulation		RB #			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	1	Half	Full	L	M	H
Max. Output Power	2	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	4	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	5	√	√	√	√	-	-	√	√	√	√	√	√	√	√
	17	-	-	√	√	-	-	√	√	√	√	√	√	√	√
E.R.P./ E.I.R.P.	2	√	√	√	√	√	√	√	√	√	√		√	√	√
	4	√	√	√	√	√	√	√	√	√	√		√	√	√
	5	√	√	√	√	-	-	√	√	√	√		√	√	√
	17	-	-	√	√	-	-	√	√	√			√	√	√
Radiated Spurious Emission	2	√	√	√	√	√	√	√		√				√	
	4	√	√	√	√	√	√	√		√				√	
	5	√	√	√	√	-	-	√		√				√	
	17	-	-		√	-	-	√		√				√	
Note	<ol style="list-style-type: none"> The mark "√" means that this configuration is chosen for testing The mark "-" means that this bandwidth is not supported. The device is investigated from 30MHz to 10 times of fundamental signal for radiated spurious emission test under different RB size/offset and modulations in exploratory test. Subsequently, only the worst case emissions are reported. 														

2.2 Connection Diagram of Test System



2.3 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model No.	FCC ID	Data Cable	Power Cord
1.	LTE Base Station	Anritsu	MT8820C	N/A	N/A	Unshielded, 1.8 m



2.4 Frequency List of Low/Middle/High Channels

LTE Band 2 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	18700	18900	19100
	Frequency	1860	1880	1900
15	Channel	18675	18900	19125
	Frequency	1857.5	1880	1902.5
10	Channel	18650	18900	19150
	Frequency	1855	1880	1905
5	Channel	18625	18900	19175
	Frequency	1852.5	1880	1907.5
3	Channel	18615	18900	19185
	Frequency	1851.5	1880	1908.5
1.4	Channel	18607	18900	19193
	Frequency	1850.7	1880	1909.3

LTE Band 4 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	20050	20175	20300
	Frequency	1720	1732.5	1745
15	Channel	20025	20175	20325
	Frequency	1717.5	1732.5	1747.5
10	Channel	20000	20175	20350
	Frequency	1715	1732.5	1750
5	Channel	19975	20175	20375
	Frequency	1712.5	1732.5	1752.5
3	Channel	19965	20175	20385
	Frequency	1711.5	1732.5	1753.5
1.4	Channel	19957	20175	20393
	Frequency	1710.7	1732.5	1754.3



LTE Band 5 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
10	Channel	20450	20525	20600
	Frequency	829	836.5	844
5	Channel	20425	20525	20625
	Frequency	826.5	836.5	846.5
3	Channel	20415	20525	20635
	Frequency	825.5	836.5	847.5
1.4	Channel	20407	20525	20643
	Frequency	824.7	836.5	848.3

LTE Band 17 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
10	Channel	23780	23790	23800
	Frequency	709	710	711
5	Channel	23755	23790	23825
	Frequency	706.5	710	713.5

3 Conducted Test Items

3.1 Measuring Instruments

See list of measuring instruments of this test report.

3.2 Test Setup

3.2.1 Conducted Output Power



3.3 Test Result of Conducted Test

Please refer to Appendix A.



3.4 Conducted Output Power

3.4.1 Description of the Conducted Output Power Measurement

A system simulator was used to establish communication with the EUT. Its parameters were set to force the EUT transmitting at maximum output power. The measured power in the radio frequency on the transmitter output terminals shall be reported.

3.4.2 Test Procedures

1. The transmitter output port was connected to the system simulator.
2. Set EUT at maximum power through the system simulator.
3. Select lowest, middle, and highest channels for each band and different modulation.
4. Measure and record the power level from the system simulator.

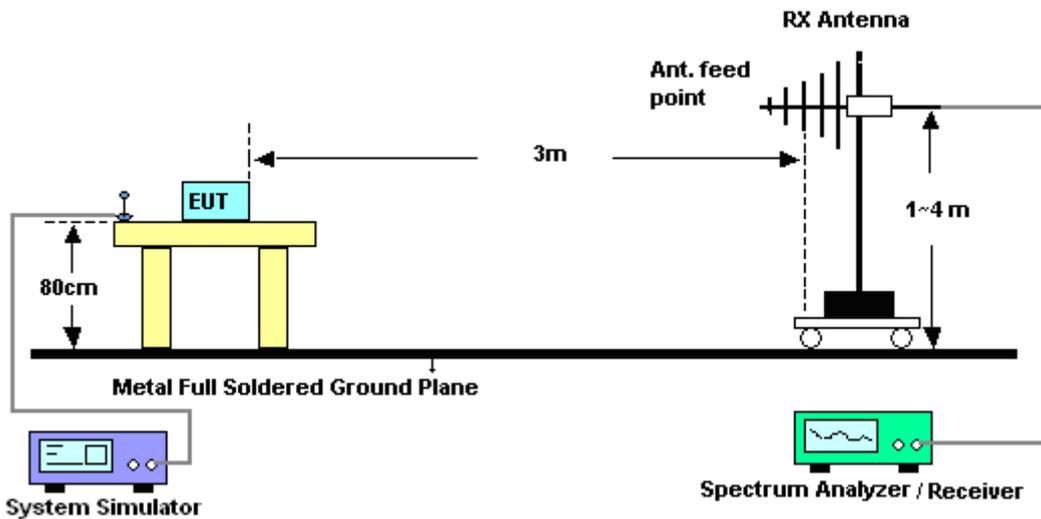
4 Radiated Test Items

4.1 Measuring Instruments

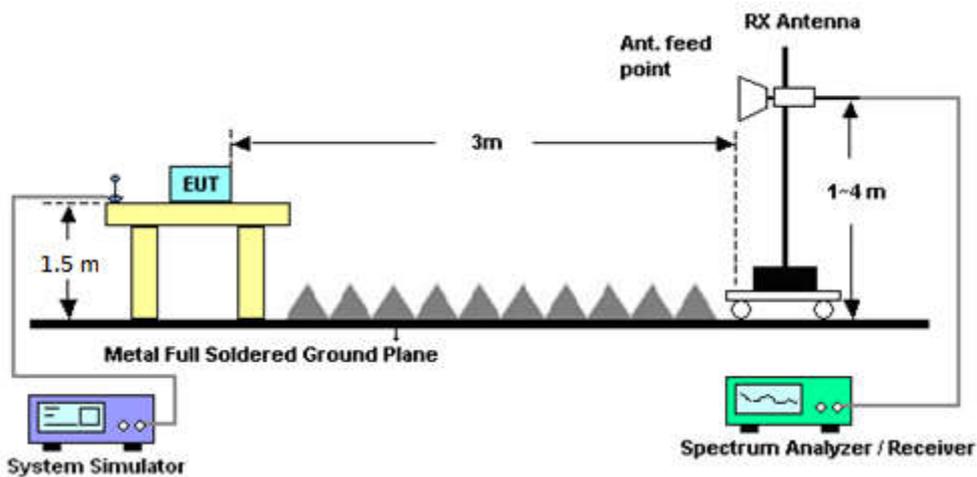
See list of measuring instruments of this test report.

4.2 Test Setup

4.2.1 For radiated test from 30MHz to 1GHz



4.2.2 For radiated test above 1GHz



4.3 Test Result of Radiated Test

Please refer to Appendix B.



4.4 Effective Radiated Power and Effective Isotropic Radiated Power

4.4.1 Description of the ERP/EIRP Measurement

Effective radiated power output measurements by substitution method according to ANSI / TIA / EIA-603-D-2010, and the spectrum analyzer configuration follows KDB 971168 D01 Power Meas. License Digital Systems v02r02. Mobile and portable (hand-held) stations operating are limited to average ERP of 7 watts with LTE band 5 and 3 watts with LTE band 17.

Equivalent isotropic radiated power output measurements by substitution method according to ANSI / TIA / EIA-603-D-2010, and the spectrum analyzer configuration follows KDB 971168 D01 Power Meas. License Digital Systems v02r02. Mobile and portable (hand-held) stations operating are limited to average EIRP of 2 watts with LTE band 2 and 1 watt with LTE band 4.

4.4.2 Test Procedures

1. The EUT was placed on a non-conductive rotating platform (0.8 meters for frequency below 1GHz and 1.5 meter for frequency above 1GHz) in a semi-anechoic chamber. The radiated emission at the fundamental frequency was measured at 3 m with a test antenna and a spectrum analyzer with RMS detector per section 5. of KDB 971168 D01.
2. During the measurement, the system simulator parameters were set to force the EUT transmitting at maximum output power. The maximum emission was recorded from analyzer power level (LVL) from the 360 degrees rotation of the turntable and the test antenna raised and lowered over a range from 1 to 4 meters in both horizontally and vertically polarized orientations.
3. Effective Isotropic Radiated Power (EIRP) was measured by substitution method according to TIA/EIA-603-D. The EUT was replaced by the substitution antenna at same location, and then a known power from S.G. was applied into the dipole antenna through a Tx cable, and then recorded the maximum Analyzer reading through raised and lowered the test antenna. The correction factor (in dB) = S.G. - Tx Cable loss + Substitution antenna gain - Analyzer reading. Then the EUT's EIRP was calculated with the correction factor, $EIRP = LVL + \text{Correction factor}$ and $ERP = EIRP - 2.15$. Take the record of the output power at substitution antenna.



	LTE Average					
LTE BW	1.4M	3M	5M	10M	15M	20M
Span	3MHz	6MHz	10MHz	20MHz	30MHz	40MHz
RBW	30kHz	100kHz	100kHz	300kHz	300kHz	300kHz
VBW	100kHz	300kHz	300kHz	1MHz	1MHz	1MHz
Detector	RMS	RMS	RMS	RMS	RMS	RMS
Trace	Average	Average	Average	Average	Average	Average
Average Type	Power	Power	Power	Power	Power	Power
Sweep Count	100	100	100	100	100	100



4.5 Radiated Spurious Emission

4.5.1 Description of Radiated Spurious Emission

The radiated spurious emission was measured by substitution method according to ANSI / TIA / EIA-603-D-2010. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least $43 + 10 \log (P)$ dB.

For LTE Band 17

For operations in the 746-758 MHz, 775-788 MHz, and 805-806 MHz bands, emissions in the band 1559-1610 MHz shall be limited to -70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth.

The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic.

4.5.2 Test Procedures

1. The testing follows FCC KDB 971168 v02r02 Section 5.8 and ANSI / TIA-603-D-2010 Section 2.2.12.
2. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
3. The EUT was set 3 meters from the receiving antenna, which was mounted on the antenna tower.
4. The table was rotated 360 degrees to determine the position of the highest spurious emission.
5. The height of the receiving antenna is varied between one meter and four meters to search the maximum spurious emission for both horizontal and vertical polarizations.
6. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
7. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
8. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
9. Taking the record of output power at antenna port.
10. Repeat step 7 to step 8 for another polarization.
11. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

The limit line is derived from $43 + 10\log(P)$ dB below the transmitter power P(Watts)
= $P(W) - [43 + 10\log(P)]$ (dB)
= $[30 + 10\log(P)]$ (dBm) - $[43 + 10\log(P)]$ (dB)
= -13 dBm.



5 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
EXA Spectrum Analyzer	Keysight	N9010A	MY55150208	10Hz~44GHz; Max 30dB	Apr. 22, 2016	Sep. 26, 2016~ Sep. 29, 2016	Apr. 21, 2017	Radiation (03CH02-KS)
Bilog Antenna	TeseQ	CBL6112D	35406	25MHz~2GHz	Apr. 16, 2016	Sep. 26, 2016~ Sep. 29, 2016	Apr. 15, 2017	Radiation (03CH02-KS)
Double Ridge Horn Antenna	ETS-Lindgren	3117	75957	1GHz~18GHz	Nov. 07, 2015	Sep. 26, 2016~ Sep. 29, 2016	Nov. 06, 2016	Radiation (03CH02-KS)
SHF-EHF Horn	com-power	AH-840	101070	18GHz~40GHz	Oct. 10, 2015	Sep. 26, 2016~ Sep. 29, 2016	Oct. 09, 2016	Radiation (03CH02-KS)
Amplifier	com-power	PA-103A	161069	1kHz~1000MHz / 32 dB	Apr. 22, 2016	Sep. 26, 2016~ Sep. 29, 2016	Apr. 21, 2017	Radiation (03CH02-KS)
High Gain Amplifier	MITEQ	AMF-7D-00 101800-30-1	1865802	1GHz~18GHz	Jan. 20, 2016	Sep. 26, 2016~ Sep. 29, 2016	Jan. 19, 2017	Radiation (03CH02-KS)
Amplifier	Agilent	8449B	3008A02384	1~26.5GHz Gain 30dB	Oct. 24, 2015	Sep. 26, 2016~ Sep. 29, 2016	Oct. 23, 2016	Radiation (03CH02-KS)
AC Power Source	Chroma	61601	616010002473	N/A	NCR	Sep. 26, 2016~ Sep. 29, 2016	NCR	Radiation (03CH02-KS)
Turn Table	MF	MF7802	N/A	0~360 degree	NCR	Sep. 26, 2016~ Sep. 29, 2016	NCR	Radiation (03CH02-KS)
Antenna Mast	MF	MF7802	N/A	1 m~4 m	NCR	Sep. 26, 2016~ Sep. 29, 2016	NCR	Radiation (03CH02-KS)
EXA Spectrum Analyzer	Keysight	N9010A	MY55150244	10Hz~44GHz	Apr. 22, 2016	Sep. 26, 2016~ Sep. 29, 2016	Apr. 21, 2017	Radiation (03CH03-KS)
Bilog Antenna	TeseQ	CBL6112D	35406	25MHz~2GHz	Apr. 16, 2016	Sep. 26, 2016~ Sep. 29, 2016	Apr. 15, 2017	Radiation (03CH03-KS)
Horn Antenna	Schwarzbeck	BBHA9120D	9120D-1356	1GHz~18GHz	Apr. 16, 2016	Sep. 26, 2016~ Sep. 29, 2016	Apr. 15, 2017	Radiation (03CH03-KS)
SHF-EHF Horn	com-power	AH-840	101070	18GHz~40GHz	Oct. 10, 2015	Sep. 26, 2016~ Sep. 29, 2016	Oct. 09, 2016	Radiation (03CH03-KS)
Amplifier	SONOMA	310N	187289	9kHz~1GHz	Aug. 09, 2016	Sep. 26, 2016~ Sep. 29, 2016	Aug. 08, 2017	Radiation (03CH03-KS)
high gain Amplifier	MITEQ	AMF-7D-00 101800-30-1	1943529	1GHz~18GHz	Jan. 20, 2016	Sep. 26, 2016~ Sep. 29, 2016	Jan.19, 2017	Radiation (03CH03-KS)
Amplifier	Agilent	8449B	3008A02370	1GHz~26.5GHz	Oct. 24, 2015	Sep. 26, 2016~ Sep. 29, 2016	Oct. 23, 2016	Radiation (03CH03-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	Sep. 26, 2016~ Sep. 29, 2016	NCR	Radiation (03CH03-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	Sep. 26, 2016~ Sep. 29, 2016	NCR	Radiation (03CH03-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	Sep. 26, 2016~ Sep. 29, 2016	NCR	Radiation (03CH03-KS)

NCR: No Calibration Required



6 Uncertainty of Evaluation

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz) for 03CH02-KS

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	5.1 dB
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Uncertainty of Radiated Emission Measurement (1GHz ~ 18GHz) for 03CH02-KS

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	4.5 dB
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Uncertainty of Radiated Emission Measurement (18GHz ~ 40GHz) for 03CH02-KS

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	5.1 dB
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Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz) for 03CH03-KS

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	4.5 dB
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Uncertainty of Radiated Emission Measurement (1GHz ~ 18GHz) for 03CH03-KS

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	4.5 dB
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Uncertainty of Radiated Emission Measurement (18GHz ~ 40GHz) for 03CH03-KS

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	4.6 dB
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Appendix A. Test Results of Conducted Test

Conducted Output Power(Average power)

LTE Band 2 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
20	1	0	QPSK	22.36	22.93	22.25
20	1	49		22.58	22.95	22.82
20	1	99		22.57	21.84	22.35
20	50	0		21.68	21.97	21.98
20	50	24		21.76	21.92	21.98
20	50	50		21.85	22.04	22.00
20	100	0		21.81	21.96	21.99
20	1	0	16-QAM	21.54	21.93	21.49
20	1	49		21.97	21.97	22.07
20	1	99		21.86	21.30	21.42
20	50	0		20.66	20.86	20.93
20	50	24		20.73	20.94	20.98
20	50	50		20.72	20.98	20.96
20	100	0		20.79	20.97	20.99
15	1	0	QPSK	22.52	22.80	22.82
15	1	37		22.60	22.87	22.83
15	1	74		21.94	22.31	22.72
15	36	0		21.70	22.04	21.94
15	36	20		21.76	22.00	21.94
15	36	39		21.76	22.01	21.92
15	75	0		21.82	21.96	21.94
15	1	0	16-QAM	21.38	21.66	21.66
15	1	37		21.32	21.76	21.82
15	1	74		20.99	21.31	21.50
15	36	0		20.69	20.84	20.94
15	36	20		20.73	20.92	20.95
15	36	39		20.73	20.96	20.96
15	75	0		20.78	20.95	21.02



LTE Band 2 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK	22.53	22.96	22.89
10	1	25		22.63	22.89	22.92
10	1	49		21.86	22.49	22.85
10	25	0		21.63	21.93	22.00
10	25	12		21.64	21.96	21.86
10	25	25		21.65	22.02	21.92
10	50	0		21.69	22.06	21.95
10	1	0	16-QAM	21.62	21.96	22.16
10	1	25		21.66	22.02	22.12
10	1	49		21.13	21.92	21.93
10	25	0		20.58	20.89	20.98
10	25	12		20.67	20.94	20.88
10	25	25		20.70	20.92	20.93
10	50	0		20.66	20.99	21.14
5	1	0	QPSK	22.50	22.88	22.75
5	1	12		22.53	22.93	22.81
5	1	24		22.37	22.70	22.74
5	12	0		21.62	21.92	21.94
5	12	7		21.49	21.92	21.92
5	12	13		21.59	22.15	21.89
5	25	0		21.65	21.99	21.94
5	1	0	16-QAM	21.80	21.80	21.77
5	1	12		21.71	21.81	21.60
5	1	24		21.77	21.71	21.73
5	12	0		20.65	21.01	20.98
5	12	7		20.71	21.03	20.97
5	12	13		20.58	21.07	21.03
5	25	0		20.71	20.92	21.00



LTE Band 2 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
3	1	0	QPSK	22.63	23.00	22.90
3	1	8		22.53	22.88	22.73
3	1	14		22.48	22.92	22.83
3	8	0		21.68	21.93	21.92
3	8	4		21.72	21.92	21.90
3	8	7		21.65	22.13	21.92
3	15	0		21.71	21.99	21.98
3	1	0	16-QAM	21.72	22.00	22.01
3	1	8		21.45	22.09	22.06
3	1	14		21.66	22.06	21.95
3	8	0		20.65	20.95	20.91
3	8	4		20.76	20.97	20.89
3	8	7		20.72	20.81	20.99
3	15	0		20.67	20.94	20.94
1.4	1	0	QPSK	22.62	23.00	22.82
1.4	1	3		22.58	23.01	22.95
1.4	1	5		22.68	22.94	22.90
1.4	3	0		22.69	22.98	22.87
1.4	3	1		22.64	22.98	22.83
1.4	3	3		22.56	22.95	22.88
1.4	6	0		21.70	21.97	21.92
1.4	1	0	16-QAM	21.70	22.18	22.03
1.4	1	3		21.73	22.12	21.91
1.4	1	5		21.67	22.08	22.12
1.4	3	0		21.49	21.90	21.81
1.4	3	1		21.57	21.92	21.85
1.4	3	3		21.58	21.87	21.86
1.4	6	0		20.71	21.00	20.84



LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
20	1	0	QPSK	22.17	22.56	22.70
20	1	49		22.96	23.14	22.89
20	1	99		22.56	22.59	22.37
20	50	0		22.18	22.18	22.19
20	50	24		22.19	22.23	22.22
20	50	50		22.13	22.15	22.18
20	100	0		22.20	22.14	22.24
20	1	0	16-QAM	21.07	21.57	21.66
20	1	49		21.56	21.84	21.65
20	1	99		21.45	21.52	21.39
20	50	0		21.17	21.18	21.14
20	50	24		21.28	21.06	21.08
20	50	50		21.06	21.09	21.04
20	100	0		21.09	21.11	21.13
15	1	0	QPSK	22.66	23.10	23.13
15	1	37		23.02	23.20	23.09
15	1	74		22.97	23.10	22.84
15	36	0		22.17	22.16	22.21
15	36	20		22.13	22.10	22.17
15	36	39		22.02	22.13	22.13
15	75	0		22.24	22.21	22.18
15	1	0	16-QAM	21.73	21.88	22.19
15	1	37		21.79	21.98	21.75
15	1	74		21.77	21.68	21.93
15	36	0		21.10	21.12	21.07
15	36	20		21.07	21.07	21.05
15	36	39		20.79	21.01	21.11
15	75	0		21.27	21.20	21.18



LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK	22.87	23.13	23.02
10	1	25		23.08	23.13	23.15
10	1	49		22.93	22.89	23.04
10	25	0		22.17	22.12	22.18
10	25	12		22.11	22.12	22.17
10	25	25		22.08	22.13	22.11
10	50	0		22.13	22.13	22.26
10	1	0	16-QAM	22.17	22.26	22.28
10	1	25		22.15	22.33	22.09
10	1	49		22.15	22.17	22.32
10	25	0		21.03	21.13	21.14
10	25	12		21.09	21.08	21.11
10	25	25		21.06	21.06	21.07
10	50	0		21.13	21.09	21.15
5	1	0	QPSK	22.95	23.15	23.20
5	1	12		23.07	23.05	23.02
5	1	24		23.02	23.11	23.07
5	12	0		22.12	22.19	22.10
5	12	7		22.14	22.10	22.09
5	12	13		22.11	22.15	22.11
5	25	0		22.14	22.12	22.10
5	1	0	16-QAM	21.74	21.91	21.95
5	1	12		21.84	21.84	21.72
5	1	24		21.86	21.89	21.85
5	12	0		21.07	21.15	21.07
5	12	7		21.10	21.08	20.97
5	12	13		21.17	21.03	21.10
5	25	0		21.13	21.10	20.99



LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
3	1	0	QPSK	23.01	23.19	23.08
3	1	8		23.18	23.14	23.08
3	1	14		23.12	23.14	23.08
3	8	0		22.10	22.19	22.06
3	8	4		22.17	22.14	22.10
3	8	7		22.12	22.08	22.13
3	15	0		22.21	22.19	22.16
3	1	0	16-QAM	22.18	22.28	22.26
3	1	8		22.28	22.25	22.16
3	1	14		22.33	22.27	22.27
3	8	0		21.08	21.08	21.06
3	8	4		21.15	21.04	21.00
3	8	7		21.13	21.10	21.04
3	15	0		21.12	21.12	21.08
1.4	1	0	QPSK	23.08	23.08	23.04
1.4	1	3		23.04	23.13	23.16
1.4	1	5		23.08	23.18	23.20
1.4	3	0		23.03	23.18	23.22
1.4	3	1		22.97	23.21	23.14
1.4	3	3		23.00	23.21	23.14
1.4	6	0		22.10	22.18	22.13
1.4	1	0	16-QAM	21.80	22.02	22.12
1.4	1	3		22.02	21.97	21.99
1.4	1	5		21.94	22.07	21.99
1.4	3	0		22.09	22.23	22.15
1.4	3	1		22.02	22.07	22.08
1.4	3	3		21.99	22.17	22.08
1.4	6	0		20.96	21.00	21.05



LTE Band 5 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK	23.41	23.46	23.42
10	1	25		23.31	23.41	23.30
10	1	49		23.37	23.33	23.18
10	25	0		22.43	22.38	22.36
10	25	12		22.41	22.36	22.27
10	25	25		22.34	22.30	22.26
10	50	0		22.46	22.39	22.31
10	1	0	16-QAM	22.54	22.75	22.49
10	1	25		22.55	22.48	22.50
10	1	49		22.52	22.49	22.42
10	25	0		21.43	21.40	21.32
10	25	12		21.42	21.38	21.31
10	25	25		21.54	21.32	21.32
10	50	0		21.33	21.28	21.27
5	1	0	QPSK	23.37	23.22	23.09
5	1	12		23.30	23.22	23.32
5	1	24		23.30	23.27	23.12
5	12	0		22.43	22.46	22.30
5	12	7		22.56	22.33	22.38
5	12	13		22.40	22.31	22.32
5	25	0		22.40	22.44	22.26
5	1	0	16-QAM	22.14	22.33	22.24
5	1	12		22.36	22.21	22.33
5	1	24		22.20	22.17	22.12
5	12	0		21.34	21.42	21.26
5	12	7		21.58	21.27	21.34
5	12	13		21.41	21.24	21.18
5	25	0		21.39	21.43	21.26



LTE Band 5 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
3	1	0	QPSK	23.55	23.34	23.45
3	1	8		23.36	23.33	23.34
3	1	14		23.49	23.38	23.41
3	8	0		22.48	22.36	22.37
3	8	4		22.44	22.38	22.26
3	8	7		22.43	22.50	22.18
3	15	0		22.43	22.32	22.27
3	1	0	16-QAM	22.51	22.65	22.68
3	1	8		22.53	22.54	22.50
3	1	14		22.51	22.57	22.37
3	8	0		21.43	21.36	21.38
3	8	4		21.52	21.39	21.29
3	8	7		21.50	21.39	21.29
3	15	0		21.33	21.34	21.33
1.4	1	0	QPSK	23.34	23.37	23.25
1.4	1	3		23.41	23.40	23.25
1.4	1	5		23.38	23.31	23.20
1.4	3	0		23.33	23.46	23.33
1.4	3	1		23.41	23.42	23.33
1.4	3	3		23.43	23.42	23.30
1.4	6	0		22.50	22.50	22.33
1.4	1	0	16-QAM	22.06	22.08	22.01
1.4	1	3		22.08	22.29	22.01
1.4	1	5		21.98	22.03	22.01
1.4	3	0		22.24	22.18	22.17
1.4	3	1		22.42	22.11	22.07
1.4	3	3		22.43	22.22	22.12
1.4	6	0		21.24	21.21	21.13



LTE Band 17 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK	23.37	23.25	23.32
10	1	25		23.30	23.40	23.34
10	1	49		23.39	23.42	23.45
10	25	0		22.45	22.37	22.37
10	25	12		22.36	22.39	22.46
10	25	25		22.47	22.46	22.48
10	50	0		22.41	22.45	22.50
10	1	0	16-QAM	22.41	22.45	22.45
10	1	25		22.47	22.42	22.48
10	1	49		22.43	22.48	22.49
10	25	0		21.48	21.43	21.47
10	25	12		21.38	21.42	21.45
10	25	25		21.49	21.47	21.45
10	50	0		21.30	21.43	21.46
5	1	0	QPSK	23.34	23.28	23.23
5	1	12		23.26	23.34	23.31
5	1	24		23.32	23.47	23.37
5	12	0		22.50	22.40	22.38
5	12	7		22.50	22.41	22.46
5	12	13		22.48	22.44	22.49
5	25	0		22.41	22.36	22.47
5	1	0	16-QAM	22.25	22.27	22.30
5	1	12		22.20	22.23	22.44
5	1	24		22.29	22.38	22.33
5	12	0		21.43	21.29	21.32
5	12	7		21.44	21.37	21.45
5	12	13		21.46	21.43	21.37
5	25	0		21.50	21.37	21.46



Appendix B. Test Results of Radiated Test

ERP/EIRP

LTE Band 2 / 1.4MHz (Average)							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	EIRP(dBm)	EIRP(W)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	3	0	23.20	0.2091	23.76	0.2378
Middle		1	3	23.94	0.2477	24.47	0.2799
Highest		1	3	25.04	0.3194	25.31	0.3393
Lowest	16QAM	1	3	22.12	0.1627	22.73	0.1873
Middle		1	0	22.76	0.1889	23.27	0.2123
Highest		1	5	23.92	0.2466	24.19	0.2625
Limit	EIRP < 2W			Result		PASS	

LTE Band 2 / 3MHz (Average)							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	EIRP(dBm)	EIRP(W)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	23.29	0.2134	23.93	0.2471
Middle		1	0	23.98	0.2500	24.42	0.2770
Highest		1	0	25.22	0.3324	25.29	0.3383
Lowest	16QAM	1	0	22.11	0.1624	22.73	0.1876
Middle		1	8	22.76	0.1887	23.33	0.2155
Highest		1	8	23.90	0.2453	24.13	0.2591
Limit	EIRP < 2W			Result		PASS	



LTE Band 2 / 5MHz (Average)							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	EIRP(dBm)	EIRP(W)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	12	23.32	0.2147	23.87	0.2437
Middle		1	12	23.95	0.2484	24.59	0.2878
Highest		1	12	25.10	0.3235	25.27	0.3362
Lowest	16QAM	1	0	22.65	0.1842	22.06	0.1605
Middle		1	12	22.76	0.1887	23.33	0.2155
Highest		1	0	23.97	0.2495	23.99	0.2506
Limit	EIRP < 2W			Result		PASS	

LTE Band 2 / 10MHz (Average)							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	EIRP(dBm)	EIRP(W)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	25	23.65	0.2318	24.00	0.2513
Middle		1	0	23.93	0.2473	24.35	0.2726
Highest		1	25	25.16	0.3278	25.28	0.3370
Lowest	16QAM	1	25	22.35	0.1719	22.85	0.1926
Middle		1	25	22.84	0.1921	23.32	0.2147
Highest		1	0	23.81	0.2405	23.87	0.2439
Limit	EIRP < 2W			Result		PASS	

LTE Band 2 / 15MHz (Average)							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	EIRP(dBm)	EIRP(W)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	37	23.63	0.2305	23.98	0.2500
Middle		1	37	23.91	0.2462	24.49	0.2812
Highest		1	37	25.10	0.3234	25.15	0.3277
Lowest	16QAM	1	0	22.14	0.1636	22.69	0.1857
Middle		1	37	22.80	0.1903	23.44	0.2209
Highest		1	37	23.96	0.2492	23.94	0.2475
Limit	EIRP < 2W			Result		PASS	



LTE Band 2 / 20MHz (Average)							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	EIRP(dBm)	EIRP(W)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	49	23.90	0.2456	24.01	0.2516
Middle		1	49	23.99	0.2503	24.57	0.2866
Highest		1	49	24.96	0.3133	25.04	0.3190
Lowest	16QAM	1	49	22.73	0.1874	22.84	0.1924
Middle		1	49	22.87	0.1936	23.33	0.2155
Highest		1	49	23.76	0.2378	23.94	0.2478
Limit	EIRP < 2W			Result		PASS	

LTE Band 4 / 1.4MHz (Average)							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	EIRP(dBm)	EIRP(W)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	24.72	0.2967	24.82	0.3034
Middle		3	1	24.71	0.2958	24.52	0.2834
Highest		3	0	24.69	0.2945	24.00	0.2510
Lowest	16QAM	3	0	23.62	0.2300	23.71	0.2351
Middle		3	0	23.67	0.2330	23.32	0.2150
Highest		3	0	23.51	0.2242	22.77	0.1893
Limit	EIRP < 1W			Result		PASS	

LTE Band 4 / 3MHz (Average)							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	EIRP(dBm)	EIRP(W)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	8	24.81	0.3025	24.82	0.3033
Middle		1	0	24.93	0.3115	24.56	0.2858
Highest		1	0	24.59	0.2877	24.02	0.2523
Lowest	16QAM	1	14	23.77	0.2384	23.47	0.2224
Middle		1	0	23.70	0.2343	23.30	0.2138
Highest		1	14	23.43	0.2202	22.81	0.1908
Limit	EIRP < 1W			Result		PASS	



LTE Band 4 / 5MHz (Average)							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	EIRP(dBm)	EIRP(W)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	12	24.79	0.3016	24.83	0.3038
Middle		1	0	25.04	0.3192	24.57	0.2862
Highest		1	0	24.56	0.2858	24.11	0.2578
Lowest	16QAM	1	24	23.71	0.2350	23.61	0.2295
Middle		1	0	23.89	0.2447	23.24	0.2109
Highest		1	0	23.29	0.2133	22.91	0.1955
Limit	EIRP < 1W			Result		PASS	

LTE Band 4/ 10MHz (Average)							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	EIRP(dBm)	EIRP(W)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	25	25.06	0.3203	24.85	0.3057
Middle		1	0	25.19	0.3305	24.51	0.2827
Highest		1	25	24.47	0.2799	24.13	0.2587
Lowest	16QAM	1	0	24.81	0.3026	24.93	0.3110
Middle		1	25	23.56	0.2269	23.31	0.2145
Highest		1	49	23.63	0.2307	22.86	0.1931
Limit	EIRP < 1W			Result		PASS	

LTE Band 4 / 15MHz (Average)							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	EIRP(dBm)	EIRP(W)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	37	24.93	0.3115	24.69	0.2946
Middle		1	37	24.72	0.2963	24.51	0.2827
Highest		1	0	24.45	0.2785	24.33	0.2712
Lowest	16QAM	1	37	23.85	0.2425	23.55	0.2264
Middle		1	37	23.57	0.2277	23.33	0.2154
Highest		1	0	23.35	0.2164	23.16	0.2072
Limit	EIRP < 1W			Result		PASS	



LTE Band 4 / 20MHz (Average)							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	EIRP(dBm)	EIRP(W)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	49	25.10	0.3238	24.69	0.2942
Middle		1	49	24.78	0.3007	24.49	0.2811
Highest		1	49	24.59	0.2879	24.26	0.2665
Lowest	16QAM	1	49	23.64	0.2311	23.73	0.2362
Middle		1	49	23.59	0.2283	23.30	0.2138
Highest		1	0	23.34	0.2159	23.20	0.2087
Limit	EIRP < 1W			Result		PASS	

LTE Band 5 / 1.4MHz (Average)							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	ERP(dBm)	ERP(W)	ERP(dBm)	ERP(W)
Lowest	QPSK	3	3	20.24	0.1057	2.23	0.0017
Middle		3	0	19.83	0.0962	2.19	0.0017
Highest		3	0	19.65	0.0922	1.88	0.0015
Lowest	16QAM	3	3	19.19	0.0830	1.21	0.0013
Middle		1	3	18.82	0.0762	0.97	0.0012
Highest		3	0	18.57	0.0719	0.80	0.0012
Limit	ERP < 7W			Result		PASS	

LTE Band 5 / 3MHz (Average)							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	ERP(dBm)	ERP(W)	ERP(dBm)	ERP(W)
Lowest	QPSK	1	0	20.40	0.1096	2.46	0.0018
Middle		1	14	18.77	0.0753	0.97	0.0013
Highest		1	0	19.91	0.0980	2.12	0.0016
Lowest	16QAM	1	8	19.19	0.0829	1.19	0.0013
Middle		1	0	18.65	0.0733	1.02	0.0013
Highest		1	0	18.54	0.0715	0.74	0.0012
Limit	ERP < 7W			Result		PASS	



LTE Band 5 / 5MHz (Average)							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	ERP(dBm)	ERP(W)	ERP(dBm)	ERP(W)
Lowest	QPSK	1	0	20.36	0.1087	2.36	0.0017
Middle		1	24	19.89	0.0974	2.14	0.0016
Highest		1	12	19.96	0.0990	2.13	0.0016
Lowest	16QAM	1	12	19.07	0.0808	1.11	0.0013
Middle		1	0	18.61	0.0726	1.01	0.0013
Highest		1	12	18.61	0.0725	0.78	0.0012
Limit	ERP < 7W			Result		PASS	

LTE Band 5 / 10MHz (Average)							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	ERP(dBm)	ERP(W)	ERP(dBm)	ERP(W)
Lowest	QPSK	1	0	20.41	0.1100	2.39	0.0017
Middle		1	0	20.07	0.1016	2.31	0.0017
Highest		1	0	19.78	0.0952	2.08	0.0016
Lowest	16QAM	1	25	19.11	0.0814	1.03	0.0013
Middle		1	0	18.82	0.0762	0.98	0.0013
Highest		1	25	18.38	0.0688	0.96	0.0012
Limit	ERP < 7W			Result		PASS	

LTE Band 17 / 5MHz (Average)							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	ERP(dBm)	ERP(W)	ERP(dBm)	ERP(W)
Lowest	QPSK	1	0	17.12	0.0516	1.45	0.0014
Middle		1	24	17.93	0.0621	1.74	0.0015
Highest		1	24	18.73	0.0747	2.11	0.0016
Lowest	16QAM	1	24	16.43	0.0440	0.37	0.0011
Middle		1	24	16.68	0.0466	0.50	0.0011
Highest		1	12	17.03	0.0505	0.70	0.0012
Limit	ERP < 3W			Result		PASS	



LTE Band 17 / 10MHz (Average)							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	ERP(dBm)	ERP(W)	ERP(dBm)	ERP(W)
Lowest	QPSK	1	49	18.15	0.0654	1.93	0.0016
Middle		1	49	18.45	0.0700	2.00	0.0016
Highest		1	49	18.67	0.0736	2.08	0.0016
Lowest	16QAM	1	25	16.42	0.0439	0.33	0.0011
Middle		1	49	17.26	0.0532	0.77	0.0012
Highest		1	49	17.40	0.0550	0.85	0.0012
Limit	ERP < 3W			Result		PASS	



Radiated Spurious Emission

LTE Band 2 / 1.4MHz / QPSK / RB Size 1 Offset 0									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	3756	-64.64	-13	-51.64	-73.65	-69.50	1.93	6.80	H
	5638.38	-59.02	-13	-46.02	-69.58	-66.32	2.40	9.70	H
	7517.84	-56.90	-13	-43.90	-71.94	-65.95	2.76	11.81	H
	3758.92	-64.16	-13	-51.16	-73.47	-69.03	1.93	6.80	V
	5640	-61.57	-13	-48.57	-69.52	-68.87	2.40	9.70	V
	7517.84	-59.36	-13	-46.36	-71.85	-68.41	2.76	11.81	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

LTE Band 2 / 3MHz / QPSK / RB Size 1 Offset 0									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	3756	-63.78	-13	-50.78	-72.79	-68.64	1.93	6.80	H
	5636.22	-59.63	-13	-46.63	-70.19	-66.93	2.40	9.70	H
	7514.96	-56.75	-13	-43.75	-71.79	-65.80	2.76	11.81	H
	3756	-63.67	-13	-50.67	-72.98	-68.54	1.93	6.80	V
	5636.22	-62.47	-13	-49.47	-70.42	-69.77	2.40	9.70	V
	7512	-58.66	-13	-45.66	-71.15	-67.71	2.76	11.81	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



LTE Band 2 / 5MHz / QPSK / RB Size 1 Offset 0									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	3756	-64.70	-13	-51.70	-73.71	-69.56	1.93	6.80	H
	5633.52	-59.78	-13	-46.78	-70.34	-67.08	2.40	9.70	H
	7511.36	-56.73	-13	-43.73	-71.77	-65.78	2.76	11.81	H
	3756	-64.28	-13	-51.28	-73.59	-69.15	1.93	6.80	V
	5633.52	-61.87	-13	-48.87	-69.82	-69.17	2.40	9.70	V
	7511.36	-59.43	-13	-46.43	-71.92	-68.48	2.76	11.81	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

LTE Band 2 / 10MHz / QPSK / RB Size 1 Offset 0									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	3750	-64.11	-13	-51.11	-73.12	-68.97	1.93	6.80	H
	5626.77	-58.87	-13	-45.87	-69.43	-66.17	2.40	9.70	H
	7502.36	-56.14	-13	-43.14	-71.18	-65.19	2.76	11.81	H
	3750	-64.28	-13	-51.28	-73.59	-69.15	1.93	6.80	V
	5626.77	-61.15	-13	-48.15	-69.1	-68.45	2.40	9.70	V
	7502.36	-58.15	-13	-45.15	-70.64	-67.20	2.76	11.81	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



LTE Band 2 / 15MHz / QPSK / RB Size 1 Offset 0									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	3744	-64.78	-13	-51.78	-73.79	-69.64	1.93	6.80	H
	5620.02	-58.80	-13	-45.80	-69.36	-66.10	2.40	9.70	H
	7493.36	-56.39	-13	-43.39	-71.43	-65.44	2.76	11.81	H
	3744	-64.37	-13	-51.37	-73.68	-69.24	1.93	6.80	V
	5622	-62.03	-13	-49.03	-69.98	-69.33	2.40	9.70	V
	7493.36	-58.89	-13	-45.89	-71.38	-67.94	2.76	11.81	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

LTE Band 2 / 20MHz / QPSK / RB Size 1 Offset 0									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	3744	-64.68	-13	-51.68	-73.69	-69.54	1.93	6.80	H
	5613.27	-59.46	-13	-46.46	-70.02	-66.76	2.40	9.70	H
	7484.36	-55.65	-13	-42.65	-70.69	-64.70	2.76	11.81	H
	3744	-64.67	-13	-51.67	-73.98	-69.54	1.93	6.80	V
	5613.27	-62.39	-13	-49.39	-70.34	-69.69	2.40	9.70	V
	7484.36	-58.81	-13	-45.81	-71.3	-67.86	2.76	11.81	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



LTE Band 4 / 1.4MHz / QPSK / RB Size 1 Offset 0									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	3468	-66.40	-13	-53.40	-73.19	-71.29	1.81	6.70	H
	5196	-61.16	-13	-48.16	-73.84	-68.06	2.23	9.13	H
	6930	-61.25	-13	-48.25	-76.43	-69.31	2.60	10.66	H
	3468	-68.43	-13	-55.43	-73.63	-73.32	1.81	6.70	V
	5196	-58.57	-13	-45.57	-72.12	-65.47	2.23	9.13	V
	6930	-62.10	-13	-49.10	-77.15	-70.16	2.6	10.66	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



LTE Band 4 / 3MHz / QPSK / RB Size 1 Offset 0									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	3468	-66.92	-13	-53.92	-73.71	-71.81	1.81	6.70	H
	5196	-60.25	-13	-47.25	-72.93	-67.15	2.23	9.13	H
	6930	-60.73	-13	-47.73	-75.91	-68.79	2.60	10.66	H
	3468	-68.14	-13	-55.14	-73.34	-73.03	1.81	6.70	V
	5196	-60.87	-13	-47.87	-74.42	-67.77	2.23	9.13	V
	6930	-61.50	-13	-48.50	-76.55	-69.56	2.6	10.66	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



LTE Band 4 / 5MHz / QPSK									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	3468	-66.92	-13	-53.92	-73.71	-71.81	1.81	6.70	H
	5190	-60.64	-13	-47.64	-73.32	-67.54	2.23	9.13	H
	6930	-61.84	-13	-48.84	-77.02	-69.90	2.60	10.66	H
	3468	-68.83	-13	-55.83	-74.03	-73.72	1.81	6.70	V
	5190	-60.00	-13	-47.00	-73.55	-66.90	2.23	9.13	V
	6930	-62.06	-13	-49.06	-77.11	-70.12	2.6	10.66	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



LTE Band 4 / 10MHz / QPSK / RB Size 1 Offset 0									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	3468	-66.98	-13	-53.98	-73.77	-71.87	1.81	6.70	H
	5184	-58.89	-13	-45.89	-71.57	-65.79	2.23	9.13	H
	6930	-61.49	-13	-48.49	-76.67	-69.55	2.60	10.66	H
	3468	-68.14	-13	-55.14	-73.34	-73.03	1.81	6.70	V
	5184	-59.66	-13	-46.66	-73.21	-66.56	2.23	9.13	V
	6930	-61.65	-13	-48.65	-76.7	-69.71	2.6	10.66	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



LTE Band 4 / 15MHz / QPSK / RB Size 1 Offset 0									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	3468	-66.49	-13	-53.49	-73.28	-71.38	1.81	6.70	H
	5178	-61.22	-13	-48.22	-73.90	-68.12	2.23	9.13	H
	6930	-61.88	-13	-48.88	-77.06	-69.94	2.60	10.66	H
	3468	-67.89	-13	-54.89	-73.09	-72.78	1.81	6.70	V
	5178	-60.99	-13	-47.99	-74.54	-67.89	2.23	9.13	V
	6930	-61.23	-13	-48.23	-76.28	-69.29	2.6	10.66	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



LTE Band 4 / 20MHz / QPSK / RB Size 1 Offset 0									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	3468	-66.47	-13	-53.47	-73.26	-71.36	1.81	6.70	H
	5196	-62.59	-13	-49.59	-75.27	-69.49	2.23	9.13	H
	6930	-62.04	-13	-49.04	-77.22	-70.10	2.60	10.66	H
	3468	-68.68	-13	-55.68	-73.88	-73.57	1.81	6.70	V
	5196	-61.57	-13	-48.57	-75.12	-68.47	2.23	9.13	V
	6930	-62.24	-13	-49.24	-77.29	-70.30	2.6	10.66	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



LTE Band 5 / 1.4MHz / QPSK / RB Size 1 Offset 0									
Channel	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	1672	-68.59	-13	-55.59	-66.79	-70.41	1.23	5.20	H
	2507.88	-67.99	-13	-54.99	-72.84	-70.22	1.52	5.90	H
	3343.84	-67.10	-13	-54.10	-74.66	-69.88	1.77	6.70	H
	1672	-69.25	-13	-56.25	-67.20	-71.07	1.23	5.20	V
	2507.88	-64.90	-13	-51.90	-73.20	-67.13	1.52	5.90	V
	3343.84	-63.66	-13	-50.66	-74.76	-66.44	1.77	6.70	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



LTE Band 5 / 3MHz / QPSK / RB Size 1 Offset 0									
Channel	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	1672	-69.52	-13	-56.52	-67.72	-71.34	1.23	5.20	H
	2505.72	-68.43	-13	-55.43	-73.28	-70.66	1.52	5.90	H
	3340.96	-67.30	-13	-54.30	-74.86	-70.08	1.77	6.70	H
	1672	-69.88	-13	-56.88	-67.83	-71.70	1.23	5.20	V
	2505.72	-65.23	-13	-52.23	-73.53	-67.46	1.52	5.90	V
	3340	-63.86	-13	-50.86	-74.96	-66.64	1.77	6.70	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



LTE Band 5 / 5MHz / QPSK / RB Size 1 Offset 0									
Channel	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	1672	-68.67	-13	-55.67	-66.87	-70.49	1.23	5.20	H
	2503.02	-66.31	-13	-53.31	-71.16	-68.54	1.52	5.90	H
	3337.36	-67.23	-13	-54.23	-74.79	-70.01	1.77	6.70	H
	1672	-70.32	-13	-57.32	-68.27	-72.14	1.23	5.20	V
	2503.02	-62.49	-13	-49.49	-70.79	-64.72	1.52	5.90	V
	3337	-63.94	-13	-50.94	-75.04	-66.72	1.77	6.70	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



LTE Band 5 / 10MHz / QPSK / RB Size 1 Offset 0									
Channel	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	1664	-68.84	-13	-55.84	-67.04	-70.66	1.23	5.20	H
	2496.27	-66.37	-13	-53.37	-71.22	-68.60	1.52	5.90	H
	3328.36	-66.87	-13	-53.87	-74.43	-69.65	1.77	6.70	H
	1664	-69.08	-13	-56.08	-67.03	-70.90	1.23	5.20	V
	2496.27	-63.15	-13	-50.15	-71.45	-65.38	1.52	5.90	V
	3328	-63.17	-13	-50.17	-74.27	-65.95	1.77	6.70	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



LTE Band 17 / 10MHz / QPSK / RB Size 1 Offset 0									
Channel	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	1408	-75.27	-13	-62.27	-71.11	-76.17	1.14	4.19	H
	2120	-73.52	-13	-60.52	-72.98	-74.98	1.4	5.01	H
	2824	-72.71	-13	-59.71	-73.35	-75.24	1.63	6.31	H
	1408	-75.78	-13	-62.78	-70.65	-76.68	1.14	4.19	V
	2120	-74.46	-13	-61.46	-72.58	-75.92	1.4	5.01	V
	2824	-70.87	-13	-57.87	-72.99	-73.40	1.63	6.31	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



Appendix D. Product Equality Declaration

ZTE CORPORATION**Product Change Description**

As the applicant of the below model, [ZTE Corporation] declares that the product,

[MF923]

[ZTE Corporation]

is the variant of the initial certified product,

[MF923]

[ZTE Corporation]

SOFTWARE MODIFICATIONS:

Protocol Stack changes: NO

MMS/STK changes: NO

JAVA changes: NO

Other changes detailed: NO

HARDWARE MODIFICATION:

Band changes: NO

Power Amplifier changes: Yes, for LTE b2/4/5,WCDMA b1/2/5; The new PA chip component is pin-for-pin compatible and an equivalent chip as old chip, it has the same basic function as the old one, no radio parameters changed.

Antenna changes: NO

PCB Layout changes: NO

Components on PCB changes: NO

LCD changes: NO

Speaker changes: NO

Camera changes: NO

Vibrator changes: NO

Bluetooth changes: NO
FM changes: NO

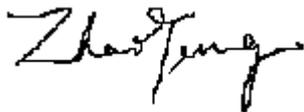
Other changes: SIM slot changed to the second vender.
Touch Panel changed to the second vender.
A LDO(which used for Micro-SD slot power supply)
changed to the second vender.

MECHANICAL MODIFICATIONS:

Use new metal front/back cover or keypad: NO
Mechanical shell changes: NO
Other changes detailed: NO

ACCESSORY MODIFICATIONS:

Battery changes: NO
AC Adaptor changes: NO
Earphone changes: NO



APPROVED BY: zhaoyang

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