

R500L5 Sub6_mmw Power Density Simulation Report

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1. Electromagnetic simulation method for power density

1.1 EM simulation

1.1.1 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.

1.1.2 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 as convergence 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).

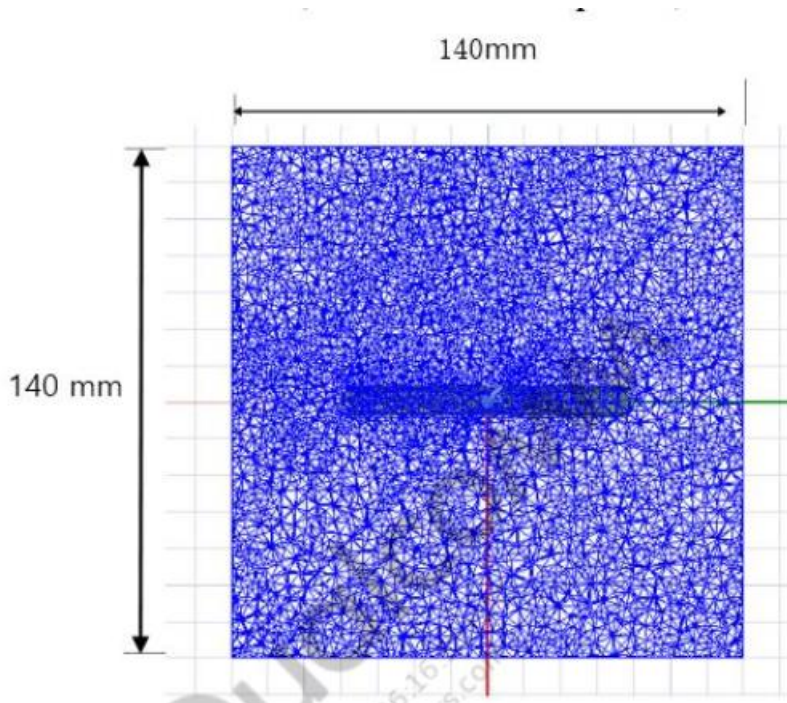


Figure 1-1: Example of HFSS mesh in a model of the device (Top view)

1.1.3 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:

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

(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:

$$PD_{av} = \frac{1}{A} \int_A \vec{S} \cdot d\vec{s} = \frac{1}{2A} \int_A |\text{Re}(\vec{E} \times \vec{H}^*)| \cdot d\vec{s}$$

1.2 Simulation setup

1.2.1 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. Figure 2 shows the simulation model which is mounted two mmWave antenna modules. 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 QTM0# and QTM1#. The position of QTM0#(module0) and QTM1#(module1) as the following Figure 1-2

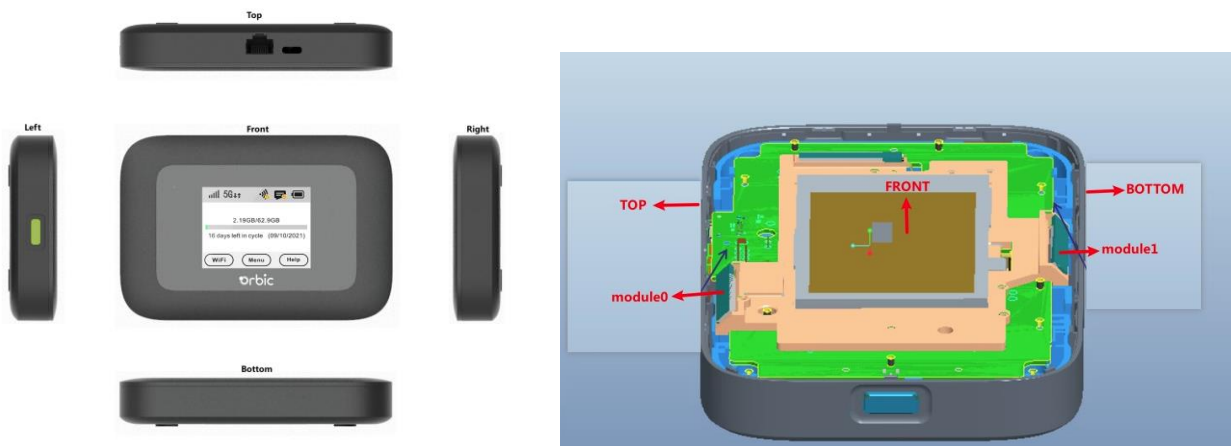


Figure 1-2: HFSS simulation model which is mounted two mmWave antenna modules

1.2.2 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 QTM#0 and QTM#1.

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.

Table 1-1: PD evaluation surfaces

	Front	Back	Left From Front View	Right From Front View	Top	Bottom
	S1	S2	S3	S4	S5	S6
QTM#0	✓				✓	
QTM#1	✓					✓

1.2.3 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.

1.2.4 Source excitation condition

Each of the two 5G mmWave array modules is the same part containing a 1x4 element array of dual-polarization patch antennas. The number of antenna ports of QTM#0 and QTM#1 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 QTM#1 module structure and surrounding structure. The QTM#1 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.

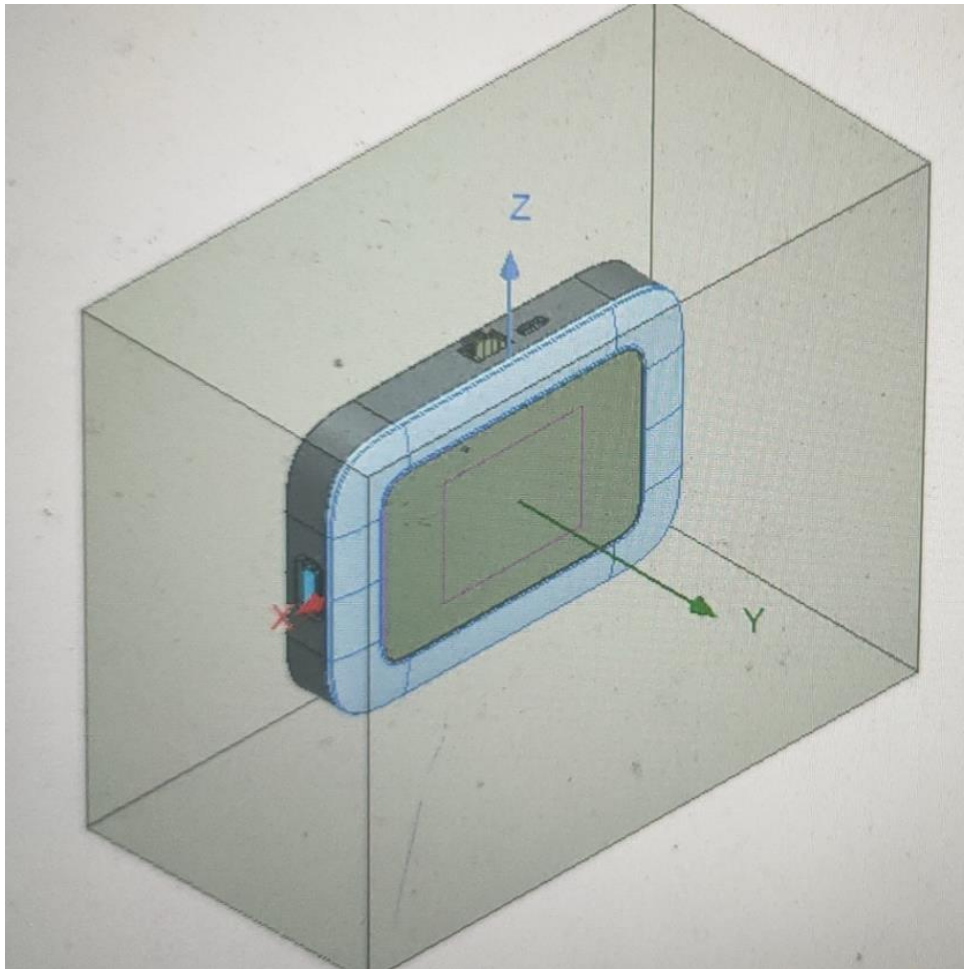


Figure 1-3: EUT simulation model

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.

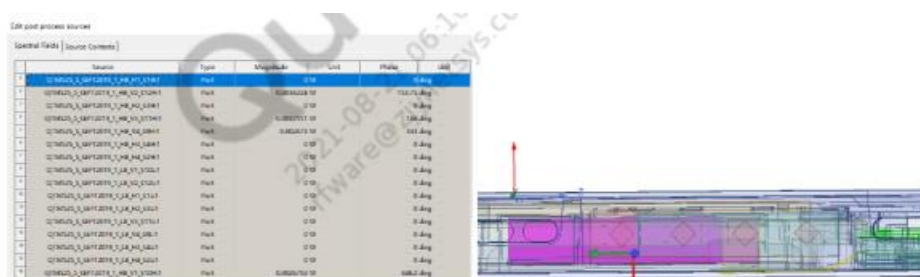


Figure 1-4: An example of port excitation (QTM#1)

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.

1.2.5 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.

2. Codebook

The codebook supported by this EUT is shown in Table 2-1 below.

• N261 codebook

Band	Beam_ID	Module	Ant_Group	Ant_Type	Ant_Feed	Paired_With
261	0	0	0	PATCH	10	128
261	1	0	0	PATCH	12	129
261	2	1	0	PATCH	10	130
261	3	1	0	PATCH	12	131
261	4	1	0	PATCH	11	132
261	5	0	0	PATCH	12;11	133
261	6	0	0	PATCH	10;12	134
261	7	0	0	PATCH	10;12	135
261	8	1	0	PATCH	11;9	136
261	9	1	0	PATCH	10;12	137
261	10	1	0	PATCH	10;12	138
261	11	0	0	PATCH	10;12	139
261	12	0	0	PATCH	10;12	140
261	13	1	0	PATCH	10;12	141
261	14	1	0	PATCH	11;9	142
261	15	0	0	PATCH	10;12;11;9	143
261	16	0	0	PATCH	10;12;11;9	144
261	17	0	0	PATCH	10;12;11;9	145
261	18	0	0	PATCH	10;12;11;9	146
261	19	0	0	PATCH	10;12;11;9	147
261	20	1	0	PATCH	10;12;11;9	148
261	21	1	0	PATCH	10;12;11;9	149
261	22	1	0	PATCH	10;12;11;9	150
261	23	1	0	PATCH	10;12;11;9	151
261	24	1	0	PATCH	10;12;11;9	152
261	25	0	0	PATCH	10;12;11;9	153
261	26	0	0	PATCH	10;12;11;9	154
261	27	0	0	PATCH	10;12;11;9	155
261	28	0	0	PATCH	10;12;11;9	156
261	29	1	0	PATCH	10;12;11;9	157
261	30	1	0	PATCH	10;12;11;9	158
261	31	1	0	PATCH	10;12;11;9	159

261	32	1	0	PATCH	10;12;11;9	160
261	128	0	1	PATCH	1	0
261	129	0	1	PATCH	3	1
261	130	1	1	PATCH	1	2
261	131	1	1	PATCH	3	3
261	132	1	1	PATCH	4	4
261	133	0	1	PATCH	1;3	5
261	134	0	1	PATCH	1;3	6
261	135	0	1	PATCH	1;3	7
261	136	1	1	PATCH	1;3	8
261	137	1	1	PATCH	1;3	9
261	138	1	1	PATCH	1;3	10
261	139	0	1	PATCH	1;3	11
261	140	0	1	PATCH	1;3	12
261	141	1	1	PATCH	1;3	13
261	142	1	1	PATCH	1;3	14
261	143	0	1	PATCH	1;3;4;2	15
261	144	0	1	PATCH	1;3;4;2	16
261	145	0	1	PATCH	1;3;4;2	17
261	146	0	1	PATCH	1;3;4;2	18
261	147	0	1	PATCH	1;3;4;2	19
261	148	1	1	PATCH	1;3;4;2	20
261	149	1	1	PATCH	1;3;4;2	21
261	150	1	1	PATCH	1;3;4;2	22
261	151	1	1	PATCH	1;3;4;2	23
261	152	1	1	PATCH	1;3;4;2	24
261	153	0	1	PATCH	1;3;4;2	25
261	154	0	1	PATCH	1;3;4;2	26
261	155	0	1	PATCH	1;3;4;2	27
261	156	0	1	PATCH	1;3;4;2	28
261	157	1	1	PATCH	1;3;4;2	29
261	158	1	1	PATCH	1;3;4;2	30
261	159	1	1	PATCH	1;3;4;2	31
261	160	1	1	PATCH	1;3;4;2	32

• N260 codebook

Band	Beam_ID	Module	Ant_Group	Ant_Type	Ant_Feed	Paired_With
260	0	0	0	PATCH	10	128
260	1	0	0	PATCH	11	129
260	2	1	0	PATCH	10	130
260	3	1	0	PATCH	11	131
260	4	0	0	PATCH	11;9	132
260	5	0	0	PATCH	10;12	133
260	6	0	0	PATCH	10;12	134

260	7	1	0	PATCH	11;9	135
260	8	1	0	PATCH	10;12	136
260	9	1	0	PATCH	10;12	137
260	10	0	0	PATCH	10;12	138
260	11	0	0	PATCH	10;12	139
260	12	1	0	PATCH	10;12	140
260	13	1	0	PATCH	11;9	141
260	14	0	0	PATCH	10;12;11;9	142
260	15	0	0	PATCH	10;12;11;9	143
260	16	0	0	PATCH	10;12;11;9	144
260	17	0	0	PATCH	10;12;11;9	145
260	18	0	0	PATCH	10;12;11;9	146
260	19	1	0	PATCH	10;12;11;9	147
260	20	1	0	PATCH	10;12;11;9	148
260	21	1	0	PATCH	10;12;11;9	149
260	22	1	0	PATCH	10;12;11;9	150
260	23	1	0	PATCH	10;12;11;9	151
260	24	0	0	PATCH	10;12;11;9	152
260	25	0	0	PATCH	10;12;11;9	153
260	26	0	0	PATCH	10;12;11;9	154
260	27	0	0	PATCH	10;12;11;9	155
260	28	1	0	PATCH	10;12;11;9	156
260	29	1	0	PATCH	10;12;11;9	157
260	30	1	0	PATCH	10;12;11;9	158
260	31	1	0	PATCH	10;12;11;9	159
260	128	0	1	PATCH	1	0
260	129	0	1	PATCH	4	1
260	130	1	1	PATCH	1	2
260	131	1	1	PATCH	4	3
260	132	0	1	PATCH	4;2	4
260	133	0	1	PATCH	1;3	5
260	134	0	1	PATCH	1;3	6
260	135	1	1	PATCH	1;3	7
260	136	1	1	PATCH	1;3	8
260	137	1	1	PATCH	1;3	9
260	138	0	1	PATCH	1;3	10
260	139	0	1	PATCH	1;3	11
260	140	1	1	PATCH	4;2	12
260	141	1	1	PATCH	1;3	13
260	142	0	1	PATCH	1;3;4;2	14
260	143	0	1	PATCH	1;3;4;2	15
260	144	0	1	PATCH	1;3;4;2	16
260	145	0	1	PATCH	1;3;4;2	17
260	146	0	1	PATCH	1;3;4;2	18

260	147	1	1	PATCH	1;3;4;2	19
260	148	1	1	PATCH	1;3;4;2	20
260	149	1	1	PATCH	1;3;4;2	21
260	150	1	1	PATCH	1;3;4;2	22
260	151	1	1	PATCH	1;3;4;2	23
260	152	0	1	PATCH	1;3;4;2	24
260	153	0	1	PATCH	1;3;4;2	25
260	154	0	1	PATCH	1;3;4;2	26
260	155	0	1	PATCH	1;3;4;2	27
260	156	1	1	PATCH	1;3;4;2	28
260	157	1	1	PATCH	1;3;4;2	29
260	158	1	1	PATCH	1;3;4;2	30
260	159	1	1	PATCH	1;3;4;2	31

Table 2-1: EUT codebook

3. 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
	QTM#1 Patch	6	6
5G NR n260 (39 GHz)	QTM#0 Patch	6	6
	QTM#1 Patch	6	6

Table 3-1: 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 3-2.

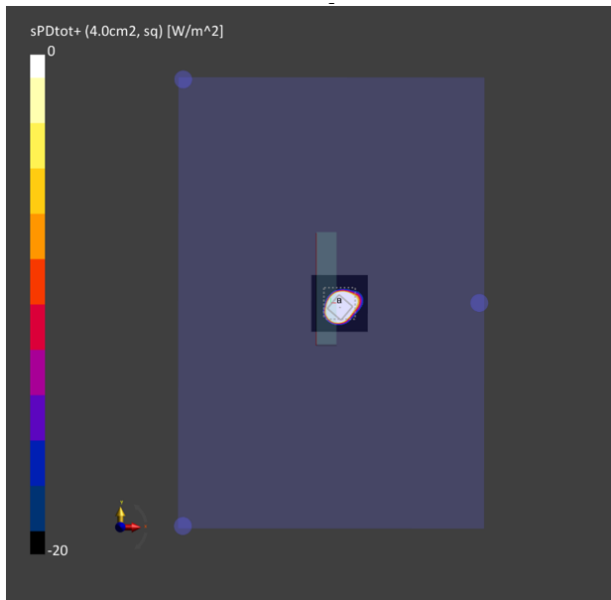
6dBm input measurement / simulation									
Band	Ant Type	Module	Ant Group (Ant Polarization)	beam ID	Surface	Channel	Measured psPDtot+ [W/m2]	Simulated(Middle)	Delta (Simulated-Measured)
n261	Patch	QTM0	AG0(V)	27	Topface	Mid	5.76	6.24	0.35
					Frontface	Mid	6.49	7.26	0.49
			AG1(H)	153	Topface	Mid	4.55	5.63	0.92
					Frontface	Mid	7.19	6.23	-0.62
		QTM1	AG0(V)	31	Bottomface	Mid	7.67	6.16	-0.95
					Frontface	Mid	8.06	6.53	-0.91
			AG1(H)	158	Bottomface	Mid	5.13	5.87	0.59
					Frontface	Mid	9.08	6.28	-1.6
n260	Patch	QTM0	AG0(V)	16	Topface	Mid	7.1	4.06	-2.43

		QTM1	AG1(H)	146	Frontface	Mid	6.35	4.32	-1.67
					Topface	Mid	7.09	4.94	-1.57
					Frontface	Mid	7.51	5.59	-1.28
			AG0(V)	21	Bottomface	Mid	5.57	4.41	-1.01
					Frontface	Mid	9.39	5.13	-2.63
			AG1(H)	157	Bottomface	Mid	7.29	5.37	-1.33
					Frontface	Mid	9.59	6.35	-1.79

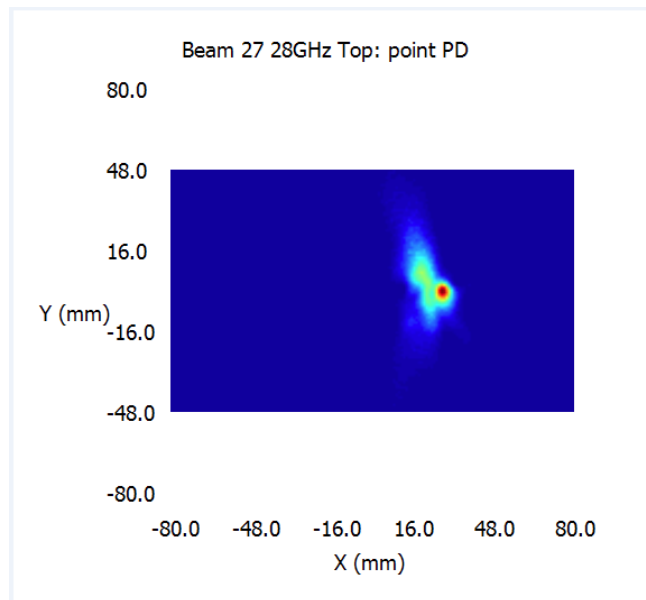
Table 3-2: Simulated and measured 4cm2 averaged PD comparison

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.

- N261 QTM0: mid channel, Beam27, Top face, Point PD

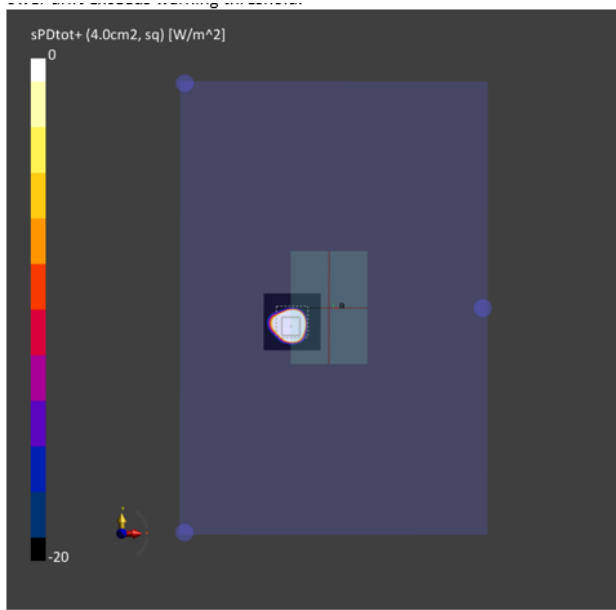


(a) Measurement

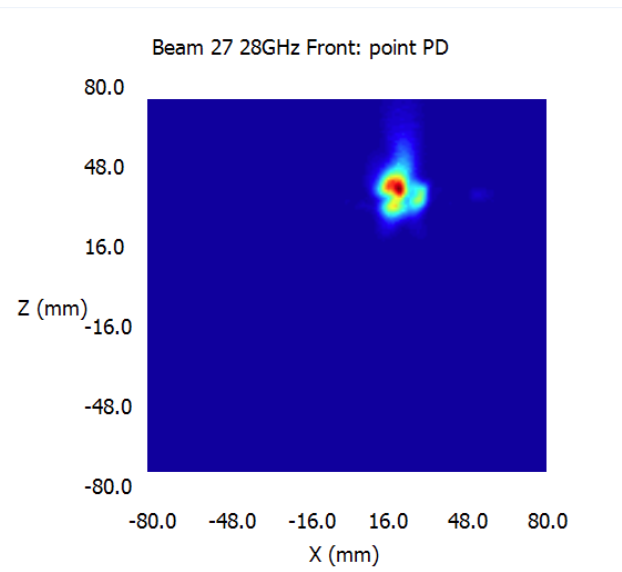


(b) Simulation

- N261 QTM0: mid channel, Beam27, Front face, Point PD

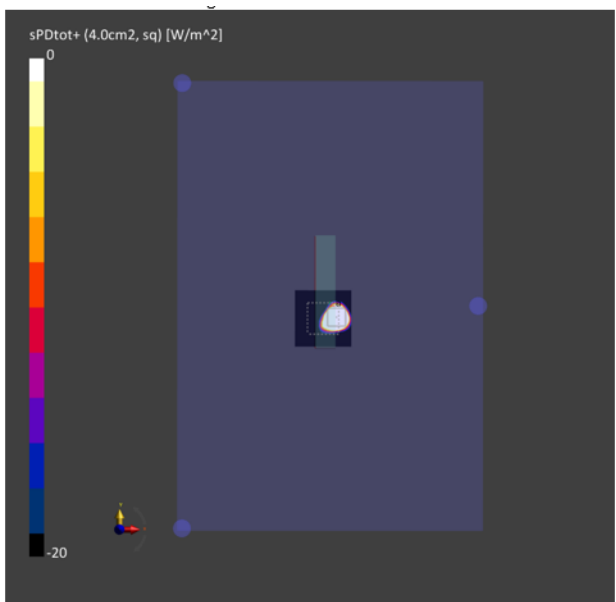


(a) Measurement

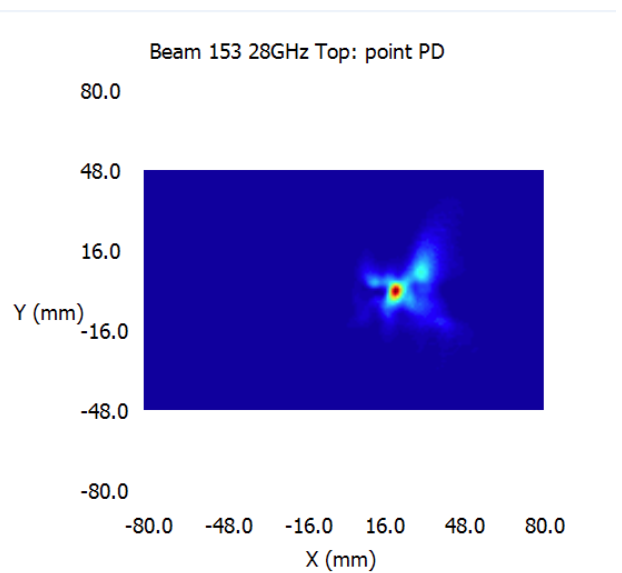


(b) Simulation

- N261 QTM0: Middle channel, Beam153, Top face, Point PD

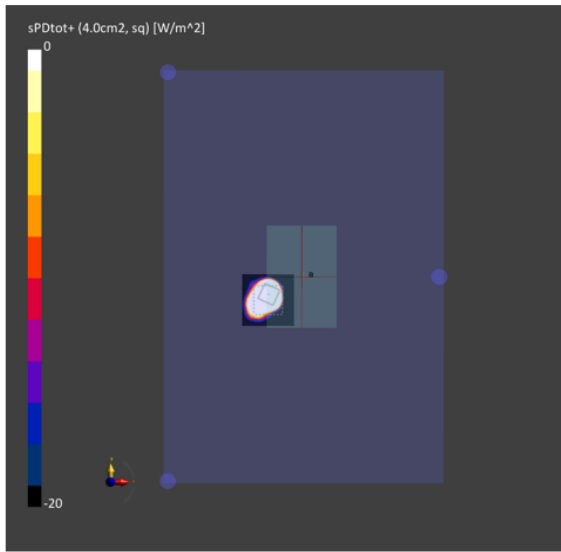


(a) Measurement

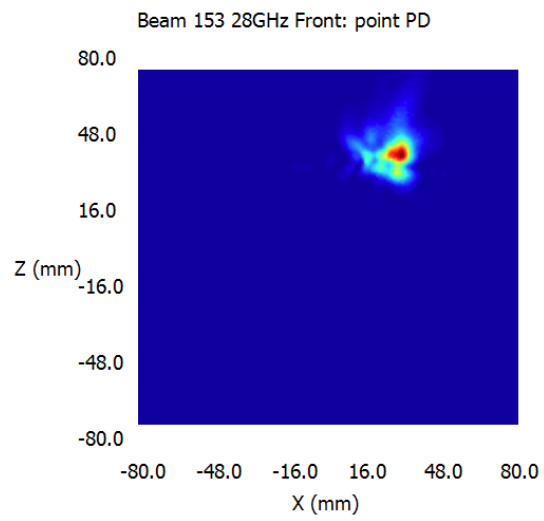


(b) Simulation

- N261 QTM0: Middle channel, Beam153, Front face, Point PD

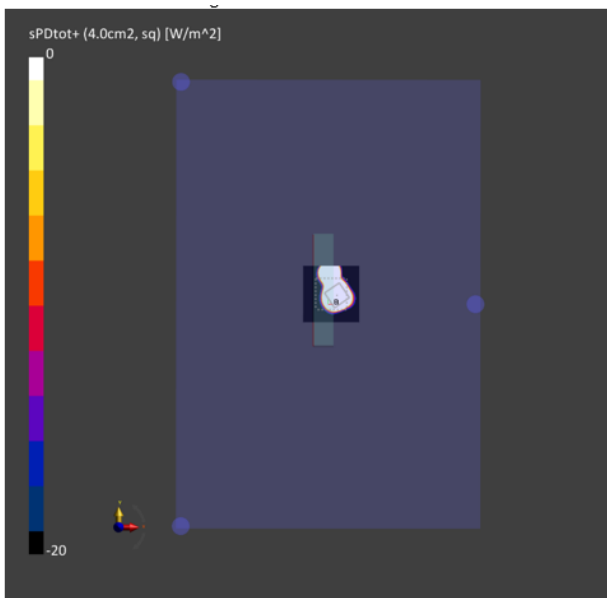


(a) Measurement

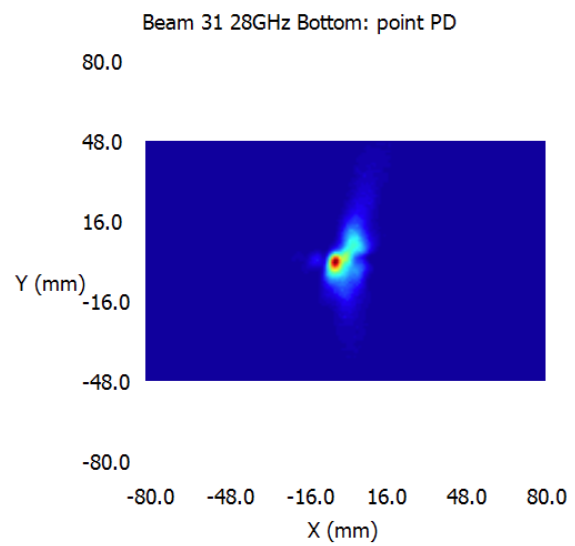


(b) Simulation

- N261 QTM1: mid channel, Beam31, Bottom face, Point PD

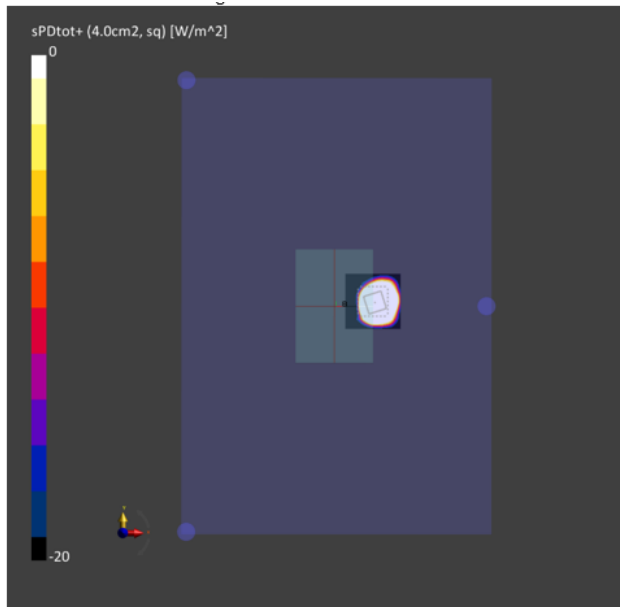


(a) Measurement

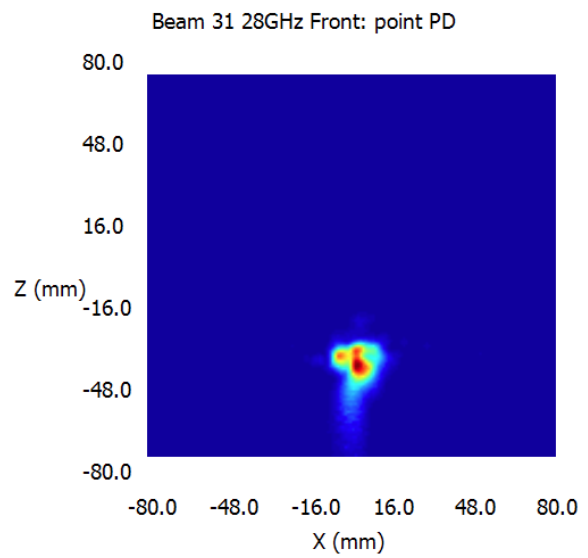


(b) Simulation

- N261 QTM1: mid channel, Beam31, Front face, Point PD

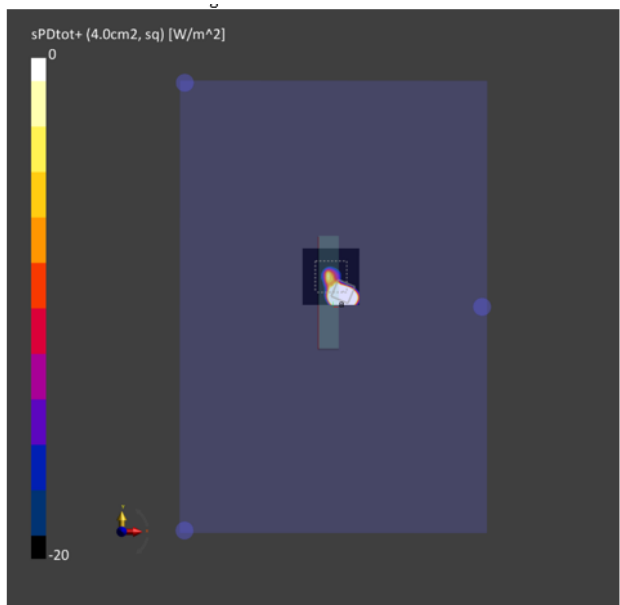


(a) Measurement

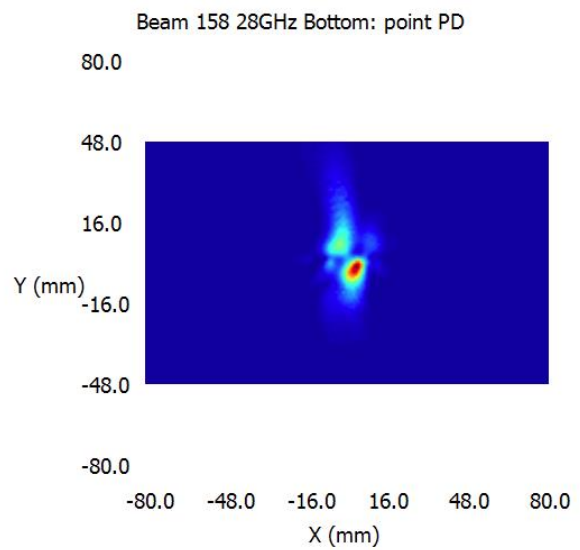


(b) Simulation

- N261 QTM1: Middle channel, Beam158, Bottom face, Point PD

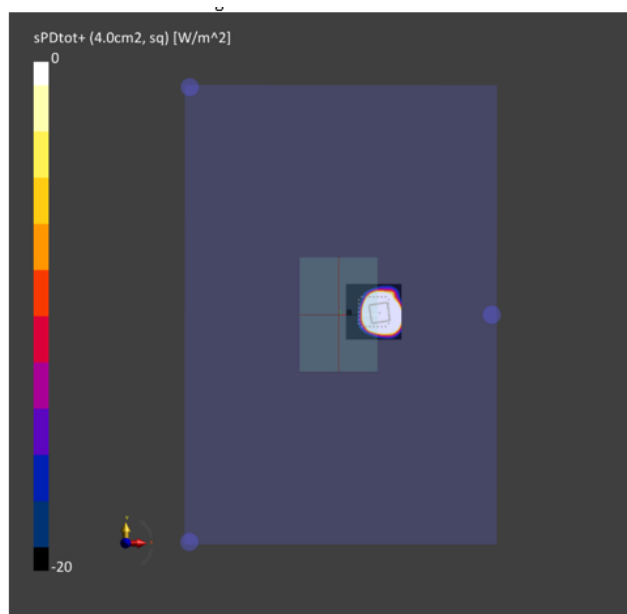


(a) Measurement

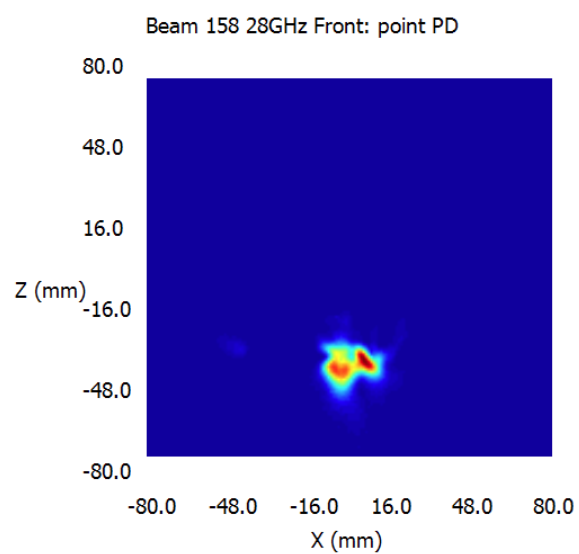


(b) Simulation

- N261 QTM1: Middle channel, Beam158, Front face, Point PD

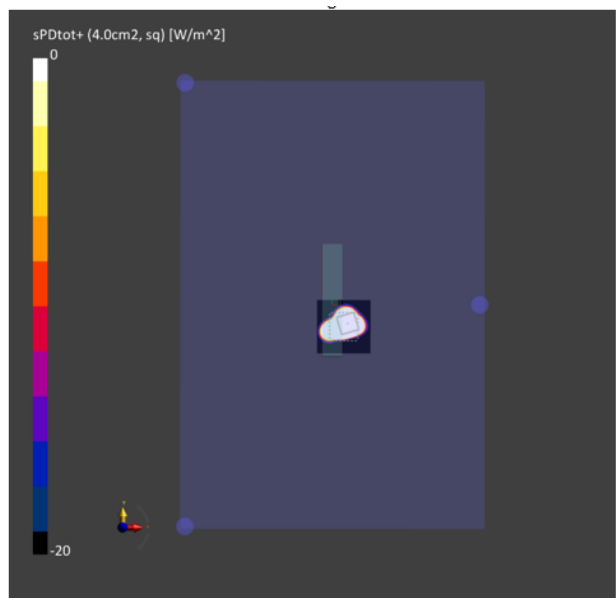


(a) Measurement

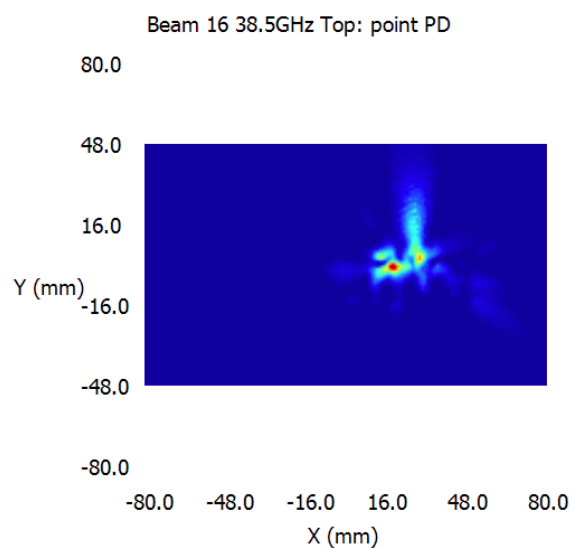


(b) Simulation

- N260 QTM0: Middle channel, Beam16, Top face, Point PD

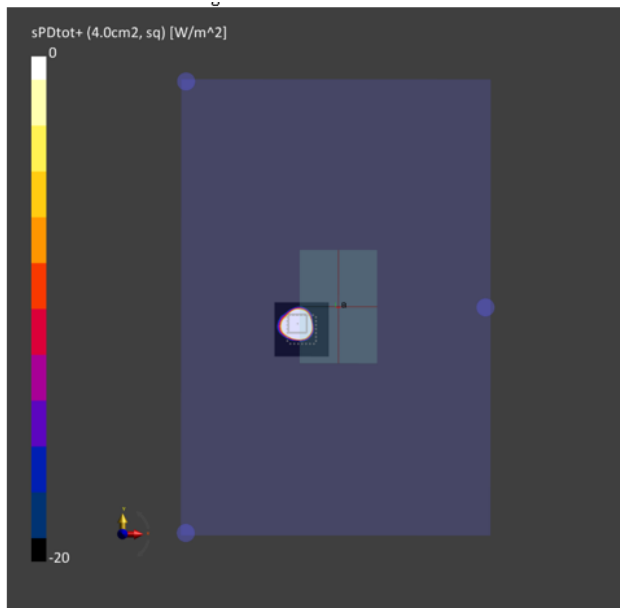


(a) Measurement

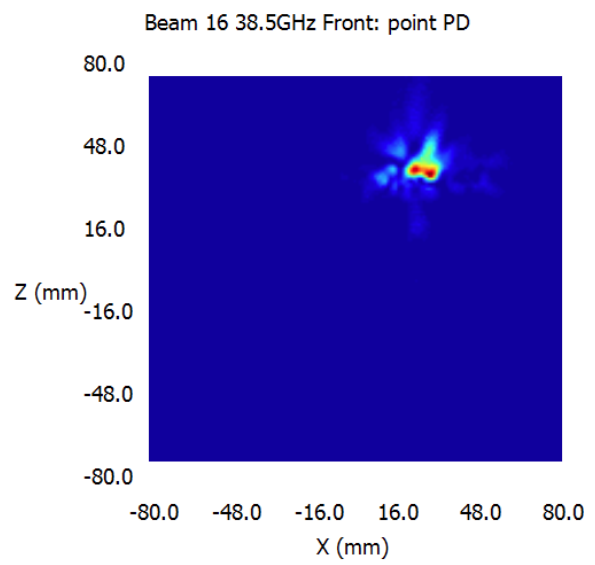


(b) Simulation

- N260 QTM0: Middle channel, Beam16, Front face, Point PD

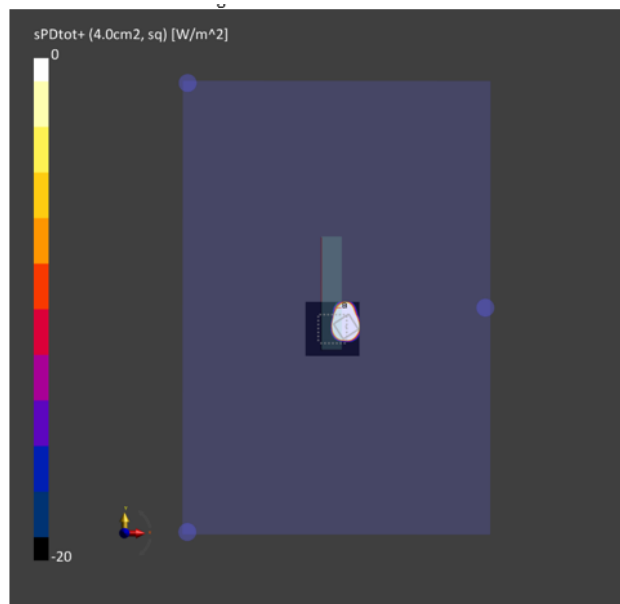


(a) Measurement

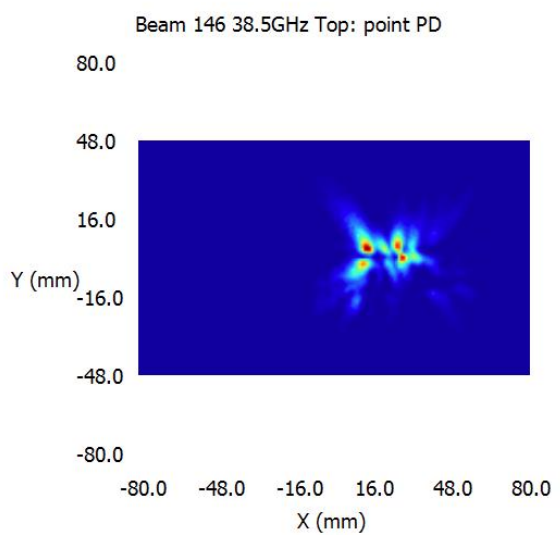


(b) Simulation

- N260 QTM0: Middle channel, Beam146, Top face, Point PD

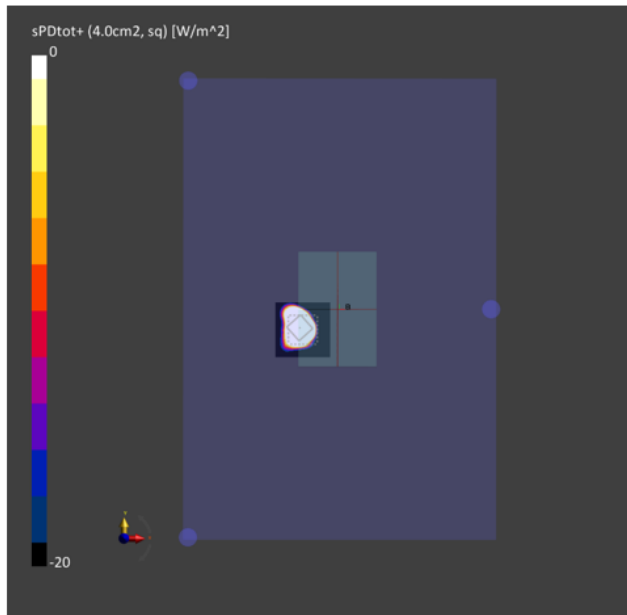


(a) Measurement

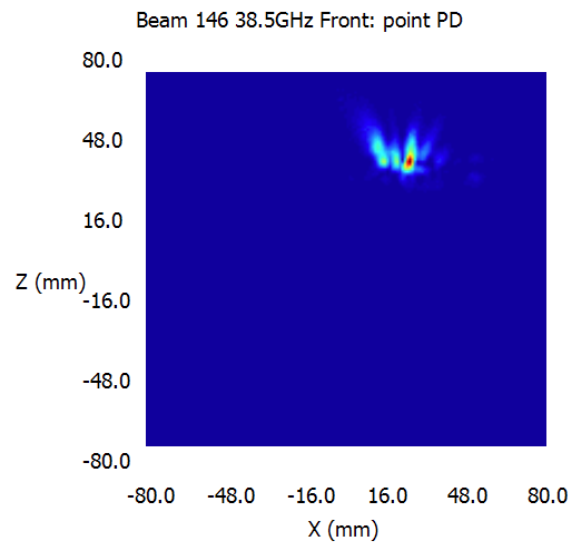


(b) Simulation

- N260 QTM0: Middle channel, Beam146, Front face, Point PD

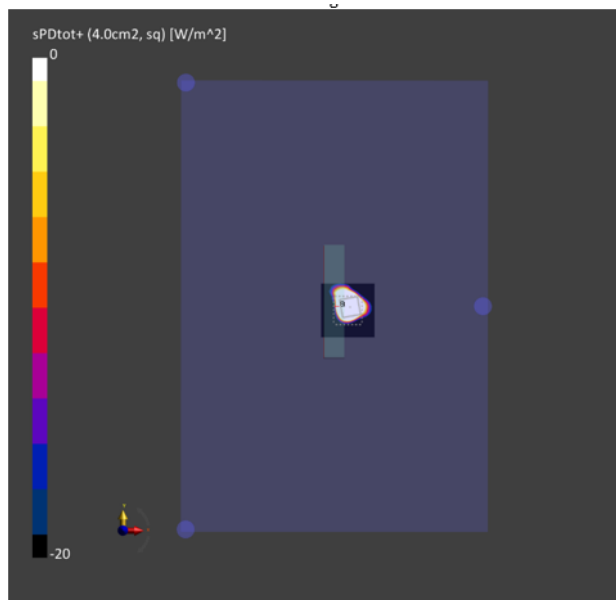


(a) Measurement

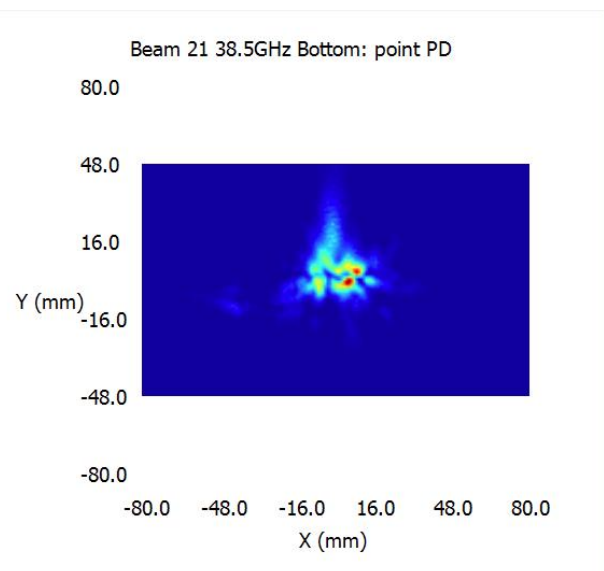


(b) Simulation

- N260 QTM1: Middle channel, Beam21, Bottom face, Point PD

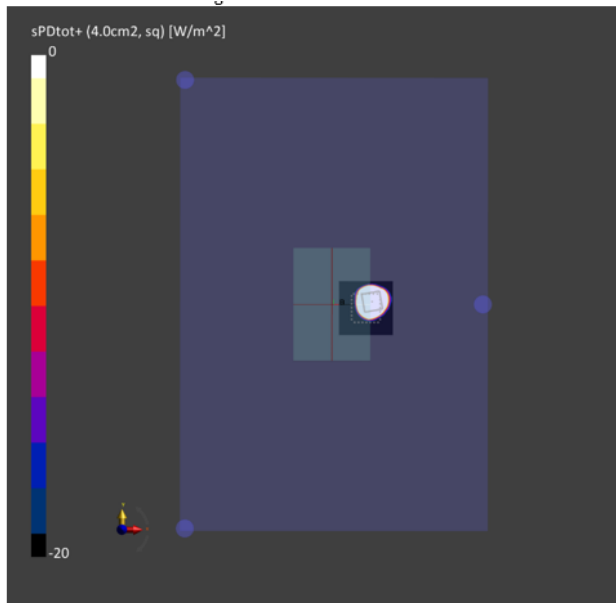


(a) Measurement

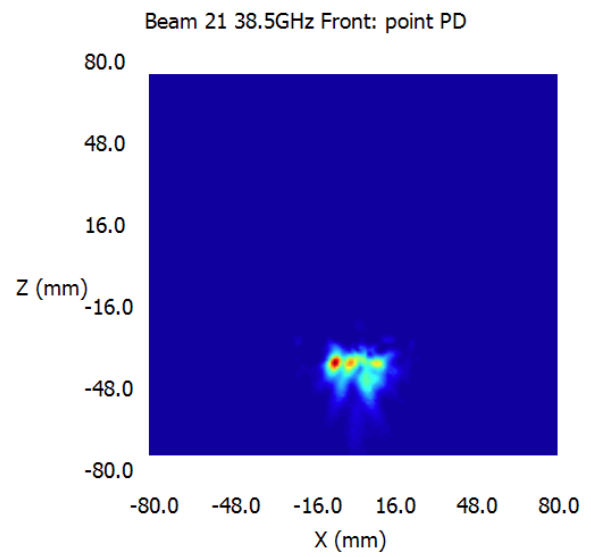


(b) Simulation

- N260 QTM1: Middle channel, Beam21, Front face, Point PD

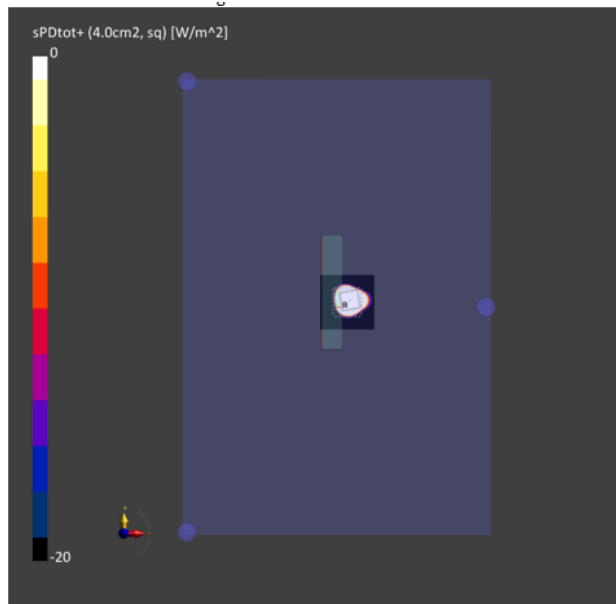


(a) Measurement

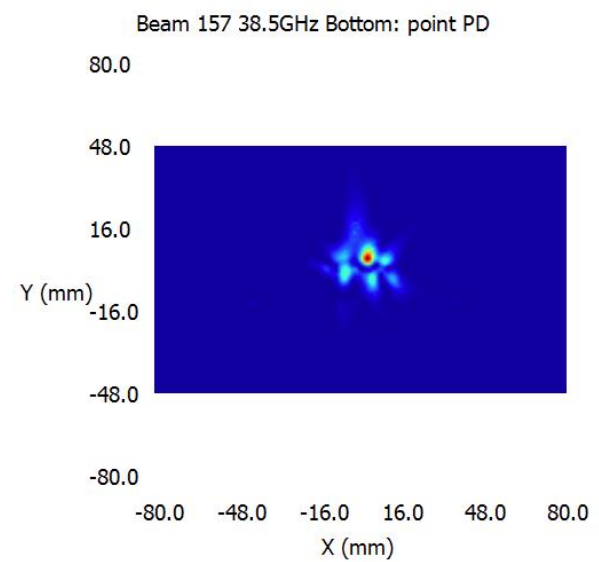


(b) Simulation

- N260 QTM1: Middle channel, Beam157, Bottom face, Point PD

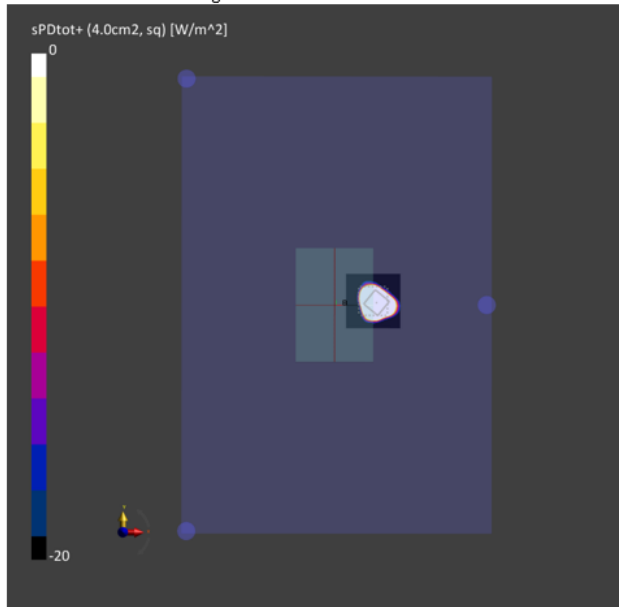


(a) Measurement

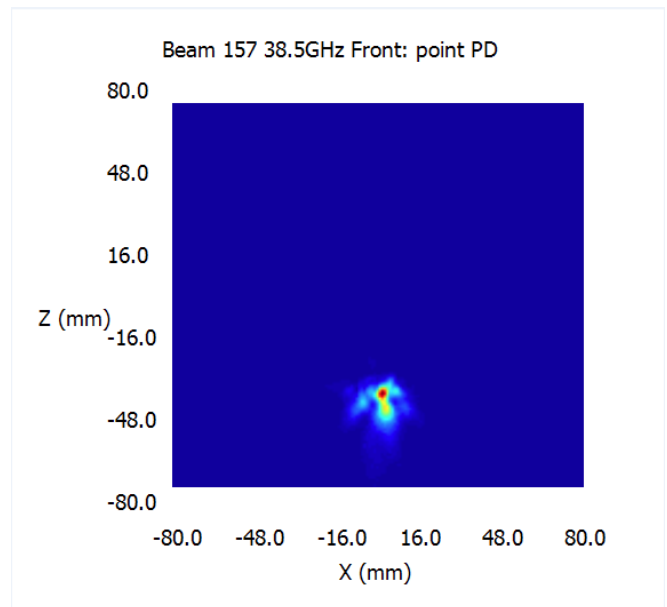


(b) Simulation

- N260 QTM1: Middle channel, Beam157, Front face, Point PD



(a) Measurement



(b) Simulation

4. 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.

4.1 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 Figure 1-3.

- QTM0 N261 Low channel SISO

Frequency (GHz)	Module	Antenna type	Beam 2	Beam 1	4cm2 PD(W/m2) at 2mm evaluation surfaces @6dBm				Max Ratio			4cm2 PD(W/m2) at 10mm evaluation surfaces @6dBm			Max Ratio		
									1.00	1.00	0.03				0.43	0.38	0.02
					Ratio						Ratio						
					Front	Top	Bottom	Max PD	Front/worse surface	Top/worse surface	Bottom/worse surface	Front	Top	Bottom	Front/worse surface	Top/worse surface	Bottom/worse surface
27.5	0	Path		0	1.71	1.18	0.02	1.71	1.00	0.69	0.01	0.55	0.38	0.01	0.32	0.22	0.01
27.5	0	Path		1	2.64	1.91	0.01	2.64	1.00	0.72	0.00	0.88	0.66	0.01	0.33	0.25	0.00
27.5	0	Path		5	3.62	3.37	0.03	3.62	1.00	0.93	0.01	1	0.67	0.02	0.28	0.19	0.01
27.5	0	Path		6	4.54	3.14	0.03	4.54	1.00	0.69	0.01	1.79	1.42	0.03	0.39	0.31	0.01
27.5	0	Path		7	4.4	2.75	0.02	4.4	1.00	0.63	0.00	1.46	1	0.02	0.33	0.23	0.00
27.5	0	Path		11	3.64	3.19	0.05	3.64	1.00	0.88	0.01	1.31	1.15	0.05	0.36	0.32	0.01
27.5	0	Path		12	4.85	2.89	0.02	4.85	1.00	0.60	0.00	1.79	1.28	0.02	0.37	0.26	0.00
27.5	0	Path		15	4.62	5.79	0.05	5.79	0.80	1.00	0.01	1.62	1.01	0.04	0.28	0.17	0.01
27.5	0	Path		16	5.14	5.77	0.15	5.77	0.89	1.00	0.03	2.23	1.55	0.12	0.39	0.27	0.02
27.5	0	Path		17	7.52	7.29	0.1	7.52	1.00	0.97	0.01	3.04	2.86	0.07	0.40	0.38	0.01
27.5	0	Path		18	7.05	7.12	0.07	7.12	0.99	1.00	0.01	2.95	2.3	0.05	0.41	0.32	0.01
27.5	0	Path		19	5.14	5.11	0.05	5.14	1.00	0.99	0.01	1.53	1.41	0.03	0.30	0.27	0.01
27.5	0	Path		25	4.7	5.91	0.07	5.91	0.80	1.00	0.01	1.71	1.19	0.05	0.29	0.20	0.01
27.5	0	Path		26	6.27	6.32	0.18	6.32	0.99	1.00	0.03	2.64	2.04	0.15	0.42	0.32	0.02
27.5	0	Path		27	7.73	6.94	0.08	7.73	1.00	0.90	0.01	3.32	2.92	0.07	0.43	0.38	0.01
27.5	0	Path		28	6.02	6.55	0.06	6.55	0.92	1.00	0.01	2.27	1.91	0.05	0.35	0.29	0.01
27.5	0	Path		128	1.71	1.71	0.03	1.71	1.00	1.00	0.02	0.5	0.55	0.02	0.29	0.32	0.01
27.5	0	Path		129	1.6	1.92	0.02	1.92	0.83	1.00	0.01	0.54	0.6	0.01	0.28	0.31	0.01
27.5	0	Path		133	3.36	4.14	0.06	4.14	0.81	1.00	0.01	0.89	1.18	0.06	0.21	0.29	0.01
27.5	0	Path		134	2.71	3.05	0.07	3.05	0.89	1.00	0.02	1.13	1.09	0.06	0.37	0.36	0.02
27.5	0	Path		135	3.3	3.03	0.04	3.3	1.00	0.92	0.01	0.87	0.73	0.04	0.26	0.22	0.01
27.5	0	Path		139	2.99	3.97	0.06	3.97	0.75	1.00	0.02	0.99	1.33	0.05	0.25	0.34	0.01
27.5	0	Path		140	2.92	2.64	0.06	2.92	1.00	0.90	0.02	1.06	0.81	0.06	0.36	0.28	0.02
27.5	0	Path		143	6.31	5.53	0.07	6.31	1.00	0.88	0.01	2.31	1.77	0.05	0.37	0.28	0.01
27.5	0	Path		144	6.72	6.06	0.13	6.72	1.00	0.90	0.02	2.75	2.32	0.11	0.41	0.35	0.02
27.5	0	Path		145	5.16	5.26	0.15	5.26	0.98	1.00	0.03	2.18	1.81	0.13	0.41	0.34	0.02
27.5	0	Path		146	5.75	6.15	0.08	6.15	0.93	1.00	0.01	2.57	1.82	0.07	0.42	0.30	0.01
27.5	0	Path		147	4.54	4.96	0.07	4.96	0.92	1.00	0.01	1.31	0.97	0.06	0.26	0.20	0.01
27.5	0	Path		153	6.88	5.91	0.12	6.88	1.00	0.86	0.02	2.72	2.19	0.11	0.40	0.32	0.02
27.5	0	Path		154	6.01	6.05	0.11	6.05	0.99	1.00	0.02	2.59	2.21	0.09	0.43	0.37	0.01
27.5	0	Path		155	5.66	5.14	0.14	5.66	1.00	0.91	0.02	2.41	1.79	0.13	0.43	0.32	0.02
27.5	0	Path		156	5.13	5.79	0.06	5.79	0.89	1.00	0.01	1.93	1.37	0.05	0.33	0.24	0.01

• QTM0 N261 Low channel MIMO

Frequency (GHz)	Module	Antenna type	Beam 2	Beam 1	4cm2 PD (W/m2) at 2mm evaluation surfaces @6dBm				Max Ratio			4cm2 PD (W/m2) at 10mm evaluation surfaces @6dBm			Max Ratio		
									1.00	1.00	0.03				0.44	0.36	0.03
									Ratio						Ratio		
					Front	Top	Bottom	Max PD	Front/worse surface	Top/worse surface	Bottom/worse surface	Front	Top	Bottom	Front/worse surface	Top/worse surface	Bottom/worse surface
27.5	0	Path	128	0	3.94	3.67	0.07	3.94	1.00	0.93	0.02	1.31	1.04	0.06	0.33	0.26	0.02
27.5	0	Path	129	1	5.54	4.67	0.05	5.54	1.00	0.84	0.01	1.88	1.44	0.04	0.34	0.26	0.01
27.5	0	Path	133	5	7.8	8.44	0.15	8.44	0.92	1.00	0.02	2.23	2.37	0.13	0.26	0.28	0.02
27.5	0	Path	134	6	9.32	7.53	0.17	9.32	1.00	0.81	0.02	4.1	3.14	0.15	0.44	0.34	0.02
27.5	0	Path	135	7	9.59	7.36	0.07	9.59	1.00	0.77	0.01	3.03	1.93	0.07	0.32	0.20	0.01
27.5	0	Path	139	11	8.33	9.83	0.21	9.83	0.85	1.00	0.02	3.05	3.51	0.19	0.31	0.36	0.02
27.5	0	Path	140	12	9.9	6.54	0.14	9.9	1.00	0.66	0.01	4.09	2.5	0.12	0.41	0.25	0.01
27.5	0	Path	143	15	15.93	14.19	0.46	15.93	0.75	1.00	0.01	4.77	3.82	0.14	0.30	0.24	0.01
27.5	0	Path	144	16	13.67	14.19	0.46	14.19	0.96	1.00	0.03	6.14	4.81	0.39	0.43	0.34	0.03
27.5	0	Path	145	17	16.48	14.59	0.4	16.48	1.00	0.89	0.02	6.04	5.08	0.31	0.37	0.31	0.02
27.5	0	Path	146	18	13.59	18.12	0.19	18.12	0.75	1.00	0.01	6.97	5.28	0.17	0.38	0.29	0.01
27.5	0	Path	147	19	11.54	14.91	0.17	14.91	0.77	1.00	0.01	3.51	3.22	0.15	0.24	0.22	0.01
27.5	0	Path	153	25	11.97	15.6	0.27	15.6	0.77	1.00	0.02	5.67	4.83	0.21	0.36	0.31	0.01
27.5	0	Path	154	26	15.19	14.71	0.41	15.19	1.00	0.97	0.03	6.04	5.07	0.31	0.40	0.33	0.02
27.5	0	Path	155	27	15.93	14.39	0.37	15.93	1.00	0.90	0.02	7.03	5.51	0.34	0.44	0.35	0.02
27.5	0	Path	156	28	11.92	18.39	0.18	18.39	0.65	1.00	0.01	4.65	4.52	0.16	0.25	0.25	0.01

• QTM1 N261 Low channel SISO

Frequency (GHz)	Module	Antenna type	Beam 2	Beam 1	4cm2 PD(W/m2) at 2mm evaluation surfaces @6dBm				Max Ratio			4cm2 PD(W/m2) at 10mm evaluation surfaces @6dBm			Max Ratio		
									1.00	0.03	1.00				0.57	0.03	0.42
					Ratio			Ratio									
Front	Top	Bottom	Max PD	Front/worse surface	Top/worse surface	Bottom/worse surface	Front	Top	Bottom	Front/worse surface	Top/worse surface	Bottom/worse surface					
27.5	1	Path		2	1.75	0.02	1.11	1.75	1.00	0.01	0.63	0.68	0.01	0.3	0.39	0.01	0.17
27.5	1	Path		3	2.42	0.02	2.08	2.42	1.00	0.01	0.86	0.83	0.02	0.67	0.34	0.01	0.28
27.5	1	Path		4	1.78	0.02	1.79	1.79	0.99	0.01	1.00	0.68	0.02	0.48	0.38	0.01	0.27
27.5	1	Path		8	2.34	0.05	3.41	3.41	0.69	0.01	1.00	0.8	0.04	1.03	0.23	0.01	0.30
27.5	1	Path		9	3.88	0.06	3.23	3.88	1.00	0.02	0.83	1.7	0.06	1.24	0.44	0.02	0.32
27.5	1	Path		10	4.47	0.04	2.87	4.47	1.00	0.01	0.64	1.7	0.03	1.08	0.38	0.01	0.24
27.5	1	Path		13	3.41	0.06	3.21	3.41	1.00	0.02	0.94	1.23	0.05	1.06	0.36	0.01	0.31
27.5	1	Path		14	2.69	0.05	3.16	3.16	0.85	0.02	1.00	1.44	0.05	1.2	0.46	0.02	0.38
27.5	1	Path		20	4.71	0.07	5.52	5.52	0.85	0.01	1.00	1.63	0.05	1.08	0.30	0.01	0.20
27.5	1	Path		21	4.34	0.17	5.52	5.52	0.79	0.03	1.00	1.92	0.14	1.6	0.35	0.03	0.29
27.5	1	Path		22	6.39	0.2	7.01	7.01	0.91	0.03	1.00	2.77	0.17	2.71	0.40	0.02	0.39
27.5	1	Path		23	6.77	0.12	6.37	6.77	1.00	0.02	0.94	3.72	0.1	2.58	0.55	0.01	0.38
27.5	1	Path		24	6.09	0.13	5.39	6.09	1.00	0.02	0.89	3.06	0.11	1.61	0.50	0.02	0.26
27.5	1	Path		29	4.29	0.1	5.61	5.61	0.76	0.02	1.00	1.72	0.1	1.41	0.31	0.02	0.25
27.5	1	Path		30	5.19	0.18	6.15	6.15	0.84	0.03	1.00	2.36	0.15	2.05	0.38	0.02	0.33
27.5	1	Path		31	6.99	0.18	6.8	6.99	1.00	0.03	0.97	3.33	0.16	2.91	0.48	0.02	0.42
27.5	1	Path		32	6.4	0.11	6.1	6.4	1.00	0.02	0.95	3.65	0.09	2	0.57	0.01	0.31
27.5	1	Path		130	1.89	0.01	1.42	1.89	1.00	0.01	0.75	0.75	0.01	0.41	0.40	0.01	0.22
27.5	1	Path		131	1.41	0.02	1.73	1.73	0.82	0.01	1.00	0.64	0.01	0.55	0.37	0.01	0.27
27.5	1	Path		132	2.08	0.02	1.87	2.08	1.00	0.01	0.90	0.77	0.02	0.56	0.37	0.01	0.32
27.5	1	Path		136	3.18	0.03	3.09	3.18	1.00	0.01	0.97	1.66	0.02	0.94	0.52	0.01	0.30
27.5	1	Path		137	2.92	0.05	3.03	3.03	0.96	0.02	1.00	1.67	0.04	1.03	0.55	0.01	0.34
27.5	1	Path		138	3.11	0.04	2.55	3.11	1.00	0.01	0.82	0.99	0.03	0.63	0.32	0.01	0.20
27.5	1	Path		141	3.02	0.04	3.13	3.13	0.96	0.01	1.00	1.76	0.04	1.08	0.56	0.01	0.35
27.5	1	Path		142	2.95	0.06	2.65	2.95	1.00	0.02	0.90	1.28	0.05	0.72	0.43	0.02	0.24
27.5	1	Path		148	6.04	0.11	5.2	6.04	1.00	0.02	0.86	3.39	0.09	1.6	0.56	0.01	0.26
27.5	1	Path		149	6.49	0.1	6.03	6.49	1.00	0.02	0.93	3.58	0.09	2.07	0.55	0.01	0.32
27.5	1	Path		150	5.4	0.16	5.34	5.4	1.00	0.03	0.99	2.71	0.14	1.57	0.50	0.03	0.29
27.5	1	Path		151	5.27	0.13	5.87	5.87	0.90	0.02	1.00	2.4	0.11	1.55	0.41	0.02	0.26
27.5	1	Path		152	4.92	0.06	5.07	5.07	0.97	0.01	1.00	1.61	0.04	1.06	0.32	0.01	0.21
27.5	1	Path		157	6.21	0.11	5.63	6.21	1.00	0.02	0.91	3.45	0.09	1.83	0.56	0.01	0.29
27.5	1	Path		158	6.29	0.13	6.14	6.29	1.00	0.02	0.98	3.29	0.12	2	0.52	0.02	0.32
27.5	1	Path		159	5.27	0.15	5.14	5.27	1.00	0.03	0.98	2.7	0.13	1.45	0.51	0.02	0.28
27.5	1	Path		160	5	0.11	5.85	5.85	0.85	0.02	1.00	1.9	0.07	1.35	0.32	0.01	0.23

• QTM1 N261 Low channel MIMO

Frequency (GHz)	Module	Antenna type	Beam 2	Beam 1	4cm2 PD(W/m2) at 2mm evaluation surfaces @6dBm				Max Ratio			4cm2 PD(W/m2) at 10mm evaluation surfaces @6dBm			Max Ratio		
									1.00	0.04	1.00				0.54	0.04	0.40
					Front	Top	Bottom	Max PD	Front/worse surface	Top/worse surface	Bottom/worse surface	Front	Top	Bottom	Front/worse surface	Top/worse surface	Bottom/worse surface
27.5	1	Path	130	2	3.98	0.05	3.05	3.98	1.00	0.01	0.77	1.59	0.05	0.98	0.40	0.01	0.25
27.5	1	Path	131	3	4.83	0.08	4.93	4.93	0.98	0.02	1.00	1.93	0.06	1.66	0.39	0.01	0.34
27.5	1	Path	132	4	4.58	0.07	4.36	4.58	1.00	0.02	0.95	1.9	0.06	1.33	0.41	0.01	0.29
27.5	1	Path	136	8	4.99	0.12	6.34	6.34	0.79	0.02	1.00	2.72	0.1	2.27	0.43	0.02	0.36
27.5	1	Path	137	9	8.27	0.22	7.85	8.27	1.00	0.03	0.95	4.46	0.19	2.94	0.54	0.02	0.36
27.5	1	Path	138	10	9.02	0.12	6.75	9.02	1.00	0.01	0.75	3.67	0.11	2.17	0.41	0.01	0.24
27.5	1	Path	141	13	7.65	0.16	8.83	8.83	0.87	0.02	1.00	3.99	0.14	3.02	0.45	0.02	0.34
27.5	1	Path	142	14	5.53	0.2	5.86	5.86	0.94	0.03	1.00	2.92	0.17	2.14	0.50	0.03	0.37
27.5	1	Path	148	20	12.83	0.25	13.34	13.34	0.96	0.02	1.00	6.8	0.21	3.64	0.51	0.02	0.27
27.5	1	Path	149	21	12.58	0.48	14.81	14.81	0.85	0.03	1.00	6.42	0.4	4.46	0.43	0.03	0.30
27.5	1	Path	150	22	12.62	0.63	15.33	15.33	0.82	0.04	1.00	6.22	0.56	5.23	0.41	0.04	0.34
27.5	1	Path	151	23	14.69	0.31	16.98	16.98	0.87	0.02	1.00	7.7	0.25	6.22	0.45	0.01	0.37
27.5	1	Path	152	24	11.37	0.28	14.49	14.49	0.78	0.02	1.00	5.46	0.18	3.77	0.38	0.01	0.26
27.5	1	Path	157	29	12.07	0.38	14.63	14.63	0.83	0.03	1.00	6.44	0.32	4.22	0.44	0.02	0.29
27.5	1	Path	158	30	12.56	0.55	15.14	15.14	0.83	0.04	1.00	6.12	0.47	4.71	0.40	0.03	0.31
27.5	1	Path	159	31	13.88	0.6	14.79	14.79	0.94	0.04	1.00	7.07	0.51	5.88	0.48	0.03	0.40
27.5	1	Path	160	32	13.08	0.34	17.02	17.02	0.77	0.02	1.00	6.69	0.27	5.02	0.39	0.02	0.29

• QTM0 N261 Middle channel SISO

Frequency (GHz)	Module	Antenna type	Beam 2	Beam 1	4cm2 PD(W/m2) at 2mm evaluation surfaces @6dBm				Max Ratio			4cm2 PD(W/m2) at 10mm evaluation surfaces @6dBm			Max Ratio		
									1.00	1.00	0.03				0.45	0.39	0.03
					Front	Top	Bottom	Max PD	Front/worse surface	Top/worse surface	Bottom/worse surface	Front	Top	Bottom	Front/worse surface	Top/worse surface	Bottom/worse surface
28	0	Path		0	1.7	1.3	0.02	1.7	1.00	0.76	0.01	0.59	0.37	0.01	0.35	0.22	0.01
28	0	Path		1	2.5	1.76	0.01	2.5	1.00	0.70	0.00	0.89	0.66	0.01	0.36	0.26	0.00
28	0	Path		5	3.25	3.28	0.03	3.28	0.99	1.00	0.01	0.97	0.72	0.02	0.30	0.22	0.01
28	0	Path		6	4.58	3.12	0.03	4.58	1.00	0.68	0.01	2.04	1.52	0.02	0.45	0.33	0.00
28	0	Path		7	4.09	2.78	0.02	4.09	1.00	0.68	0.00	1.44	1.01	0.02	0.35	0.25	0.00
28	0	Path		11	3.66	3.17	0.05	3.66	1.00	0.87	0.01	1.49	1.12	0.05	0.41	0.31	0.01
28	0	Path		12	4.62	2.82	0.02	4.62	1.00	0.61	0.00	1.84	1.31	0.02	0.40	0.28	0.00
28	0	Path		15	4.09	6.4	0.06	6.4	0.64	1.00	0.01	1.43	1.05	0.05	0.22	0.16	0.01
28	0	Path		16	4.79	6.05	0.13	6.05	0.79	1.00	0.02	2.05	1.55	0.11	0.34	0.26	0.02
28	0	Path		17	7.18	6.3	0.07	7.18	1.00	0.88	0.01	2.91	2.32	0.05	0.41	0.32	0.01
28	0	Path		18	6.48	6.44	0.06	6.48	1.00	0.99	0.01	2.79	2	0.05	0.43	0.31	0.01
28	0	Path		19	4.32	4.95	0.04	4.95	0.87	1.00	0.01	1.34	1.08	0.03	0.27	0.22	0.01
28	0	Path		25	4.11	6.52	0.08	6.52	0.63	1.00	0.01	1.52	1.28	0.06	0.23	0.20	0.01
28	0	Path		26	5.73	5.86	0.13	5.86	0.98	1.00	0.02	2.5	1.88	0.11	0.43	0.32	0.02
28	0	Path		27	7.26	6.24	0.07	7.26	1.00	0.86	0.01	3.13	2.53	0.05	0.43	0.35	0.01
28	0	Path		28	5.42	6.04	0.06	6.04	0.90	1.00	0.01	2.17	1.52	0.05	0.36	0.25	0.01
28	0	Path		128	1.62	1.72	0.03	1.72	0.94	1.00	0.02	0.49	0.6	0.03	0.28	0.35	0.02
28	0	Path		129	1.39	1.89	0.02	1.89	0.74	1.00	0.01	0.49	0.65	0.01	0.26	0.34	0.01
28	0	Path		133	2.8	4.15	0.05	4.15	0.67	1.00	0.01	0.77	1.27	0.05	0.19	0.31	0.01
28	0	Path		134	2.62	3	0.07	3	0.87	1.00	0.02	1	1.16	0.06	0.33	0.39	0.02
28	0	Path		135	2.88	2.9	0.05	2.9	0.99	1.00	0.02	0.76	0.76	0.04	0.26	0.26	0.01
28	0	Path		139	2.64	4.02	0.05	4.02	0.66	1.00	0.01	0.84	1.42	0.04	0.21	0.35	0.01
28	0	Path		140	2.78	2.53	0.07	2.78	1.00	0.91	0.03	0.94	0.83	0.07	0.34	0.30	0.03
28	0	Path		143	5.46	5.03	0.06	5.46	1.00	0.92	0.01	2.12	1.69	0.04	0.39	0.31	0.01
28	0	Path		144	5.91	5.56	0.11	5.91	1.00	0.94	0.02	2.4	2.07	0.09	0.41	0.35	0.02
28	0	Path		145	5.45	5.12	0.15	5.45	1.00	0.94	0.03	2.27	1.8	0.12	0.42	0.33	0.02
28	0	Path		146	5.23	6.21	0.08	6.21	0.84	1.00	0.01	2.23	1.92	0.07	0.36	0.31	0.01
28	0	Path		147	3.95	4.52	0.08	4.52	0.87	1.00	0.02	1.22	0.92	0.07	0.27	0.20	0.02
28	0	Path		153	6.23	5.63	0.1	6.23	1.00	0.90	0.02	2.49	2.07	0.08	0.40	0.33	0.01
28	0	Path		154	5.58	5.52	0.12	5.58	1.00	0.99	0.02	2.31	1.97	0.09	0.41	0.35	0.02
28	0	Path		155	5.54	5.3	0.15	5.54	1.00	0.96	0.03	2.35	1.92	0.14	0.42	0.35	0.03
28	0	Path		156	4.52	5.49	0.06	5.49	0.82	1.00	0.01	1.74	1.34	0.05	0.32	0.24	0.01

• QTM0 N261 Middle channel MIMO

Frequency (GHz)	Module	Antenna type	Beam 2	Beam 1	4cm2 PD(W/m2) at 2mm evaluation surfaces @6dBm				Max Ratio			4cm2 PD(W/m2) at 10mm evaluation surfaces @6dBm			Max Ratio		
									1.00	1.00	0.03				0.44	0.37	0.02
									Ratio						Ratio		
					Front	Top	Bottom	Max PD	Front/worse surface	Top/worse surface	Bottom/worse surface	Front	Top	Bottom	Front/worse surface	Top/worse surface	Bottom/worse surface
28	0	Path	128	0	3.96	3.73	0.07	3.96	1.00	0.94	0.02	1.45	1.18	0.06	0.37	0.30	0.02
28	0	Path	129	1	5.16	4.66	0.05	5.16	1.00	0.90	0.01	1.8	1.49	0.04	0.35	0.29	0.01
28	0	Path	133	5	6.51	8.65	0.12	8.65	0.75	1.00	0.01	2.15	2.73	0.1	0.25	0.32	0.01
28	0	Path	134	6	9.37	7.26	0.16	9.37	1.00	0.77	0.02	4.08	3.07	0.14	0.44	0.33	0.01
28	0	Path	135	7	8.78	7.39	0.07	8.78	1.00	0.84	0.01	2.71	1.86	0.06	0.31	0.21	0.01
28	0	Path	139	11	7.97	10	0.17	10	0.80	1.00	0.02	3.07	3.68	0.16	0.31	0.37	0.02
28	0	Path	140	12	9.46	6.35	0.12	9.46	1.00	0.67	0.01	3.76	2.34	0.11	0.40	0.25	0.01
28	0	Path	143	15	10.83	16.9	0.22	16.9	0.64	1.00	0.01	4.07	4.25	0.16	0.24	0.25	0.01
28	0	Path	144	16	12.92	15.05	0.39	15.05	0.86	1.00	0.03	5.27	4.94	0.32	0.35	0.33	0.02
28	0	Path	145	17	16.72	13.14	0.33	16.72	1.00	0.79	0.02	6.01	4.8	0.26	0.36	0.29	0.02
28	0	Path	146	18	12.5	17.72	0.21	17.72	0.71	1.00	0.01	5.64	5.38	0.19	0.32	0.30	0.01
28	0	Path	147	19	10.06	14.31	0.15	14.31	0.70	1.00	0.01	3.09	2.85	0.15	0.22	0.20	0.01
28	0	Path	153	25	10.65	17.21	0.27	17.21	0.62	1.00	0.02	4.84	5.09	0.2	0.28	0.30	0.01
28	0	Path	154	26	14.58	13.84	0.35	14.58	1.00	0.95	0.02	5.71	4.89	0.27	0.39	0.34	0.02
28	0	Path	155	27	15.89	14.09	0.35	15.89	1.00	0.89	0.02	6.7	5.62	0.31	0.42	0.35	0.02
28	0	Path	156	28	11.2	17.45	0.16	17.45	0.64	1.00	0.01	4.01	3.98	0.14	0.23	0.23	0.01

• QTM1 N261 Middle channel SISO

Frequency (GHz)	Module	Antenna type	Beam 2	Beam 1	4cm2 PD(W/m2) at 2mm evaluation surfaces @6dBm				Max Ratio			4cm2 PD(W/m2) at 10mm evaluation surfaces @6dBm			Max Ratio		
									1.00	0.03	1.00				0.59	0.02	0.41
					Front	Top	Bottom	Max PD	Front/worse surface	Top/worse surface	Bottom/worse surface	Front	Top	Bottom	Front/worse surface	Top/worse surface	Bottom/worse surface
28	1	Path		2	1.84	0.01	1.16	1.84	1.00	0.01	0.63	0.78	0.01	0.36	0.42	0.01	0.20
28	1	Path		3	2.33	0.02	1.87	2.33	1.00	0.01	0.80	0.81	0.02	0.67	0.35	0.01	0.29
28	1	Path		4	1.47	0.02	1.44	1.47	1.00	0.01	0.98	0.61	0.01	0.43	0.41	0.01	0.29
28	1	Path		8	1.88	0.04	2.95	2.95	0.64	0.01	1.00	0.67	0.03	0.9	0.23	0.01	0.31
28	1	Path		9	4.08	0.05	3.13	4.08	1.00	0.01	0.77	1.78	0.04	1.36	0.44	0.01	0.33
28	1	Path		10	4.48	0.04	2.73	4.48	1.00	0.01	0.61	1.91	0.03	1.17	0.43	0.01	0.26
28	1	Path		13	3.44	0.05	3.04	3.44	1.00	0.01	0.88	1.19	0.04	1.06	0.35	0.01	0.31
28	1	Path		14	2.17	0.04	2.84	2.84	0.76	0.01	1.00	1.19	0.03	1.16	0.42	0.01	0.41
28	1	Path		20	4.41	0.07	4.91	4.91	0.90	0.01	1.00	1.28	0.05	1.08	0.26	0.01	0.22
28	1	Path		21	4.34	0.13	4.98	4.98	0.87	0.03	1.00	1.82	0.11	1.59	0.37	0.02	0.32
28	1	Path		22	5.88	0.15	6.33	6.33	0.93	0.02	1.00	2.58	0.14	2.41	0.41	0.02	0.38
28	1	Path		23	6.51	0.09	5.8	6.51	1.00	0.01	0.89	3.57	0.08	2.21	0.55	0.01	0.34
28	1	Path		24	5.81	0.11	4.86	5.81	1.00	0.02	0.84	3.13	0.09	1.57	0.54	0.02	0.27
28	1	Path		29	4.15	0.09	5.08	5.08	0.82	0.02	1.00	1.41	0.08	1.5	0.28	0.02	0.30
28	1	Path		30	4.98	0.13	5.44	5.44	0.92	0.02	1.00	2.26	0.11	1.85	0.42	0.02	0.34
28	1	Path		31	6.53	0.13	6.16	6.53	1.00	0.02	0.94	3.1	0.11	2.55	0.47	0.02	0.39
28	1	Path		32	6.27	0.09	5.65	6.27	1.00	0.01	0.90	3.68	0.08	1.78	0.59	0.01	0.28
28	1	Path		130	1.87	0.02	1.58	1.87	1.00	0.01	0.84	0.81	0.02	0.43	0.43	0.01	0.23
28	1	Path		131	1.19	0.01	1.56	1.56	0.76	0.01	1.00	0.57	0.01	0.52	0.37	0.01	0.33
28	1	Path		132	1.98	0.02	1.69	1.98	1.00	0.01	0.85	0.74	0.01	0.54	0.37	0.01	0.27
28	1	Path		136	3.08	0.03	3.25	3.25	0.95	0.01	1.00	1.57	0.03	1.04	0.48	0.01	0.32
28	1	Path		137	2.99	0.05	3.08	3.08	0.97	0.02	1.00	1.76	0.04	1.1	0.57	0.01	0.36
28	1	Path		138	2.7	0.04	2.48	2.7	1.00	0.01	0.92	0.98	0.03	0.64	0.36	0.01	0.24
28	1	Path		141	3.08	0.04	3.27	3.27	0.94	0.01	1.00	1.78	0.03	1.18	0.54	0.01	0.36
28	1	Path		142	2.72	0.06	2.55	2.72	1.00	0.02	0.94	1.32	0.05	0.72	0.49	0.02	0.26
28	1	Path		148	5.8	0.11	5.2	5.8	1.00	0.02	0.90	3.17	0.09	1.57	0.55	0.02	0.27
28	1	Path		149	6.28	0.1	5.76	6.28	1.00	0.02	0.92	3.39	0.09	2	0.54	0.01	0.32
28	1	Path		150	5.52	0.15	5.04	5.52	1.00	0.03	0.91	2.8	0.13	1.55	0.51	0.02	0.28
28	1	Path		151	5.13	0.11	5.89	5.89	0.87	0.02	1.00	2.51	0.1	1.59	0.43	0.02	0.27
28	1	Path		152	4.56	0.07	4.69	4.69	0.97	0.01	1.00	1.64	0.05	1.03	0.35	0.01	0.22
28	1	Path		157	6.01	0.12	5.52	6.01	1.00	0.02	0.92	3.26	0.1	1.79	0.54	0.02	0.30
28	1	Path		158	6.28	0.11	5.87	6.28	1.00	0.02	0.93	3.31	0.1	1.97	0.53	0.02	0.31
28	1	Path		159	5.27	0.15	4.9	5.27	1.00	0.03	0.93	2.76	0.13	1.41	0.52	0.02	0.27
28	1	Path		160	4.79	0.1	5.7	5.7	0.84	0.02	1.00	1.95	0.08	1.37	0.34	0.01	0.24

• QTM1 N261 Middle channel MIMO

Frequency (GHz)	Module	Antenna type	Beam 2	Beam 1	4cm2 PD(W/m2) at 2mm evaluation surfaces @6dBm				Max Ratio			4cm2 PD(W/m2) at 10mm evaluation surfaces @6dBm			Max Ratio		
									1.00	0.04	1.00				0.54	0.04	0.39
									Ratio						Ratio		
					Front	Top	Bottom	Max PD	Front/worse surface	Top/worse surface	Bottom/worse surface	Front	Top	Bottom	Front/worse surface	Top/worse surface	Bottom/worse surface
28	1	Path	130	2	4.2	0.04	3.08	4.2	1.00	0.01	0.73	1.97	0.04	1.18	0.47	0.01	0.28
28	1	Path	131	3	4.53	0.06	4.4	4.53	1.00	0.01	0.97	1.86	0.05	1.47	0.41	0.01	0.32
28	1	Path	132	4	4.31	0.06	3.87	4.31	1.00	0.01	0.90	1.76	0.05	1.21	0.41	0.01	0.28
28	1	Path	136	8	5.09	0.1	5.97	5.97	0.85	0.02	1.00	2.75	0.08	2.16	0.46	0.01	0.36
28	1	Path	137	9	8.61	0.18	7.33	8.61	1.00	0.02	0.85	4.63	0.16	2.86	0.54	0.02	0.33
28	1	Path	138	10	9.03	0.12	6.53	9.03	1.00	0.01	0.72	4.04	0.09	2.39	0.45	0.01	0.26
28	1	Path	141	13	7.47	0.14	8.74	8.74	0.85	0.02	1.00	3.76	0.12	3.09	0.43	0.01	0.35
28	1	Path	142	14	5.14	0.17	5.57	5.57	0.92	0.03	1.00	2.87	0.15	2.18	0.52	0.03	0.39
28	1	Path	148	20	11.87	0.24	13.45	13.45	0.88	0.02	1.00	6.08	0.2	3.65	0.45	0.01	0.27
28	1	Path	149	21	12.67	0.43	14.37	14.37	0.88	0.03	1.00	6.46	0.36	4.44	0.45	0.03	0.31
28	1	Path	150	22	11.79	0.55	13.81	13.81	0.85	0.04	1.00	5.94	0.49	4.79	0.43	0.04	0.35
28	1	Path	151	23	14.5	0.28	16.03	16.03	0.90	0.02	1.00	7.92	0.23	5.68	0.49	0.01	0.35
28	1	Path	152	24	10.56	0.25	12.94	12.94	0.82	0.02	1.00	5.48	0.19	3.38	0.42	0.01	0.26
28	1	Path	157	29	11.47	0.35	14.59	14.59	0.79	0.02	1.00	6.02	0.3	4.28	0.41	0.02	0.29
28	1	Path	158	30	13.03	0.45	13.86	13.86	0.94	0.03	1.00	6.2	0.39	4.49	0.45	0.03	0.32
28	1	Path	159	31	13.71	0.51	13.35	13.71	1.00	0.04	0.97	7.06	0.45	5.33	0.51	0.03	0.39
28	1	Path	160	32	13.03	0.29	15.9	15.9	0.82	0.02	1.00	7.09	0.25	4.5	0.45	0.02	0.28

• QTM0 N261 High channel SISO

Frequency (GHz)	Module	Antenna type	Beam 2	Beam 1	4cm2 PD(W/m2) at 2mm evaluation surfaces @6dBm				Max Ratio			4cm2 PD(W/m2) at 10mm evaluation surfaces @6dBm			Max Ratio		
									1.00	1.00	0.03				0.47	0.40	0.03
					Front	Top	Bottom	Max PD	Front/worse surface	Top/worse surface	Bottom/worse surface	Front	Top	Bottom	Front/worse surface	Top/worse surface	Bottom/worse surface
28.35	0	Path		0	1.73	1.34	0.01	1.73	1.00	0.77	0.01	0.65	0.39	0.01	0.38	0.23	0.01
28.35	0	Path		1	2.38	1.64	0.01	2.38	1.00	0.69	0.00	0.86	0.64	0.01	0.36	0.27	0.00
28.35	0	Path		5	3.01	2.99	0.02	3.01	1.00	0.99	0.01	0.96	0.73	0.02	0.32	0.24	0.01
28.35	0	Path		6	4.32	3.03	0.02	4.32	1.00	0.70	0.00	2.05	1.55	0.02	0.47	0.36	0.00
28.35	0	Path		7	4.04	2.76	0.02	4.04	1.00	0.68	0.00	1.5	1.09	0.02	0.37	0.27	0.00
28.35	0	Path		11	3.61	2.99	0.04	3.61	1.00	0.83	0.01	1.55	1.13	0.04	0.43	0.31	0.01
28.35	0	Path		12	4.45	2.76	0.02	4.45	1.00	0.62	0.00	1.87	1.35	0.02	0.42	0.30	0.00
28.35	0	Path		15	4.09	6.18	0.06	6.18	0.66	1.00	0.01	1.5	1.09	0.04	0.24	0.18	0.01
28.35	0	Path		16	4.57	5.95	0.1	5.95	0.77	1.00	0.02	2	1.56	0.09	0.34	0.26	0.02
28.35	0	Path		17	6.47	5.62	0.05	6.47	1.00	0.87	0.01	2.67	2.04	0.04	0.41	0.32	0.01
28.35	0	Path		18	6.28	5.89	0.05	6.28	1.00	0.94	0.01	2.76	1.97	0.04	0.44	0.31	0.01
28.35	0	Path		19	4.05	4.77	0.04	4.77	0.85	1.00	0.01	1.34	1	0.03	0.28	0.21	0.01
28.35	0	Path		25	4.03	6.39	0.07	6.39	0.63	1.00	0.01	1.59	1.31	0.05	0.25	0.21	0.01
28.35	0	Path		26	5.34	5.35	0.09	5.35	1.00	1.00	0.02	2.4	1.69	0.08	0.45	0.32	0.01
28.35	0	Path		27	6.39	5.77	0.06	6.39	1.00	0.90	0.01	2.67	2.37	0.06	0.42	0.37	0.01
28.35	0	Path		28	5.29	5.67	0.05	5.67	0.93	1.00	0.01	2.26	1.62	0.04	0.40	0.29	0.01
28.35	0	Path		128	1.39	1.67	0.03	1.67	0.83	1.00	0.02	0.42	0.59	0.03	0.25	0.35	0.02
28.35	0	Path		129	1.3	1.86	0.02	1.86	0.70	1.00	0.01	0.44	0.65	0.01	0.24	0.35	0.01
28.35	0	Path		133	2.53	4.1	0.04	4.1	0.62	1.00	0.01	0.76	1.24	0.04	0.19	0.30	0.01
28.35	0	Path		134	2.43	2.92	0.07	2.92	0.83	1.00	0.02	0.89	1.17	0.06	0.30	0.40	0.02
28.35	0	Path		135	2.38	2.85	0.04	2.85	0.84	1.00	0.01	0.59	0.77	0.04	0.21	0.27	0.01
28.35	0	Path		139	2.51	3.95	0.05	3.95	0.64	1.00	0.01	0.84	1.41	0.04	0.21	0.36	0.01
28.35	0	Path		140	2.37	2.41	0.06	2.41	0.98	1.00	0.02	0.74	0.83	0.06	0.31	0.34	0.02
28.35	0	Path		143	5.09	4.77	0.06	5.09	1.00	0.94	0.01	1.92	1.62	0.04	0.38	0.32	0.01
28.35	0	Path		144	5.62	5.46	0.1	5.62	1.00	0.97	0.02	2.33	1.99	0.08	0.41	0.35	0.01
28.35	0	Path		145	5.25	4.96	0.13	5.25	1.00	0.94	0.02	2.31	1.81	0.11	0.44	0.34	0.02
28.35	0	Path		146	4.61	5.78	0.1	5.78	0.80	1.00	0.02	1.91	1.83	0.08	0.33	0.32	0.01
28.35	0	Path		147	3.44	4.07	0.07	4.07	0.85	1.00	0.02	1.11	0.82	0.06	0.27	0.20	0.01
28.35	0	Path		153	5.77	5.5	0.1	5.77	1.00	0.95	0.02	2.28	1.92	0.08	0.40	0.33	0.01
28.35	0	Path		154	5.44	5.31	0.1	5.44	1.00	0.98	0.02	2.33	1.96	0.08	0.43	0.36	0.01
28.35	0	Path		155	5.09	5.15	0.14	5.15	0.99	1.00	0.03	2.28	1.91	0.13	0.44	0.37	0.03
28.35	0	Path		156	3.91	4.94	0.07	4.94	0.79	1.00	0.01	1.48	1.21	0.06	0.30	0.24	0.01

• QTM0 N261 High channel MIMO

Frequency (GHz)	Module	Antenna type	Beam 2	Beam 1	4cm2 PD(W/m2) at 2mm evaluation surfaces @6dBa				Max Ratio			4cm2 PD(W/m2) at 10mm evaluation surfaces @6dBa			Max Ratio		
									1.00	1.00	0.02				0.43	0.40	0.02
									Ratio						Ratio		
					Front	Top	Bottom	Max PD	Front/worse surface	Top/worse surface	Bottom/worse surface	Front	Top	Bottom	Front/worse surface	Top/worse surface	Bottom/worse surface
28.35	0	Path	128	0	3.85	3.69	0.06	3.85	1.00	0.96	0.02	1.44	1.19	0.05	0.37	0.31	0.01
28.35	0	Path	129	1	4.92	4.61	0.05	4.92	1.00	0.94	0.01	1.67	1.53	0.04	0.34	0.31	0.01
28.35	0	Path	133	5	5.97	8.58	0.1	8.58	0.70	1.00	0.01	2.07	2.87	0.09	0.24	0.33	0.01
28.35	0	Path	134	6	9.12	7.05	0.14	9.12	1.00	0.77	0.02	3.89	3.13	0.13	0.43	0.34	0.01
28.35	0	Path	135	7	8.12	7.4	0.07	8.12	1.00	0.91	0.01	2.46	1.82	0.06	0.30	0.22	0.01
28.35	0	Path	139	11	7.94	9.58	0.16	9.58	0.83	1.00	0.02	3.07	3.56	0.14	0.32	0.37	0.01
28.35	0	Path	140	12	8.93	6.35	0.11	8.93	1.00	0.71	0.01	3.38	2.28	0.1	0.38	0.26	0.01
28.35	0	Path	143	15	10.64	16.43	0.21	16.43	0.65	1.00	0.01	3.85	4.24	0.15	0.23	0.26	0.01
28.35	0	Path	144	16	12.79	15.42	0.35	15.42	0.83	1.00	0.02	5	5.09	0.29	0.32	0.33	0.02
28.35	0	Path	145	17	15.72	12.25	0.28	15.72	1.00	0.78	0.02	5.82	4.81	0.22	0.37	0.31	0.01
28.35	0	Path	146	18	12.77	16.67	0.25	16.67	0.77	1.00	0.01	4.73	5.24	0.22	0.28	0.31	0.01
28.35	0	Path	147	19	9.49	12.88	0.13	12.88	0.74	1.00	0.01	3.06	2.43	0.12	0.24	0.19	0.01
28.35	0	Path	153	25	10.42	17.31	0.28	17.31	0.60	1.00	0.02	4.4	5.02	0.21	0.25	0.29	0.01
28.35	0	Path	154	26	14.34	13.17	0.29	14.34	1.00	0.92	0.02	5.53	4.68	0.22	0.39	0.33	0.02
28.35	0	Path	155	27	14.67	14.1	0.3	14.67	1.00	0.96	0.02	6	5.91	0.28	0.41	0.40	0.02
28.35	0	Path	156	28	11.02	16.03	0.15	16.03	0.69	1.00	0.01	3.97	3.54	0.14	0.25	0.22	0.01

• QTM1 N261 High channel SISO

Frequency (GHz)	Module	Antenna type	Beam 2	Beam 1	4cm2 PD(W/m2) at 2mm evaluation surfaces @6dBm				Max Ratio			4cm2 PD(W/m2) at 10mm evaluation surfaces @6dBm			Max Ratio		
									1.00	0.03	1.00				0.58	0.02	0.41
					Front	Top	Bottom	Max PD	Front/worse surface	Top/worse surface	Bottom/worse surface	Front	Top	Bottom	Front/worse surface	Top/worse surface	Bottom/worse surface
28.35	1	Path		2	1.86	0.01	1.2	1.86	1.00	0.01	0.65	0.76	0.01	0.39	0.41	0.01	0.21
28.35	1	Path		3	2.28	0.02	1.82	2.28	1.00	0.01	0.80	0.81	0.02	0.71	0.36	0.01	0.31
28.35	1	Path		4	1.32	0.02	1.26	1.32	1.00	0.02	0.95	0.54	0.02	0.37	0.41	0.02	0.28
28.35	1	Path		8	1.68	0.03	2.8	2.8	0.60	0.01	1.00	0.62	0.03	0.82	0.22	0.01	0.29
28.35	1	Path		9	4.18	0.04	3.13	4.18	1.00	0.01	0.75	1.85	0.03	1.47	0.44	0.01	0.35
28.35	1	Path		10	4.37	0.04	2.66	4.37	1.00	0.01	0.61	1.85	0.03	1.22	0.42	0.01	0.28
28.35	1	Path		13	3.51	0.05	3.07	3.51	1.00	0.01	0.87	1.25	0.04	1.13	0.36	0.01	0.32
28.35	1	Path		14	2.03	0.03	2.65	2.65	0.77	0.01	1.00	1.1	0.03	1.09	0.42	0.01	0.41
28.35	1	Path		20	4.17	0.06	4.62	4.62	0.90	0.01	1.00	1.17	0.05	1.13	0.25	0.01	0.24
28.35	1	Path		21	4.55	0.12	5.1	5.1	0.89	0.02	1.00	1.87	0.1	1.65	0.37	0.02	0.32
28.35	1	Path		22	5.78	0.13	5.71	5.78	1.00	0.02	0.99	2.56	0.12	2.06	0.44	0.02	0.36
28.35	1	Path		23	6.43	0.08	5.44	6.43	1.00	0.01	0.85	3.41	0.07	2.06	0.53	0.01	0.32
28.35	1	Path		24	5.43	0.1	4.57	5.43	1.00	0.02	0.84	3	0.08	1.52	0.55	0.01	0.28
28.35	1	Path		29	4.15	0.08	5.07	5.07	0.82	0.02	1.00	1.44	0.07	1.62	0.28	0.01	0.32
28.35	1	Path		30	5.05	0.11	5.04	5.05	1.00	0.02	1.00	2.24	0.09	1.61	0.44	0.02	0.32
28.35	1	Path		31	6.46	0.11	5.74	6.46	1.00	0.02	0.89	3.05	0.09	2.3	0.47	0.01	0.36
28.35	1	Path		32	6.02	0.09	5.25	6.02	1.00	0.01	0.87	3.48	0.08	1.75	0.58	0.01	0.29
28.35	1	Path		130	1.85	0.02	1.55	1.85	1.00	0.01	0.84	0.79	0.02	0.43	0.43	0.01	0.23
28.35	1	Path		131	1.13	0.01	1.48	1.48	0.76	0.01	1.00	0.55	0.01	0.49	0.37	0.01	0.33
28.35	1	Path		132	1.9	0.01	1.6	1.9	1.00	0.01	0.84	0.7	0.01	0.56	0.37	0.01	0.29
28.35	1	Path		136	3.08	0.03	3.27	3.27	0.94	0.01	1.00	1.58	0.03	0.99	0.48	0.01	0.30
28.35	1	Path		137	3	0.06	2.88	3	1.00	0.02	0.96	1.73	0.05	0.95	0.58	0.02	0.32
28.35	1	Path		138	2.49	0.04	2.41	2.49	1.00	0.02	0.97	0.88	0.03	0.62	0.35	0.01	0.25
28.35	1	Path		141	3.13	0.04	3.17	3.17	0.99	0.01	1.00	1.77	0.04	1.06	0.56	0.01	0.33
28.35	1	Path		142	2.58	0.06	2.36	2.58	1.00	0.02	0.91	1.24	0.05	0.62	0.48	0.02	0.24
28.35	1	Path		148	5.81	0.09	5.09	5.81	1.00	0.02	0.88	3.12	0.08	1.61	0.54	0.01	0.28
28.35	1	Path		149	6.17	0.09	5.51	6.17	1.00	0.01	0.89	3.16	0.08	1.97	0.51	0.01	0.32
28.35	1	Path		150	5.54	0.15	4.76	5.54	1.00	0.03	0.86	2.73	0.13	1.57	0.49	0.02	0.28
28.35	1	Path		151	5.15	0.1	5.97	5.97	0.86	0.02	1.00	2.56	0.09	1.78	0.43	0.02	0.30
28.35	1	Path		152	4.12	0.07	4.64	4.64	0.89	0.02	1.00	1.59	0.06	1.08	0.34	0.01	0.23
28.35	1	Path		157	6.03	0.11	5.36	6.03	1.00	0.02	0.89	3.16	0.09	1.81	0.52	0.01	0.30
28.35	1	Path		158	6.06	0.11	5.46	6.06	1.00	0.02	0.90	3.11	0.1	1.92	0.51	0.02	0.32
28.35	1	Path		159	5.37	0.15	4.85	5.37	1.00	0.03	0.90	2.75	0.13	1.5	0.51	0.02	0.28
28.35	1	Path		160	4.53	0.1	5.65	5.65	0.80	0.02	1.00	1.98	0.09	1.46	0.35	0.02	0.26

• QTM1 N261 High channel MIMO

Frequency (GHz)	Module	Antenna type	Beam 2	Beam 1	4cm2 PD(W/m2) at 2nm evaluation surfaces @6dBm				Max Ratio			4cm2 PD(W/m2) at 10nm evaluation surfaces @6dBm			Max Ratio		
									1.00	0.04	1.00				0.53	0.04	0.39
									Ratio						Ratio		
					Front	Top	Bottom	Max PD	Front/worse surface	Top/worse surface	Bottom/worse surface	Front	Top	Bottom	Front/worse surface	Top/worse surface	Bottom/worse surface
28.35	1	Path	130	2	4.18	0.04	3.2	4.18	1.00	0.01	0.77	1.96	0.04	1.22	0.47	0.01	0.29
28.35	1	Path	131	3	4.42	0.06	4.22	4.42	1.00	0.01	0.95	1.87	0.05	1.41	0.42	0.01	0.32
28.35	1	Path	132	4	4.15	0.05	3.75	4.15	1.00	0.01	0.90	1.57	0.04	1.26	0.38	0.01	0.30
28.35	1	Path	136	8	5.15	0.09	5.84	5.84	0.88	0.02	1.00	2.78	0.08	2.02	0.48	0.01	0.35
28.35	1	Path	137	9	8.81	0.18	6.64	8.81	1.00	0.02	0.75	4.66	0.16	3.12	0.53	0.02	0.35
28.35	1	Path	138	10	8.64	0.11	6.2	8.64	1.00	0.01	0.72	3.84	0.09	2.46	0.44	0.01	0.28
28.35	1	Path	141	13	7.58	0.14	8.01	8.01	0.95	0.02	1.00	3.73	0.12	2.68	0.47	0.01	0.33
28.35	1	Path	142	14	4.89	0.15	5.19	5.19	0.94	0.03	1.00	2.64	0.13	2.03	0.51	0.03	0.39
28.35	1	Path	148	20	11.1	0.21	13.24	13.24	0.84	0.02	1.00	5.62	0.19	3.48	0.42	0.01	0.26
28.35	1	Path	149	21	12.94	0.39	14.17	14.17	0.91	0.03	1.00	6.3	0.33	4.49	0.44	0.02	0.32
28.35	1	Path	150	22	11.87	0.52	12.34	12.34	0.96	0.04	1.00	5.78	0.47	4.29	0.47	0.04	0.35
28.35	1	Path	151	23	14.08	0.25	15.34	15.34	0.92	0.02	1.00	7.81	0.21	5.5	0.51	0.01	0.36
28.35	1	Path	152	24	10.02	0.27	12.08	12.08	0.83	0.02	1.00	5.15	0.21	3.2	0.43	0.02	0.26
28.35	1	Path	157	29	11.42	0.34	14.45	14.45	0.79	0.02	1.00	5.73	0.29	4.17	0.40	0.02	0.29
28.35	1	Path	158	30	13.29	0.41	12.86	13.29	1.00	0.03	0.97	6.06	0.37	3.98	0.46	0.03	0.30
28.35	1	Path	159	31	14.07	0.48	12.95	14.07	1.00	0.03	0.92	7.16	0.42	5.08	0.51	0.03	0.36
28.35	1	Path	160	32	12.43	0.31	14.82	14.82	0.84	0.02	1.00	6.89	0.27	4.67	0.46	0.02	0.32

• QTM0 N260 LOW channel SIS0

Frequency (GHz)	Module	Antenna type	Beam 2	Beam 1	4cm2 PD(W/m2) at 2nm evaluation surfaces @6dBm				Max Ratio			4cm2 PD(W/m2) at 10nm evaluation surfaces @6dBm			Max Ratio		
									1.00	1.00	0.02				0.54	0.43	0.02
					Front	Top	Bottom	Max PD	Front/worse surface	Top/worse surface	Bottom/worse surface	Front	Top	Bottom	Front/worse surface	Top/worse surface	Bottom/worse surface
37.5	0	Path		0	1.31	1.55	0.02	1.55	0.85	1.00	0.01	0.38	0.5	0.01	0.25	0.32	0.01
37.5	0	Path		1	1.73	1.41	0.02	1.73	1.00	0.82	0.01	0.71	0.42	0.02	0.41	0.24	0.01
37.5	0	Path		4	3.4	2.8	0.02	3.4	1.00	0.82	0.01	1.25	0.79	0.02	0.37	0.23	0.01
37.5	0	Path		5	2.2	3.32	0.03	3.32	0.66	1.00	0.01	0.96	1.27	0.03	0.29	0.38	0.01
37.5	0	Path		6	2.7	2.52	0.06	2.7	1.00	0.93	0.02	0.9	0.76	0.05	0.33	0.28	0.02
37.5	0	Path		10	2.21	3.03	0.03	3.03	0.73	1.00	0.01	0.69	0.95	0.03	0.23	0.31	0.01
37.5	0	Path		11	2.7	2.85	0.04	2.85	0.95	1.00	0.01	1.05	1.13	0.04	0.37	0.40	0.01
37.5	0	Path		14	5.06	4.36	0.1	5.06	1.00	0.86	0.02	1.48	1.26	0.09	0.29	0.25	0.02
37.5	0	Path		15	5.68	5.54	0.06	5.68	1.00	0.98	0.01	2.67	1.96	0.05	0.47	0.35	0.01
37.5	0	Path		16	5.48	5.63	0.07	5.63	0.97	1.00	0.01	2.77	2.21	0.05	0.49	0.39	0.01
37.5	0	Path		17	4.17	3.93	0.08	4.17	1.00	0.94	0.02	1.96	1.7	0.07	0.47	0.41	0.02
37.5	0	Path		18	4.67	4.2	0.1	4.67	1.00	0.90	0.02	1.56	1.51	0.08	0.33	0.32	0.02
37.5	0	Path		24	5.18	4.71	0.07	5.18	1.00	0.91	0.01	1.82	1.38	0.07	0.35	0.27	0.01
37.5	0	Path		25	5.97	5.75	0.07	5.97	1.00	0.96	0.01	3.22	2.1	0.06	0.54	0.35	0.01
37.5	0	Path		26	4.71	5.03	0.07	5.03	0.94	1.00	0.01	2.18	2.01	0.06	0.43	0.40	0.01
37.5	0	Path		27	4.36	3.84	0.07	4.36	1.00	0.88	0.02	1.77	1.58	0.06	0.41	0.36	0.01
37.5	0	Path		128	1.77	2.04	0.02	2.04	0.87	1.00	0.01	0.6	0.8	0.02	0.29	0.39	0.01
37.5	0	Path		129	1.77	1.78	0.02	1.78	0.99	1.00	0.01	0.69	0.52	0.01	0.39	0.29	0.01
37.5	0	Path		132	2.76	2.51	0.03	2.76	1.00	0.91	0.01	1.02	0.72	0.02	0.37	0.26	0.01
37.5	0	Path		133	3.24	3.13	0.04	3.24	1.00	0.97	0.01	1.47	1.27	0.03	0.45	0.39	0.01
37.5	0	Path		134	3.88	3.43	0.03	3.88	1.00	0.88	0.01	1.15	1.05	0.03	0.30	0.27	0.01
37.5	0	Path		138	3.13	2.7	0.03	3.13	1.00	0.86	0.01	0.99	1.33	0.03	0.32	0.42	0.01
37.5	0	Path		139	3.68	3.48	0.03	3.68	1.00	0.95	0.01	1.47	1.19	0.03	0.40	0.32	0.01
37.5	0	Path		142	5.95	5.12	0.05	5.95	1.00	0.86	0.01	1.8	1.81	0.05	0.30	0.30	0.01
37.5	0	Path		143	4.77	3.87	0.11	4.77	1.00	0.81	0.02	1.88	1.93	0.1	0.39	0.40	0.02
37.5	0	Path		144	5.08	5.15	0.09	5.15	0.99	1.00	0.02	2.43	1.9	0.08	0.47	0.37	0.02
37.5	0	Path		145	6.09	5.84	0.05	6.09	1.00	0.96	0.01	3.1	2.26	0.04	0.51	0.37	0.01
37.5	0	Path		146	6.18	5.54	0.04	6.18	1.00	0.90	0.01	1.79	1.73	0.04	0.29	0.28	0.01
37.5	0	Path		152	5.61	4.33	0.09	5.61	1.00	0.77	0.02	1.86	1.85	0.09	0.33	0.33	0.02
37.5	0	Path		153	4.48	4.15	0.09	4.48	1.00	0.93	0.02	1.95	1.93	0.09	0.44	0.43	0.02
37.5	0	Path		154	5.68	5.56	0.07	5.68	1.00	0.98	0.01	2.93	2.07	0.06	0.52	0.36	0.01
37.5	0	Path		155	6.17	5.84	0.04	6.17	1.00	0.95	0.01	2.49	2.02	0.03	0.40	0.33	0.00

• QTM0 N260 LOW channel MIMO

Frequency (GHz)	Module	Antenna type	Beam 2	Beam 1	4cm2 PD(W/m2) at 2ma evaluation surfaces @6dBm				Max Ratio			4cm2 PD(W/m2) at 10ma evaluation surfaces @6dBm			Max Ratio		
									1.00	1.00	0.02				0.53	0.38	0.01
					Front	Top	Bottom	Max PD	Front/worse surface	Top/worse surface	Bottom/worse surface	Front	Top	Bottom	Front/worse surface	Top/worse surface	Bottom/worse surface
37.5	0	Path	128	0	3.56	4.42	0.06	4.42	0.81	1.00	0.01	1.21	1.63	0.04	0.27	0.37	0.01
37.5	0	Path	129	1	4.94	3.8	0.03	4.94	1.00	0.77	0.01	2.24	1.33	0.03	0.45	0.27	0.01
37.5	0	Path	132	4	9.22	6.26	0.05	9.22	1.00	0.68	0.01	3.85	2.3	0.05	0.42	0.25	0.01
37.5	0	Path	133	5	6.66	7.7	0.12	7.7	0.86	1.00	0.02	3.03	2.95	0.09	0.39	0.38	0.01
37.5	0	Path	134	6	8.39	6.62	0.12	8.39	1.00	0.79	0.01	3.08	2.64	0.09	0.37	0.31	0.01
37.5	0	Path	138	10	6.4	6.73	0.08	6.73	0.95	1.00	0.01	2.29	2.53	0.06	0.34	0.38	0.01
37.5	0	Path	139	11	8.1	7.4	0.12	8.1	1.00	0.91	0.01	3.57	3.06	0.09	0.44	0.38	0.01
37.5	0	Path	142	14	15.02	9.93	0.18	15.02	1.00	0.66	0.01	4.59	4.12	0.13	0.31	0.27	0.01
37.5	0	Path	143	15	14.15	10.2	0.22	14.15	1.00	0.72	0.02	6.65	5.34	0.21	0.47	0.38	0.01
37.5	0	Path	144	16	13.52	12.98	0.22	13.52	1.00	0.96	0.02	6.9	4.84	0.16	0.51	0.36	0.01
37.5	0	Path	145	17	13.71	11.18	0.16	13.71	1.00	0.82	0.01	7.24	5.09	0.15	0.53	0.37	0.01
37.5	0	Path	146	18	14.1	10.16	0.17	14.1	1.00	0.72	0.01	4.52	3.98	0.15	0.32	0.28	0.01
37.5	0	Path	152	24	14.71	9.48	0.19	14.71	1.00	0.64	0.01	5.42	4.62	0.18	0.37	0.31	0.01
37.5	0	Path	153	25	13.37	11.2	0.17	13.37	1.00	0.84	0.01	7.02	5.12	0.17	0.53	0.38	0.01
37.5	0	Path	154	26	12.93	12.93	0.2	12.93	1.00	1.00	0.02	6.54	4.59	0.17	0.51	0.35	0.01
37.5	0	Path	155	27	13.8	10.95	0.13	13.8	1.00	0.79	0.01	6.05	4.83	0.11	0.44	0.35	0.01

• QTM1 N260 LOW channel SISO

Frequency (GHz)	Module	Antenna type	Beam 2	Beam 1	4cm2 PD(W/m2) at 2mm evaluation surfaces @6dBm				Max Ratio			4cm2 PD(W/m2) at 10mm evaluation surfaces @6dBm			Max Ratio		
									1.00	0.03	1.00				0.48	0.02	0.44
					Front	Top	Bottom	Max PD	Front/worse surface	Top/worse surface	Bottom/worse surface	Front	Top	Bottom	Front/worse surface	Top/worse surface	Bottom/worse surface
37.5	1	Path		2	1.71	0.03	1.6	1.71	1.00	0.02	0.94	0.57	0.02	0.56	0.33	0.01	0.33
37.5	1	Path		3	1.58	0.01	1.63	1.63	0.97	0.01	1.00	0.57	0.01	0.5	0.35	0.01	0.31
37.5	1	Path		7	2.94	0.04	2.95	2.95	1.00	0.01	1.00	0.71	0.03	0.86	0.24	0.01	0.29
37.5	1	Path		8	2.85	0.04	3.19	3.19	0.89	0.01	1.00	1.11	0.04	1.19	0.35	0.01	0.37
37.5	1	Path		9	2.92	0.05	2.91	2.92	1.00	0.02	1.00	0.8	0.04	0.81	0.27	0.01	0.28
37.5	1	Path		12	3.02	0.07	2.85	3.02	1.00	0.02	0.94	1.18	0.06	1.01	0.39	0.02	0.33
37.5	1	Path		13	3.27	0.03	3.22	3.27	1.00	0.01	0.98	1.44	0.02	0.92	0.44	0.01	0.28
37.5	1	Path		19	4.96	0.08	4.98	4.98	1.00	0.02	1.00	1.73	0.07	1.81	0.35	0.01	0.36
37.5	1	Path		20	4.77	0.11	4.5	4.77	1.00	0.02	0.94	2.08	0.1	1.94	0.44	0.02	0.41
37.5	1	Path		21	5.51	0.08	5.62	5.62	0.98	0.01	1.00	2.64	0.07	2.24	0.47	0.01	0.40
37.5	1	Path		22	5.46	0.04	5.74	5.74	0.95	0.01	1.00	2.12	0.03	2.15	0.37	0.01	0.37
37.5	1	Path		23	4.97	0.09	4.89	4.97	1.00	0.02	0.98	1.76	0.08	1.91	0.35	0.02	0.38
37.5	1	Path		28	4.82	0.11	4.74	4.82	1.00	0.02	0.98	1.85	0.09	2	0.38	0.02	0.41
37.5	1	Path		29	5.25	0.11	5.22	5.25	1.00	0.02	0.99	2.51	0.1	2.08	0.48	0.02	0.40
37.5	1	Path		30	5.5	0.06	5.62	5.62	0.98	0.01	1.00	2.5	0.06	2.27	0.44	0.01	0.40
37.5	1	Path		31	4.87	0.05	5.12	5.12	0.95	0.01	1.00	1.48	0.05	1.55	0.29	0.01	0.30
37.5	1	Path		130	1.9	0.02	1.83	1.9	1.00	0.01	0.96	0.7	0.02	0.78	0.37	0.01	0.41
37.5	1	Path		131	1.87	0.02	1.64	1.87	1.00	0.01	0.88	0.79	0.02	0.66	0.42	0.01	0.35
37.5	1	Path		135	3.7	0.06	3.29	3.7	1.00	0.02	0.89	0.97	0.05	0.95	0.26	0.01	0.26
37.5	1	Path		136	3.04	0.03	3	3.04	1.00	0.01	0.99	1.28	0.03	1.33	0.42	0.01	0.44
37.5	1	Path		137	3.44	0.06	3.01	3.44	1.00	0.02	0.88	1.06	0.05	1.04	0.31	0.01	0.30
37.5	1	Path		140	2.44	0.02	2.45	2.45	1.00	0.01	1.00	0.91	0.02	0.74	0.37	0.01	0.30
37.5	1	Path		141	2.99	0.04	2.74	2.99	1.00	0.01	0.92	1.25	0.04	1.21	0.42	0.01	0.40
37.5	1	Path		147	5.87	0.05	4.79	5.87	1.00	0.01	0.82	2.08	0.05	1.92	0.35	0.01	0.33
37.5	1	Path		148	5.51	0.04	5.16	5.51	1.00	0.01	0.94	2.32	0.04	2.08	0.42	0.01	0.38
37.5	1	Path		149	4.68	0.12	4.72	4.72	0.99	0.03	1.00	2.15	0.11	1.83	0.46	0.02	0.39
37.5	1	Path		150	5.16	0.13	4.41	5.16	1.00	0.03	0.85	2.22	0.1	1.89	0.43	0.02	0.37
37.5	1	Path		151	5.94	0.08	5.29	5.94	1.00	0.01	0.89	1.8	0.06	1.91	0.30	0.01	0.32
37.5	1	Path		156	5.91	0.04	4.74	5.91	1.00	0.01	0.80	2.23	0.04	2.09	0.38	0.01	0.35
37.5	1	Path		157	5.19	0.07	5.22	5.22	0.99	0.01	1.00	2.26	0.07	2.02	0.43	0.01	0.39
37.5	1	Path		158	4.54	0.1	4.38	4.54	1.00	0.02	0.96	2.05	0.08	1.79	0.45	0.02	0.39
37.5	1	Path		159	5.71	0.13	5.01	5.71	1.00	0.02	0.88	1.99	0.1	1.88	0.35	0.02	0.33

• QTM1 N260 LOW channel MIMO

Frequency (GHz)	Module	Antenna type	Beam 2	Beam 1	4cm2 PD(W/m2) at 2mm evaluation surfaces @6dBm				Max Ratio			4cm2 PD(W/m2) at 10mm evaluation surfaces @6dBm			Max Ratio		
									1.00	0.02	1.00				0.53	0.02	0.43
									Ratio						Ratio		
					Front	Top	Bottom	Max PD	Front/worse surface	Top/worse surface	Bottom/worse surface	Front	Top	Bottom	Front/worse surface	Top/worse surface	Bottom/worse surface
37.5	1	Path	130	2	4.84	0.05	4.29	4.84	1.00	0.01	0.89	1.92	0.04	1.85	0.40	0.01	0.38
37.5	1	Path	131	3	5.09	0.03	4.01	5.09	1.00	0.01	0.79	2.06	0.02	1.67	0.40	0.00	0.33
37.5	1	Path	135	7	5.6	0.09	5.65	5.65	0.99	0.02	1.00	1.81	0.09	1.9	0.32	0.02	0.34
37.5	1	Path	136	8	8.32	0.11	7.44	8.32	1.00	0.01	0.89	3.83	0.1	3.61	0.46	0.01	0.43
37.5	1	Path	137	9	7.94	0.1	7.17	7.94	1.00	0.01	0.90	2.79	0.09	2.62	0.35	0.01	0.33
37.5	1	Path	140	12	5.54	0.11	4.83	5.54	1.00	0.02	0.87	2.42	0.09	2	0.44	0.02	0.36
37.5	1	Path	141	13	6.14	0.08	5.8	6.14	1.00	0.01	0.94	2.61	0.08	2.26	0.43	0.01	0.37
37.5	1	Path	147	19	12.81	0.13	11.24	12.81	1.00	0.01	0.88	4.89	0.1	4.61	0.38	0.01	0.36
37.5	1	Path	148	20	13.67	0.2	11.18	13.67	1.00	0.01	0.82	6.51	0.18	5.2	0.48	0.01	0.38
37.5	1	Path	149	21	14	0.24	11.5	14	1.00	0.02	0.82	7.39	0.21	5.37	0.53	0.02	0.38
37.5	1	Path	150	22	14.31	0.2	11	14.31	1.00	0.01	0.77	6.1	0.18	5.78	0.43	0.01	0.40
37.5	1	Path	151	23	12.95	0.15	10.96	12.95	1.00	0.01	0.85	4.06	0.14	4.13	0.31	0.01	0.32
37.5	1	Path	156	28	13.09	0.21	11.14	13.09	1.00	0.02	0.85	5.48	0.16	5.03	0.42	0.01	0.38
37.5	1	Path	157	29	14.71	0.24	11.81	14.71	1.00	0.02	0.80	7.42	0.21	5.38	0.50	0.01	0.37
37.5	1	Path	158	30	13.47	0.18	10.5	13.47	1.00	0.01	0.78	6.71	0.16	5.49	0.50	0.01	0.41
37.5	1	Path	159	31	14.16	0.26	11.19	14.16	1.00	0.02	0.79	5.06	0.24	5.31	0.36	0.02	0.38

• QTM0 N260 Middle channel SIS0

Frequency (GHz)	Module	Antenna type	Beam 2	Beam 1	4cm2 PD(W/m2) at 2mm evaluation surfaces @6dBm				Max Ratio			4cm2 PD(W/m2) at 10mm evaluation surfaces @6dBm			Max Ratio		
									1.00	1.00	0.03				0.54	0.46	0.03
					Front	Top	Bottom	Max PD	Front/worse surface	Top/worse surface	Bottom/worse surface	Front	Top	Bottom	Front/worse surface	Top/worse surface	Bottom/worse surface
38.5	0	Path		0	0.81	1.18	0.02	1.18	0.69	1.00	0.02	0.21	0.39	0.01	0.18	0.33	0.01
38.5	0	Path		1	1.52	1.12	0.02	1.52	1.00	0.74	0.01	0.66	0.39	0.01	0.43	0.26	0.01
38.5	0	Path		4	2.81	2.44	0.03	2.81	1.00	0.87	0.01	1	0.67	0.02	0.36	0.24	0.01
38.5	0	Path		5	1.44	2.6	0.02	2.6	0.55	1.00	0.01	0.48	1.14	0.02	0.18	0.44	0.01
38.5	0	Path		6	1.99	2.19	0.06	2.19	0.91	1.00	0.03	0.61	0.72	0.05	0.28	0.33	0.02
38.5	0	Path		10	1.55	2.43	0.03	2.43	0.64	1.00	0.01	0.38	0.91	0.02	0.16	0.37	0.01
38.5	0	Path		11	1.83	2.44	0.04	2.44	0.75	1.00	0.02	0.69	0.94	0.03	0.28	0.39	0.01
38.5	0	Path		14	4.14	3.74	0.1	4.14	1.00	0.90	0.02	1.34	1.15	0.09	0.32	0.28	0.02
38.5	0	Path		15	3.23	3.67	0.07	3.67	0.88	1.00	0.02	1.52	1.67	0.07	0.41	0.46	0.02
38.5	0	Path		16	4.32	4.06	0.06	4.32	1.00	0.94	0.01	2.28	1.81	0.05	0.53	0.42	0.01
38.5	0	Path		17	3.65	4.04	0.1	4.04	0.90	1.00	0.02	1.48	1.38	0.08	0.37	0.34	0.02
38.5	0	Path		18	4.15	3.79	0.1	4.15	1.00	0.91	0.02	1.48	1.29	0.08	0.36	0.31	0.02
38.5	0	Path		24	3.68	3.85	0.09	3.85	0.96	1.00	0.02	1.45	1.44	0.08	0.38	0.37	0.02
38.5	0	Path		25	3.77	3.72	0.07	3.77	1.00	0.99	0.02	2.04	1.68	0.06	0.54	0.45	0.02
38.5	0	Path		26	3.97	4	0.05	4	0.99	1.00	0.01	1.89	1.71	0.04	0.47	0.43	0.01
38.5	0	Path		27	3.83	3.89	0.1	3.89	0.98	1.00	0.03	1.41	1.26	0.08	0.36	0.32	0.02
38.5	0	Path		128	1.55	1.86	0.02	1.86	0.83	1.00	0.01	0.46	0.68	0.02	0.25	0.37	0.01
38.5	0	Path		129	1.67	1.74	0.02	1.74	0.96	1.00	0.01	0.66	0.56	0.02	0.38	0.32	0.01
38.5	0	Path		132	2.23	2.14	0.04	2.23	1.00	0.96	0.02	0.79	0.69	0.03	0.35	0.31	0.01
38.5	0	Path		133	2.86	2.91	0.04	2.91	0.98	1.00	0.01	1.21	1.11	0.03	0.42	0.38	0.01
38.5	0	Path		134	3.68	3.32	0.03	3.68	1.00	0.90	0.01	1.04	1.08	0.03	0.28	0.29	0.01
38.5	0	Path		138	2.92	2.56	0.04	2.92	1.00	0.88	0.01	1.06	1.35	0.04	0.36	0.46	0.01
38.5	0	Path		139	3.41	3.28	0.04	3.41	1.00	0.96	0.01	1.33	1.08	0.03	0.39	0.32	0.01
38.5	0	Path		142	5.49	4.41	0.06	5.49	1.00	0.80	0.01	1.77	1.78	0.06	0.32	0.32	0.01
38.5	0	Path		143	4.79	4.11	0.12	4.79	1.00	0.86	0.03	1.92	2.22	0.12	0.40	0.46	0.03
38.5	0	Path		144	5.06	4.69	0.1	5.06	1.00	0.93	0.02	2.39	2.04	0.08	0.47	0.40	0.02
38.5	0	Path		145	4.69	4.86	0.07	4.86	0.97	1.00	0.01	2.24	2.05	0.06	0.46	0.42	0.01
38.5	0	Path		146	5.59	4.94	0.06	5.59	1.00	0.88	0.01	1.59	1.64	0.05	0.28	0.29	0.01
38.5	0	Path		152	5.07	4.16	0.11	5.07	1.00	0.82	0.02	1.83	2.01	0.1	0.36	0.40	0.02
38.5	0	Path		153	4.72	3.96	0.1	4.72	1.00	0.84	0.02	2.02	1.99	0.1	0.43	0.42	0.02
38.5	0	Path		154	5.11	5.05	0.09	5.11	1.00	0.99	0.02	2.59	2.11	0.08	0.51	0.41	0.02
38.5	0	Path		155	4.79	5.04	0.06	5.04	0.95	1.00	0.01	1.67	1.78	0.05	0.33	0.35	0.01

• QTM0 N260 Middle channel MIMO

Frequency (GHz)	Module	Antenna type	Beam 2	Beam 1	4cm2 PD(W/m2) at 2mm evaluation surfaces @6dBm				Max Ratio			4cm2 PD(W/m2) at 10mm evaluation surfaces @6dBm			Max Ratio		
									1.00	1.00	0.02				0.53	0.46	0.02
									Ratio						Ratio		
					Front	Top	Bottom	Max PD	Front/worse surface	Top/worse surface	Bottom/worse surface	Front	Top	Bottom	Front/worse surface	Top/worse surface	Bottom/worse surface
38.5	0	Path	128	0	2.57	3.97	0.06	3.97	0.65	1.00	0.02	0.81	1.28	0.05	0.20	0.32	0.01
38.5	0	Path	129	1	4.75	3.53	0.04	4.75	1.00	0.74	0.01	2.1	1.34	0.03	0.44	0.28	0.01
38.5	0	Path	132	4	7.24	5.01	0.07	7.24	1.00	0.69	0.01	2.9	1.92	0.06	0.40	0.27	0.01
38.5	0	Path	133	5	4.75	7.15	0.12	7.15	0.66	1.00	0.02	1.99	2.48	0.09	0.28	0.35	0.01
38.5	0	Path	134	6	6.88	6.25	0.12	6.88	1.00	0.91	0.02	2.24	2.51	0.1	0.33	0.36	0.01
38.5	0	Path	138	10	5.2	6.26	0.08	6.26	0.83	1.00	0.01	1.87	2.55	0.06	0.30	0.41	0.01
38.5	0	Path	139	11	6.22	7.03	0.14	7.03	0.88	1.00	0.02	2.5	2.41	0.11	0.36	0.34	0.02
38.5	0	Path	142	14	12.48	8.84	0.19	12.48	1.00	0.71	0.02	3.8	4.11	0.17	0.30	0.33	0.01
38.5	0	Path	143	15	10.78	8.66	0.18	10.78	1.00	0.80	0.02	4.88	4.99	0.18	0.45	0.46	0.02
38.5	0	Path	144	16	12.81	9.91	0.17	12.81	1.00	0.77	0.01	6.63	4.79	0.13	0.52	0.37	0.01
38.5	0	Path	145	17	10.36	10.8	0.21	10.8	0.96	1.00	0.02	5.06	4.13	0.18	0.47	0.38	0.02
38.5	0	Path	146	18	12.09	9.11	0.22	12.09	1.00	0.75	0.02	3.92	3.56	0.18	0.32	0.29	0.01
38.5	0	Path	152	24	11.74	8.46	0.2	11.74	1.00	0.72	0.02	4.17	4.53	0.19	0.36	0.39	0.02
38.5	0	Path	153	25	11.23	8.59	0.16	11.23	1.00	0.76	0.01	5.57	4.72	0.14	0.50	0.42	0.01
38.5	0	Path	154	26	12.19	10.48	0.17	12.19	1.00	0.86	0.01	6.45	4.61	0.16	0.53	0.38	0.01
38.5	0	Path	155	27	10.35	10.56	0.22	10.56	0.98	1.00	0.02	3.67	3.65	0.17	0.35	0.35	0.02

• QTM1 N260 Middle channel SIS0

Frequency (GHz)	Module	Antenna type	Beam 2	Beam 1	4cm2 PD(W/m2) at 2mm evaluation surfaces @6dBm				Max Ratio			4cm2 PD(W/m2) at 10mm evaluation surfaces @6dBm			Max Ratio		
									1.00	0.03	1.00				0.48	0.03	0.46
					Front	Top	Bottom	Max PD	Front/worse surface	Top/worse surface	Bottom/worse surface	Front	Top	Bottom	Front/worse surface	Top/worse surface	Bottom/worse surface
38.5	1	Path		2	1.67	0.02	1.35	1.67	1.00	0.01	0.81	0.52	0.02	0.56	0.31	0.01	0.34
38.5	1	Path		3	1.67	0.02	1.24	1.67	1.00	0.01	0.74	0.67	0.01	0.39	0.40	0.01	0.23
38.5	1	Path		7	2.95	0.05	2.41	2.95	1.00	0.02	0.82	0.83	0.04	0.74	0.28	0.01	0.25
38.5	1	Path		8	2.94	0.04	2.92	2.94	1.00	0.01	0.99	1.15	0.03	1.34	0.39	0.01	0.46
38.5	1	Path		9	2.38	0.06	2.43	2.43	0.98	0.02	1.00	0.6	0.05	0.7	0.25	0.02	0.29
38.5	1	Path		12	2.77	0.06	2.77	2.77	1.00	0.02	1.00	1	0.05	1.11	0.36	0.02	0.40
38.5	1	Path		13	2.77	0.03	2.35	2.77	1.00	0.01	0.85	1.34	0.02	0.75	0.48	0.01	0.27
38.5	1	Path		19	4.95	0.06	4.07	4.95	1.00	0.01	0.82	1.58	0.05	1.71	0.32	0.01	0.35
38.5	1	Path		20	4.31	0.14	4.27	4.31	1.00	0.03	0.99	1.82	0.13	1.67	0.42	0.03	0.39
38.5	1	Path		21	5.13	0.07	4.41	5.13	1.00	0.01	0.86	2.36	0.06	1.96	0.46	0.01	0.38
38.5	1	Path		22	4.16	0.03	3.73	4.16	1.00	0.01	0.90	1.64	0.03	1.4	0.39	0.01	0.34
38.5	1	Path		23	4.86	0.09	3.98	4.86	1.00	0.02	0.82	1.53	0.08	1.71	0.31	0.02	0.35
38.5	1	Path		28	4.43	0.14	3.97	4.43	1.00	0.03	0.90	1.54	0.12	1.64	0.35	0.03	0.37
38.5	1	Path		29	4.99	0.1	4.64	4.99	1.00	0.02	0.93	2.23	0.09	1.78	0.45	0.02	0.36
38.5	1	Path		30	4.74	0.04	4.07	4.74	1.00	0.01	0.86	2.03	0.03	1.74	0.43	0.01	0.37
38.5	1	Path		31	4.1	0.05	3.72	4.1	1.00	0.01	0.91	1.52	0.05	1.27	0.37	0.01	0.31
38.5	1	Path		130	1.82	0.02	1.76	1.82	1.00	0.01	0.97	0.73	0.02	0.68	0.40	0.01	0.37
38.5	1	Path		131	2.23	0.02	2.02	2.23	1.00	0.01	0.91	0.94	0.01	0.96	0.42	0.00	0.43
38.5	1	Path		135	3.4	0.06	2.81	3.4	1.00	0.02	0.83	1.13	0.05	0.84	0.33	0.01	0.25
38.5	1	Path		136	3.65	0.04	3.18	3.65	1.00	0.01	0.87	1.54	0.04	1.56	0.42	0.01	0.43
38.5	1	Path		137	3.15	0.06	2.8	3.15	1.00	0.02	0.89	1.05	0.05	0.86	0.33	0.02	0.27
38.5	1	Path		140	2.28	0.02	2.42	2.42	0.94	0.01	1.00	0.85	0.02	0.89	0.35	0.01	0.37
38.5	1	Path		141	3.08	0.05	2.91	3.08	1.00	0.02	0.94	1.3	0.05	1.2	0.42	0.02	0.39
38.5	1	Path		147	5.56	0.04	4.51	5.56	1.00	0.01	0.81	2.08	0.04	2.05	0.37	0.01	0.37
38.5	1	Path		148	5.77	0.05	4.81	5.77	1.00	0.01	0.83	2.41	0.04	2.32	0.42	0.01	0.40
38.5	1	Path		149	6.22	0.14	5.37	6.22	1.00	0.02	0.86	2.73	0.12	2.62	0.44	0.02	0.42
38.5	1	Path		150	4.71	0.13	4.48	4.71	1.00	0.03	0.95	1.89	0.11	1.71	0.40	0.02	0.36
38.5	1	Path		151	5.86	0.1	4.53	5.86	1.00	0.02	0.77	1.87	0.07	1.93	0.32	0.01	0.33
38.5	1	Path		156	5.36	0.04	4.39	5.36	1.00	0.01	0.82	2.21	0.04	2.09	0.41	0.01	0.39
38.5	1	Path		157	6.35	0.09	5.37	6.35	1.00	0.01	0.85	2.61	0.07	2.63	0.41	0.01	0.41
38.5	1	Path		158	5.24	0.15	5.01	5.24	1.00	0.03	0.96	2.36	0.13	2.18	0.45	0.02	0.42
38.5	1	Path		159	5.4	0.14	4.42	5.4	1.00	0.03	0.82	1.72	0.1	1.74	0.32	0.02	0.32

• QTM1 N260 Middle channel MIMO

Frequency (GHz)	Module	Antenna type	Beam 2	Beam 1	4cm2 PD(W/m2) at 2mm evaluation surfaces @6dBm				Max Ratio			4cm2 PD(W/m2) at 10mm evaluation surfaces @6dBm			Max Ratio		
									1.00	0.02	0.94				0.52	0.02	0.43
									Ratio						Ratio		
					Front	Top	Bottom	Max PD	Front/worse surface	Top/worse surface	Bottom/worse surface	Front	Top	Bottom	Front/worse surface	Top/worse surface	Bottom/worse surface
38.5	1	Path	130	2	4.94	0.05	4.11	4.94	1.00	0.01	0.83	2.03	0.04	1.75	0.41	0.01	0.35
38.5	1	Path	131	3	5.71	0.04	4.04	5.71	1.00	0.01	0.71	2.23	0.03	2.02	0.39	0.01	0.35
38.5	1	Path	135	7	5.3	0.09	4.36	5.3	1.00	0.02	0.82	2.2	0.08	1.6	0.42	0.02	0.30
38.5	1	Path	136	8	9.04	0.13	6.93	9.04	1.00	0.01	0.77	4.21	0.11	3.89	0.47	0.01	0.43
38.5	1	Path	137	9	6.66	0.1	5.81	6.66	1.00	0.02	0.87	2.44	0.09	2.18	0.37	0.01	0.33
38.5	1	Path	140	12	5.08	0.12	4.62	5.08	1.00	0.02	0.91	2.09	0.1	1.96	0.41	0.02	0.39
38.5	1	Path	141	13	5.22	0.08	4.91	5.22	1.00	0.02	0.94	2.7	0.07	1.87	0.52	0.01	0.36
38.5	1	Path	147	19	14.2	0.16	10.86	14.2	1.00	0.01	0.76	5.08	0.13	5.47	0.36	0.01	0.39
38.5	1	Path	148	20	14.19	0.21	10.45	14.19	1.00	0.01	0.74	6.51	0.18	5.85	0.46	0.01	0.41
38.5	1	Path	149	21	15.53	0.24	10.57	15.53	1.00	0.02	0.68	7.83	0.21	6.19	0.50	0.01	0.40
38.5	1	Path	150	22	11.77	0.21	9.25	11.77	1.00	0.02	0.79	5.03	0.18	4.32	0.43	0.02	0.37
38.5	1	Path	151	23	13.66	0.16	9.99	13.66	1.00	0.01	0.73	4.58	0.14	5.17	0.34	0.01	0.38
38.5	1	Path	156	28	13.12	0.2	10.63	13.12	1.00	0.02	0.81	4.97	0.16	5.66	0.38	0.01	0.43
38.5	1	Path	157	29	16.1	0.22	11.48	16.1	1.00	0.01	0.71	7.8	0.17	6.29	0.48	0.01	0.39
38.5	1	Path	158	30	13.29	0.25	9.73	13.29	1.00	0.02	0.73	6.66	0.23	5.27	0.50	0.02	0.40
38.5	1	Path	159	31	12.43	0.21	9.21	12.43	1.00	0.02	0.74	4.18	0.19	4	0.34	0.02	0.32

• QTM0 N260 High channel SISO

Frequency (GHz)	Module	Antenna type	Beam 2	Beam 1	4cm2 PD(W/m2) at 2mm evaluation surfaces @6dBm				Max Ratio			4cm2 PD(W/m2) at 10mm evaluation surfaces @6dBm			Max Ratio		
									1.00	1.00	0.02				0.47	0.57	0.02
					Front	Top	Bottom	Max PD	Front/worse surface	Top/worse surface	Bottom/worse surface	Front	Top	Bottom	Front/worse surface	Top/worse surface	Bottom/worse surface
40	0	Path		0	1.07	1.08	0.02	1.08	0.99	1.00	0.02	0.32	0.3	0.01	0.30	0.28	0.01
40	0	Path		1	1.82	1.39	0.01	1.82	1.00	0.76	0.01	0.74	0.51	0.01	0.41	0.28	0.01
40	0	Path		4	2.9	2.11	0.02	2.9	1.00	0.73	0.01	1.11	0.69	0.02	0.38	0.24	0.01
40	0	Path		5	2.41	2.53	0.04	2.53	0.95	1.00	0.02	1.07	1.1	0.03	0.42	0.43	0.01
40	0	Path		6	2.92	2.69	0.05	2.92	1.00	0.92	0.02	0.83	0.88	0.04	0.28	0.30	0.01
40	0	Path		10	2.53	2.62	0.03	2.62	0.97	1.00	0.01	0.99	1.05	0.02	0.38	0.40	0.01
40	0	Path		11	2.69	2.59	0.04	2.69	1.00	0.96	0.01	0.99	1.03	0.03	0.37	0.38	0.01
40	0	Path		14	5	3.92	0.07	5	1.00	0.78	0.01	1.77	1.72	0.06	0.35	0.34	0.01
40	0	Path		15	4.93	4.31	0.05	4.93	1.00	0.87	0.01	2.23	2.26	0.04	0.45	0.46	0.01
40	0	Path		16	4.27	4.38	0.04	4.38	0.97	1.00	0.01	1.96	1.7	0.04	0.45	0.39	0.01
40	0	Path		17	4.24	3.93	0.09	4.24	1.00	0.93	0.02	1.86	1.67	0.08	0.44	0.39	0.02
40	0	Path		18	5.14	3.94	0.08	5.14	1.00	0.77	0.02	1.91	1.32	0.06	0.37	0.26	0.01
40	0	Path		24	4.76	4.13	0.06	4.76	1.00	0.87	0.01	1.87	2.07	0.05	0.39	0.43	0.01
40	0	Path		25	4.81	4.34	0.04	4.81	1.00	0.90	0.01	2.21	2.19	0.03	0.46	0.46	0.01
40	0	Path		26	4.11	4.28	0.06	4.28	0.96	1.00	0.01	1.88	1.59	0.05	0.44	0.37	0.01
40	0	Path		27	5.01	4.03	0.08	5.01	1.00	0.80	0.02	2.02	1.63	0.08	0.40	0.33	0.02
40	0	Path		128	1.37	1.63	0.01	1.63	0.84	1.00	0.01	0.47	0.54	0.01	0.29	0.33	0.01
40	0	Path		129	1.67	1.77	0.02	1.77	0.94	1.00	0.01	0.62	0.79	0.02	0.35	0.45	0.01
40	0	Path		132	2.33	2.61	0.04	2.61	0.89	1.00	0.02	0.72	1.03	0.04	0.28	0.39	0.02
40	0	Path		133	2.47	2.94	0.03	2.94	0.84	1.00	0.01	0.87	1.04	0.02	0.30	0.35	0.01
40	0	Path		134	2.85	2.91	0.03	2.91	0.98	1.00	0.01	0.88	1.03	0.03	0.30	0.35	0.01
40	0	Path		138	2.75	2.58	0.03	2.75	1.00	0.94	0.01	0.98	1.1	0.03	0.36	0.40	0.01
40	0	Path		139	2.6	3.03	0.03	3.03	0.86	1.00	0.01	0.85	0.85	0.02	0.28	0.28	0.01
40	0	Path		142	4.39	4.16	0.08	4.39	1.00	0.95	0.02	1.72	1.66	0.07	0.39	0.38	0.02
40	0	Path		143	4.51	4.06	0.09	4.51	1.00	0.90	0.02	1.78	1.83	0.09	0.39	0.41	0.02
40	0	Path		144	4.26	3.93	0.06	4.26	1.00	0.92	0.01	1.88	1.94	0.05	0.44	0.46	0.01
40	0	Path		145	4.2	4.32	0.08	4.32	0.97	1.00	0.02	2.05	2.4	0.07	0.47	0.56	0.02
40	0	Path		146	4.12	4.38	0.05	4.38	0.94	1.00	0.01	1.43	1.76	0.04	0.33	0.40	0.01
40	0	Path		152	4.66	4.16	0.1	4.66	1.00	0.89	0.02	1.85	1.86	0.1	0.40	0.40	0.02
40	0	Path		153	4.22	4.14	0.07	4.22	1.00	0.98	0.02	1.77	1.84	0.07	0.42	0.44	0.02
40	0	Path		154	4.43	4.11	0.07	4.43	1.00	0.93	0.02	1.98	2.24	0.06	0.45	0.51	0.01
40	0	Path		155	3.77	4.18	0.08	4.18	0.90	1.00	0.02	1.86	2.37	0.06	0.44	0.57	0.01

• QTM0 N260 High channel MIMO

Frequency (GHz)	Module	Antenna type	Beam 2	Beam 1	4cm2 PD(W/m2) at 2mm evaluation surfaces @6dBm				Max Ratio			4cm2 PD(W/m2) at 10mm evaluation surfaces @6dBm			Max Ratio		
									1.00	1.00	0.02				0.48	0.54	0.02
									Ratio						Ratio		
					Front	Top	Bottom	Max PD	Front/worse surface	Top/worse surface	Bottom/worse surface	Front	Top	Bottom	Front/worse surface	Top/worse surface	Bottom/worse surface
40	0	Path	128	0	3.01	3.66	0.04	3.66	0.82	1.00	0.01	1.13	1.15	0.03	0.31	0.31	0.01
40	0	Path	129	1	4.5	3.6	0.04	4.5	1.00	0.80	0.01	1.79	1.54	0.04	0.40	0.34	0.01
40	0	Path	132	4	6.77	5.72	0.07	6.77	1.00	0.84	0.01	2.27	2.61	0.06	0.34	0.39	0.01
40	0	Path	133	5	5.66	7.1	0.09	7.1	0.80	1.00	0.01	2.52	2.87	0.07	0.35	0.40	0.01
40	0	Path	134	6	6.77	6.55	0.1	6.77	1.00	0.97	0.01	2.35	2.76	0.08	0.35	0.41	0.01
40	0	Path	138	10	6.8	6.62	0.07	6.8	1.00	0.97	0.01	3.12	3.56	0.06	0.46	0.52	0.01
40	0	Path	139	11	6.14	6.88	0.12	6.88	0.89	1.00	0.02	2.37	2.45	0.09	0.34	0.36	0.01
40	0	Path	142	14	12.48	10.15	0.15	12.48	1.00	0.81	0.01	4.92	5.27	0.14	0.39	0.42	0.01
40	0	Path	143	15	12.36	9.98	0.14	12.36	1.00	0.81	0.01	5.73	6.24	0.14	0.46	0.50	0.01
40	0	Path	144	16	9.87	10.88	0.15	10.88	0.91	1.00	0.01	4.91	4.47	0.14	0.45	0.41	0.01
40	0	Path	145	17	11.81	11.28	0.25	11.81	1.00	0.96	0.02	5.62	6.35	0.23	0.48	0.54	0.02
40	0	Path	146	18	12.16	9.86	0.19	12.16	1.00	0.81	0.02	4.65	5.11	0.15	0.38	0.42	0.01
40	0	Path	152	24	13.11	10.74	0.15	13.11	1.00	0.82	0.01	5.57	6.27	0.16	0.42	0.48	0.01
40	0	Path	153	25	10.45	11.14	0.13	11.14	0.94	1.00	0.01	5.1	5.49	0.13	0.46	0.49	0.01
40	0	Path	154	26	10.73	10.83	0.2	10.83	0.99	1.00	0.02	4.92	4.96	0.19	0.45	0.46	0.02
40	0	Path	155	27	12.49	11.63	0.25	12.49	1.00	0.93	0.02	5.76	6.67	0.22	0.46	0.53	0.02

• QTM1 N260 High channel SISO

Frequency (GHz)	Module	Antenna type	Beam 2	Beam 1	4cm2 PD(W/m2) at 2mm evaluation surfaces @6dBm				Max Ratio			4cm2 PD(W/m2) at 10mm evaluation surfaces @6dBm			Max Ratio		
									1.00	0.03	1.00				0.45	0.02	0.49
					Ratio			Ratio									
Front	Top	Bottom	Max PD	Front/worse surface	Top/worse surface	Bottom/worse surface	Front	Top	Bottom	Front/worse surface	Top/worse surface	Bottom/worse surface					
40	1	Path		2	1.06	0.01	1.14	1.14	0.93	0.01	1.00	0.29	0.01	0.34	0.25	0.01	0.30
40	1	Path		3	2.32	0.02	1.78	2.32	1.00	0.01	0.77	0.86	0.02	0.63	0.37	0.01	0.27
40	1	Path		7	3.42	0.05	2.72	3.42	1.00	0.01	0.80	1.11	0.04	0.79	0.32	0.01	0.23
40	1	Path		8	2.11	0.03	2.37	2.37	0.89	0.01	1.00	0.68	0.02	0.89	0.29	0.01	0.38
40	1	Path		9	3.06	0.06	2.8	3.06	1.00	0.02	0.92	0.78	0.05	1.01	0.25	0.02	0.33
40	1	Path		12	2.64	0.04	2.74	2.74	0.96	0.01	1.00	0.63	0.03	0.87	0.23	0.01	0.32
40	1	Path		13	3.23	0.02	2.34	3.23	1.00	0.01	0.72	1.4	0.01	1	0.43	0.00	0.31
40	1	Path		19	5.7	0.07	4.34	5.7	1.00	0.01	0.76	1.64	0.05	1.72	0.29	0.01	0.30
40	1	Path		20	4.82	0.13	4.16	4.82	1.00	0.03	0.86	2.15	0.12	1.8	0.45	0.02	0.37
40	1	Path		21	4.56	0.05	3.97	4.56	1.00	0.01	0.87	1.93	0.05	1.76	0.42	0.01	0.39
40	1	Path		22	5.17	0.04	4.18	5.17	1.00	0.01	0.81	2.01	0.04	2.15	0.39	0.01	0.42
40	1	Path		23	5.44	0.09	4.09	5.44	1.00	0.02	0.75	1.81	0.08	1.52	0.33	0.01	0.28
40	1	Path		28	5.28	0.12	4.08	5.28	1.00	0.02	0.77	2.07	0.11	1.61	0.39	0.02	0.30
40	1	Path		29	4.81	0.07	4.07	4.81	1.00	0.01	0.85	2.05	0.07	1.76	0.43	0.01	0.37
40	1	Path		30	4.81	0.04	4.29	4.81	1.00	0.01	0.89	1.92	0.04	1.95	0.40	0.01	0.41
40	1	Path		31	5.36	0.04	4.1	5.36	1.00	0.01	0.76	1.88	0.03	2.23	0.35	0.01	0.42
40	1	Path		130	1.35	0.01	1.38	1.38	0.98	0.01	1.00	0.45	0.01	0.46	0.33	0.01	0.33
40	1	Path		131	2.2	0.02	2.11	2.2	1.00	0.01	0.96	0.76	0.01	0.96	0.35	0.00	0.44
40	1	Path		135	2.84	0.04	2.37	2.84	1.00	0.01	0.83	0.9	0.03	0.78	0.32	0.01	0.27
40	1	Path		136	3.4	0.03	3.22	3.4	1.00	0.01	0.95	1.26	0.02	1.55	0.37	0.01	0.46
40	1	Path		137	2.84	0.04	2.51	2.84	1.00	0.01	0.88	0.86	0.03	0.96	0.30	0.01	0.34
40	1	Path		140	2.99	0.03	2.74	2.99	1.00	0.01	0.92	1.23	0.03	1.39	0.41	0.01	0.46
40	1	Path		141	3.06	0.04	2.86	3.06	1.00	0.01	0.93	1.12	0.04	1.3	0.37	0.01	0.42
40	1	Path		147	5.22	0.04	4.8	5.22	1.00	0.01	0.92	2.24	0.04	2.49	0.43	0.01	0.48
40	1	Path		148	5.91	0.06	5.05	5.91	1.00	0.01	0.85	2.6	0.05	2.85	0.44	0.01	0.48
40	1	Path		149	5.94	0.07	5.13	5.94	1.00	0.01	0.86	2.46	0.06	2.7	0.41	0.01	0.45
40	1	Path		150	4.47	0.11	4.17	4.47	1.00	0.02	0.93	1.68	0.09	1.98	0.38	0.02	0.44
40	1	Path		151	4.56	0.06	4.4	4.56	1.00	0.01	0.96	1.78	0.04	1.97	0.39	0.01	0.43
40	1	Path		156	5.64	0.06	4.84	5.64	1.00	0.01	0.86	2.54	0.05	2.76	0.45	0.01	0.49
40	1	Path		157	6.03	0.05	5.02	6.03	1.00	0.01	0.83	2.45	0.05	2.7	0.41	0.01	0.45
40	1	Path		158	5.4	0.09	4.77	5.4	1.00	0.02	0.88	2.34	0.08	2.52	0.43	0.01	0.47
40	1	Path		159	4.26	0.09	4.28	4.28	1.00	0.02	1.00	1.36	0.06	1.49	0.32	0.01	0.35

• QTM1 N260 High channel MIMO

Frequency (GHz)	Module	Antenna type	Beam 2	Beam 1	4cm2 PD(W/m2) at 2mm evaluation surfaces @6dBm				Max Ratio			4cm2 PD(W/m2) at 10mm evaluation surfaces @6dBm			Max Ratio		
									1.40	0.02	1.00				0.48	0.02	0.50
									Ratio				Ratio			Ratio	
					Front	Top	Bottom	Max PD	Front/worse surface	Top/worse surface	Bottom/worse surface	Front	Top	Bottom	Front/worse surface	Top/worse surface	Bottom/worse surface
40	1	Path	130	2	3.44	0.03	3.76	3.76	0.91	0.01	1.00	1.18	0.02	1.19	0.31	0.01	0.32
40	1	Path	131	3	5.51	0.05	4.25	5.51	1.30	0.01	0.77	2.15	0.04	1.99	0.39	0.01	0.36
40	1	Path	135	7	6.33	0.07	4.73	6.33	1.34	0.01	0.75	2.15	0.07	1.85	0.34	0.01	0.29
40	1	Path	136	8	6.03	0.08	6.99	6.99	0.86	0.01	1.00	2.42	0.07	2.7	0.35	0.01	0.39
40	1	Path	137	9	6.93	0.1	6.62	6.93	1.05	0.02	0.96	2.61	0.08	3.08	0.38	0.01	0.44
40	1	Path	140	12	5.69	0.11	5.11	5.69	1.11	0.02	0.90	2.27	0.1	2.6	0.40	0.02	0.46
40	1	Path	141	13	6.22	0.06	4.66	6.22	1.33	0.01	0.75	2.3	0.05	2.48	0.37	0.01	0.40
40	1	Path	147	19	14.39	0.12	10.94	14.39	1.32	0.01	0.76	5.56	0.1	6.21	0.39	0.01	0.43
40	1	Path	148	20	14.52	0.26	11.66	14.52	1.25	0.02	0.80	6.26	0.24	6.58	0.43	0.02	0.45
40	1	Path	149	21	12.38	0.2	10.62	12.38	1.17	0.02	0.86	5.93	0.17	4.88	0.48	0.01	0.39
40	1	Path	150	22	13	0.18	10.39	13	1.25	0.02	0.80	5.9	0.16	6.49	0.45	0.01	0.50
40	1	Path	151	23	13.66	0.12	9.78	13.66	1.40	0.01	0.72	5.31	0.1	5.06	0.39	0.01	0.37
40	1	Path	156	28	16.07	0.2	12.14	16.07	1.32	0.02	0.76	6.67	0.18	7.16	0.42	0.01	0.45
40	1	Path	157	29	13.94	0.16	10.85	13.94	1.28	0.01	0.78	6.29	0.13	5.28	0.45	0.01	0.38
40	1	Path	158	30	12.38	0.19	10.97	12.38	1.13	0.02	0.89	5.63	0.17	5.78	0.45	0.01	0.47
40	1	Path	159	31	13.22	0.14	11.15	13.22	1.19	0.01	0.84	5.34	0.11	6.03	0.40	0.01	0.46

Table 4-1: Max Ratio for SISO and MIMO per band per module

Band	module	Distance	Max Ratio for SISO	Max Ratio for MIMO
N261	0	2mm	1	1
		10mm	0.47	0.44
	1	2mm	1	1
		10mm	0.59	0.54
N260	0	2mm	1	1
		10mm	0.57	0.54
	1	2mm	1	1
		10mm	0.49	0.53

5. Power Density Characterization

5.1 PD design target

For Qualcomm SDX55/QTM525, 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:

$$PD_design_target = 6 \text{ W/m}^2$$

5.2 Worst-case housing influence determination

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 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 $\Delta_{min} = \text{Sim. PD} - \text{Meas. PD}$, is determined as:

Table 5-1: Δ_{min} for QTM0 and QTM1

Band	QTM	$\Delta_{min}(\text{db})$
N260	0	-2.43
	1	-2.63
N261	0	-0.62
	1	-1.6

Δ_{min} 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.

5.3 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.

5.3.1 Scaling factor for SISO beams

Determine scaling factor for low, mid, high channel, $S(i)_{\text{low_or_mid_high}}$ by:

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

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

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

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

scaling factor $S(i)$ list

5.3.2 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 $beam_b = \varnothing$, and the total PD of the beam pair can be expressed as:

$$\begin{aligned} total\ PD(\varnothing) &= \frac{1}{2} \sqrt{Re\{PD_x(\varnothing)\}^2 + Re\{PD_y(\varnothing)\}^2 + Re\{PD_z(\varnothing)\}^2} \\ &= \frac{1}{2} Re\left\{\left(\vec{E}_a + \vec{E}_b e^{j\omega\varnothing}\right) \times \left(\vec{H}_a + \vec{H}_b e^{j\omega\varnothing}\right)^*\right\} \quad (4) \end{aligned}$$

where, $PD_x(\varnothing)$, $PD_y(\varnothing)$ and $PD_z(\varnothing)$ are the three components of the total PD ($\varnothing$); and 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 $\varnothing$ with a 5° step from 0° to 360° to determine the worst-case, $\varnothing$, which results in the highest total PD ($\varnothing$) among all identified surfaces for this MIMO beam at this channel.

Follow the above procedure to determine $\varnothing$ for all three channels of all bands supported, and obtain the scaling factor given by the below equation for low, mid and high channels:

$$S(i)_{low_or_mid_or_high} = \frac{PD\ design\ target}{total\ PD(\varnothing(i)_{worstcase})}, i \in MIMO\ beams$$

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

$$s(i) = \min\{slow(i), smid(i), shigh(i)\}, i \in MIMO\ beams$$

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 5-2: S(i) min for all supported beams

Band	Module	Beam2	Beam1	Si Low	Si Mid	Si High	Si min		Band	Module	Beam2	Beam1	Si Low	Si Mid	Si High	Si min
n260	0		0	3.87	5.08	5.56	3.87		n261	0		0	3.51	3.53	3.47	3.47
n260	0		1	3.47	3.95	3.3	3.3		n261	0		1	2.27	2.4	2.52	2.27

n260	1		2	3. 51	3. 59	5. 26	3. 51		n261	1		2	3. 43	3. 26	3. 23	3. 23
n260	1		3	3. 68	3. 59	2. 59	2. 59		n261	1		3	2. 48	2. 58	2. 63	2. 48
n260	0		4	1. 76	2. 14	2. 07	1. 76		n261	1		4	3. 35	4. 08	4. 55	3. 35
n260	0		5	1. 81	2. 31	2. 37	1. 81		n261	0		5	1. 66	1. 83	1. 99	1. 66
n260	0		6	2. 22	2. 74	2. 05	2. 05		n261	0		6	1. 32	1. 31	1. 39	1. 31
n260	1		7	2. 03	2. 03	1. 75	1. 75		n261	0		7	1. 36	1. 47	1. 49	1. 36
n260	1		8	1. 88	2. 04	2. 53	1. 88		n261	1		8	1. 76	2. 03	2. 14	1. 76
n260	1		9	2. 05	2. 47	1. 96	1. 96		n261	1		9	1. 55	1. 47	1. 44	1. 44
n260	0		10	1. 98	2. 47	2. 29	1. 98		n261	1		10	1. 34	1. 34	1. 37	1. 34
n260	0		11	2. 11	2. 46	2. 23	2. 11		n261	0		11	1. 65	1. 64	1. 66	1. 64
n260	1		12	1. 99	2. 17	2. 19	1. 99		n261	0		12	1. 24	1. 3	1. 35	1. 24
n260	1		13	1. 83	2. 17	1. 86	1. 83		n261	1		13	1. 76	1. 74	1. 71	1. 71
n260	0		14	1. 19	1. 45	1. 2	1. 19		n261	1		14	1. 9	2. 11	2. 26	1. 9
n260	0		15	1. 06	1. 63	1. 22	1. 06		n261	0		15	1. 04	0. 94	0. 97	0. 94
n260	0		16	1. 07	1. 39	1. 37	1. 07		n261	0		16	1. 04	0. 99	1. 01	0. 99
n260	0		17	1. 44	1. 49	1. 42	1. 42		n261	0		17	0. 8	0. 84	0. 93	0. 8
n260	0		18	1. 28	1. 45	1. 17	1. 17		n261	0		18	0. 84	0. 93	0. 96	0. 84
n260	1		19	1. 2	1. 21	1. 05	1. 05		n261	0		19	1. 17	1. 21	1. 26	1. 17
n260	1		20	1. 26	1. 39	1. 24	1. 24		n261	1		20	1. 09	1. 22	1. 3	1. 09
n260	1		21	1. 07	1. 17	1. 32	1. 07		n261	1		21	1. 09	1. 2	1. 18	1. 09
n260	1		22	1. 17	1. 44	1. 16	1. 16		n261	1		22	0. 86	0. 95	1. 04	0. 86
n260	1		23	1. 21	1. 23	1. 1	1. 1		n261	1		23	0. 89	0. 92	0. 93	0. 89
n260	0		24	1. 16	1. 56	1. 26	1. 16		n261	1		24	0. 99	1. 03	1. 1	0. 99
n260	0		25	1. 01	1. 59	1. 25	1. 01		n261	0		25	1. 02	0. 92	0. 94	0. 92
n260	0		26	1. 19	1. 5	1. 4	1. 19		n261	0		26	0. 95	1. 02	1. 12	0. 95
n260	0		27	1. 38	1. 54	1. 2	1. 2		n261	0		27	0. 78	0. 83	0. 94	0. 78
n260	1		28	1. 24	1. 35	1. 14	1. 14		n261	0		28	0. 92	0. 99	1. 06	0. 92
n260	1		29	1. 14	1. 2	1. 25	1. 14		n261	1		29	1. 07	1. 18	1. 18	1. 07
n260	1		30	1. 07	1. 27	1. 25	1. 07		n261	1		30	0. 98	1. 1	1. 19	0. 98
n260	1		31	1. 17	1. 46	1. 12	1. 12		n261	1		31	0. 86	0. 92	0. 93	0. 86
n260	0		128	2. 94	3. 23	3. 68	2. 94		n261	1		32	0. 94	0. 96	1	0. 94
n260	0		129	3. 37	3. 45	3. 39	3. 37		n261	0		128	3. 51	3. 49	3. 59	3. 49
n260	1		130	3. 16	3. 3	4. 35	3. 16		n261	0		129	3. 13	3. 17	3. 23	3. 13
n260	1		131	3. 21	2. 69	2. 73	2. 69		n261	1		130	3. 17	3. 21	3. 24	3. 17
n260	0		132	2. 17	2. 69	2. 3	2. 17		n261	1		131	3. 47	3. 85	4. 05	3. 47
n260	0		133	1. 85	2. 06	2. 04	1. 85		n261	1		132	2. 88	3. 03	3. 16	2. 88
n260	0		134	1. 55	1. 63	2. 06	1. 55		n261	0		133	1. 45	1. 45	1. 46	1. 45
n260	1		135	1. 62	1. 76	2. 11	1. 62		n261	0		134	1. 97	2	2. 05	1. 97
n260	1		136	1. 97	1. 64	1. 76	1. 64		n261	0		135	1. 82	2. 07	2. 11	1. 82
n260	1		137	1. 74	1. 9	2. 11	1. 74		n261	1		136	1. 89	1. 85	1. 83	1. 83
n260	0		138	1. 92	2. 05	2. 18	1. 92		n261	1		137	1. 98	1. 95	2	1. 95
n260	0		139	1. 63	1. 76	1. 98	1. 63		n261	1		138	1. 93	2. 22	2. 41	1. 93
n260	1		140	2. 45	2. 48	2. 01	2. 01		n261	0		139	1. 51	1. 49	1. 52	1. 49
n260	1		141	2. 01	1. 95	1. 96	1. 95		n261	0		140	2. 05	2. 16	2. 49	2. 05

n260	0		142	1. 01	1. 09	1. 37	1. 01		n261	1		141	1. 92	1. 83	1. 89	1. 83
n260	0		143	1. 26	1. 25	1. 33	1. 25		n261	1		142	2. 03	2. 21	2. 33	2. 03
n260	0		144	1. 17	1. 19	1. 41	1. 17		n261	0		143	0. 95	1. 1	1. 18	0. 95
n260	0		145	0. 99	1. 23	1. 39	0. 99		n261	0		144	0. 89	1. 02	1. 07	0. 89
n260	0		146	0. 97	1. 07	1. 37	0. 97		n261	0		145	1. 14	1. 1	1. 14	1. 1
n260	1		147	1. 02	1. 08	1. 15	1. 02		n261	0		146	0. 98	0. 97	1. 04	0. 97
n260	1		148	1. 09	1. 04	1. 02	1. 02		n261	0		147	1. 21	1. 33	1. 47	1. 21
n260	1		149	1. 27	0. 96	1. 01	0. 96		n261	1		148	0. 99	1. 03	1. 03	0. 99
n260	1		150	1. 16	1. 27	1. 34	1. 16		n261	1		149	0. 92	0. 96	0. 97	0. 92
n260	1		151	1. 01	1. 02	1. 32	1. 01		n261	1		150	1. 11	1. 09	1. 08	1. 08
n260	0		152	1. 07	1. 18	1. 29	1. 07		n261	1		151	1. 02	1. 02	1. 01	1. 01
n260	0		153	1. 34	1. 27	1. 42	1. 27		n261	1		152	1. 18	1. 28	1. 29	1. 18
n260	0		154	1. 06	1. 17	1. 35	1. 06		n261	0		153	0. 87	0. 96	1. 04	0. 87
n260	0		155	0. 97	1. 19	1. 44	0. 97		n261	0		154	0. 99	1. 08	1. 1	0. 99
n260	1		156	1. 02	1. 12	1. 06	1. 02		n261	0		155	1. 06	1. 08	1. 17	1. 06
n260	1		157	1. 15	0. 94	1	0. 94		n261	0		156	1. 04	1. 09	1. 21	1. 04
n260	1		158	1. 32	1. 15	1. 11	1. 11		n261	1		157	0. 97	1	1	0. 97
n260	1		159	1. 05	1. 11	1. 4	1. 05		n261	1		158	0. 95	0. 96	0. 99	0. 95
n260	0	128	0	1. 36	1. 51	1. 64	1. 36		n261	1		159	1. 14	1. 14	1. 12	1. 12
n260	0	129	1	1. 21	1. 26	1. 33	1. 21		n261	1		160	1. 03	1. 05	1. 06	1. 03
n260	1	130	2	1. 24	1. 21	1. 6	1. 21		n261	0	128	0	1. 52	1. 52	1. 56	1. 52
n260	1	131	3	1. 18	1. 05	1. 09	1. 05		n261	0	129	1	1. 08	1. 16	1. 22	1. 08
n260	0	132	4	0. 65	0. 83	0. 89	0. 65		n261	1	130	2	1. 51	1. 43	1. 44	1. 43
n260	0	133	5	0. 78	0. 84	0. 85	0. 78		n261	1	131	3	1. 22	1. 32	1. 36	1. 22
n260	0	134	6	0. 72	0. 87	0. 89	0. 72		n261	1	132	4	1. 31	1. 39	1. 45	1. 31
n260	1	135	7	1. 06	1. 13	0. 95	0. 95		n261	0	133	5	0. 71	0. 69	0. 7	0. 69
n260	1	136	8	0. 72	0. 66	0. 86	0. 66		n261	0	134	6	0. 64	0. 64	0. 66	0. 64
n260	1	137	9	0. 76	0. 9	0. 87	0. 76		n261	0	135	7	0. 63	0. 68	0. 74	0. 63
n260	0	138	10	0. 89	0. 96	0. 88	0. 88		n261	1	136	8	0. 95	1. 01	1. 03	0. 95
n260	0	139	11	0. 74	0. 85	0. 87	0. 74		n261	1	137	9	0. 73	0. 7	0. 68	0. 68
n260	1	140	12	1. 08	1. 18	1. 05	1. 05		n261	1	138	10	0. 67	0. 66	0. 69	0. 66
n260	1	141	13	0. 98	1. 15	0. 96	0. 96		n261	0	139	11	0. 61	0. 6	0. 63	0. 6
n260	0	142	14	0. 4	0. 48	0. 48	0. 4		n261	0	140	12	0. 61	0. 63	0. 67	0. 61
n260	0	143	15	0. 42	0. 56	0. 49	0. 42		n261	1	141	13	0. 68	0. 69	0. 75	0. 68
n260	0	144	16	0. 44	0. 47	0. 55	0. 44		n261	1	142	14	1. 02	1. 08	1. 16	1. 02
n260	0	145	17	0. 44	0. 56	0. 51	0. 44		n261	0	143	15	0. 38	0. 36	0. 37	0. 36
n260	0	146	18	0. 43	0. 5	0. 49	0. 43		n261	0	144	16	0. 42	0. 4	0. 39	0. 39
n260	1	147	19	0. 47	0. 42	0. 42	0. 42		n261	0	145	17	0. 36	0. 36	0. 38	0. 36
n260	1	148	20	0. 44	0. 42	0. 41	0. 41		n261	0	146	18	0. 33	0. 34	0. 36	0. 33
n260	1	149	21	0. 43	0. 39	0. 48	0. 39		n261	0	147	19	0. 4	0. 42	0. 47	0. 4
n260	1	150	22	0. 42	0. 51	0. 46	0. 42		n261	1	148	20	0. 45	0. 45	0. 45	0. 45
n260	1	151	23	0. 46	0. 44	0. 44	0. 44		n261	1	149	21	0. 41	0. 42	0. 42	0. 41
n260	0	152	24	0. 41	0. 51	0. 46	0. 41		n261	1	150	22	0. 39	0. 43	0. 49	0. 39
n260	0	153	25	0. 45	0. 53	0. 54	0. 45		n261	1	151	23	0. 35	0. 37	0. 39	0. 35

n260	0	154	26	0.46	0.49	0.55	0.46	n261	1	152	24	0.41	0.46	0.5	0.41
n260	0	155	27	0.43	0.57	0.48	0.43	n261	0	153	25	0.38	0.35	0.35	0.35
n260	1	156	28	0.46	0.46	0.37	0.37	n261	0	154	26	0.39	0.41	0.42	0.39
n260	1	157	29	0.41	0.37	0.43	0.37	n261	0	155	27	0.38	0.38	0.41	0.38
n260	1	158	30	0.45	0.45	0.48	0.45	n261	0	156	28	0.33	0.34	0.37	0.33
n260	1	159	31	0.42	0.48	0.45	0.42	n261	1	157	29	0.41	0.41	0.42	0.41
								n261	1	158	30	0.4	0.43	0.45	0.4
								n261	1	159	31	0.41	0.44	0.43	0.41
								n261	1	160	32	0.35	0.38	0.4	0.35

5.3.3 Input power limit when only mmW radio is ON

When only 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 $-\text{TxAGC uncertainty at reference power level} < \Delta_{\min} < \text{TxAGC uncertainty at reference power level}$, then

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

else if $\Delta_{\min} < -\text{TxAGC uncertainty at reference power level}$,

*input.power.limit(i) = Pref + 10 * log(S(i)) + (Δ_{min} + TxAGC uncertainty at reference power level)* (2)

I ∈ all beams

else if $\Delta_{\min} > \text{TxAGC uncertainty at reference power level}$,

*input.power.limit(i) = Pref + 10 * log(S(i)) + (Δ_{min} - TxAGC uncertainty at reference power level)* (3)

I ∈ all beams

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

Table 5-2: power.limit calculation

Band	Module	Δ min (db)	Input. power. limit (dbm)	Notes
N261	0	-0.62	6dbm+10*log(S(i))+(-0.62+0.5)	Using Eq. 2
	1	-1.6	6dbm+10*log(S(i))+(-1.6+0.5)	Using Eq. 2
N260	0	-2.43	6dbm+10*log(S(i))+(-2.43+0.5)	Using Eq. 2
	1	-2.63	6dbm+10*log(S(i))+(-2.63+0.5)	Using Eq. 2

Note the **Δ_{min} (dB)** used is the minimum of Hpol and Vpol per QTM per band (see Table 3-2).

Resulted *input.power.limit* for all beams is listed in Table below

Table 5-3: input.power.limit for n260/n261

Band	Module	Beam2	Beam1	Si min	Δ min	Equation	input. power. limit		Band	Module	Beam2	Beam1	Si min	Δ min	Equation	input. power. limit
n260	0		0	3.87	-2.43	Eq. 2	9.95		n261	0		0	3.47	-0.62	Eq. 2	11.28
n260	0		1	3.3	-2.43	Eq. 2	9.26		n261	0		1	2.27	-0.62	Eq. 2	9.44

n260	1		2	3.51	-2.63	Eq. 2	9.32		n261	1		2	3.23	-1.6	Eq. 2	9.99
n260	1		3	2.59	-2.63	Eq. 2	8.00		n261	1		3	2.48	-1.6	Eq. 2	8.84
n260	0		4	1.76	-2.43	Eq. 2	6.53		n261	1		4	3.35	-1.6	Eq. 2	10.15
n260	0		5	1.81	-2.43	Eq. 2	6.65		n261	0		5	1.66	-0.62	Eq. 2	8.08
n260	0		6	2.05	-2.43	Eq. 2	7.19		n261	0		6	1.31	-0.62	Eq. 2	7.05
n260	1		7	1.75	-2.63	Eq. 2	6.30		n261	0		7	1.36	-0.62	Eq. 2	7.22
n260	1		8	1.88	-2.63	Eq. 2	6.61		n261	1		8	1.76	-1.6	Eq. 2	7.36
n260	1		9	1.96	-2.63	Eq. 2	6.79		n261	1		9	1.44	-1.6	Eq. 2	6.48
n260	0		10	1.98	-2.43	Eq. 2	7.04		n261	1		10	1.34	-1.6	Eq. 2	6.17
n260	0		11	2.11	-2.43	Eq. 2	7.31		n261	0		11	1.64	-0.62	Eq. 2	8.03
n260	1		12	1.99	-2.63	Eq. 2	6.86		n261	0		12	1.24	-0.62	Eq. 2	6.81
n260	1		13	1.83	-2.63	Eq. 2	6.49		n261	1		13	1.71	-1.6	Eq. 2	7.23
n260	0		14	1.19	-2.43	Eq. 2	4.83		n261	1		14	1.9	-1.6	Eq. 2	7.69
n260	0		15	1.06	-2.43	Eq. 2	4.32		n261	0		15	0.94	-0.62	Eq. 2	5.61
n260	0		16	1.07	-2.43	Eq. 2	4.36		n261	0		16	0.99	-0.62	Eq. 2	5.84
n260	0		17	1.42	-2.43	Eq. 2	5.59		n261	0		17	0.8	-0.62	Eq. 2	4.91
n260	0		18	1.17	-2.43	Eq. 2	4.75		n261	0		18	0.84	-0.62	Eq. 2	5.12
n260	1		19	1.05	-2.63	Eq. 2	4.08		n261	0		19	1.17	-0.62	Eq. 2	6.56
n260	1		20	1.24	-2.63	Eq. 2	4.80		n261	1		20	1.09	-1.6	Eq. 2	5.27
n260	1		21	1.07	-2.63	Eq. 2	4.16		n261	1		21	1.09	-1.6	Eq. 2	5.27
n260	1		22	1.16	-2.63	Eq. 2	4.51		n261	1		22	0.86	-1.6	Eq. 2	4.24
n260	1		23	1.1	-2.63	Eq. 2	4.28		n261	1		23	0.89	-1.6	Eq. 2	4.39
n260	0		24	1.16	-2.43	Eq. 2	4.71		n261	1		24	0.99	-1.6	Eq. 2	4.86
n260	0		25	1.01	-2.43	Eq. 2	4.11		n261	0		25	0.92	-0.62	Eq. 2	5.52
n260	0		26	1.19	-2.43	Eq. 2	4.83		n261	0		26	0.95	-0.62	Eq. 2	5.66
n260	0		27	1.2	-2.43	Eq. 2	4.86		n261	0		27	0.78	-0.62	Eq. 2	4.80
n260	1		28	1.14	-2.63	Eq. 2	4.44		n261	0		28	0.92	-0.62	Eq. 2	5.52
n260	1		29	1.14	-2.63	Eq. 2	4.44		n261	1		29	1.07	-1.6	Eq. 2	5.19
n260	1		30	1.07	-2.63	Eq. 2	4.16		n261	1		30	0.98	-1.6	Eq. 2	4.81
n260	1		31	1.12	-2.63	Eq. 2	4.36		n261	1		31	0.86	-1.6	Eq. 2	4.24
n260	0		128	2.94	-2.43	Eq. 2	8.75		n261	1		32	0.94	-1.6	Eq. 2	4.63
n260	0		129	3.37	-2.43	Eq. 2	9.35		n261	0		128	3.49	-0.62	Eq. 2	11.31
n260	1		130	3.16	-2.63	Eq. 2	8.87		n261	0		129	3.13	-0.62	Eq. 2	10.84
n260	1		131	2.69	-2.63	Eq. 2	8.17		n261	1		130	3.17	-1.6	Eq. 2	9.91
n260	0		132	2.17	-2.43	Eq. 2	7.43		n261	1		131	3.47	-1.6	Eq. 2	10.30
n260	0		133	1.85	-2.43	Eq. 2	6.74		n261	1		132	2.88	-1.6	Eq. 2	9.49
n260	0		134	1.55	-2.43	Eq. 2	5.97		n261	0		133	1.45	-0.62	Eq. 2	7.49
n260	1		135	1.62	-2.63	Eq. 2	5.97		n261	0		134	1.97	-0.62	Eq. 2	8.82
n260	1		136	1.64	-2.63	Eq. 2	6.02		n261	0		135	1.82	-0.62	Eq. 2	8.48
n260	1		137	1.74	-2.63	Eq. 2	6.28		n261	1		136	1.83	-1.6	Eq. 2	7.52
n260	0		138	1.92	-2.43	Eq. 2	6.90		n261	1		137	1.95	-1.6	Eq. 2	7.80
n260	0		139	1.63	-2.43	Eq. 2	6.19		n261	1		138	1.93	-1.6	Eq. 2	7.76
n260	1		140	2.01	-2.63	Eq. 2	6.90		n261	0		139	1.49	-0.62	Eq. 2	7.61
n260	1		141	1.95	-2.63	Eq. 2	6.77		n261	0		140	2.05	-0.62	Eq. 2	9.00

n260	0		142	1.01	-2.43	Eq. 2	4.11		n261	1		141	1.83	-1.6	Eq. 2	7.52
n260	0		143	1.25	-2.43	Eq. 2	5.04		n261	1		142	2.03	-1.6	Eq. 2	7.97
n260	0		144	1.17	-2.43	Eq. 2	4.75		n261	0		143	0.95	-0.62	Eq. 2	5.66
n260	0		145	0.99	-2.43	Eq. 2	4.03		n261	0		144	0.89	-0.62	Eq. 2	5.37
n260	0		146	0.97	-2.43	Eq. 2	3.94		n261	0		145	1.1	-0.62	Eq. 2	6.29
n260	1		147	1.02	-2.63	Eq. 2	3.96		n261	0		146	0.97	-0.62	Eq. 2	5.75
n260	1		148	1.02	-2.63	Eq. 2	3.96		n261	0		147	1.21	-0.62	Eq. 2	6.71
n260	1		149	0.96	-2.63	Eq. 2	3.69		n261	1		148	0.99	-1.6	Eq. 2	4.86
n260	1		150	1.16	-2.63	Eq. 2	4.51		n261	1		149	0.92	-1.6	Eq. 2	4.54
n260	1		151	1.01	-2.63	Eq. 2	3.91		n261	1		150	1.08	-1.6	Eq. 2	5.23
n260	0		152	1.07	-2.43	Eq. 2	4.36		n261	1		151	1.01	-1.6	Eq. 2	4.94
n260	0		153	1.27	-2.43	Eq. 2	5.11		n261	1		152	1.18	-1.6	Eq. 2	5.62
n260	0		154	1.06	-2.43	Eq. 2	4.32		n261	0		153	0.87	-0.62	Eq. 2	5.28
n260	0		155	0.97	-2.43	Eq. 2	3.94		n261	0		154	0.99	-0.62	Eq. 2	5.84
n260	1		156	1.02	-2.63	Eq. 2	3.96		n261	0		155	1.06	-0.62	Eq. 2	6.13
n260	1		157	0.94	-2.63	Eq. 2	3.60		n261	0		156	1.04	-0.62	Eq. 2	6.05
n260	1		158	1.11	-2.63	Eq. 2	4.32		n261	1		157	0.97	-1.6	Eq. 2	4.77
n260	1		159	1.05	-2.63	Eq. 2	4.08		n261	1		158	0.95	-1.6	Eq. 2	4.68
n260	0	128	0	1.36	-2.43	Eq. 2	5.41		n261	1		159	1.12	-1.6	Eq. 2	5.39
n260	0	129	1	1.21	-2.43	Eq. 2	4.90		n261	1		160	1.03	-1.6	Eq. 2	5.03
n260	1	130	2	1.21	-2.63	Eq. 2	4.70		n261	0	128	0	1.52	-0.62	Eq. 2	7.70
n260	1	131	3	1.05	-2.63	Eq. 2	4.08		n261	0	129	1	1.08	-0.62	Eq. 2	6.21
n260	0	132	4	0.65	-2.43	Eq. 2	2.20		n261	1	130	2	1.43	-1.6	Eq. 2	6.45
n260	0	133	5	0.78	-2.43	Eq. 2	2.99		n261	1	131	3	1.22	-1.6	Eq. 2	5.76
n260	0	134	6	0.72	-2.43	Eq. 2	2.64		n261	1	132	4	1.31	-1.6	Eq. 2	6.07
n260	1	135	7	0.95	-2.63	Eq. 2	3.65		n261	0	133	5	0.69	-0.62	Eq. 2	4.27
n260	1	136	8	0.66	-2.63	Eq. 2	2.07		n261	0	134	6	0.64	-0.62	Eq. 2	3.94
n260	1	137	9	0.76	-2.63	Eq. 2	2.68		n261	0	135	7	0.63	-0.62	Eq. 2	3.87
n260	0	138	10	0.88	-2.43	Eq. 2	3.51		n261	1	136	8	0.95	-1.6	Eq. 2	4.68
n260	0	139	11	0.74	-2.43	Eq. 2	2.76		n261	1	137	9	0.68	-1.6	Eq. 2	3.23
n260	1	140	12	1.05	-2.63	Eq. 2	4.08		n261	1	138	10	0.66	-1.6	Eq. 2	3.10
n260	1	141	13	0.96	-2.63	Eq. 2	3.69		n261	0	139	11	0.6	-0.62	Eq. 2	3.66
n260	0	142	14	0.4	-2.43	Eq. 2	0.09		n261	0	140	12	0.61	-0.62	Eq. 2	3.73
n260	0	143	15	0.42	-2.43	Eq. 2	0.30		n261	1	141	13	0.68	-1.6	Eq. 2	3.23
n260	0	144	16	0.44	-2.43	Eq. 2	0.50		n261	1	142	14	1.02	-1.6	Eq. 2	4.99
n260	0	145	17	0.44	-2.43	Eq. 2	0.50		n261	0	143	15	0.36	-0.62	Eq. 2	1.44
n260	0	146	18	0.43	-2.43	Eq. 2	0.40		n261	0	144	16	0.39	-0.62	Eq. 2	1.79
n260	1	147	19	0.42	-2.63	Eq. 2	0.10		n261	0	145	17	0.36	-0.62	Eq. 2	1.44
n260	1	148	20	0.41	-2.63	Eq. 2	0.00		n261	0	146	18	0.33	-0.62	Eq. 2	1.07
n260	1	149	21	0.39	-2.63	Eq. 2	-0.22		n261	0	147	19	0.4	-0.62	Eq. 2	1.90
n260	1	150	22	0.42	-2.63	Eq. 2	0.10		n261	1	148	20	0.45	-1.6	Eq. 2	1.43
n260	1	151	23	0.44	-2.63	Eq. 2	0.30		n261	1	149	21	0.41	-1.6	Eq. 2	1.03
n260	0	152	24	0.41	-2.43	Eq. 2	0.20		n261	1	150	22	0.39	-1.6	Eq. 2	0.81
n260	0	153	25	0.45	-2.43	Eq. 2	0.60		n261	1	151	23	0.35	-1.6	Eq. 2	0.34

n260	0	154	26	0.46	-2.43	Eq. 2	0.70		n261	1	152	24	0.41	-1.6	Eq. 2	1.03
n260	0	155	27	0.43	-2.43	Eq. 2	0.40		n261	0	153	25	0.35	-0.62	Eq. 2	1.32
n260	1	156	28	0.37	-2.63	Eq. 2	-0.45		n261	0	154	26	0.39	-0.62	Eq. 2	1.79
n260	1	157	29	0.37	-2.63	Eq. 2	-0.45		n261	0	155	27	0.38	-0.62	Eq. 2	1.68
n260	1	158	30	0.45	-2.63	Eq. 2	0.40		n261	0	156	28	0.33	-0.62	Eq. 2	1.07
n260	1	159	31	0.42	-2.63	Eq. 2	0.10		n261	1	157	29	0.41	-1.6	Eq. 2	1.03
									n261	1	158	30	0.4	-1.6	Eq. 2	0.92
									n261	1	159	31	0.41	-1.6	Eq. 2	1.03
									n261	1	160	32	0.35	-1.6	Eq. 2	0.34