



FCC RADIO TEST REPORT

FCC ID : UZ7-ET85C
Equipment : 2 in 1 Tablet PC with Windows OS
Brand Name : Zebra
Model Name : ET85C
Applicant : Zebra Technologies Corporation
1 Zebra Plaza, Holtsville, NY 11742
Manufacturer : Zebra Technologies Corporation
1 Zebra Plaza, Holtsville, NY 11742
Standard : FCC 47 CFR Part 2, 96

The product was received on Sep. 07, 2021 and testing was performed from Sep. 24, 2021 and completed on Nov. 18, 2021. We, Sporton International Inc. EMC & Wireless Communications Laboratory, would like to declare that the tested sample has been evaluated in accordance with the test procedures given in ANSI / TIA-603-E and has been in compliance with the applicable technical standards.

The test results in this partial report apply exclusively to the tested model / sample. Without written approval of Sporton International Inc. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full.

Louis Wu

Approved by: Louis Wu

Sporton International Inc. EMC & Wireless Communications Laboratory

No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.)



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History of this test report

Report No.	Version	Description	Issued Date
FG162602G	01	Initial issue of report	Dec. 28, 2021

Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
3.2	§2.1046	Conducted Output Power	Reporting only	-
-	§96.41	Peak-to-Average Ratio	-	See Note
3.3	§96.41	Effective Isotropic Radiated Power	Pass	-
-	§2.1049 §96.41	Occupied Bandwidth	-	See Note
-	§2.1051 §96.41	Conducted Band Edge Measurement	-	See Note
-	§2.1051 §96.41	Conducted Spurious Emission	-	See Note
-	§2.1055	Frequency Stability for Temperature & Voltage	-	See Note
4.4	§2.1051 §96.41	Radiated Spurious Emission	Pass	Under limit 9.27 dB at 28408.000 MHz

Remark: The module (Model: RM505Q-AE) makes no difference after verifying output power, this report reuses test data from the module report.

Declaration of Conformity:

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

Comments and Explanations:

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

Reviewed by: Wei Chen

Report Producer: Vivian Hsu

1 General Description

1.1 Product Feature of Equipment Under Test

Product Feature	
Equipment	2 in 1 Tablet PC with Windows OS
Brand Name	Zebra
Model Name	ET85C
FCC ID	UZ7-ET85C
Sample 1	140mm for the tablet with none passthrough
Sample 2	212mm for the tablet with passthrough
EUT supports Radios application	WCDMA/HSPA/LTE/5G NR/NFC/GNSS WLAN 11a/b/g/n HT20/HT40 WLAN 11ac VHT80/VHT160 WLAN 11ax HE20/HE40/HE80/HE160 Bluetooth BR/EDR/LE
HW Version	DV
SW Version	Windows 10 Pro
MFD	2021/Feb.
EUT Stage	Identical Prototype

Remark: The above EUT's information was declared by manufacturer.

Specification of Accessories				
Adaptor with CLA cable	Brand Name	Zebra	Model Number	ADP-45XE B
Battery	Brand Name	ZEBRA	Model Number	BT-000433
Power cord	Brand Name	Zebra	Model Number	450040

Supported Unit Used in Test Configuration and System				
CAC Reader	Brand Name	Zebra	Model Number	ZBK-ET8X-SMARTCARD-01
Keyboard	Brand Name	Zebra	Model Number	KBD-ET8X

1.2 Product Specification of Equipment Under Test

Product Specification is subject to this standard	
Tx Frequency	3552.5 MHz ~ 3697.5 MHz
Rx Frequency	3552.5 MHz ~ 3697.5 MHz
Bandwidth	5 MHz / 10 MHz / 15 MHz / 20 MHz
Maximum Output Power to Antenna	22.14 dBm
Antenna Type	Fixed Internal Antenna
Antenna Gain	<Aux.>: 0.49 dBi
Type of Modulation	QPSK / 16QAM / 64QAM / 256QAM

Remark: The above EUT's information was declared by manufacturer. Please refer to Comments and Explanations in report summary.

1.3 Modification of EUT

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

1.4 Maximum EIRP Power

LTE Band 48		QPSK	16QAM	64QAM	256QAM
BW (MHz)	Frequency Range (MHz)	Maximum EIRP(W)	Maximum EIRP(W)	Maximum EIRP(W)	Maximum EIRP(W)
5	3552.5 ~ 3697.5	0.1811	0.1803	0.1393	0.0594
10	3555.0 ~ 3695.0	0.1811	0.1816	0.1380	0.0600
15	3557.5 ~ 3692.5	0.1816	0.1810	0.1377	0.0597
20	3560.0 ~ 3690.0	0.1828	0.1832	0.1406	0.0607

1.5 Testing Location

Test Site	Sporton International Inc. EMC & Wireless Communications Laboratory				
Test Site Location	No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.) TEL: +886-3-327-3456 FAX: +886-3-328-4978				
Test Site No.	Sporton Site No.				
	TH03-HY				
Test Engineer	Bryant Liu				
Temperature	22.9~23.2℃				
Relative Humidity	53~56%				

Test Site	Sporton International Inc. Wensan Laboratory				
Test Site Location	No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City 333010, Taiwan (R.O.C.) TEL: +886-3-327-0868 FAX: +886-3-327-0855				
Test Site No.	Sporton Site No.				
	03CH12-HY (TAF Code: 3786)				
Test Engineer	Jack Cheng, Lance Chiang and Chuan Chu				
Temperature	22.3~26.4℃				
Relative Humidity	58~66%				
Remark	The Radiated Spurious Emission test item subcontracted to Sporton International Inc. Wensan Laboratory				

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

FCC Designation No.: TW1190 and TW3786



1.6 Applied Standards

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

- ♦ ANSI C63.26-2015
- ♦ ANSI / TIA-603-E
- ♦ FCC 47 CFR Part 2, 96
- ♦ FCC KDB 971168 D01 Power Meas. License Digital Systems v03r01
- ♦ FCC KDB 940660 D01 Part 96 CBRS Eqpt v03
- ♦ FCC KDB 412172 D01 Determining ERP and EIRP v01r01
- ♦ FCC KDB 414788 D01 Radiated Test Site v01r01

Remark:

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. The TAF code is not including all the FCC KDB listed without accreditation.

2 Test Configuration of Equipment Under Test

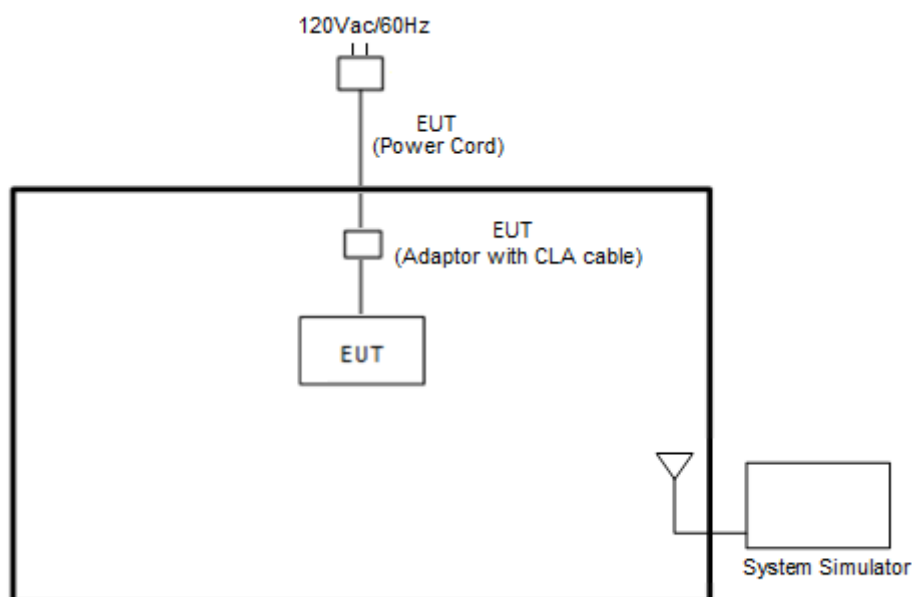
2.1 Test Mode

Antenna port conducted and radiated test items listed below are performed according to KDB 971168 D01 Power Meas. License Digital Systems v03r01 with maximum output power.

The measured emission level of the EUT was maximized by rotating the EUT on a turntable, adjusting the orientation of the EUT and EUT antenna in three orthogonal axis (X: flat, Y: portrait, Z: landscape), and adjusting the measurement antenna orientation, following C63.26 exploratory test procedures and find Z plane for Sample 1 and Y plane for Sample 2 as worst plane.

Test Items	Band	Bandwidth (MHz)						Modulation				RB #			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	64QAM	256QAM	1	Half	Full	L	M	H
Max. Output Power	48	-	-	v	v	v	v	v	v	v	v	v	v	v	v	v	v
E.R.P / E.I.R.P	48	-	-	v	v	v	v	v	v	v	v	Max. Power					
Radiated Spurious Emission	48	-	-				v	v				v			v	v	v
Remark	1. The mark "v" means that this configuration is chosen for testing 2. The mark "-" means that this bandwidth is not supported. 3. 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

Item	Equipment	Brand Name	Model No.	FCC ID	Data Cable	Power Cord
1.	System Simulator	Anritsu	MT8821C	N/A	N/A	Unshielded, 1.8 m

2.4 Frequency List of Low/Middle/High Channels

LTE Band 48 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	55340	55990	56640
	Frequency	3560.0	3625.0	3690.0
15	Channel	55315	55990	56665
	Frequency	3557.5	3625.0	3692.5
10	Channel	55290	55990	56690
	Frequency	3555.0	3625.0	3695.0
5	Channel	55265	55990	56715
	Frequency	3552.5	3625.0	3697.5

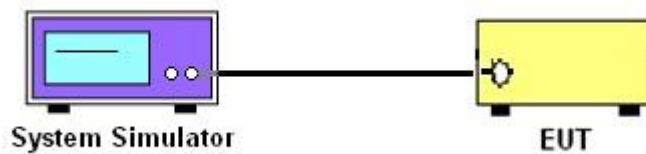
3 Conducted Test Items

3.1 Measuring Instruments

See list of measuring instruments of this test report.

3.1.1 Test Setup

3.1.2 Conducted Output Power



3.1.3 Test Result of Conducted Test

Please refer to Appendix A.



3.2 Conducted Output Power

3.2.1 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.

3.2.2 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.

3.3 EIRP

3.3.1 Description of the EIRP Measurement

The EIRP of mobile transmitters must not exceed 23 dBm /10 megahertz for LTE Band 48.

The testing follows ANSI C63.26-2015 Section 5.2.5.5

According to KDB 412172 D01 Power Approach,

$EIRP = P_T + G_T - LC$, where

P_T = transmitter output power in dBm

G_T = gain of the transmitting antenna in dBi

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

Device	Maximum EIRP (dBm/10 MHz)	Maximum PSD (dBm/MHz)
End User Device	23	n/a

Remark: Total channel power is complied with EIRP limit 23dBm/10MHz.

3.3.2 Test Procedures

The testing follows procedure in Section 5.2 of ANSI C63.26-2015 and KDB 940660 D01 Part 96 CBRS Eqpt v03 Section 3.2(b)(2)

Determine the EIRP by adding the effective antenna gain to the measured average conducted power level.

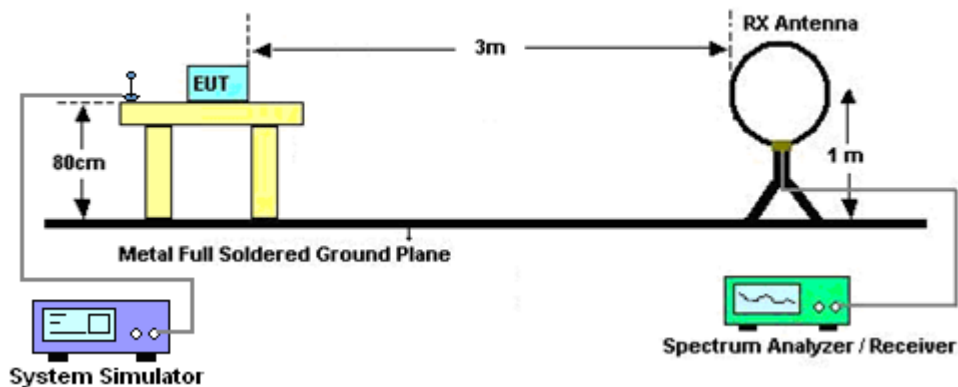
4 Radiated Test Items

4.1 Measuring Instruments

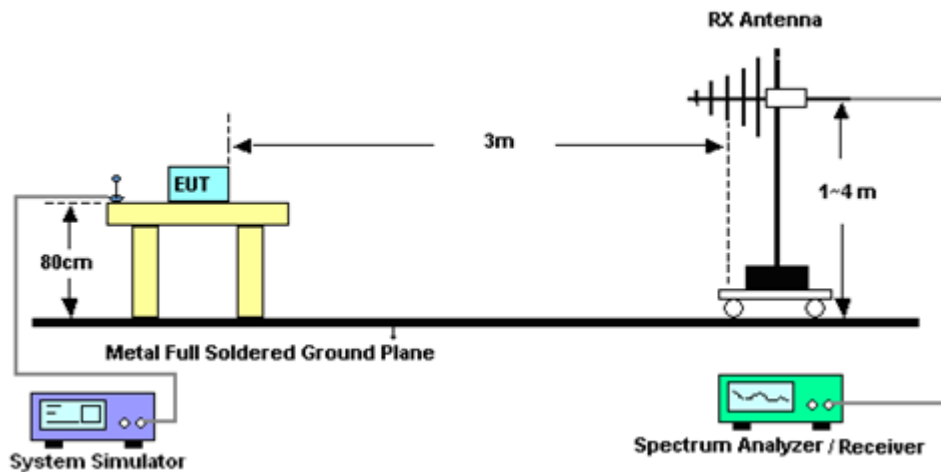
See list of measuring instruments of this test report.

4.2 Test Setup

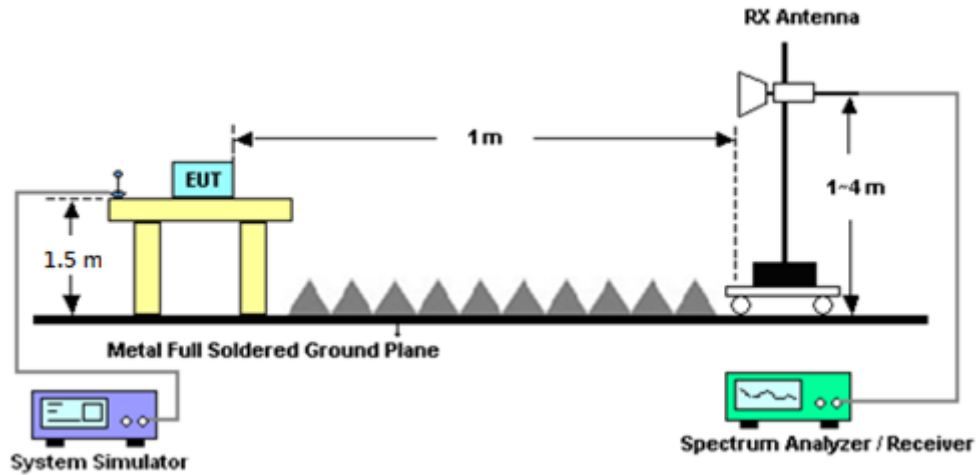
For radiated emissions below 30MHz



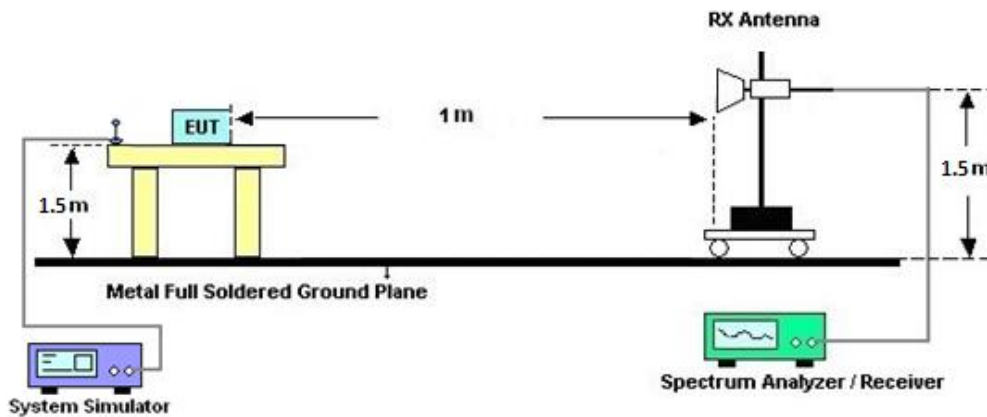
For radiated emissions from 30MHz to 1GHz



For radiated test from 1GHz to 18GHz



For radiated test above 18GHz



4.3 Test Result of Radiated Test

Please refer to Appendix B.

Note:

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line was not reported.

There is adequate comparison measurement of both open-field test site and alternative test site - semi-Anechoic chamber according to 414788 D01 Radiated Test Site v01r01, and the result came out very similar.

4.4 Radiated Spurious Emission

4.4.1 Description of Radiated Spurious Emission Measurement

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 -40dBm / MHz .

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

4.4.2 Test Procedures

The testing follows FCC KDB 971168 D01 v03r01 Section 7 and ANSI / TIA-603-E Section 2.2.12.

1. 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.
2. The EUT was set 3 meters from the receiving antenna mounted on the antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest spurious emission.
4. The height of the receiving antenna is varied between 1m to 4m to search the maximum spurious emission for both horizontal and vertical polarizations.
5. During the measurement, the system simulator parameters were set to force the EUT transmitting at maximum output power.
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. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
$$\text{EIRP (dBm)} = \text{S.G. Power} - \text{Tx Cable Loss} + \text{Tx Antenna Gain}$$
$$\text{ERP (dBm)} = \text{EIRP} - 2.15$$
8. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
The limit line is -40dBm/MHz



5 List of Measuring Equipment

Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100315	9 kHz~30 MHz	Jan. 04, 2021	Sep. 24, 2021~ Oct. 26, 2021	Jan. 03, 2022	Radiation (03CH12-HY)
Bilog Antenna	TESEQ	CBL 6111D & 00800N1D01 N-06	40103 & 07	30MHz~1GHz	Apr. 28, 2021	Sep. 24, 2021~ Oct. 26, 2021	Apr. 27, 2022	Radiation (03CH12-HY)
Bilog Antenna	TESEQ	CBL 6111D & N-6-06	41912 & 05	30MHz~1GHz	Feb. 08, 2021	Sep. 24, 2021~ Oct. 26, 2021	Feb. 07, 2022	Radiation (03CH12-HY)
Horn Antenna	SCHWARZBE CK	BBHA 9120 D	9120D-1328	1GHz~18GHz	Nov. 23, 2020	Sep. 24, 2021~ Oct. 26, 2021	Nov. 22, 2021	Radiation (03CH12-HY)
Horn Antenna	SCHWARZBE CK	BBHA 9120 D	9120D-1212	1GHz~18GHz	May 18, 2021	Sep. 24, 2021~ Oct. 26, 2021	May 17, 2022	Radiation (03CH12-HY)
SHF-EHF Horn Antenna	SCHWARZBE CK	BBHA 9170	00993	18GHz~40GHz	Nov. 19, 2020	Sep. 24, 2021~ Oct. 26, 2021	Nov. 18, 2021	Radiation (03CH12-HY)
SHF-EHF Horn Antenna	SCHWARZBE CK	BBHA 9170	BBHA917057 6	18GHz~40GHz	May 21, 2021	Sep. 24, 2021~ Oct. 26, 2021	May 20, 2022	Radiation (03CH12-HY)
Preamplifier	COM-POWER	PA-103	161075	10MHz~1GHz	Mar. 24, 2021	Sep. 24, 2021~ Oct. 26, 2021	Mar. 23, 2022	Radiation (03CH12-HY)
Preamplifier	Agilent	8449B	3008A02375	1GHz~26.5GHz	May 25, 2021	Sep. 24, 2021~ Oct. 26, 2021	May 24, 2022	Radiation (03CH12-HY)
Preamplifier	E-INSTRUME NT TECH LTD.	ERA-100M-18 G-56-01-A70	EC1900249	1GHz~18GHz	Dec. 05, 2020	Sep. 24, 2021~ Oct. 26, 2021	Dec. 04, 2021	Radiation (03CH12-HY)
Preamplifier	EMEC	EM18G40G	060715	18GHz~40GHz	Dec. 11, 2020	Sep. 24, 2021~ Oct. 26, 2021	Dec. 10, 2021	Radiation (03CH12-HY)
Spectrum Analyzer	Agilent	N9010A	MY53470118	10Hz~44GHz	Jan. 15, 2021	Sep. 24, 2021~ Oct. 26, 2021	Jan. 14, 2022	Radiation (03CH12-HY)
Signal Generator	Rohde & Schwarz	SMB100A	101107	100kHz~40GHz	Dec. 04, 2020	Sep. 24, 2021~ Oct. 26, 2021	Dec. 03, 2021	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY9837/4PE	9kHz~30MHz	Mar. 11, 2021	Sep. 24, 2021~ Oct. 26, 2021	Mar. 10, 2022	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 126E	0058/126E	30MHz~18GHz	Dec. 11, 2020	Sep. 24, 2021~ Oct. 26, 2021	Dec. 10, 2021	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	505134/2	30MHz~40GHz	Feb. 22, 2021	Sep. 24, 2021~ Oct. 26, 2021	Feb. 21, 2022	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	800740/2	30MHz~40GHz	Feb. 22, 2021	Sep. 24, 2021~ Oct. 26, 2021	Feb. 21, 2022	Radiation (03CH12-HY)
Filter	Wainwright	WLKS1200-12 SS	SN2	1.2GHz Low Pass Filter	Mar. 17, 2021	Sep. 24, 2021~ Oct. 26, 2021	Mar. 16, 2022	Radiation (03CH12-HY)
Filter	Wainwright	WHKX12-108 0-1200-15000 -60SS	SN1	1.2GHz High Pass Filter	Mar. 17, 2021	Sep. 24, 2021~ Oct. 26, 2021	Mar. 16, 2022	Radiation (03CH12-HY)
Filter	Wainwright	WHKX12-270 0-3000-18000 -60ST	SN2	3GHz High Pass Filter	Jul. 12, 2021	Sep. 24, 2021~ Oct. 26, 2021	Jul. 11, 2022	Radiation (03CH12-HY)
Controller	EMEC	EM1000	N/A	Control Turn table & Ant Mast	N/A	Sep. 24, 2021~ Oct. 26, 2021	N/A	Radiation (03CH12-HY)
Antenna Mast	EMEC	AM-BS-4500- B	N/A	1m~4m	N/A	Sep. 24, 2021~ Oct. 26, 2021	N/A	Radiation (03CH12-HY)
Turn Table	EMEC	TT2000	N/A	0~360 Degree	N/A	Sep. 24, 2021~ Oct. 26, 2021	N/A	Radiation (03CH12-HY)
Software	Audix	E3 6.2009-8-24	RK-000989	N/A	N/A	Sep. 24, 2021~ Oct. 26, 2021	N/A	Radiation (03CH12-HY)
Radio Communication Analyzer	Anritsu	MT8821C	6201664755	2/3/4G/LTE FDD/TDD with44)/LTE-3C C DLCA/2CC ULCA, CatM1/NB1/NB2	Jul. 21, 2021	Nov. 18, 2021	Jul. 20, 2022	Conducted (TH03-HY)

6 Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	3.10 dB
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Uncertainty of Radiated Emission Measurement (1 GHz ~ 18 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	3.39 dB
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Uncertainty of Radiated Emission Measurement (18 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.34 dB
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Appendix A. Test Results of Conducted Test

Conducted Output Power(Average power & EIRP)

LTE Band 48 Maximum Average Power [dBm] (GT - LC = 0.49 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
20	1	0	QPSK	22.13	22.13	21.99	22.62	0.1828
20	1	49		21.99	22.03	21.86		
20	1	99		22.11	22.12	21.98		
20	50	0		21.16	21.12	21.02		
20	50	24		21.15	21.09	21.01		
20	50	50		21.02	21.05	20.98		
20	100	0		21.06	21.10	21.04		
20	1	0	16-QAM	22.14	22.06	21.98	22.63	0.1832
20	1	49		22.05	22.05	21.90		
20	1	99		22.12	22.11	22.08		
20	50	0		20.96	20.94	20.83		
20	50	24		20.98	20.88	20.87		
20	50	50		20.85	20.87	20.78		
20	100	0		20.84	20.87	20.88		
20	1	0	64-QAM	20.99	20.83	20.66	21.48	0.1406
20	1	49		20.99	20.75	20.60		
20	1	99		20.74	20.75	20.63		
20	50	0		19.97	19.97	19.83		
20	50	24		19.95	19.88	19.87		
20	50	50		19.86	19.92	19.82		
20	100	0		19.83	19.85	19.82		
20	1	0	256-QAM	16.93	16.73	16.23	17.83	0.0607
20	1	49		17.03	16.83	16.18		
20	1	99		17.31	16.95	16.26		
20	50	0		17.11	17.07	16.51		
20	50	24		17.29	17.17	16.62		
20	50	50		17.34	17.18	16.60		
20	100	0		17.05	17.05	16.33		
Limit	EIRP < 23dBm/10MHz			Result			Pass	



LTE Band 48 Maximum Average Power [dBm] (GT - LC = 0.49 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
15	1	0	QPSK	22.10	21.98	21.81	22.59	0.1816
15	1	37		21.91	21.93	21.68		
15	1	74		21.95	21.92	21.97		
15	36	0		21.13	21.09	20.99		
15	36	20		21.02	21.03	20.95		
15	36	39		20.84	21.04	20.90		
15	75	0		21.06	21.06	20.84		
15	1	0	16-QAM	22.04	21.95	21.88	22.60	0.1820
15	1	37		21.86	21.94	21.71		
15	1	74		22.00	22.11	22.05		
15	36	0		20.96	20.87	20.74		
15	36	20		20.92	20.68	20.85		
15	36	39		20.66	20.78	20.72		
15	75	0		20.81	20.86	20.83		
15	1	0	64-QAM	20.90	20.73	20.64	21.39	0.1377
15	1	37		20.84	20.55	20.53		
15	1	74		20.55	20.61	20.44		
15	36	0		19.95	19.90	19.63		
15	36	20		19.79	19.81	19.85		
15	36	39		19.69	19.82	19.63		
15	75	0		19.79	19.68	19.76		
15	1	0	256-QAM	16.74	16.54	16.16	17.76	0.0597
15	1	37		17.01	16.70	16.08		
15	1	74		17.11	16.87	16.10		
15	36	0		16.92	16.98	16.39		
15	36	20		17.24	17.10	16.59		
15	36	39		17.27	17.15	16.54		
15	75	0		16.95	16.85	16.22		
Limit	EIRP < 23dBm/10MHz			Result			Pass	



LTE Band 48 Maximum Average Power [dBm] (GT - LC = 0.49 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
10	1	0	QPSK	22.04	22.03	21.79	22.58	0.1811
10	1	25		21.89	21.89	21.75		
10	1	49		22.09	21.95	21.98		
10	25	0		21.03	20.94	20.96		
10	25	12		21.01	21.06	20.90		
10	25	25		20.92	21.01	20.95		
10	50	0		21.06	20.94	20.86		
10	1	0	16-QAM	22.10	21.87	21.91	22.59	0.1816
10	1	25		21.85	21.92	21.86		
10	1	49		21.99	22.02	22.07		
10	25	0		20.94	20.90	20.73		
10	25	12		20.89	20.87	20.84		
10	25	25		20.74	20.80	20.76		
10	50	0		20.77	20.76	20.87		
10	1	0	64-QAM	20.91	20.73	20.56	21.40	0.1380
10	1	25		20.79	20.75	20.53		
10	1	49		20.59	20.74	20.62		
10	25	0		19.80	19.85	19.70		
10	25	12		19.91	19.83	19.85		
10	25	25		19.66	19.83	19.81		
10	50	0		19.80	19.80	19.80		
10	1	0	256-QAM	16.77	16.68	16.19	17.78	0.0600
10	1	25		16.98	16.78	16.10		
10	1	49		17.19	16.95	16.16		
10	25	0		16.93	16.95	16.39		
10	25	12		17.17	17.03	16.43		
10	25	25		17.29	17.10	16.58		
10	50	0		17.03	16.97	16.19		
Limit	EIRP < 23dBm/10MHz			Result			Pass	



LTE Band 48 Maximum Average Power [dBm] (GT - LC = 0.49 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
5	1	0	QPSK	22.09	22.08	21.80	22.58	0.1811
5	1	12		21.90	21.97	21.85		
5	1	24		21.92	22.01	21.85		
5	12	0		20.96	20.95	20.93		
5	12	7		21.02	21.03	20.94		
5	12	13		20.87	20.88	20.88		
5	25	0		20.93	20.95	20.89		
5	1	0	16-QAM	22.04	21.89	21.88	22.56	0.1803
5	1	12		21.93	21.97	21.72		
5	1	24		21.97	22.03	22.07		
5	12	0		20.95	20.74	20.67		
5	12	7		20.95	20.82	20.67		
5	12	13		20.80	20.87	20.73		
5	25	0		20.78	20.72	20.70		
5	1	0	64-QAM	20.95	20.75	20.54	21.44	0.1393
5	1	12		20.94	20.55	20.48		
5	1	24		20.72	20.74	20.44		
5	12	0		19.78	19.82	19.77		
5	12	7		19.95	19.76	19.74		
5	12	13		19.84	19.90	19.77		
5	25	0		19.72	19.75	19.68		
5	1	0	256-QAM	16.85	16.70	16.05	17.74	0.0594
5	1	12		17.00	16.81	16.16		
5	1	24		17.25	16.90	16.17		
5	12	0		17.01	16.89	16.40		
5	12	7		17.24	17.15	16.45		
5	12	13		17.18	17.02	16.56		
5	25	0		16.99	16.94	16.21		
Limit	EIRP < 23dBm/10MHz			Result			Pass	



Appendix B. Test Results of Radiated Test

<Sample 1>

LTE Band 48

LTE Band 48 / 20MHz / 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)
Lowest	7100	-58.44	-40	-18.44	-59.3	-68.41	1.77	11.74	H
	10655	-59.05	-40	-19.05	-63.44	-67.48	2.47	10.90	H
	14205	-57.27	-40	-17.27	-67.63	-66.11	2.87	11.71	H
	21306	-55.28	-40	-15.28	-77.1	-72.00	1.98	18.70	H
	24857	-52.91	-40	-12.91	-77.67	-68.92	2.07	18.07	H
	28408	-51.27	-40	-11.27	-76.58	-68.51	2.32	19.56	H
									H
	7100	-59.61	-40	-19.61	-60.08	-69.58	1.77	11.74	V
	10655	-59.80	-40	-19.80	-63.93	-68.23	2.47	10.90	V
	14205	-57.38	-40	-17.38	-67.46	-66.22	2.87	11.71	V
	21306	-54.67	-40	-14.67	-76.35	-71.39	1.98	18.70	V
	24857	-51.38	-40	-11.38	-77.35	-67.39	2.07	18.07	V
	28408	-49.27	-40	-9.27	-76.4	-66.51	2.32	19.56	V
									V



Middle	7230	-55.69	-40	-15.69	-56.97	-65.38	1.84	11.53	H
	10850	-59.36	-40	-19.36	-64.16	-67.69	2.57	10.90	H
	14462	-57.96	-40	-17.96	-68.31	-66.20	2.85	11.09	H
	18080	-54.02	-40	-14.02	-71.96	-70.25	1.76	17.98	H
	21696	-55.01	-40	-15.01	-76.41	-71.80	1.99	18.78	H
	25312	-52.31	-40	-12.31	-77.51	-68.91	2.14	18.74	H
									H
	7230	-57.57	-40	-17.57	-58.59	-67.26	1.84	11.53	V
	10850	-59.17	-40	-19.17	-63.76	-67.50	2.57	10.90	V
	14462	-58.56	-40	-18.56	-68.09	-66.80	2.85	11.09	V
	18080	-55.02	-40	-15.02	-72.03	-71.25	1.76	17.98	V
	21696	-54.55	-40	-14.55	-75.94	-71.34	1.99	18.78	V
	25312	-50.21	-40	-10.21	-76.67	-66.81	2.14	18.74	V
									V
									V
Highest	7360	-57.85	-40	-17.85	-59.23	-67.26	1.91	11.32	H
	11045	-59.95	-40	-19.95	-65.29	-68.27	2.63	10.95	H
	14724	-56.91	-40	-16.91	-68.4	-65.71	2.91	11.72	H
	18405	-55.84	-40	-15.84	-74.12	-71.89	1.87	17.92	H
	22086	-55.36	-40	-15.36	-77.27	-72.15	2.08	18.87	H
	25767	-51.86	-40	-11.86	-77.74	-68.88	2.03	19.05	H
									H
	7360	-59.24	-40	-19.24	-60.43	-68.65	1.91	11.32	V
	11045	-59.89	-40	-19.89	-65.06	-68.21	2.63	10.95	V
	14724	-58.38	-40	-18.38	-68.2	-67.18	2.91	11.72	V
	18405	-56.52	-40	-16.52	-73.92	-72.57	1.87	17.92	V
	22086	-54.84	-40	-14.84	-76.75	-71.63	2.08	18.87	V
	25767	-50.37	-40	-10.37	-77.44	-67.39	2.03	19.05	V
									V

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



<Sample 2>

LTE Band 48

LTE Band 48 / 20MHz / 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)
Lowest	7102	-59.51	-40	-19.51	-60.38	-69.47	1.78	11.74	H
	10653	-59.18	-40	-19.18	-63.55	-67.61	2.47	10.90	H
	14204	-57.65	-40	-17.65	-68.01	-66.49	2.87	11.71	H
	21307	-55.49	-40	-15.49	-77.3	-72.21	1.98	18.70	H
	24857	-53.08	-40	-13.08	-77.84	-69.09	2.07	18.07	H
	28411	-51.12	-40	-11.12	-76.43	-68.37	2.32	19.56	H
									H
	7102	-59.50	-40	-19.50	-59.98	-69.46	1.78	11.74	V
	10653	-59.77	-40	-19.77	-63.89	-68.20	2.47	10.90	V
	14204	-57.87	-40	-17.87	-67.96	-66.71	2.87	11.71	V
	21307	-55.93	-40	-15.93	-77.61	-72.65	1.98	18.70	V
	24857	-51.90	-40	-11.90	-77.87	-67.91	2.07	18.07	V
	28411	-49.59	-40	-9.59	-76.72	-66.84	2.32	19.56	V
									V

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