



# FCC RF Test Report

**APPLICANT** : ASUSTeK COMPUTER INC.  
**EQUIPMENT** : ASUS Phone (Mobile Phone)  
**BRAND NAME** : ASUS  
**MODEL NAME** : ASUS\_X018D  
**FCC ID** : MSQX018D  
**STANDARD** : 47 CFR Part 2, 22(H), 24(E), 27(L), 27(M), 27(H)  
**CLASSIFICATION** : PCS Licensed Transmitter Held to Ear (PCE)

The product was received on Nov. 23, 2017 and completely tested on Dec. 14, 2017. 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-603-E 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.



Approved by: James Huang / Manager

**Sporton International (Kunshan) Inc.**

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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	-
	§27.50(c)(10)	Effective Radiated Power (Band 12)	ERP < 3 Watt	PASS	-
	§24.232(c) §27.50(h)(2)	Equivalent Isotropic Radiated Power (Band 2) (Band 7)	EIRP < 2Watt	PASS	-
	§27.50(d)(4)	Equivalent Isotropic Radiated Power (Band 4)	EIRP < 1Watt	PASS	-
4.4	§2.1053 §24.238(a) §27.53(g) §27.53(h)	Radiated Spurious Emission (Band 2) (Band 4) (Band 12)	< 43+10log <sub>10</sub> (P[Watts])	PASS	Under limit 11.56 dB at 10260.00 MHz
	§2.1053 §27.53(m)(4)	Radiated Spurious Emission (Band 7)	< 55+10log <sub>10</sub> (P[Watts])		



# 1 General Description

## 1.1 Applicant

ASUSTeK COMPUTER INC.  
4F, No. 150, LI-TE RD., PEITOU, TAIPEI, TAIWAN

## 1.2 Manufacturer

ASUSTeK COMPUTER INC.  
4F, No. 150, LI-TE RD., PEITOU, TAIPEI, TAIWAN

## 1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	ASUS Phone (Mobile Phone)
Brand Name	ASUS
Model Name	ASUS_X018D
FCC ID	MSQX018D
EUT supports Radios application	GSM/GPRS/EGPRS/WCDMA/HSPA/HSPA+/DC-HSDPA/LTE WLAN 2.4GHz 802.11b/g/n HT20/HT40 Bluetooth v3.0+EDR/ Bluetooth v4.0 LE
IMEI Code	Conducted: N/A Radiation: N/A
HW Version	WIUMA1A2-2
SW Version	WW_14.02.1709.8_20170930
EUT Stage	Identical Prototype

### Remark:

1. The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.
2. This is a variant report for ASUS\_X018D, the product equality declaration could be referred to appendix D. Based on the original test reports, only the worst case of Radiated Spurious Emission/ERP/EIRP, Conducted Power from original test report (Sporton Report Number FG783105B) were verified for the differences.
3. The worst case of 850MHz band which can be referred to report number "FG783105-03A". The 700MHz Band of worst case is LTE band 12 from original test report.



### 1.4 Product Specification of Equipment Under Test

Standards-related Product Specification	
<b>Tx Frequency</b>	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 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
<b>Rx Frequency</b>	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 7 : 2622.5MHz ~ 2687.5 MHz LTE Band 12 : 729.7 MHz ~ 745.3 MHz LTE Band 17 : 736.5 MHz ~ 743.5 MHz
<b>Bandwidth</b>	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 7 : 5MHz/ 10MHz / 15MHz / 20MHz LTE Band 12 : 1.4MHz / 3MHz / 5MHz / 10MHz LTE Band 17 : 5MHz / 10MHz
<b>Maximum Output Power to Antenna</b>	LTE Band 2 : 22.09 dBm LTE Band 4 : 22.42 dBm LTE Band 5 : 22.23 dBm LTE Band 7 : 21.98 dBm LTE Band 12 : 22.48 dBm LTE Band 17 : 22.33 dBm
<b>Antenna Gain</b>	LTE Band 2 : 0.8 dBi LTE Band 4 : 0.8 dBi LTE Band 5 : -0.8 dBi LTE Band 7 : -0.7 dBi LTE Band 12 : -0.8 dBi LTE Band 17 : -0.8 dBi
<b>Type of Modulation</b>	QPSK / 16QAM

### 1.5 Modification of EUT

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



### 1.6 Maximum ERP/EIRP Power, Frequency Tolerance, and Emission Designator

LTE Band 2		QPSK			16QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)
1.4	1850.7 ~ 1909.3	-	-	-	-	-	-
3	1851.5 ~ 1908.5	-	-	-	-	-	-
5	1852.5 ~ 1907.5	-	-	-	-	-	-
10	1855.0 ~ 1905.0	-	-	-	-	-	-
15	1857.5 ~ 1902.5	-	-	-	-	-	-
20	1860.0 ~ 1900.0	-	-	0.1945	-	-	0.1656
LTE Band 4		QPSK			-		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)
1.4	1710.7 ~ 1754.3	-	-	-	-	-	-
3	1711.5 ~ 1753.5	-	-	-	-	-	-
5	1712.5 ~ 1752.5	-	-	-	-	-	-
10	1715.0 ~ 1750.0	-	-	-	-	-	-
15	1717.5 ~ 1747.5	-	-	-	-	-	-
20	1720.0 ~ 1745.0	-	-	0.2099	-	-	0.1795
LTE Band 7		QPSK			16QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)
5	2502.5 ~ 2567.5	-	-	-	-	-	-
10	2505.0 ~ 2565.0	-	-	-	-	-	-
15	2507.5 ~ 2562.5	-	-	-	-	-	-
20	2510.0 ~ 2560.0	-	-	0.1343	-	-	0.1122
LTE Band 12		QPSK			16QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)
1.4	699.7 ~ 715.3	-	-	-	-	-	-
3	700.5 ~ 714.5	-	-	0.0897	-	-	0.0750
5	701.5 ~ 713.5	-	-	-	-	-	-
10	704.0 ~ 711.0	-	-	0.0871	-	-	0.0738



### 1.7 Testing Location

Sporton Lab is accredited to ISO 17025 by National Voluntary Laboratory Accreditation Program (NVLAP code: 600155-0) and the FCC designation No. is CN5013.

<b>Test Site</b>	Sporton International (Kunshan) Inc.	
<b>Test Site Location</b>	No.3-2 Ping-Xiang Rd, Kunshan Development Zone Kunshan City Jiangsu Province 215335 China TEL : +86-512-57900158 FAX : +86-512-57900958	
<b>Test Site No.</b>	<b>Sporton Site No.</b>	<b>FCC Test Firm Registration No.</b>
	03CH03-KS	630927

**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(M), 27(H)
- ♦ ANSI/TIA-603-E
- ♦ FCC KDB 971168 D01 Power Meas License Digital Systems v03
- ♦ FCC KDB 412172 D01 Determining ERP and EIRP v01r01

**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 v03 with maximum output power.

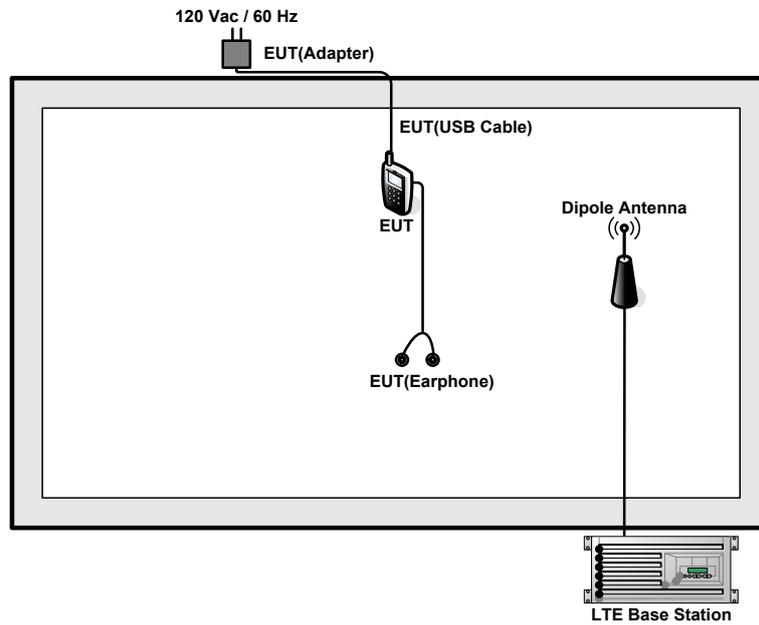
Radiated measurements are performed by rotating the EUT in three different orthogonal test planes to find the maximum emission.

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	v	v	v	v	v	v	v	v	v	v	v	v	v	v
	4	v	v	v	v	v	v	v	v	v	v	v	v	v	v
	5	v	v	v	v	-	-	v	v	v	v	v	v	v	v
	7	-	-	v	v	v	v	v	v	v	v	v	v	v	v
	12	v	v	v	v	-	-	v	v	v	v	v	v	v	v
	17	-	-	v	v	-	-	v	v	v	v	v	v	v	v

Test Items	Band	Bandwidth (MHz)						Modulation		RB #			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	1	Half	Full	L	M	H
E.R.P./ E.I.R.P.	2	-	-	-	-	-	v	v	v	v	-	-	v	v	v
	4	-	-	-	-	-	v	v	v	v	-	-	v	v	v
	7	-	-	-	-	-	v	v	v	v	-	-	v	v	v
	12	-	v	-	v	-	-	v	v	v	-	-	v	v	v
Radiated Spurious Emission	2	-	-	-	-	v	-	v	-	v	-	-	-	-	v
	4	-	-	-	v	-	-	v	-	v	-	-	v	-	-
	7	-	-	v	-	-	-	v	-	v	-	-	-	-	v
	12	-	-	-	v	-	-	v	-	v	-	-	-	v	-

Note	<ol style="list-style-type: none"> <li>The mark "v " means that this configuration is chosen for testing</li> <li>The mark "- " means that this bandwidth is not supported.</li> <li>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.</li> </ol>
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## 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 7 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	20850	21100	21350
	Frequency	2510	2535	2560
15	Channel	20825	21100	21375
	Frequency	2507.5	2535	2562.5
10	Channel	20800	21100	21400
	Frequency	2505	2535	2565
5	Channel	20775	21100	21425
	Frequency	2502.5	2535	2567.5



LTE Band 12 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
10	Channel	23060	23095	23130
	Frequency	704	707.5	711
5	Channel	23035	23095	23155
	Frequency	701.5	707.5	713.5
3	Channel	23025	23095	23165
	Frequency	700.5	707.5	714.5
1.4	Channel	23017	23095	23173
	Frequency	699.7	707.5	715.3

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

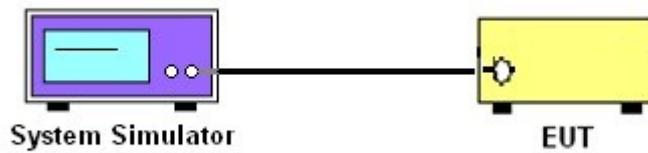
### 3 Conducted Test Items

#### 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 and ERP/EIRP

#### 3.4.1 Description of the Conducted Output Power Measurement and ERP/EIRP 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.

The ERP of mobile transmitters must not exceed 3 Watts for LTE Band 12

The EIRP of mobile transmitters must not exceed 2 Watts for LTE Band 2 and Band 7.

The EIRP of mobile transmitters must not exceed 1 Watts for LTE Band 4.

According to KDB 412172 D01 Power Approach,

$EIRP = P_T + G_T - L_C$ ,  $ERP = EIRP - 2.15$ , where

$P_T$  = transmitter output power in dBm

$G_T$  = gain of the transmitting antenna in dBi

$L_C$  = signal attenuation in the connecting cable between the transmitter and antenna in dB

#### 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.

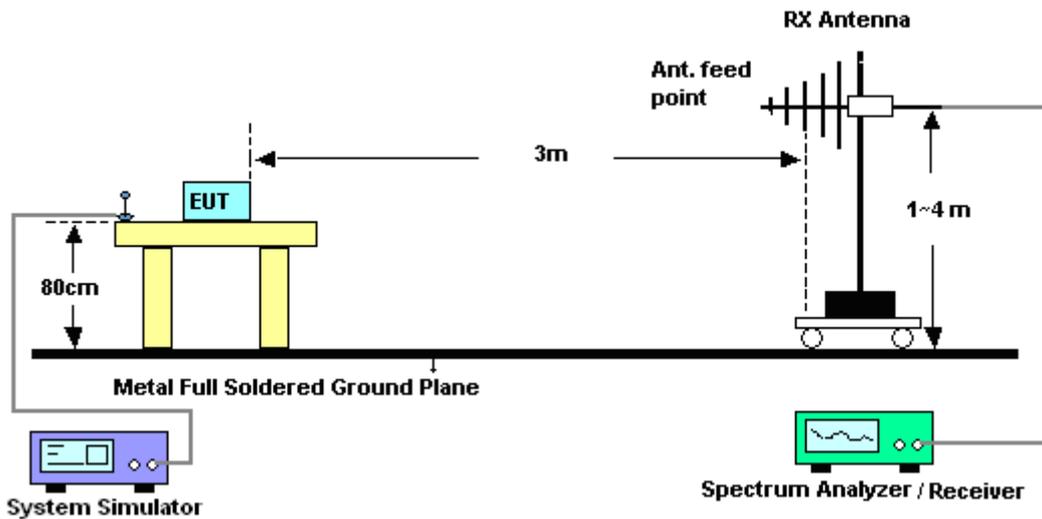
## 4 Radiated Test Items

### 4.1 Measuring Instruments

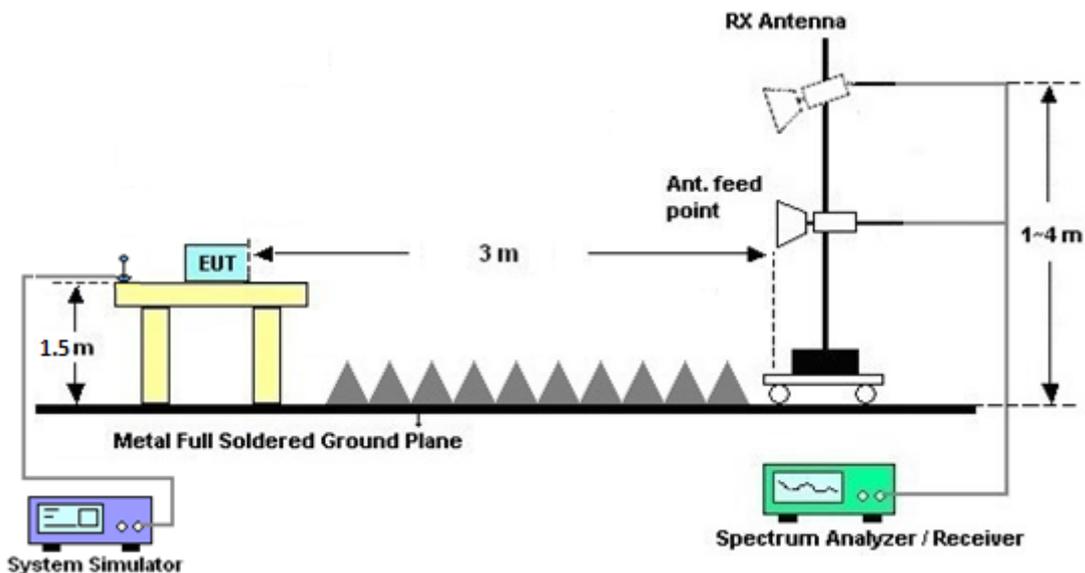
See list of measuring instruments of this test report.

### 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 Radiated Spurious Emission

### 4.4.1 Description of Radiated Spurious Emission

The radiated spurious emission was measured by substitution method according to ANSI/TIA-603-E. 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 Band 7

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  $55 + 10 \log (P)$  dB.

### 4.4.2 Test Procedures

1. The testing follows FCC KDB 971168 v03 Section 5.8 and ANSI/TIA-603-E Section 2.2.12.
2. The EUT was placed on a turntable with 0.8 meter height for frequency below 1GHz and 1.5 meter height for frequency above 1GHz respectively above ground.
3. The EUT was set 3 meters from the receiving antenna 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 1m to 4m to search the maximum spurious emission for both horizontal and vertical polarizations.
6. During the measurement, the system simulator parameters were set to force the EUT transmitting at maximum output power.
7. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
8. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
9. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
10.  $EIRP \text{ (dBm)} = S.G. \text{ Power} - Tx \text{ Cable Loss} + Tx \text{ Antenna Gain}$
11.  $ERP \text{ (dBm)} = EIRP - 2.15$
12. 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)  
 $= P(W) - [43 + 10\log(P)] \text{ (dB)}$   
 $= [30 + 10\log(P)] \text{ (dBm)} - [43 + 10\log(P)] \text{ (dB)}$   
 $= -13\text{dBm}.$

13. For Band 7:

The limit line is derived from  $55 + 10\log(P)$ dB below the transmitter power P(Watts)  
 $EIRP \text{ (dBm)} = S.G. \text{ Power} - Tx \text{ Cable Loss} + Tx \text{ Antenna Gain}$   
 $ERP \text{ (dBm)} = EIRP - 2.15$



## 5 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
EXA Spectrum Analyzer	Keysight	N9010A	MY55150244	10Hz~44GHz	Apr. 18, 2017	Dec. 08, 2017~ Dec. 14, 2017	Apr. 17, 2018	Radiation (03CH03-KS)
Bilog Antenna	TeseQ	CBL6112D	35406	25MHz~2GHz	Apr. 22, 2017	Dec. 08, 2017~ Dec. 14, 2017	Apr. 21, 2018	Radiation (03CH03-KS)
Horn Antenna	Schwarzbeck	BBHA9120D	9120D-1356	1GHz~18GHz	Apr. 22, 2017	Dec. 08, 2017~ Dec. 14, 2017	Apr. 21, 2018	Radiation (03CH03-KS)
SHF-EHF Horn	Schwarzbeck	BBHA 9170	BBHA170249	15GHz~40GHz	Feb. 15, 2017	Dec. 08, 2017~ Dec. 14, 2017	Feb. 14, 2018	Radiation (03CH03-KS)
Amplifier	com-power	PA-103A	161069	1MHz~1000MHz / 32 dB	Apr. 18, 2017	Dec. 08, 2017~ Dec. 14, 2017	Apr. 17, 2018	Radiation (03CH03-KS)
Amplifier	MITEQ	TTA1840-35 -HG	1887435	18GHz~40GHz	Oct. 12, 2017	Dec. 08, 2017~ Dec. 14, 2017	Oct. 11, 2018	Radiation (03CH03-KS)
high gain Amplifier	MITEQ	AMF-7D-00 101800-30-1	2025788	1GHz~18GHz	Apr. 18, 2017	Dec. 08, 2017~ Dec. 14, 2017	Apr. 17, 2018	Radiation (03CH03-KS)
Amplifier	Agilent	8449B	3008A02370	1GHz~26.5GHz	Oct. 12, 2017	Dec. 08, 2017~ Dec. 14, 2017	Oct. 11, 2018	Radiation (03CH03-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	Dec. 08, 2017~ Dec. 14, 2017	NCR	Radiation (03CH03-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	Dec. 08, 2017~ Dec. 14, 2017	NCR	Radiation (03CH03-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	Dec. 08, 2017~ Dec. 14, 2017	NCR	Radiation (03CH03-KS)

NCR: No Calibration Required



## 6 Uncertainty of Evaluation

### Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ )	2.8 dB
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### Uncertainty of Radiated Emission Measurement (1GHz ~ 40GHz)

Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ )	3.3 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	21.97	22.09	22.03
20	1	49		21.84	21.99	21.98
20	1	99		21.84	22.03	21.87
20	50	0		20.95	21.13	21.1
20	50	24		20.89	21.05	21.05
20	50	50		20.9	21	20.92
20	100	0		20.94	21.05	21.03
20	1	0	16-QAM	21.25	21.29	21.39
20	1	49		21.18	21.31	21.29
20	1	99		21.16	21.35	21.17
20	50	0		19.95	20.08	20.12
20	50	24		19.9	20.04	20.04
20	50	50		19.91	20	19.9
20	100	0		19.92	20.03	20.01
15	1	0	QPSK	21.92	22	22.05
15	1	37		21.84	21.99	21.95
15	1	74		21.82	22.02	21.84
15	36	0		20.93	21.05	21.07
15	36	20		20.89	21.03	21.01
15	36	39		20.88	21	20.92
15	75	0		20.89	21.02	20.99
15	1	0	16-QAM	21.21	21.27	21.3
15	1	37		21.14	21.26	21.21
15	1	74		21.13	21.3	21.13
15	36	0		19.94	20.05	20.06
15	36	20		19.89	20.03	20
15	36	39		19.87	20	19.92
15	75	0		19.89	20.02	19.98



LTE Band 2 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK	21.85	21.94	21.96
10	1	25		21.83	21.97	21.93
10	1	49		21.84	22.01	21.8
10	25	0		20.89	21.01	21.01
10	25	12		20.87	21.01	20.97
10	25	25		20.87	20.98	20.87
10	50	0		20.9	21	20.96
10	1	0	16-QAM	21.17	21.24	21.22
10	1	25		21.16	21.29	21.2
10	1	49		21.16	21.33	21.15
10	25	0		19.89	20.01	20.01
10	25	12		19.88	20.01	19.98
10	25	25		19.88	19.97	19.89
10	50	0		19.9	19.98	19.94
5	1	0	QPSK	21.85	21.94	21.9
5	1	12		21.88	22.01	21.93
5	1	24		21.8	21.96	21.79
5	12	0		20.87	20.99	20.96
5	12	7		20.89	21.02	20.95
5	12	13		20.87	21	20.89
5	25	0		20.86	20.99	20.91
5	1	0	16-QAM	21.12	21.21	21.15
5	1	12		21.15	21.27	21.2
5	1	24		21.07	21.22	21.08
5	12	0		19.88	19.98	19.95
5	12	7		19.9	20.01	19.95
5	12	13		19.89	19.99	19.88
5	25	0		19.85	19.97	19.9



LTE Band 2 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
3	1	0	QPSK	21.9	22.05	21.95
3	1	8		21.88	22.04	21.91
3	1	14		21.88	22.04	21.9
3	8	0		20.95	21.08	21.01
3	8	4		20.93	21.08	20.98
3	8	7		20.93	21.07	20.95
3	15	0		20.93	21.08	20.98
3	1	0	16-QAM	21.17	21.31	21.18
3	1	8		21.16	21.3	21.16
3	1	14		21.17	21.31	21.13
3	8	0		20.03	20.13	20.06
3	8	4		20	20.14	20.03
3	8	7		19.99	20.12	20.01
3	15	0		19.95	20.08	19.98
1.4	1	0	QPSK	21.71	21.83	21.71
1.4	1	3		21.69	21.8	21.68
1.4	1	5		21.73	21.85	21.71
1.4	3	0		21.87	22	21.86
1.4	3	1		21.87	21.99	21.87
1.4	3	3		21.86	21.99	21.86
1.4	6	0		20.89	21	20.89
1.4	1	0	16-QAM	21.06	21.15	21.01
1.4	1	3		21.06	21.12	21.02
1.4	1	5		21.05	21.15	21.05
1.4	3	0		20.93	21.05	20.93
1.4	3	1		20.95	21.07	20.94
1.4	3	3		20.92	21.02	20.91
1.4	6	0		19.97	20.07	19.96



LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
20	1	0	QPSK	22.42	22.26	22.16
20	1	49		22.19	22.04	22.02
20	1	99		22.01	21.92	21.99
20	50	0		21.31	21.16	21.21
20	50	24		21.23	21.07	21.05
20	50	50		21.21	20.97	20.96
20	100	0		21.27	21.07	21.1
20	1	0	16-QAM	21.74	21.6	21.48
20	1	49		21.54	21.37	21.36
20	1	99		21.36	21.27	21.31
20	50	0		20.35	20.19	20.26
20	50	24		20.29	20.12	20.09
20	50	50		20.24	20	19.99
20	100	0		20.3	20.09	20.13
15	1	0	QPSK	22.42	22.22	22.12
15	1	37		22.26	22.08	22.04
15	1	74		22.12	21.98	22.02
15	36	0		21.33	21.15	21.13
15	36	20		21.29	21.1	21.07
15	36	39		21.24	21.03	21.01
15	75	0		21.28	21.06	21.07
15	1	0	16-QAM	21.72	21.55	21.45
15	1	37		21.59	21.39	21.36
15	1	74		21.46	21.29	21.33
15	36	0		20.38	20.19	20.17
15	36	20		20.34	20.13	20.12
15	36	39		20.27	20.08	20.06
15	75	0		20.31	20.11	20.11



LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK	22.33	22.13	22.06
10	1	25		22.29	22.07	22.06
10	1	49		22.21	22.02	22.06
10	25	0		21.31	21.09	21.09
10	25	12		21.31	21.07	21.05
10	25	25		21.27	21.03	21.03
10	50	0		21.3	21.07	21.06
10	1	0	16-QAM	21.69	21.46	21.39
10	1	25		21.65	21.41	21.39
10	1	49		21.58	21.35	21.38
10	25	0		20.37	20.15	20.14
10	25	12		20.36	20.13	20.11
10	25	25		20.34	20.08	20.08
10	50	0		20.36	20.12	20.11
5	1	0	QPSK	22.33	22.08	22.04
5	1	12		22.36	22.11	22.1
5	1	24		22.26	22.01	22.03
5	12	0		21.3	21.05	21.05
5	12	7		21.35	21.1	21.09
5	12	13		21.35	21.09	21.08
5	25	0		21.3	21.05	21.06
5	1	0	16-QAM	21.63	21.4	21.38
5	1	12		21.66	21.4	21.42
5	1	24		21.54	21.35	21.35
5	12	0		20.37	20.11	20.12
5	12	7		20.42	20.16	20.15
5	12	13		20.41	20.15	20.13
5	25	0		20.35	20.1	20.09



LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
3	1	0	QPSK	22.4	22.15	22.13
3	1	8		22.37	22.12	22.1
3	1	14		22.35	22.11	22.12
3	8	0		21.42	21.18	21.15
3	8	4		21.41	21.16	21.14
3	8	7		21.4	21.15	21.14
3	15	0		21.42	21.15	21.14
3	1	0	16-QAM	21.72	21.45	21.39
3	1	8		21.68	21.42	21.43
3	1	14		21.68	21.44	21.42
3	8	0		20.56	20.3	20.26
3	8	4		20.54	20.29	20.26
3	8	7		20.53	20.28	20.25
3	15	0		20.48	20.24	20.2
1.4	1	0	QPSK	22.17	21.94	21.94
1.4	1	3		22.16	21.9	21.91
1.4	1	5		22.19	21.94	21.96
1.4	3	0		22.35	22.09	22.09
1.4	3	1		22.35	22.09	22.08
1.4	3	3		22.36	22.08	22.09
1.4	6	0		21.35	21.09	21.09
1.4	1	0	16-QAM	21.62	21.34	21.32
1.4	1	3		21.57	21.34	21.3
1.4	1	5		21.57	21.35	21.31
1.4	3	0		21.43	21.17	21.18
1.4	3	1		21.46	21.21	21.19
1.4	3	3		21.41	21.15	21.15
1.4	6	0		20.49	20.23	20.23



LTE Band 5 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK	22.19	22.23	22.18
10	1	25		22.19	22.18	22.13
10	1	49		22.16	22.11	22.04
10	25	0		21.27	21.31	21.28
10	25	12		21.27	21.24	21.2
10	25	25		21.23	21.15	21.13
10	50	0		21.25	21.25	21.22
10	1	0	16-QAM	21.42	21.38	21.39
10	1	25		21.44	21.41	21.36
10	1	49		21.41	21.35	21.23
10	25	0		20.23	20.27	20.24
10	25	12		20.26	20.2	20.18
10	25	25		20.19	20.12	20.1
10	50	0		20.23	20.2	20.19
5	1	0	QPSK	22.17	22.14	22.09
5	1	12		22.18	22.19	22.12
5	1	24		22.17	22.12	22
5	12	0		21.27	21.26	21.19
5	12	7		21.27	21.21	21.15
5	12	13		21.27	21.19	21.13
5	25	0		21.24	21.21	21.15
5	1	0	16-QAM	21.36	21.34	21.33
5	1	12		21.43	21.4	21.36
5	1	24		21.38	21.32	21.22
5	12	0		20.24	20.23	20.16
5	12	7		20.25	20.2	20.13
5	12	13		20.23	20.18	20.1
5	25	0		20.22	20.18	20.11



LTE Band 5 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
3	1	0	QPSK	22.22	22.19	22.12
3	1	8		22.22	22.18	22.09
3	1	14		22.21	22.16	22.06
3	8	0		21.29	21.26	21.18
3	8	4		21.31	21.25	21.17
3	8	7		21.29	21.24	21.15
3	15	0		21.32	21.27	21.18
3	1	0	16-QAM	21.45	21.43	21.35
3	1	8		21.44	21.42	21.32
3	1	14		21.43	21.44	21.29
3	8	0		20.31	20.28	20.21
3	8	4		20.32	20.27	20.19
3	8	7		20.3	20.25	20.17
3	15	0		20.29	20.25	20.16
1.4	1	0	QPSK	22.03	21.98	21.87
1.4	1	3		22.01	21.95	21.85
1.4	1	5		22.06	22	21.89
1.4	3	0		22.18	22.12	22.03
1.4	3	1		22.2	22.13	22.04
1.4	3	3		22.19	22.13	22.03
1.4	6	0		21.24	21.18	21.08
1.4	1	0	16-QAM	21.33	21.3	21.21
1.4	1	3		21.32	21.31	21.19
1.4	1	5		21.34	21.3	21.19
1.4	3	0		21.2	21.14	21.06
1.4	3	1		21.24	21.17	21.09
1.4	3	3		21.2	21.12	21.05
1.4	6	0		20.29	20.23	20.13



LTE Band 7 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
20	1	0	QPSK	21.87	21.98	21.88
20	1	49		21.81	21.93	21.75
20	1	99		21.91	21.96	21.63
20	50	0		20.85	21.06	21.01
20	50	24		20.9	21	20.85
20	50	50		20.9	21	20.71
20	100	0		20.86	21.04	20.86
20	1	0	16-QAM	21.1	21.2	21.06
20	1	49		21.03	21.16	20.96
20	1	99		21.12	21.18	21.02
20	50	0		19.84	20.09	20
20	50	24		19.9	20.04	19.87
20	50	50		19.89	20.01	19.73
20	100	0		19.86	20.04	19.88
15	1	0	QPSK	21.82	21.95	21.8
15	1	37		21.81	21.93	21.74
15	1	74		21.86	21.94	21.44
15	36	0		20.83	21	20.87
15	36	20		20.86	20.97	20.8
15	36	39		20.88	20.97	20.76
15	75	0		20.85	20.98	20.81
15	1	0	16-QAM	21.05	21.2	21
15	1	37		21.02	21.19	20.97
15	1	74		21.04	21.19	21.03
15	36	0		19.85	20.04	19.9
15	36	20		19.87	20.01	19.83
15	36	39		19.88	20	19.78
15	75	0		19.86	20.01	19.84



LTE Band 7 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK	21.77	21.88	21.71
10	1	25		21.79	21.89	21.7
10	1	49		21.83	21.91	21.32
10	25	0		20.76	20.95	20.8
10	25	12		20.81	20.92	20.74
10	25	25		20.84	20.92	20.67
10	50	0		20.82	20.95	20.77
10	1	0	16-QAM	20.97	21.1	20.92
10	1	25		20.98	21.13	20.95
10	1	49		21	21.16	20.97
10	25	0		19.77	19.97	19.84
10	25	12		19.84	19.97	19.78
10	25	25		19.86	19.96	19.73
10	50	0		19.84	19.99	19.8
5	1	0	QPSK	21.71	21.85	21.65
5	1	12		21.78	21.91	21.6
5	1	24		21.74	21.85	21.28
5	12	0		20.72	20.89	20.7
5	12	7		20.78	20.91	20.72
5	12	13		20.8	20.92	20.7
5	25	0		20.78	20.91	20.7
5	1	0	16-QAM	20.93	21.08	20.91
5	1	12		21	21.16	20.95
5	1	24		20.95	21.11	20.9
5	12	0		19.75	19.92	19.75
5	12	7		19.82	19.96	19.78
5	12	13		19.83	19.96	19.74
5	25	0		19.79	19.91	19.73



LTE Band 12 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK	22.29	22.29	22.23
10	1	25		22.31	22.29	22.27
10	1	49		22.28	22.35	22.3
10	25	0		21.31	21.24	21.27
10	25	12		21.36	21.39	21.31
10	25	25		21.37	21.32	21.27
10	50	0		21.26	21.36	21.29
10	1	0	16-QAM	21.63	21.54	21.48
10	1	25		21.59	21.55	21.53
10	1	49		21.56	21.56	21.49
10	25	0		20.32	20.25	20.27
10	25	12		20.36	20.31	20.31
10	25	25		20.38	20.32	20.25
10	50	0		20.37	20.29	20.27
5	1	0	QPSK	22.4	22.22	22.21
5	1	12		22.4	22.3	22.31
5	1	24		22.29	22.25	22.26
5	12	0		21.36	21.24	21.3
5	12	7		21.42	21.31	21.33
5	12	13		21.41	21.31	21.29
5	25	0		21.4	21.28	21.31
5	1	0	16-QAM	21.62	21.5	21.47
5	1	12		21.63	21.57	21.57
5	1	24		21.55	21.53	21.46
5	12	0		20.36	20.26	20.3
5	12	7		20.42	20.31	20.32
5	12	13		20.42	20.31	20.28
5	25	0		20.38	20.27	20.28



LTE Band 12 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
3	1	0	QPSK	22.48	22.29	22.29
3	1	8		22.45	22.29	22.3
3	1	14		22.41	22.3	22.3
3	8	0		21.52	21.35	21.38
3	8	4		21.5	21.34	21.36
3	8	7		21.48	21.34	21.37
3	15	0		21.51	21.36	21.4
3	1	0	16-QAM	21.7	21.57	21.56
3	1	8		21.69	21.58	21.53
3	1	14		21.66	21.59	21.5
3	8	0		20.57	20.41	20.42
3	8	4		20.56	20.4	20.41
3	8	7		20.53	20.39	20.38
3	15	0		20.51	20.36	20.38
1.4	1	0	QPSK	22.3	22.1	22.12
1.4	1	3		22.26	22.09	22.08
1.4	1	5		22.29	22.13	22.13
1.4	3	0		22.45	22.25	22.26
1.4	3	1		22.44	22.25	22.26
1.4	3	3		22.42	22.25	22.26
1.4	6	0		21.46	21.28	21.29
1.4	1	0	16-QAM	21.6	21.46	21.4
1.4	1	3		21.59	21.43	21.36
1.4	1	5		21.59	21.47	21.37
1.4	3	0		21.44	21.3	21.26
1.4	3	1		21.47	21.34	21.28
1.4	3	3		21.44	21.29	21.23
1.4	6	0		20.55	20.38	20.36



LTE Band 17 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK	22.27	22.23	22.22
10	1	25		22.29	22.28	22.28
10	1	49		22.33	22.32	22.3
10	25	0		21.28	21.29	21.3
10	25	12		21.33	21.33	21.33
10	25	25		21.33	21.31	21.28
10	50	0		21.33	21.32	21.31
10	1	0	16-QAM	21.54	21.53	21.52
10	1	25		21.56	21.56	21.57
10	1	49		21.59	21.58	21.53
10	25	0		20.28	20.29	20.31
10	25	12		20.33	20.33	20.32
10	25	25		20.33	20.3	20.27
10	50	0		20.33	20.32	20.32
5	1	0	QPSK	22.27	22.22	22.23
5	1	12		22.32	22.32	22.3
5	1	24		22.26	22.28	22.28
5	12	0		21.26	21.27	21.3
5	12	7		21.33	21.33	21.35
5	12	13		21.34	21.34	21.31
5	25	0		21.3	21.3	21.3
5	1	0	16-QAM	21.54	21.46	21.46
5	1	12		21.59	21.53	21.57
5	1	24		21.51	21.51	21.46
5	12	0		20.29	20.28	20.3
5	12	7		20.35	20.34	20.34
5	12	13		20.37	20.35	20.31
5	25	0		20.31	20.3	20.3



**ERP/EIRP**

LTE Band 2 (G <sub>T</sub> - L <sub>C</sub> = 0.80 dB) QPSK			
Bandwidth	20M		
Channel	18650	18900	19100
	(Low)	(Mid)	(High)
Frequency	1860	1880	1900
(MHz)			
Conducted Power (dBm)	21.97	22.09	22.03
Conducted Power (Watts)	0.1574	0.1618	0.1596
EIRP(dBm)	22.77	22.89	22.83
EIRP(Watts)	0.1892	0.1945	0.1919

LTE Band 2 (G <sub>T</sub> - L <sub>C</sub> = 0.80 dB) 16QAM			
Bandwidth	20M		
Channel	18650	18900	19100
	(Low)	(Mid)	(High)
Frequency	1860	1880	1900
(MHz)			
Conducted Power (dBm)	21.25	21.29	21.39
Conducted Power (Watts)	0.1334	0.1346	0.1377
EIRP(dBm)	22.05	22.09	22.19
EIRP(Watts)	0.1603	0.1618	0.1656



LTE Band 4 ( $G_T - L_C = 0.80$ dB) QPSK			
Bandwidth	20M		
Channel	20050	20175	20300
	(Low)	(Mid)	(High)
Frequency (MHz)	1720	1732.5	1745
Conducted Power (dBm)	22.42	22.26	22.16
Conducted Power (Watts)	0.1746	0.1683	0.1644
EIRP(dBm)	23.22	23.06	22.96
EIRP(Watts)	0.2099	0.2023	0.1977

LTE Band 4 ( $G_T - L_C = 0.80$ dB) 16QAM			
Bandwidth	20M		
Channel	20050	20175	20300
	(Low)	(Mid)	(High)
Frequency (MHz)	1720	1732.5	1745
Conducted Power (dBm)	21.74	21.60	21.48
Conducted Power (Watts)	0.1493	0.1445	0.1406
EIRP(dBm)	22.54	22.40	22.28
EIRP(Watts)	0.1795	0.1738	0.1690



LTE Band 7 ( $G_T - L_C = -0.70$ dB) QPSK			
Bandwidth	20M		
Channel	20850	21100	21350
	(Low)	(Mid)	(Mid)
Frequency	2510	2535	2560
(MHz)			
Conducted Power (dBm)	21.87	21.98	21.88
Conducted Power (Watts)	0.1538	0.1578	0.1542
EIRP(dBm)	21.17	21.28	21.18
EIRP(Watts)	0.1309	0.1343	0.1312

LTE Band 7 ( $G_T - L_C = -0.70$ dB) 16QAM			
Bandwidth	20M		
Channel	20850	21100	21350
	(Low)	(Mid)	(Mid)
Frequency	2510	2535	2560
(MHz)			
Conducted Power (dBm)	21.10	21.20	21.06
Conducted Power (Watts)	0.1288	0.1318	0.1276
EIRP(dBm)	20.40	20.50	20.36
EIRP(Watts)	0.1096	0.1122	0.1086



LTE Band 12 (G <sub>T</sub> - L <sub>C</sub> = -0.80 dB) QPSK			
Bandwidth	3M		
Channel	23025	23095	23165
	(Low)	(Mid)	(High)
Frequency	700.5	707.5	714.5
(MHz)			
Conducted Power (dBm)	22.48	22.29	22.29
Conducted Power (Watts)	0.1770	0.1694	0.1694
ERP(dBm)	19.53	19.34	19.34
ERP(Watts)	0.0897	0.0859	0.0859

LTE Band 12 (G <sub>T</sub> - L <sub>C</sub> = -0.80 dB) 16QAM			
Bandwidth	3M		
Channel	23025	23095	23165
	(Low)	(Mid)	(High)
Frequency	700.5	707.5	714.5
(MHz)			
Conducted Power (dBm)	21.70	21.57	21.56
Conducted Power (Watts)	0.1479	0.1435	0.1432
ERP(dBm)	18.75	18.62	18.61
ERP(Watts)	0.0750	0.0728	0.0726



LTE Band 12 (G <sub>T</sub> - L <sub>C</sub> = -0.80 dB) QPSK			
Bandwidth	10M		
Channel	23060	23095	23130
	(Low)	(Mid)	(High)
Frequency	704	707.5	711
(MHz)			
Conducted Power (dBm)	22.28	22.35	22.30
Conducted Power (Watts)	0.1690	0.1718	0.1698
ERP(dBm)	19.33	19.40	19.35
ERP(Watts)	0.0857	0.0871	0.0861

LTE Band 12 (G <sub>T</sub> - L <sub>C</sub> = -0.80 dB) 16QAM			
Bandwidth	10M		
Channel	23060	23095	23130
	(Low)	(Mid)	(High)
Frequency	704	707.5	711
(MHz)			
Conducted Power (dBm)	21.63	21.54	21.48
Conducted Power (Watts)	0.1455	0.1426	0.1406
ERP(dBm)	18.68	18.59	18.53
ERP(Watts)	0.0738	0.0723	0.0713



## Appendix B. Test Results of Radiated Test

### Radiated Spurious Emission

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)
Highest	3792	-39.11	-13	-26.11	-54.36	-40.82	5.08	6.80	H
	5688	-48.88	-13	-35.88	-65.68	-50.55	8.03	9.70	H
	7584	-46.34	-13	-33.34	-67.64	-48.72	9.43	11.81	H
	3792	-45.60	-13	-32.60	-59.18	-47.32	5.08	6.80	V
	5688	-45.66	-13	-32.66	-62.75	-47.33	8.03	9.70	V
	7584	-51.22	-13	-38.22	-72.36	-53.60	9.43	11.81	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)
Lowest	3420	-46.66	-13	-33.66	-59.65	-50.63	4.87	8.84	H
	5133	-46.32	-13	-33.32	-62.14	-47.76	7.70	9.14	H
	6843	-44.22	-13	-31.22	-65.27	-45.90	8.98	10.66	H
	3420	-48.10	-13	-35.10	-62.81	-52.07	4.87	8.84	V
	5133	-47.90	-13	-34.90	-63.92	-49.34	7.70	9.14	V
	6843	-47.84	-13	-34.84	-68.64	-49.52	8.98	10.66	V

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



LTE Band 7 / 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)
Highest	5130	-43.72	-25	-18.72	-31.20	-51.08	1.76	9.12	H
	7695	-42.39	-25	-17.39	-34.30	-52.36	2.16	12.13	H
	10260	-38.99	-25	-13.99	-35.39	-48.87	2.22	12.10	H
	12825	-51.70	-25	-26.70	-49.14	-61.91	2.61	12.82	H
	15390	-58.29	-25	-33.29	-55.58	-67.58	3.48	12.77	H
	5130	-40.65	-25	-15.65	-29.32	-48.01	1.76	9.12	V
	7695	-45.70	-25	-20.70	-36.11	-55.67	2.16	12.13	V
	10260	-36.56	-25	-11.56	-33.59	-46.44	2.22	12.10	V
	12825	-46.51	-25	-21.51	-44.07	-56.72	2.61	12.82	V
15390	-54.33	-25	-29.33	-51.83	-63.62	3.48	12.77	V	

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

LTE Band 12 / 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	1406	-57.85	-13	-44.85	-60.84	-59.08	1.17	4.55	H
	2110	-52.86	-13	-39.86	-59.96	-54.61	1.45	5.35	H
	2812	-53.95	-13	-40.95	-61.45	-56.22	1.68	6.10	H
	3516	-56.53	-13	-43.53	-64.16	-59.27	1.89	6.78	H
	1406	-51.37	-13	-38.37	-56.47	-52.60	1.17	4.55	V
	2110	-58.91	-13	-45.91	-63.54	-60.67	1.45	5.35	V
	2812	-60.70	-13	-47.70	-65.38	-62.96	1.68	6.10	V
	3516	-61.78	-13	-48.78	-68.19	-64.52	1.89	6.78	V

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



## **Appendix D. Product Equality Declaration**

**ASUSTeK COMPUTER INC.**

Add: 4F, No. 150, LI-TE RD., PEITOU, TAIPEI, TAIWAN

Date: December 29, 2017

**Product Equality Declaration**

We, ASUSTeK COMPUTER INC., declare on our sole responsibility for the product of ASUS\_X018D as below:

The differences between ASUS\_X018D US SR and ASUS\_X018D US ER are as below:

1. The antenna supply vendor is different
2. The antenna pattern is different
3. EMCP changes to Samsung32+3
4. Front camera changes to holitech 8M
5. Rear camera changes to holitech 16M

Except listings above, the others are all the same as previous version.

Should you have any questions or comments regarding this matter, please have my best attention.

Sincerely yours,



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**Company:** ASUSTeK Computer Inc

**TEL:** +886-2-28943447

**FAX:** +886-2-28987364

**E-mail:** jackson\_yen@asus.com