Spot Check Evaluation

APPLICANT	:	**Motorola Mobility LLC**
EQUIPMENT	:	**Mobile Cellular Phone**
BRAND NAME	:	**Motorola, Lenovo**
MODEL NAME	:	**XT2167-2, XT2173-3, XT2173-4**
FCC ID	:	**IHDT56ZV6**
STANDARD	:	**47 CFR Part 15 Subpart C §15.225** **47 CFR Part 15 Subpart C §15.247** **47 CFR Part 15 Subpart E §15.407**

We, Sporton International (Kunshan) Inc., 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 (Kunshan) Inc., the test report shall not be reproduced except in full.

Jason Jia

Reviewed by: Jason Jia / Supervisor

Alex Wang

Approved by: Alex Wang / Manager

ACCREDITED Cert #5145.02

Sporton International (Kunshan) Inc.
No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300
People's Republic of China

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
170131-01A	Rev. 01	Initial issue of report	Sep. 03, 2021

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, Lenovo
Model Name	XT2167-2, XT2173-3, XT2173-4
FCC ID	IHDT56ZV6
HW Version	DVT2
SW Version	RRW31.Q3-27
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 (Kunshan) Inc. is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.02.

Test Firm	Sporton International (Kunshan) Inc.		
Test Site Location	No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300 People's Republic of China TEL : +86-512-57900158 FAX : +86-512-57900958		
Test Site No.	**Sporton Site No.**	**FCC Designation No.**	**FCC Test Firm Registration No.**
	TH01-KS 03CH06-KS	CN1257	314309

1.6 Test Software

Item	Site	Manufacturer	Name	Version
1.	03CH06-KS	AUDIX	E3	6.2009-8-24al

1.7 Specification of Accessory

Specification of Accessory				
Earphone 1	**Brand Name**	Motorola (NEW LEADER)	**Model Name**	MH202
Earphone 2	**Brand Name**	Motorola(Juwei)	**Model Name**	JWEP1205-L20H
Earphone 3	**Brand Name**	Motorola(Lyand)	**Model Name**	MH191(SH38C81577)
Earphone 4	**Brand Name**	Motorola (LCHSE)	**Model Name**	MH191(SH38C81576)
For XT2167-2				
AC Adapter 1(US)	**Brand Name**	Motorola (Salcomp)	**Model Name**	MC-331
AC Adapter 1(EU)	**Brand Name**	Motorola (Salcomp)	**Model Name**	MC-332
AC Adapter 1(UK)	**Brand Name**	Motorola (Salcomp)	**Model Name**	MC-333
AC Adapter 1(AU)	**Brand Name**	Motorola (Salcomp)	**Model Name**	MC-335
AC Adapter 1(AR)	**Brand Name**	Motorola (Salcomp)	**Model Name**	MC-336
AC Adapter 1(BR)	**Brand Name**	Motorola (Salcomp)	**Model Name**	MC-337
AC Adapter 2(US)	**Brand Name**	Motorola (Acbel)	**Model Name**	MC-331
AC Adapter 2(EU)	**Brand Name**	Motorola (Acbel)	**Model Name**	MC-332
AC Adapter 2(UK)	**Brand Name**	Motorola (Acbel)	**Model Name**	MC-333
AC Adapter 3(US)	**Brand Name**	Motorola (Chenyang)	**Model Name**	MC-331
AC Adapter 3(EU)	**Brand Name**	Motorola (Chenyang)	**Model Name**	MC-332
AC Adapter 3(AU)	**Brand Name**	Motorola (Chenyang)	**Model Name**	MC-335
AC Adapter 3(AR)	**Brand Name**	Motorola (Chenyang)	**Model Name**	MC-336
AC Adapter 3(BR)	**Brand Name**	Motorola (Chenyang)	**Model Name**	MC-337
USB Cable 1	**Brand Name**	Motorola (Saibao)	**Model Name**	SLQ-A174A
USB Cable 2	**Brand Name**	Motorola (Jieye)	**Model Name**	JY-C03-279
Battery 1	**Brand Name**	Motorola (ATL)	**Model Name**	NC50
For XT2173-3,XT2173-4				
AC Adapter 4(US)	**Brand Name**	Motorola (Salcomp)	**Model Name**	MC-101
AC Adapter 4(EU)	**Brand Name**	Motorola (Salcomp)	**Model Name**	MC-102
AC Adapter 4(UK)	**Brand Name**	Motorola (Salcomp)	**Model Name**	MC-103
AC Adapter 4(AU)	**Brand Name**	Motorola (Salcomp)	**Model Name**	MC-105
AC Adapter 5(US)	**Brand Name**	Motorola(AOHAI)	**Model Name**	MC-101
AC Adapter 5(EU)	**Brand Name**	Motorola(AOHAI)	**Model Name**	MC-102
AC Adapter 5(UK)	**Brand Name**	Motorola(AOHAI)	**Model Name**	MC-103
AC Adapter 5(AU)	**Brand Name**	Motorola(AOHAI)	**Model Name**	MC-105
AC Adapter 6(UK)	**Brand Name**	Lenovo(chengyang)	**Model Name**	SC-43
AC Adapter 7(EU)	**Brand Name**	Lenovo(Salom)	**Model Name**	SC-42
USB Cable 3	**Brand Name**	Motorola (Saibao)	**Model Name**	SLQ-A167A
USB Cable 4	**Brand Name**	Motorola (Saibao)	**Model Name**	SLQ-A171A
USB Cable 5	**Brand Name**	Motorola (Jieye)	**Model Name**	JY-C03-272
Battery 2	**Brand Name**	Motorola (ATL)	**Model Name**	ND50

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: XT2167-2, XT2173-3, XT2173-4, FCC ID: IHDT56ZV6) is electrically identical to the reference device (Model: XT2167-1, FCC ID: IHDT56ZV5) for the portions of the circuitry corresponding to the data being re-used. Based on their similarity, the FCC Part 15C (equipment class: DTS, DSS, DXX) and FCC Part 15E (equipment class: NII) 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: IHDT56ZV6 .

2.2 Model Difference Information

The **main** difference between FCC ID: IHDT56ZV5 and FCC ID: IHDT56ZV6 is as below:

- Remove WCDMA Band 4, LTE Band 4/12/13/66.
- Add WCDMA Band 19, LTE Band 18/19/20/38/41.

Other differences and all the details of similarity and difference can be found in the confidential documents (XT2167-2, XT2173-3, XT2173-4_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	DSS (BR/EDR)	2400~2483.5	IHDT56ZV5	Original Grant	FR170131A	IHDT56ZV6	All sections applicable
	DTS (BLE)	2400~2483.5	IHDT56ZV5	Original Grant	FR170131B	IHDT56ZV6	All sections applicable
	DTS (WLAN)	2400~2483.5	IHDT56ZV5	Original Grant	FR170131C	IHDT56ZV6	All sections applicable
	DXX (NFC)	13.56	IHDT56ZV5	Original Grant	FR170131D	IHDT56ZV6	All sections applicable
15E	U-NII-1	5150~5250	IHDT56ZV5	Original Grant	FR170131E	IHDT56ZV6	All sections applicable
	U-NII-2A	5250~5350	IHDT56ZV5	Original Grant	FR170131E	IHDT56ZV6	All sections applicable
	U-NII-2C	5470~5725	IHDT56ZV5	Original Grant	FR170131E	IHDT56ZV6	All sections applicable
	U-NII-3	5725~5850	IHDT56ZV5	Original Grant	FR170131F	IHDT56ZV6	All sections applicable
	DFS	5250~5350 5470~5725	IHDT56ZV5	Original Grant	FZ170131	IHDT56ZV6	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	IHDT56ZV5 Parent Worst Result	IHDT56ZV6 Variant Check Result	Difference (dB)
Conducted Power (dBm)	BT BR/EDR	10.66	10.19	0.47
	BLE 1Mbps	-1.38	-1.45	0.07
	BLE 2Mbps	-1.30	-1.33	0.03
	802.11b	20.56	20.43	0.13
	802.11g	25.44	25.25	0.19
	11n HT20	25.42	25.28	0.14
	11a, 5.2GHz	17.61	17.56	0.05
	11n HT20, 5.2GHz	17.90	17.62	0.28
	11n HT40, 5.2GHz	17.81	17.41	0.40
	11ac VHT80, 5.2GHz	11.74	11.71	0.03
	11a, 5.3GHz	17.69	17.66	0.03
	11n HT20, 5.3GHz	17.72	17.21	0.51
	11n HT40, 5.3GHz	17.90	17.32	0.58
	11ac VHT80, 5.3GHz	12.72	12.7	0.02
	11a, 5.5GHz	17.57	17.63	0.06
	11n HT20, 5.5GHz	17.83	17.35	0.48
	11n HT40, 5.5GHz	17.73	17.11	0.62
	11ac VHT80, 5.5GHz	17.53	17.11	0.42
	11a, 5.8GHz	17.48	17.09	0.39
	11n HT20, 5.8GHz	17.62	17.44	0.18
	11n HT40, 5.8GHz	17.49	17.29	0.20
	11ac VHT80, 5.8GHz	17.11	17.18	0.07

Test Item	Mode	IHDT56ZV5 Parent Worst Result	IHDT56ZV6 Variant Check Result	Difference (dB)
Radiated Spurious Emission (dBuV/m) @ 3m	BT BR/EDR_Tx_Ch00	56.15	55.58	0.57
	BLE 2Mbps _Tx_Ch00	46.48	47.48	1.00
	11g_Tx_Ch11	50.92	50.87	0.05
	11n HT20_Tx_Ch36	50.90	50.59	0.31
	11ac VHT80_Tx_Ch155	58.40	58.85	0.45
	NFC 13.56MHz	56.33	55.85	0.48

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 measurements from the original parent model reports to list on the grant.

The same DFS detection is used in the variant. Hence, there is no spot check data for DFS.

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	101040	10Hz~40GHz	Nov. 01, 2020	Aug. 25, 2021	Oct. 31, 2021	Conducted (TH01-KS)
Pulse Power Senor	Anritsu	MA2411B	0917070	300MHz~40GHz	Jan. 07, 2021	Aug. 25, 2021	Jan. 06, 2022	Conducted (TH01-KS)
Power Meter	Anritsu	ML2495A	1005002	50MHz Bandwidth	Jan. 07, 2021	Aug. 25, 2021	Jan. 06, 2022	Conducted (TH01-KS)
EMI Test Receiver	Keysight	N9038A	MY56400004	3Hz~8.5GHz;Max 30dBm	Oct. 17, 2020	Aug. 25, 2021	Oct. 16, 2021	Radiation (03CH06-KS)
EXA Spectrum Analyzer	Keysight	N9010A	MY55150208	10Hz-44GHz	Apr. 12, 2021	Aug. 25, 2021	Apr. 11, 2022	Radiation (03CH06-KS)
Loop Antenna	R&S	HFH2-Z2	100321	9kHz~30MHz	Nov. 01, 2020	Aug. 25, 2021	Oct. 31, 2021	Radiation (03CH06-KS)
Bilog Antenna	TeseQ	CBL6111D	49921	30MHz-1GHz	May 27, 2021	Aug. 25, 2021	May 26, 2022	Radiation (03CH06-KS)
Double Ridge Horn Antenna	ETS-Lindgren	3117	00218652	1GHz~18GHz	Apr. 25, 2021	Aug. 25, 2021	Apr. 24, 2022	Radiation (03CH06-KS)
SHF-EHF Horn	Com-power	AH-840	101115	18GHz~40GHz	Nov. 10, 2020	Aug. 25, 2021	Nov. 09, 2021	Radiation (03CH06-KS)
Amplifier	SONOMA	310N	187289	9KHz ~1GHZ	Apr. 12, 2021	Aug. 25, 2021	Apr. 11, 2022	Radiation (03CH06-KS)
Amplifier	MITEQ	EM18G40GGA	060728	18~40GHz	Jan. 06, 2021	Aug. 25, 2021	Jan. 05, 2022	Radiation (03CH06-KS)
high gain Amplifier	MITEQ	AMF-7D-00101800-30-10P	2025788	1Ghz-18Ghz	Jan. 06, 2021	Aug. 25, 2021	Jan. 05, 2022	Radiation (03CH06-KS)
Amplifier	Keysight	83017A	MY53270203	500MHz~26.5GHz	Apr. 13, 2021	Aug. 25, 2021	Apr. 12, 2022	Radiation (03CH06-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	Aug. 25, 2021	NCR	Radiation (03CH06-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	Aug. 25, 2021	NCR	Radiation (03CH06-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	Aug. 25, 2021	NCR	Radiation (03CH06-KS)

NCR: No Calibration Required.

-THE END-