



SAR EVALUATION REPORT

**FCC 47 CFR § 2.1093
IEEE Std 1528-2013**

For
5G Smart Phone

**FCC ID: 2ADINS6702X
Model Name: S6702X**

**Report Number: 4791041023-1-SAR-1
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Prepared for
**Sun Cupid Technology (HK) Ltd.
16/F, CEO Tower, 77 Wing Hong St, Cheung Sha Wan, Kowloon Hong Kong**

Prepared by
**UL Verification Services (Guangzhou) Co., Ltd, Song Shan Lake Branch
Building 10, Innovation Technology Park, No. 1, Li Bin Road, Song Shan Lake Hi-Tech
Development Zone Dongguan, 523808, People's Republic of China**

**Tel: +86 769 22038881
Fax: +86 769 33244054
Website: www.ul.com**

Revision History

Rev.	Date	Revisions	Revised By
V1.0	Jan. 12, 2024	Initial Issue	\

Note:

1. The Measurement result for the sample received is<Pass> according to < IEEE Std. 1528-2013> when <Accuracy Method> decision rule is applied.
2. This report is only published to and used by the applicant, and it is not for evidence purpose in China.

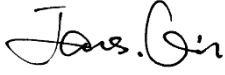
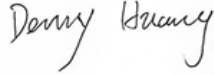

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1. Attestation of Test Results

Applicant Name	Sun Cupid Technology (HK) Ltd.			
Address	16/F, CEO Tower, 77 Wing Hong St, Cheung Sha Wan, Kowloon Hong Kong			
Manufacturer	Sun Cupid Technology (HK) Ltd.			
Address	16/F, CEO Tower, 77 Wing Hong St, Cheung Sha Wan, Kowloon Hong Kong			
EUT Name	5G Smart Phone			
Model	S6702X			
Series Model	B30 Pro, NUU B30 Pro			
Model Difference	B30 Pro, NUU B30 Pro have the same technical construction including circuit diagram, PCB Layout, components and component layout, all electrical construction and mechanical construction with S6702X. The difference lies only the model number. all these changes do not degrade the unwanted emissions of the certified product.			
Brand	NUU			
Sample Status	Normal			
Sample Received Date	Nov.21, 2023			
Date of Tested	Nov.13,2023~ Jan. 12,2024			
Applicable Standards	FCC 47 CFR § 2.1093 IEEE Std. 1528-2013 KDB publication			
SAR Limits (W/Kg)				
Exposure Category	Peak spatial-average (1g of tissue)	Extremities (hands, wrists, ankles, etc.) (10g of tissue)		
General population / Uncontrolled exposure	1.6	4		
The Highest Reported SAR (W/kg)				
RF Exposure Conditions	Equipment Class			
	PCE	DTS	NII	DSS
Head (0mm)	1.139	0.793	0.781	0.444
Body-worn (10mm)	1.187	0.477	0.548	0.149
Hotspot (10mm)	1.187	0.477	0.548	0.149
Extremity (0mm)	1.788	/	1.332	/
Simultaneous Transmission (1-g)	Head	1.571		
	Body-worn	1.346		
	Hotspot	1.346		
Simultaneous Transmission	Extremity	1.788		

(10-g)		
Test Results		Pass
Prepared By:  James Qin Project Engineer	Reviewed By:  Denny Huang Senior Project Engineer	Approved By:  Stephen Guo Laboratory Manager

2. Test Specification, Methods and Procedures

The tests documented in this report were performed in accordance with IEEE Std.1528-2013 the following FCC Published RF exposure KDB procedures:

- 248227 D01 802.11 Wi-Fi SAR v02r02
- 447498 D01 General RF Exposure Guidance v06
- 690783 D01 SAR Listings on Grants v01r03
- 865664 D01 SAR measurement 100 MHz to 6 GHz v01r04
- 865664 D02 RF Exposure Reporting v01r02
- 941225 D05 SAR for LTE Devices v02r05
- 941225 D07 UMPC Mini Tablet v01r02
- 941225 D01 3G SAR Procedures v03r01

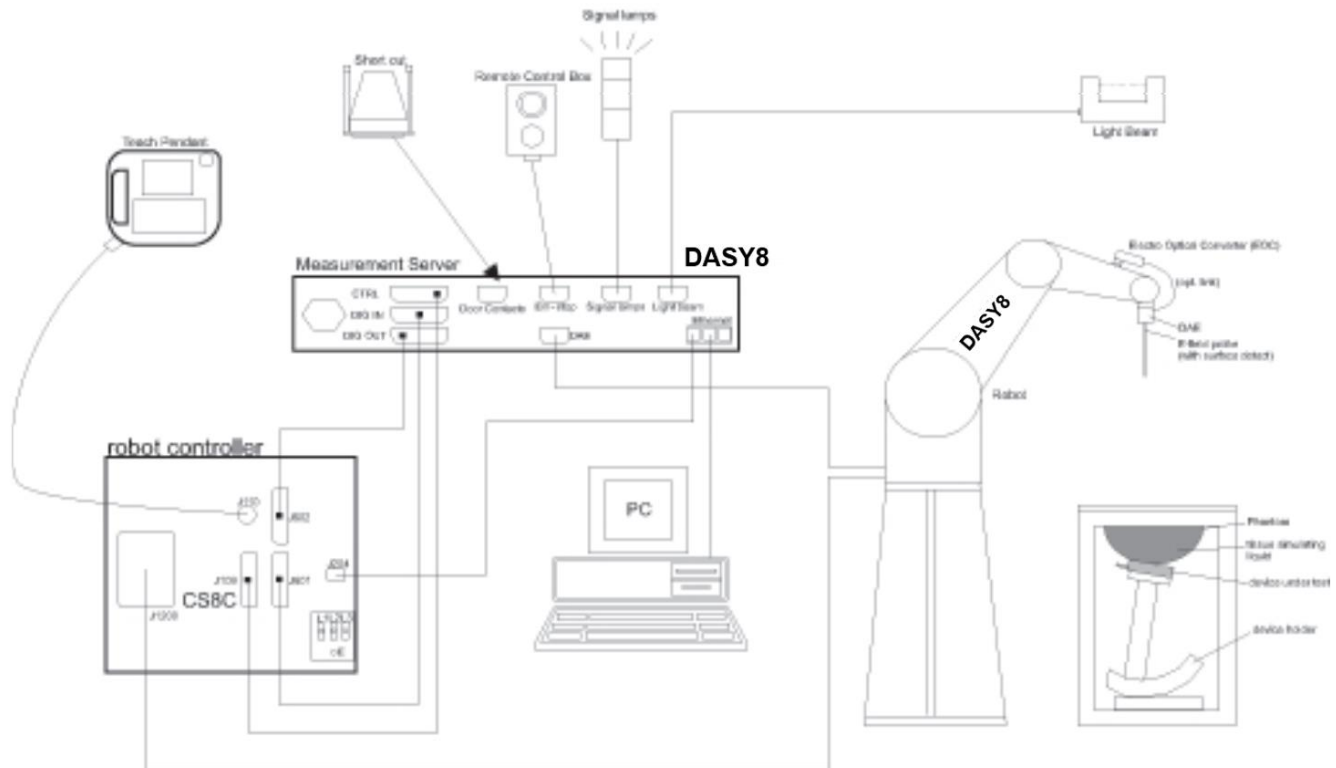
3. Facilities and Accreditation

Test Location	UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch.
Address	Building 10, Innovation Technology Park, Song Shan Lake Hi-tech Development Zone, Dongguan, 523808, China
Accreditation Certificate	<p>A2LA (Certificate No.: 4102.01) UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been assessed and proved to be in compliance with A2LA.</p> <p>FCC (FCC Designation No.: CN1187) UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. Has been recognized to perform compliance testing on equipment subject to the Commission's Declaration of Conformity (DoC) and Certification rules.</p> <p>ISED (Company No.: 21320) UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been registered and fully described in a report filed with ISED. The Company Number is 21320 and the test lab Conformity Assessment Body Identifier (CABID) is CN0046.</p> <p>VCCI (Registration No.: G-20192, C-20153, T-20155 and R-20202) UL Verification Services (Guangzhou) Co., Ltd. Song Shan Lake Branch. has been assessed and proved to be in compliance with VCCI, the Membership No. is 3793. Facility Name: Chamber D, the VCCI registration No. is G-20192 and R-20202. Shielding Room B, the VCCI registration No. is C-20153 and T-20155.</p>
Description	All measurement facilities use to collect the measurement data are located at Building 10, Innovation Technology Park, Song Shan Lake Hi-tech Development Zone, Dongguan, 523808, China.

4. SAR Measurement System & Test Equipment

4.1. SAR Measurement System

The DASY8 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 DASY8 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 v01r04 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 mm \pm 1 mm	$\frac{1}{2} \cdot \delta \cdot \ln(2)$ mm \pm 0.5 mm
Maximum probe angle from probe axis to phantom surface normal at the measurement location	30° \pm 1°	20° \pm 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 \leq 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 v01r04 SAR Measurement 100 MHz to 6 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	$\leq 1.5 \cdot \Delta z_{Zoom}(n-1)$ mm
Minimum zoom scan volume	x, y, z	≥ 30 mm	3 – 4 GHz: ≥ 28 mm 4 – 5 GHz: ≥ 25 mm 5 – 6 GHz: ≥ 22 mm

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 greater 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.

Name of equipment	Manufacturer	Type/Model	Serial No.	Cal. Due Date
ENA Network Analyzer	Keysight	E5080A	MY55100583	2024.10.11
Dielectric Probe kit	SPEAG	SM DAK 040 SA	1155	2025.02.27
DC power supply	Keysight	E36103A	MY55350020	2024.10.11
Signal Generator	Rohde & Schwarz	SME06	837633\001	2024.08.06
BI-Directional Coupler	KRYTAR	1850	54733	2024.10.11
Peak and Average Power Sensor	Keysight	E9325A	MY62220002	2024.10.11
Peak and Average Power Sensor	Keysight	E9325A	MY62220003	2024.10.11
Dual Channel PK Power Meter	Keysight	N1912A	MY55416024	2024.10.11
Amplifier	CORAD TECHNOLOGY LTD	AMF-4D-00400600-50-30P	1983561	NCR
Dosimetric E-Field Probe	SPEAG	EX3DV4	7383	2024.06.04
Data Acquisition Electronic	SPEAG	DAE3	427	2024.05.16
Dipole Kit 750 MHz	SPEAG	D750V3	1153	2024.12.14
Dipole Kit 835 MHz	SPEAG	D835V2	4d206	2024.12.16
Dipole Kit 1800 MHz	SPEAG	D1800V2	2d212	2024.12.20
Dipole Kit 1900 MHz	SPEAG	D1900V2	5d212	2024.12.19
Dipole Kit 2450 MHz	SPEAG	D2450V2	977	2024.12.16
Dipole Kit 2600 MHz	SPEAG	D2600V2	1117	2024.12.19
Dipole Kit 3500 MHz	SPEAG	D3500V2	1047	2024.01.24
Dipole Kit 3900 MHz	SPEAG	D3900V2	1067	2024.03.07
Dipole Kit 5 GHz	SPEAG	D5GHzV2	1231	2024.12.15
Software	SPEAG	DASY52	N/A	NCR
Twin Phantom	SPEAG	SAM 5.0	1805	NCR
Thermometer	/	GX-138	150709653	2024.10.18
Thermometer	VICTOR	ITHX-SD-5	18470005	2024.10.18

Note:

- 1) As per KDB865664D01 requirements for dipole calibration, the test laboratory has adopted three-year extended calibration interval. Each measured dipole is expected to evaluate with the following criteria at least on annual interval in Appendix C.
 - a) There is no physical damage on the dipole;
 - b) System check with specific dipole is within 10% of calibrated value;
 - c) The most recent return-loss result, measured at least annually, deviates by no more than 20% from the previous measurement.
 - d) The most recent measurement of the real or imaginary parts of the impedance, measured at least annually is within 5Ω from the previous measurement.
- 2) Dielectric assessment kit is calibrated against air, distilled water and a shorting block performed before measuring liquid parameters.
- 3) NCR is short for "No Calibration Requirement".

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 and the measured 10-g SAR within a frequency band is < 3.75 W/kg. The expanded SAR measurement uncertainty must be $\leq 30\%$, for a confidence interval of $k = 2$. If these conditions are met, extensive SAR measurement uncertainty analysis described in IEEE Std. 1528-2013 is not required in SAR reports submitted for equipment approval. Therefore, the measurement uncertainty is not required.

6. Device Under Test (DUT) Information

6.1. DUT Description

EUT is a 5G smart phone with GSM/WCDMA/LTE/NR/IEEE 802.11a/ b/g/n/ac/ax,Bluetooth/NFC radio	
Dimension	Overall (Length x Width x Height): 162 mm x 74 mm x 8 mm
Accessory	None

6.2. Wireless Technology

Wireless technologies	Frequency bands	Operating mode	
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 checked="" type="checkbox"/> Class 12 - 4 Up, 4 Down <input type="checkbox"/> Class 33 - 4 Up, 5 Down
		Does this device support DTM (Dual Transfer Mode)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
WCDMA (UMTS)	Band II Band IV Band V	UMTS Rel. 99 (Voice & Data) HSDPA (Rel. 5) HSUPA (Rel. 6) DC-HSDPA (Rel. 8) HSPA+ (Rel. 7)	
LTE	FDD Band2 FDD Band4 FDD Band5 FDD Band7 FDD Band12 FDD Band13 FDD Band25 FDD Band26 FDD Band66 FDD Band71 TDD Band41	QPSK 16QAM <input type="checkbox"/> Rel. 10 Does not support Carrier Aggregation (CA) <input checked="" type="checkbox"/> Rel. 10 Carrier Aggregation (Downlink only) <input type="checkbox"/> Rel. 11 Carrier Aggregation (2 Uplink and 2 Downlinks)	
NR (FR1)	FDD Band n2 FDD Band n5 FDD Band n7 FDD Band n25 FDD Band n66 FDD Band n71 TDD Band n41 TDD Band n77	DFT-s-OFDM: Pi/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM CP-OFDM: QPSK, 16QAM, 64QAM, 256QAM	
Wi-Fi	2.4GHz	802.11b 802.11g 802.11n (HT20) 802.11n (HT40) 802.11ax (HE20) 802.11ax (HE40)	
Wi-Fi	5GHz	802.11a 802.11n (HT20) 802.11n (HT40) 802.11ac (VHT20)	

		802.11ac (VHT40) 802.11ac (VHT80) 802.11ax (HE20) 802.11ax (HE40) 802.11ax (HE80)
BT/BLE	2.4GHz	V5.2
NFC	13.56MHz	ASK

7. Test Configuration

7.1. 3G SAR Test Reduction Procedure

According to KDB 941225D01, in the following procedures, the mode tested for SAR is referred to as the primary mode. The equivalent modes considered for SAR test reduction are denoted as secondary modes. Both primary and secondary modes must be in the same frequency band. When the maximum output power and tune-up tolerance specified for production units in a secondary mode is $\leq \frac{1}{4}$ 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. This is referred to as the 3G SAR test reduction procedure in the following SAR test guidance, where the primary mode is identified in the applicable wireless mode test procedures and the secondary mode is wireless mode being considered for SAR test reduction by that procedure. When the 3G SAR test reduction procedure is not satisfied, it is identified as “otherwise” in the applicable procedures; SAR measurement is required for the secondary mode.

7.1.1. GSM Test Configuration

SAR tests for GSM 850 and GSM 1900, a communication link is set up with a base station by air link. Using CMW500 the power level is set to “5” and “0” in SAR of GSM 850 and GSM 1900. The tests in the band of GSM 850 and GSM 1900 are performed in the mode of GPRS/EGPRS function. Since the GPRS class is 12 for this EUT, it has at most 4 timeslots in uplink and at most 4 timeslots in downlink, the maximum total timeslot is 5. The EGPRS class is 12 for this EUT, it has at most 4 timeslots in uplink, and at most 4 timeslots in downlink, the maximum total timeslot is 5.

SAR test reduction for GPRS and EDGE modes is determined by the source-based time-averaged output power specified for production units, including tune-up tolerance. The data mode with highest specified time-averaged output power should be tested for SAR compliance in the applicable exposure conditions. For modes with the same specified maximum output power and tolerance, the higher number time-slot configuration should be tested.

When SAR tests for EGPRS mode is necessary, GMSK modulation should be used to minimize SAR measurement error due to higher peak-to-average power (PAR) ratios inherent in 8-PSK.

The 3G SAR test reduction procedure is applied to 8-PSK EDGE with GMSK GPRS/EDGE as the primary mode

7.1.2. UMTS Test Configuration

1. Output Power Verification

Maximum output power is verified on the High, Middle and Low channels according to the procedures description in section 5.2 of 3GPP TS 34.121, using the appropriate RMC or AMR with TPC (transmit power control) set to all "1s" for WCDMA/HSDPA or applying the required inner loop power control procedure to maintain maximum output power while HSUPA is active. Result for all applicable physical channel configurations (DPCCH, DPDCHn and spreading codes, HSDPA, HSPA) Should be tabulated in the SAR report. All configuration that are not supported by the DUT or cannot be measured due to technical or equipment limitation should be clearly identified.

2. WCDMA

Body SAR Measurements

SAR for body-worn accessory configurations is measured using a 12.2 kbps RMC with TPC bits configured to all "1"s". The 3G SAR test reduction procedure is applied to other spreading codes and multiple DPDCHn configurations supported by the handset with 12.2 kbps RMC as the primary mode.

3. HSDPA

SAR for body exposure configurations is measured according to the "Body SAR Measurements" procedures of 3G device. When the maximum output power and tune-up tolerance specified for production units in a secondary mode is $\leq \frac{1}{4}$ 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. This is referred to as the 3G SAR test reduction procedure in the following SAR test guidance, where the primary mode is identified in the applicable wireless mode test procedures and the secondary mode is wireless mode being considered for SAR test reduction by that procedure. When the 3G SAR test reduction procedure is not satisfied, it is identified as "otherwise" in the applicable procedures; SAR measurement is required for the secondary mode.

As per KDB941225 D01, the 3G SAR test reduction procedure is applied to HSDPA body configurations with 12.2 kbps RMC as the primary mode. Otherwise, SAR is measured for HSDPA using the HSDPA body SAR procedures for the highest reported SAR body exposure configuration in 12.2 kbps RMC.

HSDPA should be configured according to UE category of a test device. The number of HS-DSCH/HS-PDSCHs, HAPRQ processes, minimum inter-TTI interval, transport block sizes and RV coding sequence are defined by the H-set. To maintain a consistent test configuration and stable transmission condition, QPSK is used in the H-set for SAR testing. HS-DPCCH should be configured with a CQI feedback cycle of 4ms with a CQI repetition factor of 2 to maintain a constant rate of active CQI slots. The β_c and β_d gain factors for DPCCH and DPDCH were set according to the values in the below table, β_{hs} for HS-DPCCH is set automatically to the correct value when ΔACK , $\Delta NACK$, $\Delta CQI = 8$. The variation of the β_c / β_d ratio causes a power reduction at sub-tests 2 - 4.

Sub-test ^o	β_c ^o	β_d ^o	β_d (SF) ^o	β_c / β_d ^o	β_{hs} (1) ^o	CM(dB)(2) ^o	MPR (dB) ^o
1 ^o	2/15 ^o	15/15 ^o	64 ^o	2/15 ^o	4/15 ^o	0.0 ^o	0 ^o
2 ^o	12/15(3) ^o	15/15(3) ^o	64 ^o	12/15(3) ^o	24/15 ^o	1.0 ^o	0 ^o
3 ^o	15/15 ^o	8/15 ^o	64 ^o	15/8 ^o	30/15 ^o	1.5 ^o	0.5 ^o
4 ^o	15/15 ^o	4/15 ^o	64 ^o	15/4 ^o	30/15 ^o	1.5 ^o	0.5 ^o

Note 1: ΔACK , $\Delta NACK$ and $\Delta CQI = 8$ $A_{hs} = \beta_{hs} / \beta_c = 30/15$ $\beta_{hs} = 30/15 * \beta_c$

Note 2: CM=1 for $\beta_c / \beta_d = 12/15$, $\beta_{hs} / \beta_c = 24/15$. For all other combinations of DPDCH, DPCCH and HS-DPCCH the MPR is based on the relative CM difference. This is applicable for only UEs that support HSDPA in release 6 and later releases.

Note 3: For subtest 2 the β_c / β_d ratio of 12/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to $\beta_c = 11/15$ and $\beta_d = 15/15$

The measurements were performed with a Fixed Reference Channel (FRC) and H-Set 1 QPSK. Settings of required H-Set 1 QPSK acc. to 3GPP 34.121

Parameter	Value
Nominal average inf. bit rate	534 kbit/s
Inter-TTI Distance	3 TTI"s
Number of HARQ Processes	2 Processes
Information Bit Payload	3202 Bits
MAC-d PDU size	336 Bits
Number Code Blocks	1 Block
Binary Channel Bits Per TTI	4800 Bits
Total Available SMLs in UE	19200 SMLs
Number of SMLs per HARQ Process	9600 SMLs
Coding Rate	0.67
Number of Physical Channel Codes	5

HSDPA UE category

HS-DSCH Category	Maximum HS-DSCH Codes Received	Minimum Inter-TTI Interval	Maximum HS-DSCH Transport Block Bits/HS-DSCH TTI	Total Soft Channel Bits
1	5	3	7298	19200
2	5	3	7298	28800
3	5	2	7298	28800
4	5	2	7298	38400
5	5	1	7298	57600
6	5	1	7298	67200
7	10	1	14411	115200
8	10	1	14411	134400
9	15	1	25251	172800
10	15	1	27952	172800
11	5	2	3630	14400
12	5	1	3630	28800
13	15	1	34800	259200
14	15	1	42196	259200
15	15	1	23370	345600
16	15	1	27952	345600

4. HSUPA

SAR for body exposure configurations is measured according to the "Body SAR Measurements" procedures of 3G device. When the maximum output power and tune-up tolerance specified for production units in a secondary mode is $\leq \frac{1}{4}$ 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.

As per KDB941225 D01v03, the 3G SAR test reduction procedure is applied to HSPA (HSUPA/HSDPA with RMC) body configurations with 12.2 kbps RMC as the primary mode. Otherwise, SAR is measured for HSPA using the HSPA body SAR procedures for the highest reported body exposure SAR configuration in 12.2 kbps RMC.

Due to inner loop power control requirements in HSDPA, a commercial communication test set should be used for the output power and SAR tests. The 12.2 kbps RMC, FRC H-set 1 and E-DCH configurations for HSDPA should be configured according to the values indicated below as well as other applicable procedures described in the „WCDMA Handset" and „Release 5 HSDPA Data Device" sections of 3G device.

Subtests for WCDMA Release 6 HSUPA

Sub-test [Ⓢ]	β_c [Ⓢ]	β_d [Ⓢ]	β_d (SF) [Ⓢ]	β_c/β_d [Ⓢ]	β_{hs} ⁽¹⁾ [Ⓢ]	β_{ec} [Ⓢ]	β_{ed} [Ⓢ]	β_c [Ⓢ] (SF) [Ⓢ]	β_{ed} [Ⓢ] (code) [Ⓢ]	CM ⁽²⁾ [Ⓢ] (dB) [Ⓢ]	MP R [Ⓢ] (dB) [Ⓢ]	AG ⁽⁴⁾ [Ⓢ] Index [Ⓢ]	E-TFC I [Ⓢ]
1 [Ⓢ]	11/15 ⁽³⁾ [Ⓢ]	15/15 ⁽³⁾ [Ⓢ]	64 [Ⓢ]	11/15 ⁽³⁾ [Ⓢ]	22/15 [Ⓢ]	209/225 [Ⓢ]	1039/225 [Ⓢ]	4 [Ⓢ]	1 [Ⓢ]	1.0 [Ⓢ]	0.0 [Ⓢ]	20 [Ⓢ]	75 [Ⓢ]
2 [Ⓢ]	6/15 [Ⓢ]	15/15 [Ⓢ]	64 [Ⓢ]	6/15 [Ⓢ]	12/15 [Ⓢ]	12/15 [Ⓢ]	94/75 [Ⓢ]	4 [Ⓢ]	1 [Ⓢ]	3.0 [Ⓢ]	2.0 [Ⓢ]	12 [Ⓢ]	67 [Ⓢ]
3 [Ⓢ]	15/15 [Ⓢ]	9/15 [Ⓢ]	64 [Ⓢ]	15/9 [Ⓢ]	30/15 [Ⓢ]	30/15 [Ⓢ]	$\beta_{ed1}:47/15$ [Ⓢ] $\beta_{ed2}:47/15$ [Ⓢ]	4 [Ⓢ]	2 [Ⓢ]	2.0 [Ⓢ]	1.0 [Ⓢ]	15 [Ⓢ]	92 [Ⓢ]
4 [Ⓢ]	2/15 [Ⓢ]	15/15 [Ⓢ]	64 [Ⓢ]	2/15 [Ⓢ]	4/15 [Ⓢ]	2/15 [Ⓢ]	56/75 [Ⓢ]	4 [Ⓢ]	1 [Ⓢ]	3.0 [Ⓢ]	2.0 [Ⓢ]	17 [Ⓢ]	71 [Ⓢ]
5 [Ⓢ]	15/15 ⁽⁴⁾ [Ⓢ]	15/15 ⁽⁴⁾ [Ⓢ]	64 [Ⓢ]	15/15 ⁽⁴⁾ [Ⓢ]	30/15 [Ⓢ]	24/15 [Ⓢ]	134/15 [Ⓢ]	4 [Ⓢ]	1 [Ⓢ]	1.0 [Ⓢ]	0.0 [Ⓢ]	21 [Ⓢ]	81 [Ⓢ]

Note 1: Δ ACK, Δ NACK and Δ CQI = 8 $A_{hs} = \beta_{hs}/\beta_c = 30/15$ $\beta_{hs} = 30/15 * \beta_c$

Note 2: CM = 1 for $\beta_c/\beta_d = 12/15$, $\beta_{hs}/\beta_c = 24/15$. For all other combinations of DPDCH, DPCCH, HS-DPCCH, E-DPDCH and E-DPCCH the MPR is based on the relative CM difference[Ⓢ]

Note 3 : For subtest 1 the β_c/β_d ratio of 11/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to $\beta_c = 10/15$ and $\beta_d = 15/15$ [Ⓢ]

Note 4 : For subtest 5 the β_c/β_d ratio of 15/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to $\beta_c = 14/15$ and $\beta_d = 15/15$ [Ⓢ]

Note 5 : Testing UE using E-DPDCH Physical Layer category 1 Sub-test 3 is not required according to TS 25.306 Table 5.1g[Ⓢ]

Note 6: β_{ed} can not be set directly; it is set by Absolute Grant Value.[Ⓢ]

HSUPA UE category

UE E-DCH Category	Maximum E-DCH Codes Transmitted	Number of HARQ Processes	E-DCH TTI(ms)	Minimum Spreading Factor	Maximum E-DCH Transport Block Bits	Max Rate (Mbps)
1	1	4	10	4	7110	0.7296
2	2	8	2	4	2798	1.4592
	2	4	10	4	14484	
3	2	4	10	4	14484	1.4592
4	2	8	2	2	5772	2.9185
	2	4	10	2	20000	2.00
5	2	4	10	2	20000	2.00
6 (No DPDCH)	4	8	10	2SF2&2SF4	11484	5.76
	4	4	2		20000	2.00
7 (No DPDCH)	4	8	2	2SF2&2SF4	22996	?
	4	4	10		20000	?

Note:

- When 4 codes are transmitted in parallel, two codes shall be transmitted with SF2 and two with SF4. UE categories 1 to 6 support QPSK only. UE category 7 supports QPSK and 16QAM. (TS25.306-7.3.0).

5. DC-HSDPA

SAR is required for Rel. 8 DC-HSDPA when SAR is required for Rel. 5 HSDPA; otherwise, the 3G SAR test reduction procedure is applied to DC-HSDPA with 12.2 kbps RMC as the primary mode. Power is measured for DC-HSDPA according to the H-Set 12, FRC configuration in Table C.8.1.12 of 3GPP TS 34.121-1 to determine SAR test reduction. A primary and a Second serving HS-DSCH Cell are required to perform the power measurement and for the results to be acceptable.

The following tests were completed according to procedures in section 7.3.13 of 3GPP TS 34.108 v9.5.0. A summary of these setting is illustrated below:

Downlink Physical Channels are set as per 3GPP TS34.121-1 v9.0.0 E.5.0 Levels for HSDPA connection setup

Parameter During Connection setup	Unit	Value
P-CPICH_Ec/Ior	dB	-10
P-CCPCH and SCH_Ec/Ior	dB	-12
PICH_Ec/Ior	dB	-15
HS-PDSCH	dB	off
HS-SCCH_1	dB	off
DPCH_Ec/Ior	dB	-5
OCNS_Ec/Ior	dB	-3.1

Call is set up as per 3GPP TS34.108 v9.5.0 sub clause 7.3.13

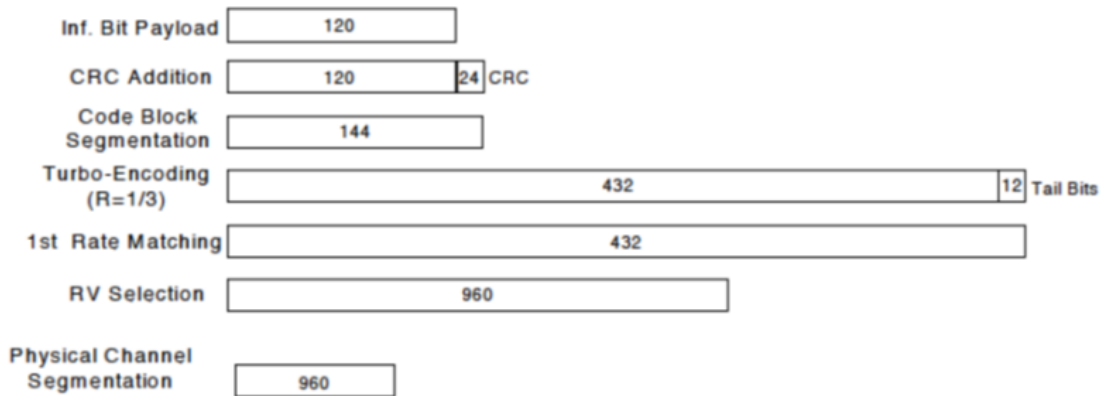
The configurations of the fixed reference channels for HSDPA RF tests are described in 3GPP TS 34.121, annex C for FDD and 3GPP TS 34.122.

The measurements were performed with a Fixed Reference Channel (FRC) H-Set 12 with QPSK

Parameter	Value
Nominal average inf. bit rate	60 kbit/s
Inter-TTI Distance	1 TTI"s
Number of HARQ Processes	6 Processes
Information Bit Payload	120 Bits
Number Code Blocks	1 Block
Binary Channel Bits Per TTI	960 Bits
Total Available SMLs in UE	19200 SMLs
Number of SMLs per HARQ Process	3200 SMLs
Coding Rate	0.15
Number of Physical Channel Codes	1

Note:

- 1) The RMC is intended to be used for DC-HSDPA mode and both cells shall transmit with identical parameters as listed in the table above.
- 2) Maximum number of transmission is limited to 1, i.e., retransmission is not allowed. The redundancy and constellation version 0 shall be used.


Figure C.8.19: Coding rate for Fixed reference Channel H-Set 12 (QPSK)

The following 4 Sub-tests for HSDPA were completed according to Release 5 procedures. A summary of subtest setting is illustrated below:

Sub-test ^o	β_c ^o	β_d ^o	β_d (SF) ^o	β_c/β_d ^o	$\beta_{hs}(1)$ ^o	CM(dB)(2) ^o	MPR (dB) ^o
1 ^o	2/15 ^o	15/15 ^o	64 ^o	2/15 ^o	4/15 ^o	0.0 ^o	0 ^o
2 ^o	12/15(3) ^o	15/15(3) ^o	64 ^o	12/15(3) ^o	24/15 ^o	1.0 ^o	0 ^o
3 ^o	15/15 ^o	8/15 ^o	64 ^o	15/8 ^o	30/15 ^o	1.5 ^o	0.5 ^o
4 ^o	15/15 ^o	4/15 ^o	64 ^o	15/4 ^o	30/15 ^o	1.5 ^o	0.5 ^o

Note 1: ΔACK , $\Delta NACK$ and $\Delta CQI=8$ $A_{hs} = \beta_{hs}/\beta_c = 30/15$ $\beta_{hs} = 30/15 * \beta_c$ ^o

Note 2: CM=1 for $\beta_c/\beta_d=12/15$, $\beta_{hs}/\beta_c=24/15$. For all other combinations of DPDCH, DPCCH and HS-DPCCH the MPR is based on the relative CM difference. This is applicable for only UEs that support HSDPA in release 6 and later releases.^o

Note 3: For subtest 2 the β_c/β_d ratio of 12/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to $\beta_c=11/15$ and $\beta_d=15/15$ ^o

Up commands are set continuously to set the UE to Max power.

Note:

- 1) The Dual Carriers transmission only applies to HSDPA physical channels.
- 2) The Dual Carriers belong to the same Node and are on adjacent carriers.
- 3) The Dual Carriers do not support MIMO to serve UEs configured for dual cell operation.
- 4) The Dual Carriers operate in the same frequency band.
- 5) The device doesn't support the modulation of 16QAM in uplink but 64QAM in downlink for DC-HSDPA mode. The device doesn't support carrier aggregation for it just can operate in Release 8.

7.2. LTE Test Configuration

Establishing connections with base station simulators ensure a consistent means for testing SAR and are recommended for evaluating SAR. The R&S CMW500 was used for LTE output power measurements and SAR testing. Max power control was used so the UE transmits with maximum output power during SAR testing. SAR must be measured with the maximum TTI (transmit time interval) supported by the device in each LTE configuration.

1) Spectrum Plots for RB configurations

A properly configured base station simulator was used for LTE output power measurements and SAR testing. Therefore, spectrum plots for RB configurations were not required to be included in this report.

2) MPR

MPR is permanently implemented for this device by the manufacturer. The specific manufacturer target MPR is indicated alongside the SAR results. MPR is enabled for this device, according to 3GPP TS36.101 Section 6.2.3-6.2.5 under Table 6.2.3-1.

Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 3

Modulation	Channel bandwidth / Transmission bandwidth (N_{RB})						MPR (dB)
	1.4 MHz	3.0 MHz	5 MHz	10 MHz	15 MHz	20 MHz	
QPSK	> 5	> 4	> 8	> 12	> 16	> 18	≤ 1
16 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 1
16 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 2

3) A-MPR

A-MPR (Additional MPR) has been disabled for all SAR tests by using Network Signaling Value of “NS=01” on the base station simulator.

4) SAR test requirements

A) Largest channel bandwidth standalone SAR test requirements

i) QPSK with 1 RB allocation

Start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel. When the reported SAR is ≤ 0.8 W/kg, testing of the remaining RB offset configurations and required test channels is not required for 1 RB allocation; otherwise, SAR is required for the remaining required test channels and only for the RB offset configuration with the highest output power for that channel. When the reported SAR of a required test channel is > 1.45 W/kg, SAR is required for all three RB offset configurations for that required test channel.

ii) QPSK with 50% RB allocation

The procedures required for 1 RB allocation in i) are applied to measure the SAR for QPSK with 50% RB allocation.

iii) QPSK with 100% RB allocation

For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation in i) and ii) are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.

iv) Higher order modulations

For each modulation besides QPSK e.g., 16-QAM, 64-QAM, apply the QPSK procedures in above sections to determine the QAM configurations that may need SAR measurement. For each configuration identified as required for testing, SAR is required only when the highest maximum output power for the configuration in the higher order modulation is $> \frac{1}{2}$ dB higher than the same configuration in QPSK or when the reported SAR for the QPSK configuration is > 1.45 W/kg.

B) Other channel bandwidth standalone SAR test requirements

For the other channel bandwidths used by the device in a frequency band, apply all the procedures required for the largest channel bandwidth in section A) to determine the channels and RB configurations that need SAR testing and only measure SAR when the highest maximum output power of a configuration requiring testing in the smaller channel bandwidth is $> \frac{1}{2}$ dB higher than the equivalent channel configurations in the largest channel bandwidth configuration or the reported SAR of a configuration for the largest channel bandwidth is > 1.45 W/kg.

Table 4.2-1: Configuration of special subframe (lengths of DwPTS/GP/UpPTS)

Special subframe configuration	Normal cyclic prefix in downlink			Extended cyclic prefix in downlink		
	DwPTS	UpPTS		DwPTS	UpPTS	
		Normal cyclic prefix in uplink	Extended cyclic prefix in uplink		Normal cyclic prefix in uplink	Extended cyclic prefix in uplink
0	$6592 \cdot T_s$	$2192 \cdot T_s$	$2560 \cdot T_s$	$7680 \cdot T_s$	$2192 \cdot T_s$	$2560 \cdot T_s$
1	$19760 \cdot T_s$			$20480 \cdot T_s$		
2	$21952 \cdot T_s$			$23040 \cdot T_s$		
3	$24144 \cdot T_s$			$25600 \cdot T_s$		
4	$26336 \cdot T_s$			$7680 \cdot T_s$		
5	$6592 \cdot T_s$	$4384 \cdot T_s$	$5120 \cdot T_s$	$20480 \cdot T_s$	$4384 \cdot T_s$	$5120 \cdot T_s$
6	$19760 \cdot T_s$			$23040 \cdot T_s$		
7	$21952 \cdot T_s$			$12800 \cdot T_s$		
8	$24144 \cdot T_s$			-		
9	$13168 \cdot T_s$			-		

Table 4.2-2: Uplink-downlink configurations

Uplink-downlink configuration	Downlink-to-Uplink Switch-point periodicity	Subframe number									
		0	1	2	3	4	5	6	7	8	9
0	5 ms	D	S	U	U	U	D	S	U	U	U
1	5 ms	D	S	U	U	D	D	S	U	U	D
2	5 ms	D	S	U	D	D	D	S	U	D	D
3	10 ms	D	S	U	U	U	D	D	D	D	D
4	10 ms	D	S	U	U	D	D	D	D	D	D
5	10 ms	D	S	U	D	D	D	D	D	D	D
6	5 ms	D	S	U	U	U	D	S	U	U	D

According to Figure 4.2-1, one radio frame is configured by 10 subframes, which consist of Uplink-subframe, Downlink-subframe and Special subframe. For TDD-LTE, the Duty Cycle should be calculated on Uplink-subframes and Special subframes, due to Special subframe containing both Uplink transmissions. So for one radio frame, Duty Cycle can be calculated with formula as below. The count of Uplink subframes are according to Table 4.2-2:

$$\text{Duty cycle} = (30720T_s \cdot \text{Ups} + \text{Uplink Component} \cdot \text{Specials}) / (307200T_s)$$

About the uplink component of Special subframes, we can figure out by Table 4.2-1:

$$\text{Uplink Component} = \text{UpPTS}$$

In conclusion, for the TDD LTE Band, Duty Cycle can be calculated with formula as below. all these sets are ok when we test, or we can set as below.

$$\text{Duty cycle} = [(30720T_s \cdot \text{Ups}) + \text{UpPTS} \cdot \text{Specials}] / (307200T_s)$$

And we can get different Duty cycles under different configurations:

Uplink-downlink configuration	Subframe number			Configuration of special subframe							
				Normal cyclic prefix in downlink				Extended cyclic prefix in downlink			
	D	S	U	Normal cyclic prefix in uplink		Extended cyclic prefix in uplink		Normal cyclic prefix in uplink		Extended cyclic prefix in uplink	
				configuration 0-4	configuration 5-9	configuration 0-4	configuration 5-9	configuration 0-3	configuration 4-7	configuration 0-3	configuration 4-7
0	2	2	6	61.43%	62.85%	61.67%	63.33%	61.43%	62.85%	61.67%	63.33%
1	4	2	4	41.43%	42.85%	41.67%	43.33%	41.43%	42.85%	41.67%	43.33%
2	6	2	2	21.43%	22.85%	21.67%	23.33%	21.43%	22.85%	21.67%	23.33%
3	6	1	3	30.71%	31.43%	30.83%	31.67%	30.71%	31.43%	30.83%	31.67%
4	7	1	2	20.71%	21.43%	20.83%	21.67%	20.71%	21.43%	20.83%	21.67%
5	8	1	1	10.71%	11.43%	10.83%	11.67%	10.71%	11.43%	10.83%	11.67%
6	3	2	5	51.43%	52.85%	51.67%	53.33%	51.43%	52.85%	51.67%	53.33%

For TDD LTE, SAR should be tested with the highest transmission duty factor (63.33%) using Uplink-downlink configuration 0 and Special subframe configuration 7 for Frame structure type 2.

7.3. NR Band Test Configuration

For 5G NR test procedure was following step similar FCC KDB 941225 D05:

- a. For DFT-OFDM and CP-OFDM output power measurement reduction, according to 3GPP 38.101 maximum power reduction for power class 3, the CP-OFDM mode will not higher than DFT-OFDM mode, therefore, similar FCC KDB 941225 D05 procedure for other modulation output power for each RB allocation configuration is > not $\frac{1}{2}$ dB higher than the same configuration in DFT-QPSK or the reported SAR for the DFT-QPSK configuration is ≤ 1.45 W/kg; CP-OFDM testing is not required.
- b. For DFT-OFDM output power measurement reduction, according to 38.101 maximum power reduction for power class 3, for PI/2 BPSK/16QAM/64QMA/256QAM and smaller bandwidth output power will spot check largest channel bandwidth worst RB configuration to ensure the PI/2 BPSK/16QAM/64QMA/256QAM and smaller bandwidth output power will not $\frac{1}{2}$ dB higher than the same configuration in the largest supported bandwidth.
- c. SAR testing start with the largest SCS and largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
- d. 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
- e. QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
- f. PI/2 BPSK/16QAM/64QAM/256QAM output powers according to 3GPP MPR will not $\frac{1}{2}$ dB higher than the same configuration in QPSK, also reported SAR for the QPSK configuration is less than 1.45 W/kg, PI/2 BPSK/16QAM/64QAM/256QAM SAR testing are not required.
- g. Smaller SCS/bandwidth output power for each RB allocation configuration for this device will not $\frac{1}{2}$ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg, smaller bandwidth SAR testing is not required for this device.

7.4. SAR evaluation analysis for PC2 power level

From May 2017 TCB Workshop, SAR tested were performed using Power Class 3. SAR test for Power Class 2 is tested using the highest SAR test configuration in Power Class 3 for each LTE configuration and exposure condition combination. According to the highest time averaged power for UL-DL configurations, configuration # 1 with duty cycle 43.3% is used for Power Class 2 SAR test. Additional SAR testing for Power Class 2 is not required when the reported SAR vs. output power can be linearly scaled with < 10% discrepancy between power classes and all reported SAR are < 1.4 W/kg.

7.5. Wi-Fi Test Configuration

For Wi-Fi SAR testing, a communication link is set up with the testing software for Wi-Fi mode test. During the test, at each test frequency channel, the EUT is operated at the RF continuous emission mode. The test procedures in KDB 248227D01 are applied.

7.5.1. Initial Test Position Procedure

For exposure condition with multiple test position, such as handsets operating next to the ear, devices with hotspot mode or UMPC mini-tablet, procedures for initial test position can be applied. Using the transmission mode determined by the DSSS procedure or initial test configuration, area scans are measured for all position in an exposure condition. The test position with the highest extrapolated (peak) SAR is used as the initial test position. When reported SAR for the initial test position is $\leq 0.4\text{W/kg}$, no additional testing for the remaining test position is required. Otherwise, SAR is evaluated at the subsequent highest peak SAR position until the reported SAR result is $\leq 0.8\text{W/kg}$ or all test position are measured. For all positions/configurations tested using the initial test position and subsequent test positions, when the reported SAR is $> 0.8\text{ W/kg}$, SAR is measured for these test positions/configurations on the subsequent next highest measured output power channel(s) until the reported SAR is $\leq 1.2\text{ W/kg}$ or all required channels are tested.

7.5.2. Initial Test Configuration Procedure

An initial test configuration is determined for OFDM transmission modes according to the channel bandwidth, modulation and data rate combination(s) with the highest maximum output power specified for production units in each standalone and aggregated frequency band. SAR is measured using the highest measured maximum output power channel. For configurations with the same specified or measured maximum output power, additional transmission mode and test channel selection procedures are required (see section 5.3.2 of KDB 248227D01). SAR test reduction of subsequent highest output test channels is based on the reported SAR of the initial test configuration.

For next to the ear, hotspot mode and UMC mini-tablet exposure configurations where multiple test positions are required, the initial test position procedure is applied to minimize the number of test positions required for SAR measurement using the initial test configuration transmission mode. For fixed exposure conditions that do not have multiple SAR test positions, SAR is measured in the transmission mode determined by the initial test configuration. When the reported SAR of the initial test configuration is $> 0.8\text{ W/kg}$, SAR measurement is required for the subsequent next highest measured output power channel(s) in the initial test configuration until the reported SAR is $\leq 1.2\text{ W/kg}$ or all required channels are tested.

7.5.3. Sub Test Configuration Procedure

SAR measurement requirements for the remaining 802.11 transmission mode configurations that have not been tested in the initial test configuration are determined separately for each standalone and aggregated frequency band, in each exposure condition, according to the maximum output power specified for production units.

When the highest reported SAR for the initial test configuration, according to the initial test position or fixed exposure position requirements, is adjusted by the ratio of the subsequent test configuration to initial test configuration specified maximum output power and the adjusted SAR is $\leq 1.2\text{ W/kg}$, SAR is not required for that subsequent test configuration.

7.5.4. 2.4GHz Wi-Fi SAR Test Procedures

Separate SAR procedures are applied to DSSS and OFDM configurations in the 2.4 GHz band to simplify DSSS test requirements. For 802.11b DSSS SAR measurements, DSSS SAR procedure applies to fixed exposure test position and initial test position procedure applies to multiple exposure test positions.

A) 802.11b DSSS SAR Test Requirements

SAR is measured for 2.4 GHz 802.11b DSSS using either a fixed test position or, when applicable, the initial test position procedure. SAR test reduction is determined according to the following:

- 1) When the reported SAR of the highest measured maximum output power channel (section 3.1 of KDB 248227D01) for the exposure configuration is ≤ 0.8 W/kg, no further SAR testing is required for 802.11b DSSS in that exposure configuration.
- 2) When the reported SAR is > 0.8 W/kg, SAR is required for that exposure configuration using the next highest measured output power channel. When any reported SAR is > 1.2 W/kg, SAR is required for the third channel i.e., all channels require testing.

B) 2.4GHz 802.11g/n OFDM SAR Test Exclusion Requirements

When SAR measurement is required for 2.4 GHz 802.11g/n OFDM configurations, the measurement and test reduction procedures for OFDM are applied (section 5.3 of KDB 248227D01). SAR is not required for the following 2.4 GHz OFDM conditions.

- 1) When KDB Publication 447498 SAR test exclusion applies to the OFDM configuration.
- 2) When the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg.

C) SAR Test Requirements for OFDM configurations

When SAR measurement is required for 802.11 g/n OFDM configurations, each standalone and frequency aggregated band is considered separately for SAR test reduction. In applying the initial test configuration and subsequent test configuration procedures, the 802.11 transmission configuration with the highest specified maximum output power and the channel within a test configuration with the highest measured maximum output power should be clearly distinguished to apply the procedures.

7.5.5. 2.4GHz BT/BLE SAR Test Requirements

2.4GHz BT operating modes are tested independently according to the service requirements in each frequency band for each antenna. DH5 / 3DH5 / 1M SISO modes are tested on the maximum average output power mode.

8. Power reduction specification

8.1. Power reduction mechanism

This device uses a single fixed level of power reduction through static table look-up for SAR compliance and it is triggered by a single event or operation.

- 1) A fixed level power reduction is applied for some frequency bands when simultaneously transmitting with the other antennas in certain simultaneous transmission conditions. The standalone SAR compliance still uses the standalone SAR results tested at the maximum output power level without any power reduction.
- 2) A fixed level power reduction is applied for some frequency bands when handset operate "held to the ear" condition, the power reduction triggered by audio receiver detection. The audio receiver detection is used to determine head or body scenario.
- 3) The proximity sensor is used to indicate when the device is held close to a user's body exposure condition. It utilizes the proximity sensor to reduce the output power in specific wireless and operating modes of main antenna to ensure SAR compliance (Refer to section 8.2 for detailed proximity Sensor information and validation data per KDB 616217).

The following tables summarize the key power reduction information. The detailed full power which is the Max. power the state can use and reduced tune-up specifications and conducted power measurement results are provided in section 9 of this report.

Hotspot standalone power level(dBm)							
Power Reduction Scenario	GSM1900 GPRS 4 Slots	WCDMA Band II	LTE Band 2	LTE Band 25	LTE Band 66	NR n2	NR n25
Sensor on	22.6	19.3	18.2	18.2	20	19.2	18.7
Sensor off	25	21	22	21.5	21	24.2	22.5

Head standalone power level(dBm)								
Power Reduction Scenario	LTE Band41 (PC3)	LTE Band41 (PC2)	NR n41 (PC3)	NR n41 (PC2)	NR n77 block A (PC3)	NR n77 block A (PC2)	NR n77 block C (PC3)	NR n77 block C (PC2)
Receiver off	22	26	23.2	26.5	24	26.5	23.5	26.5
Receiver on	18	22	18.7	21.5	18.5	20.5	18.5	21.5

WWAN (single carrier) + WLAN simultaneous transmission power level(dBm)									
Power Reduction Scenario	LTE Band41 (PC3)	LTE Band41 (PC2)	NR n41 (PC3)	NR n41 (PC2)	NR n77 block A (PC3)	NR n77 block A (PC2)	NR n77 block C (PC3)	NR n77 block C (PC2)	
simultaneous transmission	14	18	14.7	15.5	15.6	17.5	15.6	17	

EN-DC simultaneous transmission power level(dBm)				
Power Reduction Scenario	LTE Band2	LTE Band66	NR n41 (PC3)	NR n41 (PC2)
EN-DC	13	16.7	13.8	15.5

8.2. Proximity Sensor Triggering Test

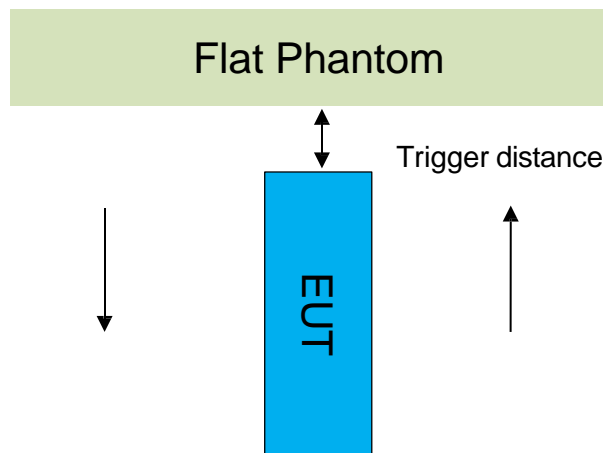
Proximity sensor coverage

If a sensor is spatially offset from the antenna(s), it is necessary to verify sensor triggering for conditions where the antenna is next to the user but the sensor is laterally further away to ensure sensor coverage is sufficient for reducing the power to maintain compliance. For p-sensor coverage testing, the device is moved and “along the direction of maximum antenna and sensor offset”.

The proximity sensor and main antenna use same metallic electrode, so there is no spatial offset.

Proximity sensor triggering distances:

Proximity sensor triggering distance testing was performed according to the procedures outlined in KDB 616217 D04 section 6.2, and EUT moving further away from the flat phantom and EUT moving toward the flat phantom were both assessed.

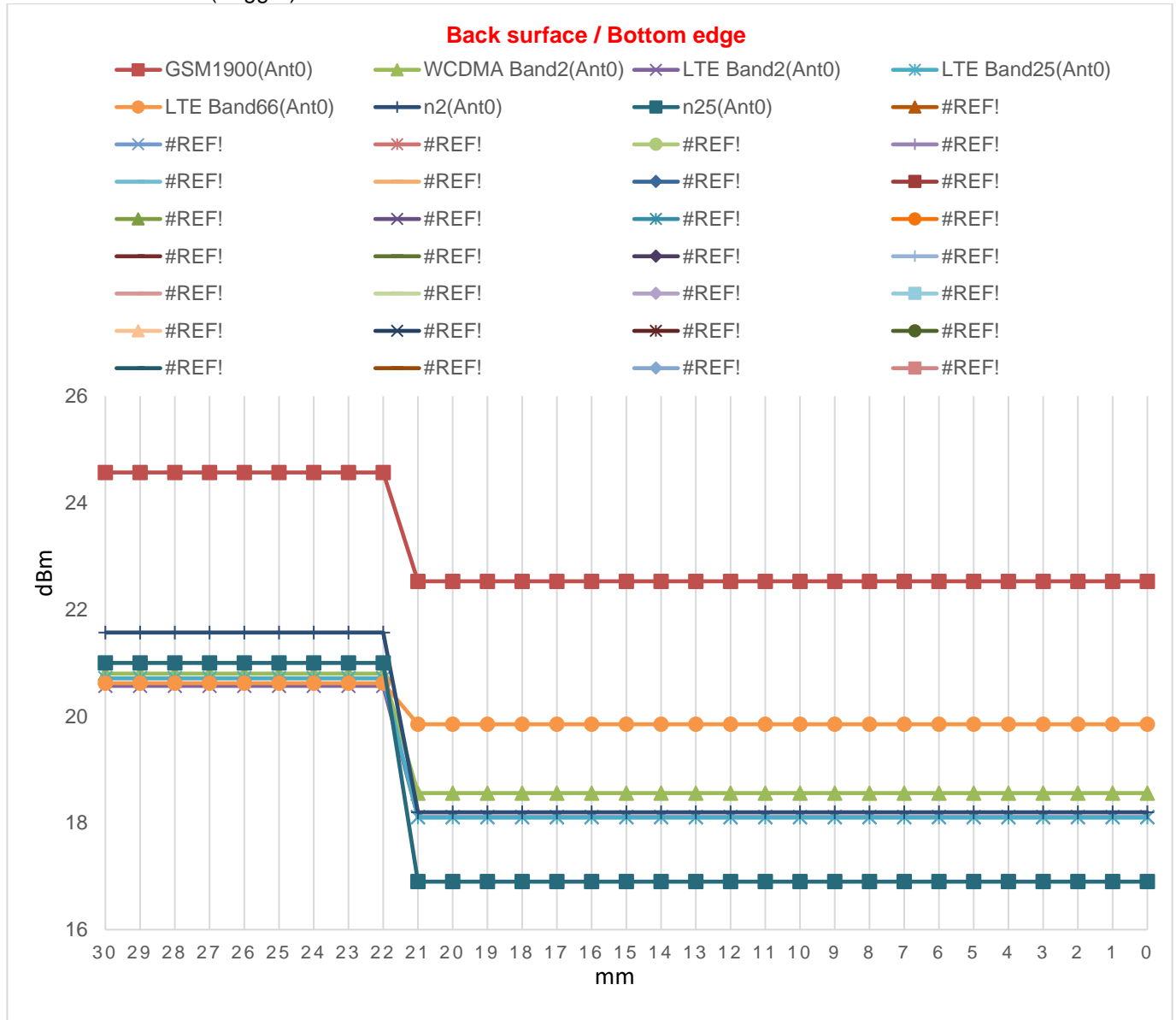


Proximity Sensor Triggering Distance(mm)						
ANT0						
Position	Front Surface	Back Surface	Top Edge	Bottom Edge	Left Edge	Right Edge
Minimum (mm)	11	21	\	21	\	\
Required SAR Test	Yes	Yes	\	Yes	\	\
ANT3/4						
Minimum (mm)	11	11	\	\	21	\
Required SAR Test	No	No	\	\	No	\

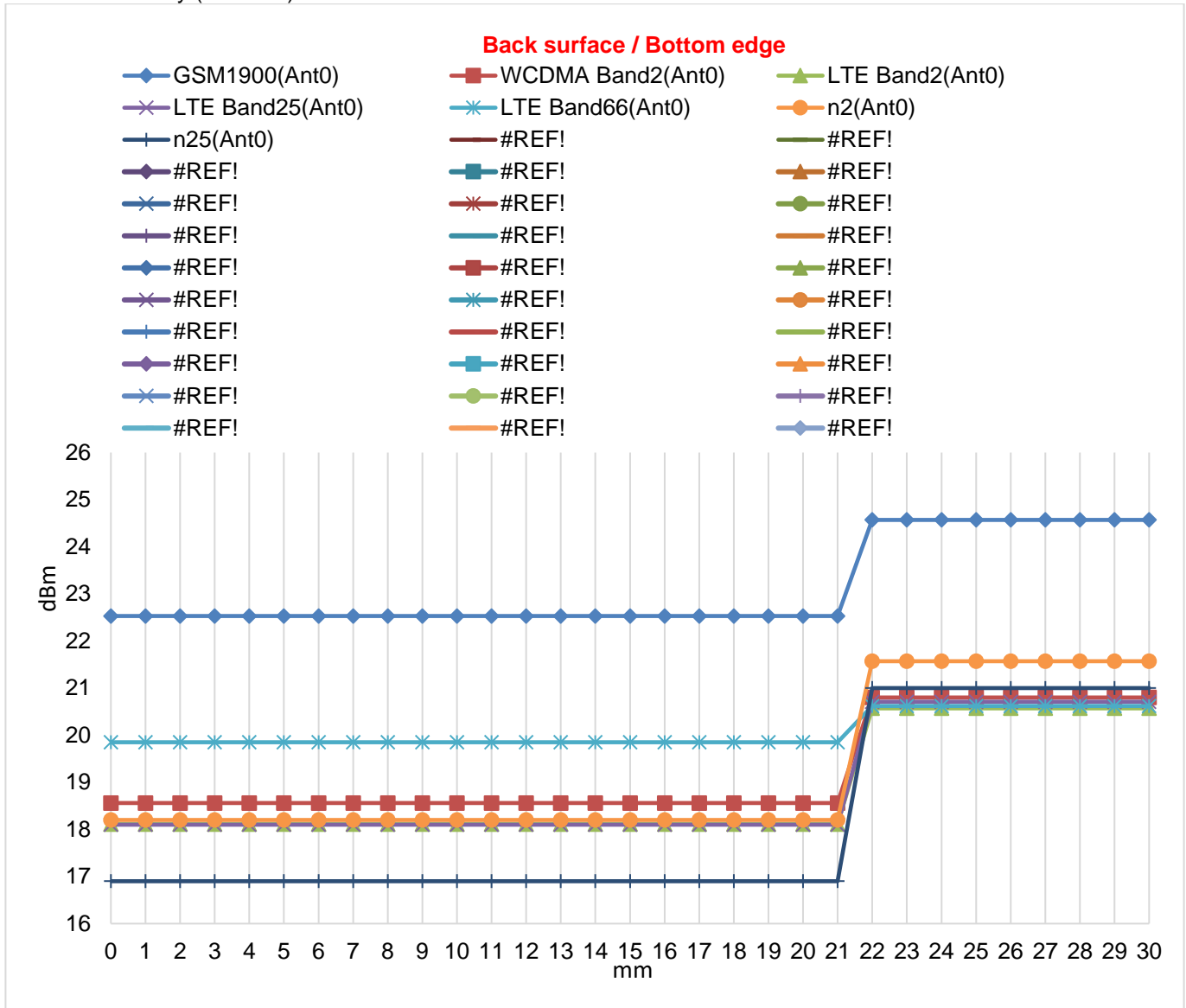
Note:

SAR tests with proximity sensor power reduction are only required for the sides of frequency bands in the table above. For the other sides or other frequency bands of the device, SAR is still tested at the full power level with sensor off.

DUT moved toward (Trigger) the Phantom



DUT moved away (Release) from the Phantom



8.3. Extremity exposure conditions

Per FCC KDB 648474D04, for smart phones with a display diagonal dimension > 15.0 cm or an overall diagonal dimension > 16.0 cm that provide similar mobile web access and multimedia support found in mini-tablets or UMPC mini-tablets that support voice calls next to the ear, the device is marketed as “Phablet”.

The UMPC mini-tablet procedures must also be applied to test the SAR of all surfaces and edges with an antenna located at ≤ 25 mm from that surface or edge, in direct contact with a flat phantom, for Product Specific 10-g SAR according to the body-equivalent tissue dielectric parameters in KDB 865664 to address interactive hand use exposure conditions. The UMPC mini-tablet 1-g SAR at 5 mm is not required. When hotspot mode applies, Product Specific 10-g SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg; however, when power reduction applies to hotspot mode the measured SAR must be scaled to the maximum output power, including tolerance, allowed for phablet modes to compare with the 1.2 W/kg SAR test reduction threshold.

Due to the SAR result, only the following frequency bands need to test with 0mm for the Product Specific 10-g SAR, the others are not required.

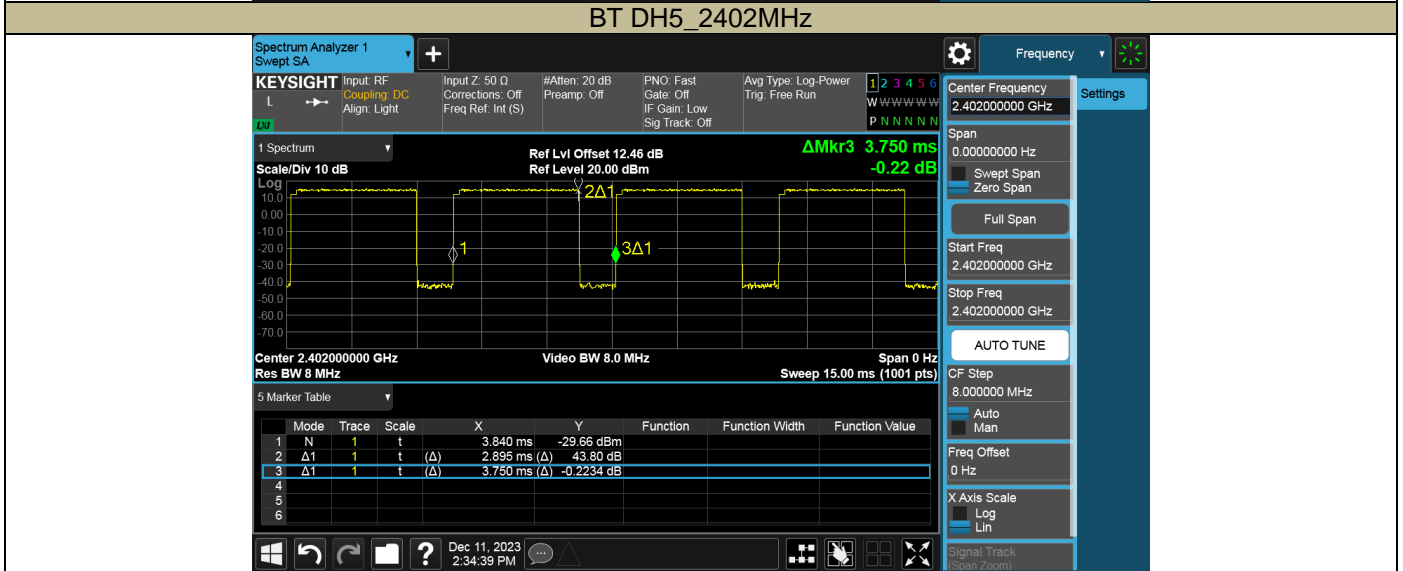
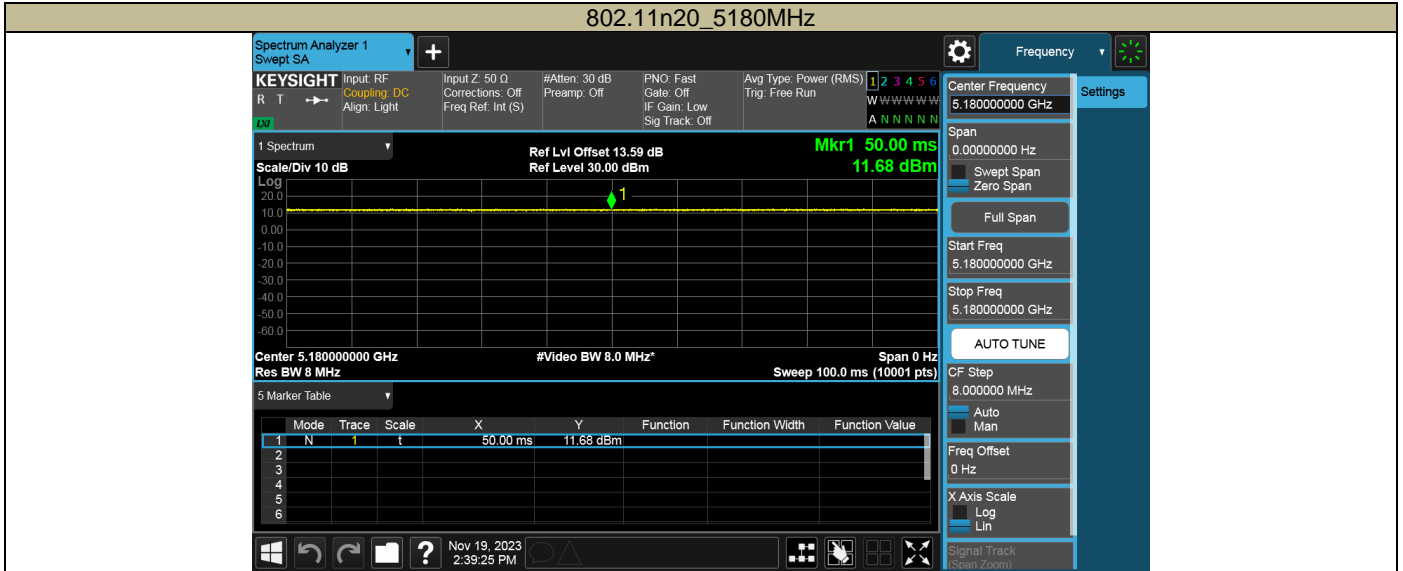
9. Conducted Output Power Measurement and tune-up tolerance

Detailed conducted power and tune-up tolerance please refer to 4791041023-1-SAR-1_App A Conducted power.

9.1. Duty Cycle

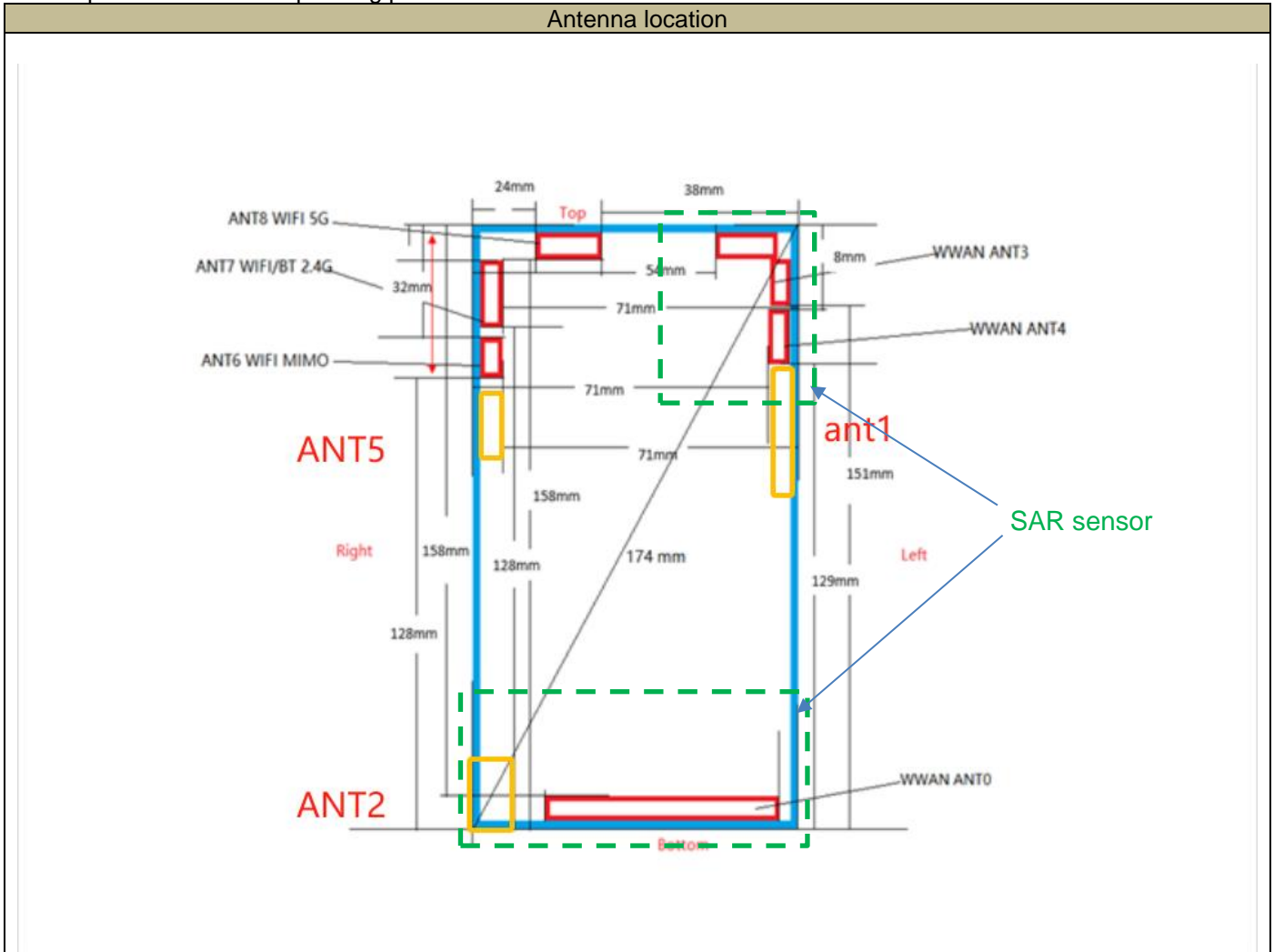
Test Mode	Duty Cycle (%)
802.11b	100
802.11a	100
802.11n20	100
DH5	77.01





10. RF Exposure Conditions

Refer to the diagram inside the device which attached below for the specific details of the antenna-to-edges distances. As per KDB 941225 D06, when the antenna to-edge-distance is greater than 2.5 cm, SAR evaluation is not required for the corresponding position.



Antenna	Band	Front Surface	Back Surface	Left Edge	Right Edge	Top Edge	Bottom Edge
Ant0	GSM: 850/1900 WCDMA: B2/4/5 LTE: B2/4/5/7/12/13/25/26/66/71 NR: n2/5/7/25/66/71	Yes	Yes	Yes	Yes	Yes	Yes
Ant3	LTE: B41 NR: n41	Yes	Yes	Yes	No	Yes	No
Ant4	NR: n77	Yes	Yes	Yes	No	Yes	No
Ant6	2.4/5G WiFi	Yes	Yes	No	Yes	Yes	No
Ant7	2.4G WiFi/BT	Yes	Yes	No	Yes	Yes	No
Ant8	5G WiFi	Yes	Yes	No	Yes	Yes	No

10.1. SAR exclusion evaluation for NFC

Appendix C

SAR Test Exclusion Thresholds for < 100 MHz and < 200 mm

Approximate SAR test exclusion power thresholds at selected frequencies and test separation distances are illustrated in the following table. The equation and threshold in 4.3.1 must be applied to determine SAR test exclusion.

MHz	< 50	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	mm
100	237	474	481	487	494	501	507	514	521	527	534	541	547	554	561	567	mW
50	308	617	625	634	643	651	660	669	677	686	695	703	712	721	729	738	
10	474	948	961	975	988	1001	1015	1028	1041	1055	1068	1081	1095	1108	1121	1135	
1	711	1422	1442	1462	1482	1502	1522	1542	1562	1582	1602	1622	1642	1662	1682	1702	
0.1	948	1896	1923	1949	1976	2003	2029	2056	2083	2109	2136	2163	2189	2216	2243	2269	
0.05	1019	2039	2067	2096	2125	2153	2182	2211	2239	2268	2297	2325	2354	2383	2411	2440	
0.01	1185	2370	2403	2437	2470	2503	2537	2570	2603	2637	2670	2703	2737	2770	2803	2837	

For 13.56MHz NFC 1-g SAR

Frequency (MHz)	(dB μ V/m)	Power (dBm)
13.56	1.61	-73.61

Position	Frequency (MHz)	Power (dBm)	Power (mW)	Separation Distance (mm)	Threshold (mW)	SAR Test
Front surface	13.56	-73.61	0.00	5	459.2	Excluded
Back surface	13.56	-73.61	0.00	5	459.2	Excluded
Left edge	13.56	-73.61	0.00	5	459.2	Excluded
Right edge	13.56	-73.61	0.00	5	459.2	Excluded
Top edge	13.56	-73.61	0.00	5	459.2	Excluded
Bottom edge	13.56	-73.61	0.00	5	459.2	Excluded

Note:

- 1) NFC antenna guide edge distance is evaluated with the worst case.
- 2) The threshold is calculated according to FCC KDB 447498 D01 Appendix C.

11. Dielectric Property Measurements & System Check

11.1. Dielectric Property Measurements

The temperature of the tissue-equivalent medium used during measurement must also be within 18°C to 25°C and within $\pm 2^\circ\text{C}$ 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 v01r04 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:

Liquid	Freq.	Liquid Parameters				Deviation(%)		Limit (%)	Temp. (°C)	Test Date
		Measured		Target		ϵ_r	σ			
		ϵ_r	σ	ϵ_r	σ					
Head 750	650	41.80	0.87	42.46	0.89	-1.55	-2.25	±5	21.1	2023.11.23
	750	42.10	0.91	41.94	0.89	0.38	2.25			
	800	42.10	0.93	41.68	0.90	1.01	3.33			
Head 835	800	42.10	0.93	41.68	0.90	1.01	3.33	±5	21.1	2023.11.23
	835	41.90	0.94	41.50	0.90	0.96	4.44			
	880	42.10	0.98	41.50	0.96	1.45	2.08			
Head 1800	1700	40.10	1.38	40.16	1.34	-0.15	2.99	±5	22.8	2023.11.23
	1800	40.40	1.40	40.00	1.40	1.00	0.00			
	1840	40.40	1.43	40.00	1.40	1.00	2.14			
Head 2600	2500	39.80	1.89	39.14	1.85	1.69	2.16	±5	21.1	2023.11.23
	2540	39.80	1.96	39.09	1.90	1.82	3.16			
	2600	39.80	2.01	39.01	1.96	2.03	2.55			
Head 835	800	42.20	0.93	41.68	0.90	1.25	3.33	±5	22.6	2023.11.27
	835	42.00	0.93	41.50	0.90	1.20	3.33			
	880	42.20	0.97	41.50	0.96	1.69	1.04			
Head 750	650	42.00	0.88	42.46	0.89	-1.08	-1.12	±5	22.6	2023.11.27
	750	42.20	0.91	41.94	0.89	0.62	2.25			
	800	42.20	0.93	41.68	0.90	1.25	3.33			
Head 2600	2500	39.20	1.85	39.14	1.85	0.15	0.00	±5	22.6	2023.11.27
	2540	39.20	1.93	39.09	1.90	0.28	1.58			
	2600	39.20	1.97	39.01	1.96	0.49	0.51			
Head 1800	1800	40.20	1.39	40.00	1.40	0.50	-0.71	±5	22.8	2023.11.30
	1840	40.20	1.42	40.00	1.40	0.50	1.43			
	1880	40.10	1.41	40.00	1.40	0.25	0.71			
Head 750	650	42.50	0.88	42.46	0.89	0.09	-1.12	±5	22.9	2023.11.30
	750	42.70	0.92	41.94	0.89	1.81	3.37			
	800	42.70	0.94	41.68	0.90	2.45	4.44			
Head 835	800	42.20	0.93	41.68	0.90	1.25	3.33	±5	22.9	2023.11.30
	835	42.10	0.93	41.50	0.90	1.45	3.33			
	880	42.30	0.97	41.50	0.96	1.93	1.04			
Head 1800	1800	40.20	1.39	40.00	1.40	0.50	-0.71	±5	22.9	2023.11.30
	1840	40.20	1.42	40.00	1.40	0.50	1.43			
	1880	40.10	1.41	40.00	1.40	0.25	0.71			
Head 1800	1700	40.60	1.39	40.16	1.34	1.10	3.73	±5	21.2	2023.12.7
	1800	40.50	1.41	40.00	1.40	1.25	0.71			
	1840	40.40	1.43	40.00	1.40	1.00	2.14			
Head 1900	1900	40.20	1.37	40.00	1.40	0.50	-2.14	±5	21.2	2023.12.7
	1940	40.20	1.41	40.00	1.40	0.50	0.71			
	1980	40.00	1.45	40.00	1.40	0.00	3.57			
Head 2600	2500	39.50	1.87	39.14	1.85	0.92	1.08	±5	21.2	2023.12.7
	2540	39.50	1.94	39.09	1.90	1.05	2.11			
	2600	39.50	1.99	39.01	1.96	1.26	1.53			
Head 1800	1800	40.60	1.41	40.00	1.40	1.50	0.71	±5	21	2023.12.11
	1840	40.50	1.44	40.00	1.40	1.25	2.86			

	1880	40.50	1.43	40.00	1.40	1.25	2.14			
Head 835	800	42.60	0.94	41.68	0.90	2.21	4.44	±5	21	2023.12.11
	835	42.40	0.93	41.50	0.90	2.17	3.33			
	880	42.70	0.98	41.50	0.96	2.89	2.08			
Head 2600	2500	39.60	1.88	39.14	1.85	1.18	1.62	±5	21	2023.12.11
	2540	39.50	1.96	39.09	1.90	1.05	3.16			
	2600	39.80	2.00	39.01	1.96	2.03	2.04			
Head 750	650	42.40	0.88	42.46	0.89	-0.14	-1.12	±5	21	2023.12.11
	750	42.70	0.92	41.94	0.89	1.81	3.37			
	800	42.60	0.93	41.68	0.90	2.21	3.33			
Head 1900	1900	40.30	1.38	40.00	1.40	0.75	-1.43	±5	21	2023.12.11
	1940	40.30	1.42	40.00	1.40	0.75	1.43			
	1980	40.10	1.46	40.00	1.40	0.25	4.29			
Head 835	800	42.60	0.94	41.68	0.90	2.21	4.44	±5	21.3	2023.12.14
	835	42.40	0.94	41.50	0.90	2.17	4.44			
	880	42.60	0.98	41.50	0.96	2.65	2.08			
Head 750	650	42.30	0.88	42.46	0.89	-0.38	-1.12	±5	21.3	2023.12.14
	750	42.60	0.92	41.94	0.89	1.57	3.37			
	800	42.60	0.94	41.68	0.90	2.21	4.44			
Head 2600	2500	39.60	1.87	39.14	1.85	1.18	1.08	±5	21.3	2023.12.14
	2540	39.60	1.95	39.09	1.90	1.30	2.63			
	2600	39.70	1.98	39.01	1.96	1.77	1.02			
Head 1800	1700	40.60	1.39	40.16	1.34	1.10	3.73	±5	21.3	2023.12.14
	1800	40.50	1.41	40.00	1.40	1.25	0.71			
	1880	40.40	1.43	40.00	1.40	1.00	2.14			
Head 3500	3400	38.10	2.88	38.07	2.81	0.08	2.49	±5	21.3	2023.12.14
	3500	37.90	2.99	37.96	2.91	-0.16	2.75			
	3600	37.80	3.12	37.86	3.02	-0.16	3.31			
Head 3900	3800	37.50	3.28	37.64	3.22	-0.37	1.86	±5	21.3	2023.12.14
	3900	37.70	3.38	37.54	3.32	0.43	1.81			
	4000	37.50	3.49	37.43	3.43	0.19	1.75			
Head 2450	2360	39.80	1.73	39.36	1.72	1.12	0.58	±5	22.6	2023.12.18
	2450	39.70	1.85	39.20	1.80	1.28	2.78			
	2540	39.50	1.95	39.09	1.90	1.05	2.63			
Head 5250	5160	36.30	4.46	36.03	4.61	0.75	-3.25	±5	22.6	2023.12.18
	5250	36.10	4.56	35.93	4.71	0.47	-3.18			
	5340	36.00	4.66	35.83	4.80	0.47	-2.92			
Head 2450	2360	39.80	1.72	39.36	1.72	1.12	0.00	±5	21.3	2023.12.21
	2450	39.60	1.85	39.20	1.80	1.02	2.78			
	2540	39.50	1.94	39.09	1.90	1.05	2.11			
Head 5250	5160	36.50	4.45	36.03	4.61	1.30	-3.47	±5	22.8	2023.12.21
	5250	36.10	4.55	35.93	4.71	0.47	-3.40			
	5340	36.00	4.65	35.83	4.80	0.47	-3.12			
Head 5600	5500	35.50	4.79	35.64	4.96	-0.39	-3.43	±5	22.8	2023.12.21
	5600	35.30	4.92	35.53	5.07	-0.65	-2.96			
	5700	35.20	5.02	35.41	5.17	-0.59	-2.90			
Head 835	800	42.50	0.93	41.68	0.90	1.97	3.33	±5	22.8	2023.12.21
	835	42.30	0.92	41.50	0.90	1.93	2.22			

	880	42.50	0.98	41.50	0.96	2.41	2.08			
Head 5250	5160	36.40	4.48	36.03	4.61	1.03	-2.82	±5	21.8	2023.12.25
	5250	36.20	4.57	35.93	4.71	0.75	-2.97			
	5340	36.10	4.68	35.83	4.80	0.75	-2.50			
Head 5600	5500	35.70	4.82	35.64	4.96	0.17	-2.82	±5	21.8	2023.12.25
	5600	35.40	4.95	35.53	5.07	-0.37	-2.37			
	5700	35.40	5.04	35.41	5.17	-0.03	-2.51			
Head 5750	5660	35.30	4.99	35.46	5.13	-0.45	-2.73	±5	21.8	2023.12.25
	5750	35.20	5.15	35.36	5.22	-0.45	-1.34			
	5840	35.00	5.23	35.27	5.30	-0.77	-1.32			
Head 2600	2500	39.80	1.89	39.14	1.85	1.69	2.16	±5	21.5	2024.1.2
	2540	39.80	1.96	39.09	1.90	1.82	3.16			
	2600	39.90	2.01	39.01	1.96	2.28	2.55			
Head 1800	1700	40.80	1.40	40.16	1.34	1.59	4.48	±5	21.5	2024.1.2
	1800	40.70	1.42	40.00	1.40	1.75	1.43			
	1880	40.60	1.45	40.00	1.40	1.50	3.57			
Head 5250	5160	36.60	4.50	36.03	4.61	1.58	-2.39	±5	21.5	2024.1.2
	5250	36.40	4.59	35.93	4.71	1.31	-2.55			
	5340	36.30	4.70	35.83	4.80	1.31	-2.08			
Head 5600	5500	35.80	4.85	35.64	4.96	0.45	-2.22	±5	21.5	2024.1.2
	5600	35.60	4.97	35.53	5.07	0.20	-1.97			
	5700	35.50	5.07	35.41	5.17	0.25	-1.93			
Head 3500	3400	38.30	2.90	38.07	2.81	0.60	3.20	±5	21.5	2024.1.2
	3500	38.10	3.01	37.96	2.91	0.37	3.44			
	3600	38.00	3.14	37.86	3.02	0.37	3.97			
Head 1800	1700	40.70	1.39	40.16	1.34	1.34	3.73	±5	22.2	2024.1.5
	1800	40.60	1.41	40.00	1.40	1.50	0.71			
	1880	40.50	1.43	40.00	1.40	1.25	2.14			
Head 2600	2500	39.70	1.87	39.14	1.85	1.43	1.08	±5	22.1	2024.1.5
	2540	39.70	1.95	39.09	1.90	1.56	2.63			
	2600	39.70	1.99	39.01	1.96	1.77	1.53			
Head 2600	2500	39.70	1.87	39.14	1.85	1.43	1.08	±5	22.1	2024.1.5
	2540	39.70	1.95	39.09	1.90	1.56	2.63			
	2600	39.70	1.99	39.01	1.96	1.77	1.53			
Head 3500	3400	38.20	2.88	38.07	2.81	0.34	2.49	±5	22.1	2024.1.5
	3500	38.00	2.98	37.96	2.91	0.11	2.41			
	3600	37.90	3.11	37.86	3.02	0.11	2.98			
Head 3900	3800	37.70	3.28	37.64	3.22	0.16	1.86	±5	22.1	2024.1.5
	3900	37.80	3.38	37.54	3.32	0.69	1.81			
	4000	37.70	3.48	37.43	3.43	0.72	1.46			
Head 1800	1800	40.50	1.40	40.00	1.40	1.25	0.00	±5	22	2024.1.12
	1840	40.50	1.42	40.00	1.40	1.25	1.43			
	1880	40.40	1.42	40.00	1.40	1.00	1.43			

11.2. 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 10mm (above 1GHz) and 15mm (below 1GHz) from dipole center to the simulating liquid surface.
- For area scan, standard grid spacing for head measurements is 15 mm in x- and y- dimension (≤ 2 GHz), 12 mm in x- and y-dimension (2-4 GHz) and 10mm in x- and y- dimension (4-6GHz).
- For zoom scan, ΔX_{zoom} , $\Delta Y_{zoom} \leq 2$ GHz - ≤ 8 mm, 2-4GHz - ≤ 5 mm and 4-6 GHz - ≤ 4 mm; $\Delta Z_{zoom} \leq 3$ GHz - ≤ 5 mm, 3-4 GHz - ≤ 4 mm and 4-6GHz - ≤ 2 mm.
- Distance between probe sensors and phantom surface was set to 3 mm except for 5 GHz band. For 5GHz band, Distance between probe sensors and phantom surface was set to 2.5 mm
- The dipole input power (forward power) was set to 100 mW or 250 mW depend on the certificate of the dipoles.
- The results are normalized to 1 W input power.

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.

T.S. Liquid		Measured Results		Target (Ref. value)	Delta (%)	Limit (%)	Temp. (°C)	Test Date
		Zoom Scan (W/Kg)	Normalize to 1W (W/Kg)					
Head 835	1-g	2.410	9.64	9.64	0.00	±10	21.1	2023.11.23
	10-g	1.570	6.28	6.26	0.32			
Head 1800	1-g	9.700	38.80	38.70	0.26	±10	21.1	2023.11.23
	10-g	5.090	20.36	19.90	2.31			
Head 750	1-g	2.170	8.68	8.50	2.12	±10	21.7	2023.11.24
	10-g	1.420	5.68	5.61	1.25			
Head 835	1-g	2.280	9.12	9.64	-5.39	±10	21.7	2023.11.24
	10-g	1.510	6.04	6.26	-3.51			
Head 1800	1-g	9.560	38.24	38.70	-1.19	±10	21.7	2023.11.24
	10-g	5.020	20.08	19.90	0.90			
Head 2600	1-g	13.200	52.80	55.40	-4.69	±10	21.7	2023.11.24
	10-g	5.960	23.84	24.50	-2.69			
Head 750	1-g	2.100	8.40	8.50	-1.18	±10	21.1	2023.11.25
	10-g	1.380	5.52	5.61	-1.60			
Head 835	1-g	2.470	9.88	9.64	2.49	±10	21.1	2023.11.25
	10-g	1.600	6.40	6.26	2.24			
Head 1800	1-g	9.420	37.68	38.70	-2.64	±10	21.1	2023.11.25
	10-g	5.000	20.00	19.90	0.50			
Head 835	1-g	2.260	9.04	9.64	-6.22	±10	22.6	2024.11.27
	10-g	1.470	5.88	6.26	-6.07			
Head 750	1-g	2.190	8.76	8.50	3.06	±10	21.9	2023.11.29
	10-g	1.430	5.72	5.61	1.96			
Head 2600	1-g	14.900	59.60	55.40	7.58	±10	21.9	2023.11.29
	10-g	6.710	26.84	24.50	9.55			
Head 750	1-g	2.210	8.84	8.50	4.00	±10	21.3	2023.12.1
	10-g	1.450	5.80	5.61	3.39			
Head 835	1-g	2.420	9.68	9.64	0.41	±10	21.3	2023.12.1
	10-g	1.570	6.28	6.26	0.32			
Head 750	1-g	2.170	8.68	8.50	2.12	±10	22.6	2023.12.2
	10-g	1.420	5.68	5.61	1.25			
Head 1800	1-g	9.380	37.52	38.70	-3.05	±10	22.6	2023.12.2
	10-g	4.980	19.92	19.90	0.10			
Head 1800	1-g	9.380	37.52	38.70	-3.05	±10	22.2	2023.12.9
	10-g	4.950	19.80	19.90	-0.50			
Head 1900	1-g	10.100	40.40	39.60	2.02	±10	22.2	2023.12.9
	10-g	5.210	20.84	20.20	3.17			
Head 2600	1-g	13.700	54.80	55.40	-1.08	±10	22.2	2023.12.9
	10-g	6.160	24.64	24.50	0.57			
Head 750	1-g	2.140	8.56	8.50	0.71	±10	22.8	2023.12.13
	10-g	1.400	5.60	5.61	-0.18			
Head 835	1-g	2.450	9.80	9.64	1.66	±10	22.8	2023.12.13
	10-g	1.590	6.36	6.26	1.60			

Head 1800	1-g	9.670	38.68	38.70	-0.05	±10	22.8	2023.12.13
	10-g	5.080	20.32	19.90	2.11			
Head 1900	1-g	9.970	39.88	39.60	0.71	±10	22.8	2023.12.13
	10-g	5.150	20.60	20.20	1.98			
Head 2600	1-g	14.800	59.20	55.40	6.86	±10	22.8	2023.12.13
	10-g	6.680	26.72	24.50	9.06			
Head 835	1-g	2.380	9.52	9.64	-1.24	±10	21	2023.12.14
	10-g	1.570	6.28	6.26	0.32			
Head 1800	1-g	9.760	39.04	38.70	0.88	±10	21	2023.12.14
	10-g	5.130	20.52	19.90	3.12			
Head 2600	1-g	14.800	59.20	55.40	6.86	±10	21	2023.12.14
	10-g	6.680	26.72	24.50	9.06			
Head 3500	1-g	6.460	64.60	66.70	-3.15	±10	22.9	2023.12.16
	10-g	2.450	24.50	25.30	-3.16			
Head 3900	1-g	6.410	64.10	69.60	-7.90	±10	21.7	2023.12.15
	10-g	2.420	24.20	24.20	0.00			
Head 3900	1-g	7.170	71.70	69.60	3.02	±10	22.9	2023.12.16
	10-g	2.550	25.50	24.20	5.37			
Head 2600	1-g	15.000	60.00	55.40	8.30	±10	22.9	2023.12.16
	10-g	6.730	26.92	24.50	9.88			
Head 3500	1-g	7.010	70.10	66.70	5.10	±10	22.9	2023.12.16
	10-g	2.670	26.70	25.30	5.53			
Head 2450	1-g	13.000	52.00	53.20	-2.26	±10	22.6	2023.12.18
	10-g	6.110	24.44	24.20	0.99			
Head 5250	1-g	7.790	77.90	77.90	0.00	±10	21.3	2023.12.20
	10-g	2.240	22.40	22.60	-0.88			
Head 2450	1-g	13.400	53.60	53.20	0.75	±10	22.8	2023.12.21
	10-g	6.320	25.28	24.20	4.46			
Head 2450	1-g	12.500	50.00	53.20	-6.02	±10	21.1	2023.12.23
	10-g	5.860	23.44	24.20	-3.14			
Head 5250	1-g	7.270	72.70	77.90	-6.68	±10	21.1	2023.12.23
	10-g	2.090	20.90	22.60	-7.52			
Head 5600	1-g	8.200	82.00	80.90	1.36	±10	21.1	2023.12.23
	10-g	2.350	23.50	23.30	0.86			
Head 5250	1-g	7.770	77.70	77.90	-0.26	±10	21.8	2024.12.25
	10-g	2.230	22.30	22.60	-1.33			
Head 5600	1-g	8.000	80.00	80.90	-1.11	±10	21.8	2024.12.25
	10-g	2.290	22.90	23.30	-1.72			
Head 5250	1-g	7.640	76.40	77.90	-1.93	±10	22.4	2023.12.27
	10-g	2.190	21.90	22.60	-3.10			
Head 5600	1-g	7.960	79.60	80.90	-1.61	±10	22.4	2023.12.27
	10-g	2.280	22.80	23.30	-2.15			
Head 5750	1-g	7.250	72.50	78.30	-7.41	±10	22.4	2023.12.27
	10-g	2.070	20.70	22.40	-7.59			
Head 1800	1-g	9.820	39.28	38.70	1.50	±10	21.5	2024.1.2
	10-g	5.160	20.64	19.90	3.72			
Head 2600	1-g	13.500	54.00	55.40	-2.53	±10	21.5	2024.1.2
	10-g	6.140	24.56	24.50	0.24			

Head 5250	1-g	8.420	84.20	77.90	8.09	±10	21.5	2024.1.2
	10-g	2.420	24.20	22.60	7.08			
Head 5600	1-g	8.330	83.30	80.90	2.97	±10	21.5	2024.1.2
	10-g	2.380	23.80	23.30	2.15			
Head 1800	1-g	9.910	39.64	38.70	2.43	±10	22	2024.1.3
	10-g	5.200	20.80	19.90	4.52			
Head 3500	1-g	6.730	67.30	66.70	0.90	±10	21.6	2024.1.4
	10-g	2.560	25.60	25.30	1.19			
Head 2600	1-g	13.300	53.20	55.40	-3.97	±10	21.6	2024.1.4
	10-g	6.050	24.20	24.50	-1.22			
Head 1800	1-g	9.260	37.04	38.70	-4.29	±10	22.1	2024.1.5
	10-g	4.750	19.00	19.90	-4.52			
Head 2600	1-g	14.600	58.40	55.40	5.42	±10	22.1	2024.1.5
	10-g	6.430	25.72	24.50	4.98			
Head 3500	1-g	7.010	70.10	66.70	5.10	±10	22.1	2024.1.5
	10-g	2.670	26.70	25.30	5.53			
Head 3900	1-g	7.170	71.70	69.60	3.02	±10	22.1	2024.1.5
	10-g	2.550	25.50	24.20	5.37			
Head 1800	1-g	9.670	38.68	38.70	-0.05	±10	22	2024.1.12
	10-g	5.160	20.64	19.90	3.72			

12. Measured and Reported (Scaled) SAR Results

General Notes:

- 1) As per KDB447498 D01, all SAR measurement results are scaled to the maximum tune-up tolerance limit to demonstrate SAR compliance.
- 2) As per KDB447498 D01, 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:
 - $\leq 0.8\text{W/kg}$ for 1-g or 2.0W/kg for 10-g respectively, when the transmission band is $\leq 100\text{MHz}$.
 - $\leq 0.6\text{ W/kg}$ or 1.5 W/kg , for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz.
 - $\leq 0.4\text{ W/kg}$ or 1.0 W/kg , for 1-g or 10-g respectively, when the transmission band is $\geq 200\text{ MHz}$.When the maximum output power variation across the required test channels is $> \frac{1}{2}\text{ dB}$, instead of the middle channel, the highest output power channel must be used.
- 3) As per KDB865664 D01 for each frequency band, repeated SAR measurement is required only when the measured SAR is $\geq 0.8\text{W/Kg}$; if the deviation among the repeated measurement is $\leq 20\%$, and the measured SAR $< 1.45\text{W/Kg}$, only one repeated measurement is required.
- 4) As per KDB865664 D02, SAR plot is only required for the highest measured SAR in each exposure configuration, wireless mode and frequency band combination; Plots are also required when the measured SAR is $> 1.5\text{ W/kg}$, or $> 7.0\text{ W/kg}$ for occupational exposure. The published RF exposure KDB procedures may require additional plots; for example, to support SAR to peak location separation ratio test exclusion and/or volume scan post-processing (Refer to appendix B for detailed SAR plots).
- 5) Additional SAR tests in simultaneous transmission fixed power reduction scenario are also tested in some frequency bands and required test positions for the SAR worst case, which are only used to ensure simultaneous transmission SAR test exclusion. The standalone SAR compliance still uses the SAR results tested at the maximum output power level.
- 6) As per KDB 648474 D04, Phones with built-in NFC functions do not require separate SAR testing and can generally be tested according to the SAR measurement procedures normally required for the phone. Influences of the hardware and NFC antenna introduced are inherently considered through testing of the other transmitters that require SAR.

12.1. SAR Test Results of GSM850

Test Position (Head 0mm)	Test Mode	Channel	Power (dBm)		Measured SAR Value 1g (W/Kg)	Power Drift	Scaled (W/Kg)
			Tune-up	Meas.			
Cheek Left	GPRS 4 Slots	190	30.00	28.89	0.208	-0.02	0.269
Tilt Left	GPRS 4 Slots	190	30.00	28.89	0.115	-0.02	0.148
Cheek Right	GPRS 4 Slots	190	30.00	28.89	0.242	-0.12	0.312
Tilt Right	GPRS 4 Slots	190	30.00	28.89	0.120	0.00	0.155

Test Position (Hotspot 10mm)	Test Mode	Channel	Power (dBm)		Measured SAR Value 1g (W/Kg)	Power Drift	Scaled (W/Kg)
			Tune-up	Meas.			
Front Surface	GPRS 4 Slots	190	30.00	28.89	0.256	-0.03	0.331
Back Surface	GPRS 4 Slots	190	30.00	28.89	0.531	-0.01	0.686
Left Edge	GPRS 4 Slots	190	30.00	28.89	0.097	0.00	0.125
Right Edge	GPRS 4 Slots	190	30.00	28.89	0.275	-0.05	0.355
Bottom Edge	GPRS 4 Slots	190	30.00	28.89	0.364	0.01	0.470

12.2. SAR Test Results of GSM1900

Test Position (Head 0mm)	Test Mode	Channel	Power (dBm)		Measured SAR Value 1g (W/Kg)	Power Drift	Scaled (W/Kg)
			Tune-up	Meas.			
Cheek Left	GPRS 4 Slots	661	25.00	24.57	0.027	-0.01	0.030
Tilt Left	GPRS 4 Slots	661	25.00	24.57	0.010	-0.03	0.011
Cheek Right	GPRS 4 Slots	661	25.00	24.57	0.024	-0.05	0.026
Tilt Right	GPRS 4 Slots	661	25.00	24.57	0.011	0.00	0.012

Test Position (Hotspot 10mm)	Test Mode	Channel	Power (dBm)		Measured SAR Value 1g (W/Kg)	Power Drift	Scaled (W/Kg)
			Tune-up	Meas.			
Front Surface	GPRS 4 Slots	661	22.60	22.53	0.236	-0.02	0.240
Back Surface	GPRS 4 Slots	661	22.60	22.53	0.515	0.00	0.523
Left Edge	GPRS 4 Slots	661	25.00	24.57	0.057	-0.01	0.063
Right Edge	GPRS 4 Slots	661	25.00	24.57	0.025	0.03	0.028
Bottom Edge	GPRS 4 Slots	661	22.60	22.53	0.828	0.02	0.841
Bottom Edge	GPRS 4 Slots	512	22.60	22.22	0.978	-0.01	1.067
Bottom Edge	GPRS 4 Slots	810	22.60	22.32	0.953	0.02	1.016
Worst mode retest							
Bottom Edge	GPRS 4 Slots	512	22.60	22.22	0.971	0.00	1.060

Test Position (Extremity 0mm)	Test Mode	Channel	Power (dBm)		Measured SAR Value 10g (W/Kg)	Power Drift	Scaled (W/Kg)
			Tune-up	Meas.			
Bottom Edge	GPRS 4 Slots	512	22.60	22.22	1.300	-0.03	1.419

Test Position (Body)	Test Mode	Channel	Power (dBm)		Measure SAR Value 1g (W/Kg)	Power Drift	Scaled (W/Kg)
			Tune-up	Meas.			
Front Surface-10 mm	GPRS 4 Slots	661	25.00	24.57	0.377	-0.01	0.417
Back Surface-20 mm	GPRS 4 Slots	661	25.00	24.57	0.143	0.12	0.158
Bottom Edge-20 mm	GPRS 4 Slots	661	25.00	24.57	0.412	-0.11	0.455

12.3. SAR Test Results of WCDMA Band II

Test Position (Head 0mm)	Test Mode	Channel	Power (dBm)		Measured SAR Value 1g (W/Kg)	Power Drift	Scaled (W/Kg)
			Tune-up	Meas.			
Cheek Left	RCM 12.2kbps	9400	21.00	20.80	0.043	-0.13	0.045
Tilt Left	RCM 12.2kbps	9400	21.00	20.80	0.028	-0.03	0.029
Cheek Right	RCM 12.2kbps	9400	21.00	20.80	0.041	-0.01	0.043
Tilt Right	RCM 12.2kbps	9400	21.00	20.80	0.019	-0.04	0.020

Test Position (Hotspot 10mm)	Test Mode	Channel	Power (dBm)		Measured SAR Value 1g (W/Kg)	Power Drift	Scaled (W/Kg)
			Tune-up	Meas.			
Front Surface	RCM 12.2kbps	9400	19.30	18.56	0.250	-0.01	0.296
Back Surface	RCM 12.2kbps	9400	19.30	18.56	0.526	0.05	0.624
Left Edge	RCM 12.2kbps	9400	21.00	20.80	0.091	-0.02	0.095
Right Edge	RCM 12.2kbps	9400	21.00	20.80	0.035	0.00	0.037
Bottom Edge	RCM 12.2kbps	9400	19.30	18.56	0.896	-0.01	1.062
Bottom Edge	RCM 12.2kbps	9262	19.30	19.24	1.100	0.00	1.115
Bottom Edge	RCM 12.2kbps	9538	19.30	18.47	0.650	-0.03	0.787
Worst mode retest							
Bottom Edge	RCM 12.2kbps	9262	19.30	19.24	1.060	0.00	1.075

Test Position (Extremity 0mm)	Test Mode	Channel	Power (dBm)		Measured SAR Value 10-g (W/Kg)	Power Drift	Scaled (W/Kg)
			Tune-up	Meas.			
Bottom Edge	RCM 12.2kbps	9262	19.30	19.24	1.060	0.00	1.075

Test Position (Body)	Test Mode	Channel	Power (dBm)		Measure SAR Value 1g (W/Kg)	Power Drift	Scaled (W/Kg)
			Tune-up	Meas.			
Front Surface-10 mm	RCM 12.2kbps	9400	21.00	20.80	0.357	0.06	0.374
Back Surface-20 mm	RCM 12.2kbps	9400	21.00	20.80	0.278	0.12	0.291
Bottom Edge-20 mm	RCM 12.2kbps	9400	21.00	20.80	0.476	0.03	0.498

12.4. SAR Test Results of WCDMA Band IV

Test Position (Head 0mm)	Test Mode	Channel	Power (dBm)		Measured SAR Value 1g (W/Kg)	Power Drift	Scaled (W/Kg)
			Tune-up	Meas.			
Cheek Left	RCM 12.2kbps	1413	21.50	20.96	0.047	-0.10	0.053
Tilt Left	RCM 12.2kbps	1413	21.50	20.96	0.023	0.00	0.026
Cheek Right	RCM 12.2kbps	1413	21.50	20.96	0.045	-0.03	0.051
Tilt Right	RCM 12.2kbps	1413	21.50	20.96	0.029	0.00	0.033

Test Position (Hotspot 10mm)	Test Mode	Channel	Power (dBm)		Measured SAR Value 1g (W/Kg)	Power Drift	Scaled (W/Kg)
			Tune-up	Meas.			
Front Surface	RCM 12.2kbps	1413	21.50	20.96	0.375	-0.02	0.425
Back Surface	RCM 12.2kbps	1413	21.50	20.96	0.584	-0.01	0.661
Left Edge	RCM 12.2kbps	1413	21.50	20.96	0.088	-0.02	0.100
Right Edge	RCM 12.2kbps	1413	21.50	20.96	0.041	0.00	0.046
Bottom Edge	RCM 12.2kbps	1413	21.50	20.96	0.911	-0.01	1.032
Bottom Edge	RCM 12.2kbps	1312	21.50	20.90	0.890	-0.01	1.022
Bottom Edge	RCM 12.2kbps	1513	21.50	21.03	0.985	-0.02	1.098
Worst mode retest							
Bottom Edge	RCM 12.2kbps	1513	21.50	21.03	0.979	-0.01	1.091

12.5. SAR Test Results of WCDMA Band V

Test Position (Head 0mm)	Test Mode	Channel	Power (dBm)		Measured SAR Value 1g (W/Kg)	Power Drift	Scaled (W/Kg)
			Tune-up	Meas.			
Cheek Left	RCM 12.2kbps	4183	24.00	23.26	0.114	0.00	0.135
Tilt Left	RCM 12.2kbps	4183	24.00	23.26	0.072	-0.03	0.085
Cheek Right	RCM 12.2kbps	4183	24.00	23.26	0.142	-0.04	0.168
Tilt Right	RCM 12.2kbps	4183	24.00	23.26	0.070	0.00	0.083

Test Position (Hotspot 10mm)	Test Mode	Channel	Power (dBm)		Measured SAR Value 1g (W/Kg)	Power Drift	Scaled (W/Kg)
			Tune-up	Meas.			
Front Surface	RCM 12.2kbps	4183	24.00	23.26	0.139	-0.02	0.165
Back Surface	RCM 12.2kbps	4183	24.00	23.26	0.300	0.01	0.356
Left Edge	RCM 12.2kbps	4183	24.00	23.26	0.072	-0.03	0.085
Right Edge	RCM 12.2kbps	4183	24.00	23.26	0.171	0.00	0.203
Bottom Edge	RCM 12.2kbps	4183	24.00	23.26	0.221	-0.03	0.262

12.6. SAR Test Results of LTE B2

Test Position (Head 0mm)	Test Mode	Channel	Power (dBm)		Measured SAR Value 1g (W/Kg)	Power Drift	Scaled (W/Kg)
			Tune-up	Meas.			
1RB							
Cheek Left	20M QPSK 1RB#0	18700	22.00	20.57	0.059	0.03	0.082
Tilt Left	20M QPSK 1RB#0	18700	22.00	20.57	0.038	-0.01	0.053
Cheek Right	20M QPSK 1RB#0	18700	22.00	20.57	0.058	-0.02	0.081
Tilt Right	20M QPSK 1RB#0	18700	22.00	20.57	0.030	-0.07	0.042
50%RB							
Cheek Left	20M QPSK 50RB#50	18900	20.00	19.51	0.036	-0.06	0.040
Tilt Left	20M QPSK 50RB#50	18900	20.00	19.51	0.019	-0.04	0.021
Cheek Right	20M QPSK 50RB#50	18900	20.00	19.51	0.035	-0.04	0.039
Tilt Right	20M QPSK 50RB#50	18900	20.00	19.51	0.015	-0.04	0.017

Test Position (Hotspot 10mm)	Test Mode	Channel	Power (dBm)		Measured SAR Value 1g (W/Kg)	Power Drift	Scaled (W/Kg)
			Tune-up	Meas.			
1RB							
Front Surface	20M QPSK 1RB#0	18700	18.20	18.11	0.330	-0.05	0.337
Back Surface	20M QPSK 1RB#0	18700	18.20	18.11	0.705	-0.03	0.720
Left Edge	20M QPSK 1RB#0	18700	22.00	20.57	0.066	-0.05	0.092
Right Edge	20M QPSK 1RB#0	18700	22.00	20.57	0.037	-0.03	0.051
Bottom Edge	20M QPSK 1RB#0	18700	18.20	18.11	1.100	-0.03	1.123
Bottom Edge	20M QPSK 1RB#0	18900	18.20	17.98	1.060	-0.07	1.115
Bottom Edge	20M QPSK 1RB#0	19100	18.20	18.05	0.863	-0.02	0.893
50%RB							
Front Surface	20M QPSK 50RB#50	18900	18.00	17.93	0.293	-0.03	0.298
Back Surface	20M QPSK 50RB#50	18900	18.00	17.93	0.616	-0.01	0.626
Left Edge	20M QPSK 50RB#50	18900	20.00	19.51	0.062	0.00	0.069
Right Edge	20M QPSK 50RB#50	18900	20.00	19.51	0.027	-0.01	0.030
Bottom Edge	20M QPSK 50RB#50	18900	18.00	17.93	0.996	-0.03	1.012
Bottom Edge	20M QPSK 50RB#50	18700	18.00	17.90	1.150	-0.02	1.177
Bottom Edge	20M QPSK 50RB#50	19100	18.00	17.92	0.735	0.02	0.749
100%RB							
Bottom Edge	20M QPSK 100RB#0	18700	18.00	17.94	1.100	-0.01	1.115
Worst mode retest							
Bottom Edge	20M QPSK 50RB#50	18700	18.00	17.90	1.150	-0.02	1.177

Test Position (Extremity 0mm)	Test Mode	Channel	Power (dBm)		Measured SAR Value 10-g (W/Kg)	Power Drift	Scaled (W/Kg)
			Tune-up	Meas.			
1RB							
Back Surface	20M QPSK 1RB#0	18700	18.20	18.11	0.607	-0.03	0.620
Bottom Edge	20M QPSK 1RB#0	18700	18.20	18.11	1.010	-0.03	1.031
50%RB							
Back Surface	20M QPSK 50RB#50	18900	18.00	17.93	0.553	-0.01	0.562
Bottom Edge	20M QPSK 50RB#50	18700	18.00	17.90	1.170	0.00	1.197
100%RB							
Bottom Edge	20M QPSK 100RB#0	18700	18.00	17.94	0.995	-0.01	1.009

Power reduced for EN-DC							
Test Position (Head 0mm)	Test Mode	Channel	Power (dBm)		Measured SAR Value 1g (W/Kg)	Power Drift	Scaled (W/Kg)
			Tune-up	Meas.			
1RB							
Cheek Left	20M QPSK 1RB#0	18700	13.00	12.67	0.010	0.03	0.011
Tilt Left	20M QPSK 1RB#0	18700	13.00	12.67	0.006	-0.01	0.006
Cheek Right	20M QPSK 1RB#0	18700	13.00	12.67	0.010	-0.02	0.011
Tilt Right	20M QPSK 1RB#0	18700	13.00	12.67	0.005	-0.07	0.005
50%RB							
Cheek Left	20M QPSK 50RB#50	18900	13.00	12.51	0.007	-0.06	0.008
Tilt Left	20M QPSK 50RB#50	18900	13.00	12.51	0.006	-0.04	0.007
Cheek Right	20M QPSK 50RB#50	18900	13.00	12.51	0.009	-0.04	0.010
Tilt Right	20M QPSK 50RB#50	18900	13.00	12.51	0.005	-0.04	0.006

Test Position (Hotspot 10mm)	Test Mode	Channel	Power (dBm)		Measured SAR Value 1g (W/Kg)	Power Drift	Scaled (W/Kg)
			Tune-up	Meas.			
1RB							
Front Surface	20M QPSK 1RB#0	18700	13.00	12.67	0.101	-0.05	0.109
Back Surface	20M QPSK 1RB#0	18700	13.00	12.67	0.204	-0.03	0.220
Left Edge	20M QPSK 1RB#0	18700	13.00	12.67	0.032	-0.05	0.035
Right Edge	20M QPSK 1RB#0	18700	13.00	12.67	0.010	-0.03	0.011
Bottom Edge	20M QPSK 1RB#0	18700	13.00	12.67	0.329	0.01	0.355
50%RB							
Front Surface	20M QPSK 50RB#50	18900	13.00	12.51	0.099	-0.03	0.111
Back Surface	20M QPSK 50RB#50	18900	13.00	12.51	0.165	-0.01	0.185
Left Edge	20M QPSK 50RB#50	18900	13.00	12.51	0.025	0.00	0.028
Right Edge	20M QPSK 50RB#50	18900	13.00	12.51	0.010	-0.01	0.011
Bottom Edge	20M QPSK 50RB#50	18900	13.00	12.51	0.316	-0.03	0.354

Test Position (Body)	Test Mode	Channel	Power (dBm)		Measure SAR Value 1g (W/Kg)	Power Drift	Scaled (W/Kg)
			Tune-up	Meas.			
Front Surface-10 mm	20M QPSK 1RB#0	18700	22.00	20.57	0.501	-0.19	0.696
Back Surface-20 mm	20M QPSK 1RB#0	18700	22.00	20.57	0.398	-0.12	0.553
Bottom Edge-20 mm	20M QPSK 1RB#0	18700	22.00	20.57	0.569	0.05	0.791

12.7. SAR Test Results of LTE B4

Test Position (Head 0mm)	Test Mode	Channel	Power (dBm)		Measured SAR Value 1g (W/Kg)	Power Drift	Scaled (W/Kg)
			Tune-up	Meas.			
1RB							
Cheek Left	20M QPSK 1RB#99	20300	21.00	20.97	0.049	0.13	0.049
Tilt Left	20M QPSK 1RB#99	20300	21.00	20.97	0.027	-0.05	0.027
Cheek Right	20M QPSK 1RB#99	20300	21.00	20.97	0.048	-0.05	0.048
Tilt Right	20M QPSK 1RB#99	20300	21.00	20.97	0.029	0.00	0.029
50%RB							
Cheek Left	20M QPSK 50RB#50	20300	20.00	19.52	0.038	-0.01	0.042
Tilt Left	20M QPSK 50RB#50	20300	20.00	19.52	0.021	0.00	0.023
Cheek Right	20M QPSK 50RB#50	20300	20.00	19.52	0.038	-0.03	0.042
Tilt Right	20M QPSK 50RB#50	20300	20.00	19.52	0.022	-0.01	0.025

Test Position (Hotspot 10mm)	Test Mode	Channel	Power (dBm)		Measured SAR Value 1g (W/Kg)	Power Drift	Scaled (W/Kg)
			Tune-up	Meas.			
1RB							
Front Surface	20M QPSK 1RB#99	20300	21.00	20.97	0.432	0.01	0.435
Back Surface	20M QPSK 1RB#99	20300	21.00	20.97	0.714	-0.02	0.719
Left Edge	20M QPSK 1RB#99	20300	21.00	20.97	0.131	-0.06	0.132
Right Edge	20M QPSK 1RB#99	20300	21.00	20.97	0.042	-0.03	0.042
Bottom Edge	20M QPSK 1RB#99	20300	21.00	20.97	0.957	-0.03	0.964
Bottom Edge	20M QPSK 1RB#99	20050	21.00	20.50	0.859	0.00	0.964
Bottom Edge	20M QPSK 1RB#49	20175	21.00	20.89	1.050	-0.01	1.077
50%RB							
Front Surface	20M QPSK 50RB#50	20300	20.00	19.52	0.348	-0.03	0.389
Back Surface	20M QPSK 50RB#50	20300	20.00	19.52	0.590	0.00	0.659
Left Edge	20M QPSK 50RB#50	20300	20.00	19.52	0.100	0.00	0.112
Right Edge	20M QPSK 50RB#50	20300	20.00	19.52	0.035	-0.01	0.039
Bottom Edge	20M QPSK 50RB#50	20300	20.00	19.52	0.778	-0.03	0.869
Bottom Edge	20M QPSK 50RB#50	20050	20.00	19.36	0.680	0.03	0.788
Bottom Edge	20M QPSK 50RB#0	20175	20.00	19.46	0.737	-0.05	0.835
100%RB							
Bottom Edge	20M QPSK 100RB#0	20175	20.00	19.69	0.737	0.01	0.792
Worst mode retest							
Bottom Edge	20M QPSK 1RB#49	20175	21.00	20.89	1.010	-0.01	1.036

12.8. SAR Test Results of LTE B5

Test Position (Head 0mm)	Test Mode	Channel	Power (dBm)		Measured SAR Value 1g (W/Kg)	Power Drift	Scaled (W/Kg)
			Tune-up	Meas.			
1RB							
Cheek Left	10M QPSK 1RB#49	20600	24.00	22.99	0.101	-0.03	0.127
Tilt Left	10M QPSK 1RB#49	20600	24.00	22.99	0.073	-0.06	0.092
Cheek Right	10M QPSK 1RB#49	20600	24.00	22.99	0.161	0.02	0.203
Tilt Right	10M QPSK 1RB#49	20600	24.00	22.99	0.077	-0.01	0.097
50%RB							
Cheek Left	10M QPSK 25RB#12	20525	23.00	21.91	0.111	0.01	0.143
Tilt Left	10M QPSK 25RB#12	20525	23.00	21.91	0.064	-0.08	0.082
Cheek Right	10M QPSK 25RB#12	20525	23.00	21.91	0.122	0.01	0.157
Tilt Right	10M QPSK 25RB#12	20525	23.00	21.91	0.064	-0.08	0.082

Test Position (Hotspot 10mm)	Test Mode	Channel	Power (dBm)		Measured SAR Value 1g (W/Kg)	Power Drift	Scaled (W/Kg)
			Tune-up	Meas.			
1RB							
Front Surface	10M QPSK 1RB#49	20600	24.00	22.99	0.170	-0.03	0.215
Back Surface	10M QPSK 1RB#49	20600	24.00	22.99	0.336	-0.01	0.424
Left Edge	10M QPSK 1RB#49	20600	24.00	22.99	0.053	-0.03	0.067
Right Edge	10M QPSK 1RB#49	20600	24.00	22.99	0.174	-0.05	0.220
Bottom Edge	10M QPSK 1RB#49	20600	24.00	22.99	0.231	-0.06	0.291
50%RB							
Front Surface	10M QPSK 25RB#12	20525	23.00	21.91	0.138	-0.03	0.177
Back Surface	10M QPSK 25RB#12	20525	23.00	21.91	0.276	-0.05	0.355
Left Edge	10M QPSK 25RB#12	20525	23.00	21.91	0.044	0.00	0.057
Right Edge	10M QPSK 25RB#12	20525	23.00	21.91	0.144	-0.07	0.185
Bottom Edge	10M QPSK 25RB#12	20525	23.00	21.91	0.170	-0.02	0.218

12.9. SAR Test Results of LTE B7

Test Position (Head 0mm)	Test Mode	Channel	Power (dBm)		Measured SAR Value	Power Drift	Scaled (W/Kg)
			Tune-up	Meas.	1g (W/Kg)		
1RB							
Cheek Left	20M QPSK 1RB#99	21350	19.50	18.54	0.012	-0.02	0.015
Tilt Left	20M QPSK 1RB#99	21350	19.50	18.54	<0.01	0.00	<0.01
Cheek Right	20M QPSK 1RB#99	21350	19.50	18.54	0.012	-0.02	0.015
Tilt Right	20M QPSK 1RB#99	21350	19.50	18.54	0.014	-0.01	0.017
50%RB							
Cheek Left	20M QPSK 50RB#50	21350	18.00	17.39	0.011	-0.02	0.013
Tilt Left	20M QPSK 50RB#50	21350	18.00	17.39	<0.01	0.00	<0.01
Cheek Right	20M QPSK 50RB#50	21350	18.00	17.39	0.011	0.00	0.013
Tilt Right	20M QPSK 50RB#50	21350	18.00	17.39	0.010	0.00	0.012

Test Position (Hotspot 10mm)	Test Mode	Channel	Power (dBm)		Measured SAR Value	Power Drift	Scaled (W/Kg)
			Tune-up	Meas.	1g (W/Kg)		
1RB							
Front Surface	20M QPSK 1RB#99	21350	19.50	18.54	0.192	-0.02	0.239
Back Surface	20M QPSK 1RB#99	21350	19.50	18.54	0.334	-0.01	0.417
Left Edge	20M QPSK 1RB#99	21350	19.50	18.54	0.043	-0.05	0.054
Right Edge	20M QPSK 1RB#99	21350	19.50	18.54	0.014	-0.03	0.017
Bottom Edge	20M QPSK 1RB#99	21350	19.50	18.54	0.461	-0.01	0.575
50%RB							
Front Surface	20M QPSK 50RB#50	21350	18.00	17.39	0.165	0.00	0.190
Back Surface	20M QPSK 50RB#50	21350	18.00	17.39	0.291	0.00	0.335
Left Edge	20M QPSK 50RB#50	21350	18.00	17.39	0.038	-0.04	0.044
Right Edge	20M QPSK 50RB#50	21350	18.00	17.39	0.013	-0.02	0.015
Bottom Edge	20M QPSK 50RB#50	21350	18.00	17.39	0.394	0.08	0.453

12.10. SAR Test Results of LTE B12

Test Position (Head 0mm)	Test Mode	Channel	Power (dBm)		Measured SAR Value 1g (W/Kg)	Power Drift	Scaled (W/Kg)
			Tune-up	Meas.			
1RB							
Cheek Left	10M QPSK 1RB#24	23060	23.50	22.78	0.081	0.00	0.096
Tilt Left	10M QPSK 1RB#24	23060	23.50	22.78	0.048	-0.03	0.057
Cheek Right	10M QPSK 1RB#24	23060	23.50	22.78	0.078	-0.08	0.092
Tilt Right	10M QPSK 1RB#24	23060	23.50	22.78	0.045	-0.03	0.053
50%RB							
Cheek Left	10M QPSK 25RB#25	23060	22.50	21.73	0.064	-0.02	0.076
Tilt Left	10M QPSK 25RB#25	23060	22.50	21.73	0.039	-0.01	0.047
Cheek Right	10M QPSK 25RB#25	23060	22.50	21.73	0.065	0.00	0.078
Tilt Right	10M QPSK 25RB#25	23060	22.50	21.73	0.037	-0.01	0.044

Test Position (Hotspot 10mm)	Test Mode	Channel	Power (dBm)		Measured SAR Value 1g (W/Kg)	Power Drift	Scaled (W/Kg)
			Tune-up	Meas.			
1RB							
Front Surface	10M QPSK 1RB#24	23060	23.50	22.78	0.121	-0.01	0.143
Back Surface	10M QPSK 1RB#24	23060	23.50	22.78	0.139	-0.03	0.164
Left Edge	10M QPSK 1RB#24	23060	23.50	22.78	0.088	-0.05	0.104
Right Edge	10M QPSK 1RB#24	23060	23.50	22.78	0.156	-0.01	0.184
Bottom Edge	10M QPSK 1RB#24	23060	23.50	22.78	0.094	-0.05	0.111
50%RB							
Front Surface	10M QPSK 25RB#25	23060	22.50	21.73	0.101	0.00	0.121
Back Surface	10M QPSK 25RB#25	23060	22.50	21.73	0.141	0.00	0.168
Left Edge	10M QPSK 25RB#25	23060	22.50	21.73	0.069	0.01	0.082
Right Edge	10M QPSK 25RB#25	23060	22.50	21.73	0.128	-0.03	0.153
Bottom Edge	10M QPSK 25RB#25	23060	22.50	21.73	0.077	0.00	0.092

12.11. SAR Test Results of LTE B13

Test Position (Head 0mm)	Test Mode	Channel	Power (dBm)		Measured SAR Value 1g (W/Kg)	Power Drift	Scaled (W/Kg)
			Tune-up	Meas.			
1RB							
Cheek Left	10M QPSK 1RB#24	23230	23.50	23.10	0.143	-0.01	0.157
Tilt Left	10M QPSK 1RB#24	23230	23.50	23.10	0.089	-0.01	0.098
Cheek Right	10M QPSK 1RB#24	23230	23.50	23.10	0.166	-0.02	0.182
Tilt Right	10M QPSK 1RB#24	23230	23.50	23.10	0.089	0.00	0.098
50%RB							
Cheek Left	10M QPSK 25RB#25	23230	22.00	21.09	0.108	0.00	0.133
Tilt Left	10M QPSK 25RB#25	23230	22.00	21.09	0.071	-0.03	0.088
Cheek Right	10M QPSK 25RB#25	23230	22.00	21.09	0.122	-0.05	0.150
Tilt Right	10M QPSK 25RB#25	23230	22.00	21.09	0.071	-0.07	0.088

Test Position (Hotspot 10mm)	Test Mode	Channel	Power (dBm)		Measured SAR Value 1g (W/Kg)	Power Drift	Scaled (W/Kg)
			Tune-up	Meas.			
1RB							
Front Surface	10M QPSK 1RB#24	23230	23.50	23.10	0.174	-0.05	0.191
Back Surface	10M QPSK 1RB#24	23230	23.50	23.10	0.275	-0.02	0.302
Left Edge	10M QPSK 1RB#24	23230	23.50	23.10	0.084	-0.04	0.092
Right Edge	10M QPSK 1RB#24	23230	23.50	23.10	0.219	-0.02	0.240
Bottom Edge	10M QPSK 1RB#24	23230	23.50	23.10	0.210	0.00	0.230
50%RB							
Front Surface	10M QPSK 25RB#25	23230	22.00	21.09	0.140	-0.07	0.173
Back Surface	10M QPSK 25RB#25	23230	22.00	21.09	0.200	0.00	0.247
Left Edge	10M QPSK 25RB#25	23230	22.00	21.09	0.065	-0.03	0.080
Right Edge	10M QPSK 25RB#25	23230	22.00	21.09	0.173	-0.06	0.213
Bottom Edge	10M QPSK 25RB#25	23230	22.00	21.09	0.172	-0.01	0.212

12.12. SAR Test Results of LTE B25

Test Position (Head 0mm)	Test Mode	Channel	Power (dBm)		Measured SAR Value 1g (W/Kg)	Power Drift	Scaled (W/Kg)
			Tune-up	Meas.			
1RB							
Cheek Left	20M QPSK 1RB#0	26140	21.50	20.71	0.060	0.02	0.072
Tilt Left	20M QPSK 1RB#0	26140	21.50	20.71	0.041	-0.07	0.049
Cheek Right	20M QPSK 1RB#0	26140	21.50	20.71	0.053	-0.02	0.064
Tilt Right	20M QPSK 1RB#0	26140	21.50	20.71	0.032	-0.05	0.038
50%RB							
Cheek Left	20M QPSK 50RB#0	26140	21.50	19.52	0.045	-0.01	0.071
Tilt Left	20M QPSK 50RB#0	26140	21.50	19.52	0.030	-0.03	0.047
Cheek Right	20M QPSK 50RB#0	26140	21.50	19.52	0.032	-0.01	0.050
Tilt Right	20M QPSK 50RB#0	26140	21.50	19.52	0.023	-0.02	0.036

Test Position (Hotspot 10mm)	Test Mode	Channel	Power (dBm)		Measured SAR Value 1g (W/Kg)	Power Drift	Scaled (W/Kg)
			Tune-up	Meas.			
1RB							
Front Surface	20M QPSK 1RB#0	26140	18.20	18.10	0.347	-0.02	0.355
Back Surface	20M QPSK 1RB#0	26140	18.20	18.10	0.716	-0.02	0.733
Left Edge	20M QPSK 1RB#0	26140	21.50	20.71	0.064	-0.07	0.077
Right Edge	20M QPSK 1RB#0	26140	21.50	20.71	0.037	-0.04	0.044
Bottom Edge	20M QPSK 1RB#0	26140	18.20	18.10	1.080	0.01	1.105
Bottom Edge	20M QPSK 1RB#0	26365	18.20	17.90	0.940	-0.02	1.007
Bottom Edge	20M QPSK 1RB#0	26590	18.20	18.08	1.040	0.00	1.069
50%RB							
Front Surface	20M QPSK 50RB#0	26140	17.80	17.70	0.332	0.00	0.340
Back Surface	20M QPSK 50RB#0	26140	17.80	17.70	0.694	-0.01	0.710
Left Edge	20M QPSK 50RB#0	26140	21.50	19.52	0.064	0.00	0.101
Right Edge	20M QPSK 50RB#0	26140	21.50	19.52	0.033	-0.03	0.052
Bottom Edge	20M QPSK 50RB#0	26140	17.80	17.70	1.040	-0.05	1.064
Bottom Edge	20M QPSK 50RB#0	26365	17.80	17.46	0.997	-0.11	1.078
Bottom Edge	20M QPSK 50RB#0	26590	17.80	17.62	0.763	-0.09	0.795
100%RB							
Bottom Edge	20M QPSK 100RB#0	26140	17.80	17.57	0.949	0.00	1.001
Worst mode retest							
Bottom Edge	20M QPSK 1RB#0	26140	18.20	18.10	1.080	-0.04	1.105

Test Position (Extremity 0mm)	Test Mode	Channel	Power (dBm)		Measured SAR Value	Power Drift	Scaled (W/Kg)
			Tune-up	Meas.	10-g (W/Kg)		
1RB							
Back Surface	20M QPSK 1RB#0	26140	18.20	18.10	0.471	0.00	0.482
Bottom Edge	20M QPSK 1RB#0	26140	18.20	18.10	0.756	-0.01	0.774
50%RB							
Back Surface	20M QPSK 50RB#0	26140	17.80	17.70	0.449	-0.01	0.459
Bottom Edge	20M QPSK 50RB#0	26140	17.80	17.70	0.721	-0.03	0.738
100%RB							
Bottom Edge	20M QPSK 100RB#0	26140	17.80	17.57	0.705	-0.04	0.743

Test Position (Body)	Test Mode	Channel	Power (dBm)		Measure SAR Value	Power Drift	Scaled (W/Kg)
			Tune-up	Meas.	1g (W/Kg)		
Front Surface-10 mm	20M QPSK 1RB#0	26140	21.50	20.71	0.612	-0.04	0.734
Back Surface-20 mm	20M QPSK 1RB#0	26140	21.50	20.71	0.356	0.03	0.427
Bottom Edge-20 mm	20M QPSK 1RB#0	26140	21.50	20.71	0.598	0.16	0.717

12.13. SAR Test Results of LTE B26

Test Position (Head 0mm)	Test Mode	Channel	Power (dBm)		Measured SAR Value 1g (W/Kg)	Power Drift	Scaled (W/Kg)
			Tune-up	Meas.			
1RB							
Cheek Left	15M QPSK 1RB#0	26765	24.00	23.05	0.108	-0.01	0.134
Tilt Left	15M QPSK 1RB#0	26765	24.00	23.05	0.068	-0.05	0.085
Cheek Right	15M QPSK 1RB#0	26765	24.00	23.05	0.139	-0.02	0.173
Tilt Right	15M QPSK 1RB#0	26765	24.00	23.05	0.065	-0.07	0.081
50%RB							
Cheek Left	15M QPSK 36RB#0	26765	21.50	20.70	0.093	0.00	0.112
Tilt Left	15M QPSK 36RB#0	26765	21.50	20.70	0.057	-0.04	0.069
Cheek Right	15M QPSK 36RB#0	26765	21.50	20.70	0.110	-0.01	0.132
Tilt Right	15M QPSK 36RB#0	26765	21.50	20.70	0.054	0.00	0.065

Test Position (Hotspot 10mm)	Test Mode	Channel	Power (dBm)		Measured SAR Value 1g (W/Kg)	Power Drift	Scaled (W/Kg)
			Tune-up	Meas.			
1RB							
Front Surface	15M QPSK 1RB#0	26765	24.00	23.05	0.133	-0.01	0.166
Back Surface	15M QPSK 1RB#0	26765	24.00	23.05	0.247	-0.01	0.307
Left Edge	15M QPSK 1RB#0	26765	24.00	23.05	0.145	-0.03	0.180
Right Edge	15M QPSK 1RB#0	26765	24.00	23.05	0.071	-0.04	0.088
Bottom Edge	15M QPSK 1RB#0	26765	24.00	23.05	0.186	-0.14	0.231
50%RB							
Front Surface	15M QPSK 36RB#0	26765	21.50	20.70	0.111	0.00	0.133
Back Surface	15M QPSK 36RB#0	26765	21.50	20.70	0.191	-0.03	0.230
Left Edge	15M QPSK 36RB#0	26765	21.50	20.70	0.066	0.06	0.079
Right Edge	15M QPSK 36RB#0	26765	21.50	20.70	0.058	-0.04	0.070
Bottom Edge	15M QPSK 36RB#0	26765	21.50	20.70	0.158	0.01	0.190

12.14. SAR Test Results of LTE B66

Test Position (Head 0mm)	Test Mode	Channel	Power (dBm)		Measured SAR Value 1g (W/Kg)	Power Drift	Scaled (W/Kg)
			Tune-up	Meas.			
1RB							
Cheek Left	20M QPSK 1RB#99	132322	21.00	20.62	0.048	0.01	0.052
Tilt Left	20M QPSK 1RB#99	132322	21.00	20.62	0.029	-0.05	0.032
Cheek Right	20M QPSK 1RB#99	132322	21.00	20.62	0.048	-0.03	0.052
Tilt Right	20M QPSK 1RB#99	132322	21.00	20.62	0.024	-0.01	0.026
50%RB							
Cheek Left	20M QPSK 50RB#50	132322	20.50	19.56	0.038	-0.03	0.047
Tilt Left	20M QPSK 50RB#50	132322	20.50	19.56	0.022	0.00	0.027
Cheek Right	20M QPSK 50RB#50	132322	20.50	19.56	0.039	0.00	0.048
Tilt Right	20M QPSK 50RB#50	132322	20.50	19.56	0.020	-0.03	0.025

Test Position (Hotspot 10mm)	Test Mode	Channel	Power (dBm)		Measured SAR Value 1g (W/Kg)	Power Drift	Scaled (W/Kg)
			Tune-up	Meas.			
1RB							
Front Surface	20M QPSK 1RB#99	132322	20.00	19.85	0.302	-0.01	0.313
Back Surface	20M QPSK 1RB#99	132322	20.00	19.85	0.534	-0.11	0.553
Left Edge	20M QPSK 1RB#99	132322	21.00	20.62	0.084	-0.02	0.092
Right Edge	20M QPSK 1RB#99	132322	21.00	20.62	0.045	-0.03	0.049
Bottom Edge	20M QPSK 1RB#99	132322	20.00	19.85	0.808	-0.01	0.836
Bottom Edge	20M QPSK 1RB#99	132072	20.00	19.76	0.677	0.03	0.715
Bottom Edge	20M QPSK 1RB#0	132572	20.00	19.73	1.020	0.01	1.085
50%RB							
Front Surface	20M QPSK 50RB#50	132322	20.00	19.67	0.295	-0.12	0.318
Back Surface	20M QPSK 50RB#50	132322	20.00	19.67	0.540	0.00	0.583
Left Edge	20M QPSK 50RB#50	132322	20.50	19.56	0.080	-0.01	0.099
Right Edge	20M QPSK 50RB#50	132322	20.50	19.56	0.045	0.00	0.056
Bottom Edge	20M QPSK 50RB#50	132322	20.00	19.67	0.803	-0.01	0.866
Bottom Edge	20M QPSK 50RB#50	132072	20.00	19.64	0.677	-0.12	0.736
Bottom Edge	20M QPSK 50RB#50	132572	20.00	19.57	0.936	-0.02	1.033
100%RB							
Bottom Edge	20M QPSK 100RB#0	132322	20.00	19.66	0.906	-0.11	0.980
Worst mode retest							
Bottom Edge	20M QPSK 1RB#0	132572	20.00	19.73	1.010	0.00	1.075

Test Position (Extremity 0mm)	Test Mode	Channel	Power (dBm)		Measured SAR Value 10-g (W/Kg)	Power Drift	Scaled (W/Kg)
			Tune-up	Meas.			
Bottom Edge	20M QPSK 1RB#0	132572	20.00	19.73	1.680	-0.02	1.788

Power reduced for EN-DC								
Test Position (Head 0mm)	Test Mode	Channel	Power (dBm)		Measured SAR Value 1g (W/Kg)	Power Drift	Scaled (W/Kg)	
			Tune-up	Meas.				
1RB								
Cheek Left	20M QPSK 1RB#99	132322	16.70	16.52	0.033	-0.16	0.034	
Tilt Left	20M QPSK 1RB#99	132322	16.70	16.52	0.025	-0.01	0.026	
Cheek Right	20M QPSK 1RB#99	132322	16.70	16.52	0.030	-0.01	0.031	
Tilt Right	20M QPSK 1RB#99	132322	16.70	16.52	0.015	-0.01	0.016	
50%RB								
Cheek Left	20M QPSK 50RB#50	132322	16.70	16.37	0.028	-0.06	0.030	
Tilt Left	20M QPSK 50RB#50	132322	16.70	16.37	0.016	-0.03	0.017	
Cheek Right	20M QPSK 50RB#50	132322	16.70	16.37	0.017	-0.05	0.018	
Tilt Right	20M QPSK 50RB#50	132322	16.70	16.37	0.012	-0.01	0.013	

Test Position (Hotspot 10mm)	Test Mode	Channel	Power (dBm)		Measured SAR Value 1g (W/Kg)	Power Drift	Scaled (W/Kg)	
			Tune-up	Meas.				
1RB								
Front Surface	20M QPSK 1RB#99	132322	16.70	16.52	0.198	-0.02	0.206	
Back Surface	20M QPSK 1RB#99	132322	16.70	16.52	0.335	-0.02	0.349	
Left Edge	20M QPSK 1RB#99	132322	16.70	16.52	0.055	-0.03	0.057	
Right Edge	20M QPSK 1RB#99	132322	16.70	16.52	0.021	-0.04	0.022	
Bottom Edge	20M QPSK 1RB#99	132322	16.70	16.52	0.579	-0.03	0.604	
50%RB								
Front Surface	20M QPSK 50RB#50	132322	16.70	16.37	0.136	-0.02	0.147	
Back Surface	20M QPSK 50RB#50	132322	16.70	16.37	0.306	0.00	0.330	
Left Edge	20M QPSK 50RB#50	132322	16.70	16.37	0.045	0.00	0.049	
Right Edge	20M QPSK 50RB#50	132322	16.70	16.37	0.020	-0.06	0.022	
Bottom Edge	20M QPSK 50RB#50	132322	16.70	16.37	0.558	-0.07	0.602	

Test Position (Body)	Test Mode	Channel	Power (dBm)		Measure SAR Value 1g (W/Kg)	Power Drift	Scaled (W/Kg)
			Tune-up	Meas.			
Front Surface-10 mm	20M QPSK 1RB#99	132322	21.00	20.62	0.354	-0.13	0.386
Back Surface-20 mm	20M QPSK 1RB#99	132322	21.00	20.62	0.213	0.07	0.232
Bottom Edge-20 mm	20M QPSK 1RB#99	132322	21.00	20.62	0.367	0.15	0.401

12.15. SAR Test Results of LTE B71

Test Position (Head 0mm)	Test Mode	Channel	Power (dBm)		Measured SAR Value 1g (W/Kg)	Power Drift	Scaled (W/Kg)
			Tune-up	Meas.			
1RB							
Cheek Left	20M QPSK 1RB#99	133322	23.50	22.89	0.091	-0.03	0.105
Tilt Left	20M QPSK 1RB#99	133322	23.50	22.89	0.056	0.00	0.064
Cheek Right	20M QPSK 1RB#99	133322	23.50	22.89	0.091	0.00	0.105
Tilt Right	20M QPSK 1RB#99	133322	23.50	22.89	0.051	-0.07	0.059
50%RB							
Cheek Left	20M QPSK 50RB#50	133372	22.50	21.90	0.110	-0.02	0.126
Tilt Left	20M QPSK 50RB#50	133372	22.50	21.90	0.070	-0.05	0.080
Cheek Right	20M QPSK 50RB#50	133372	22.50	21.90	0.119	-0.01	0.137
Tilt Right	20M QPSK 50RB#50	133372	22.50	21.90	0.066	-0.05	0.076

Test Position (Hotspot 10mm)	Test Mode	Channel	Power (dBm)		Measured SAR Value 1g (W/Kg)	Power Drift	Scaled (W/Kg)
			Tune-up	Meas.			
1RB							
Front Surface	20M QPSK 1RB#99	133322	23.50	22.89	0.119	-0.02	0.137
Back Surface	20M QPSK 1RB#99	133322	23.50	22.89	0.168	-0.04	0.193
Left Edge	20M QPSK 1RB#99	133322	23.50	22.89	0.097	-0.05	0.112
Right Edge	20M QPSK 1RB#99	133322	23.50	22.89	0.190	0.02	0.219
Bottom Edge	20M QPSK 1RB#99	133322	23.50	22.89	0.108	0.03	0.124
50%RB							
Front Surface	20M QPSK 50RB#50	133372	22.50	21.90	0.101	0.07	0.116
Back Surface	20M QPSK 50RB#50	133372	22.50	21.90	0.134	-0.01	0.154
Left Edge	20M QPSK 50RB#50	133372	22.50	21.90	0.078	0.00	0.090
Right Edge	20M QPSK 50RB#50	133372	22.50	21.90	0.162	0.02	0.186
Bottom Edge	20M QPSK 50RB#50	133372	22.50	21.90	0.092	-0.04	0.106

12.16. SAR Test Results of LTE B41

Test Position (Head 0mm)	Test Mode	Channel	Power (dBm)		Measured SAR Value 1g (W/Kg)	Power Drift	Scaled (W/Kg)
			Tune-up	Meas.			
1RB							
Cheek Left	20M QPSK 1RB#49	39750	18.00	17.87	0.616	-0.02	0.635
Tilt Left	20M QPSK 1RB#49	39750	18.00	17.87	0.767	0.00	0.790
Cheek Right	20M QPSK 1RB#49	39750	18.00	17.87	0.762	-0.05	0.785
Tilt Right	20M QPSK 1RB#49	39750	18.00	17.87	0.716	-0.02	0.738
50%RB							
Cheek Left	20M QPSK 50RB#25	41490	17.70	17.56	0.568	0.00	0.587
Tilt Left	20M QPSK 50RB#25	41490	17.70	17.56	0.670	-0.02	0.692
Cheek Right	20M QPSK 50RB#25	41490	17.70	17.56	0.760	0.00	0.785
Tilt Right	20M QPSK 50RB#25	41490	17.70	17.56	0.752	-0.01	0.777

Test Position (Hotspot 10mm)	Test Mode	Channel	Power (dBm)		Measured SAR Value 1g (W/Kg)	Power Drift	Scaled (W/Kg)
			Tune-up	Meas.			
1RB							
Front Surface	20M QPSK 1RB#49	39750	22.00	21.15	0.213	-0.02	0.259
Back Surface	20M QPSK 1RB#49	39750	22.00	21.15	0.388	0.00	0.472
Left Edge	20M QPSK 1RB#49	39750	22.00	21.15	0.096	-0.02	0.117
Top Edge	20M QPSK 1RB#49	39750	22.00	21.15	0.377	-0.02	0.459
50%RB							
Front Surface	20M QPSK 50RB#25	41490	21.00	20.27	0.182	0.00	0.215
Back Surface	20M QPSK 50RB#25	41490	21.00	20.27	0.357	-0.01	0.422
Left Edge	20M QPSK 50RB#25	41490	21.00	20.27	0.092	0.03	0.109
Top Edge	20M QPSK 50RB#25	41490	21.00	20.27	0.374	0.01	0.442

Power reduced for simultaneous transmission with WLAN & BT							
Test Position (Head 0mm)	Test Mode	Channel	Power (dBm)		Measure SAR Value 1g (W/Kg)	Power Drift	Scaled (W/Kg)
			Tune-up	Meas.			
1RB							
Cheek Left	20M QPSK 1RB#49	39750	14.00	13.69	0.301	-0.05	0.323
Tilt Left	20M QPSK 1RB#49	39750	14.00	13.69	0.369	0.01	0.396
Cheek Right	20M QPSK 1RB#49	39750	14.00	13.69	0.336	-0.01	0.361
Tilt Right	20M QPSK 1RB#49	39750	14.00	13.69	0.341	-0.08	0.366
50%RB							
Cheek Left	20M QPSK 50RB#25	41490	14.00	13.53	0.295	-0.07	0.329
Tilt Left	20M QPSK 50RB#25	41490	14.00	13.53	0.352	0.00	0.392
Cheek Right	20M QPSK 50RB#25	41490	14.00	13.53	0.344	-0.01	0.383
Tilt Right	20M QPSK 50RB#25	41490	14.00	13.53	0.337	-0.06	0.376

Test Position (Hotspot 10mm)	Test Mode	Channel	Power (dBm)		Measure SAR Value 1g (W/Kg)	Power Drift	Scaled (W/Kg)
			Tune-up	Meas.			
1RB							
Front Surface	20M QPSK 1RB#49	39750	14.00	13.69	0.106	-0.02	0.114
Back Surface	20M QPSK 1RB#49	39750	14.00	13.69	0.187	-0.05	0.201
Left Edge	20M QPSK 1RB#49	39750	14.00	13.69	0.056	-0.02	0.060
Top Edge	20M QPSK 1RB#49	39750	14.00	13.69	0.165	-0.02	0.177
50%RB							
Front Surface	20M QPSK 50RB#25	41490	14.00	13.53	0.105	0.00	0.117
Back Surface	20M QPSK 50RB#25	41490	14.00	13.53	0.171	-0.01	0.191
Left Edge	20M QPSK 50RB#25	41490	14.00	13.53	0.045	0.03	0.050
Top Edge	20M QPSK 50RB#25	41490	14.00	13.53	0.159	0.01	0.177

RF Exposure Condition	LTE Band 41 PC2		LTE Band 41 PC3			PC2 Linearly Scaled Reported SAR (W/kg)	Linearly Scaled (%)	Limit	Testing Required
	DC (%)	Tune- up (dBm)	DC (%)	Tune- up (dBm)	Reported SAR				
Head	43.3	22.00	100.00	18.000	0.790	0.859	8.76	±10%	No
Body-worn & Hotspot	43.3	26.00	100.00	22.000	0.472	0.513	8.76	±10%	No

12.17. SAR Test Results of NR n2

Test Position (Head 0mm)	Test Mode	Channel	Power (dBm)		Measured SAR Value 1g (W/Kg)	Power Drift	Scaled (W/Kg)
			Tune-up	Meas.			
1RB							
Cheek Left	20M DFT-s OFDM QPSK 1RB#105	372000	22.00	21.57	0.025	-0.01	0.028
Tilt Left	20M DFT-s OFDM QPSK 1RB#105	372000	22.00	21.57	0.023	-0.02	0.025
Cheek Right	20M DFT-s OFDM QPSK 1RB#105	372000	22.00	21.57	0.037	-0.02	0.041
Tilt Right	20M DFT-s OFDM QPSK 1RB#105	372000	22.00	21.57	0.018	0.00	0.020
50%RB							
Cheek Left	20M DFT-s OFDM QPSK 50RB#25	372000	23.00	22.39	0.040	-0.07	0.046
Tilt Left	20M DFT-s OFDM QPSK 50RB#25	372000	23.00	22.39	0.037	-0.01	0.043
Cheek Right	20M DFT-s OFDM QPSK 50RB#25	372000	23.00	22.39	0.058	-0.10	0.067
Tilt Right	20M DFT-s OFDM QPSK 50RB#25	372000	23.00	22.39	0.027	-0.01	0.031
100%RB							
Cheek Right	20M DFT-s OFDM QPSK 100RB#0	380000	24.20	24.06	0.056	0.01	0.058

Test Position (Hotspot 10mm)	Test Mode	Channel	Power (dBm)		Measured SAR Value 1g (W/Kg)	Power Drift	Scaled (W/Kg)
			Tune-up	Meas.			
1RB							
Front Surface	20M DFT-s OFDM QPSK 1RB#105	372000	18.30	18.20	0.301	-0.01	0.308
Back Surface	20M DFT-s OFDM QPSK 1RB#105	372000	18.30	18.20	0.547	-0.01	0.560
Left Edge	20M DFT-s OFDM QPSK 1RB#105	372000	22.00	21.57	0.061	0.00	0.067
Right Edge	20M DFT-s OFDM QPSK 1RB#105	372000	22.00	21.57	0.089	-0.01	0.098
Bottom Edge	20M DFT-s OFDM QPSK 1RB#105	372000	18.30	18.20	0.906	-0.01	0.927
Bottom Edge	20M DFT-s OFDM QPSK 1RB#0	376000	18.30	17.95	0.895	0.00	0.970
Bottom Edge	20M DFT-s OFDM QPSK 1RB#105	380000	18.30	18.16	0.571	-0.03	0.590
50%RB							
Front Surface	20M DFT-s OFDM QPSK 50RB#25	372000	18.30	18.20	0.346	-0.12	0.354
Back Surface	20M DFT-s OFDM QPSK 50RB#25	372000	18.30	18.20	0.592	0.00	0.606
Left Edge	20M DFT-s OFDM QPSK 50RB#25	372000	23.00	22.39	0.070	0.00	0.081
Right Edge	20M DFT-s OFDM QPSK 50RB#25	372000	23.00	22.39	0.102	-0.03	0.117
Bottom Edge	20M DFT-s OFDM QPSK 50RB#25	372000	18.30	18.20	1.160	0.00	1.187
Bottom Edge	20M DFT-s OFDM QPSK 50RB#25	376000	18.30	17.73	0.876	-0.01	0.999
Bottom Edge	20M DFT-s OFDM QPSK 50RB#25	380000	18.30	18.16	0.646	0.00	0.667
100%RB							
Bottom Edge	20M DFT-s OFDM QPSK 100RB#0	380000	19.20	19.03	1.000	-0.03	1.040
Worst mode retest							
Bottom Edge	20M DFT-s OFDM QPSK 50RB#25	372000	18.30	18.20	1.150	0.01	1.177

Test Position (Extremity 0mm)	Test Mode	Channel	Power (dBm)		Measured SAR Value 10-g (W/Kg)	Power Drift	Scaled (W/Kg)
			Tune-up	Meas.			
1RB							
Back Surface	20M DFT-s OFDM QPSK 1RB#105	372000	18.30	18.20	0.298	-0.03	0.305
Bottom Edge	20M DFT-s OFDM QPSK 1RB#105	372000	18.30	18.20	0.659	-0.01	0.674
50%RB							
Back Surface	20M DFT-s OFDM QPSK 50RB#25	372000	18.30	18.20	0.334	-0.01	0.342
Bottom Edge	20M DFT-s OFDM QPSK 50RB#25	372000	18.30	18.20	0.757	-0.05	0.775
100%RB							
Bottom Edge	20M DFT-s OFDM QPSK 100RB#0	380000	19.20	19.03	0.700	-0.03	0.728

Test Position (Body)	Test Mode	Channel	Power (dBm)		Measure SAR Value 1g (W/Kg)	Power Drift	Scaled (W/Kg)
			Tune-up	Meas.			
Front Surface-10 mm	20M DFT-s PFDM QPSK 50RB#25	372000	23.00	22.39	0.694	0.14	0.799
Back Surface-20 mm	20M DFT-s PFDM QPSK 50RB#25	372000	23.00	22.39	0.366	-0.07	0.421
Bottom Edge-20 mm	20M DFT-s PFDM QPSK 50RB#25	372000	23.00	22.39	0.675	0.04	0.777

12.18. SAR Test Results of NR n5

Test Position (Head 0mm)	Test Mode	Channel	Power (dBm)		Measured SAR Value 1g (W/Kg)	Power Drift	Scaled (W/Kg)
			Tune-up	Meas.			
1RB							
Cheek Left	20M DFT-s OFDM QPSK 1RB#105	167800	24.00	23.15	0.109	-0.02	0.133
Tilt Left	20M DFT-s OFDM QPSK 1RB#105	167800	24.00	23.15	0.072	-0.05	0.088
Cheek Right	20M DFT-s OFDM QPSK 1RB#105	167800	24.00	23.15	0.136	-0.01	0.165
Tilt Right	20M DFT-s OFDM QPSK 1RB#105	167800	24.00	23.15	0.070	-0.05	0.085
50%RB							
Cheek Left	20M DFT-s OFDM QPSK 50RB#25	167800	24.50	24.06	0.143	-0.03	0.158
Tilt Left	20M DFT-s OFDM QPSK 50RB#25	167800	24.50	24.06	0.093	0.01	0.103
Cheek Right	20M DFT-s OFDM QPSK 50RB#25	167800	24.50	24.06	0.183	-0.07	0.203
Tilt Right	20M DFT-s OFDM QPSK 50RB#25	167800	24.50	24.06	0.091	-0.01	0.101

Test Position (Hotspot 10mm)	Test Mode	Channel	Power (dBm)		Measured SAR Value 1g (W/Kg)	Power Drift	Scaled (W/Kg)
			Tune-up	Meas.			
1RB							
Front Surface	20M DFT-s OFDM QPSK 1RB#105	167800	24.00	23.15	0.154	-0.01	0.187
Back Surface	20M DFT-s OFDM QPSK 1RB#105	167800	24.00	23.15	0.254	-0.01	0.309
Left Edge	20M DFT-s OFDM QPSK 1RB#105	167800	24.00	23.15	0.047	0.00	0.057
Right Edge	20M DFT-s OFDM QPSK 1RB#105	167800	24.00	23.15	0.113	-0.04	0.137
Bottom Edge	20M DFT-s OFDM QPSK 1RB#105	167800	24.00	23.15	0.153	-0.01	0.186
50%RB							
Front Surface	20M DFT-s OFDM QPSK 50RB#25	167800	24.50	24.06	0.197	-0.03	0.218
Back Surface	20M DFT-s OFDM QPSK 50RB#25	167800	24.50	24.06	0.354	-0.06	0.392
Left Edge	20M DFT-s OFDM QPSK 50RB#25	167800	24.50	24.06	0.069	-0.07	0.076
Right Edge	20M DFT-s OFDM QPSK 50RB#25	167800	24.50	24.06	0.160	0.00	0.177
Bottom Edge	20M DFT-s OFDM QPSK 50RB#25	167800	24.50	24.06	0.089	-0.02	0.098

12.19. SAR Test Results of NR n7

Test Position (Head 0mm)	Test Mode	Channel	Power (dBm)		Measured SAR Value 1g (W/Kg)	Power Drift	Scaled (W/Kg)
			Tune-up	Meas.			
1RB							
Cheek Left	40M DFT-s OFDM QPSK 1RB#215	510000	21.00	19.65	0.054	-0.01	0.074
Tilt Left	40M DFT-s OFDM QPSK 1RB#215	510000	21.00	19.65	0.020	0.00	0.027
Cheek Right	40M DFT-s OFDM QPSK 1RB#215	510000	21.00	19.65	0.036	-0.03	0.049
Tilt Right	40M DFT-s OFDM QPSK 1RB#215	510000	21.00	19.65	0.018	-0.02	0.025
50%RB							
Cheek Left	40M DFT-s OFDM QPSK 108RB#54	510000	21.00	20.93	0.059	-0.04	0.060
Tilt Left	40M DFT-s OFDM QPSK 108RB#54	510000	21.00	20.93	0.027	-0.03	0.027
Cheek Right	40M DFT-s OFDM QPSK 108RB#54	510000	21.00	20.93	0.049	-0.01	0.050
Tilt Right	40M DFT-s OFDM QPSK 108RB#54	510000	21.00	20.93	0.030	0.00	0.030

Test Position (Hotspot 10mm)	Test Mode	Channel	Power (dBm)		Measured SAR Value 1g (W/Kg)	Power Drift	Scaled (W/Kg)
			Tune-up	Meas.			
1RB							
Front Surface	40M DFT-s OFDM QPSK 1RB#215	510000	21.00	19.65	0.182	-0.03	0.248
Back Surface	40M DFT-s OFDM QPSK 1RB#215	510000	21.00	19.65	0.324	-0.04	0.442
Left Edge	40M DFT-s OFDM QPSK 1RB#215	510000	21.00	19.65	0.046	-0.02	0.063
Right Edge	40M DFT-s OFDM QPSK 1RB#215	510000	21.00	19.65	0.012	0.00	0.016
Bottom Edge	40M DFT-s OFDM QPSK 1RB#215	510000	21.00	19.65	0.707	-0.05	0.965
50%RB							
Front Surface	40M DFT-s OFDM QPSK 108RB#54	510000	21.00	20.93	0.283	-0.12	0.288
Back Surface	40M DFT-s OFDM QPSK 108RB#54	510000	21.00	20.93	0.513	-0.01	0.521
Left Edge	40M DFT-s OFDM QPSK 108RB#54	510000	21.00	20.93	0.081	-0.03	0.082
Right Edge	40M DFT-s OFDM QPSK 108RB#54	510000	21.00	20.93	0.016	-0.01	0.016
Bottom Edge	40M DFT-s OFDM QPSK 108RB#54	510000	21.00	20.93	0.863	-0.03	0.877
Bottom Edge	40M DFT-s OFDM QPSK 108RB#54	504000	21.00	20.93	0.855	-0.14	0.869
Bottom Edge	40M DFT-s OFDM QPSK 108RB#54	507000	21.00	20.93	0.949	0.05	0.964
100%RB							
Bottom Edge	40M DFT-s OFDM QPSK 216RB#0	510000	20.00	19.94	0.559	-0.01	0.567
Worst mode retest							
Bottom Edge	40M DFT-s OFDM QPSK 108RB#54	507000	21.00	20.93	0.949	-0.01	0.964

12.20. SAR Test Results of NR n25

Test Position (Head 0mm)	Test Mode	Channel	Power (dBm)		Measured SAR Value 1g (W/Kg)	Power Drift	Scaled (W/Kg)
			Tune-up	Meas.			
1RB							
Cheek Left	20M DFT-s OFDM QPSK 1RB#105	372000	21.50	21.00	0.048	-0.01	0.054
Tilt Left	20M DFT-s OFDM QPSK 1RB#105	372000	21.50	21.00	0.024	-0.03	0.027
Cheek Right	20M DFT-s OFDM QPSK 1RB#105	372000	21.50	21.00	0.030	-0.11	0.034
Tilt Right	20M DFT-s OFDM QPSK 1RB#105	372000	21.50	21.00	0.022	-0.03	0.025
50%RB							
Cheek Left	20M DFT-s OFDM QPSK 50RB#25	381000	21.50	21.18	0.050	-0.01	0.054
Tilt Left	20M DFT-s OFDM QPSK 50RB#25	381000	21.50	21.18	0.029	-0.01	0.031
Cheek Right	20M DFT-s OFDM QPSK 50RB#25	381000	21.50	21.18	0.045	-0.12	0.048
Tilt Right	20M DFT-s OFDM QPSK 50RB#25	381000	21.50	21.18	0.029	-0.01	0.031
100%RB							
Bottom Edge	20M DFT-s OFDM QPSK 100RB#0	372000	22.50	22.13	0.048	0.01	0.052

Test Position (Hotspot 10mm)	Test Mode	Channel	Power (dBm)		Measured SAR Value 1g (W/Kg)	Power Drift	Scaled (W/Kg)
			Tune-up	Meas.			
1RB							
Front Surface	20M DFT-s OFDM QPSK 1RB#105	372000	17.00	16.90	0.302	-0.03	0.309
Back Surface	20M DFT-s OFDM QPSK 1RB#105	372000	17.00	16.90	0.547	-0.03	0.560
Left Edge	20M DFT-s OFDM QPSK 1RB#105	372000	21.50	21.00	0.050	-0.03	0.056
Right Edge	20M DFT-s OFDM QPSK 1RB#105	372000	21.50	21.00	0.025	0.00	0.028
Bottom Edge	20M DFT-s OFDM QPSK 1RB#105	372000	17.00	16.90	0.857	-0.02	0.877
Bottom Edge	20M DFT-s OFDM QPSK 1RB#0	376500	17.00	16.60	0.919	0.00	1.008
Bottom Edge	20M DFT-s OFDM QPSK 1RB#105	381000	17.00	16.83	0.501	-0.03	0.521
50%RB							
Front Surface	20M DFT-s OFDM QPSK 50RB#25	381000	17.00	16.91	0.206	-0.11	0.210
Back Surface	20M DFT-s OFDM QPSK 50RB#25	381000	17.00	16.91	0.394	0.00	0.402
Left Edge	20M DFT-s OFDM QPSK 50RB#25	381000	21.50	21.18	0.045	-0.01	0.048
Right Edge	20M DFT-s OFDM QPSK 50RB#25	381000	21.50	21.18	0.012	0.00	0.013
Bottom Edge	20M DFT-s OFDM QPSK 50RB#25	381000	17.00	16.91	0.954	-0.03	0.974
Bottom Edge	20M DFT-s OFDM QPSK 50RB#25	372000	17.00	16.61	1.060	0.00	1.160
Bottom Edge	20M DFT-s OFDM QPSK 50RB#25	376500	17.00	16.57	0.897	-0.03	0.990
100%RB							
Bottom Edge	20M DFT-s OFDM QPSK 100RB#0	372000	18.70	18.64	1.110	0.00	1.125
Worst mode retest							
Bottom Edge	20M DFT-s OFDM QPSK 100RB#0	372000	18.70	18.64	1.100	-0.01	1.115

Test Position (Extremity 0mm)	Test Mode	Channel	Power (dBm)		Measured SAR Value 10-g (W/Kg)	Power Drift	Scaled (W/Kg)
			Tune-up	Meas.			
1RB							
Back Surface	20M DFT-s OFDM QPSK 1RB#105	372000	17.00	16.90	0.284	0.00	0.291
Bottom Edge	20M DFT-s OFDM QPSK 1RB#0	376500	17.00	16.60	0.601	-0.05	0.659
50%RB							
Bottom Edge	20M DFT-s OFDM QPSK 50RB#25	372000	17.00	16.61	0.685	-0.05	0.749
100%RB							
Bottom Edge	20M DFT-s OFDM QPSK 100RB#0	372000	18.70	18.64	0.746	-0.01	0.756

Test Position (Body)	Test Mode	Channel	Power (dBm)		Measure SAR Value 1g (W/Kg)	Power Drift	Scaled (W/Kg)
			Tune-up	Meas.			
Front Surface-10 mm	20M DFT-s PFDM QPSK 50RB#25	381000	21.50	21.18	0.497	0.02	0.535
Back Surface-20 mm	20M DFT-s PFDM QPSK 50RB#25	381000	21.50	21.18	0.407	0.17	0.438
Bottom Edge-20 mm	20M DFT-s PFDM QPSK 50RB#25	381000	21.50	21.18	0.732	-0.16	0.788

12.21. SAR Test Results of NR n66

Test Position (Head 0mm)	Test Mode	Channel	Power (dBm)		Measured SAR Value 1g (W/Kg)	Power Drift	Scaled (W/Kg)
			Tune-up	Meas.			
1RB							
Cheek Left	40M DFT-s OFDM QPSK 1RB#0	349000	21.00	20.95	0.028	-0.01	0.028
Tilt Left	40M DFT-s OFDM QPSK 1RB#0	349000	21.00	20.95	0.017	-0.02	0.017
Cheek Right	40M DFT-s OFDM QPSK 1RB#0	349000	21.00	20.95	0.035	0.00	0.035
Tilt Right	40M DFT-s OFDM QPSK 1RB#0	349000	21.00	20.95	0.017	-0.03	0.017
50%RB							
Cheek Left	40M DFT-s OFDM QPSK 108RB#54	352000	22.00	21.78	0.051	-0.03	0.054
Tilt Left	40M DFT-s OFDM QPSK 108RB#54	352000	22.00	21.78	0.033	-0.05	0.035
Cheek Right	40M DFT-s OFDM QPSK 108RB#54	352000	22.00	21.78	0.061	-0.14	0.064
Tilt Right	40M DFT-s OFDM QPSK 108RB#54	352000	22.00	21.78	0.024	-0.11	0.025

Test Position (Hotspot 10mm)	Test Mode	Channel	Power (dBm)		Measured SAR Value 1g (W/Kg)	Power Drift	Scaled (W/Kg)
			Tune-up	Meas.			
1RB							
Front Surface	40M DFT-s OFDM QPSK 1RB#0	349000	21.00	20.95	0.268	-0.01	0.271
Back Surface	40M DFT-s OFDM QPSK 1RB#0	349000	21.00	20.95	0.371	-0.02	0.375
Left Edge	40M DFT-s OFDM QPSK 1RB#0	349000	21.00	20.95	0.035	-0.01	0.035
Right Edge	40M DFT-s OFDM QPSK 1RB#0	349000	21.00	20.95	0.029	-0.01	0.029
Bottom Edge	40M DFT-s OFDM QPSK 1RB#0	349000	21.00	20.95	0.505	-0.03	0.511
50%RB							
Front Surface	40M DFT-s OFDM QPSK 108RB#54	352000	22.00	21.78	0.419	-0.02	0.441
Back Surface	40M DFT-s OFDM QPSK 108RB#54	352000	22.00	21.78	0.482	0.00	0.507
Left Edge	40M DFT-s OFDM QPSK 108RB#54	352000	22.00	21.78	0.089	-0.04	0.094
Right Edge	40M DFT-s OFDM QPSK 108RB#54	352000	22.00	21.78	0.045	-0.11	0.047
Bottom Edge	40M DFT-s OFDM QPSK 108RB#54	352000	22.00	21.78	1.100	0.00	1.157
Bottom Edge	40M DFT-s OFDM QPSK 108RB#54	345500	22.00	21.13	0.744	-0.03	0.909
Bottom Edge	40M DFT-s OFDM QPSK 108RB#54	349000	22.00	20.85	0.784	0.00	1.022
100%RB							
Bottom Edge	40M DFT-s OFDM QPSK 216RB#0	349000	22.00	21.04	0.594	-0.03	0.741
Worst mode retest							
Bottom Edge	40M DFT-s OFDM QPSK 108RB#54	352000	22.00	21.78	1.100	0.00	1.157

12.22. SAR Test Results of NR n71

Test Position (Head 0mm)	Test Mode	Channel	Power (dBm)		Measured SAR Value 1g (W/Kg)	Power Drift	Scaled (W/Kg)
			Tune-up	Meas.			
1RB							
Cheek Left	20M DFT-s OFDM QPSK 1RB#105	137600	22.00	21.85	0.073	-0.02	0.076
Tilt Left	20M DFT-s OFDM QPSK 1RB#105	137600	22.00	21.85	0.048	-0.03	0.050
Cheek Right	20M DFT-s OFDM QPSK 1RB#105	137600	22.00	21.85	0.081	-0.03	0.084
Tilt Right	20M DFT-s OFDM QPSK 1RB#105	137600	22.00	21.85	0.048	-0.04	0.050
50%RB							
Cheek Left	20M DFT-s OFDM QPSK 50RB#25	137600	23.00	22.00	0.087	-0.01	0.110
Tilt Left	20M DFT-s OFDM QPSK 50RB#25	137600	23.00	22.00	0.055	-0.11	0.069
Cheek Right	20M DFT-s OFDM QPSK 50RB#25	137600	23.00	22.00	0.100	0.00	0.126
Tilt Right	20M DFT-s OFDM QPSK 50RB#25	137600	23.00	22.00	0.053	-0.07	0.067
100%RB							
Cheek Right	20M DFT-s OFDM QPSK 100RB#0	137600	23.00	22.97	0.095	-0.03	0.096

Test Position (Hotspot 10mm)	Test Mode	Channel	Power (dBm)		Measured SAR Value 1g (W/Kg)	Power Drift	Scaled (W/Kg)
			Tune-up	Meas.			
1RB							
Front Surface	20M DFT-s OFDM QPSK 1RB#105	137600	22.00	21.85	0.097	-0.01	0.100
Back Surface	20M DFT-s OFDM QPSK 1RB#105	137600	22.00	21.85	0.113	-0.05	0.117
Left Edge	20M DFT-s OFDM QPSK 1RB#105	137600	22.00	21.85	0.081	-0.05	0.084
Right Edge	20M DFT-s OFDM QPSK 1RB#105	137600	22.00	21.85	0.145	-0.02	0.150
Bottom Edge	20M DFT-s OFDM QPSK 1RB#105	137600	22.00	21.85	0.073	0.00	0.076
50%RB							
Front Surface	20M DFT-s OFDM QPSK 50RB#25	137600	23.00	22.00	0.115	-0.03	0.145
Back Surface	20M DFT-s OFDM QPSK 50RB#25	137600	23.00	22.00	0.158	0.01	0.199
Left Edge	20M DFT-s OFDM QPSK 50RB#25	137600	23.00	22.00	0.098	-0.02	0.123
Right Edge	20M DFT-s OFDM QPSK 50RB#25	137600	23.00	22.00	0.184	0.12	0.232
Bottom Edge	20M DFT-s OFDM QPSK 50RB#25	137600	23.00	22.00	0.080	-0.04	0.101
100%RB							
Right Edge	20M DFT-s OFDM QPSK 100RB#0	137600	23.00	22.97	0.182	-0.03	0.183

12.23. SAR Test Results of NR n41

Test Position (Head 0mm)	Test Mode	Channel	Power (dBm)		Measured SAR Value 1g (W/Kg)	Power Drift	Scaled (W/Kg)
			Tune-up	Meas.			
1RB							
Cheek Left	100M DFT-s OFDM QPSK 1RB#272	528000	17.70	17.62	0.557	-0.02	0.567
Tilt Left	100M DFT-s OFDM QPSK 1RB#272	528000	17.70	17.62	0.688	-0.03	0.701
Cheek Right	100M DFT-s OFDM QPSK 1RB#272	528000	17.70	17.62	0.771	-0.01	0.785
Tilt Right	100M DFT-s OFDM QPSK 1RB#272	528000	17.70	17.62	0.783	-0.02	0.798
Tilt Right	100M DFT-s OFDM QPSK 1RB#0	509200	17.70	17.51	0.862	-0.11	0.901
Tilt Right	100M DFT-s OFDM QPSK 1RB#272	518598	17.70	17.60	0.843	0.00	0.863
50%RB							
Cheek Left	100M DFT-s OFDM QPSK 135RB#67	509202	17.70	17.68	0.995	-0.01	1.000
Cheek Left	100M DFT-s OFDM QPSK 135RB#67	518598	17.70	17.61	0.982	-0.07	1.003
Cheek Left	100M DFT-s OFDM QPSK 135RB#67	528000	17.70	17.66	0.935	-0.05	0.944
Tilt Left	100M DFT-s OFDM QPSK 135RB#67	509202	17.70	17.68	1.070	-0.02	1.075
Tilt Left	100M DFT-s OFDM QPSK 135RB#67	518598	17.70	17.61	1.060	-0.02	1.082
Tilt Left	100M DFT-s OFDM QPSK 135RB#67	528000	17.70	17.66	1.030	-0.02	1.040
Cheek Right	100M DFT-s OFDM QPSK 135RB#67	509202	17.70	17.68	1.010	0.00	1.015
Cheek Right	100M DFT-s OFDM QPSK 135RB#67	518598	17.70	17.61	1.000	0.00	1.021
Cheek Right	100M DFT-s OFDM QPSK 135RB#67	528000	17.70	17.66	0.980	0.00	0.989
Tilt Right	100M DFT-s OFDM QPSK 135RB#67	509202	17.70	17.68	1.090	0.00	1.095
Tilt Right	100M DFT-s OFDM QPSK 135RB#67	518598	17.70	17.61	1.070	-0.03	1.092
Tilt Right	100M DFT-s OFDM QPSK 135RB#67	528000	17.70	17.66	1.050	0.00	1.060
100%RB							
Tilt Right	100M DFT-s OFDM QPSK 270RB#0	528000	18.70	18.65	1.020	-0.04	1.032
Worst mode retest							
Tilt Right	100M DFT-s OFDM QPSK 135RB#67	509202	17.70	17.68	1.090	-0.02	1.095

Test Position (Hotspot 10mm)	Test Mode	Channel	Power (dBm)		Measured SAR Value 1g (W/Kg)	Power Drift	Scaled (W/Kg)
			Tune-up	Meas.			
1RB							
Front Surface	100M DFT-s OFDM QPSK 1RB#272	528000	21.60	21.56	0.397	-0.02	0.401
Back Surface	100M DFT-s OFDM QPSK 1RB#272	528000	21.60	21.56	0.406	-0.02	0.410
Left Edge	100M DFT-s OFDM QPSK 1RB#272	528000	21.60	21.56	0.132	-0.02	0.133
Top Edge	100M DFT-s OFDM QPSK 1RB#272	528000	21.60	21.56	0.471	0.02	0.475
50%RB							
Front Surface	100M DFT-s OFDM QPSK 135RB#67	509202	23.20	23.04	0.326	-0.01	0.338
Back Surface	100M DFT-s OFDM QPSK 135RB#67	509202	23.20	23.04	0.604	0.01	0.627
Left Edge	100M DFT-s OFDM QPSK 135RB#67	509202	23.20	23.04	0.147	-0.08	0.153
Top Edge	100M DFT-s OFDM QPSK 135RB#67	509202	23.20	23.04	0.833	-0.03	0.864
Top Edge	100M DFT-s OFDM QPSK 135RB#67	518598	23.20	22.93	0.606	-0.01	0.645
Top Edge	100M DFT-s OFDM QPSK 135RB#67	528000	23.20	22.95	0.571	-0.05	0.605
100%RB							
Tilt Right	100M DFT-s OFDM QPSK 270RB#0	528000	22.50	22.14	0.550	0.00	0.598
Worst mode retest							
Tilt Right	100M DFT-s OFDM QPSK 135RB#67	509202	23.20	23.04	0.800	0.02	0.830

Power reduced for simultaneous transmission with WLAN & BT

Test Position (Head 0mm)	Test Mode	Channel	Power (dBm)		Measure SAR Value 1g (W/Kg)	Power Drift	Scaled (W/Kg)
			Tune-up	Meas.			
1RB							
Cheek Left	100M DFT-s OFDM QPSK 1RB#272	528000	13.70	13.60	0.259	-0.02	0.265
Tilt Left	100M DFT-s OFDM QPSK 1RB#272	528000	13.70	13.60	0.306	-0.03	0.313
Cheek Right	100M DFT-s OFDM QPSK 1RB#272	528000	13.70	13.60	0.336	-0.01	0.344
Tilt Right	100M DFT-s OFDM QPSK 1RB#272	528000	13.70	13.60	0.340	-0.02	0.348
50%RB							
Cheek Left	100M DFT-s OFDM QPSK 135RB#67	509202	13.70	13.68	0.393	-0.01	0.395
Tilt Left	100M DFT-s OFDM QPSK 135RB#67	509202	13.70	13.68	0.400	-0.02	0.402
Cheek Right	100M DFT-s OFDM QPSK 135RB#67	509202	13.70	13.68	0.385	0.00	0.387
Tilt Right	100M DFT-s OFDM QPSK 135RB#67	509202	13.70	13.68	0.404	0.01	0.406
100%RB							
Tilt Right	100M DFT-s OFDM QPSK 270RB#0	528000	14.70	14.62	0.384	-0.03	0.391

Test Position (Hotspot 10mm)	Test Mode	Channel	Power (dBm)		Measure SAR Value 1g (W/Kg)	Power Drift	Scaled (W/Kg)
			Tune-up	Meas.			
1RB							
Front Surface	100M DFT-s OFDM QPSK 1RB#272	528000	13.70	13.60	0.074	-0.02	0.076
Back Surface	100M DFT-s OFDM QPSK 1RB#272	528000	13.70	13.60	0.101	-0.02	0.103
Left Edge	100M DFT-s OFDM QPSK 1RB#272	528000	13.70	13.60	0.052	-0.02	0.053
Top Edge	100M DFT-s OFDM QPSK 1RB#272	528000	13.70	13.60	0.152	0.02	0.156
50%RB							
Front Surface	100M DFT-s OFDM QPSK 135RB#67	509202	13.70	13.68	0.098	-0.01	0.098
Back Surface	100M DFT-s OFDM QPSK 135RB#67	509202	13.70	13.68	0.122	0.01	0.123
Left Edge	100M DFT-s OFDM QPSK 135RB#67	509202	13.70	13.68	0.069	-0.08	0.069
Top Edge	100M DFT-s OFDM QPSK 135RB#67	509202	13.70	13.68	0.188	0.02	0.189
100%RB							
Top Edge	100M DFT-s OFDM QPSK 270RB#0	528000	14.70	14.62	0.178	0.01	0.181

Power reduced for EN-DC								
Test Position (Head 0mm)	Test Mode	Channel	Power (dBm)		Measure SAR Value 1g (W/Kg)	Power Drift	Scaled (W/Kg)	
			Tune-up	Meas.				
1RB								
Cheek Left	100M DFT-s OFDM QPSK 1RB#272	528000	13.80	13.73	0.274	-0.02	0.278	
Tilt Left	100M DFT-s OFDM QPSK 1RB#272	528000	13.80	13.73	0.288	-0.04	0.293	
Cheek Right	100M DFT-s OFDM QPSK 1RB#272	528000	13.80	13.73	0.305	-0.05	0.310	
Tilt Right	100M DFT-s OFDM QPSK 1RB#272	528000	13.80	13.73	0.333	-0.01	0.338	
50%RB								
Cheek Left	100M DFT-s OFDM QPSK 135RB#67	509202	13.80	13.67	0.302	0.02	0.311	
Tilt Left	100M DFT-s OFDM QPSK 135RB#67	509202	13.80	13.67	0.355	0.02	0.366	
Cheek Right	100M DFT-s OFDM QPSK 135RB#67	509202	13.80	13.67	0.360	0.00	0.371	
Tilt Right	100M DFT-s OFDM QPSK 135RB#67	509202	13.80	13.67	0.367	-0.03	0.378	
100%RB								
Tilt Right	100M DFT-s OFDM QPSK 270RB#0	528000	14.20	14.09	0.335	0.00	0.344	

Test Position (Hotspot 10mm)	Test Mode	Channel	Power (dBm)		Measure SAR Value 1g (W/Kg)	Power Drift	Scaled (W/Kg)	
			Tune-up	Meas.				
1RB								
Front Surface	100M DFT-s OFDM QPSK 1RB#272	528000	13.80	13.73	0.068	-0.06	0.069	
Back Surface	100M DFT-s OFDM QPSK 1RB#272	528000	13.80	13.73	0.074	-0.04	0.075	
Left Edge	100M DFT-s OFDM QPSK 1RB#272	528000	13.80	13.73	0.020	0.00	0.020	
Top Edge	100M DFT-s OFDM QPSK 1RB#272	528000	13.80	13.73	0.113	0.01	0.115	
50%RB								
Front Surface	100M DFT-s OFDM QPSK 135RB#67	509202	13.80	13.67	0.074	0.03	0.076	
Back Surface	100M DFT-s OFDM QPSK 135RB#67	509202	13.80	13.67	0.098	0.05	0.101	
Left Edge	100M DFT-s OFDM QPSK 135RB#67	509202	13.80	13.67	0.025	-0.01	0.026	
Top Edge	100M DFT-s OFDM QPSK 135RB#67	509202	13.80	13.67	0.156	-0.05	0.161	
100%RB								
Top Edge	100M DFT-s OFDM QPSK 270RB#0	528000	14.20	14.09	0.137	-0.10	0.141	

RF Exposure Condition	n41 PC2		n41 PC3			PC2 Linearly Scaled Reported SAR (W/kg)	Linearly Scaled (%)	Limit	Testing Required
	DC (%)	Tune- up (dBm)	DC (%)	Tune- up (dBm)	Reported SAR				
Head	50	21.00	100.00	17.700	1.095	1.171	0.07	±10%	No
Body-worn & Hotspot	50	26.50	100.00	23.200	0.864	0.924	0.07	±10%	No

12.24. SAR Test Results of NR n77 block A

Test Position (Head 0mm)	Test Mode	Channel	Power (dBm)		Measured SAR Value 1g (W/Kg)	Power Drift	Scaled (W/Kg)
			Tune-up	Meas.			
1RB							
Cheek Left	100M DFT-s OFDM QPSK 1RB#0	633332	17.90	17.79	0.284	-0.01	0.291
Tilt Left	100M DFT-s OFDM QPSK 1RB#0	633332	17.90	17.79	0.356	-0.06	0.365
Cheek Right	100M DFT-s OFDM QPSK 1RB#0	633332	17.90	17.79	0.763	-0.02	0.783
Tilt Right	100M DFT-s OFDM QPSK 1RB#0	633332	17.90	17.79	0.532	-0.01	0.546
50%RB							
Cheek Left	100M DFT-s OFDM QPSK 135RB#67	633332	18.50	18.31	0.341	0.00	0.356
Tilt Left	100M DFT-s OFDM QPSK 135RB#67	633332	18.50	18.31	0.361	-0.03	0.377
Cheek Right	100M DFT-s OFDM QPSK 135RB#67	633332	18.50	18.31	0.900	-0.01	0.940
Tilt Right	100M DFT-s OFDM QPSK 135RB#67	633332	18.50	18.31	0.623	0.00	0.651
100%RB							
Cheek Right	100M DFT-s OFDM QPSK 270RB#0	633332	18.20	18.05	1.100	0.02	1.139
Worst mode retest							
Cheek Right	100M DFT-s OFDM QPSK 135RB#67	509202	18.20	18.05	1.100	0.00	1.139

Test Position (Hotspot 10mm)	Test Mode	Channel	Power (dBm)		Measured SAR Value 1g (W/Kg)	Power Drift	Scaled (W/Kg)
			Tune-up	Meas.			
1RB							
Front Surface	100M DFT-s OFDM QPSK 1RB#0	633332	22.00	21.81	0.194	-0.02	0.203
Back Surface	100M DFT-s OFDM QPSK 1RB#0	633332	22.00	21.81	0.293	-0.04	0.306
Left Edge	100M DFT-s OFDM QPSK 1RB#0	633332	22.00	21.81	0.357	-0.06	0.373
Top Edge	100M DFT-s OFDM QPSK 1RB#0	633332	22.00	21.81	0.182	0.00	0.190
50%RB							
Front Surface	100M DFT-s OFDM QPSK 135RB#67	633332	24.00	23.82	0.250	-0.04	0.261
Back Surface	100M DFT-s OFDM QPSK 135RB#67	633332	24.00	23.82	0.443	-0.05	0.462
Left Edge	100M DFT-s OFDM QPSK 135RB#67	633332	24.00	23.82	0.393	-0.04	0.410
Top Edge	100M DFT-s OFDM QPSK 135RB#67	633332	24.00	23.82	0.247	-0.01	0.257

Power reduced for simultaneous transmission with WLAN & BT								
Test Position (Head 0mm)	Test Mode	Channel	Power (dBm)		Measure SAR Value 1g (W/Kg)	Power Drift	Scaled (W/Kg)	
			Tune-up	Meas.				
1RB								
Cheek Left	100M DFT-s OFDM QPSK 1RB#0	633332	15.00	14.91	0.101	0.03	0.103	
Tilt Left	100M DFT-s OFDM QPSK 1RB#0	633332	15.00	14.91	0.235	0.04	0.240	
Cheek Right	100M DFT-s OFDM QPSK 1RB#0	633332	15.00	14.91	0.301	-0.02	0.307	
Tilt Right	100M DFT-s OFDM QPSK 1RB#0	633332	15.00	14.91	0.255	0.00	0.260	
50%RB								
Cheek Left	100M DFT-s OFDM QPSK 135RB#67	633332	15.60	15.50	0.145	0.06	0.148	
Tilt Left	100M DFT-s OFDM QPSK 135RB#67	633332	15.60	15.50	0.264	-0.03	0.270	
Cheek Right	100M DFT-s OFDM QPSK 135RB#67	633332	15.60	15.50	0.400	0.01	0.409	
Tilt Right	100M DFT-s OFDM QPSK 135RB#67	633332	15.60	15.50	0.274	-0.04	0.280	

Test Position (Hotspot 10mm)	Test Mode	Channel	Power (dBm)		Measure SAR Value 1g (W/Kg)	Power Drift	Scaled (W/Kg)	
			Tune-up	Meas.				
1RB								
Front Surface	100M DFT-s OFDM QPSK 1RB#0	633332	15.00	14.91	0.073	-0.02	0.075	
Back Surface	100M DFT-s OFDM QPSK 1RB#0	633332	15.00	14.91	0.108	-0.04	0.110	
Left Edge	100M DFT-s OFDM QPSK 1RB#0	633332	15.00	14.91	0.101	-0.06	0.103	
Top Edge	100M DFT-s OFDM QPSK 1RB#0	633332	15.00	14.91	0.092	0.00	0.094	
50%RB								
Front Surface	100M DFT-s OFDM QPSK 135RB#67	633332	15.60	15.50	0.085	-0.04	0.087	
Back Surface	100M DFT-s OFDM QPSK 135RB#67	633332	15.60	15.50	0.127	-0.12	0.130	
Left Edge	100M DFT-s OFDM QPSK 135RB#67	633332	15.60	15.50	0.106	-0.04	0.108	
Top Edge	100M DFT-s OFDM QPSK 135RB#67	633332	15.60	15.50	0.096	-0.01	0.098	

RF Exposure Condition	n77 block A PC2		n77 block A PC3			PC2 Linearly Scaled Reported SAR (W/kg)	Linearly Scaled (%)	Limit	Testing Required
	DC (%)	Tune- up (dBm)	DC (%)	Tune- up (dBm)	Reported SAR				
Head	50	21.20	100.00	18.200	1.139	1.136	-0.24	±10%	No
Body-worn & Hotspot	50	27.00	100.00	24.000	0.462	0.461	-0.24	±10%	No

12.25. SAR Test Results of NR n77 block C

Test Position (Head 0mm)	Test Mode	Channel	Power (dBm)		Measured SAR Value 1g (W/Kg)	Power Drift	Scaled (W/Kg)
			Tune-up	Meas.			
1RB							
Cheek Left	100M DFT-s OFDM QPSK 1RB#272	656000	18.20	18.08	0.233	-0.02	0.240
Tilt Left	100M DFT-s OFDM QPSK 1RB#272	656000	18.20	18.08	0.213	0.00	0.219
Cheek Right	100M DFT-s OFDM QPSK 1RB#272	656000	18.20	18.08	0.765	-0.01	0.786
Tilt Right	100M DFT-s OFDM QPSK 1RB#272	656000	18.20	18.08	0.581	-0.05	0.597
Cheek Right	100M DFT-s OFDM QPSK 1RB#272	650000	18.20	18.06	0.724	-0.05	0.748
Cheek Right	100M DFT-s OFDM QPSK 1RB#272	662000	18.20	17.40	0.837	0.00	1.006
50%RB							
Cheek Left	100M DFT-s OFDM QPSK 135RB#67	656000	18.50	18.36	0.280	-0.01	0.289
Tilt Left	100M DFT-s OFDM QPSK 135RB#67	656000	18.50	18.36	0.250	-0.01	0.258
Cheek Right	100M DFT-s OFDM QPSK 135RB#67	656000	18.50	18.36	1.020	0.01	1.053
Tilt Right	100M DFT-s OFDM QPSK 135RB#67	656000	18.50	18.36	0.719	0.00	0.743
Cheek Right	100M DFT-s OFDM QPSK 135RB#67	650000	18.50	18.25	1.000	0.03	1.059
Cheek Right	100M DFT-s OFDM QPSK 135RB#67	662000	18.50	18.03	0.884	-0.12	0.985
100%RB							
Tilt Right	100M DFT-s OFDM QPSK 270RB#0	656000	18.30	18.22	0.874	0.00	0.890
Worst mode retest							
Cheek Right	100M DFT-s OFDM QPSK 135RB#67	656000	18.50	18.36	1.010	0.03	1.043

Test Position (Hotspot 10mm)	Test Mode	Channel	Power (dBm)		Measured SAR Value 1g (W/Kg)	Power Drift	Scaled (W/Kg)
			Tune-up	Meas.			
1RB							
Front Surface	100M DFT-s OFDM QPSK 1RB#272	656000	21.50	21.38	0.409	-0.01	0.420
Back Surface	100M DFT-s OFDM QPSK 1RB#272	656000	21.50	21.38	0.733	-0.05	0.754
Left Edge	100M DFT-s OFDM QPSK 1RB#272	656000	21.50	21.38	0.707	-0.03	0.727
Top Edge	100M DFT-s OFDM QPSK 1RB#272	656000	21.50	21.38	0.182	-0.06	0.187
50%RB							
Front Surface	100M DFT-s OFDM QPSK 135RB#67	656000	23.50	23.33	0.387	0.00	0.402
Back Surface	100M DFT-s OFDM QPSK 135RB#67	656000	23.50	23.33	0.849	-0.02	0.883
Left Edge	100M DFT-s OFDM QPSK 135RB#67	656000	23.50	23.33	0.691	0.00	0.719
Top Edge	100M DFT-s OFDM QPSK 135RB#67	656000	23.50	23.33	0.263	-0.04	0.273
Back Surface	100M DFT-s OFDM QPSK 135RB#67	650000	23.50	23.23	0.736	0.05	0.783
Back Surface	100M DFT-s OFDM QPSK 135RB#67	662000	23.50	23.19	0.678	-0.11	0.728
100%RB							
Back Surface	100M DFT-s OFDM QPSK 270RB#0	656000	22.50	22.13	0.767	-0.02	0.835
Worst mode retest							
Back Surface	100M DFT-s OFDM QPSK 135RB#67	656000	23.50	23.33	0.836	-0.02	0.869

Power reduced for simultaneous transmission with WLAN & BT								
Test Position (Head 0mm)	Test Mode	Channel	Power (dBm)		Measure SAR Value 1g (W/Kg)	Power Drift	Scaled (W/Kg)	
			Tune-up	Meas.				
1RB								
Cheek Left	100M DFT-s OFDM QPSK 1RB#272	656000	15.60	15.49	0.154	-0.02	0.158	
Tilt Left	100M DFT-s OFDM QPSK 1RB#272	656000	15.60	15.49	0.188	0.00	0.193	
Cheek Right	100M DFT-s OFDM QPSK 1RB#272	656000	15.60	15.49	0.436	-0.01	0.447	
Tilt Right	100M DFT-s OFDM QPSK 1RB#272	656000	15.60	15.49	0.332	-0.05	0.341	
50%RB								
Cheek Left	100M DFT-s OFDM QPSK 135RB#67	656000	15.60	15.53	0.203	-0.01	0.206	
Tilt Left	100M DFT-s OFDM QPSK 135RB#67	656000	15.60	15.53	0.205	-0.01	0.208	
Cheek Right	100M DFT-s OFDM QPSK 135RB#67	656000	15.60	15.53	0.531	0.03	0.540	
Tilt Right	100M DFT-s OFDM QPSK 135RB#67	656000	15.60	15.53	0.395	0.00	0.401	

Test Position (Hotspot 10mm)	Test Mode	Channel	Power (dBm)		Measure SAR Value 1g (W/Kg)	Power Drift	Scaled (W/Kg)	
			Tune-up	Meas.				
1RB								
Front Surface	100M DFT-s OFDM QPSK 1RB#272	656000	15.60	15.49	0.101	-0.06	0.104	
Back Surface	100M DFT-s OFDM QPSK 1RB#272	656000	15.60	15.49	0.255	-0.01	0.262	
Left Edge	100M DFT-s OFDM QPSK 1RB#272	656000	15.60	15.49	0.199	-0.07	0.204	
Top Edge	100M DFT-s OFDM QPSK 1RB#272	656000	15.60	15.49	0.152	-0.01	0.156	
50%RB								
Front Surface	100M DFT-s OFDM QPSK 135RB#67	656000	15.60	15.53	0.105	-0.03	0.107	
Back Surface	100M DFT-s OFDM QPSK 135RB#67	656000	15.60	15.53	0.283	-0.06	0.288	
Left Edge	100M DFT-s OFDM QPSK 135RB#67	656000	15.60	15.53	0.201	-0.02	0.204	
Top Edge	100M DFT-s OFDM QPSK 135RB#67	656000	15.60	15.53	0.185	-0.14	0.188	

RF Exposure Condition	n77 block C PC2		n77 block C PC3			PC2 Linearly Scaled Reported SAR (W/kg)	Linearly Scaled (%)	Limit	Testing Required
	DC (%)	Tune- up (dBm)	DC (%)	Tune- up (dBm)	Reported SAR				
Head	50	21.50	100.00	18.500	1.059	1.056	-0.24	±10%	No
Body-worn & Hotspot	50	26.50	100.00	23.500	0.883	0.881	-0.24	±10%	No

12.26. SAR Test Results of 2.4GHz Wi-Fi

Test Position (Head 0mm)	Test Mode	Channel	Power (dBm)		Measured SAR Value	Power Drift	Duty Factor (%)	Scaled (W/Kg)
			Tune-up	Meas.				
ANT 7								
Cheek Left	802.11b	1	18.2	18.10	0.775	0.01	100.00	0.793
Tilt Left	802.11b	1	18.2	18.10	0.542	-0.02	100.00	0.555
Cheek Right	802.11b	1	18.2	18.10	0.355	0.00	100.00	0.363
Tilt Right	802.11b	1	18.2	18.10	0.284	-0.12	100.00	0.291
ANT 6								
Cheek Left	802.11b	11	18.2	18.06	0.226	-0.02	100.00	0.233
Tilt Left	802.11b	11	18.2	18.06	0.064	-0.02	100.00	0.066
Cheek Right	802.11b	11	18.2	18.06	0.036	0.00	100.00	0.037
Tilt Right	802.11b	11	18.2	18.06	0.013	-0.01	100.00	0.013
MIMO								
Cheek Left	802.11n20	11	17.0	16.58	0.518	0.09	100.00	0.571
Tilt Left	802.11n20	11	17.0	16.58	0.359	-0.02	100.00	0.395
Cheek Right	802.11n20	11	17.0	16.58	0.250	0.00	100.00	0.275
Tilt Right	802.11n20	11	17.0	16.58	0.177	-0.01	100.00	0.195

Test Position (Hotspot 10mm)	Test Mode	Channel	Power (dBm)		Measured SAR Value	Power Drift	Duty Factor (%)	Scaled (W/Kg)
			Tune-up	Meas.				
ANT 7								
Front Surface	802.11b	1	18.2	18.10	0.120	-0.03	100.00	0.123
Back Surface	802.11b	1	18.2	18.10	0.193	-0.07	100.00	0.197
Right Edge	802.11b	1	18.2	18.10	0.061	0.00	100.00	0.062
Top Edge	802.11b	1	18.2	18.10	0.095	-0.03	100.00	0.097
ANT 6								
Front Surface	802.11b	11	18.2	18.06	0.011	-0.03	100.00	0.011
Back Surface	802.11b	11	18.2	18.06	0.431	-0.01	100.00	0.445
Right Edge	802.11b	11	18.2	18.06	0.046	-0.03	100.00	0.048
Top Edge	802.11b	11	18.2	18.06	0.014	0.00	100.00	0.014
MIMO								
Front Surface	802.11n20	11	17.0	16.58	0.080	-0.02	100.00	0.088
Back Surface	802.11n20	11	17.0	16.58	0.242	-0.10	100.00	0.267
Right Edge	802.11n20	11	17.0	16.58	0.076	-0.03	100.00	0.084
Top Edge	802.11n20	11	17.0	16.58	0.073	0.00	100.00	0.080

12.27. SAR Test Results of 5GHz Wi-Fi

Test Position (Head 0mm)	Test Mode	Channel	Power (dBm)		Measured SAR Value	Power Drift	Duty Factor (%)	Scaled (W/Kg)
			Tune-up	Meas.				
ANT 8								
5.3G								
Cheek Left	802.11a	56	12.2	12.06	0.601	-0.02	100.00	0.621
Tilt Left	802.11a	56	12.2	12.06	0.731	-0.02	100.00	0.755
Cheek Right	802.11a	56	12.2	12.06	0.521	-0.03	100.00	0.538
Tilt Right	802.11a	56	12.2	12.06	0.638	-0.12	100.00	0.659
5.6G								
Cheek Left	802.11a	100	10.7	10.54	0.532	-0.03	100.00	0.552
Tilt Left	802.11a	100	10.7	10.54	0.719	0.00	100.00	0.746
Cheek Right	802.11a	100	10.7	10.54	0.418	-0.02	100.00	0.434
Tilt Right	802.11a	100	10.7	10.54	0.603	-0.08	100.00	0.626
5.8G								
Cheek Left	802.11a	165	11.0	10.81	0.701	-0.03	100.00	0.732
Tilt Left	802.11a	165	11.0	10.81	0.748	-0.05	100.00	0.781
Cheek Right	802.11a	165	11.0	10.81	0.553	-0.02	100.00	0.578
Tilt Right	802.11a	165	11.0	10.81	0.612	-0.01	100.00	0.639
ANT 6								
5.3G								
Cheek Left	802.11a	64	16.0	15.80	0.197	-0.02	100.00	0.206
Tilt Left	802.11a	64	16.0	15.80	0.318	-0.05	100.00	0.333
Cheek Right	802.11a	64	16.0	15.80	0.168	0.00	100.00	0.176
Tilt Right	802.11a	64	16.0	15.80	0.167	-0.03	100.00	0.175
5.6G								
Cheek Left	802.11a	100	14.5	14.47	0.313	-0.03	100.00	0.315
Tilt Left	802.11a	100	14.5	14.47	0.102	0.00	100.00	0.103
Cheek Right	802.11a	100	14.5	14.47	0.073	-0.03	100.00	0.074
Tilt Right	802.11a	100	14.5	14.47	0.078	-0.01	100.00	0.079
5.8G								
Cheek Left	802.11a	149	12.9	12.80	0.664	-0.12	100.00	0.679
Tilt Left	802.11a	149	12.9	12.80	0.452	0.03	100.00	0.463
Cheek Right	802.11a	149	12.9	12.80	0.403	-0.02	100.00	0.412
Tilt Right	802.11a	149	12.9	12.80	0.350	-0.01	100.00	0.358
MIMO 5.3G								
Cheek Left	802.11n20	52	11.8	11.61	0.532	-0.03	100.00	0.556
Tilt Left	802.11n20	52	11.8	11.61	0.716	-0.03	100.00	0.748
Cheek Right	802.11n20	52	11.8	11.61	0.301	0.00	100.00	0.314
Tilt Right	802.11n20	52	11.8	11.61	0.603	0.00	100.00	0.630
MIMO 5.6G								
Cheek Left	802.11n20	100	10.9	10.71	0.505	-0.01	100.00	0.528
Tilt Left	802.11n20	100	10.9	10.71	0.729	0.11	100.00	0.762
Cheek Right	802.11n20	100	10.9	10.71	0.452	-0.02	100.00	0.472
Tilt Right	802.11n20	100	10.9	10.71	0.632	-0.01	100.00	0.660

MIMO 5.8G								
Cheek Left	802.11n20	165	11.4	11.28	0.559	-0.02	100.00	0.575
Tilt Left	802.11n20	165	11.4	11.28	0.736	0.04	100.00	0.757
Cheek Right	802.11n20	165	11.4	11.28	0.459	-0.01	100.00	0.472
Tilt Right	802.11n20	165	11.4	11.28	0.684	-0.02	100.00	0.703

Test Position (Body 10mm)	Test Mode	Channel	Power (dBm)		Measured SAR Value	Power Drift	Duty Factor (%)	Scaled (W/Kg)
			Tune-up	Meas.				
ANT 8								
5.3G								
Front Surface	802.11a	56	12.2	12.06	0.189	-0.02	100.00	0.195
Back Surface	802.11a	56	12.2	12.06	0.355	0.03	100.00	0.367
Right Edge	802.11a	56	12.2	12.06	0.142	0.00	100.00	0.147
Top Edge	802.11a	56	12.2	12.06	0.531	0.04	100.00	0.548
5.6G								
Front Surface	802.11a	100	10.7	10.54	0.138	0.03	100.00	0.143
Back Surface	802.11a	100	10.7	10.54	0.251	0.02	100.00	0.260
Right Edge	802.11a	100	10.7	10.54	0.108	-0.01	100.00	0.112
Top Edge	802.11a	100	10.7	10.54	0.287	-0.10	100.00	0.298
5.8G								
Front Surface	802.11a	165	11.0	10.81	0.085	-0.03	100.00	0.089
Back Surface	802.11a	165	11.0	10.81	0.148	0.02	100.00	0.155
Right Edge	802.11a	165	11.0	10.81	0.096	-0.05	100.00	0.100
Top Edge	802.11a	165	11.0	10.81	0.125	-0.04	100.00	0.131
ANT 6								
5.3G								
Front Surface	802.11a	64	16.0	15.80	0.051	0.00	100.00	0.053
Back Surface	802.11a	64	16.0	15.80	0.387	-0.17	100.00	0.405
Right Edge	802.11a	64	16.0	15.80	0.158	-0.03	100.00	0.165
Top Edge	802.11a	64	16.0	15.80	0.196	0.00	100.00	0.205
5.6G								
Front Surface	802.11a	100	14.5	14.47	0.028	-0.01	100.00	0.028
Back Surface	802.11a	100	14.5	14.47	0.167	-0.01	100.00	0.168
Right Edge	802.11a	100	14.5	14.47	0.117	-0.08	100.00	0.118
Top Edge	802.11a	100	14.5	14.47	0.055	-0.01	100.00	0.055
5.8G								
Front Surface	802.11a	149	12.9	12.80	0.145	-0.05	100.00	0.148
Back Surface	802.11a	149	12.9	12.80	0.258	-0.07	100.00	0.264
Right Edge	802.11a	149	12.9	12.80	0.132	-0.01	100.00	0.135
Top Edge	802.11a	149	12.9	12.80	0.203	-0.03	100.00	0.208
MIMO 5.3G								
Front Surface	802.11n20	52	11.8	11.61	0.096	-0.02	100.00	0.100
Back Surface	802.11n20	52	11.8	11.61	0.266	-0.10	100.00	0.278
Right Edge	802.11n20	52	11.8	11.61	0.103	-0.01	100.00	0.108
Top Edge	802.11n20	52	11.8	11.61	0.407	0.03	100.00	0.425
MIMO 5.6G								
Front Surface	802.11n20	100	10.9	10.71	0.101	-0.03	100.00	0.106

Back Surface	802.11n20	100	10.9	10.71	0.236	-0.01	100.00	0.247
Right Edge	802.11n20	100	10.9	10.71	0.112	0.05	100.00	0.117
Top Edge	802.11n20	100	10.9	10.71	0.297	-0.07	100.00	0.310
MIMO 5.8G								
Front Surface	802.11n20	165	11.4	11.28	0.075	-0.02	100.00	0.077
Back Surface	802.11n20	165	11.4	11.28	0.171	-0.03	100.00	0.176
Right Edge	802.11n20	165	11.4	11.28	0.120	-0.03	100.00	0.123
Top Edge	802.11n20	165	11.4	11.28	0.270	-0.09	100.00	0.278

Test Position (Extremity 0mm)	Test Mode	Channel	Power (dBm)		Measured SAR Value	Power Drift	Duty Factor (%)	Scaled (W/Kg)
			Tune-up	Meas.				
ANT 8								
5.3G								
Front Surface	802.11a	56	12.2	12.06	0.203	-0.01	100.00	0.210
Back Surface	802.11a	56	12.2	12.06	0.456	-0.02	100.00	0.471
Right Edge	802.11a	56	12.2	12.06	0.201	0.00	100.00	0.208
Top Edge	802.11a	56	12.2	12.06	1.290	-0.05	100.00	1.332
5.6G								
Front Surface	802.11a	100	10.7	10.54	0.303	-0.02	100.00	0.314
Back Surface	802.11a	100	10.7	10.54	0.406	0.02	100.00	0.421
Right Edge	802.11a	100	10.7	10.54	0.169	-0.03	100.00	0.175
Top Edge	802.11a	100	10.7	10.54	0.961	-0.02	100.00	0.997
ANT 6								
5.3G								
Front Surface	802.11a	64	16.0	15.80	0.128	0.03	100.00	0.134
Back Surface	802.11a	64	16.0	15.80	0.307	-0.03	100.00	0.321
Right Edge	802.11a	64	16.0	15.80	0.519	0.12	100.00	0.543
Top Edge	802.11a	64	16.0	15.80	0.374	-0.02	100.00	0.392
5.6G								
Front Surface	802.11a	100	14.5	14.47	0.143	-0.02	100.00	0.144
Back Surface	802.11a	100	14.5	14.47	0.285	-0.01	100.00	0.287
Right Edge	802.11a	100	14.5	14.47	0.481	0.07	100.00	0.484
Top Edge	802.11a	100	14.5	14.47	0.374	-0.01	100.00	0.377
MIMO 5.3G								
Front Surface	802.11n20	52	10.9	10.71	0.401	-0.05	100.00	0.419
Back Surface	802.11n20	52	10.9	10.71	0.903	0.00	100.00	0.943
Right Edge	802.11n20	52	10.9	10.71	0.270	-0.03	100.00	0.282
Top Edge	802.11n20	52	10.9	10.71	1.070	-0.06	100.00	1.118
MIMO 5.6G								
Front Surface	802.11n20	100	11.4	11.28	0.302	0.00	100.00	0.310
Back Surface	802.11n20	100	11.4	11.28	0.398	-0.03	100.00	0.409
Right Edge	802.11n20	100	11.4	11.28	0.228	-0.03	100.00	0.234
Top Edge	802.11n20	100	11.4	11.28	0.791	-0.02	100.00	0.813

12.28. SAR Test Results of Bluetooth

Test Position (Head 0mm)	Test Mode	Channel	Power (dBm)		Measured SAR Value	Power Drift	Duty Factor (%)	Scaled (W/Kg)
			Tune-up	Meas.				
Cheek Left	DH5	39	16.2	16.10	0.334	0.05	77.01	0.444
Tilt Left	DH5	39	16.2	16.10	0.203	0.00	77.01	0.270
Cheek Right	DH5	39	16.2	16.10	0.152	0.00	77.01	0.202
Tilt Right	DH5	39	16.2	16.10	0.124	0.00	77.01	0.165

Test Position (Hotspot 10mm)	Test Mode	Channel	Power (dBm)		Measured SAR Value	Power Drift	Duty Factor (%)	Scaled (W/Kg)
			Tune-up	Meas.				
Front Surface	DH5	39	16.2	16.10	0.056	-0.01	77.01	0.074
Back Surface	DH5	39	16.2	16.10	0.112	0.00	77.01	0.149
Right Edge	DH5	39	16.2	16.10	0.034	0.00	77.01	0.045
Top Edge	DH5	39	16.2	16.10	0.061	-0.04	77.01	0.081

13. Simultaneous Transmission SAR Analysis

Simultaneous Transmission Component	
1	WWAN ANT0
2	WWAN ANT3
3	WWAN ANT4
4	WIFI 2.4G ANT7
5	BT ANT7
6	WIFI 2.4G ANT6
7	WIFI 5G ANT8
8	WIFI 5G ANT6
9	WIFI 2.4G MIMO
10	WIFI 5G MIMO
11	WWAN ANT0 B2 (EN-DC)
12	WWAN ANT0 B66 (EN-DC)
13	WWAN ANT3 N41 (EN-DC)
14	NFC

Simultaneous transmission possibilities					
NO	Simultaneous TX Combination	Head	Body- worn	Hotspot	Product Specific 10-g (0mm)
1	WWAN+BT	Y	Y	Y	Y
2	WWAN+WIFI 2.4G	Y	Y	Y	Y
3	WWAN+WIFI 5G	Y	Y	Y	Y
4	WWAN+BT+WIFI 2.4G	Y	Y	Y	Y
5	WWAN+BT+WIFI 5G	Y	Y	Y	Y
6	BT+WIFI 2.4G	Y	Y	Y	Y
7	BT+WIFI 5G	Y	Y	Y	Y
8	WWAN+BT+NFC	Y	Y	Y	Y
9	WWAN+WIFI 2.4G+NFC	Y	Y	Y	Y
10	WWAN+WIFI 5G+NFC	Y	Y	Y	Y
11	WWAN+BT+WIFI 2.4G+NFC	Y	Y	Y	Y
12	WWAN+BT+WIFI 5G+NFC	Y	Y	Y	Y
13	BT+WIFI 2.4G+NFC	Y	Y	Y	Y
14	BT+WIFI 5G+NFC	Y	Y	Y	Y

Note: the power of NFC is satisfied with the routine SAR exclusion policy, and the estimated SAR should taken into simultaneous transmission analysis, but due to the estimated SAR of NFC is 0.00W/kg. so additional simultaneous transmission analysis contains NFC component is not necessary.

Estimated SAR for NFC				
Frequency (GHz)	Power (dBm)	Power (mW)	Separation Distance (mm)	Estimated 1g SAR (W/Kg)
0.01356	-73.61	0.00	5	0.000

13.1. Analysis for WWAN (ANT 0) & Wi-Fi & BT

RF Exposure conditions	Test Position	1	4	5	6	7	8	9	10	1+4	1+5	1+6	1+7	1+8	1+5+6	1+5+7	1+5+8	1+9	1+10	MAX
		WWAN ANT0	WiFi 2.4G ANT7	BT ANT7	WiFi 2.4G ANT6	WiFi 5G ANT8	WiFi 5G ANT6	WiFi 2.4G MIMO	WiFi 5G MIMO											
Head	Cheek Left	0.269	0.793	0.444	0.233	0.732	0.679	0.571	0.575	1.062	0.713	0.502	1.001	0.948	0.946	1.445	1.392	0.84	0.844	1.445
	Tilt Left	0.148	0.555	0.27	0.066	0.781	0.463	0.395	0.762	0.703	0.418	0.214	0.929	0.611	0.484	1.199	0.881	0.543	0.91	1.199
	Cheek Right	0.312	0.363	0.202	0.037	0.578	0.412	0.275	0.472	0.675	0.514	0.349	0.89	0.724	0.551	1.092	0.926	0.587	0.784	1.092
	Tilt Right	0.155	0.291	0.165	0.013	0.659	0.358	0.195	0.703	0.446	0.32	0.168	0.814	0.513	0.333	0.979	0.678	0.35	0.858	0.979
Hotspot/Body	Front	0.799	0.123	0.074	0.012	0.195	0.148	0.088	0.106	0.922	0.873	0.811	0.994	0.947	0.885	1.068	1.021	0.887	0.905	1.068
	Rear	0.72	0.212	0.149	0.445	0.367	0.405	0.267	0.278	0.932	0.869	1.165	1.087	1.125	1.314	1.236	1.274	0.987	0.998	1.314
	Left	0.18	0	0	0	0	0	0	0	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
	Right	0.355	0.062	0.045	0.051	0.147	0.165	0.084	0.123	0.417	0.4	0.406	0.502	0.52	0.451	0.547	0.565	0.439	0.478	0.565
	Top	0	0.097	0.081	0.015	0.548	0.208	0.08	0.425	0.097	0.081	0.015	0.548	0.208	0.096	0.629	0.289	0.08	0.425	0.629
	Bottom	1.187	0	0	0	0	0	0	0	1.187	1.187	1.187	1.187	1.187	1.187	1.187	1.187	1.187	1.187	1.187
Extremity	Front	0	0	0	0	0.314	0.144	0	0.419	0	0	0	0.314	0.144	0	0.314	0.144	0	0.419	0.314
	Rear	0.62	0	0	0	0.471	0.321	0	0.943	0.62	0.62	0.62	1.091	0.941	0.62	1.091	0.941	0.62	1.563	1.091
	Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Right	0	0	0	0	0.208	0.543	0	0.282	0	0	0	0.208	0.543	0	0.208	0.543	0	0.282	0.543
	Top	0	0	0	0	1.332	0.392	0	1.118	0	0	0	1.332	0.392	0	1.332	0.392	0	1.118	1.332
	Bottom	1.788	0	0	0	0	0	0	0	1.788	1.788	1.788	1.788	1.788	1.788	1.788	1.788	1.788	1.788	1.788

13.2. Analysis for WWAN (ANT 3) & Wi-Fi & BT

RF Exposure conditions	Test Position	2	4	5	6	7	8	9	10	2+4	2+5	2+6	2+7	2+8	2+5+6	2+5+7	2+5+8	2+9	2+10	MAX
		WWAN ANT3	WiFi 2.4G ANT7	BT ANT7	WiFi 2.4G ANT6	WiFi 5G ANT8	WiFi 5G ANT6	WiFi 2.4G MIMO	WiFi 5G MIMO											
Head	Cheek Left	0.395	0.793	0.444	0.233	0.732	0.679	0.571	0.575	1.188	0.839	0.628	1.127	1.074	1.072	1.571	1.518	0.966	0.97	1.571
	Tilt Left	0.402	0.555	0.27	0.066	0.781	0.463	0.395	0.762	0.957	0.672	0.468	1.183	0.865	0.738	1.453	1.135	0.797	1.164	1.453
	Cheek Right	0.387	0.363	0.202	0.037	0.578	0.412	0.275	0.472	0.75	0.589	0.424	0.965	0.799	0.626	1.167	1.001	0.662	0.859	1.167
	Tilt Right	0.406	0.291	0.165	0.013	0.659	0.358	0.195	0.703	0.697	0.571	0.419	1.065	0.764	0.584	1.23	0.929	0.601	1.109	1.23
Hotspot/Body	Front	0.117	0.123	0.074	0.012	0.195	0.148	0.088	0.106	0.24	0.191	0.129	0.312	0.265	0.203	0.386	0.339	0.205	0.223	0.386
	Rear	0.201	0.212	0.149	0.445	0.367	0.405	0.267	0.278	0.413	0.35	0.646	0.568	0.606	0.795	0.717	0.755	0.468	0.479	0.795
	Left	0.069	0	0	0	0	0	0	0	0.069	0.069	0.069	0.069	0.069	0.069	0.069	0.069	0.069	0.069	0.069
	Right	0	0.062	0.045	0.051	0.147	0.165	0.084	0.123	0.062	0.045	0.051	0.147	0.165	0.096	0.192	0.21	0.084	0.123	0.21
	Top	0.189	0.097	0.081	0.015	0.548	0.208	0.08	0.425	0.286	0.27	0.204	0.737	0.397	0.285	0.818	0.478	0.269	0.614	0.818
	Bottom	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Extremity	Front	0	0	0	0	0.314	0.144	0	0.419	0	0	0	0.314	0.144	0	0.314	0.144	0	0.419	0.314
	Rear	0	0	0	0	0.471	0.321	0	0.943	0	0	0	0.471	0.321	0	0.471	0.321	0	0.943	0.471
	Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Right	0	0	0	0	0.208	0.543	0	0.282	0	0	0	0.208	0.543	0	0.208	0.543	0	0.282	0.543
	Top	0	0	0	0	1.332	0.392	0	1.118	0	0	0	1.332	0.392	0	1.332	0.392	0	1.118	1.332
	Bottom	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

13.3. Analysis for WWAN (ANT 4) & Wi-Fi & BT

RF Exposure conditions	Test Position	3	4	5	6	7	8	9	10	3+4	3+5	3+6	3+7	3+8	3+5+6	3+5+7	3+5+8	3+9	3+10	MAX
		WWAN ANT4	WIFI 2.4G ANT7	BT ANT7	WIFI 2.4G ANT6	WIFI 5G ANT8	WIFI 5G ANT6	WIFI 2.4G MIMO	WIFI 5G MIMO											
Head	Cheek Left	0.206	0.793	0.444	0.233	0.732	0.679	0.571	0.575	0.999	0.65	0.439	0.938	0.885	0.883	1.382	1.329	0.777	0.781	1.382
	Tilt Left	0.27	0.555	0.27	0.066	0.781	0.463	0.395	0.762	0.825	0.54	0.336	1.051	0.733	0.606	1.321	1.003	0.665	1.032	1.321
	Cheek Right	0.54	0.363	0.202	0.037	0.578	0.412	0.275	0.472	0.903	0.742	0.577	1.118	0.952	0.779	1.32	1.154	0.815	1.012	1.32
	Tilt Right	0.401	0.291	0.165	0.013	0.659	0.358	0.195	0.703	0.692	0.566	0.414	1.06	0.759	0.579	1.225	0.924	0.596	1.104	1.225
Hotspot/Body	Front	0.107	0.123	0.074	0.012	0.195	0.148	0.088	0.106	0.23	0.181	0.119	0.302	0.255	0.193	0.376	0.329	0.195	0.213	0.376
	Rear	0.288	0.212	0.149	0.445	0.367	0.405	0.267	0.278	0.5	0.437	0.733	0.655	0.693	0.882	0.804	0.842	0.555	0.566	0.882
	Left	0.204	0	0	0	0	0	0	0	0.204	0.204	0.204	0.204	0.204	0.204	0.204	0.204	0.204	0.204	0.204
	Right	0	0.062	0.045	0.051	0.147	0.165	0.084	0.123	0.062	0.045	0.051	0.147	0.165	0.096	0.192	0.21	0.084	0.123	0.21
	Top	0.188	0.097	0.081	0.015	0.548	0.208	0.08	0.425	0.285	0.269	0.203	0.736	0.396	0.284	0.817	0.477	0.268	0.613	0.817
	Bottom	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Extremity	Front	0	0	0	0	0.314	0.144	0	0.419	0	0	0	0.314	0.144	0	0.314	0.144	0	0.419	0.314
	Rear	0	0	0	0	0.471	0.321	0	0.943	0	0	0	0.471	0.321	0	0.471	0.321	0	0.943	0.471
	Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Right	0	0	0	0	0.208	0.543	0	0.282	0	0	0	0.208	0.543	0	0.208	0.543	0	0.282	0.543
	Top	0	0	0	0	1.332	0.392	0	1.118	0	0	0	1.332	0.392	0	1.332	0.392	0	1.118	1.332
	Bottom	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

13.4. Analysis for Wi-Fi & BT

RF Exposure conditions	Test Position	5	6	7	8	10	5+6	5+7	5+8	5+10	MAX
		WIFI 2.4G BT ANT7	WIFI 2.4G ANT6	WIFI 5G ANT8	WIFI 5G ANT6	WIFI 5G MIMO					
Head	Cheek Left	0.444	0.233	0.732	0.679	0.575	0.677	1.176	1.123	1.019	1.176
	Tilt Left	0.27	0.066	0.781	0.463	0.762	0.336	1.051	0.733	1.032	1.051
	Cheek Right	0.202	0.037	0.578	0.412	0.472	0.239	0.78	0.614	0.674	0.78
	Tilt Right	0.165	0.013	0.659	0.358	0.703	0.178	0.824	0.523	0.868	0.868
Hotspot/Body	Front	0.074	0.012	0.195	0.148	0.106	0.086	0.269	0.222	0.18	0.269
	Rear	0.149	0.445	0.367	0.405	0.278	0.594	0.516	0.554	0.427	0.594
	Left	0	0	0	0	0	0	0	0	0	0
	Right	0.045	0.051	0.147	0.165	0.123	0.096	0.192	0.21	0.168	0.21
	Top	0.081	0.015	0.548	0.208	0.425	0.096	0.629	0.289	0.506	0.629
	Bottom	0	0	0	0	0	0	0	0	0	0
Extremity	Front	0	0	0.314	0.144	0.419	0	0.314	0.144	0.419	0.419
	Rear	0	0	0.471	0.321	0.943	0	0.471	0.321	0.943	0.943
	Left	0	0	0	0	0	0	0	0	0	0
	Right	0	0	0.208	0.543	0.282	0	0.208	0.543	0.282	0.543
	Top	0	0	1.332	0.392	1.118	0	1.332	0.392	1.118	1.332
	Bottom	0	0	0	0	0	0	0	0	0	0

13.5. Analysis for EN-DC (DC_2A_n41A and DC_66A_n41A)

RF Exposure conditions	Test Position	Standalone SAR (W/kg)			Σ 1-g SAR (W/kg)	
		11	12	13	11+13	12+13
		WWAN ANT0 B2	WWAN ANT0 B66	WWAN ANT3 N41		
Head	Cheek Left	0.011	0.034	0.311	0.322	0.345
	Tilt Left	0.007	0.026	0.366	0.373	0.392
	Cheek Right	0.011	0.031	0.371	0.382	0.402
	Tilt Right	0.006	0.016	0.378	0.384	0.394
Hotspot/Body	Front	0.111	0.206	0.076	0.187	0.282
	Rear	0.220	0.349	0.101	0.321	0.45
	Left	0.035	0.057	0.026	0.061	0.083
	Right	0.011	0.022	/	0.011	0.022
	Top	/	/	0.161	0.161	0.161
	Bottom	0.355	0.604	/	0.355	0.604
Extremity	Front	/	/	/	/	/
	Rear	/	/	/	/	/
	Left	/	/	/	/	/
	Right	/	/	/	/	/
	Top	/	/	/	/	/
	Bottom	/	/	/	/	/

13.6. Analysis for EN-DC (DC_2A_n41A) & Wi-Fi & BT

RF Exposure conditions	Test Position	11	13	5	4	6	7	8	9	10	11+13+5	11+13+4	11+13+6	11+13+7	11+13+8	11+13+9	11+13+10
		WWAN ANTO B2	WWAN ANTS N41	BT ANT7	WIFI 2.4G ANT7	WIFI 2.4G ANT6	WIFI 5G ANT8	WIFI 5G ANT6	WIFI 2.4G MIMO	WIFI 5G MIMO							
Head	Cheek Left	0.011	0.311	0.444	0.793	0.233	0.732	0.679	0.571	0.575	0.766	1.115	0.555	1.054	1.001	0.893	0.897
	Tilt Left	0.007	0.366	0.27	0.555	0.066	0.781	0.463	0.395	0.762	0.643	0.928	0.439	1.154	0.836	0.768	1.135
	Cheek Right	0.011	0.371	0.202	0.363	0.037	0.578	0.412	0.275	0.472	0.584	0.745	0.419	0.96	0.794	0.657	0.854
	Tilt Right	0.006	0.378	0.165	0.291	0.013	0.659	0.358	0.195	0.703	0.549	0.675	0.397	1.043	0.742	0.579	1.087
Hotspot/Body	Front	0.111	0.076	0.074	0.123	0.012	0.195	0.148	0.088	0.106	0.261	0.31	0.199	0.382	0.335	0.275	0.293
	Rear	0.220	0.101	0.149	0.212	0.445	0.367	0.405	0.267	0.278	0.47	0.533	0.766	0.688	0.726	0.588	0.599
	Left	0.035	0.026		0	0	0	0	0	0	0.061	0.061	0.061	0.061	0.061	0.061	0.061
	Right	0.011	0	0.045	0.062	0.051	0.147	0.165	0.084	0.123	0.056	0.073	0.062	0.158	0.176	0.095	0.134
	Top	0	0.161	0.081	0.097	0.015	0.548	0.208	0.08	0.425	0.242	0.258	0.176	0.709	0.369	0.241	0.586
	Bottom	0.355	0	0	0	0	0	0	0	0	0.355	0.355	0.355	0.355	0.355	0.355	0.355
Extremity	Front	0	0	0	0	0	0.314	0.144	0	0.419	0	0	0	0.314	0.144	0	0.419
	Rear	0	0	0	0	0	0.471	0.321	0	0.943	0	0	0	0.471	0.321	0	0.943
	Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Right	0	0	0	0	0	0.208	0.543	0	0.282	0	0	0	0.208	0.543	0	0.282
	Top	0	0	0	0	0	1.332	0.392	0	1.118	0	0	0	1.332	0.392	0	1.118
	Bottom	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Continue above table.

11+13+5+6	11+13+5+7	11+13+5+8	11+13+5+10	MAX
0.999	1.498	1.445	1.341	1.498
0.709	1.424	1.106	1.405	1.424
0.621	1.162	0.996	1.056	1.162
0.562	1.208	0.907	1.252	1.208
0.273	0.456	0.409	0.367	0.456
0.915	0.837	0.875	0.748	0.915
0.061	0.061	0.061	0.061	0.061
0.107	0.203	0.221	0.179	0.203
0.257	0.79	0.45	0.667	0.79
0.355	0.355	0.355	0.355	0.355
0	0.314	0.144	0.419	0.419
0	0.471	0.321	0.943	0.943
0	0	0	0	0
0	0.208	0.543	0.282	0.543
0	1.332	0.392	1.118	1.332
0	0	0	0	0

13.7. Analysis for EN-DC (DC_66A_n41A) & Wi-Fi & BT

RF Exposure conditions	Test Position	12	13	5	4	6	7	8	9	10	12+13+5	12+13+4	12+13+6	12+13+7	12+13+8	12+13+9	12+13+10	12+13+5+6
		WWAN ANT0 B66	WWAN ANT3 N41	BT ANT7	WIFI 2.4G ANT7	WIFI 2.4G ANT6	WIFI 5G ANT8	WIFI 5G ANT6	WIFI 2.4G MIMO	WIFI 5G MIMO								
Head	Cheek Left	0.034	0.311	0.444	0.793	0.233	0.732	0.679	0.571	0.575	0.789	1.138	0.578	1.077	1.001	0.916	0.92	1.022
	Tilt Left	0.026	0.366	0.27	0.555	0.066	0.781	0.463	0.395	0.762	0.662	0.947	0.458	1.173	0.836	0.787	1.154	0.728
	Cheek Right	0.031	0.371	0.202	0.363	0.037	0.578	0.412	0.275	0.472	0.604	0.765	0.439	0.98	0.794	0.677	0.874	0.641
	Tilt Right	0.016	0.378	0.165	0.291	0.013	0.659	0.358	0.195	0.703	0.559	0.685	0.407	1.053	0.742	0.589	1.097	0.572
Hotspot/Body	Front	0.206	0.076	0.074	0.123	0.012	0.195	0.148	0.088	0.106	0.356	0.405	0.294	0.477	0.335	0.37	0.388	0.368
	Rear	0.349	0.101	0.149	0.212	0.445	0.367	0.405	0.267	0.278	0.599	0.662	0.895	0.817	0.726	0.717	0.728	1.044
	Left	0.057	0.026	0	0	0	0	0	0	0	0.083	0.083	0.083	0.083	0.061	0.083	0.083	0.083
	Right	0.022	0	0.045	0.062	0.051	0.147	0.165	0.084	0.123	0.067	0.084	0.073	0.169	0.176	0.106	0.145	0.118
	Top	0	0.161	0.081	0.097	0.015	0.548	0.208	0.08	0.425	0.242	0.258	0.176	0.709	0.369	0.241	0.586	0.257
	Bottom	0.604	0	0	0	0	0	0	0	0	0.604	0.604	0.604	0.604	0.355	0.604	0.604	0.604
Extremity	Front	0	0	0	0	0	0.314	0.144	0	0.419	0	0	0	0.314	0.144	0	0.419	0
	Rear	0	0	0	0	0	0.471	0.321	0	0.943	0	0	0	0.471	0.321	0	0.943	0
	Left	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Right	0	0	0	0	0	0.208	0.543	0	0.282	0	0	0	0.208	0.543	0	0.282	0
	Top	0	0	0	0	0	1.332	0.392	0	1.118	0	0	0	1.332	0.392	0	1.118	0
	Bottom	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Continue above table.

12+13+5+7	12+13+5+8	12+13+5+10	MAX
1.521	1.468	1.364	1.521
1.443	1.125	1.424	1.443
1.182	1.016	1.076	1.182
1.218	0.917	1.262	1.218
0.551	0.504	0.462	0.551
0.966	1.004	0.877	1.044
0.083	0.083	0.083	0.083
0.214	0.232	0.19	0.214
0.79	0.45	0.667	0.79
0.604	0.604	0.604	0.604
0.314	0.144	0.419	0.419
0.471	0.321	0.943	0.943
0	0	0	0
0.208	0.543	0.282	0.543
1.332	0.392	1.118	1.332
0	0	0	0

Appendixes

Refer to separated files for the following appendixes.

4791041023-1-SAR-1_App A Conducted power

4791041023-1-SAR-1_App B Photo

4791041023-1-SAR-1_App C System Check Plots

4791041023-1-SAR-1_App D Highest Test Plots

4791041023-1-SAR-1_App E Cal. Certificates

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