Part 1: Test Under Static Transmission Scenario

For
SMARTPHONE

FCC ID: BCG-E8688A
Model Name: A3081

Report Number: 14982484-S5V1
Issue Date: 7/30/2024

Prepared for
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Revision History

Rev.	Date	Revisions	Revised By
V1	7/30/2024	Initial Issue	--

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1. Attestation of Test Results

Applicant Name	APPLE INC.
FCC ID	BCG-E8688A
Model Name	A3081
Reference SAR Report	14982484-S1
Exposure Category	PD Limit (W/m^2)
General Population (Uncontrolled Exposure)	10
RF Exposure Conditions	Highest Reported PD (W/m^2)
	3.900
Date Tested	6/13/2024; 6/24/2024 to 6/25/2024

UL Verification Services Inc. tested the above equipment in accordance with the requirements set forth in the above standards. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.
This report contains data provided by the customer which can impact the validity of results. UL Verification Services Inc. is only responsible for the validity of results after the integration of the data provided by the customer.
The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical components. All samples tested were in good operating condition throughout the entire test program. Measurement Uncertainties are published for informational purposes only and were not taken into account unless noted otherwise.
This document may not be altered or revised in any way unless done so by UL Verification Services Inc. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Verification Services Inc. will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by A2LA, NIST, or any agency of the U.S. Government, or any agency of the U.S. government.

Approved & Released By:	Prepared By:
	
Michael Heckrotte Principal Engineer UL Verification Services Inc.	Nathan Sousa Senior Laboratory Engineer UL Verification Services Inc.

2. Test Specifications, Methods/Procedures, Facilities, and Accreditation

The tests documented in this report were performed in accordance with FCC 47 CFR §2.1093, FCC 47 CFR §30, and the following FCC published RF Exposure KDB procedures:

- 447498 D01 v06
- 865664 D02 v01r02
- 648474 D04 v01r03
- 248227 D01 v02r02
- IEC/IEEE 63195-1:2022

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

47173 Benicia Street	47266 Benicia Street
SAR Labs A to I	SAR Labs 1 to 19

UL Verification Services Inc. is accredited by A2LA, Certificate Number 0751.05

The Test Lab Conformity Assessment Body Identifier (CABID)

Location	CABID	Company Number
47173 Benicia Street, Fremont, CA, 94538 UNITED STATES	US0104	2324A
47266 Benicia Street, Fremont, CA, 94538 UNITED STATES		

3. Introduction

The equipment under test (EUT) contains the Qualcomm modem supporting 2G/3G/4G/5G technologies and millimeter wave 5G NR bands. Both WWAN modems are enabled with Qualcomm's Smart Transmit feature with algorithms to control and manage transmitting power in real time and to ensure the time-averaged RF exposure from the WWAN modems are always in compliance with FCC requirements.

In addition to these WWAN modems, the EUT supports WLAN/BT/MSS radio(s) as well, but the WLAN/BT/MSS modem is not enabled with Qualcomm's Smart Transmit feature.

The purpose of this Part 1 report is to demonstrate that this EUT complies with FCC RF exposure limits at maximum time-averaged transmit power limits for WWAN technologies, and at maximum transmit power limits for WLAN technologies. The specifics of this report are, as listed:

- SAR and power density (PD) compliance for all WWAN radios (Sub-6 GHz + 5G millimeter wave NR) is assessed based on maximum time-averaged transmit power (static transmission condition). Relevant FCC KDBs and exclusion criteria are applied on a time-average power basis for WWAN technologies. The maximum time-averaged transmit power limits for supported WWAN technologies, bands, and antennas in this report are derived in the Part 0 report. The validation of the Qualcomm's Smart Transmit time-averaging algorithm and compliance under the Tx varying transmission scenario for WWAN technologies are reported in the Part 2 report.
- SAR compliance for WLAN radios is assessed based on maximum transmit power as per relevant FCC KDBs.
- Demonstrated compliance in simultaneous transmission scenarios involving both WWAN and WLAN transmissions, where WWAN exposure is assessed based on time-averaged transmit power limits, and WLAN exposure is assessed based on maximum transmit power limits.

P_{limit} used in this report is determined and listed in the Part 0 report.

4. Measurement Setup and General Information

This section provides the details of the test setup used for PD measurement.

4.1. Test Environment

Test Location	UL Verification Services
Ambient Temperature	22±2^{0}C
Tissue Simulating Liquid	22±2^{0}C
Humidity Range	30% ~ 49%

4.2. Power Density Measurement System

The power density measurement system is constructed based on the DASY6 platform by SPEAG. The DASY6/8 with EUmmWV and 5G software module can measure the electromagnetic exposure (electromagnetic and power density) up to 110GHz as close as 2mm from any transmitter.

4.2.1. Power Density Probe

The novel EUmmWV probe is used in the power density measurement. It is designed for precise near-field measurements in the mm-wave range by Schmid & Partner Engineering AG of Zurich, Switzerland. The specifications are:

- Frequency range: 0.75 ~ 110 GHz
- Dynamic range: <50 – 3000 V/m (up to 10000 V/m with additional PRE-10 voltage divider)
- Linearity: < ± 0.2 dB
- Supports sensor model calibration (SMC)
- ISO17025 accredited calibration

4.2.2. Power Density Measurement System Verification

The power density system verification is performed using the SPEAG verification device. It consists of a ka-band horn antenna with a corresponding gun oscillator packaged within a cube-shaped housing.

The specification of the verification device is:

- Calibrated frequency: 30 GHz at 10 mm from the case surface
- Frequency accuracy: ± 100 MHz
- E-field polarization: linear
- Harmonics: -20 dBc (typ)
- Total radiated power: 14 dBm (typ)
- Power stability: 0.05 dB
- Power consumption: 5 W (max)
- Size: 100 × 100 × 100 mm
- Weight: 1 kg

Tables 4-1 and 4-2 shows the verification test results. The measured power density (PD) value is within ±1.2 dB of the target level; for the 5G verification source's uncertainty, please refer to Appendix B.

Table 4-1: System validation results for SAR C

SAR Lab	Test Date	5G Probe SN	Probe Cal. Due Date	DAE SN	DAE Cal. Due Date	Frequency (GHz)	5G Verification Source SN	Source Cal. Due Data	Averaging Type	Measured psPDn (W/m²) over 4cm²	Target psPDn (W/m²) over 4cm²	Deviation (dB)	Delta	Measured psPDtot (W/m²) over 4cm²	Target psPDtot (W/m²) over 4cm²	Deviation (dB)	Delta	Measured psPDmod (W/m²) over 4cm²	Target psPDmod (W/m²) over 4cm²	Deviation (dB)	Delta
C	5/20/2024	9589	9/5/2024	1621	4/12/2025	30	1117	9/20/2024	Square	76.9	80.1	-0.18	-4%	78.1	80.1	-0.11	-2%	79.0	80.1	-0.06	-1%
C	5/20/2024	9589	9/5/2024	1621	4/12/2025	30	1117	9/20/2024	Square	76.5	80.1	-0.20	-4%	77.7	80.1	-0.13	-3%	78.7	80.1	-0.08	-2%
C	5/20/2024	9589	9/5/2024	1621	4/12/2025	30	1117	9/20/2024	Square	76.2	80.1	-0.22	-5%	77.3	80.1	-0.15	-3%	78.3	80.1	-0.10	-2%
C	5/20/2024	9589	9/5/2024	1621	4/12/2025	30	1117	9/20/2024	Square	76.0	80.1	-0.23	-5%	77.1	80.1	-0.17	-4%	78.0	80.1	-0.12	-3%
C	5/20/2024	9589	9/5/2024	1621	4/12/2025	30	1117	9/20/2024	Square	77.4	80.1	-0.15	-3%	78.6	80.1	-0.08	-2%	79.5	80.1	-0.03	-1%
C	5/20/2024	9589	9/5/2024	1621	4/12/2025	30	1117	9/20/2024	Square	76.2	80.1	-0.22	-5%	77.3	80.1	-0.15	-3%	78.3	80.1	-0.10	-2%
C	5/20/2024	9589	9/5/2024	1621	4/12/2025	30	1117	9/20/2024	Square	75.5	80.1	-0.26	-6%	76.7	80.1	-0.19	-4%	77.7	80.1	-0.13	-3%
C	5/20/2024	9589	9/5/2024	1621	4/12/2025	30	1117	9/20/2024	Square	75.4	80.1	-0.26	-6%	76.7	80.1	-0.19	-4%	77.7	80.1	-0.13	-3%
C	5/20/2024	9589	9/5/2024	1621	4/12/2025	30	1117	9/20/2024	Square	79.0	80.1	-0.06	-1%	80.4	80.1	0.02	0%	81.4	80.1	0.07	2%
C	5/20/2024	9589	9/5/2024	1621	4/12/2025	30	1117	9/20/2024	Square	77.8	80.1	-0.13	-3%	79.1	80.1	-0.05	-1%	80.0	80.1	-0.01	0%
									Average	**76.7**	80.1	-0.19	-4%	**77.9**	80.1	-0.12	-3%	**78.9**	80.1	-0.07	-2%

Table 4-2: System validation results for SAR D

SAR Lab	Test Date	5G Probe SN	Probe Cal. Due Date	DAE SN	DAE Cal. Due Date	Frequency (GHz)	5G Verification Source SN	Source Cal. Due Data	Averaging Type	Measured psPDn (W/m²) over 4cm²	Target psPDn (W/m²) over 4cm²	Deviation (dB)	Delta	Measured psPDtot (W/m²) over 4cm²	Target psPDtot (W/m²) over 4cm²	Deviation (dB)	Delta	Measured psPDmod (W/m²) over 4cm²	Target psPDmod (W/m²) over 4cm²	Deviation (dB)	Delta
D	5/21/2024	9619	3/8/2025	1472	1/16/2025	30	1117	9/20/2024	Square	85.8	80.1	0.30	7%	88.0	80.1	0.41	10%	88.2	80.1	0.42	10%
D	5/22/2024	9619	3/8/2025	1472	1/16/2025	30	1117	9/20/2024	Square	85.8	80.1	0.30	7%	87.9	80.1	0.40	10%	88.2	80.1	0.42	10%
D	5/22/2024	9619	3/8/2025	1472	1/16/2025	30	1117	9/20/2024	Square	85.6	80.1	0.29	7%	87.8	80.1	0.40	10%	88.1	80.1	0.41	10%
D	5/22/2024	9619	3/8/2025	1472	1/16/2025	30	1117	9/20/2024	Square	85.2	80.1	0.27	6%	87.5	80.1	0.38	9%	87.7	80.1	0.39	9%
D	5/22/2024	9619	3/8/2025	1472	1/16/2025	30	1117	9/20/2024	Square	85.5	80.1	0.28	7%	87.6	80.1	0.39	9%	87.8	80.1	0.40	10%
D	5/22/2024	9619	3/8/2025	1472	1/16/2025	30	1117	9/20/2024	Square	84.0	80.1	0.21	5%	85.4	80.1	0.28	7%	85.6	80.1	0.29	7%
D	5/22/2024	9619	3/8/2025	1472	1/16/2025	30	1117	9/20/2024	Square	84.0	80.1	0.21	5%	85.5	80.1	0.28	7%	85.7	80.1	0.29	7%
D	5/22/2024	9619	3/8/2025	1472	1/16/2025	30	1117	9/20/2024	Square	84.1	80.1	0.21	5%	85.5	80.1	0.28	7%	85.7	80.1	0.29	7%
D	5/22/2024	9619	3/8/2025	1472	1/16/2025	30	1117	9/20/2024	Square	83.5	80.1	0.18	4%	84.7	80.1	0.24	6%	84.9	80.1	0.25	6%
D	5/22/2024	9619	3/8/2025	1472	1/16/2025	30	1117	9/20/2024	Square	83.4	80.1	0.18	4%	84.6	80.1	0.24	6%	84.8	80.1	0.25	6%
									Average	**84.7**	80.1	0.24	6%	**86.5**	80.1	0.33	8%	**86.7**	80.1	0.34	8%

Table 4-3: System Check Results for SAR C

SAR Lab	Date	Frequency (GHz)	5G Verification Source SN	Source Cal. Due Date	Measured psPDn (W/m²) over 4cm²	Target psPDn (W/m²) over 4cm²	Deviation (dB)	Delta ±16 %	Measured psPDtot (W/m²) over 4cm²	Target psPDtot (W/m²) over 4cm²	Deviation (dB)	Delta ±16 %	Measured psPDmod (W/m2) over 4cm2	Target psPDmod (W/m²) over 4cm²	Deviation (dB)	Delta ±16 %
C	6/14/2024	30	1117	9/20/2024	85.1	76.7	0.45	11%	86.9	77.9	0.47	12%	87.1	78.9	0.43	10%
C	6/21/2024	30	1117	9/20/2024	84.7	76.7	0.43	10%	86.6	77.9	0.46	11%	87.1	78.9	0.43	10%

Table 4-4: System Check Results for SAR D

SAR Lab	Date	Frequency (GHz)	5G Verification Source SN	Source Cal. Due Date	Measured psPDn (W/m²) over 4cm²	Target psPDn (W/m²) over 4cm²	Deviation (dB)	Delta ±16 %	Measured psPDtot (W/m²) over 4cm²	Target psPDtot (W/m²) over 4cm²	Deviation (dB)	Delta ±16 %	Measured psPDmod (W/m2) over 4cm2	Target psPDmod (W/m²) over 4cm²	Deviation (dB)	Delta ±16 %
D	6/24/2024	30	1117	9/20/2024	83.9	84.7	-0.04	-1%	85.8	86.5	-0.04	-1%	86.1	86.7	-0.03	-1%

UL Verification Services Inc. SAR Lab C **Date/Time:** 2024-06-14, 08:53

Validation band: CW, FRONT

Exposure Conditions

Band	Validation band	**Phantom Section**	5G
Frequency [MHz] | Channel Number	30000.0 | 30000	**Conversion Factor**	1.0
Group | UID	CW, 0--	**Position | Test Distance [mm]**	FRONT | 5.55

Hardware Setup

Probe | Calibration Date	EUmmWV4 - SN9589_F1-55GHz | 2023-09-05	**Phantom**	mmWave | xxxx
DAE | Calibration Date	DAE4ip Sn1621 | 2024-04-12	**Medium**	Air | -
Software Version	3.2.0.1840		

Scan Setup

Scan Type	5G Scan	**Grid Extents [mm]**	60.0 x 60.0
Grid Steps [lambda]	0.25 x 0.25	**Sensor Surface [mm]**	5.55

Measurement Results

Avg. Area [cm^2]	4.00
psPDn+ [W/m^2]	85.1
psPDtot+ [W/m^2]	86.9
psPDmod+ [W/m^2]	87.1
E_{max} [V/m]	209
H_{max} [A/m]	0.552
Power Drift [dB]	-0.04

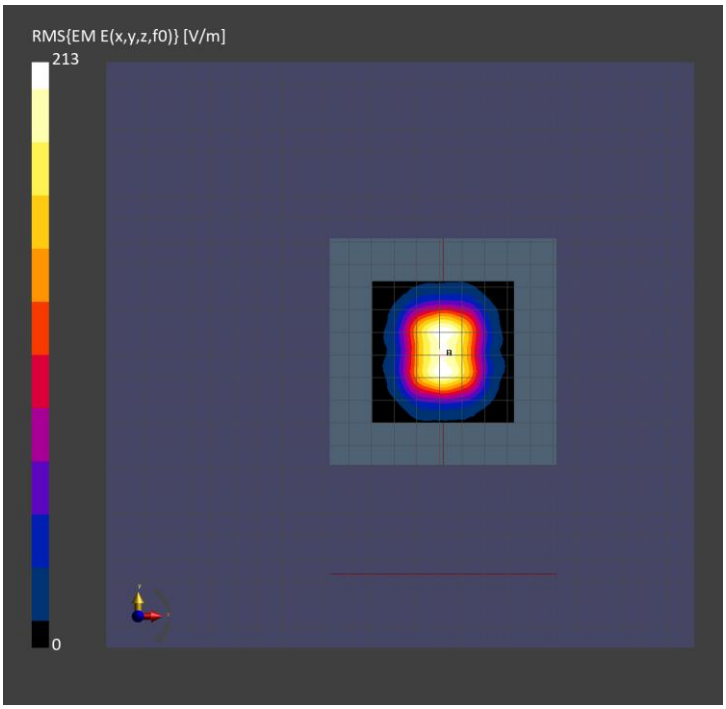

Figure 4-1: 4cm^2 PD for source validation (worst-case Δ) SAR C

UL Verification Services Inc. SAR Lab D **Date/Time:** 2024-06-24, 08:58

Validation band: CW, FRONT

Exposure Conditions

Band	Validation band	**Phantom Section**	5G
Frequency [MHz] | Channel Number	30000.0 | 30000	**Conversion Factor**	1.0
Group | UID	CW, 0--	**Position | Test Distance [mm]**	FRONT | 5.55

Hardware Setup

Probe | Calibration Date	EUmmWV4 - SN9619_F1-55GHz | 2024-03-08	**Phantom**	mmWave | xxxx
DAE | Calibration Date	DAE4 Sn1472 | 2024-01-16	**Medium**	Air | -
Software Version	3.2.0.1840		

Scan Setup

Scan Type	5G Scan	**Grid Extents [mm]**	60.0 x 60.0
Grid Steps [lambda]	0.25 x 0.25	**Sensor Surface [mm]**	5.55

Measurement Results

Avg. Area [cm^2]	4.00
psPDn+ [W/m^2]	83.9
psPDtot+ [W/m^2]	85.8
psPDmod+ [W/m^2]	86.1
E_{max} [V/m]	207
H_{max} [A/m]	0.545
Power Drift [dB]	-0.06

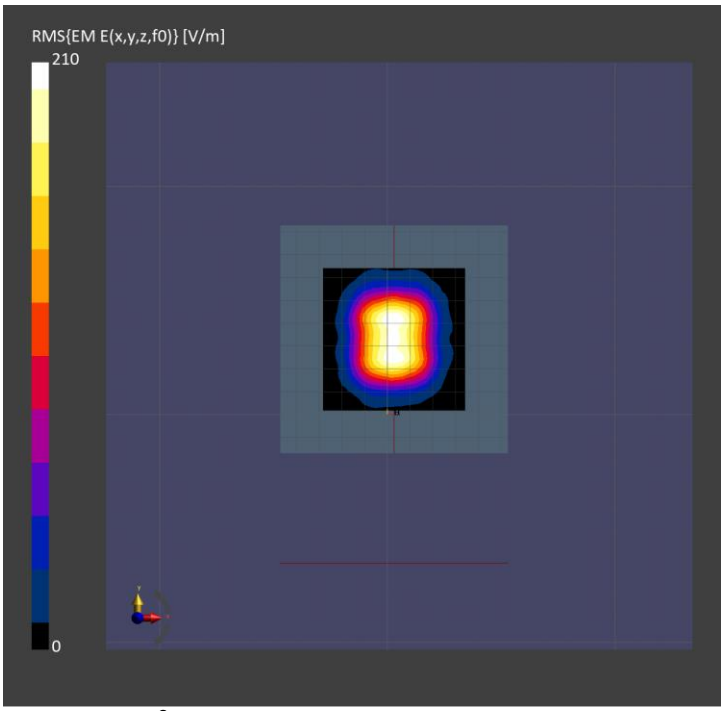

Figure 4-2: 4cm^2 PD for source validation (worst-case Δ) SAR D

5. Test Condition, Configuration, and Assessment

5.1. Qualcomm Smart Transmit Parameters

These parameters are entered through the *Embedded File System* (EFS) and cannot be accessed by the end-user.

The Part 0 report documents the determination of P_{limit} for Sub-6 GHz WWAN bands and the P_{limit} for 5G millimeter wave NR bands using the design targets and limits listed below:

$SAR_{Design\ Target}$ (1-g W/kg)	$SAR_{Design\ Target}$ (10-g W/kg)	$SAR_{Design\ Limit}$ (1-g W/kg)	$SAR_{Design\ Limit}$ (10-g W/kg)
0.8	2.0	1.0	2.5

$PD_{Design\ Target}$ (W/m^2)	$PD_{Design\ Limit}$ (W/m^2)
3.9	6.3

- Tx_power_at_SAR_design_target (P_{limit} in dBm) for Tx transmitting frequency < 6 GHz
  - The maximum time-average transmit power, in dBm, at which this radio configuration (i.e., band and technology) reaches the *SAR_design_target*. This *SAR_design_target* is pre-determined for the specific device, and it shall be less than regulatory SAR limit after accounting for all design related tolerances. The time-averaged SAR is assessed against this *SAR_design_target* in real time to determine the compliance. The P_{limit} could vary with technology, band and DSI (device state index), therefore it has the unique value for each technology, band and DSI.
- Reserve_power_margin (dB)
  - With Smart Transmit EFS version 17 or lower:
    - The margin, in dB, below the P_{limit} to reserve for future transmission with a minimum transmit power ($P_{reserve}$):

$$P_{reserve\ (dBm)} = P_{limit\ (dBm)} - Reserve_{power\ margin\ (dB)}$$

    - The *Reserve_power_margin* is a global parameter, meaning it applies to all the technologies and bands. When the *Reserve_power_margin* is set to zero dB, Smart Transmit effectively limits the upper bound of EUT transmit power to P_{limit}, in other words, the EUT transmits continuously at P_{limit}.
  - With Smart Transmit EFS version 18 or higher:
    - For 2G and 3G WWAN technologies, the parameter of *Reserve_power_margin* has been re-named to *Reserve_power_margin_db_2g_3g_wwan*.
    - For 4G/5G WWAN technologies, the equivalent reserve of *Reserve_power_margin* is denoted as *total_min_exp_budget_linear_4g_5g_wwan*. Furthermore, the parameter of *secondary_split_ratio* is introduced in EFS version 18 and higher so the OEM can determine the minimum reserve margin out of total minimum reserve (i.e., *secondary_split_ratio* * *total_min_exp_budget_linear_4g_5g_wwan*) that is used for the secondary WWAN radio in a two-WWAN-radio transmission scenario. Here, primary WWAN radio in a two-WWAN-radio transmission scenario can get minimum reserve margin of (1 – *secondary_split_ratio*) * *total_min_exp_budget_linear_4g_5g_wwan*.
- P_{limit} (dBm) for Tx transmitting frequency ≥ 6 GHz
  - The maximum time-average power at the input of antenna element port, in dBm, at which each beam meets the *PD_design_target* that is less than the regulatory power density limit after accounting for all design related tolerances.

- *Smart Tx Gen*: **ONLY** applicable for Smart Transmit EFS version 16 or higher
  - The EFS version 16 (or higher) supports 2nd generation of Smart Transmit (GEN2). The EUT with Smart Transmit EFS version 16 (or higher) has an option to select GEN1 or GEN2. The procedure to determine PD char (i.e., P_{limit}) is different. Therefore, in the case of EUT with Smart Transmit EFS version 16 (or higher), additional millimeter wave module switch test is needed to confirm if Smart Transmit EFS used in EUT is configured for GEN1 or GEN2. The EFS configuration (GEN1 or GEN2) should correspond to the PD char performed in Part 0 report, otherwise, EFS configuration should be changed to match GEN1/GEN2 PD char of Part 0 report.
  - Qualcomm 2nd generation of Smart Transmit (GEN2) supports Sub-6 GHz and millimeter wave favor modes. The Smart Transmit EFS provides below options to configure for a given MCC (country/region):
    - GEN1
    - GEN2_MILLIMETER WAVE
    - GEN2_SUB-6 GHZ
    - GEN2_SUB-6 GHZ_MILLIMETER WAVE
- *force peak* for Tx transmitting frequency < 6 GHz
  - The Smart Transmit feature applies time-averaging windows when the device detects an MCC that matches Time-Averaged Exposure MCCs list. For each of the MCCs under Time-Averaged Exposure MCCs list, the Smart Transmit feature can limit either maximum instantaneous Tx power or maximum time-average power to P_{limit} per tech/band/antenna/DSI. If force peak is set to '1' for a given tech/band/antenna/DSI in the EFS, then the Smart Transmit feature limits the maximum instantaneous Tx power to P_{limit} for the selected tech/band/antenna/DSI. In other words, with force peak set to '1', under static condition (i.e., fixed tech/band/antenna/DSI) and in single active Tx scenario, Smart Transmit can guarantee Tx power level of P_{limit} at all times.
- *WWAN Backoff (dB) for WiFi/BT*: **ONLY** applicable for Smart Transmit EFS version 16 (or higher) in GEN1 or GEN2_MILLIMETER WAVE configurations[1]
  - The EFS version 16 (or higher) provides the entry to backoff WWAN radio when WLAN is transmitting. This backoff when WiFi/BT is transmitting can be configured per tech/band/DSI/antenna (Sub-6 GHz antenna and millimeter wave module) in GEN1 or GEN2_MILLIMETER WAVE configuration only. Therefore, in the case of EUT with Smart Transmit EFS version 16 (or higher), perform additional tests (one for Sub-6 GHz WWAN radio, and one for millimeter wave WWAN radio) to verify whether backoff configured in EFS is properly applied by Smart Transmit for GEN1 or GEN2_MILLIMETER WAVE configurations when WiFi/BT is transmitting.

5.1.1. Qualcomm Smart Transmit Parameters for the Sub-6 Modem

For this EUT, the input parameters listed in §5.3 of the Part 0 report are populated via the EFS entry.

5.1.2. Qualcomm Smart Transmit parameters for the 5G modem

For this EUT, the P_{limit} parameters for the 5G millimeter wave NR radio(s) are listed in §5.7.3 of the Part 0 report and are populated via EFS entry into the EUT.

5.2. Device Test Configuration for SAR Measurements

In summary, SAR is evaluated on this EUT in test configurations and test conditions listed below:

- Test configurations: Body-worn & Hotspot SAR exposure (1-g SAR) from all device surfaces/edges (front, back, left, right, top, bottom) having a transmitting antenna located ≤ 25mm from that device surface/edge when in direct contact with flat section of SAM phantom.
- Test condition: The SAR measurements on all supported Sub-6 WWAN technologies and bands are conducted with the EUT transmitting at maximum time-average transmit power (P_{limit}) or maximum RF tune-up power (P_{max}) if $P_{max} \leq P_{limit}$.

[1] This is not a compliance test, the compliance in WWAN + WLAN/BT scenario should be demonstrated in Part 1 simultaneous transmission analysis section; *WWAN Backoff (dB) for WiFi/BT* is applicable **ONLY** when EUT is configured as GEN1 and/or GEN2_MMW.

5.3. Device Test Configuration for PD Measurements

As can be seen in §5 of the Part 0 report, the PD exposure for this EUT has been assessed against the $PD_{Design\ Target}$ listed in §5.1 of this report using a validated simulation approach for the worst cases for all its beams. To further confirm the compliance, a subset of beams and test cases were selected for PD verification, see §6.2.

The below beam selection criteria for the PD verification test are followed:

- Select one single beam (antenna array config) per antenna type (dipole or patch) and per millimeter wave antenna module
  - The single beam containing highest number of active antenna ports. For example, the single beam with 4 active patch ports should be selected over the beam with a single active patch port
- Select one beam pair (if applicable) per antenna type (dipole or patch) and per millimeter wave antenna module
  - The beam pair containing the highest number of active antenna ports.

Additionally, since the worst-case surface dictates the compliance, the PD measurement is made on the worst channel and worst surface determined through the validated simulation approach, see Appendix B of the Part 0 report.

Based on the aforementioned criteria and the EUT codebook in §5.3 of the Part 0 report, Tables 5-1 to 5-3 list the selected beams and test cases for PD verification measurement(s). The definition of the EUT surface is illustrated in Figure 5-1.

Table 5-1: PD verification test cases for n258

Module/Antenna	Ch.	Beam ID1	Beam ID2	BW	RB	DUT
		V	H	MHz	#	Surface
ANT M1	2032499	14		100	1	Back
	2032499		148	100	1	Back
	2032499	15	143	100	1	Back
	2032499	14		100	33	Back
	2032499	14		50	1	Left

Table 5-2: PD verification test cases for n260

Module/Antenna	Ch.	Beam ID1	Beam ID2	BW	RB	DUT
		V	H	MHz	#	Surface
ANT M1	2277500	19		100	1	Back
	2277500		146	100	1	Back
	2253330	17	145	100	1	Back
	2277500		141	50	1	Back
	2277500		141	100	1	Left

Table 5-3: PD verification test cases for n261

Module/Antenna	Ch.	Beam ID1	Beam ID2	BW	RB	DUT
		V	H	MHz	#	Surface
ANT M1	2083330	20		100	1	Back
	2070833		140	100	1	Back
	2070833	12	140	100	1	Back
	2083330	14		100	33	Back
	2083330	14		100	33	Left

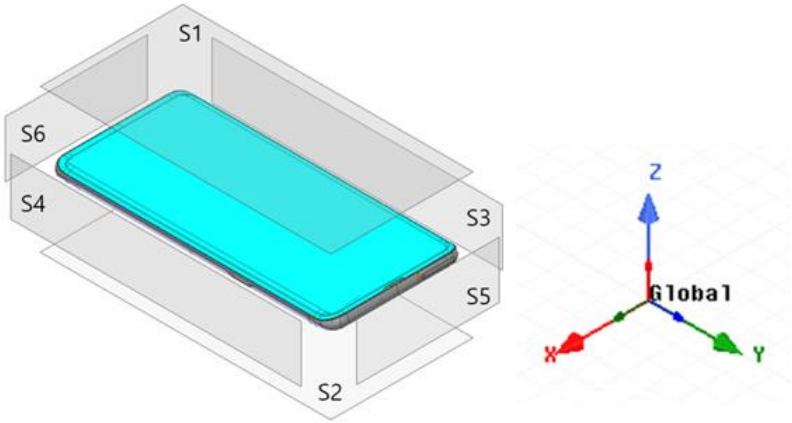

Figure 5-1: EUT surface definition (S1=Front, S2=Back, S3=Edge Left, S4=Edge Right, S5=Edge Top, S6=Edge Bottom)

6. Summary of Results

6.1. SAR Measurement and Conducted Power Results at P_{limit}

The transmit power limit, P_{limit}, that corresponds to the $SAR_{Design\ Target}$, stated in §5.1 for all technologies and bands, was determined through the Part 0 report and are listed in EFS entries in §5.3 of the Part 0 report. For this EUT, the P_{max} (maximum RF tune-up power) for select Sub-6 GHz technologies is less than, or equal to, the corresponding P_{limit}, as summarized and shown in Table 6-1.

Table 6-1: Comparison of P_{limit} and P_{max}

Exposure Scenario			Head				Body & Hotspot				Hotspot				Extremity				P_{max} (dBm)	
Spatial-average			1-g				1-g				1-g				10-g					
Test Distance			0 mm				5 mm				5 mm				0 mm					
Power Mode (DSI)		Duty Cycle	DSI: 0				DSI: 1				DSI: 1				DSI: 1					
Antenna	Tech/Band		P_{design} (dBm)	P_{limit} + Uncertainty (dBm)	P_{design} (dBm)	P_{limit} + Uncertainty (dBm)	P_{design} (dBm)	P_{limit} + Uncertainty (dBm)	P_{design} (dBm)	P_{limit} + Uncertainty (dBm)	P_{design} (dBm)	P_{limit} + Uncertainty (dBm)	P_{design} (dBm)	P_{limit} + Uncertainty (dBm)	P_{design} (dBm)	P_{limit} (dBm)	P_{design} (dBm)	P_{limit} (dBm)		
			Burst Average		Frame Average		Burst Average		Frame Average		Burst Average		Frame Average		Burst Average		Frame Average		Burst Average	Frame Average
ANT 1	GSM 850 2 slots	25.0%	38.25	32.50	32.23	26.48	36.39	32.50	30.37	26.48	35.25	32.50	29.23	26.48	N/A	N/A	N/A	N/A	32.50	26.48
	GSM 1900 2 slots	25.0%	36.10	30.50	30.08	24.48	28.15	25.60	22.13	19.58	26.02	25.60	20.00	19.58	N/A	N/A	N/A	N/A	31.00	24.98
	W-CDMA B2	100.0%	29.68	24.50	29.68	24.50	22.08	19.60	22.08	19.60	19.79	19.60	19.79	19.60	N/A	N/A	N/A	N/A	25.70	25.70
	W-CDMA B4	100.0%	33.25	24.20	33.25	24.20	22.63	20.00	22.63	20.00	20.76	20.00	20.76	20.00	N/A	N/A	N/A	N/A	25.70	25.70
	W-CDMA B5	100.0%	30.12	25.70	30.12	25.70	28.47	25.70	28.47	25.70	28.33	25.70	28.33	25.70	N/A	N/A	N/A	N/A	25.70	25.70
	LTE Band 5	100.0%	31.46	25.70	31.46	25.70	29.53	25.70	29.53	25.70	28.33	25.70	28.33	25.70	N/A	N/A	N/A	N/A	25.70	25.70
	LTE Band 7	100.0%	27.42	24.70	27.42	24.70	22.85	20.80	22.85	20.80	21.03	20.80	21.03	20.80	N/A	N/A	N/A	N/A	25.70	25.70
	LTE Band 12/17	100.0%	32.26	25.70	32.26	25.70	29.12	25.70	29.12	25.70	29.12	25.70	29.12	25.70	N/A	N/A	N/A	N/A	25.70	25.70
	LTE Band 13	100.0%	31.63	25.70	31.63	25.70	27.56	25.70	27.56	25.70	26.58	25.70	26.58	25.70	N/A	N/A	N/A	N/A	25.70	25.70
	LTE Band 14	100.0%	31.66	25.70	31.66	25.70	27.96	25.70	27.96	25.70	27.88	25.70	27.88	25.70	N/A	N/A	N/A	N/A	25.70	25.70
	LTE Band 25/2	100.0%	31.38	24.50	31.38	24.50	21.61	19.60	21.61	19.60	19.70	19.60	19.70	19.60	N/A	N/A	N/A	N/A	25.70	25.70
	LTE Band 26	100.0%	31.27	25.70	31.27	25.70	29.27	25.70	29.27	25.70	28.33	25.70	28.33	25.70	N/A	N/A	N/A	N/A	25.70	25.70
	LTE Band 30	100.0%	31.70	25.00	31.70	25.00	20.52	19.40	20.52	19.40	20.52	19.40	20.52	19.40	N/A	N/A	N/A	N/A	25.70	25.70
	LTE Band 41	63.3%	30.12	25.70	28.13	23.71	25.03	22.60	23.05	20.61	24.32	22.60	22.34	20.61	N/A	N/A	N/A	N/A	25.70	23.71
	LTE Band 41 (PC2)	43.3%	32.86	28.00	29.23	24.36	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	28.70	25.06
	LTE Band 53	63.3%	30.15	20.70	28.17	18.71	24.91	20.70	22.93	18.71	23.30	20.70	21.32	18.71	N/A	N/A	N/A	N/A	20.70	18.71
	LTE Band 66/4	100.0%	33.49	24.20	33.49	24.20	21.99	20.00	21.99	20.00	19.97	20.00	19.97	20.00	N/A	N/A	N/A	N/A	25.70	25.70
	LTE Band 71	100.0%	32.94	25.70	32.84	25.70	29.30	25.70	29.30	25.70	27.59	25.70	27.59	25.70	N/A	N/A	N/A	N/A	25.70	25.70
	MSS	100.0%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	26.00	25.80	26.00	25.80	28.00	28.00
	NR n5	100.0%	30.96	25.70	30.96	25.70	28.86	25.70	28.86	25.70	28.66	25.70	28.66	25.70	N/A	N/A	N/A	N/A	25.70	25.70
	NR n7	100.0%	28.40	24.70	28.40	24.70	23.01	20.80	23.01	20.80	21.48	20.80	21.48	20.80	N/A	N/A	N/A	N/A	25.70	25.70
	NR n12	100.0%	31.30	25.70	31.30	25.70	27.63	25.70	27.63	25.70	26.77	25.70	26.77	25.70	N/A	N/A	N/A	N/A	25.70	25.70
	NR n14	100.0%	31.81	25.70	31.81	25.70	27.64	25.70	27.64	25.70	26.33	25.70	26.33	25.70	N/A	N/A	N/A	N/A	25.70	25.70
	NR n25/2	100.0%	31.53	24.50	31.53	24.50	21.94	19.60	21.94	19.60	19.83	19.60	19.83	19.60	N/A	N/A	N/A	N/A	25.70	25.70
	NR n26	100.0%	30.72	25.70	30.72	25.70	28.09	25.70	28.09	25.70	27.27	25.70	27.27	25.70	N/A	N/A	N/A	N/A	25.70	25.70
	NR n30	100.0%	30.63	25.00	30.63	25.00	21.57	19.40	21.57	19.40	19.52	19.40	19.52	19.40	N/A	N/A	N/A	N/A	25.20	25.20
	NR n41	100.0%	27.86	24.40	27.86	24.40	22.23	20.60	22.23	20.60	20.93	20.60	20.93	20.60	N/A	N/A	N/A	N/A	25.70	25.70
	NR n53	100.0%	27.12	20.70	27.12	20.70	22.70	20.70	22.70	20.70	21.49	20.70	21.49	20.70	N/A	N/A	N/A	N/A	20.70	20.70
	NR n66	100.0%	33.03	24.20	33.03	24.20	22.27	20.00	22.27	20.00	20.32	20.00	20.32	20.00	N/A	N/A	N/A	N/A	25.70	25.70
	NR n70	100.0%	35.97	24.20	35.97	24.20	22.59	20.00	22.59	20.00	20.45	20.00	20.45	20.00	N/A	N/A	N/A	N/A	25.70	25.70
	NR n71	100.0%	31.89	25.70	31.89	25.70	27.95	25.70	27.95	25.70	26.92	25.70	26.92	25.70	N/A	N/A	N/A	N/A	25.70	25.70
ANT 2	GSM 850 2 slots	25.0%	31.17	29.50	25.15	23.48	33.47	31.50	27.45	25.48	33.47	31.50	27.45	25.48	N/A	N/A	N/A	N/A	31.50	25.48
	GSM 1900 2 slots	25.0%	27.41	25.80	21.39	19.78	27.37	25.60	21.34	19.58	27.12	25.60	21.10	19.58	N/A	N/A	N/A	N/A	28.50	22.48
	W-CDMA B2	100.0%	20.69	19.80	20.69	19.80	19.80	19.60	19.80	19.60	19.66	19.60	19.66	19.60	N/A	N/A	N/A	N/A	23.40	23.40
	W-CDMA B4	100.0%	18.24	18.10	18.24	18.10	19.07	18.30	19.07	18.30	18.64	18.30	18.64	18.30	N/A	N/A	N/A	N/A	23.40	23.40
	W-CDMA B5	100.0%	23.68	23.50	23.68	23.50	26.53	25.20	26.53	25.20	26.46	25.20	26.46	25.20	N/A	N/A	N/A	N/A	25.20	25.20
	LTE Band 5	100.0%	23.66	23.50	23.66	23.50	26.60	25.20	26.60	25.20	26.60	25.20	26.60	25.20	N/A	N/A	N/A	N/A	25.20	25.20
	LTE Band 7	100.0%	18.45	17.70	18.45	17.70	19.09	19.00	19.09	19.00	19.09	19.00	19.09	19.00	N/A	N/A	N/A	N/A	23.70	23.70
	LTE Band 12/17	100.0%	27.07	25.20	27.07	25.20	28.71	25.20	28.71	25.20	27.09	25.20	27.09	25.20	N/A	N/A	N/A	N/A	25.20	25.20
	LTE Band 13	100.0%	25.38	24.70	25.38	24.70	28.15	25.20	28.15	25.20	27.04	25.20	27.04	25.20	N/A	N/A	N/A	N/A	25.20	25.20
	LTE Band 14	100.0%	24.74	24.70	24.74	24.70	28.00	25.20	28.00	25.20	27.16	25.20	27.16	25.20	N/A	N/A	N/A	N/A	25.20	25.20
	LTE Band 25/2	100.0%	20.25	19.80	20.25	19.80	20.70	19.60	20.70	19.60	19.71	19.60	19.71	19.60	N/A	N/A	N/A	N/A	23.40	23.40
	LTE Band 26	100.0%	24.29	23.50	24.29	23.50	27.72	25.20	27.72	25.20	27.68	25.20	27.68	25.20	N/A	N/A	N/A	N/A	25.20	25.20
	LTE Band 30	100.0%	19.48	19.30	19.48	19.30	20.02	19.80	20.02	19.80	20.02	19.80	20.02	19.80	N/A	N/A	N/A	N/A	23.70	23.70
	LTE Band 41	63.3%	21.86	20.00	19.87	18.01	21.48	20.70	19.50	18.71	21.48	20.70	19.50	18.71	N/A	N/A	N/A	N/A	25.70	23.71
	LTE Band 53	63.3%	21.08	20.40	19.10	18.41	22.18	20.70	20.19	18.71	21.56	20.70	19.57	18.71	N/A	N/A	N/A	N/A	20.70	18.71
	LTE Band 66/4	100.0%	18.24	18.10	18.24	18.10	19.33	18.30	19.33	18.30	18.35	18.30	18.35	18.30	N/A	N/A	N/A	N/A	25.70	25.70
	LTE Band 71	100.0%	25.60	25.20	25.60	25.20	29.03	25.20	29.03	25.20	27.35	25.20	27.35	25.20	N/A	N/A	N/A	N/A	25.20	25.20
	NR n5	100.0%	24.78	23.50	24.78	23.50	28.00	25.20	28.00	25.20	26.95	25.20	26.95	25.20	N/A	N/A	N/A	N/A	25.20	25.20
	NR n7	100.0%	18.10	17.70	18.10	17.70	19.22	19.00	19.22	19.00	19.22	19.00	19.22	19.00	N/A	N/A	N/A	N/A	23.70	23.70
	NR n12	100.0%	26.56	25.20	26.56	25.20	28.23	25.20	28.23	25.20	27.74	25.20	27.74	25.20	N/A	N/A	N/A	N/A	25.20	25.20
	NR n14	100.0%	25.70	24.70	25.70	24.70	27.72	25.20	27.72	25.20	26.24	25.20	26.24	25.20	N/A	N/A	N/A	N/A	25.20	25.20
	NR n25/2	100.0%	19.89	19.80	19.89	19.80	20.12	19.60	20.12	19.60	20.12	19.60	20.12	19.60	N/A	N/A	N/A	N/A	23.40	23.40
	NR n26	100.0%	23.93	23.50	23.93	23.50	26.89	25.20	26.89	25.20	26.89	25.20	26.89	25.20	N/A	N/A	N/A	N/A	25.20	25.20
	NR n30	100.0%	19.52	19.30	19.52	19.30	20.11	19.80	20.11	19.80	20.11	19.80	20.11	19.80	N/A	N/A	N/A	N/A	23.20	23.20
	NR n41	100.0%	18.67	18.00	18.67	18.00	19.47	18.70	19.47	18.70	19.47	18.70	19.47	18.70	N/A	N/A	N/A	N/A	25.70	25.70
	NR n53	100.0%	18.84	18.40	18.84	18.40	19.43	19.40	19.43	19.40	19.43	19.40	19.43	19.40	N/A	N/A	N/A	N/A	20.70	20.70
	NR n66	100.0%	18.29	18.10	18.29	18.10	19.62	18.30	19.62	18.30	18.44	18.30	18.44	18.30	N/A	N/A	N/A	N/A	25.70	25.70
	NR n70	100.0%	18.17	18.10	18.17	18.10	20.27	18.30	20.27	18.30	18.52	18.30	18.52	18.30	N/A	N/A	N/A	N/A	25.70	25.70
	NR n71	100.0%	26.79	25.20	26.79	25.20	28.65	25.20	28.65	25.20	28.65	25.20	28.65	25.20	N/A	N/A	N/A	N/A	25.20	25.20
ANT 3	GSM 1900 2 slots	25.0%	43.00	28.30	36.98	22.28	30.30	27.80	24.28	21.78	29.01	27.80	22.99	21.78	N/A	N/A	N/A	N/A	30.50	24.48
	W-CDMA B2	100.0%	28.50	22.30	28.50	22.30	23.26	21.80	23.26	21.80	21.94	21.80	21.94	21.80	N/A	N/A	N/A	N/A	25.50	25.50
	W-CDMA B4	100.0%	27.05	21.60	27.05	21.60	22.59	22.10	22.59	22.10	22.59	22.10	22.59	22.10	N/A	N/A	N/A	N/A	25.50	25.50
	LTE Band 7	100.0%	26.67	23.30	26.67	23.30	22.55	20.50	22.55	20.50	20.85	20.50	20.85	20.50	N/A	N/A	N/A	N/A	25.00	25.00
	LTE Band 25/2	100.0%	27.77	22.30	27.77	22.30	22.78	21.80	22.78	21.80	21.80	21.80	21.80	21.80	N/A	N/A	N/A	N/A	25.50	25.50
	LTE Band 30	100.0%	33.44	23.00	33.44	23.00	23.65	23.10	23.65	23.10	23.16	23.10	23.16	23.10	N/A	N/A	N/A	N/A	25.00	25.00
	LTE Band 41	63.3%	31.03	23.90	29.05	21.91	23.87	22.10	21.88	20.11	23.81	22.10	21.82	20.11	N/A	N/A	N/A	N/A	25.70	23.71
	LTE Band 66/4	100.0%	28.86	21.60	28.86	21.60	23.65	22.10	23.65	22.10	23.49	22.10	23.49	22.10	N/A	N/A	N/A	N/A	25.50	25.50
	NR n7	100.0%	26.52	23.30	26.52	23.30	21.84	20.50	21.84	20.50	20.97	20.50	20.97	20.50	N/A	N/A	N/A	N/A	25.00	25.00
	NR n25/2	100.0%	26.48	22.30	26.48	22.30	22.42	21.80	22.42	21.80	21.83	21.80	21.83	21.80	N/A	N/A	N/A	N/A	25.50	25.50
	NR n30	100.0%	33.46	23.00	33.46	23.00	23.26	23.10	23.26	23.10	23.26	23.10	23.26	23.10	N/A	N/A	N/A	N/A	24.50	24.50
	NR n41	100.0%	31.94	21.90	31.94	21.90	21.00	20.10	21.00	20.10	20.28	20.10	20.28	20.10	N/A	N/A	N/A	N/A	25.70	25.70
	NR n66	100.0%	28.11	21.60	28.11	21.60	23.35	22.10	23.35	22.10	22.92	22.10	22.92	22.10	N/A	N/A	N/A	N/A	25.50	25.50
	NR n70	100.0%	28.82	21.60	28.82	21.60	24.15	22.10	24.15	22.10	23.11	22.10	23.11	22.10	N/A	N/A	N/A	N/A	25.50	25.50
ANT 4	GSM 1900 2 slots	25.0%	24.34	22.80	18.32	16.78	25.86	24.50	19.84	18.48	25.86	24.50	19.84	18.48	N/A	N/A	N/A	N/A	28.00	21.98
	W-CDMA B2	100.0%	16.89	16.80	16.89	16.80	19.46	18.50	19.46	18.50	19.34	18.50	19.34	18.50	N/A	N/A	N/A	N/A	22.90	22.90
	W-CDMA B4	100.0%	19.21	18.20	19.21	18.20	21.69	20.00	21.69	20.00	20.32	20.00	20.32	20.00	N/A	N/A	N/A	N/A	22.90	22.90
	LTE Band 7	100.0%	18.65	18.60	18.65	18.60	19.18	19.20	19.18	19.20	19.18	19.20	19.18	19.20	N/A	N/A	N/A	N/A	22.70	22.70
	LTE Band 25/2	100.0%	16.97	16.80	16.97	16.80	18.64	18.50	18.64	18.50	18.64	18.50	18.64	18.50	N/A	N/A	N/A	N/A	22.90	22.90
	LTE Band 30	100.0%	18.02	17.80	18.02	17.80	19.62	19.30	19.62	19.30	19.62	19.30	19.62	19.30	N/A	N/A	N/A	N/A	22.70	22.70
	LTE Band 41	63.3%	20.79	19.40	18.80	17.41	20.74	20.70	18.76	18.71	20.74	20.70	18.76	18.71	N/A	N/A	N/A	N/A	25.70	23.71
	LTE Band 48	63.3%	22.46	22.30	20.47	20.31	23.95	23.10	21.97	21.11	23.95	23.10	21.97	21.11	N/A	N/A	N/A	N/A	24.70	22.71
	LTE Band 66/4	100.0%	18.25	18.20	18.25	18.20	20.15	20.00	20.15	20.00	20.15	20.00	20.15	20.00	N/A	N/A	N/A	N/A	25.20	25.20
	MSS	100.0%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	24.06	23.50	24.06	23.50	25.80	25.80
	NR n7	100.0%	18.77	18.60	18.77	18.60	19.66	19.20	19.66	19.20	19.40	19.20	19.40	19.20	N/A	N/A	N/A	N/A	22.70	22.70
	NR n25/2	100.0%	16.99	16.80	16.99	16.80	18.83	18.50	18.83	18.50	18.83	18.50	18.83	18.50	N/A	N/A	N/A	N/A	22.90	22.90
	NR n30	100.0%	17.76	17.80	17.76	17.80	20.36	19.30	20.36	19.30	20.36	19.30	20.36	19.30	N/A	N/A	N/A	N/A	22.20	22.20
	NR n41	100.0%	18.18	17.40	18.18	17.40	18.78	18.70	18.78	18.70	18.78	18.70	18.78	18.70	N/A	N/A	N/A	N/A	25.70	25.70
	NR n48	100.0%	20.50	20.30	20.50	20.30	21.21	21.10	21.21	21.10	21.21	21.10	21.21	21.10	N/A	N/A	N/A	N/A	24.70	24.70
	NR n66	100.0%	18.54	18.20	18.54	18.20	20.29	20.00	20.29	20.00	20.29	20.00	20.29	20.00	N/A	N/A	N/A	N/A	25.20	25.20
	NR n70	100.0%	18.78	18.20	18.78	18.20	21.02	20.00	21.02	20.00	21.02	20.00	21.02	20.00	N/A	N/A	N/A	N/A	25.20	25.20
	NR n77	100.0%	20.61	18.50	20.61	18.50	20.88	19.50	20.88	19.50	20.88	19.50	20.88	19.50	N/A	N/A	N/A	N/A	24.70	24.70
ANT 7	LTE Band 48	63.3%	33.43	23.70	31.45	21.71	24.69	21.50	22.70	19.51	23.03	21.50	21.04	19.51	N/A	N/A	N/A	N/A	25.60	23.61
	NR n48	100.0%	31.68	21.70	31.68	21.70	20.81	19.50	20.81	19.50	19.79	19.50	19.79	19.50	N/A	N/A	N/A	N/A	25.60	25.60
	NR n77	100.0%	31.18	21.70	31.18	21.70	20.82	18.60	20.82	18.60	20.50	18.60	20.50	18.60	N/A	N/A	N/A	N/A	26.00	26.00
ANT 8	LTE Band 48	63.3%	22.98	21.50	20.99	19.51	22.47	20.70	20.48	18.71	22.47	20.70	20.48	18.71	N/A	N/A	N/A	N/A	24.70	22.71
	NR n48	100.0%	20.33	19.50	20.33	19.50	19.24	18.70	19.24	18.70	19.24	18.70	19.24	18.70	N/A	N/A	N/A	N/A	24.70	24.70
	NR n77	100.0%	19.41	19.10	19.41	19.10	17.90	17.80	17.90	17.80	17.90	17.80	17.90	17.80	N/A	N/A	N/A	N/A	25.70	25.70
ANT 9	LTE Band 48	63.3%	29.56	22.10	27.58	20.11	21.98	21.20	20.00	19.21	21.24	21.20	19.25	19.21	N/A	N/A	N/A	N/A	25.00	23.01
	NR n48	100.0%	28.15	20.10	28.15	20.10	19.82	19.20	19.82	19.20	19.28	19.20	19.28	19.20	N/A	N/A	N/A	N/A	25.00	25.00
	NR n77	100.0%	29.12	19.30	29.12	19.30	20.96	17.70	20.96	17.70	19.13	17.70	19.13	17.70	N/A	N/A	N/A	N/A	26.00	26.00

Therefore, for this EUT, SAR and conducted power measurements at P_{limit} will be the same as those performed at P_{max}. SAR measured at P_{max} can be leveraged in this section to avoid re-testing. The worst-case reported SAR values for Sub-6 GHz are listed in §4.4 of the Part 0 report and the worst-case reported WLAN SAR results are listed in Table 6-2 and Table 6-3.

Table 6-2: Worst-case reported WLAN SAR (Power State 4)

Techonology	Freq (GHz)	ANT			Reported 1-g SAR (W/kg)			P_{max}		
		Head	Body & Hotspot	Hotspot	Head	Body & Hotspot	Hotspot	Head	Body & Hotspot	Hotspot
WLAN	2.4	ANT 4	ANT 4	ANT 4	0.381	0.376	0.448	18.75	20.00	20.00
	5.2	ANT 5	ANT 5	ANT 5	0.028	0.487	0.254	18.25	17.50	20.50
	5.3	ANT 6	N/A	N/A	0.147	N/A	N/A	20.50	N/A	N/A
	5.5	ANT 6	ANT 6	ANT 6	0.468	0.469	0.096	20.50	15.25	15.25
	5.8	ANT 6	ANT 6	ANT 6	0.446	0.425	0.148	20.50	15.25	15.25
Techonology	**Freq (GHz)**	**ANT**			**Reported 1-g SAR (W/kg)**			**P_{max}**		
		Head	**Body-worn & Extremity**	**Hotspot**	**Head**	**Body-worn & Extremity**	**Hotspot**	**Head**	**Body-worn & Extremity**	**Hotspot**
WLAN	6.2	ANT 5	ANT 6	N/A	0.012	0.181	N/A	15.00	9.75	N/A
	6.5	ANT 6	ANT 5	N/A	0.010	0.193	N/A	9.75	14.25	N/A
	6.7	ANT 5	ANT 6	N/A	0.000	0.206	N/A	14.25	11.50	N/A
	7.0	ANT 6	ANT 6	N/A	0.006	0.285	N/A	11.50	11.50	N/A

Table 6-3: Worst-case reported WLAN SAR (Power State 6)

Techonology	Freq (GHz)	ANT			Reported 1-g SAR (W/kg)			P_{max}		
		Head	Body & Hotspot	Hotspot	Head	Body & Hotspot	Hotspot	Head	Body & Hotspot	Hotspot
WLAN	2.4	ANT 4	ANT 4	ANT 4	0.302	0.299	0.356	18.75	20.00	20.00
	5.2	ANT 5	ANT 5	ANT 5	0.028	0.387	0.202	18.25	17.50	20.50
	5.3	ANT 6	N/A	N/A	0.147	N/A	N/A	20.50	N/A	N/A
	5.5	ANT 6	ANT 6	ANT 6	0.372	0.372	0.076	20.50	15.25	15.25
	5.8	ANT 6	ANT 6	ANT 6	0.354	0.338	0.117	20.50	15.25	15.25
Techonology	**Freq (GHz)**	**ANT**			**Reported 1-g SAR (W/kg)**			**P_{max}**		
		Head	**Body-worn & Extremity**	**Hotspot**	**Head**	**Body-worn & Extremity**	**Hotspot**	**Head**	**Body-worn & Extremity**	**Hotspot**
WLAN	6.2	ANT 5	ANT 6	N/A	0.012	0.181	N/A	15.00	9.75	N/A
	6.5	ANT 6	ANT 5	N/A	0.010	0.193	N/A	9.75	14.25	N/A
	6.7	ANT 5	ANT 6	N/A	0.000	0.206	N/A	14.25	11.50	N/A
	7.0	ANT 6	ANT 6	N/A	0.006	0.285	N/A	11.50	11.50	N/A

Note that WLAN SAR for each of the bands in the above table lists the worst-case SAR out of both WLAN antennas and WLAN MIMO.

6.2. PD Measurement Results at P_{limit}

Tables 5-1 to 5-3 list the beams selected for PD verification test for this EUT and Tables 6-4 to 6-6 list the corresponding PD measurement results at 2 mm spacing. Qualcomm's Smart Transmit algorithm operates based on time-averaged transmit power reported on a per symbol basis, which is independent of modulation, channel, and bandwidth (RBs). Therefore, PD measurements in Table 6-4 to 6-6 were conducted with the EUT in *Factory Test Mode* (FTM), with CW modulation and on the worst-case channel determined through simulations (See Appendix B of the Part 0 report), with the EUT transmitting at P_{limit} (listed in Table 5-7 of the Part 0 report) corresponding to the tested beams.

All 4cm^2 PD values for the selected beams are listed in Tables 5-1 to 5-3. In addition to these selected beams, 4cm^2 PD for a few more beams were used in the Part 2 report.

Table 6-4: PD Measurement results n258

Module/Antenna	Frequency		Beam ID1	Beam ID2	P_{limit}	CC	BW	RB	Signal Type	DUT Surface	Normal psPD	Total psPD
	MHz	Ch.	V	H	dBm	#	MHz	#			W/m²	W/m²
ANT M1	25200	2032499	14		-1.2	1	100	1	CW	Back	3.010	3.340
	25200	2032499		148	-1.3	1	100	1	CW	Back	2.730	3.300
	25200	2032499	15	143	-4.6	1	100	1	CW	Back	2.480	2.900
	25200	2032499	14		-1.2	1	100	33	CW	Back	3.130	**3.450**
	25200	2032499	14		-1.2	1	50	1	CW	Left	0.092	0.095

Table 6-5: PD Measurement results n260

Module/Antenna	Frequency		Beam ID1	Beam ID2	P_{limit}	CC	BW	RB	Signal Type	DUT Surface	Normal psPD	Total psPD
	MHz	Ch.	V	H	dBm	#	MHz	#			W/m²	W/m²
ANT M1	39950	2277500	19		-0.1	1	100	1	CW	Back	2.710	2.900
	39950	2277500		146	0.2	1	100	1	CW	Back	2.610	3.000
	38500	2253330	17	145	-3.2	1	100	1	CW	Back	1.650	1.930
	39950	2277500		141	0.3	1	50	1	CW	Back	3.240	**3.490**
	39950	2277500		141	0.3	1	100	1	CW	Left	0.566	0.848

Table 6-6: PD Measurement results n261

Module/Antenna	Frequency		Beam ID1	Beam ID2	P_{limit}	CC	BW	RB	Signal Type	DUT Surface	Normal psPD	Total psPD
	MHz	Ch.	V	H	dBm	#	MHz	#			W/m²	W/m²
ANT M1	28300	2083330	20		-1.1	1	100	1	CW	Back	2.440	2.900
	27550	2070833		140	-2	1	100	1	CW	Back	1.930	2.340
	27550	2070833	12	140	-4.8	1	100	1	CW	Back	1.380	1.650
	28300	2083330	14		-1	1	100	33	CW	Back	3.580	**3.900**
	28300	2083330	14		-1	1	100	33	CW	Left	0.145	0.156

The PD distribution plots for both point PD and 4cm² avg PD for the highest PD configuration in Tables 6-4 to 6-6 are given below.

UL Verification Services Inc. SAR Lab C **Date/Time:** 2024-06-24, 13:31

Custom Band: CW, BACK

Exposure Conditions

Band	Custom Band	**Phantom Section**	5G
Frequency [MHz] | Channel Number	25200.0 | 2032499	**Conversion Factor**	1.0
Group | UID	CW, 0--	**Position | Test Distance [mm]**	BACK | 2.00

Hardware Setup

Probe | Calibration Date	EUmmWV4 - SN9589_F1-55GHz | 2023-09-05	**Phantom**	mmWave | xxxx
DAE | Calibration Date	DAE4ip Sn1621 | 2024-04-12	**Medium**	Air | -
Software Version	3.2.0.1840		

Scan Setup

Scan Type	5G Scan	**Grid Extents [mm]**	25.0 x 25.0
Grid Steps [lambda]	0.17158298424721127 x 0.17158298424721127	**Sensor Surface [mm]**	2.0

Measurement Results

Avg. Area [cm^2]	4.00
psPDn+ [W/m^2]	3.13
psPDtot+ [W/m^2]	3.45
psPDmod+ [W/m^2]	3.54
E_{max} [V/m]	61.1
H_{max} [A/m]	0.174
Power Drift [dB]	0.00

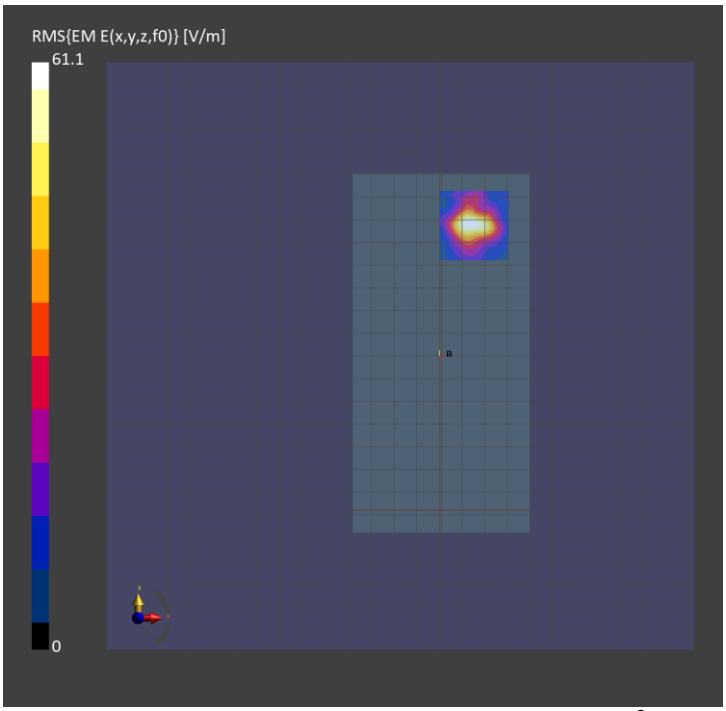

Figure 6-1: Band n258, Beam ID 14, point PD and 4cm^2 PD, Back

UL Verification Services Inc. SAR Lab D **Date/Time:** 2024-06-24, 22:29

Custom Band: CW, BACK

Exposure Conditions

Band	Custom Band	**Phantom Section**	5G
Frequency [MHz] | Channel Number	39950.0 | 2277500	**Conversion Factor**	1.0
Group | UID	CW, 0--	**Position | Test Distance [mm]**	BACK | 2.00

Hardware Setup

Probe | Calibration Date	EUmmWV4 - SN9619_F1-55GHz | 2024-03-08	**Phantom**	mmWave | xxxx
DAE | Calibration Date	DAE4 Sn1472 | 2024-01-16	**Medium**	Air | -
Software Version	3.2.0.1840		

Scan Setup

Scan Type	5G Scan	**Grid Extents [mm]**	25.0 x 25.0
Grid Steps [lambda]	0.25 x 0.25	**Sensor Surface [mm]**	2.0

Measurement Results

Avg. Area [cm^2]	4.00
psPDn+ [W/m^2]	3.24
psPDtot+ [W/m^2]	3.49
psPDmod+ [W/m^2]	3.59
E_{max} [V/m]	65.3
H_{max} [A/m]	0.161
Power Drift [dB]	-0.02

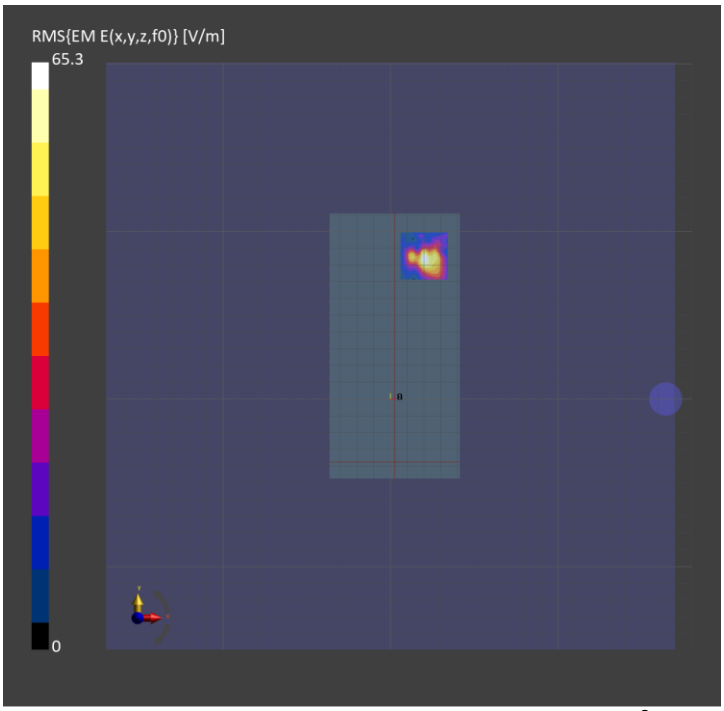

Figure 6-2: Band n260, Beam ID 141, point PD and 4cm^2 PD, Right

UL Verification Services Inc. SAR Lab C **Date/Time:** 2024-06-25, 11:25

Custom Band: CW, BACK

Exposure Conditions

Band	Custom Band	**Phantom Section**	5G
Frequency [MHz] | Channel Number	28300.0 | 2083330	**Conversion Factor**	1.0
Group | UID	CW, 0--	**Position | Test Distance [mm]**	BACK | 2.00

Hardware Setup

Probe | Calibration Date	EUmmWV4 - SN9589_F1-55GHz | 2023-09-05	**Phantom**	mmWave | xxxx
DAE | Calibration Date	DAE4ip Sn1621 | 2024-04-12	**Medium**	Air | -
Software Version	3.2.0.1840		

Scan Setup

Scan Type	5G Scan	**Grid Extents [mm]**	25.0 x 25.0
Grid Steps [lambda]	0.19269041484905072 x 0.19269041484905072	**Sensor Surface [mm]**	2.0

Measurement Results

Avg. Area [cm^2]	4.00
psPDn+ [W/m^2]	3.58
psPDtot+ [W/m^2]	3.90
psPDmod+ [W/m^2]	4.03
E_{max} [V/m]	73.6
H_{max} [A/m]	0.244
Power Drift [dB]	0.04

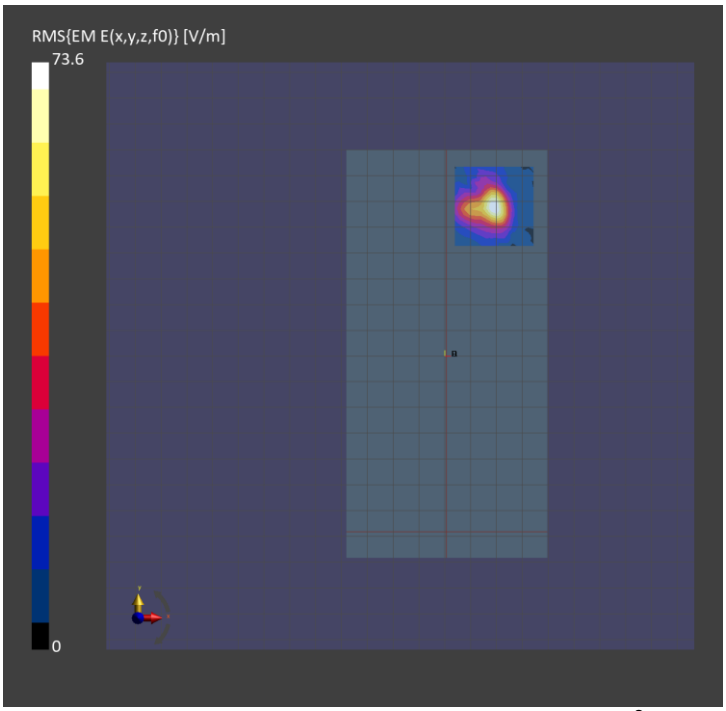

Figure 6-3: Band n261, Beam ID 14, point PD and 4cm^2 PD, Right

6.3. Simultaneous Transmission Analysis

The EUT supports simultaneous transmission of multiple radios. RF exposure compliance in simultaneous transmission scenarios is evaluated in this section.

It must be noted here that Qualcomm's Smart Transmit time-averaging algorithm was applied to only WWAN (Sub-6GHz/5G millimeter wave NR) on this device, where the time-averaged power level is controlled so that the RF exposure is ≤ $SAR_{Design\ Target}$ (corresponding to P_{limit}) for Sub-6 GHz WWAN and ≤ $PD_{Design\ Target}$ (corresponding to P_{limit}) for 5G millimeter wave NR. Since there is total design-related uncertainty arising from TxAGC and device-to-device variation, the worst-case RF exposure should be determined by accounting for this uncertainty in the corresponding design target, listed in Table 6-7.

Table 6-7: Worst-case time-averaged RF exposure for WWAN

Scenario	WWAN	
	Sub-6 GHz WWAN	5G mmW NR
Maximum time-averaged power level	P_{limit}	input.power.limit
Maximum time-averaged exposure (Design Targets)	0.8 W/kg (1-g SAR)	3.9 W/m²
Worst-case time-averaged RF exposure	Reported SAR† = 0.959 W/kg (1-g SAR)	Reported PD = 3.9 W/m²

†: For this EUT, (Plimit + 1dB uncertainty) ≥ Pmax (maximum RF tune-up output power). Therefore, time-averaged SAR exposure from Smart Transmit enabled EUT (at Plimit) cannot exceed the reported SAR corresponding to Pmax listed in the referenced SAR report found in §1.

WLAN does not employ Qualcomm's Smart Transmit time-averaging feature in this device, reported 1-g SAR at the maximum RF tune-up output power is listed in Table 6-2 and Table 6-3.

6.3.1. Analysis

RF exposure compliance with WWAN+WLAN simultaneous transmission scenarios is demonstrated for various radio configurations using the equation below:

> Total norm. RF exposure = norm. RF exposure from Smart Transmit enabled WWAN (norm. SAR from Sub-6 GHz + norm. PD from 5G millimeter wave NR) + norm. SAR from WLAN ≤ 1.0 normalized limit (1)

Smart Transmit algorithm in WWAN adds directly the time-averaged RF exposure from Sub-6 GHz WWAN and time-averaged RF exposure from 5G millimeter wave NR, i.e.,

> norm. RF exposure from Smart Transmit enabled WWAN: (normalized SAR exposure from Sub-6 GHz) + (normalized PD exposure from 5G millimeter wave NR) ≤ 1.0 normalized limit (2)

In other words, Smart Transmit algorithm controls the total RF exposure from both Sub-6 GHz radio and 5G millimeter wave NR to not exceed the FCC limit. Smart transmit algorithm assumes hotspots are collocated (i.e., ignoring spatial distribution of hotspots) and directly adds normalized RF exposures from Sub-6 GHz WWAN and from 5G millimeter wave NR, i.e.,

> If A = max normalized time-averaged SAR exposure from 4G,
> B = max normalized time-averaged PD exposure from 5G millimeter wave NR,

Then, equation (2) can be re-written as below because Smart Transmit assumes Sub-6 GHz WWAN hotspots are collocated with 5G millimeter wave NR hotspot:

> Smart Transmit enabled WWAN: x(t) * A + (1-x(t)) * B ≤ 1.0 normalized limit (3)

Here, "*x(t)*A*" represents percentage of normalized time-averaged RF exposure from Sub-6 GHz WWAN, and x(t) ranges between [0,1]; "*(1-x(t))*B*" is remaining percentage of RF exposure contribution from 5G millimeter wave NR. Smart Transmit controls '*x*' in real time such that the sum of these exposures never exceeds the 1.0 normalized limit.

Note that mathematically:

$$x(t) * A + (1 - x(t)) * B \leq max(A, B) \leq 1.0\ normalized\ limit \text{ for } x(t) \in [0,1] \quad (4)$$

Therefore, if equations (5a) and (5b) are proven:

$$A + norm.SAR\ from\ WLAN \leq 1.0\ norm.limit \quad (5a),$$

$$B + norm.SAR\ from\ WLAN \leq 1.0\ norm.limit \quad (5b),$$

Then, based on equation (4), the condition below is also proved:

$$[x(t) * A + (1 - x(t)) * B] + norm.SAR\ from\ WLAN \leq 1.0\ norm.limit \quad (5c)$$

which is the same as equation (1), as a means to demonstrate compliance for simultaneous transmission.

Additionally, it should be noted that in the absence of 5G millimeter wave NR, Smart Transmit limits the maximum RF exposure contributed from Sub-6 GHz WWAN to 100% normalized exposure (i.e., *x*=1.0 in equation 3), while with 5G millimeter wave NR active, Smart Transmit limits the maximum RF exposure contributed from 5G millimeter wave NR to 75% normalized exposure to guarantee at least 25% margin allocated to the Sub-6 GHz WWAN anchor to maintain the link (i.e., *x*=0.25 in equation 3). Therefore:

Smart Transmit enabled WWAN: A=max (normalized SAR exposure from 4G) ≤ 1.0 normalized limit (6a)

Smart Transmit enabled WWAN: B=max (normalized PD exposure from 5G millimeter wave NR) ≤ 0.75 normalized limit (6b)

Thus, for compliance demonstration given by equation (1), equation (7) is obtained by combining equations (5a & 5b) and (6a & 6b) and should be proven to guarantee simultaneous transmission compliance:

Total normalized RF exposure = norm. SAR from 4G WWAN + norm. SAR from WLAN < 1.0 normalized FCC limit (7a)

*Total normalized RF exposure = 0.75*norm. PD from 5G millimeter wave NR WWAN + norm. SAR from WLAN < 1.0 normalized FCC limit* (7b)

The compliance for simultaneous transmission scenarios of WWAN (Sub-6 GHz/5G millimeter wave NR) radio enabled with Smart Transmit and WLAN without Smart Transmit is re-evaluated for all transmission scenarios supported by this EUT.

As described in equation (7), simultaneous transmission analysis for WWAN + WLAN is performed in two parts:

1. Sub-6 GHz WWAN + WLAN (i.e., Eq. (7a) with compliance demonstration in §5.3.2)
2. 5G millimeter wave NR WWAN + WLAN (i.e., Eq. (7b) with compliance demonstration in §5.3.3)

By combining equations *a* and *b* variants, the FCC requirement expressed in Eq. (1) is re-written below:

Total norm. RF exposure = norm. RF exposure from Smart Transmit enabled WWAN (norm. SAR from Sub-6 GHz WWAN + norm. PD from 5G millimeter wave NR) + norm. SAR from WLAN ≤ 1.0 normalized limit (1)

6.3.2. Simultaneous Transmission Compliance Demonstration for Sub-6 GHz WWAN + WLAN

Simultaneous transmission analysis for Sub-6 WWAN + WLAN is shown in the referenced UL FCC SAR Test Report mentioned in §1.

6.3.3. Simultaneous Transmission Compliance demonstration for 5G millimeter wave NR WWAN + WLAN

Simultaneous transmission analysis is performed in this section using worst-case PD values listed in Tables 6-4 to 6-6 for compliance demonstration of 5G millimeter wave NR WWAN + WLAN.

Simultaneous transmission analysis on all 5G millimeter wave NR WWAN + WLAN scenarios are listed below:

Table 6-8: Simultaneous transmission analysis scenarios for 5G millimeter wave NR WWAN + WLAN

1	5G millimeter wave NR + 2.4 GHz WLAN*
2	5G millimeter wave NR + 2.4 GHz WLAN* + NB U-NII
3	5G millimeter wave NR + 2.4 GHz WLAN* + 802.15.4ab
4	5G millimeter wave NR + 5 GHz WLAN*
5	5G millimeter wave NR + 5 GHz WLAN* + BT
6	5G millimeter wave NR + 5 GHz WLAN* + 802.15.4
7	5G millimeter wave NR + 5 GHz WLAN* + 802.15.4ab
8	5G millimeter wave NR + 5 GHz WLAN* + BT + 802.15.4ab
9	5G millimeter wave NR + 5 GHz WLAN* + 802.15.4 + 802.15.4ab
10	5G millimeter wave NR + 6E WLAN*
11	5G millimeter wave NR + 6E WLAN* + BT
12	5G millimeter wave NR + 6E WLAN* + 802.15.4
13	5G millimeter wave NR + 6E WLAN* + 802.15.4ab
14	5G millimeter wave NR + 6E WLAN* + BT + 802.15.4ab
15	5G millimeter wave NR + 6E WLAN* + 802.15.4 + 802.15.4ab
16	5G millimeter wave NR + BT
17	5G millimeter wave NR + BT + 802.15.4ab
18	5G millimeter wave NR + NB U-NII
19	5G millimeter wave NR + 802.15.4
20	5G millimeter wave NR + 802.15.4 + 802.15.4ab
21	5G millimeter wave NR + 802.15.4ab

*: For each of the WLAN bands, worst-case SAR out of both WLAN antennas and WLAN MIMO scenarios is used during simultaneous transmission analysis. Additionally, note that WLAN 2.4 GHz, WLAN 5 GHz, and WLAN 6E cannot transmit simultaneously.

The total exposure ratio (TER) is calculated using the equation below, followed by the calculated TER for this EUT:

$$TER = \sum_{n=1}^{N} \frac{\mathrm{SAR}_n}{\mathrm{SAR}_{n,limit}} + \sum_{n=1}^{N} \frac{\mathrm{S}_{m,avg}}{\mathrm{S}_{m,limit}} < 1$$

Table 6-9: 5G Millimeter Wave NR Simulation PD Surface Ratio for n258

n258					
Surface	PD Magnitude Ratio		Head	Body[1]	Meas. Total PD (W/m^2)
	PD Measurement Plane	SAR Measurement Plane	PD Measurement Plane 0 mm (W/m^2)	SAR Measurement Plane 5 mm (W/m^2)	
S1	0.000	-	**0.000**	**0.000**	-
S2	1.000	0.793	-	**4.956**	3.450
S3	0.319	-	-	**1.581**	0.095
S4	0.000	-	-	**0.000**	-
S5	0.194	-	-	**0.963**	-
S6	0.000	-	-	**0.000**	-

[1] Results for Body were calculated using the most conservative ratio between the PD Magnitudes for 2mm and 5mm with the following multiplier: $PD_{Design\ Limit}$

Table 6-10: 5G Millimeter Wave NR Simulation PD Surface Ratio for n260

n260					
Surface	PD Magnitude Ratio		Head	Body[1]	Meas. Total PD (W/m^2)
	PD Measurement Plane	SAR Measurement Plane	PD Measurement Plane 0 mm (W/m^2)	SAR Measurement Plane 5 mm (W/m^2)	
S1	0.000	-	**0.000**	**0.000**	-
S2	1.000	0.835	-	**5.219**	3.490
S3	0.392	-	-	**2.044**	0.848
S4	0.000	-	-	**0.000**	-
S5	0.266	-	-	**1.388**	-
S6	0.000	-	-	**0.000**	-

[1] Results for Body were calculated using the most conservative ratio between the PD Magnitudes for 2mm and 5mm with the following multiplier: $PD_{Design\ Limit}$

Table 6-11: 5G Millimeter Wave NR Simulation PD Surface Ratio for n261

n261					
Surface	PD Magnitude Ratio		Head	Body[1]	Meas. Total PD (W/m^2)
	PD Measurement Plane	SAR Measurement Plane	PD Measurement Plane 0 mm (W/m^2)	SAR Measurement Plane 5 mm (W/m^2)	
S1	0.000	-	**0.000**	**0.000**	-
S2	1.000	0.824	-	**5.150**	3.900
S3	0.412	-	-	**2.119**	0.156
S4	0.000	-	-	**0.000**	-
S5	0.187	-	-	**0.963**	-
S6	0.000	-	-	**0.000**	-

[1] Results for Body were calculated using the most conservative ratio between the PD Magnitudes for 2mm and 5mm with the following multiplier: $PD_{Design\ Limit}$

Table 6-12: TER for Worst-case WLAN + 5G Millimeter Wave NR for n258 Head

n258								
Head TER	psPD	Wi-Fi 2.4 GHz Power State 4 Mode A	Wi-Fi 2.4 GHz Power State 6 Mode A	NB U-NII $P_{Standalone}$ Mode A	802.15.4ab Mode A	psPD + Wi-Fi 2.4 GHz Power State 4	psPD + Wi-Fi 2.4 GHz Power State 4 + NB U-NII P_{Low}	psPD + Wi-Fi 2.4 GHz Power State 6 + 802.15.4ab
	W/m^2	W/kg	W/kg	W/kg	W/kg			
TER Combinations	1	2	3	4	5	1+2	1+2+4	1+3+5
Applicable limit	10	1.6	1.6	1.6	1.6	1	1	1
Reported Exposure	0.000	0.381	0.302	0.125	0.064	-	-	-
Ratio to Limit	0.000	0.238	0.189	0.078	0.040	0.238	0.316	0.229

n258											
Head TER	psPD	Wi-Fi 5 GHz Power State 4 Mode A	Wi-Fi 5 GHz Power State 6 Mode A	Bluetooth (2.4 GHz) P_{Low} Mode A	802.15.4 P_{Low} Mode A	802.15.4ab Mode A	psPD + Wi-Fi 5 GHz Power State 4	psPD + Wi-Fi 5 GHz Power State 4 + Bluetooth (2.4 GHz) P_{Low}	psPD + Wi-Fi 5 GHz Power State 4 + 802.15.4 P_{Low}	psPD + Wi-Fi 5 GHz Power State 6 + 802.15.4ab	psPD + Wi-Fi 5 GHz Power State 6 + Bluetooth (2.4 GHz) P_{Low} + 802.15.4ab	psPD + Wi-Fi 5 GHz Power State 6 + 802.15.4 P_{Low} + 802.15.4ab
	W/m^2	W/kg	W/kg	W/kg	W/kg	W/kg						
TER Combinations	1	2	3	4	5	6	1+2	1+2+4	1+2+5	1+3+6	1+3+4+6	1+3+5+6
Applicable limit	10	1.6	1.6	1.6	1.6	1.6	1	1	1	1	1	1
Reported Exposure	0.000	0.468	0.372	0.066	0.083	0.064	-	-	-	-	-	-
Ratio to Limit	0.000	0.293	0.232	0.042	0.052	0.040	0.293	0.335	0.345	0.272	0.314	0.324

n258											
Head TER	psPD	Wi-Fi 6 GHz Power State 4 Mode A	Wi-Fi 6 GHz Power State 6 Mode A	Bluetooth (2.4 GHz) P_{Low} Mode A	802.15.4 P_{Low} Mode A	802.15.4ab Mode A	psPD + Wi-Fi 6 GHz Power State 4	psPD + Wi-Fi 6 GHz Power State 4 + Bluetooth (2.4 GHz) PLow	psPD + Wi-Fi 6 GHz Power State 4 + 802.15.4 PLow	psPD + Wi-Fi 6 GHz Power State 6 + 802.15.4ab	psPD + Wi-Fi 6 GHz Power State 6 + Bluetooth (2.4 GHz) PLow + 802.15.4ab	psPD + Wi-Fi 6 GHz Power State 6 + 802.15.4 PLow + 802.15.4ab
	W/m^2	W/kg	W/kg	W/kg	W/kg	W/kg						
TER Combinations	1	2	3	4	5	6	1+2	1+2+4	1+2+5	1+3+6	1+3+4+6	1+3+5+6
Applicable limit	10	1.6	1.6	1.6	1.6	1.6	1	1	1	1	1	1
Reported Exposure	0.000	0.012	0.009	0.066	0.083	0.064	-	-	-	-	-	-
Ratio to Limit	0.000	0.007	0.006	0.042	0.052	0.040	0.007	0.049	0.059	0.046	0.088	0.098

n258					
Head TER	psPD	Bluetooth (2.4 GHz) P_{High} Mode A	802.15.4ab Mode A	psPD + Bluetooth (2.4 GHz) P_{High}	psPD + Bluetooth (2.4 GHz) P_{High} + 802.15.4ab
	W/m^2	W/kg	W/kg		
TER Combinations	1	2	3	1+2	1+2+3
Applicable limit	10	1.6	1.6	1	1
Reported Exposure	0.000	0.363	0.064	-	-
Ratio to Limit	0.000	0.227	0.040	0.227	0.267

n258			
Head TER	psPD	NB U-NII $P_{Standalone}$ Mode A	psPD + NB U-NII P_{Mid}
	W/m^2	W/kg	
TER Combinations	1	2	1+2
Applicable limit	10	1.6	1
Reported Exposure	0.000	0.125	-
Ratio to Limit	0.000	0.078	0.078

n258						
Head TER	psPD	802.15.4 P_{High} Mode A	802.15.4ab Mode A	psPD + 802.15.4 P_{High}	psPD + 802.15.4ab	psPD + 802.15.4 P_{High} + 802.15.4ab
	W/m^2	W/kg	W/kg			
TER Combinations	1	2	3	1+2	1+3	1+2+3
Applicable limit	10	1.6	1.6	1	1	1
Reported Exposure	0.000	0.264	0.064	-	-	-
Ratio to Limit	0.000	0.165	0.040	0.165	0.040	0.205

Note(s): NB U-NII PStandalone values were used for the TER analysis due to low SAR values for PLow, PMid, and PHigh.

Table 6-13: TER for Worst-case WLAN + 5G Millimeter Wave NR for n260 Head

n260								
Head TER	psPD	Wi-Fi 2.4 GHz Power State 4 Mode A	Wi-Fi 2.4 GHz Power State 6 Mode A	NB U-NII $P_{Standalone}$ Mode A	802.15.4ab Mode A	psPD + Wi-Fi 2.4 GHz Power State 4	psPD + Wi-Fi 2.4 GHz Power State 4 + NB U-NII P_{Low}	psPD + Wi-Fi 2.4 GHz Power State 6 + 802.15.4ab
	W/m^2	W/kg	W/kg	W/kg	W/kg			
TER Combinations	1	2	3	4	5	1+2	1+2+4	1+3+5
Applicable limit	10	1.6	1.6	1.6	1.6	1	1	1
Reported Exposure	0.000	0.381	0.302	0.125	0.064	-	-	-
Ratio to Limit	0.000	0.238	0.189	0.078	0.040	0.238	0.316	0.229

n260												
Head TER	psPD	Wi-Fi 5 GHz Power State 4 Mode A	Wi-Fi 5 GHz Power State 6 Mode A	Bluetooth (2.4 GHz) P_{Low} Mode A	802.15.4 P_{Low} Mode A	802.15.4ab Mode A	psPD + Wi-Fi 5 GHz Power State 4	psPD + Wi-Fi 5 GHz Power State 4 + Bluetooth (2.4 GHz) P_{Low}	psPD + Wi-Fi 5 GHz Power State 4 + 802.15.4 P_{Low}	psPD + Wi-Fi 5 GHz Power State 6 + 802.15.4ab	psPD + Wi-Fi 5 GHz Power State 6 + Bluetooth (2.4 GHz) P_{Low} + 802.15.4ab	psPD + Wi-Fi 5 GHz Power State 6 + 802.15.4 P_{Low} + 802.15.4ab
	W/m²	W/kg	W/kg	W/kg	W/kg	W/kg						
TER Combinations	1	2	3	4	5	6	1+2	1+2+4	1+2+5	1+3+6	1+3+4+6	1+3+5+6
Applicable limit	10	1.6	1.6	1.6	1.6	1.6	1	1	1	1	1	1
Reported Exposure	0.000	0.468	0.372	0.066	0.083	0.064	-	-	-	-	-	-
Ratio to Limit	0.000	0.293	0.232	0.042	0.052	0.040	0.293	0.335	0.345	0.272	0.314	0.324

n260												
Head TER	psPD	Wi-Fi 6 GHz Power State 4 Mode A	Wi-Fi 6 GHz Power State 6 Mode A	Bluetooth (2.4 GHz) P_{Low} Mode A	802.15.4 P_{Low} Mode A	802.15.4ab Mode A	psPD + Wi-Fi 6 GHz Power State 4	psPD + Wi-Fi 6 GHz Power State 4 + Bluetooth (2.4 GHz) PLow	psPD + Wi-Fi 6 GHz Power State 4 + 802.15.4 PLow	psPD + Wi-Fi 6 GHz Power State 6 + 802.15.4ab	psPD + Wi-Fi 6 GHz Power State 6 + Bluetooth (2.4 GHz) PLow + 802.15.4ab	psPD + Wi-Fi 6 GHz Power State 6 + 802.15.4 PLow + 802.15.4ab
	W/m²	W/kg	W/kg	W/kg	W/kg	W/kg						
TER Combinations	1	2	3	4	5	6	1+2	1+2+4	1+2+5	1+3+6	1+3+4+6	1+3+5+6
Applicable limit	10	1.6	1.6	1.6	1.6	1.6	1	1	1	1	1	1
Reported Exposure	0.000	0.012	0.009	0.066	0.083	0.064	-	-	-	-	-	-
Ratio to Limit	0.000	0.007	0.006	0.042	0.052	0.040	0.007	0.049	0.059	0.046	0.088	0.098

n260					
Head TER	psPD	Bluetooth (2.4 GHz) P_{High} Mode A	802.15.4ab Mode A	psPD + Bluetooth (2.4 GHz) P_{High}	psPD + Bluetooth (2.4 GHz) P_{High} + 802.15.4ab
	W/m²	W/kg	W/kg		
TER Combinations	1	2	3	1+2	1+2+3
Applicable limit	10	1.6	1.6	1	1
Reported Exposure	0.000	0.363	0.064	-	-
Ratio to Limit	0.000	0.227	0.040	0.227	0.267

n260			
Head TER	psPD	NB U-NII $P_{Standalone}$ Mode A	psPD + NB U-NII P_{Mid}
	W/m²	W/kg	
TER Combinations	1	2	1+2
Applicable limit	10	1.6	1
Reported Exposure	0.000	0.125	-
Ratio to Limit	0.000	0.078	0.078

n260						
Head TER	psPD	802.15.4 P_{High} Mode A	802.15.4ab Mode A	psPD + 802.15.4 P_{High}	psPD + 802.15.4ab	psPD + 802.15.4 P_{High} + 802.15.4ab
	W/m^2	W/kg	W/kg			
TER Combinations	1	2	3	1+2	1+3	1+2+3
Applicable limit	10	1.6	1.6	1	1	1
Reported Exposure	0.000	0.264	0.064	-	-	-
Ratio to Limit	0.000	0.165	0.040	0.165	0.040	0.205

Note(s): NB U-NII $P_{Standalone}$ values were used for the TER analysis due to low SAR values for P_{Low}, P_{Mid}, and P_{High}.

Table 6-14: TER for Worst-case WLAN + 5G Millimeter Wave NR for n261 Head

n261								
Head TER	psPD	Wi-Fi 2.4 GHz Power State 4 Mode A	Wi-Fi 2.4 GHz Power State 6 Mode A	NB U-NII $P_{Standalone}$ Mode A	802.15.4ab Mode A	psPD + Wi-Fi 2.4 GHz Power State 4	psPD + Wi-Fi 2.4 GHz Power State 4 + NB U-NII P_{Low}	psPD + Wi-Fi 2.4 GHz Power State 6 + 802.15.4ab
	W/m^2	W/kg	W/kg	W/kg	W/kg			
TER Combinations	1	2	3	4	5	1+2	1+2+4	1+3+5
Applicable limit	10	1.6	1.6	1.6	1.6	1	1	1
Reported Exposure	0.000	0.381	0.302	0.125	0.064	-	-	-
Ratio to Limit	0.000	0.238	0.189	0.078	0.040	0.238	0.316	0.229

n261											
Head TER	psPD	Wi-Fi 5 GHz Power State 4 Mode A	Wi-Fi 5 GHz Power State 6 Mode A	Bluetooth (2.4 GHz) P_{Low} Mode A	802.15.4 P_{Low} Mode A	802.15.4ab Mode A	psPD + Wi-Fi 5 GHz Power State 4	psPD + Wi-Fi 5 GHz Power State 4 + Bluetooth (2.4 GHz) P_{Low}	psPD + Wi-Fi 5 GHz Power State 4 + 802.15.4 P_{Low}	psPD + Wi-Fi 5 GHz Power State 6 + 802.15.4ab	psPD + Wi-Fi 5 GHz Power State 6 + Bluetooth (2.4 GHz) P_{Low} + 802.15.4ab	psPD + Wi-Fi 5 GHz Power State 6 + 802.15.4 P_{Low} + 802.15.4ab
	W/m^2	W/kg	W/kg	W/kg	W/kg	W/kg						
TER Combinations	1	2	3	4	5	6	1+2	1+2+4	1+2+5	1+3+6	1+3+4+6	1+3+5+6
Applicable limit	10	1.6	1.6	1.6	1.6	1.6	1	1	1	1	1	1
Reported Exposure	0.000	0.468	0.372	0.066	0.083	0.064	-	-	-	-	-	-
Ratio to Limit	0.000	0.293	0.232	0.042	0.052	0.040	0.293	0.335	0.345	0.272	0.314	0.324

n261											
Head TER	psPD	Wi-Fi 6 GHz Power State 4 Mode A	Wi-Fi 6 GHz Power State 6 Mode A	Bluetooth (2.4 GHz) P_{Low} Mode A	802.15.4 P_{Low} Mode A	802.15.4ab Mode A	psPD + Wi-Fi 6 GHz Power State 4	psPD + Wi-Fi 6 GHz Power State 4 + Bluetooth (2.4 GHz) PLow	psPD + Wi-Fi 6 GHz Power State 4 + 802.15.4 PLow	psPD + Wi-Fi 6 GHz Power State 6 + 802.15.4ab	psPD + Wi-Fi 6 GHz Power State 6 + Bluetooth (2.4 GHz) PLow + 802.15.4ab	psPD + Wi-Fi 6 GHz Power State 6 + 802.15.4 PLow + 802.15.4ab
	W/m^2	W/kg	W/kg	W/kg	W/kg	W/kg						
TER Combinations	1	2	3	4	5	6	1+2	1+2+4	1+2+5	1+3+6	1+3+4+6	1+3+5+6
Applicable limit	10	1.6	1.6	1.6	1.6	1.6	1	1	1	1	1	1
Reported Exposure	0.000	0.012	0.009	0.066	0.083	0.064	-	-	-	-	-	-
Ratio to Limit	0.000	0.007	0.006	0.042	0.052	0.040	0.007	0.049	0.059	0.046	0.088	0.098

n261					
Head TER	psPD	Bluetooth (2.4 GHz) P_{High} Mode A	802.15.4ab Mode A	psPD + Bluetooth (2.4 GHz) P_{High}	psPD + Bluetooth (2.4 GHz) P_{High} + 802.15.4ab
	W/m^2	W/kg	W/kg		
TER Combinations	1	2	3	1+2	1+2+3
Applicable limit	10	1.6	1.6	1	1
Reported Exposure	0.000	0.363	0.064	-	-
Ratio to Limit	0.000	0.227	0.040	0.227	0.267

n261				
Head TER	psPD	NB U-NII $P_{Standalone}$ Mode A		psPD + NB U-NII P_{Mid}
	W/m^2	W/kg		
TER Combinations	1	2		1+2
Applicable limit	10	1.6		1
Reported Exposure	0.000	0.125		-
Ratio to Limit	0.000	0.078		0.078

n261						
Head TER	psPD	802.15.4 P_{High} Mode A	802.15.4ab Mode A	psPD + 802.15.4 P_{High}	psPD + 802.15.4ab	psPD + 802.15.4 P_{High} + 802.15.4ab
	W/m^2	W/kg	W/kg			
TER Combinations	1	2	3	1+2	1+3	1+2+3
Applicable limit	10	1.6	1.6	1	1	1
Reported Exposure	0.000	0.264	0.064	-	-	-
Ratio to Limit	0.000	0.165	0.040	0.165	0.040	0.205

Note(s): NB U-NII $P_{Standalone}$ values were used for the TER analysis due to low SAR values for P_{Low}, P_{Mid}, and P_{High}.

Table 6-15: TER for Worst-case WLAN + 5G Millimeter Wave NR for n258 Body/Hotspot

n258									
Body/Hotspot TER		psPD	Wi-Fi 2.4 GHz Power State 4 Mode B	Wi-Fi 2.4 GHz Power State 6 Mode B	NB U-NII P_{Low} Mode B	802.15.4ab Mode B	psPD + Wi-Fi 2.4 GHz Power State 4	psPD + Wi-Fi 2.4 GHz Power State 4 + NB U-NII P_{Low}	psPD + Wi-Fi 2.4 GHz Power State 6 + 802.15.4ab
		W/m^2	W/kg	W/kg	W/kg	W/kg			
Scenario		1	2	3	4	5	1+2	1+2+4	1+3+5
Applicable limit		10	1.6	1.6	1.6	1.6	1	1	1
S1 @ 5 mm	Reported Exposure	0.000	0.098	0.077	0.050	0.000	-	-	-
	Ratio to Limit	0.000	0.061	0.048	0.031	0.000	0.061	0.079	0.049
S2 @ 5 mm	Reported Exposure	4.956	0.376	0.299	0.098	0.065	-	-	-
	Ratio to Limit	0.496	0.235	0.187	0.061	0.041	0.731	0.743	0.723
S3 @ 5 mm	Reported Exposure	1.581	0.098	0.077	0.050	0.025	-	-	-
	Ratio to Limit	0.158	0.061	0.048	0.031	0.016	0.219	0.238	0.222
S4 @ 5 mm	Reported Exposure	0.000	0.448	0.356	0.050	0.000	-	-	-
	Ratio to Limit	0.000	0.280	0.223	0.031	0.000	0.280	0.254	0.223
S5 @ 5 mm	Reported Exposure	0.963	0.098	0.077	0.050	0.022	-	-	-
	Ratio to Limit	0.096	0.061	0.048	0.031	0.014	0.157	0.176	0.159
S6 @ 5 mm	Reported Exposure	0.000	0.288	0.229	0.050	0.000	-	-	-
	Ratio to Limit	0.000	0.180	0.143	0.031	0.000	0.180	0.174	0.143

n258												
Body/Hotspot TER		psPD	Wi-Fi 5 GHz Power State 4 Mode B	Wi-Fi 5 GHz Power State 6 Mode B	Bluetooth (2.4 GHz) P_{Low} Mode B	802.15.4 P_{Low} Mode B	802.15.4ab Mode B	psPD + Wi-Fi 5 GHz Power State 4	psPD + Wi-Fi 5 GHz Power State 4 + Bluetooth (2.4 GHz) P_{Low}	psPD + Wi-Fi 5 GHz Power State 4 + 802.15.4 P_{Low}	psPD + Wi-Fi 5 GHz Power State 6 + 802.15.4ab	psPD + Wi-Fi 5 GHz Power State 6 + Bluetooth (2.4 GHz) P_{Low} + 802.15.4ab	psPD + Wi-Fi 5 GHz Power State 6 + 802.15.4 P_{Low} + 802.15.4ab
		W/m^2	W/kg	W/kg	W/kg	W/kg	W/kg						
Scenario		1	2	3	4	5	6	1+2	1+2+4	1+2+5	1+3+6	1+3+4+6	1+3+5+6
Applicable limit		10	1.6	1.6	1.6	1.6	1.6	1	1	1	1		
S1 @ 5 mm	Reported Exposure	0.000	0.369	0.293	0.057	0.059	0.000	-	-	-	-	-	-
	Ratio to Limit	0.000	0.230	0.183	0.035	0.037	0.000	0.230	0.266	0.267	0.183	0.219	0.220
S2 @ 5 mm	Reported Exposure	4.956	0.487	0.387	0.057	0.080	0.065	-	-	-	-	-	-
	Ratio to Limit	0.496	0.304	0.242	0.035	0.050	0.041	0.800	0.835	0.850	0.778	0.813	0.828
S3 @ 5 mm	Reported Exposure	1.581	0.254	0.202	0.057	0.059	0.025	-	-	-	-	-	-
	Ratio to Limit	0.158	0.159	0.126	0.035	0.037	0.016	0.317	0.352	0.354	0.300	0.336	0.337
S4 @ 5 mm	Reported Exposure	0.000	0.148	0.117	0.063	0.083	0.000	-	-	-	-	-	-
	Ratio to Limit	0.000	0.092	0.073	0.039	0.052	0.000	0.092	0.132	0.144	0.073	0.113	0.125
S5 @ 5 mm	Reported Exposure	0.963	0.148	0.117	0.057	0.059	0.022	-	-	-	-	-	-
	Ratio to Limit	0.096	0.092	0.073	0.035	0.037	0.014	0.189	0.224	0.225	0.183	0.219	0.220
S6 @ 5 mm	Reported Exposure	0.000	0.148	0.117	0.061	0.059	0.000	-	-	-	-	-	-
	Ratio to Limit	0.000	0.092	0.073	0.038	0.037	0.000	0.092	0.130	0.129	0.073	0.111	0.110

n258													
Body/Hotspot TER		psPD	Wi-Fi 6 GHz Power State 4 Mode B	Wi-Fi 6 GHz Power State 6 Mode B	Bluetooth (2.4 GHz) P_{Low} Mode B	802.15.4 P_{Low} Mode B	802.15.4ab Mode B	psPD + Wi-Fi 6 GHz Power State 4	psPD + Wi-Fi 6 GHz Power State 4 + Bluetooth (2.4 GHz) PLow	psPD + Wi-Fi 6 GHz Power State 4 + 802.15.4 PLow	psPD + Wi-Fi 6 GHz Power State 6 + 802.15.4ab	psPD + Wi-Fi 6 GHz Power State 6 + Bluetooth (2.4 GHz) PLow + 802.15.4ab	psPD + Wi-Fi 6 GHz Power State 6 + 802.15.4 PLow + 802.15.4ab
		W/m^2	W/kg	W/kg	W/kg	W/kg	W/kg						
Scenario		1	2	3	4	5	6	1+2	1+2+4	1+2+5	1+3+6	1+3+4+6	1+3+5+6
Applicable limit		10	1.6	1.6	1.6	1.6	1.6	1	1	1	1		
S1 @ 5 mm	Reported Exposure	0.000	0.285	0.226	0.057	0.059	0.000	-	-	-	-	-	-
	Ratio to Limit	0.000	0.178	0.141	0.035	0.037	0.000	0.178	0.213	0.215	0.142	0.177	0.178
S2 @ 5 mm	Reported Exposure	4.956	0.285	0.226	0.057	0.080	0.065	-	-	-	-	-	-
	Ratio to Limit	0.496	0.178	0.141	0.035	0.050	0.041	0.674	0.709	0.724	0.678	0.713	0.728
S3 @ 5 mm	Reported Exposure	1.581	0.285	0.226	0.057	0.059	0.025	-	-	-	-	-	-
	Ratio to Limit	0.158	0.178	0.141	0.035	0.037	0.016	0.336	0.372	0.373	0.315	0.351	0.352
S4 @ 5 mm	Reported Exposure	0.000	0.285	0.226	0.063	0.083	0.000	-	-	-	-	-	-
	Ratio to Limit	0.000	0.178	0.141	0.039	0.052	0.000	0.178	0.217	0.230	0.142	0.181	0.193
S5 @ 5 mm	Reported Exposure	0.963	0.285	0.226	0.057	0.059	0.022	-	-	-	-	-	-
	Ratio to Limit	0.096	0.178	0.141	0.035	0.037	0.014	0.274	0.310	0.311	0.252	0.287	0.288
S6 @ 5 mm	Reported Exposure	0.000	0.285	0.226	0.061	0.059	0.000	-	-	-	-	-	-
	Ratio to Limit	0.000	0.178	0.141	0.038	0.037	0.000	0.178	0.216	0.215	0.142	0.179	0.178

n258						
Body/Hotspot TER		psPD	Bluetooth (2.4 GHz) P_{High} Mode B	802.15.4ab Mode B	psPD + Bluetooth (2.4 GHz) P_{High}	psPD + Bluetooth (2.4 GHz) P_{High} + 802.15.4ab
		W/m^2	W/kg	W/kg		
Scenario		1	2	3	1+2	1+2+3
Applicable limit		10	1.6	1.6	1	1
S1 @ 5 mm	Reported Exposure	0.000	0.249	0.000	-	-
	Ratio to Limit	0.000	0.155	0.000	0.155	0.155
S2 @ 5 mm	Reported Exposure	4.956	0.370	0.065	-	-
	Ratio to Limit	0.496	0.231	0.041	0.727	0.767
S3 @ 5 mm	Reported Exposure	1.581	0.249	0.025	-	-
	Ratio to Limit	0.158	0.155	0.016	0.314	0.329
S4 @ 5 mm	Reported Exposure	0.000	0.330	0.000	-	-
	Ratio to Limit	0.000	0.207	0.000	0.207	0.207
S5 @ 5 mm	Reported Exposure	0.963	0.249	0.022	-	-
	Ratio to Limit	0.096	0.155	0.014	0.252	0.265
S6 @ 5 mm	Reported Exposure	0.000	0.249	0.000	-	-
	Ratio to Limit	0.000	0.155	0.000	0.155	0.155

n258				
Body/Hotspot TER		psPD	NB U-NII P_{High} Mode B	psPD + NB U-NII P_{High}
		W/m^2	W/kg	
Scenario		1	2	1+2
Applicable limit		10	1.6	1
S1 @ 5 mm	Reported Exposure	0.000	0.047	-
	Ratio to Limit	0.000	0.029	0.029
S2 @ 5 mm	Reported Exposure	4.956	0.329	-
	Ratio to Limit	0.496	0.205	0.701
S3 @ 5 mm	Reported Exposure	1.581	0.047	-
	Ratio to Limit	0.158	0.029	0.187
S4 @ 5 mm	Reported Exposure	0.000	0.047	-
	Ratio to Limit	0.000	0.029	0.029
S5 @ 5 mm	Reported Exposure	0.963	0.047	-
	Ratio to Limit	0.096	0.029	0.126
S6 @ 5 mm	Reported Exposure	0.000	0.047	-
	Ratio to Limit	0.000	0.029	0.029

n258							
Body/Hotspot TER		psPD	802.15.4 P_{High} Mode B	802.15.4ab Mode B	psPD + 802.15.4 P_{High}	psPD + 802.15.4ab	psPD + 802.15.4 P_{High} + 802.15.4ab
		W/m^2	W/kg	W/kg			
Scenario		1	2	3	1+2	1+3	1+2+3
Applicable limit		10	1.6	1.6	1	1	
S1 @ 5 mm	Reported Exposure	0.000	0.197	0.000	-	-	-
	Ratio to Limit	0.000	0.123	0.000	0.123	0.000	0.123
S2 @ 5 mm	Reported Exposure	4.956	0.197	0.065	-	-	-
	Ratio to Limit	0.496	0.123	0.041	0.619	0.536	0.659
S3 @ 5 mm	Reported Exposure	1.581	0.197	0.025	-	-	-
	Ratio to Limit	0.158	0.123	0.016	0.281	0.174	0.297
S4 @ 5 mm	Reported Exposure	0.000	0.197	0.000	-	-	-
	Ratio to Limit	0.000	0.123	0.000	0.123	0.000	0.123
S5 @ 5 mm	Reported Exposure	0.963	0.197	0.022	-	-	-
	Ratio to Limit	0.096	0.123	0.014	0.219	0.110	0.233
S6 @ 5 mm	Reported Exposure	0.000	0.245	0.000	-	-	-
	Ratio to Limit	0.000	0.153	0.000	0.153	0.000	0.153

Table 6-16: TER for Worst-case WLAN + 5G Millimeter Wave NR for n260 Body/Hotspot

n260									
Body/Hotspot TER		psPD	Wi-Fi 2.4 GHz Power State 4 Mode B	Wi-Fi 2.4 GHz Power State 6 Mode B	NB U-NII P_{Low} Mode B	802.15.4ab Mode B	psPD + Wi-Fi 2.4 GHz Power State 4	psPD + Wi-Fi 2.4 GHz Power State 4 + NB U-NII P_{Low}	psPD + Wi-Fi 2.4 GHz Power State 6 + 802.15.4ab
		W/m^2	W/kg	W/kg	W/kg	W/kg			
Scenario		1	2	3	4	5	1+2	1+2+4	1+3+5
Applicable limit		10	1.6	1.6	1.6	1.6	1	1	1
S1 @ 5 mm	Reported Exposure	0.000	0.098	0.077	0.050	0.000	-	-	-
	Ratio to Limit	0.000	0.061	0.048	0.031	0.000	0.061	0.079	0.049
S2 @ 5 mm	Reported Exposure	5.219	0.376	0.299	0.098	0.065	-	-	-
	Ratio to Limit	0.522	0.235	0.187	0.061	0.041	0.757	0.770	0.749
S3 @ 5 mm	Reported Exposure	2.044	0.098	0.077	0.050	0.025	-	-	-
	Ratio to Limit	0.204	0.061	0.048	0.031	0.016	0.265	0.284	0.269
S4 @ 5 mm	Reported Exposure	0.000	0.448	0.356	0.050	0.000	-	-	-
	Ratio to Limit	0.000	0.280	0.223	0.031	0.000	0.280	0.254	0.223
S5 @ 5 mm	Reported Exposure	1.388	0.098	0.077	0.050	0.022	-	-	-
	Ratio to Limit	0.139	0.061	0.048	0.031	0.014	0.200	0.218	0.201
S6 @ 5 mm	Reported Exposure	0.000	0.288	0.229	0.050	0.000	-	-	-
	Ratio to Limit	0.000	0.180	0.143	0.031	0.000	0.180	0.174	0.143

n260												
Body/Hotspot TER		psPD	Wi-Fi 5 GHz Power State 4 Mode B	Wi-Fi 5 GHz Power State 6 Mode B	Bluetooth (2.4 GHz) P_{Low} Mode B	802.15.4 P_{Low} Mode B	802.15.4ab Mode B	psPD + Wi-Fi 5 GHz Power State 4	psPD + Wi-Fi 5 GHz Power State 4 + Bluetooth (2.4 GHz) P_{Low}	psPD + Wi-Fi 5 GHz Power State 4 + 802.15.4 P_{Low}	psPD + Wi-Fi 5 GHz Power State 6 + 802.15.4ab	psPD + Wi-Fi 5 GHz Power State 6 + Bluetooth (2.4 GHz) P_{Low} + 802.15.4ab	psPD + Wi-Fi 5 GHz Power State 6 + 802.15.4 P_{Low} + 802.15.4ab
		W/m^2	W/kg	W/kg	W/kg	W/kg	W/kg						
Scenario		1	2	3	4	5	6	1+2	1+2+4	1+2+5	1+3+6	1+3+4+6	1+3+5+6
Applicable limit		10	1.6	1.6	1.6	1.6	1.6	1	1	1	1		
S1 @ 5 mm	Reported Exposure	0.000	0.369	0.293	0.057	0.059	0.000	-	-	-	-	-	-
	Ratio to Limit	0.000	0.230	0.183	0.035	0.037	0.000	0.230	0.266	0.267	0.183	0.219	0.220
S2 @ 5 mm	Reported Exposure	5.219	0.487	0.387	0.057	0.080	0.065	-	-	-	-	-	-
	Ratio to Limit	0.522	0.304	0.242	0.035	0.050	0.041	0.826	0.862	0.876	0.804	0.840	0.854
S3 @ 5 mm	Reported Exposure	2.044	0.254	0.202	0.057	0.059	0.025	-	-	-	-	-	-
	Ratio to Limit	0.204	0.159	0.126	0.035	0.037	0.016	0.363	0.399	0.400	0.346	0.382	0.383
S4 @ 5 mm	Reported Exposure	0.000	0.148	0.117	0.063	0.083	0.000	-	-	-	-	-	-
	Ratio to Limit	0.000	0.092	0.073	0.039	0.052	0.000	0.092	0.132	0.144	0.073	0.113	0.125
S5 @ 5 mm	Reported Exposure	1.388	0.148	0.117	0.057	0.059	0.022	-	-	-	-	-	-
	Ratio to Limit	0.139	0.092	0.073	0.035	0.037	0.014	0.231	0.267	0.268	0.226	0.261	0.263
S6 @ 5 mm	Reported Exposure	0.000	0.148	0.117	0.061	0.059	0.000	-	-	-	-	-	-
	Ratio to Limit	0.000	0.092	0.073	0.038	0.037	0.000	0.092	0.130	0.129	0.073	0.111	0.110

n260													
Body/Hotspot TER		psPD	Wi-Fi 6 GHz Power State 4 Mode B	Wi-Fi 6 GHz Power State 6 Mode B	Bluetooth (2.4 GHz) P_{Low} Mode B	802.15.4 P_{Low} Mode B	802.15.4ab Mode B	psPD + Wi-Fi 6 GHz Power State 4	psPD + Wi-Fi 6 GHz Power State 4 + Bluetooth (2.4 GHz) PLow	psPD + Wi-Fi 6 GHz Power State 4 + 802.15.4 PLow	psPD + Wi-Fi 6 GHz Power State 6 + 802.15.4ab	psPD + Wi-Fi 6 GHz Power State 6 + Bluetooth (2.4 GHz) PLow + 802.15.4ab	psPD + Wi-Fi 6 GHz Power State 6 + 802.15.4 PLow + 802.15.4ab
		W/m^2	W/kg	W/kg	W/kg	W/kg	W/kg						
Scenario		1	2	3	4	5	6	1+2	1+2+4	1+2+5	1+3+6	1+3+4+6	1+3+5+6
Applicable limit		10	1.6	1.6	1.6	1.6	1.6	1	1	1	1		
S1 @ 5 mm	Reported Exposure	0.000	0.285	0.226	0.057	0.059	0.000	-	-	-	-	-	-
	Ratio to Limit	0.000	0.178	0.141	0.035	0.037	0.000	0.178	0.213	0.215	0.142	0.177	0.178
S2 @ 5 mm	Reported Exposure	5.219	0.285	0.226	0.057	0.080	0.065	-	-	-	-	-	-
	Ratio to Limit	0.522	0.178	0.141	0.035	0.050	0.041	0.700	0.735	0.750	0.704	0.739	0.754
S3 @ 5 mm	Reported Exposure	2.044	0.285	0.226	0.057	0.059	0.025	-	-	-	-	-	-
	Ratio to Limit	0.204	0.178	0.141	0.035	0.037	0.016	0.382	0.418	0.419	0.362	0.397	0.398
S4 @ 5 mm	Reported Exposure	0.000	0.285	0.226	0.063	0.083	0.000	-	-	-	-	-	-
	Ratio to Limit	0.000	0.178	0.141	0.039	0.052	0.000	0.178	0.217	0.230	0.142	0.181	0.193
S5 @ 5 mm	Reported Exposure	1.388	0.285	0.226	0.057	0.059	0.022	-	-	-	-	-	-
	Ratio to Limit	0.139	0.178	0.141	0.035	0.037	0.014	0.317	0.352	0.354	0.294	0.329	0.331
S6 @ 5 mm	Reported Exposure	0.000	0.285	0.226	0.061	0.059	0.000	-	-	-	-	-	-
	Ratio to Limit	0.000	0.178	0.141	0.038	0.037	0.000	0.178	0.216	0.215	0.142	0.179	0.178

n260						
Body/Hotspot TER		psPD	Bluetooth (2.4 GHz) P_{High} Mode B	802.15.4ab Mode B	psPD + Bluetooth (2.4 GHz) P_{High}	psPD + Bluetooth (2.4 GHz) P_{High} + 802.15.4ab
		W/m^2	W/kg	W/kg		
Scenario		1	2	3	1+2	1+2+3
Applicable limit		10	1.6	1.6	1	1
S1 @ 5 mm	Reported Exposure	0.000	0.249	0.000	-	-
	Ratio to Limit	0.000	0.155	0.000	0.155	0.155
S2 @ 5 mm	Reported Exposure	5.219	0.370	0.065	-	-
	Ratio to Limit	0.522	0.231	0.041	0.753	0.793
S3 @ 5 mm	Reported Exposure	2.044	0.249	0.025	-	-
	Ratio to Limit	0.204	0.155	0.016	0.360	0.376
S4 @ 5 mm	Reported Exposure	0.000	0.330	0.000	-	-
	Ratio to Limit	0.000	0.207	0.000	0.207	0.207
S5 @ 5 mm	Reported Exposure	1.388	0.249	0.022	-	-
	Ratio to Limit	0.139	0.155	0.014	0.294	0.308
S6 @ 5 mm	Reported Exposure	0.000	0.249	0.000	-	-
	Ratio to Limit	0.000	0.155	0.000	0.155	0.155

n260				
Body/Hotspot TER		psPD	NB U-NII P_{High} Mode B	psPD + NB U-NII P_{High}
		W/m^2	W/kg	
Scenario		1	2	1+2
Applicable limit		10	1.6	1
S1 @ 5 mm	Reported Exposure	0.000	0.047	-
	Ratio to Limit	0.000	0.029	0.029
S2 @ 5 mm	Reported Exposure	5.219	0.329	-
	Ratio to Limit	0.522	0.205	0.727
S3 @ 5 mm	Reported Exposure	2.044	0.047	-
	Ratio to Limit	0.204	0.029	0.234
S4 @ 5 mm	Reported Exposure	0.000	0.047	-
	Ratio to Limit	0.000	0.029	0.029
S5 @ 5 mm	Reported Exposure	1.388	0.047	-
	Ratio to Limit	0.139	0.029	0.168
S6 @ 5 mm	Reported Exposure	0.000	0.047	-
	Ratio to Limit	0.000	0.029	0.029

n260							
Body/Hotspot TER		psPD	802.15.4 P_{High} Mode B	802.15.4ab Mode B	psPD + 802.15.4 P_{High}	psPD + 802.15.4ab	psPD + 802.15.4 P_{High} + 802.15.4ab
		W/m^2	W/kg	W/kg			
Scenario		1	2	3	1+2	1+3	1+2+3
Applicable limit		10	1.6	1.6	1	1	
S1 @ 5 mm	Reported Exposure	0.000	0.197	0.000	-	-	-
	Ratio to Limit	0.000	0.123	0.000	0.123	0.000	0.123
S2 @ 5 mm	Reported Exposure	5.219	0.197	0.065	-	-	-
	Ratio to Limit	0.522	0.123	0.041	0.645	0.562	0.686
S3 @ 5 mm	Reported Exposure	2.044	0.197	0.025	-	-	-
	Ratio to Limit	0.204	0.123	0.016	0.327	0.220	0.343
S4 @ 5 mm	Reported Exposure	0.000	0.197	0.000	-	-	-
	Ratio to Limit	0.000	0.123	0.000	0.123	0.000	0.123
S5 @ 5 mm	Reported Exposure	1.388	0.197	0.022	-	-	-
	Ratio to Limit	0.139	0.123	0.014	0.262	0.153	0.276
S6 @ 5 mm	Reported Exposure	0.000	0.245	0.000	-	-	-
	Ratio to Limit	0.000	0.153	0.000	0.153	0.000	0.153

Table 6-17: TER for Worst-case WLAN + 5G Millimeter Wave NR for n261 Body/Hotspot

n261									
Body/Hotspot TER		psPD	Wi-Fi 2.4 GHz Power State 4 Mode B	Wi-Fi 2.4 GHz Power State 6 Mode B	NB U-NII P_{Low} Mode B	802.15.4ab Mode B	psPD + Wi-Fi 2.4 GHz Power State 4	psPD + Wi-Fi 2.4 GHz Power State 4 + NB U-NII P_{Low}	psPD + Wi-Fi 2.4 GHz Power State 6 + 802.15.4ab
		W/m^2	W/kg	W/kg	W/kg	W/kg			
Scenario		1	2	3	4	5	1+2	1+2+4	1+3+5
Applicable limit		10	1.6	1.6	1.6	1.6	1	1	1
S1 @ 5 mm	Reported Exposure	0.000	0.098	0.077	0.050	0.000	-	-	-
	Ratio to Limit	0.000	0.061	0.048	0.031	0.000	0.061	0.079	0.049
S2 @ 5 mm	Reported Exposure	5.150	0.376	0.299	0.098	0.065	-	-	-
	Ratio to Limit	0.515	0.235	0.187	0.061	0.041	0.750	0.763	0.742
S3 @ 5 mm	Reported Exposure	2.119	0.098	0.077	0.050	0.025	-	-	-
	Ratio to Limit	0.212	0.061	0.048	0.031	0.016	0.273	0.291	0.276
S4 @ 5 mm	Reported Exposure	0.000	0.448	0.356	0.050	0.000	-	-	-
	Ratio to Limit	0.000	0.280	0.223	0.031	0.000	0.280	0.254	0.223
S5 @ 5 mm	Reported Exposure	0.963	0.098	0.077	0.050	0.022	-	-	-
	Ratio to Limit	0.096	0.061	0.048	0.031	0.014	0.157	0.176	0.159
S6 @ 5 mm	Reported Exposure	0.000	0.288	0.229	0.050	0.000	-	-	-
	Ratio to Limit	0.000	0.180	0.143	0.031	0.000	0.180	0.174	0.143

n261												
Body/Hotspot TER		psPD	Wi-Fi 5 GHz Power State 4 Mode B	Wi-Fi 5 GHz Power State 6 Mode B	Bluetooth (2.4 GHz) P_{Low} Mode B	802.15.4 P_{Low} Mode B	802.15.4ab Mode B	psPD + Wi-Fi 5 GHz Power State 4	psPD + Wi-Fi 5 GHz Power State 4 + Bluetooth (2.4 GHz) P_{Low}	psPD + Wi-Fi 5 GHz Power State 4 + 802.15.4 P_{Low}	psPD + Wi-Fi 5 GHz Power State 6 + 802.15.4ab	psPD + Wi-Fi 5 GHz Power State 6 + Bluetooth (2.4 GHz) P_{Low} + 802.15.4ab	psPD + Wi-Fi 5 GHz Power State 6 + 802.15.4 P_{Low} + 802.15.4ab
		W/m^2	W/kg	W/kg	W/kg	W/kg	W/kg						
Scenario		1	2	3	4	5	6	1+2	1+2+4	1+2+5	1+3+6	1+3+4+6	1+3+5+6
Applicable limit		10	1.6	1.6	1.6	1.6	1.6	1	1	1	1		
S1 @ 5 mm	Reported Exposure	0.000	0.369	0.293	0.057	0.059	0.000	-	-	-	-	-	-
	Ratio to Limit	0.000	0.230	0.183	0.035	0.037	0.000	0.230	0.266	0.267	0.183	0.219	0.220
S2 @ 5 mm	Reported Exposure	5.150	0.487	0.387	0.057	0.080	0.065	-	-	-	-	-	-
	Ratio to Limit	0.515	0.304	0.242	0.035	0.050	0.041	0.819	0.855	0.869	0.797	0.833	0.847
S3 @ 5 mm	Reported Exposure	2.119	0.254	0.202	0.057	0.059	0.025	-	-	-	-	-	-
	Ratio to Limit	0.212	0.159	0.126	0.035	0.037	0.016	0.371	0.406	0.407	0.354	0.389	0.391
S4 @ 5 mm	Reported Exposure	0.000	0.148	0.117	0.063	0.083	0.000	-	-	-	-	-	-
	Ratio to Limit	0.000	0.092	0.073	0.039	0.052	0.000	0.092	0.132	0.144	0.073	0.113	0.125
S5 @ 5 mm	Reported Exposure	0.963	0.148	0.117	0.057	0.059	0.022	-	-	-	-	-	-
	Ratio to Limit	0.096	0.092	0.073	0.035	0.037	0.014	0.189	0.224	0.225	0.183	0.219	0.220
S6 @ 5 mm	Reported Exposure	0.000	0.148	0.117	0.061	0.059	0.000	-	-	-	-	-	-
	Ratio to Limit	0.000	0.092	0.073	0.038	0.037	0.000	0.092	0.130	0.129	0.073	0.111	0.110

n261													
Body/Hotspot TER		psPD	Wi-Fi 6 GHz Power State 4 Mode B	Wi-Fi 6 GHz Power State 6 Mode B	Bluetooth (2.4 GHz) P_{Low} Mode B	802.15.4 P_{Low} Mode B	802.15.4ab Mode B	psPD + Wi-Fi 6 GHz Power State 4	psPD + Wi-Fi 6 GHz Power State 4 + Bluetooth (2.4 GHz) PLow	psPD + Wi-Fi 6 GHz Power State 4 + 802.15.4 PLow	psPD + Wi-Fi 6 GHz Power State 6 + 802.15.4ab	psPD + Wi-Fi 6 GHz Power State 6 + Bluetooth (2.4 GHz) PLow + 802.15.4ab	psPD + Wi-Fi 6 GHz Power State 6 + 802.15.4 PLow + 802.15.4ab
		W/m^2	W/kg	W/kg	W/kg	W/kg	W/kg						
Scenario		1	2	3	4	5	6	1+2	1+2+4	1+2+5	1+3+6	1+3+4+6	1+3+5+6
Applicable limit		10	1.6	1.6	1.6	1.6	1.6	1	1	1	1		
S1 @ 5 mm	Reported Exposure	0.000	0.285	0.226	0.057	0.059	0.000	-	-	-	-	-	-
	Ratio to Limit	0.000	0.178	0.141	0.035	0.037	0.000	0.178	0.213	0.215	0.142	0.177	0.178
S2 @ 5 mm	Reported Exposure	5.150	0.285	0.226	0.057	0.080	0.065	-	-	-	-	-	-
	Ratio to Limit	0.515	0.178	0.141	0.035	0.050	0.041	0.693	0.728	0.743	0.697	0.732	0.747
S3 @ 5 mm	Reported Exposure	2.119	0.285	0.226	0.057	0.059	0.025	-	-	-	-	-	-
	Ratio to Limit	0.212	0.178	0.141	0.035	0.037	0.016	0.390	0.425	0.427	0.369	0.405	0.406
S4 @ 5 mm	Reported Exposure	0.000	0.285	0.226	0.063	0.083	0.000	-	-	-	-	-	-
	Ratio to Limit	0.000	0.178	0.141	0.039	0.052	0.000	0.178	0.217	0.230	0.142	0.181	0.193
S5 @ 5 mm	Reported Exposure	0.963	0.285	0.226	0.057	0.059	0.022	-	-	-	-	-	-
	Ratio to Limit	0.096	0.178	0.141	0.035	0.037	0.014	0.274	0.310	0.311	0.252	0.287	0.288
S6 @ 5 mm	Reported Exposure	0.000	0.285	0.226	0.061	0.059	0.000	-	-	-	-	-	-
	Ratio to Limit	0.000	0.178	0.141	0.038	0.037	0.000	0.178	0.216	0.215	0.142	0.179	0.178

n261						
Body/Hotspot TER		psPD	Bluetooth (2.4 GHz) P_{High} Mode B	802.15.4ab Mode B	psPD + Bluetooth (2.4 GHz) P_{High}	psPD + Bluetooth (2.4 GHz) P_{High} + 802.15.4ab
		W/m^2	W/kg	W/kg		
Scenario		1	2	3	1+2	1+2+3
Applicable limit		10	1.6	1.6	1	1
S1 @ 5 mm	Reported Exposure	0.000	0.249	0.000	-	-
	Ratio to Limit	0.000	0.155	0.000	0.155	0.155
S2 @ 5 mm	Reported Exposure	5.150	0.370	0.065	-	-
	Ratio to Limit	0.515	0.231	0.041	0.746	0.787
S3 @ 5 mm	Reported Exposure	2.119	0.249	0.025	-	-
	Ratio to Limit	0.212	0.155	0.016	0.367	0.383
S4 @ 5 mm	Reported Exposure	0.000	0.330	0.000	-	-
	Ratio to Limit	0.000	0.207	0.000	0.207	0.207
S5 @ 5 mm	Reported Exposure	0.963	0.249	0.022	-	-
	Ratio to Limit	0.096	0.155	0.014	0.252	0.265
S6 @ 5 mm	Reported Exposure	0.000	0.249	0.000	-	-
	Ratio to Limit	0.000	0.155	0.000	0.155	0.155

n261				
Body/Hotspot TER		psPD	NB U-NII P_{High} Mode B	psPD + NB U-NII P_{High}
		W/m^2	W/kg	
Scenario		1	2	1+2
Applicable limit		10	1.6	1
S1 @ 5 mm	Reported Exposure	0.000	0.047	-
	Ratio to Limit	0.000	0.029	0.029
S2 @ 5 mm	Reported Exposure	5.150	0.329	-
	Ratio to Limit	0.515	0.205	0.720
S3 @ 5 mm	Reported Exposure	2.119	0.047	-
	Ratio to Limit	0.212	0.029	0.241
S4 @ 5 mm	Reported Exposure	0.000	0.047	-
	Ratio to Limit	0.000	0.029	0.029
S5 @ 5 mm	Reported Exposure	0.963	0.047	-
	Ratio to Limit	0.096	0.029	0.126
S6 @ 5 mm	Reported Exposure	0.000	0.047	-
	Ratio to Limit	0.000	0.029	0.029

n261							
Body/Hotspot TER		psPD	802.15.4 P_{High} Mode B	802.15.4ab Mode B	psPD + 802.15.4 P_{High}	psPD + 802.15.4ab	psPD + 802.15.4 P_{High} + 802.15.4ab
		W/m^2	W/kg	W/kg			
Scenario		1	2	3	1+2	1+3	1+2+3
Applicable limit		10	1.6	1.6	1	1	
S1 @ 5 mm	Reported Exposure	0.000	0.197	0.000	-	-	-
	Ratio to Limit	0.000	0.123	0.000	0.123	0.000	0.123
S2 @ 5 mm	Reported Exposure	5.150	0.197	0.065	-	-	-
	Ratio to Limit	0.515	0.123	0.041	0.638	0.556	0.679
S3 @ 5 mm	Reported Exposure	2.119	0.197	0.025	-	-	-
	Ratio to Limit	0.212	0.123	0.016	0.335	0.228	0.351
S4 @ 5 mm	Reported Exposure	0.000	0.197	0.000	-	-	-
	Ratio to Limit	0.000	0.123	0.000	0.123	0.000	0.123
S5 @ 5 mm	Reported Exposure	0.963	0.197	0.022	-	-	-
	Ratio to Limit	0.096	0.123	0.014	0.219	0.110	0.233
S6 @ 5 mm	Reported Exposure	0.000	0.245	0.000	-	-	-
	Ratio to Limit	0.000	0.153	0.000	0.153	0.000	0.153

7. Conclusions

Table 7-1 shows the worst-case 1-g SAR and worst-case 4cm^2-avg PD at P_{limit}.

Table 7-1: Reported RF Exposure Level

Reported RF Exposure Level		Notes
Highest 1-g SAR at P_{limit} (W/kg)	0.959	Refer to §1 for the reference SAR Report
Highest 4cm^2-avg PD at *input.power.limit* (W/m^2)	3.900	§6.2
Highest 1-g SAR (W/kg) for simultaneous Tx (Sub-6 WWAN + WLAN)	1.537	Refer to §1 for the reference SAR Report
Highest Total Exposure Ratio for simultaneous Tx (5G mmW NR + WLAN)	0.876	§6.3

Qualcomm's Smart Transmit feature employed in the EUT meets the $SAR_{Design\ Target}$ and $PD_{Design\ Target}$ (within the design uncertainties) when operating in the static transmission condition at P_{limit} and is compliant with the FCC RF exposure limits.

Appendices

A. Millimeter Wave Probe Certificate
B. Verification Source Certificate
C. Setup Photos