FCC CFR47 PART 15 SUBPART C

CERTIFICATION TEST REPORT

FOR

GSM/WCDMA/LTE Phone with BT, DTS/UNII a/b/g/n/ac & NFC

FCC ID: PY7-22041R

REPORT NUMBER: 16J23633N-E4V3

ISSUE DATE: 2016-09-06

Prepared for
SONY MOBILE COMMUNICATIONS, INC.
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Prepared by
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Revision History

Rev.	Issue Date	Revisions	Revised By
V1	2016-08-19	Initial Issue	Brian Kiewra
V2	2016-09-01	Added reference to KDB 558074 D01 v03r05 in Section 2. Removed unneeded references in Section 7.4.	Brian Kiewra
V3	2016-09-06	Removed NFC reference in Sections 7.1 and 7.2. Correct reference version in Section 7.4.	Brian Kiewra

TABLE OF CONTENTS

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: SONY MOBILE COMMUNICATIONS, INC.
4-12-3 HIGASHI-SHINAGAWA,
SHINAGAWA –KU,TOKYO, 140-0002, JAPAN

EUT DESCRIPTION: GSM/WCDMA/LTE Phone with BT, DTS/UNII a/b/g/n/ac & NFC

SERIAL NUMBER: CB512AXMUT

DATE TESTED: 2016-08-04 and 2016-08-05

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
CFR 47 Part 15 Subpart C	Pass

UL LLC tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by UL LLC based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Note: The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by UL LLC and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL LLC will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, any agency of the Federal Government, or any agency of any government.

Approved & Released
For UL LLC By:

Jeff Moser
EMC Program Manager
UL- Consumer Technology Division

Prepared By:

Brian Kiewra
EMC Engineer
UL- Consumer Technology Division

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with FCC CFR 47 Part 2, FCC CFR 47 Part 15, ANSI C63.10-2013, and KDB 558074 D01 v03r05.

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 12 Laboratory Dr., Research Triangle Park, NC 27709, USA and 2800 Suite B, Perimeter Park Drive, Morrisville, NC 27560.

12 Laboratory Dr., RTP, NC 27709
☐ Chamber A
☐ Chamber C

2800 Suite B Perimeter Park Dr., Morrisville, NC 27560
☐ Chamber NORTH
☒ Chamber SOUTH

UL LLC (RTP) is accredited by NVLAP, Laboratory Code 200246-0. The full scope of accreditation can be viewed at http://www.nist.gov/nvlap/

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognized national standards.

4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

Field Strength (dBuV/m) = Measured Voltage (dBuV) + Antenna Factor (dB/m) + Cable Loss (dB) – Preamp Gain (dB)

36.5 dBuV + 18.7 dB/m + 0.6 dB – 26.9 dB = 28.9 dBuV/m

4.3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

PARAMETER	UNCERTAINTY
Conducted Disturbance, 0.15 to 30 MHz	±3.52 dB
Radiated Disturbance, 9KHz to 30 MHz	±3.15 dB
Radiated Disturbance, 30 to 1000 MHz	±5.36 dB
Radiated Disturbance, 1000 to 18000 MHz	±4.32 dB
Radiated Disturbance,18000 to 26000 MHz	±4.45 dB
Radiated Disturbance,26000 to 40000 MHz	±5.24 dB

Uncertainty figures are valid to a confidence level of 95%.

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5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is a GSM/WCDMA/LTE Phone with BT, DTS/UNII a/b/g/n/ac & NFC.

6. TEST AND MEASUREMENT EQUIPMENT

Test Equipment Used - Radiated Disturbance Emissions Test Equipment (Morrisville - South Chamber)

Equip. ID	Description	Manufacturer	Model Number	Last Cal.	Next Cal.
AT0069	Double-Ridged Waveguide Horn Antenna, 1 to 18 GHz	ETS Lindgren	3117	2016-03-07	2017-03-31
S-SAC03	Gain-loss string: 1-18GHz	Various	Various	2015-08-22	2016-08-31
SA0025	Spectrum Analyzer	Agilent	N9030A	2016-03-17	2017-03-31
SOFTEMI	EMI Software	UL	Version 9.5	NA	NA
HI0050	Temp/Humid/Pressure Meter	Cole-Parmer	99760-00	2015-07-01	2016-08-31

7. REUSE OF TEST DATA

7.1. INTRODUCTION

According to manufacturer, FCC ID: PY7-29752M and FCC ID: PY7-22041R unlicensed radios (WLAN/BT/BLE) are electrically identical. They share the same chipset, same power and same antenna performance including antenna gain. The FCC ID: PY7-29752M test data shall remain representative of FCC ID: PY7-22041R, so FCC ID: PY7-22041R leverages test data from FCC ID: PY7-29752M.

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

7.2. DEVICES DIFFERENCES

Difference between PY7-29752M and PY7-22041R:

Various components were removed from PY7-29752M to establish PY7-22041R; such components are related only to the cellular part and no change in non-cellular (WLAN/BT/BLE) parts, which are electronically identical.

7.3. SPOT CHECK VERIFICATION

Spot check verification has been done on device FCC ID: PY7-22041R for radiated harmonic, spurious and radiated bandedge. Test results were consistent with FCC ID: PY7-29752M.

Technology	Test Items	Configurations	PY7-29752M	PY7-22041R
			Worst Case Margin	Spot Check Margin
WIFI DTS	Radiated Band edge Margin	11n HT20 @2472MHz	-12.7dB	-14.31dB
	Radiated Harmonic Margin above 1GHz	11n HT20 @ Mid Channel	-11.1dB*	-23.30dB*
	RE 30MHz - 1GHz Margin	11n HT20	-4.49dB	-7.89dB

*Noise Floor

7.4. REFERENCE DETAIL

Equipment Class	Reference FCC ID	Report Title/Section
DTS (WLAN)	PY7-29752M	16J23633A-E4V2 FCC Report DTS WLAN

END OF TEST REPORT