Part 0_Trophy_RF Exposure Report

Table of contents

1. Product Description

Product Type	Phone
Product Name	Trophy
Operated Band	GSM850: 824.2 MHz~848.8 MHz
	WCDMA Band V: 824 MHz~ 849 MHz
	LTE Band 2: 1850 MHz~ 1910 MHZ
	LTE Band 5: 824 MHz~849 MHz
	LTE Band 7:2500 MHz~2570 MHZ
	LTE Band 48: 3550 MHz~3700 MHZ
	LTE Band 66:1710 MHZ~1780 MHZ
	5G NR n2: 1850 MHZ~1910 MHZ5
	5G NR n5 : 824 MHz~ 849 MHZ
	5G NR n66 : 1710 MHz~ 1780 MHZ
	5G NR n77:3700 MHZ~3980 MHz,3450MHZ~ 3550MHZ
	5G NR n260 :37 GHZ~40 GHz5G
	NR n261 : 27.5 GHz~28.35 GHz

Table 1-1 Production describtion

2. SAR Characterization

SAR char must be generated to cover all radio configurations and usage scenarios that the wireless device supports for operating at 6 GHz or below. It will then be used as input for Smart Transmit to control and manage RF exposure for f < 6 GHz. Table 2.1 Usage scenarios in SAR evaluation SAR char should be evaluated per the wireless device position relative to the human body. For a smartphone operating at frequencies < 6 GHz, SAR must be evaluated at low, mid, and high channels for each supported band, technology, and Tx antenna in usage scenarios described in Table 2-1.

Scenario	DSI State	Description
Full Power	DSI0	Full Power
Body	DSI1	Standalone
	DSI2	WLAN simultaneously
Body/Head+BT	DSI3	BT simultaneously
Head	DSI4	Standalone
	DSI5	WLAN simultaneously

Table 2-1 Usage scenarios

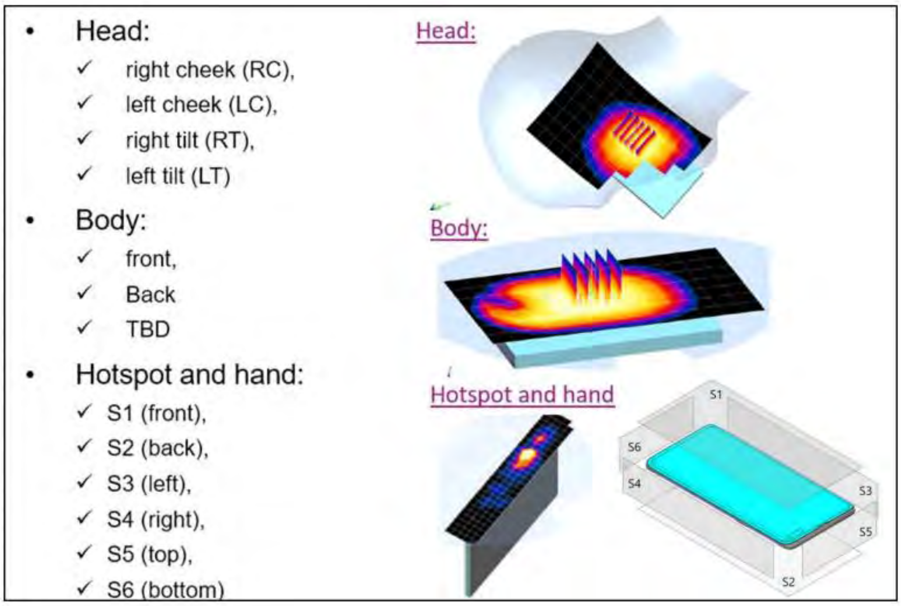


Figure 2-1 SAR evaluation for smart phone application

The device state index (DSI) represents each usage scenario (or exposure scenario). Depending on the detection scheme implemented in the smartphone, the worst-case SAR is further grouped and determined for each or combined exposure scenario(s):

If the device does not have any detection mechanism (**all "no"** in Figure 2-2), then the worst- case 1gSAR is determined by taking the maximum 1gSAR value among all exposure scenarios, i.e., worst-case 1gSAR = *max*{*SARhead, SARbody, SARhotspot*}.

If the device can distinguish each of the above scenarios (**all "yes"** in Figure 2-2), then the worst-case 1gSAR for each individual exposure scenario is given by corresponding *SARhead, SARbody,* and *SARhotspot.*

If the device can only distinguish a subset of the scenarios (**some "yes", some "no"** in Figure 2-2), then the worst-case SAR is given by:

Corresponding 1gSAR for each exposure scenario that can be distinguished (DSI=yes) Maximum 1gSAR among all other exposure scenario(s) that cannot be distinguished (DSI=no)

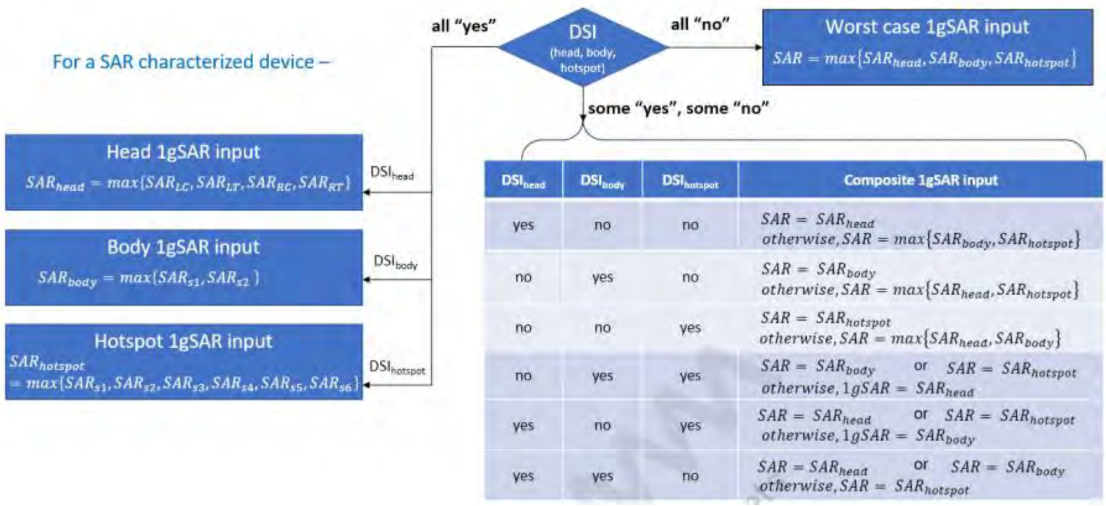


Figure 2-2 Worst-case 1gSAR determination based on DSI

2.1 SAR char generation

The design target for SAR compliance (1gSAR compliance for FCC), denoted as ***SAR_design_target***, must be specified before generating SAR char.

SAR char determines the power level the device meets the ***SAR_design_target*** for each radio configuration and usage case supported. For SAR char generation, the SAR measurement should be performed in a static Tx power transmission mode, i.e., FTM mode at maximum power, or with callbox requesting maximum power and Smart Transmit disabled.

To generate SAR char for a smartphone:

1. Specify ***SAR_design_target***: The ***SAR_design_target*** shall be less than regulatory SAR limit (i.e., 1gSAR limit for FCC) after accounting for all device design related uncertainties.
2. Measure conducted power and SAR for each Tx antenna and supported technology/band. For a given technology/band, if the device supports multiple modulations (for example, QPSK, 16-QAM and 64-QAM in the case of LTE), then measurement on one modulation is sufficient for SAR char generation. For each supported band, SAR is evaluated at low, mid, high channels and the highest SAR among the three channels is chosen for the respective band.
3. Based on 1gSAR values obtained in Step 2, see Figure 2-2 to derive the worst-case 1gSAR for each DSI (i.e., DSI = "yes") and for all Tx antenna and supported technology/band.
4. Determine the Tx power level at which the corresponding worst-case 1gSAR is equal to ***SAR_design_target*** for each DSI and for all Tx antenna and supported technology/band.
5. FCC has specified 1gSAR and 10gSAR for different RF exposure scenarios. In this case, *SAR_design_target* is defined for 1gSAR first, and then calculate the Tx power level at which the corresponding worst-case 10gSAR is equal to the design target for 10gSAR compliance, *SAR_design_target_extremity*, as follows:

a. Derive *SAR_design_target_extremity* for hand exposure scenario using

$$SAR\_design\_target\_extremity = \frac{SAR\_design\_target}{1gSAR\ limit} \times 10gSAR\ limit$$

b. Determine the Tx power level that corresponds to *SAR_design_target_extremity* for all Tx antenna and supported technologies/bands, denoted as *Tx_power_at_SAR_design_target_extremity*

6. Generate SAR char and tabulate ***Tx_power_at_SAR_design_target*** versus DSI for each Tx antenna and for all supported technologies/bands.

2.2 SAR design target and uncertainty

For this EUT, the TxAGC uncertainty for sub6 radio is 1.0dB (k=2). Device-to-device uncertainty is 1.2dB (k=2). Total uncertainty can then be determined (see Table 3-4).

Table 2.2-1 uncertainty budget

Item	Uncertainty dB (k = 2)
Sub6 radio TxAGC	1.0
Device to device variation	1.2
Total uncertainty	1.49

Table 2.2-1 uncertainty budge

To account for total uncertainty, SAR_design_target should be determined as

$$SAR\_design\_target < SAR_{regulatory\_limit} \times 10^{\frac{-total\ uncertainty}{10}}$$

The SAR design target is determined as Table 2.2-2:

SAR regulary limit (W/kg)	Total uncertainty (dB)	SAR design target (w/kg)
1.2	1	0.95

Table 2.2-2 SAR design target

Per FCC, KDB Publication 447498 D01v06, when SAR is not measured at the maximum power level allowed for production units, the results must be scaled to the maximum tune-up tolerance limit according to the power applied to the individual channels tested to determine compliance, For simultaneous transmission. the measured aggregate SAR must be scaled according to the sum of the differences between the maximum tune-up tolerance and actual power used to test each transmitter. When SAR is measured at or scaled to the maximum tune-up tolerance limit, the results are referred to as reported SAR

Referring to the initial FCC submission, the worst-case reported SAR for each antenna/technology/bandDSl issummarized in Table

2.3 Worst case reported SAR

Worst case reported SAR							
Exposure Scenario	Duty Cycle	Antenna	Head		Body		
Transmitimission mode			Standalone	Simultaneous	WWAN +BT	Standalone	Simultaneous
Power Mode (DSI)			DSI4	DSI5	DSI3	DSI1	DSI2
GSM 850(GPRS 4TX)	50%	Ant 1	0.342	0.342	1.108	1.108	0.422
WCDMA Band V	100%	Ant 1	0.484	0.484	0.962	0.962	0.623
LTE Band 2	100%	Ant 3	0.326	0.326	0.559	0.559	0.559
	100%	Ant 7	0.662	0.662	0.662	0.662	0.662
LTE Band 5	100%	Ant 1	0.344	0.344	0.878	0.878	0.550
LTE Band 7	100%	Ant 3	0.591	0.591	0.597	0.597	0.597
LTE Band 48	63.3%	Ant 4	0.760	0.760	1.100	1.100	0.312
	63.3%	Ant 10	0.528	0.528	0.313	0.313	0.313
LTE Band 66	100%	Ant 3	0.364	0.364	0.772	0.772	0.772
	100%	Ant 7	0.500	0.500	0.359	0.359	0.359
5G NR n2	100%	Ant 3	0.155	0.155	0.452	0.452	0.452
5G NR n5	100%	Ant 1	0.169	0.169	0.275	0.275	0.275
5G NR n66	100%	Ant 3	0.195	0.195	0.520	0.520	0.520
5G NR n77	100%	Ant 4	0.831	0.831	1.149	1.149	0.412
	100%	Ant 10	0.516	0.516	0.411	0.411	0.411

Table 2.3-1 Worst case reported SAR

2.4 SAR characterization

Power limit								
Exposure Scenario	Duty Cycle	Antenna	Pmax Tune up	Head		Body		
Transmitimission mode				Standalone	Simultaneous	WWAN +BT	Standalone	Simultaneous
Power Mode (DSI)			DSI0	DSI4	DSI5	DSI3	DSI1	DSI2
GSM 850(GPRS 4TX)	50%	Ant 1	32.5	31.5	30	31.5	31.5	30
WCDMA Band V	100%	Ant 1	24	23	22	23	23	21
LTE Band 2	100%	Ant 3	23	22	23	22	22	23
	100%	Ant 7	23	22	19	22	22	19
LTE Band 5	100%	Ant 1	24	23	22	23	23	22
LTE Band 7	100%	Ant 3	23	22	19	22	22	18
LTE Band 48	63.3%	Ant 4	23	19	19	22	22	19
	63.3%	Ant 10	23	19	19	22	22	19
LTE Band 66	100%	Ant 3	23	22	22	22	22	22
	100%	Ant 7	23	22	19	22	22	19
5G NR n2	100%	Ant 3	24	23	23	23	23	19
5G NR n5	100%	Ant 1	24	23	22	23	23	22
5G NR n66	100%	Ant 3	24	23	23	23	23	19
5G NR n77 A	100%	Ant 4	24	17	16	23	23	16
	100%	Ant 10	24	18	17	23	23	19

Table 2.4-1 SAR characterization

3. PD characterization

3.1 Electromagnetic simulation method for power density

which operates in the frequency domain.

EM simulation tool description

The mmWave power density (PD) simulation method for calculating PD (Power Density) for mobile phones with mmWave antenna modules is available in ANSYS Electromagnetics suite HFSS ver. 21.1 (2021 R1) is used. ANSYS HFSS is one of several commercial tools for 3D fullwave electromagnetic simulation used for antenna and RF structure design of high frequency component. ANSYS Electromagnetics suite HFSS ver. 21.1 (2021 R1) is implemented based on Finite Element Method (FEM), which operates in the frequency domain.

Mesh and convergence criteria

ANSYS Electromagnetic suite HFSS ver. 21.1 (2021 R1) uses the Finite Element Method(FEM) to solve the structure for 3D EM simulations to analyze power density. The volume area containing the simulated object should be subdivided into electrically small parts called finite elements with unknown functions. To subdivide system, the adaptive mesh technique in ANSYS Electromagnetics suite HFSS ver. 21.1 (2021 R1) is used. ANSYS Electromagnetics suite HFSS ver. 21.1 (2021 R1) starts to refine the initial mesh based on wavelength and calculate the error to iterative process for adaptive mesh refinement. The determination parameter of the number of iterations in ANSYS Electromagnetics suite HFSS ver. 21.1 (2021 R1) is defined asconvergence criteria, delta S, and the iterative adaptive mesh process repeats until the delta S is met. In ANSYS Electromagnetics suite HFSS ver. 21.1 (2021 R1), the accuracy of converged results depends on the delta S. Figure 1 is an example of final adaptive mesh of the device(cross-section of top view).

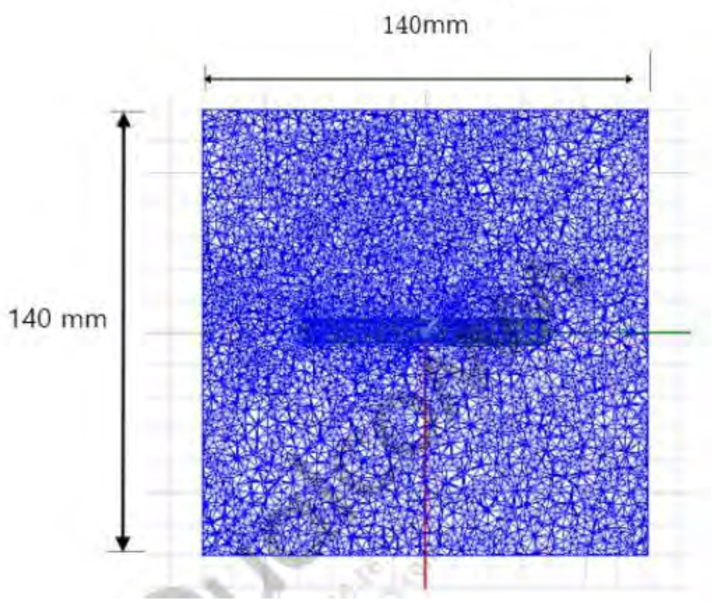


Figure 3.1-1: Example of HFSS mesh in a model of the device (Top view)

Time-averaged power density calculation

It is possible to get various kinds of physical quantities can be obtained after finishing 3D fullwave electromagnetic simulation. To calculate PD evaluation, two physical quantities, an electric field () and a magnetic field () are needed. The actual consumption power can be expressed as the real term of the time-averaged Poynting vector () from the cross product of and complex conjugation of as shown below:

$$(\vec{S}) = \mathrm{Re}(\frac{1}{2}\vec{E} \times \vec{H}*)$$

(can be expressed as point power density based on a peak value of each spatial point on mesh grids and obtained directly from ANSYS Electromagnetics suite HFSS ver. 21.1 (2021 R1). From the point power density(, the spatial-averaged power density () on an evaluated area (A) can be derived as shown below:

$$PD_{av} = \frac{1}{A}\int_A (\vec{S}).ds = \frac{1}{2A}\int_A |Re(\vec{E} \times \vec{H} *)|.ds$$

3.2 Simulation setup

Modeling for simulation

The simulation approach to perform PD assessment for a smartphone requires accurate modeling for mmWave antenna module as well as the smartphone itself. The simulation modeling includes most of the entire structure of device itself such as PCB, metal frame, battery, cables, and legacy antennas as well as mmWave antenna modules called as QMT0# . On the front side view, QMT0# is placed at the right side and antennas are facing the right side of the device.

Figure 3.2-1: HFSS simulation model which is mounted two mmWave antenna modules

PD evaluation surfaces

Figure 1-3 shows the PD evaluation planes and truncation area of the simulation model to find worst case surfaces for evaluation. Table 1-1 shows the surfaces selected for PD evaluation planes for QTM0#.

Please note that the “right” and “left” edge of mentioned in this report are defined from the perspective of looking at the device from the front side.

	Front	Back	Left From Front View	Right From Front View	Top	Bottom
	S1	S2	S3	S4	S5	S6
QTM0#	√	√		√	√	

Table 3.2-1: PD evaluation surfaces

Radiation boundary condition

For radiation boundary, the 2nd order absorbing boundary condition (ABC) is used for all simulations in this report. This radiation boundary simulates an electrically open surface that allows waves to radiate infinitely far into space. The system absorbs the wave via the 2nd order radiation boundary, essentially ballooning the boundary infinitely far away from the structure and into space. The radiation boundaries may also be placed relatively close to a structure and can be of arbitrary shape. Per ANSYS recommendations for their simulation tool, the radiation boundary plane must be located at least a quarter wavelength from strongly radiating structure, or at least a tenth of a wavelength from a weakly radiating structure. In this simulation report, about two or three wavelengths spacing from the device surfaces in all main beam directions are applied to ensure convergence.

By changing convergence error (i.e., maximum magnitude delta S) from 2% to 4% and moving the radiation boundary closer towards the device by 20%, the combined influence in PD value is < 0.04 dB which confirms that the simulation model is reliable using this setup.

Source excitation condition

Each of the two 5G mmWave array modules is the same part containing a 1x5 element array of dual-polarization patch antennas. The number of antenna ports of QTM#0 for source excitation is equal to 16. The port of each patch antenna is separated in frequency and polarization. That is, the ports of each patch antenna are divided into a feed for 28 GHz and a feed for 39 GHz, and a vertical polarity feed and a horizontal polarity feed are divided. Figure 1-3 shows the QTM0# module structure and surrounding structure. The QTM0# module is encrypted in the ANSYS Electromagnetics suite (HFSS) and can only check the feeding position is encrypted in the ANSYS Electromagnetics suite (HFSS) and can only check the feeding position.

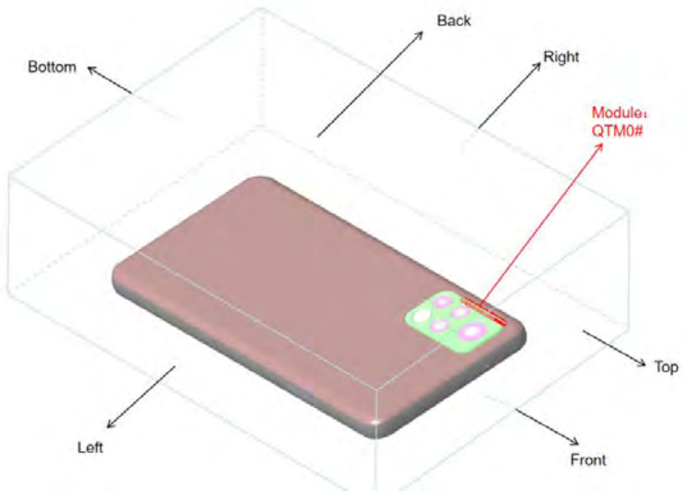


Figure 3.2-1: EUT simulation model

After finishing 3D full wave electromagnetic simulation of modeling structure, the magnitude and phase information can be loaded for each port by using "Edit Sources" function in ANSYS Electromagnetics suite (HFSS). Figure 4 shows an example of antenna port excitations.

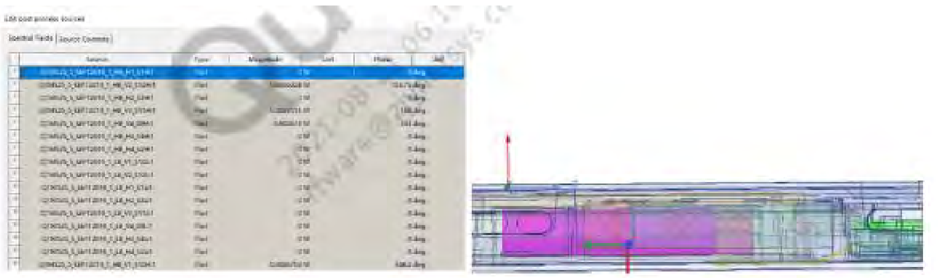


Figure 3.2-2: An example of port excitation

Since ANSYS Electromagnetics suite (HFSS) uses FEM solver based on frequency domain analysis method, the input source for the port excitation applies sinusoidal waveform for each frequency.

Condition of simulation completion

The simulation completion condition of ANSYS Electromagnetics suite (HFSS) is defined as delta S. The ANSYS Electromagnetics suite (HFSS) calculates the S-parameter for the mesh conditions of each step and determines whether to proceed with the operation of the next step by comparing the difference between the S-parameters in the previous step. A difference between the previous step and the current step of S-parameter is expressed as delta S, and the delta S generally sets 0.02. The simulation result of this report is the result of setting delta S to 0.02.

3.3 PD characterization flow

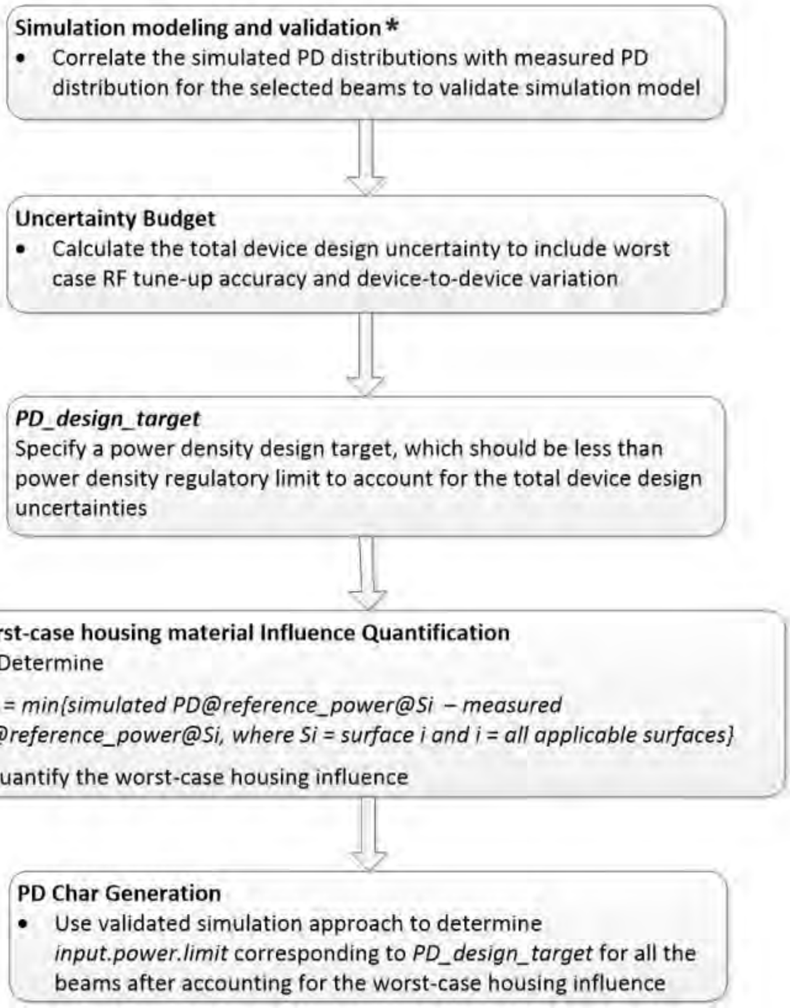


Figure 3.3-1: PD characterization flow

3.4 Codebook

The codebook supported by this EUT is shown in Table 3.4-1 below.

Band	Beam_ID	Module	Ant_Group	Ant_Type	Ant_Feed	Phase	Paired_With
260	0	0	0	PATCH	13	0	128
260	1	0	0	PATCH	16	0	129
260	2	0	0	PATCH	15	0	130
260	3	0	0	PATCH	14	0	131

260	4	0	0	PATCH	12	0	132
260	5	0	0	PATCH	14;12	337.5;0	133
260	6	0	0	PATCH	14;12	101.25;0	134
260	7	0	0	PATCH	14;12	225;0	135
260	8	0	0	PATCH	15;14	45;0	136
260	9	0	0	PATCH	14;12	33.75;0	137
260	10	0	0	PATCH	15;14	213.75;0	138
260	11	0	0	PATCH	16;15	0;33.75	139
260	12	0	0	PATCH	13;16;15;14;12	247.5;112.5;67.5;348.75;0	140
260	13	0	0	PATCH	13;16;15;14;12	213.75;11.25;236.25;90;0	141
260	14	0	0	PATCH	13;16;15;14;12	225;270;45;168.75;0	142
260	15	0	0	PATCH	13;16;15;14;12	123.75;101.25;180;225;0	143
260	16	0	0	PATCH	13;16;15;14;12	90;348.75;348.75;326.25;0	144
260	17	0	0	PATCH	13;16;15;14;12	45;225;135;33.75;0	145
260	18	0	0	PATCH	13;16;15;14;12	45;135;303.75;112.5;0	146
260	19	0	0	PATCH	13;16;15;14;12	0;11.25;112.5;202.5;0	147
260	20	0	0	PATCH	13;16;15;14;12	303.75;236.25;258.75;281.25;0	148
260	128	0	1	PATCH	6	0	0
260	129	0	1	PATCH	8	0	1
260	130	0	1	PATCH	7	0	2
260	131	0	1	PATCH	5	0	3
260	132	0	1	PATCH	3	0	4
260	133	0	1	PATCH	5;3	11.25;0	5
260	134	0	1	PATCH	7;5	123.75;0	6
260	135	0	1	PATCH	7;5	247.5;0	7
260	136	0	1	PATCH	8;7	168.75;11.25	8
260	137	0	1	PATCH	8;7	303.75;56.25	9
260	138	0	1	PATCH	8;7	180;191.25	10
260	139	0	1	PATCH	7;5	146.25;191.25	11
260	140	0	1	PATCH	6;8;7;5;3	247.5;281.25;56.25;22.5;0	12
260	141	0	1	PATCH	6;8;7;5;3	168.75;123.75;202.5;78.75;0	13
260	142	0	1	PATCH	6;8;7;5;3	180;45;33.75;180;0	14
260	143	0	1	PATCH	6;8;7;5;3	67.5;236.25;146.25;247.5;0	15
260	144	0	1	PATCH	6;8;7;5;3	67.5;135;337.5;337.5;0	16
260	145	0	1	PATCH	6;8;7;5;3	348.75;0;112.5;45;0	17
260	146	0	1	PATCH	6;8;7;5;3	348.75;258.75;292.5;135;0	18
260	147	0	1	PATCH	6;8;7;5;3	303.75;146.25;90;213.75;0	19
260	148	0	1	PATCH	6;8;7;5;3	225;0;236.25;281.25;0	20
261	0	0	0	PATCH	13	0	128
261	1	0	0	PATCH	16	0	129
261	2	0	0	PATCH	15	0	130
261	3	0	0	PATCH	14	0	131
261	4	0	0	PATCH	12	0	132
261	5	0	0	PATCH	15;14	225;11.25	133

261	6	0	0	PATCH	15;14	146.25;225	134
261	7	0	0	PATCH	15;14	202.5;168.75	135
261	8	0	0	PATCH	15;14	213.75;123.75	136
261	9	0	0	PATCH	15;14	247.5;0	137
261	10	0	0	PATCH	15;14	146.25;168.75	138
261	11	0	0	PATCH	15;14	202.5;146.25	139
261	12	0	0	PATCH	13;16;15;14;12	45;337.5;146.25;292.5;0	140
261	13	0	0	PATCH	13;16;15;14;12	236.25;123.75;247.5;348.75;0	141
261	14	0	0	PATCH	13;16;15;14;12	168.75;337.5;33.75;56.25;0	142
261	15	0	0	PATCH	13;16;15;14;12	45;146.25;146.25;112.5;0	143
261	16	0	0	PATCH	13;16;15;14;12	315;337.5;270;180;0	144
261	17	0	0	PATCH	13;16;15;14;12	123.75;11.25;168.75;303.75;0	145
261	18	0	0	PATCH	13;16;15;14;12	56.25;247.5;326.25;33.75;0	146
261	19	0	0	PATCH	13;16;15;14;12	270;56.25;90;90;0	147
261	20	0	0	PATCH	13;16;15;14;12	213.75;270;225;168.75;0	148
261	128	0	1	PATCH	6	0	0
261	129	0	1	PATCH	8	0	1
261	130	0	1	PATCH	7	0	2
261	131	0	1	PATCH	5	0	3
261	132	0	1	PATCH	3	0	4
261	133	0	1	PATCH	7;5	292.5;22.5	5
261	134	0	1	PATCH	6;8	337.5;11.25	6
261	135	0	1	PATCH	6;8	11.25;337.5	7
261	136	0	1	PATCH	6;8	168.75;45	8
261	137	0	1	PATCH	6;8	78.75;146.25	9
261	138	0	1	PATCH	7;5	180;146.25	10
261	139	0	1	PATCH	7;5	168.75;56.25	11
261	140	0	1	PATCH	6;8;7;5;3	11.25;101.25;146.25;236.25;0	12
261	141	0	1	PATCH	6;8;7;5;3	236.25;281.25;270;303.75;0	13
261	142	0	1	PATCH	6;8;7;5;3	123.75;101.25;33.75;348.75;0	14
261	143	0	1	PATCH	6;8;7;5;3	315;247.5;123.75;33.75;0	15
261	144	0	1	PATCH	6;8;7;5;3	135;22.5;225;90;0	16
261	145	0	1	PATCH	6;8;7;5;3	112.5;180;191.25;258.75;0	17
261	146	0	1	PATCH	6;8;7;5;3	0;0;337.5;315;0	18
261	147	0	1	PATCH	6;8;7;5;3	202.5;180;67.5;11.25;0	19
261	148	0	1	PATCH	6;8;7;5;3	33.75;303.75;180;67.5;0	20

Table 3.4-1: EUT codebook

3.5 Simulation verification

The beams selected for simulation verification are highlighted in yellow in Table 2-1. Input power level used for comparison is listed in Table 3-1

Mode/Band	Antenna	Input Power (dBm)SISO	Input Power (dBm)MIMO
5G NR n261 (28 GHz)	QTM#0 Patch	6	6
5G NR n260 (39 GHz)	QTM#0 Patch	6	6

Table 3.5-1: Input power used in simulation validation

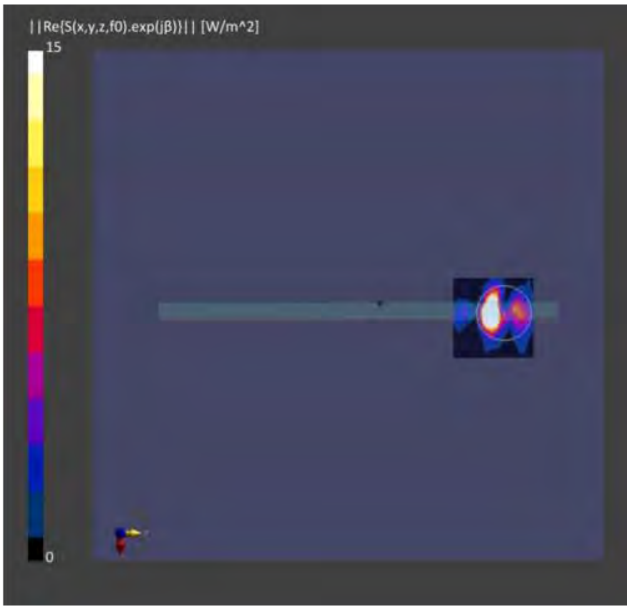
The simulation and measurement were performed at 2mm evaluation distance. The simulated and measured 4cm2 averaged PD results are shown in Table 3.5-2.

6dBm input measurement / simulation							Verified Data-W/m2		
Band	Ant Type	Module	Ant Group (Ant Polarization)	beam ID	Surface	Channel	Measured	Simulated	Delta (Simulated-Measured)
n260	Patch	QTM0	AG0(V)	18	FrontFace	Mid	**3.87**	11.19	4.61
					BackFace	Mid	**1.63**	8.91	7.38
					RightFace	Mid	**7.81**	18.67	3.78
					TopFace	Mid	**0.21**	0.44	3.21
			AG1(H)	140	FrontFace	Mid	**2.17**	8.04	5.69
					BackFace	Mid	**2.11**	4.57	3.36
					RightFace	Mid	**5.1**	16.49	5.10
					TopFace	Mid	**1.45**	4.68	5.09
n261	Patch	QTM0	AG0(V)	20	FrontFace	Mid	**4.17**	10.04	3.82
					BackFace	Mid	**2.33**	5.73	3.91
					RightFace	Mid	**9.6**	18.65	2.88
					TopFace	Mid	**1.24**	3.7	4.75
			AG1(H)	143	FrontFace	Mid	**6.05**	12.15	3.03
					BackFace	Mid	**6.97**	6.71	-0.17
					RightFace	Mid	**13.3**	18.28	1.38
					TopFace	Mid	**1.34**	1.79	1.26

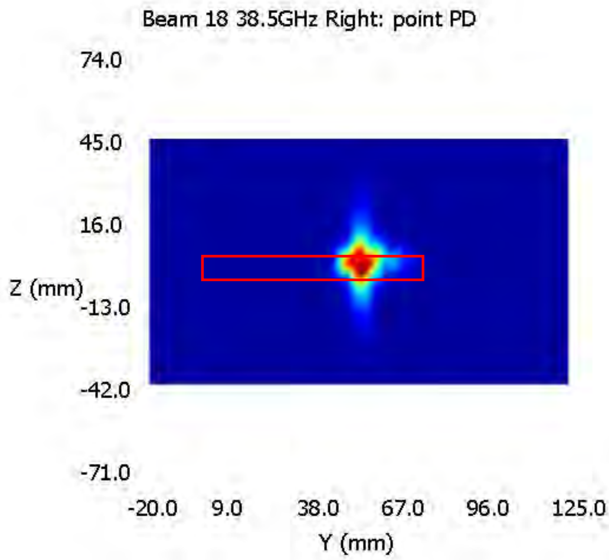
Table Table 3.5-2: Simulated and measured 4cm2 averaged PD comparison

Below Figures show Measured and simulated PD distributions for selected beams. As can be seen, the Simulated point PD distribution and Measured point PD distribution have good correlation on all surfaces evaluated.

• **N260 QTM0: mid channel, Beam18, Right face, Point PD**

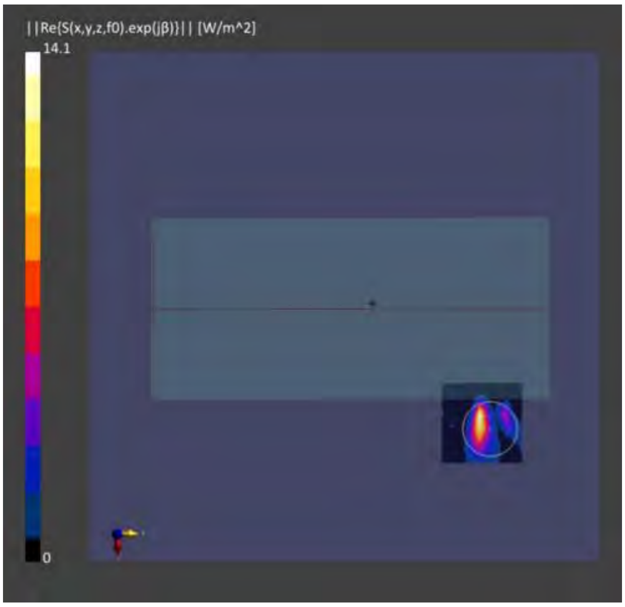


(a) Measurement

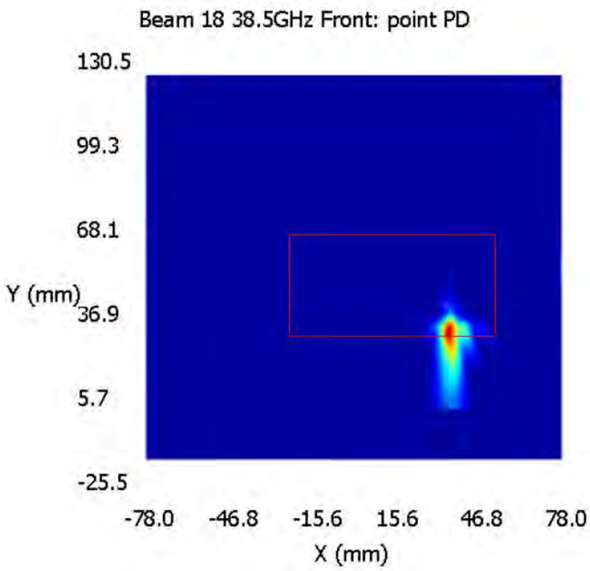


(b) Simulation

• **N260 QTM0: mid channel, Beam18, Front face, Point PD**

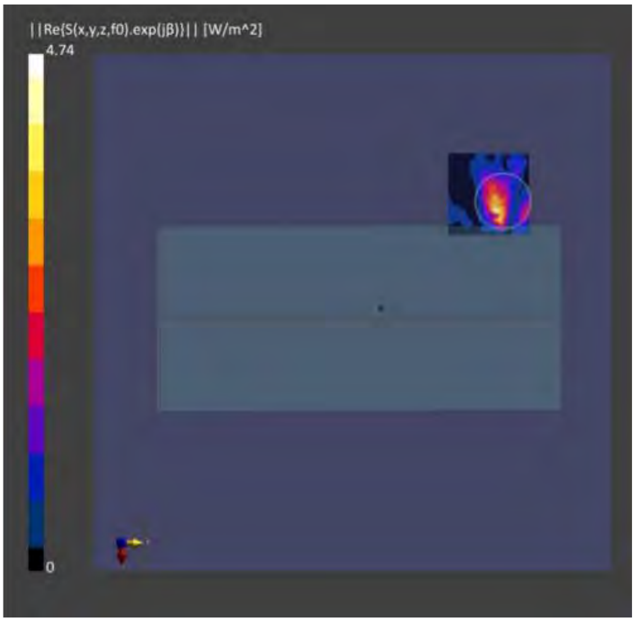


(a) Measurement

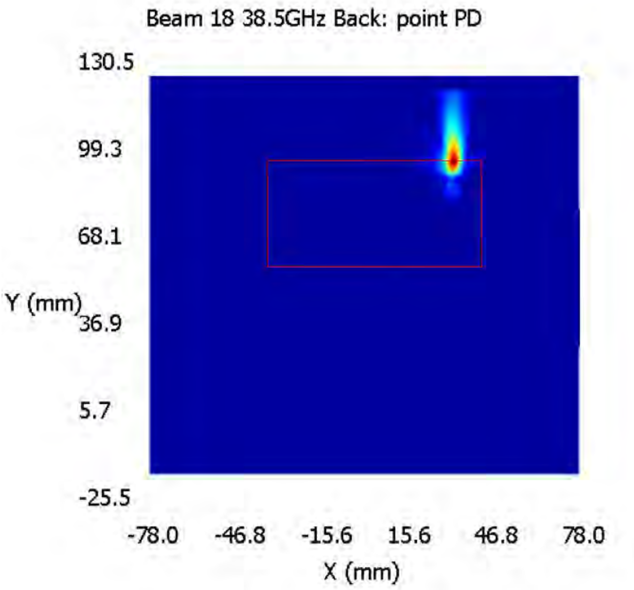


(b) Simulation

N260 QTM0: mid channel, Beam18, Back face, Point PD

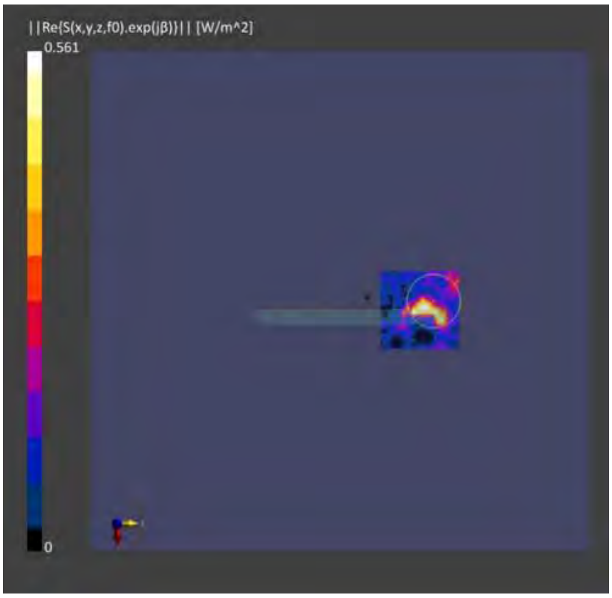


(a) Measurement

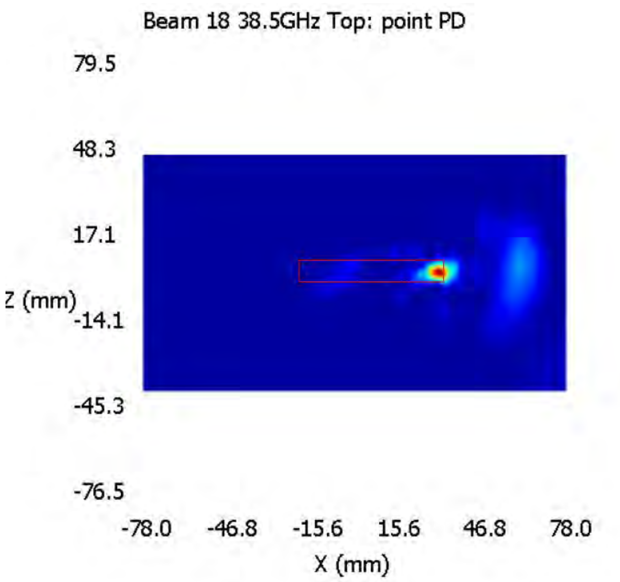


(b) Simulation

N260 QTM0: mid channel, Beam18, Top face, Point PD

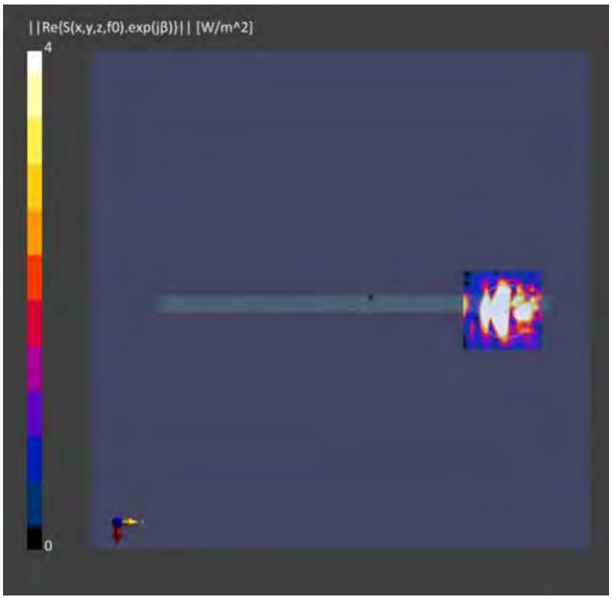


(a) Measurement

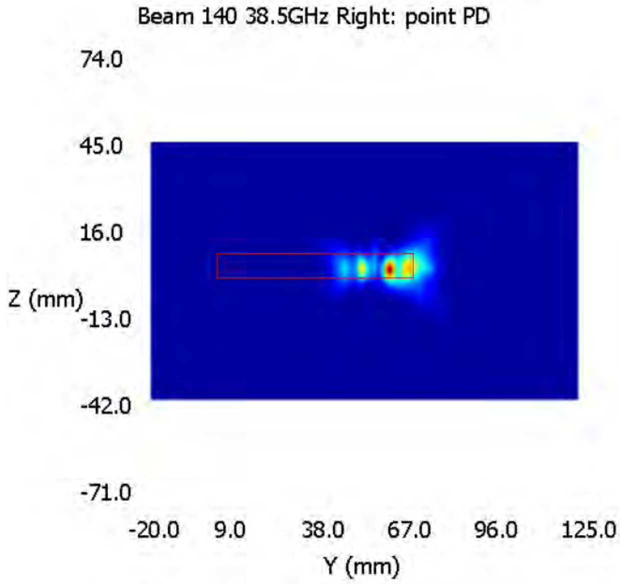


(b) Simulation

- **N260 QTM0: Middle channel, Beam140, Right face, Point PD**

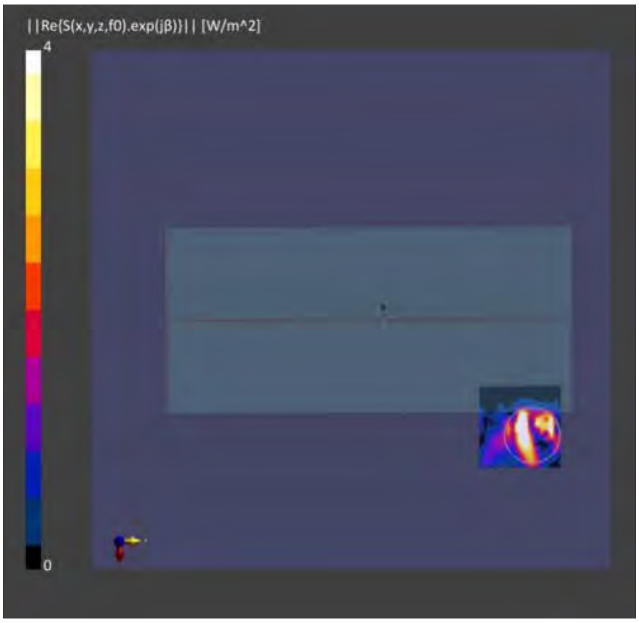


(a) Measurement

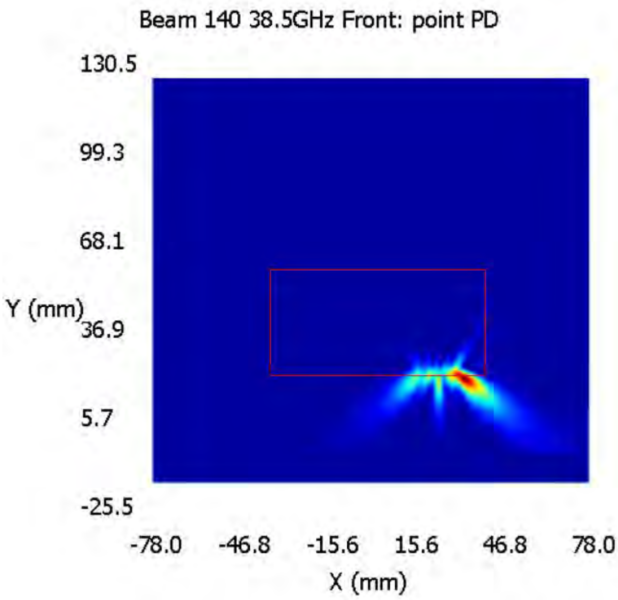


(b) Simulation

- **N260 QTM0: Middle channel, Beam140, Front face, Point PD**

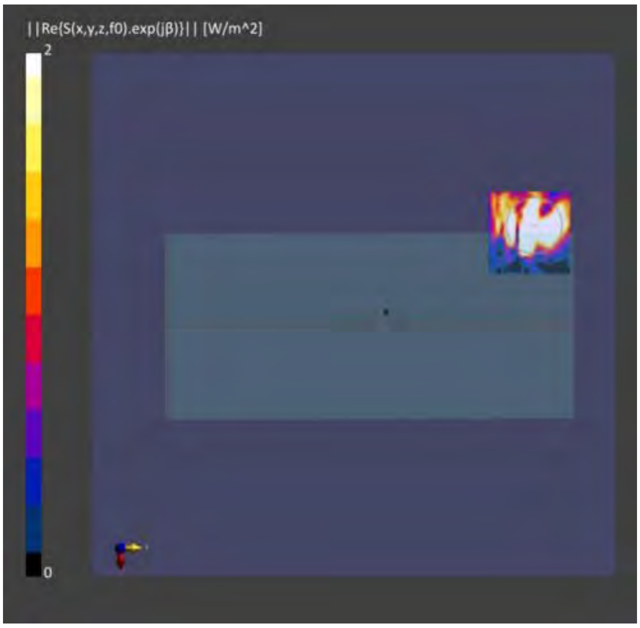


(a) Measurement

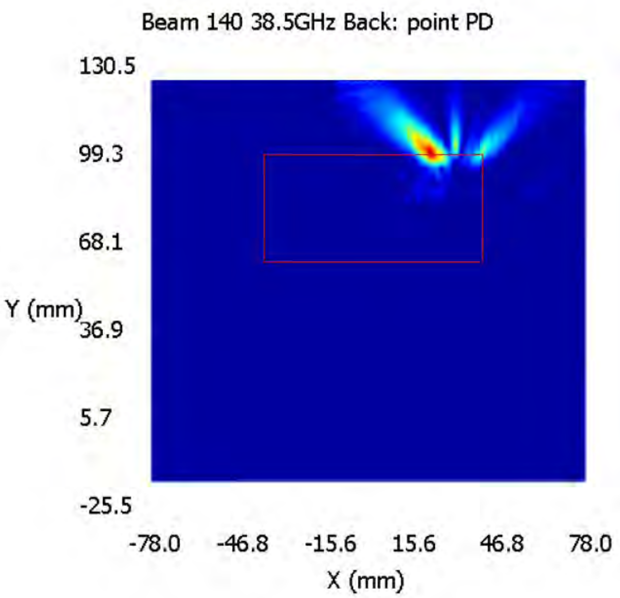


(b) Simulation

N260 QTM0: Middle channel, Beam140, Back face, Point PD

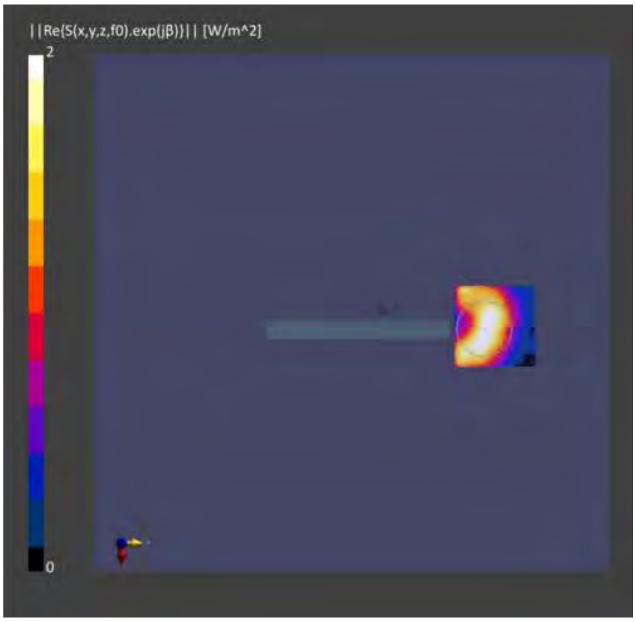


(a) Measurement

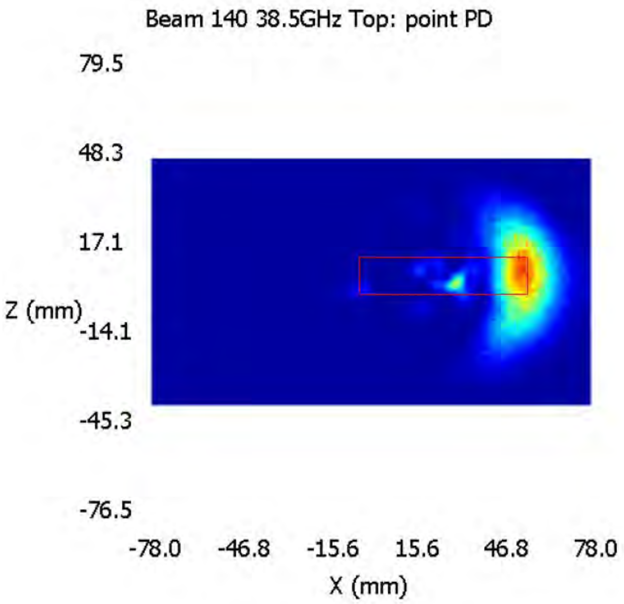


(b) Simulation

N260 QTM0: Middle channel, Beam140, Top face, Point PD

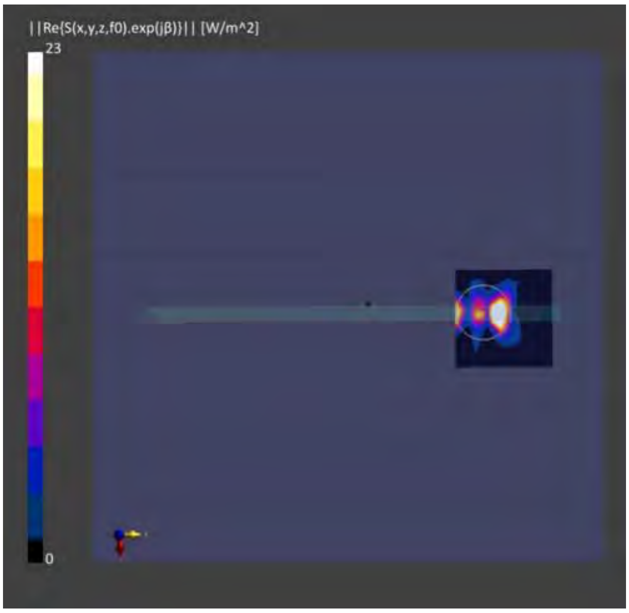


(a) Measurement

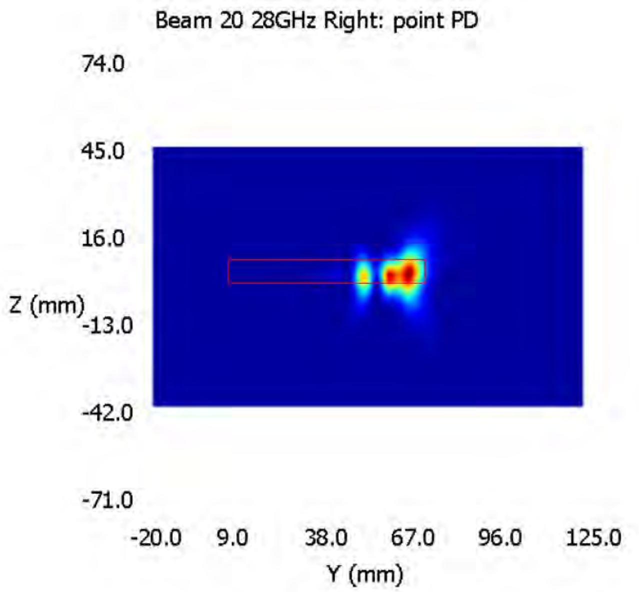


(b) Simulation

• **N261 QTM0: Middle channel, Beam20, Right face, Point PD**

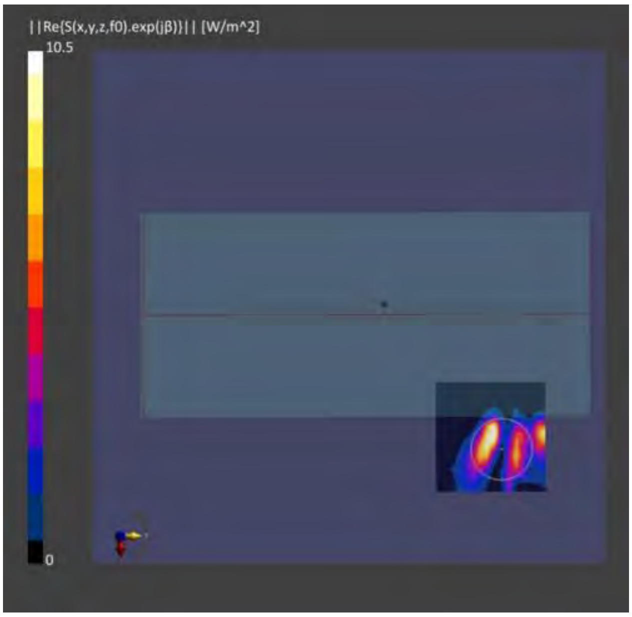


(a) Measurement

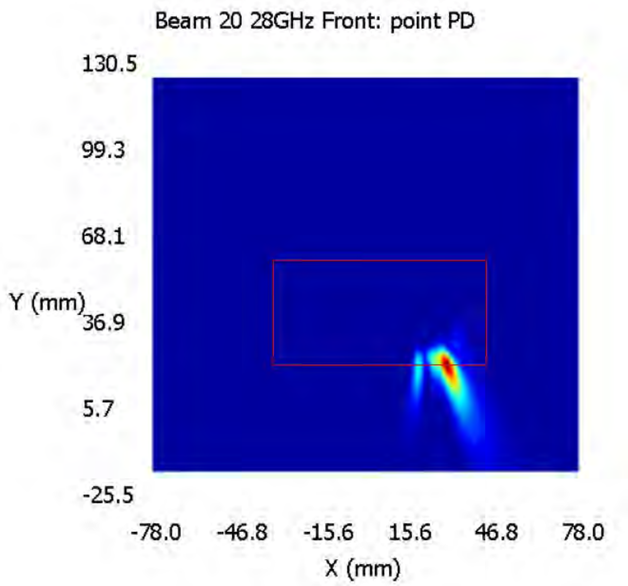


(b) Simulation

• **N261 QTM0: Middle channel, Beam20, Front face, Point PD**

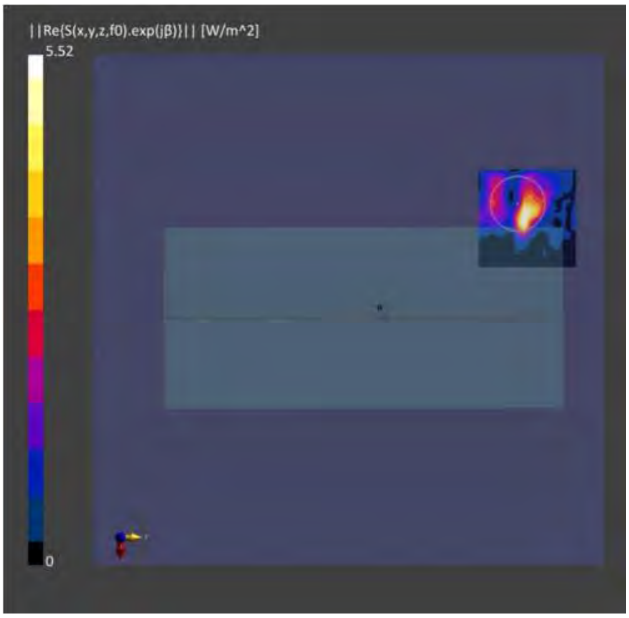


(a) Measurement

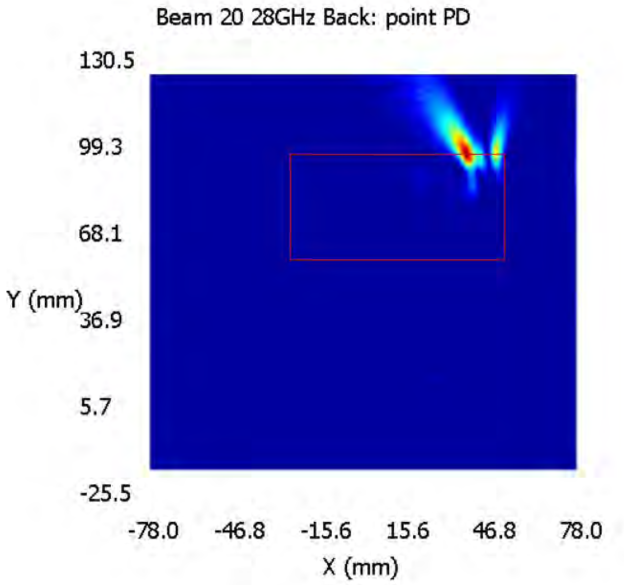


(b) Simulation

• **N261 QTM0: Middle channel, Beam20, Back face, Point PD**

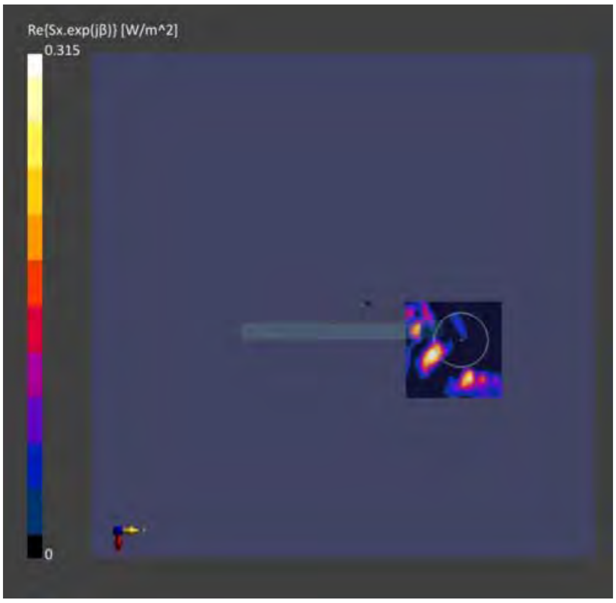


(a) Measurement

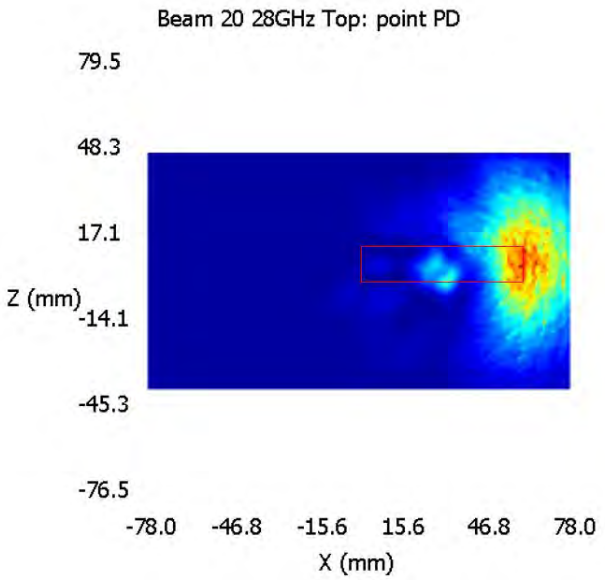


(b) Simulation

• **N261 QTM0: Middle channel, Beam20, Top face, Point PD**

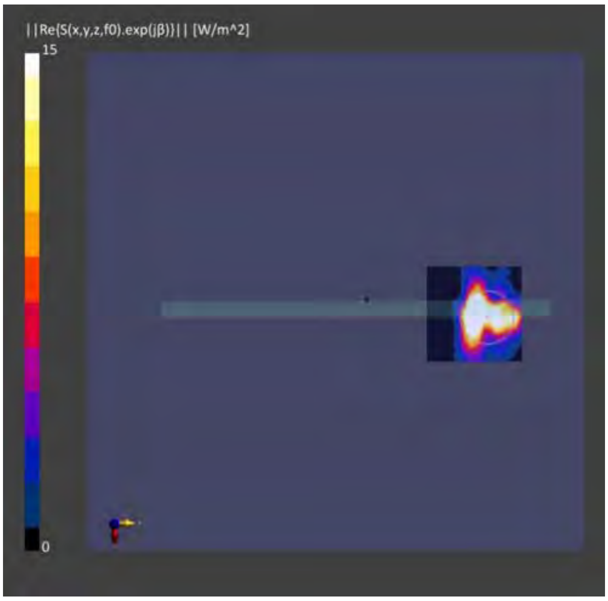


(a) Measurement

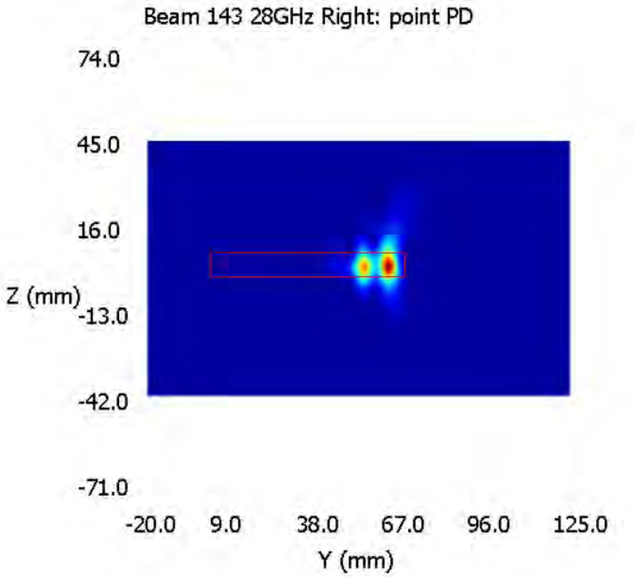


(b) Simulation

• **N261 QTM0: Middle channel, Beam143, Right face, Point PD**

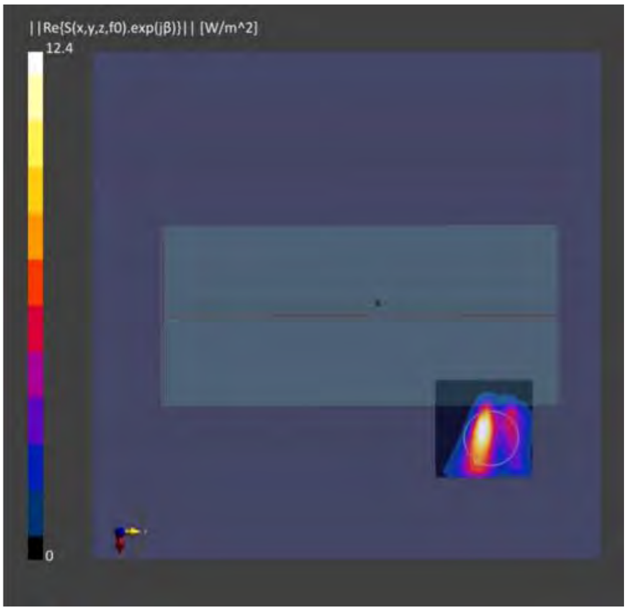


(a) Measurement

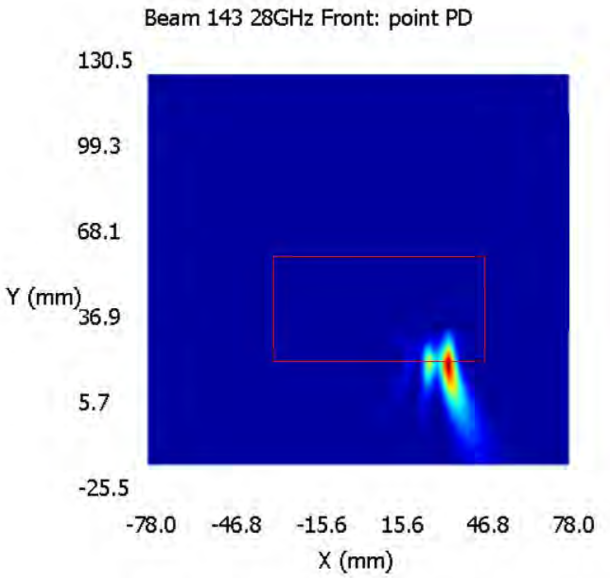


(b) Simulation

• **N261 QTM0: Middle channel, Beam143, Front face, Point PD**

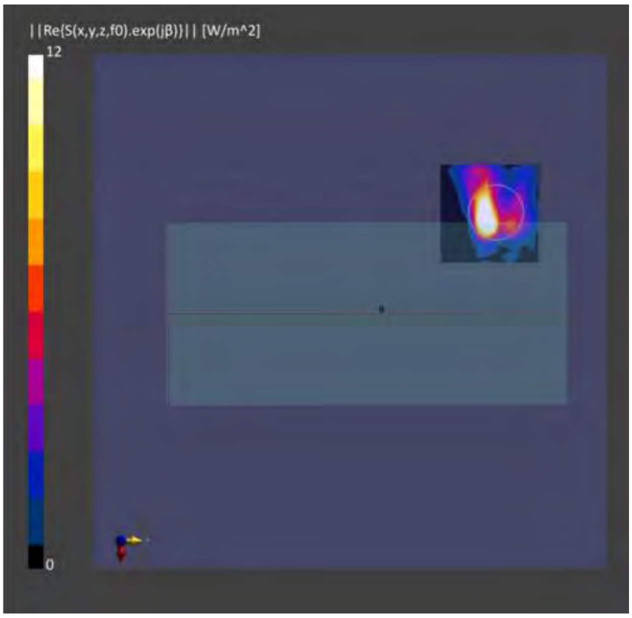


(a) Measurement

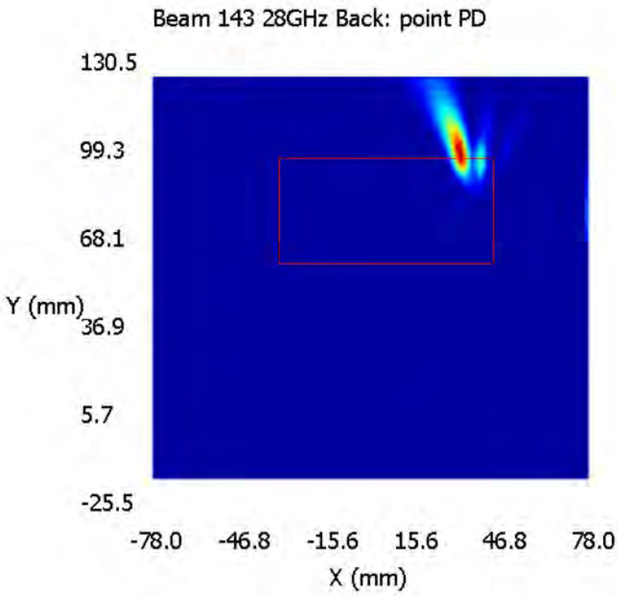


(b) Simulation

• **N261 QTM0: Middle channel, Beam143, Back face, Point PD**

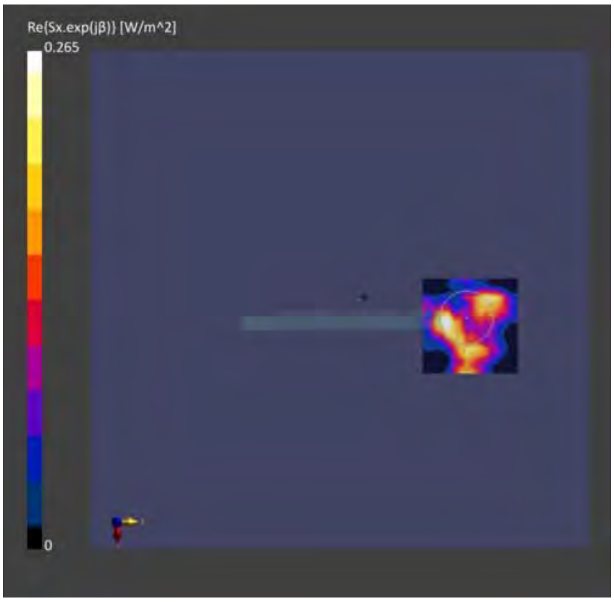


(a) Measurement

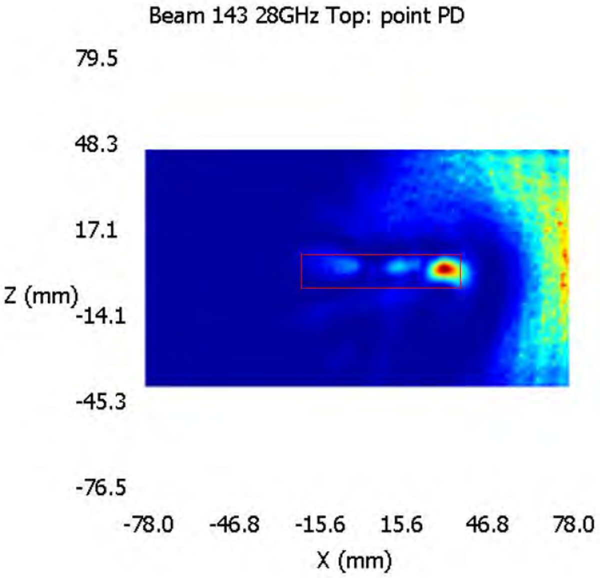


(b) Simulation

• **N261 QTM0: Middle channel, Beam143, Top face, Point PD**



(a) Measurement



(b) Simulation

3.6 Simulation Result

The model is validated in Section 3, the PD exposure of EUT can be reliably assessed using the validated simulation approach. The PD simulation was performed at n261 and n260. The simulated PD results are reported in this section. The Ratio of PD exposure from front surface to the worst surface at 2mm, and the ratio of PD exposure from 2mm to 10mm evaluation distance for each beam are also reported for simultaneous transmission analysis in Part 1. The relative phase between beam pairs is not controlled in the chipset design. Therefore, the relative phase between each beam pair was considered mathematically to identify the worst-case conditions, the below PD result for each MIMO beam represents the highest PD value after sweeping the relative phase between two SISO beams with a '5 degree' step interval from 0 degree to 360 degree.

PD for Low/Mid/High Channel at n261 and n260

Below Tables show the PD simulation evaluation of QTM0 at N261 and N260 for those surface which need to take it into consideration as shown in Figure3.2-1.

▪ QTM0 N261 Low channel SISO

Band	Frequency (GHz)	Module	Antenna type	Beam 2	Beam 1	4cm2 PD(W/m2) at 2mm evaluation surfaces @6dBm				MAX PD	Max Ratio			4cm2 PD(W/m2) at 10mm evaluation surfaces @6dBm				Max Ratio				
											0.61	0.50	0.02					0.29	0.36	0.60	0.02	
											Ratio							Ratio				
						Front	Back	Left	Right		Front/worse surface	back/worse surface	Left/worse surface	Front	Back	Left	Right	Front/worse surface	back/worse surface	Right/worse surface	Left/worse surface	
n261	27.5	0	Patch		0	1.36	0.8	0.01	2.71	2.71	0.50	0.30	0.00	0.44	0.27	0.01	1.13	0.16	0.10	0.42	0.00	
n261	27.5	0	Patch		1	1.38	1.1	0.02	3.14	3.14	0.43	0.35	0.01	0.36	0.36	0.01	1.17	0.12	0.12	0.37	0.00	
n261	27.5	0	Patch		2	1.86	1.54	0.03	4.08	4.08	0.46	0.38	0.01	0.52	0.57	0.02	1.58	0.13	0.14	0.39	0.00	
n261	27.5	0	Patch		3	1.88	1.39	0.02	4.2	4.2	0.45	0.33	0.00	0.53	0.49	0.01	1.6	0.13	0.12	0.38	0.00	
n261	27.5	0	Patch		4	1.36	1.03	0.01	2.96	2.96	0.46	0.35	0.00	0.44	0.39	0.01	1.14	0.15	0.13	0.39	0.00	
n261	27.5	0	Patch		5	4.28	3.67	0.04	8.6	8.6	0.50	0.43	0.00	1.57	1.57	0.04	4.38	0.18	0.18	0.51	0.00	
n261	27.5	0	Patch		6	4.59	3.94	0.03	8.93	8.93	0.51	0.44	0.00	1.68	1.69	0.03	4.49	0.19	0.19	0.50	0.00	
n261	27.5	0	Patch		7	3.78	2.2	0.05	7.07	7.07	0.53	0.31	0.01	1.25	0.82	0.05	2.74	0.18	0.12	0.39	0.01	
n261	27.5	0	Patch		8	2.8	1.91	0.05	6.77	6.77	0.41	0.28	0.01	0.83	0.83	0.04	2.3	0.12	0.12	0.34	0.01	
n261	27.5	0	Patch		9	4.39	3.92	0.03	8.85	8.85	0.50	0.44	0.00	1.68	1.7	0.03	4.61	0.19	0.19	0.52	0.00	
n261	27.5	0	Patch		10	4.72	3.64	0.04	8.77	8.77	0.54	0.42	0.00	1.65	1.52	0.03	4.24	0.19	0.17	0.48	0.00	
n261	27.5	0	Patch		11	2.98	1.87	0.03	5.5	5.5	0.54	0.34	0.01	1	0.69	0.02	2.27	0.18	0.13	0.41	0.00	
n261	27.5	0	Patch		12	8.6	6.01	0.06	15.8	15.8	0.54	0.38	0.00	3.54	2.8	0.05	8.05	0.22	0.18	0.51	0.00	
n261	27.5	0	Patch		13	8.74	7.48	0.09	15.73	15.73	0.56	0.48	0.01	4.31	3.93	0.08	9.01	0.27	0.25	0.57	0.01	
n261	27.5	0	Patch		14	8.39	8.23	0.08	16.34	16.34	0.51	0.50	0.00	4.03	4.31	0.07	9.37	0.25	0.26	0.57	0.00	Single Beam
n261	27.5	0	Patch		15	8.84	6.76	0.06	17.83	17.83	0.50	0.38	0.00	4.31	3.43	0.06	9	0.24	0.19	0.50	0.00	
n261	27.5	0	Patch		16	9.06	4.68	0.08	16.19	16.19	0.56	0.29	0.00	3.21	1.87	0.07	6.39	0.20	0.12	0.39	0.00	
n261	27.5	0	Patch		17	8.89	7.25	0.07	16.57	16.57	0.54	0.44	0.00	3.99	3.61	0.06	9.02	0.24	0.22	0.54	0.00	
n261	27.5	0	Patch		18	7.82	7.48	0.08	14.92	14.92	0.52	0.50	0.01	3.74	3.9	0.07	6.51	0.25	0.26	0.57	0.00	
n261	27.5	0	Patch		19	8.91	7.66	0.06	17	17	0.52	0.45	0.00	4.38	4.04	0.06	9.13	0.26	0.24	0.54	0.00	
n261	27.5	0	Patch		20	10.68	5.8	0.07	18.98	18.98	0.56	0.31	0.00	4.62	2.88	0.06	8.86	0.24	0.13	0.47	0.00	
n261	27.5	0	Patch		128	1.98	1.02	0.02	3.6	3.6	0.55	0.28	0.01	0.72	0.39	0.02	1.62	0.20	0.11	0.45	0.01	
n261	27.5	0	Patch		129	2.44	1.53	0.05	4.47	4.47	0.55	0.34	0.01	0.88	0.6	0.04	1.88	0.20	0.13	0.42	0.01	
n261	27.5	0	Patch		130	2.45	1.5	0.03	4.68	4.68	0.52	0.32	0.01	0.85	0.56	0.03	2.02	0.18	0.12	0.43	0.01	
n261	27.5	0	Patch		131	1.98	1.12	0.02	3.76	3.76	0.53	0.30	0.01	0.87	0.4	0.02	1.62	0.18	0.11	0.43	0.01	
n261	27.5	0	Patch		132	1.6	1.04	0.02	3.01	3.01	0.53	0.35	0.01	0.58	0.39	0.02	1.42	0.19	0.13	0.47	0.01	
n261	27.5	0	Patch		133	6.03	4.15	0.06	10.24	10.24	0.59	0.41	0.01	2.54	1.01	0.05	5.69	0.25	0.10	0.56	0.00	
n261	27.5	0	Patch		134	3	1.46	0.13	6.01	6.01	0.50	0.24	0.02	1.02	0.5	0.1	1.83	0.17	0.08	0.30	0.02	
n261	27.5	0	Patch		135	4.78	3.07	0.06	8.07	8.07	0.59	0.38	0.01	1.95	1.35	0.05	4.22	0.24	0.17	0.52	0.01	
n261	27.5	0	Patch		136	5.81	3.53	0.02	9.46	9.46	0.61	0.37	0.00	2.53	1.49	0.02	5.31	0.27	0.16	0.56	0.00	
n261	27.5	0	Patch		137	4.37	2.71	0.03	7.22	7.22	0.61	0.38	0.00	1.84	1.11	0.03	3.9	0.25	0.15	0.54	0.00	
n261	27.5	0	Patch		138	4.54	3.19	0.02	8	8	0.57	0.40	0.00	1.83	1.3	0.02	4.38	0.23	0.16	0.55	0.00	
n261	27.5	0	Patch		139	3.1	1.78	0.07	5.74	5.74	0.54	0.31	0.01	1.24	0.67	0.06	2.61	0.22	0.12	0.45	0.01	
n261	27.5	0	Patch		140	8.66	4.35	0.14	16.51	16.51	0.52	0.26	0.01	3.52	1.9	0.12	6.03	0.21	0.12	0.37	0.01	
n261	27.5	0	Patch		141	8.5	6.11	0.08	16.51	16.51	0.51	0.37	0.00	4.08	3.1	0.07	7.96	0.24	0.19	0.48	0.00	
n261	27.5	0	Patch		142	10.63	8.16	0.15	17.9	17.9	0.59	0.46	0.01	5	4.35	0.13	10.77	0.28	0.24	0.60	0.01	
n261	27.5	0	Patch		143	12.74	7.34	0.08	19.94	19.94	0.64	0.37	0.00	5.75	3.48	0.07	11.49	0.29	0.17	0.58	0.00	
n261	27.5	0	Patch		144	10.34	5.49	0.1	16.82	16.82	0.61	0.33	0.01	3.92	1.99	0.08	8.08	0.23	0.12	0.48	0.00	
n261	27.5	0	Patch		145	10.35	5.91	0.09	18.25	18.25	0.57	0.32	0.00	4.67	2.78	0.06	8.72	0.26	0.15	0.48	0.00	
n261	27.5	0	Patch		146	9.08	6.8	0.11	16.09	16.09	0.56	0.42	0.01	4.27	3.53	0.11	8.89	0.27	0.22	0.54	0.01	
n261	27.5	0	Patch		147	10.31	6.53	0.2	16.67	16.67	0.62	0.40	0.01	4.38	3.05	0.16	9.53	0.26	0.18	0.57	0.01	
n261	27.5	0	Patch		148	11.75	6.55	0.09	18.25	18.25	0.64	0.36	0.00	4.85	2.56	0.07	10.08	0.27	0.14	0.55	0.00	

▪ QTM0 N261 Low channel MIMO

Band	Frequency (GHz)	Module	Antenna type	Beam 2	Beam 1	4cm2 PD(W/m2) at 2mm evaluation surfaces @6dBm				MAX PD	Max Ratio			4cm2 PD(W/m2) at 10mm evaluation surfaces @6dBm				Max Ratio				
											0.69	0.54	0.02					0.36	0.33	0.69	0.01	
											Ratio							Ratio				
						Front	Back	Left	Right		Front/worse surface	back/worse surface	Left/worse surface	Front	Back	Left	Right	Front/worse surface	back/worse surface	Right/worse surface	Left/worse surface	
n261	27.5	0	Patch	128	0	3.47	1.79	0.04	6.17	6.17	0.56	0.29	0.01	1.34	0.73	0.03	3.07	0.22	0.12	0.50	0.00	
n261	27.5	0	Patch	129	1	4.35	2.43	0.07	6.91	6.91	0.63	0.35	0.01	1.36	1.14	0.06	3.26	0.20	0.16	0.47	0.01	
n261	27.5	0	Patch	130	2	5.04	3.48	0.09	7.85	7.85	0.64	0.44	0.01	1.75	1.49	0.06	3.85	0.22	0.19	0.49	0.01	
n261	27.5	0	Patch	131	3	3.98	2.79	0.04	7.34	7.34	0.54	0.38	0.01	1.43	1	0.04	3.46	0.19	0.14	0.47	0.01	
n261	27.5	0	Patch	132	4	3.43	2.46	0.05	5.71	5.71	0.60	0.43	0.01	1.24	1.03	0.04	2.89	0.22	0.18	0.51	0.01	
n261	27.5	0	Patch	133	5	10	7.8	0.11	16.98	16.98	0.59	0.45	0.01	4.58	3.77	0.09	10.72	0.27	0.22	0.63	0.01	Beam paired
n261	27.5	0	Patch	134	6	7.49	5.31	0.22	12.67	12.67	0.59	0.42	0.02	2.81	2.38	0.13	5.97	0.22	0.19	0.47	0.01	
n261	27.5	0	Patch	135	7	6.87	4.48	0.16	12.28	12.28	0.56	0.36	0.01	2.82	2.16	0.09	6.82	0.23	0.18	0.56	0.01	
n261	27.5	0	Patch	136	8	7.9	4.42	0.07	14.15	14.15	0.56	0.31	0.00	3.7	2.21	0.07	7.41	0.26	0.16	0.52	0.00	
n261	27.5	0	Patch	137	9	8.13	6.54	0.1	14.74	14.74	0.55	0.44	0.01	3.83	2.99	0.08	8.27	0.26	0.20	0.56	0.01	
n261	27.5	0	Patch	138	10	8.29	6.01	0.09	14.59	14.59	0.57	0.41	0.01	3.8	3.05	0.07	8.26	0.26	0.21	0.57	0.00	
n261	27.5	0	Patch	139	11	4.42	2.9	0.08	8.78	8.78	0.50	0.33	0.01	2.06	1.51	0.09	4.4	0.23	0.17	0.50	0.01	
n261	27.5	0	Patch	140	12	15.84	12.08	0.22	32.89	32.89	0.48	0.37	0.01	8.05	6.17	0.17	17.71	0.24	0.19	0.54	0.01	
n261	27.5	0	Patch	141	13	18.14	13.72	0.28	29.28	29.28	0.62	0.47	0.01	9.48	8.12	0.21	18.09	0.32	0.28	0.62	0.01	
n261	27.5	0	Patch	142	14	21.27	16.8	0.49	31.05	31.05	0.69	0.54	0.02	11.14	10.1	0.26	21.35	0.36	0.33	0.69	0.01	
n261	27.5	0	Patch	143	15	22.58	13.58	0.23	33.97	33.97	0.66	0.40	0.01	11.92	7.31	0.12	22.4	0.35	0.22	0.66	0.00	
n261	27.5	0	Patch	144	16	20.5	9.59	0.18	37.49	37.49	0.55	0.26	0.00	7.97	4.8	0.18	17.05	0.21	0.13	0.45	0.00	
n261	27.5	0	Patch	145	17	18.56	15.27	0.26	33.82	33.82	0.55	0.45	0.01	10.35	8.06	0.18	20.05	0.31	0.24	0.59	0.01	
n261	27.5	0	Patch	146	18	18.67	13.93	0.44	27.67	27.67	0.67	0.50	0.02	9.48	8.67	0.24	19.47	0.34	0.31	0.67	0.01	
n261	27.5	0	Patch	147	19	20.14	14.11	0.4	31.1	31.1	0.65	0.45	0.01	10.15	7.51	0.22	20.74	0.33	0.24	0.67	0.01	
n261	27.5	0	Patch	148	20	22.48	10.36	0.25	37.34	37.34	0.60	0.28	0.01	10.58	5.67	0.14	20.2	0.28	0.15	0.54	0.00	

▪ QTM0 N261 Middle channel SISO

Band	Frequency (GHz)	Module	Antenna type	Beam 2	Beam 1	4cm2 PD(W/m2) at 2mm evaluation surfaces @6dBm				MAX PD	Max Ratio			4cm2 PD(W/m2) at 10mm evaluation surfaces @6dBm				Max Ratio				
											0.63	0.51	0.03					0.29	0.26	0.60	0.02	
											Ratio							Ratio				
						Front	Back	Left	Right		Front/ worse surface	back/ worse surface	Left/ worse surface	Front	Back	Left	Right	Front/ worse surface	back/ worse surface	Right/ worse surface	Left/ worse surface	
n261	28	0	Patch		0	1.18	0.7	0.01	2.31	2.31	0.51	0.30	0.00	0.41	0.23	0.01	0.93	0.18	0.10	0.40	0.00	
n261	28	0	Patch		1	1.36	1.05	0.02	3.12	3.12	0.44	0.34	0.01	0.38	0.36	0.01	1.16	0.12	0.12	0.37	0.00	
n261	28	0	Patch		2	1.75	1.57	0.03	3.9	3.9	0.45	0.40	0.01	0.5	0.59	0.02	1.48	0.13	0.15	0.38	0.01	
n261	28	0	Patch		3	1.81	1.43	0.02	4.28	4.28	0.42	0.33	0.00	0.52	0.49	0.02	1.63	0.12	0.11	0.38	0.00	
n261	28	0	Patch		4	1.32	1.16	0.01	3.09	3.09	0.43	0.38	0.00	0.41	0.45	0.01	1.19	0.12	0.15	0.39	0.00	
n261	28	0	Patch		5	4.05	3.76	0.03	8.5	8.5	0.48	0.44	0.00	1.49	1.6	0.03	4.36	0.18	0.19	0.51	0.00	
n261	28	0	Patch		6	4.28	3.89	0.03	8.55	8.55	0.50	0.45	0.00	1.56	1.69	0.03	4.25	0.18	0.20	0.50	0.00	
n261	28	0	Patch		7	3.57	2.21	0.06	7.09	7.09	0.50	0.31	0.01	1.15	0.86	0.05	2.64	0.16	0.12	0.37	0.01	
n261	28	0	Patch		8	2.81	2.03	0.05	6.91	6.91	0.41	0.29	0.01	0.91	0.9	0.04	2.42	0.13	0.13	0.35	0.01	
n261	28	0	Patch		9	4.12	3.96	0.03	8.61	8.61	0.48	0.46	0.00	1.57	1.72	0.02	4.48	0.18	0.20	0.52	0.00	
n261	28	0	Patch		10	4.43	3.59	0.04	8.45	8.45	0.52	0.42	0.00	1.55	1.54	0.04	3.99	0.18	0.18	0.47	0.00	
n261	28	0	Patch		11	2.63	1.79	0.03	5.07	5.07	0.52	0.35	0.01	0.93	0.69	0.03	2.1	0.18	0.14	0.41	0.01	
n261	28	0	Patch		12	8.25	6.06	0.06	15.73	15.73	0.52	0.39	0.00	3.49	2.87	0.05	7.95	0.22	0.18	0.51	0.00	
n261	28	0	Patch		13	8.32	7.19	0.1	15.21	15.21	0.55	0.47	0.01	4.08	3.77	0.09	8.57	0.27	0.25	0.56	0.01	
n261	28	0	Patch		14	7.96	8.01	0.09	15.7	15.7	0.51	0.51	0.01	3.77	4.13	0.07	8.84	0.24	0.26	0.56	0.00	Single Beam
n261	28	0	Patch		15	7.93	6.67	0.07	17.09	17.09	0.46	0.39	0.00	3.87	3.42	0.06	8.36	0.23	0.20	0.49	0.00	
n261	28	0	Patch		16	8.86	4.65	0.09	16.76	16.76	0.53	0.28	0.01	3.25	1.87	0.07	6.75	0.19	0.11	0.40	0.00	
n261	28	0	Patch		17	8.32	7.22	0.09	15.95	15.95	0.52	0.45	0.01	3.73	3.69	0.08	8.72	0.23	0.23	0.55	0.01	
n261	28	0	Patch		18	7.57	7.2	0.08	14.6	14.6	0.52	0.49	0.01	3.6	3.75	0.07	8.01	0.25	0.26	0.55	0.00	
n261	28	0	Patch		19	8.17	7.56	0.07	16.28	16.28	0.50	0.46	0.00	3.92	3.96	0.06	8.52	0.24	0.24	0.52	0.00	
n261	28	0	Patch		20	10.04	5.73	0.09	18.65	18.65	0.54	0.31	0.00	4.33	2.56	0.08	8.63	0.23	0.14	0.46	0.00	
n261	28	0	Patch		128	1.76	0.96	0.03	3.25	3.25	0.54	0.30	0.01	0.63	0.36	0.02	1.53	0.19	0.11	0.47	0.01	
n261	28	0	Patch		129	2.42	1.28	0.04	4.16	4.16	0.58	0.31	0.01	0.91	0.49	0.04	1.77	0.22	0.12	0.43	0.01	
n261	28	0	Patch		130	2.4	1.27	0.04	4.33	4.33	0.55	0.29	0.01	0.86	0.48	0.04	1.92	0.20	0.11	0.44	0.01	
n261	28	0	Patch		131	1.83	1.03	0.02	3.39	3.39	0.54	0.30	0.01	0.65	0.4	0.02	1.52	0.19	0.12	0.45	0.01	
n261	28	0	Patch		132	1.53	0.84	0.03	2.69	2.69	0.57	0.31	0.01	0.59	0.31	0.02	1.31	0.22	0.12	0.49	0.01	
n261	28	0	Patch		133	5.62	3.54	0.06	9.2	9.2	0.61	0.38	0.01	2.45	1.53	0.05	5.14	0.27	0.17	0.56	0.01	
n261	28	0	Patch		134	2.89	1.32	0.14	5.55	5.55	0.52	0.24	0.03	0.98	0.49	0.1	1.78	0.18	0.09	0.32	0.02	
n261	28	0	Patch		135	4.25	2.61	0.06	7.17	7.17	0.59	0.36	0.01	1.77	1.14	0.05	3.74	0.25	0.16	0.52	0.01	
n261	28	0	Patch		136	5.5	3.09	0.02	8.78	8.78	0.63	0.35	0.00	2.45	1.29	0.02	4.98	0.28	0.15	0.57	0.00	
n261	28	0	Patch		137	4.15	2.33	0.04	6.64	6.64	0.63	0.35	0.01	1.8	0.94	0.03	3.66	0.27	0.14	0.55	0.00	
n261	28	0	Patch		138	4.43	2.84	0.02	7.42	7.42	0.60	0.38	0.00	1.82	1.18	0.02	4.15	0.25	0.16	0.56	0.00	
n261	28	0	Patch		139	2.71	1.46	0.07	4.88	4.88	0.56	0.30	0.01	1.08	0.59	0.06	2.25	0.22	0.12	0.46	0.01	
n261	28	0	Patch		140	8.06	3.92	0.19	15.01	15.01	0.54	0.26	0.01	3.04	1.72	0.15	5.59	0.20	0.11	0.37	0.01	
n261	28	0	Patch		141	8.42	5.4	0.1	15.48	15.48	0.54	0.35	0.01	4	2.78	0.09	7.49	0.26	0.18	0.48	0.01	
n261	28	0	Patch		142	10.18	6.81	0.23	16.5	16.5	0.62	0.41	0.01	4.83	3.53	0.21	9.86	0.29	0.21	0.60	0.01	
n261	28	0	Patch		143	12.15	6.71	0.09	18.28	18.28	0.66	0.37	0.00	5.49	3.28	0.06	10.84	0.30	0.18	0.59	0.00	
n261	28	0	Patch		144	9.47	4.6	0.11	15.18	15.18	0.62	0.30	0.01	3.51	1.66	0.1	7.37	0.23	0.11	0.49	0.01	
n261	28	0	Patch		145	9.75	5.27	0.09	16.73	16.73	0.58	0.32	0.01	4.37	2.48	0.08	7.97	0.26	0.15	0.48	0.00	
n261	28	0	Patch		146	8.93	5.7	0.16	14.63	14.63	0.61	0.39	0.01	4.32	3.03	0.14	8.14	0.30	0.21	0.56	0.01	
n261	28	0	Patch		147	9.49	5.87	0.19	15.31	15.31	0.62	0.38	0.01	4.08	2.71	0.14	8.91	0.27	0.18	0.58	0.01	
n261	28	0	Patch		148	11.19	5.70	0.08	16.69	16.69	0.67	0.34	0.00	4.55	2.3	0.07	9.41	0.27	0.14	0.56	0.00	

▪ QTM0 N261 Middle channel MIMO

Band	Frequency (GHz)	Module	Antenna type	Beam 2	Beam 1	4cm2 PD(W/m2) at 2mm evaluation surfaces @6dBm				MAX PD	Max Ratio			4cm2 PD(W/m2) at 10mm evaluation surfaces @6dBm				Max Ratio				
											0.67	0.53	0.01					0.33	0.27	0.58	0.01	
											Ratio							Ratio				
						Front	Back	Left	Right		Front/ worse surface	back/ worse surface	Left/ worse surface	Front	Back	Left	Right	Front/ worse surface	back/ worse surface	Right/ worse surface	Left/ worse surface	
n261	28	0	Patch	128	0	3.72	1.89	0.04	6.62	6.62	0.56	0.29	0.01	1.32	0.63	0.03	2.89	0.20	0.10	0.44	0.00	
n261	28	0	Patch	129	1	4.39	2.66	0.06	7.47	7.47	0.59	0.36	0.01	1.47	1.01	0.06	3.09	0.20	0.14	0.41	0.01	
n261	28	0	Patch	130	2	5.35	3.71	0.09	8.83	8.83	0.61	0.42	0.01	1.8	1.5	0.08	3.58	0.20	0.17	0.41	0.01	
n261	28	0	Patch	131	3	4.25	2.85	0.04	8.15	8.15	0.52	0.35	0.00	1.38	1.03	0.03	3.36	0.17	0.13	0.41	0.00	
n261	28	0	Patch	132	4	3.54	2.69	0.05	6.33	6.33	0.56	0.42	0.01	1.27	1.09	0.04	2.78	0.20	0.17	0.44	0.01	
n261	28	0	Patch	133	5	10.98	8.2	0.1	18.93	18.93	0.58	0.43	0.01	4.49	3.61	0.1	10.02	0.24	0.19	0.53	0.01	Beam paired
n261	28	0	Patch	134	6	7.76	5.76	0.2	13.65	13.65	0.57	0.42	0.01	2.8	2.35	0.17	5.9	0.21	0.17	0.43	0.01	
n261	28	0	Patch	135	7	7.45	4.79	0.14	13.38	13.38	0.56	0.36	0.01	2.73	2.04	0.12	6.18	0.20	0.15	0.46	0.01	
n261	28	0	Patch	136	8	8.66	4.78	0.08	15.32	15.32	0.57	0.31	0.01	3.66	2.05	0.07	7.1	0.24	0.13	0.46	0.00	
n261	28	0	Patch	137	9	8.62	6.84	0.08	15.88	15.88	0.54	0.43	0.01	3.76	2.89	0.08	8.13	0.24	0.18	0.51	0.01	
n261	28	0	Patch	138	10	9.01	6.53	0.08	15.62	15.62	0.58	0.42	0.01	3.72	2.91	0.07	7.75	0.24	0.19	0.50	0.00	
n261	28	0	Patch	139	11	4.83	3.13	0.1	9.33	9.33	0.52	0.34	0.01	1.91	1.34	0.08	3.96	0.20	0.14	0.42	0.01	
n261	28	0	Patch	140	12	17.75	12.86	0.23	35.84	35.84	0.50	0.36	0.01	7.08	5.99	0.19	17.26	0.20	0.17	0.48	0.01	
n261	28	0	Patch	141	13	19.47	14.9	0.27	31.93	31.93	0.61	0.47	0.01	9.49	7.73	0.24	17.27	0.30	0.24	0.54	0.01	
n261	28	0	Patch	142	14	22.94	18.29	0.43	34.22	34.22	0.67	0.53	0.01	11.16	9.39	0.39	20	0.33	0.27	0.58	0.01	
n261	28	0	Patch	143	15	24.11	14.57	0.21	37.29	37.29	0.65	0.39	0.01	11.55	7.37	0.16	21.19	0.31	0.20	0.57	0.00	
n261	28	0	Patch	144	16	22.03	9.99	0.19	39.27	39.27	0.56	0.25	0.00	8.43	4.3	0.16	16.76	0.21	0.11	0.43	0.00	
n261	28	0	Patch	145	17	20.46	16.1	0.24	36.41	36.41	0.56	0.44	0.01	9.5	8.07	0.2	19.34	0.26	0.22	0.53	0.01	
n261	28	0	Patch	146	18	19.94	15.55	0.38	30.95	30.95	0.64	0.50	0.01	9.73	8.23	0.33	17.09	0.31	0.27	0.55	0.01	
n261	28	0	Patch	147	19	21.46	14.79	0.36	33.71	33.71	0.64	0.44	0.01	9.81	7.28	0.31	19.45	0.29	0.22	0.58	0.01	
n261	28	0	Patch	148	20	24.27	11.2	0.22	39.75	39.75	0.61	0.28	0.01	10.49	5.19	0.2	19.75	0.26	0.13	0.47	0.01	

▪ QTM0 N261 High channel SISO

Band	Frequency (GHz)	Module	Antenna type	Beam 2	Beam 1	4cm2 PD(W/m2) at 2mm evaluation surfaces @6dBm				MAX PD	Max Ratio			4cm2 PD(W/m2) at 10mm evaluation surfaces @6dBm				Max Ratio				
											0.64	0.51	0.02					0.30	0.26	0.60	0.02	
											Ratio							Ratio				
						Front	Back	Left	Right		Front/ worse surface	back/ worse surface	Left/ worse surface	Front	Back	Left	Right	Front/ worse surface	back/ worse surface	Right/ worse surface	Left/ worse surface	
n261	28.35	0	Patch		0	1.03	0.62	0.01	2.06	2.06	0.50	0.30	0.00	0.36	0.21	0.01	0.8	0.18	0.10	0.39	0.00	
n261	28.35	0	Patch		1	1.24	0.97	0.02	2.85	2.85	0.44	0.34	0.01	0.35	0.33	0.01	1.06	0.12	0.12	0.37	0.00	
n261	28.35	0	Patch		2	1.55	1.46	0.03	3.44	3.44	0.45	0.42	0.01	0.45	0.57	0.02	1.29	0.13	0.17	0.38	0.01	
n261	28.35	0	Patch		3	1.65	1.39	0.02	4.07	4.07	0.41	0.34	0.00	0.48	0.48	0.02	1.53	0.12	0.12	0.38	0.00	
n261	28.35	0	Patch		4	1.24	1.15	0.01	3	3	0.41	0.38	0.00	0.37	0.45	0.01	1.13	0.12	0.15	0.38	0.00	
n261	28.35	0	Patch		5	3.64	3.56	0.03	7.85	7.85	0.46	0.45	0.00	1.36	1.53	0.02	3.98	0.17	0.19	0.51	0.00	
n261	28.35	0	Patch		6	3.77	3.6	0.03	7.65	7.65	0.49	0.47	0.00	1.39	1.59	0.03	3.79	0.18	0.21	0.49	0.00	
n261	28.35	0	Patch		7	3.2	2.08	0.06	6.58	6.58	0.49	0.32	0.01	0.99	0.83	0.06	2.42	0.15	0.13	0.37	0.01	
n261	28.35	0	Patch		8	2.55	1.96	0.05	6.52	6.52	0.39	0.30	0.01	0.89	0.85	0.04	2.28	0.14	0.13	0.35	0.01	
n261	28.35	0	Patch		9	3.66	3.71	0.03	7.84	7.84	0.47	0.47	0.00	1.4	1.61	0.03	4.05	0.18	0.21	0.52	0.00	
n261	28.35	0	Patch		10	3.92	3.33	0.04	7.57	7.57	0.52	0.44	0.01	1.37	1.45	0.04	3.55	0.18	0.19	0.47	0.01	
n261	28.35	0	Patch		11	2.38	1.66	0.03	4.6	4.6	0.52	0.36	0.01	0.87	0.66	0.03	1.95	0.19	0.14	0.42	0.01	
n261	28.35	0	Patch		12	7.63	5.74	0.06	14.93	14.93	0.51	0.38	0.00	3.31	2.75	0.08	7.44	0.22	0.18	0.50	0.00	
n261	28.35	0	Patch		13	7.28	6.59	0.11	13.83	13.83	0.53	0.48	0.01	3.6	3.39	0.1	7.71	0.26	0.25	0.56	0.01	
n261	28.35	0	Patch		14	7.16	7.29	0.1	14.22	14.22	0.50	0.51	0.01	3.36	3.69	0.09	7.93	0.24	0.26	0.56	0.01	Single Beam
n261	28.35	0	Patch		15	7.11	6.3	0.08	15.44	15.44	0.46	0.41	0.01	3.37	3.19	0.07	7.4	0.22	0.21	0.48	0.00	
n261	28.35	0	Patch		16	8.27	4.37	0.09	15.91	15.91	0.52	0.27	0.01	3.14	1.77	0.09	6.61	0.20	0.11	0.42	0.01	
n261	28.35	0	Patch		17	7.52	6.74	0.09	14.63	14.63	0.51	0.46	0.01	3.37	3.33	0.08	7.98	0.23	0.23	0.55	0.01	
n261	28.35	0	Patch		18	6.91	6.51	0.09	13.46	13.46	0.51	0.48	0.01	3.27	3.35	0.08	7.21	0.24	0.25	0.54	0.01	
n261	28.35	0	Patch		19	7.21	7.11	0.08	14.77	14.77	0.49	0.48	0.01	3.4	3.7	0.07	7.66	0.23	0.25	0.52	0.00	
n261	28.35	0	Patch		20	9.07	5.4	0.1	17.25	17.25	0.53	0.31	0.01	3.93	2.42	0.09	8.08	0.23	0.14	0.47	0.01	
n261	28.35	0	Patch		128	1.68	0.88	0.03	3.06	3.06	0.55	0.29	0.01	0.58	0.34	0.02	1.45	0.19	0.11	0.47	0.01	
n261	28.35	0	Patch		129	2.36	1.09	0.05	3.9	3.9	0.61	0.28	0.01	0.86	0.43	0.04	1.61	0.22	0.11	0.41	0.01	
n261	28.35	0	Patch		130	2.24	1.12	0.04	3.98	3.98	0.56	0.28	0.01	0.82	0.43	0.03	1.76	0.21	0.11	0.44	0.01	
n261	28.35	0	Patch		131	1.72	0.92	0.02	3.1	3.1	0.55	0.30	0.01	0.62	0.37	0.02	1.37	0.20	0.12	0.44	0.01	
n261	28.35	0	Patch		132	1.45	0.69	0.03	2.46	2.46	0.59	0.28	0.01	0.57	0.24	0.02	1.19	0.23	0.10	0.48	0.01	
n261	28.35	0	Patch		133	5.14	3.1	0.06	8.31	8.31	0.62	0.37	0.01	2.26	1.32	0.05	4.61	0.27	0.16	0.55	0.01	
n261	28.35	0	Patch		134	3.1	1.09	0.12	5.46	5.46	0.57	0.20	0.02	1.04	0.42	0.1	1.8	0.19	0.08	0.33	0.02	
n261	28.35	0	Patch		135	3.95	2.31	0.07	6.57	6.57	0.60	0.35	0.01	1.62	1.01	0.07	3.44	0.25	0.15	0.52	0.01	
n261	28.35	0	Patch		136	5	2.77	0.02	8	8	0.63	0.35	0.00	2.25	1.16	0.02	4.56	0.28	0.15	0.57	0.00	
n261	28.35	0	Patch		137	3.91	2.08	0.03	6.14	6.14	0.64	0.34	0.00	1.72	0.84	0.02	3.4	0.28	0.14	0.55	0.00	
n261	28.35	0	Patch		138	4.23	2.45	0.03	6.82	6.82	0.62	0.36	0.00	1.76	1.01	0.02	3.81	0.26	0.15	0.56	0.00	
n261	28.35	0	Patch		139	2.53	1.23	0.07	4.39	4.39	0.58	0.28	0.02	0.98	0.49	0.05	1.93	0.22	0.11	0.44	0.01	
n261	28.35	0	Patch		140	7.44	3.67	0.19	13.59	13.59	0.55	0.27	0.01	2.84	1.57	0.16	5.3	0.21	0.12	0.39	0.01	
n261	28.35	0	Patch		141	8.15	4.69	0.11	14.33	14.33	0.57	0.33	0.01	3.91	2.4	0.1	7.01	0.27	0.17	0.49	0.01	
n261	28.35	0	Patch		142	9.65	6.01	0.26	15.33	15.33	0.63	0.39	0.02	4.57	3.01	0.22	9.16	0.30	0.20	0.60	0.01	
n261	28.35	0	Patch		143	11.36	5.96	0.09	16.68	16.68	0.68	0.36	0.01	5.04	2.95	0.07	9.82	0.30	0.18	0.59	0.00	
n261	28.35	0	Patch		144	8.47	3.98	0.11	13.74	13.74	0.62	0.29	0.01	3	1.37	0.09	6.4	0.22	0.10	0.47	0.01	
n261	28.35	0	Patch		145	9.19	4.72	0.09	15.28	15.28	0.60	0.31	0.01	4.17	2.22	0.09	7.26	0.27	0.15	0.48	0.01	
n261	28.35	0	Patch		146	8.56	4.72	0.17	13.47	13.47	0.64	0.35	0.01	4.22	2.47	0.15	7.44	0.31	0.18	0.55	0.01	
n261	28.35	0	Patch		147	9.17	5.38	0.17	14.36	14.36	0.64	0.37	0.01	3.9	2.51	0.14	8.37	0.27	0.17	0.58	0.01	
n261	28.35	0	Patch		148	10.15	5.02	0.08	15.1	15.1	0.67	0.33	0.01	4.04	1.97	0.07	8.32	0.27	0.13	0.55	0.00	

▪ QTM0 N261 High channel MIMO

Band	Frequency (GHz)	Module	Antenna type	Beam 2	Beam 1	4cm2 PD(W/m2) at 2mm evaluation surfaces @6dBm				MAX PD	Max Ratio			4cm2 PD(W/m2) at 10mm evaluation surfaces @6dBm				Max Ratio				
											0.67	0.53	0.01					0.20	0.25	0.53	0.01	
											Ratio							Ratio				
						Front	Back	Left	Right		Front/ worse surface	back/ worse surface	Left/ worse surface	Front	Back	Left	Right	Front/ worse surface	back/ worse surface	Right/ worse surface	Left/ worse surface	
n261	28.35	0	Patch	128	0	3.72	1.89	0.04	6.62	6.62	0.56	0.29	0.01	1.24	0.6	0.03	2.74	0.19	0.09	0.41	0.00	
n261	28.35	0	Patch	129	1	4.39	2.66	0.06	7.47	7.47	0.59	0.36	0.01	1.47	0.91	0.06	2.72	0.20	0.12	0.36	0.01	
n261	28.35	0	Patch	130	2	5.35	3.71	0.09	8.83	8.83	0.61	0.42	0.01	1.73	1.45	0.08	3.15	0.20	0.16	0.36	0.01	
n261	28.35	0	Patch	131	3	4.25	2.85	0.04	8.15	8.15	0.52	0.35	0.00	1.31	1.03	0.03	3.03	0.16	0.13	0.37	0.00	
n261	28.35	0	Patch	132	4	3.54	2.69	0.05	6.33	6.33	0.56	0.42	0.01	1.22	1.01	0.04	2.47	0.19	0.16	0.39	0.01	
n261	28.35	0	Patch	133	5	10.98	8.2	0.1	18.93	18.93	0.58	0.43	0.01	4.2	3.33	0.1	9.01	0.22	0.18	0.48	0.01	Beam paired
n261	28.35	0	Patch	134	6	7.76	5.76	0.2	13.65	13.65	0.57	0.42	0.01	2.61	2.19	0.19	5.37	0.19	0.16	0.39	0.01	
n261	28.35	0	Patch	135	7	7.45	4.79	0.14	13.38	13.38	0.56	0.36	0.01	2.6	1.89	0.14	5.55	0.19	0.14	0.41	0.01	
n261	28.35	0	Patch	136	8	8.66	4.78	0.08	15.32	15.32	0.57	0.31	0.01	3.39	1.9	0.07	6.54	0.22	0.12	0.43	0.00	
n261	28.35	0	Patch	137	9	8.62	6.84	0.08	15.88	15.88	0.54	0.43	0.01	3.59	2.76	0.08	7.64	0.23	0.17	0.48	0.01	
n261	28.35	0	Patch	138	10	9.01	6.53	0.08	15.62	15.62	0.58	0.42	0.01	3.45	2.65	0.08	6.92	0.22	0.17	0.44	0.01	
n261	28.35	0	Patch	139	11	4.83	3.13	0.1	9.33	9.33	0.52	0.34	0.01	1.74	1.22	0.08	3.65	0.19	0.13	0.39	0.01	
n261	28.35	0	Patch	140	12	17.75	12.86	0.23	35.84	35.84	0.50	0.36	0.01	6.61	5.59	0.17	15.89	0.18	0.16	0.44	0.00	
n261	28.35	0	Patch	141	13	19.47	14.9	0.27	31.93	31.93	0.61	0.47	0.01	9.03	6.98	0.24	15.06	0.28	0.22	0.50	0.01	
n261	28.35	0	Patch	142	14	22.94	18.29	0.43	34.22	34.22	0.67	0.53	0.01	10.42	8.42	0.43	18.01	0.30	0.25	0.53	0.01	
n261	28.35	0	Patch	143	15	24.11	14.57	0.21	37.29	37.29	0.65	0.39	0.01	10.69	6.89	0.21	19	0.29	0.18	0.51	0.01	
n261	28.35	0	Patch	144	16	22.03	9.99	0.19	39.27	39.27	0.56	0.25	0.00	8.04	4.05	0.16	15.94	0.20	0.10	0.41	0.00	
n261	28.35	0	Patch	145	17	20.46	16.1	0.24	36.41	36.41	0.56	0.44	0.01	8.75	7.59	0.24	18.04	0.24	0.21	0.50	0.01	
n261	28.35	0	Patch	146	18	19.94	15.55	0.38	30.95	30.95	0.64	0.50	0.01	9.37	7.22	0.39	15.14	0.30	0.23	0.49	0.01	
n261	28.35	0	Patch	147	19	21.46	14.79	0.38	33.71	33.71	0.64	0.44	0.01	9.14	6.95	0.35	17.62	0.27	0.21	0.52	0.01	
n261	28.35	0	Patch	148	20	24.27	11.2	0.22	39.75	39.75	0.61	0.28	0.01	9.75	4.62	0.23	17.36	0.25	0.12	0.44	0.01	

▪ QTM0 N260 LOW channel SISO

Band	Frequency (GHz)	Module	Antenna type	Beam 2	Beam 1	4cm2 PD(W/m2) at 2mm evaluation surfaces @6dBm				MAX PD	Max Ratio			4cm2 PD(W/m2) at 10mm evaluation surfaces @6dBm				Max Ratio				
											0.77	0.44	0.02					0.78	0.24	0.67	0.01	
											Ratio							Ratio				
						Front	Back	Left	Right		Front/ worse surface	back/ worse surface	Left/ worse surface	Front	Back	Left	Right	Front/ worse surface	back/ worse surface	Right/ worse surface	Left/ worse surface	
n260	37	0	Patch		0	1.93	0.96	0.01	3.43	3.43	0.56	0.28	0.00	0.68	0.37	0.01	1.6	0.20	0.11	0.47	0.00	
n260	37	0	Patch		1	1.61	0.93	0.02	2.98	2.98	0.54	0.31	0.01	0.54	0.35	0.02	1.25	0.18	0.12	0.42	0.01	
n260	37	0	Patch		2	2.89	1.99	0.03	5.63	5.63	0.51	0.35	0.01	1.03	0.79	0.02	2.54	0.18	0.14	0.45	0.00	
n260	37	0	Patch		3	1.94	1.43	0.03	3.7	3.7	0.52	0.39	0.01	0.67	0.54	0.02	1.58	0.18	0.15	0.43	0.01	
n260	37	0	Patch		4	1.82	1.08	0.02	3.55	3.55	0.51	0.30	0.01	0.58	0.41	0.01	1.59	0.16	0.12	0.45	0.00	
n260	37	0	Patch		5	3.26	1.61	0.05	6.03	6.03	0.54	0.27	0.01	1.29	0.7	0.04	2.91	0.21	0.12	0.48	0.01	
n260	37	0	Patch		6	2.73	1.95	0.04	5.65	5.65	0.66	0.35	0.01	1.64	0.9	0.04	3.43	0.29	0.16	0.61	0.01	
n260	37	0	Patch		7	3.7	2.11	0.02	6.17	6.17	0.60	0.34	0.00	1.76	1.02	0.02	3.17	0.29	0.17	0.51	0.00	
n260	37	0	Patch		8	3.13	1.65	0.03	6.43	6.43	0.49	0.26	0.00	1.11	0.75	0.03	2.06	0.17	0.12	0.32	0.00	
n260	37	0	Patch		9	3.43	1.69	0.05	5.89	5.89	0.58	0.29	0.01	1.39	0.76	0.04	3.11	0.24	0.13	0.53	0.01	
n260	37	0	Patch		10	3.82	2.11	0.03	5.75	5.75	0.66	0.37	0.01	1.78	0.99	0.03	3.46	0.31	0.17	0.60	0.01	
n260	37	0	Patch		11	3.29	1.86	0.03	6.42	6.42	0.51	0.29	0.00	1.44	0.91	0.02	2.55	0.22	0.14	0.40	0.00	
n260	37	0	Patch		12	7.83	4.7	0.13	14.76	14.76	0.53	0.32	0.01	3.42	2.25	0.12	6.57	0.23	0.15	0.45	0.01	
n260	37	0	Patch		13	10	6.06	0.2	16.22	16.22	0.62	0.42	0.01	4.79	3.52	0.17	9.33	0.30	0.22	0.50	0.01	
n260	37	0	Patch		14	11.72	7.7	0.14	18.13	18.13	0.65	0.42	0.01	5.84	4.1	0.12	11	0.32	0.23	0.61	0.01	Single Beam
n260	37	0	Patch		15	10.15	7.51	0.08	17.28	17.28	0.59	0.43	0.00	4.88	3.9	0.07	9.81	0.28	0.23	0.57	0.00	
n260	37	0	Patch		16	7.89	4.17	0.09	13.14	13.14	0.60	0.32	0.01	2.62	1.66	0.07	5.93	0.20	0.13	0.45	0.01	
n260	37	0	Patch		17	8.92	6.16	0.2	15.13	15.13	0.59	0.41	0.01	4.32	3.02	0.18	8.58	0.29	0.20	0.57	0.01	
n260	37	0	Patch		18	11.33	7.74	0.17	17.66	17.66	0.64	0.44	0.01	5.65	4.22	0.15	10.51	0.32	0.24	0.60	0.01	
n260	37	0	Patch		19	11.14	7.67	0.12	18.02	18.02	0.62	0.43	0.01	5.63	4.05	0.11	10.63	0.31	0.22	0.59	0.01	
n260	37	0	Patch		20	8.31	6.21	0.08	14.58	14.58	0.57	0.43	0.01	3.63	3.17	0.07	8.28	0.25	0.22	0.57	0.00	
n260	37	0	Patch		128	1.82	0.89	0.06	3.78	3.78	0.48	0.24	0.02	0.59	0.34	0.05	1.48	0.16	0.09	0.39	0.01	
n260	37	0	Patch		129	1.9	0.8	0.03	3.58	3.58	0.53	0.22	0.01	0.58	0.3	0.03	1.5	0.16	0.08	0.42	0.01	
n260	37	0	Patch		130	2.4	0.71	0.02	3.75	3.75	0.64	0.19	0.01	0.84	0.21	0.02	1.9	0.22	0.06	0.51	0.01	
n260	37	0	Patch		131	1.72	0.49	0.01	2.66	2.66	0.65	0.18	0.00	0.63	0.17	0.01	1.35	0.24	0.06	0.51	0.00	
n260	37	0	Patch		132	1.1	0.43	0.01	1.99	1.99	0.55	0.22	0.01	0.37	0.14	0.01	0.84	0.19	0.07	0.42	0.01	
n260	37	0	Patch		133	3.36	1.47	0.05	7.73	7.73	0.43	0.19	0.01	1.02	0.58	0.04	2.63	0.13	0.08	0.34	0.01	
n260	37	0	Patch		134	3.38	1.25	0.02	4.79	4.79	0.71	0.26	0.00	1.53	0.51	0.02	2.89	0.32	0.11	0.60	0.00	
n260	37	0	Patch		135	4.52	2.53	0.07	7.52	7.52	0.60	0.34	0.01	1.88	1.14	0.05	4.23	0.25	0.15	0.56	0.01	
n260	37	0	Patch		136	2.12	0.92	0.02	4.23	4.23	0.50	0.22	0.00	0.74	0.31	0.02	1.83	0.17	0.07	0.43	0.00	
n260	37	0	Patch		137	2.61	0.97	0.01	4.6	4.6	0.57	0.21	0.00	1	0.44	0.01	1.98	0.22	0.10	0.42	0.00	
n260	37	0	Patch		138	3.45	1.16	0.02	4.48	4.48	0.77	0.26	0.00	1.58	0.44	0.02	3.01	0.35	0.10	0.67	0.00	
n260	37	0	Patch		139	2.47	1	0.02	4.17	4.17	0.59	0.24	0.00	1.02	0.38	0.02	2.17	0.24	0.09	0.52	0.00	
n260	37	0	Patch		140	6.62	3.33	0.06	13.07	13.07	0.51	0.25	0.00	2.62	1.59	0.06	5.91	0.20	0.12	0.45	0.00	
n260	37	0	Patch		141	7.08	3.93	0.17	12.41	12.41	0.57	0.31	0.01	3.43	1.78	0.14	7.13	0.28	0.14	0.57	0.01	
n260	37	0	Patch		142	10.8	3.81	0.18	14.05	14.05	0.77	0.27	0.01	5.36	1.87	0.15	9.32	0.38	0.13	0.66	0.01	
n260	37	0	Patch		143	10.04	3.83	0.06	13.64	13.64	0.74	0.28	0.00	4.85	1.81	0.06	8.8	0.36	0.13	0.65	0.00	
n260	37	0	Patch		144	7.63	3.69	0.07	12.45	12.45	0.61	0.30	0.01	3.29	1.76	0.06	7.13	0.26	0.14	0.57	0.00	
n260	37	0	Patch		145	5.4	2.64	0.15	10.42	10.42	0.52	0.25	0.01	2.26	1.43	0.12	4.36	0.22	0.14	0.42	0.01	
n260	37	0	Patch		146	9.14	3.49	0.27	12.55	12.55	0.73	0.28	0.02	4.57	1.69	0.22	8.12	0.36	0.13	0.65	0.02	
n260	37	0	Patch		147	8.58	3.31	0.08	12	12	0.72	0.28	0.01	4.23	1.63	0.07	7.38	0.35	0.14	0.61	0.01	
n260	37	0	Patch		148	9.61	4.38	0.07	13.84	13.84	0.69	0.32	0.01	4.41	2.12	0.06	8.97	0.32	0.15	0.64	0.00	

▪ QTM0 N260 LOW channel MIMO

Band	Frequency (GHz)	Module	Antenna type	Beam 2	Beam 1	4cm2 PD(W/m2) at 2mm evaluation surfaces @6dBm				MAX PD	Max Ratio			4cm2 PD(W/m2) at 10mm evaluation surfaces @6dBm				Max Ratio				
											0.75	0.49	0.01					0.39	0.25	0.65	0.01	
											Ratio							Ratio				
						Front	Back	Left	Right		Front/ worse surface	back/ worse surface	Left/ worse surface	Front	Back	Left	Right	Front/ worse surface	back/ worse surface	Right/ worse surface	Left/ worse surface	
n260	37	0	Patch	128	0	4.89	3	0.09	7.77	7.77	0.63	0.39	0.01	1.84	1.22	0.08	3.63	0.24	0.16	0.47	0.01	
n260	37	0	Patch	129	1	4.51	2.4	0.07	6.74	6.74	0.67	0.36	0.01	1.44	0.86	0.06	2.9	0.21	0.13	0.43	0.01	
n260	37	0	Patch	130	2	6.64	3.67	0.06	9.75	9.75	0.68	0.38	0.01	2.45	1.45	0.05	4.81	0.25	0.15	0.49	0.01	
n260	37	0	Patch	131	3	4.87	2.75	0.05	6.79	6.79	0.72	0.41	0.01	1.82	1.04	0.05	3.4	0.27	0.15	0.50	0.01	
n260	37	0	Patch	132	4	3.57	2.04	0.03	5.69	5.69	0.63	0.36	0.01	1.25	0.8	0.03	2.64	0.22	0.14	0.46	0.01	
n260	37	0	Patch	133	5	8.43	4.35	0.12	14.68	14.68	0.57	0.30	0.01	2.87	1.79	0.1	5.57	0.20	0.12	0.38	0.01	Beam paired
n260	37	0	Patch	134	6	5.93	2.89	0.08	9.19	9.19	0.65	0.31	0.01	2.44	1.31	0.06	4.96	0.27	0.14	0.54	0.01	
n260	37	0	Patch	135	7	10.78	6.95	0.1	14.56	14.56	0.74	0.48	0.01	5.33	3.45	0.09	8.3	0.37	0.24	0.57	0.01	
n260	37	0	Patch	136	8	4.77	2.76	0.06	9.16	9.16	0.52	0.30	0.01	1.63	1.05	0.05	3.94	0.18	0.11	0.43	0.01	
n260	37	0	Patch	137	9	5.49	2.81	0.09	8.33	8.33	0.66	0.34	0.01	2	1.12	0.07	4.57	0.24	0.13	0.55	0.01	
n260	37	0	Patch	138	10	6.07	3.16	0.07	9.33	9.33	0.65	0.34	0.01	2.7	1.6	0.06	4.99	0.29	0.17	0.53	0.01	
n260	37	0	Patch	139	11	5.15	3.06	0.06	9.39	9.39	0.55	0.33	0.01	2.05	1.22	0.05	4.24	0.22	0.13	0.45	0.01	
n260	37	0	Patch	140	12	17.9	9.95	0.21	29.99	29.99	0.60	0.33	0.01	7.81	4.9	0.18	13	0.26	0.16	0.43	0.01	
n260	37	0	Patch	141	13	21.1	15.03	0.42	30.97	30.97	0.68	0.49	0.01	10.28	7.7	0.34	18.51	0.33	0.25	0.60	0.01	
n260	37	0	Patch	142	14	25.76	16.24	0.35	34.33	34.33	0.75	0.47	0.01	13.36	8.65	0.3	22.43	0.39	0.25	0.65	0.01	
n260	37	0	Patch	143	15	26.2	15.21	0.17	33.98	33.98	0.74	0.45	0.01	13.06	7.77	0.15	20.26	0.38	0.23	0.60	0.00	
n260	37	0	Patch	144	16	16.43	10.57	0.17	29.75	29.75	0.55	0.36	0.01	6.96	5.12	0.13	15.17	0.23	0.17	0.51	0.00	
n260	37	0	Patch	145	17	17.08	13.51	0.39	29.69	29.69	0.58	0.46	0.01	8.47	7.04	0.31	15.2	0.29	0.24	0.51	0.01	
n260	37	0	Patch	146	18	24.33	15.13	0.36	31.67	31.67	0.77	0.48	0.01	12.63	8.04	0.3	20.39	0.40	0.25	0.64	0.01	
n260	37	0	Patch	147	19	22.6	16.38	0.26	32.95	32.95	0.69	0.50	0.01	11.94	8.6	0.23	21.12	0.36	0.26	0.64	0.01	
n260	37	0	Patch	148	20	21.72	14.01	0.17	32.51	32.51	0.67	0.43	0.01	10.71	7.28	0.16	19.6	0.33	0.22	0.60	0.00	

▪ QTM0 N260 Middle channel SISO

Band	Frequency (GHz)	Module	Antenna type	Beam 2	Beam 1	4cm2 PD(W/m2) at 2mm evaluation surfaces @6dBm				MAX PD	Max Ratio			4cm2 PD(W/m2) at 10mm evaluation surfaces @6dBm				Max Ratio				
											0.79	0.80	0.02					0.40	0.29	0.65	0.01	
											Ratio							Ratio				
						Front	Back	Left	Right		Front/ worse surface	back/ worse surface	Left/ worse surface	Front	Back	Left	Right	Front/ worse surface	back/ worse surface	Right/ worse surface	Left/ worse surface	
n260	38.5	0	Patch		0	1.40	0.91	0.02	2.94	2.94	0.50	0.31	0.01	0.53	0.37	0.03	1.17	0.18	0.13	0.40	0.01	
n260	38.5	0	Patch		1	1.68	1.31	0.02	3.28	3.28	0.51	0.37	0.01	0.56	0.48	0.02	1.47	0.17	0.15	0.45	0.01	
n260	38.5	0	Patch		2	2.84	2.11	0.03	5.29	5.29	0.54	0.40	0.01	1.1	0.92	0.03	2.35	0.21	0.17	0.44	0.01	
n260	38.5	0	Patch		3	1.93	1.51	0.03	3.49	3.49	0.55	0.43	0.01	0.74	0.6	0.03	1.46	0.21	0.17	0.42	0.01	
n260	38.5	0	Patch		4	1.76	1.26	0.02	3.42	3.42	0.51	0.37	0.01	0.59	0.46	0.02	1.45	0.17	0.13	0.42	0.01	
n260	38.5	0	Patch		5	3.43	1.71	0.06	6.03	6.03	0.57	0.28	0.01	1.38	0.71	0.05	3	0.23	0.12	0.50	0.01	
n260	38.5	0	Patch		6	3.31	2.19	0.07	5.15	5.15	0.64	0.43	0.01	1.48	1.1	0.08	2.86	0.29	0.21	0.56	0.01	
n260	38.5	0	Patch		7	2.64	2.35	0.04	5.82	5.82	0.45	0.40	0.01	1.15	1.15	0.03	2.62	0.20	0.20	0.45	0.01	
n260	38.5	0	Patch		8	2.95	1.8	0.03	6.66	6.66	0.44	0.27	0.00	0.99	0.8	0.03	2.12	0.15	0.12	0.32	0.00	
n260	38.5	0	Patch		9	3.49	1.84	0.07	5.74	5.74	0.61	0.32	0.01	1.45	0.82	0.06	3.03	0.25	0.14	0.53	0.01	
n260	38.5	0	Patch		10	2.93	2.35	0.06	5.21	5.21	0.56	0.45	0.01	1.31	1.21	0.05	2.71	0.25	0.23	0.52	0.01	
n260	38.5	0	Patch		11	2.75	2.04	0.03	6.48	6.48	0.42	0.31	0.00	1.06	0.96	0.02	2.24	0.16	0.15	0.35	0.00	
n260	38.5	0	Patch		12	7.64	4.47	0.22	13.75	13.75	0.56	0.33	0.02	3.25	1.96	0.18	5.7	0.24	0.14	0.41	0.01	
n260	38.5	0	Patch		13	9.85	7	0.25	15.26	15.26	0.65	0.46	0.02	5.09	3.7	0.21	8.28	0.33	0.24	0.54	0.01	
n260	38.5	0	Patch		14	9.8	8.33	0.21	16.63	16.63	0.59	0.50	0.01	4.98	4.81	0.19	9.25	0.30	0.29	0.56	0.01	Single Beam
n260	38.5	0	Patch		15	8.69	8.13	0.11	16.3	16.3	0.53	0.50	0.01	4.12	4.52	0.09	8.73	0.25	0.28	0.54	0.01	
n260	38.5	0	Patch		16	7.41	4.03	0.17	12.65	12.65	0.59	0.32	0.01	2.52	1.8	0.15	5.08	0.20	0.14	0.40	0.01	
n260	38.5	0	Patch		17	9.22	6.46	0.19	14.9	14.9	0.62	0.44	0.01	4.46	3.21	0.16	7.90	0.30	0.22	0.54	0.01	
n260	38.5	0	Patch		18	11.19	8.91	0.2	18.67	18.67	0.60	0.48	0.01	5.64	5	0.18	10.48	0.30	0.27	0.56	0.01	
n260	38.5	0	Patch		19	10.11	8.78	0.17	17.88	17.88	0.57	0.49	0.01	5.12	5.04	0.16	9.75	0.29	0.28	0.55	0.01	
n260	38.5	0	Patch		20	7.03	6.22	0.13	13.16	13.16	0.53	0.47	0.01	2.96	3.13	0.11	6.99	0.22	0.24	0.53	0.01	
n260	38.5	0	Patch		128	1.68	0.92	0.04	3.78	3.78	0.42	0.24	0.01	0.46	0.36	0.03	1.46	0.12	0.10	0.39	0.01	
n260	38.5	0	Patch		129	2.4	0.97	0.02	4.26	4.26	0.56	0.23	0.00	0.91	0.33	0.02	2.01	0.21	0.08	0.47	0.00	
n260	38.5	0	Patch		130	2.45	0.71	0.02	4.11	4.11	0.60	0.17	0.00	0.72	0.24	0.02	1.8	0.18	0.06	0.44	0.00	
n260	38.5	0	Patch		131	1.72	0.49	0.01	2.8	2.8	0.61	0.18	0.00	0.59	0.17	0.01	1.3	0.21	0.06	0.46	0.00	
n260	38.5	0	Patch		132	1.37	0.5	0.01	2.36	2.36	0.58	0.21	0.00	0.46	0.17	0.01	1.09	0.19	0.07	0.46	0.00	
n260	38.5	0	Patch		133	3.12	1.88	0.06	8.83	8.83	0.35	0.21	0.01	1.11	0.73	0.05	3.12	0.13	0.08	0.35	0.01	
n260	38.5	0	Patch		134	3.34	1.16	0.02	5.01	5.01	0.67	0.23	0.00	1.5	0.49	0.02	2.95	0.30	0.10	0.59	0.00	
n260	38.5	0	Patch		135	4.17	2.37	0.06	7.52	7.52	0.55	0.32	0.01	1.4	1.11	0.05	4.03	0.19	0.15	0.54	0.01	
n260	38.5	0	Patch		136	2.54	1.03	0.02	5	5	0.51	0.21	0.00	1.08	0.41	0.01	2.04	0.22	0.08	0.41	0.00	
n260	38.5	0	Patch		137	2.69	1	0.01	5.22	5.22	0.52	0.19	0.00	0.99	0.41	0.01	2.18	0.19	0.08	0.42	0.00	
n260	38.5	0	Patch		138	3.62	1.17	0.02	4.66	4.66	0.78	0.25	0.00	1.63	0.47	0.02	3.12	0.35	0.10	0.67	0.00	
n260	38.5	0	Patch		139	2.93	1.09	0.02	4.74	4.74	0.62	0.23	0.00	1.28	0.45	0.02	2.52	0.27	0.09	0.53	0.00	
n260	38.5	0	Patch		140	8.04	4.57	0.06	16.49	16.49	0.49	0.28	0.00	3.41	2.19	0.05	7.64	0.21	0.13	0.46	0.00	
n260	38.5	0	Patch		141	7.04	3.03	0.19	11.54	11.54	0.61	0.26	0.02	3.23	1.34	0.16	6.72	0.28	0.12	0.58	0.01	
n260	38.5	0	Patch		142	10.75	3.6	0.11	13.55	13.55	0.79	0.27	0.01	5.36	1.75	0.08	9.22	0.40	0.13	0.68	0.01	
n260	38.5	0	Patch		143	10.74	4.27	0.08	14.62	14.62	0.73	0.29	0.01	5.28	2	0.07	9.65	0.36	0.14	0.66	0.00	
n260	38.5	0	Patch		144	7.63	4.27	0.07	13.91	13.91	0.55	0.31	0.01	3.23	2.04	0.07	7.29	0.23	0.15	0.52	0.01	
n260	38.5	0	Patch		145	6.05	2.9	0.09	13.31	13.31	0.45	0.22	0.01	2.68	1.22	0.08	5.81	0.20	0.09	0.44	0.01	
n260	38.5	0	Patch		146	11.68	3.83	0.14	15.38	15.38	0.76	0.25	0.01	5.69	1.91	0.12	10.04	0.37	0.12	0.65	0.01	
n260	38.5	0	Patch		147	9.67	3.36	0.08	13.38	13.38	0.72	0.25	0.01	4.67	1.59	0.08	8.3	0.35	0.12	0.62	0.01	
n260	38.5	0	Patch		148	7.98	4.47	0.06	13.11	13.11	0.61	0.34	0.00	3.49	2.21	0.06	7.63	0.27	0.17	0.58	0.00	

▪ QTM0 N260 Middle channel MIMO

Band	Frequency (GHz)	Module	Antenna type	Beam 2	Beam 1	4cm2 PD(W/m2) at 2mm evaluation surfaces @6dBm				MAX PD	Max Ratio			4cm2 PD(W/m2) at 10mm evaluation surfaces @6dBm				Max Ratio				
											0.76	0.55	0.02					0.41	0.29	0.63	0.01	
											Ratio							Ratio				
						Front	Back	Left	Right		Front/ worse surface	back/ worse surface	Left/ worse surface	Front	Back	Left	Right	Front/ worse surface	back/ worse surface	Right/ worse surface	Left/ worse surface	
n260	38.5	0	Patch	128	0	3.92	3.01	0.08	7.58	7.58	0.52	0.40	0.01	1.51	1.29	0.06	3.32	0.20	0.17	0.44	0.01	
n260	38.5	0	Patch	129	1	5.14	2.93	0.05	7.83	7.83	0.66	0.37	0.01	1.94	1.1	0.05	3.73	0.25	0.14	0.48	0.01	
n260	38.5	0	Patch	130	2	7.31	3.84	0.06	9.68	9.68	0.76	0.40	0.01	2.69	1.61	0.05	4.47	0.28	0.17	0.46	0.01	
n260	38.5	0	Patch	131	3	4.96	2.89	0.05	6.79	6.79	0.73	0.43	0.01	1.89	1.15	0.04	3.25	0.28	0.17	0.48	0.01	
n260	38.5	0	Patch	132	4	4.14	2.5	0.03	6.26	6.26	0.66	0.40	0.00	1.5	0.97	0.02	2.9	0.24	0.15	0.46	0.00	
n260	38.5	0	Patch	133	5	8.44	4.63	0.12	16.07	16.07	0.53	0.29	0.01	3	1.95	0.12	6.33	0.19	0.12	0.39	0.01	Beam paired
n260	38.5	0	Patch	134	6	6.26	3.26	0.12	9.47	9.47	0.66	0.34	0.01	2.59	1.4	0.1	5.15	0.27	0.15	0.54	0.01	
n260	38.5	0	Patch	135	7	8.4	7.08	0.09	14.22	14.22	0.59	0.50	0.01	3.51	3.64	0.08	7.93	0.25	0.26	0.56	0.01	
n260	38.5	0	Patch	136	8	5.33	3.03	0.06	9.49	9.49	0.56	0.32	0.01	1.96	1.17	0.05	4.25	0.21	0.12	0.45	0.01	
n260	38.5	0	Patch	137	9	5.88	3.04	0.11	9.27	9.27	0.63	0.33	0.01	2.19	1.41	0.09	4.76	0.24	0.15	0.51	0.01	
n260	38.5	0	Patch	138	10	6.07	3.35	0.11	9.15	9.15	0.66	0.37	0.01	2.8	1.68	0.09	5.13	0.31	0.18	0.56	0.01	
n260	38.5	0	Patch	139	11	5.38	3.22	0.05	9.26	9.26	0.58	0.35	0.01	2.1	1.34	0.05	4.3	0.23	0.14	0.46	0.01	
n260	38.5	0	Patch	140	12	18.02	10.06	0.25	34.47	34.47	0.52	0.29	0.01	7.28	4.48	0.22	14.39	0.21	0.13	0.42	0.01	
n260	38.5	0	Patch	141	13	19.56	14.5	0.51	30.77	30.77	0.64	0.47	0.02	10.03	7.63	0.44	17.91	0.33	0.25	0.58	0.01	
n260	38.5	0	Patch	142	14	24	16.81	0.32	32.91	32.91	0.73	0.51	0.01	12.6	9.17	0.28	20.62	0.38	0.28	0.63	0.01	
n260	38.5	0	Patch	143	15	26.11	18.65	0.24	34.18	34.18	0.76	0.55	0.01	13.91	10.05	0.21	21.21	0.41	0.29	0.62	0.01	
n260	38.5	0	Patch	144	16	16.71	12.73	0.27	32.28	32.28	0.52	0.39	0.01	7.24	6.05	0.24	17.57	0.22	0.19	0.54	0.01	
n260	38.5	0	Patch	145	17	19.63	13.46	0.4	32.75	32.75	0.60	0.41	0.01	9.2	6.56	0.34	17.34	0.28	0.20	0.53	0.01	
n260	38.5	0	Patch	146	18	27.45	17.1	0.32	36.11	36.11	0.76	0.47	0.01	14.07	9.16	0.29	22.47	0.39	0.25	0.62	0.01	
n260	38.5	0	Patch	147	19	26.11	18.43	0.27	32.23	32.23	0.81	0.57	0.01	14.08	10.2	0.24	20.56	0.44	0.32	0.64	0.01	
n260	38.5	0	Patch	148	20	18.54	15.51	0.29	30.35	30.35	0.61	0.51	0.01	8.91	7.76	0.21	18.6	0.29	0.26	0.61	0.01	

▪ QTM0 N260 High channel SISO

Band	Frequency (GHz)	Module	Antenna type	Beam 2	Beam 1	4cm2 PD(W/m2) at 2mm evaluation surfaces @6dBm				MAX PD	Max Ratio			4cm2 PD(W/m2) at 10mm evaluation surfaces @6dBm				Max Ratio				
											0.69	0.51	0.01					0.34	0.29	0.66	0.01	
											Ratio							Ratio				
						Front	Back	Left	Right		Front/ worse surface	back/ worse surface	Right/ worse surface	Front	Back	Left	Right	Front/ worse surface	back/ worse surface	Right/ worse surface	Left/ worse surface	
n260	40	0	Patch		0	1.44	0.81	0.03	2.7	2.7	0.53	0.30	0.01	0.55	0.33	0.02	1.15	0.20	0.12	0.43	0.01	
n260	40	0	Patch		1	1.74	1.17	0.02	3.25	3.25	0.54	0.36	0.01	0.64	0.45	0.02	1.34	0.20	0.14	0.41	0.01	
n260	40	0	Patch		2	2.81	1.96	0.02	5.33	5.33	0.53	0.37	0.00	1.05	0.81	0.02	2.58	0.20	0.15	0.48	0.00	
n260	40	0	Patch		3	2.1	1.38	0.03	3.62	3.62	0.58	0.38	0.01	0.83	0.51	0.02	1.68	0.23	0.14	0.46	0.01	
n260	40	0	Patch		4	1.82	1.24	0.02	3.41	3.41	0.53	0.36	0.01	0.68	0.44	0.02	1.48	0.20	0.13	0.43	0.01	
n260	40	0	Patch		5	2.59	1.62	0.07	4.82	4.82	0.54	0.34	0.01	1.03	0.7	0.06	1.9	0.21	0.15	0.39	0.01	
n260	40	0	Patch		6	3.18	2.05	0.07	4.93	4.93	0.65	0.42	0.01	1.45	0.95	0.06	2.51	0.29	0.19	0.51	0.01	
n260	40	0	Patch		7	3.54	2.22	0.03	6.53	6.53	0.54	0.34	0.00	1.61	1.11	0.03	3.04	0.25	0.17	0.47	0.00	
n260	40	0	Patch		8	2.75	1.73	0.03	6.25	6.25	0.44	0.28	0.00	0.99	0.81	0.03	2.09	0.16	0.13	0.33	0.00	
n260	40	0	Patch		9	2.69	1.77	0.07	4.68	4.68	0.57	0.38	0.01	1.16	0.79	0.06	2.02	0.25	0.17	0.43	0.01	
n260	40	0	Patch		10	3.57	2.16	0.06	5.66	5.66	0.63	0.38	0.01	1.68	1.06	0.05	2.98	0.30	0.19	0.53	0.01	
n260	40	0	Patch		11	3.02	1.97	0.03	6.61	6.61	0.46	0.30	0.00	1.25	0.97	0.02	2.51	0.19	0.15	0.38	0.00	
n260	40	0	Patch		12	7.22	4.29	0.12	13.38	13.38	0.54	0.32	0.01	3.15	1.87	0.09	5.98	0.24	0.14	0.45	0.01	
n260	40	0	Patch		13	10.67	6.96	0.17	16.59	16.59	0.64	0.42	0.01	5.39	3.54	0.15	9.49	0.32	0.21	0.57	0.01	
n260	40	0	Patch		14	12.05	7.84	0.16	18.65	18.65	0.65	0.42	0.01	6.16	4.24	0.14	11.09	0.33	0.23	0.59	0.01	Single Beam
n260	40	0	Patch		15	8.52	7.98	0.15	15.91	15.91	0.54	0.50	0.01	4.17	4.63	0.13	8.47	0.26	0.29	0.53	0.01	
n260	40	0	Patch		16	6.46	4.9	0.09	12.38	12.38	0.52	0.40	0.01	2.42	2.32	0.07	5.05	0.20	0.19	0.41	0.01	
n260	40	0	Patch		17	8.46	5.92	0.2	13.65	13.65	0.62	0.43	0.01	4.19	2.95	0.16	7.46	0.31	0.22	0.55	0.01	
n260	40	0	Patch		18	11.45	7.11	0.14	17.44	17.44	0.66	0.41	0.01	5.88	3.76	0.12	10.21	0.34	0.22	0.59	0.01	
n260	40	0	Patch		19	10.6	8.51	0.15	18.07	18.07	0.59	0.47	0.01	5.35	4.82	0.13	10.38	0.30	0.27	0.57	0.01	
n260	40	0	Patch		20	7.48	7.23	0.15	14.47	14.47	0.52	0.51	0.01	3.55	4.12	0.12	7.3	0.25	0.28	0.50	0.01	
n260	40	0	Patch		128	1.63	0.69	0.03	3.51	3.51	0.46	0.20	0.01	0.45	0.25	0.03	1.27	0.13	0.07	0.36	0.01	
n260	40	0	Patch		129	1.91	0.76	0.02	3.58	3.58	0.53	0.21	0.01	0.63	0.25	0.02	1.51	0.18	0.07	0.42	0.01	
n260	40	0	Patch		130	2.33	0.84	0.02	4.41	4.41	0.53	0.19	0.00	0.68	0.27	0.02	1.98	0.15	0.06	0.45	0.00	
n260	40	0	Patch		131	1.7	0.62	0.01	3.19	3.19	0.53	0.19	0.00	0.51	0.21	0.01	1.41	0.16	0.07	0.44	0.00	
n260	40	0	Patch		132	1.21	0.47	0.01	2.31	2.31	0.52	0.20	0.00	0.39	0.17	0.01	1.04	0.17	0.07	0.45	0.00	
n260	40	0	Patch		133	3.05	1.96	0.07	8.19	8.19	0.37	0.24	0.01	1.01	0.76	0.05	3.18	0.12	0.09	0.39	0.01	
n260	40	0	Patch		134	3.08	1.47	0.01	4.97	4.97	0.62	0.30	0.00	1.29	0.61	0.01	3.08	0.26	0.12	0.62	0.00	
n260	40	0	Patch		135	3.86	1.62	0.04	6.27	6.27	0.62	0.26	0.01	1.43	0.65	0.03	3.48	0.23	0.10	0.56	0.00	
n260	40	0	Patch		136	3.29	0.97	0.01	5.74	5.74	0.57	0.17	0.00	1.36	0.37	0.01	2.63	0.24	0.06	0.46	0.00	
n260	40	0	Patch		137	2.82	1.26	0.01	5.85	5.85	0.48	0.22	0.00	1.13	0.48	0.01	2.71	0.19	0.08	0.46	0.00	
n260	40	0	Patch		138	2.93	1.43	0.02	4.41	4.41	0.66	0.32	0.00	1.18	0.6	0.02	2.93	0.27	0.14	0.66	0.00	
n260	40	0	Patch		139	3.42	1.21	0.01	5.12	5.12	0.67	0.24	0.00	1.43	0.48	0.01	2.95	0.28	0.09	0.58	0.00	
n260	40	0	Patch		140	8.9	4.62	0.09	16.39	16.39	0.54	0.28	0.01	3.71	2.08	0.08	8.88	0.23	0.13	0.54	0.00	
n260	40	0	Patch		141	8.66	4.22	0.1	13.66	13.66	0.63	0.31	0.01	4.24	2.04	0.09	8.46	0.31	0.15	0.62	0.01	
n260	40	0	Patch		142	7.76	3.63	0.1	11.3	11.3	0.69	0.32	0.01	3.78	1.79	0.08	7.24	0.33	0.16	0.64	0.01	
n260	40	0	Patch		143	9.01	3.76	0.06	12.94	12.94	0.70	0.29	0.00	4.43	1.85	0.05	8.25	0.34	0.14	0.64	0.00	
n260	40	0	Patch		144	10.33	4.3	0.14	17.15	17.15	0.60	0.25	0.01	4.67	1.87	0.12	10.12	0.27	0.11	0.59	0.01	
n260	40	0	Patch		145	6.86	3.4	0.09	13.64	13.64	0.50	0.25	0.01	3.21	1.53	0.08	7.16	0.24	0.11	0.52	0.01	
n260	40	0	Patch		146	10.13	5.03	0.11	15.21	15.21	0.67	0.33	0.01	5.02	2.48	0.09	9.86	0.33	0.16	0.65	0.01	
n260	40	0	Patch		147	8.84	3.81	0.08	12.84	12.84	0.69	0.30	0.01	4.18	1.95	0.07	7.77	0.32	0.15	0.61	0.01	
n260	40	0	Patch		148	9.61	3.95	0.1	15.12	15.12	0.64	0.26	0.01	4.6	1.79	0.09	9.01	0.30	0.12	0.60	0.01	

▪ QTM0 N260 High channel MIMO

Band	Frequency (GHz)	Module	Antenna type	Beam 2	Beam 1	4cm2 PD(W/m2) at 2mm evaluation surfaces @6dBm				MAX PD	Max Ratio			4cm2 PD(W/m2) at 10mm evaluation surfaces @6dBm				Max Ratio				
											0.73	0.50	0.01					0.37	0.27	0.62	0.01	
											Ratio							Ratio				
						Front	Back	Left	Right		Front/ worse surface	back/ worse surface	Right/ worse surface	Front	Back	Left	Right	Front/ worse surface	back/ worse surface	Right/ worse surface	Left/ worse surface	
n260	40	0	Patch	128	0	3.84	2.11	0.07	7.73	7.73	0.46	0.27	0.01	1.21	0.83	0.08	3.39	0.16	0.11	0.44	0.01	
n260	40	0	Patch	129	1	4.59	2.83	0.06	7.53	7.53	0.61	0.38	0.01	1.6	1.06	0.05	3.1	0.21	0.14	0.41	0.01	
n260	40	0	Patch	130	2	6.89	3.93	0.06	10.09	10.09	0.68	0.39	0.01	2.5	1.51	0.05	4.9	0.25	0.15	0.49	0.00	
n260	40	0	Patch	131	3	5.08	2.93	0.03	7.36	7.36	0.69	0.40	0.00	1.81	1.08	0.03	3.36	0.25	0.15	0.46	0.00	
n260	40	0	Patch	132	4	4.13	2.5	0.03	6.28	6.28	0.66	0.40	0.00	1.46	0.96	0.03	2.82	0.23	0.15	0.45	0.00	
n260	40	0	Patch	133	5	7.5	4.81	0.15	15.76	15.76	0.48	0.31	0.01	2.52	2.13	0.13	5.99	0.16	0.14	0.38	0.01	Beam paired
n260	40	0	Patch	134	6	5.03	3.3	0.11	9.9	9.9	0.57	0.37	0.01	2.21	1.49	0.09	4.31	0.25	0.17	0.40	0.01	
n260	40	0	Patch	135	7	8.55	6.05	0.07	14.42	14.42	0.59	0.35	0.00	3.39	2.48	0.06	8.08	0.24	0.17	0.56	0.00	
n260	40	0	Patch	136	8	6.03	2.68	0.05	10.25	10.25	0.59	0.26	0.00	2.16	1.19	0.05	4.66	0.21	0.12	0.45	0.00	
n260	40	0	Patch	137	9	4.92	2.68	0.1	9.18	9.18	0.54	0.29	0.01	1.76	1.19	0.08	4.03	0.19	0.13	0.44	0.01	
n260	40	0	Patch	138	10	5.41	3.81	0.1	9.38	9.38	0.58	0.41	0.01	2.57	1.65	0.08	5.08	0.27	0.18	0.54	0.01	
n260	40	0	Patch	139	11	6.42	2.89	0.05	10.76	10.76	0.60	0.27	0.00	2.58	1.26	0.04	4.91	0.24	0.12	0.46	0.00	
n260	40	0	Patch	140	12	18.46	10.36	0.19	36.23	36.23	0.51	0.29	0.01	7.05	4.37	0.16	17.25	0.19	0.12	0.48	0.00	
n260	40	0	Patch	141	13	24.62	13.79	0.34	33.54	33.54	0.73	0.41	0.01	12.19	6.93	0.29	20.27	0.36	0.21	0.60	0.01	
n260	40	0	Patch	142	14	22.33	15.94	0.29	32.4	32.4	0.69	0.49	0.01	11.86	8.55	0.24	20.11	0.37	0.26	0.62	0.01	
n260	40	0	Patch	143	15	21.7	16.78	0.29	33.44	33.44	0.65	0.50	0.01	11.65	9.14	0.27	20.27	0.35	0.27	0.61	0.01	
n260	40	0	Patch	144	16	20.44	14.01	0.21	35.94	35.94	0.57	0.39	0.01	9.55	6.59	0.17	20.92	0.27	0.18	0.58	0.00	
n260	40	0	Patch	145	17	20.4	11.95	0.29	28.77	28.77	0.71	0.42	0.01	9.7	5.93	0.25	16.54	0.34	0.21	0.57	0.01	
n260	40	0	Patch	146	18	26.36	15.92	0.27	34.18	34.18	0.77	0.47	0.01	13.29	8.42	0.24	21.35	0.39	0.25	0.62	0.01	
n260	40	0	Patch	147	19	24.05	17.58	0.35	32.88	32.88	0.73	0.53	0.01	12.91	9.59	0.32	20.33	0.39	0.29	0.62	0.01	
n260	40	0	Patch	148	20	21.39	17.81	0.24	35.16	35.16	0.61	0.51	0.01	11.42	9.19	0.21	21.71	0.32	0.26	0.62	0.01	

Band	module	Distance	Max Ratio for SISO	Max Ratio for MIMO
N260	0	2mm	0.79	0.76
		10mm	0.68	0.65
N261	0	2mm	0.64	0.69
		10mm	0.60	0.69

Table 3.6-1：Max Ratio for SISO and MIMO per band per module

3.7 .Power Density Characterization

3.7.1 Uncertainty Budget

Item	Uncertainty dB (k = 2)
TxAGC*	1.9
Module to module variation	1.2
Total uncertainty	2.13
Total uncertainty @ reference power level (8dBm)	1.0

For Qualcomm platform, with the QTM module, the Uncertainty Budget is list as above and will be used in the following

3.7.2 PD design target

For Qualcomm QTM535, the total device uncertainty for mmW radio is 2.1dB. To account for the total design related uncertainty, PD_design_target needs to be:

$$PD\_design\_target < PD_{regulatory\_limit} \times 10^{\frac{-total\ uncertainty}{10}}$$

With FCC 4cm2-averaged PD requirement of 10 W/m2 and the declared 2.1 dB device design related uncertainty, the PD_design_target for the EUT is determined as:

$$PD\_design\_target = 6\ W/m^2$$

For non-metal material, the material property cannot be accurately characterized at mmW frequencies to date. The estimated material property for the device housing is used in the simulation model, which could influence the accuracy in simulation for PD amplitude quantification. Since the housing influence on PD could vary from surface to surface where the EM field propagates through, the most underestimated surface is used to quantify the worst-case

3.7.3 Worst-case housing influence determination

housing influence for conservative assessment. Since the mmW antenna modules are placed at different location as shown in Figure 1-3, only material/housing surrounded has impact on EM field propagation, in turn impact on power density. Therefore, only adjacent surfaces for each QTM (as listed in Table 3-2) were used to evaluate the worst-case housing influence for each frequency band. For this EUT, when comparing a simulated 4cm2-avgeraged PD and measured 4 cm2-avgerated PD, the worst error introduced for each antenna module operating at each band when using the estimated material property in the simulation is highlighted yellow in Table 3-2. Thus, the worst-case housing influence, denoted as **Δmin=Sim.PD-Meas.PD** , is determined as:

Band	QTM0#	Δmin(db)
N260	0	3.21
N261	0	-0.17

Table 3.7.3-1: Δmin for QTM0 #

Δmin represents the worst case where RF exposure is underestimated the most in simulation when using the estimated material property for glass/plastics of the housing. For conservative assessment, the is used as the worst-case factor and applied to all the beams in the corresponding beam group to determine input power limits in PD char for compliance.

3.7.4 PD Char of the EUT

This section describes the PD Char generation that complies with the PD_design_target determined in Section 5.1 and is in compliance with the regulatory power density limit.

Scaling factor for SISO beams
Determine scaling factor for low, mid, high channel, S(i)low_or_mid_high by:

$$S(i)_{low\ or\ mid\ or\ high} = \frac{PD\ design\ target}{sim.PD_{surface(i)}} \quad , i \in SISO\ beams$$

Then finalize scaling factor, **S(i)**, by using equation below:

$$S(i)=min\{s_{low}(i), s_{mid}(i), s_{high}(i)\}, i \in SISO\ beams$$

and this scaling factor$S(i)$, is applied to the input power at each antenna port to determine *input.power.limit* for SISO beams.

3.7.5 Scaling factor for MIMO beams

The relative phase between beam pair is not controlled in the EUT and could vary from run to run. Therefore, for beam pair, based on the simulation results, the worst-case scaling factor needs to be determined mathematically to ensure the compliance. For beam pair, extract the E-fields and H-fields from the corresponding single beams at low, mid and high channel for each supported band and for all identified surfaces of the EUT. For a given beam pair containing *beam_a* and *beam_b*, and for a given channel, let relative phase between *beam_a* and *beam_b* = Ø , and the total PD of the beam pair can be expressed as:

$$\text{total } PD(\phi) = \frac{1}{2}\sqrt{\{PD_x(\phi)^2 + \mathrm{Re}\{PD_y(\phi)^2 + \mathrm{Re}\{PD_z(\phi)^2}$$

$$= \frac{1}{2} Re\left\{\left(\vec{E}_a + \vec{E}_b e^{j\omega\phi}\right) \times \left(\vec{H}_a + \vec{H}_b e^{j\omega\phi}\right)^*\right\} (4)$$

where, PDx(Ø), PDy(Ø) and PDz(Ø) are the three components of the total PD (Ø); and E_a and H_a are the extracted E-fields and H-fields of *beam_a*, while and are the extracted E-fields and H-fields of *beam_b*. Sweep Ø with a 5° step from 0° to 360° to determine the worst-case, Ø , which results in the highest total PD (Ø) among all identified surfaces for this MIMO beam at this channel.
Follow the above procedure to determine Ø for all three channels of all bands supported, and obtain the scaling factor given by the below equation for low, mid and high channels:

$$S(i)_{low\ or\ mid\ or\ high} = \frac{PD\ design\ target}{sim.PD(\emptyset)_{worstcase}} \quad ,i \in MIMO\ beams$$

Similar to SISO beam, the worst-case scaling factor, **S(i)**, for MIMO beam ***i*** is determined as:

$$S(i)=min\{s_{low}(i), s_{mid}(i),s_{high}(i)\}\ ,i \in MIMO\ beams$$

and this scaling factor **S(i)**, is applied to the input power at each antenna port to determine *input.power.limit* for MIMO beams.

Table 3.7.5-1：S(i) min for all supported beams

Band	Module	Beam 2	Beam 1	Si 40	Si 38.5	Si 37	Si min	Band	Module	Beam 2	Beam 1	S(i) 27.5	Si 28	Si 28.35	Min
n260	0		0	2.22	2.04	1.75	1.75	n261	0		0	2.21	2.60	2.93	2.21
n260	0		1	1.85	1.83	2.01	1.83	n261	0		1	1.91	1.92	2.11	1.91
n260	0		2	1.13	1.13	1.07	1.07	n261	0		2	1.47	1.54	1.74	1.47
n260	0		3	1.66	1.72	1.62	1.62	n261	0		3	1.43	1.40	1.47	1.40
n260	0		4	1.76	1.75	1.69	1.69	n261	0		4	2.03	1.94	2.00	1.94
n260	0		5	1.24	1.00	1.00	1.00	n261	0		5	0.70	0.71	0.76	0.70
n260	0		6	1.22	1.17	1.06	1.06	n261	0		6	0.67	0.70	0.78	0.67
n260	0		7	0.92	1.03	0.97	0.92	n261	0		7	0.85	0.85	0.91	0.85
n260	0		8	0.96	0.90	0.93	0.90	n261	0		8	0.89	0.87	0.92	0.87
n260	0		9	1.28	1.05	1.02	1.02	n261	0		9	0.68	0.70	0.77	0.68
n260	0		10	1.06	1.15	1.04	1.04	n261	0		10	0.68	0.71	0.79	0.68
n260	0		11	0.91	0.93	0.93	0.91	n261	0		11	1.09	1.18	1.30	1.09
n260	0		12	0.45	0.44	0.41	0.41	n261	0		12	0.38	0.38	0.40	0.38
n260	0		13	0.36	0.39	0.37	0.36	n261	0		13	0.38	0.39	0.43	0.38
n260	0		14	0.32	0.36	0.33	0.32	n261	0		14	0.37	0.38	0.42	0.3

															7
n260	0		15	0.38	0.37	0.35	0.35	n261	0		15	0.34	0.35	0.39	0.34
n260	0		16	0.48	0.47	0.46	0.46	n261	0		16	0.37	0.36	0.38	0.36
n260	0		17	0.44	0.41	0.40	0.40	n261	0		17	0.36	0.38	0.41	0.36
n260	0		18	0.34	0.32	0.34	0.32	n261	0		18	0.40	0.41	0.45	0.40
n260	0		19	0.33	0.34	0.33	0.33	n261	0		19	0.35	0.37	0.41	0.35
n260	0		20	0.41	0.46	0.41	0.41	n261	0		20	0.32	0.32	0.35	0.32
n260	0		128	1.71	1.59	1.59	1.59	n261	0		128	1.67	1.85	1.96	1.67
n260	0		129	1.68	1.41	1.68	1.41	n261	0		129	1.34	1.44	1.54	1.34
n260	0		130	1.36	1.46	1.60	1.36	n261	0		130	1.28	1.39	1.51	1.28
n260	0		131	1.88	2.14	2.26	1.88	n261	0		131	1.60	1.77	1.94	1.60
n260	0		132	2.60	2.54	3.02	2.54	n261	0		132	1.99	2.23	2.44	1.99
n260	0		133	0.73	0.68	0.78	0.68	n261	0		133	0.59	0.65	0.72	0.59
n260	0		134	1.21	1.20	1.25	1.20	n261	0		134	1.00	1.08	1.10	1.00
n260	0		135	0.96	0.80	0.80	0.80	n261	0		135	0.74	0.84	0.91	0.74
n260	0		136	1.05	1.20	1.42	1.05	n261	0		136	0.63	0.68	0.75	0.63
n260	0		137	1.03	1.15	1.30	1.03	n261	0		137	0.83	0.90	0.98	0.83
n260	0		138	1.36	1.29	1.34	1.29	n261	0		138	0.75	0.81	0.88	0.75
n260	0		139	1.17	1.27	1.44	1.17	n261	0		139	1.05	1.23	1.37	1.05
n260	0		140	0.37	0.36	0.46	0.36	n261	0		140	0.36	0.40	0.44	0.36
n260	0		141	0.44	0.52	0.48	0.44	n261	0		141	0.36	0.39	0.42	0.36
n260	0		142	0.53	0.44	0.43	0.43	n261	0		142	0.34	0.36	0.39	0.34
n260	0		143	0.46	0.41	0.44	0.41	n261	0		143	0.30	0.33	0.36	0.3

															0
n260	0		144	0.35	0.43	0.48	0.35	n261	0		144	0.36	0.40	0.44	0.36
n260	0		145	0.44	0.45	0.58	0.44	n261	0		145	0.33	0.36	0.39	0.33
n260	0		146	0.39	0.39	0.48	0.39	n261	0		146	0.37	0.41	0.45	0.37
n260	0		147	0.47	0.45	0.50	0.45	n261	0		147	0.36	0.39	0.42	0.36
n260	0		148	0.40	0.46	0.43	0.40	n261	0		148	0.33	0.36	0.40	0.33
n260	0	128	0	0.78	0.79	0.77	0.77	n261	0	128	0	0.83	0.91	0.97	0.83
n260	0	129	1	0.80	0.77	0.89	0.77	n261	0	129	1	0.76	0.80	0.87	0.76
n260	0	130	2	0.59	0.62	0.62	0.59	n261	0	130	2	0.63	0.68	0.76	0.63
n260	0	131	3	0.82	0.88	0.88	0.82	n261	0	131	3	0.69	0.74	0.82	0.69
n260	0	132	4	0.96	0.96	1.05	0.96	n261	0	132	4	0.92	0.95	1.05	0.92
n260	0	133	5	0.38	0.37	0.41	0.37	n261	0	133	5	0.30	0.32	0.35	0.30
n260	0	134	6	0.67	0.63	0.65	0.63	n261	0	134	6	0.42	0.44	0.47	0.42
n260	0	135	7	0.42	0.42	0.41	0.41	n261	0	135	7	0.42	0.45	0.49	0.42
n260	0	136	8	0.59	0.63	0.66	0.59	n261	0	136	8	0.38	0.39	0.42	0.38
n260	0	137	9	0.65	0.65	0.72	0.65	n261	0	137	9	0.36	0.38	0.41	0.36
n260	0	138	10	0.64	0.66	0.64	0.64	n261	0	138	10	0.37	0.38	0.41	0.37
n260	0	139	11	0.56	0.65	0.64	0.56	n261	0	139	11	0.61	0.64	0.68	0.61
n260	0	140	12	0.17	0.17	0.20	0.17	n261	0	140	12	0.16	0.17	0.18	0.16
n260	0	141	13	0.18	0.19	0.19	0.18	n261	0	141	13	0.18	0.19	0.20	0.18
n260	0	142	14	0.19	0.18	0.17	0.17	n261	0	142	14	0.16	0.18	0.19	0.16
n260	0	143	15	0.18	0.18	0.18	0.18	n261	0	143	15	0.15	0.16	0.18	0.15
n260	0	144	16	0.17	0.19	0.20	0.17	n261	0	144	16	0.15	0.15	0.16	0.1

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n260	0	145	17	0.21	0.18	0.20	0.18	n261	0	145	17	0.16	0.16	0.18	0.16
n260	0	146	18	0.18	0.17	0.19	0.17	n261	0	146	18	0.18	0.19	0.22	0.18
n260	0	147	19	0.18	0.19	0.18	0.18	n261	0	147	19	0.17	0.18	0.19	0.17
n260	0	148	20	0.17	0.20	0.18	0.17	n261	0	148	20	0.15	0.15	0.16	0.15

Table 3.7.5-1：S(i) min for all supported beams

3.8 PD char input power limit

When mmW radio is on, the power limit specifies the power level (denoted as *input.power.limit*) at antenna port that corresponds to PD_design_target for all the beams. The reference power used in simulation is 6dBm and denoted as *Pref.* The logic to determine *input.power.limit* is as shown below:

If -TxAGC uncertainty at reference power level < Δ *min* < TxAGC uncertainty at reference power level, then

*input.power.limit(i)=Pref+10*log(S(i)),i* ∈ *all beams* (1)

else if Δ *min* < -TxAGC uncertainty at reference power level,

*input.power.limit(i)=Pref+10*log(S(i))+(*Δmin*+TxAGC uncertanity at reference power level)* (2)
I ∈ *all beams*

else if Δ *min* > TxAGC uncertainty at reference power level,

*input.power.limit(i)=Pref+10*log(S(i))+(*Δmin*-TxAGC uncertanity at reference power level)* (3)
I ∈ *all beams*

Following above logic, the *input.power.limit* for this EUT can be calculated as:

Table 3.8-1: power.limit calculation

Band	Module	Δmin(db)	Input.power.limit(dbm)	Notes
N260	0	3.21	6dbm+10*log(S(i))+(3.21-0.5)	Using Eq.3
N261	0	-0.17	6dbm+10*log(S(i))	Using Eq.1

Note the Δmin **(dB)** used is the minimum of Hpol and Vpol per QTM per band (see Table 3.7.3-1).
Resulted *input.power.limit* for all beams is listed in Table below:

Band	Module	Beam 2	Beam 1	Min_S(i)	**Delta min**	**Equation**	**Input.power.limit**
n260	0		0	1.75	3.21	6+10*log（Si）+Δmin-TXAGC	11.14
n260	0		1	1.83	3.21	6+10*log（Si）+Δmin-TXAGC	11.33
n260	0		2	1.07	3.21	6+10*log（Si）+Δmin-TXAGC	8.99
n260	0		3	1.62	3.21	6+10*log（Si）+Δmin-TXAGC	10.81
n260	0		4	1.69	3.21	6+10*log（Si）+Δmin-TXAGC	10.99
n260	0		5	1.00	3.21	6+10*log（Si）+Δmin-TXAGC	8.69
n260	0		6	1.06	3.21	6+10*log（Si）+Δmin-TXAGC	8.97
n260	0		7	0.92	3.21	6+10*log（Si）+Δmin-TXAGC	8.34
n260	0		8	0.90	3.21	6+10*log（Si）+Δmin-TXAGC	8.26
n260	0		9	1.02	3.21	6+10*log（Si）+Δmin-TXAGC	8.79
n260	0		10	1.04	3.21	6+10*log（Si）+Δmin-TXAGC	8.89
n260	0		11	0.91	3.21	6+10*log（Si）+Δmin-TXAGC	8.29
n260	0		12	0.41	3.21	6+10*log（Si）+Δmin-TXAGC	4.80
n260	0		13	0.36	3.21	6+10*log（Si）+Δmin-TXAGC	4.29
n260	0		14	0.32	3.21	6+10*log（Si）+Δmin-TXAGC	3.78
n260	0		15	0.35	3.21	6+10*log（Si）+Δmin-TXAGC	4.12
n260	0		16	0.46	3.21	6+10*log（Si）+Δmin-TXAGC	5.31
n260	0		17	0.40	3.21	6+10*log（Si）+Δmin-TXAGC	4.69
n260	0		18	0.32	3.21	6+10*log（Si）+Δmin-TXAGC	3.78
n260	0		19	0.33	3.21	6+10*log（Si）+Δmin-TXAGC	3.92
n260	0		20	0.41	3.21	6+10*log（Si）+Δmin-TXAGC	4.85
n260	0		128	1.59	3.21	6+10*log（Si）+Δmin-TXAGC	10.72
n260	0		129	1.41	3.21	6+10*log（Si）+Δmin-TXAGC	10.20
n260	0		130	1.36	3.21	6+10*log（Si）+Δmin-TXAGC	10.05
n260	0		131	1.88	3.21	6+10*log（Si）+Δmin-TXAGC	11.45
n260	0		132	2.54	3.21	6+10*log（Si）+Δmin-TXAGC	12.76
n260	0		133	0.68	3.21	6+10*log（Si）+Δmin-TXAGC	7.03
n260	0		134	1.20	3.21	6+10*log（Si）+Δmin-TXAGC	9.49
n260	0		135	0.80	3.21	6+10*log（Si）+Δmin-TXAGC	7.73
n260	0		136	1.05	3.21	6+10*log（Si）+Δmin-TXAGC	8.90
n260	0		137	1.03	3.21	6+10*log（Si）+Δmin-TXAGC	8.82
n260	0		138	1.29	3.21	6+10*log（Si）+Δmin-TXAGC	9.81
n260	0		139	1.17	3.21	6+10*log（Si）+Δmin-TXAGC	9.40
n260	0		140	0.36	3.21	6+10*log（Si）+Δmin-TXAGC	4.32
n260	0		141	0.44	3.21	6+10*log（Si）+Δmin-TXAGC	5.14
n260	0		142	0.43	3.21	6+10*log（Si）+Δmin-TXAGC	5.01

n260	0		143	0.41	3.21	6+10*log（Si）+Δmin-TXAGC	4.84
n260	0		144	0.35	3.21	6+10*log（Si）+Δmin-TXAGC	4.15
n260	0		145	0.44	3.21	6+10*log（Si）+Δmin-TXAGC	5.14
n260	0		146	0.39	3.21	6+10*log（Si）+Δmin-TXAGC	4.62
n260	0		147	0.45	3.21	6+10*log（Si）+Δmin-TXAGC	5.23
n260	0		148	0.40	3.21	6+10*log（Si）+Δmin-TXAGC	4.70
n260	0	128	0	0.77	3.21	6+10*log（Si）+Δmin-TXAGC	7.59
n260	0	129	1	0.77	3.21	6+10*log（Si）+Δmin-TXAGC	7.55
n260	0	130	2	0.59	3.21	6+10*log（Si）+Δmin-TXAGC	6.45
n260	0	131	3	0.82	3.21	6+10*log（Si）+Δmin-TXAGC	7.82
n260	0	132	4	0.96	3.21	6+10*log（Si）+Δmin-TXAGC	8.51
n260	0	133	5	0.37	3.21	6+10*log（Si）+Δmin-TXAGC	4.43
n260	0	134	6	0.63	3.21	6+10*log（Si）+Δmin-TXAGC	6.73
n260	0	135	7	0.41	3.21	6+10*log（Si）+Δmin-TXAGC	4.86
n260	0	136	8	0.59	3.21	6+10*log（Si）+Δmin-TXAGC	6.38
n260	0	137	9	0.65	3.21	6+10*log（Si）+Δmin-TXAGC	6.82
n260	0	138	10	0.64	3.21	6+10*log（Si）+Δmin-TXAGC	6.77
n260	0	139	11	0.56	3.21	6+10*log（Si）+Δmin-TXAGC	6.17
n260	0	140	12	0.17	3.21	6+10*log（Si）+Δmin-TXAGC	0.90
n260	0	141	13	0.18	3.21	6+10*log（Si）+Δmin-TXAGC	1.24
n260	0	142	14	0.17	3.21	6+10*log（Si）+Δmin-TXAGC	1.13
n260	0	143	15	0.18	3.21	6+10*log（Si）+Δmin-TXAGC	1.15
n260	0	144	16	0.17	3.21	6+10*log（Si）+Δmin-TXAGC	0.94
n260	0	145	17	0.18	3.21	6+10*log（Si）+Δmin-TXAGC	1.34
n260	0	146	18	0.17	3.21	6+10*log（Si）+Δmin-TXAGC	0.92
n260	0	147	19	0.18	3.21	6+10*log（Si）+Δmin-TXAGC	1.31
n260	0	148	20	0.17	3.21	6+10*log（Si）+Δmin-TXAGC	1.03

Band	Module	Beam 2	Beam 1	Min_S(i)	Delta min	Equation	Input.power.limit
n261	0		0	2.21	-0.17	6+10*log（Si）	9.45
n261	0		1	1.91	-0.17	6+10*log（Si）	8.81
n261	0		2	1.47	-0.17	6+10*log（Si）	7.67
n261	0		3	1.40	-0.17	6+10*log（Si）	7.47
n261	0		4	1.94	-0.17	6+10*log（Si）	8.88
n261	0		5	0.70	-0.17	6+10*log（Si）	4.44
n261	0		6	0.67	-0.17	6+10*log（Si）	4.27
n261	0		7	0.85	-0.17	6+10*log（Si）	5.28
n261	0		8	0.87	-0.17	6+10*log（Si）	5.39
n261	0		9	0.68	-0.17	6+10*log（Si）	4.31
n261	0		10	0.68	-0.17	6+10*log（Si）	4.35
n261	0		11	1.09	-0.17	6+10*log（Si）	6.38

n261	0		12	0.38	-0.17	6+10*log（Si）	1.79
n261	0		13	0.38	-0.17	6+10*log（Si）	1.81
n261	0		14	0.37	-0.17	6+10*log（Si）	1.65
n261	0		15	0.34	-0.17	6+10*log（Si）	1.27
n261	0		16	0.36	-0.17	6+10*log（Si）	1.54
n261	0		17	0.36	-0.17	6+10*log（Si）	1.59
n261	0		18	0.40	-0.17	6+10*log（Si）	2.04
n261	0		19	0.35	-0.17	6+10*log（Si）	1.48
n261	0		20	0.32	-0.17	6+10*log（Si）	1.00
n261	0		128	1.67	-0.17	6+10*log（Si）	8.22
n261	0		129	1.34	-0.17	6+10*log（Si）	7.28
n261	0		130	1.28	-0.17	6+10*log（Si）	7.08
n261	0		131	1.60	-0.17	6+10*log（Si）	8.03
n261	0		132	1.99	-0.17	6+10*log（Si）	9.00
n261	0		133	0.59	-0.17	6+10*log（Si）	3.68
n261	0		134	1.00	-0.17	6+10*log（Si）	5.99
n261	0		135	0.74	-0.17	6+10*log（Si）	4.71
n261	0		136	0.63	-0.17	6+10*log（Si）	4.02
n261	0		137	0.83	-0.17	6+10*log（Si）	5.20
n261	0		138	0.75	-0.17	6+10*log（Si）	4.75
n261	0		139	1.05	-0.17	6+10*log（Si）	6.19
n261	0		140	0.36	-0.17	6+10*log（Si）	1.60
n261	0		141	0.36	-0.17	6+10*log（Si）	1.60
n261	0		142	0.34	-0.17	6+10*log（Si）	1.25
n261	0		143	0.30	-0.17	6+10*log（Si）	0.78
n261	0		144	0.36	-0.17	6+10*log（Si）	1.52
n261	0		145	0.33	-0.17	6+10*log（Si）	1.17
n261	0		146	0.37	-0.17	6+10*log（Si）	1.72
n261	0		147	0.36	-0.17	6+10*log（Si）	1.56
n261	0		148	0.33	-0.17	6+10*log（Si）	1.17
n261	0	128	0	0.83	-0.17	6+10*log（Si）	5.21
n261	0	129	1	0.76	-0.17	6+10*log（Si）	4.82
n261	0	130	2	0.63	-0.17	6+10*log（Si）	4.02
n261	0	131	3	0.69	-0.17	6+10*log（Si）	4.41
n261	0	132	4	0.92	-0.17	6+10*log（Si）	5.62
n261	0	133	5	0.30	-0.17	6+10*log（Si）	0.73
n261	0	134	6	0.42	-0.17	6+10*log（Si）	2.19
n261	0	135	7	0.42	-0.17	6+10*log（Si）	2.25
n261	0	136	8	0.38	-0.17	6+10*log（Si）	1.77
n261	0	137	9	0.36	-0.17	6+10*log（Si）	1.61
n261	0	138	10	0.37	-0.17	6+10*log（Si）	1.66

n261	0	139	11	0.61	-0.17	6+10*log（Si）	3.84
n261	0	140	12	0.16	-0.17	6+10*log（Si）	-1.95
n261	0	141	13	0.18	-0.17	6+10*log（Si）	-1.49
n261	0	142	14	0.16	-0.17	6+10*log（Si）	-1.85
n261	0	143	15	0.15	-0.17	6+10*log（Si）	-2.25
n261	0	144	16	0.15	-0.17	6+10*log（Si）	-2.20
n261	0	145	17	0.16	-0.17	6+10*log（Si）	-2.03
n261	0	146	18	0.18	-0.17	6+10*log（Si）	-1.43
n261	0	147	19	0.17	-0.17	6+10*log（Si）	-1.75
n261	0	148	20	0.15	-0.17	6+10*log（Si）	-2.34

Table3.8-2 : input.power.limit for n260/n261