15J20224-S1ASAR EVALUATION REPORT

FCC 47 CFR § 2.1093
IEEE Std 1528-2013

The model FCC ID: PY7-PM0792 shares the same enclosure and circuit board as model FCC ID: PY7-PM0794. The WLAN/Bluetooth circuitry and layout, including antenna, are identical between the two units. The WLAN/Bluetooth antenna and surrounding circuitry are the same between these two units, and tune up power targets are identical for WLAN and Bluetooth operations. For this reason the SAR data for the WLAN and Bluetooth operations for FCC ID: PY7-PM0792 is considered representative for FCC ID: PY7-PM0794.

For
GSM/W-CDMA/LTE + BLUETOOTH, DTS/UNII a/b/g/n/ac, ANT+ & NFC

FCC ID: PY7-PM0794

Report Number: 15J20275-S1A
Issue Date: 5/8/2015

Prepared for
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Revision History

Rev.	Date	Revisions	Revised By
--	4/22/2015	Initial Issue	--
A	5/8/2015	Updated Leveraged WLAN Data	Coltyce Sanders

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1. Attestation of Test Results

Applicant Name	SONY MOBILE COMMUNICATIONS, INC.			
FCC ID	PY7-PM0794			
Applicable Standards	FCC 47 CFR § 2.1093 Published RF exposure KDB procedures IEEE Std 1528-2013			
SAR Limits (W/Kg)				
Exposure Category	Peak spatial-average(1g of tissue)			
General population / Uncontrolled exposure	1.6			
The Highest Reported SAR (W/kg)				
RF Exposure Conditions	**Equipment Class**			
	Licensed	**DTS***	**U-NII***	**DSS (BT)**
Head	0.538	0.355	0.524	N/A
Body-worn	0.577	0.156	0.087	
Hotspot/Wi-Fi Direct				
Simultaneous Tx	1.062	0.893	1.062	
Date Tested	3/30/2015 to 4/7/2015			
Test Results	Pass			

***Note:** The Wi-Fi (DTS/U-NII) and Bluetooth SAR measurement results from the original filling can be found in SAR test report 15J20224-S1A, FCC ID: PY7-PM0792. The Wi-Fi and Bluetooth results from the original filling were used for Simultaneous Transmission Analysis purposes. Both models contain identical Wi-Fi/BT modules and antennas. Spot checks for 802.11b/n/ac were performed to ensure that the SAR measurements for both devices are the same.

UL Verification Services Inc. 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 Verification Services Inc. 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 Verification Services Inc. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Verification Services Inc. 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 (NIST Handbook 150, Annex A). This report is written to support regulatory compliance of the applicable standards stated above.

Approved & Released By:	Prepared By:
	
Devin Chang Senior Engineer UL Verification Services Inc.	Coltyce Sanders Laboratory Engineer UL Verification Services Inc.

2. Test Specification, Methods and Procedures

The tests documented in this report were performed in accordance with FCC 47 CFR § 2.1093, IEEE STD 1528-2013, the following FCC Published RF exposure KDB procedures:

- 248227 D01 SAR meas for 802.11 v02
- 447498 D01 General RF Exposure Guidance v05r02
- 648474 D04 Handset SAR v01r02
- 690783 D01 SAR Listings on Grants v01r03
- 865664 D01 SAR measurement 100 MHz to 6 GHz v01r03
- 865664 D02 RF Exposure Reporting v01r01
- 941225 D01 3G SAR Procedures v03
- 941225 D06 Hotspot Mode v02

3. Facilities and Accreditation

The test sites and measurement facilities used to collect data are located at

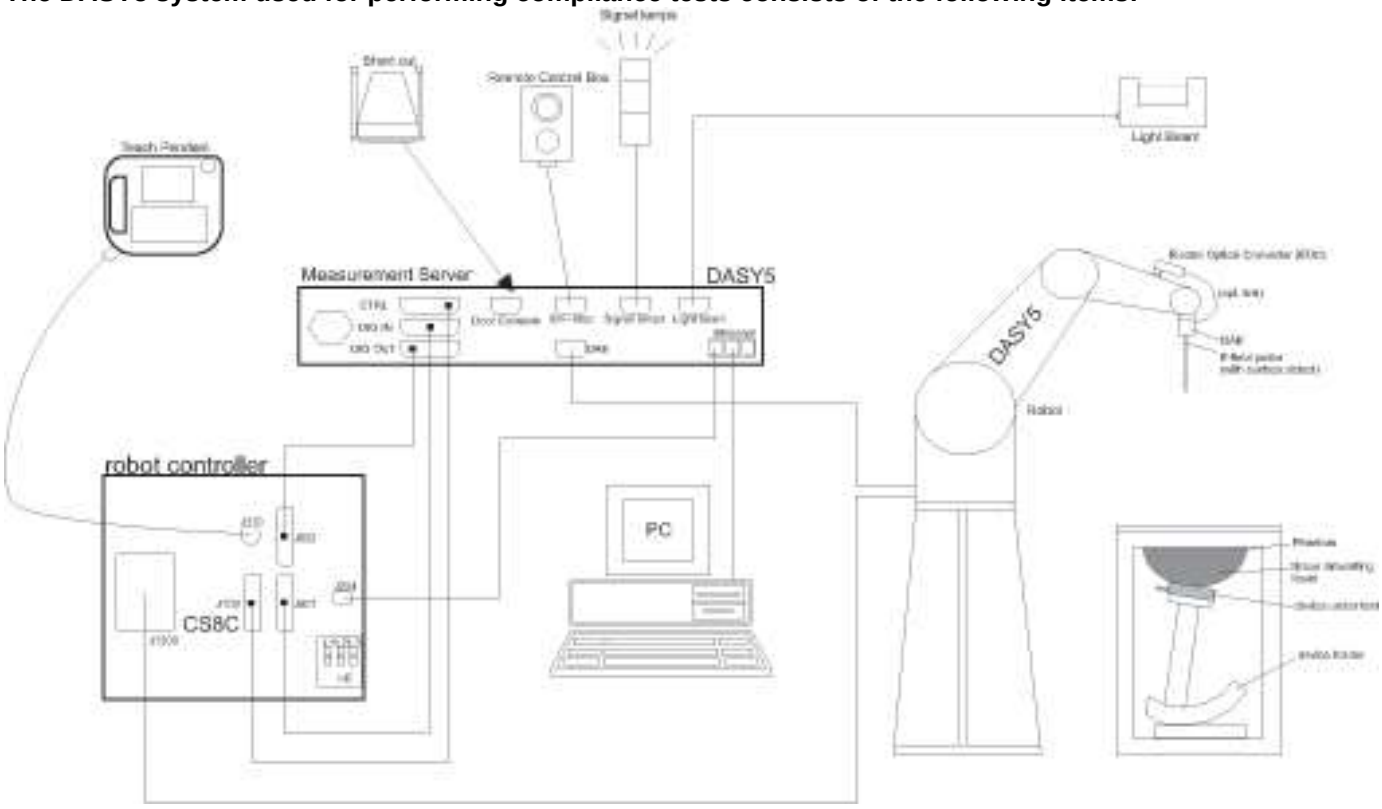
47173 Benicia Street	47266 Benicia Street
SAR Lab A	SAR Lab 1
SAR Lab B	SAR Lab 2
SAR Lab C	SAR Lab 3
SAR Lab D	SAR Lab 4
SAR Lab E	SAR Lab 5
SAR Lab F	
SAR Lab G	
SAR Lab H	

UL Verification Services Inc. is accredited by NVLAP, Laboratory Code 200065-0. The full scope of accreditation can be viewed at http://ts.nist.gov/standards/scopes/2000650.htm

4. SAR Measurement System & Test Equipment

4.1. SAR Measurement System

The DASY5 system used for performing compliance tests consists of the following items:



- A standard high precision 6-axis robot with controller, teach pendant and software. An arm extension for accommodating the data acquisition electronics (DAE).
- An isotropic Field probe optimized and calibrated for the targeted measurement.
- A data acquisition electronics (DAE) which performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.
- The Electro-optical converter (EOC) performs the conversion from optical to electrical signals for the digital communication to the DAE. To use optical surface detection, a special version of the EOC is required. The EOC signal is transmitted to the measurement server.
- The function of the measurement server is to perform the time critical tasks such as signal filtering, control of the robot operation and fast movement interrupts.
- The Light Beam used is for probe alignment. This improves the (absolute) accuracy of the probe positioning.
- A computer running WinXP or Win7 and the DASY5 software.
- Remote control and teach pendant as well as additional circuitry for robot safety such as warning lamps, etc.
- The phantom, the device holder and other accessories according to the targeted measurement.

4.2. SAR Scan Procedures

Step 1: Power Reference Measurement

The Power Reference Measurement and Power Drift Measurements are for monitoring the power drift of the device under test in the batch process. The minimum distance of probe sensors to surface determines the closest measurement point to phantom surface. The minimum distance of probe sensors to surface is 2.1 mm. This distance cannot be smaller than the distance of sensor calibration points to probe tip as defined in the probe properties.

Step 2: Area Scan

The Area Scan is used as a fast scan in two dimensions to find the area of high field values, before doing a fine measurement around the hot spot. The sophisticated interpolation routines implemented in DASY software can find the maximum locations even in relatively coarse grids. When an Area Scan has measured all reachable points, it computes the field maximal found in the scanned area, within a range of the global maximum. The range (in dB) is specified in the standards for compliance testing. For example, a 2 dB range is required in IEEE Standard 1528 and IEC 62209 standards, whereby 3 dB is a requirement when compliance is assessed in accordance with the ARIB standard (Japan). If only one Zoom Scan follows the Area Scan, then only the absolute maximum will be taken as reference. For cases where multiple maximums are detected, the number of Zoom Scans has to be increased accordingly.

Area Scan Parameters extracted from KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz

	≤ 3 GHz	> 3 GHz
Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface	5 ± 1 mm	½·δ·ln(2) ± 0.5 mm
Maximum probe angle from probe axis to phantom surface normal at the measurement location	30° ± 1°	20° ± 1°
Maximum area scan spatial resolution: Δx_{Area}, Δy_{Area}	≤ 2 GHz: ≤ 15 mm 2 – 3 GHz: ≤ 12 mm	3 – 4 GHz: ≤ 12 mm 4 – 6 GHz: ≤ 10 mm
	When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be ≤ the corresponding x or y dimension of the test device with at least one measurement point on the test device.	

Step 3: Zoom Scan

Zoom Scans are used to assess the peak spatial SAR values within a cubic averaging volume containing 1 g and 10 g of simulated tissue. The Zoom Scan measures points (refer to table below) within a cube whose base faces are centered on the maxima found in a preceding area scan job within the same procedure. When the measurement is done, the Zoom Scan evaluates the averaged SAR for 1 g and 10 g and displays these values next to the job's label.

Zoom Scan Parameters extracted from KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz

			≤ 3 GHz	> 3 GHz
Maximum zoom scan spatial resolution: Δx_{Zoom}, Δy_{Zoom}			≤ 2 GHz: ≤ 8 mm 2 – 3 GHz: ≤ 5 mm*	3 – 4 GHz: ≤ 5 mm* 4 – 6 GHz: ≤ 4 mm*
Maximum zoom scan spatial resolution, normal to phantom surface	uniform grid: $\Delta z_{Zoom}(n)$		≤ 5 mm	3 – 4 GHz: ≤ 4 mm 4 – 5 GHz: ≤ 3 mm 5 – 6 GHz: ≤ 2 mm
	graded grid	$\Delta z_{Zoom}(1)$: between 1st two points closest to phantom surface	≤ 4 mm	3 – 4 GHz: ≤ 3 mm 4 – 5 GHz: ≤ 2.5 mm 5 – 6 GHz: ≤ 2 mm
		$\Delta z_{Zoom}(n>1)$: between subsequent points	≤ 1.5·$\Delta z_{Zoom}(n-1)$	
Minimum zoom scan volume	x, y, z		≥ 30 mm	3 – 4 GHz: ≥ 28 mm 4 – 5 GHz: ≥ 25 mm 5 – 6 GHz: ≥ 22 mm

Note: δ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see draft standard IEEE P1528-2011 for details.

* When zoom scan is required and the *reported* SAR from the area scan based *1-g SAR estimation* procedures of KDB 447498 is ≤ 1.4 W/kg, ≤ 8 mm, ≤ 7 mm and ≤ 5 mm zoom scan resolution may be applied, respectively, for 2 GHz to 3 GHz, 3 GHz to 4 GHz and 4 GHz to 6 GHz.

Step 4: Power drift measurement

The Power Drift Measurement measures the field at the same location as the most recent power reference measurement within the same procedure, and with the same settings. The Power Drift Measurement gives the field difference in dB from the reading conducted within the last Power Reference Measurement. This allows a user to monitor the power drift of the device under test within a batch process. The measurement procedure is the same as Step 1.

Step 5: Z-Scan (FCC only)

The Z Scan measures points along a vertical straight line. The line runs along the Z-axis of a one-dimensional grid. In order to get a reasonable extrapolation the extrapolated distance should not be larger than the step size in Z-direction.

4.3. Test Equipment

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

Dielectric Property Measurements

Name of Equipment	Manufacturer	Type/Model	Serial No.	Cal. Due Date
Network Analyzer	Agilent	E753ES	MY40000980	4/7/2015
Dielectronic Probe kit	SPEAG	DAK-3.5	1082	9/16/2015
Dielectronic Probe kit	SPEAG	DAK-3.5 Short	SM DAK 200 BA	N/A
Thermometer	Control Company	Traceable	122529163	10/8/2015
Network Analyzer	Agilent	8753ES	MY40001647	7/17/2015
Dielectronic Probe kit	SPEAG	DAK-3.5	1087	11/11/2015
Dielectronic Probe kit	SPEAG	DAK-3.5 Short	SM DAK 200 BA	N/A
Thermometer	Traceable Calibration Control Co.	4242	122529162	10/8/2015

System Check

Name of Equipment	Manufacturer	Type/Model	Serial No.	Cal. Due Date
HP Signal Generator	HP	8665B	3546A00784	6/23/2015
Power Meter	HP	437B	3125U09516	10/6/2015
Power Meter	Agilent	N1911A	MY53060016	8/7/2015
Power Sensor	Agilent	E9323A	MY53070003	5/1/2015
Power Sensor	Agilent	8481A	3318A95392	10/6/2015
Amplifier	MITEQ	AMF-4D-00400600-50-30P	1622052	N/A
Bi-directional coupler	Werlatone, Inc.	C8060-102	2711	N/A
DC Power Supply	Sorensen Ametek	XT20-3	1318A00530	N/A
Synthesized Signal Generator	Agilent	8665B	3438A00633	7/10/2015
Power Meter	HP	437B	3125U11347	8/27/2015
Power Meter	HP	437B	3125U16345	6/16/2015
Power Sensor	HP	8481A	2702A60780	6/16/2015
Power Sensor	HP	8481A	1926A16917	10/10/2015
Amplifier	MITEQ	AMF-4D-00400600-50-30P	1808938	N/A
Bi-directional coupler	Werlatone, Inc.	C8060-102	2710	N/A
DC Power Supply	HP	6296A	2841A-05955	N/A
E-Field Probe (SAR Lab 3)	SPEAG	EX3DV4	3749	1/26/2016
E-Field Probe (SAR Lab 5)	SPEAG	EX3DV4	3991	5/16/2015
Data Acquisition Electronics (SAR Lab 3)	SPEAG	DAE4	1380	7/23/2015
Data Acquisition Electronics (SAR Lab 5)	SPEAG	DAE4	1439	5/14/2015
System Validation Dipole	SPEAG	D835V2	4d142	9/92015
System Validation Dipole	SPEAG	D1900V2	5d163	9/11/2015
Thermometer (SAR Lab 3)	EXTECH	445703	CCS-237	6/3/2015
Thermometer (SAR Lab 5)	EXTECH	445703	CCS-239	6/3/2015

Other

Name of Equipment	Manufacturer	Type/Model	Serial No.	Cal. Due Date
Power Meter	Agilent	N1912A	MY53060009	5/5/2015
Power Sensor	Agilent	N1921A	MY53020038	3/6/2016
Base Station Simulator	R & S	CMW500	135387	7/8/2015
Base Station Simulator	Agilent	8960	MY53211024	9/19/2015

5. Measurement Uncertainty

Per KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz, when the highest measured 1-g SAR within a frequency band is < 1.5 W/kg, the extensive SAR measurement uncertainty analysis described in IEEE Std 1528-2013 is not required in SAR reports submitted for equipment approval.

6. Device Under Test (DUT) Information

6.1. DUT Description

Back Cover	☒ The rechargeable battery is not user accessible.
Battery Options	☒ The rechargeable battery is not user accessible.
Accessory	Headset
Wireless Router (Hotspot)	Wi-Fi Hotspot mode permits the device to share its cellular data connection with other Wi-Fi-enabled devices. ☒ Mobile Hotspot (Wi-Fi 2.4 GHz) ☒ Mobile Hotspot (Wi-Fi 5 GHz, Only U-NII 1 and U-NII 3)
Wi-Fi Direct	Wi-Fi Direct enabled devices transfer data directly between each other ☒ Mobile Hotspot (Wi-Fi 2.4 GHz) ☒ Mobile Hotspot (Wi-Fi 5 GHz, Only U-NII 1 and U-NII 3)

6.2. Wireless Technologies

Wireless technologies	Frequency bands	Operating mode		Duty Cycle used for SAR testing
GSM	850 1900	Voice (GMSK) GPRS (GMSK) EGPRS (8PSK)	GPRS Multi-Slot Class: ☐ Class 8 - One Up ☐ Class 10 - Two Up ☐ Class 12 - Four Up ☒ Class 33 - Four Up	GSM Voice: 12.5% (E)GPRS: 1 Slot: 12.5% 2 Slots: 25% 3 Slots: 37.5% 4 Slots: 50%
	☒ Class A = both simultaneously. ☐ Class B = GPRS connection interrupted during a GSM call, automatically resumed at end of call. ☐ Class C = manual GSM / GPRS mode switching. Does this device support DTM (Dual Transfer Mode)? ☒ Yes ☐ No			
W-CDMA (UMTS)	Band V	UMTS Rel. 99 (Voice & Data) HSDPA (Rel. 5) HSUPA (Rel. 6)		100%
Wi-Fi	2.4 GHz	802.11b 802.11g 802.11n (HT20)		100%
	5 GHz	802.11a 802.11n (HT20) 802.11n (HT40) 802.11ac (VHT20) 802.11ac (VHT40) 802.11ac (VHT80)		100%
	Does this device support bands 5.60 ~ 5.65 GHz? ☒ Yes ☐ No			
	Does this device support Band gap channel(s)? ☒ Yes ☐ No			
Bluetooth	2.4 GHz	Version 4.1 LE		77.5% (DH5)

6.3. Nominal and Maximum Output Power

KDB 447498 sec.4.1.(3) at the maximum rated output power and within the tune-up tolerance range specified for the product, but not more than 2 dB lower than the maximum tune-up tolerance limit

RF Air interface	Mode		Full Power			Reduce Power		
			Target (dBm)	Tolerance (dB)	Max. Tune-up Limit (dBm)	Target (dBm)	Tolerance (dB)	Max. Tune-up Limit (dBm)
GSM850	GSM	Voice	32.5	-1.3 ~ 0.7	**33.2**	Nopt Supported		
	GPRS GMSK	Tx Slot 1	32.5	-1.3 ~ 0.7	**33.2**			
		Tx Slot 2	31.5	-1.3 ~ 0.7	**32.2**			
		Tx Slot 3	29.5	-1.3 ~ 0.7	**30.2**			
		Tx Slot 4	28.5	-1.3 ~ 0.7	**29.2**			
	EGPRS 8PSK	Tx Slot 1	27.0	-2.0 ~ 1.0	**28.0**			
		Tx Slot 2	25.5	-2.0 ~ 1.0	**26.5**			
		Tx Slot 3	23.5	-2.0 ~ 1.0	**24.5**			
		Tx Slot 4	22.5	-2.0 ~ 1.0	**23.5**			
GSM1900	GSM	Voice	30.0	-1.3 ~ 0.7	**30.7**	Nopt Supported		
	GPRS GMSK	Tx Slot 1	30.0	-1.3 ~ 0.7	**30.7**			
		Tx Slot 2	28.5	-1.3 ~ 0.7	**29.2**			
		Tx Slot 3	26.5	-1.3 ~ 0.7	**27.2**			
		Tx Slot 4	25.5	-1.3 ~ 0.7	**26.2**			
	EGPRS 8PSK	Tx Slot 1	26.0	-2.0 ~ 1.0	**27.0**			
		Tx Slot 2	24.5	-2.0 ~ 1.0	**25.5**			
		Tx Slot 3	22.5	-2.0 ~ 1.0	**23.5**			
		Tx Slot 4	21.5	-2.0 ~ 1.0	**22.5**			

Dual Transfer Mode

RF Air interface	Mode			Full Power			Reduce Power		
				Target (dBm)	Tolerance (dB)	Max. Tune-up Limit (dBm)	Target (dBm)	Tolerance (dB)	Max. Tune-up Limit (dBm)
GSM850	GSM (Voice) + GPRS(Data)	Tx Slot 1	CS	32.5	-1.3 ~ 0.7	**33.2**	Not Supported		
		Tx Slot 2	CS	31.5	-1.3 ~ 0.7	**32.2**			
			PS	31.5	-1.3 ~ 0.7	**32.2**			
		Tx Slot 3	CS	29.5	-1.3 ~ 0.7	**30.2**			
			PS	29.5	-1.3 ~ 0.7	**30.2**			
	GSM (Voice) + EGPRS(Data) MCS5-9	Tx Slot 1	CS	32.5	-1.3 ~ 0.7	**33.2**			
		Tx Slot 2	CS	31.5	-1.3 ~ 0.7	**32.2**			
			PS	25.5	-2.0 ~ 1.0	**26.5**			
		Tx Slot 3	CS	29.5	-1.3 ~ 0.7	**30.2**			
			PS	23.5	-2.0 ~ 1.0	**24.5**			
GSM1900	GSM (Voice) + GPRS(Data)	Tx Slot 1	CS	30.0	-1.3 ~ 0.7	**30.7**	Not Supported		
		Tx Slot 2	CS	28.5	-1.3 ~ 0.7	**29.2**			
			PS	28.5	-1.3 ~ 0.7	**29.2**			
		Tx Slot 3	CS	26.5	-1.3 ~ 0.7	**27.2**			
			PS	26.5	-1.3 ~ 0.7	**27.2**			
	GSM (Voice) + EGPRS(Data) MCS5-9	Tx Slot 1	CS	30.0	-1.3 ~ 0.7	**30.7**			
		Tx Slot 2	CS	28.5	-1.3 ~ 0.7	**29.2**			
			PS	24.5	-2.0 ~ 1.0	**25.5**			
		Tx Slot 3	CS	26.5	-1.3 ~ 0.7	**27.2**			
			PS	22.5	-2.0 ~ 1.0	**23.5**			

Note: CS : circuid switched PS : packet switched

RF Air interface	Mode	Full Power			Reduce Power		
		Target (dBm)	Tolerance (dB)	Max. Tune-up Limit (dBm)	Target (dBm)	Tolerance (dB)	Max. Tune-up Limit (dBm)
WCDMA Band V (5)	R99	24.5	-1.5 ~ 0.5	**25.0**	Not Supported		
	HSDPA	24.5	-4.9 ~ 0.5	**25.0**			
	HSUPA	24.5	-4.9 ~ 0.5	**25.0**			

WLAN and Bluetooth Maximum Output Power

The model FCC ID: PY7-PM0792 shares the same tune up power targets as model FCC ID: PY7-PM0794 for WLAN and Bluetooth operations. For this reason the SAR data for the WLAN and Bluetooth operations for FCC ID: PY7-PM0792 is considered representative for FCC ID: PY7-PM0794. The Wi-Fi (DTS/U-NII) and Bluetooth Maximum Output Power from the original filling can be found in SAR test report 15J20224-S1A, FCC ID: PY7-PM0792.

7. RF Exposure Conditions (Test Configurations)

Refer to “SAR Photos and Ant locations” Appendix for the specific details of the antenna-to-antenna and antenna-to-edge(s) distances.

Wireless technologies	RF Exposure Conditions	DUT-to-User Separation	Test Position	Antenna-to-edge/surface	SAR Required	Note
WWAN	Head	0 mm	Left Touch	N/A	Yes	
			Left Tilt (15°)	N/A	Yes	
			Right Touch	N/A	Yes	
			Right Tilt (15°)	N/A	Yes	
	Body	15 mm	Rear	N/A	Yes	
			Front	N/A	Yes	
	Hotspot	10 mm	Rear	< 25 mm	Yes	
			Front	< 25 mm	Yes	
			Edge 1 (Top)	> 25 mm	No	1
			Edge 2 (Right)	< 25 mm	Yes	
			Edge 3 (Bottom)	< 25 mm	Yes	
			Edge 4 (Left)	< 25 mm	Yes	

Notes:

1. SAR is not required because the distance from the antenna to the edge is > 25 mm as per KDB 941225 D06 Hot Spot SAR.

8. Dielectric Property Measurements & System Check

8.1. Dielectric Property Measurements

The temperature of the tissue-equivalent medium used during measurement must also be within 18°C to 25°C and within ± 2°C of the temperature when the tissue parameters are characterized.

The dielectric parameters must be measured before the tissue-equivalent medium is used in a series of SAR measurements. The parameters should be re-measured after each 3 – 4 days of use; or earlier if the dielectric parameters can become out of tolerance; for example, when the parameters are marginal at the beginning of the measurement series.

Tissue dielectric parameters were measured at the low, middle and high frequency of each operating frequency range of the test device.

Tissue Dielectric Parameters

FCC KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz

Target Frequency (MHz)	Head		Body	
	ε_r	σ (S/m)	ε_r	σ (S/m)
150	52.3	0.76	61.9	0.80
300	45.3	0.87	58.2	0.92
450	43.5	0.87	56.7	0.94
835	41.5	0.90	55.2	0.97
900	41.5	0.97	55.0	1.05
915	41.5	0.98	55.0	1.06
1450	40.5	1.20	54.0	1.30
1610	40.3	1.29	53.8	1.40
1800 – 2000	40.0	1.40	53.3	1.52
2450	39.2	1.80	52.7	1.95
3000	38.5	2.40	52.0	2.73
5000	36.2	4.45	49.3	5.07
5100	36.1	4.55	49.1	5.18
5200	36.0	4.66	49.0	5.30
5300	35.9	4.76	48.9	5.42
5400	35.8	4.86	48.7	5.53
5500	35.6	4.96	48.6	5.65
5600	35.5	5.07	48.5	5.77
5700	35.4	5.17	48.3	5.88
5800	35.3	5.27	48.2	6.00

IEEE Std 1528-2013

Refer to Table 3 within the IEEE Std 1528-2013

Dielectric Property Measurements Results:

SAR Lab 3

Date	Freq. (MHz)	Liquid Parameters			Measured	Target	Delta (%)	Limit ±(%)
3/30/2015	Head 835	e'	42.4500	Relative Permittivity (ϵ_r):	42.45	41.50	2.29	5
		e"	19.7200	Conductivity (σ):	0.92	0.90	1.73	5
	Head 820	e'	42.6500	Relative Permittivity (ϵ_r):	42.65	41.60	2.52	5
		e"	19.7100	Conductivity (σ):	0.90	0.90	0.02	5
	Head 850	e'	42.2500	Relative Permittivity (ϵ_r):	42.25	41.50	1.81	5
		e"	19.6400	Conductivity (σ):	0.93	0.92	1.45	5
3/30/2015	Body 835	e'	52.7300	Relative Permittivity (ϵ_r):	52.73	55.20	-4.47	5
		e"	21.4500	Conductivity (σ):	1.00	0.97	2.67	5
	Body 820	e'	52.9400	Relative Permittivity (ϵ_r):	52.94	55.28	-4.23	5
		e"	21.4900	Conductivity (σ):	0.98	0.97	1.17	5
	Body 850	e'	52.5800	Relative Permittivity (ϵ_r):	52.58	55.16	-4.67	5
		e"	21.3600	Conductivity (σ):	1.01	0.99	2.27	5
4/3/2015	Head 835	e'	40.0500	Relative Permittivity (ϵ_r):	40.05	41.50	-3.49	5
		e"	19.0100	Conductivity (σ):	0.88	0.90	-1.93	5
	Head 820	e'	40.2200	Relative Permittivity (ϵ_r):	40.22	41.60	-3.32	5
		e"	19.0900	Conductivity (σ):	0.87	0.90	-3.12	5
	Head 850	e'	39.8100	Relative Permittivity (ϵ_r):	39.81	41.50	-4.07	5
		e"	19.0900	Conductivity (σ):	0.90	0.92	-1.39	5
4/3/2015	Body 835	e'	54.5000	Relative Permittivity (ϵ_r):	54.50	55.20	-1.27	5
		e"	21.9000	Conductivity (σ):	1.02	0.97	4.82	5
	Body 820	e'	54.6000	Relative Permittivity (ϵ_r):	54.60	55.28	-1.22	5
		e"	21.9700	Conductivity (σ):	1.00	0.97	3.43	5
	Body 850	e'	54.3500	Relative Permittivity (ϵ_r):	54.35	55.16	-1.46	5
		e"	21.9300	Conductivity (σ):	1.04	0.99	5.00	5

SAR Lab 5

Date	Freq. (MHz)	Liquid Parameters			Measured	Target	Delta (%)	Limit ±(%)
4/6/2015	Head 1900	e'	38.4500	Relative Permittivity (ϵ_r):	38.45	40.00	-3.87	5
		e"	13.3800	Conductivity (σ):	1.41	1.40	0.97	5
	Head 1850	e'	38.7300	Relative Permittivity (ϵ_r):	38.73	40.00	-3.18	5
		e"	13.3100	Conductivity (σ):	1.37	1.40	-2.20	5
	Head 1910	e'	38.4100	Relative Permittivity (ϵ_r):	38.41	40.00	-3.98	5
		e"	13.4400	Conductivity (σ):	1.43	1.40	1.95	5
4/6/2015	Body 1900	e'	51.5700	Relative Permittivity (ϵ_r):	51.57	53.30	-3.25	5
		e"	15.0000	Conductivity (σ):	1.58	1.52	4.26	5
	Body 1850	e'	51.7200	Relative Permittivity (ϵ_r):	51.72	53.30	-2.96	5
		e"	15.0500	Conductivity (σ):	1.55	1.52	1.85	5
	Body 1910	e'	51.5800	Relative Permittivity (ϵ_r):	51.58	53.30	-3.23	5
		e"	15.0100	Conductivity (σ):	1.59	1.52	4.87	5

8.2. System Check

SAR system verification is required to confirm measurement accuracy, according to the tissue dielectric media, probe calibration points and other system operating parameters required for measuring the SAR of a test device. The system verification must be performed for each frequency band and within the valid range of each probe calibration point required for testing the device. The same SAR probe(s) and tissue-equivalent media combinations used with each specific SAR system for system verification must be used for device testing. When multiple probe calibration points are required to cover substantially large transmission bands, independent system verifications are required for each probe calibration point. A system verification must be performed before each series of SAR measurements using the same probe calibration point and tissue-equivalent medium. Additional system verification should be considered according to the conditions of the tissue-equivalent medium and measured tissue dielectric parameters, typically every three to four days when the liquid parameters are re-measured or sooner when marginal liquid parameters are used at the beginning of a series of measurements.

System Performance Check Measurement Conditions:

- The measurements were performed in the flat section of the TWIN SAM or ELI phantom, shell thickness: 2.0 ±0.2 mm (bottom plate) filled with Body or Head simulating liquid of the following parameters.
- The depth of tissue-equivalent liquid in a phantom must be ≥ 15.0 cm for SAR measurements ≤ 3 GHz and ≥ 10.0 cm for measurements > 3 GHz.
- The DASY system with an E-Field Probe was used for the measurements.
- The dipole was mounted on the small tripod so that the dipole feed point was positioned below the center marking of the flat phantom section and the dipole was oriented parallel to the body axis (the long side of the phantom). The standard measuring distance was 10 mm (above 1 GHz) and 15 mm (below 1 GHz) from dipole center to the simulating liquid surface.
- The coarse grid with a grid spacing of 15 mm was aligned with the dipole.
  For 5 GHz band - The coarse grid with a grid spacing of 10 mm was aligned with the dipole.
- Special 7x7x7 (below 3 GHz) and/or 8x8x7 (above 3 GHz) fine cube was chosen for the cube.
- Distance between probe sensors and phantom surface was set to 3 mm.
  For 5 GHz band - Distance between probe sensors and phantom surface was set to 2.5 mm
- The dipole input power (forward power) was 100 mW.
- The results are normalized to 1 W input power.

Reference Target SAR Values

The reference SAR values can be obtained from the calibration certificate of system validation dipoles

System Dipole	Serial No.	Cal. Date	Freq. (MHz)	Target SAR Values (W/kg)		
				1g/10g	Head	Body
D835V2	4d142	9/9/2014	835	1g	8.91	9.22
				10g	5.77	6.05
D1900V2	5d163	9/11/2014	1900	1g	40.8	40.60
				10g	21.2	21.4

System Check Results

The 1-g and 10-g SAR measured with a reference dipole, using the required tissue-equivalent medium at the test frequency, must be within 10% of the manufacturer calibrated dipole SAR target.

SAR Lab 3

Date Tested	System Dipole		T.S. Liquid		Measured Results		Target (Ref. Value)	Delta ±10 %	Plot No.
	Type	Serial #			Zoom Scan to 100 mW	Normalize to 1 W			
3/30/2015	D835V2	4d142	Head	1g	0.957	9.57	8.91	7.41	
				10g	0.628	6.28	5.77	8.84	
3/30/2015	D835V2	4d142	Body	1g	1.01	10.1	9.22	9.54	1,2
				10g	0.662	6.62	6.05	9.42	
4/3/2015	D835V2	4d142	Head	1g	0.932	9.32	8.91	4.60	
				10g	0.611	6.11	5.77	5.89	
4/3/2015	D835V2	4d142	Body	1g	0.985	9.85	9.22	6.83	
				10g	0.649	6.49	6.05	7.27	

SAR Lab 5

Date Tested	System Dipole		T.S. Liquid		Measured Results		Target (Ref. Value)	Delta ±10 %	Plot No.
	Type	Serial #			Zoom Scan to 100 mW	Normalize to 1 W			
4/6/2015	D1900V2	5d163	Head	1g	4.03	40.3	40.8	-1.23	
				10g	2.11	21.1	21.2	-0.47	
4/6/2015	D1900V2	5d163	Body	1g	3.98	39.8	40.60	-1.97	3,4
				10g	2.06	20.6	21.4	-3.74	

9. Conducted Output Power Measurements

9.1. GSM

GSM850 Measured Results

Band	Mode	Coding Scheme	Time Slots	Ch No.	Freq. (MHz)	Burst Pwr (dBm)	Frame Pwr (dBm)	Maximum Frame Pwr
850	GSM (Voice)	CS1	1	128	824.2	32.2	23.2	24.17
				190	836.6	32.3	23.3	
				251	848.8	32.3	23.3	
	GPRS (GMSK)	CS1	1	128	824.2	32.2	23.2	24.17
				190	836.6	32.3	23.3	
				251	848.8	32.3	23.3	
			2	128	824.2	31.5	25.5	26.18
				190	836.6	31.4	25.4	
				251	848.8	31.4	25.4	
			3	128	824.2	29.7	25.4	25.94
				190	836.6	29.7	25.4	
				251	848.8	29.6	25.3	
			4	128	824.2	28.5	25.5	26.19
				190	836.6	28.5	25.5	
				251	848.8	28.5	25.5	
	EGPRS (8PSK)	MCS5	1	128	824.2	27.5	18.5	18.67
				190	836.6	27.3	18.3	
				251	848.8	27.4	18.4	
			2	128	824.2	25.9	19.9	20.18
				190	836.6	25.9	19.9	
				251	848.8	25.8	19.8	
			3	128	824.2	24.0	19.7	19.94
				190	836.6	24.0	19.7	
				251	848.8	23.8	19.5	
			4	128	824.2	23.0	20.0	20.19
				190	836.6	22.8	19.8	
				251	848.8	23.0	20.0	

Notes:

The worst-case configuration and mode for SAR testing is determined to be as follows:

- Head & Body-worn Accessory: GMSK Voice Mode
- Hotspot mode: GMSK (GPRS) mode with 4 time slots, based on the output power measurements above
- SAR is not required for EGPRS (8PSK) mode because its output power is less than that of GPRS Mode

GSM1900 Measured Results

Band	Mode	Coding Scheme	Time Slots	Ch No.	Freq. (MHz)	Burst Pwr (dBm)	Frame Pwr (dBm)	Maximum Frame PWr
1900	GSM (Voice)	CS1	1	512	1850.2	29.9	20.9	21.67
				661	1880.0	30.1	21.1	
				810	1909.8	30.1	21.1	
	GPRS (GMSK)	CS1	1	512	1850.2	29.9	20.9	21.67
				661	1880.0	30.1	21.1	
				810	1909.8	30.1	21.1	
			2	512	1850.2	29.2	23.2	23.18
				661	1880.0	29.1	23.1	
				810	1909.8	29.1	23.1	
			3	512	1850.2	26.9	22.6	22.94
				661	1880.0	27.2	22.9	
				810	1909.8	27.2	22.9	
			4	512	1850.2	26.0	23.0	23.19
				661	1880.0	26.2	23.2	
				810	1909.8	26.2	23.2	
	EGPRS (8PSK)	MCS5	1	512	1850.2	25.0	16.0	17.67
				661	1880.0	25.0	16.0	
				810	1909.8	25.1	16.1	
			2	512	1850.2	24.3	18.3	19.18
				661	1880.0	24.4	18.4	
				810	1909.8	24.6	18.6	
			3	512	1850.2	22.4	18.1	18.94
				661	1880.0	22.6	18.3	
				810	1909.8	22.8	18.5	
			4	512	1850.2	21.6	18.6	19.19
				661	1880.0	21.8	18.8	
				810	1909.8	22.0	19.0	

Notes:

The worst-case configuration and mode for SAR testing is determined to be as follows:

- Head & Body-worn Accessory: GMSK Voice Mode
- Hotspot mode: GMSK (GPRS) mode with 4 time slots, based on the output power measurements above
- SAR is not required for EGPRS (8PSK) mode because its output power is less than that of GPRS Mode

GSM850 DTM Measured Results

Band	Mode	Coding Scheme	Time Slots	Ch No.	Freq. (MHz)	Max Pwr				Max Pwr	
						CS		PS		Maximum Frame Pwr	
						Burst (dBm)	Frame (dBm)	Burst (dBm)	Frame (dBm)	CS	PS
850	GSM(Voice) + GPRS(GMSK)	CS1	1	128	824.2	32.2	23.2			24.17	
				190	836.6	32.3	23.3				
				251	848.8	32.3	23.3				
			2	128	824.2	31.4	25.4	31.4	25.4	26.18	26.18
				190	836.6	31.4	25.4	31.4	25.4		
				251	848.8	31.3	25.3	31.3	25.3		
			3	128	824.2	29.7	25.4	29.7	25.4	25.94	25.94
				190	836.6	29.7	25.4	29.6	25.3		
				251	848.8	29.6	25.3	29.6	25.3		
	GSM(Voice) + EGPRS(8PSK)	MCS5	1	128	824.2	32.2	23.2			24.17	
				190	836.6	32.3	23.3				
				251	848.8	32.3	23.3				
			2	128	824.2	31.3	25.3	25.6	19.6	26.18	20.18
				190	836.6	31.4	25.4	25.6	19.6		
				251	848.8	31.2	25.2	25.3	19.3		
			3	128	824.2	29.6	25.3	23.6	19.3	25.94	19.94
				190	836.6	29.7	25.4	23.5	19.2		
				251	848.8	29.6	25.3	23.4	19.1		

Notes:

The worst-case configuration and mode for SAR testing is determined to be as follows:

- GSM (Voice) + GMSK (GPRS) mode with 2 time slots, based on the output power measurements above.
- SAR is not required for GSM (Voice) + EGPRS (8PSK) mode because its output power is less than that of GSM (Voice) + GMSK (GPRS) mode.

GSM1900 DTM Measured Results

Band	Mode	Coding Scheme	Time Slots	Ch No.	Freq. (MHz)	Max Pwr				Max Pwr	
						CS		PS		Maximum Frame Pwr	
						Burst (dBm)	Frame (dBm)	Burst (dBm)	Frame (dBm)	CS	PS
1900	GSM(Voice) + GPRS(GMSK)	CS1	1	512	1850.2	29.9	20.9			21.67	
				661	1880.0	30.1	21.1				
				810	1909.8	30.1	21.1				
			2	512	1850.2	28.8	22.8	28.8	22.8	23.18	23.18
				661	1880.0	28.9	22.9	28.9	22.9		
				810	1909.8	29.0	23.0	29.0	23.0		
			3	512	1850.2	26.3	22.0	26.3	22.0	22.94	22.94
				661	1880.0	26.5	22.2	26.5	22.2		
				810	1909.8	25.8	21.5	26.8	22.5		
	GSM(Voice) + EGPRS(8PSK)	MCS5	1	512	1850.2	29.9	20.9			21.67	
				661	1880.0	30.1	21.1				
				810	1909.8	30.1	21.1				
			2	512	1850.2	28.8	22.8	24.0	18.0	23.18	19.18
				661	1880.0	29.0	23.0	24.1	18.1		
				810	1909.8	29.1	23.1	24.3	18.3		
			3	512	1850.2	26.3	22.0	22.2	17.9	22.94	18.94
				661	1880.0	26.5	22.2	22.3	18.0		
				810	1909.8	26.7	22.4	22.4	18.1		

Notes:

The worst-case configuration and mode for SAR testing is determined to be as follows:

- GSM (Voice) + GMSK (GPRS) mode with 2 time slots, based on the output power measurements above.
- SAR is not required for GSM (Voice) + EGPRS (8PSK) mode because its output power is less than that of GSM (Voice) + GMSK (GPRS) mode.

9.2. W-CDMA

Release 99 Setup Procedures used to establish the test signals

The following tests were completed according to the test requirements outlined in section 5.2 of the 3GPP TS34.121-1 specification. The DUT supports power Class 3, which has a nominal maximum output power of 24 dBm (+1.7/-3.7).

Mode	Subtest	Rel99
WCDMA General Settings	Loopback Mode	Test Mode 2
	Rel99 RMC	12.2kbps RMC
	Power Control Algorithm	Algorithm2
	βc/βd	8/15

HSDPA Setup Procedures used to establish the test signals

The following 4 Sub-tests were completed according to Release 5 procedures in section 5.2 of 3GPP TS34.121. A summary of these settings are illustrated below:

	Mode	HSDPA	HSDPA	HSDPA	HSDPA
	Subtest	1	2	3	4
W-CDMA General Settings	Loopback Mode	Test Mode 1			
	Rel99 RMC	12.2kbps RMC			
	HSDPA FRC	H-Set 1			
	Power Control Algorithm	Algorithm 2			
	βc	2/15	11/15	15/15	15/15
	βd	15/15	15/15	8/15	4/15
	Bd (SF)	64			
	βc/βd	2/15	12/15	15/8	15/4
	βhs	4/15	24/15	30/15	30/15
	MPR (dB)	0	0	0.5	0.5
HSDPA Specific Settings	D_{ACK}	8			
	D_{NAK}	8			
	DCQI	8			
	Ack-Nack repetition factor	3			
	CQI Feedback (Table 5.2B.4)	4ms			
	CQI Repetition Factor (Table 5.2B.4)	2			
	Ahs=βhs/βc	30/15			

HSPA (HSDPA & HSUPA) Setup Procedures used to establish the test signals

The following 5 Sub-tests were completed according to Release 6 procedures in section 5.2 of 3GPP TS34.121. A summary of these settings are illustrated below:

	Mode	HSPA				
	Subtest	1	2	3	4	5
WCDMA General Settings	Loopback Mode	Test Mode 1				
	Rel99 RMC	12.2 kbps RMC				
	HSDPA FRC	H-Set 1				
	HSUPA Test	HSPA				
	Power Control Algorithm	Algorithm 2				Algorithm 1
	βc	11/15	6/15	15/15	2/15	15/15
	βd	15/15	15/15	9/15	15/15	0
	βec	209/225	12/15	30/15	2/15	5/15
	βc/βd	11/15	6/15	15/9	2/15	15/1
	βhs	22/15	12/15	30/15	4/15	5/15
	βed	1309/225	94/75	47/15	56/75	47/15
	CM (dB)	1	3	2	3	1
	MPR (dB)	0	2	1	2	0
HSDPA Specific Settings	DACK	8				0
	DNAK	8				0
	DCQI	8				0
	Ack-Nack repetition factor	3				
	CQI Feedback (Table 5.2B.4)	4ms				
	CQI Repetition Factor (Table 5.2B.4)	2				
	Ahs = βhs/βc	30/15				
HSUPA Specific Settings	E-DPDCCH	6	8	8	5	7
	DHARQ	0	0	0	0	0
	AG Index	20	12	15	17	21
	ETFCI (from 34.121 Table C.11.1.3)	75	67	92	71	81
	Associated Max UL Data Rate kbps	242.1	174.9	482.8	205.8	308.9
	Reference E-TFCIs	5	5	2	5	1
	Reference E-TFCI	11	11	11	11	67
	Reference E-TFCI PO	4	4	4	4	18
	Reference E-TFCI	67	67	92	67	67
	Reference E-TFCI PO	18	18	18	18	18
	Reference E-TFCI	71	71	71	71	71
	Reference E-TFCI PO	23	23	23	23	23
	Reference E-TFCI	75	75	75	75	75
	Reference E-TFCI PO	26	26	26	26	26
	Reference E-TFCI	81	81	81	81	81
	Reference E-TFCI PO	27	27	27	27	27
	Maximum Channelization Codes	2xSF2				SF4

Measured Results

Band	Mode		UL Ch No.	Freq. (MHz)	MPR (dB)	Avg Pwr (dBm)
W-CDMA Band V	Rel 99	RMC, 12.2 kbps	4132	826.4	N/A	24.5
			4183	836.6	N/A	24.5
			4233	846.6	N/A	24.6
	HSDPA	Subtest 1	4132	826.4	0	22.8
			4183	836.6	0	22.8
			4233	846.6	0	22.8
		Subtest 2	4132	826.4	0	22.8
			4183	836.6	0	22.8
			4233	846.6	0	22.8
		Subtest 3	4132	826.4	0.5	22.3
			4183	836.6	0.5	22.3
			4233	846.6	0.5	22.4
		Subtest 4	4132	826.4	0.5	22.3
			4183	836.6	0.5	22.3
			4233	846.6	0.5	22.4
	HSUPA	Subtest 1	4132	826.4	0	22.8
			4183	836.6	0	22.7
			4233	846.6	0	22.8
		Subtest 2	4132	826.4	2	21.2
			4183	836.6	2	21.2
			4233	846.6	2	21.2
		Subtest 3	4132	826.4	1	21.1
			4183	836.6	1	21.1
			4233	846.6	1	21.2
		Subtest 4	4132	826.4	2	21.2
			4183	836.6	2	21.2
			4233	846.6	2	21.2
		Subtest 5	4132	826.4	0	22.8
			4183	836.6	0	22.7
			4233	846.6	0	22.8

9.3. WLAN and BT

WLAN and Bluetooth Conducted Output Power Measurements

The model FCC ID: PY7-PM0792 shares the same tune up power targets as model FCC ID: PY7-PM0794 for WLAN and Bluetooth operations. For this reason the SAR conducted output power measurements for the WLAN and Bluetooth operations for FCC ID: PY7-PM0792 is considered representative for FCC ID: PY7-PM0794. The Wi-Fi (DTS/U-NII) and Bluetooth conducted output power measurements from the original filling can be found in SAR test report 15J20224-S1A, FCC ID: PY7-PM0792.

10. Measured and Reported (Scaled) SAR Results

SAR Test Reduction criteria are as follows:

KDB 447498 D01 General RF Exposure Guidance:

Testing of other required channels within the operating mode of a frequency band is not required when the reported 1-g or 10-g SAR for the mid-band or highest output power channel is:

- ≤ 0.8 W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≤ 100 MHz
- ≤ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz
- ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz

KDB 648474 D04 Handset SAR:

With headset attached, when the reported SAR for body-worn accessory, measured without a headset connected to the handset, is > 1.2 W/kg, the highest reported SAR configuration for that wireless mode and frequency band should be repeated for that body-worn accessory with a headset attached to the handset.

KDB 941225 D01 SAR test for 3G devices:

When the maximum output power and tune-up tolerance specified for production units in a secondary mode is ≤ ¼ dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for the secondary mode

10.1. GSM850

RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		Plot No.
						Tune-up limit	Meas.	Meas.	Scaled	
Head	Voice	0	Left Touch	190	836.6	33.2	32.3	0.228	0.281	
			Left Tilt	190	836.6	33.2	32.3	0.096	0.118	
			Right Touch	190	836.6	33.2	32.3	0.267	**0.328**	1
			Right Tilt	190	836.6	33.2	32.3	0.114	0.140	
Head VoIP	GPRS 4 Slots	0	Left Touch	190	836.6	29.2	28.5	0.424	0.498	
			Left Tilt	190	836.6	29.2	28.5	0.188	0.221	
			Right Touch	190	836.6	29.2	28.5	0.458	**0.538**	2
			Right Tilt	190	836.6	29.2	28.5	0.213	0.250	
Body-worn	Voice	15	Rear	190	836.6	33.2	32.3	0.247	0.304	
			Front	190	836.6	33.2	32.3	0.251	**0.309**	3
Body-worn(VoIP) & Hotspot	GPRS 4 Slots	10	Rear	190	836.6	29.2	28.5	0.491	**0.577**	4
			Front	190	836.6	29.2	28.5	0.488	0.573	
Hotspot			Edge 2	190	836.6	29.2	28.5	0.374	0.439	
			Edge 3	190	836.6	29.2	28.5	0.058	0.068	
			Edge 4	190	836.6	29.2	28.5	0.264	0.310	

DTM (Dual Transfer Mode)

RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		Plot No.
						Tune-up limit	Meas.	Meas.	Scaled	
Body-worn(VoIP) & Hotspot	DTM 2 Slots	10	Rear	190	836.6	29.2	28.3	0.448	0.551	

10.2. GSM1900

RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		Plot No.
						Tune-up limit	Meas.	Meas.	Scaled	
Head	Voice	0	Left Touch	661	1880.0	30.7	30.1	0.170	**0.195**	5
			Left Tilt	661	1880.0	30.7	30.1	0.050	0.057	
			Right Touch	661	1880.0	30.7	30.1	0.089	0.102	
			Right Tilt	661	1880.0	30.7	30.1	0.061	0.070	
Head VoIP	GPRS 4 Slots	0	Left Touch	661	1880.0	26.2	26.2	0.386	**0.386**	6
			Left Tilt	661	1880.0	26.2	26.2	0.101	0.101	
			Right Touch	661	1880.0	26.2	26.2	0.184	0.184	
			Right Tilt	661	1880.0	26.2	26.2	0.125	0.125	
Body-worn	Voice	15	Rear	661	1880.0	30.7	30.1	0.108	0.124	
			Front	661	1880.0	30.7	30.1	0.146	**0.168**	7
Body-worn(VoIP) & Hotspot	GPRS 4 Slots	10	Rear	661	1880.0	26.2	26.2	0.334	0.334	
			Front	661	1880.0	26.2	26.2	0.423	0.423	
Hotspot			Edge 2	661	1880.0	26.2	26.2	0.078	0.078	
			Edge 3	661	1880.0	26.2	26.2	0.451	**0.451**	8
			Edge 4	661	1880.0	26.2	26.2	0.355	0.355	

DTM (Dual Transfer Mode)

RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		Plot No.
						Tune-up limit	Meas.	Meas.	Scaled	
Body-worn(VoIP) & Hotspot	DTM 2 Slots	10	Edge 3	661	1880.0	29.2	28.9	0.382	0.409	

10.3. W-CDMA Band V

RF Exposure Conditions	Mode	Dist. (mm)	Test Position	Ch #.	Freq. (MHz)	Power (dBm)		1-g SAR (W/kg)		Plot No.
						Tune-up limit	Meas.	Meas.	Scaled	
Head	Rel 99 RMC	0	Left Touch	4183	836.6	25.0	24.5	0.345	0.387	
			Left Tilt	4183	836.6	25.0	24.5	0.146	0.164	
			Right Touch	4183	836.6	25.0	24.5	0.384	**0.431**	9
			Right Tilt	4183	836.6	25.0	24.5	0.173	0.194	
Body-worn	Rel 99 RMC	15	Rear	4183	836.6	25.0	24.5	0.339	0.380	
			Front	4183	836.6	25.0	24.5	0.331	0.371	
Hotspot	Rel 99 RMC	10	Rear	4183	836.6	25.0	24.5	0.412	**0.462**	10
			Front	4183	836.6	25.0	24.5	0.401	0.450	
			Edge 2	4183	836.6	25.0	24.5	0.261	0.293	
			Edge 3	4183	836.6	25.0	24.5	0.053	0.060	
			Edge 4	4183	836.6	25.0	24.5	0.186	0.209	

10.4. WLAN and Bluetooth

The model FCC ID: PY7-PM0792 shares the same enclosure and circuit board as model FCC ID: PY7-PM0794. The WLAN/Bluetooth circuitry and layout, including antenna, are identical between the two units. The WLAN/Bluetooth antenna and surrounding circuitry are the same between these two units, and tune up power targets are identical for WLAN and Bluetooth operations. For this reason the SAR data for the WLAN and Bluetooth operations for FCC ID: PY7-PM0792 is considered representative for FCC ID: PY7-PM0794. The Wi-Fi (DTS/U-NII) and Bluetooth SAR measurement results from the original filling can be found in SAR test report 15J20224-S1A, FCC ID: PY7-PM0792. The Wi-Fi and Bluetooth results (measured or estimated) from the original filling are used for Simultaneous Transmission Analysis purposes.

11. SAR Measurement Variability

In accordance with published RF Exposure KDB 865664 D01 SAR measurement 100 MHz to 6 GHz. These additional measurements are repeated after the completion of all measurements requiring the same head or body tissue-equivalent medium in a frequency band. The test device should be returned to ambient conditions (normal room temperature) with the battery fully charged before it is re-mounted on the device holder for the repeated measurement(s) to minimize any unexpected variations in the repeated results.

1) Repeated measurement is not required when the original highest measured SAR is < 0.80 W/kg; steps 2) through 4) do not apply.
2) When the original highest measured SAR is ≥ 0.80 W/kg, repeat that measurement once.
3) Perform a second repeated measurement only if the ratio of largest to smallest SAR for the original and first repeated measurements is > 1.20 or when the original or repeated measurement is ≥ 1.45 W/kg (~ 10% from the 1-g SAR limit).
4) Perform a third repeated measurement only if the original, first or second repeated measurement is ≥1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20.

Frequency Band (MHz)	Air Interface	RF Exposure Conditions	Test Position	Repeated SAR (Yes/No)	Highest Measured SAR (W/kg)	Repeated Measured SAR (W/kg)	Largest to Smallest SAR Ratio
850	GSM 850	Hotspot	Rear	No	0.491	N/A	N/A
	W-CDMA Band V	Hotspot	Rear	No	0.412	N/A	N/A
1900	GSM 1900	Hotspot	Edge 3	No	0.451	N/A	N/A

Note(s):

Second Repeated Measurement is not required since the ratio of the largest to smallest SAR for the original and first repeated measurement is not > 1.20.

12. Simultaneous Transmission SAR Analysis

Simultaneous Transmission Condition

RF Exposure Condition	Item	Capable Transmit Configurations				
Head	1	GSM(Voice)	+	DTS		
	2	GSM(Voice)	+	U-NII		
	3	GSM(GPRS/EDGE)	+	DTS		
	4	GSM(GPRS/EDGE)	+	U-NII		
	5	W-CDMA	+	DTS		
	6	W-CDMA	+	U-NII		
Body-worn	9	GSM(Voice)	+	DTS		
	10	GSM(Voice)	+	U-NII		
	11	GSM(Voice)	+	BT		
	12	GSM(Voice)	+	U-NII	+	BT
	13	GSM(GPRS/EDGE)	+	DTS		
	14	GSM(GPRS/EDGE)	+	U-NII		
	15	GSM(GPRS/EDGE)	+	BT		
	16	GSM(GPRS/EDGE)	+	U-NII	+	BT
	17	W-CDMA	+	DTS		
	18	W-CDMA	+	U-NII		
	19	W-CDMA	+	BT		
	20	W-CDMA	+	U-NII	+	BT
	25			U-NII	+	BT
Hotspot & Wi-Fi Direct	26	GSM(GPRS/EDGE)	+	DTS		
	27	W-CDMA	+	DTS		

Notes:

1. DTS and U-NII 1 and U-NII 3 supports Hotspot and Wi-Fi Direct.
2. GPRS/EDGE and W-CDMA support Hotspot.
3. VoIP is supported in GPRS/EDGE and W-CDMA.
4. DTS Radio cannot transmit simultaneously with Bluetooth Radio.
5. U-NII Radio can transmit simultaneously with Bluetooth Radio.

12.1. Sum of the SAR for WWAN & Wi-Fi & BT

RF Exposure conditions	① WWAN	② DTS	③ U-NII	④ BT	① + ② WWAN + DTS		① + ③ WWAN + U-NII		① + ③ + ④ WWAN + U-NII + BT	
					∑ 1-g SAR (mW/g)	SPLSR (Yes/ No)	∑ 1-g SAR (mW/g)	SPLSR (Yes/ No)	∑ 1-g SAR (mW/g)	SPLSR (Yes/ No)
Head	0.538	0.355	0.524		**0.893**	No	**1.062**	No		
Body-worn	0.577	0.156	0.087	0.154	0.733	No	0.664	No	0.818	No
Hotspot	0.577	0.156	0.087		0.733	No	0.664	No		

Note(s):

All Wi-Fi and Bluetooth SAR values (measured or estimated) used in this report were taken from SAR test report 15J20224-S1A, submitted under FCC ID: PY7-PM0792

Appendixes

Refer to separated files for the following appendixes.

A_15J20275v0 SAR Photos & Ant. Locations

B_15J20275v0 SAR System Check Plots

C_15J20275v0 SAR Highest Test Plots

D_15J20275v0 SAR Tissue Ingredients

E_15J20275v0 SAR Probe Cal. Certificates

F_15J20275v0 SAR Dipole Cal. Certificates

END OF REPORT