



FCC RF Test Report

APPLICANT : Motorola Mobility LLC
EQUIPMENT : Mobile Cellular Phone
BRAND NAME : Motorola
MODEL NAME : XT2141-1
FCC ID : IHDT56ZP1
STANDARD : 47 CFR Part 2, 22(H), 24(E)
CLASSIFICATION : PCS Licensed Transmitter Held to Ear (PCE)
TEST DATE(S) : Jun. 22, 2021 ~ Jul. 09, 2021

We, Sporton International (Shenzhen) Inc., would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.26-2015 and shown compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of Sporton International (Shenzhen) Inc., the test report shall not be reproduced except in full.

Reviewed by: Derreck Chen / Supervisor

Approved by: Eric Shih / Manager



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TABLE OF CONTENTS

REVISION HISTORY.....	3
SUMMARY OF TEST RESULT	4
1 GENERAL DESCRIPTION	5
1.1 Applicant.....	5
1.2 Manufacturer	5
1.3 Product Feature of Equipment Under Test	5
1.4 Product Specification of Equipment Under Test	5
1.5 Modification of EUT	6
1.6 Re-use of Measured Data	6
1.7 Maximum ERP/EIRP Power, and Emission Designator	7
1.8 Testing Location	8
1.9 Test Software	8
1.10 Applicable Standards	8
1.11 Specification of Accessory	9
2 TEST CONFIGURATION OF EQUIPMENT UNDER TEST	10
2.1 Test Mode.....	10
2.2 Connection Diagram of Test System	11
2.3 Support Unit used in test configuration	11
2.4 Frequency List of Low/Middle/High Channels.....	11
3 CONDUCTED TEST RESULT.....	12
3.1 Measuring Instruments.....	12
3.2 Test Setup	12
3.3 Test Result of Conducted Test.....	12
3.4 Conducted Output Power and ERP/EIRP	13
4 RADIATED TEST ITEMS	14
4.1 Measuring Instruments.....	14
4.2 Test Setup	14
4.3 Test Result of Radiated Test.....	15
4.4 Field Strength of Spurious Radiation Measurement	16
5 LIST OF MEASURING EQUIPMENT	17
6 UNCERTAINTY OF EVALUATION	18
APPENDIX A. TEST RESULTS OF CONDUCTED TEST	
APPENDIX B. TEST RESULTS OF RADIATED TEST	
APPENDIX C. TEST SETUP PHOTOGRAPHS	
APPENDIX D. REFERENCE REPORT	



REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG151701-02A	Rev. 01	Initial issue of report	Jul. 16, 2021

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.4	§2.1046	Conducted Output Power	Reporting Only	PASS	-
	§22.913(a)(5)	Effective Radiated Power	< 7 Watts	PASS	-
	§24.232(c)	Equivalent Isotropic Radiated Power	< 2 Watts	PASS	-
4.4	§2.1053; §22.917(a); §24.238(a)	Field Strength of Spurious Radiation	$< 43 + 10 \log_{10}(P[\text{Watts}])$	PASS	Under limit 33.73 dB at 2509.200 MHz

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.



1 General Description

1.1 Applicant

Motorola Mobility LLC

222 W,Merchandise Mart Plaza, Chicago IL 60654 USA

1.2 Manufacturer

Motorola Mobility LLC

222 W,Merchandise Mart Plaza, Chicago IL 60654 USA

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Mobile Cellular Phone
Brand Name	Motorola
Model Name	XT2141-1
FCC ID	IHDT56ZP1
IMEI Code	Radiation: 351758640006985
HW Version	DVT2
SW Version	RRM31.Q3
EUT Stage	Identical Prototype

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

1.4 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx Frequency	GSM/GPRS/EDGE: 850: 824 MHz ~ 849 MHz 1900: 1850MHz ~ 1910MHz WCDMA: Band V: 824 MHz ~ 849 MHz Band II: 1850 MHz ~ 1910 MHz
Rx Frequency	GSM/GPRS/EDGE: 850: 869 MHz ~ 894 MHz 1900: 1930 MHz ~ 1990 MHz WCDMA: Band V: 869 MHz ~ 894 MHz Band II: 1930 MHz ~ 1990 MHz
Maximum Output Power to Antenna	For Main Ant: GSM/GPRS/EDGE:

	850: 31.94 dBm 1900: 29.17 dBm WCDMA: Band II: 23.81 dBm For ASDiv Ant: WCDMA: Band V: 23.82 dBm Band II: 22.26 dBm
Antenna Type	Dynamic Internal Antenna
Antenna Gain	Main Ant : GSM 850: -4.07 dBi GSM 1900: 0.65 dBi WCDMA II: 0.65 dBi ASDiv Ant : WCDMA V: -4.07 dBi WCDMA II: -2.8 dBi
Type of Modulation	GSM: GMSK GPRS: GMSK EDGE: GMSK / 8PSK WCDMA : BPSK HSPA : QPSK HSPA+ : 16QAM (16QAM uplink is not supported) DC-HSDPA : 64QAM

1.5 Modification of EUT

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

1.6 Re-use of Measured Data

1.6.1 Introduction Section

This application re-uses data collected on a similar device. The subject device of this application (Model: XT2141-1, FCC ID: IHDT56ZP1) is electrically identical to the reference device (Model: XT2141-2, FCC ID: IHDT56ZP2) for the portions of the circuitry corresponding to the data being re-used. Based on their similarity, reuse the original model's result and do spot-check, following the FCC KDB 484596 D01 v01.

The applicant takes full responsibility that the test data as referenced in this report represent compliance for this FCC ID: IHDT56ZP1.

1.6.2 Difference Section

Some PCBA components and Antenna match are different. For details concerning the similarity with respect to component placement, mechanical/electrical design etc., please refer to the Product Equality Declaration.

The re-used RF data includes the following bands provided in Appendix D (Sporton RF Report No.



FG151701-01A for the reference device Model: XT2141-2, FCC ID: IHDT56ZP2).

1.6.3 Reference detail Section:

Equipment Class	Reference FCC ID	Folder Test	Report Title/Section
PCE (GSM, WCDMA)	IHDT56ZP2	Part22H.24E.27L (FG151701-01A)	Except Power/ERP/EIRP/RSE, all the other Conducted results applicable for GSM 850/1900/WCDMA Band II/V

1.6.4 Spot Check Verification Data Section

In order to confirm hardware similarity of the subject device with the reference device, spot check measurements were performed on the subject device for the conducted power, the test result were consistent with FCC ID: IHDT56ZP2.

Assertions concerning the similarity of these devices are based on representations by the applicant. The applicant accepts full responsibility for the validity of the similarity claim, and for the determination that verification test data are sufficient to support it.

Test Item	Mode	IHDT56ZP2 Worst Result	IHDT56ZP1 Worst Result	Difference (dB)
Average Conducted Power (dBm)	GSM 850_Ant0	31.94	31.94	0
	GSM 1900_Ant0	29.03	29.17	0.14
	WCDMA B5_Ant1	24.02	23.82	-0.2
	WCDMA B2_Ant0	22.88	23.81	0.93
	WCDMA B2_Ant1	21.52	22.26	0.74

1.7 Maximum ERP/EIRP Power, and Emission Designator

FCC Rule	Frequency Band	Frequency Range (MHz)	Type of Modulation	Maximum ERP/EIRP (W)
Part 22	GSM850 (GSM)	824.2 ~ 848.8	GMSK	0.3733
Part 22	GSM850 (EDGE)	824.2 ~ 848.8	8PSK	0.0736
Part 22	WCDMA Band V	826.4 ~ 846.6	BPSK	0.0575
Part 24	GSM1900 (GSM)	1850.2 ~ 1909.8	GMSK	0.9594
Part 24	GSM1900 (EDGE)	1850.2 ~ 1909.8	8PSK	0.3404
Part 24	WCDMA Band II	1852.4 ~ 1907.6	BPSK	0.2793

1.8 Testing Location

Sporton International (Shenzhen) Inc. is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.01.

Test Firm	Sporton International (Shenzhen) Inc.		
Test Site Location	1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan, Shenzhen, 518055 People's Republic of China TEL: +86-755-86379589 FAX: +86-755-86379595		
Test Site No.	Sporton Site No.	FCC Designation No.	FCC Test Firm Registration No.
	TH01-SZ	CN1256	421272

Test Firm	Sporton International (Shenzhen) Inc.		
Test Site Location	101, 1st Floor, Block B, Building 1, No. 2, Tengfeng 4th Road, Fenghuang Community, Fuyong Street, Baoan District, Shenzhen City Guangdong Province China 518103 TEL: +86-755-33202398		
Test Site No.	Sporton Site No.	FCC Designation No.	FCC Test Firm Registration No.
	03CH04-SZ	CN1256	421272

1.9 Test Software

Item	Site	Manufacturer	Name	Version
1.	03CH04-SZ	AUDIX	E3	6.2009-8-24

1.10 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)
- ♦ ANSI C63.26-2015
- ♦ FCC KDB 971168 D01 Power Meas. License Digital Systems v03r01
- ♦ 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.

1.11 Specification of Accessory

Specification of Accessory				
AC Adapter 1	Brand Name	Motorola(Salom)	Model Name	MC-301
AC Adapter 2	Brand Name	Motorola(Acbel)	Model Name	MC-301
Battery	Brand Name	Motorola(ATL)	Model Name	MB50
USB Cable 1	Brand Name	Motorola(Luxshare)	Model Name	SC18D13217
USB Cable 2	Brand Name	Motorola(Saibao)	Model Name	SC18D13215
USB Cable 3	Brand Name	Motorola(Cabletech)	Model Name	SC18D13216



2 Test Configuration of Equipment Under Test

2.1 Test Mode

Antenna port radiated test items were performed according to KDB 971168 D01 Power Meas. License Digital Systems v03r01 with maximum output power.

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

Radiated emissions were investigated as following frequency range:

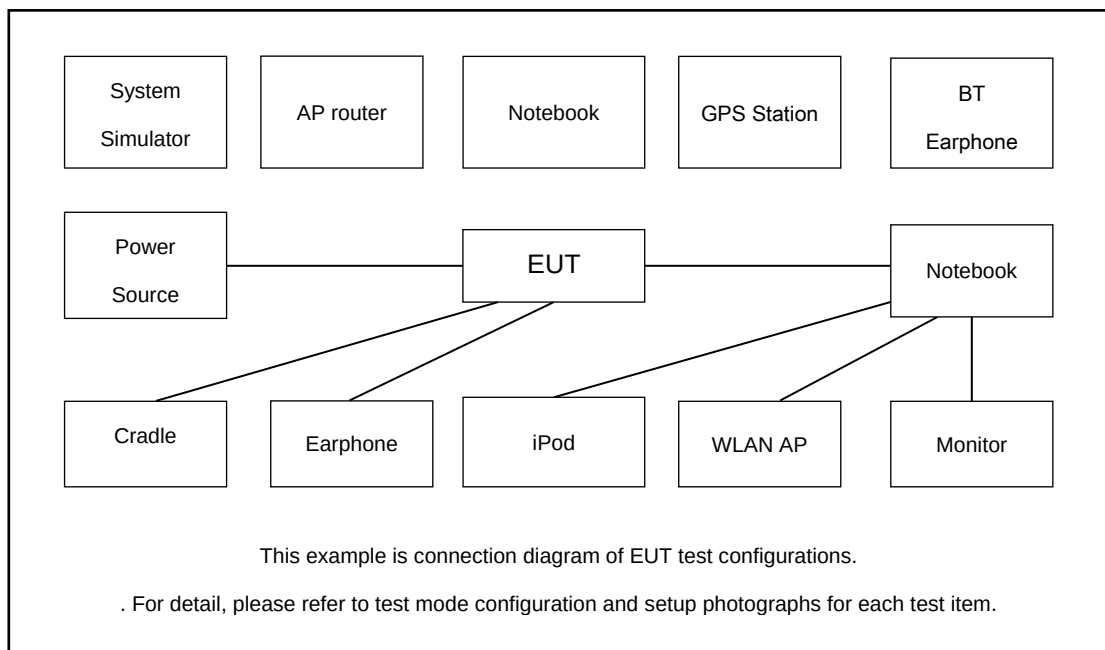
1. 30 MHz to 10th for GSM850 and WCDMA Band V.
2. 30 MHz to 10th for GSM1900 and WCDMA Band II.

All modes and data rates and positions were investigated.

Test modes are chosen to be reported as the worst case configuration below:

Test Modes	
Band	Radiated TCs
GSM 850	■ GSM Link ■ EDGE class 8 Link
GSM 1900	■ GSM Link ■ EDGE class 8 Link
WCDMA Band V	■ RMC 12.2Kbps Link
WCDMA Band II	■ RMC 12.2Kbps Link

2.2 Connection Diagram of Test System



2.3 Support Unit used in test configuration

Item	Equipment	Trade Name	Model No.	FCC ID	Data Cable	Power Cord
1.	Base Station	Anritsu	MT8820C	Fcc DoC	N/A	Shielded, 1.5m
2.	DC Power Supply	GW	GPS-3030D	N/A	N/A	Shielded, 1.8m

2.4 Frequency List of Low/Middle/High Channels

Frequency List				
Band	Channel/Frequency(MHz)	Lowest	Middle	Highest
GSM850	Channel	128	189	251
	Frequency	824.2	836.4	848.8
WCDMA Band V	Channel	4132	4182	4233
	Frequency	826.4	836.4	846.6
GSM1900	Channel	512	661	810
	Frequency	1850.2	1880.0	1909.8
WCDMA Band II	Channel	9262	9400	9538
	Frequency	1852.4	1880.0	1907.6

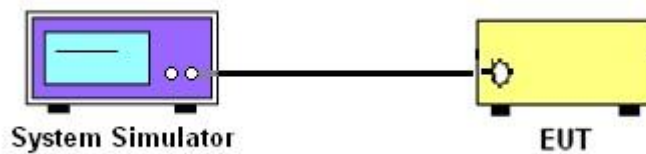
3 Conducted Test Result

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 and ERP/EIRP

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

The ERP of mobile transmitters must not exceed 7 Watts for GSM850 and WCDMA Band V.

The EIRP of mobile transmitters must not exceed 2 Watts for GSM1900 and WCDMA Band II.

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 testing follows ANSI C63.26 Section 5.2
2. The transmitter output port was connected to the system simulator.
3. Set EUT at maximum power through the system simulator.
4. Select lowest, middle, and highest channels for each band and different modulation.
5. Measure and record the power level from the system simulator.

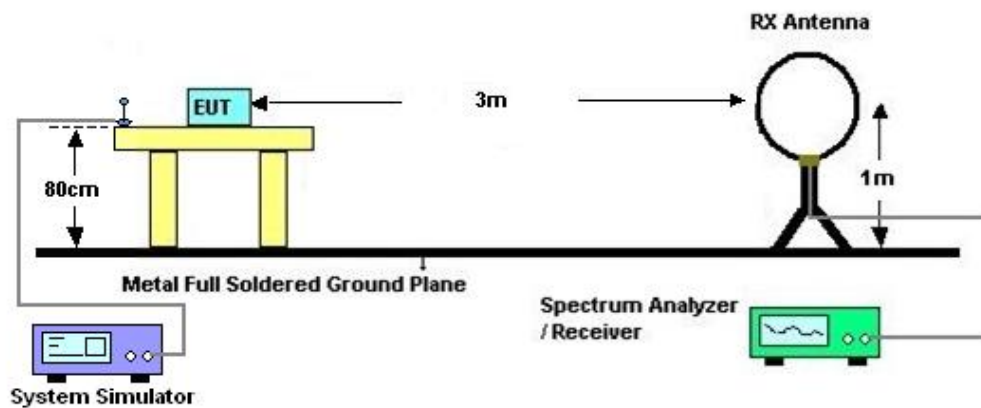
4 Radiated Test Items

4.1 Measuring Instruments

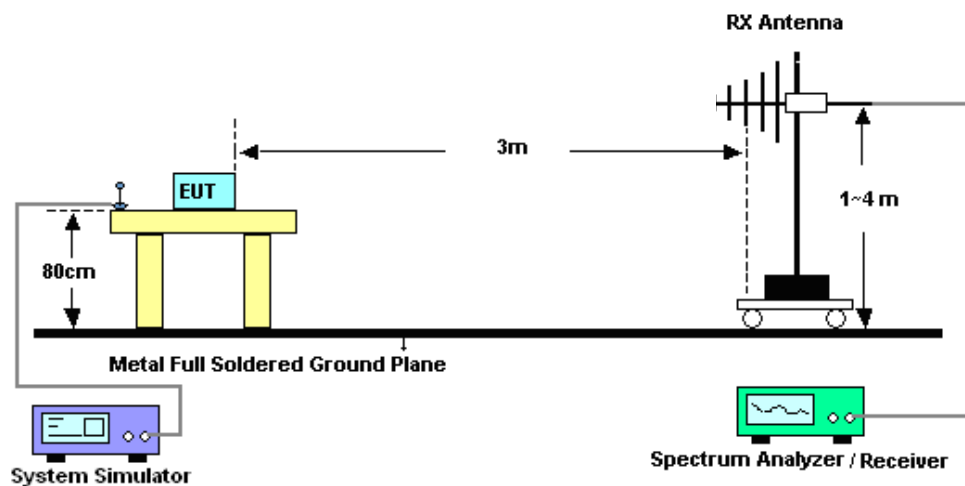
See list of measuring instruments of this test report.

4.2 Test Setup

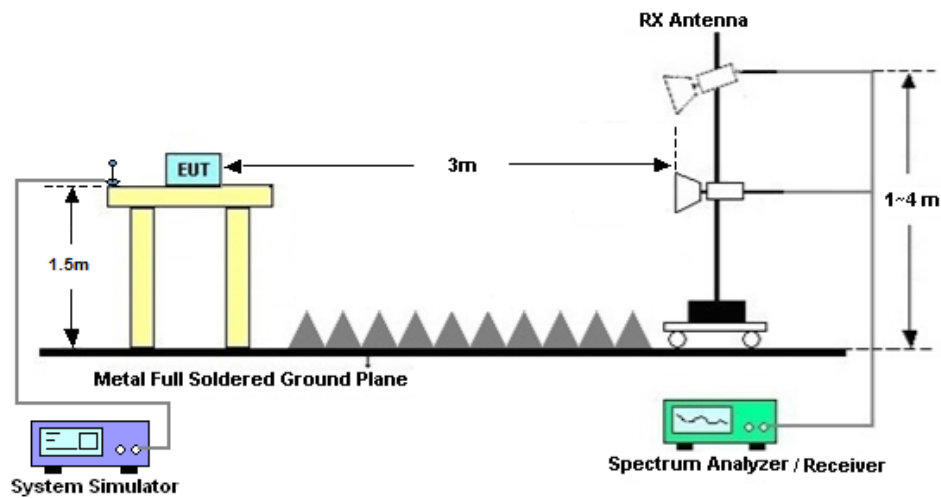
4.2.1 For radiated test below 30MHz



4.2.2 For radiated test from 30MHz to 1GHz



4.2.3 For radiated test above 1GHz



4.3 Test Result of Radiated Test

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.

Please refer to Appendix B.

4.4 Field Strength of Spurious Radiation Measurement

4.4.1 Description of Field Strength of Spurious Radiated Measurement

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

4.4.2 Test Procedures

1. The testing follows ANSI C63.26 Section 5.5
2. The EUT was placed on a rotatable wooden table 0.8 meters for frequency below 1GHz and 1.5 meter for frequency above 1GHz above the 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 for the maximum spurious emission for both horizontal and vertical polarizations.
6. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking 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. $EIRP \text{ (dBm)} = S.G. \text{ Power} - Tx \text{ Cable Loss} + Tx \text{ Antenna Gain}$
12. $ERP \text{ (dBm)} = EIRP - 2.15$
13. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
14. The limit line is derived from $43 + 10\log(P)$ dB below the transmitter power P(Watts)



5 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSV40	101078	10Hz~40GHz	Apr. 08, 2021	Jun. 22, 2021	Apr. 07, 2022	Conducted (TH01-SZ)
DC Power Supply	TTI	PL330P	290070	Max 32V , 3A	Oct. 15, 2020	Jun. 22, 2021	Oct. 14, 2021	Conducted (TH01-SZ)
Power Divider	TOJOIN	PS-2SM-04 265	60.06.020.007 7	0.4GHz~26.5GHz	Dec. 26, 2020	Jun. 22, 2021	Dec. 25, 2021	Conducted (TH01-SZ)
Thermal Chamber	Ten Billion Hongzhangroup	LP-150U	H2014081803	-40~+150°C	Jul. 22, 2020	Jun. 22, 2021	Jul. 21, 2021	Conducted (TH01-SZ)
EMI Test Receiver	R&S	ESR7	101404	9kHz~7GHz	Oct. 16, 2020	Jul. 09, 2021	Oct. 15, 2021	Radiation (03CH04-SZ)
EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY55150213	10Hz~44GHz	Jul. 21, 2020	Jul. 09, 2021	Jul. 20, 2021	Radiation (03CH04-SZ)
Loop Antenna	R&S	HFH2-Z2	100354	9kHz~30MHz	Jun. 22, 2020	Jul. 09, 2021	Jun. 21, 2022	Radiation (03CH04-SZ)
Bilog Antenna	TeseQ	CBL6111D	41909	30MHz~1GHz	Nov. 07, 2020	Jul. 09, 2021	Nov. 06, 2021	Radiation (03CH04-SZ)
Double Ridge Horn Antenna	SCHWARZBECK	BBHA9120D	9120D-1474	1GHz~18GHz	Jul. 16, 2020	Jul. 09, 2021	Jul. 15, 2021	Radiation (03CH04-SZ)
Horn Antenna	SCHWARZBECK	BBHA9170	9170#679	15GHz~40GHz	Jul. 26, 2020	Jul. 09, 2021	Jul. 25, 2021	Radiation (03CH04-SZ)
Amplifier	Burgeon	BPA-530	102211	0.01Hz ~3000MHz	Oct. 16,2020	Jul. 09, 2021	Oct. 15,2021	Radiation (03CH04-SZ)
HF Amplifier	MITEQ	AMF-7D-00 101800-30-1 0P-R	1943528	1GHz~18GHz	Oct. 17,2020	Jul. 09, 2021	Oct. 16,2021	Radiation (03CH04-SZ)
HF Amplifier	MITEQ	TTA1840-35 -HG	1871923	18GHz~40GHz	Jul. 21. 2020	Jul. 09, 2021	Jul. 20. 2021	Radiation (03CH04-SZ)
Amplifier	Agilent Technologies	83017A	MY53270156	500MHz~26.5GHz	Oct.17, 2020	Jul. 09, 2021	Oct.16, 2021	Radiation (03CH04-SZ)
AC Power Source	Chroma	61601	N/A	N/A	NCR	Jul. 09, 2021	NCR	Radiation (03CH04-SZ)
Turn Table	EM	EM1000	N/A	0~360 degree	NCR	Jul. 09, 2021	NCR	Radiation (03CH04-SZ)
Antenna Mast	EM	EM1000	N/A	1 m~4 m	NCR	Jul. 09, 2021	NCR	Radiation (03CH04-SZ)

NCR: No Calibration Required

6 Uncertainty of Evaluation

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI 63.26-2015. All the measurement uncertainty value were shown with a coverage $K=2$ to indicate 95% level of confidence. The measurement data show herein meets or exceeds the CISPR measurement uncertainty values specified in CISPR 16-4-2 and can be compared directly to specified limit to determine compliance.

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	2.8dB
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Uncertainty of Radiated Emission Measurement (1 GHz ~ 18 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	3.1dB
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Uncertainty of Radiated Emission Measurement (18 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	3.9dB
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Appendix A. Test Results of Conducted Test

Conducted Output Power(Average power)

Conducted Power (*Unit: dBm)						
Band	GSM850- Main Ant.			GSM1900- Main Ant.		
Channel	128	189	251	512	661	810
Frequency	824.2	836.4	848.8	1850.2	1880.0	1909.8
GSM	31.94	31.66	31.76	29.09	28.87	29.17
GPRS 1 Tx slots	31.88	31.62	31.71	29.07	28.81	29.16
GPRS 2 Tx slots	28.77	28.68	28.63	26.35	26.84	26.52
GPRS 3 Tx slots	27.52	27.51	27.38	25.58	25.54	25.10
GPRS 4 Tx slots	25.66	25.57	25.52	23.38	23.41	23.52
EGPRS 1 Tx slots	24.89	24.62	24.75	24.58	24.25	24.67
EGPRS 2 Tx slots	23.15	23.17	22.98	22.92	22.85	22.98
EGPRS 3 Tx slots	21.73	21.80	21.78	21.48	21.45	21.62
EGPRS 4 Tx slots	19.99	20.16	20.07	19.69	19.76	19.88

Conducted Power (*Unit: dBm)						
Band	WCDMA Band V- ASDiv Ant.			WCDMA Band II- Main Ant.		
Channel	4132	4182	4233	9262	9400	9538
Frequency	826.4	836.4	846.6	1852.4	1880	1907.6
AMR 12.2K	23.72	23.71	23.76	23.66	23.71	23.76
RMC 12.2K	23.77	23.76	23.82	23.69	23.73	23.81
HSDPA Subtest-1	22.62	22.62	22.72	22.68	22.74	22.80
HSDPA Subtest-2	22.63	22.64	22.76	22.72	22.75	22.81
HSDPA Subtest-3	22.13	22.14	21.89	22.24	22.25	22.30
HSDPA Subtest-4	22.14	22.12	22.24	22.19	22.27	22.34
DC-HSDPA Subtest-1	22.62	22.53	22.50	22.52	22.58	22.57
DC-HSDPA Subtest-2	22.62	22.43	22.66	22.56	22.66	22.81
DC-HSDPA Subtest-3	22.10	21.98	21.82	22.23	22.20	22.13
DC-HSDPA Subtest-4	21.91	22.07	22.12	22.12	22.18	22.09
HSUPA Subtest-1	22.63	22.71	22.81	22.70	22.74	22.82
HSUPA Subtest-2	20.68	20.69	20.80	20.69	20.74	20.86
HSUPA Subtest-3	21.62	21.72	21.81	21.66	21.75	21.86
HSUPA Subtest-4	20.68	20.68	20.80	20.71	20.74	20.87
HSUPA Subtest-5	22.70	22.70	22.80	22.70	22.70	22.90

ERP/EIRP

The maximum ERP/EIRP is calculated from max Output power and max antenna gain from Main/ASDiv antenna, only the maximum ERP/EIRP is shown in the report.

GSM850 ($G_T - L_C = -4.07$ dB)			
Channel	128	189	251
	(Low)	(Mid)	(High)
Frequency	824.2	836.4	848.8
(MHz)			
Conducted Power (dBm)	31.94	31.66	31.76
Conducted Power (Watts)	1.5631	1.4655	1.4997
ERP(dBm)	25.72	25.44	25.54
ERP(Watts)	0.3733	0.3499	0.3581

EDGE850 ($G_T - L_C = -4.07$ dB)			
Channel	128	189	251
	(Low)	(Mid)	(High)
Frequency	824.2	836.4	848.8
(MHz)			
Conducted Power (dBm)	24.89	24.62	24.75
Conducted Power (Watts)	0.3083	0.2897	0.2985
ERP(dBm)	18.67	18.40	18.53
ERP(Watts)	0.0736	0.0692	0.0713



GSM1900 ($G_T - L_C = 0.65$ dB)			
Channel	512	661	810
	(Low)	(Mid)	(High)
Frequency	1850.2	1880	1909.8
(MHz)			
Conducted Power (dBm)	29.09	28.87	29.17
Conducted Power (Watts)	0.8110	0.7709	0.8260
EIRP(dBm)	29.74	29.52	29.82
EIRP(Watts)	0.9419	0.8954	0.9594

EDGE1900 ($G_T - L_C = 0.65$ dB)			
Channel	512	661	810
	(Low)	(Mid)	(High)
Frequency	1850.2	1880	1909.8
(MHz)			
Conducted Power (dBm)	24.58	24.25	24.67
Conducted Power (Watts)	0.2871	0.2661	0.2931
EIRP(dBm)	25.23	24.90	25.32
EIRP(Watts)	0.3334	0.3090	0.3404



WCDMA Band V ($G_T - L_C = -4.07$ dB)			
Channel	4132	4182	4233
	(Low)	(Mid)	(High)
Frequency	826.4	836.4	846.6
(MHz)			
Conducted Power (dBm)	23.77	23.76	23.82
Conducted Power (Watts)	0.2382	0.2377	0.2410
ERP(dBm)	17.55	17.54	17.60
ERP(Watts)	0.0569	0.0568	0.0575

WCDMA Band II ($G_T - L_C = 0.65$ dB)			
Channel	9262	9400	9538
	(Low)	(Mid)	(High)
Frequency	1852.4	1880	1907.6
(MHz)			
Conducted Power (dBm)	23.69	23.73	23.81
Conducted Power (Watts)	0.2339	0.2360	0.2404
EIRP(dBm)	24.34	24.38	24.46
EIRP(Watts)	0.2716	0.2742	0.2793



Appendix B. Test Results of Radiated Test

Radiated Spurious Emission

For Main Ant:

GSM850 (GSM)									
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	1672.8	-62.26	-13	-49.26	-70.99	-65.51	4.00	9.40	H
	2509.2	-48.68	-13	-35.68	-62.25	-52.25	4.88	10.60	H
	3345.6	-59.47	-13	-46.47	-76.34	-64.40	5.52	12.60	H
	1672.8	-58.23	-13	-45.23	-67.15	-61.48	4.00	9.40	V
	2509.2	-47.88	-13	-34.88	-61.57	-51.45	4.88	10.60	V
	3345.6	-59.67	-13	-46.67	-76.56	-64.60	5.52	12.60	V

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

GSM850 (EDGE class 8)									
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	1672.8	-60.11	-13	-47.11	-68.84	-63.36	4.00	9.40	H
	2509.2	-46.80	-13	-33.80	-60.37	-50.37	4.88	10.60	H
	3345.6	-59.58	-13	-46.58	-76.45	-64.51	5.52	12.60	H
	1672.8	-58.49	-13	-45.49	-67.41	-61.74	4.00	9.40	V
	2509.2	-46.73	-13	-33.73	-60.42	-50.30	4.88	10.60	V
	3345.6	-59.37	-13	-46.37	-76.26	-64.30	5.52	12.60	V

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



GSM1900 (GSM)									
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	3760	-58.27	-13	-45.27	-76.95	-65.02	5.85	12.60	H
	5640	-55.77	-13	-42.77	-79.31	-61.57	7.30	13.10	H
	7520	-53.67	-13	-40.67	-80.22	-56.82	8.35	11.50	H
	3760	-59.02	-13	-46.02	-77.26	-65.77	5.85	12.60	V
	5640	-56.62	-13	-43.62	-78.95	-62.42	7.30	13.10	V
	7520	-53.59	-13	-40.59	-80.56	-56.74	8.35	11.50	V

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

GSM1900 (EDGE class 8)									
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	3760	-58.54	-13	-45.54	-77.22	-65.29	5.85	12.60	H
	5640	-55.71	-13	-42.71	-79.25	-61.51	7.30	13.10	H
	7520	-53.95	-13	-40.95	-80.50	-57.10	8.35	11.50	H
	3760	-58.69	-13	-45.69	-76.93	-65.44	5.85	12.60	V
	5640	-57.05	-13	-44.05	-79.38	-62.85	7.30	13.10	V
	7520	-53.63	-13	-40.63	-80.6	-56.78	8.35	11.50	V

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

WCDMA Band II(RMC 12.2Kbps)									
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	3760	-58.22	-13	-45.22	-76.90	-64.97	5.85	12.60	H
	5640	-55.43	-13	-42.43	-78.97	-61.23	7.30	13.10	H
	7520	-53.59	-13	-40.59	-80.14	-56.74	8.35	11.50	H
	3760	-58.72	-13	-45.72	-76.96	-65.47	5.85	12.60	V
	5640	-56.85	-13	-43.85	-79.18	-62.65	7.30	13.10	V
	7520	-53.37	-13	-40.37	-80.34	-56.52	8.35	11.50	V

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



For ASDiv Ant:

WCDMA Band V(RMC 12.2Kbps)									
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	1672.8	-64.88	-13	-51.88	-73.56	-68.13	4.00	9.40	H
	2509.2	-60.97	-13	-47.97	-73.76	-64.54	4.88	10.60	H
	3345.6	-62.21	-13	-49.21	-76.61	-67.14	5.52	12.60	H
	1672.8	-65.60	-13	-52.60	-73.73	-68.85	4.00	9.40	V
	2509.2	-62.16	-13	-49.16	-74.91	-65.73	4.88	10.60	V
	3345.6	-62.61	-13	-49.61	-76.74	-67.54	5.52	12.60	V

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

WCDMA Band II(RMC 12.2Kbps)									
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	3760	-60.98	-13	-47.98	-77.70	-67.73	5.85	12.60	H
	5640	-57.27	-13	-44.27	-77.87	-63.07	7.30	13.10	H
	7520	-53.81	-13	-40.81	-78.44	-56.96	8.35	11.50	H
	3760	-60.99	-13	-47.99	-77.64	-67.74	5.85	12.60	V
	5640	-58.13	-13	-45.13	-77.98	-63.93	7.30	13.10	V
	7520	-53.86	-13	-40.86	-78.47	-57.01	8.35	11.50	V

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



Appendix D. Reference Report

Please refer to Sporton report number FG151701-01A which is issued separately.