SAR Characterization

Revision History

Rev.	Date	Revisions	Revised By
V1	2026/07/29	Initial Issue	--

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1. Introduction

The modem is enabled with WWAN/WLAN/Bluetooth/Thread/MSS/NTN TAS technology feature to control and manage transmitting power, in real time.

This DUT supports a time-average method of transmit power control for the aforementioned technologies. Consumed SAR from active radios is tracked and stored for the duration of the applicable regulatory averaging window. Rolling time-averaged SAR values are calculated from the consumed SAR reported from active radios. The time-averaged SAR is always maintained less than the appliable SAR_{Reported}.

In this report, the DUT SAR is characterized for all radios that implement a TAS function to determine the power limit that corresponds to the exposure target after accounting for all device design related uncertainties, i.e., SAR_{Reported} for Sub-7.2 GHz radio(s).

SAR Characterization will be used as input for the algorithm to operate. SAR Characterization will be loaded and stored in the DUT.

2. SAR Characterization

SAR Characterization is generated to cover all radio configurations and usage scenarios that are reported in the initial submission.

2.1. Worst-case SAR Determination

Based on FCC KDBs and ISED RSS standards, in general, for a smartphone, the SAR evaluation is required for all the applicable exposure scenarios.

Depending on the detection scheme implemented in the smartphone, the worst-case SAR is further grouped and determined for each or combined exposure scenario(s). Note, for the 1-g SAR versus 10-g SAR, the worst-case is determined in terms of exposure ratio (i.e., exposure level relative to the corresponding 1-g or 10-g SAR limit).

- If the device does not have any detection mechanism, then the worst-case SAR is determined by taking the maximum SAR value among all exposure scenarios, i.e., worst-case SAR = *max* {SAR_{Head}, SAR_{Body}, SAR_{Hotspot}, $SAR_{\text{Extremity/Extremity Held-to-Head}}$}
- If the device can distinguish each of the above scenarios, then the worst-case SAR for each individual exposure scenario is given by corresponding SAR_{Head}, SAR_{Body}, SAR_{Hotspot}, and $SAR_{\text{Extremity/Extremity Held-to-Head}}$
- If the device can only distinguish a subset of the scenarios, then the worst-case SAR is given by:
  - Corresponding SAR for each exposure scenario that can be distinguished
  - Worst-case SAR among all other exposure scenario(s) that cannot be distinguished

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2.2. Usage Scenarios in SAR Evaluation

The corresponding usage scenarios are supported by DUT are summarized in Table 2-1.

Table 2-1: Usage/Exposure Scenario

RF Exposure	Power/Index State	Description
Head	Mode A	Max permissible power relative to P_{Limit} when the device is used against the user's head
Body-worn	Mode B	Max permissible power relative to P_{Limit} when the device is used in a Body-worn configuration
Hotspot	Mode B	Max permissible power relative to P_{Limit} when the device is used in a Hotspot configuration
Extremity	Mode B	Max permissible power relative to P_{Limit} when the device is used in an Extremity configuration

2.3. $SAR_{Reported}$

The total device design and related uncertainties of the DUT, including TxAGC and device to device variation, are accounted for by the following equation:

$$SAR_{Reported} < SAR_{regulatory_{limit}} \times 10^{\frac{-total\ uncertainty}{10}}$$

For the regulatory requirement of 1.6 W/kg, and 4.0 W/kg, 1-g ,10-g SAR respectively, the $SAR_{Reported}$ values, accounting for total uncertainty, are outlined within the SAR Characterization tables:

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2.4. SAR Characterization

The worst-case *reported* SAR for each antenna/technology/band/Power/Index State is summarized in Table 2-2:

Table 2-2: Worst-case *reported* SAR

Tech/Band	Antenna			Worst-case SAR (W/kg)			P_{Limit} (dBm) + Uncertainty (dBm)		
	Head	Body	Extremity	Head	Body	Extremity	Head	Body	Extremity
GSM 850 GMSK 2 Slot(s)	ANT 2	ANT 2	N/A	0.858	0.851	N/A	31.60	32.00	N/A
GSM 1900 GMSK 2 Slot(s)	ANT 4	ANT 3	N/A	1.071	1.050	N/A	27.60	29.10	N/A
W-CDMA B2	ANT 4	ANT 3	N/A	1.149	1.088	N/A	21.60	23.10	N/A
W-CDMA B4	ANT 14	ANT 14	N/A	1.171	1.044	N/A	24.30	20.90	N/A
W-CDMA B5	ANT 2	ANT 2	N/A	0.926	0.900	N/A	25.60	25.70	N/A
LTE FDD B5	ANT 2	ANT 2	N/A	0.954	0.904	N/A	25.70	25.70	N/A
LTE FDD B7	ANT 4	ANT 1	N/A	1.182	1.132	N/A	19.20	21.80	N/A
LTE FDD B12	ANT 2	ANT 3	N/A	1.006	0.894	N/A	25.70	25.70	N/A
LTE FDD B13	ANT 2	ANT 3	N/A	0.878	0.880	N/A	25.70	25.70	N/A
LTE FDD B14	ANT 2	ANT 3	N/A	0.752	0.888	N/A	25.70	25.70	N/A
LTE FDD B25	ANT 4	ANT 3	N/A	1.168	1.133	N/A	21.60	23.10	N/A
LTE FDD B26	ANT 2	ANT 2	N/A	0.948	0.885	N/A	25.70	25.70	N/A
LTE FDD B30	ANT 4	ANT 1	N/A	1.156	1.123	N/A	20.90	22.60	N/A
LTE TDD B41 PC3	ANT 4	ANT 1	N/A	1.190	1.142	N/A	21.00	23.70	N/A
LTE TDD B41 PC2	ANT 14	N/A	N/A	0.542	N/A	N/A	28.70	N/A	N/A
LTE TDD B48	ANT 8	ANT 9	N/A	1.107	1.137	N/A	25.30	23.00	N/A
LTE TDD B53	ANT 14	ANT 14	N/A	0.095	1.044	N/A	20.70	20.70	N/A
LTE FDD B66	ANT 14	ANT 3	N/A	1.178	1.049	N/A	24.60	21.30	N/A
LTE FDD B71	ANT 2	ANT 3	N/A	1.081	0.892	N/A	25.70	25.70	N/A
LTE FDD B106	ANT 2	ANT 3	N/A	0.699	0.747	N/A	25.70	25.70	N/A
MSS (L-Band)	N/A	N/A	ANT 4	N/A	N/A	2.977	N/A	N/A	26.30
FR-1 FDD n5	ANT 2	ANT 2	N/A	0.938	0.853	N/A	25.70	25.70	N/A
FR-1 FDD n7	ANT 4	ANT 1	N/A	1.175	1.154	N/A	19.00	22.00	N/A
FR-1 FDD n12	ANT 2	ANT 3	N/A	1.053	0.987	N/A	25.70	25.70	N/A
FR-1 FDD n14	ANT 2	ANT 3	N/A	0.809	0.873	N/A	25.70	25.70	N/A
FR-1 FDD n25	ANT 4	ANT 3	N/A	1.112	1.038	N/A	21.70	23.20	N/A
FR-1 FDD n26	ANT 2	ANT 2	N/A	1.019	0.890	N/A	25.70	25.70	N/A
FR-1 FDD n30	ANT 4	ANT 3	N/A	1.068	1.086	N/A	21.20	21.80	N/A
FR-1 TDD n41 PC3	ANT 4	ANT 1	N/A	1.140	1.127	N/A	20.00	21.90	N/A
FR-1 TDD n48	ANT 8	ANT 9	N/A	1.182	1.155	N/A	24.90	21.10	N/A
FR-1 TDD n53	ANT 14	ANT 14	N/A	0.175	1.046	N/A	20.70	19.60	N/A
FR-1 FDD n66	ANT 14	ANT 3	N/A	1.186	1.068	N/A	25.00	21.50	N/A
FR-1 FDD n70	ANT 14	ANT 14	N/A	1.189	1.153	N/A	24.40	22.50	N/A
FR-1 FDD n71	ANT 2	ANT 3	N/A	1.128	0.888	N/A	25.70	25.70	N/A
FR-1 TDD n77 (Block A) PC3	ANT 8	ANT 8	N/A	1.164	1.047	N/A	23.30	19.00	N/A
FR-1 TDD n77 (Block C) PC3	ANT 4	ANT 9	N/A	1.186	1.091	N/A	22.70	22.10	N/A
Wi-Fi 2.4 GHz	ANT 4	ANT 4	N/A	1.128	1.161	N/A	19.50	21.25	N/A
Wi-Fi U-NII 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Wi-Fi U-NII 2A	ANT 6	ANT 16	N/A	1.081	1.174	N/A	20.00	16.00	N/A
Wi-Fi U-NII 2C	ANT 6	ANT 16	N/A	0.303	1.140	N/A	20.00	15.25	N/A
Wi-Fi U-NII 3	ANT 6	ANT 16	N/A	0.365	1.179	N/A	20.00	15.75	N/A
Wi-Fi U-NII 5	ANT 6	ANT 6	N/A	0.225	0.616	N/A	15.50	15.50	N/A
Wi-Fi U-NII 6	ANT 16	ANT 6	N/A	0.000	0.828	N/A	12.50	15.50	N/A
Wi-Fi U-NII 7	ANT 6	ANT 6	N/A	0.106	0.506	N/A	16.00	16.00	N/A
Wi-Fi U-NII 8	ANT 6	ANT 6	N/A	0.153	0.727	N/A	17.50	17.50	N/A
Bluetooth 2.4 GHz	ANT 4	ANT 4	N/A	1.168	1.158	N/A	19.50	21.00	N/A
NB U-NII 1	ANT 6	ANT 6	N/A	0.208	0.606	N/A	14.25	14.25	N/A
NB U-NII 3	ANT 6	ANT 16	N/A	0.468	1.106	N/A	18.75	15.75	N/A
NB U-NII 5	ANT 6	ANT 6	N/A	0.011	0.046	N/A	3.50	3.50	N/A
802.15.4	ANT 4	ANT 3	N/A	0.507	0.444	N/A	16.50	17.50	N/A

Using the reported SAR listed in Table 2-2, and following the procedure described in §2.1, the SAR Characterization[1] of this DUT is listed in Table 2-3.

[1] WLAN/Bluetooth/NB U-NII/802.15.4 do not have declared uncertainties. The $SAR_{Reported}$ is 75% of its respective regulatory limit.

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Table 2-3: SAR Characterization

RF Exposure Condition	Port	Antenna	Technology	Channel	PMax (dBm)	PLimit (dBm)	PLimit, nom (dBm)	SARMeasured (W/kg)	SARReported (W/kg)	Uncertainty (±)	RF Exposure Condition	Port	Antenna	Technology	Channel	PMax (dBm)	PLimit (dBm)	PLimit, nom (dBm)	SARMeasured (W/kg)	SARReported (W/kg)	Uncertainty (±)
Head	Port B	ANT 2	GSM 850 GMSK 2 Slot(s)	ALL	32.0	31.6	31.1	1.070	1.200	0.50	Body	Port B	ANT 2	GSM 850 GMSK 2 Slot(s)	ALL	32.0	32.0	31.4	0.741	0.851	0.60
Head	Port A	ANT 3	GSM 850 GMSK 2 Slot(s)	ALL	32.0	32.0	31.2	0.153	0.183	0.80	Body	Port A	ANT 3	GSM 850 GMSK 2 Slot(s)	ALL	32.0	32.0	31.2	0.532	0.639	0.80
Head	Port B	ANT 1	GSM 1900 GMSK 2 Slot(s)	ALL	29.5	29.5	28.7	0.066	0.079	0.80	Body	Port B	ANT 1	GSM 1900 GMSK 2 Slot(s)	ALL	29.5	29.5	28.7	0.831	0.999	0.80
Head	Port C	ANT 3	GSM 1900 GMSK 2 Slot(s)	ALL	30.8	30.8	30.0	0.168	0.202	0.80	Body	Port C	ANT 3	GSM 1900 GMSK 2 Slot(s)	ALL	30.8	29.1	28.3	0.998	1.200	0.80
Head	Port D	ANT 4	GSM 1900 GMSK 2 Slot(s)	ALL	29.5	27.6	26.4	0.910	1.200	1.20	Body	Port D	ANT 4	GSM 1900 GMSK 2 Slot(s)	ALL	29.5	27.1	25.7	0.869	1.200	1.40
Head	Port A	ANT 14	GSM 1900 GMSK 2 Slot(s)	ALL	31.0	31.0	30.4	0.614	0.705	0.60	Body	Port A	ANT 14	GSM 1900 GMSK 2 Slot(s)	ALL	31.0	27.2	26.5	1.021	1.200	0.70
Head	Port B	ANT 1	W-CDMA B2	ALL	24.9	24.9	24.1	0.194	0.234	0.80	Body	Port B	ANT 1	W-CDMA B2	ALL	24.9	23.4	22.6	0.998	1.200	0.80
Head	Port C	ANT 3	W-CDMA B2	ALL	25.7	25.7	24.9	0.206	0.247	0.80	Body	Port C	ANT 3	W-CDMA B2	ALL	25.7	23.1	22.3	0.998	1.200	0.80
Head	Port D	ANT 4	W-CDMA B2	ALL	24.9	21.6	20.4	0.910	1.200	1.20	Body	Port D	ANT 4	W-CDMA B2	ALL	24.9	20.8	19.4	0.869	1.200	1.40
Head	Port A	ANT 14	W-CDMA B2	ALL	25.7	25.7	25.1	0.903	1.036	0.60	Body	Port A	ANT 14	W-CDMA B2	ALL	25.7	20.1	19.4	1.021	1.200	0.70
Head	Port B	ANT 1	W-CDMA B4	ALL	25.7	25.7	25.0	0.153	0.179	0.70	Body	Port B	ANT 1	W-CDMA B4	ALL	25.7	24.2	23.5	1.021	1.200	0.70
Head	Port C	ANT 3	W-CDMA B4	ALL	25.7	25.7	24.9	0.243	0.292	0.80	Body	Port C	ANT 3	W-CDMA B4	ALL	25.7	21.3	20.5	0.998	1.200	0.80
Head	Port D	ANT 4	W-CDMA B4	ALL	25.7	21.7	20.7	0.953	1.200	1.00	Body	Port D	ANT 4	W-CDMA B4	ALL	25.7	21.7	20.4	0.890	1.200	1.30
Head	Port A	ANT 14	W-CDMA B4	ALL	25.7	24.3	23.1	0.910	1.200	1.20	Body	Port A	ANT 14	W-CDMA B4	ALL	25.7	20.9	20.0	0.975	1.200	0.90
Head	Port B	ANT 2	W-CDMA B5	ALL	25.7	25.6	25.1	1.070	1.200	0.50	Body	Port B	ANT 2	W-CDMA B5	ALL	25.7	25.7	25.1	0.784	0.900	0.60
Head	Port A	ANT 3	W-CDMA B5	ALL	25.7	25.7	24.9	0.148	0.178	0.80	Body	Port A	ANT 3	W-CDMA B5	ALL	25.7	25.7	24.9	0.562	0.675	0.80
Head	Port B	ANT 2	LTE FDD B5	ALL	25.7	25.7	25.0	0.812	0.954	0.70	Body	Port B	ANT 2	LTE FDD B5	ALL	25.7	25.7	25.0	0.770	0.904	0.70
Head	Port A	ANT 3	LTE FDD B5	ALL	25.7	25.7	24.9	0.154	0.185	0.80	Body	Port A	ANT 3	LTE FDD B5	ALL	25.7	25.7	24.9	0.584	0.703	0.80
Head	Port B	ANT 1	LTE FDD B7	ALL	24.2	24.2	23.3	0.274	0.337	0.90	Body	Port B	ANT 1	LTE FDD B7	ALL	24.2	21.8	20.9	0.975	1.200	0.90
Head	Port C	ANT 3	LTE FDD B7	ALL	25.7	25.7	24.9	0.405	0.487	0.80	Body	Port C	ANT 3	LTE FDD B7	ALL	25.7	20.6	19.8	0.998	1.200	0.80
Head	Port D	ANT 4	LTE FDD B7	ALL	23.9	19.2	18.3	0.975	1.200	0.90	Body	Port D	ANT 4	LTE FDD B7	ALL	23.9	21.8	20.9	0.975	1.200	0.90
Head	Port A	ANT 14	LTE FDD B7	ALL	25.7	25.7	24.8	0.422	0.519	0.90	Body	Port A	ANT 14	LTE FDD B7	ALL	25.7	20.1	19.3	0.998	1.200	0.80
Head	Port B	ANT 2	LTE FDD B12	ALL	25.7	25.7	24.9	0.837	1.006	0.80	Body	Port B	ANT 2	LTE FDD B12	ALL	25.7	25.7	24.9	0.584	0.703	0.80
Head	Port A	ANT 3	LTE FDD B12	ALL	25.7	25.7	24.9	0.149	0.179	0.80	Body	Port A	ANT 3	LTE FDD B12	ALL	25.7	25.7	24.9	0.744	0.894	0.80
Head	Port B	ANT 2	LTE FDD B13	ALL	25.7	25.7	24.9	0.730	0.878	0.80	Body	Port B	ANT 2	LTE FDD B13	ALL	25.7	25.7	24.9	0.697	0.838	0.80
Head	Port A	ANT 3	LTE FDD B13	ALL	25.7	25.7	24.8	0.160	0.196	0.90	Body	Port A	ANT 3	LTE FDD B13	ALL	25.7	25.7	24.8	0.715	0.880	0.90
Head	Port B	ANT 2	LTE FDD B14	ALL	25.7	25.7	24.8	0.612	0.752	0.90	Body	Port B	ANT 2	LTE FDD B14	ALL	25.7	25.7	24.9	0.588	0.707	0.80
Head	Port A	ANT 3	LTE FDD B14	ALL	25.7	25.7	24.9	0.157	0.189	0.80	Body	Port A	ANT 3	LTE FDD B14	ALL	25.7	25.7	24.9	0.738	0.888	0.80
Head	Port B	ANT 1	LTE FDD B25	ALL	24.9	24.9	24.1	0.187	0.225	0.80	Body	Port B	ANT 1	LTE FDD B25	ALL	24.9	23.3	22.5	0.998	1.200	0.80
Head	Port C	ANT 3	LTE FDD B25	ALL	25.7	25.7	24.9	0.261	0.313	0.80	Body	Port C	ANT 3	LTE FDD B25	ALL	25.7	23.1	22.3	0.998	1.200	0.80
Head	Port D	ANT 4	LTE FDD B25	ALL	24.9	21.6	20.4	0.910	1.200	1.20	Body	Port D	ANT 4	LTE FDD B25	ALL	24.9	21.4	20.0	0.869	1.200	1.40
Head	Port A	ANT 14	LTE FDD B25	ALL	25.7	25.7	25.1	0.941	1.081	0.60	Body	Port A	ANT 14	LTE FDD B25	ALL	25.7	20.4	19.7	1.021	1.200	0.70
Head	Port B	ANT 2	LTE FDD B26	ALL	25.7	25.7	25.2	0.845	0.948	0.50	Body	Port B	ANT 2	LTE FDD B26	ALL	25.7	25.7	25.1	0.771	0.885	0.60
Head	Port A	ANT 3	LTE FDD B26	ALL	25.7	25.7	24.9	0.155	0.186	0.80	Body	Port A	ANT 3	LTE FDD B26	ALL	25.7	25.7	24.9	0.613	0.737	0.80
Head	Port B	ANT 1	LTE FDD B30	ALL	24.2	24.2	23.5	0.205	0.241	0.70	Body	Port B	ANT 1	LTE FDD B30	ALL	24.2	22.6	22.0	1.045	1.200	0.60
Head	Port C	ANT 3	LTE FDD B30	ALL	25.1	25.1	24.3	0.308	0.370	0.80	Body	Port C	ANT 3	LTE FDD B30	ALL	25.1	21.7	20.9	0.998	1.200	0.80
Head	Port D	ANT 4	LTE FDD B30	ALL	23.8	20.9	20.2	1.021	1.200	0.70	Body	Port D	ANT 4	LTE FDD B30	ALL	23.8	21.8	20.8	0.953	1.200	1.00
Head	Port A	ANT 14	LTE FDD B30	ALL	25.7	25.7	25.0	0.981	1.152	0.70	Body	Port A	ANT 14	LTE FDD B30	ALL	25.7	19.4	18.7	1.021	1.200	0.70
Head	Port B	ANT 1	LTE TDD B41 PC3	ALL	25.7	25.7	24.7	0.195	0.246	1.00	Body	Port B	ANT 1	LTE TDD B41 PC3	ALL	25.7	23.7	22.8	0.975	1.200	0.90
Head	Port C	ANT 3	LTE TDD B41 PC3	ALL	25.7	25.7	24.9	0.247	0.297	0.80	Body	Port C	ANT 3	LTE TDD B41 PC3	ALL	25.7	22.9	22.1	0.998	1.200	0.80
Head	Port D	ANT 4	LTE TDD B41 PC3	ALL	25.7	21.0	20.0	0.953	1.200	1.00	Body	Port D	ANT 4	LTE TDD B41 PC3	ALL	25.7	22.5	21.3	0.910	1.200	1.20
Head	Port A	ANT 14	LTE TDD B41 PC3	ALL	25.7	25.7	25.0	0.418	0.492	0.70	Body	Port A	ANT 14	LTE TDD B41 PC3	ALL	25.7	21.4	20.4	0.953	1.200	1.00
Head	Port B	ANT 4	LTE TDD B48	Low	24.3	22.9	20.9	0.757	1.200	2.00	Body	Port B	ANT 4	LTE TDD B48	Low	24.3	22.3	21.1	0.910	1.200	1.20
Head	Port B	ANT 4	LTE TDD B48	High	24.3	22.9	20.9	0.757	1.200	2.00	Body	Port B	ANT 4	LTE TDD B48	High	24.3	22.3	21.1	0.910	1.200	1.20
Head	Port A	ANT 7	LTE TDD B48	Low	26.0	26.0	24.7	0.159	0.215	1.30	Body	Port A	ANT 7	LTE TDD B48	Low	26.0	24.7	23.7	0.953	1.200	1.00
Head	Port A	ANT 7	LTE TDD B48	High	26.0	26.0	24.7	0.159	0.215	1.30	Body	Port A	ANT 7	LTE TDD B48	High	26.0	24.7	23.7	0.953	1.200	1.00
Head	Port D	ANT 8	LTE TDD B48	Low	25.3	25.3	24.0	0.820	1.107	1.30	Body	Port D	ANT 8	LTE TDD B48	Low	25.3	19.7	18.1	0.830	1.200	1.60
Head	Port D	ANT 8	LTE TDD B48	High	25.3	25.3	24.0	0.820	1.107	1.30	Body	Port D	ANT 8	LTE TDD B48	High	25.3	19.7	18.1	0.830	1.200	1.60
Head	Port C	ANT 9	LTE TDD B48	Low	24.4	24.4	23.4	0.124	0.156	1.00	Body	Port C	ANT 9	LTE TDD B48	Low	24.4	23.0	22.2	0.998	1.200	0.80
Head	Port C	ANT 9	LTE TDD B48	High	24.4	24.4	23.4	0.124	0.156	1.00	Body	Port C	ANT 9	LTE TDD B48	High	24.4	23.0	22.2	0.998	1.200	0.80
Head	Port B	ANT 1	LTE TDD B53	ALL	20.7	20.7	19.8	0.066	0.081	0.90	Body	Port B	ANT 1	LTE TDD B53	ALL	20.7	20.7	19.8	0.370	0.456	0.90
Head	Port A	ANT 14	LTE TDD B53	ALL	20.7	20.7	19.9	0.079	0.095	0.80	Body	Port A	ANT 14	LTE TDD B53	ALL	20.7	20.7	20.0	0.888	1.044	0.70
Head	Port B	ANT 1	LTE FDD B66	ALL	25.7	25.7	25.0	0.170	0.199	0.70	Body	Port B	ANT 1	LTE FDD B66	ALL	25.7	24.3	23.6	1.021	1.200	0.70
Head	Port C	ANT 3	LTE FDD B66	ALL	25.7	25.7	24.9	0.239	0.287	0.80	Body	Port C	ANT 3	LTE FDD B66	ALL	25.7	21.3	20.5	0.998	1.200	0.80
Head	Port D	ANT 4	LTE FDD B66	ALL	25.7	21.3	20.3	0.953	1.200	1.00	Body	Port D	ANT 4	LTE FDD B66	ALL	25.7	21.1	19.8	0.890	1.200	1.30
Head	Port A	ANT 14	LTE FDD B66	ALL	25.7	24.6	23.4	0.910	1.200	1.20	Body	Port A	ANT 14	LTE FDD B66	ALL	25.7	21.2	20.3	0.975	1.200	0.90
Head	Port B	ANT 2	LTE FDD B71	ALL	25.7	25.7	25.0	0.920	1.081	0.70	Body	Port B	ANT 2	LTE FDD B71	ALL	25.7	25.7	24.9	0.719	0.864	0.80
Head	Port A	ANT 3	LTE FDD B71	ALL	25.7	25.7	24.8	0.125	0.153	0.90	Body	Port A	ANT 3	LTE FDD B71	ALL	25.7	25.7	24.8	0.725	0.892	0.90
Head	Port B	ANT 2	LTE FDD B106	ALL	25.7	25.7	24.9	0.582	0.699	0.80	Body	Port B	ANT 2	LTE FDD B106	ALL	25.7	25.7	25.0	0.566	0.665	0.70
Head	Port A	ANT 3	LTE FDD B106	ALL	25.7	25.7	24.9	0.143	0.172	0.80	Body	Port A	ANT 3	LTE FDD B106	ALL	25.7	25.7	24.9	0.622	0.747	0.80
Head	Port B	ANT 2	FR-1 FDD n5	ALL	25.7	25.7	24.9	0.780	0.938	0.80	Body	Port B	ANT 2	FR-1 FDD n5	ALL	25.7	25.7	25.0	0.726	0.853	0.70
Head	Port A	ANT 3	FR-1 FDD n5	ALL	25.7	25.7	24.9	0.167	0.201	0.80	Body	Port A	ANT 3	FR-1 FDD n5	ALL	25.7	25.7	24.9	0.689	0.828	0.80
Head	Port B	ANT 1	FR-1 FDD n7	ALL	24.2	24.2	23.3	0.244	0.300	0.90	Body	Port B	ANT 1	FR-1 FDD n7	ALL	24.2	22.0	21.1	0.975	1.200	0.90
Head	Port C	ANT 3	FR-1 FDD n7	ALL	25.7	25.7	24.9	0.369	0.444	0.80	Body	Port C	ANT 3	FR-1 FDD n7	ALL	25.7	21.0	20.2	0.998	1.200	0.80
Head	Port D	ANT 4	FR-1 FDD n7	ALL	23.9	19.0	18.1	0.975	1.200	0.90	Body	Port D	ANT 4	FR-1 FDD n7	ALL	23.9	21.6	20.5	0.931	1.200	1.10
Head	Port A	ANT 14	FR-1 FDD n7	ALL	25.7	25.7	24.8	0.245	0.301	0.90	Body	Port A	ANT 14	FR-1 FDD n7	ALL	25.7	19.9	19.1	0.998	1.200	0.80
Head	Port B	ANT 2	FR-1 FDD n12	ALL	25.7	25.7	24.6	0.818	1.053	1.10	Body	Port B	ANT 2	FR-1 FDD n12	ALL	25.7	25.7	24.5	0.540	0.712	1.20
Head	Port A	ANT 3	FR-1 FDD n12	ALL	25.7	25.7	24.8	0.154	0.189	0.90	Body	Port A	ANT 3	FR-1 FDD n12	ALL	25.7	25.7	24.8	0.802	0.987	0.90
Head	Port B	ANT 2	FR-1 FDD n14	ALL	25.7	25.7	24.8	0.658	0.809	0.90	Body	Port B	ANT 2	FR-1 FDD n14	ALL	25.7	25.7	24.8	0.591	0.727	0.90
Head	Port A	ANT 3	FR-1 FDD n14	ALL	25.7	25.7	25.0	0.194	0.228	0.70	Body	Port A	ANT 3	FR-1 FDD n14	ALL	25.7	25.7	25.0	0.743	0.873	0.70
Head	Port B	ANT 1	FR-1 FDD n25	ALL	24.9	24.9	23.8	0.093	0.120	1.10	Body	Port B	ANT 1	FR-1 FDD n25	ALL	24.9	23.3	22.2	0.931	1.200	1.10
Head	Port C	ANT 3	FR-1 FDD n25	ALL	25.7	25.7	24.9	0.215	0.259	0.80	Body	Port C	ANT 3	FR-1 FDD n25	ALL	25.7	23.2	22.4	0.998	1.200	0.80
Head	Port D	ANT 4	FR-1 FDD n25	ALL	24.9	21.7	20.4	0.890	1.200	1.30	Body	Port D	ANT 4	FR-1 FDD n25	ALL	24.9	21.0	19.6	0.869	1.200	1.40
Head	Port A	ANT 14	FR-1 FDD n25	ALL	25.7	25.7	25.1	0.868	0.997	0.60	Body	Port A	ANT 14	FR-1 FDD n25	ALL	25.7	20.9	19.9	0.953	1.200	1.00
Head	Port B	ANT 2	FR-1 FDD n26	ALL	25.7	25.7	24.9	0.847	1.019	0.80	Body	Port B	ANT 2	FR-1 FDD n26	ALL	25.7	25.7	25.0	0.758	0.890	0.70
Head	Port A	ANT 3	FR-1 FDD n26	ALL	25.7	25.7	24.9	0.089	0.107	0.80	Body	Port A	ANT 3	FR-1 FDD n26	ALL	25.7	25.7	24.9	0.631	0.758	0.80
Head	Port B	ANT 1	FR-1 FDD n30	ALL	24.2	24.2	23.6	0.213	0.244	0.60	Body	Port B	ANT 1	FR-1 FDD n30	ALL	24.2	23.2	22.6	1.045	1.200	0.60
Head	Port C	ANT 3	FR-1 FDD n30	ALL	25.1	25.1	24.1	0.307	0.386	1.00	Body	Port C	ANT 3	FR-1 FDD n30	ALL	25.1	21.8	20.8	0.953	1.200	1.00
Head	Port D	ANT 4	FR-1 FDD n30	ALL	23.8	21.2	20.4	0.998	1.200	0.80	Body	Port D	ANT 4	FR-1 FDD n30	ALL	23.8	21.1	20.2	0.975	1.200	0.90
Head	Port A	ANT 14	FR-1 FDD n30	ALL	25.7	25.7	25.0	0.725	0.851	0.70	Body	Port A	ANT 14	FR-1 FDD n30	ALL	25.7	21.0	20.3	1.021	1.200	0.70
Head	Port B	ANT 1	FR-1 TDD n41 PC3	ALL	25.7	25.7	24.6	0.393	0.506	1.10	Body	Port B	ANT 1	FR-1 TDD n41 PC3	ALL	25.7	21.9	21.0	0.975	1.200	0.90
Head	Port C	ANT 3	FR-1 TDD n41 PC3	ALL	25.7	25.7	24.8	0.158	0.194	0.90	Body	Port C	ANT 3	FR-1 TDD n41 PC3	ALL	25.7	20.6	19.7	0.975	1.200	0.90
Head	Port D	ANT 4	FR-1 TDD n41 PC3	ALL	25.7	20.0	18.9	0.931	1.200	1.10	Body	Port D	ANT 4	FR-1 TDD n41 PC3	ALL	25.7	20.9	19.5	0.869	1.200	1.40
Head	Port A	ANT 14	FR-1 TDD n41 PC3	ALL	25.7	25.7	24.8	0.499	0.614	0.90	Body	Port A	ANT 14	FR-1 TDD n41 PC3	ALL	25.7	19.6	18.6	0.953	1.200	1.00
Head	Port B	ANT 1	FR-1 TDD n53	ALL	20.7	20.7	19.7	0.088	0.111	1.00	Body	Port B	ANT 1	FR-1 TDD n53	ALL	20.7	20.7	19.7	0.602	0.757	1.00
Head	Port A	ANT 14	FR-1 TDD n53	ALL	20.7	20.7	19.8	0.142	0.175	0.90	Body	Port A	ANT 14	FR-1 TDD n53	ALL	20.7	19.6	18.7	0.975	1.200	0.90
Head	Port B	ANT 1	FR-1 FDD n66	ALL	25.7	25.7	24.8	0.186	0.229	0.90	Body	Port B	ANT 1	FR-1 FDD n66	ALL	25.7	24.6	23.7	0.975	1.200	0.90
Head	Port C	ANT 3	FR-1 FDD n66	ALL	25.7	25.7	24.9	0.085	0.103	0.80	Body	Port C	ANT 3	FR-1 FDD n66	ALL	25.7	21.5	20.7	0.998	1.200	0.80
Head	Port D	ANT 4	FR-1 FDD n66	ALL	25.7	21.4	20.4	0.953	1.200	1.00	Body	Port D	ANT 4	FR-1 FDD n66	ALL	25.7	21.1	19.7	0.869	1.200	1.40

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RF Exposure Condition	Port	Antenna	Technology	Channel	P_{Max} (dBm)	P_{Limit} (dBm)	$P_{Limit, nom}$ (dBm)	$SAR_{Measured}$ (W/kg)	$SAR_{Reported}$ (W/kg)	Uncertainty (±)	RF Exposure Condition	Port	Antenna	Technology	Channel	P_{Max} (dBm)	P_{Limit} (dBm)	$P_{Limit, nom}$ (dBm)	$SAR_{Measured}$ (W/kg)	$SAR_{Reported}$ (W/kg)	Uncertainty (±)
Head	Port A	ANT 14	FR-1 FDD n66	ALL	25.7	25.0	23.8	0.910	1.200	1.20	Body	Port A	ANT 14	FR-1 FDD n66	ALL	25.7	21.5	20.5	0.953	1.200	1.00
Head	Port B	ANT 1	FR-1 FDD n70	ALL	25.7	25.7	24.9	0.159	0.191	0.80	Body	Port B	ANT 1	FR-1 FDD n70	ALL	25.7	24.6	23.8	0.998	1.200	0.80
Head	Port C	ANT 3	FR-1 FDD n70	ALL	25.7	25.7	24.9	0.172	0.207	0.80	Body	Port C	ANT 3	FR-1 FDD n70	ALL	25.7	22.3	21.5	0.998	1.200	0.80
Head	Port D	ANT 4	FR-1 FDD n70	ALL	25.7	22.1	21.1	0.953	1.200	1.00	Body	Port D	ANT 4	FR-1 FDD n70	ALL	25.7	22.5	21.5	0.953	1.200	1.00
Head	Port A	ANT 14	FR-1 FDD n70	ALL	25.7	24.4	23.0	0.869	1.200	1.40	Body	Port A	ANT 14	FR-1 FDD n70	ALL	25.7	22.5	21.2	0.890	1.200	1.30
Head	Port B	ANT 2	FR-1 FDD n71	ALL	25.7	25.7	24.7	0.896	1.128	1.00	Body	Port B	ANT 2	FR-1 FDD n71	ALL	25.7	25.7	24.8	0.658	0.809	0.90
Head	Port A	ANT 3	FR-1 FDD n71	ALL	25.7	25.7	24.5	0.132	0.174	1.20	Body	Port A	ANT 3	FR-1 FDD n71	ALL	25.7	25.7	24.5	0.674	0.888	1.20
Head	Port B	ANT 4	FR-1 TDD n77 (Block A) PC3	ALL	26.0	20.1	17.6	0.675	1.200	2.50	Body	Port B	ANT 4	FR-1 TDD n77 (Block A) PC3	ALL	26.0	20.6	19.0	0.830	1.200	1.60
Head	Port A	ANT 7	FR-1 TDD n77 (Block A) PC3	ALL	26.0	26.0	25.0	0.160	0.201	1.00	Body	Port A	ANT 7	FR-1 TDD n77 (Block A) PC3	ALL	26.0	24.6	23.5	0.931	1.200	1.10
Head	Port D	ANT 8	FR-1 TDD n77 (Block A) PC3	ALL	26.0	23.3	21.8	0.850	1.200	1.50	Body	Port D	ANT 8	FR-1 TDD n77 (Block A) PC3	ALL	26.0	19.0	17.4	0.830	1.200	1.60
Head	Port C	ANT 9	FR-1 TDD n77 (Block A) PC3	ALL	26.0	26.0	24.3	0.235	0.348	1.70	Body	Port C	ANT 9	FR-1 TDD n77 (Block A) PC3	ALL	26.0	20.8	19.1	0.811	1.200	1.70
Head	Port B	ANT 4	FR-1 TDD n77 (Block C) PC3	ALL	26.0	22.7	20.5	0.723	1.200	2.20	Body	Port B	ANT 4	FR-1 TDD n77 (Block C) PC3	ALL	26.0	20.5	18.7	0.793	1.200	1.80
Head	Port A	ANT 7	FR-1 TDD n77 (Block C) PC3	ALL	26.0	26.0	24.9	0.178	0.229	1.10	Body	Port A	ANT 7	FR-1 TDD n77 (Block C) PC3	ALL	26.0	24.2	22.9	0.890	1.200	1.30
Head	Port D	ANT 8	FR-1 TDD n77 (Block C) PC3	ALL	26.0	24.0	22.5	0.850	1.200	1.50	Body	Port D	ANT 8	FR-1 TDD n77 (Block C) PC3	ALL	26.0	18.0	16.5	0.850	1.200	1.50
Head	Port C	ANT 9	FR-1 TDD n77 (Block C) PC3	ALL	26.0	26.0	24.6	0.240	0.331	1.40	Body	Port C	ANT 9	FR-1 TDD n77 (Block C) PC3	ALL	26.0	22.1	20.8	0.890	1.200	1.30
Head	Port D	ANT 4	MSS L-Band	ALL	N/A	N/A	N/A	N/A	N/A	0.00	Body	Port D	ANT 4	MSS L-Band	ALL	28.7	26.3	26.3	3.000	3.000	0.00

RF Exposure Condition	Antenna	Technology	Bandwidth (MHz)	Channel	Frequency (MHz)	PMax (dBm)	PLimit (dBm)	SARMeasured (W/kg)	SARReported (W/kg)	RF Exposure Condition	Antenna	Technology	Bandwidth (MHz)	Channel	Frequency (MHz)	PMax (dBm)	PLimit (dBm)	SARMeasured (W/kg)	SARReported (W/kg)
Head	ANT 3	Wi-Fi 2.4 GHz	20 MHz	6	2437	21.5	21.5	0.106	0.158	Body	ANT 3	Wi-Fi 2.4 GHz	20 MHz	1	2412	21.5	21.5	0.637	0.948
Head	ANT 16	Wi-Fi U-NII 2A	40 MHz	54	5270	20.0	20.0	0.017	0.024	Body	ANT 3	Wi-Fi 2.4 GHz	20 MHz	6	2437	21.5	21.5	0.762	1.134
Head	ANT 16	Wi-Fi U-NII 2C	80 MHz	122	5610	20.0	18.8	0.000	1.200	Body	ANT 16	Wi-Fi U-NII 2A	80 MHz	58	5290	17.5	16.0	0.762	1.200
Head	ANT 16	Wi-Fi U-NII 3	80 MHz	155	5775	20.0	20.0	0.040	0.059	Body	ANT 16	Wi-Fi U-NII 2C	160 MHz	114	5570	16.0	15.3	0.705	1.200
Head	ANT 16	Wi-Fi U-NII 5	160 MHz	79	6345	12.0	11.8	0.000	1.200	Body	ANT 16	Wi-Fi U-NII 3	80 MHz	155	5775	20.0	15.8	0.801	1.200
Head	ANT 16	Wi-Fi U-NII 6	160 MHz	111	6505	12.5	11.3	0.000	1.200	Body	ANT 16	Wi-Fi U-NII 5	160 MHz	79	6345	19.0	12.0	0.232	1.200
Head	ANT 16	Wi-Fi U-NII 7	160 MHz	143	6665	12.5	11.4	0.000	1.200	Body	ANT 16	Wi-Fi U-NII 6	160 MHz	111	6505	15.6	12.5	0.235	1.200
Head	ANT 16	Wi-Fi U-NII 8	160 MHz	207	6985	18.5	13.5	0.008	1.200	Body	ANT 16	Wi-Fi U-NII 7	160 MHz	143	6665	19.0	12.5	0.255	1.200
Head	ANT 4	Wi-Fi 2.4 GHz	20 MHz	6	2437	21.5	19.5	0.811	1.200	Body	ANT 16	Wi-Fi U-NII 8	160 MHz	207	6985	18.5	13.5	0.421	1.200
Head	ANT 4	Wi-Fi 2.4 GHz	20 MHz	11	2462	21.5	19.5	0.870	1.200	Body	ANT 4	Wi-Fi 2.4 GHz	20 MHz	1	2412	21.5	21.3	0.826	1.200
Head	ANT 6	Wi-Fi U-NII 2A	40 MHz	54	5270	20.0	20.0	0.770	1.081	Body	ANT 4	Wi-Fi 2.4 GHz	20 MHz	6	2437	21.5	21.3	0.810	1.200
Head	ANT 6	Wi-Fi U-NII 2A	40 MHz	62	5310	17.5	17.5	0.429	0.602	Body	ANT 6	Wi-Fi U-NII 2A	80 MHz	58	5290	19.0	17.3	0.760	1.200
Head	ANT 6	Wi-Fi U-NII 2C	80 MHz	122	5610	20.0	20.0	0.206	0.303	Body	ANT 6	Wi-Fi U-NII 2C	80 MHz	122	5610	20.0	17.0	0.461	1.200
Head	ANT 6	Wi-Fi U-NII 3	80 MHz	155	5775	20.0	20.0	0.248	0.365	Body	ANT 6	Wi-Fi U-NII 3	80 MHz	155	5775	20.0	16.8	0.368	1.200
Head	ANT 6	Wi-Fi U-NII 5	160 MHz	15	6025	19.0	15.5	0.160	1.200	Body	ANT 6	Wi-Fi U-NII 5	160 MHz	15	6025	19.0	15.5	0.438	1.200
Head	ANT 6	Wi-Fi U-NII 6	160 MHz	111	6505	15.5	14.7	0.000	1.200	Body	ANT 6	Wi-Fi U-NII 6	160 MHz	111	6505	19.0	15.5	0.589	1.200
Head	ANT 6	Wi-Fi U-NII 7	160 MHz	175	6825	18.5	16.0	0.069	1.200	Body	ANT 6	Wi-Fi U-NII 7	160 MHz	175	6825	18.5	16.0	0.328	1.200
Head	ANT 6	Wi-Fi U-NII 8	160 MHz	207	6985	18.5	17.5	0.099	1.200	Body	ANT 6	Wi-Fi U-NII 8	160 MHz	207	6985	18.5	17.5	0.472	1.200
Head	ANT 6	NB U-NII 1	N/A	N/A	N/A	14.3	13.0	0.000	1.200	Body	ANT 3	Bluetooth 2.4 GHz	N/A	N/A	N/A	21.0	21.0	0.730	0.911
Head	ANT 6	NB U-NII 3	N/A	N/A	N/A	19.0	18.3	0.000	1.200	Body	ANT 16	NB U-NII 1	N/A	N/A	N/A	14.3	14.3	0.315	0.541
Head	ANT 6	NB U-NII 5	N/A	Mid	6263	-1.0	-2.5	0.000	1.200	Body	ANT 16	NB U-NII 3	N/A	N/A	N/A	19.0	15.8	0.631	1.200
Head	ANT 3	Bluetooth 2.4 GHz	N/A	N/A	N/A	21.0	21.0	0.127	0.158	Body	ANT 16	NB U-NII 5	N/A	Mid	6263	-1.0	-1.0	0.002	0.003
Head	ANT 4	Bluetooth 2.4 GHz	N/A	N/A	N/A	21.0	19.5	0.884	1.200	Body	ANT 4	Bluetooth 2.4 GHz	N/A	N/A	N/A	21.0	21.0	0.866	1.158
Head	ANT 6	NB U-NII 1	N/A	N/A	N/A	14.3	14.3	0.121	0.208	Body	ANT 6	NB U-NII 1	N/A	N/A	N/A	14.3	14.3	0.353	0.606
Head	ANT 6	NB U-NII 3	N/A	N/A	N/A	18.8	18.8	0.255	0.468	Body	ANT 6	NB U-NII 3	N/A	N/A	N/A	18.8	16.8	0.228	1.200
Head	ANT 6	NB U-NII 5	N/A	Mid	6263	3.5	3.5	0.007	0.011	Body	ANT 6	NB U-NII 5	N/A	Mid	6263	3.5	3.5	0.030	0.046
Head	ANT 3	802.15.4	N/A	N/A	N/A	16.0	21.0	0.046	1.200	Body	ANT 3	802.15.4	N/A	N/A	N/A	16.0	14.5	0.326	1.200
Head	ANT 4	802.15.4	N/A	N/A	N/A	16.0	23.0	0.372	1.200	Body	ANT 4	802.15.4	N/A	N/A	N/A	16.0	17.0	0.240	1.200

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