Spot Check Evaluation

APPLICANT	:	**Motorola Mobility LLC**
EQUIPMENT	:	**Mobile Cellular Phone**
BRAND NAME	:	**Motorola**
MODEL NAME	:	**XT2215-1**
FCC ID	:	**IHDT56AA5**
STANDARD	:	**47 CFR Part 2, 22(H), 24(E), 27(L), 27(F), 27(H), 27(O), 27(Q),96** **47 CFR Part 15 Subpart C §15.225**

We, Sporton International Inc. (Shenzhen), would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

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

Reviewed by: Derreck Chen / Supervisor

Approved by: Eric Shih / Manager

Sporton International Inc. (ShenZhen)

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People's Republic of China

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
1N0903-01	Rev. 01	Initial issue of report	Feb. 18, 2022

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	XT2215-1
FCC ID	IHDT56AA5
EUT supports Radios application	GSM/WCDMA/LTE/5G NR WLAN 2.4GHz 802.11b/g/n HT20/HT40 WLAN 2.4GHz 802.11ac VHT20/VHT40 WLAN 5GHz 802.11a/n HT20/HT40 WLAN 5GHz 802.11ac VHT20/VHT40/VHT80 Bluetooth BR/EDR/LE FM, GNSS, NFC
HW Version	DVT2
SW Version	S1SD32.29
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 Modification of EUT

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

1.5 Testing Location

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

Test Firm	Sporton International Inc. (Shenzhen)		
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 Inc. (Shenzhen)		
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.**
	03CH03-SZ	CN1256	421272

1.6 Test Software

Item	Site	Manufacturer	Name	Version
1.	03CH03-SZ	AUDIX	E3	6.2009-8-24

2 Re-use of Measured Data

2.1 Introduction Section

This application re-uses data collected on a similar device. The subject device of this application (Model: XT2215-1, FCC ID: IHDT56AA5) is electrically identical to the reference device (Model: XT2215-2, XT2215-3, XT2215-4, XT2215DL, FCC ID: IHDT56AA4) for the portions of the circuitry corresponding to the data being re-used. Based on their similarity, the FCC Part 15C (equipment class: DXX), FCC Part 96 (equipment class: CBE) and FCC Part 22, 24, 27 (equipment class: PCE) 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: IHDT56AA5 .

2.2 Model Difference Information

The **main** difference between FCC ID: IHDT56AA4 and FCC ID: IHDT56AA5 is as below:

- Remove WCDMA Band IV, LTE Band 14/17/25/26/30/38/41/71 and 5G NR n12/n14/n25/n26/n30/n41/n70/n71.
- Add 5G NR n260/n261.

Other differences and all the details of similarity and difference can be found in the confidential documents (XT2215-1_Operational Description of Product Equality Declaration).

2.3 Reference detail Section:

Rule Part	Equipment Class	Frequency Band (MHz)	Reference FCC ID(Parent)	Type Grant/ Permissive Change	Reference Title	FCC ID Filling (Variant)	Report Title/Section
15C	DXX (NFC)	13.56	IHDT56AA4	Original Grant	FR1N0903D	IHDT56AA5	All sections applicable
22, 24, 27, 96,	PCE (GSM)	GSM 850/1900	IHDT56AA4	Original Grant	FG1N0903A	IHDT56AA5	All sections applicable
	PCE (WCDMA)	Band II, V	IHDT56AA4	Original Grant	FG1N0903A	IHDT56AA5	All sections applicable
	PCE (LTE)	B2/4/5/5B/12/13/66/ 66B/66C	IHDT56AA4	Original Grant	FG1N0903B	IHDT56AA5	All sections applicable
	PCE (LTE)	Inter band CA	IHDT56AA4	Original Grant	FG1N0903H	IHDT56AA5	All sections applicable
	CBE (LTE)	B48/48C	IHDT56AA4	Original Grant	FG1N0903G	IHDT56AA5	All sections applicable
	PCE (NR)	n2/n5/ n66/n77/n78	IHDT56AA4	Original Grant	FG1N0903I FG1N0903J FG1N0903N	IHDT56AA5	All sections applicable

2.4 Spot Check Verification Data Section

Conducted power test and radiated spurious emission test against the variant model based on the worst-case condition from the original model was performed in this filing to demonstrate the test data from original model remains representative for the variant model

Summary for power and RSE spot check for each rule entry and technology is listed as below:

Test Item	Mode	IHDT56AA4 Parent Worst Result	IHDT56AA5 Variant Check Result	Difference (dB)
Conducted Power (dBm)	GSM 850	32.57	32.33	0.24
	GSM 1900	29.80	29.5	0.3
	WCDMA Band II	23.36	22.93	0.43
	WCDMA BandV	23.26	23.15	0.11
	LTE Band 2	23.13	22.9	0.23
	LTE Band 4	23.15	22.7	0.45
	LTE Band 5	22.99	22.89	0.1
	LTE Band 12	23.09	23	0.09
	LTE Band 13	22.9	22.72	0.18
	LTE Band 66	23.16	22.66	0.5
	LTE Band 48	23.53	23.55	0.02
	N2	23.39	22.59	0.8
	N2+5A	23.91	23.05	0.86
	N5	23.81	23.23	0.58
	N5+2A	23.60	23.42	0.18
	N66	23.61	23.12	0.49
	N66+2A	23.66	23.26	0.4
	P27Q-N77	26.54	25.43	1.11
	P27Q-N78	23.73	22.65	1.08
	P27O-N77	26.59	25.86	0.73
	P27O-N78	23.34	22.75	0.59

Test Item	Mode	IHDT56AA4 Parent Worst Result	IHDT56AA5 Variant Check Result	Difference (dB)
Radiated Spurious Emission(dBuV/m)	NFC 13.56MHz	49.52	49.89	0.37
Radiated Spurious Emission(dBm)	Part 22H-Band 5	44.89	46	1.11
	Part 22H GSM 850	40.95	40.05	0.9
	Part 24E WCDMA Band II	41.56	39.10	2.46
	Part 27H-Band 12	41.38	43.81	2.43
	Part 27H-Band 13	21.63	19.68	1.95
	Part 27L-Band 66	41.51	43.61	2.1
	Part96-Band 48	13.26	14.94	1.68

Conclusion:

Radiated spurious emission test against the variant model based on the worst-case condition from the original model was performed in this filing to demonstrate the test data from original model remains representative for the variant model.

Based on the spot check test result, the test data from the original model is representative for the variant model. The power level and RSE spot check are shown within expected level compliant to limit line.

We are using power and ERP/EIRP measurements from the original parent model reports to list on the grant.

We confirm that the test data reuse policy of FCC KDB 484596 D01 Referencing Test Data v01 has been followed and the test data as referenced from the parent model report represents compliance with new FCC ID.

3 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	Jan. 30, 2022	Apr. 07, 2022	Conducted (TH01-SZ)
Power Divider	TOJOIN	PS-2SM-04265	60.06.020.0077	0.4GHz~26.5GHz	Dec , 25 , 2021	Jan. 30, 2022	Dec , 24 , 2022	Conducted (TH01-SZ)
EMI Test Receiver&SA	KEYSIGHT	N9038A	MY54450083	20Hz~8.4GHz	Apr. 07, 2021	Jan. 25, 2022	Apr. 06, 2022	Radiation (03CH03-SZ)
EXA Spectrum Anaiyzer	KEYSIGHT	N9010A	MY55150246	10Hz~44GHz;	Apr. 07, 2021	Jan. 25, 2022	Apr. 06, 2022	Radiation (03CH03-SZ)
Loop Antenna	R&S	HFH2-Z2	100354	9kHz~30MHz	Jun. 22, 2021	Jan. 25, 2022	Jun. 21, 2022	Radiation (03CH03-SZ)
Bilog Antenna	TeseQ	CBL6112D	35408	30MHz-2GHz	Jun. 22, 2021	Jan. 25, 2022	Jun. 21, 2022	Radiation (03CH03-SZ)
Double Ridge Horn Antenna	SCHWARZBECK	BBHA9120D	9120D-1355	1GHz~18GHz	Apr. 25, 2021	Jan. 25, 2022	Apr. 24, 2022	Radiation (03CH03-SZ)
HF Amplifier	MITEQ	TTA1840-35-HG	1871923	18GHz~40GHz	Oct. 22, 2021	Jan. 25, 2022	Oct. 21, 2022	Radiation (03CH03-SZ)
SHF-EHF Horn	com-power	AH-840	101071	18Ghz-40GHz	Apr. 11, 2021	Jan. 25, 2022	Apr. 10, 2022	Radiation (03CH03-SZ)
Amplifier	Burgeon	BPA-530	102211	0.01Hz ~3000MHz	Oct. 22, 2021	Jan. 25, 2022	Oct. 21, 2022	Radiation (03CH03-SZ)
HF Amplifier	MITEQ	AMF-7D-00101800-30-10P-R	1943528	1GHz~18GHz	Oct. 22, 2021	Jan. 25, 2022	Oct. 21, 2022	Radiation (03CH03-SZ)
Amplifier	Agilent Technologies	83017A	MY39501302	500MHz~26.5GHz	Dec. 29, 2021	Jan. 25, 2022	Dec. 28, 2022	Radiation (03CH03-SZ)
AC Power Source	Chroma	61601	616010001985	N/A	NCR	Jan. 25, 2022	NCR	Radiation (03CH03-SZ)
Turn Table	EM	EM1000	N/A	0~360 degree	NCR	Jan. 25, 2022	NCR	Radiation (03CH03-SZ)
Antenna Mast	EM	EM1000	N/A	1 m~4 m	NCR	Jan. 25, 2022	NCR	Radiation (03CH03-SZ)

NCR: No Calibration Required.

-THE END-