



Spot Check Evaluation

APPLICANT : Motorola Mobility LLC
EQUIPMENT : Mobile Cellular Phone
BRAND NAME : Motorola
MODEL NAME : XT2205-3
FCC ID : IHDT56AE8
STANDARD : 47 CFR Part 2, 22, 24, 27, 96
FCC Part 15 Subpart C §15.225
FCC Part 15 Subpart C §15.209
47 CFR Part 15 Subpart B

We, Sporton International Inc. (Kunshan), 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.

This report contains data that were produced under subcontract by Sporton International Inc. (Shenzhen).

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

Jason Jia



Approved by: Jason Jia

Sporton International Inc. (Kunshan)

**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
240834-01	Rev. 01	Initial issue of report	Jun. 20, 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	XT2205-3
FCC ID	IHDT56AE8
HW Version	DVT2
SW Version	S2ST32.37
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 Testing Location

Sporton International Inc. (Kunshan) is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.02.

Test Firm	Sporton International Inc. (Kunshan)		
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 CO01-KS 03CH02-KS 03CH08-KS	CN1257	314309



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	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.
	03CH01-SZ	CN1256	421272

Test data subcontracted: Radiation test case of this report

1.5 Test Software

Item	Site	Manufacture	Name	Version
1.	03CH01-SZ	AUDIX	E3	6.2009-8-24
2.	03CH02-KS	AUDIX	E3	6.2009-8-24a
3.	03CH08-KS	AUDIX	E3	6.2009-8-24
4.	CO01-KS	AUDIX	E3	6.2009-8-24

1.6 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	NF50
USB Cable 1	Brand Name	Motorola(Saibao)	Model Name	SC18D13215
USB Cable 2	Brand Name	Motorola(Cabletech)	Model Name	SC18D13216
USB Cable 3	Brand Name	Motorola(Luxshare)	Model Name	SC18D13217



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: XT2205-3, FCC ID: IHDT56AE8) is electrically identical to the reference device (Model: XT2205-1, XT2205-2, FCC ID: IHDT56AE7) for the portions of the circuitry corresponding to the data being re-used. Based on their similarity, the FCC Part15B (equipment class: Certification), FCC Part 15C (equipment class: DXX, DCD) and FCC Part 22, 24, 27, 96 (equipment class: PCE, CBE) 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: IHDT56AE8 .

2.2 Model Difference Information

The **main** difference between FCC ID: IHDT56AE7 and FCC ID: IHDT56AE8 is as below:

- Add mmWave function.
- Remove some band

Other differences and all the details of similarity and difference can be found in the confidential documents (XT2205-3_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)	13.553~13.567	IHDT56AE7	Original Grant	FR240834D	IHDT56AE8	All sections applicable
	DCD (WPT)	0.11~0.148	IHDT56AE7	Original Grant	FR240834E	IHDT56AE8	All sections applicable
22, 24, 27, 96	PCE (GSM)	GSM850/1900	IHDT56AE7	Original Grant	FR240834A	IHDT56AE8	All sections applicable
	PCE (WCDMA)	Band II/V	IHDT56AE7	Original Grant	FR240834A	IHDT56AE8	All sections applicable
	PCE (LTE)	B2/4/5/12/13/66	IHDT56AE7	Original Grant	FR240834B	IHDT56AE8	All sections applicable
	CBE (LTE)	B48	IHDT56AE7	Original Grant	FR240834G	IHDT56AE8	All sections applicable
	PCE (NR)	n2/n5/n66	IHDT56AE7	Original Grant	FG240834J	IHDT56AE8	All sections applicable
		n77/n78	IHDT56AE7	Original Grant	FG240834L&FG240834M	IHDT56AE8	All sections applicable
CBE (NR)	n48	IHDT56AE7	Original Grant	FG240834Q	IHDT56AE8	All sections applicable	
15B	Certification	-	IHDT56AE7	Original Grant	FC240834	IHDT56AE8	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	IHDT56AE7 Parent Worst Result	IHDT56AE8 Variant Check Result	Difference (dB)
Conducted Power (dBm)	GSM850	32.48	32.74	-0.26
	GSM1900	29.13	29.07	0.06
	WCDMA Band II	23.37	23.06	0.31
	WCDMA Band V	23.41	23.24	0.17
	LTE Band 2	22.71	22.62	0.09
	LTE Band 4	22.35	22.54	-0.19
	LTE Band 5	23.00	23.12	-0.12
	LTE Band 12	23.36	22.94	0.42
	LTE Band 13	23.04	22.92	0.12
	LTE Band 48	22.78	22.61	0.17
	LTE Band 66	23.15	22.57	0.58
	LTE Band 5B	23.41	22.76	0.65
	LTE Band 66B	23.82	22.69	1.13
	LTE Band 66C	23.69	22.43	1.26
	LTE Band 48B	20.92	20.90	0.02
	LTE Band 48C	20.97	20.87	0.10
	SA n2 (15kHz)	23.93	23.88	0.05
	SA n5 (15kHz)	23.74	23.71	0.03
	SA n48 (15kHz)	22.96	22.89	0.07
	SA n66 (15kHz)	24.17	23.96	0.21
	Part27O SA n77 (15kHz)	26.27	26.18	0.09
	Part27Q SA n77 (15kHz)	26.36	26.27	0.09
	Part27O SA n77 MIMO (15kHz)	26.05	26.01	0.04
	Part27Q SA n77 MIMO (15kHz)	26.02	26.00	0.02
	Part27O SA n78 (15kHz)	22.74	22.66	0.08
	Part27Q SA n78 (15kHz)	23.58	22.74	0.84
	Part27O SA n77 (30kHz)	26.20	26.11	0.09
	Part27Q SA n77 (30kHz)	26.32	26.15	0.17
	Part27O SA n77 MIMO (30kHz)	26.05	26.04	0.01
	Part27Q SA n77 MIMO (30kHz)	26.14	26.11	0.03
	Part27O SA n78 (30kHz)	22.74	22.52	0.22
	Part27Q SA n78 (30kHz)	22.91	22.84	0.07



Test Item	Mode	IHDT56AE7 Parent Worst Result Over limit (dB)	IHDT56AE8 Variant Check Result Over limit (dB)	Difference (dB)
Radiated Spurious Emission (dBm)	GSM850	-28.91	-26.02	-2.89
	GSM1900	-41.60	-41.03	-0.57
	LTE Band 48C	-12.11	-12.64	0.53
	EN-DC_48A_n5A	-12.01	-12.93	0.92

Test Item	Mode	IHDT56AE7 Parent Worst Result Over limit (dB)	IHDT56AE8 Variant Check Result Over limit (dB)	Difference (dB)
Radiated Emission (dBuV/m)	NFC	-65.79	-67.35	-1.56
	WPT	-33.81	-31.38	2.43
	15B	-3.10	-6.71	-3.61
Conducted Emission (dBuV)	15B	-4.55	-4.35	0.20

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.

The same Part 96 EUD mechanism/software is used in the variant. Hence, there is no spot check data for Part 96 EUD hand-shaking mechanism.

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	Oct. 14, 2021	May 24, 2022~Jun. 08, 2022	Oct. 13, 2022	Conducted (TH01-KS)
Power divider	STI	STI08-0055	-	0.5~40GHz	Aug. 26, 2021	May 24, 2022~Jun. 08, 2022	Aug. 25, 2022	Conducted (TH01-KS)
EMI Test Receiver&SA	Agilent	N9038A	MY52260185	20Hz~26.5GHz	Dec. 27, 2021	May 21, 2022	Dec. 26, 2022	Radiation (03CH01-SZ)
Loop Antenna	R&S	HFH2-Z2	100354	9kHz~30MHz	Jun. 22, 2020	May 21, 2022	Jun. 21, 2022	Radiation (03CH01-SZ)
HF Amplifier	KEYSIGHT	83017A	MY53270105	0.5GHz~26.5GHz	Oct. 22, 2021	May 21, 2022	Oct. 21, 2022	Radiation (03CH01-SZ)
Bilog Antenna	TeseQ	CBL6112D	35407	30MHz-2GHz	Sep. 28, 2021	May 21, 2022	Sep. 27, 2022	Radiation (03CH01-SZ)
Double Ridge Horn Antenna	ETS-Lindgren	3117	00119436	1GHz~18GHz	Jul. 18, 2021	May 21, 2022	Jul. 17, 2022	Radiation (03CH01-SZ)
SHF-EHF Horn	com-power	AH-840	101071	18GHz-40GHz	Apr. 10, 2022	May 21, 2022	Apr. 09, 2023	Radiation (03CH01-SZ)
LF Amplifier	Burgeon	BPA-530	102209	0.01~3000Mhz	Apr. 06, 2022	May 21, 2022	Apr. 05, 2023	Radiation (03CH01-SZ)
HF Amplifier	MITEQ	AMF-7D-00101800-30-10P-R	1943528	1GHz~18GHz	Oct. 22, 2021	May 21, 2022	Oct. 21, 2022	Radiation (03CH01-SZ)
HF Amplifier	MITEQ	TTA1840-35-HG	1871923	18GHz~40GHz	Jul. 13, 2021	May 21, 2022	Jul. 12, 2022	Radiation (03CH01-SZ)
AC Power Source	Chroma	61601	616010001985	N/A	NCR	May 21, 2022	NCR	Radiation (03CH01-SZ)
Turn Table	EM	EM1000	N/A	0~360 degree	NCR	May 21, 2022	NCR	Radiation (03CH01-SZ)
Antenna Mast	EM	EM1000	N/A	1 m~4 m	NCR	May 21, 2022	NCR	Radiation (03CH01-SZ)
EMI Test Receiver	R&S	ESR7	101403	9kHz~7GHz;Max 30dBm	Oct. 16, 2021	May 28, 2022	Oct. 15, 2022	Radiation (03CH02-KS)
EXA Spectrum Analyzer	Keysight	N9010A	MY55370528	10Hz-44G,MAX 30dB	Oct. 16, 2021	May 28, 2022	Oct. 15, 2022	Radiation (03CH02-KS)
Loop Antenna	R&S	HFH2-Z2	100321	9kHz~30MHz	Oct. 30, 2021	May 28, 2022	Oct. 29, 2022	Radiation (03CH02-KS)
Bilog Antenna	TeseQ	CBL6111D	44483	30MHz-1GHz	Dec. 22, 2021	May 28, 2022	Dec. 21, 2022	Radiation (03CH02-KS)
Double Ridge Horn Antenna	ETS-Lindgren	3117	75957	1GHz~18GHz	Oct. 30, 2021	May 28, 2022	Oct. 29, 2022	Radiation (03CH02-KS)
high gain Amplifier	MITEQ	AMF-7D-00101800-30-10P	2025788	1Ghz-18Ghz	Jul. 30, 2021	May 28, 2022	Jul. 29, 2023	Radiation (03CH02-KS)
SHF-EHF Horn	Com-power	AH-840	101070	18GHz~40GHz	Jan. 05, 2022	May 28, 2022	Jan. 04, 2023	Radiation (03CH02-KS)
Amplifier	SONOMA	310N	413741	9KHz-1GHz	Jan. 05, 2022	May 28, 2022	Jan. 04, 2023	Radiation (03CH02-KS)
Amplifier	Keysight	83017A	MY53270316	500MHz~26.5GHz	Oct. 16, 2021	May 28, 2022	Oct. 15, 2022	Radiation (03CH02-KS)
Amplifier	MITEQ	EM18G40GG A	060728	18~40GHz	Jan. 05, 2022	May 28, 2022	Jan. 04, 2023	Radiation (03CH02-KS)
AC Power Source	Chroma	61601	616010002473	N/A	NCR	May 28, 2022	NCR	Radiation (03CH02-KS)
Turn Table	MF	MF7802	N/A	0~360 degree	NCR	May 28, 2022	NCR	Radiation (03CH02-KS)
Antenna Mast	MF	MF7802	N/A	1 m~4 m	NCR	May 28, 2022	NCR	Radiation (03CH02-KS)
EMI Test Receiver	R&S	ESR7	101403	9kHz~7GHz;Max 30dBm	Oct. 16, 2021	May 31, 2022	Oct. 15, 2022	Radiation (03CH08-KS)
EXA Spectrum Analyzer	Keysight	N9010B	MY57471084	10Hz-44G,MAX 30dB	Jul. 12, 2021	May 31, 2022	Jul. 11, 2022	Radiation (03CH08-KS)
Bilog Antenna	TESEQ & VGT	CBL 61110	59915	30MHz-1GHz	Sep. 02, 2021	May 31, 2022	Sep. 01, 2022	Radiation (03CH08-KS)
Double Ridge Horn Antenna	ETS-Lindgren	3117	75959	1GHz~18GHz	Dec. 24, 2021	May 31, 2022	Dec. 23, 2022	Radiation (03CH08-KS)



SHF-EHF Horn	Com-power	AH-840	101070	18GHz~40GHz	Jan. 05, 2022	May 31, 2022	Jan. 04, 2023	Radiation (03CH08-KS)
Amplifier	MITEQ	EM18G40GG A	060728	18~40GHz	Jan. 05, 2022	May 31, 2022	Jan. 04, 2023	Radiation (03CH08-KS)
Amplifier	SONOMA	310N	413741	9KHz-1GHz	Jan. 13, 2022	May 31, 2022	Jan. 12, 2023	Radiation (03CH08-KS)
Amplifier	Keysight	83017A	MY532703 89	500MHz~26.5G Hz	Jan. 05, 2022	May 31, 2022	Jan. 04, 2023	Radiation (03CH08-KS)
AC Power Source	Chroma	61601	616010002 473	N/A	NCR	May 31, 2022	NCR	Radiation (03CH08-KS)
Turn Table	MF	MF7802	N/A	0~360 degree	NCR	May 31, 2022	NCR	Radiation (03CH08-KS)
Antenna Mast	MF	MF7802	N/A	1 m~4 m	NCR	May 31, 2022	NCR	Radiation (03CH08-KS)
EMI Receiver	R&S	ESC17	100768	9kHz~7GHz;	May 24, 2022	Jun. 01, 2022	May 23, 2023	Conduction (CO01-KS)
AC LISN (for auxiliary equipment)	MessTec	AN3016	060103	9kHz~30MHz	Oct. 14, 2021	Jun. 01, 2022	Oct. 13, 2022	Conduction (CO01-KS)
AC LISN	MessTec	AN3016	060105	9kHz~30MHz	May 24, 2022	Jun. 01, 2022	May 23, 2023	Conduction (CO01-KS)
AC Power Source	Chroma	61602	ABP00000 0811	AC 0V~300V, 45Hz~1000Hz	Oct. 14, 2021	Jun. 01, 2022	Oct. 13, 2022	Conduction (CO01-KS)

NCR: No Calibration Required.

-THE END-