



TAS Part 1: Test Under Static Transmission Scenario

For
SMARTPHONE

FCC ID: BCG-E8947A
Model Name: A3258

Report Number: 15496277-S6V2
Issue Date: 2025/08/13

Prepared for
APPLE INC.
1 APPLE PARK WAY
CUPERTINO, CA 95014-2084

Prepared by
UL VERIFICATION SERVICES INC.
47173 BENICIA STREET
FREMONT, CA 94538, U.S.A.
TEL: (510) 319-4000
FAX: (510) 661-0888

Revision History

Rev.	Date	Revisions	Revised By
V1	2025/08/13	Initial Issue	--
V2	2025/08/13	Updated Table 6-1 to capture LTE B66's new maximum limit	Nathan Sousa

Table of Contents

1.	Attestation of Test Results	5
2.	Test Specifications, Methods/Procedures, Facilities, and Accreditation	6
3.	Introduction	6
4.	Measurement Setup and General Information	7
4.1.	Test Environment	7
4.2.	Power Density Measurement System	7
4.2.1.	Power Density Probe	7
4.2.2.	Power Density Measurement System Verification	7
5.	Test Condition, Configuration, and Assessment	10
5.1.	Qualcomm Smart Transmit Parameters	10
5.1.1.	Qualcomm Smart Transmit Parameters for the Sub-6 Modem	11
5.1.2.	Qualcomm Smart Transmit parameters for the 5G modem	11
5.2.	Device Test Configuration for SAR Measurements	11
5.3.	Device Test Configuration for PD Measurements	12
6.	Summary of Results	13
6.1.	SAR Measurement and Conducted Power Results at P_{limit}	13
6.2.	PD Measurement Results at P_{limit}	16
6.3.	Simultaneous Transmission Analysis	21
6.3.1.	Analysis	21
6.3.2.	Simultaneous Transmission Compliance Demonstration for Sub-6 GHz WWAN + WLAN	23
6.3.3.	Simultaneous Transmission Compliance demonstration for 5G millimeter wave NR WWAN + WLAN	23
7.	Conclusions	29
Appendices		29
A.	Millimeter Wave Probe Certificate	29
B.	Verification Source Certificate	29
C.	Setup Photo	29
D.	Measurement Equipment	29
E.	Measurement Uncertainty	30

Figures

Figure 4-1: 4cm ² PD for source validation (worst-case Δ) SAR 25	9
Figure 5-1: EUT surface definition (S1=Front, S2=Back, S3=Edge Left, S4=Edge Right, S5=Edge Top, S6=Edge Bottom)	13
Figure 6-1: Band n258, Beam ID 276, point PD and 4cm ² PD, Top	18
Figure 6-2: Band n260, Beam ID 13, point PD and 4cm ² PD, Back	19
Figure 6-3: Band n261, Beam ID 269, point PD and 4cm ² PD, Back	20

Tables

Table 4-1: System validation results for SAR 25	8
Table 4-2: System Check Results for SAR 25	8
Table 5-1: PD verification test cases for n258	12
Table 5-2: PD verification test cases for n260	12
Table 5-3: PD verification test cases for n261	12
Table 6-1: Comparison of P_{limit} and P_{max}	14
Table 6-2: Worst-case reported WLAN SAR (Power State 5)	16

Table 6-3: Worst-case reported WLAN SAR (Power State 6)	16
Table 6-4: PD Measurement results n258	17
Table 6-5: PD Measurement results n260	17
Table 6-6: PD Measurement results n261	17
Table 6-7: Worst-case time-averaged RF exposure for WWAN.....	21
Table 6-8: Simultaneous transmission analysis scenarios for 5G millimeter wave NR WWAN + WLAN	23
Table 6-9: 5G Millimeter Wave NR Simulation PD Surface Ratio for n258	23
Table 6-10: 5G Millimeter Wave NR Simulation PD Surface Ratio for n260	23
Table 6-11: 5G Millimeter Wave NR Simulation PD Surface Ratio for n261	24
Table 6-12: TER for Worst-case WLAN + 5G Millimeter Wave NR for n258 Head.....	25
Table 6-13: TER for Worst-case WLAN + 5G Millimeter Wave NR for n260 Head.....	25
Table 6-14: TER for Worst-case WLAN + 5G Millimeter Wave NR for n261 Head.....	25
Table 6-15: TER for Worst-case WLAN + 5G Millimeter Wave NR for n258 Body/Hotspot.....	26
Table 6-16: TER for Worst-case WLAN + 5G Millimeter Wave NR for n260 Body/Hotspot.....	27
Table 6-17: TER for Worst-case WLAN + 5G Millimeter Wave NR for n261 Body/Hotspot.....	28
Table 7-1: Reported RF Exposure Level	29

1. Attestation of Test Results

Applicant Name	APPLE INC.
FCC ID	BCG-E8947A
Model Name	A3258
Reference SAR Report	15496277-S1
Exposure Category	PD Limit (W/m ²)
General Population (Uncontrolled Exposure)	10
RF Exposure Conditions	Highest Reported PD (W/m ²)
	3.990
Date Tested	2025/07/08 to 2025/07/11
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 Engineering Associate 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 and 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 GEN2 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 TAS 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 TAS 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 TAS 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 TAS 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°C
Tissue Simulating Liquid	22±2°C
Humidity Range	30% ~ 49%

4.2. Power Density Measurement System

The power density measurement system is 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 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 ±0.66 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 25

SAR Lab	Test Date	5G Probe SN	Probe Cal. Due Date	DAE SN	DAE Cal. Due Date	5G Verification Source	Source Cal. Due Date	Averaging Type	Meas. 4 cm ² psPDn+ (W/m ²)	Target 4 cm ² psPDn+ (W/m ²)	Deviation (dB)	Meas. 4 cm ² psPDtot+ (W/m ²)	Target 4 cm ² psPDtot+ (W/m ²)	Deviation (dB)	Meas. 4 cm ² psPDmod+ (W/m ²)	Target 4 cm ² psPDmod+ (W/m ²)	Deviation (dB)
25	5/14/2025	9493	1/13/2026	1716	3/11/2026	5G Verification Source 30 GHz SN: 1117	9/6/2025	Square	86.6	86.0	0.03	89.9	87.5	0.12	90.3	87.8	0.12
25	5/14/2025	9493	1/13/2026	1716	3/11/2026	5G Verification Source 30 GHz SN: 1117	9/6/2025	Square	87.5	86.0	0.08	90.1	87.5	0.13	90.5	87.8	0.13
25	5/14/2025	9493	1/13/2026	1716	3/11/2026	5G Verification Source 30 GHz SN: 1117	9/6/2025	Square	88.0	86.0	0.10	89.4	87.5	0.09	89.8	87.8	0.10
25	5/14/2025	9493	1/13/2026	1716	3/11/2026	5G Verification Source 30 GHz SN: 1117	9/6/2025	Square	88.6	86.0	0.13	90.0	87.5	0.12	90.3	87.8	0.12
25	5/14/2025	9493	1/13/2026	1716	3/11/2026	5G Verification Source 30 GHz SN: 1117	9/6/2025	Square	88.1	86.0	0.10	90.2	87.5	0.13	90.6	87.8	0.14
25	5/14/2025	9493	1/13/2026	1716	3/11/2026	5G Verification Source 30 GHz SN: 1117	9/6/2025	Square	88.4	86.0	0.12	90.6	87.5	0.15	91.0	87.8	0.16
25	5/14/2025	9493	1/13/2026	1716	3/11/2026	5G Verification Source 30 GHz SN: 1117	9/6/2025	Square	88.6	86.0	0.13	91.1	87.5	0.18	91.4	87.8	0.17
25	5/15/2025	9493	1/13/2026	1716	3/11/2026	5G Verification Source 30 GHz SN: 1117	9/6/2025	Square	89.1	86.0	0.15	90.3	87.5	0.14	90.7	87.8	0.14
25	5/15/2025	9493	1/13/2026	1716	3/11/2026	5G Verification Source 30 GHz SN: 1117	9/6/2025	Square	87.9	86.0	0.09	89.1	87.5	0.08	89.4	87.8	0.08
25	5/15/2025	9493	1/13/2026	1716	3/11/2026	5G Verification Source 30 GHz SN: 1117	9/6/2025	Square	87.7	86.0	0.09	89.0	87.5	0.07	89.4	87.8	0.08
Average									88.1	86.0	0.10	90.0	87.5	0.12	90.3	87.8	0.12

Table 4-2: System Check Results for SAR 25

SAR Lab	Date	5G Verification Source	Source Cal. Due Date	Averaging Type	Meas. 4 cm ² psPDn+ (W/m ²)	Target 4 cm ² psPDn+ (W/m ²)	Deviation (dB)	Meas. 4 cm ² psPDtot+ (W/m ²)	Target 4 cm ² psPDtot+ (W/m ²)	Deviation (dB)	Meas. 4 cm ² psPDmod+ (W/m ²)	Target 4 cm ² psPDmod+ (W/m ²)	Deviation (dB)
SAR Lab 25	7/7/2025	5G Verification Source 30 GHz SN: 1117	9/6/2025	Square	91.7	88.1	0.17	93.4	90.0	0.16	93.8	90.3	0.17

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 - SN9493_F1-55GHz 2025-01-13	Phantom	mmWave xxxx
DAE Calibration Date	DAE4 Sn1716 2025-03-11	Medium	Air -
Software Version	3.2.2.2358		

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 [cm²]	4.00
psPDn+ [W/m²]	88.6
psPDtot+ [W/m²]	91.1
psPDmod+ [W/m²]	91.4
E _{max} [V/m]	213
H _{max} [A/m]	0.575
Power Drift [dB]	-0.01

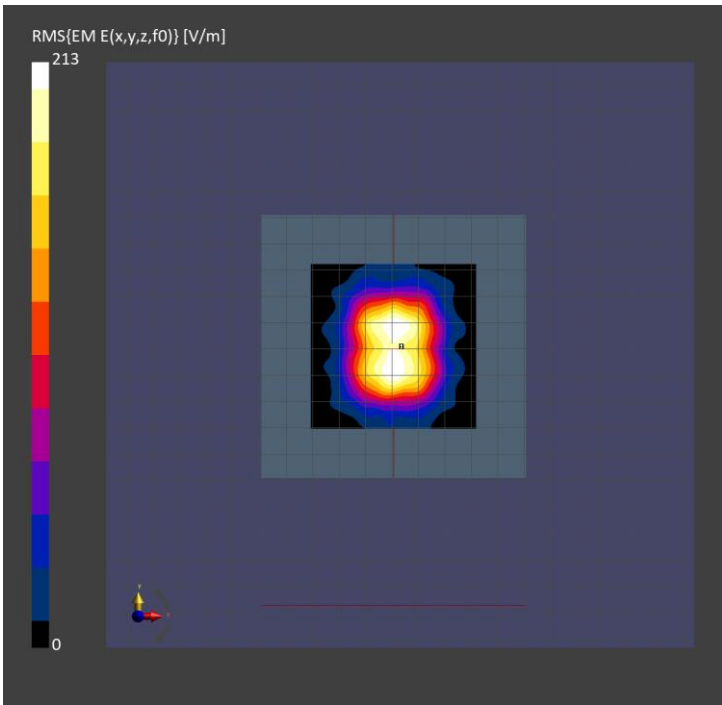


Figure 4-1: 4cm² PD for source validation (worst-case Δ) SAR 25

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 TAS 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.

- 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 $\text{SAR}_{\text{Design Target}}$. This $\text{SAR}_{\text{Design Target}}$ 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 $\text{SAR}_{\text{Design Target}}$ 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.
- ReservePower 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}):

$$P_{\text{reserve}}(\text{dBm}) = P_{\text{limit}}(\text{dBm}) - \text{ReservePower Margin}(\text{dB})$$

- The ReservePower Margin is a global parameter, meaning it applies to all the technologies and bands. When the ReservePower 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 ReservePower Margin has been re-named to ReservePower Margin dB 2G 3G WWAN.
 - For 4G/5G WWAN technologies, the equivalent reserve of ReservePower 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 $\text{PD}_{\text{Design Target}}$ 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 TAS Part 0 report, otherwise, EFS configuration should be changed to match GEN1/GEN2 PD char of TAS 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 Wi-Fi/BT:** **ONLY** applicable for Smart Transmit EFS version 16 (or higher) in GEN1 or GEN2_MILLIMETER WAVE configurations¹
 - The EFS version 16 (or higher) provides the entry to backoff WWAN radio when WLAN is transmitting. This backoff when Wi-Fi/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 Wi-Fi/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 TAS 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 TAS 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 $\leq 25\text{mm}$ 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 $P_{\text{max}} \leq P_{\text{limit}}$.

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 TAS Part 0 report, the PD exposure for this EUT has been assessed against the $PD_{\text{Design Target}}$ 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 TAS Part 0 report.

Based on the aforementioned criteria and the EUT codebook in §5.3 of the TAS 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	2025833	16		100	1	Back
	2032499	19	275	100	1	Back
	2032499		276	50	66	Back
	2032499		276	50	66	Top
	2032499		276	50	66	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	2253330		271	100	1	Back
	2253330	15	271	100	1	Back
	2229167	13		100	66	Back
	2229167	13		100	66	Top
	2229167	13		100	66	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	2077084	20		100	1	Back
	2077084	15	271	100	1	Back
	2083330		269	50	1	Back
	2083330		269	50	1	Top
	2083330		269	50	1	Left

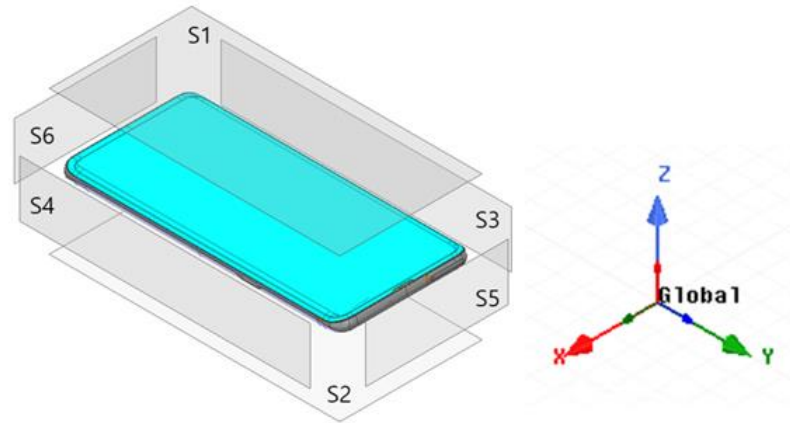


Figure 5-1: EUT surface definition (S1=Front, S2=Back, S3=Edge Left, S4=Edge Right, S5=Edge Top, S6=Edge Bottom)

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 $SAR_{\text{Design Target}}$ were determined through the TAS Part 0 report and are listed in EFS entries in §4.4 of the TAS 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.

DSI: 0 (Head)					
Connectivity PS5/6	Cell PS2 + Connectivity PS3/4	..	..	..	Cell

DSI 0 (Head)										DSI 1 (Body & Extremity)									
Transmitter	Technology			Cell PS1 + Connectivity PS5/6			Cell PS2 + Connectivity PS3/4					Cell PS1 + Connectivity PS5/6			Cell PS2 + Connectivity PS3/4				
		Uplink (+)	Uplink (-)	P _{limit} (dBm)	P _{limit} (dBm)	P _{max} (dBm)	P _{limit} (dBm)	P _{limit} (dBm)	P _{max} (dBm)	Uplink (+)	Uplink (-)	P _{limit} (dBm)	P _{limit} (dBm)	P _{max} (dBm)	P _{limit} (dBm)	P _{limit} (dBm)	P _{max} (dBm)		
ANT 1	GSM 850 GMSK 1 Slot	1.6	-1.6	31.4	33.0	33.0	31.4	33.0	33.0	1.6	-1.6	31.4	33.0	33.0	31.4	33.0	33.0		
ANT 1	GSM 850 GMSK 2 Slot(s)	1.6	-1.6	30.4	32.0	32.0	30.4	32.0	32.0	1.6	-1.6	30.4	32.0	32.0	30.4	32.0	32.0		
ANT 1	GSM 850 8PSK 1 Slot	1.6	-1.6	25.9	27.5	27.5	25.9	27.5	27.5	1.6	-1.6	25.9	27.5	27.5	25.9	27.5	27.5		
ANT 1	GSM 850 8PSK 2 Slot(s)	1.6	-1.6	24.9	26.5	26.5	24.9	26.5	26.5	1.6	-1.6	24.9	26.5	26.5	24.9	26.5	26.5		
ANT 1	GSM 1900 GMSK 1 Slot	1.8	-1.8	30.2	32.0	32.0	30.2	32.0	32.0	1.8	-1.8	29.5	31.3	32.0	28.7	30.5	32.0		
ANT 1	GSM 1900 GMSK 2 Slot(s)	1.8	-1.8	29.2	31.0	31.0	29.2	31.0	31.0	1.8	-1.8	28.5	30.3	31.0	27.7	29.5	31.0		
ANT 1	GSM 1900 8PSK 1 Slot	1.8	-1.8	25.2	27.0	27.0	25.2	27.0	27.0	1.8	-1.8	25.2	27.0	27.0	25.2	27.0	27.0		
ANT 1	GSM 1900 8PSK 2 Slot(s)	1.8	-1.8	24.2	26.0	26.0	24.2	26.0	26.0	1.8	-1.8	24.2	26.0	26.0	24.2	26.0	26.0		
ANT 1	W-CDMA B2 Rel. 99	1.8	-1.8	23.9	25.7	25.7	23.9	25.7	25.7	1.8	-1.8	20.5	22.3	25.7	19.7	21.5	25.7		
ANT 1	W-CDMA B2 HSDPA	1.8	-1.8	23.9	25.7	25.7	23.9	25.7	25.7	1.8	-1.8	20.5	22.3	25.7	19.7	21.5	25.7		
ANT 1	W-CDMA B2 HSUPA	1.8	-1.8	23.9	25.7	25.7	23.9	25.7	25.7	1.8	-1.8	20.5	22.3	25.7	19.7	21.5	25.7		
ANT 1	W-CDMA B2 HSPA+	1.8	-1.8	23.9	25.7	25.7	23.9	25.7	25.7	1.8	-1.8	20.5	22.3	25.7	19.7	21.5	25.7		
ANT 1	W-CDMA B4 Rel. 99	1.6	-1.6	24.1	25.7	25.7	24.1	25.7	25.7	1.6	-1.6	19.4	21.0	25.7	18.6	20.2	25.7		
ANT 1	W-CDMA B4 HSDPA	1.6	-1.6	24.1	25.7	25.7	24.1	25.7	25.7	1.6	-1.6	19.4	21.0	25.7	18.6	20.2	25.7		
ANT 1	W-CDMA B4 HSUPA	1.6	-1.6	24.1	25.7	25.7	24.1	25.7	25.7	1.6	-1.6	19.4	21.0	25.7	18.6	20.2	25.7		
ANT 1	W-CDMA B4 HSPA+	1.6	-1.6	24.1	25.7	25.7	24.1	25.7	25.7	1.6	-1.6	19.4	21.0	25.7	18.6	20.2	25.7		
ANT 1	W-CDMA B5 Rel. 99	1.6	-1.6	24.1	25.7	25.7	24.1	25.7	25.7	1.6	-1.6	24.1	25.7	25.7	24.1	25.7	25.7		
ANT 1	W-CDMA B5 Rel. 99	1.6	-1.6	24.1	25.7	25.7	24.1	25.7	25.7	1.6	-1.6	24.1	25.7	25.7	24.1	25.7	25.7		
ANT 1	W-CDMA B5 Rel. 99	1.6	-1.6	24.1	25.7	25.7	24.1	25.7	25.7	1.6	-1.6	24.1	25.7	25.7	24.1	25.7	25.7		
ANT 1	LTE B2 PC3	1.8	-1.8	23.9	25.7	25.7	23.9	25.7	25.7	1.8	-1.8	20.5	22.3	25.7	19.7	21.5	25.7		
ANT 1	LTE B4 PC3	1.6	-1.6	24.1	25.7	25.7	24.1	25.7	25.7	1.6	-1.6	18.9	20.5	25.7	18.1	19.7	25.7		
ANT 1	LTE B5 PC3	1.6	-1.6	24.1	25.7	25.7	24.1	25.7	25.7	1.6	-1.6	24.1	25.7	25.7	24.1	25.7	25.7		
ANT 1	LTE B7 PC3	1.9	-1.9	23.8	25.7	25.7	23.8	25.7	25.7	1.9	-1.9	17.9	19.7	25.7	17.9	19.0	25.7		
ANT 1	LTE B12 PC3	1.4	-1.4	24.3	25.7	25.7	24.3	25.7	25.7	1.4	-1.4	24.3	25.7	25.7	24.3	25.7	25.7		
ANT 1	LTE B13 PC3	1.6	-1.6	24.1	25.7	25.7	24.1	25.7	25.7	1.6	-1.6	24.1	25.7	25.7	24.1	25.7	25.7		
ANT 1	LTE B14 PC3	1.8	-1.8	23.9	25.7	25.7	23.9	25.7	25.7	1.8	-1.8	23.9	25.7	25.7	23.9	25.7	25.7		
ANT 1	LTE B17 PC3	1.4	-1.4	24.3	25.7	25.7	24.3	25.7	25.7	1.4	-1.4	24.3	25.7	25.7	24.3	25.7	25.7		
ANT 1	LTE B25 PC3	1.8	-1.8	23.9	25.7	25.7	23.9	25.7	25.7	1.8	-1.8	20.5	22.3	25.7	19.7	21.5	25.7		
ANT 1	LTE B26 PC3	1.4	-1.4	24.3	25.7	25.7	24.3	25.7	25.7	1.4	-1.4	24.3	25.7	25.7	24.3	25.7	25.7		
ANT 1	LTE B30 PC3	1.8	-1.8	23.9	25.7	25.7	23.9	25.7	25.7	1.8	-1.8	17.3	19.1	25.7	16.5	18.3	25.7		
ANT 1	LTE B38 PC3	2.0	-2.0	23.7	25.7	25.7	23.7	25.7	25.7	2.0	-2.0	22.1	23.7	25.7	19.3	21.3	25.7		
ANT 1	LTE B41 PC3	1.8	-1.8	23.9	25.7	25.7	23.9	25.7	25.7	1.8	-1.8	20.3	22.1	25.7	19.5	21.3	25.7		
ANT 1	LTE B41 PC2	1.8	-1.8	26.9	28.7	28.7	26.9	28.7	28.7	1.8	-1.8	21.9	23.7	28.7	21.1	22.9	28.7		
ANT 1	LTE B53 PC3	1.8	-1.8	18.9	20.7	20.7	18.9	20.7	20.7	1.8	-1.8	18.9	20.7	20.7	18.1	19.9	20.7		
ANT 1	LTE B66 PC3	1.6	-1.6	24.1	25.7	25.7	24.1	25.7	25.7	1.6	-1.6	18.9	20.5	25.7	18.1	19.7	25.7		
ANT 1	LTE B71 PC3	1.6	-1.6	24.1	25.7	25.7	24.1	25.7	25.7	1.6	-1.6	24.1	25.7	25.7	24.1	25.7	25.7		
ANT 1	LTE ULCA B5 PC3	1.6	-1.6	24.1	25.7	25.7	24.1	25.7	25.7	1.6	-1.6	24.1	25.7	25.7	24.1	25.7	25.7		
ANT 1	LTE ULCA B7 PC3	1.9	-1.9	23.8	25.7	25.7	23.8	25.7	25.7	1.9	-1.9	17.9	19.8	25.7	17.1	19.0	25.7		
ANT 1	LTE ULCA B38 PC3	2.0	-2.0	23.7	25.7	25.7	23.7	25.7	25.7	2.0	-2.0	20.1	22.1	25.7	19.3	21.3	25.7		
ANT 1	LTE ULCA B41 PC3	1.8	-1.8	23.9	25.7	25.7	23.9	25.7	25.7	1.8	-1.8	20.3	22.1	25.7	19.5	21.3	25.7		
ANT 1	LTE ULCA B41 PC2	1.8	-1.8	28.9	30.7	30.7	28.9	30.7	30.7	1.8	-1.8	21.7	23.7	30.7	21.7	23.7	30.7		
ANT 1	FR1 n2 PC3	1.4	-1.4	24.3	25.7	25.7	24.3	25.7	25.7	1.4	-1.4	20.9	22.3	25.7	20.1	21.5	25.7		
ANT 1	FR1 n5 PC3	1.2	-1.2	24.5	25.7	25.7	24.5	25.7	25.7	1.2	-1.2	24.5	25.7	25.7	24.5	25.7	25.7		
ANT 1	FR1 n7 PC3	1.5	-1.5	24.2	25.7	25.7	24.2	25.7	25.7	1.5	-1.5	18.5	20.0	25.7	17.7	19.2	25.7		
ANT 1	FR1 n12 PC3	0.9	-0.9	24.8	25.7	25.7	24.8	25.7	25.7	0.9	-0.9	24.8	25.7	25.7	24.8	25.7	25.7		
ANT 1	FR1 n14 PC3	1.3	-1.3	24.4	25.7	25.7	24.4	25.7	25.7	1.3	-1.3	24.4	25.7	25.7	24.4	25.7	25.7		
ANT 1	FR1 n25 PC3	1.4	-1.4	24.3	25.7	25.7	24.3	25.7	25.7	1.4	-1.4	20.9	22.3	25.7	20.1	21.5	25.7		
ANT 1	FR1 n26 PC3	1.1	-1.1	24.6	25.7	25.7	24.6	25.7	25.7	1.1	-1.1	24.6	25.7	25.7	24.6	25.7	25.7		
ANT 1	FR1 n30 PC3	1.5	-1.5	23.7	25.2	25.2	23.7	25.2	25.2	1.5	-1.5	19.9	21.2	25.2	18.1	19.1	25.2		
ANT 1	FR1 n38 PC3	1.5	-1.5	24.2	25.7	25.7	24.2	25.7	25.7	1.5	-1.5	18.5	20.0	25.7	17.7	19.2	25.7		
ANT 1	FR1 n41 PC3	1.6	-1.6	24.1	25.7	25.7	24.1	25.7	25.7	1.6	-1.6	18.4	20.0	25.7	17.6	19.2	25.7		
ANT 1	FR1 n41 PC2	1.6	-1.6	27.1	28.7	28.7	27.1	28.7	28.7	1.6	-1.6	21.4	23.0	28.7	20.6	22.2	28.7		
ANT 1	FR1 n53 PC3	1.6	-1.6	19.1	20.7	20.7	19.1	20.7	20.7	1.6	-1.6	18.1	19.7	20.7	17.3	18.9	20.7		
ANT 1	FR1 n66 PC3	1.3	-1.3	24.4	25.7	25.7	24.4	25.7	25.7	1.3	-1.3	18.7	20.0	25.7	17.9	19.2	25.7		
ANT 1	FR1 n70 PC3	1.2	-1.2	24.5	25.7	25.7	24.5	25.7	25.7	1.2	-1.2	19.8	21.0	25.7	19.0	20.2	25.7		
ANT 1	FR1 n71 PC3	0.9	-0.9	24.8	25.7	25.7	24.8	25.7	25.7	0.9	-0.9	24.8	25.7	25.7	24.8	25.7	25.7		
ANT 1	MSS (L-Band)	1.0	-1.0	N/A	N/A	28.0	N/A	N/A	28.0	1.0	-1.0	N/A	N/A	28.0	N/A	N/A	28.0		
ANT 2	GSM 850 GMSK 1 Slot	1.6	-1.6	30.9	32.5	32.5	30.9	32.5	32.5	1.6	-1.6	30.9	32.5	32.5	30.9	32.5	32.5		
ANT 2	GSM 850 GMSK 2 Slot(s)	1.6	-1.6	29.9	31.5	31.5	29.9	31.5	31.5	1.6	-1.6	29.9	31.5	31.5	29.9	31.5	31.5		
ANT 2	GSM 850 8PSK 1 Slot	1.6	-1.6	25.4	27.0	27.0	25.4	27.0	27.0	1.6	-1.6	25.4	27.0	27.0	25.4	27.0	27.0		
ANT 2	GSM 850 8PSK 2 Slot(s)	1.6	-1.6	24.4	26.0	26.0	24.4	26.0	26.0	1.6	-1.6	24.4	26.0	26.0	24.4	26.0	26.0		
ANT 2	GSM 1900 GMSK 1 Slot	2.3	-2.3	27.2	29.5	29.5	27.2	29.5	29.5	2.3	-2.3	27.2	29.5	29.5	26.4	28.7	29.5		
ANT 2	GSM 1900 GMSK 2 Slot(s)	2.3	-2.3	25.3	27.6	28.5	24.5	26.8	28.5	2.3	-2.3	24.2	26.5	28.5	23.4	25.7	28.5		
ANT 2	GSM 1900 8PSK 1 Slot	2.3	-2.3	21.7	24.0	24.0	21.7	24.0	24.0	2.3	-2.3	21.7	24.0	24.0	21.7	24.0	24.0		
ANT 2	GSM 1900 8PSK 2 Slot(s)	2.3	-2.3	20.7	23.0	23.0	20.7	23.0	23.0	2.3	-2.3	20.7	23.0	23.0	20.7	23.0	23.0		
ANT 2	W-CDMA B2 Rel. 99	2.3	-2.3	18.9	21.2	23.4	18.1	20.4	23.4	2.3	-2.3	18.2	20.5	23.4	17.4	19.7	23.4		
ANT 2	W-CDMA B2 HSDPA	2.3	-2.3	18.9	21.2	23.4	18.1	20.4	23.4	2.3	-2.3	18.2	20.5	23.4	17.4	19.7	23.4		
ANT 2	W-CDMA B2 HSUPA	2.3	-2.3	18.9	21.2	23.4	18.1	20.4	23.4	2.3	-2.3	18.2	20.5	23.4	17.4	19.7	23.4		
ANT 2	W-CDMA B2 HSPA+	2.3	-2.3	18.9	21.2	23.4	18.1	20.4	23.4	2.3	-2.3	18.2	20.5	23.4	17.4	19.7	23.4		
ANT 2	W-CDMA B4 Rel. 99	1.7	-1.7	17.1	18.8	23.4	16.3	18.0	23.4	1.7	-1.7	17.0	18.7	23.4	16.2	17.9	23.4		
ANT 2	W-CDMA B4 HSDPA	1.7	-1.7	17.1	18.8	23.4	16.3	18.0	23.4	1.7	-1.7	17.0	18.7	23.4	16.2	17.9	23.4		
ANT 2	W-CDMA B4 HSUPA	1.7	-1.7	17.1	18.8	23.4	16.3	18.0	23.4	1.7	-1.7	17.0	18.7	23.4	16.2	17.9	23.4		
ANT 2	W-CDMA B4 HSPA+	1.7	-1.7	17.1	18.8	23.4	16.3	18.0	23.4	1.7	-1.7	17.0	1						

Transmitter	Technology	Uncert. (+)	Uncert. (-)	DSI 0 (Head)						DSI 1: (Body & Extremity)							
				Cell PS1 + Connectivity PS5/6			Cell PS2 + Connectivity PS3/4			Cell PS1 + Connectivity PS5/6			Cell PS2 + Connectivity PS3/4				
				P _{Limit, nom} (dBm)	P _{Limit} (dBm)	P _{Max} (dBm)	P _{Limit, nom} (dBm)	P _{Limit} (dBm)	P _{Max} (dBm)	P _{Limit, nom} (dBm)	P _{Limit} (dBm)	P _{Max} (dBm)	P _{Limit, nom} (dBm)	P _{Limit} (dBm)	P _{Max} (dBm)		
ANT 3	GSM 1900 GMSK 1 Slot	2.1	-2.1	29.4	31.5	31.5	29.4	31.5	31.5	2.1	-2.1	29.3	31.4	31.5	28.5	30.6	31.5
ANT 3	GSM 1900 GMSK 2 Slot(s)	2.1	-2.1	28.4	30.5	30.5	28.4	30.5	30.5	2.1	-2.1	26.3	28.4	30.5	25.5	27.6	30.5
ANT 3	GSM 1900 8PSK 1 Slot	2.1	-2.1	24.4	26.5	26.5	24.4	26.5	26.5	2.1	-2.1	24.4	26.5	26.5	24.4	26.5	26.5
ANT 3	GSM 1900 8PSK 2 Slot(s)	2.1	-2.1	23.4	25.5	25.5	23.4	25.5	25.5	2.1	-2.1	23.4	25.5	25.5	23.4	25.5	25.5
ANT 3	W-CDMA B2 Rel. 99	2.1	-2.1	23.4	25.5	25.5	23.4	25.5	25.5	2.1	-2.1	20.3	22.4	25.5	19.5	21.6	25.5
ANT 3	W-CDMA B2 HSDPA	2.1	-2.1	23.4	25.5	25.5	23.4	25.5	25.5	2.1	-2.1	20.3	22.4	25.5	19.5	21.6	25.5
ANT 3	W-CDMA B2 HSUPA	2.1	-2.1	23.4	25.5	25.5	23.4	25.5	25.5	2.1	-2.1	20.3	22.4	25.5	19.5	21.6	25.5
ANT 3	W-CDMA B2 HSPA+	2.1	-2.1	23.4	25.5	25.5	23.4	25.5	25.5	2.1	-2.1	20.3	22.4	25.5	19.5	21.6	25.5
ANT 3	W-CDMA B4 Rel. 99	2.0	-2.0	23.5	25.5	25.5	23.5	25.5	25.5	2.0	-2.0	20.8	22.8	25.5	20.0	22.0	25.5
ANT 3	W-CDMA B4 HSDPA	2.0	-2.0	23.5	25.5	25.5	23.5	25.5	25.5	2.0	-2.0	20.8	22.8	25.5	20.0	22.0	25.5
ANT 3	W-CDMA B4 HSUPA	2.0	-2.0	23.5	25.5	25.5	23.5	25.5	25.5	2.0	-2.0	20.8	22.8	25.5	20.0	22.0	25.5
ANT 3	W-CDMA B4 HSPA+	2.0	-2.0	23.5	25.5	25.5	23.5	25.5	25.5	2.0	-2.0	20.8	22.8	25.5	20.0	22.0	25.5
ANT 3	LTE B2 PC3	2.1	-2.1	23.6	25.7	25.7	23.6	25.7	25.7	2.1	-2.1	20.3	22.4	25.7	19.5	21.6	25.7
ANT 3	LTE B4 PC3	2.0	-2.0	23.7	25.7	25.7	23.7	25.7	25.7	2.0	-2.0	20.8	22.8	25.7	20.0	22.0	25.7
ANT 3	LTE B7 PC3	2.4	-2.4	22.6	25.0	25.0	22.6	25.0	25.0	2.4	-2.4	18.3	20.7	25.0	17.5	19.9	25.0
ANT 3	LTE B25 PC3	2.1	-2.1	23.6	25.7	25.7	23.6	25.7	25.7	2.1	-2.1	20.3	22.4	25.7	19.5	21.6	25.7
ANT 3	LTE B30 PC3	1.7	-1.7	23.3	25.0	25.0	23.3	25.0	25.0	1.7	-1.7	20.0	21.7	25.0	19.2	20.9	25.0
ANT 3	LTE B38 PC3	2.0	-2.0	23.7	25.7	25.7	23.7	25.7	25.7	2.0	-2.0	20.7	22.7	25.7	19.9	21.9	25.7
ANT 3	LTE B41 PC3	2.4	-2.4	23.3	25.7	25.7	23.3	25.7	25.7	2.4	-2.4	20.3	22.7	25.7	19.5	21.9	25.7
ANT 3	LTE B41 PC2	2.4	-2.4	25.6	28.0	28.0	25.6	28.0	28.0	2.4	-2.4	21.9	24.3	28.0	21.1	23.5	28.0
ANT 3	LTE B66 PC3	2.0	-2.0	23.7	25.7	25.7	23.7	25.7	25.7	2.0	-2.0	20.8	22.8	25.7	20.0	22.0	25.7
ANT 3	LTE ULCA B7 PC3	2.4	-2.4	22.6	25.0	25.0	22.6	25.0	25.0	2.4	-2.4	18.3	20.7	25.0	17.5	19.9	25.0
ANT 3	LTE ULCA B38 PC3	2.5	-2.5	23.2	25.7	25.7	23.2	25.7	25.7	2.5	-2.5	20.2	22.7	25.7	19.4	21.9	25.7
ANT 3	LTE ULCA B41 PC3	2.4	-2.4	23.3	25.7	25.7	23.3	25.7	25.7	2.4	-2.4	20.3	22.7	25.7	19.5	21.9	25.7
ANT 3	LTE ULCA B41 PC2	2.4	-2.4	25.6	28.0	28.0	25.6	28.0	28.0	2.4	-2.4	21.9	24.3	28.0	21.1	23.5	28.0
ANT 3	FR1 n2 PC3	1.7	-1.7	24.0	25.7	25.7	24.0	25.7	25.7	1.7	-1.7	20.7	22.4	25.7	19.9	21.6	25.7
ANT 3	FR1 n7 PC3	2.2	-2.2	22.8	25.0	25.0	22.8	25.0	25.0	2.2	-2.2	18.5	20.7	25.0	17.7	19.9	25.0
ANT 3	FR1 n25 PC3	1.7	-1.7	24.0	25.7	25.7	24.0	25.7	25.7	1.7	-1.7	20.7	22.4	25.7	19.9	21.6	25.7
ANT 3	FR1 n30 PC3	1.1	-1.1	23.4	24.5	24.5	23.4	24.5	24.5	1.1	-1.1	20.6	21.7	24.5	19.8	20.9	24.5
ANT 3	FR1 n38 PC3	2.0	-2.0	23.7	25.7	25.7	23.7	25.7	25.7	2.0	-2.0	19.5	21.5	25.7	18.6	20.6	25.7
ANT 3	FR1 n41 PC3	2.1	-2.1	23.6	25.7	25.7	23.6	25.7	25.7	2.1	-2.1	19.4	21.5	25.7	18.5	20.6	25.7
ANT 3	FR1 n41 PC2	2.1	-2.1	25.9	28.0	28.0	25.9	28.0	28.0	2.1	-2.1	22.4	24.5	28.0	21.6	23.7	28.0
ANT 3	FR1 n66 PC3	1.6	-1.6	24.1	25.7	25.7	24.1	25.7	25.7	1.6	-1.6	21.2	22.8	25.7	20.4	22.0	25.7
ANT 3	FR1 n70 PC3	1.4	-1.4	24.3	25.7	25.7	24.3	25.7	25.7	1.4	-1.4	21.6	23.0	25.7	20.8	22.2	25.7
ANT 4	GSM 1900 GMSK 1 Slot	2.1	-2.1	25.2	27.3	28.0	24.4	26.5	28.0	2.1	-2.1	26.9	29.0	28.0	26.9	29.0	28.0
ANT 4	GSM 1900 GMSK 2 Slot(s)	2.1	-2.1	22.2	24.3	28.0	21.4	23.5	28.0	2.1	-2.1	24.9	27.0	28.0	24.1	26.2	28.0
ANT 4	GSM 1900 8PSK 1 Slot	2.1	-2.1	21.9	24.0	24.0	21.9	24.0	24.0	2.1	-2.1	21.9	24.0	24.0	21.9	24.0	24.0
ANT 4	GSM 1900 8PSK 2 Slot(s)	2.1	-2.1	20.9	23.0	23.0	20.9	23.0	23.0	2.1	-2.1	20.9	23.0	23.0	20.9	23.0	23.0
ANT 4	W-CDMA B2 Rel. 99	2.1	-2.1	16.2	18.3	22.9	15.4	17.5	22.9	2.1	-2.1	18.6	20.7	22.9	17.8	19.9	22.9
ANT 4	W-CDMA B2 HSDPA	2.1	-2.1	16.2	18.3	22.9	15.4	17.5	22.9	2.1	-2.1	18.6	20.7	22.9	17.8	19.9	22.9
ANT 4	W-CDMA B2 HSUPA	2.1	-2.1	16.2	18.3	22.9	15.4	17.5	22.9	2.1	-2.1	18.6	20.7	22.9	17.8	19.9	22.9
ANT 4	W-CDMA B2 HSPA+	2.1	-2.1	16.2	18.3	22.9	15.4	17.5	22.9	2.1	-2.1	18.6	20.7	22.9	17.8	19.9	22.9
ANT 4	W-CDMA B4 Rel. 99	2.1	-2.1	17.3	19.3	22.9	16.5	18.5	22.9	2.1	-2.1	19.6	21.6	22.9	18.8	20.8	22.9
ANT 4	W-CDMA B4 HSDPA	2.1	-2.1	17.3	19.3	22.9	16.5	18.5	22.9	2.1	-2.1	19.6	21.6	22.9	18.8	20.8	22.9
ANT 4	W-CDMA B4 HSUPA	2.1	-2.1	17.3	19.3	22.9	16.5	18.5	22.9	2.1	-2.1	19.6	21.6	22.9	18.8	20.8	22.9
ANT 4	W-CDMA B4 HSPA+	2.1	-2.1	17.3	19.3	22.9	16.5	18.5	22.9	2.1	-2.1	19.6	21.6	22.9	18.8	20.8	22.9
ANT 4	LTE B2 PC3	2.1	-2.1	16.2	18.3	23.4	15.4	17.5	23.4	2.1	-2.1	18.6	20.7	23.4	17.8	19.9	23.4
ANT 4	LTE B4 PC3	2.1	-2.1	16.9	18.9	25.7	16.1	18.1	25.7	2.1	-2.1	19.6	21.6	25.7	18.8	20.8	25.7
ANT 4	LTE B7 PC3	2.1	-2.1	17.3	19.4	22.7	16.5	18.6	22.7	2.1	-2.1	20.0	22.1	22.7	19.2	21.3	22.7
ANT 4	LTE B25 PC3	1.6	-1.6	16.7	18.3	23.4	15.9	17.5	23.4	1.6	-1.6	19.1	20.7	23.4	18.3	19.9	23.4
ANT 4	LTE B30 PC3	1.7	-1.7	17.5	19.2	22.7	16.7	18.4	22.7	1.7	-1.7	19.6	21.3	22.7	18.8	20.5	22.7
ANT 4	LTE B38 PC3	2.7	-2.7	18.2	20.9	25.7	17.4	20.1	25.7	2.7	-2.7	20.6	23.3	25.7	19.8	22.5	25.7
ANT 4	LTE B41 PC3	2.3	-2.3	18.6	20.9	25.7	17.8	20.1	25.7	2.3	-2.3	21.0	23.3	25.7	20.2	22.5	25.7
ANT 4	LTE B41 PC2	2.3	-2.3	20.2	22.5	27.7	19.4	21.7	27.7	2.3	-2.3	22.6	24.9	27.7	21.8	24.1	27.7
ANT 4	LTE B48 PC3	2.2	-2.2	21.3	23.5	24.7	20.5	22.7	24.7	2.2	-2.2	22.3	24.5	24.7	21.5	23.7	24.7
ANT 4	LTE B66 PC3	2.1	-2.1	16.9	18.9	25.7	16.1	18.1	25.7	2.1	-2.1	19.6	21.6	25.7	18.8	20.8	25.7
ANT 4	LTE ULCA B7 PC3	2.1	-2.1	17.3	19.4	22.7	16.5	18.6	22.7	2.1	-2.1	20.0	22.1	22.7	19.2	21.3	22.7
ANT 4	LTE ULCA B38 PC3	2.0	-2.0	18.2	20.9	25.7	17.4	20.1	25.7	2.0	-2.0	20.7	22.7	25.7	19.8	22.5	25.7
ANT 4	LTE ULCA B41 PC3	2.1	-2.1	18.8	20.9	25.7	18.0	20.1	25.7	2.1	-2.1	21.2	23.3	25.7	20.4	22.5	25.7
ANT 4	LTE ULCA B41 PC2	2.1	-2.1	20.4	22.5	27.7	19.6	21.7	27.7	2.1	-2.1	22.8	24.9	27.7	22.0	24.1	27.7
ANT 4	LTE ULCA B48 PC3	2.2	-2.2	21.3	23.5	23.7	20.5	22.7	23.7	2.2							

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 TAS Part 0 report and the worst-case reported WLAN SAR results are listed in Table 6-2 and Table 6-5.

Table 6-2: Worst-case reported WLAN SAR (Power State 5)

Technology	ANT				Reported 1-g SAR (W/kg)				P_{max}			
	Head	Body & Hotspot	Hotspot	Extremity	Head	Body & Hotspot	Hotspot	Extremity	Head	Body & Hotspot	Hotspot	Extremity
Wi-Fi 2.4 GHz	ANT 4	ANT 4	ANT 4	N/A	0.364	0.368	0.334	N/A	14.75	16.50	16.50	N/A
Wi-Fi 5.2 GHz	ANT 5	ANT 6	ANT 5	N/A	0.000	0.354	0.271	N/A	16.75	12.25	16.00	N/A
Wi-Fi 5.3 GHz	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Wi-Fi 5.5 GHz	ANT 6	ANT 6	ANT 5	N/A	0.250	0.330	0.237	N/A	17.50	10.25	14.25	N/A
Wi-Fi 5.8 GHz	ANT 6	ANT 6	ANT 5	N/A	0.304	0.365	0.240	N/A	17.25	11.00	14.50	N/A
U-NII 5	ANT 6	ANT 5	N/A	N/A	0.015	0.207	N/A	N/A	6.75	15.50	N/A	N/A
U-NII 6	N/A	ANT 6	N/A	N/A	N/A	0.185	N/A	N/A	N/A	7.00	N/A	N/A
U-NII 7	ANT 6	ANT 6	N/A	N/A	0.000	0.196	N/A	N/A	7.00	7.00	N/A	N/A
U-NII 8	ANT 5	ANT 6	N/A	N/A	0.014	0.150	N/A	N/A	12.75	7.00	N/A	N/A
Bluetooth (2.4 GHz)	ANT 4	ANT 3	ANT 3	N/A	0.218	0.357	0.306	N/A	14.75	18.25	18.25	N/A
Bluetooth (NB U-NII 1)	ANT 6	ANT 6	ANT 5	N/A	0.000	0.457	0.190	N/A	14.25	14.25	14.25	N/A
Bluetooth (NB U-NII 3)	ANT 6	ANT 6	ANT 5	N/A	0.269	0.281	0.162	N/A	17.25	11.00	14.50	N/A
Bluetooth (NB U-NII 5)	ANT 5	ANT 6	ANT 5	N/A	0.015	0.069	0.009	N/A	4.50	2.50	4.50	N/A
802.15.4	ANT 4	ANT 3	ANT 4	N/A	0.291	0.349	0.296	N/A	14.75	18.25	16.50	N/A
802.15.4ab	ANT 6	ANT 6	ANT 5	N/A	0.054	0.084	0.000	N/A	19.00	16.00	20.50	N/A

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

Technology	ANT				Reported 1-g SAR (W/kg)				P_{max}			
	Head	Body & Hotspot	Hotspot	Extremity	Head	Body & Hotspot	Hotspot	Extremity	Head	Body & Hotspot	Hotspot	Extremity
Wi-Fi 2.4 GHz	ANT 4	ANT 4	ANT 4	N/A	0.273	0.276	0.251	N/A	13.50	15.25	15.25	N/A
Wi-Fi 5.2 GHz	ANT 5	ANT 6	ANT 5	N/A	0.000	0.266	0.203	N/A	15.50	11.00	14.75	N/A
Wi-Fi 5.3 GHz	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Wi-Fi 5.5 GHz	ANT 6	ANT 6	ANT 5	N/A	0.212	0.248	0.178	N/A	16.25	9.00	13.00	N/A
Wi-Fi 5.8 GHz	ANT 6	ANT 6	ANT 5	N/A	0.228	0.274	0.180	N/A	16.00	9.75	13.25	N/A
U-NII 5	ANT 6	ANT 5	N/A	N/A	0.011	0.155	N/A	N/A	5.50	14.25	N/A	N/A
U-NII 6	N/A	ANT 6	N/A	N/A	N/A	0.139	N/A	N/A	N/A	5.75	N/A	N/A
U-NII 7	ANT 6	ANT 6	N/A	N/A	0.000	0.147	N/A	N/A	5.75	5.75	N/A	N/A
U-NII 8	ANT 5	ANT 6	N/A	N/A	0.010	0.113	N/A	N/A	11.50	5.75	N/A	N/A
Bluetooth (2.4 GHz)	ANT 4	ANT 3	ANT 3	N/A	0.163	0.268	0.230	N/A	13.50	17.00	17.00	N/A
Bluetooth (NB U-NII 1)	ANT 6	ANT 6	ANT 5	N/A	0.000	0.457	0.190	N/A	14.25	14.25	14.25	N/A
Bluetooth (NB U-NII 3)	ANT 6	ANT 6	ANT 5	N/A	0.202	0.211	0.121	N/A	16.00	9.75	13.25	N/A
Bluetooth (NB U-NII 5)	ANT 5	ANT 6	ANT 5	N/A	0.015	0.069	0.009	N/A	4.50	2.50	4.50	N/A
802.15.4	ANT 4	ANT 3	ANT 4	N/A	0.218	0.262	0.222	N/A	13.50	17.00	15.25	N/A
802.15.4ab	ANT 6	ANT 6	ANT 5	N/A	0.054	0.084	0.000	N/A	19.00	16.00	20.50	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 Tables 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 TAS Part 0 report), with the EUT transmitting at P_{limit} (listed in Table 5-7 of the TAS Part 0 report) corresponding to the tested beams.

All 4cm² PD values for the selected beams are listed in Tables 5-1 to 5-3. In addition to these selected beams, 4cm² PD for a few more beams were used in the TAS Part 2 report.

Table 6-4: PD Measurement results n258

Module/Antenna	Frequency		Beam ID1	Beam ID2	P _{limit}	CC	BW	Modulation	RB	Signal Type	Eval. Distance	DUT Surface	Power Drift	Normal psPD	Total psPD
	MHz	Ch.	V	H	dBm	#	MHz		#						
M1	24800	2025833	16		-0.1	1	100	QPSK	1	CW	2mm	Back	0.13	1.840	2.500
	25200	2032499	19	275	-3.2	1	100	QPSK	1	CW	2mm	Back	-0.05	1.720	2.210
	25200	2032499		276	0.5	1	50	QPSK	66	CW	2mm	Back	-0.20	2.620	3.100
	25200	2032499		276	0.5	1	50	QPSK	66	CW	2mm	Top	0.75	0.265	0.346
	25200	2032499		276	0.5	1	50	QPSK	66	CW	2mm	Left	0.62	0.399	0.470

Table 6-5: PD Measurement results n260

Module/Antenna	Frequency		Beam ID1	Beam ID2	P _{limit}	CC	BW	Modulation	RB	Signal Type	Eval. Distance	DUT Surface	Power Drift	Normal psPD	Total psPD
	MHz	Ch.	V	H	dBm	#	MHz		#						
M1	38500	2253330		271	-1.1	1	100	QPSK	1	CW	2mm	Back	-0.06	2.400	2.630
	38500	2253330	15	271	-3.9	1	100	QPSK	1	CW	2mm	Back	-0.01	2.310	2.760
	37050	2229167	13		-0.5	1	100	QPSK	66	CW	2mm	Back	0.02	3.230	3.510
	37050	2229167	13		-0.5	1	100	QPSK	66	CW	2mm	Top	0.55	0.098	0.109
	37050	2229167	13		-0.5	1	100	QPSK	66	CW	2mm	Left	0.54	0.192	0.218

Table 6-6: PD Measurement results n261

Module/Antenna	Frequency		Beam ID1	Beam ID2	P _{limit}	CC	BW	Modulation	RB	Signal Type	Eval. Distance	DUT Surface	Power Drift	Normal psPD	Total psPD
	MHz	Ch.	V	H	dBm	#	MHz		#						
M1	27925	2077084	20		-1.1	1	100	QPSK	1	CW	2mm	Back	-0.02	1.470	2.140
	27925	2077084	15	271	-4.1	1	100	QPSK	1	CW	2mm	Back	0.05	2.140	2.730
	28300	2083330		269	-0.3	1	50	QPSK	1	CW	2mm	Back	-0.06	3.530	3.990
	28300	2083330		269	-0.3	1	50	QPSK	1	CW	2mm	Top	-0.04	0.508	0.555
	28300	2083330		269	-0.3	1	50	QPSK	1	CW	2mm	Left	0.35	0.072	0.082

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.

Custom Band: CW, BACK

Exposure Conditions

Band	Custom Band	Phantom Section	5G
Frequency [MHz] Channel Number	25200.0 25200000	Conversion Factor	1.0
Group UID	CW, 0--	Position Test Distance [mm]	BACK 2.00

Hardware Setup

Probe Calibration Date	EUmmWV4 - SN9493_F1-55GHz 2025-01-13	Phantom	mmWave xxxx
DAE Calibration Date	DAE4 Sn1716 2025-03-11	Medium	Air -
Software Version	3.2.2.2358		

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 [cm²]	4.00
psPDn+ [W/m²]	2.62
psPDtot+ [W/m²]	3.10
psPDmod+ [W/m²]	3.24
E _{max} [V/m]	59.3
H _{max} [A/m]	0.176
Power Drift [dB]	-0.20

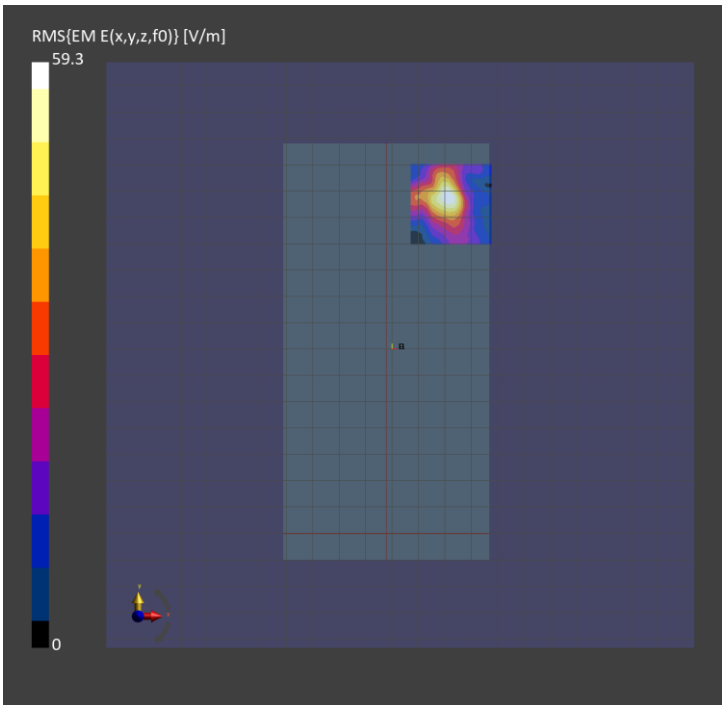


Figure 6-1: Band n258, Beam ID 276, point PD and 4cm² PD, Top

Custom Band: CW, BACK

Exposure Conditions

Band	Custom Band	Phantom Section	5G
Frequency [MHz] Channel Number	37050.0 37050000	Conversion Factor	1.0
Group UID	CW, 0--	Position Test Distance [mm]	BACK 2.00

Hardware Setup

Probe Calibration Date	EUmmWV4 - SN9493_F1-55GHz 2025-01-13	Phantom	mmWave xxxx
DAE Calibration Date	DAE4 Sn1716 2025-03-11	Medium	Air -
Software Version	3.2.2.2358		

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 [cm²]	4.00
psPDn+ [W/m²]	3.23
psPDtot+ [W/m²]	3.51
psPDmod+ [W/m²]	3.57
E _{max} [V/m]	60.0
H _{max} [A/m]	0.160
Power Drift [dB]	0.02

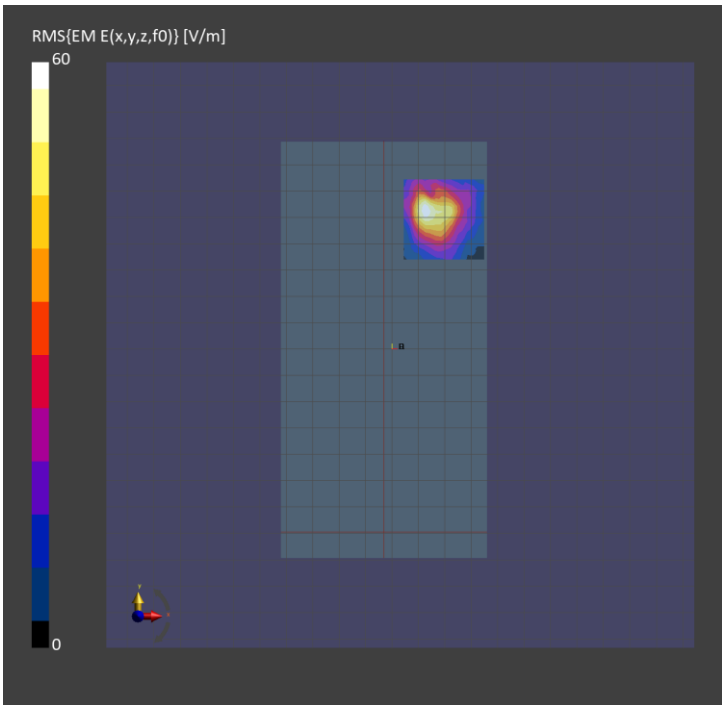


Figure 6-2: Band n260, Beam ID 13, point PD and 4cm² PD, Back

Custom Band: CW, BACK

Exposure Conditions

Band	Custom Band	Phantom Section	5G
Frequency [MHz] Channel Number	28300.0 28300000	Conversion Factor	1.0
Group UID	CW, 0--	Position Test Distance [mm]	BACK 2.00

Hardware Setup

Probe Calibration Date	EUmmWV4 - SN9493_F1-55GHz 2025-01-13	Phantom	mmWave xxxx
DAE Calibration Date	DAE4 Sn1716 2025-03-11	Medium	Air -
Software Version	3.2.2.2358		

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 [cm²]	4.00
psPDn+ [W/m²]	3.53
psPDtot+ [W/m²]	3.99
psPDmod+ [W/m²]	4.09
E _{max} [V/m]	70.1
H _{max} [A/m]	0.201
Power Drift [dB]	-0.06

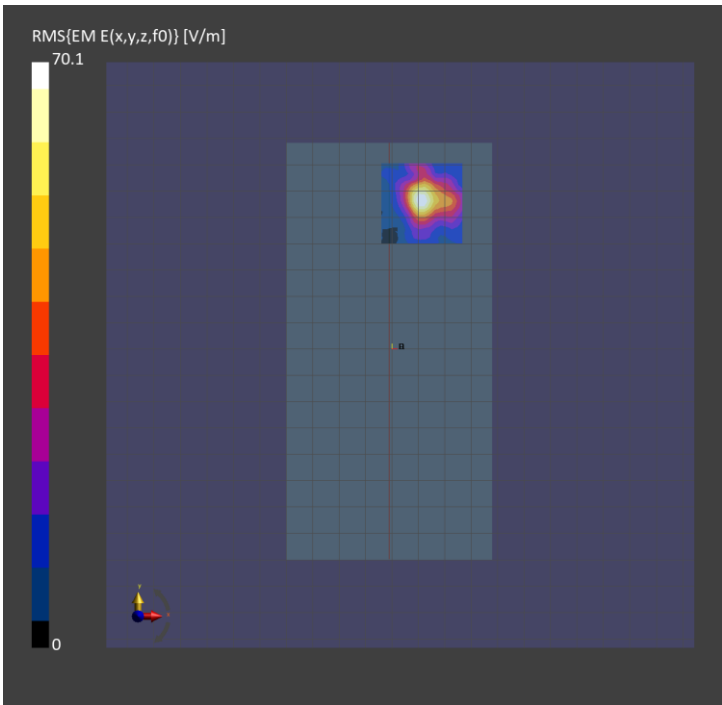


Figure 6-3: Band n261, Beam ID 269, point PD and 4cm² PD, Back

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 $\leq SAR_{\text{Design Target}}$ (corresponding to P_{limit}) for Sub-6 GHz WWAN and $\leq PD_{\text{Design Target}}$ (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}	
Maximum time-averaged exposure (Design Targets)	1.19 W/kg (1-g SAR)	4 W/m ²
Worst-case time-averaged RF exposure	Reported SAR† = 1.19 W/kg (1-g SAR)	Reported PD = 3.99 W/m ²

†: For this EUT, $(P_{\text{limit}} + \text{dB uncertainty}) \geq P_{\text{max}}$ (maximum RF tune-up output power). Therefore, time-averaged SAR exposure from Smart Transmit enabled EUT (at P_{limit}) cannot exceed the reported SAR corresponding to P_{max} 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:

$$\text{Total norm. RF exposure} = \text{norm. RF exposure from Smart Transmit enabled WWAN (norm. SAR from Sub-6 GHz + norm. PD from 5G millimeter wave NR) + norm. SAR from WLAN} \leq 1.0 \text{ normalized limit} \quad (1)$$

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.,

$$\text{norm. RF exposure from Smart Transmit enabled WWAN: (normalized SAR exposure from Sub-6 GHz) + (normalized PD exposure from 5G millimeter wave NR)} \leq 1.0 \text{ normalized limit} \quad (2)$$

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.,

$$\begin{aligned} \text{If } A &= \text{max normalized time-averaged SAR exposure from 4G,} \\ B &= \text{max normalized time-averaged PD exposure from 5G millimeter wave NR,} \end{aligned}$$

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:

$$\text{Smart Transmit enabled WWAN: } x(t) * A + (1-x(t)) * B \leq 1.0 \text{ normalized limit} \quad (3)$$

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:

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

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

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

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

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

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

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:

$$\text{Smart Transmit enabled WWAN: } A = \max(\text{normalized SAR exposure from 4G}) \leq 1.0 \text{ normalized limit} \quad (6a)$$

$$\text{Smart Transmit enabled WWAN: } B = \max(\text{normalized PD exposure from 5G millimeter wave NR}) \leq 0.75 \text{ normalized limit} \quad (6b)$$

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

$$\text{Total normalized RF exposure} = \text{norm. SAR from 4G WWAN} + \text{norm. SAR from WLAN} < 1.0 \text{ normalized FCC limit} \quad (7a)$$

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

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 equations (7a) and (7b), 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:

$$\text{Total norm. RF exposure} = \text{norm. RF exposure from Smart Transmit enabled WWAN (norm. SAR from Sub-6 GHz WWAN} + \text{norm. PD from 5G millimeter wave NR)} + \text{norm. SAR from WLAN} \leq 1.0 \text{ normalized limit} \quad (1)$$

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 + Connectivity Power State 5
2	5G millimeter wave NR + Connectivity Power State 6 + 802.15.4ab

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

$$TER = \sum_{n=1}^N \frac{SAR_n}{SAR_{n,limit}} + \sum_{n=1}^N \frac{S_{m,avg}}{S_{m,limit}} < 1$$

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	0.924	-	5.821	3.100
S3	0.270	-	-	1.569	0.470
S4	0.000	-	-	0.000	-
S5	0.402	-	-	2.337	0.346
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	0.935	-	5.891	3.510
S3	0.597	-	-	3.515	0.218
S4	0.000	-	-	0.000	-
S5	0.328	-	-	1.934	0.109
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	0.930	-	5.859	3.990
S3	0.520	-	-	3.049	0.082
S4	0.000	-	-	0.000	-
S5	0.373	-	-	2.186	0.555
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	Max Connectivity PS5 (Wi-Fi/Bluetooth/802.15.4)	Max Connectivity PS6 (Wi-Fi/Bluetooth/802.15.4)	802.15.4.ab	psPD + Connectivity	psPD + Connectivity + 802.15.4ab
	W/m ²	W/kg	W/kg	W/kg		
TER Combinations	1	2	3	4	1+2	1+3+4
Applicable limit	10	1.6	1.6	1.6	1	1
Reported Exposure	0.000	0.364	0.273	0.054	-	-
Ratio to Limit	0.000	0.228	0.171	0.033	0.228	0.204

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

n260						
Head TER	psPD	Max Connectivity PS5 (Wi-Fi/Bluetooth/802.15.4)	Max Connectivity PS6 (Wi-Fi/Bluetooth/802.15.4)	802.15.4.ab	psPD + Connectivity	psPD + Connectivity + 802.15.4ab
	W/m ²	W/kg	W/kg	W/kg		
TER Combinations	1	2	3	4	1+2	1+3+4
Applicable limit	10	1.6	1.6	1.6	1	1
Reported Exposure	0.000	0.381	0.273	0.001	-	-
Ratio to Limit	0.000	0.238	0.171	0.001	0.238	0.172

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

n261						
Head TER	psPD	Max Connectivity PS5 (Wi-Fi/Bluetooth/802.15.4)	Max Connectivity PS6 (Wi-Fi/Bluetooth/802.15.4)	802.15.4.ab	psPD + Connectivity	psPD + Connectivity + 802.15.4ab
	W/m ²	W/kg	W/kg	W/kg		
TER Combinations	1	2	3	4	1+2	1+3+4
Applicable limit	10	1.6	1.6	1.6	1	1
Reported Exposure	0.000	0.381	0.273	0.001	-	-
Ratio to Limit	0.000	0.238	0.171	0.001	0.238	0.172

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

n258						
Body/Hotspot TER	psPD	Max Connectivity PS5 (Wi-Fi/Bluetooth/802.15.4)	Max Connectivity PS6 (Wi-Fi/Bluetooth/802.15.4)	802.15.4ab	psPD + Connectivity	psPD + Connectivity + 802.15.4ab
	W/m ²	W/kg	W/kg	W/kg		
Scenario	1	2	3	4	1+2	1+3+4
Applicable limit	10	1.6	1.6	1.6	1	1
S1 @ 5 mm	Reported Exposure	0.000	0.348	0.261	0.000	-
	Ratio to Limit	0.000	0.217	0.163	0.000	0.163
S2 @ 5 mm	Reported Exposure	5.821	0.368	0.365	0.000	-
	Ratio to Limit	0.582	0.230	0.228	0.000	0.812
S3 @ 5 mm	Reported Exposure	1.569	0.297	0.240	0.000	-
	Ratio to Limit	0.157	0.186	0.150	0.000	0.342
S4 @ 5 mm	Reported Exposure	0.000	0.334	0.251	0.000	-
	Ratio to Limit	0.000	0.209	0.157	0.000	0.209
S5 @ 5 mm	Reported Exposure	2.337	0.036	0.036	0.000	-
	Ratio to Limit	0.234	0.022	0.022	0.000	0.256
S6 @ 5 mm	Reported Exposure	0.000	0.306	0.230	0.000	-
	Ratio to Limit	0.000	0.191	0.144	0.000	0.144

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

n260						
Body/Hotspot TER	psPD	Max Connectivity PS5 (Wi-Fi/Bluetooth/802.15.4)	Max Connectivity PS6 (Wi-Fi/Bluetooth/802.15.4)	802.15.4ab	psPD + Connectivity	psPD + Connectivity + 802.15.4ab
	W/m ²	W/kg	W/kg	W/kg		
Scenario	1	2	3	4	1+2	1+3+4
Applicable limit	10	1.6	1.6	1.6	1	1
S1 @ 5 mm	Reported Exposure	0.000	0.348	0.261	0.000	-
	Ratio to Limit	0.000	0.217	0.163	0.000	0.163
S2 @ 5 mm	Reported Exposure	5.891	0.368	0.365	0.000	-
	Ratio to Limit	0.589	0.230	0.228	0.000	0.817
S3 @ 5 mm	Reported Exposure	3.515	0.297	0.240	0.000	-
	Ratio to Limit	0.352	0.186	0.150	0.000	0.502
S4 @ 5 mm	Reported Exposure	0.000	0.334	0.251	0.000	-
	Ratio to Limit	0.000	0.209	0.157	0.000	0.157
S5 @ 5 mm	Reported Exposure	1.934	0.036	0.036	0.000	-
	Ratio to Limit	0.193	0.022	0.022	0.000	0.216
S6 @ 5 mm	Reported Exposure	0.000	0.306	0.230	0.000	-
	Ratio to Limit	0.000	0.191	0.144	0.000	0.144

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

n261						
Body/Hotspot TER	psPD	Max Connectivity PS5 (Wi-Fi/Bluetooth/802.15.4)	Max Connectivity PS6 (Wi-Fi/Bluetooth/802.15.4)	802.15.4ab	psPD + Connectivity	psPD + Connectivity + 802.15.4ab
	W/m ²	W/kg	W/kg	W/kg		
Scenario	1	2	3	4	1+2	1+3+4
Applicable limit	10	1.6	1.6	1.6	1	1
S1 @ 5 mm	Reported Exposure	0.000	0.348	0.261	0.000	-
	Ratio to Limit	0.000	0.217	0.163	0.000	0.163
S2 @ 5 mm	Reported Exposure	5.859	0.368	0.365	0.000	-
	Ratio to Limit	0.586	0.230	0.228	0.000	0.816
S3 @ 5 mm	Reported Exposure	3.049	0.297	0.240	0.000	-
	Ratio to Limit	0.305	0.186	0.150	0.000	0.491
S4 @ 5 mm	Reported Exposure	0.000	0.334	0.251	0.000	-
	Ratio to Limit	0.000	0.209	0.157	0.000	0.209
S5 @ 5 mm	Reported Exposure	2.186	0.036	0.036	0.000	-
	Ratio to Limit	0.219	0.022	0.022	0.000	0.241
S6 @ 5 mm	Reported Exposure	0.000	0.306	0.230	0.000	-
	Ratio to Limit	0.000	0.191	0.144	0.000	0.191

7. Conclusions

Table 7-1 shows the worst-case 1-g SAR and worst-case 4cm²-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)	1.190	Refer to §1 of the reference SAR Report
Highest 4cm ² -avg PD at <i>input.power.limit</i> (W/m ²)	3.990	§6.2
Highest 1-g SAR (W/kg) for simultaneous Tx (Sub-6 WWAN + WLAN)	1.536	Refer to §1 of the reference SAR Report
Highest Total Exposure Ratio for simultaneous Tx (5G mmW NR + WLAN)	0.819	§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 Photo

D. Measurement Equipment

Lab Equipment

Name of Equipment	Manufacturer	Type/Model	Serial No.	Cal. Due Date
E-Field Probe (SAR Lab 25)	SPEAG	EUmmWV4	9493	1/13/2026
Data Acquisition Electronics (SAR Lab 25)	SPEAG	DAE4	1716	3/11/2026
Thermometer	TRACABLE	6530CC	170024398	2/28/2026
5G Verification Source	SPEAG	30 GHz	1117	9/6/2025

E. Measurement Uncertainty

DASY 6/8 PD Measurement Uncertainty

a		b	c	d f(d,k)	e	f = b×e/d	g
Error Description		Unc.Value (±dB)	Probab. Distri.	Div.	<i>c_i</i>	Std. Unc. (±dB)	<i>v_i</i>
Uncertainty terms dependent on the measurement system							
CAL	Calibration Repeatability	0.49	Normal	1	1	0.49	∞
COR	Probe correction	0	Rectangular	1.732	1	0.00	∞
FRS	Frequency response (BW 1 GHz)	0.20	Rectangular	1.732	1	0.12	∞
SCC	Sensor cross coupling	0	Rectangular	1.732	1	0.00	∞
ISO	Isotropy	0.50	Rectangular	1.732	1	0.29	∞
LIN	Linearity	0.20	Rectangular	1.732	1	0.12	∞
PSC	Probe scattering	0	Rectangular	1.732	1	0.00	∞
PPO	Probe positioning o set	0.30	Rectangular	1.732	1	0.17	∞
PPR	Probe positioning repeatability	0.04	Rectangular	1.732	1	0.02	∞
SMO	Sensor mechanical o set	0	Rectangular	1.732	1	0.00	∞
PSR	Probe spatial resolution	0	Rectangular	1.732	1	0.00	∞
FLD	Field impedance dependance	0	Rectangular	1.732	1	0.00	∞
APD	Amplitude and phase drift	0	Rectangular	1.732	1	0.00	∞
APN	Amplitude and phase noise	0.04	Rectangular	1.732	1	0.02	∞
TR	Measurement area truncation	0	Rectangular	1.732	1	0.00	∞
DAQ	Data acquisition	0.03	Normal	1	1	0.03	∞
SMP	Sampling	0	Rectangular	1.732	1	0.00	∞
REC	Field reconstruction	0.60	Rectangular	1.732	1	0.35	∞
TRA	Forw ard transformation	0	Rectangular	1.732	1	0.00	∞
SCA	Pow er density scaling	-	Rectangular	1.732	1	-	∞
SAV	Spatial averaging	0.10	Rectangular	1.732	1	0.06	∞
SDL	System detection limit	0.04	Rectangular	1.732	1	0.02	∞
Uncertainty terms dependent on the DUT and environmental factors							
PC	Probe coupling w ith DUT	0	Rectangular	1.732	1	0	∞
MOD	Modulation response	0.40	Rectangular	1.732	1	0.23	∞
IT	Integration time	0	Rectangular	1.732	1	0	∞
RT	Response time	0	Rectangular	1.732	1	0	∞
DH	Device holder influence	0.10	Rectangular	1.732	1	0.06	∞
DAQ	DUT alignment	0	Rectangular	1.732	1	0	∞
AC	RF ambient conditions	0.04	Rectangular	1.732	1	0.02	∞
AR	Ambient reflections	0.04	Rectangular	1.732	1	0.02	∞
MSI	Immunity / secondary reception	0	Rectangular	1.732	1	0	∞
DRI	Drift of the DUT	0.21	Rectangular	1.732	1	0.12	∞
Combined Standard Uncertainty U _c (f) =			RSS			0.76	∞
Expanded Uncertainty U, Coverage Factor = 2, > 95 % Confidence =						1.52	

END OF REPORT