Variant FCC RF Test Report

APPLICANT	:	Motorola Mobility LLC
EQUIPMENT	:	Mobile Cellular Phone
BRAND NAME	:	Motorola
MODEL NAME	:	9846
FCC ID	:	IHDT56VF3
STANDARD	:	47 CFR Part 2, 22(H), 27(M)
CLASSIFICATION	:	PCS Licensed Transmitter Held to Ear (PCE)

This is variant report which is only valid together with the original test report. The product was received on Dec. 13, 2016 and completely tested on Dec. 17, 2016. We, SPORTON INTERNATIONAL (KUNSHAN) INC., would like to declare that the tested sample has been evaluated in accordance with the test procedures given in ANSI / TIA / EIA-603-D-2010 and the testing has shown the tested sample to be 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.

James Huang

Prepared by: James Huang / Manager

Jones Tsai

Approved by: Jones Tsai / Manager

Testing Laboratory 2627

SPORTON INTERNATIONAL (KUNSHAN) INC.
No. 3-2, PingXiang Road, Kunshan, Jiangsu Province, P. R. China

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG6D1305B	Rev. 01	This is a variant report for 9846, the product equality declaration could be referred to Appendix D. Based on the similarity between current and previous, only the worse cases of Conducted Power, EIRP and Radiated Spurious Emission from original test report (Sporton Report Number FG693004-05B) were verified for the differences. The Conducted item of LTE band7 re-use data collected on Model: 9847, FCC ID: IHDT56VF2 (Sporton Report Number FG6D1304B).	Jan. 18, 2017

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
0	§2.1046	Conducted Output Power	Reporting Only	PASS	-
	§27.50(h)(2)	Equivalent Isotropic Radiated Power (Band 7)	EIRP < 2Watt	PASS	
4.4	§2.1053 §27.53(m)(4)	Radiated Spurious Emission (Band 7)	< $55+10\log_{10}$(P[Watts])	PASS	Under limit 20.47 dB at 7576.000 MHz

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	9846
FCC ID	IHDT56VF3
EUT supports Radios application	GSM/GPRS/EGPRS/WCDMA/HSPA/DC-HSDPA/ HSPA+(16QAM uplink is not supported)/LTE/ WLAN 2.4GHz 802.11b/g/n HT20/ WLAN 5GHz 802.11a/n HT20/HT40/ Bluetooth v3.0 + EDR/Bluetooth v4.0 LE/ Bluetooth v4.2 LE
S/N Code	Radiation: NDSB360035
HW Version	DVT2(V5.0)
SW Version	cedric-userdebug 7.0 NPP25.127 859 intcfg,test-keys
EUT Stage	Identical Prototype

1.4 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx Frequency	LTE Band 5 : 824.7 MHz ~ 848.3 MHz LTE Band 7 : 2502.5 MHz ~ 2567.5 MHz
Rx Frequency	LTE Band 5 : 869.7 MHz ~ 893.3 MHz LTE Band 7 : 2622.5MHz ~ 2687.5 MHz
Bandwidth	LTE Band 5 : 1.4MHz / 3MHz / 5MHz / 10MHz LTE Band 7 : 5MHz/ 10MHz / 15MHz / 20MHz
Maximum Output Power to Antenna	LTE Band 7 : 23.73 dBm
Antenna Gain	LTE Band 7 : -1.24 dBi
Type of Modulation	QPSK / 16QAM

1.5 Specification of Accessory

Specification of Accessory				
AC Adapter 1	**Brand Name**	Motorola (Salom)	**Model Name**	SSW-2919EU C-P36 SPN5944A
	Power Rating	I/P: 100-240 Vac, 300mA, O/P: 5.2Vdc, 2000mA		
AC Adapter 2	**Brand Name**	Motorola (Acbel)	**Model Name**	C-P35
	Power Rating	I/P: 100-240 Vac, 300mA, O/P: 5.2Vdc, 2000mA		
AC Adapter 3	**Brand Name**	Motorola (Salom)	**Model Name**	SSW-2919UMTJ C-P35 SPN5945A
	Power Rating	I/P: 100-240 Vac, 300mA, O/P: 5.2Vdc, 2000mA		
Battery 1	**Brand Name**	Motorola (ATL)	**Model Name**	GK40
	Power Rating	3.8Vdc,2800mAh (Min/Typ)	**Type**	Li-ion
Battery 2	**Brand Name**	Motorola (Sunwoda)	**Model Name**	GK40
	Power Rating	3.8Vdc,2800mAh (Min/Typ)	**Type**	Li-ion
Earphone	**Brand Name**	Motorola	**Model Name**	SJYN1181B
	Signal Line Type	1.2 meter, non-shielded cable, without ferrite core		
USB Cable 1	**Brand Name**	Motorola (Liqi)	**Model Name**	L25W-051000100AL
	Signal Line Type	1.0 meter, non-shielded cable, without ferrite core		
USB Cable 2	**Brand Name**	Motorola (Fukangyuan)	**Model Name**	F25W-051000100A
	Signal Line Type	1.0 meter, non-shielded cable, without ferrite core		

1.6 Modification of EUT

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

1.7 Re-use of Measured Data

1.7.1 Introduction Section

This application re-uses data collected on a similar device. The subject device of this application (Model: 9846, FCC ID: IHDT56VF3) is electrically identical to the reference device (Model: 9847, FCC ID: IHDT56VF2) for the portions of the circuitry corresponding to the data being re-used, as treated by KDB Publication 178919 D01.

1.7.2 Difference Section

For details concerning the similarity with respect to component placement, mechanical/electrical design etc., some difference of population/depopulation to enable support of different cellular bands, please refer to the Operational Description.

1.7.3 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 Conducted of LTE band7, the test result were consistent with FCC ID: IHDT56VF2.

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.

1.7.4 Reference detail Section:

Equipment Class	Reference FCC ID	Folder Test/RF Exposure	Report Title/Section
PCE (LTE Band7)	IHDT56VF2	Part27M (FG6D1304B)	Conducted

1.8 Maximum EIRP Power

LTE Band 7		QPSK	16QAM
BW (MHz)	Frequency Range (MHz)	Maximum EIRP(W)	Maximum EIRP(W)
15	2510.0 ~ 2560.0	0.1718	0.1346

1.9 Testing Location

Test Site	SPORTON INTERNATIONAL (KUNSHAN) INC.	
Test Site Location	No. 3-2, PingXiang Road, Kunshan, Jiangsu Province, P. R. China TEL: +86-0512-5790-0158 FAX: +86-0512-5790-0958	
Test Site No.	**Sporton Site No.**	**FCC Registration No.**
	03CH03-KS	306251

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), 27(M)
- ANSI / TIA / EIA-603-D-2010
- FCC KDB 971168 D01 Power Meas. License Digital Systems v02r02
- 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.

2 Test Configuration of Equipment Under Test

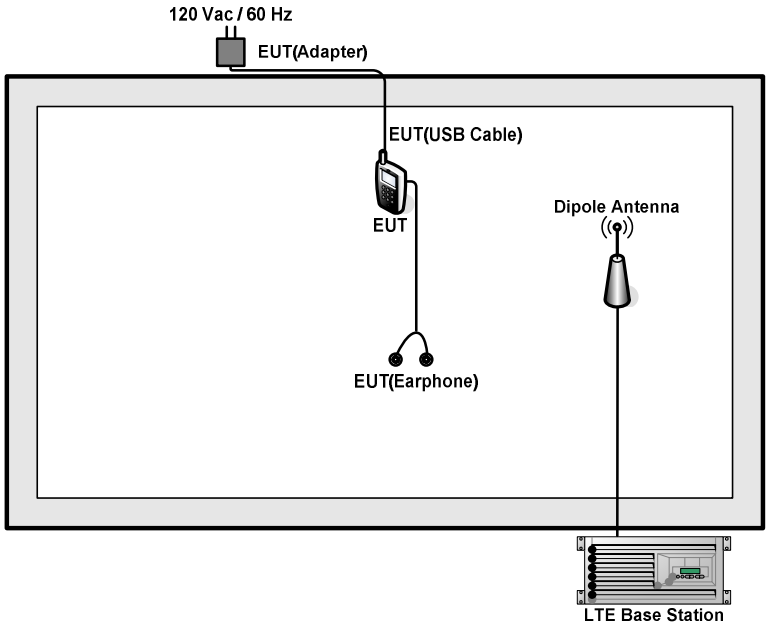
2.1 Test Mode

Antenna port conducted and radiated test items listed below are performed according to KDB 971168 D01 Power Meas. License Digital Systems v02r02 with maximum output power.

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

Test Items	Band	Bandwidth (MHz)						Modulation		RB #			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	1	Half	Full	L	M	H
Max. Output Power	7	-	-	v	v	v	v	v	v	v	v	v	v	v	v
E.I.R.P.	7	-	-			v		v	v	v			v	v	v
Radiated Spurious Emission	7	-	-				v	v		v				v	
Note	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 and system

Item	Equipment	Trade Name	Model No.	FCC ID	Data Cable	Power Cord
1.	LTE Base Station	Anritsu	MT8820C	N/A	N/A	Unshielded, 1.8 m

2.4 Frequency List of Low/Middle/High Channels

LTE Band 7 Channel and Frequency List				
BW [MHz]	**Channel/Frequency(MHz)**	**Lowest**	**Middle**	**Highest**
20	Channel	20850	21100	21350
	Frequency	2510	2535	2560
15	Channel	20825	21100	21375
	Frequency	2507.5	2535	2562.5
10	Channel	20800	21100	21400
	Frequency	2505	2535	2565
5	Channel	20775	21100	21425
	Frequency	2502.5	2535	2567.5

3 Conducted Test Items

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 EIRP

3.4.1 Description of the Conducted Output Power Measurement and EIRP 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.

The EIRP of mobile transmitters must not exceed 2 Watts for Band 7.

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 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.

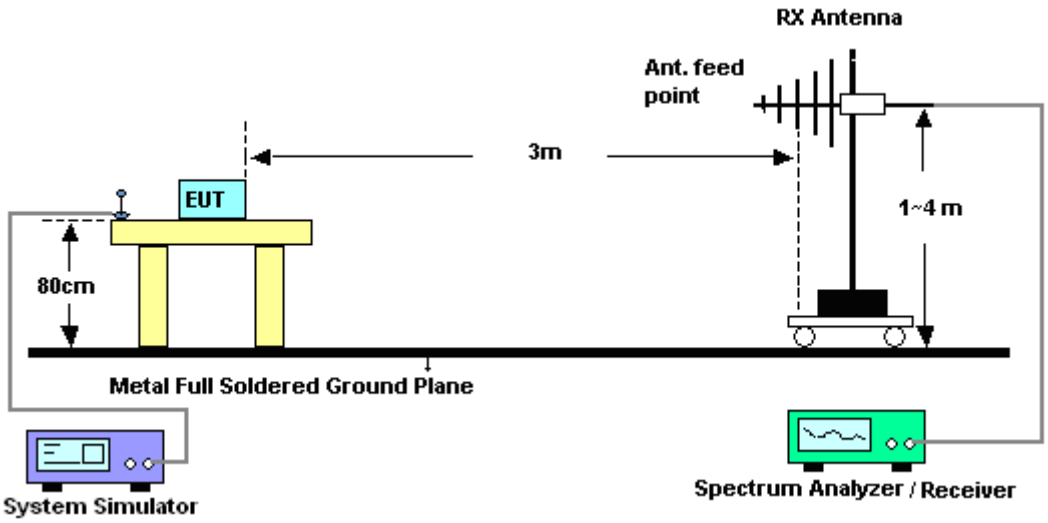
4 Radiated Test Items

4.1 Measuring Instruments

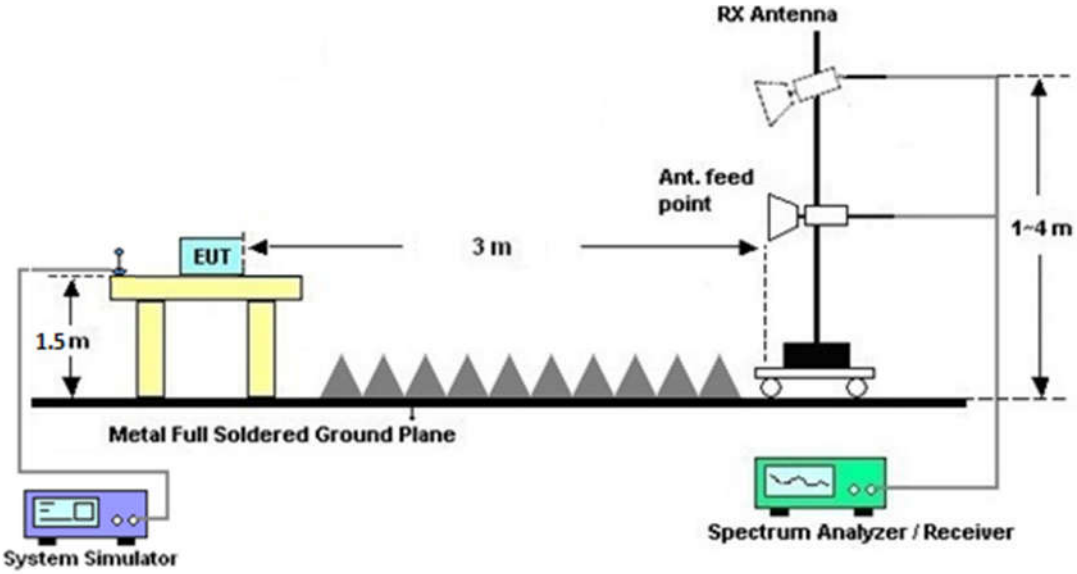
See list of measuring instruments of this test report.

4.2 Test Setup

4.2.1 For radiated test from 30MHz to 1GHz



4.2.2 For radiated test above 1GHz



4.3 Test Result of Radiated Test

Please refer to Appendix B.

4.4 Radiated Spurious Emission

4.4.1 Description of Radiated Spurious Emission

The radiated spurious emission was measured by substitution method according to ANSI / TIA / EIA-603-D-2010. 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.

For Band 7

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 55 + 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 FCC KDB 971168 v02r02 Section 5.8 and ANSI / TIA-603-D-2010 Section 2.2.12.
2. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above 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 the maximum spurious emission for both horizontal and vertical polarizations.
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.
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. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
    The limit line is derived from 43 + 10log(P)dB below the transmitter power P(Watts)
    = P(W)- [43 + 10log(P)] (dB)
    = [30 + 10log(P)] (dBm) - [43 + 10log(P)] (dB)
    = -13dBm.
12. For Band 7:
    The limit line is derived from 55 + 10log(P)dB below the transmitter power P(Watts)
    EIRP (dBm) = S.G. Power – Tx Cable Loss + Tx Antenna Gain
    ERP (dBm) = EIRP - 2.15

5 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
EXA Spectrum Analyzer	Keysight	N9010A	MY55150244	10Hz~44GHz	Apr. 22, 2016	Dec. 17, 2016	Apr. 21, 2017	Radiation (03CH03-KS)
Bilog Antenna	TeseQ	CBL6112D	35406	25MHz~2GHz	Apr. 16, 2016	Dec. 17, 2016	Apr. 15, 2017	Radiation (03CH03-KS)
Horn Antenna	Schwarzbeck	BBHA9120D	9120D-1356	1GHz~18GHz	Apr. 16, 2016	Dec. 17, 2016	Apr. 15, 2017	Radiation (03CH03-KS)
SHF-EHF Horn	Schwarzbeck	BBHA 9170	BBHA170249	15GHz~40GHz	Mar. 03, 2016	Dec. 17, 2016	Mar. 02, 2017	Radiation (03CH03-KS)
Amplifier	SONOMA	310N	187289	9kHz~1GHz	Aug. 09, 2016	Dec. 17, 2016	Aug. 08, 2017	Radiation (03CH03-KS)
Amplifier	MITEQ	TTA1840-35 -HG	1887435	18GHz~40GHz	Jan. 20, 2016	Dec. 17, 2016	Jan. 19, 2017	Radiation (03CH03-KS)
Amplifier	Agilent	8449B	3008A02370	1GHz~26.5GHz	Oct. 13, 2016	Dec. 17, 2016	Oct. 12, 2017	Radiation (03CH03-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	Dec. 17, 2016	NCR	Radiation (03CH03-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	Dec. 17, 2016	NCR	Radiation (03CH03-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	Dec. 17, 2016	NCR	Radiation (03CH03-KS)

NCR: No Calibration Required

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))	2.8dB

Uncertainty of Radiated Emission Measurement (1GHz ~ 40GHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	3.3dB

Appendix A. Test Results of Conducted Test

Conducted Output Power(Average power)

LTE Band 7 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
20	1	0	QPSK	23.03	22.86	23.21
20	1	49		23.67	23.73	23.30
20	1	99		23.03	22.98	23.04
20	50	0		22.00	22.14	21.99
20	50	24		22.09	22.24	22.02
20	50	50		22.04	22.04	21.85
20	100	0		22.09	22.15	21.99
20	1	0	16-QAM	21.81	21.58	21.96
20	1	49		21.64	22.06	22.02
20	1	99		21.32	21.58	21.76
20	50	0		21.10	21.19	21.04
20	50	24		21.29	21.21	20.95
20	50	50		21.31	21.16	20.90
20	100	0		21.23	21.24	20.99
15	1	0	QPSK	23.01	23.28	23.04
15	1	37		23.50	23.59	23.21
15	1	74		23.14	23.36	22.96
15	36	0		22.11	22.23	22.06
15	36	20		22.11	22.27	21.83
15	36	39		22.10	22.16	21.96
15	75	0		22.19	22.14	21.99
15	1	0	16-QAM	21.81	21.91	21.70
15	1	37		22.53	22.49	21.90
15	1	74		22.06	22.09	21.55
15	36	0		21.08	21.18	21.15
15	36	20		21.17	21.26	20.79
15	36	39		21.11	21.10	21.02
15	75	0		21.11	21.29	21.19

LTE Band 7 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK	23.10	23.10	22.91
10	1	25		23.34	23.39	23.21
10	1	49		23.20	23.18	22.92
10	25	0		22.14	22.26	21.86
10	25	12		22.11	22.29	21.95
10	25	25		22.08	22.13	21.91
10	50	0		22.07	22.16	21.79
10	1	0	16-QAM	21.14	22.37	21.84
10	1	25		21.76	22.46	22.13
10	1	49		21.50	21.58	21.21
10	25	0		21.09	21.14	20.84
10	25	12		21.32	21.35	20.99
10	25	25		21.15	21.17	21.05
10	50	0		21.21	21.17	21.02
5	1	0	QPSK	22.85	23.22	23.01
5	1	12		23.44	23.34	23.23
5	1	24		23.07	23.09	22.75
5	12	0		21.92	22.18	21.86
5	12	7		22.10	22.24	21.88
5	12	13		22.06	22.18	21.84
5	25	0		22.07	22.19	21.79
5	1	0	16-QAM	22.02	22.25	21.73
5	1	12		21.79	21.51	21.95
5	1	24		21.72	21.41	21.44
5	12	0		20.95	21.31	20.99
5	12	7		21.00	21.21	20.97
5	12	13		20.82	21.35	20.84
5	25	0		21.07	21.16	20.91

EIRP

LTE Band 7 (G_T - L_C = -1.24 dB) QPSK			
Bandwidth	20M		
Channel	20850	21100	21350
	(Low)	(Mid)	(High)
Frequency (MHz)	2510	2535	2560
Conducted Power (dBm)	23.50	23.59	23.21
Conducted Power (Watts)	0.2239	0.2286	0.2094
EIRP(dBm)	22.26	22.35	21.97
EIRP(Watts)	0.1683	0.1718	0.1574

LTE Band 7 (G_T - L_C = -1.24 dB) 16QAM			
Bandwidth	20M		
Channel	20850	21100	21350
	(Low)	(Mid)	(High)
Frequency (MHz)	2510	2535	2560
Conducted Power (dBm)	22.53	22.49	21.90
Conducted Power (Watts)	0.1791	0.1774	0.1549
EIRP(dBm)	21.29	21.25	20.66
EIRP(Watts)	0.1346	0.1334	0.1164

Appendix B. Test Results of Radiated Test

Radiated Spurious Emission

LTE Band 7 / 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)
Middle	5052	-58.65	-25	-33.65	-67.87	-65.21	2.41	8.97	H
	7576	-45.47	-25	-20.47	-60.17	-54.47	2.86	11.86	H
	10107	-57.60	-25	-32.60	-75.95	-66.50	3.21	12.11	H
	5052.18	-62.94	-25	-37.94	-71.65	-69.50	2.41	8.97	V
	7576	-52.94	-25	-27.94	-67.57	-61.94	2.86	11.86	V
	10107	-56.35	-25	-31.35	-75.75	-65.25	3.21	12.11	V

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

Appendix D. Product Equality Declaration

Lenovo Mobile Communication Technology Ltd.
No.999, Qishan North 2nd Road, Information & Optoelectronics Park, Torch Hi-tech Industry Development Zone, Xiamen, P.R.China
Tel: 86-10-58866181; Fax: 86-10-56720293

Date: January 13, 2017

Product Equality Declaration

We, Lenovo Mobile Communication Technology Ltd., declare on our sole responsibility for the product of **Dante-Brazil SKU** as below:

The differences between **Dante- Brazil SKU** and previous as below:

Object	1st Source spec		2nd Source spec	
	Specifications	Supplier	Specifications	Supplier
Battery	GK40	Amperex	GK40	SUNWODA
Band7 Duplexer	B39272B8674P810	EPCOS	SAYEY2G53BA0F0AR05	Murata
Band28A Duplexer	B8538	EPCOS	SAYEY718MBC0F0A	Murata
Band28B Duplexer	B8539	EPCOS	SAYEY733MBC0F0A	Murata
USB Cable	L25W-051000100AL	Liqi	F25W-051000100A	Fukangyuan
Charger	C-P36 (EU) C-P35 (US)	Acbel	SSW-2919EU C-P36 SPN5944A (EU) SSW-2919UMTJ C-P35 SPN5945A (US)	Salom

Except above, the others are all the same.
Should you have any questions or comments regarding this matter, please have my best attention.
Sincerely yours,

Lin Biaochun

Contact Person: Lin Biaochun
COMPANY: Motorola Mobility LLC.
Tel:86- 18150396560
E-Mail: Linbc@lenovo.com

Lenovo Mobile Communication Technology Ltd.

No.999, Qishan North 2nd Road, Information & Optoelectronics Park, Torch Hi-tech Industry Development Zone, Xiamen, P.R.China

Tel: 86-10-58866181; Fax: 86-10-56720293

Date: January 18, 2017

Product Equality Declaration

We, Lenovo Mobile Communication Technology Ltd., declare on our sole responsibility for the product of Motorola 9369, 9847, 9846, 9845, 9850 and 9844 as below:

The differences between Motorola 9369, 9847 (LATAM), 9846 (Brazil), 9845, 9850 (EMEA), and 9844 (India) are as below:

■ RF section

1. Frequency band difference

Radio Functionality Matrix -Same Row indicates Signal Path is Shared among SKUs				
Bands/Modes	LatAm	Brazil	India	EMEA
	（9369, 9847）	(9846)	(9844)	(9845, 9850)
FCC ID	IHDT56VF2	IHDT56VF3	IHDT56VF5	IHDT56VF4
GSM 850	X	X	X	X
GSM 900	X	X	X	X
GSM1800	X	X	X	X
GSM 1900	X	X	X	X
LTE 1	X	X	X	X
LTE 2	X			
LTE 3	X	X	X	X
LTE 4	X			
LTE 5	X	X	X	X
LTE 7	X	X		X
LTE 8			X	X
LTE 12	X			
LTE 17	X			
LTE 19				X
LTE 20				X
LTE 28	X	X		X
LTE 38				X
WCDMA 1	X	X	X	X
WCDMA 2	X	X		X
WCDMA 4	X			
WCDMA 5	X	X	X	X
WCDMA 8	X	X	X	X
WCDMA 19				X

2. Board difference

		LatAm （9369, 9847）	Brazil (9846)	India (9844)	EMEA (9845, 9850)
WWAN	IC	Same across all SKUs(WTR2965)			
	Component on PCB	See Note1			
	Antenna	Same across all SKUs			
BT	IC	Same across all SKUs			
	Component on PCB	Same across all SKUs			
	Antenna	Same across all SKUs			
WLAN	IC	Same across all SKUs			
	Component on PCB	Same across all SKUs			
	Antenna	Same across all SKUs			
FM	IC	Same across all SKUs			
	Component on PCB	Same across all SKUs			
	Antenna	Headset is used as the antenna			

Note 1

- One more SPDT is applied in PRX chain of LatAm SKU，which is used for B1 & B4 co-existence. B1 & B4 share the same PRX port of WTR .Because there is no B4 in EMEA & India & Brazil SKUs, the SPDT can be saved.
- One more SP3T is applied in DRX chain of EMEA SKU， which is used for B7 & B38 co-existence. B7 & B38 share the same DRX port of WTR .Because there is no B38 in LatAm & India & Brazil SKUs, the SP3T can be saved.
- One more SPDT is applied in PRX chain of EMEA SKU， which is used for B38 & B40 co-existence . B38 & B40 share the same PRX port of WTR .When there is no B38 in India & Brazil & LatAm SKUs, the SPDT can be saved.
- One more SPDT is applied in DRX chain of EMEA & LatAm SKUs， which is used for B20/B28 co-existence or B12(17)/B28 co-existence. B12(17)/B20 & B28 share the same DRX port of WTR .Because there is no B20/B12(17) in Brazil & India SKUs ,the SPDT can be saved.

- SW section

For this particular Motorola project SKUs will be sharing one SW release, in which all SKUs will be sharing the same SW image, but different SKUs will load different configurations automatically according to each HW design.

- Mechanical section

There is no difference in mechanical design and materials used for all SKUs of Dante. There are differences in terms of memory configuration, number of SIMs supported and material vendors across different SKUs.

DVT 2 Samples,

RF Variant	eMCP Capacity	eMCP Vendor& Model	Front camera Vendor& Model	Rear camera Vendor& Model	# Sims	Marketing Model #
LatAm	2G+32G	Hynix H9TQ26ABJTBCUR-KUM	O-film L5695F70	Sunny F13N09U-200	1	9847
	2G+16G	Samsung KMQE10013M-B318	Sunny D5V16C-0JG	O-film L258A70	2	9369
Brazil	2G+32G	Samsung KMQX10013M-B419	O-film L5695F70	Sunny F13N09U-200	2	9846
EMEA	3G+16G	Samsung KMRE1000BM-B512	Sunny D5V16C-0JG	O-film L258A70	1	9850
	3G+16G	Hynix H9TQ17ADFTACUR-KUM	O-film L5695F70	Sunny F13N09U-200	2	9845
India	3G+16G	Samsung KMRE1000BM-B512	O-film L5695F70	Sunny F13N09U-200	2	9844

DVT 3 Samples,

RF Variant	eMCP Capacity	eMCP Vendor& Model	Front camera Vendor& Model	Rear camera Vendor& Model	# Sims	Marketing Model #
LatAm	2G+16G	Samsung KMQE10013M-B318	Sunny D5V16C-0JG	O-film L258A70	1	9847
Brazil	2G+32G	Samsung KMQX10013M-B419	Sunny D5V16C-0JG	O-film L258A70	2	9846
EMEA	2G+16G	Samsung KMQE10013M-B318	Sunny D5V16C-0JG	O-film L258A70	1	9850
India	3G+16G	Samsung KMRE1000BM-B512	O-film L5695F70	Sunny F13N09U-200	2	9844

Except for difference listed above:

- RF trace: same across LatAm, Brazil, India, EMEA SKUs.
- PCB layout: same across LatAm, Brazil, India, EMEA SKUs.
- WLAN/BT antenna type, antenna pattern, antenna location and chipset: Same across LatAm, Brazil, India, EMEA SKUs.
- LatAm, Brazil, India, EMEA SKUs have the same primary antenna and the same diversity GPS antenna.
- Compared with DVT 2 samples, MURATA band 7 and band 28 duplexers are used in DVT 3 samples instead of Epcos duplexers for EMEA, LatAm and Brazil SKUs.
- Second source accessories like Fukangyuan USB cable, Salom adaptor and Sunwoda battery are bundled with DVT 3 samples, compared with those used for DVT 2 samples, like Liqi USB cable, Acbel adaptor and ATL battery.

3 · Overview of the proposed data re-use plan

Radio Functionality Matrix -Same Row indicates Signal Path is Shared among SKUs				
Bands / Modes	LatAm （9369，9847）	Brazil (9846)	India (9844)	EMEA (9845，9850)
GSM 850	RF: verified conducted power, ERP and RSE from original SKU SAR: Verified Worse mode	RF: verified conducted power, ERP and RSE from original SKU SAR: Verified Worse mode	RF: verified conducted power, ERP and RSE from original SKU SAR: Verified Worse mode	RF: verified conducted power, ERP and RSE from original SKU SAR: Verified Worse mode
GSM1900	RF: Not the worse band, so not verified SAR: Verified Worse mode	RF: Not the worse band, so not verified SAR: Verified Worse mode	RF: Not the worse band, so not verified SAR: Verified Worse mode	RF: Not the worse band, so not verified SAR: Verified Worse mode
LTE 2	RF: Not the worse band, so not verified SAR: Verified Worse mode			
LTE 4	RF: Not the worse band, so not verified SAR: Verified Worse mode			
LTE 5	RF: Not the worse band, so not verified SAR: Verified Worse mode	RF: Not the worse band, so not verified SAR: Verified Worse mode	RF: verified conducted power, EIRP and RSE from original SKU SAR: Verified Worse mode	RF: Not the worse band, so not verified SAR: Verified Worse mode
LTE 7	Full tested since change the DPX SAR power full test and verified worse mode	RF: Verified worse mode for conducted power, EIRP and RSE Re-used Part 27M conducted test results from Latam SKU SAR: Verified Worse mode		RF: Verified worse mode for conducted power, EIRP and RSE Re-used Part 27M conducted test results from Latam SKU SAR: Verified Worse mode
LTE 12	RF: Not the worse band, so not verified SAR: Verified Worse mode			
LTE 17	RF: Not the worse band, so not verified SAR: Verified Worse mode			
LTE 38				RF: Not the worse band, so not verified SAR: Verified Worse mode
WCDMA Band 2	RF: Not the worse band, so not verified SAR: Verified Worse mode	RF: Not the worse band, so not verified SAR: Verified Worse mode		RF: Not the worse band, so not verified SAR: Verified Worse mode
WCDMA Band 4	RF: Not the worse band, so not verified SAR: Verified Worse mode			
WCDMA Band 5	RF: Not the worse band, so not verified SAR: Verified Worse	RF: Not the worse band, so not verified SAR: Verified Worse	RF: Not the worse band, so not verified SAR: Verified Worse	RF: Not the worse band, so not verified SAR: Verified

	mode	mode	mode	Worse mode
WLAN 2.4GHz	Worse case of RSE and SAR from original SKU	Worse case of RSE and SAR from original SKU	Worse case of RSE and SAR from original SKU	Worse case of RSE and SAR from original SKU
WLAN 5GHz	Reduce the Conducted Power of band3, retest Conducted item for this band and verified the CH64/100 of 5G WIFI Worse case of RSE and SAR from original SKU	Worse case of RSE and SAR from original SKU Conducted item of WLAN5GHz Band III re-use Latam data	Worse case of RSE and SAR from original SKU Conducted item of WLAN5GHz Band III re-use Latam data	Worse case of RSE and SAR from original SKU Conducted item of WLAN5GHz Band III re-use Latam data
Bluetooth	Worse case of RSE from original SKU	Worse case of RSE from original SKU	Worse case of RSE from original SKU	Worse case of RSE from original SKU

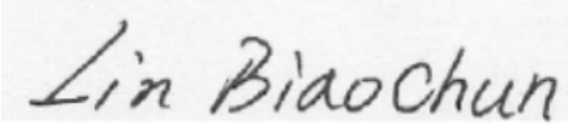
Note:

1. According to the difference between SA sample and original sample for each SKU, verified worse mode for EMC/RF/SAR.
2. For RF test data for Brazil, EMEA SKU re-used for part 27, 15E, spot check is performed to justify the re-used data is representative form Latam SKU.
3. FCC Part 15B verified worse case based on original each SKU.

Except listings above, the others are all the same.

Should you have any questions or comments regarding this matter, please have my best attention.

Sincerely yours,



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Appendix E. Reference Report

Please refer to Sporton report number FG693004-05B which is issued separately.

Please refer to Sporton report number FG6D1304B as bellow.