Part 0_R562L5_RF Exposure Report

1. Product Description

Product Type	MIFI
Product Name	Orbic Speed Pro 5G
Operated Band	WCDMA Band II: 1850 MHz ~ 1910 MHz WCDMA Band V: 824 MHz ~ 849 MHz LTE Band 2: 1850 MHz ~ 1910 MHz LTE Band 4: 1710 MHz ~ 1755 MHz LTE Band 5: 824 MHz ~ 849 MHz LTE Band 7: 2500 MHz ~ 2570 MHz LTE Band 12: 699 MHz ~ 716 MHz LTE Band 13: 777 MHz ~ 787 MHz LTE Band 48: 3550 MHz ~ 3700 MHz LTE Band 66: 1710 MHz ~ 1780 MHz 5G NR n2: 1850 MHz ~ 1910 MHz 5G NR n5: 824 MHz ~ 849 MHz 5G NR n48: 3550 MHz ~ 3700 MHz 5G NR n66: 1710 MHz ~ 1780 MHz 5G NR n77: 3450 MHz ~ 3550 MHz; 3700 MHz ~3980 MHz 5G NR n78: 3450 MHz ~ 3550 MHz; 3700 MHz ~ 3800 MHz WLAN 2.4GHz: 2412 MHz ~ 2462 MHz WLAN 5.2GHz: 5180 MHz ~ 5240 MHz WLAN 5.3GHz: 5260 MHz ~ 5320 MHz WLAN 5.5GHz: 5500 MHz ~ 5720 MHz WLAN 5.8GHz: 5745 MHz ~ 5825 MHz 5G NR n260(120kHz): 37 GHz ~ 40 GHz 5G NR n261(120kHz): 27.5 GHz ~ 28.35 GHz

2. SAR Characterization

SAR char must be generated to cover all radio configurations and usage scenarios that the wireless device supports for operating at 6 GHz or below. It will then be used as input for Smart Transmit to control and manage RF exposure for f < 6 GHz.

2.1 SAR char generation

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

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

To generate SAR char for a smartphone:

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

   a. Derive *SAR_design_target_extremity* for hand exposure scenario using

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

   b. Determine the Tx power level that corresponds to *SAR_design_target_extremity* for all Tx antenna and supported technologies/bands, denoted as *Tx_power_at_SAR_design_target_extremity*
6. Generate SAR char and tabulate ***Tx_power_at_SAR_design_target*** versus DSI for each Tx antenna and for all supported technologies/bands.

2.2 SAR design target and uncertainty

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

Table 2.2-1 uncertainty budget

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

Table 2.2-1 uncertainty budge

To account for total uncertainty, SAR_design_target should be determined as

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

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

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

Table 2.2-2 SAR design target

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

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

2.3 Worst case reported SAR

Frequency Band		Highest SAR Summary Body (Gap 10mm) 1g SAR (W/kg)
WCDMA	WCDMA Band II	0.949
	WCDMA Band V	0.673
LTE	LTE Band 2	0.881
	LTE Band 4	0.884
	LTE Band 5	0.605
	LTE Band 7	0.346
	LTE Band 12	0.788
	LTE Band 13	0.716
	LTE Band 48	0.235
	LTE Band 66	0.918
5G NR	n2	0.712
	n5	0.459
	n48	0.398
	n66	0.664
	n77	1.093
	n78	0.730
WLAN	2.4GHz WLAN	0.413
	5GHz WLAN	0.532

2.4 SAR characterization

Transmit Power Limit P_{limit}				
Exposure Scenario		Antenna	Hotspot	P_{max} (dBm) Tune-up power table
Spatial-average			1g	
Test Distance			10mm	
Tech/Band			P_{limit} (dBm) Tune-up power	
Transmit Condition	Transmit Average		Burst Average	Burst Average
Standalone and Simultaneous Transmit	WCDMA II	ANT 0	21.5	23.5
		ANT 4	23.5	23.5
	WCDMA V	ANT 0	23.5	23.5
	LTE Band 2	ANT 0	22	23.5
		ANT 4	23.5	23.5
	LTE Band 4	ANT 0	22	23.5
		ANT 4	23.5	23.5
	LTE Band 5	ANT 0	23.5	23.5
	LTE Band 7	ANT 0	23.5	23.5
		ANT 4	23.5	23.5
	LTE Band 12	ANT 0	22.5	23.5
	LTE Band 13	ANT 0	22.5	23.5
	LTE Band 48	ANT 2	19.91	19.91
		ANT 5	19.91	19.91
	LTE Band 66	ANT 0	22	23.5
		ANT 4	23.5	23.5
	5G NR n2	ANT 0	22	23
		ANT 4	23	23
	5G NR n5	ANT 0	23.5	23.5
	5G NR n48	ANT 2	21.5	21.5
		ANT 5	21.5	21.5
	5G NR n66	ANT 0	21.5	23.5
		ANT 4	23.5	23.5
	5G NR n77	ANT 2	24	27
		ANT 5	24	27
	5G NR n78	ANT 2	24	27
		ANT 5	27	27

3. PD characterization

3.1 Electromagnetic simulation method for power density

EM simulation

EM simulation tool description

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

Mesh and convergence criteria

ANSYS Electromagnetic suite HFSS ver. 21.1 (2021 R1) uses the Finite Element Method (FEM) to solve the structure for 3D EM simulations to analyze power density. The volume area containing the simulated object should be subdivided into electrically small parts called finite elements with unknown functions. To subdivide system, the adaptive mesh technique in ANSYS Electromagnetics suite HFSS ver. 21.1 (2021 R1) is used. ANSYS Electromagnetics suite HFSS ver. 21.1 (2021 R1) starts to refine the initial mesh based on wavelength and calculate the error to iterative process for adaptive mesh refinement. The determination parameter of the number of iterations in ANSYS Electromagnetics suite HFSS ver. 21.1 (2021 R1) is defined 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).

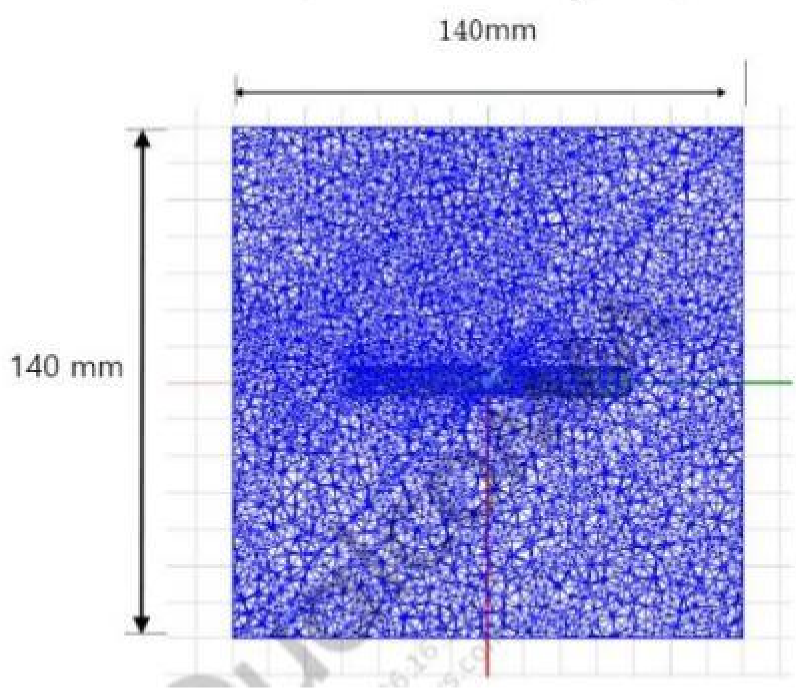


Figure 1-1: Example of HFSS mesh in a model of the device (Top view)

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:

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

(can be expressed as point power density based on a peak value of each spatial point on mesh grids and obtained directly from ANSYS Electromagnetics suite HFSS ver. 21.1 (2021 R1).

From the point power density(, the spatial-averaged power density () on an evaluated area (A) can be derived as shown below:

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

3.2 Simulation setup

Modeling for simulation

The simulation approach to perform PD assessment for a mifi requires accurate modeling for mmWave antenna module as well as the mifi itself. Figure 2 shows the simulation model which is mounted one 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 QMT0#. The position of QTM0#(module0) as the following Figure 1-2

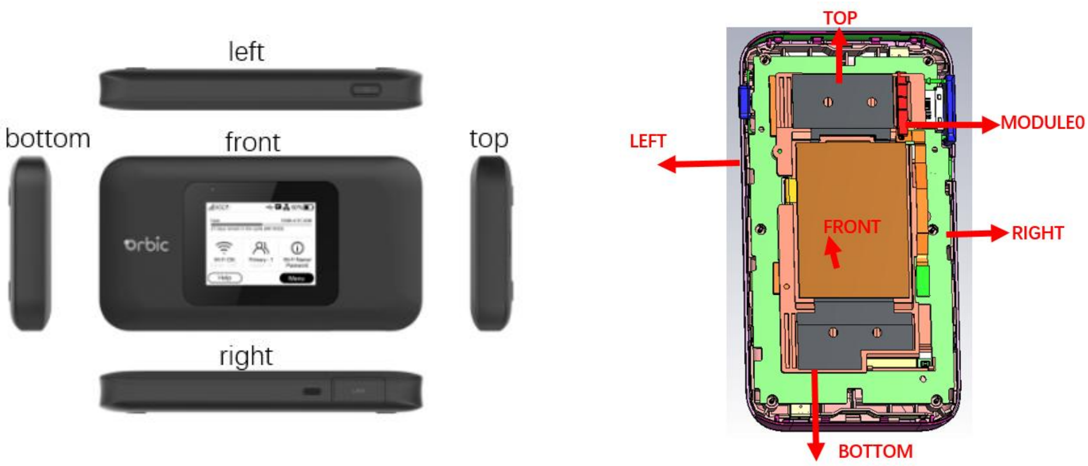


Figure 1-2: HFSS simulation model which is mounted one mmWave antenna modules

PD evaluation surfaces

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

planes for QTM#0.

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	√		√	√	√	

Radiation boundary condition

For radiation boundary, the 2nd order absorbing boundary condition (ABC) is used for all simulations in this report. This radiation boundary simulates an electrically open surface that allows waves to radiate infinitely far into space. The system absorbs the wave via the 2nd order radiation boundary, essentially ballooning the boundary infinitely far away from the structure and into space. The radiation boundaries may also be placed relatively close to a structure and can be of arbitrary shape.

Per ANSYS recommendations for their simulation tool, the radiation boundary plane must be located at least a quarter wavelength from strongly radiating structure, or at least a tenth of a wavelength from a weakly radiating structure. In this simulation report, about two or three wavelengths spacing from the device surfaces in all main beam directions are applied to ensure convergence.

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

Source excitation condition

Each of the two 5G mmWave array modules is the same part containing a 1x5 element array of dual-polarization patch antennas. The number of antenna ports of QTM#0 for source excitation is equal to 10. 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#0 module structure and surrounding structure. The QTM#0 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

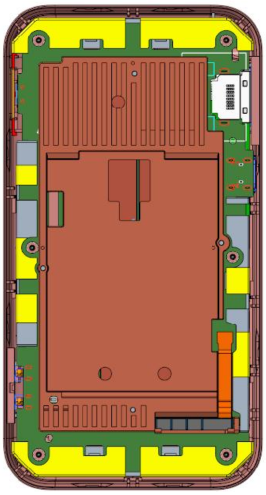


Figure 1-3: EUT simulation model

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

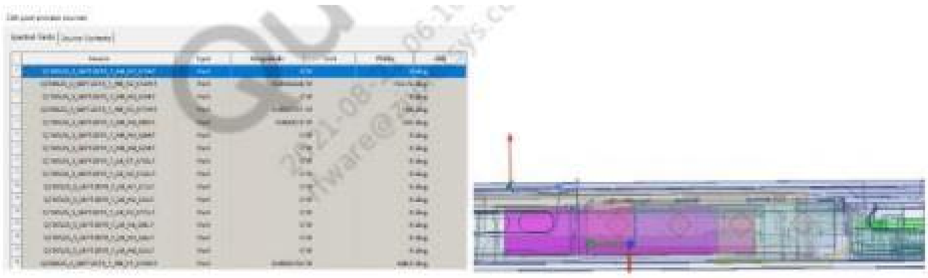


Figure 1-4: An example of port excitation (QTM#0)

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

Condition of simulation completion

The simulation completion condition of ANSYS Electromagnetics suite (HFSS) is defined as delta S. The ANSYS Electromagnetics suite (HFSS) calculates the S-parameter for the mesh conditions

of each step and determines whether to proceed with the operation of the next step by comparing the difference between the S-parameters in the previous step. A difference between the previous step and the current step of S-parameter is expressed as delta S, and the delta S generally sets 0.02. The simulation result of this report is the result of setting delta S to 0.02.

4. Codebook

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

. N261 codebook

Band	Beam_ID	Module	Ant_Group	Subarray	Ant_Type	Ant_Feed	Paired_With
261	0	0	0	1	PATCH	9	256
261	1	0	0	1	PATCH	10	257
261	2	0	0	1	PATCH	12	258
261	3	0	0	1	PATCH	13	259

261	4	0	0	1	PATCH	14	260
261	5	0	0	1	PATCH	9;10	261
261	6	0	0	1	PATCH	12;13	262
261	7	0	0	1	PATCH	9;10	263
261	8	0	0	1	PATCH	9;10	264
261	9	0	0	1	PATCH	12;13	265
261	10	0	0	1	PATCH	9;10	266
261	11	0	0	1	PATCH	10;12	267
261	12	0	0	1	PATCH	9;10;12;13;14	268
261	13	0	0	1	PATCH	9;10;12;13;14	269
261	14	0	0	1	PATCH	9;10;12;13;14	270
261	15	0	0	1	PATCH	9;10;12;13;14	271
261	16	0	0	1	PATCH	9;10;12;13;14	272
261	17	0	0	1	PATCH	9;10;12;13;14	273
261	18	0	0	1	PATCH	9;10;12;13;14	274
261	19	0	0	1	PATCH	9;10;12;13;14	275
261	20	0	0	1	PATCH	9;10;12;13;14	276
261	256	0	1	0	PATCH	1	0
261	257	0	1	0	PATCH	2	1
261	258	0	1	0	PATCH	4	2
261	259	0	1	0	PATCH	5	3
261	260	0	1	0	PATCH	6	4
261	261	0	1	0	PATCH	5;6	5
261	262	0	1	0	PATCH	2;4	6
261	263	0	1	0	PATCH	1;2	7
261	264	0	1	0	PATCH	1;2	8
261	265	0	1	0	PATCH	1;2	9
261	266	0	1	0	PATCH	1;2	10
261	267	0	1	0	PATCH	4;5	11
261	268	0	1	0	PATCH	1;2;4;5;6	12
261	269	0	1	0	PATCH	1;2;4;5;6	13
261	270	0	1	0	PATCH	1;2;4;5;6	14
261	271	0	1	0	PATCH	1;2;4;5;6	15
261	272	0	1	0	PATCH	1;2;4;5;6	16
261	273	0	1	0	PATCH	1;2;4;5;6	17
261	274	0	1	0	PATCH	1;2;4;5;6	18
261	275	0	1	0	PATCH	1;2;4;5;6	19
261	276	0	1	0	PATCH	1;2;4;5;6	20

. N260 codebook

Band	Beam_ID	Module	Ant_Group	Subarray	Ant_Type	Ant_Feed	Paired_With
260	0	0	0	3	PATCH	13	256
260	1	0	0	3	PATCH	14	257
260	2	0	0	3	PATCH	12	258
260	3	0	0	3	PATCH	10	259
260	4	0	0	3	PATCH	9	260
260	5	0	0	3	PATCH	10;9	261
260	6	0	0	3	PATCH	10;9	262
260	7	0	0	3	PATCH	10;9	263
260	8	0	0	3	PATCH	13;14	264

260	9	0	0	3	PATCH	12;10	265
260	10	0	0	3	PATCH	12;10	266
260	11	0	0	3	PATCH	13;14	267
260	12	0	0	3	PATCH	13;14;12;10;9	268
260	13	0	0	3	PATCH	13;14;12;10;9	269
260	14	0	0	3	PATCH	13;14;12;10;9	270
260	15	0	0	3	PATCH	13;14;12;10;9	271
260	16	0	0	3	PATCH	13;14;12;10;9	272
260	17	0	0	3	PATCH	13;14;12;10;9	273
260	18	0	0	3	PATCH	13;14;12;10;9	274
260	19	0	0	3	PATCH	13;14;12;10;9	275
260	20	0	0	3	PATCH	13;14;12;10;9	276
260	256	0	1	2	PATCH	5	0
260	257	0	1	2	PATCH	6	1
260	258	0	1	2	PATCH	4	2
260	259	0	1	2	PATCH	2	3
260	260	0	1	2	PATCH	1	4
260	261	0	1	2	PATCH	5;6	5
260	262	0	1	2	PATCH	6;4	6
260	263	0	1	2	PATCH	5;6	7
260	264	0	1	2	PATCH	5;6	8
260	265	0	1	2	PATCH	6;4	9
260	266	0	1	2	PATCH	4;2	10
260	267	0	1	2	PATCH	6;4	11
260	268	0	1	2	PATCH	5;6;4;2;1	12
260	269	0	1	2	PATCH	5;6;4;2;1	13
260	270	0	1	2	PATCH	5;6;4;2;1	14
260	271	0	1	2	PATCH	5;6;4;2;1	15
260	272	0	1	2	PATCH	5;6;4;2;1	16
260	273	0	1	2	PATCH	5;6;4;2;1	17
260	274	0	1	2	PATCH	5;6;4;2;1	18
260	275	0	1	2	PATCH	5;6;4;2;1	19
260	276	0	1	2	PATCH	5;6;4;2;1	20

Table 2-1: EUT codebook

5. Simulation verification

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

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

Table 3-1: Input power used in simulation validation

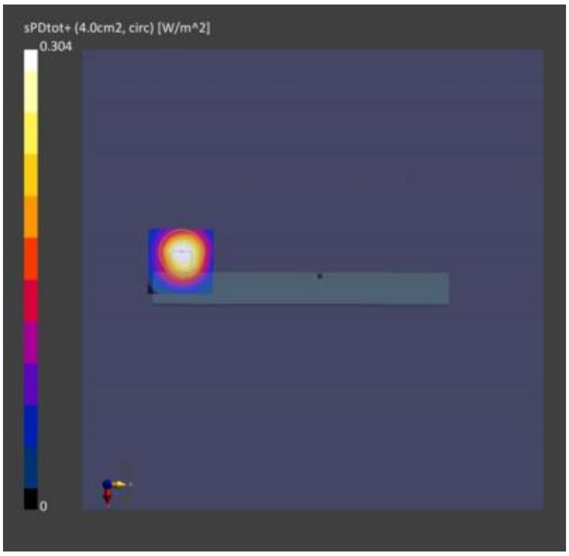
The simulation and measurement were performed at 2mm evaluation distance. The simulated and measured 4cm2 averaged PD results are shown in Table 3-2.

Band	Ant Type	Module	Ant Group (Ant Polarization)	beam ID	Surface	Measured	Simulated(Middle)	Delta(Simulated-Measured)
n260	Patch	QTM0	AG0(V)	13	Frontface	11.3	19.94	2.466467105
					Leftface	0.048	3.19	18.22549446
					Bottomface	0.304	0.69	3.559755071
			AG1(H)	269	Frontface	11.9	20.4	2.34083206
					Leftface	1.46	3.69	4.026735104
					Bottomface	0.306	1.08	5.47702329
n261	Patch	QTM0	AG0(V)	17	Frontface	7.68	17.76	3.640817414
					Bottomface	1.17	3.94	5.273103601
					Leftface	1.55	3.25	3.215516628
			AG1(H)	273	Frontface	9.78	17.48	2.522025735
					Bottomface	1.61	3.03	2.746167525
					Leftface	1.23	2.19	2.505390034

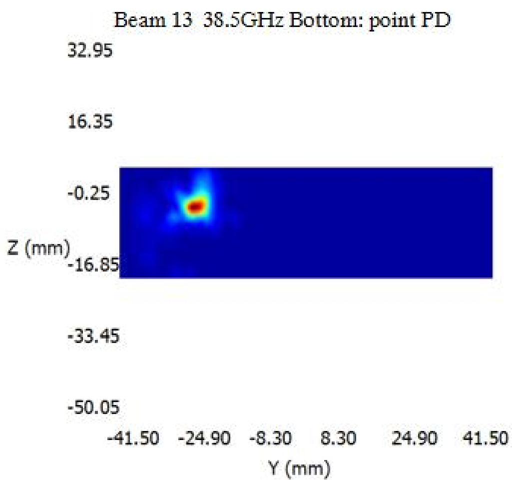
Table 3-2: Simulated and measured 4cm2 averaged PD comparison

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.

. N260 QTM0: mid channel, Beam13, Bottom face, Point PD



(a) Measurement



(b) Simulation

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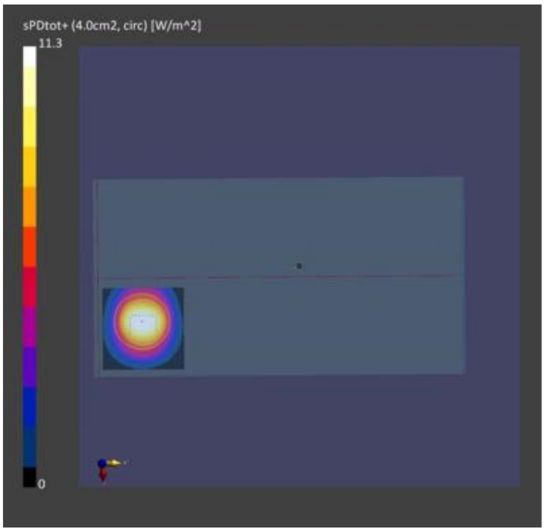
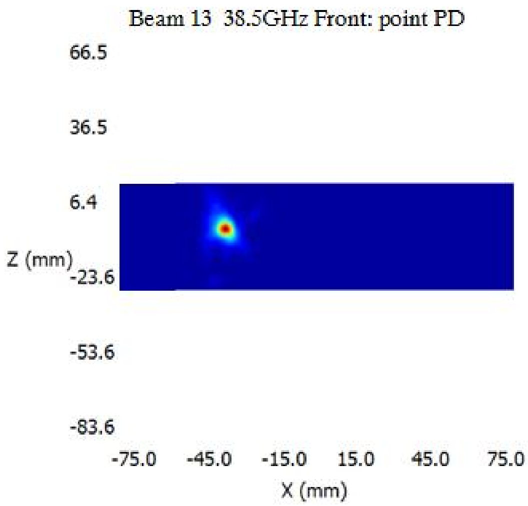
N260 QTM0: mid channel, Beam13, Front face, Point PD

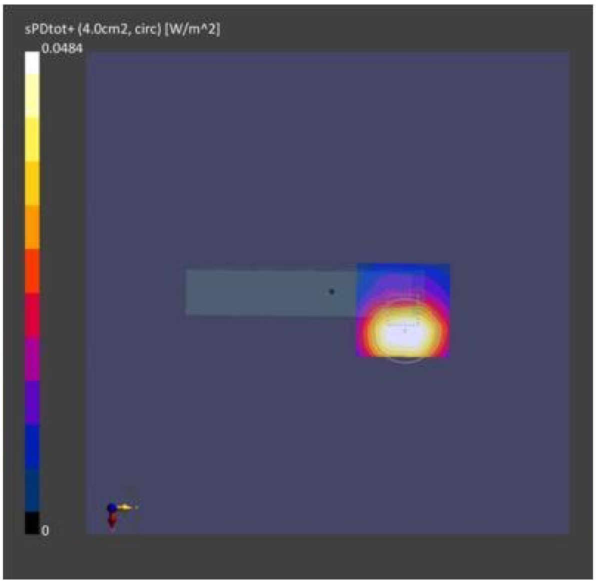


(a) Measurement

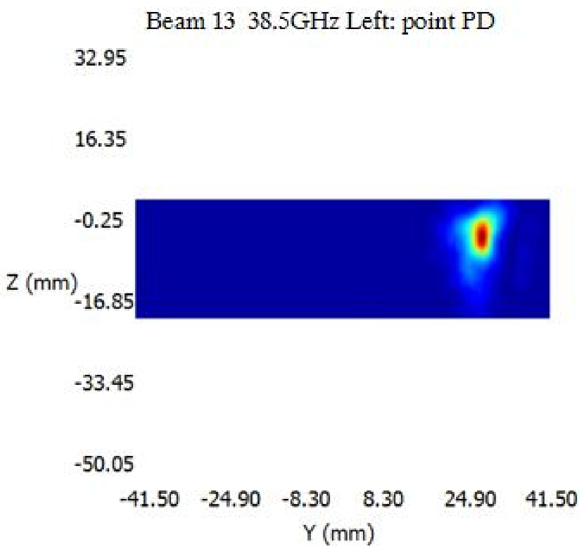


(b) Simulation

N260 QTM0: mid channel, Beam13, Left face, Point PD

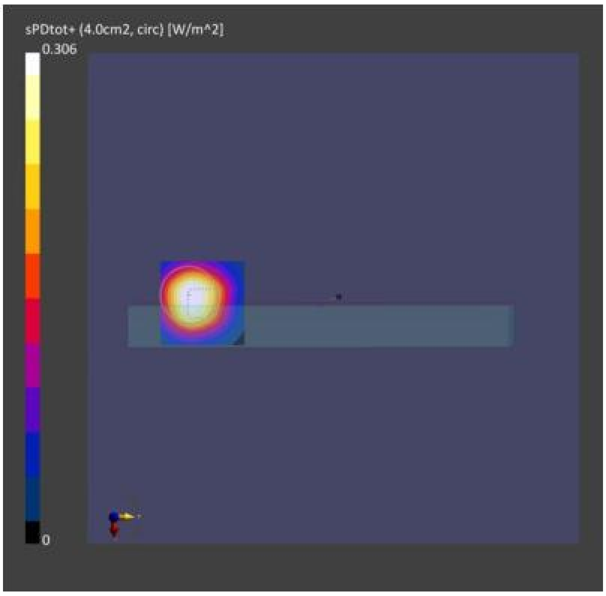


(a) Measurement

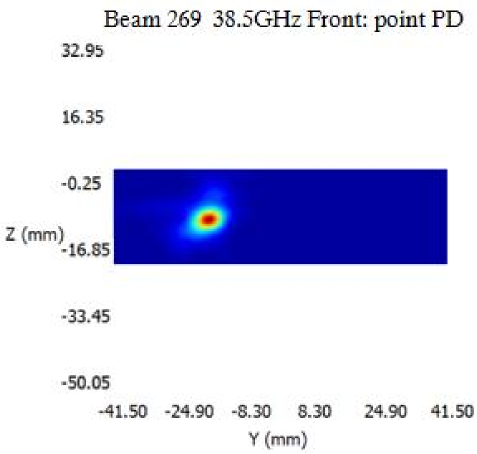


(b) Simulation

. N260 QTM0: Middle channel, Beam269, Bottom face, Point PD

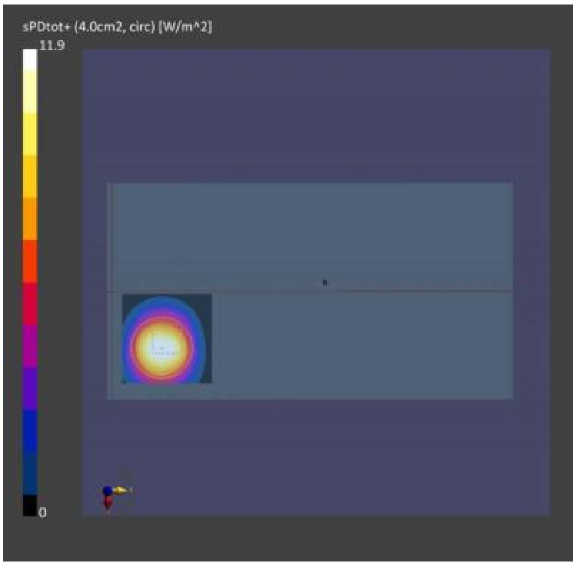


(a) Measurement

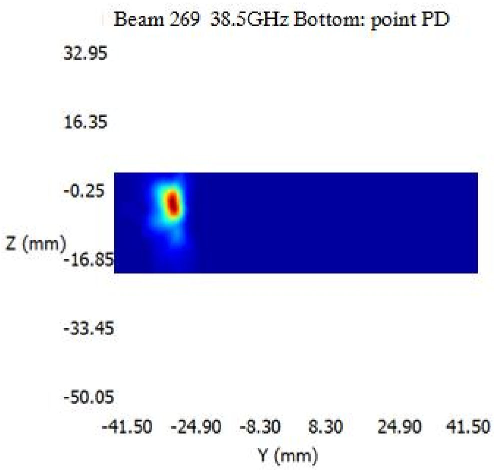


(b) Simulation

.
N260 QTM0: Middle channel, Beam269, Front face, Point PD

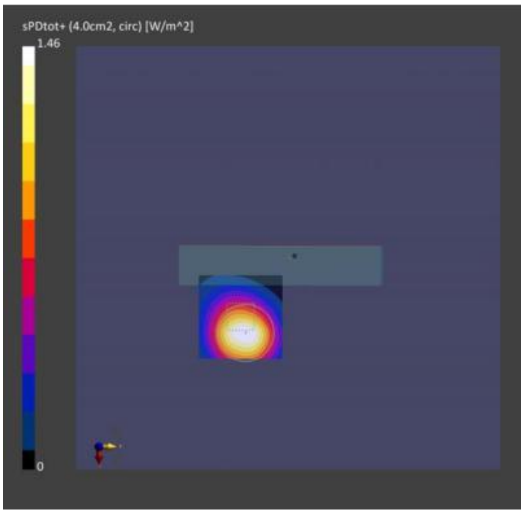


(b) Simulation

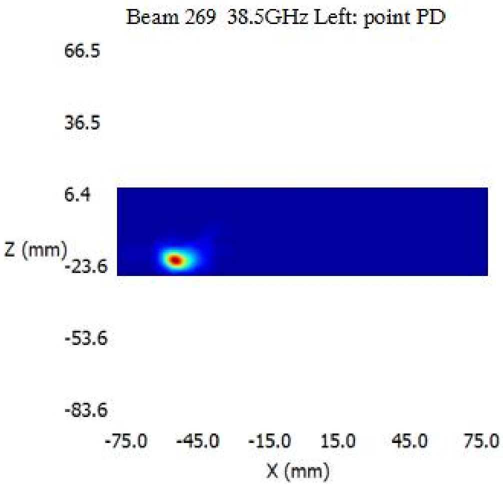


(a) Measurement

N260 QTM0: Middle channel, Beam269, Left face, Point PD

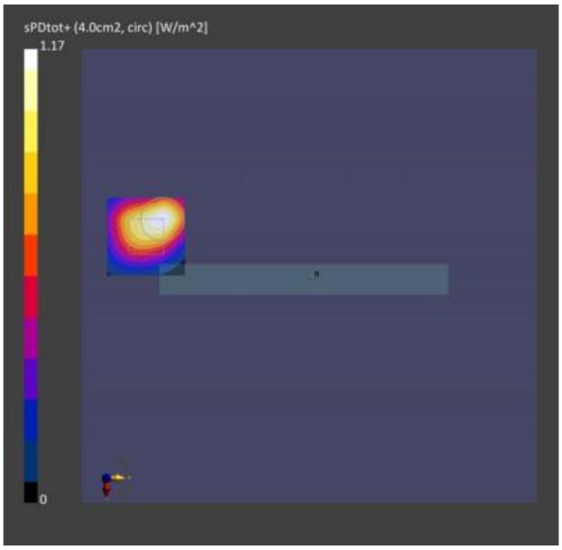


(a) Measurement

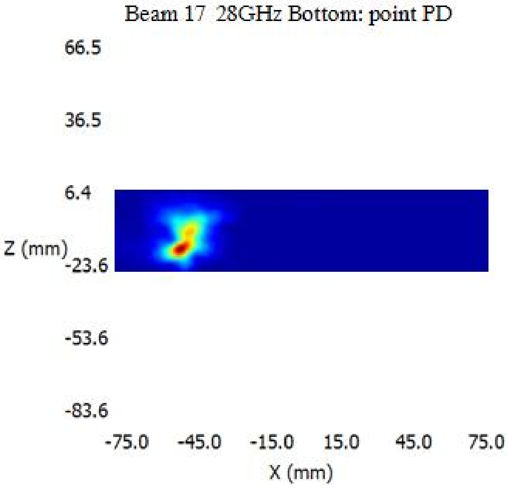


(b) Simulation

. N261 QTM0: Middle channel, Beam17, Bottom face, Point PD

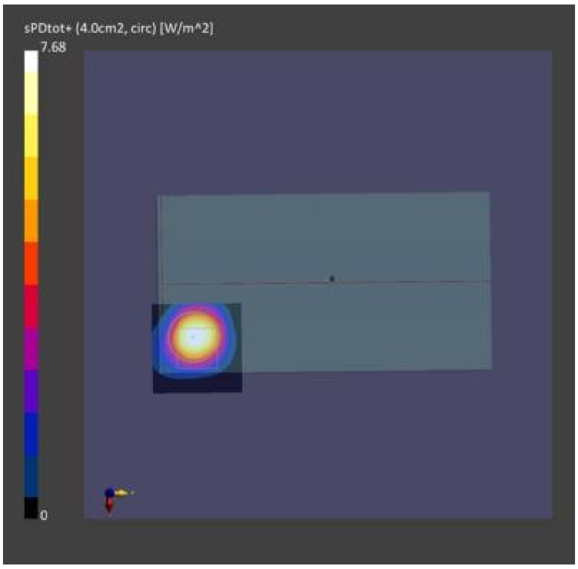


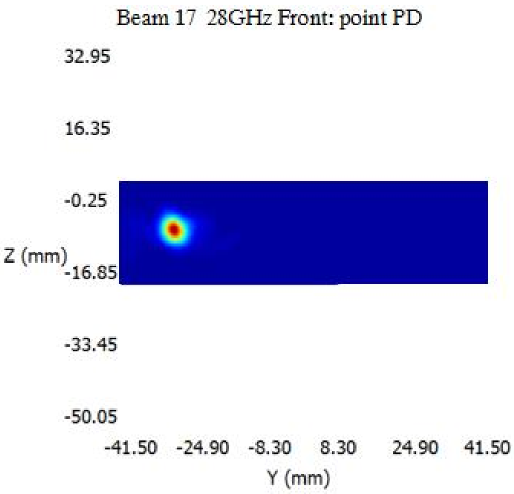
(a) Measurement



(b) Simulation

. N261 QTM0: Middle channel, Beam17, Front face, Point PD





(a) Measurement (b) Simulation

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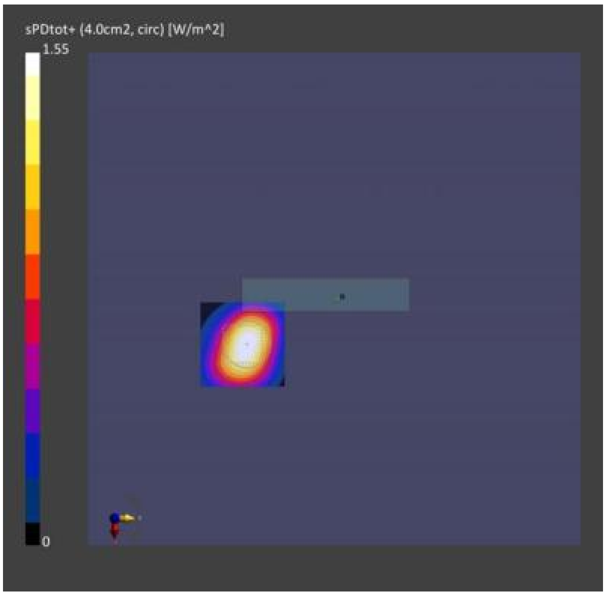
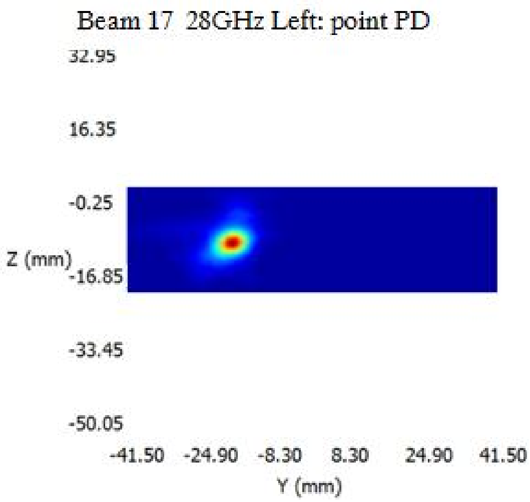
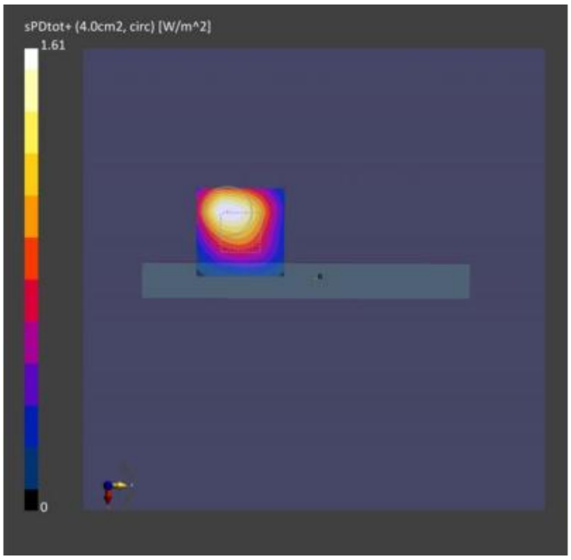
N261 QTM0: Middle channel, Beam17, Left face, Point PD



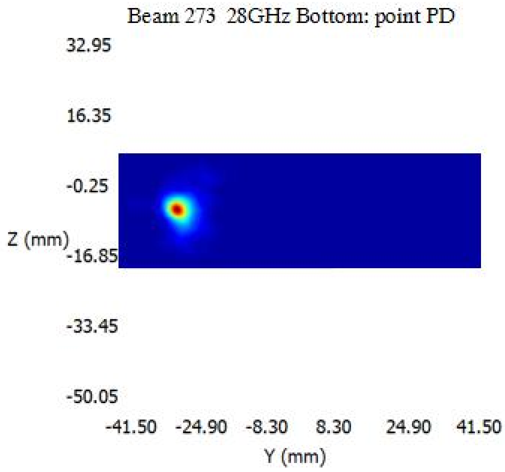


(a) Measurement (b) Simulation

N261 QTM0: Middle channel, Beam273, Bottom face, Point PD



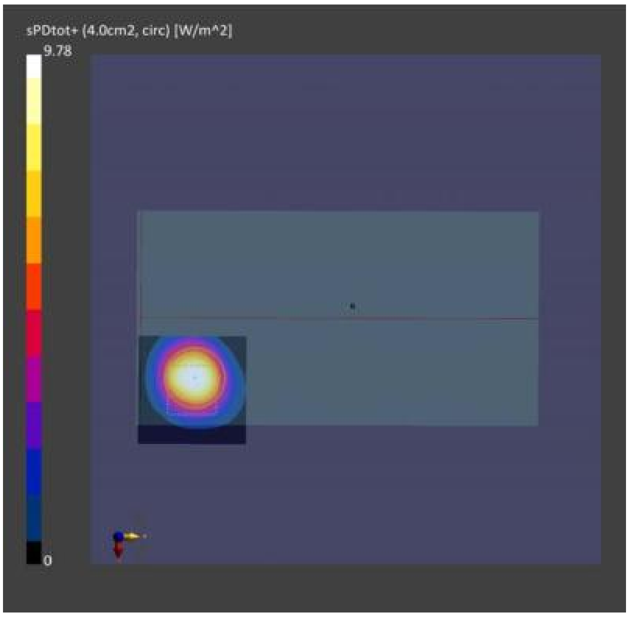
(a) Measurement



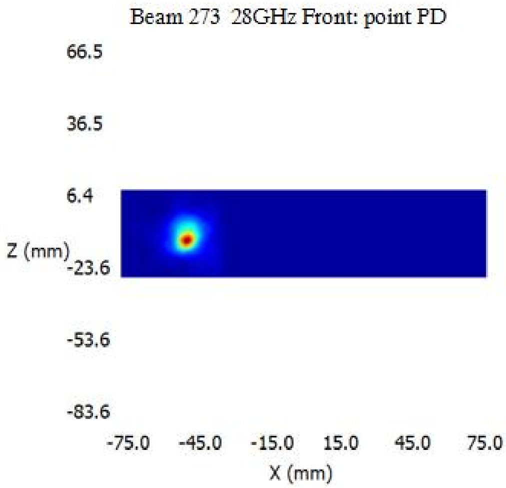
(b) Simulation

.

N261 QTM0: Middle channel, Beam273, Front face, Point PD



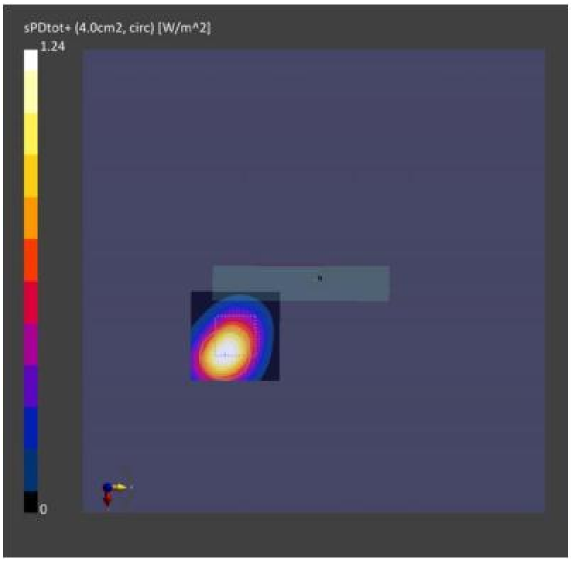
(b) Simulation



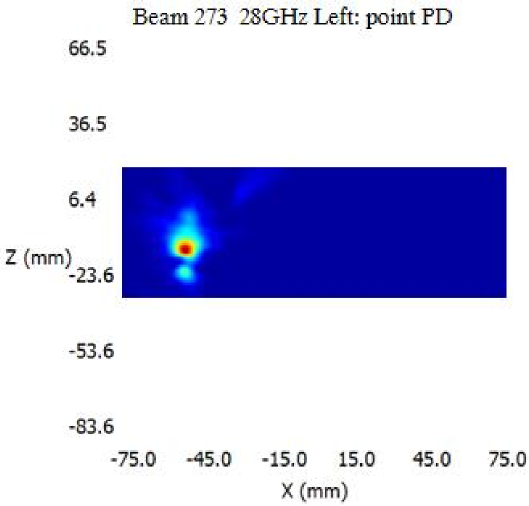
(a) Measurement

.

N261 QTMO: Middle channel, Beam273, Left face, Point PD



(a) Measurement



(b) Simulation

6. Simulation Result

The model is validated in Section 3, the PD exposure of EUT can be reliably assessed using the validated simulation approach. The PD simulation was performed at n261 and n260. The simulated PD results are reported in this section. The Ratio of PD exposure from front surface to the worst surface at 2mm, and the ratio of PD exposure from 2mm to 10mm evaluation distance for each beam are also reported for simultaneous transmission analysis in Part 1.

The relative phase between beam pairs is not controlled in the chipset design. Therefore, the relative phase between each beam pair was considered mathematically to identify the worst-case conditions, the below PD result for each MIMO beam represents the highest PD value after sweeping the relative phase between two SISO beams with a ‘5 degree’ step interval from 0 degree to 360 degree.

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

Below Tables show the PD simulation evaluation of QTMO 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	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	0.21	0.38				0.61	0.15	0.26
								Ratio						Ratio		
				Front	Left	Bottom	Max PD	Front	Right	TOP	Front	Left	Bottom	Front	Right	TOP
27.5	0		0	2.63	0.38	0.37	2.63	1	0.14	0.14	0.76	0.25	0.17	0.29	0.10	0.06
27.5	0		1	3.51	0.19	0.35	3.51	1	0.05	0.10	1.28	0.11	0.19	0.36	0.03	0.05
27.5	0		2	3.44	0.36	0.45	3.44	1	0.10	0.13	1.39	0.22	0.25	0.40	0.01	0.07
27.5	0		3	3.18	0.31	0.31	3.18	1	0.10	0.10	1.32	0.17	0.17	0.42	0.01	0.05
27.5	0		4	2.24	0.31	0.18	2.24	1	0.14	0.08	0.83	0.17	0.12	0.37	0.08	0.05
27.5	0		5	5.42	0.79	1.03	5.42	1	0.15	0.19	2.16	0.52	0.52	0.40	0.10	0.10
27.5	0		6	7.79	1.04	0.32	7.79	1	0.13	0.04	4.32	0.66	0.18	0.55	0.08	0.02
27.5	0		7	6.18	0.35	0.77	6.18	1	0.06	0.12	1.95	0.21	0.39	0.32	0.03	0.06
27.5	0		8	5.19	0.5	0.99	5.19	1	0.10	0.19	1.18	0.37	0.46	0.23	0.07	0.09
27.5	0		9	7.77	1.1	0.72	7.77	1	0.14	0.09	3.83	0.69	0.4	0.49	0.09	0.05
27.5	0		10	7.10	0.49	0.46	7.1	1	0.07	0.06	2.71	0.25	0.24	0.38	0.04	0.03
27.5	0		11	6.05	0.38	1.33	6.05	1	0.06	0.22	1.48	0.2	0.76	0.24	0.03	0.13
27.5	0		12	13.51	2.07	3.19	13.51	1	0.15	0.24	5.17	1.42	1.88	0.38	0.11	0.14
27.5	0		13	17.01	3.64	1.19	17.01	1	0.21	0.01	9.7	2.6	0.53	0.57	0.15	0.01
27.5	0		14	16.51	2.4	0.41	16.51	1	0.15	0.02	8.44	1.7	0.22	0.51	0.10	0.01
27.5	0		15	13.04	1.65	2.76	13.04	1	0.13	0.21	4.06	0.8	1.63	0.31	0.06	0.13
27.5	0		16	11.98	1.5	2.62	11.98	1	0.13	0.22	3.37	0.7	1.46	0.28	0.06	0.12
27.5	0		17	17.62	3.35	3.74	17.62	1	0.19	0.21	9.13	2.13	2.17	0.52	0.12	0.12
27.5	0		18	15.65	2.95	0.27	15.65	1	0.19	0.02	9.48	2.21	0.14	0.61	0.14	0.01
27.5	0		19	16.52	2.16	1.46	16.52	1	0.13	0.01	6.9	1.24	0.85	0.42	0.08	0.01
27.5	0		20	12.24	1.57	2.61	12.24	1	0.13	0.21	3.5	0.74	1.45	0.29	0.06	0.12
27.5	0		256	2.68	0.46	0.34	2.68	1	0.17	0.13	0.93	0.27	0.18	0.35	0.10	0.07
27.5	0		257	3.40	0.34	0.42	3.4	1	0.10	0.12	1.28	0.23	0.21	0.38	0.07	0.06
27.5	0		258	3.42	0.22	0.39	3.42	1	0.06	0.11	1.33	0.14	0.23	0.39	0.04	0.07
27.5	0		259	3.24	0.26	0.32	3.24	1	0.08	0.10	1.17	0.17	0.21	0.36	0.05	0.06
27.5	0		260	2.63	0.18	0.16	2.63	1	0.07	0.06	1.06	0.11	0.11	0.40	0.04	0.04
27.5	0		261	5.73	0.42	0.66	5.73	1	0.07	0.12	2.11	0.24	0.44	0.37	0.04	0.08
27.5	0		262	7.34	0.89	0.48	7.34	1	0.12	0.07	4.13	0.53	0.26	0.56	0.07	0.04
27.5	0		263	5.93	0.97	0.87	5.93	1	0.16	0.15	1.51	0.55	0.46	0.25	0.09	0.08
27.5	0		264	5.39	0.7	1.02	5.39	1	0.13	0.19	1.13	0.41	0.52	0.21	0.08	0.10
27.5	0		265	5.82	1.04	0.96	5.82	1	0.18	0.16	3.05	0.67	0.48	0.52	0.12	0.08
27.5	0		266	6.68	1.14	0.68	6.68	1	0.17	0.10	2.12	0.64	0.34	0.32	0.10	0.05
27.5	0		267	4.99	0.4	1.27	4.99	1	0.08	0.25	1.13	0.21	0.81	0.23	0.04	0.16
27.5	0		268	14.89	1.66	3.21	14.89	1	0.11	0.22	5.45	0.93	1.96	0.37	0.06	0.13
27.5	0		269	16.53	2.75	1.02	16.53	1	0.17	0.06	9.43	2.22	0.51	0.57	0.13	0.03
27.5	0		270	17.10	3.33	0.56	17.1	1	0.19	0.03	9.34	2.19	0.33	0.55	0.13	0.02
27.5	0		271	14.83	2.54	2.25	14.83	1	0.17	0.15	5.41	1.59	1.27	0.36	0.11	0.09
27.5	0		272	9.27	1.8	3.53	9.27	1	0.19	0.38	1.81	1.11	2.4	0.20	0.12	0.26
27.5	0		273	17.52	2.3	2.96	17.52	1	0.13	0.17	8.29	1.69	1.74	0.47	0.10	0.10
27.5	0		274	15.76	2.95	0.56	15.76	1	0.19	0.04	9.27	2.26	0.32	0.59	0.14	0.02
27.5	0		275	16.74	3.14	1.46	16.74	1	0.19	0.09	7.34	1.96	0.88	0.44	0.12	0.05
27.5	0		276	9.37	1.75	3.52	9.37	1	0.19	0.38	1.79	1.09	2.4	0.19	0.12	0.26

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QTMO N261 Low channel MIMO

Frequency (GHz)	Module	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	0.22	0.27				0.6	0.16	0.17
								Ratio						Ratio		
				Front	Left	Bottom	Max PD	Front	Right	TOP	Front	Left	Bottom	Front	Right	TOP
27.5	0	256	0	6.84	1.14	0.89	6.84	1	0.17	0.13	2.26	0.76	0.42	0.33	0.11	0.06
27.5	0	257	1	7.30	0.6	1.01	7.3	1	0.08	0.14	2.7	0.37	0.48	0.37	0.05	0.07
27.5	0	258	2	7.27	0.62	1.09	7.27	1	0.09	0.15	3.09	0.39	0.69	0.43	0.05	0.09
27.5	0	259	3	7.03	0.63	0.8	7.03	1	0.09	0.11	2.74	0.38	0.53	0.39	0.05	0.08
27.5	0	260	4	5.18	0.58	0.43	5.18	1	0.11	0.08	2.18	0.35	0.3	0.42	0.07	0.06
27.5	0	261	5	10.45	1.25	1.69	10.45	1	0.12	0.16	3.7	0.8	0.94	0.35	0.08	0.09
27.5	0	262	6	16.56	2.39	0.9	16.56	1	0.14	0.05	9.35	1.55	0.54	0.56	0.09	0.03
27.5	0	263	7	15.67	1.49	2.48	15.67	1	0.10	0.16	4.21	0.79	1.16	0.27	0.05	0.07
27.5	0	264	8	12.62	1.59	2.62	12.62	1	0.13	0.21	2.9	0.95	1.3	0.23	0.08	0.10
27.5	0	265	9	13.85	2.52	2.01	13.85	1	0.18	0.15	7.2	1.69	1.1	0.52	0.12	0.08
27.5	0	266	10	17.08	1.71	1.88	17.08	1	0.10	0.11	5.61	0.94	0.96	0.33	0.06	0.06
27.5	0	267	11	12.89	0.97	3.42	12.89	1	0.08	0.27	3.08	0.49	2.15	0.24	0.04	0.17
27.5	0	268	12	31.30	4.74	8.02	31.3	1	0.15	0.26	12.77	3.03	4.59	0.41	0.10	0.15
27.5	0	269	13	35.23	7.81	2.14	35.23	1	0.22	0.06	20.53	5.65	0.98	0.58	0.16	0.03
27.5	0	270	14	34.02	6.35	1.55	34.02	1	0.19	0.05	18.45	4.37	0.87	0.54	0.13	0.03
27.5	0	271	15	32.45	4.76	7.27	32.45	1	0.15	0.22	11.52	2.84	4.02	0.36	0.09	0.12
27.5	0	272	16	27.14	4.32	6.56	27.14	1	0.16	0.24	5.73	2.68	4.68	0.21	0.10	0.17
27.5	0	273	17	34.84	6.14	6.46	34.84	1	0.18	0.19	17.52	4.05	3.72	0.50	0.12	0.11
27.5	0	274	18	34.47	7.23	1	34.47	1	0.21	0.03	20.61	5.15	0.53	0.60	0.15	0.02
27.5	0	275	19	35.28	5.91	5.14	35.28	1	0.17	0.15	16.37	3.6	3.07	0.46	0.10	0.09
27.5	0	276	20	27.68	4.17	6.46	27.68	1	0.15	0.23	6.03	2.59	4.58	0.22	0.09	0.17

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QTMO N261 Middle channel SISO

Frequency (GHz)	Module	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	0.20	0.3				0.62	0.14	0.21
								Ratio						Ratio		
				Front	Left	Bottom	Max PD	Front	Right	TOP	Front	Left	Bottom	Front	Right	TOP
28	0		0	2.81	0.36	0.38	2.81	1	0.13	0.14	0.91	0.24	0.18	0.32	0.09	0.06
28	0		1	3.47	0.17	0.38	3.47	1	0.05	0.11	1.27	0.11	0.19	0.37	0.03	0.05
28	0		2	3.6	0.37	0.48	3.6	1	0.10	0.13	1.42	0.23	0.26	0.39	0.06	0.07
28	0		3	3.14	0.3	0.36	3.14	1	0.10	0.11	1.32	0.18	0.2	0.42	0.06	0.06
28	0		4	2.06	0.27	0.19	2.06	1	0.13	0.09	0.78	0.15	0.14	0.38	0.07	0.07
28	0		5	5.67	0.74	1.13	5.67	1	0.13	0.20	2.44	0.47	0.55	0.43	0.08	0.10
28	0		6	7.87	1.04	0.3	7.87	1	0.13	0.04	4.39	0.68	0.19	0.56	0.09	0.02
28	0		7	5.98	0.35	0.88	5.98	1	0.06	0.15	1.89	0.17	0.45	0.32	0.03	0.08
28	0		8	5.18	0.45	1.09	5.18	1	0.09	0.21	1.16	0.29	0.49	0.22	0.06	0.09
28	0		9	8.04	1.1	0.75	8.04	1	0.14	0.09	4	0.69	0.45	0.50	0.09	0.06
28	0		10	6.95	0.47	0.54	6.95	1	0.07	0.08	2.7	0.26	0.28	0.39	0.04	0.04
28	0		11	6.01	0.4	1.36	6.01	1	0.07	0.23	1.47	0.24	0.72	0.24	0.04	0.12
28	0		12	14.38	1.72	3.59	14.38	1	0.12	0.25	5.48	1.07	2.1	0.38	0.07	0.15
28	0		13	17.23	3.49	1.19	17.23	1	0.20	0.07	10.09	2.49	0.59	0.59	0.14	0.03
28	0		14	15.95	2.22	0.8	15.95	1	0.14	0.05	8.35	1.59	0.43	0.52	0.10	0.03
28	0		15	13.34	1.68	2.46	13.34	1	0.13	0.18	4.19	0.87	1.47	0.31	0.07	0.11
28	0		16	11.76	1.65	2.44	11.76	1	0.14	0.21	3.52	0.81	1.21	0.30	0.07	0.10
28	0		17	17.76	3.25	3.94	17.76	1	0.18	0.22	9.44	2.17	2.34	0.53	0.12	0.13
28	0		18	15.93	2.93	0.21	15.93	1	0.01	0.01	9.91	2.21	0.11	0.62	0.14	0.01
28	0		19	16.01	2.13	1.83	16.01	1	0.13	0.11	6.71	1.28	1.04	0.42	0.08	0.06
28	0		20	11.99	1.69	2.43	11.99	1	0.01	0.20	3.66	0.84	1.2	0.31	0.07	0.10
28	0		256	2.75	0.44	0.31	2.75	1	0.01	0.11	1.07	0.25	0.17	0.39	0.09	0.06
28	0		257	3.64	0.36	0.36	3.64	1	0.10	0.10	1.3	0.22	0.18	0.36	0.06	0.05
28	0		258	3.63	0.22	0.4	3.63	1	0.06	0.11	1.28	0.14	0.24	0.35	0.04	0.07
28	0		259	3.32	0.23	0.33	3.32	1	0.07	0.10	1.21	0.15	0.21	0.36	0.05	0.06
28	0		260	2.54	0.16	0.19	2.54	1	0.06	0.07	1.01	0.09	0.13	0.40	0.04	0.05
28	0		261	5.87	0.41	0.75	5.87	1	0.07	0.13	2.23	0.22	0.53	0.38	0.04	0.09
28	0		262	7.64	0.88	0.51	7.64	1	0.12	0.07	4.26	0.52	0.28	0.56	0.07	0.04
28	0		263	6.15	0.96	0.83	6.15	1	0.16	0.13	1.79	0.55	0.45	0.29	0.09	0.07
28	0		264	5.62	0.71	0.98	5.62	1	0.13	0.17	1.22	0.43	0.55	0.22	0.08	0.10
28	0		265	5.99	1.03	0.93	5.99	1	0.17	0.16	3.19	0.64	0.47	0.53	0.11	0.08
28	0		266	6.92	1.12	0.69	6.92	1	0.16	0.10	2.48	0.63	0.32	0.36	0.09	0.05
28	0		267	5.54	0.45	1.3	5.54	1	0.08	0.23	1.17	0.24	0.84	0.21	0.04	0.15
28	0		268	15.97	1.78	3.49	15.97	1	0.11	0.22	6.01	0.97	2.03	0.38	0.06	0.13
28	0		269	16.31	2.6	0.98	16.31	1	0.16	0.06	9.57	2.05	0.55	0.59	0.13	0.03
28	0		270	17.12	3.18	0.57	17.12	1	0.19	0.03	9.71	2.14	0.33	0.57	0.13	0.02
28	0		271	14.83	2.39	2.36	14.83	1	0.16	0.16	5.89	1.58	1.27	0.40	0.11	0.09
28	0		272	9.66	1.68	2.85	9.66	1	0.17	0.30	2.14	1.01	2.04	0.22	0.10	0.21
28	0		273	17.48	2.19	3.03	17.48	1	0.13	0.17	8.6	1.66	1.83	0.49	0.09	0.10
28	0		274	16.22	3.02	0.44	16.22	1	0.19	0.03	9.93	2.29	0.24	0.61	0.14	0.01
28	0		275	16.62	2.97	1.66	16.62	1	0.18	0.10	7.66	1.89	0.96	0.46	0.11	0.06
28	0		276	9.93	1.64	2.83	9.93	1	0.17	0.28	2.22	0.99	2.01	0.22	0.10	0.20

. QTMO N261 Middle channel MIMO

Frequency (GHz)	Module	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	0.22	0.3				0.6	0.11	0.17
								Ratio						Ratio		
				Front	Left	Bottom	Max PD	Front	Right	TOP	Front	Left	Bottom	Front	Right	TOP
28	0	256	0	6.84	1.08	0.87	6.84	1	0.16	0.13	2.55	0.73	0.41	0.37	0.11	0.06
28	0	257	1	7.43	0.65	0.97	7.43	1	0.09	0.13	2.64	0.4	0.44	0.36	0.05	0.06
28	0	258	2	7.59	0.64	1.22	7.59	1	0.08	0.16	3.08	0.39	0.7	0.41	0.05	0.09
28	0	259	3	7.04	0.67	0.91	7.04	1	0.10	0.13	2.65	0.39	0.58	0.38	0.06	0.08
28	0	260	4	4.98	0.51	0.5	4.98	1	0.10	0.10	2.12	0.29	0.37	0.43	0.06	0.07
28	0	261	5	10.85	1.22	1.85	10.85	1	0.11	0.17	4.18	0.78	1.11	0.39	0.01	0.10
28	0	262	6	16.66	2.46	0.9	16.66	1	0.15	0.05	9.49	1.6	0.53	0.57	0.01	0.03
28	0	263	7	15.09	1.64	2.52	15.09	1	0.11	0.17	4.38	0.9	1.2	0.29	0.01	0.08
28	0	264	8	12.69	1.58	2.72	12.69	1	0.12	0.21	3.03	0.92	1.38	0.24	0.01	0.11
28	0	265	9	14.34	2.52	1.89	14.34	1	0.18	0.13	7.31	1.68	1.05	0.51	0.01	0.07
28	0	266	10	16.7	1.79	1.85	16.7	1	0.11	0.11	5.85	0.95	0.94	0.35	0.01	0.06
28	0	267	11	13.14	0.97	4	13.14	1	0.07	0.30	3.18	0.55	2.26	0.24	0.01	0.17
28	0	268	12	34.01	4.24	8.62	34.01	1	0.12	0.25	13.29	2.51	5.01	0.39	0.01	0.15
28	0	269	13	34.37	7.42	2.28	34.37	1	0.22	0.07	20.68	5.33	0.97	0.60	0.01	0.03
28	0	270	14	33.4	6.01	2.08	33.4	1	0.18	0.06	18.71	4.2	1.16	0.56	0.01	0.03
28	0	271	15	32.56	4.61	6.81	32.56	1	0.14	0.21	11.89	2.91	3.73	0.37	0.01	0.11
28	0	272	16	27.18	4.24	5.86	27.18	1	0.16	0.22	6.33	2.49	3.73	0.23	0.01	0.14
28	0	273	17	35.2	6.18	7.22	35.2	1	0.18	0.21	18.28	4.2	3.98	0.52	0.01	0.11
28	0	274	18	35.18	7.53	0.83	35.18	1	0.21	0.02	21.11	5.32	0.52	0.60	0.01	0.01
28	0	275	19	34.55	5.81	5.81	34.55	1	0.17	0.17	16.31	3.57	3.39	0.47	0.01	0.10
28	0	276	20	27.65	4.13	5.86	27.65	1	0.15	0.21	6.67	2.45	3.58	0.24	0.01	0.13

. QTMO N261 High channel SISO

Frequency (GHz)	Module	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	0.2	0.25				0.63	0.15	0.15
								Ratio						Ratio		
				Front	Left	Bottom	Max PD	Front	Right	TOP	Front	Left	Bottom	Front	Right	TOP
28.35	0		0	2.88	0.35	0.43	2.88	1	0.01	0.15	1.01	0.24	0.21	0.35	0.08	0.07
28.35	0		1	3.48	0.18	0.4	3.48	1	0.05	0.11	1.25	0.11	0.19	0.36	0.03	0.05
28.35	0		2	3.69	0.35	0.49	3.69	1	0.01	0.13	1.47	0.21	0.28	0.40	0.06	0.08
28.35	0		3	3.16	0.31	0.35	3.16	1	0.01	0.11	1.33	0.18	0.21	0.42	0.06	0.07
28.35	0		4	1.97	0.26	0.18	1.97	1	0.13	0.09	0.77	0.15	0.13	0.39	0.08	0.07
28.35	0		5	5.74	0.72	1.21	5.74	1	0.01	0.21	2.56	0.47	0.6	0.45	0.08	0.10
28.35	0		6	7.9	1.08	0.3	7.9	1	0.14	0.04	4.45	0.69	0.18	0.56	0.09	0.02
28.35	0		7	6.04	0.36	1	6.04	1	0.01	0.17	1.97	0.17	0.51	0.33	0.03	0.08
28.35	0		8	5.25	0.46	1.2	5.25	1	0.09	0.23	1.24	0.3	0.57	0.24	0.06	0.11
28.35	0		9	8.11	1.11	0.72	8.11	1	0.14	0.09	4.1	0.68	0.44	0.51	0.08	0.05
28.35	0		10	6.96	0.46	0.58	6.96	1	0.07	0.08	2.76	0.26	0.3	0.40	0.04	0.04
28.35	0		11	6.07	0.37	1.33	6.07	1	0.01	0.22	1.58	0.21	0.7	0.26	0.03	0.12
28.35	0		12	14.84	1.7	3.66	14.84	1	0.11	0.25	5.66	1	2.15	0.38	0.07	0.14
28.35	0		13	17.23	3.4	1.21	17.23	1	0.20	0.01	10.27	2.42	0.58	0.60	0.14	0.03
28.35	0		14	15.67	2.28	0.94	15.67	1	0.01	0.06	8.37	1.55	0.55	0.53	0.10	0.04
28.35	0		15	13.51	1.69	2.19	13.51	1	0.13	0.16	4.44	0.92	1.27	0.33	0.07	0.09
28.35	0		16	11.77	1.69	2.37	11.77	1	0.14	0.20	3.81	0.88	1.17	0.32	0.07	0.10
28.35	0		17	17.72	3.12	3.92	17.72	1	0.18	0.22	9.48	2.09	2.36	0.53	0.12	0.13
28.35	0		18	15.96	2.96	0.22	15.96	1	0.01	0.01	10.1	2.22	0.12	0.63	0.14	0.01
28.35	0		19	15.82	2.16	1.94	15.82	1	0.01	0.01	6.83	1.27	1.16	0.43	0.08	0.07
28.35	0		20	12	1.73	2.32	12	1	0.14	0.19	3.96	0.9	1.13	0.33	0.08	0.09
28.35	0		256	2.83	0.41	0.31	2.83	1	0.01	0.11	1.07	0.24	0.16	0.38	0.08	0.06
28.35	0		257	3.63	0.38	0.38	3.63	1	0.10	0.10	1.33	0.22	0.2	0.37	0.06	0.06
28.35	0		258	3.64	0.23	0.38	3.64	1	0.06	0.10	1.28	0.15	0.2	0.35	0.04	0.05
28.35	0		259	3.26	0.22	0.29	3.26	1	0.07	0.09	1.28	0.14	0.18	0.39	0.04	0.06
28.35	0		260	2.56	0.18	0.18	2.56	1	0.07	0.07	1.03	0.11	0.13	0.40	0.04	0.05
28.35	0		261	5.71	0.41	0.65	5.71	1	0.07	0.11	2.23	0.23	0.45	0.39	0.04	0.08
28.35	0		262	7.79	0.91	0.56	7.79	1	0.12	0.07	4.3	0.56	0.31	0.55	0.07	0.04
28.35	0		263	6.18	0.96	0.83	6.18	1	0.16	0.13	1.83	0.54	0.43	0.30	0.09	0.07
28.35	0		264	5.77	0.71	0.97	5.77	1	0.12	0.17	1.25	0.42	0.51	0.22	0.07	0.09
28.35	0		265	6.16	1.05	1.06	6.16	1	0.17	0.17	3.23	0.65	0.52	0.52	0.11	0.08
28.35	0		266	6.85	1.11	0.68	6.85	1	0.16	0.10	2.52	0.64	0.35	0.37	0.09	0.05
28.35	0		267	5.53	0.49	1.2	5.53	1	0.09	0.22	1.27	0.25	0.69	0.23	0.05	0.12
28.35	0		268	16.19	1.79	3.98	16.19	1	0.11	0.25	6.42	1.03	2.34	0.40	0.06	0.14
28.35	0		269	16.39	2.61	0.97	16.39	1	0.16	0.06	9.72	2.04	0.51	0.59	0.12	0.03
28.35	0		270	17.23	3.17	0.6	17.23	1	0.18	0.03	10.17	2.22	0.39	0.59	0.13	0.02
28.35	0		271	14.7	2.31	2.32	14.7	1	0.16	0.16	5.91	1.55	1.33	0.40	0.11	0.09
28.35	0		272	9.73	1.6	2.21	9.73	1	0.16	0.23	2.29	0.95	1.42	0.24	0.10	0.15
28.35	0		273	17.11	2.12	3.1	17.11	1	0.12	0.18	8.58	1.61	1.89	0.50	0.09	0.11
28.35	0		274	16.07	3.06	0.4	16.07	1	0.19	0.02	10.18	2.34	0.27	0.63	0.15	0.02
28.35	0		275	16.18	2.83	1.72	16.18	1	0.17	0.11	7.54	1.85	0.97	0.47	0.11	0.06
28.35	0		276	10.03	1.54	2.23	10.03	1	0.15	0.22	2.44	0.92	1.39	0.24	0.09	0.14

. QTMO N261 High channel MIMO

Frequency (GHz)	Module	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	0.22	0.3				0.62	0.16	0.17
								Ratio						Ratio		
				Front	Left	Bottom	Max PD	Front	Right	TOP	Front	Left	Bottom	Front	Right	TOP
28.35	0	256	0	6.9	1.08	0.92	6.9	1	0.16	0.13	2.71	0.73	0.42	0.39	0.11	0.06
28.35	0	257	1	7.55	0.68	0.92	7.55	1	0.09	0.12	2.64	0.41	0.43	0.35	0.05	0.06
28.35	0	258	2	7.68	0.65	1.22	7.68	1	0.08	0.16	3.14	0.4	0.7	0.41	0.05	0.09
28.35	0	259	3	6.97	0.69	0.86	6.97	1	0.10	0.12	2.73	0.4	0.52	0.39	0.06	0.07
28.35	0	260	4	4.96	0.52	0.51	4.96	1	0.10	0.10	2.11	0.31	0.38	0.43	0.06	0.08
28.35	0	261	5	10.82	1.33	1.93	10.82	1	0.12	0.18	4.35	0.82	1.14	0.40	0.08	0.11
28.35	0	262	6	16.66	2.56	0.83	16.66	1	0.15	0.05	9.53	1.65	0.51	0.57	0.10	0.03
28.35	0	263	7	15	1.68	2.68	15	1	0.11	0.18	4.65	0.91	1.28	0.31	0.06	0.09
28.35	0	264	8	12.85	1.69	2.89	12.85	1	0.13	0.22	3.19	0.97	1.39	0.25	0.08	0.11
28.35	0	265	9	14.31	2.51	1.95	14.31	1	0.18	0.14	7.26	1.68	1.07	0.51	0.12	0.07
28.35	0	266	10	16.75	1.83	1.94	16.75	1	0.11	0.12	6.01	1	0.99	0.36	0.06	0.06
28.35	0	267	11	13.09	0.96	3.93	13.09	1	0.07	0.30	3.41	0.53	2.17	0.26	0.04	0.17
28.35	0	268	12	35.1	4.21	9.15	35.1	1	0.12	0.26	13.85	2.48	5.26	0.39	0.07	0.15
28.35	0	269	13	33.92	7.43	2.36	33.92	1	0.22	0.07	20.8	5.32	0.89	0.61	0.16	0.03
28.35	0	270	14	33.32	6.14	2.24	33.32	1	0.18	0.07	18.99	4.35	1.32	0.57	0.13	0.04
28.35	0	271	15	32.71	4.41	6.39	32.71	1	0.13	0.20	12.07	2.89	3.28	0.37	0.09	0.10
28.35	0	272	16	26.89	3.91	5.32	26.89	1	0.15	0.20	6.71	2.32	3.03	0.25	0.09	0.11
28.35	0	273	17	35.42	5.93	7.61	35.42	1	0.17	0.21	18.4	4.03	4.44	0.52	0.11	0.13
28.35	0	274	18	34.35	7.52	0.88	34.35	1	0.22	0.03	21.19	5.38	0.58	0.62	0.16	0.02
28.35	0	275	19	34.26	5.93	5.9	34.26	1	0.17	0.17	16.24	3.66	3.38	0.47	0.11	0.10
28.35	0	276	20	27.21	3.77	5.25	27.21	1	0.14	0.19	7.06	2.26	2.93	0.26	0.08	0.11

. QTMO N260 LOW channel SISO

Frequency (GHz)	Module	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	0.28	0.21				0.6	0.16	0.15
								Ratio						Ratio		
				Front	Bottom	Left	Max PD	Front	Right	TOP	Front	Bottom	Left	Front	Left	Right
37	0		0	3.11	0.38	0.2	3.11	1	0.12	0.06	1.65	0.16	0.12	0.53	0.05	0.04
37	0		1	3.73	0.58	0.23	3.73	1	0.16	0.06	1.58	0.27	0.13	0.42	0.07	0.03
37	0		2	4.74	0.21	0.59	4.74	1	0.04	0.12	2.08	0.14	0.38	0.44	0.03	0.08
37	0		3	4.48	0.21	0.55	4.48	1	0.05	0.12	1.98	0.14	0.29	0.44	0.03	0.06
37	0		4	3.98	0.1	0.34	3.98	1	0.03	0.09	1.91	0.07	0.2	0.48	0.02	0.05
37	0		5	8.14	0.35	0.88	8.14	1	0.04	0.11	3.56	0.22	0.56	0.44	0.03	0.07
37	0		6	8.58	0.21	1.35	8.58	1	0.02	0.16	4.87	0.13	0.81	0.57	0.02	0.09
37	0		7	7.57	0.43	0.81	7.57	1	0.06	0.11	2.21	0.29	0.48	0.29	0.04	0.06
37	0		8	6.86	0.9	0.5	6.86	1	0.13	0.07	3.48	0.42	0.29	0.51	0.06	0.04
37	0		9	10.32	0.28	1.78	10.32	1	0.03	0.17	5.82	0.18	1.16	0.56	0.02	0.11
37	0		10	8.33	0.59	1.42	8.33	1	0.07	0.17	3.14	0.39	0.81	0.38	0.05	0.10
37	0		11	6.27	1.22	0.39	6.27	1	0.19	0.06	2.09	0.57	0.23	0.33	0.09	0.04
37	0		12	14.76	1.81	2.44	14.76	1	0.12	0.17	7.38	1.05	1.59	0.50	0.07	0.11
37	0		13	20.73	0.73	3.85	20.73	1	0.04	0.19	12.68	0.46	2.82	0.61	0.02	0.14
37	0		14	15.95	2.08	2.94	15.95	1	0.13	0.18	8.33	0.95	1.97	0.52	0.06	0.12
37	0		15	12.02	3.29	1.5	12.02	1	0.27	0.12	4.02	1.93	1.08	0.33	0.16	0.09
37	0		16	17.40	1.68	1.77	17.4	1	0.10	0.10	8.12	0.95	1.3	0.47	0.05	0.07
37	0		17	19.58	1.06	3.9	19.58	1	0.05	0.20	11.41	0.54	2.81	0.58	0.03	0.14
37	0		18	19.98	1.04	3.85	19.98	1	0.05	0.19	11.69	0.53	2.72	0.59	0.03	0.14
37	0		19	12.40	2.84	1.76	12.4	1	0.23	0.14	5.77	1.7	1.12	0.47	0.14	0.09
37	0		20	14.90	1.94	2.05	14.9	1	0.13	0.14	7.15	1.07	1.25	0.48	0.07	0.08
37	0		256	3.53	0.53	0.39	3.53	1	0.15	0.11	1.57	0.25	0.2	0.44	0.07	0.06
37	0		257	4.32	0.66	0.48	4.32	1	0.15	0.11	1.68	0.37	0.27	0.39	0.09	0.06
37	0		258	4.78	0.21	0.51	4.78	1	0.04	0.11	2.07	0.12	0.32	0.43	0.03	0.07
37	0		259	4.52	0.17	0.36	4.52	1	0.04	0.08	2.06	0.11	0.21	0.46	0.02	0.05
37	0		260	3.30	0.12	0.24	3.3	1	0.04	0.07	1.44	0.08	0.14	0.44	0.02	0.04
37	0		261	7.17	1.82	0.65	7.17	1	0.25	0.09	1.88	0.92	0.43	0.26	0.13	0.06
37	0		262	9.71	0.75	1.21	9.71	1	0.08	0.12	4.86	0.41	0.73	0.50	0.04	0.08
37	0		263	7.37	1.66	0.83	7.37	1	0.23	0.11	2.99	0.78	0.49	0.41	0.11	0.07
37	0		264	7.32	1.66	0.89	7.32	1	0.23	0.12	2.45	0.88	0.55	0.33	0.12	0.08
37	0		265	9.52	0.64	1.34	9.52	1	0.07	0.14	4.69	0.34	0.87	0.49	0.04	0.09
37	0		266	8.41	0.67	0.86	8.41	1	0.08	0.10	3.26	0.38	0.51	0.39	0.05	0.06
37	0		267	8.44	0.63	1.23	8.44	1	0.07	0.15	3.85	0.3	0.81	0.46	0.04	0.10
37	0		268	15.91	1.62	2.21	15.91	1	0.10	0.14	8.49	0.81	1.39	0.53	0.05	0.09
37	0		269	20.77	1.14	4.29	20.77	1	0.05	0.21	12.29	0.58	3.11	0.59	0.03	0.15
37	0		270	18.47	2.29	3.65	18.47	1	0.12	0.20	9.65	0.98	2.43	0.52	0.05	0.13
37	0		271	11.72	3.24	1.35	11.72	1	0.28	0.12	4.15	1.87	0.86	0.35	0.16	0.07
37	0		272	18.04	1.71	3.09	18.04	1	0.09	0.17	9.46	0.86	2.05	0.52	0.05	0.11
37	0		273	18.64	1.75	3.98	18.64	1	0.09	0.21	10.34	0.92	2.71	0.55	0.05	0.15
37	0		274	20.10	0.84	3.88	20.1	1	0.04	0.19	12.06	0.61	2.73	0.60	0.03	0.14
37	0		275	15.34	4.2	2.67	15.34	1	0.27	0.17	7.44	2.44	1.67	0.49	0.16	0.11
37	0		276	14.45	2.13	1.18	14.45	1	0.15	0.08	4.95	1.11	0.69	0.34	0.08	0.05

. QTMO N260 LOW channel MIMO

Frequency (GHz)	Module	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	0.29	0.26				0.57	0.15	0.18
								Ratio						Ratio		
				Front	Bottom	Left	Max PD	Front	Right	TOP	Front	Bottom	Left	Front	Left	Right
37	0	256	0	7.29	1.43	0.78	7.29	1	0.20	0.11	3.68	0.66	0.42	0.50	0.09	0.06
37	0	257	1	9.57	2.26	0.82	9.57	1	0.24	0.09	3.72	1.19	0.5	0.39	0.12	0.05
37	0	258	2	11.52	0.51	1.59	11.52	1	0.04	0.14	5.15	0.34	1.05	0.45	0.03	0.09
37	0	259	3	10.60	0.58	1.28	10.6	1	0.05	0.12	4.57	0.37	0.78	0.43	0.03	0.07
37	0	260	4	7.72	0.3	0.72	7.72	1	0.04	0.09	3.54	0.22	0.44	0.46	0.03	0.06
37	0	261	5	11.42	2.32	1.63	11.42	1	0.20	0.14	4.65	1.33	1.13	0.41	0.12	0.10
37	0	262	6	17.86	1.24	2.75	17.86	1	0.07	0.15	9.34	0.79	1.74	0.52	0.04	0.10
37	0	263	7	11.03	2.46	1.92	11.03	1	0.22	0.17	4.32	1.39	1.4	0.39	0.13	0.13
37	0	264	8	16.00	4.71	2.06	16	1	0.29	0.13	6.51	2.42	1.3	0.41	0.15	0.08
37	0	265	9	21.50	1.44	3.96	21.5	1	0.07	0.18	11.56	0.87	2.62	0.54	0.04	0.12
37	0	266	10	18.51	1.76	3.75	18.51	1	0.10	0.20	6.86	1.08	2.33	0.37	0.06	0.13
37	0	267	11	16.31	3.24	2.03	16.31	1	0.20	0.12	6.39	1.52	1.34	0.39	0.09	0.08
37	0	268	12	34.61	5.41	6.26	34.61	1	0.16	0.18	19.67	2.64	4.2	0.57	0.08	0.12
37	0	269	13	42.47	2.89	10.26	42.47	1	0.07	0.24	25.52	1.76	7.64	0.60	0.04	0.18
37	0	270	14	40.25	5.11	9.53	40.25	1	0.13	0.24	18.78	2.66	6.41	0.47	0.07	0.16
37	0	271	15	34.43	8.69	2.99	34.43	1	0.25	0.09	11.44	5.03	2.02	0.33	0.15	0.06
37	0	272	16	39.30	5.35	6.39	39.3	1	0.14	0.16	19.43	3.03	4.51	0.49	0.08	0.11
37	0	273	17	39.22	4.59	10.35	39.22	1	0.12	0.26	24.22	2.57	7.31	0.62	0.07	0.19
37	0	274	18	43.14	2.65	9.19	43.14	1	0.06	0.21	24.73	1.93	6.67	0.57	0.04	0.15
37	0	275	19	31.80	7.03	6.5	31.8	1	0.22	0.20	13.67	4.06	4.56	0.43	0.13	0.14
37	0	276	20	38.48	6.69	3.46	38.48	1	0.17	0.09	14.7	3.7	2.07	0.38	0.10	0.05

. QTMO N260 Middle channel SISO

Frequency (GHz)	Module	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	0.25	0.26				0.69	0.14	0.16
								Ratio						Ratio		
				Front	Bottom	Left	Max PD	Front	Right	TOP	Front	Bottom	Left	Front	Right	TOP
38.5	0		0	3.22	0.4	0.18	3.22	1	0.12	0.06	1.57	0.19	0.12	0.49	0.06	0.04
38.5	0		1	3.54	0.64	0.32	3.54	1	0.18	0.09	1.36	0.34	0.18	0.38	0.10	0.05
38.5	0		2	4.18	0.35	0.34	4.18	1	0.08	0.08	2.08	0.19	0.24	0.50	0.05	0.06
38.5	0		3	4.34	0.35	0.41	4.34	1	0.08	0.09	2.07	0.21	0.24	0.48	0.05	0.06
38.5	0		4	3.76	0.15	0.27	3.76	1	0.04	0.07	2	0.1	0.16	0.53	0.03	0.04
38.5	0		5	7.98	0.63	0.44	7.98	1	0.08	0.06	3.71	0.37	0.26	0.46	0.05	0.03
38.5	0		6	8.18	0.31	1.1	8.18	1	0.04	0.13	4.89	0.17	0.68	0.60	0.02	0.08
38.5	0		7	7.55	0.69	0.77	7.55	1	0.09	0.10	2.28	0.46	0.45	0.30	0.06	0.06
38.5	0		8	7.28	1.37	0.43	7.28	1	0.19	0.06	3.32	0.69	0.27	0.46	0.09	0.04
38.5	0		9	8.93	0.59	1.08	8.93	1	0.07	0.12	5.94	0.42	0.7	0.67	0.05	0.08
38.5	0		10	8.24	0.63	1.21	8.24	1	0.08	0.15	3.31	0.42	0.69	0.40	0.05	0.08
38.5	0		11	7.02	1.48	0.34	7.02	1	0.21	0.05	2.3	0.67	0.2	0.33	0.10	0.03
38.5	0		12	13.99	2.94	1.24	13.99	1	0.21	0.09	7.74	1.57	0.8	0.55	0.11	0.06
38.5	0		13	19.94	0.69	3.19	19.94	1	0.03	0.16	13.72	0.41	2.12	0.69	0.02	0.11
38.5	0		14	15.48	1.95	2.79	15.48	1	0.13	0.18	7.52	0.85	1.81	0.49	0.05	0.12
38.5	0		15	13.36	3.33	1.7	13.36	1	0.25	0.13	4.11	2.14	1.15	0.31	0.16	0.09
38.5	0		16	16.92	2.22	1.4	16.92	1	0.13	0.08	7.34	1.27	0.91	0.43	0.08	0.05
38.5	0		17	16.73	2.19	1.93	16.73	1	0.13	0.12	10.37	1.21	1.28	0.62	0.07	0.08
38.5	0		18	17.86	0.88	2.83	17.86	1	0.05	0.16	11.46	0.5	2.03	0.64	0.03	0.11
38.5	0		19	13.04	2.45	1.82	13.04	1	0.19	0.14	5.61	1.47	1.07	0.43	0.11	0.08
38.5	0		20	14.49	2.51	1.53	14.49	1	0.17	0.11	7.41	1.25	0.96	0.51	0.09	0.07
38.5	0		256	3.68	0.46	0.39	3.68	1	0.13	0.11	1.6	0.24	0.2	0.43	0.07	0.05
38.5	0		257	3.95	0.73	0.31	3.95	1	0.18	0.08	1.64	0.39	0.2	0.42	0.10	0.05
38.5	0		258	4.32	0.33	0.53	4.32	1	0.08	0.12	1.89	0.2	0.34	0.44	0.05	0.08
38.5	0		259	4.60	0.27	0.42	4.6	1	0.06	0.09	2.1	0.18	0.25	0.46	0.04	0.05
38.5	0		260	3.36	0.15	0.32	3.36	1	0.04	0.10	1.47	0.11	0.21	0.44	0.03	0.06
38.5	0		261	7.77	1.82	0.69	7.77	1	0.23	0.09	2.32	0.97	0.45	0.30	0.12	0.06
38.5	0		262	8.91	1.09	0.78	8.91	1	0.12	0.09	4.69	0.64	0.46	0.53	0.07	0.05
38.5	0		263	7.33	1.62	0.46	7.33	1	0.22	0.06	2.93	0.85	0.29	0.40	0.12	0.04
38.5	0		264	7.96	1.67	0.87	7.96	1	0.21	0.11	2.71	0.89	0.54	0.34	0.11	0.07
38.5	0		265	8.72	0.88	1.13	8.72	1	0.10	0.13	4.2	0.44	0.66	0.48	0.05	0.08
38.5	0		266	8.79	0.75	0.76	8.79	1	0.09	0.09	3.75	0.47	0.46	0.43	0.05	0.05
38.5	0		267	7.65	0.91	1.07	7.65	1	0.12	0.14	3.28	0.52	0.67	0.43	0.07	0.09
38.5	0		268	14.91	2.19	3.36	14.91	1	0.15	0.23	7.76	1.17	2.14	0.52	0.08	0.14
38.5	0		269	20.40	1.08	3.69	20.4	1	0.05	0.18	12.85	0.61	2.56	0.63	0.03	0.13
38.5	0		270	18.46	2.16	2.58	18.46	1	0.12	0.14	10.47	1	1.74	0.57	0.05	0.09
38.5	0		271	13.00	3.13	1.11	13	1	0.24	0.09	4.66	1.79	0.68	0.36	0.14	0.05
38.5	0		272	16.69	2.56	4.28	16.69	1	0.15	0.26	8.1	1.33	2.73	0.49	0.08	0.16
38.5	0		273	17.80	2.46	4.37	17.8	1	0.14	0.25	9.24	1.17	2.88	0.52	0.07	0.16
38.5	0		274	18.43	1.11	2.68	18.43	1	0.06	0.15	11.14	0.69	1.93	0.60	0.04	0.10
38.5	0		275	15.53	3.83	1.75	15.53	1	0.25	0.11	7.33	2.25	1.15	0.47	0.14	0.07
38.5	0		276	15.40	2.92	1.38	15.4	1	0.19	0.09	5.04	1.7	0.83	0.33	0.11	0.05

. QTMO N260 Middle channel MIMO

Frequency (GHz)	Module	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	0.32	0.23				0.67	0.17	0.16
								Ratio						Ratio		
				Front	Bottom	Left	Max PD	Front	Right	TOP	Front	Bottom	Left	Front	Right	TOP
38.5	0	256	0	7.49	1.56	0.69	7.49	1	0.21	0.09	3.53	0.79	0.39	0.47	0.11	0.05
38.5	0	257	1	9.73	2.64	0.8	9.73	1	0.27	0.08	3.7	1.4	0.52	0.38	0.14	0.05
38.5	0	258	2	10.57	0.91	1.22	10.57	1	0.09	0.12	5.43	0.54	0.8	0.51	0.05	0.08
38.5	0	259	3	10.43	0.75	1.02	10.43	1	0.07	0.10	4.94	0.48	0.61	0.47	0.05	0.06
38.5	0	260	4	7.91	0.39	0.6	7.91	1	0.05	0.08	3.91	0.25	0.36	0.49	0.03	0.05
38.5	0	261	5	11.75	3.07	1.22	11.75	1	0.26	0.10	5.47	1.94	0.81	0.47	0.17	0.07
38.5	0	262	6	18.12	2.06	2.19	18.12	1	0.11	0.12	9.88	1.32	1.26	0.55	0.07	0.07
38.5	0	263	7	11.23	2.94	1.36	11.23	1	0.26	0.12	4.64	1.94	0.81	0.41	0.17	0.07
38.5	0	264	8	17.29	5.57	1.8	17.29	1	0.32	0.10	7.74	2.89	1.08	0.45	0.17	0.06
38.5	0	265	9	20.12	2.13	2.89	20.12	1	0.11	0.14	11.87	1.34	1.77	0.59	0.07	0.09
38.5	0	266	10	19.09	1.57	3.05	19.09	1	0.08	0.16	8.99	1.07	1.82	0.47	0.06	0.10
38.5	0	267	11	15.47	3.91	1.56	15.47	1	0.25	0.10	6.59	1.95	1.02	0.43	0.13	0.07
38.5	0	268	12	37.84	6.78	6.48	37.84	1	0.18	0.17	22.26	3.28	4.3	0.59	0.09	0.11
38.5	0	269	13	41.33	2.64	8.12	41.33	1	0.06	0.20	27.67	1.54	6.14	0.67	0.04	0.15
38.5	0	270	14	39.76	5.09	6.63	39.76	1	0.13	0.17	20.36	2.43	4.08	0.51	0.06	0.10
38.5	0	271	15	35.03	9.85	3.71	35.03	1	0.28	0.11	13.79	5.75	2.23	0.39	0.16	0.06
38.5	0	272	16	38.29	7.11	5.84	38.29	1	0.19	0.15	18.03	3.87	4.14	0.47	0.10	0.11
38.5	0	273	17	36.77	6.99	8.28	36.77	1	0.19	0.23	22.29	3.48	5.76	0.61	0.09	0.16
38.5	0	274	18	40.56	3.32	7.24	40.56	1	0.08	0.18	25.82	2.04	4.26	0.64	0.05	0.11
38.5	0	275	19	32.87	7.68	5.15	32.87	1	0.23	0.16	14.22	4.34	3.14	0.43	0.13	0.10
38.5	0	276	20	41.97	8.85	3.75	41.97	1	0.21	0.09	16.8	4.79	2.28	0.40	0.11	0.05

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. QTMO N260 High channel SISO

Frequency (GHz)	Module	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	0.23	0.29				0.72	0.13	0.22
								Ratio						Ratio		
				Front	Bottom	Left	Max PD	Front	Right	TOP	Front	Bottom	Left	Front	Right	TOP
40	0		0	3.08	0.49	0.28	3.08	1	0.16	0.09	1.31	0.25	0.21	0.43	0.08	0.07
40	0		1	3.58	0.71	0.44	3.58	1	0.20	0.12	1.55	0.38	0.3	0.43	0.11	0.08
40	0		2	4.57	0.31	0.41	4.57	1	0.07	0.09	2.49	0.18	0.23	0.54	0.04	0.05
40	0		3	3.94	0.27	0.25	3.94	1	0.07	0.06	1.91	0.18	0.16	0.48	0.05	0.04
40	0		4	3.8	0.12	0.26	3.8	1	0.03	0.07	2.01	0.07	0.15	0.53	0.02	0.04
40	0		5	7.47	0.38	0.37	7.47	1	0.05	0.05	3.75	0.26	0.24	0.50	0.03	0.03
40	0		6	7.4	0.38	0.91	7.4	1	0.05	0.12	4.78	0.21	0.55	0.65	0.03	0.07
40	0		7	7.49	0.43	0.45	7.49	1	0.06	0.06	2.47	0.28	0.29	0.33	0.04	0.04
40	0		8	7.23	1.51	0.74	7.23	1	0.21	0.10	3.25	0.75	0.45	0.45	0.10	0.06
40	0		9	8.28	0.49	0.79	8.28	1	0.06	0.10	5.94	0.31	0.41	0.72	0.04	0.05
40	0		10	8.78	0.57	1.03	8.78	1	0.06	0.12	3.7	0.38	0.61	0.42	0.04	0.07
40	0		11	6.96	1.62	0.44	6.96	1	0.23	0.06	2.52	0.78	0.23	0.36	0.11	0.03
40	0		12	12.67	2.78	1.17	12.67	1	0.22	0.09	7.49	1.39	0.7	0.59	0.11	0.06
40	0		13	17.51	1.24	2.46	17.51	1	0.07	0.14	12.33	0.77	1.35	0.70	0.04	0.08
40	0		14	14.06	1.59	2.81	14.06	1	0.11	0.20	8.29	0.89	2.12	0.59	0.06	0.15
40	0		15	15.24	2.44	1.33	15.24	1	0.16	0.09	5.46	1.43	0.94	0.36	0.09	0.06
40	0		16	15.94	1.62	1.58	15.94	1	0.10	0.10	7.4	0.83	1.02	0.46	0.05	0.06
40	0		17	15.11	2.11	1.54	15.11	1	0.14	0.10	10.32	1.19	0.81	0.68	0.08	0.05
40	0		18	16.39	0.94	3	16.39	1	0.06	0.18	11.67	0.51	2.12	0.71	0.03	0.13
40	0		19	13.05	1.95	1.33	13.05	1	0.15	0.10	5.21	1.11	0.84	0.40	0.09	0.06
40	0		20	15.09	2.56	1.49	15.09	1	0.17	0.10	8.46	1.56	0.83	0.56	0.10	0.06
40	0		256	3.39	0.5	0.29	3.39	1	0.15	0.09	1.51	0.25	0.18	0.45	0.07	0.05
40	0		257	4	0.72	0.29	4	1	0.18	0.07	1.94	0.42	0.16	0.49	0.11	0.04
40	0		258	4.51	0.22	0.69	4.51	1	0.05	0.15	2.11	0.12	0.47	0.47	0.03	0.10
40	0		259	4.03	0.27	0.54	4.03	1	0.07	0.13	1.79	0.15	0.38	0.44	0.04	0.09
40	0		260	3.62	0.14	0.31	3.62	1	0.04	0.09	1.57	0.1	0.2	0.43	0.03	0.06
40	0		261	7.54	1.32	0.62	7.54	1	0.18	0.08	2.73	0.67	0.39	0.36	0.09	0.05
40	0		262	8.23	0.92	1.11	8.23	1	0.11	0.13	4.97	0.43	0.7	0.60	0.05	0.09
40	0		263	6.91	1.35	0.39	6.91	1	0.20	0.06	2.53	0.81	0.22	0.37	0.12	0.03
40	0		264	7.9	1.42	0.8	7.9	1	0.18	0.10	3.38	0.76	0.49	0.43	0.10	0.06
40	0		265	7.96	0.85	1.17	7.96	1	0.11	0.15	4.61	0.56	0.74	0.58	0.07	0.09
40	0		266	8.59	0.65	0.53	8.59	1	0.08	0.06	3.58	0.28	0.36	0.42	0.03	0.04
40	0		267	7.53	1.02	1.06	7.53	1	0.14	0.14	3.68	0.72	0.68	0.49	0.10	0.09
40	0		268	13.36	2.46	3.1	13.36	1	0.18	0.23	6.8	1.29	2.12	0.51	0.10	0.16
40	0		269	18.32	1.22	4.37	18.32	1	0.07	0.24	11.98	0.63	3.37	0.65	0.03	0.18
40	0		270	15.2	1.88	1.53	15.2	1	0.12	0.10	9.33	0.84	1.04	0.61	0.06	0.07
40	0		271	15.33	2.13	1.2	15.33	1	0.14	0.08	5.82	1.35	0.86	0.38	0.09	0.06
40	0		272	14.78	3.06	4.07	14.78	1	0.21	0.28	8.42	1.88	2.99	0.57	0.13	0.20
40	0		273	15.21	2.67	4.47	15.21	1	0.18	0.29	9.19	1.57	3.38	0.60	0.10	0.22
40	0		274	17.22	1.45	2.7	17.22	1	0.08	0.16	12.09	0.91	1.98	0.70	0.05	0.11
40	0		275	13.09	2.83	1.2	13.09	1	0.22	0.09	6.49	1.33	0.87	0.50	0.10	0.07
40	0		276	14.48	2.24	1.34	14.48	1	0.15	0.09	5	1.24	0.87	0.35	0.09	0.06

. QTMO N260 High channel MIMO

Frequency (GHz)	Module	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	0.33	0.23				0.74	0.17	0.16
								Ratio						Ratio		
				Front	Bottom	Left	Max PD	Front	Right	TOP	Front	Bottom	Left	Front	Right	TOP
40	0	256	0	7.16	1.45	0.64	7.16	1	0.20	0.09	3.03	0.8	0.43	0.42	0.11	0.06
40	0	257	1	8.65	2.62	1.04	8.65	1	0.30	0.12	4.05	1.48	0.67	0.47	0.17	0.08
40	0	258	2	10.11	0.58	1.25	10.11	1	0.06	0.12	5.16	0.34	0.78	0.51	0.03	0.08
40	0	259	3	9.47	0.69	0.99	9.47	1	0.07	0.10	4.76	0.43	0.65	0.50	0.05	0.07
40	0	260	4	7.69	0.35	0.65	7.69	1	0.05	0.08	4.01	0.22	0.4	0.52	0.03	0.05
40	0	261	5	11.2	2.41	1.11	11.2	1	0.22	0.10	5.56	1.36	0.69	0.50	0.12	0.06
40	0	262	6	16.8	1.44	2.26	16.8	1	0.09	0.13	11.09	0.88	1.26	0.66	0.05	0.08
40	0	263	7	10.14	2	1.03	10.14	1	0.20	0.10	4.32	1.31	0.67	0.43	0.13	0.07
40	0	264	8	15.87	5.18	2.16	15.87	1	0.33	0.14	9.58	2.63	1.09	0.60	0.17	0.07
40	0	265	9	18.1	1.51	2.64	18.1	1	0.08	0.15	11.82	0.88	1.54	0.65	0.05	0.09
40	0	266	10	17.6	1.4	2.4	17.6	1	0.08	0.14	9.87	0.81	1.23	0.56	0.05	0.07
40	0	267	11	14.57	3.97	1.67	14.57	1	0.27	0.11	7.31	2.12	1.12	0.50	0.15	0.08
40	0	268	12	34.47	6.21	6.75	34.47	1	0.18	0.20	20.49	3.21	4.43	0.59	0.09	0.13
40	0	269	13	36.86	4.04	7.71	36.86	1	0.11	0.21	25.58	2.33	4.74	0.69	0.06	0.13
40	0	270	14	34.41	3.65	5.84	34.41	1	0.11	0.17	21.08	2	4.36	0.61	0.06	0.13
40	0	271	15	35.05	7.07	4	35.05	1	0.20	0.11	15.55	4.43	2.94	0.44	0.13	0.08
40	0	272	16	34.27	5.76	6.53	34.27	1	0.17	0.19	16.84	3.4	4.58	0.49	0.10	0.13
40	0	273	17	32.45	6.39	7.42	32.45	1	0.20	0.23	23.98	3.45	5.22	0.74	0.11	0.16
40	0	274	18	38	3.78	8.52	38	1	0.10	0.22	27.14	2.4	4.95	0.71	0.06	0.13
40	0	275	19	27.52	6.61	4.1	27.52	1	0.24	0.15	13.8	3.57	2.89	0.50	0.13	0.11
40	0	276	20	36.31	7.26	3.27	36.31	1	0.20	0.09	17.42	3.73	2.1	0.48	0.10	0.06

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	0.49	0.5
	0	2mm	1	1
		10mm	0.29	0.74

7. Power Density Characterization

PD design target

For Qualcomm SDX62/QTM545, the total device uncertainty for mmW radio is 1.4dB.

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 1.4dB device design related uncertainty, the PD_design_target for the EUT is determined as:

pn.designtarget=6w/m2

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 Δmin=Sim.PD-Meas.PD , is determined as:

Table 5-1: Δmin for QTM0

Band	QTM	Δmin(db)
N260	0	2.34
N261	0	2.52

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

PD Char of the EUT

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

Scaling factor for SISO beams

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

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

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

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

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

scaling factor S(i) list

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* = ∅ , and the total PD of the beam pair can be expressed as:

$$total\ PD\ (\emptyset) = \frac{1}{2}\sqrt{Re\{PD_x(\emptyset)\}^2 + Re\{PD_y(\emptyset)\}^2 + Re\{PD_z(\emptyset)\}^2}$$
$$= \frac{1}{2} Re\left\{\left(\overrightarrow{E_a} + \overrightarrow{E_b}e^{j\omega\emptyset}\right) \times \left(\overrightarrow{H_a} + \overrightarrow{H_b}e^{j\omega\emptyset}\right)^*\right\} \quad (4)$$

where, PDx(∅), PDy(∅) and PDz(∅) are the three components of the total PD (∅); 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 ∅ with a 5。 step from 0。 to 360。 to determine the worst-case, ∅ , which results in the highest total PD (∅) among all identified surfaces for this MIMO beam at this channel.

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

$$s(i)_{low\_or\_mid\_or\_high} = \frac{PD\ design\ target}{total\ PD\ (\emptyset(i)_{worstcase})}, i \in MIMO\ beams$$

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

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

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	Si	Si	Si	Band	Module	Beam2	Beam1	Si	Si	Si	Si
				Low	Mid	High	min					Low	Mid	High	min
n261	0		0	1.03	0.97	0.94	0.94	n260	0		0	0.87	0.84	0.88	0.84
n261	0		1	0.77	0.78	0.78	0.77	n260	0		1	0.73	0.77	0.76	0.73
n261	0		2	0.79	0.76	0.74	0.74	n260	0		2	0.57	0.65	0.60	0.57
n261	0		3	0.86	0.87	0.86	0.86	n260	0		3	0.61	0.63	0.69	0.61
n261	0		4	1.21	1.32	1.38	1.21	n260	0		4	0.68	0.72	0.72	0.68
n261	0		5	0.50	0.48	0.47	0.47	n260	0		5	0.33	0.34	0.36	0.33
n261	0		6	0.35	0.35	0.34	0.34	n260	0		6	0.32	0.33	0.37	0.32
n261	0		7	0.44	0.45	0.45	0.44	n260	0		7	0.36	0.36	0.36	0.36
n261	0		8	0.52	0.53	0.52	0.52	n260	0		8	0.40	0.37	0.38	0.37
n261	0		9	0.35	0.34	0.34	0.34	n260	0		9	0.26	0.30	0.33	0.26
n261	0		10	0.38	0.39	0.39	0.38	n260	0		10	0.33	0.33	0.31	0.31

n261	0		11	0.45	0.45	0.45	0.45	n260	0		11	0.43	0.39	0.39	0.39
n261	0		12	0.20	0.19	0.18	0.18	n260	0		12	0.18	0.19	0.21	0.18
n261	0		13	0.16	0.16	0.16	0.16	n260	0		13	0.13	0.14	0.16	0.13
n261	0		14	0.16	0.17	0.17	0.16	n260	0		14	0.17	0.18	0.19	0.17
n261	0		15	0.21	0.20	0.20	0.20	n260	0		15	0.23	0.20	0.18	0.18
n261	0		16	0.23	0.23	0.23	0.23	n260	0		16	0.16	0.16	0.17	0.16
n261	0		17	0.15	0.15	0.15	0.15	n260	0		17	0.14	0.16	0.18	0.14
n261	0		18	0.17	0.17	0.17	0.17	n260	0		18	0.14	0.15	0.17	0.14
n261	0		19	0.16	0.17	0.17	0.16	n260	0		19	0.22	0.21	0.21	0.21
n261	0		20	0.22	0.23	0.23	0.22	n260	0		20	0.18	0.19	0.18	0.18
n261	0		256	1.01	0.99	0.96	0.96	n260	0		256	0.77	0.74	0.80	0.74
n261	0		257	0.80	0.75	0.75	0.75	n260	0		257	0.63	0.69	0.68	0.63
n261	0		258	0.80	0.75	0.75	0.75	n260	0		258	0.57	0.63	0.60	0.57
n261	0		259	0.84	0.82	0.83	0.82	n260	0		259	0.60	0.59	0.67	0.59
n261	0		260	1.03	1.07	1.06	1.03	n260	0		260	0.82	0.81	0.75	0.75
n261	0		261	0.47	0.46	0.48	0.46	n260	0		261	0.38	0.35	0.36	0.35
n261	0		262	0.37	0.36	0.35	0.35	n260	0		262	0.28	0.31	0.33	0.28
n261	0		263	0.46	0.44	0.44	0.44	n260	0		263	0.37	0.37	0.39	0.37
n261	0		264	0.50	0.48	0.47	0.47	n260	0		264	0.37	0.34	0.34	0.34
n261	0		265	0.47	0.45	0.44	0.44	n260	0		265	0.29	0.31	0.34	0.29
n261	0		266	0.41	0.39	0.40	0.39	n260	0		266	0.32	0.31	0.32	0.31
n261	0		267	0.55	0.49	0.49	0.49	n260	0		267	0.32	0.36	0.36	0.32
n261	0		268	0.18	0.17	0.17	0.17	n260	0		268	0.17	0.18	0.20	0.17
n261	0		269	0.16	0.17	0.17	0.16	n260	0		269	0.13	0.13	0.15	0.13
n261	0		270	0.16	0.16	0.16	0.16	n260	0		270	0.15	0.15	0.18	0.15
n261	0		271	0.18	0.18	0.19	0.18	n260	0		271	0.23	0.21	0.18	0.18
n261	0		272	0.29	0.28	0.28	0.28	n260	0		272	0.15	0.16	0.18	0.15
n261	0		273	0.16	0.16	0.16	0.16	n260	0		273	0.15	0.15	0.18	0.15
n261	0		274	0.17	0.17	0.17	0.17	n260	0		274	0.14	0.15	0.16	0.14
n261	0		275	0.16	0.16	0.17	0.16	n260	0		275	0.18	0.18	0.21	0.18
n261	0		276	0.29	0.27	0.27	0.27	n260	0		276	0.19	0.18	0.19	0.18
n261	0	256	0	0.40	0.40	0.39	0.39	n260	0	256	0	0.37	0.36	0.38	0.36
n261	0	257	1	0.37	0.37	0.36	0.36	n260	0	257	1	0.28	0.28	0.31	0.28
n261	0	258	2	0.37	0.36	0.35	0.35	n260	0	258	2	0.24	0.26	0.27	0.24
n261	0	259	3	0.39	0.39	0.39	0.39	n260	0	259	3	0.26	0.26	0.29	0.26
n261	0	260	4	0.53	0.55	0.55	0.53	n260	0	260	4	0.35	0.34	0.35	0.34
n261	0	261	5	0.26	0.25	0.25	0.25	n260	0	261	5	0.24	0.23	0.24	0.23
n261	0	262	6	0.16	0.16	0.16	0.16	n260	0	262	6	0.15	0.15	0.16	0.15
n261	0	263	7	0.17	0.18	0.18	0.17	n260	0	263	7	0.25	0.24	0.27	0.24
n261	0	264	8	0.22	0.21	0.21	0.21	n260	0	264	8	0.17	0.16	0.17	0.16
n261	0	265	9	0.20	0.19	0.19	0.19	n260	0	265	9	0.13	0.14	0.15	0.13
n261	0	266	10	0.16	0.16	0.16	0.16	n260	0	266	10	0.15	0.14	0.15	0.14
n261	0	267	11	0.21	0.21	0.21	0.21	n260	0	267	11	0.17	0.18	0.19	0.17
n261	0	268	12	0.09	0.08	0.08	0.08	n260	0	268	12	0.08	0.07	0.08	0.07
n261	0	269	13	0.08	0.08	0.08	0.08	n260	0	269	13	0.06	0.07	0.07	0.06
n261	0	270	14	0.08	0.08	0.08	0.08	n260	0	270	14	0.07	0.07	0.08	0.07
n261	0	271	15	0.08	0.08	0.08	0.08	n260	0	271	15	0.08	0.08	0.08	0.08
n261	0	272	16	0.10	0.10	0.10	0.10	n260	0	272	16	0.07	0.07	0.08	0.07
n261	0	273	17	0.08	0.08	0.08	0.08	n260	0	273	17	0.07	0.07	0.08	0.07
n261	0	274	18	0.08	0.08	0.08	0.08	n260	0	274	18	0.06	0.07	0.07	0.06
n261	0	275	19	0.08	0.08	0.08	0.08	n260	0	275	19	0.09	0.08	0.10	0.08
n261	0	276	20	0.10	0.10	0.10	0.10	n260	0	276	20	0.07	0.06	0.07	0.06

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

$$input.power.limit(i)=Pref+10*\log(S(i)),\ i\in all\ beams \quad (1)$$

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

$$input.power.limit(i)=Pref+10*\log(S(i))+(\Delta min+TxAGC\ uncertanity\ at\ reference\ power\ level) \quad (2)$$

$$I\in all\ beams$$

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

$$input.power.limit(i)=Pref+10*\log(S(i))+(\Delta \min-TxAGC\ uncertanity\ at\ reference\ power\ level) \quad (3)$$

$$I\in all\ beams$$

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

Table 5-2: power.limit calculation

Band	Module	Δmin(db)	Input.power.limit(dbm)	Notes
N261	0	3.47	6dbm+10*log(S(i))+(3.47-2.13)	Using Eq.3
N260	0	4.61	6dbm+10*log(S(i))+(4.61-2.13)	Using Eq.3

Note the Δmin (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	Beam 2	Beam 1	Si min	Δ min	Equation	input power limit	Band	Module	Beam 2	Beam 1	Si min	Δ min	Equation	input power limit
n260	0		0	0.84	2.34	Eq.3	7.61	n261	0		0	0.94	2.52	Eq.3	8.27
n260	0		1	0.73	2.34	Eq.3	6.97	n261	0		1	0.77	2.52	Eq.3	7.41
n260	0		2	0.57	2.34	Eq.3	5.93	n261	0		2	0.74	2.52	Eq.3	7.20
n260	0		3	0.61	2.34	Eq.3	6.17	n261	0		3	0.86	2.52	Eq.3	7.84
n260	0		4	0.68	2.34	Eq.3	6.69	n261	0		4	1.21	2.52	Eq.3	9.36
n260	0		5	0.33	2.34	Eq.3	3.58	n261	0		5	0.47	2.52	Eq.3	5.28
n260	0		6	0.32	2.34	Eq.3	3.35	n261	0		6	0.34	2.52	Eq.3	3.89
n260	0		7	0.36	2.34	Eq.3	3.89	n261	0		7	0.44	2.52	Eq.3	4.96
n260	0		8	0.37	2.34	Eq.3	4.06	n261	0		8	0.52	2.52	Eq.3	5.66
n260	0		9	0.26	2.34	Eq.3	2.55	n261	0		9	0.34	2.52	Eq.3	3.78
n260	0		10	0.31	2.34	Eq.3	3.25	n261	0		10	0.38	2.52	Eq.3	4.35
n260	0		11	0.39	2.34	Eq.3	4.22	n261	0		11	0.45	2.52	Eq.3	5.03
n260	0		12	0.18	2.34	Eq.3	0.99	n261	0		12	0.18	2.52	Eq.3	1.15
n260	0		13	0.13	2.34	Eq.3	-0.48	n261	0		13	0.16	2.52	Eq.3	0.50
n260	0		14	0.17	2.34	Eq.3	0.66	n261	0		14	0.16	2.52	Eq.3	0.69
n260	0		15	0.18	2.34	Eq.3	0.86	n261	0		15	0.20	2.52	Eq.3	1.56
n260	0		16	0.16	2.34	Eq.3	0.28	n261	0		16	0.23	2.52	Eq.3	2.08

n260	0		17	0.14	2.34	Eq.3	-0.23	n261	0		17	0.15	2.52	Eq.3	0.37
n260	0		18	0.14	2.34	Eq.3	-0.32	n261	0		18	0.17	2.52	Eq.3	0.84
n260	0		19	0.21	2.34	Eq.3	1.53	n261	0		19	0.16	2.52	Eq.3	0.69
n260	0		20	0.18	2.34	Eq.3	0.90	n261	0		20	0.22	2.52	Eq.3	1.99
n260	0		256	0.74	2.34	Eq.3	7.03	n261	0		256	0.96	2.52	Eq.3	8.35
n260	0		257	0.63	2.34	Eq.3	6.33	n261	0		257	0.75	2.52	Eq.3	7.25
n260	0		258	0.57	2.34	Eq.3	5.89	n261	0		258	0.75	2.52	Eq.3	7.25
n260	0		259	0.59	2.34	Eq.3	6.06	n261	0		259	0.82	2.52	Eq.3	7.65
n260	0		260	0.75	2.34	Eq.3	7.10	n261	0		260	1.03	2.52	Eq.3	8.67
n260	0		261	0.35	2.34	Eq.3	3.78	n261	0		261	0.46	2.52	Eq.3	5.18
n260	0		262	0.28	2.34	Eq.3	2.81	n261	0		262	0.35	2.52	Eq.3	3.95
n260	0		263	0.37	2.34	Eq.3	4.01	n261	0		263	0.44	2.52	Eq.3	4.96
n260	0		264	0.34	2.34	Eq.3	3.68	n261	0		264	0.47	2.52	Eq.3	5.25
n260	0		265	0.29	2.34	Eq.3	2.90	n261	0		265	0.44	2.52	Eq.3	4.97
n260	0		266	0.31	2.34	Eq.3	3.25	n261	0		266	0.39	2.52	Eq.3	4.46
n260	0		267	0.32	2.34	Eq.3	3.42	n261	0		267	0.49	2.52	Eq.3	5.43
n260	0		268	0.17	2.34	Eq.3	0.67	n261	0		268	0.17	2.52	Eq.3	0.77
n260	0		269	0.13	2.34	Eq.3	-0.49	n261	0		269	0.16	2.52	Eq.3	0.68
n260	0		270	0.15	2.34	Eq.3	0.02	n261	0		270	0.16	2.52	Eq.3	0.50
n260	0		271	0.18	2.34	Eq.3	0.83	n261	0		271	0.18	2.52	Eq.3	1.15
n260	0		272	0.15	2.34	Eq.3	0.12	n261	0		272	0.28	2.52	Eq.3	2.98
n260	0		273	0.15	2.34	Eq.3	-0.02	n261	0		273	0.16	2.52	Eq.3	0.43
n260	0		274	0.14	2.34	Eq.3	-0.35	n261	0		274	0.17	2.52	Eq.3	0.77
n260	0		275	0.18	2.34	Eq.3	0.77	n261	0		275	0.16	2.52	Eq.3	0.63
n260	0		276	0.18	2.34	Eq.3	0.81	n261	0		276	0.27	2.52	Eq.3	2.85
n260	0	256	0	0.36	2.34	Eq.3	3.94	n261	0	256	0	0.39	2.52	Eq.3	4.48
n260	0	257	1	0.28	2.34	Eq.3	2.80	n261	0	257	1	0.36	2.52	Eq.3	4.09
n260	0	258	2	0.24	2.34	Eq.3	2.07	n261	0	258	2	0.35	2.52	Eq.3	4.01
n260	0	259	3	0.26	2.34	Eq.3	2.43	n261	0	259	3	0.39	2.52	Eq.3	4.39
n260	0	260	4	0.34	2.34	Eq.3	3.70	n261	0	260	4	0.53	2.52	Eq.3	5.72
n260	0	261	5	0.23	2.34	Eq.3	1.99	n261	0	261	5	0.25	2.52	Eq.3	2.51
n260	0	262	6	0.15	2.34	Eq.3	0.10	n261	0	262	6	0.16	2.52	Eq.3	0.65
n260	0	263	7	0.24	2.34	Eq.3	2.18	n261	0	263	7	0.17	2.52	Eq.3	0.91
n260	0	264	8	0.16	2.34	Eq.3	0.31	n261	0	264	8	0.21	2.52	Eq.3	1.78
n260	0	265	9	0.13	2.34	Eq.3	-0.64	n261	0	265	9	0.19	2.52	Eq.3	1.30
n260	0	266	10	0.14	2.34	Eq.3	-0.12	n261	0	266	10	0.16	2.52	Eq.3	0.54
n260	0	267	11	0.17	2.34	Eq.3	0.56	n261	0	267	11	0.21	2.52	Eq.3	1.68
n260	0	268	12	0.07	2.34	Eq.3	-3.09	n261	0	268	12	0.08	2.52	Eq.3	-2.59
n260	0	269	13	0.06	2.34	Eq.3	-3.60	n261	0	269	13	0.08	2.52	Eq.3	-2.60
n260	0	270	14	0.07	2.34	Eq.3	-3.36	n261	0	270	14	0.08	2.52	Eq.3	-2.45
n260	0	271	15	0.08	2.34	Eq.3	-2.76	n261	0	271	15	0.08	2.52	Eq.3	-2.28
n260	0	272	16	0.07	2.34	Eq.3	-3.26	n261	0	272	16	0.10	2.52	Eq.3	-1.48
n260	0	273	17	0.07	2.34	Eq.3	-3.25	n261	0	273	17	0.08	2.52	Eq.3	-2.63
n260	0	274	18	0.06	2.34	Eq.3	-3.66	n261	0	274	18	0.08	2.52	Eq.3	-2.60
n260	0	275	19	0.08	2.34	Eq.3	-2.48	n261	0	275	19	0.08	2.52	Eq.3	-2.61
n260	0	276	20	0.06	2.34	Eq.3	-3.54	n261	0	276	20	0.10	2.52	Eq.3	-1.56