

FCC 47 CFR § 2.1093
IEEE Std 1528-2013

SAR EVALUATION REPORT
(Part 0 : SAR CHARACTERIZATION)

FOR

GSM/WCDMA/LTE/5G NR Phone + BT/BLE, DTS/UNII a/b/g/n/ac/ax, NFC and WPT

MODEL NUMBER: SM-S921U, SM-S921U1

FCC ID: A3LSMS921U

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TL-637

Revision History

Rev.	Date	Revisions	Revised By
V1	10/27/2023	Initial Issue	--
V2	11/3/2023	Changed target power for LTE B2/4/25/66, NR Bn2/n25/n66/n70/n77/n78 in Ant. F -Revised target power in sec.6.3 -Revised measured Power & SAR test results of Ant. F in Sec.7 Changed target power for BT (DUAL). -Revised target power in sec.6.3 -Revised measured Power & SAR test results in Sec.7	Seungyeon Kim
V3	11/6/2023	Changed target power for LTE B26 in Ant. E -Revised EFS Plimit in sec.6.3.	Seungyeon Kim
V4	11/8/2023	Revised Note.2 in Sec.5.1.	Seungyeon Kim
V5	11/24//2023	Revised Plimit value in DSI=1 of Sec. 6.3.	Seungyeon Kim

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1. Attestation of SAR Characterization

Applicant Name	SAMSUNG ELECTRONICS CO.,LTD.
FCC ID	A3LSMS921U
Model Number	SM-S921U, SM-S921U1
Applicable Standards	FCC 47 CFR § 2.1093 IEC/IEEE Std 62209-1528 : 2020 Published RF exposure KDB procedures
Report type	Part.0 : SAR Characterization
Date Tested	8/31/2023 to 11/3/2022
Part 0 Purpose	Part 0 is the procedures for determining P_{Limit} for 2G/3G/4G/5G NR sub6 and WLAN/BT to satisfy <i>SAR_design_target</i> in order to FCC limit's requirement.

UL Korea, Ltd. 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 Korea, Ltd. 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 Korea, Ltd. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Korea, Ltd. 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 IAS, any agency of the Federal Government, or any agency of any government

Approved & Released By: 	Prepared By: 
Justin Park Operations Leader UL Korea, Ltd. Suwon Laboratory	Seungyeon Kim Laboratory Engineer UL Korea, Ltd. Suwon Laboratory

2. Introduction

The equipment under test (EUT) is SAMSUNG Smartphone (FCC ID : A3LSMS921U), it contains the Qualcomm modems supporting 2G/3G/4G/5G NR and WLAN/BT technologies. These modems are enable with Qualcomm Smart Transmit feature to control and manage transmitting power in real time and to ensure at all times the time-averaged RF exposure is in compliance with FCC requirement.

This purpose of the part 0 report is to determine SAR char is derived from SAR test measurements and conducted power measurements to determine P_{Limit} for each technology/band. The P_{Limit} represents the maximum time-averaged power level for the corresponding radio/antenna configuration.

3. Facilities and Accreditation

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

Suwon	
SAR 2 Room	SAR 6 Room
SAR 3 Room	SAR 7 Room
SAR 4 Room	SAR 8 Room
SAR 5 Room	SAR 9 Room

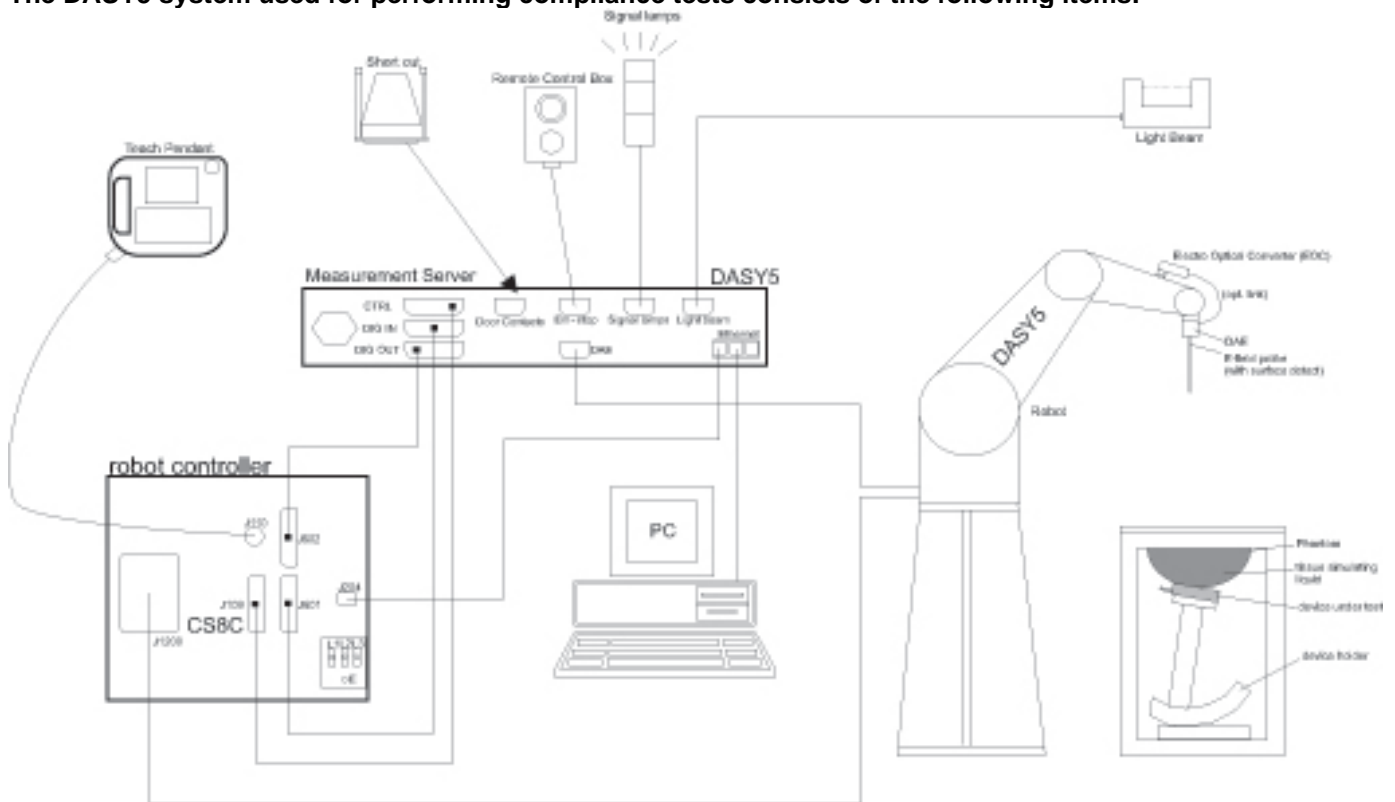
UL Korea, Ltd. is accredited by IAS, Laboratory Code TL-637.

The full scope of accreditation can be viewed at <https://www.iasonline.org/wp-content/uploads/2017/05/TL-637-cert-New.pdf>.

4. SAR Measurement System & Test Equipment

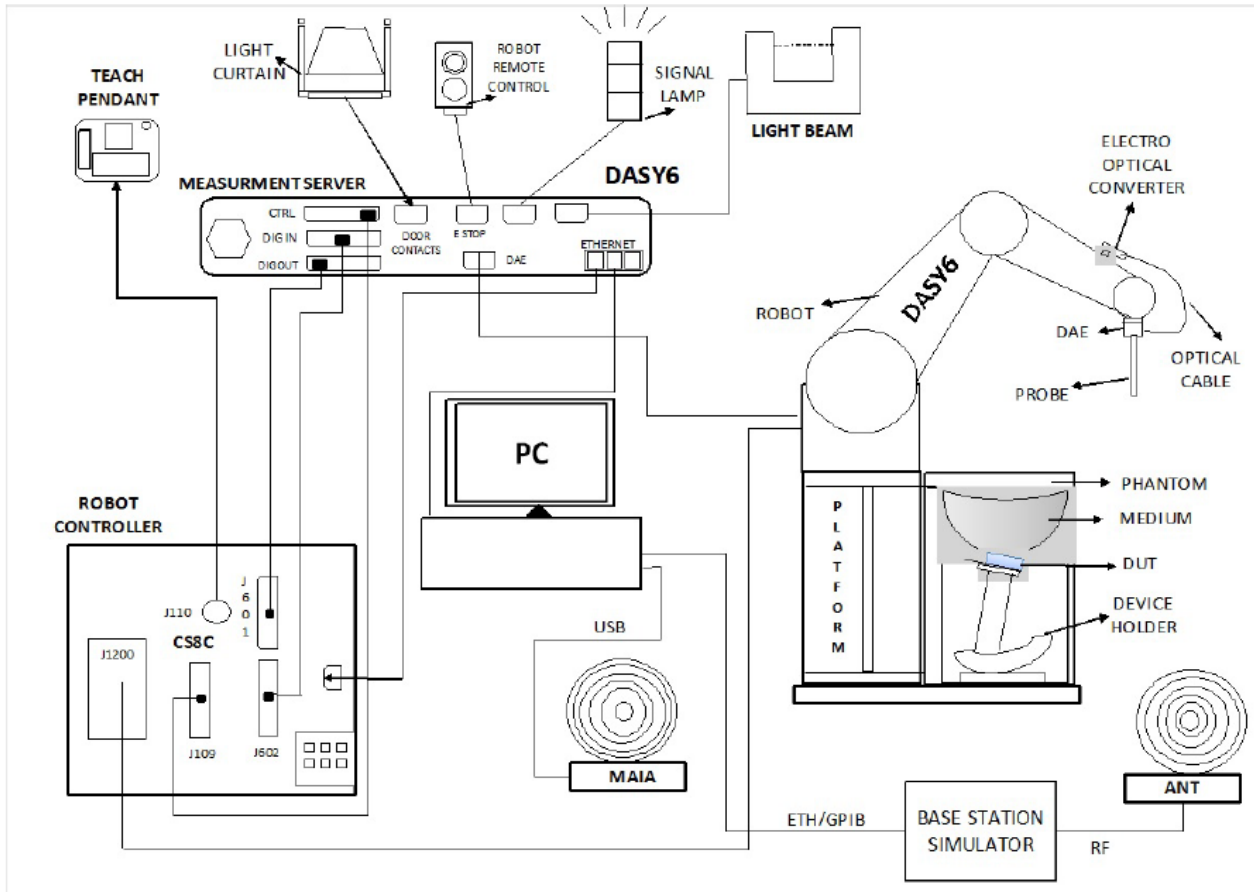
4.1. SAR Measurement System

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.

The DASY6 & 8 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 Win10 and the DASY6 or 8 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	$\frac{1}{2} \cdot \delta \cdot \ln(2) \pm 0.5$ 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: $\Delta x_{Zoom}, \Delta y_{Zoom}$			≤ 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 1 st 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 <i>reported</i> SAR from the <i>area scan based 1-g SAR estimation</i> 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	E5071C	MY46522054	7-24-2024
Network Analyzer	ROHDE & SCHWARZ	ZNB 20	102256	7-24-2024
Dielectric Assessment Kit	SPEAG	DAK-12	1158	11-17-2023
Dielectric Assessment Kit	SPEAG	DAK-3.5	1196	7-17-2024
Shorting block	SPEAG	DAK-3.5 Short	SM DAK 200 BA	N/A
Shorting block	SPEAG	DAK-12 Short	SM DAK 220 AD	N/A
Thermometer	LKM	DTM3000	3851	7-25-2024
Thermometer	LKM	DTM3000	3862	7-25-2024

System Check

Name of Equipment	Manufacturer	Type/Model	Serial No.	Cal. Due Date
MXG Analog Signal Generator	Aglient	N5181A	MY50145882	7-26-2024
MXG Analog Signal Generator	Keysight	N5181B	MY59100587	7-26-2024
MXG Analog Signal Generator	Keysight	N5173B	MY59101083	7-27-2024
Power Sensor	KEYSIGHT	U2000A	MY60180020	7-27-2024
Power Sensor	KEYSIGHT	U2000A	MY60490008	7-25-2024
Power Sensor	KEYSIGHT	U2000A	MY60160004	7-25-2024
Power Sensor	KEYSIGHT	U2000A	MY61010010	7-25-2024
Power Amplifier	EXODUS	AMP2027	1410025-AMP2027-10003	11-2-2023
Power Amplifier	MINI-CIRCUITS	TVA-R5-13A+	2111006	1-6-2024
Power Amplifier	EXODUS	AMP2027ADB	10002	1-6-2024
Directional Coupler	Aglient	772D	MY52180193	7-25-2024
Directional Coupler	H.P	778D	16133	7-25-2024
Directional Coupler	NARDA	4216-10	2835	7-25-2024
Directional Coupler	MINI-CIRCUITS	ZMDC-30-1+	SF569102123	7-25-2024
Low Pass Filter	FILTRON	L140012FL	1410003S	7-25-2024
Low Pass Filter	MICROLAB	LA-60N	3942	7-25-2024
Low Pass Filter	MINI-CIRCUITS	VLF-6000+	S0142	7-25-2024
Low Pass Filter	MINI-CIRCUITS	VLF-3000+	S0143	7-25-2024
Low Pass Filter	MINI-CIRCUITS	NLP-1200	VUU19301915	1-5-2024
Attenuator	KEYSIGHT	8491B/003	MY39272276	7-25-2024
Attenuator	KEYSIGHT	8491B/010	MY39271981	7-24-2024
Attenuator	KEYSIGHT	8491B/010	MY39272011	7-25-2024
Attenuator	KEYSIGHT	8491B/020	MY39272301	7-25-2024
Attenuator	KEYSIGHT	8491B/020	MY39272302	7-24-2024
Attenuator	KEYSIGHT	8491B/003	MY39272275	7-25-2024
E-Field Probe	SPEAG	EX3DV4	7313	3-24-2024
E-Field Probe	SPEAG	EX3DV4	7330	1-24-2024
E-Field Probe	SPEAG	EX3DV4	7545	8-25-2024
E-Field Probe	SPEAG	EX3DV4	7651	5-23-2024
E-Field Probe	SPEAG	EX3DV4	7646	3-23-2024
E-Field Probe	SPEAG	EX3DV4	7376	7-25-2024
E-Field Probe	SPEAG	EX3DV4	7314	5-23-2024
E-Field Probe	SPEAG	EX3DV4	3871	8-25-2024
E-Field Probe	SPEAG	EX3DV4	7652	4-24-2024
5G probe	SPEAG	EummWV4	9559	2-16-2024

Note(s):

1. For System Validation Dipole, Calibration interval applied every 2 years according to referencing KDB 865664 guidance.
2. All equipments were used until Cal.Due data.

Test Equipment (Continued)

Data Acquisition Electronics	SPEAG	DAE4	1667	4-24-2024
Data Acquisition Electronics	SPEAG	DAE4	1447	3-22-2024
Data Acquisition Electronics	SPEAG	DAE4	1468	8-24-2024
Data Acquisition Electronics	SPEAG	DAE4	1494	7-17-2024
Data Acquisition Electronics	SPEAG	DAE4	1591	3-22-2024
Data Acquisition Electronics	SPEAG	DAE4	1668	4-26-2024
Data Acquisition Electronics	SPEAG	DAE4	1670	5-23-2024
Data Acquisition Electronics	SPEAG	DAE4	1671	5-23-2024
Data Acquisition Electronics	SPEAG	DAE4	1343	6-30-2024
System Validation Dipole	SPEAG	D750V3	1205	4-18-2024
System Validation Dipole	SPEAG	D750V3	1122	2-24-2024
System Validation Dipole	SPEAG	D835V2	4d194	3-24-2024
System Validation Dipole	SPEAG	D835V2	4d174	9-21-2024
System Validation Dipole	SPEAG	D1750V2	1125	11-30-2023
System Validation Dipole	SPEAG	D1900V2	5d190	11-16-2023
System Validation Dipole	SPEAG	D1900V2	5d199	3-25-2024
System Validation Dipole	SPEAG	D2300V2	1115	4-25-2024
System Validation Dipole	SPEAG	D2300V2	1090	11-15-2023
System Validation Dipole	SPEAG	D2450V2	939	7-19-2024
System Validation Dipole	SPEAG	D2450V2	960	3-24-2024
System Validation Dipole	SPEAG	D2600V2	1097	9-26-2024
System Validation Dipole	SPEAG	D5GHzV2	1325	4-21-2024
System Validation Dipole	SPEAG	D5GHzV2	1209	2-28-2024
System Validation Dipole	SPEAG	D3500V2	1121	4-20-2024
System Validation Dipole	SPEAG	D3700V2	1036	5-19-2024
System Validation Dipole	SPEAG	D3500V2	1075	5-19-2024
System Validation Dipole	SPEAG	D1750V2	1180	9-21-2024
System Validation Dipole	SPEAG	D2600V2	1178	4-25-2024
System Validation Dipole	SPEAG	D3900V2	1069	4-21-2024
System Validation Dipole	SPEAG	CLA -13	1015	8-22-2024
System Validation Dipole	SPEAG	D6.5GHz	1010	5-27-2024
Thermometer	Lutron	MHB-382SD	AH.50215	1-9-2024
Thermometer	Lutron	MHB-382SD	AH.50213	1-11-2024
Thermometer	Lutron	MHB-382SD	AH.91463	1-11-2024
Thermometer	Lutron	MHB-382SD	AJ.45903	1-9-2024
Thermometer	Lutron	MHB-382SD	AJ.42446	7-26-2024
Thermometer	Lutron	MHB-382SD	AK.12102	7-31-2024
Thermometer	Lutron	MHB-382SD	AK.12103	7-31-2024
Thermometer	Lutron	MHB-382SD	AK.12123	1-9-2024
Thermometer	Lutron	MHB-382SD	AK.18789	7-27-2024

Others

Name of Equipment	Manufacturer	Type/Model	Serial No.	Cal. Due Date
Base Station Simulator	R & S	CMW500	150313	7-27-2024
Base Station Simulator	R & S	CMW500	150314	7-26-2024
Base Station Simulator	R & S	CMW500	162790	7-26-2024
Base Station Simulator	R & S	CMW500	169803	1-5-2024
Base Station Simulator	R & S	CMW500	169801	1-5-2024
Base Station Simulator	R & S	CMW500	169799	7-26-2024
Base Station Simulator	R & S	CMW500	169800	7-27-2024
Base Station Simulator	R & S	CMW500	169798	7-27-2024
UXM 5G Wireless Test Platform	KEYSIGHT	E7515B	MY57510596	7-27-2024
UXM 5G Wireless Test Platform	KEYSIGHT	E751B	MY59150850	1-9-2024
UXM 5G Wireless Test Platform	KEYSIGHT	E7515B	MY58120110	1-10-2024
Radio Communication Test Station	Anritsu	MT8000A	6272466165	10-18-2024
Radio Communication Analyzer	Anritsu	MT8821C	6161094351	11-29-2023

Note(s):

1. For System Validation Dipole, Calibration interval applied every 2 years according to referencing KDB 865664 guidance.
2. Refer to Appendix F that mentioned about justification for Extended SAR Dipole Calibrations. (for blue box items)
3. All equipments were used until Cal.Due data.

5. Device Under Test (DUT) Information

5.1. 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: <input type="checkbox"/> Class 8 - 1 Up, 4 Down <input type="checkbox"/> Class 10 - 2 Up, 4 Down <input type="checkbox"/> Class 12 - 4 Up, 4 Down <input checked="" type="checkbox"/> Class 33 - 4 Up, 5 Down	GSM Voice: 12.5% (E)GPRS: 1 Slot: 12.5% 2 Slots: 25% 3 Slots: 37.5% 4 Slots: 50%
		Does this device support DTM (Dual Transfer Mode)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
W-CDMA (UMTS)	Band II Band IV Band V	UMTS Rel. 99 (Voice & Data) HSDPA (Category 24) HSUPA (Category 6) DC-HSDPA (Category 24) HSPA+ (DL only)		100%
LTE	FDD Band 71 / Band 12 FDD Band 13 / Band 14 FDD Band 26 / Band 5 FDD Band 66 / Band 4 FDD Band 25 / Band 2 FDD Band 30 / Band 7 TDD Band 38 / Band 48 TDD Band 41-PC3&PC2 UL CA intraband-contiguous (2CC) 41C / 48C / 66B / 66C	QPSK 16QAM 64QAM 256QAM Rel. 16 Carrier Aggregation (2 Uplink and 6 Downlinks)		100% (FDD) 63.3% (TDD) ^{Power Class 3} 43.3% (TDD) ^{Power Class 2}
		Does this device support SV-LTE (1xRTT-LTE)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
NR (Sub6)	FDD Band n71 / Band n12 FDD Band n26 / Band n5 FDD Band n70 / Band n66 FDD Band n25 / Band n2 FDD Band n30 / Band n7 TDD Band n38 / Band 48 TDD Band n41-PC2 TDD Band n77-PC2 TDD Band n78-PC2	DFT-s-OFDM: ■ $\pi/2$ BPSK, QPSK, 16QAM, 64QAM, 256QAM CP-OFDM: ■ QPSK, 16QAM, 64QAM, 256QAM		100%
Wi-Fi	2.4 GHz	802.11b / 802.11g 802.11n (HT20)/ 802.11ax (HE20)		98.8% (802.11b-SISO) 98.8% (802.11b-MIMO)
	5 GHz	802.11a / 802.11n (HT20) & (HT40) 802.11ac (VHT20) & (VHT40) & (VHT80) & (VHT160) 802.11ax (HE20) & (HE40) & (HE80) & (HE160)		97.1% (802.11ac (VHT80-SISO)) 98.2% (802.11n (HT40-SISO)) 94.5% (802.11ac (VHT80-MIMO)) 98.2% (802.11n (HT40-MIMO))
	6 GHz	802.11a 802.11ax (HE20) & (HE40) & (HE80) & (HE160)		99.6% (802.11ax (HE160-SISO)) 99.6% (802.11ax (HE160-SISO))
	Does this device support bands 5.60 ~ 5.65 GHz? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
Does this device support Band gap channel(s)? <input type="checkbox"/> Yes <input type="checkbox"/> No				
Bluetooth	2.4 GHz	Version 5.3 LE		85.4% (LE-1M) 76.8% (BDR)
NFC	13.56 MHz	Type A/B/F		100%

Notes:

1. Wi-Fi & Bluetooth were tested SAR using highest duty cycle. Measured duty cycle plots are in Section.9.
2. This device supports UL CA intra band in LTE Band. Detail of configuration refer to appendix.G.
3. NR TDD Band n41 & n48 & n77 has support SRS(0,1,2,3) modes.
4. 6GHz RF Exposure report has test results of WiFi 6GHz.

5.2. Time-Averaging for SAR

This device is enabled with Qualcomm Smart Transmit algorithm to control and manage transmitting power in real time and to ensure that the time-averaged RF exposure from 2G/3G/4G/5G NR Sub6 WWAN/WIFI/BT is compliance with FCC requirement. This part.0 report shows SAR characterization of 2G/3G/4G/5G NR Sub6 and WLAN/BT. Characterization is achieved by determining P_{limit} for 2G/3G/4G/5G NR Sub6 and WLAN/BT that correspond to the SAR_{design_target} after accounting for all device design related uncertainty. The SAR Characterization is denoted as SAR Char in this report.

5.3. Nomenclature for Part 0 Report

Technology	Term	Description
2G/3G/4G/ 5G NR Sub6/ and WLAN/BT	P_{limit}	Power level that corresponds to the exposure design target (SAR_{design_target}) after accounting for all device design related uncertainties
	P_{max}	Maximum tune up output power
	SAR_{design_target}	Target SAR level < FCC SAR limit after accounting for all device design related uncertainties
	SAR_{Char}	Table containing P_{limit} for all technologies and bands

6. SAR Characterizations

6.1. SAR Design Target

SAR_Design_target is determined by ensuring that it is less than FCC SAR limit after accounting for total device designed related uncertainties specified by the manufacturer.

<i>SAR_design_target</i>			
$SAR_design_target < SAR_regulatory_limit \times 10^{\frac{-Total\ Uncertainty}{10}}$			
1g SAR (W/kg)		10g SAR (W/kg)	
Total Uncertainty	1.0 dB	Total Uncertainty	1.0 dB
<i>SAR_regulatory_limit</i>	1.6 W/kg	<i>SAR_regulatory_limit</i>	4.0 W/kg
<i>SAR_design_target</i>	1.0 W/kg	<i>SAR_design_target</i>	2.5 W/kg

6.2. DSI and SAR Determination

This device uses different Device State Index (DSI) to configure different time averaged power levels based on certain exposure scenarios. Depending on the detection scheme implemented in the Tablet, the worst-case SAR was determined by measurements for the relevant exposure conditions for that DSI. Detailed descriptions of the detection mechanisms are included in the operational description.

The device state index (DSI) conditions used in below table represent different exposure scenarios.

DSI and Corresponding Exposure Scenarios

RF exposure Scenarios	DSI No.	Description	KDB guide For SAR test
Head	1	1. Next to the ear exposure condition. 2. Handset's Receiver(ear piece) is active during voice or VoIP call.	KDB 648474 D04
Body-w orn & Hotspot	0	1. SAR test requirements for Handset with wireless router or hotspot mode capabilities. 2. Hotspot mode SAR test for Near body use condition.	KDB 648474 D04 KDB 941225 D06
Phablet-10g	0	1. Hand use conditions for Handset(Phablet).	KDB 648474 D04

6.3. SAR Char

SAR results corresponding to P_{max} for each antenna/technology/band/DSI can be found in Section.7. P_{limit} is calculated by linearly scaling with the measured SAR at the P_{max} to correspond to the SAR_design_target. P_{limit} determination for each exposure scenario corresponding to SAR_design_target are shown in table.

P_{Limit} Determination

Device State Index (DSI)	P_{limit} Determination Scenarios
DSI = 0	The worst-case SAR exposure is determined as maximum SAR normalized to the limit among; <ol style="list-style-type: none"> 1. Bodyw orn & Hotspot SAR at 10 mm 2. Product Specific 10g SAR at 0 mm
DSI = 1	<ol style="list-style-type: none"> 1. P_{limit} is calculated based on Head exposure SAR

Notes:

1. For DSI = 0 or 1, P_{limit} is calculated by:

All Antennas

$P_{limit} = \min\{ P_{limit}$ corresponding to Body-worn & Hotspot 1g SAR evaluation at 10 mm spacing,

P_{limit} corresponding to Phablet-10g SAR evaluation at 0 mm on all surfaces and side edges with each antenna location at within 25mm from that surface or edge.}

SAR Characterizations

Exposure condition			Head (RCV)	Bodyworn & Hotspot	Phablet 10-g SAR	Pmax (Maximum tune-up Power) (dBm)
Spatial-average			1g	1g	10g	
Test distance (mm)			0	10	0	
DSI :			1	0	0	
RF Air Interface	Antenna	Antenna Group	P _{limit} corresponding to 1.0 W/kg (SAR _{design_target}) (1g) / 2.5 W/kg (SAR _{design_target}) (10g)			
GSM 850	A	AG 0	28.8	28.6	27.2	25.4
GSM 850	E	AG 1	21.8	26.7	26.7	25.4
GSM 1900	A	AG 0	29.7	18.8	18.8	22.2
WCDMA 2	A	AG 0	32.7	19.0	19.0	23.0
WCDMA 4	A	AG 0	26.0	19.0	19.0	23.0
WCDMA 5	A	AG 0	27.3	28.2	26.9	24.0
WCDMA 5	E	AG 1	22.0	26.7	26.7	24.0
LTE Band 5	A	AG 0	27.4	27.7	27.0	24.0
LTE Band 5	E	AG 1	22.0	26.3	26.3	24.0
LTE Band 7	B	AG 0	24.1	22.0	22.0	23.0
LTE Band 7	F	AG 1	17.5	19.5	19.5	23.0
LTE Band 12	A	AG 0	28.3	28.7	27.3	24.2
LTE Band 12	E	AG 1	21.5	26.7	26.4	24.2
LTE Band 13	A	AG 0	27.5	27.2	27.2	24.0
LTE Band 13	E	AG 1	26.0	28.6	28.6	24.0
LTE Band 14	A	AG 0	27.2	27.1	27.5	24.0
LTE Band 14	E	AG 1	26.4	29.1	29.1	24.0
LTE Band 25(2)	A	AG 0	29.2	19.0	19.0	23.7
LTE Band 25(2)	F	AG 1	19.0	21.0	21.0	23.7
LTE Band 26	A	AG 0	27.2	27.7	26.8	24.0
LTE Band 26	E	AG 1	22.0	26.5	26.5	24.0
LTE Band 30	A	AG 0	29.6	20.0	20.0	22.5
LTE Band 30	F	AG 1	17.5	20.0	20.0	22.0
LTE Band 66(4)	A	AG 0	26.7	19.0	19.0	23.7
LTE Band 66(4)	F	AG 1	17.5	21.0	21.0	23.7
LTE Band 71	A	AG 0	28.9	29.5	27.5	24.3
LTE Band 71	E	AG 1	26.0	31.4	30.9	24.3
LTE Band 41(38) PC3	B	AG 0	20.4	21.0	21.0	22.0
LTE Band 41(38) PC3	F	AG 1	17.0	19.5	19.5	22.0
LTE Band 41(38) PC2	B	AG 0	20.4	21.0	21.0	22.1
LTE Band 41(38) PC2	F	AG 1	17.0	19.5	19.5	22.1
LTE Band 48	F	AG 1	16.0	20.8	20.0	20.0
NR Band n5	A	AG 0	27.1	27.0	27.3	24.0
NR Band n5	E	AG 1	22.0	27.4	27.0	24.0
NR Band n7	B	AG 0	24.4	22.0	22.0	23.0
NR Band n7	F	AG 1	17.5	19.5	19.5	23.0
NR Band n12	A	AG 0	29.1	28.9	27.3	24.2
NR Band n12	E	AG 1	21.5	26.6	26.1	24.2
NR Band n25(2)	A	AG 0	28.6	19.0	19.0	23.5
NR Band n25(2)	F	AG 1	19.0	21.0	21.0	23.5
NR Band n26	A	AG 0	27.2	27.2	27.3	24.0
NR Band n26	E	AG 1	22.0	26.9	26.9	24.0
NR Band n30	A	AG 0	29.1	20.0	20.0	22.5
NR Band n30	F	AG 1	17.5	20.0	20.0	22.0
NR Band n66	A	AG 0	25.6	19.0	19.0	23.5
NR Band n66	F	AG 1	17.5	21.0	21.0	23.5
NR Band n70	A	AG 0	24.9	20.0	20.0	23.0
NR Band n70	F	AG 1	17.0	21.0	21.0	23.0
NR Band n71	A	AG 0	30.3	29.7	27.4	24.3
NR Band n71	E	AG 1	29.2	32.4	32.2	24.3

Notes:

1. If P_{limit} is higher than P_{max} for some modes / bands, The modes/bands will operate at a power level up to P_{max} .
2. P_{max} (Maximum tune-up power) is specified in tune-up document. The maximum allowed power is equal to maximum tune up power + 1 dB device design uncertainty.
3. All P_{limit} EFS and maximum tune up output P_{max} levels entered in above Table correspond to average power levels after accounting for duty cycle in the case of TDD modulation schemes.
4. $P_{limit}(DSI=0)$ was determined to be the lower of "Body-worn & Hotspot" and "Product Specific 10-g" in each WWAN Bands.
5. Some band's DSIs were determined more conservative P_{limit} instead of calculation P_{limit} in Section.7.
6. Some band defined lower P_{limit} than calculated P_{limit} according to manufacturer requirement. (for blue box)

SAR Characterizations (Continued)

Exposure condition			Head (RCV)	Bodyworn & Hotspot	Phablet 10-g SAR	Pmax (Maximum tune-up Power) (dBm)
Spatial-average			1g	1g	10g	
Test distance (mm)			0	10	0	
DSI :			1	0	0	
RF Air Interface	Antenna	Antenna Group	P _{limit} corresponding to 1.0 W/kg (SAR _{design_target}) (1g) / 2.5 W/kg (SAR _{design_target}) (10g)			
NR Band n41(38) PC2 -Main- (Switching SRS1)	F	AG 1	17.0	19.5	19.5	26.0
NR Band n41 PC2 -SRS2- (Switching SRS3)	E	AG 1	15.0	15.0	15.0	23.0
NR Band n41(38) swithcing PC2 -Main- (non switching SRS1)	B	AG 0	21.0	21.0	21.0	26.0
NR Band n41 swithcing PC2- SRS2- (non switching SRS3)	D	AG 0	17.0	17.0	17.0	22.5
NR Band n48 -Main-	F	AG 1	15.5	19.5	19.5	22.0
NR Band n48 -SRS1-	C	AG 0	18.0	18.0	18.0	20.5
NR Band n48 -SRS2-	I	AG 1	11.5	18.0	18.0	20.5
NR Band n48 -SRS3-	D	AG 0	17.0	17.0	17.0	19.5
NR Band n77(78) PC2 -Main-	F	AG 1	16.0	18.5	18.5	26.0
NR Band n77(78) PC2 -SRS1-	C	AG 0	18.0	18.0	18.0	23.0
NR Band n77(78) PC2 -SRS2-	I	AG 1	11.5	19.0	19.0	25.0
NR Band n77(78) PC2 -SRS3-	D	AG 0	16.5	16.5	16.5	23.0
DTS SISO Ant. 1	H	AG 1	14.0	23.5	21.7	18.0
DTS SISO Ant. 2	J	AG 1	14.0	27.1	22.6	18.0
DTS MIMO	H+J	AG 1	14.0	23.2	21.4	18.0
UNII-2A SISO Ant. 1	H	AG 1	13.0	16.0	16.0	17.0
UNII-2A SISO Ant. 2	E	AG 1	13.0	16.0	16.0	17.0
UNII-2A MIMO	H+E	AG 1	13.0	16.0	16.0	17.0
UNII-2C SISO Ant. 1	H	AG 1	13.0	16.0	16.0	17.0
UNII-2C SISO Ant. 2	E	AG 1	13.0	16.0	16.0	17.0
UNII-2C MIMO	H+E	AG 1	13.0	16.0	16.0	17.0
UNII-3 SISO Ant. 1	H	AG 1	13.0	16.0	16.0	17.0
UNII-3 SISO Ant. 2	E	AG 1	13.0	16.0	16.0	17.0
UNII-3 MIMO	H+E	AG 1	13.0	16.0	16.0	17.0
UNI-4 SISO Ant. 1	H	AG 1	13.0	16.0	16.0	17.0
UNI-4 SISO Ant. 2	E	AG 1	13.0	16.0	16.0	17.0
UNI-4 MIMO	H+E	AG 1	13.0	16.0	16.0	17.0
WiFi 6E SISO Ant. 1	H	AG 1	9.0	9.0	9.0	15.0
WiFi 6E SISO Ant. 2	E	AG 1	9.0	9.0	9.0	15.0
WiFi 6E MIMO	H+E	AG 1	9.0	9.0	9.0	15.0
Bluetooth Ant. 1	H	AG 1	16.0	23.5	21.6	20.0
Bluetooth Ant. 2	J	AG 1	13.0	24.9	21.1	17.0
Bluetooth MIMO	H+J	AG 1	18.5	22.5	22.2	13.5

Notes:

1. If P_{limit} is higher than P_{max} for some modes / bands, The modes/bands will operate at a power level up to P_{max} .
2. P_{max} (Maximum tune-up power) is specified in tune-up document. The maximum allowed power is equal to maximum tune up power + 1 dB device design uncertainty.
3. All P_{limit} EFS and maximum tune up output P_{max} levels entered in above Table correspond to average power levels after accounting for duty cycle in the case of TDD modsublation schemes (e.g GSM and LTE TDD).
4. $P_{limit}(DSI=0)$ was determined to be the lower of "Body-worn & Hotspot" and "Product Specific 10-g" in each WWAN Bands.
5. Some band's DSIs were determined more conservative P_{limit} instead of calculation P_{limit} in Section.7.
6. Some band defined lower P_{limit} than calculated P_{limit} according to manufacturer requirement (for blue box)

7. SAR Test results for P_{limit} calculations

Head exposure (DSI = 1)

RF Exposure Conditions	DSI	band	Antenna	mode	RB	Ch.	Test distance (mm)	Test position	Output power (dbm)	meas SAR 1g (W/kg)	P_{limit} (dBm)	Minimum P_{limit} (dBm)
Head	1	GSM 850	A	GPRS 2 slots		190	0	Left Touch	25.12	0.170	32.81	32.81
							0	Left Tilt	25.12	0.106	34.87	
							0	Right Touch	25.12	0.153	33.27	
							0	Right Tilt	25.12	0.081	36.03	
Head	1	GSM 850	E	GPRS 4 slots		128	0	Left Touch	21.34	0.627	23.37	22.71
						190	0	Left Tilt	21.34	0.729	22.71	
							0	Right Touch	21.47	0.444	25.00	
						0	Right Tilt	21.47	0.381	25.66		
Head	1	GSM 1900	A	GPRS 3 slots		512	0	Left Touch	22.12	0.069	33.73	33.73
							0	Left Tilt	22.12	0.026	37.97	
							0	Right Touch	22.12	0.036	36.56	
							0	Right Tilt	22.12	0.027	37.81	
Head	1	WCDMA 2	A	Rel 99		9400	0	Left Touch	22.79	0.041	36.66	36.66
							0	Left Tilt	22.79	0.036	37.23	
							0	Right Touch	22.79	0.031	37.88	
							0	Right Tilt	22.79	0.019	40.00	
Head	1	WCDMA 4	A	Rel 99		1413	0	Left Touch	22.77	0.190	29.98	29.98
							0	Left Tilt	22.77	0.055	35.37	
							0	Right Touch	22.77	0.119	32.01	
							0	Right Tilt	22.77	0.055	35.37	
Head	1	WCDMA 5	A	Rel 99		4183	0	Left Touch	23.79	0.163	31.67	31.43
							0	Left Tilt	23.79	0.104	33.62	
							0	Right Touch	23.79	0.172	31.43	
							0	Right Tilt	23.79	0.097	33.92	
Head	1	WCDMA 5	E	Rel 99		4132	0	Left Touch	22.31	1.050	22.10	22.10
						4183	0	Left Tilt	22.31	0.956	22.51	
							0	Right Touch	22.34	0.749	23.60	
						0	Right Tilt	22.34	0.635	24.31		
Head	1	LTE Band 5	A	QPSK BW = 10	RB 1/0	20525	0	Left Touch	24.15	0.178	31.65	31.50
							0	Left Tilt	24.15	0.071	35.64	
							0	Right Touch	24.15	0.184	31.50	
							0	Right Tilt	24.15	0.100	34.15	
Head	1	LTE Band 5	E	QPSK BW = 10	RB 1/0	20525	0	Left Touch	22.06	0.794	23.06	22.49
							0	Left Tilt	22.06	0.906	22.49	
							0	Right Touch	22.06	0.684	23.71	
							0	Right Tilt	22.06	0.617	24.16	
Head	1	LTE Band 7	B	QPSK BW = 20	RB 1/99	21100	0	Left Touch	23.29	0.330	28.10	28.10
							0	Left Tilt	23.29	0.146	31.65	
							0	Right Touch	23.29	0.152	31.47	
							0	Right Tilt	23.29	0.097	33.42	
Head	1	LTE Band 7	F	QPSK BW = 20	RB 1/99	21100	0	Left Touch	17.24	0.347	21.84	18.35
							0	Left Tilt	17.24	0.634	19.22	
					RB 50/0	0	Right Touch	17.24	0.534	19.96		
						0	Right Tilt	17.24	0.775	18.35		
Head	1	LTE Band 12	A	QPSK BW = 10	RB 1/25	23095	0	Left Touch	24.29	0.159	32.28	32.28
							0	Left Tilt	24.29	0.082	35.15	
							0	Right Touch	24.29	0.139	32.86	
							0	Right Tilt	24.29	0.100	34.29	
Head	1	LTE Band 12	E	QPSK BW = 10	RB 50/0	23095	0	Left Touch	21.88	0.851	22.58	22.58
					RB 1/25		0	Left Tilt	21.98	0.865	22.61	
					RB 25/12		0	Right Touch	21.99	0.741	23.29	
							0	Right Tilt	21.99	0.625	24.03	
Head	1	LTE Band 13	A	QPSK BW = 10	RB 1/25	23230	0	Left Touch	24.07	0.181	31.49	31.49
							0	Left Tilt	24.07	0.088	34.63	
							0	Right Touch	24.07	0.171	31.74	
							0	Right Tilt	24.07	0.084	34.83	
Head	1	LTE Band 13	E	QPSK BW = 10	RB 1/25	23230	0	Left Touch	24.27	0.665	26.04	26.04
							0	Left Tilt	24.27	0.657	26.09	
							0	Right Touch	24.27	0.517	27.14	
							0	Right Tilt	24.27	0.472	27.53	
Head	1	LTE Band 14	A	QPSK BW = 10	RB 1/49	23330	0	Left Touch	24.08	0.146	32.44	31.34
							0	Left Tilt	24.08	0.077	35.22	
							0	Right Touch	24.08	0.188	31.34	
							0	Right Tilt	24.08	0.096	34.26	
Head	1	LTE Band 14	E	QPSK BW = 10	RB 1/25	23330	0	Left Touch	24.20	0.590	26.49	26.48
							0	Left Tilt	24.20	0.592	26.48	
							0	Right Touch	24.20	0.452	27.65	
							0	Right Tilt	24.20	0.339	28.90	

Notes:

1. The maximum allowed power is equal to maximum tune up power + 1 dB device design uncertainty
2. Measured Output power refer to Sec.9 in SAR part.1 report.
3. Some bands were determined more conservative P_{limit} instead of calculation P_{limit} .

Head exposure (DSI = 1) (Continued)

RF Exposure Conditions	DSI	band	Antenna	mode	RB	Ch.	Test distance (mm)	Test position	Output power (dbm)	meas SAR 1g (W/kg)	P _{limit} (dBm)	Minimum P _{limit} (dBm)	
Head	1	LTE Band 25(2)	A	QPSK BW = 20	RB 1/0	26590	0	Left Touch	23.86	0.118	33.14	33.14	
							0	Left Tilt	23.86	0.050	36.87		
							0	Right Touch	23.86	0.070	35.41		
							0	Right Tilt	23.86	0.067	35.60		
Head	1	LTE Band 25(2)	F	QPSK BW = 20	RB 50/50	26590	0	Left Touch	18.52	0.245	24.63	21.28	
							0	Left Tilt	18.52	0.338	23.23		
							0	Right Touch	18.52	0.526	21.31		
							0	Right Tilt	18.52	0.530	21.28		
Head	1	LTE Band 26	A	QPSK BW = 15	RB 1/0	26865	0	Left Touch	24.02	0.175	31.59	31.32	
							0	Left Tilt	24.02	0.091	34.43		
							0	Right Touch	24.02	0.186	31.32		
							0	Right Tilt	24.02	0.106	33.77		
Head	1	LTE Band 26	E	QPSK BW = 15	RB 75/0	26865	0	Left Touch	21.97	0.845	22.70	22.35	
					RB 1/0		0	Left Tilt	22.02	0.926	22.35		
					RB 75/0		0	Right Touch	21.97	0.682	23.63		
					RB 36/0		0	Right Tilt	22.04	0.631	24.04		
Head	1	LTE Band 30	A	QPSK BW = 10	RB 1/25	27710	0	Left Touch	22.77	0.083	33.58	33.58	
							0	Left Tilt	22.77	0.037	37.09		
							0	Right Touch	22.77	0.060	34.99		
							0	Right Tilt	22.77	0.047	36.05		
Head	1	LTE Band 30	F	QPSK BW = 10	RB 25/12	27710	0	Left Touch	17.76	0.613	19.89	17.59	
							0	Left Tilt	17.76	0.746	19.03		
							0	Right Touch	17.76	0.938	18.04		
							0	Right Tilt	17.76	1.040	17.59		
Head	1	LTE Band 66(4)	A	QPSK BW = 20	RB 1/0	132322	0	Left Touch	24.11	0.220	30.69	30.69	
							0	Left Tilt	24.11	0.073	35.48		
							0	Right Touch	24.11	0.151	32.32		
							0	Right Tilt	24.11	0.082	34.97		
Head	1	LTE Band 66(4)	F	QPSK BW = 20	RB 1/0	132322	0	Left Touch	17.15	0.339	21.85	19.04	
							0	Left Tilt	17.15	0.551	19.74		
							0	Right Touch	17.15	0.539	19.83		
							0	Right Tilt	17.15	0.647	19.04		
Head	1	LTE Band 71	A	QPSK BW = 20	RB 1/49	133297	0	Left Touch	24.32	0.139	32.89	32.89	
							0	Left Tilt	24.32	0.076	35.51		
							0	Right Touch	24.32	0.092	34.68		
							0	Right Tilt	24.32	0.059	36.61		
Head	1	LTE Band 71	E	QPSK BW = 20	RB 1/0	133297	0	Left Touch	24.46	0.607	26.63	26.06	
							0	Left Tilt	24.46	0.692	26.06		
							0	Right Touch	24.46	0.468	27.76		
							0	Right Tilt	24.46	0.419	28.24		
Head	1	LTE Band 41(38) PC3	B	QPSK BW = 20	RB 1/0	40620	0	Left Touch	21.11	0.113	30.58	30.58	
							0	Left Tilt	21.11	0.047	34.39		
							0	Right Touch	21.11	0.061	33.26		
							0	Right Tilt	21.11	0.077	32.25		
Head	1	LTE Band 41(38) PC3	F	QPSK BW = 20	RB 1/0	41055	0	Left Touch	17.15	0.416	20.96	17.45	
					RB 50/50		41490	0	Left Tilt	17.14	0.658		18.96
								0	Right Touch	17.14	0.836		17.92
								0	Right Tilt	17.14	0.931		17.45
Head	1	LTE Band 41(38) PC2	B	QPSK BW = 20	RB 1/0	40620	0	Left Touch	21.14	0.233	27.47	27.47	
Head	1	LTE Band 41(38) PC2	F	QPSK BW = 20	RB 1/0	41490	0	Right Tilt	17.14	0.869	17.75	17.75	
Head	1	LTE Band 48	F	QPSK BW = 20	RB 50/50	55340	0	Left Touch	16.38	0.453	19.82	16.37	
							0	Left Tilt	16.38	0.496	19.43		
						56640	0	Right Touch	16.16	0.805	17.10		
							0	Right Tilt	16.16	0.952	16.37		
Head	1	NR Band n5	A	DFT-s OFDM QPSK BW= 20	RB 1/1	167300	0	Left Touch	24.38	0.173	32.00	31.33	
							0	Left Tilt	24.38	0.088	34.94		
							0	Right Touch	24.38	0.202	31.33		
							0	Right Tilt	24.38	0.102	34.29		
Head	1	NR Band n5	E	DFT-s OFDM QPSK BW= 20	RB 1/52	167300	0	Left Touch	22.54	0.936	22.83	22.83	
							0	Left Tilt	22.54	0.730	23.91		
							0	Right Touch	22.54	0.721	23.96		
							0	Right Tilt	22.54	0.598	24.77		

Notes:

1. The maximum allowed power is equal to maximum tune up power + 1 dB device design uncertainty
2. Measured Output power refer to Sec.9 in SAR part.1 report.
3. Some bands were determined more conservative P_{limit} instead of calculation P_{limit}.

Head exposure (DSI = 1) (Continued)

RF Exposure Conditions	DSI	band	Antenna	mode	RB	Ch.	Test distance (mm)	Test position	Output power (dbm)	meas SAR 1g (W/kg)	P _{limit} (dBm)	Minimum P _{limit} (dBm)
Head	1	NR Band n7	B	DFT-s OFDM QPSK BW=40	RB 108/54	507000	0	Left Touch	23.45	0.321	28.38	28.38
							0	Left Tilt	23.45	0.130	32.31	
							0	Right Touch	23.45	0.130	32.31	
							0	Right Tilt	23.45	0.102	33.36	
Head	1	NR Band n7	F	DFT-s OFDM QPSK BW=40	RB 108/54	507000	0	Left Touch	17.31	0.503	20.29	17.61
					RB 1/214		0	Left Tilt	17.31	0.738	18.63	
							0	Right Touch	17.31	0.854	18.00	
							0	Right Tilt	17.26	0.923	17.61	
Head	1	NR Band n12	A	DFT-s OFDM QPSK BW=15	RB 36/21	141500	0	Left Touch	24.21	0.130	33.07	33.07
							0	Left Tilt	24.21	0.078	35.29	
							0	Right Touch	24.21	0.113	33.68	
							0	Right Tilt	24.21	0.073	35.58	
Head	1	NR Band n12	E	DFT-s OFDM QPSK BW=15	RB 36/21	141500	0	Left Touch	22.22	1.040	22.05	22.05
							0	Left Tilt	22.22	0.810	23.14	
							0	Right Touch	22.22	0.710	23.71	
							0	Right Tilt	22.22	0.583	24.56	
Head	1	NR Band n25(2)	A	DFT-s OFDM QPSK BW=40	RB 1/107	376500	0	Left Touch	23.73	0.129	32.62	32.62
							0	Left Tilt	23.73	0.050	36.74	
							0	Right Touch	23.73	0.080	34.70	
							0	Right Tilt	23.73	0.058	36.10	
Head	1	NR Band n25(2)	F	DFT-s OFDM QPSK BW=40	RB 1/1	376500	0	Left Touch	18.50	0.317	23.49	20.96
							0	Left Tilt	18.50	0.402	22.46	
							0	Right Touch	18.50	0.483	21.66	
							0	Right Tilt	18.50	0.568	20.96	
Head	1	NR Band n26	A	DFT-s OFDM QPSK BW=20	RB 50/28	166300	0	Left Touch	24.01	0.150	32.25	31.41
							0	Left Tilt	24.01	0.095	34.23	
							0	Right Touch	24.01	0.182	31.41	
							0	Right Tilt	24.01	0.105	33.80	
Head	1	NR Band n26	E	DFT-s OFDM QPSK BW=20	RB 1/1	166300	0	Left Touch	22.41	0.949	22.64	22.64
							0	Left Tilt	22.41	0.748	23.67	
							0	Right Touch	22.41	0.673	24.13	
							0	Right Tilt	22.41	0.564	24.90	
Head	1	NR Band n30	A	DFT-s OFDM QPSK BW=20	RB 25/13	462000	0	Left Touch	22.67	0.092	33.03	33.03
							0	Left Tilt	22.67	0.030	37.88	
							0	Right Touch	22.67	0.060	34.89	
							0	Right Tilt	22.67	0.054	35.35	
Head	1	NR Band n30	F	DFT-s OFDM QPSK BW=20	RB 25/13	462000	0	Left Touch	17.97	0.590	20.26	17.69
					RB 50/0		0	Left Tilt	17.97	0.726	19.36	
							0	Right Touch	17.97	0.881	18.52	
							0	Right Tilt	17.78	1.020	17.69	
Head	1	NR Band n66	A	DFT-s OFDM QPSK BW=40	RB 1/1	349000	0	Left Touch	23.64	0.255	29.57	29.57
							0	Left Tilt	23.64	0.066	35.44	
							0	Right Touch	23.64	0.156	31.71	
							0	Right Tilt	23.64	0.104	33.47	
Head	1	NR Band n66	F	DFT-s OFDM QPSK BW=40	RB 108/54	349000	0	Left Touch	17.40	0.335	22.15	19.36
							0	Left Tilt	17.40	0.505	20.37	
							0	Right Touch	17.40	0.512	20.31	
							0	Right Tilt	17.40	0.637	19.36	
Head	1	NR Band n70	A	DFT-s OFDM QPSK BW=15	RB 36/21	340500	0	Left Touch	23.23	0.270	28.92	28.92
							0	Left Tilt	23.23	0.072	34.66	
							0	Right Touch	23.23	0.144	31.65	
							0	Right Tilt	23.23	0.047	36.51	
Head	1	NR Band n70	F	DFT-s OFDM QPSK BW=15	RB 36/21	340500	0	Left Touch	17.11	0.369	21.44	18.43
					RB 75/0		0	Left Tilt	17.11	0.551	19.70	
							0	Right Touch	17.11	0.563	19.60	
							0	Right Tilt	17.22	0.757	18.43	
Head	1	NR Band n71	A	DFT-s OFDM QPSK BW=20	RB 50/28	136100	0	Left Touch	24.29	0.097	34.42	34.42
							0	Left Tilt	24.29	0.044	37.86	
							0	Right Touch	24.29	0.096	34.47	
							0	Right Tilt	24.29	0.055	36.89	
Head	1	NR Band n71	E	DFT-s OFDM QPSK BW=20	RB 50/28	136100	0	Left Touch	24.91	0.365	29.29	29.29
							0	Left Tilt	24.91	0.325	29.79	
							0	Right Touch	24.91	0.283	30.39	
							0	Right Tilt	24.91	0.239	31.13	

Notes:

1. The maximum allowed power is equal to maximum tune up power + 1 dB device design uncertainty
2. Measured Output power refer to Sec.9 in SAR part.1 report.
3. Some bands were determined more conservative P_{limit} instead of calculation P_{limit} .

Head exposure (DSI = 1) (Continued)

RF Exposure Conditions	DSI	band	Antenna	mode	RB	Ch.	Test distance (mm)	Test position	Output power (dbm)	meas SAR 1g (W/kg)	P _{limit} (dBm)	Minimum P _{limit} (dBm)	
Head	1	NR Band n41(38) PC2 Main	F	DFT-s OFDM QPSK BW=100	RB 135/0	518598	0	Left Touch	17.41	0.543	20.06	17.54	
							0	Left Tilt	17.34	0.761	18.53		
					RB 270/0		0	Right Touch	17.34	0.793	18.35		
							0	Right Tilt	17.34	0.955	17.54		
Head	1	NR Band n41 PC2 -SRS2-	E	CW	N/A	518598	0	Left Touch	15.03	0.281	20.54	20.54	
								0	Left Tilt	15.03	0.235		21.32
								0	Right Touch	15.03	0.173		22.65
								0	Right Tilt	15.03	0.148		23.33
Head	1	NR Band n41(38) switching PC2 Main	B	CW	N/A	518598	0	Left Touch	21.70	0.087	32.33	32.33	
								0	Left Tilt	21.70	0.021		38.44
								0	Right Touch	21.70	0.038		35.94
								0	Right Tilt	21.70	0.013		40.56
Head	1	NR Band n41 switching PC2 -SRS2-	D	CW	N/A	518598	0	Left Touch	17.69	0.014	36.14	36.14	
								0	Left Tilt	17.69	0.004		41.67
								0	Right Touch	17.69	0.000		57.69
								0	Right Tilt	17.69	0.004		42.13
Head	1	NR Band n48 Main	F	DFT-s OFDM QPSK BW=40	RB 1/1	638000	0	Left Touch	16.23	0.365	20.61	16.31	
								0	Left Tilt	16.23	0.512		19.14
								0	Right Touch	16.23	0.765		17.39
								0	Right Tilt	16.23	0.981		16.31
Head	1	NR Band n48 -SRS1-	C	CW	N/A	638000	0	Left Touch	18.36	0.000	58.36	45.35	
								0	Left Tilt	18.36	0.002		45.35
								0	Right Touch	18.36	0.000		58.36
								0	Right Tilt	18.36	0.000		58.36
Head	1	NR Band n48 -SRS2-	I	CW	N/A	641666	0	Left Touch	11.36	0.621	13.43	11.74	
						645332	0	Left Tilt	11.74	0.073	23.11		
						641666	0	Right Touch	11.36	0.917	11.74		
						645332	0	Right Tilt	11.74	0.074	23.05		
Head	1	NR Band n48 -SRS3-	D	CW	N/A	638000	0	Left Touch	17.41	0.000	57.41	57.41	
								0	Left Tilt	17.41	0.000		57.41
								0	Right Touch	17.41	0.000		57.41
								0	Right Tilt	17.41	0.000		57.41
Head	1	NR Band n77 PC2 -SRS0-	F	DFT-s OFDM QPSK BW=100	RB 1/1	633334	0	Left Touch	16.91	0.431	20.57	16.78	
								0	Left Tilt	16.91	0.583		19.25
								0	Right Touch	16.91	0.909		17.32
								0	Right Tilt	16.91	1.030		16.78
Head	1	NR Band n77 PC2 -SRS1-	C	CW	N/A	650000	0	Left Touch	18.49	0.010	38.49	33.60	
						633334	0	Left Tilt	18.07	0.028	33.60		
						650000	0	Right Touch	18.49	0.003	43.72		
							0	Right Tilt	18.49	0.000	58.49		
Head	1	NR Band n77 PC2 -SRS2-	I	CW	N/A	662000	0	Left Touch	12.22	0.516	15.09	13.32	
								0	Left Tilt	12.22	0.036		26.66
								0	Right Touch	12.22	0.776		13.32
								0	Right Tilt	12.22	0.068		23.89
Head	1	NR Band n77 PC2 -SRS3-	D	CW	N/A	650000	0	Left Touch	17.29	0.000	57.29	57.29	
								0	Left Tilt	17.29	0.000		57.29
								0	Right Touch	17.29	0.000		57.29
								0	Right Tilt	17.29	0.000		57.29

Notes:

1. The maximum allowed power is equal to maximum tune up power + 1 dB device design uncertainty
2. Measured Output power refer to Sec.9 in SAR part.1 report.
3. Some bands were determined more conservative P_{limit} instead of calculation P_{limit} .

Head exposure (DSI = 1) (Continued)

RF Exposure Conditions	DSI	band	Antenna	mode	RB	Ch.	Test distance (mm)	Test position	Output power (dbm)	meas SAR 1g (W/kg)	P _{limit} (dBm)	Minimum P _{limit} (dBm)
Head	1	DTS SISO Ant. 1	H	802.11b 1Mbps		6	0	Right Touch	14.50	0.688	16.12	16.12
Head	1	DTS SISO Ant. 2	J	802.11b 1Mbps		1	0	Left Touch	14.60	0.589	16.90	16.90
Head	1	DTS MIMO	H+J	802.11b 1Mbps		6	0	Left Touch	14.10	0.798	15.08	15.08
Head	1	UNII-2A SISO Ant. 1	H	802.11ac VHT80		58	0	Right Touch	13.50	0.415	17.32	17.32
Head	1	UNII-2A SISO Ant. 2	E	802.11ac VHT80		58	0	Right Tilt	13.90	0.122	23.04	23.04
Head	1	UNII-2A MIMO	H+E	802.11ac VHT80		58	0	Right Touch	13.60	0.464	16.93	16.93
Head	1	UNII-2C SISO Ant. 1	H	802.11ac VHT80		106	0	Right Touch	13.50	0.638	15.45	15.45
Head	1	UNII-2C SISO Ant. 2	E	802.11ac VHT80		138	0	Right Touch	13.60	0.001	43.60	43.60
Head	1	UNII-2C MIMO	H+E	802.11ac VHT80		138	0	Right Touch	13.50	0.311	18.57	18.57
Head	1	UNII-3 SISO Ant. 1	H	802.11ac VHT80		155	0	Right Touch	13.50	0.489	16.61	16.61
Head	1	UNII-3 SISO Ant. 2	E	802.11ac VHT80		155	0	Right Touch	13.50	0.001	43.50	43.50
Head	1	UNII-3 MIMO	H+E	802.11ac VHT80		155	0	Right Touch	13.60	0.519	16.45	16.45
Head	1	UNII-4 SISO Ant. 1	H	802.11ac VHT80		171	0	Right Touch	13.60	0.659	15.41	15.41
Head	1	UNII-4 SISO Ant. 2	E	802.11ac VHT80		171	0	Right Touch	13.80	0.001	43.80	43.80
Head	1	UNII-4 MIMO	H+E	802.11ac VHT80		171	0	Right Touch	13.70	0.775	14.81	14.81
Head	1	WiFi 6E SISO Ant. 1	H	802.11ax HE160		79	0	Left Touch	9.00	0.238	15.23	15.23
Head	1	WiFi 6E SISO Ant. 2	E	802.11ax HE160		207	0	Left Touch	9.18	0.032	24.13	24.13
Head	1	WiFi 6E MIMO	H+E	802.11ax HE160		79	0	Left Touch	9.10	0.180	16.55	16.55
Head	1	Bluetooth Ant. 1	H	GFSK 1M LE 255pkt		19	0	Left Touch	16.61	0.118	25.89	19.45
							0	Left Tilt	16.61	0.043	30.31	
							0	Right Touch	16.61	0.520	19.45	
							0	Right Tilt	16.61	0.136	25.28	
Head	1	Bluetooth Ant. 2	J	GFSK 1M LE 255pkt		0	0	Left Touch	12.97	0.465	16.30	16.30
							0	Left Tilt	12.97	0.052	25.78	
							0	Right Touch	12.97	0.242	19.13	
							0	Right Tilt	12.97	0.030	28.14	
Head	1	Bluetooth MIMO	H+J	BDR GFSK DH 5		39	0	Left Touch	13.87	0.344	18.50	18.50
							0	Left Tilt	13.87	0.045	27.34	
							0	Right Touch	13.45	0.242	19.61	
							0	Right Tilt	13.45	0.052	26.29	

Notes:

1. The maximum allowed power is equal to maximum tune up power + 1 dB device design uncertainty
2. Measured Output power refer to Sec.9 in SAR part.1 report.
3. Some bands were determined more conservative P_{limit} instead of calculation P_{limit} .

Body-worn & Hotspot exposure (DSI = 0)

RF Exposure Conditions	DSI	band	Antenna	mode	RB	Ch.	Test distance (mm)	Test position	Output power (dbm)	meas SAR 1g (W/kg)	P _{limit} (dBm)	Minimum P _{limit} (dBm)	
Bodyworn & Hotspot	0	GSM 850	A	GPRS 2 slots		190	10	Rear	25.12	0.443	28.66	28.66	
							10	Front	25.12	0.247	31.19		
							10	Left	25.12	0.329	29.95		
							10	Bottom	25.12	0.158	33.13		
							10	Right	25.12	0.268	30.84		
Bodyworn & Hotspot	0	GSM 850	E	GPRS 2 slots		190	10	Rear	25.36	0.459	28.74	27.34	
							10	Front	25.36	0.399	29.35		
							10	Top	25.36	0.358	29.82		
							10	Left	25.36	0.634	27.34		
							10	Right	18.68	0.251	24.68		
Bodyworn & Hotspot	0	GSM 1900	A	GPRS 4 slots		661	10	Front	18.68	0.238	24.91	21.34	
							10	Left	18.68	0.036	33.12		
							10	Bottom	18.68	0.542	21.34		
							10	Right	18.68	0.056	31.20		
							10	Rear	19.34	0.476	22.56		
Bodyworn & Hotspot	0	WCDMA 2	A	Rel 99		9400	10	Front	19.34	0.379	23.55	19.43	
							10	Left	19.34	0.084	30.10		
						9262	10	Bottom	19.34	0.980	19.43		
							9400	10	Right	19.34	0.093		29.66
								10	Rear	19.24	0.525		22.04
Bodyworn & Hotspot	0	WCDMA 4	A	Rel 99		1413	10	Front	19.24	0.468	22.54	20.28	
							10	Left	19.24	0.076	30.43		
							10	Bottom	19.24	0.787	20.28		
							10	Right	19.24	0.109	28.87		
							10	Rear	23.79	0.354	28.30		
Bodyworn & Hotspot	0	WCDMA 5	A	Rel 99		4183	10	Front	23.79	0.237	30.04	28.30	
							10	Left	23.79	0.294	29.11		
							10	Bottom	23.79	0.151	32.00		
							10	Right	23.79	0.215	30.47		
							10	Rear	23.98	0.410	27.85		
Bodyworn & Hotspot	0	WCDMA 5	E	Rel 99		4183	10	Front	23.98	0.369	28.31	27.33	
							10	Top	23.98	0.356	28.47		
							10	Left	23.98	0.462	27.33		
							10	Rear	24.15	0.434	27.78		
							10	Front	24.15	0.264	29.93		
Bodyworn & Hotspot	0	LTE Band 5	A	QPSK BW = 10	RB 1/0	20525	10	Left	24.15	0.201	31.12	27.78	
							10	Bottom	24.15	0.180	31.60		
							10	Right	24.15	0.200	31.14		
							10	Rear	24.35	0.462	27.70		
							10	Front	24.35	0.384	28.51		
Bodyworn & Hotspot	0	LTE Band 5	E	QPSK BW = 10	RB 1/0	20525	10	Top	24.35	0.400	28.33	26.92	
							10	Left	24.35	0.553	26.92		
							10	Rear	22.24	0.637	24.20		
							10	Front	22.24	0.485	25.38		
							10	Bottom	22.24	0.418	26.03		
Bodyworn & Hotspot	0	LTE Band 7	B	QPSK BW = 20	RB 1/99	21100	10	Right	22.24	0.555	24.80	24.20	
							10	Rear	19.85	0.531	22.60		
							10	Front	19.85	0.244	25.98		
							10	Top	19.85	0.504	22.83		
							10	Right	19.85	0.044	33.42		
Bodyworn & Hotspot	0	LTE Band 7	F	QPSK BW = 20	RB 1/99	21100	10	Rear	24.29	0.355	28.79	28.79	
							10	Front	24.29	0.194	31.41		
							10	Left	24.29	0.129	33.18		
							10	Bottom	24.29	0.048	37.48		
							10	Right	24.29	0.235	30.58		
Bodyworn & Hotspot	0	LTE Band 12	E	QPSK BW = 10	RB 1/25	23095	10	Rear	24.20	0.559	26.73	26.73	
							10	Front	24.20	0.427	27.90		
							10	Top	24.20	0.406	28.11		
							10	Left	24.20	0.464	27.53		
							10	Rear	24.07	0.484	27.22		
Bodyworn & Hotspot	0	LTE Band 13	A	QPSK BW = 10	RB 1/25	23230	10	Front	24.07	0.300	29.30	27.22	
							10	Left	24.07	0.269	29.77		
							10	Bottom	24.07	0.107	33.78		
							10	Right	24.07	0.216	30.73		
							10	Rear	24.27	0.270	29.96		
Bodyworn & Hotspot	0	LTE Band 13	E	QPSK BW = 10	RB 1/25	23230	10	Front	24.27	0.183	31.65	29.23	
							10	Top	24.27	0.182	31.67		
							10	Left	24.27	0.319	29.23		
							10	Rear	24.08	0.494	27.14		
							10	Front	24.08	0.271	29.75		
Bodyworn & Hotspot	0	LTE Band 14	A	QPSK BW = 10	RB 1/49	23330	10	Left	24.08	0.162	31.98	27.14	
							10	Bottom	24.08	0.073	35.45		
							10	Right	24.08	0.122	33.22		
							10	Rear	24.20	0.236	30.47		
							10	Front	24.20	0.159	32.19		
Bodyworn & Hotspot	0	LTE Band 14	E	QPSK BW = 10	RB 1/25	23330	10	Top	24.20	0.166	32.00	29.67	
							10	Left	24.20	0.284	29.67		
							10	Right	24.20	0.284	29.67		

Notes:

1. The maximum allowed power is equal to maximum tune up power + 1 dB device design uncertainty
2. Measured Output power refer to Sec.9 in SAR part.1 report.
3. Some bands were determined more conservative P_{limit} instead of calculation P_{limit} .

Body-worn & Hotspot exposure (DSI = 0) (Continued)

RF Exposure Conditions	DSI	band	Antenna	mode	RB	Ch.	Test distance (mm)	Test position	Output power (dbm)	meas SAR 1g (W/kg)	P _{limit} (dBm)	Minimum P _{limit} (dBm)
Bodyworn & Hotspot	0	LTE Band 25(2)	A	QPSK BW = 20	RB 1/0	26590	10	Rear	18.98	0.564	21.47	19.47
							10	Front	18.98	0.449	22.46	
							10	Left	18.98	0.043	32.65	
							10	Bottom	18.97	0.891	19.47	
							10	Right	18.98	0.074	30.29	
Bodyworn & Hotspot	0	LTE Band 25(2)	F	QPSK BW = 20	RB 1/99	26590	10	Rear	20.79	0.326	25.66	25.26
							10	Front	20.79	0.181	28.21	
							10	Top	20.79	0.357	25.26	
							10	Right	20.79	0.113	30.26	
							10	Rear	24.02	0.424	27.75	
Bodyworn & Hotspot	0	LTE Band 26	A	QPSK BW = 15	RB 1/0	26865	10	Front	24.02	0.282	29.52	27.75
							10	Left	24.02	0.202	30.97	
							10	Bottom	24.02	0.160	31.98	
							10	Right	24.02	0.204	30.92	
							10	Rear	24.29	0.425	28.01	
Bodyworn & Hotspot	0	LTE Band 26	E	QPSK BW = 15	RB 1/0	26865	10	Front	24.29	0.328	29.13	27.06
							10	Top	24.29	0.377	28.53	
							10	Left	24.29	0.528	27.06	
							10	Rear	20.11	0.415	23.93	
							10	Front	20.11	0.332	24.90	
Bodyworn & Hotspot	0	LTE Band 30	A	QPSK BW = 10	RB 1/25	27710	10	Left	20.11	0.033	34.92	20.71
							10	Bottom	20.11	0.871	20.71	
							10	Right	20.11	0.092	30.47	
							10	Rear	19.90	0.407	23.80	
							10	Front	19.90	0.280	25.43	
Bodyworn & Hotspot	0	LTE Band 30	F	QPSK BW = 10	RB 25/12	27710	10	Top	19.90	0.520	22.74	22.74
							10	Right	19.90	0.111	29.45	
							10	Rear	18.93	0.504	21.91	
							10	Front	18.93	0.430	22.60	
							10	Left	18.93	0.072	30.36	
Bodyworn & Hotspot	0	LTE Band 66(4)	A	QPSK BW = 20	RB 50/0	132322	10	Bottom	18.69	0.806	19.63	19.63
					RB 1/0	132572	10	Right	18.93	0.108	28.60	
					RB 50/0	132322	10	Rear	20.63	0.349	25.20	
					10	Front	20.63	0.257	26.53			
					10	Top	20.63	0.696	22.20			
Bodyworn & Hotspot	0	LTE Band 66(4)	F	QPSK BW = 20	RB 1/0	132322	10	Right	20.63	0.158	28.64	22.20
							10	Rear	24.32	0.303	29.51	
							10	Front	24.32	0.161	32.25	
							10	Left	24.32	0.101	34.28	
							10	Bottom	24.32	0.055	36.92	
Bodyworn & Hotspot	0	LTE Band 71	A	QPSK BW = 20	RB 1/49	133297	10	Right	24.32	0.204	31.22	29.51
							10	Rear	24.46	0.202	31.41	
							10	Front	24.46	0.097	34.59	
							10	Top	24.46	0.104	34.29	
							10	Left	24.46	0.082	35.32	
Bodyworn & Hotspot	0	LTE Band 41(38) PC3	B	QPSK BW = 20	RB 1/0	40620	10	Rear	21.74	0.531	24.49	24.39
							10	Front	21.74	0.332	26.53	
							10	Bottom	21.74	0.543	24.39	
							10	Right	21.74	0.341	26.41	
							10	Rear	19.78	0.331	24.58	
Bodyworn & Hotspot	0	LTE Band 41(38) PC3	F	QPSK BW = 20	RB 50/50	41055	10	Front	19.78	0.214	26.48	21.70
					RB 1/0	39750	10	Top	19.70	0.631	21.70	
					RB 50/50	41055	10	Right	19.76	0.078	30.84	
					10	Right	21.46	0.479	24.66			
Bodyworn & Hotspot	0	LTE Band 41(38) PC2	B	QPSK BW = 20	RB 50/0	40620	10	Right	21.46	0.479	24.66	24.66
Bodyworn & Hotspot	0	LTE Band 41(38) PC2	F	QPSK BW = 20	RB 1/0	41490	10	Top	19.71	0.339	24.41	24.41
Bodyworn & Hotspot	0	LTE Band 48	F	QPSK BW = 20	RB 1/0	56640	10	Rear	20.55	0.935	20.84	20.84
						53340	10	Front	20.71	0.340	25.40	
						53340	10	Top	20.71	0.532	23.45	
						53340	10	Right	20.71	0.097	30.84	
Bodyworn & Hotspot	0	NR Band n5	A	DFT-s OFDM QPSK BW=20	RB 50/28	167300	10	Rear	24.26	0.524	27.07	27.07
							10	Front	24.26	0.297	29.53	
							10	Left	24.26	0.148	32.56	
							10	Bottom	24.26	0.166	32.06	
							10	Right	24.26	0.123	33.36	
Bodyworn & Hotspot	0	NR Band n5	E	DFT-s OFDM QPSK BW=20	RB 50/28	167300	10	Rear	24.62	0.522	27.44	27.44
							10	Front	24.62	0.408	28.51	
							10	Top	24.62	0.486	27.75	
							10	Left	24.62	0.480	27.81	

Notes:

1. The maximum allowed power is equal to maximum tune up power + 1 dB device design uncertainty
2. Measured Output power refer to Sec.9 in SAR part.1 report.
3. Some bands were determined more conservative P_{limit} instead of calculation P_{limit} .

Body-worn & Hotspot exposure (DSI = 0) (Continued)

RF Exposure Conditions	DSI	band	Antenna	mode	RB	Ch.	Test distance (mm)	Test position	Output power (dbm)	meas SAR 1g (W/kg)	P _{limit} (dBm)	Minimum P _{limit} (dBm)
Bodyworn & Hotspot	0	NR Band n7	B	DFT-s OFDM QPSK BW=40	RB 108/54	507000	10	Rear	22.50	0.471	25.77	25.77
							10	Front	22.50	0.310	27.59	
							10	Bottom	22.50	0.277	28.08	
							10	Right	22.50	0.464	25.83	
Bodyworn & Hotspot	0	NR Band n7	F	DFT-s OFDM QPSK BW=40	RB 108/54	507000	10	Rear	20.19	0.343	24.84	21.78
							10	Front	20.19	0.239	26.41	
							10	Top	20.19	0.693	21.78	
							10	Right	20.19	0.057	32.63	
Bodyworn & Hotspot	0	NR Band n12	A	DFT-s OFDM QPSK BW=15	RB 36/21	141500	10	Rear	24.21	0.333	28.99	28.99
							10	Front	24.21	0.182	31.61	
							10	Left	24.21	0.096	34.39	
							10	Bottom	24.21	0.048	37.40	
Bodyworn & Hotspot	0	NR Band n12	E	DFT-s OFDM QPSK BW=15	RB 36/21	141500	10	Rear	23.97	0.535	26.69	26.69
							10	Front	23.97	0.408	27.86	
							10	Top	23.97	0.468	27.27	
							10	Left	23.97	0.462	27.32	
Bodyworn & Hotspot	0	NR Band n25(2)	A	DFT-s OFDM QPSK BW=40	RB 108/54	376500	10	Rear	19.23	0.362	23.64	20.62
							10	Front	19.23	0.334	23.99	
							10	Left	19.23	0.055	31.83	
							10	Bottom	19.23	0.726	20.62	
Bodyworn & Hotspot	0	NR Band n25(2)	F	DFT-s OFDM QPSK BW=40	RB 1/1	376500	10	Rear	20.81	0.388	24.92	24.69
							10	Front	20.81	0.229	27.21	
							10	Top	20.81	0.409	24.69	
							10	Right	20.81	0.087	31.41	
Bodyworn & Hotspot	0	NR Band n26	A	DFT-s OFDM QPSK BW=20	RB 50/28	166300	10	Rear	24.01	0.472	27.27	27.27
							10	Front	24.01	0.261	29.84	
							10	Left	24.01	0.159	32.00	
							10	Bottom	24.01	0.159	32.00	
Bodyworn & Hotspot	0	NR Band n26	E	DFT-s OFDM QPSK BW=20	RB 50/28	166300	10	Rear	24.54	0.513	27.44	27.44
							10	Front	24.54	0.417	28.34	
							10	Top	24.54	0.437	28.14	
							10	Left	24.54	0.507	27.49	
Bodyworn & Hotspot	0	NR Band n30	A	DFT-s OFDM QPSK BW=10	RB 1/1	462000	10	Rear	20.17	0.436	23.78	20.70
							10	Front	20.17	0.398	24.17	
							10	Left	20.17	0.035	34.73	
							10	Bottom	20.17	0.885	20.70	
Bodyworn & Hotspot	0	NR Band n30	F	DFT-s OFDM QPSK BW=10	RB 25/13	462000	10	Rear	19.81	0.454	23.24	22.50
							10	Front	19.81	0.293	25.14	
							10	Top	19.81	0.538	22.50	
							10	Right	19.81	0.111	29.36	
Bodyworn & Hotspot	0	NR Band n66	A	DFT-s OFDM QPSK BW=40	RB 1/1	349000	10	Rear	19.31	0.472	22.57	20.49
							10	Front	19.31	0.398	23.31	
							10	Left	19.31	0.070	30.86	
							10	Bottom	19.31	0.762	20.49	
Bodyworn & Hotspot	0	NR Band n66	F	DFT-s OFDM QPSK BW=40	RB 108/54	349000	10	Rear	20.87	0.350	25.43	23.43
							10	Front	20.87	0.231	27.23	
							10	Top	20.87	0.554	23.43	
							10	Right	20.87	0.135	29.57	
Bodyworn & Hotspot	0	NR Band n70	A	DFT-s OFDM QPSK BW=15	RB 1/1	340500	10	Rear	19.86	0.512	22.77	20.83
					RB 75/0		10	Front	19.86	0.421	23.62	
					RB 1/1		10	Left	19.86	0.067	31.60	
					10		Bottom	19.89	0.806	20.83		
Bodyworn & Hotspot	0	NR Band n70	F	DFT-s OFDM QPSK BW=15	RB 36/21	340500	10	Rear	21.18	0.440	24.75	22.43
					RB 75/0		10	Front	21.18	0.324	26.07	
					RB 36/21		10	Top	21.51	0.810	22.43	
					10		Right	21.18	0.173	28.80		
Bodyworn & Hotspot	0	NR Band n71	A	DFT-s OFDM QPSK BW=20	RB 50/28	138100	10	Rear	24.29	0.283	29.77	29.77
							10	Front	24.29	0.146	32.65	
							10	Left	24.29	0.081	35.21	
							10	Bottom	24.29	0.043	37.96	
Bodyworn & Hotspot	0	NR Band n71	E	DFT-s OFDM QPSK BW=20	RB 1/52	136100	10	Rear	24.99	0.180	32.44	32.44
							10	Front	24.99	0.147	33.32	
							10	Top	24.99	0.150	33.23	
							10	Left	24.99	0.107	34.70	

Notes:

1. The maximum allowed power is equal to maximum tune up power + 1 dB device design uncertainty
2. Measured Output power refer to Sec.9 in SAR part.1 report.
3. Some bands were determined more conservative P_{limit} instead of calculation P_{limit} .

Body-worn & Hotspot exposure (DSI = 0) (Continued)

RF Exposure Conditions	DSI	band	Antenna	mode	RB	Ch.	Test distance (mm)	Test position	Output power (dbm)	meas SAR 1g (W/kg)	P _{limit} (dBm)	Minimum P _{limit} (dBm)
Bodyworn & Hotspot	0	NR Band n41(38) PC2 -SRS0-	F	DFT-s OFDM QPSK BW=100	RB 1/1	518598	10	Rear	20.10	0.651	21.96	21.02
							10	Front	20.10	0.355	24.60	
							10	Top	20.10	0.810	21.02	
							10	Right	20.10	0.045	33.57	
Bodyworn & Hotspot	0	NR Band n41 PC2 -SRS2-	E	CW	N/A	518598	10	Rear	15.03	0.020	31.93	31.53
							10	Front	15.03	0.022	31.53	
							10	Top	15.03	0.020	32.06	
							10	Left	15.03	0.014	33.66	
Bodyworn & Hotspot	0	NR Band n41(38) switching PC2 Main	B	DFT-s OFDM QPSK BW=100	RB 135/138	518598	10	Rear	21.54	0.314	26.57	24.46
							10	Front	21.54	0.274	27.16	
							10	Top	21.54	0.511	24.46	
							10	Right	21.54	0.252	27.53	
Bodyworn & Hotspot	0	NR Band n41 switching PC2 -SRS2-	D	CW	N/A	518598	10	Rear	17.69	0.178	25.19	25.19
							10	Front	17.69	0.027	33.41	
							10	Left	17.69	0.006	39.57	
							10	Bottom	17.69	0.067	29.44	
Bodyworn & Hotspot	0	NR Band n48 -Main	F	DFT-s OFDM QPSK BW=100	RB 1/1	645332	10	Rear	19.81	0.936	20.10	20.10
					RB 50/0	638000	10	Front	19.98	0.309	25.08	
					RB 1/1	638000	10	Top	19.98	0.563	22.47	
					RB 1/1	638000	10	Right	19.92	0.092	30.28	
Bodyworn & Hotspot	0	NR Band n48 -SRS1-	C	CW	N/A	645332	10	Rear	18.36	0.046	31.73	29.12
							10	Front	18.36	0.017	36.06	
							10	Bottom	18.36	0.034	33.05	
							10	Right	18.36	0.084	29.12	
Bodyworn & Hotspot	0	NR Band n48 -SRS2-	I	CW	N/A	645332	10	Rear	18.40	0.418	22.19	21.86
							10	Front	18.40	0.451	21.86	
							10	Right	18.40	0.135	27.10	
Bodyworn & Hotspot	0	NR Band n48 -SRS3-	D	CW	N/A	641666	10	Rear	17.41	0.301	22.62	22.62
							10	Front	17.41	0.024	33.61	
							10	Left	17.41	0.049	30.51	
							10	Bottom	17.41	0.074	28.72	
Bodyworn & Hotspot	0	NR Band n77 PC2 -SRS0-	F	DFT-s OFDM QPSK BW=100	RB 1/1	650000	10	Rear	19.10	0.775	20.21	20.21
							10	Front	19.10	0.252	25.09	
							10	Top	19.10	0.440	22.67	
							10	Right	19.10	0.117	28.42	
Bodyworn & Hotspot	0	NR Band n77 PC2 -SRS1-	C	CW	N/A	650000	10	Front	18.49	0.024	34.69	23.85
						650000	10	Bottom	18.49	0.024	34.69	
						633334	10	Right	18.07	0.264	23.85	
Bodyworn & Hotspot	0	NR Band n77 PC2 -SRS2-	I	CW	N/A	662000	10	Rear	19.86	0.297	25.13	24.23
						662000	10	Front	19.86	0.366	24.23	
						662000	10	Right	19.86	0.112	29.37	
Bodyworn & Hotspot	0	NR Band n77 PC2 -SRS3-	D	CW	N/A	633334	10	Rear	17.26	0.446	20.77	20.77
						650000	10	Front	17.29	0.008	38.26	
						650000	10	Left	17.29	0.033	32.10	
						650000	10	Bottom	17.29	0.062	29.37	

Notes:

1. The maximum allowed power is equal to maximum tune up power + 1 dB device design uncertainty
2. Measured Output power refer to Sec.9 in SAR part.1 report.
3. Some bands were determined more conservative P_{limit} instead of calculation P_{limit} .

Body-worn & Hotspot exposure (DSI = 0) (Continued)

RF Exposure Conditions	DSI	band	Antenna	mode	RB	Ch.	Test distance (mm)	Test position	Output power (dbm)	meas SAR 1g (W/kg)	P _{limit} (dBm)	Minimum P _{limit} (dBm)
Bodyworn & Hotspot	0	DTS SISO Ant. 1	H	802.11b 1Mbps		6	10	Right	18.40	0.305	23.56	23.56
Bodyworn & Hotspot	0	DTS SISO Ant. 2	J	802.11b 1Mbps		1	10	Front	19.00	0.153	27.15	27.15
Bodyworn & Hotspot	0	DTS MIMO	H+J	802.11b 1Mbps		1	10	Right	18.00	0.300	23.23	23.23
Bodyworn & Hotspot	0	UNII-2A SISO Ant. 1	H	802.11n HT40		54	10	Rear	16.30	0.482	19.47	19.47
Bodyworn & Hotspot	0	UNII-2A SISO Ant. 2	E	802.11n HT40		54	10	Rear	15.80	0.341	20.47	20.47
Bodyworn & Hotspot	0	UNII-2A MIMO	H+E	802.11n HT40		54	10	Rear	15.80	0.657	17.62	17.62
Bodyworn & Hotspot	0	UNII-2C SISO Ant. 1	H	802.11ac VHT80		138	10	Rear	16.30	0.396	20.32	20.32
Bodyworn & Hotspot	0	UNII-2C SISO Ant. 2	E	802.11ac VHT80		138	10	Rear	16.20	0.203	23.13	23.13
Bodyworn & Hotspot	0	UNII-2C MIMO	H+E	802.11ac VHT80		138	10	Rear	15.80	0.350	20.36	20.36
Bodyworn & Hotspot	0	UNII-3 SISO Ant. 1	H	802.11ac VHT80		155	10	Rear	16.30	0.560	18.82	18.82
Bodyworn & Hotspot	0	UNII-3 SISO Ant. 2	E	802.11ac VHT80		155	10	Rear	16.20	0.164	24.05	24.05
Bodyworn & Hotspot	0	UNII-3 MIMO	H+E	802.11ac VHT80		155	10	Rear	16.20	0.448	19.69	19.69
Bodyworn & Hotspot	0	UNII-4 SISO Ant. 1	H	802.11ac VHT80		171	10	Rear	16.40	0.661	18.20	18.20
Bodyworn & Hotspot	0	UNII-4 SISO Ant. 2	E	802.11ac VHT80		171	10	Rear	16.40	0.168	24.15	24.15
Bodyworn & Hotspot	0	UNII-4 MIMO	H+E	802.11ac VHT80		171	10	Rear	16.30	0.396	20.32	20.32
Bodyworn & Hotspot	0	WiFi 6E SISO Ant. 1	H	802.11ax HE160		79	10	Rear	8.95	0.061	21.10	21.10
Bodyworn & Hotspot	0	WiFi 6E SISO Ant. 2	E	802.11ax HE160		207	10	Rear	9.18	0.019	26.39	26.39
Bodyworn & Hotspot	0	WiFi 6E MIMO	H+E	802.11ax HE160		79	10	Rear	9.10	0.053	21.86	21.86
Bodyworn & Hotspot	0	Bluetooth Ant. 1	H	GFSK 1M LE 255pkt		0	10	Rear	20.52	0.325	25.40	23.51
							10	Front	20.52	0.266	26.27	
							10	Top	20.52	0.110	30.11	
							10	Right	20.52	0.503	23.51	
Bodyworn & Hotspot	0	Bluetooth Ant. 2	J	GFSK 1M LE 255pkt		19	10	Rear	17.35	0.166	25.15	24.97
							10	Front	17.35	0.173	24.97	
							10	Top	17.35	0.004	41.35	
							10	Left	17.35	0.075	28.58	
Bodyworn & Hotspot	0	Bluetooth MIMO	H+J	BDR GFSK DH 5		39	10	Rear	13.45	0.046	26.82	22.52
							10	Front	13.45	0.041	27.32	
							10	Top	13.45	0.041	27.32	
							10	Left	13.87	0.009	34.33	
							10	Right	13.45	0.124	22.52	

Notes:

1. The maximum allowed power is equal to maximum tune up power + 1 dB device design uncertainty
2. Measured Output power refer to Sec.9 in SAR part.1 report.
3. Some bands were determined more conservative P_{limit} instead of calculation P_{limit} .

Product Specific 10-g without triggering sensor (DSI = 0)

RF Exposure Conditions	DSI	band	Antenna	mode	RB	Ch.	Test distance (mm)	Test position	Output power (dbm)	meas SAR 10g (W/kg)	P _{limit} (dBm)	Minimum P _{limit} (dBm)
Product Specific-10g	0	GSM 850	A	GPRS 2 slots		190	0	Rear	25.12	1.530	27.25	27.25
							0	Front	25.12	0.985	29.16	
							0	Left	25.12	0.152	37.28	
							0	Bottom	25.12	0.740	30.41	
							0	Right	25.12	0.457	32.50	
Product Specific-10g	0	GSM 850	E	GPRS 2 slots		190	0	Rear	25.36	1.250	28.37	27.58
							0	Front	25.36	1.470	27.67	
							0	Top	25.36	1.500	27.58	
							0	Left	25.36	0.938	29.62	
							0	Right	18.68	0.843	23.40	
Product Specific-10g	0	GSM 1900	A	GPRS 4 slots		661	0	Front	18.68	0.712	24.13	22.62
							0	Left	18.68	0.081	33.57	
							0	Bottom	18.68	1.010	22.62	
							0	Right	18.68	0.159	30.65	
							0	Rear	19.34	1.270	22.28	
Product Specific-10g	0	WCDMA 2	A	Rel 99		9400	0	Front	19.34	1.190	22.56	22.28
							0	Left	19.34	0.147	31.65	
							0	Bottom	19.34	1.150	22.71	
							0	Right	19.34	0.232	29.66	
							0	Rear	19.24	1.380	21.82	
Product Specific-10g	0	WCDMA 4	A	Rel 99		1413	0	Front	19.24	1.360	21.88	21.26
							0	Left	19.24	0.201	30.19	
							0	Bottom	19.24	1.570	21.26	
							0	Right	19.24	0.284	28.69	
							0	Rear	23.79	1.210	26.94	
Product Specific-10g	0	WCDMA 5	A	Rel 99		4183	0	Front	23.79	0.780	28.85	26.94
							0	Left	23.79	0.200	34.76	
							0	Bottom	23.79	1.080	27.44	
							0	Right	23.98	0.557	30.50	
							0	Rear	23.98	1.090	27.59	
Product Specific-10g	0	WCDMA 5	E	Rel 99		4183	0	Front	23.98	1.080	27.63	27.13
							0	Top	23.98	1.210	27.13	
							0	Left	23.98	0.636	29.92	
							0	Rear	24.15	1.260	27.13	
							0	Front	24.15	0.977	28.23	
Product Specific-10g	0	LTE Band 5	A	QPSK BW = 10	RB 1/0	20525	0	Left	24.15	0.218	34.74	27.06
							0	Bottom	24.15	1.280	27.06	
							0	Right	24.15	0.697	29.70	
							0	Rear	24.35	1.250	27.36	
							0	Front	24.35	1.150	27.72	
Product Specific-10g	0	LTE Band 5	E	QPSK BW = 10	RB 1/0	20525	0	Top	24.35	1.450	26.72	26.72
							0	Left	24.35	0.948	28.56	
							0	Rear	22.20	2.380	22.41	
							0	Front	22.24	1.050	26.01	
							0	Bottom	22.24	1.460	24.58	
Product Specific-10g	0	LTE Band 7	B	QPSK BW = 20	RB 1/99	21100	0	Bottom	22.24	1.460	24.58	22.41
					RB 50/50		0	Right	22.36	1.150	25.73	
							0	Rear	19.92	0.951	24.12	
							0	Front	19.92	1.150	23.29	
							0	Top	19.92	2.540	19.85	
Product Specific-10g	0	LTE Band 7	F	QPSK BW = 20	RB 50/0	21100	0	Left	19.92	0.147	32.23	19.85
							0	Rear	24.29	1.230	27.37	
							0	Front	24.29	0.654	30.11	
							0	Left	24.29	0.017	45.96	
							0	Bottom	24.29	0.730	29.64	
Product Specific-10g	0	LTE Band 12	A	QPSK BW = 10	RB 1/25	23095	0	Right	24.29	0.944	28.52	27.37
							0	Rear	24.20	1.370	26.81	
							0	Front	24.20	1.210	27.35	
							0	Top	24.20	1.500	26.42	
							0	Left	24.20	0.942	28.44	
Product Specific-10g	0	LTE Band 12	E	QPSK BW = 10	RB 1/25	23095	0	Rear	24.07	1.210	27.22	26.42
							0	Front	24.07	0.922	28.40	
							0	Left	24.07	0.206	34.91	
							0	Bottom	24.07	0.693	29.64	
							0	Right	24.07	0.555	30.61	
Product Specific-10g	0	LTE Band 13	A	QPSK BW = 10	RB 1/25	23230	0	Rear	24.27	0.586	30.57	27.22
							0	Front	24.27	0.677	29.94	
							0	Top	24.27	0.691	29.85	
							0	Left	24.27	0.509	31.18	
							0	Rear	24.08	1.120	27.57	
Product Specific-10g	0	LTE Band 13	E	QPSK BW = 10	RB 1/25	23230	0	Front	24.08	0.895	28.54	29.85
							0	Left	24.08	0.112	37.57	
							0	Bottom	24.08	0.594	30.32	
							0	Right	24.08	0.582	30.41	
							0	Rear	24.20	0.523	30.99	
Product Specific-10g	0	LTE Band 14	A	QPSK BW = 10	RB 1/49	23330	0	Front	24.20	0.756	29.39	27.57
							0	Top	24.20	0.764	29.35	
							0	Left	24.20	0.559	30.71	
							0	Right	24.20	0.559	30.71	
							0	Rear	24.20	0.559	30.71	

Notes:

1. The maximum allowed power is equal to maximum tune up power + 1 dB device design uncertainty
2. Measured Output power refer to Sec.9 in SAR part.1 report.
3. Some bands were determined more conservative P_{limit} instead of calculation P_{limit} .

Product Specific 10-g without triggering sensor (DSI = 0) (Continued)

RF Exposure Conditions	DSI	band	Antenna	mode	RB	Ch.	Test distance (mm)	Test position	Output power (dbm)	meas SAR 10g (W/kg)	P _{limit} (dBm)	Minimum P _{limit} (dBm)
Product Specific-10g	0	LTE Band 25(2)	A	QPSK BW = 20	RB 1/0	26590	0	Rear	18.98	1.120	22.47	21.66
							0	Front	18.98	0.929	23.28	
							0	Left	18.98	0.130	31.82	
							0	Bottom	18.98	1.350	21.66	
							0	Right	18.98	0.183	30.33	
Product Specific-10g	0	LTE Band 25(2)	F	QPSK BW = 20	RB 1/99	26590	0	Rear	20.79	0.864	25.40	23.66
							0	Front	20.79	0.752	26.01	
							0	Top	20.79	1.290	23.66	
							0	Right	20.79	0.328	29.61	
							0	Rear	24.02	1.300	26.86	
Product Specific-10g	0	LTE Band 26	A	QPSK BW = 15	RB 1/0	26865	0	Front	24.02	0.888	28.52	26.86
							0	Left	24.02	0.207	34.84	
							0	Bottom	24.02	1.080	27.67	
							0	Right	24.02	0.681	29.67	
							0	Rear	24.29	1.220	27.41	
Product Specific-10g	0	LTE Band 26	E	QPSK BW = 15	RB 1/0	26865	0	Front	24.29	0.936	28.56	26.66
							0	Top	24.29	1.450	26.66	
							0	Left	24.29	0.980	28.36	
							0	Rear	20.11	1.460	22.45	
							0	Front	20.11	1.070	23.80	
Product Specific-10g	0	LTE Band 30	A	QPSK BW = 10	RB 1/0	27710	0	Left	20.11	0.063	36.10	22.21
							0	Bottom	20.11	1.540	22.21	
							0	Right	20.11	0.267	29.82	
							0	Rear	19.90	1.150	23.27	
							0	Front	19.90	1.270	22.84	
Product Specific-10g	0	LTE Band 30	F	QPSK BW = 10	RB 25/12	27710	0	Top	19.90	2.220	20.42	20.42
							0	Right	19.90	0.325	28.76	
							0	Rear	18.93	1.230	22.01	
							0	Front	18.93	1.100	22.50	
							0	Left	18.93	0.180	30.36	
Product Specific-10g	0	LTE Band 66(4)	A	QPSK BW = 20	RB 1/0	132072	0	Bottom	18.93	1.630	20.79	20.79
							0	Right	18.93	0.244	29.04	
							0	Rear	20.63	1.010	24.57	
							0	Front	20.63	1.340	23.34	
							0	Top	20.63	1.370	23.24	
Product Specific-10g	0	LTE Band 66(4)	F	QPSK BW = 20	RB 1/0	132322	0	Right	20.63	0.446	28.12	23.24
							0	Rear	24.32	1.190	27.54	
							0	Front	24.32	0.916	28.68	
							0	Left	24.32	0.114	37.73	
							0	Bottom	24.32	0.471	31.57	
Product Specific-10g	0	LTE Band 71	A	QPSK BW = 20	RB 1/49	133297	0	Right	24.32	0.875	28.88	27.54
							0	Rear	24.46	0.505	31.41	
							0	Front	24.46	0.274	34.06	
							0	Top	24.46	0.565	30.92	
							0	Left	24.46	0.265	34.21	
Product Specific-10g	0	LTE Band 71	E	QPSK BW = 20	RB 1/0	132297	0	Rear	21.74	2.590	21.59	21.59
							0	Front	21.74	1.450	24.11	
							0	Bottom	21.74	2.000	22.71	
							0	Right	21.74	0.683	27.38	
							0	Rear	19.76	1.400	22.28	
Product Specific-10g	0	LTE Band 41(38) PC3	F	QPSK BW = 20	RB 1/0	41055	0	Front	19.76	0.230	30.12	20.03
							0	Top	19.76	2.350	20.03	
							0	Right	19.76	0.230	30.12	
							0	Rear	21.46	2.000	22.43	
							0	Top	19.71	2.060	20.55	
Product Specific-10g	0	LTE Band 41(38) PC2	B	QPSK BW = 20	RB 50/0	41490	0	Rear	21.46	2.000	22.43	22.43
							0	Top	19.71	2.060	20.55	
							0	Rear	20.71	1.400	23.23	
							0	Front	20.71	1.160	24.04	
							0	Top	20.66	2.910	20.00	
Product Specific-10g	0	LTE Band 48	F	QPSK BW = 20	RB 1/0	55340	0	Right	20.71	0.304	29.86	20.00
						56207	0	Top	20.66	2.910	20.00	
						55340	0	Rear	24.38	1.260	27.36	
						0	Front	24.38	0.973	28.48		
						0	Left	24.38	0.166	36.16		
Product Specific-10g	0	NR Band n5	A	DFT-s OFDM QPSK BW=20	RB 1/1	167300	0	Bottom	24.38	0.684	30.01	27.36
							0	Right	24.38	0.500	31.37	
							0	Rear	24.62	1.240	27.67	
							0	Front	24.62	1.440	27.02	
							0	Top	24.62	1.270	27.56	
Product Specific-10g	0	NR Band n5	E	DFT-s OFDM QPSK BW=20	RB 50/28	167300	0	Left	24.62	0.873	29.19	27.02
							0	Front	24.62	1.440	27.02	
							0	Top	24.62	1.270	27.56	
							0	Rear	24.62	1.240	27.67	
							0	Left	24.62	0.873	29.19	

Notes:

1. The maximum allowed power is equal to maximum tune up power + 1 dB device design uncertainty
2. Measured Output power refer to Sec.9 in SAR part.1 report.
3. Some bands were determined more conservative P_{limit} instead of calculation P_{limit} .

Product Specific 10-g without triggering sensor (DSI = 0) (Continued)

RF Exposure Conditions	DSI	band	Antenna	mode	RB	Ch.	Test distance (mm)	Test position	Output power (dbm)	meas SAR 10g (W/kg)	P _{limit} (dBm)	Minimum P _{limit} (dBm)
Product Specific-10g	0	NR Band n7	B	DFT-s OFDM QPSK BW=40	RB 1/107	507000	0	Rear	22.50	1.750	24.05	24.05
							0	Front	22.50	1.580	24.49	
							0	Bottom	22.50	1.010	26.44	
							0	Right	22.50	1.410	24.99	
Product Specific-10g	0	NR Band n7	F	DFT-s OFDM QPSK BW=40	RB 108/54	507000	0	Rear	20.19	1.280	23.10	20.61
							0	Front	20.19	1.400	22.71	
							0	Top	20.19	2.270	20.61	
							0	Right	20.19	0.201	31.14	
Product Specific-10g	0	NR Band n12	A	DFT-s OFDM QPSK BW=15	RB 36/21	141500	0	Rear	24.21	1.220	27.33	27.33
					RB 1/1		0	Front	24.21	0.752	29.43	
					RB 36/21		0	Left	24.20	0.064	40.12	
					0		Bottom	24.21	0.635	30.16		
Product Specific-10g	0	NR Band n12	E	DFT-s OFDM QPSK BW=15	RB 36/21	141500	0	Right	24.21	0.820	29.05	26.19
							0	Rear	23.97	1.460	26.31	
							0	Front	23.97	1.500	26.19	
							0	Top	23.97	1.220	27.09	
Product Specific-10g	0	NR Band n25(2)	A	DFT-s OFDM QPSK BW=40	RB 1/107	376500	0	Rear	19.29	0.906	23.70	23.39
					RB 108/54		0	Right	19.29	0.132	32.06	
					0		Left	19.29	0.187	30.55		
					0		Front	19.23	0.804	24.16		
Product Specific-10g	0	NR Band n25(2)	F	DFT-s OFDM QPSK BW=40	RB 1/1	376500	0	Bottom	19.23	0.960	23.39	22.21
							0	Rear	20.81	1.130	24.26	
							0	Front	20.81	0.987	24.85	
							0	Top	20.81	1.810	22.21	
Product Specific-10g	0	NR Band n26	A	DFT-s OFDM QPSK BW=20	RB 50/28	166300	0	Right	20.81	0.265	30.56	27.34
							0	Rear	24.01	1.160	27.34	
							0	Front	24.01	0.833	28.78	
							0	Left	24.01	0.176	35.53	
Product Specific-10g	0	NR Band n26	E	DFT-s OFDM QPSK BW=20	RB 50/28	166300	0	Bottom	24.01	0.810	28.90	27.31
							0	Right	24.01	0.494	31.05	
							0	Rear	24.54	1.270	27.48	
							0	Front	24.54	1.320	27.31	
Product Specific-10g	0	NR Band n26	A	DFT-s OFDM QPSK BW=20	RB 50/28	166300	0	Top	24.54	1.200	27.73	27.31
							0	Left	24.54	0.925	28.86	
							0	Rear	20.17	1.590	22.14	
							0	Front	20.17	1.160	23.50	
Product Specific-10g	0	NR Band n30	A	DFT-s OFDM QPSK BW=40	RB 1/1	462000	0	Left	20.17	0.071	35.64	22.08
							0	Bottom	20.17	1.610	22.08	
							0	Right	20.17	0.296	29.44	
							0	Rear	19.89	1.080	23.54	
Product Specific-10g	0	NR Band n30	F	DFT-s OFDM QPSK BW=40	RB 1/25	462000	0	Front	19.89	1.050	23.66	20.20
							0	Top	19.89	2.330	20.20	
							0	Right	19.89	0.306	29.01	
							0	Rear	19.31	1.250	22.32	
Product Specific-10g	0	NR Band n66	A	DFT-s OFDM QPSK BW=40	RB 1/1	349000	0	Front	19.31	1.140	22.72	20.74
							0	Left	19.31	0.178	30.79	
							0	Bottom	19.31	1.800	20.74	
							0	Right	19.31	0.265	29.06	
Product Specific-10g	0	NR Band n66	F	DFT-s OFDM QPSK BW=40	RB 108/54	349000	0	Rear	20.87	1.010	24.81	22.20
							0	Front	20.87	0.971	24.98	
							0	Top	20.87	1.840	22.20	
							0	Right	20.87	0.449	28.33	
Product Specific-10g	0	NR Band n70	A	DFT-s OFDM QPSK BW=15	RB 1/1	340500	0	Rear	19.86	1.560	21.91	20.87
							0	Front	19.86	1.610	21.77	
							0	Left	19.86	0.165	31.66	
							0	Bottom	19.86	1.980	20.87	
Product Specific-10g	0	NR Band n70	F	DFT-s OFDM QPSK BW=15	RB 36/21	340500	0	Right	19.86	0.199	30.85	21.36
							0	Rear	21.18	1.170	24.48	
							0	Front	21.18	1.370	23.79	
							0	Top	21.18	2.400	21.36	
Product Specific-10g	0	NR Band n71	A	DFT-s OFDM QPSK BW=20	RB 50/28	136100	0	Right	21.18	0.683	26.82	27.41
							0	Rear	24.29	1.220	27.41	
							0	Front	24.29	0.534	30.99	
							0	Left	24.29	0.067	40.01	
Product Specific-10g	0	NR Band n71	E	DFT-s OFDM QPSK BW=20	RB 50/28	136100	0	Bottom	24.29	0.289	33.66	32.22
							0	Right	24.29	0.625	30.31	
							0	Rear	24.91	0.435	32.50	
							0	Front	24.91	0.385	33.03	
Product Specific-10g	0	NR Band n71	E	DFT-s OFDM QPSK BW=20	RB 50/28	136100	0	Top	24.91	0.464	32.22	32.22
							0	Left	24.91	0.209	35.69	

Notes:

1. The maximum allowed power is equal to maximum tune up power + 1 dB device design uncertainty
2. Measured Output power refer to Sec.9 in SAR part.1 report.
3. Some bands were determined more conservative P_{limit} instead of calculation P_{limit} .

Product Specific 10-g without triggering sensor (DSI = 0) (Continued)

RF Exposure Conditions	DSI	band	Antenna	mode	RB	Ch.	Test distance (mm)	Test position	Output power (dbm)	meas SAR 10g (W/kg)	P _{limit} (dBm)	Minimum P _{limit} (dBm)
Product Specific-10g	0	NR Band n41(38) PC2	F	DFT-s OFDM QPSK BW=100	RB 1/1	518598	0	Rear	20.10	1.570	22.12	19.61
							0	Front	20.10	1.190	23.32	
							0	Top	20.10	2.800	19.61	
							0	Right	20.10	0.155	32.18	
Product Specific-10g	0	NR Band n41 PC2 -SRS2-	E	CW	N/A	518598	0	Rear	15.03	0.195	26.11	24.91
							0	Front	15.03	0.257	24.91	
							0	Top	15.03	0.126	28.01	
							0	Left	15.03	0.171	26.68	
Product Specific-10g	0	NR Band n41(38) switching PC2	B	CW	N/A	518598	0	Rear	21.70	2.070	22.52	22.52
							0	Front	21.70	1.710	23.35	
							0	Bottom	21.70	1.700	23.37	
							0	Right	21.70	0.679	27.36	
Product Specific-10g	0	NR Band n41 switching PC2 -SRS2-	D	CW	N/A	518598	0	Rear	17.69	0.791	22.69	22.69
							0	Front	17.69	0.122	30.81	
							0	Left	17.69	0.008	42.60	
							0	Bottom	17.69	0.157	29.71	
Product Specific-10g	0	NR Band n48 -SRS0-	F	DFT-s OFDM QPSK BW=100	RB 1/1	638000	0	Rear	19.92	1.840	21.25	19.51
						641666	0	Top	19.84	2.700	19.51	
						638000	0	Right	19.92	0.274	29.52	
						0	Rear	18.36	0.478	25.55		
Product Specific-10g	0	NR Band n48 -SRS1-	C	CW	N/A	645332	0	Front	18.36	0.184	29.69	25.55
							0	Bottom	18.36	0.131	31.17	
							0	Right	18.36	0.398	26.34	
							0	Rear	18.40	2.410	18.56	
Product Specific-10g	0	NR Band n48 -SRS2-	I	CW	N/A	645322	0	Front	18.40	2.710	18.05	18.05
							0	Right	18.40	0.790	23.40	
							0	Rear	17.41	1.040	21.22	
Product Specific-10g	0	NR Band n48 -SRS3-	D	CW	N/A	641666	0	Front	17.41	0.057	33.83	21.22
							0	Left	17.41	0.124	30.46	
							0	Bottom	17.41	0.258	27.27	
							0	Rear	19.10	1.350	21.78	
Product Specific-10g	0	NR Band n77 PC2 -SRS0-	F	DFT-s OFDM QPSK BW=100	RB 1/1	650000	0	Front	19.10	1.380	21.68	19.52
							0	Top	19.10	2.270	19.52	
							0	Right	19.10	0.418	26.87	
							0	Rear	18.07	0.775	23.16	
Product Specific-10g	0	NR Band n77 PC2 -SRS1-	C	CW	N/A	633334	0	Front	18.49	0.250	28.49	23.16
						650000	0	Bottom	18.49	0.113	31.94	
						0	Right	18.49	0.310	27.56		
						0	Rear	19.86	1.590	21.83		
Product Specific-10g	0	NR Band n77 PC2 -SRS2-	I	CW	N/A	662000	0	Front	19.86	2.750	19.45	19.45
							0	Right	19.86	0.540	26.52	
							0	Rear	17.29	1.300	20.13	
Product Specific-10g	0	NR Band n77 PC2 -SRS3-	D	CW	N/A	650000	0	Front	17.29	0.019	38.48	20.13
							0	Left	17.29	0.074	32.58	
							0	Bottom	17.29	0.185	28.60	
							0	Rear	17.29	0.185	28.60	

Notes:

1. The maximum allowed power is equal to maximum tune up power + 1 dB device design uncertainty
2. Measured Output power refer to Sec.9 in SAR part.1 report.
3. Some bands were determined more conservative P_{limit} instead of calculation P_{limit} .

Product Specific 10-g without triggering sensor (DSI = 0) (Continued)

RF Exposure Conditions	DSI	band	Antenna	mode	RB	Ch.	Test distance (mm)	Test position	Output power (dbm)	meas SAR 10g (W/kg)	P _{limit} (dBm)	Minimum P _{limit} (dBm)
Product Specific-10g	0	DTS SISO Ant. 1	H	802.11b 1Mbps		6	0	Right	18.37	1.160	21.70	21.70
Product Specific-10g	0	DTS SISO Ant. 2	J	802.11b 1Mbps		6	0	Rear	19.00	1.090	22.61	22.61
Product Specific-10g	0	DTS MIMO	H+J	802.11b 1Mbps		1	0	Rear	18.00	1.120	21.49	21.49
Product Specific-10g	0	UNII-2A SISO Ant. 1	H	802.11n HT40		54	0	Right	16.30	2.550	16.21	16.21
Product Specific-10g	0	UNII-2A SISO Ant. 2	E	802.11n HT40		54	0	Rear	15.80	1.500	18.02	18.02
Product Specific-10g	0	UNII-2A MIMO	H+E	802.11n HT40		54	0	Right	15.80	2.280	16.20	16.20
Product Specific-10g	0	UNII-2C SISO Ant. 1	H	802.11ac VHT80		138	0	Right	16.30	1.210	19.45	19.45
Product Specific-10g	0	UNII-2C SISO Ant. 2	E	802.11ac VHT80		138	0	Rear	16.20	0.725	21.58	21.58
Product Specific-10g	0	UNII-2C MIMO	H+E	802.11ac VHT80		138	0	Right	15.80	1.700	17.47	17.47
Product Specific-10g	0	UNII-3 SISO Ant. 1	H	802.11ac VHT80		155	0	Right	16.30	2.260	16.74	16.74
Product Specific-10g	0	UNII-3 SISO Ant. 2	E	802.11ac VHT80		155	0	Rear	16.20	0.580	22.55	22.55
Product Specific-10g	0	UNII-3 MIMO	H+E	802.11ac VHT80		155	0	Right	16.20	2.130	16.90	16.90
Product Specific-10g	0	UNII-4 SISO Ant. 1	H	802.11ac VHT80		171	0	Rear	16.40	1.790	17.85	17.85
Product Specific-10g	0	UNII-4 SISO Ant. 2	E	802.11ac VHT80		171	0	Rear	16.40	0.607	22.55	22.55
Product Specific-10g	0	UNII-4 MIMO	H+E	802.11ac VHT80		171	0	Rear	16.30	1.300	19.14	19.14
Product Specific-10g	0	WiFi 6E SISO Ant. 1	H	802.11ax HE160		79	0	Rear	8.95	0.401	16.90	16.90
Product Specific-10g	0	WiFi 6E SISO Ant. 2	E	802.11ax HE160		15	0	Rear	9.14	0.089	23.63	23.63
Product Specific-10g	0	WiFi 6E MIMO	H+E	802.11ax HE160		79	0	Rear	9.08	0.304	18.23	18.23
Product Specific-10g	0	Bluetooth Ant. 1	H	GFSK 1M LE 255pkt		0	0	Rear	20.52	1.030	24.37	21.65
							0	Front	20.52	1.310	23.33	
							0	Top	20.52	0.419	28.28	
							0	Right	20.52	1.930	21.65	
Product Specific-10g	0	Bluetooth Ant. 2	J	GFSK LE 1Mbps		19	0	Rear	17.35	0.672	23.06	21.12
							0	Front	17.35	1.050	21.12	
							0	Top	17.35	0.008	42.30	
							0	Left	17.35	0.352	25.87	
Product Specific-10g	0	Bluetooth MIMO	H+J	BDR GFSK DH 5		39	0	Rear	13.45	0.129	26.32	22.28
							0	Front	13.45	0.146	25.79	
							0	Top	13.45	0.327	22.28	
							0	Left	13.87	0.191	25.04	
							0	Right	13.45	0.111	26.98	

Notes:

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END OF REPORT