H500V Sub6_mmw Part0 RF Exposure Report

1. Product Description

Product Type	Mobile Hotspot
Product Name	H500V
Operated Band	WCDMA Band II: 1850 MHz ~ 1910 MHz WCDMA Band IV: 1710 MHz ~ 1755 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 17: 704 MHz ~ 716 MHz LTE Band 46 (RX): 5150 MHz ~ 5925 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 5G NR n260 :37 GHZ~40 GHz5G NR n261 : 27.5 GHz~28.35 GHz

Table 1-1 Production describtion

2. SAR Characterization

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

Scenario	DSI State	Description
Full power	0	Full power
Body	1	LB SA/NSA
	2	UHB NSA
	3	Wifi2 Standalone
	4	MHB NSA
	5	WIFI1 Standalone
	6	UHB SA/NSA
	7	MHB SA/NSA
	8	MHB NSA+WIFI1
	9	UHB SA + WIFI1
	10	MHB SA/NSA + WIFI2
	11	LB SA/NSA + WIFI2
	12	LB + UHB NSA
	13	MHB + UHB + WIFI1
	14	LB + UHB NSA + WIFI2
	15	ALL simultaneously

Table 2-1 Usage scenarios

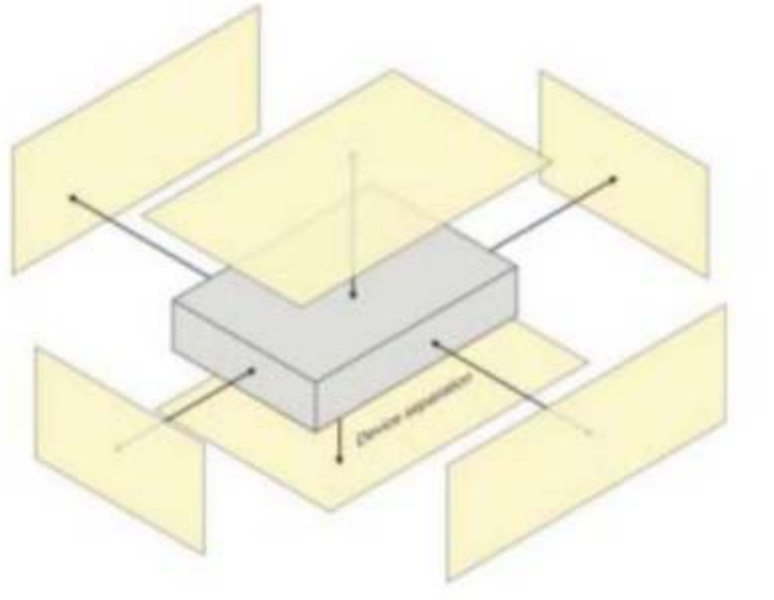


Figure 2-1 Illustration for Hotspot Position

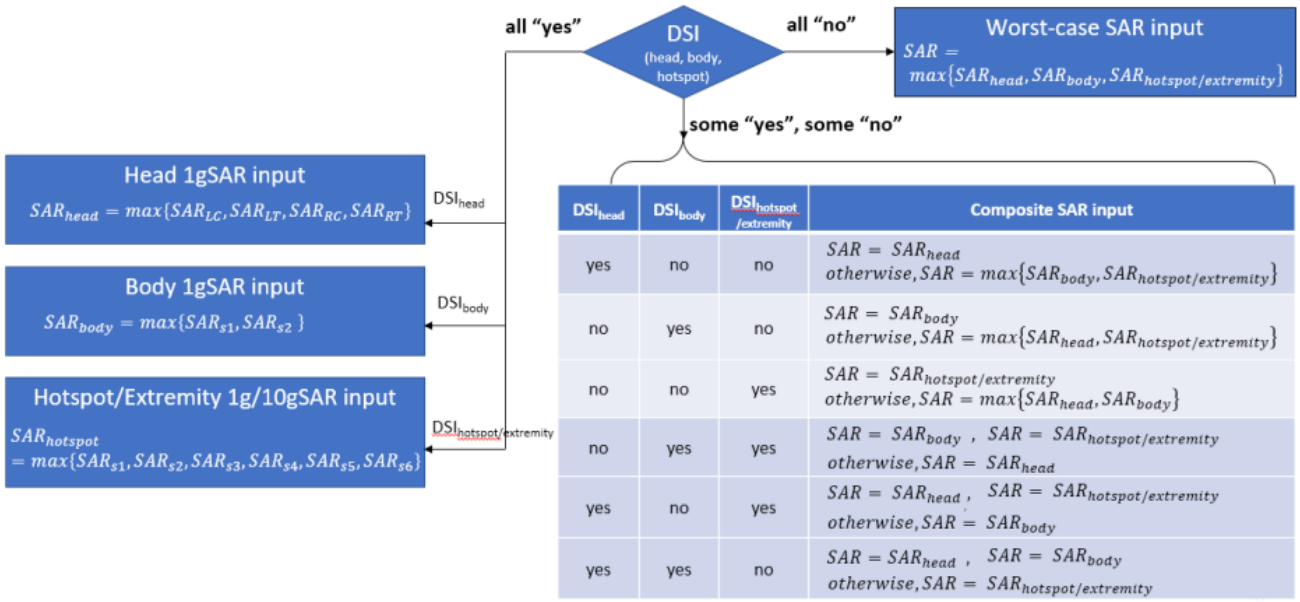
The device state index (DSI) represents each usage scenario (or exposure scenario). Depending on the detection scheme implemented in the smartphone, the worst-case SAR is further grouped and determined for each or combined exposure scenario(s):

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

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

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

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



DSI_{head}	DSI_{body}	$DSI_{hotspot/extremity}$	Composite SAR input
yes	no	no	$SAR = SAR_{head}$ $otherwise, SAR = max\{SAR_{body}, SAR_{hotspot/extremity}\}$
no	yes	no	$SAR = SAR_{body}$ $otherwise, SAR = max\{SAR_{head}, SAR_{hotspot/extremity}\}$
no	no	yes	$SAR = SAR_{hotspot/extremity}$ $otherwise, SAR = max\{SAR_{head}, SAR_{body}\}$
no	yes	yes	$SAR = SAR_{body}$, $SAR = SAR_{hotspot/extremity}$ $otherwise, SAR = SAR_{head}$
yes	no	yes	$SAR = SAR_{head}$, $SAR = SAR_{hotspot/extremity}$ $otherwise, SAR = SAR_{body}$
yes	yes	no	$SAR = SAR_{head}$, $SAR = SAR_{body}$ $otherwise, SAR = SAR_{hotspot/extremity}$

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

2.1 SAR char generation

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

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

To generate SAR char for a EUT:

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

The total device design and related uncertainties of the EUT , including TXAGC and device to device variation , are accounted for in the SAR design Target per the following equation:

$$SAR_{Design\ Target} < SAR_{regulatory_{limit}} \times 10^{\frac{-total\ uncertainty}{10}}$$

For the FCC SAR requirement of 1.6W/Kg , the SAR design target for the EUT is determined as :

SAR regulary limit(W/Kg)	Total uncertainty(dB)	SAR design target(W/Kg)
1.6	1	1.2

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

2.3 Worst case reported SAR

Worst Case Reported SAR											
Exposure Scenario	Antenna	Hotspot									
Antenna		ANT0		ANT4		ANT2		ANT3		ANT1	
Transmission mode		Standalone	Simultaneous	Standalone	Simultaneous	Standalone	Simultaneous	Standalone	Simultaneous	Standalone	Simultaneous
Power Mode(DSI)		DS7	DSI10/15	DSI1	DSI11/12/14/15	DSI6	DSI9/13/15	DSI2	DSI12/14/15	DSI4	DSI8/13/15
WCDMA Band II	ANT0	0.797	/	/	/	/	/	/	/	/	/
WCDMA Band IV	ANT0	0.780	/	/	/	/	/	/	/	/	/
WCDMA Band V	ANT4	/	/	0.382	0.342	/	/	/	/	/	/
LTE Band 2	ANT0	0.683	0.539	/	/	/	/	/	/	/	/
LTE Band 5	ANT4	/	/	0.337	0.292	/	/	/	/	/	/
LTE Band 7	ANT0	0.741	/	/	/	/	/	/	/	/	/
LTE Band 12/17	ANT4	/	/	0.457	0.312	/	/	/	/	/	/
LTE Band 13	ANT4	/	/	0.421	0.300	/	/	/	/	/	/
LTE Band 48	ANT2	/	/	/	/	1.007	0.319	/	/	/	/
LTE Band 48	ANT3	/	/	/	/	/	/	/	0.797	/	/
LTE Band 4/66	ANT0	0.609	0.497	/	/	/	/	/	/	/	/
LTE Band 4/66	ANT1	/	/	/	/	/	/	/	/	/	0.367
5G NR N2	ANT0	0.697	0.493	/	/	/	/	/	/	/	/
5G NR N2	ANT1	/	/	/	/	/	/	/	/	/	0.590
5G NR N5	ANT4	/	/	0.532	0.210	/	/	/	/	/	/
5G NR N48	ANT2	/	/	/	/	1.009	0.267	/	/	/	/
5G NR N66	ANT0	0.750	0.468	/	/	/	/	/	/	/	/
5G NR N66	ANT1	/	/	/	/	/	/	/	/	/	0.217
5G NR N77	ANT2	/	/	/	/	1.103	0.220	/	/	/	/
5G NR N77	ANT3	/	/	/	/	/	/	/	0.776	/	/
5G NR N78	ANT2	/	/	/	/	1.088	0.294			/	/

Table 2.3-1 Worst case reported SAR

2.4 SAR characterization

	DSI	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	category	Body	Body	Body	Body	Body	Body	Body	Body	Body	Body	Body	Body	Body	Body	Body	Body
Tech_Band	Antenna	Tx powe	Tx powe	Tx powe	Tx powe	Tx powe	Tx powe	Tx powe	Tx powe	Tx powe	Tx powe	Tx powe	Tx powe	Tx powe	Tx powe	Tx powe	Tx powe
LTE_B1	0	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23
LTE_B12	4	23	23	23	23	23	23	23	23	23	23	23	21	21	23	21	21
LTE_B13	4	23	23	23	23	23	23	23	23	23	23	23	21	21	23	21	21
LTE_B17	4	23	23	23	23	23	23	23	23	23	23	23	21	21	23	21	21
LTE_B2	0	23	23	23	23	23	23	23	23	23	23	22	23	23	23	23	22
LTE_B2	1	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23
LTE_B20	4	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23
LTE_B28	4	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23
LTE_B3	0	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23
LTE_B4	0	23	23	23	23	23	23	23	23	23	23	22	23	23	23	23	22
LTE_B4	1	23	23	23	23	23	23	23	23	21	23	23	23	23	21	23	21
LTE_B48	2	23	23	23	23	23	23	21	23	23	18	23	23	23	18	23	18
LTE_B48	3	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23
LTE_B5	4	23	23	23	23	23	23	23	23	23	23	23	20	20	23	20	20
LTE_B66	0	23	23	23	23	23	23	23	23	23	23	22	23	23	23	23	22
LTE_B66	1	23	23	23	23	23	23	23	23	21	23	23	23	23	21	23	21
LTE_B7	0	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23
NR5G_N2	0	23	23	23	23	23	23	23	23	23	23	22	23	23	23	23	22
NR5G_N2	1	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23
NR5G_N48	2	23	23	23	23	23	23	18	23	23	13	23	23	23	13	23	13
NR5G_N48	3	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23
NR5G_N5	4	23	23	23	23	23	23	23	23	23	23	23	19	19	23	19	19
NR5G_N66	0	23	23	23	23	23	23	23	23	23	23	22	23	23	23	23	22
NR5G_N66	1	23	23	23	23	23	23	23	23	21	23	23	23	23	21	23	21
NR5G_N77	2	23	23	23	23	23	23	17	23	23	11	23	23	23	11	23	11
NR5G_N77	3	23	23	23	23	23	23	23	23	23	23	23	23	17	23	17	17
NR5G_N77	0	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23
NR5G_N77	1	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23
NR5G_N78	2	23	23	23	23	23	23	17	23	23	11	23	23	23	11	23	11
NR5G_N78	3	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23
NR5G_N78	0	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23
NR5G_N78	1	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23
WCDMA_B1	0	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23
WCDMA_B2	0	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23
WCDMA_B4	0	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23
WCDMA_B5	4	23	23	23	23	23	23	23	23	23	23	23	21	23	23	21	21
WCDMA_B8	4	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23

Table 2.4-1 SAR characterization

3. PD characterization

3.1 Electromagnetic simulation method for power density

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).

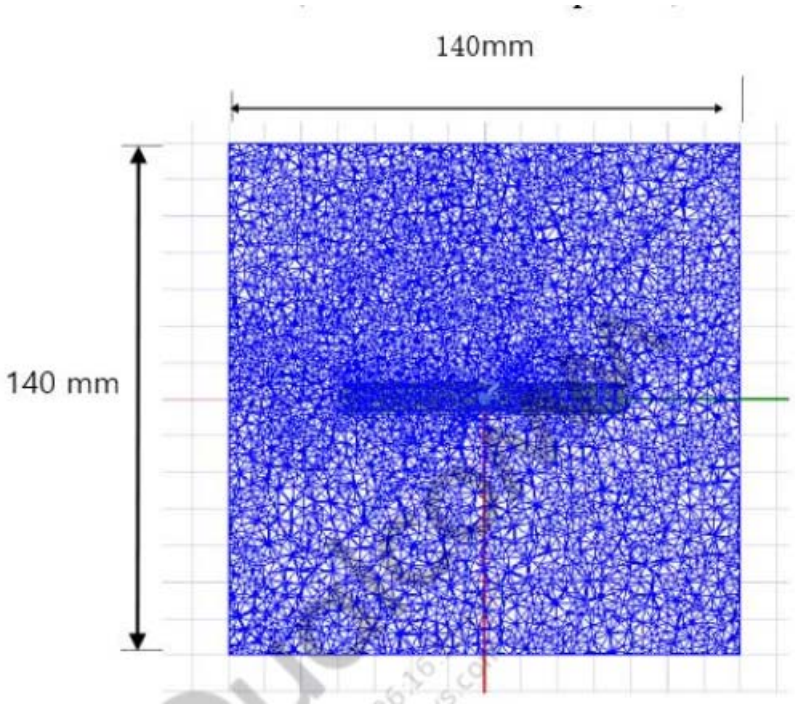


Figure 3.1-1: Example of HFSS mesh in a model of the device (Top view)

Time-averaged power density calculation

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

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

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

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

Simulation setup

Modeling for simulation

The simulation approach to perform PD assessment for a smartphone requires accurate modeling for mmWave antenna module as well as the smartphone itself. Figure shows the simulation model which is mounted one mmWave antenna module. 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 module called as QMTO#. The position of QTMO#(module0) as the pictures of attachment（Figure 3.1-1）.

PD evaluation surfaces

Attached Figure（Figure 3.1-2） 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 3.1-1: 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 1x4 element array of dual-polarization patch antennas. The number of antenna ports of QTM#0 and QTM#1for 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.

Pictrue “EUT simulation model” as attachment 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.

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 2 shows an example of antenna port excitations.

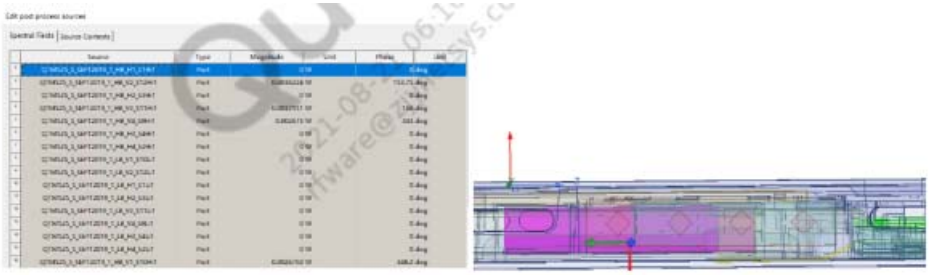


Figure 3.1-3: An example of port excitation (QTM#1)

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.

3.2. Codebook

The codebook supported by this EUT is shown in Table 3.2-1 below.

- **N260 codebook**

Band	Beam_ID	Module	Ant_Group	Ant_Type	Ant_Feed	Paired_With
260	0	0	0	PATCH	13	128
260	1	0	0	PATCH	12	129
260	2	0	0	PATCH	11	130
260	3	0	0	PATCH	10	131
260	4	0	0	PATCH	9	132
260	5	0	0	PATCH	11;10	133
260	6	0	0	PATCH	11;10	134
260	7	0	0	PATCH	12;11	135
260	8	0	0	PATCH	10;9	136
260	9	0	0	PATCH	10;9	137
260	10	0	0	PATCH	11;10	138
260	11	0	0	PATCH	11;10	139
260	12	0	0	PATCH	13;12;11;10;9	140
260	13	0	0	PATCH	13;12;11;10;9	141
260	14	0	0	PATCH	13;12;11;10;9	142
260	15	0	0	PATCH	13;12;11;10;9	143
260	16	0	0	PATCH	13;12;11;10;9	144
260	17	0	0	PATCH	13;12;11;10;9	145
260	18	0	0	PATCH	13;12;11;10;9	146
260	19	0	0	PATCH	13;12;11;10;9	147
260	20	0	0	PATCH	13;12;11;10;9	148
260	128	0	1	PATCH	4	0
260	129	0	1	PATCH	5	1
260	130	0	1	PATCH	3	2
260	131	0	1	PATCH	2	3
260	132	0	1	PATCH	1	4
260	133	0	1	PATCH	5;3	5
260	134	0	1	PATCH	4;5	6
260	135	0	1	PATCH	5;3	7
260	136	0	1	PATCH	2;1	8
260	137	0	1	PATCH	3;2	9
260	138	0	1	PATCH	5;3	10

260	139	0	1	PATCH	3;2	11
260	140	0	1	PATCH	4;5;3;2;1	12
260	141	0	1	PATCH	4;5;3;2;1	13
260	142	0	1	PATCH	4;5;3;2;1	14
260	143	0	1	PATCH	4;5;3;2;1	15
260	144	0	1	PATCH	4;5;3;2;1	16
260	145	0	1	PATCH	4;5;3;2;1	17
260	146	0	1	PATCH	4;5;3;2;1	18
260	147	0	1	PATCH	4;5;3;2;1	19
260	148	0	1	PATCH	4;5;3;2;1	20

- N261 codebook

Band	Beam_ID	Module	Ant_Group	Ant_Type	Ant_Feed	Paired_With
261	0	0	0	PATCH	9	128
261	1	0	0	PATCH	10	129
261	2	0	0	PATCH	11	130
261	3	0	0	PATCH	12	131
261	4	0	0	PATCH	13	132
261	5	0	0	PATCH	10;11	133
261	6	0	0	PATCH	10;11	134
261	7	0	0	PATCH	11;12	135
261	8	0	0	PATCH	12;13	136
261	9	0	0	PATCH	10;11	137
261	10	0	0	PATCH	9;10	138
261	11	0	0	PATCH	10;11	139
261	12	0	0	PATCH	9;10;11;12;13	140
261	13	0	0	PATCH	9;10;11;12;13	141
261	14	0	0	PATCH	9;10;11;12;13	142
261	15	0	0	PATCH	9;10;11;12;13	143
261	16	0	0	PATCH	9;10;11;12;13	144
261	17	0	0	PATCH	9;10;11;12;13	145
261	18	0	0	PATCH	9;10;11;12;13	146
261	19	0	0	PATCH	9;10;11;12;13	147
261	20	0	0	PATCH	9;10;11;12;13	148
261	128	0	1	PATCH	1	0
261	129	0	1	PATCH	2	1
261	130	0	1	PATCH	3	2
261	131	0	1	PATCH	4	3
261	132	0	1	PATCH	5	4
261	133	0	1	PATCH	1;2	5
261	134	0	1	PATCH	3;4	6
261	135	0	1	PATCH	4;5	7
261	136	0	1	PATCH	4;5	8
261	137	0	1	PATCH	2;3	9

261	138	0	1	PATCH	2;3	10
261	139	0	1	PATCH	1;2	11
261	140	0	1	PATCH	1;2;3;4;5	12
261	141	0	1	PATCH	1;2;3;4;5	13
261	142	0	1	PATCH	1;2;3;4;5	14
261	143	0	1	PATCH	1;2;3;4;5	15
261	144	0	1	PATCH	1;2;3;4;5	16
261	145	0	1	PATCH	1;2;3;4;5	17
261	146	0	1	PATCH	1;2;3;4;5	18
261	147	0	1	PATCH	1;2;3;4;5	19
261	148	0	1	PATCH	1;2;3;4;5	20

Table 3.2-1: EUT codebook

3.3. 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 3.3-1

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

Table 3.3-1: Input power used in simulation validation

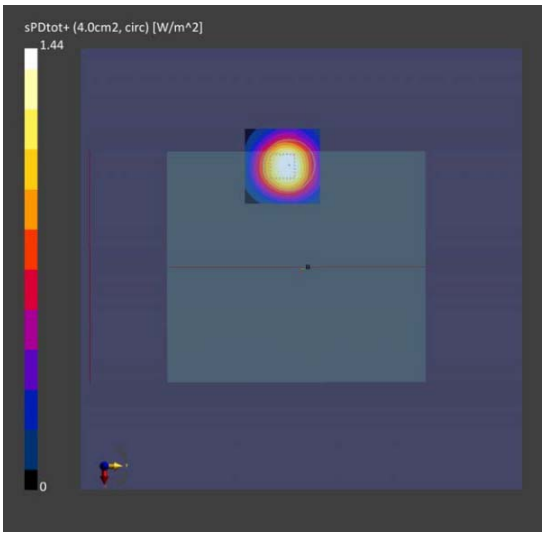
The simulation and measurement were performed at 2mm evaluation distance. The simulated and measured 4cm2 averaged PD results are shown in Table 3.3-2.

6dBm input measurement / simulation									
Band	Ant Type	Module	Ant Group (Ant Polarization)	beam ID	Surface	Channel	Measured	Simulated(Middle)	Delta (Simulated-Measured)
n261	Patch	QTM0	AG0(V)	14	Bottomface	Mid	10.8	18.13	2.25
					Frontface	Mid	5.25	9.49	2.57
					Backface	Mid	1.28	2.2	2.35
					Top	Mid	0.017	0.03	2.47
					Right	Mid	0.011	0.02	2.59
					Left	Mid	0.023	0.04	2.40
			AG1(H)	142	Bottomface	Mid	10.4	18.42	2.48
					Frontface	Mid	4.05	9.51	3.71
					Backface	Mid	1.3	2.26	2.40
					Top	Mid	0.021	0.04	2.80
					Right	Mid	0.024	0.05	3.19
					Left	Mid	0.01	0.02	3.01
n260	Patch	QTM0	AG0(V)	19	Bottomface	Mid	8.06	14.26	2.48
					Frontface	Mid	3.45	9.32	4.32
					Backface	Mid	1.44	1.34	-0.31
					Top	Mid	0.013	0.02	1.87
					Right	Mid	0.031	0.04	1.10
					Left	Mid	0.05	0.11	3.42
			AG1(H)	147	Bottomface	Mid	9.33	13.66	1.66
					Frontface	Mid	5.32	7.82	1.67
					Backface	Mid	0.978	1.82	2.70
					Top	Mid	0.018	0.03	2.22
					Right	Mid	0.031	0.06	2.87
					Left	Mid	0.05	0.09	2.55

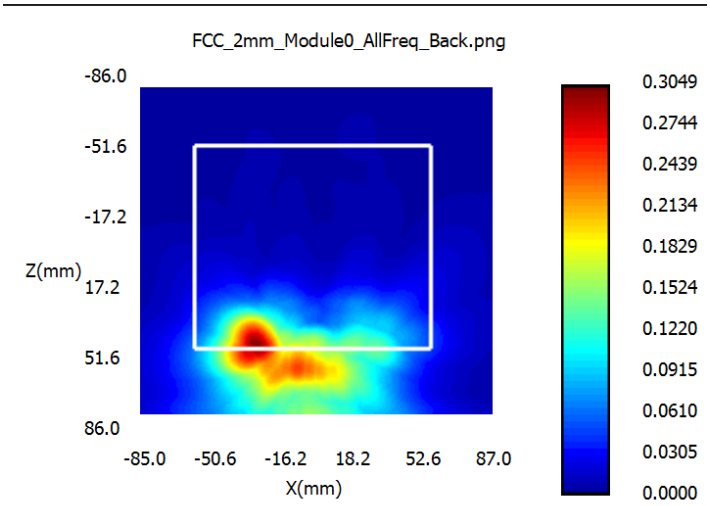
Table 3.3-2: Simulated and measured 4cm2 averaged PD comparison

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, Beam19, Back face, Point PD

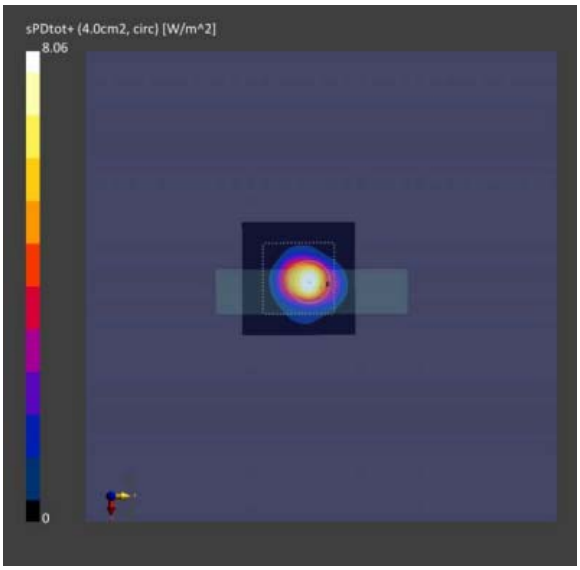


(a) Measurement

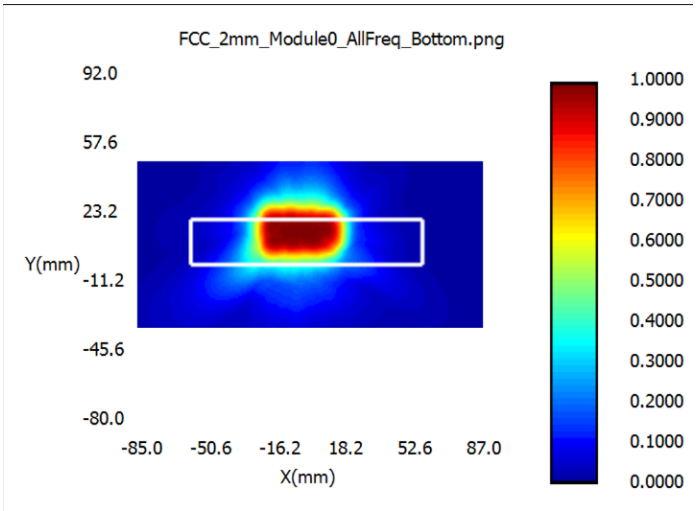


(b) Simulation

• N260 QTM0: mid channel, Beam19, Bottom face, Point PD

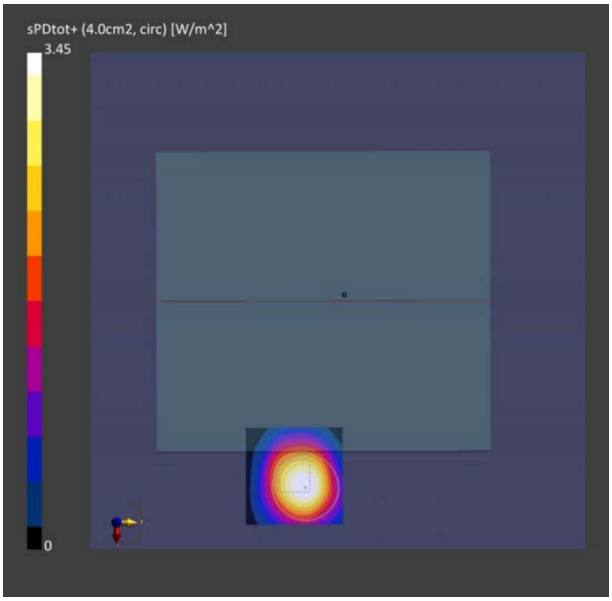


(a) Measurement

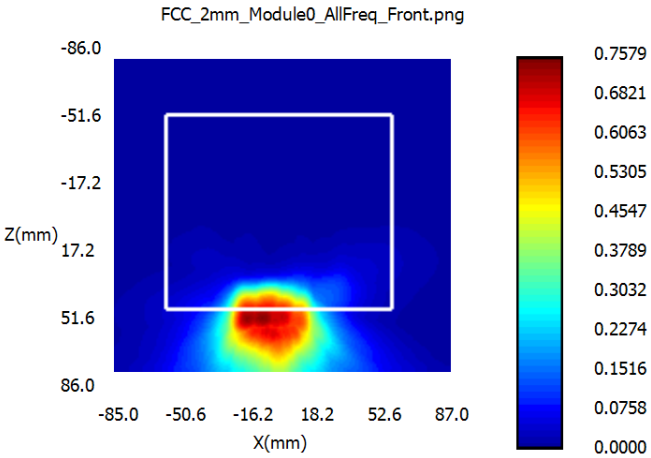


(b) Simulation

• N260 QTM0: Middle channel, Beam19, Front face, Point PD

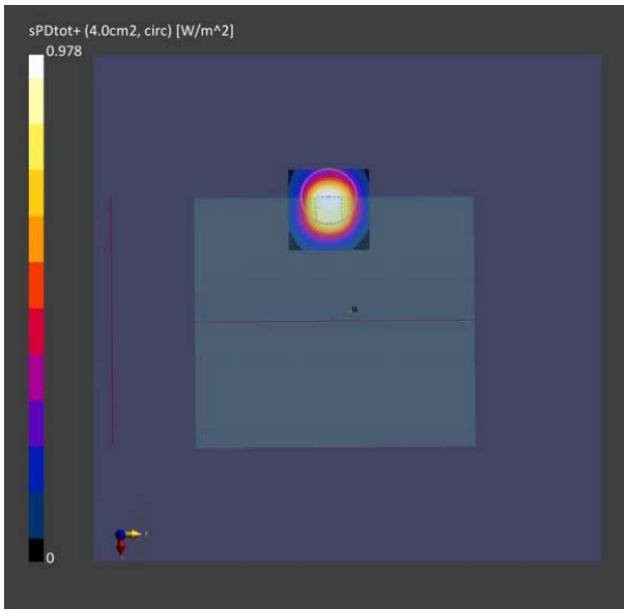


(a) Measurement

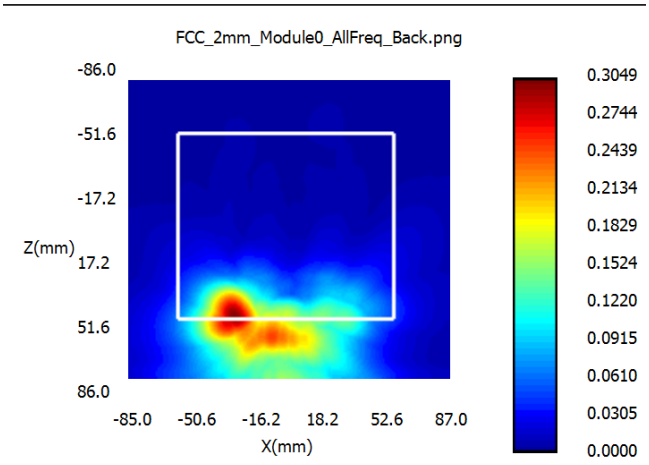


(b) Simulation

• N260 QTM0: mid channel, Beam147, Back face, Point PD

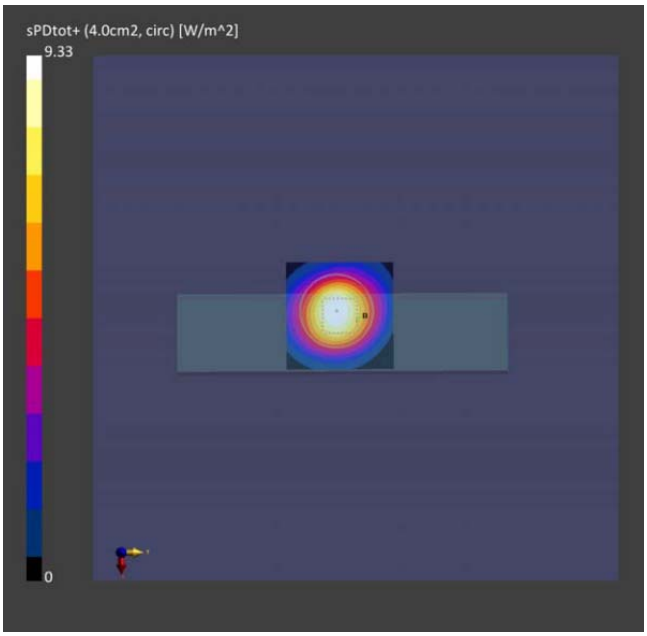


(a) Measurement

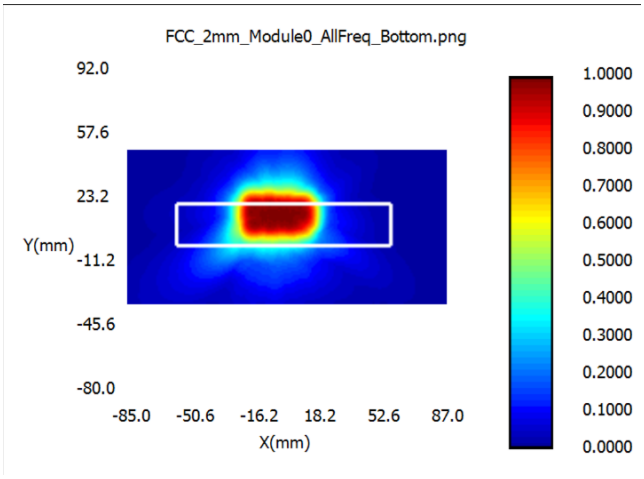


(b) Simulation

• N260 QTM0: mid channel, Beam147, Bottom face, Point PD

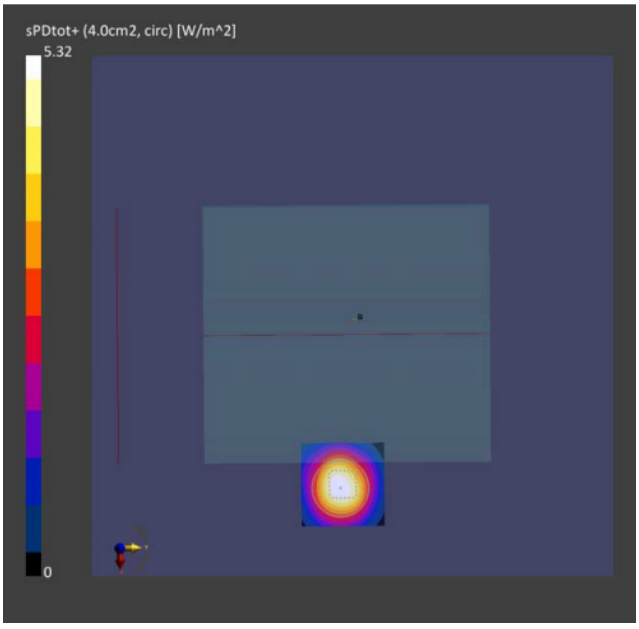


(a) Measurement

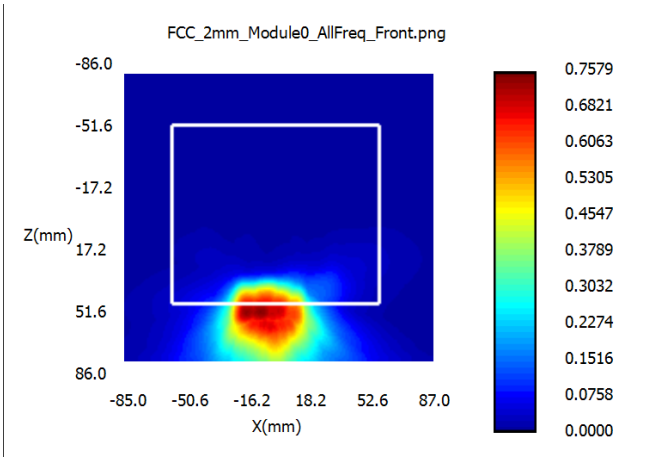


(b) Simulation

• N260 QTM0: Middle channel, Beam147, Front face, Point PD

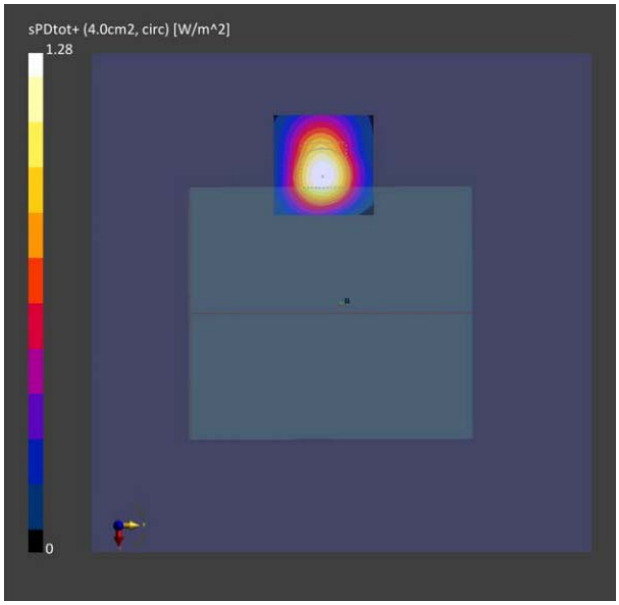


(a) Measurement

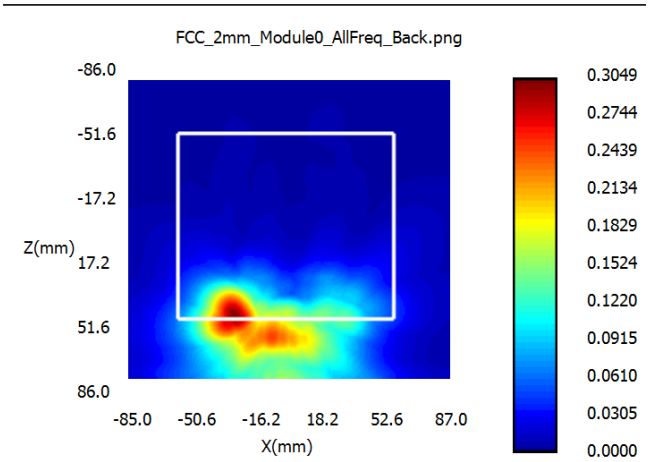


(b) Simulation

• N261 QTM0: mid channel, Beam14, Back face, Point PD

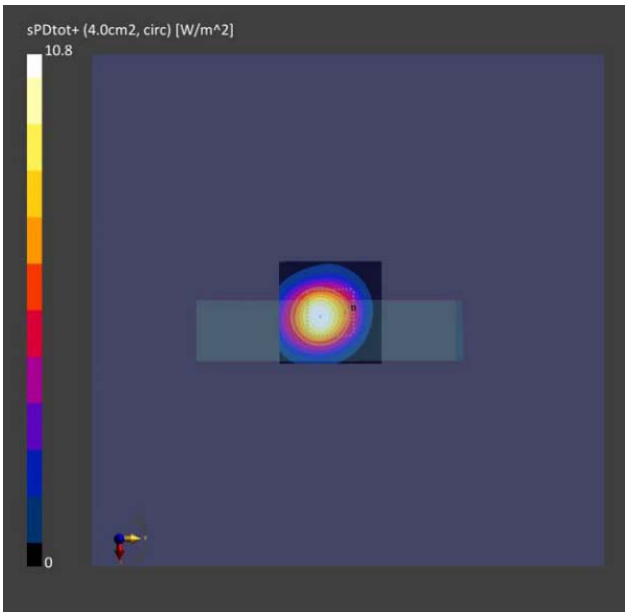


(a) Measurement

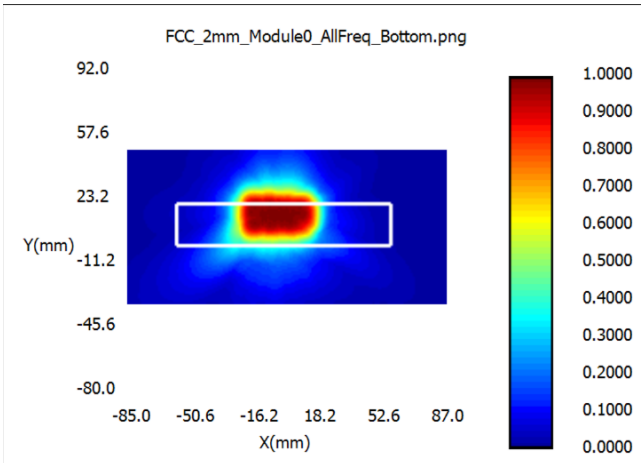


(b) Simulation

• N261 QTM0: mid channel, Beam14, Bottom face, Point PD

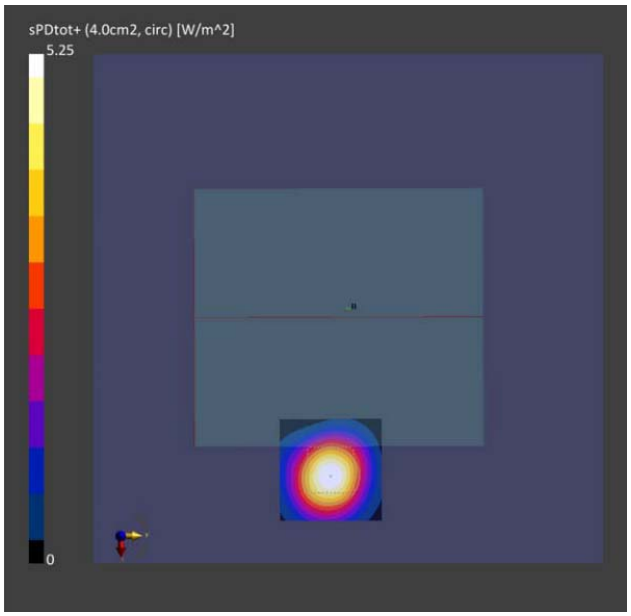


(a) Measurement

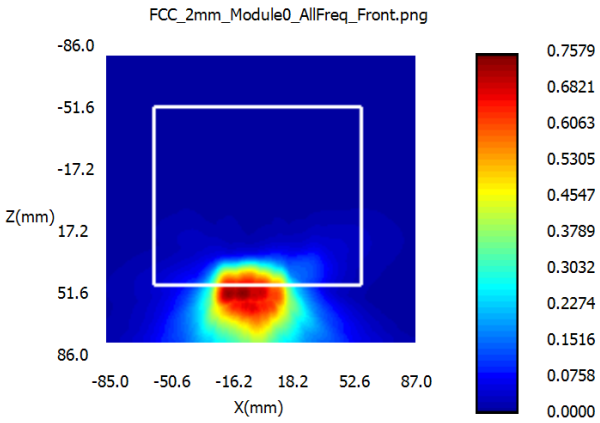


(b) Simulation

• N261 QTM0: Middle channel, Beam14, Front face, Point PD

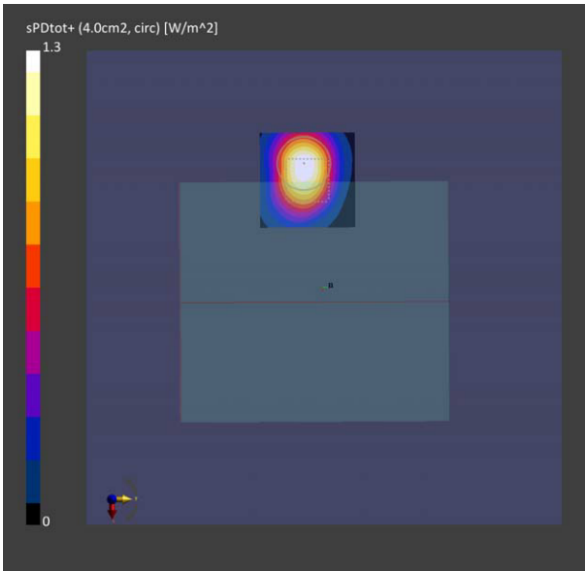


(a) Measurement

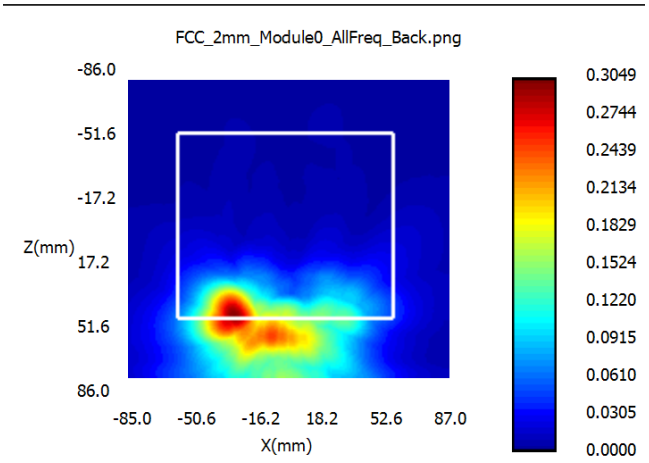


(b) Simulation

• N261 QTM0: mid channel, Beam142, Back face, Point PD

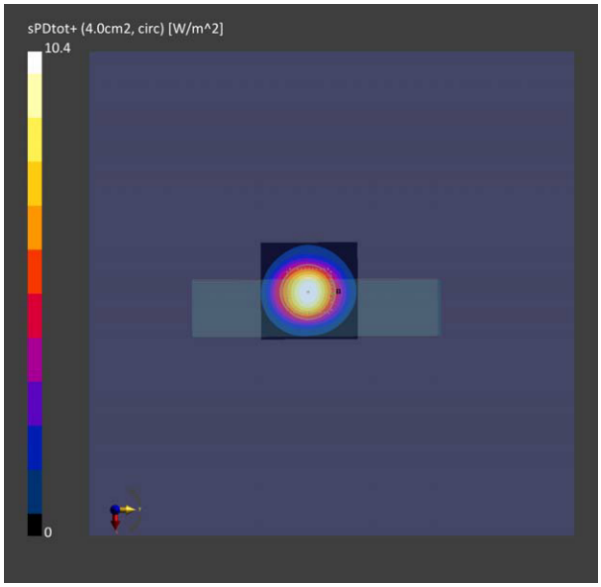


(a) Measurement

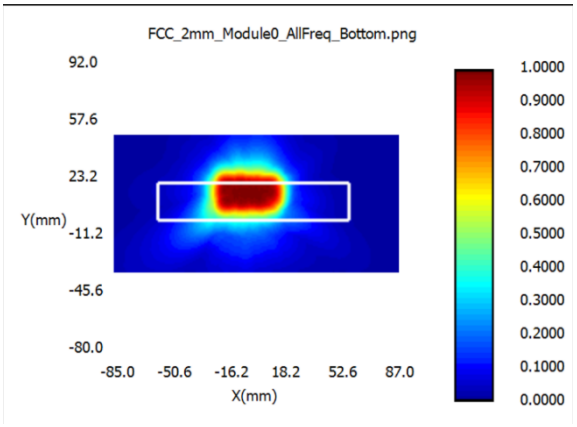


(b) Simulation

• N261 QTM0: mid channel, Beam142, Bottom face, Point PD

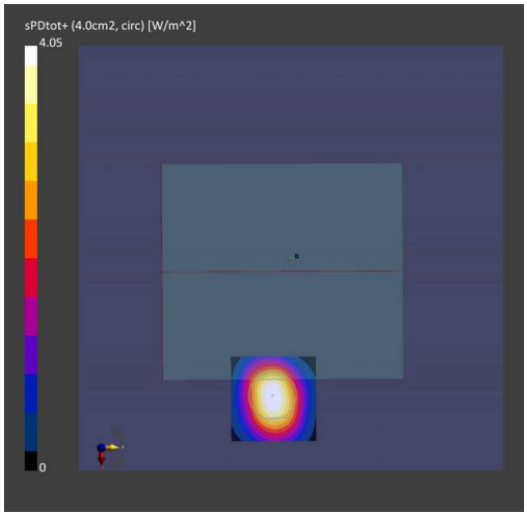


(a) Measurement

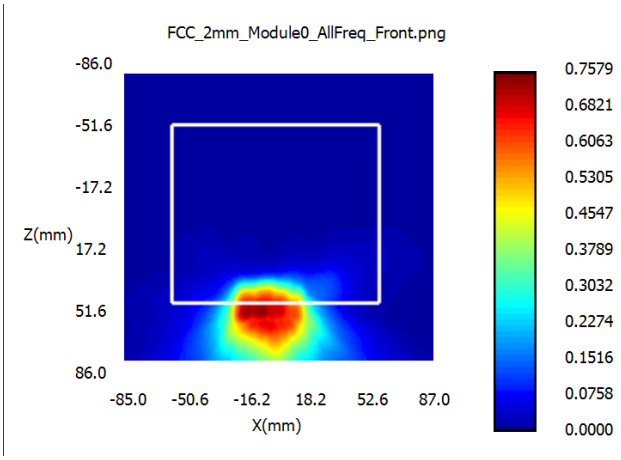


(b) Simulation

• N261 QTM0: Middle channel, Beam142, Front face, Point PD



(a) Measurement



(b) Simulation

•

3.4. 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.

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

Below Tables show the PD simulation evaluation of QTM0 at N260 and N261 for those surface which need to take it into consideration as shown in Figure 3.1-2.

▪ QTM0 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			
									0.64	0.11	0.07					0.33	0.09	0.70	0.05
									Ratio							Ratio			
					Front	Back	Bottom	Left	Front/worse surface	Back/worse surface	Left/worse surface	Front	Back	Bottom	Left	Front/worse surface	Back/worse surface	Bottom/worse surface	Left/worse surface
37	0	Path		0	1.46	0.12	2.9	0.03	0.50	0.04	0.01	0.54	0.08	1.44	0.02	0.19	0.03	0.50	0.01
37	0	Path		1	1.32	0.18	2.85	0.03	0.46	0.06	0.01	0.51	0.11	1.38	0.02	0.18	0.04	0.48	0.01
37	0	Path		2	1.55	0.19	3.47	0.05	0.45	0.05	0.01	0.55	0.1	1.63	0.04	0.16	0.03	0.47	0.01
37	0	Path		3	1.46	0.18	3.19	0.08	0.46	0.06	0.03	0.54	0.11	1.53	0.06	0.17	0.03	0.48	0.02
37	0	Path		4	1.66	0.24	3.46	0.06	0.48	0.07	0.02	0.63	0.16	1.72	0.04	0.18	0.05	0.50	0.01
37	0	Path		5	2.06	0.4	6.34	0.17	0.32	0.06	0.03	0.71	0.25	2.03	0.13	0.11	0.04	0.32	0.02
37	0	Path		6	3.4	0.47	6.1	0.08	0.56	0.08	0.01	1.55	0.3	3.75	0.06	0.25	0.05	0.61	0.01
37	0	Path		7	3.79	0.52	6.32	0.04	0.60	0.08	0.01	1.64	0.3	4.07	0.03	0.26	0.05	0.64	0.00
37	0	Path		8	2.78	0.38	6.91	0.23	0.40	0.05	0.03	1.16	0.24	3.09	0.18	0.17	0.03	0.45	0.03
37	0	Path		9	2.45	0.47	6.24	0.15	0.39	0.08	0.02	1.04	0.3	2.56	0.11	0.17	0.05	0.41	0.02
37	0	Path		10	3.94	0.51	6.26	0.11	0.63	0.08	0.02	1.8	0.29	4.36	0.09	0.29	0.05	0.70	0.01
37	0	Path		11	3.14	0.4	6.55	0.22	0.48	0.06	0.03	1.27	0.24	3.35	0.18	0.19	0.04	0.51	0.03
37	0	Path		12	4.38	0.79	10.5	0.78	0.42	0.08	0.07	1.84	0.58	3.97	0.57	0.18	0.06	0.38	0.05
37	0	Path		13	6.81	1.3	12.44	0.05	0.55	0.10	0.00	3.42	1.01	7.48	0.03	0.27	0.08	0.60	0.00
37	0	Path		14	8.86	1.56	14.03	0.07	0.63	0.11	0.00	4.46	0.9	9.8	0.05	0.32	0.06	0.70	0.00
37	0	Path		15	8.51	1.46	13.64	0.26	0.62	0.11	0.02	4.04	0.85	8.96	0.2	0.30	0.06	0.66	0.01
37	0	Path		16	6	0.88	11.46	0.48	0.52	0.08	0.04	2.37	0.55	6.58	0.37	0.21	0.05	0.57	0.03
37	0	Path		17	5.09	0.99	10.71	0.35	0.48	0.09	0.03	2.38	0.65	5.66	0.21	0.22	0.06	0.53	0.02
37	0	Path		18	8.15	1.44	13.2	0.04	0.62	0.11	0.00	4.14	0.85	9	0.03	0.31	0.06	0.68	0.00
37	0	Path		19	9.1	1.44	14.21	0.15	0.64	0.10	0.01	4.57	0.87	9.73	0.11	0.32	0.06	0.68	0.01
37	0	Path		20	7.41	1.34	12.71	0.37	0.58	0.11	0.03	3.3	0.71	7.97	0.3	0.26	0.06	0.63	0.02
37	0	Path		128	1.37	0.11	2.9	0.02	0.47	0.04	0.01	0.51	0.06	1.41	0.02	0.18	0.02	0.49	0.01
37	0	Path		129	1.24	0.19	3.19	0.03	0.39	0.06	0.01	0.41	0.1	1.42	0.02	0.13	0.03	0.45	0.01
37	0	Path		130	1.53	0.28	3.5	0.04	0.44	0.08	0.01	0.62	0.18	1.58	0.03	0.18	0.05	0.45	0.01
37	0	Path		131	1.37	0.28	3.15	0.07	0.43	0.09	0.02	0.53	0.15	1.42	0.06	0.17	0.05	0.45	0.02
37	0	Path		132	1.57	0.37	3.35	0.05	0.47	0.11	0.01	0.59	0.3	1.69	0.04	0.18	0.09	0.50	0.01
37	0	Path		133	2.11	0.38	6.28	0.1	0.34	0.06	0.02	0.74	0.2	2.4	0.07	0.12	0.03	0.38	0.01
37	0	Path		134	3.19	0.42	5.82	0.03	0.55	0.07	0.01	1.4	0.23	3.51	0.02	0.24	0.04	0.60	0.00
37	0	Path		135	3.41	0.61	6.49	0.05	0.53	0.09	0.01	1.46	0.37	4.08	0.04	0.22	0.06	0.63	0.01
37	0	Path		136	2	0.59	6.51	0.21	0.31	0.09	0.03	0.72	0.4	2.31	0.16	0.11	0.06	0.35	0.02
37	0	Path		137	2.6	0.67	6.25	0.17	0.42	0.11	0.03	1.14	0.45	2.32	0.13	0.18	0.07	0.37	0.02
37	0	Path		138	3.55	0.58	6.34	0.04	0.56	0.09	0.01	1.56	0.36	3.93	0.03	0.25	0.06	0.62	0.00
37	0	Path		139	2.4	0.58	6.35	0.19	0.38	0.09	0.03	1.02	0.4	3.09	0.15	0.16	0.06	0.49	0.02
37	0	Path		140	4.91	1.08	10.7	0.57	0.46	0.10	0.05	2.04	0.5	5.52	0.43	0.19	0.05	0.52	0.04
37	0	Path		141	7.47	1.43	12.65	0.26	0.59	0.11	0.02	3.75	1.06	7.55	0.15	0.30	0.08	0.60	0.01
37	0	Path		142	8.96	1.54	14.11	0.04	0.64	0.11	0.00	4.66	0.99	9.46	0.03	0.33	0.07	0.67	0.00
37	0	Path		143	7.02	1.66	13.45	0.25	0.52	0.12	0.02	3.45	1.21	8.51	0.19	0.26	0.09	0.63	0.01
37	0	Path		144	5.07	1.02	11.21	0.46	0.45	0.09	0.04	2.03	0.55	6.06	0.37	0.18	0.05	0.54	0.03
37	0	Path		145	4.95	1.1	10.9	0.65	0.45	0.10	0.06	2.21	0.76	5.08	0.45	0.20	0.07	0.47	0.04
37	0	Path		146	8.5	1.49	13.65	0.02	0.62	0.11	0.00	4.4	1.08	8.59	0.02	0.32	0.08	0.63	0.00
37	0	Path		147	8.81	1.93	14.86	0.11	0.59	0.13	0.01	4.58	1.17	10.08	0.09	0.31	0.08	0.68	0.01
37	0	Path		148	5.56	1.31	12	0.26	0.46	0.11	0.02	2.48	0.88	7.27	0.2	0.21	0.07	0.61	0.02

- QTM0 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			
									0.64	0.14	0.07					0.32	0.09	0.71	0.05
									Ratio							Ratio			
					Front	Back	Bottom	Left	Front/worse surface	Back/worse surface	Left/worse surface	Front	Back	Bottom	Left	Front/worse surface	Back/worse surface	Bottom/worse surface	Left/worse surface
37	0	Path	128	0	2.97	0.29	5.95	0.08	0.50	0.05	0.01	1.15	0.14	3.09	0.06	0.19	0.02	0.52	0.01
37	0	Path	129	1	2.74	0.44	6.42	0.1	0.43	0.07	0.02	1.04	0.27	3.06	0.07	0.16	0.04	0.48	0.01
37	0	Path	130	2	3.33	0.62	7.67	0.18	0.43	0.08	0.02	1.33	0.36	3.68	0.15	0.17	0.05	0.48	0.02
37	0	Path	131	3	2.95	0.6	6.81	0.28	0.43	0.09	0.04	1.16	0.38	3.51	0.22	0.17	0.06	0.52	0.03
37	0	Path	132	4	3.63	0.78	7.12	0.21	0.51	0.11	0.03	1.38	0.62	3.92	0.15	0.19	0.09	0.55	0.02
37	0	Path	133	5	4.85	1.17	12.93	0.37	0.38	0.09	0.03	1.84	0.65	5.27	0.27	0.14	0.05	0.41	0.02
37	0	Path	134	6	6.31	0.9	11.47	0.13	0.55	0.08	0.01	2.91	0.54	6.86	0.09	0.25	0.05	0.60	0.01
37	0	Path	135	7	7.64	1.46	14.13	0.16	0.54	0.10	0.01	3.26	0.9	9.42	0.13	0.23	0.06	0.67	0.01
37	0	Path	136	8	6.33	1.33	15.04	0.8	0.42	0.09	0.05	2.48	0.86	7.84	0.62	0.16	0.06	0.52	0.04
37	0	Path	137	9	5.71	1.54	12.89	0.54	0.44	0.12	0.04	2.53	1.03	5.53	0.4	0.20	0.08	0.43	0.03
37	0	Path	138	10	8.1	1.23	13.61	0.25	0.60	0.09	0.02	3.47	0.74	9.12	0.2	0.25	0.05	0.67	0.01
37	0	Path	139	11	7.08	1.41	15.56	0.77	0.46	0.09	0.05	2.8	0.95	8.87	0.61	0.18	0.06	0.57	0.04
37	0	Path	140	12	10.37	2.94	25.76	1.85	0.40	0.11	0.07	4.42	1.52	11.82	1.4	0.17	0.06	0.46	0.05
37	0	Path	141	13	15.32	3.05	28.36	0.41	0.54	0.11	0.01	7.6	2.08	16.75	0.25	0.27	0.07	0.59	0.01
37	0	Path	142	14	18.59	4.08	29.2	0.17	0.64	0.14	0.01	9.4	2.26	20.71	0.13	0.32	0.08	0.71	0.00
37	0	Path	143	15	17.71	4.11	32.65	0.99	0.54	0.13	0.03	8.46	2.58	21.61	0.78	0.26	0.08	0.66	0.02
37	0	Path	144	16	13.27	2.44	28.49	1.57	0.47	0.09	0.06	5.19	1.43	15.92	1.18	0.18	0.05	0.56	0.04
37	0	Path	145	17	11.66	2.71	24.4	1.18	0.48	0.11	0.05	5.29	1.61	11.94	0.79	0.22	0.07	0.49	0.03
37	0	Path	146	18	18.7	3.37	28.48	0.1	0.66	0.12	0.00	9.6	2	18.66	0.08	0.34	0.07	0.66	0.00
37	0	Path	147	19	19.52	4.55	32.58	0.48	0.60	0.14	0.01	10.04	2.56	22.73	0.38	0.31	0.08	0.70	0.01
37	0	Path	148	20	15.56	3.52	31.44	1.15	0.49	0.11	0.04	6.89	2.16	19.95	0.89	0.22	0.07	0.63	0.03

- QTM0 N260 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			
									0.66	0.12	0.05					0.34	0.09	0.71	0.04
									Ratio							Ratio			
					Front	Back	Bottom	Left	Front/worse surface	Back/worse surface	Left/worse surface	Front	Back	Bottom	Left	Front/worse surface	Back/worse surface	Bottom/worse surface	Left/worse surface
38.5	0	Path		0	1.58	0.1	2.95	0.03	0.54	0.03	0.01	0.63	0.06	1.41	0.02	0.21	0.02	0.48	0.01
38.5	0	Path		1	1.44	0.18	2.82	0.02	0.51	0.06	0.01	0.56	0.12	1.34	0.02	0.20	0.04	0.48	0.01
38.5	0	Path		2	1.49	0.2	3.33	0.06	0.45	0.06	0.02	0.48	0.11	1.64	0.05	0.14	0.03	0.49	0.02
38.5	0	Path		3	1.44	0.19	3.11	0.07	0.46	0.06	0.02	0.51	0.13	1.53	0.05	0.16	0.04	0.49	0.02
38.5	0	Path		4	1.62	0.21	3.33	0.06	0.49	0.06	0.02	0.57	0.15	1.73	0.04	0.17	0.05	0.52	0.01
38.5	0	Path		5	2.28	0.49	6.25	0.15	0.36	0.08	0.02	0.72	0.33	2.02	0.11	0.12	0.05	0.32	0.02
38.5	0	Path		6	2.9	0.53	5.72	0.07	0.51	0.09	0.01	1.22	0.33	3.58	0.05	0.21	0.06	0.63	0.01
38.5	0	Path		7	3.58	0.44	5.89	0.05	0.61	0.07	0.01	1.57	0.24	3.71	0.04	0.27	0.04	0.63	0.01
38.5	0	Path		8	3	0.37	6.9	0.22	0.43	0.05	0.03	1.22	0.22	3.18	0.16	0.18	0.03	0.46	0.02
38.5	0	Path		9	2.12	0.53	5.98	0.15	0.35	0.09	0.03	0.77	0.37	2.38	0.1	0.13	0.06	0.40	0.02
38.5	0	Path		10	3.62	0.57	5.98	0.13	0.61	0.10	0.02	1.56	0.33	4.23	0.1	0.26	0.06	0.71	0.02
38.5	0	Path		11	3.41	0.4	6.59	0.2	0.52	0.06	0.03	1.39	0.2	3.48	0.16	0.21	0.03	0.53	0.02
38.5	0	Path		12	4.33	1.01	11.14	0.56	0.39	0.09	0.05	1.66	0.68	4.33	0.4	0.15	0.06	0.39	0.04
38.5	0	Path		13	5.54	1.18	11.12	0.06	0.50	0.11	0.01	2.65	0.84	6.7	0.04	0.24	0.08	0.60	0.00
38.5	0	Path		14	8.76	1.48	13.49	0.08	0.65	0.11	0.01	4.1	0.83	9.39	0.06	0.30	0.06	0.70	0.00
38.5	0	Path		15	8.29	1.15	12.59	0.28	0.66	0.09	0.02	4.06	0.59	8.34	0.23	0.32	0.05	0.66	0.02
38.5	0	Path		16	6.29	0.8	11.17	0.56	0.56	0.07	0.05	2.78	0.54	6.38	0.45	0.25	0.05	0.57	0.04
38.5	0	Path		17	4.18	1.12	10.2	0.27	0.41	0.11	0.03	1.85	0.71	5.26	0.16	0.18	0.07	0.52	0.02
38.5	0	Path		18	7.66	1.45	12.22	0.06	0.63	0.12	0.00	3.64	0.76	8.48	0.05	0.30	0.06	0.69	0.00
38.5	0	Path		19	9.32	1.34	14.26	0.11	0.65	0.09	0.01	4.44	0.76	9.59	0.09	0.31	0.05	0.67	0.01
38.5	0	Path		20	7.51	1.09	11.73	0.4	0.64	0.09	0.03	3.61	0.53	7.25	0.32	0.31	0.05	0.62	0.03
38.5	0	Path		128	1.18	0.14	2.81	0.02	0.42	0.05	0.01	0.41	0.07	1.42	0.02	0.15	0.02	0.51	0.01
38.5	0	Path		129	1.06	0.2	3.13	0.03	0.34	0.06	0.01	0.36	0.11	1.41	0.02	0.12	0.04	0.45	0.01
38.5	0	Path		130	1.61	0.28	3.51	0.05	0.46	0.08	0.01	0.68	0.2	1.55	0.04	0.19	0.06	0.44	0.01
38.5	0	Path		131	1.4	0.25	3.11	0.07	0.45	0.08	0.02	0.55	0.16	1.34	0.05	0.18	0.05	0.43	0.02
38.5	0	Path		132	1.63	0.38	3.33	0.04	0.49	0.11	0.01	0.65	0.3	1.7	0.02	0.20	0.09	0.51	0.01
38.5	0	Path		133	2.06	0.34	6.4	0.09	0.32	0.05	0.01	0.71	0.21	2.43	0.07	0.11	0.03	0.38	0.01
38.5	0	Path		134	2.92	0.43	5.61	0.02	0.52	0.08	0.00	1.29	0.24	3.39	0.02	0.23	0.04	0.60	0.00
38.5	0	Path		135	3.25	0.55	6.29	0.05	0.52	0.09	0.01	1.38	0.32	3.87	0.04	0.22	0.05	0.62	0.01
38.5	0	Path		136	2.03	0.63	6.6	0.19	0.31	0.10	0.03	0.75	0.46	2.28	0.14	0.11	0.07	0.35	0.02
38.5	0	Path		137	2.83	0.56	6.41	0.17	0.44	0.09	0.03	1.3	0.34	2.27	0.12	0.20	0.05	0.35	0.02
38.5	0	Path		138	3.23	0.57	5.99	0.05	0.54	0.10	0.01	1.42	0.38	3.61	0.03	0.24	0.06	0.60	0.01
38.5	0	Path		139	2.3	0.67	6.49	0.17	0.35	0.10	0.03	0.94	0.47	3.12	0.13	0.14	0.07	0.48	0.02
38.5	0	Path		140	4.45	1.12	11.66	0.57	0.38	0.10	0.05	1.73	0.67	6.21	0.44	0.15	0.06	0.53	0.04
38.5	0	Path		141	7.54	0.94	11.34	0.21	0.66	0.08	0.02	3.88	0.67	6.7	0.12	0.34	0.06	0.59	0.01
38.5	0	Path		142	8.35	1.46	13.63	0.04	0.61	0.11	0.00	4.24	1.01	8.69	0.03	0.31	0.07	0.64	0.00
38.5	0	Path		143	6.56	1.6	12.74	0.23	0.51	0.13	0.02	3.24	1.15	8.11	0.18	0.25	0.09	0.64	0.01
38.5	0	Path		144	4.61	1.11	11.55	0.54	0.40	0.10	0.05	1.7	0.73	6.53	0.43	0.15	0.06	0.57	0.04
38.5	0	Path		145	4.98	1.23	11.03	0.53	0.45	0.11	0.05	2.33	0.74	4.92	0.35	0.21	0.07	0.45	0.03
38.5	0	Path		146	8.8	1.04	12.89	0.04	0.68	0.08	0.00	4.57	0.83	7.99	0.03	0.35	0.06	0.62	0.00
38.5	0	Path		147	7.82	1.82	13.66	0.09	0.57	0.13	0.01	4	1.22	9.18	0.07	0.29	0.09	0.67	0.01
38.5	0	Path		148	5.15	1.3	11.6	0.32	0.44	0.11	0.03	2.26	0.93	7.02	0.24	0.19	0.08	0.61	0.02

- 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			
									0.67	0.13	0.06					0.32	0.09	0.70	0.04
									Ratio							Ratio			
					Front	Back	Bottom	Left	Front/worse surface	Back/worse surface	Left/worse surface	Front	Back	Bottom	Left	Front/worse surface	Back/worse surface	Bottom/worse surface	Left/worse surface
38.5	0	Path	128	0	2.92	0.31	6.07	0.08	0.48	0.05	0.01	1.18	0.18	3.01	0.06	0.19	0.03	0.50	0.01
38.5	0	Path	129	1	2.87	0.43	6.42	0.09	0.45	0.07	0.01	1.1	0.27	3.22	0.07	0.17	0.04	0.50	0.01
38.5	0	Path	130	2	3.57	0.68	7.21	0.19	0.50	0.09	0.03	1.36	0.39	3.76	0.16	0.19	0.05	0.52	0.02
38.5	0	Path	131	3	3.07	0.65	6.56	0.24	0.47	0.10	0.04	1.16	0.45	3.48	0.19	0.18	0.07	0.53	0.03
38.5	0	Path	132	4	3.82	0.79	6.86	0.18	0.56	0.12	0.03	1.5	0.62	3.85	0.12	0.22	0.09	0.56	0.02
38.5	0	Path	133	5	5.46	1.15	13.64	0.34	0.40	0.08	0.02	2	0.75	5.29	0.25	0.15	0.05	0.39	0.02
38.5	0	Path	134	6	5.98	0.92	10.69	0.1	0.56	0.09	0.01	2.75	0.53	6.77	0.07	0.26	0.05	0.63	0.01
38.5	0	Path	135	7	7.73	1.23	13.45	0.17	0.57	0.09	0.01	3.37	0.72	9.22	0.14	0.25	0.05	0.69	0.01
38.5	0	Path	136	8	6.72	1.53	15.15	0.74	0.44	0.10	0.05	2.78	0.92	8.29	0.55	0.18	0.06	0.55	0.04
38.5	0	Path	137	9	6.44	1.44	13.36	0.56	0.48	0.11	0.04	2.62	0.96	6.35	0.4	0.20	0.07	0.48	0.03
38.5	0	Path	138	10	7.83	1.24	13.57	0.28	0.58	0.09	0.02	3.28	0.77	9.33	0.22	0.24	0.06	0.69	0.02
38.5	0	Path	139	11	7.69	1.5	15.61	0.68	0.49	0.10	0.04	3.19	1.04	9.59	0.53	0.20	0.07	0.61	0.03
38.5	0	Path	140	12	10.77	3.21	27.09	1.53	0.40	0.12	0.06	4.44	2.07	13.7	1.13	0.16	0.08	0.51	0.04
38.5	0	Path	141	13	16.97	2.7	27.22	0.46	0.62	0.10	0.02	8.11	1.95	16.88	0.29	0.30	0.07	0.62	0.01
38.5	0	Path	142	14	19.32	3.67	28.99	0.15	0.67	0.13	0.01	9.32	1.99	19.89	0.12	0.32	0.07	0.69	0.00
38.5	0	Path	143	15	18.64	4.12	31.4	0.98	0.59	0.13	0.03	9.26	2.21	22.01	0.77	0.29	0.07	0.70	0.02
38.5	0	Path	144	16	14	2.89	29.34	1.56	0.48	0.10	0.05	5.98	1.94	17.25	1.24	0.20	0.07	0.59	0.04
38.5	0	Path	145	17	13.17	3.3	24.47	1.22	0.54	0.13	0.05	6.11	2.17	13.35	0.81	0.25	0.09	0.55	0.03
38.5	0	Path	146	18	20.44	2.94	29.7	0.13	0.69	0.10	0.00	10.04	1.77	19.57	0.1	0.34	0.06	0.66	0.00
38.5	0	Path	147	19	18.72	4.31	30.42	0.34	0.62	0.14	0.01	9.55	2.31	21.64	0.27	0.31	0.08	0.71	0.01
38.5	0	Path	148	20	16.7	3.45	30.51	1.25	0.55	0.11	0.04	7.94	2.02	20.51	0.98	0.26	0.07	0.67	0.03

- 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			
									0.69	0.15	0.05					0.34	0.10	0.70	0.03
									Ratio							Ratio			
					Front	Back	Bottom	Left	Front/worse surface	Back/worse surface	Left/worse surface	Front	Back	Bottom	Left	Front/worse surface	Back/worse surface	Bottom/worse surface	Left/worse surface
40	0	Path		0	1.56	0.13	2.95	0.02	0.53	0.04	0.01	0.66	0.08	1.38	0.02	0.22	0.03	0.47	0.01
40	0	Path		1	1.27	0.21	2.8	0.02	0.45	0.08	0.01	0.47	0.13	1.28	0.02	0.17	0.05	0.46	0.01
40	0	Path		2	1.73	0.17	3.25	0.05	0.53	0.05	0.02	0.56	0.11	1.69	0.04	0.17	0.03	0.52	0.01
40	0	Path		3	1.55	0.18	2.94	0.06	0.53	0.06	0.02	0.48	0.11	1.45	0.05	0.16	0.04	0.49	0.02
40	0	Path		4	1.53	0.2	3.1	0.05	0.49	0.06	0.02	0.49	0.13	1.61	0.03	0.16	0.04	0.52	0.01
40	0	Path		5	2.92	0.38	6.39	0.15	0.46	0.06	0.02	0.87	0.24	2.32	0.1	0.14	0.04	0.36	0.02
40	0	Path		6	3.16	0.51	5.47	0.07	0.58	0.09	0.01	1.37	0.32	3.42	0.04	0.25	0.06	0.63	0.01
40	0	Path		7	3.28	0.43	5.55	0.05	0.59	0.08	0.01	1.43	0.23	3.45	0.04	0.26	0.04	0.62	0.01
40	0	Path		8	3.16	0.34	6.51	0.2	0.49	0.05	0.03	1.22	0.24	3.09	0.14	0.19	0.04	0.47	0.02
40	0	Path		9	2.48	0.42	5.85	0.13	0.42	0.07	0.02	0.88	0.29	2.46	0.09	0.15	0.05	0.42	0.02
40	0	Path		10	3.68	0.47	5.44	0.13	0.68	0.09	0.02	1.58	0.3	3.8	0.1	0.29	0.06	0.70	0.02
40	0	Path		11	3.6	0.34	6.46	0.16	0.56	0.05	0.02	1.5	0.2	3.48	0.13	0.23	0.03	0.54	0.02
40	0	Path		12	4.73	0.88	11.3	0.47	0.42	0.08	0.04	1.84	0.63	4.72	0.32	0.16	0.06	0.42	0.03
40	0	Path		13	5.77	1.16	10.52	0.05	0.55	0.11	0.00	2.61	0.72	6.52	0.03	0.25	0.07	0.62	0.00
40	0	Path		14	8.12	1.3	11.76	0.1	0.69	0.11	0.01	3.97	0.83	7.86	0.08	0.34	0.07	0.67	0.01
40	0	Path		15	7.91	1.04	12.16	0.29	0.65	0.09	0.02	3.84	0.61	7.66	0.23	0.32	0.05	0.63	0.02
40	0	Path		16	6.47	0.89	11.31	0.46	0.57	0.08	0.04	3.02	0.53	6.74	0.35	0.27	0.05	0.60	0.03
40	0	Path		17	5.13	0.96	10.32	0.2	0.50	0.09	0.02	2.21	0.7	5.86	0.11	0.21	0.07	0.57	0.01
40	0	Path		18	7.41	1.31	10.99	0.08	0.67	0.12	0.01	3.68	0.8	7.37	0.06	0.33	0.07	0.67	0.01
40	0	Path		19	8.52	1.3	12.65	0.13	0.67	0.10	0.01	4	0.82	8.47	0.1	0.32	0.06	0.67	0.01
40	0	Path		20	7.35	1.06	11.84	0.31	0.62	0.09	0.03	3.63	0.66	7.36	0.24	0.31	0.06	0.62	0.02
40	0	Path		128	1.06	0.15	2.63	0.02	0.40	0.06	0.01	0.31	0.09	1.31	0.02	0.12	0.03	0.50	0.01
40	0	Path		129	1.19	0.17	3.03	0.03	0.39	0.06	0.01	0.4	0.1	1.48	0.02	0.13	0.03	0.49	0.01
40	0	Path		130	1.27	0.39	3.38	0.04	0.38	0.12	0.01	0.48	0.27	1.51	0.03	0.14	0.08	0.45	0.01
40	0	Path		131	1.12	0.34	3.1	0.07	0.36	0.11	0.02	0.44	0.2	1.27	0.05	0.14	0.06	0.41	0.02
40	0	Path		132	1.5	0.4	3.17	0.03	0.47	0.13	0.01	0.64	0.31	1.63	0.02	0.20	0.10	0.51	0.01
40	0	Path		133	2.11	0.44	6.17	0.09	0.34	0.07	0.01	0.83	0.3	2.56	0.07	0.13	0.05	0.41	0.01
40	0	Path		134	2.6	0.47	5.18	0.02	0.50	0.09	0.00	1.1	0.29	3.08	0.02	0.21	0.06	0.59	0.00
40	0	Path		135	3.09	0.58	5.97	0.05	0.52	0.10	0.01	1.3	0.32	3.73	0.04	0.22	0.05	0.62	0.01
40	0	Path		136	1.88	0.69	6.46	0.17	0.29	0.11	0.03	0.73	0.47	2.29	0.12	0.11	0.07	0.35	0.02
40	0	Path		137	2.38	0.8	6.41	0.16	0.37	0.12	0.02	1.09	0.54	2.13	0.12	0.17	0.08	0.33	0.02
40	0	Path		138	2.74	0.66	5.7	0.04	0.48	0.12	0.01	1.18	0.41	3.43	0.03	0.21	0.07	0.60	0.01
40	0	Path		139	2.16	0.74	6.4	0.17	0.34	0.12	0.03	0.9	0.5	3.16	0.13	0.14	0.08	0.49	0.02
40	0	Path		140	4.48	1.08	11.6	0.54	0.39	0.09	0.05	1.74	0.72	6.32	0.4	0.15	0.06	0.54	0.03
40	0	Path		141	6.29	1.69	11.53	0.09	0.55	0.15	0.01	3.34	1.07	6.45	0.06	0.29	0.09	0.56	0.01
40	0	Path		142	6.45	1.82	12.23	0.06	0.53	0.15	0.00	3.31	1.18	7.44	0.04	0.27	0.10	0.61	0.00
40	0	Path		143	6.06	1.66	12.14	0.21	0.50	0.14	0.02	2.95	1.11	7.83	0.16	0.24	0.09	0.64	0.01
40	0	Path		144	4.77	1.01	11.41	0.53	0.42	0.09	0.05	1.91	0.7	6.62	0.41	0.17	0.06	0.58	0.04
40	0	Path		145	4.93	1.45	11.21	0.44	0.44	0.13	0.04	2.41	0.87	5.4	0.29	0.21	0.08	0.48	0.03
40	0	Path		146	6.66	1.57	11.67	0.05	0.57	0.13	0.00	3.65	1.14	6.65	0.04	0.31	0.10	0.57	0.00
40	0	Path		147	6.5	1.9	11.98	0.11	0.54	0.16	0.01	3.34	1.21	7.87	0.09	0.28	0.10	0.66	0.01
40	0	Path		148	5.51	1.25	11.71	0.32	0.47	0.11	0.03	2.4	0.83	7.34	0.25	0.20	0.07	0.63	0.02

▪ 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 0.66 0.14 0.05 Ratio			4cm2 PD(W/m2) at 10mm evaluation surfaces @6dBm				Max Ratio 0.32 0.10 0.73 0.04 Ratio			
					Front	Back	Bottom	Left	Front/worse surface	Back/worse surface	Left/worse surface	Front	Back	Bottom	Left	Front/worse surface	Back/worse surface	Bottom/worse surface	Left/worse surface
40	0	Path	128	0	2.8	0.34	5.91	0.07	0.47	0.06	0.01	1.06	0.2	2.84	0.05	0.18	0.03	0.48	0.01
40	0	Path	129	1	3.13	0.39	6.59	0.07	0.47	0.06	0.01	1.14	0.24	3.68	0.06	0.17	0.04	0.56	0.01
40	0	Path	130	2	3.29	0.8	7.17	0.17	0.46	0.11	0.02	1.21	0.48	4.09	0.14	0.17	0.07	0.57	0.02
40	0	Path	131	3	2.94	0.77	6.49	0.23	0.45	0.12	0.04	1.16	0.49	3.49	0.18	0.18	0.08	0.54	0.03
40	0	Path	132	4	3.47	0.85	6.46	0.13	0.54	0.13	0.02	1.39	0.65	3.66	0.09	0.22	0.10	0.57	0.01
40	0	Path	133	5	6.43	1	13.36	0.36	0.48	0.07	0.03	2.32	0.72	6	0.25	0.17	0.05	0.45	0.02
40	0	Path	134	6	6.18	1.12	9.96	0.1	0.62	0.11	0.01	2.84	0.72	6.36	0.07	0.29	0.07	0.64	0.01
40	0	Path	135	7	8.16	1.29	13.42	0.17	0.61	0.10	0.01	3.46	0.68	9.78	0.14	0.26	0.05	0.73	0.01
40	0	Path	136	8	7.06	1.55	14.52	0.63	0.49	0.11	0.04	3.01	0.98	8.34	0.45	0.21	0.07	0.57	0.03
40	0	Path	137	9	6.96	1.46	13.16	0.49	0.53	0.11	0.04	2.91	1.01	6.36	0.34	0.22	0.08	0.48	0.03
40	0	Path	138	10	7.66	1.5	12.61	0.25	0.61	0.12	0.02	3.2	0.92	8.76	0.21	0.25	0.07	0.69	0.02
40	0	Path	139	11	8.48	1.52	15.44	0.57	0.55	0.10	0.04	3.65	1.06	10.04	0.44	0.24	0.07	0.65	0.03
40	0	Path	140	12	11.57	2.82	26.15	1.32	0.44	0.11	0.05	4.92	2.07	14.81	0.92	0.19	0.08	0.57	0.04
40	0	Path	141	13	17.67	3.81	26.77	0.27	0.66	0.14	0.01	8.57	2.54	16.83	0.16	0.32	0.09	0.63	0.01
40	0	Path	142	14	15.56	3.69	25.47	0.2	0.61	0.14	0.01	7.61	2.23	17.73	0.16	0.30	0.09	0.70	0.01
40	0	Path	143	15	20.18	4.3	31.6	0.93	0.64	0.14	0.03	10.17	2.43	22.8	0.74	0.32	0.08	0.72	0.02
40	0	Path	144	16	15.48	2.97	29.26	1.33	0.53	0.10	0.05	7.11	2	18.99	1.02	0.24	0.07	0.65	0.03
40	0	Path	145	17	14.06	3.39	24.14	0.98	0.58	0.14	0.04	6.54	2.34	13.73	0.63	0.27	0.10	0.57	0.03
40	0	Path	146	18	18.31	3.26	26.96	0.21	0.68	0.12	0.01	9.08	2.16	18.03	0.17	0.34	0.08	0.67	0.01
40	0	Path	147	19	18	4.12	28.1	0.35	0.64	0.15	0.01	8.85	2.25	20.34	0.28	0.31	0.08	0.72	0.01
40	0	Path	148	20	18.4	3.92	30.98	1.04	0.59	0.13	0.03	9.22	2.36	21.77	0.8	0.30	0.08	0.70	0.03

▪ 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 0.59 0.15 0.05 Ratio			4cm2 PD(W/m2) at 10mm evaluation surfaces @6dBm				Max Ratio 0.30 0.10 0.62 0.04 Ratio			
					Front	Back	Bottom	Left	Front/worse surface	Back/worse surface	Left/worse surface	Front	Back	Bottom	Left	Front/worse surface	Back/worse surface	Bottom/worse surface	Left/worse surface
27.5	0	Path		0	1.22	0.25	3.24	0.05	0.38	0.08	0.02	0.41	0.14	1.37	0.04	0.13	0.04	0.42	0.01
27.5	0	Path		1	1.1	0.29	3.15	0.07	0.35	0.09	0.02	0.34	0.18	1.18	0.05	0.11	0.06	0.37	0.02
27.5	0	Path		2	1.4	0.21	3.31	0.04	0.42	0.06	0.01	0.49	0.12	1.45	0.03	0.15	0.04	0.44	0.01
27.5	0	Path		3	1.53	0.17	2.84	0.05	0.54	0.06	0.02	0.54	0.11	1.21	0.04	0.19	0.04	0.43	0.01
27.5	0	Path		4	1.32	0.19	2.61	0.05	0.51	0.07	0.02	0.5	0.11	1.3	0.03	0.19	0.04	0.50	0.01
27.5	0	Path		5	2.76	0.63	6.37	0.16	0.43	0.10	0.03	1.02	0.38	2.73	0.11	0.16	0.06	0.43	0.02
27.5	0	Path		6	3.64	0.66	7.01	0.05	0.52	0.09	0.01	1.45	0.38	4.02	0.04	0.21	0.05	0.57	0.01
27.5	0	Path		7	3.95	0.56	7.03	0.03	0.56	0.08	0.00	1.7	0.32	4.11	0.02	0.24	0.05	0.58	0.00
27.5	0	Path		8	2.57	0.34	4.63	0.1	0.56	0.07	0.02	1.06	0.21	1.83	0.08	0.23	0.05	0.40	0.02
27.5	0	Path		9	3.25	0.67	6.82	0.12	0.48	0.10	0.02	1.25	0.39	3.37	0.09	0.18	0.06	0.49	0.01
27.5	0	Path		10	3.35	0.84	7.6	0.04	0.44	0.11	0.01	1.31	0.46	4.09	0.03	0.17	0.06	0.54	0.00
27.5	0	Path		11	2.65	0.58	6.04	0.11	0.44	0.10	0.02	1.05	0.35	2.9	0.09	0.17	0.06	0.48	0.01
27.5	0	Path		12	8.41	1.65	15.79	0.81	0.53	0.10	0.05	3.88	1.13	7.67	0.59	0.25	0.07	0.49	0.04
27.5	0	Path		13	8.95	1.88	16.33	0.06	0.55	0.12	0.00	4.49	1.25	9.77	0.04	0.27	0.08	0.60	0.00
27.5	0	Path		14	9.36	2.06	17.65	0.04	0.53	0.12	0.00	4.71	1.41	10.82	0.03	0.27	0.08	0.61	0.00
27.5	0	Path		15	8.62	1.59	14.73	0.03	0.59	0.11	0.00	4.36	1.11	8.82	0.02	0.30	0.08	0.60	0.00
27.5	0	Path		16	5.78	1.22	13.11	0.3	0.44	0.09	0.02	2.51	0.84	5.8	0.23	0.19	0.06	0.44	0.02
27.5	0	Path		17	8.89	2.01	16.44	0.45	0.54	0.12	0.03	4.27	1.44	8.93	0.3	0.26	0.09	0.54	0.02
27.5	0	Path		18	9.16	1.97	17.24	0.06	0.53	0.11	0.00	4.57	1.31	10.49	0.04	0.27	0.08	0.61	0.00
27.5	0	Path		19	9.06	1.85	16.87	0.02	0.54	0.11	0.00	4.57	1.26	10.15	0.02	0.27	0.07	0.60	0.00
27.5	0	Path		20	7.85	1.47	13.31	0.07	0.59	0.11	0.01	3.77	1.05	7.33	0.06	0.28	0.08	0.55	0.00
27.5	0	Path		128	1.76	0.15	3.5	0.04	0.50	0.04	0.01	0.67	0.09	1.5	0.03	0.19	0.03	0.43	0.01
27.5	0	Path		129	1.37	0.15	2.99	0.03	0.46	0.05	0.01	0.49	0.1	1.27	0.03	0.16	0.03	0.42	0.01
27.5	0	Path		130	1.08	0.34	3.41	0.05	0.32	0.10	0.01	0.33	0.2	1.37	0.04	0.10	0.06	0.40	0.01
27.5	0	Path		131	1.17	0.37	3.2	0.05	0.37	0.12	0.02	0.37	0.24	1.3	0.04	0.12	0.08	0.41	0.01
27.5	0	Path		132	1.15	0.33	2.89	0.06	0.40	0.11	0.02	0.42	0.22	1.24	0.04	0.15	0.08	0.43	0.01
27.5	0	Path		133	3	0.4	5.66	0.14	0.53	0.07	0.02	1.31	0.19	2.53	0.1	0.23	0.03	0.45	0.02
27.5	0	Path		134	2.94	0.95	6.7	0.1	0.44	0.14	0.01	1.09	0.62	3.69	0.07	0.16	0.09	0.55	0.01
27.5	0	Path		135	2.99	0.96	6.45	0.05	0.46	0.15	0.01	1.19	0.65	3.11	0.04	0.18	0.10	0.48	0.01
27.5	0	Path		136	2.29	0.63	5.43	0.11	0.42	0.12	0.02	0.88	0.4	2.04	0.08	0.16	0.07	0.38	0.01
27.5	0	Path		137	2.94	0.61	5.94	0.11	0.49	0.10	0.02	1.12	0.34	3.18	0.08	0.19	0.06	0.54	0.01
27.5	0	Path		138	3.33	0.73	6.99	0.04	0.48	0.10	0.01	1.31	0.45	4.02	0.03	0.19	0.06	0.58	0.00
27.5	0	Path		139	3.33	0.47	6.32	0.05	0.53	0.07	0.01	1.45	0.27	3.32	0.04	0.23	0.04	0.53	0.01
27.5	0	Path		140	7.04	1.7	13.58	0.74	0.52	0.13	0.05	3.45	1.18	6.97	0.56	0.25	0.09	0.51	0.04
27.5	0	Path		141	8.81	2.01	16.64	0.07	0.53	0.12	0.00	4.43	1.48	10.35	0.06	0.27	0.09	0.62	0.00
27.5	0	Path		142	9.23	2.35	17.85	0.03	0.52	0.13	0.00	4.78	1.59	10.76	0.02	0.27	0.09	0.60	0.00
27.5	0	Path		143	8.62	2.4	15.26	0.11	0.56	0.16	0.01	4.24	1.74	8.76	0.08	0.28	0.11	0.57	0.01
27.5	0	Path		144	6.79	1.65	16.63	0.15	0.41	0.10	0.01	2.97	1.09	6.77	0.11	0.18	0.07	0.41	0.01
27.5	0	Path		145	8.05	1.8	15.12	0.21	0.53	0.12	0.01	4.05	1.4	8.81	0.13	0.27	0.09	0.58	0.01
27.5	0	Path		146	9.34	2.17	17.75	0.07	0.53	0.12	0.00	4.78	1.52	10.9	0.05	0.27	0.09	0.61	0.00
27.5	0	Path		147	8.79	2.52	16.15	0.13	0.54	0.16	0.01	4.52	1.81	9.8	0.1	0.28	0.11	0.61	0.01
27.5	0	Path		148	8.08	2.03	15.93	0.1	0.51	0.13	0.01	3.84	1.4	7.72	0.08	0.24	0.09	0.48	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			
									0.58	0.14	0.05					0.30	0.10	0.63	0.04
									Ratio							Ratio			
					Front	Back	Bottom	Left	Front/worse surface	Back/worse surface	Left/worse surface	Front	Back	Bottom	Left	Front/worse surface	Back/worse surface	Bottom/worse surface	Left/worse surface
27.5	0	Path	128	0	3.75	0.53	7.9	0.13	0.47	0.07	0.02	1.35	0.3	3.4	0.1	0.17	0.04	0.43	0.01
27.5	0	Path	129	1	2.83	0.51	7.32	0.15	0.39	0.07	0.02	0.92	0.31	2.73	0.11	0.13	0.04	0.37	0.02
27.5	0	Path	130	2	2.58	0.65	7.25	0.12	0.36	0.09	0.02	0.88	0.41	2.9	0.09	0.12	0.06	0.40	0.01
27.5	0	Path	131	3	2.96	0.62	7.06	0.13	0.42	0.09	0.02	0.97	0.43	2.85	0.1	0.14	0.06	0.40	0.01
27.5	0	Path	132	4	2.75	0.56	6.59	0.11	0.42	0.08	0.02	0.98	0.33	2.93	0.08	0.15	0.05	0.44	0.01
27.5	0	Path	133	5	6.41	1.28	14.62	0.37	0.44	0.09	0.03	2.49	0.87	6.51	0.27	0.17	0.06	0.45	0.02
27.5	0	Path	134	6	6.63	1.83	14.3	0.21	0.46	0.13	0.01	2.63	1.17	7.86	0.16	0.18	0.08	0.55	0.01
27.5	0	Path	135	7	7.27	1.82	14.23	0.1	0.51	0.13	0.01	2.98	1.25	7.8	0.08	0.21	0.09	0.55	0.01
27.5	0	Path	136	8	5.49	1.11	12.44	0.25	0.44	0.09	0.02	2.18	0.69	5.1	0.19	0.18	0.06	0.41	0.02
27.5	0	Path	137	9	6.73	1.49	14.79	0.33	0.46	0.10	0.02	2.48	0.84	7.47	0.25	0.17	0.06	0.51	0.02
27.5	0	Path	138	10	7.31	2.06	15.06	0.09	0.49	0.14	0.01	2.98	1.22	8.82	0.08	0.20	0.08	0.59	0.01
27.5	0	Path	139	11	7.05	1.22	13.64	0.27	0.52	0.09	0.02	2.84	0.68	7.13	0.21	0.21	0.05	0.52	0.02
27.5	0	Path	140	12	17.31	4.34	36.78	1.95	0.47	0.12	0.05	8.27	3.28	18.93	1.45	0.22	0.09	0.51	0.04
27.5	0	Path	141	13	20.75	4.2	36.96	0.12	0.56	0.11	0.00	10.43	2.81	23.24	0.11	0.28	0.08	0.63	0.00
27.5	0	Path	142	14	20.01	5.18	36.35	0.09	0.55	0.14	0.00	10.19	3.54	22.41	0.06	0.28	0.10	0.62	0.00
27.5	0	Path	143	15	20.64	4.34	35.47	0.17	0.58	0.12	0.00	10.49	3.29	21.81	0.11	0.30	0.09	0.61	0.00
27.5	0	Path	144	16	14.17	3.48	38.05	0.63	0.37	0.09	0.02	6.37	2.18	16.36	0.47	0.17	0.06	0.43	0.01
27.5	0	Path	145	17	19.64	4.56	37.22	0.83	0.53	0.12	0.02	9.67	3.37	22	0.55	0.26	0.09	0.59	0.01
27.5	0	Path	146	18	20.29	5.07	36.41	0.2	0.56	0.14	0.01	10.13	3.44	22.56	0.15	0.28	0.09	0.62	0.00
27.5	0	Path	147	19	20.37	4.43	35.92	0.17	0.57	0.12	0.00	10.24	3.21	22.57	0.14	0.29	0.09	0.63	0.00
27.5	0	Path	148	20	17.84	4.06	34.65	0.19	0.51	0.12	0.01	8.6	2.78	18.3	0.15	0.25	0.08	0.53	0.00

▪ 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			
									0.58	0.14	0.05					0.28	0.09	0.63	0.04
									Ratio							Ratio			
					Front	Back	Bottom	Left	Front/worse surface	Back/worse surface	Left/worse surface	Front	Back	Bottom	Left	Front/worse surface	Back/worse surface	Bottom/worse surface	Left/worse surface
28	0	Path		0	1.24	0.24	3.39	0.05	0.37	0.07	0.01	0.42	0.14	1.45	0.04	0.12	0.04	0.43	0.01
28	0	Path		1	1.13	0.28	3.27	0.06	0.35	0.09	0.02	0.36	0.16	1.28	0.05	0.11	0.05	0.39	0.02
28	0	Path		2	1.38	0.21	3.34	0.04	0.41	0.06	0.01	0.49	0.13	1.44	0.03	0.15	0.04	0.43	0.01
28	0	Path		3	1.52	0.19	2.9	0.04	0.52	0.07	0.01	0.56	0.12	1.27	0.03	0.19	0.04	0.44	0.01
28	0	Path		4	1.37	0.19	2.72	0.04	0.50	0.07	0.01	0.51	0.12	1.37	0.03	0.19	0.04	0.50	0.01
28	0	Path		5	2.79	0.55	6.33	0.14	0.44	0.09	0.02	1.05	0.34	2.71	0.1	0.17	0.05	0.43	0.02
28	0	Path		6	3.71	0.65	7.34	0.05	0.51	0.09	0.01	1.47	0.38	4.19	0.04	0.20	0.05	0.57	0.01
28	0	Path		7	3.89	0.58	6.92	0.03	0.56	0.08	0.00	1.68	0.35	4.05	0.03	0.24	0.05	0.59	0.00
28	0	Path		8	2.52	0.39	4.75	0.09	0.53	0.08	0.02	1.07	0.24	1.98	0.07	0.23	0.05	0.42	0.01
28	0	Path		9	3.3	0.62	6.93	0.11	0.48	0.09	0.02	1.27	0.36	3.43	0.08	0.18	0.05	0.49	0.01
28	0	Path		10	3.42	0.85	7.79	0.03	0.44	0.11	0.00	1.31	0.49	4.34	0.02	0.17	0.06	0.56	0.00
28	0	Path		11	2.61	0.62	6.26	0.1	0.42	0.10	0.02	0.98	0.39	3.05	0.08	0.16	0.06	0.49	0.01
28	0	Path		12	8.38	1.55	15.5	0.84	0.54	0.10	0.05	4.01	1.06	7.66	0.6	0.26	0.07	0.49	0.04
28	0	Path		13	9.46	1.94	17.38	0.05	0.54	0.11	0.00	4.73	1.18	10.49	0.04	0.27	0.07	0.60	0.00
28	0	Path		14	9.49	2.2	18.13	0.04	0.52	0.12	0.00	4.73	1.38	11.26	0.02	0.26	0.08	0.62	0.00
28	0	Path		15	8.63	1.61	15.14	0.04	0.57	0.11	0.00	4.23	1.17	9.07	0.03	0.28	0.08	0.60	0.00
28	0	Path		16	5.49	1.35	12.78	0.34	0.43	0.11	0.03	2.4	0.93	5.88	0.26	0.19	0.07	0.46	0.02
28	0	Path		17	9.02	1.84	16.74	0.42	0.54	0.11	0.03	4.4	1.33	9.12	0.26	0.26	0.08	0.54	0.02
28	0	Path		18	9.37	2.15	17.92	0.07	0.52	0.12	0.00	4.63	1.32	10.97	0.05	0.26	0.07	0.61	0.00
28	0	Path		19	9.19	1.94	17.42	0.03	0.53	0.11	0.00	4.51	1.25	10.69	0.02	0.26	0.07	0.61	0.00
28	0	Path		20	7.88	1.61	13.52	0.1	0.58	0.12	0.01	3.75	1.17	7.55	0.08	0.28	0.09	0.56	0.01
28	0	Path		128	1.82	0.13	3.63	0.05	0.50	0.04	0.01	0.69	0.08	1.6	0.03	0.19	0.02	0.44	0.01
28	0	Path		129	1.38	0.15	3.17	0.03	0.44	0.05	0.01	0.49	0.09	1.35	0.03	0.15	0.03	0.43	0.01
28	0	Path		130	1.11	0.33	3.4	0.04	0.33	0.10	0.01	0.34	0.2	1.4	0.03	0.10	0.06	0.41	0.01
28	0	Path		131	1.17	0.34	3.28	0.05	0.36	0.10	0.02	0.38	0.23	1.34	0.03	0.12	0.07	0.41	0.01
28	0	Path		132	1.1	0.34	2.94	0.05	0.37	0.12	0.02	0.39	0.23	1.25	0.03	0.13	0.08	0.43	0.01
28	0	Path		133	2.97	0.4	5.9	0.14	0.50	0.07	0.02	1.29	0.19	2.66	0.1	0.22	0.03	0.45	0.02
28	0	Path		134	2.94	0.92	6.7	0.09	0.44	0.14	0.01	1.1	0.6	3.81	0.06	0.16	0.09	0.57	0.01
28	0	Path		135	3.06	0.89	6.75	0.06	0.45	0.13	0.01	1.19	0.59	3.35	0.04	0.18	0.09	0.50	0.01
28	0	Path		136	2.32	0.68	5.47	0.13	0.42	0.12	0.02	0.89	0.44	2.09	0.1	0.16	0.08	0.38	0.02
28	0	Path		137	3	0.6	6.28	0.11	0.48	0.10	0.02	1.15	0.36	3.29	0.08	0.18	0.06	0.52	0.01
28	0	Path		138	3.45	0.71	7.37	0.04	0.47	0.10	0.01	1.34	0.44	4.2	0.03	0.18	0.06	0.57	0.00
28	0	Path		139	3.61	0.46	6.7	0.05	0.54	0.07	0.01	1.55	0.27	3.59	0.04	0.23	0.04	0.54	0.01
28	0	Path		140	6.99	1.77	13.95	0.7	0.50	0.13	0.05	3.41	1.29	7.09	0.52	0.24	0.09	0.51	0.04
28	0	Path		141	8.95	2.12	17.19	0.07	0.52	0.12	0.00	4.42	1.49	10.85	0.06	0.26	0.09	0.63	0.00
28	0	Path		142	9.51	2.26	18.42	0.02	0.52	0.12	0.00	4.88	1.57	11.21	0.02	0.26	0.09	0.61	0.00
28	0	Path		143	8.97	2.42	16.23	0.09	0.55	0.15	0.01	4.5	1.74	9.45	0.08	0.28	0.11	0.58	0.00
28	0	Path		144	7.25	1.64	16.35	0.19	0.44	0.10	0.01	3.15	1.08	6.82	0.15	0.19	0.07	0.42	0.01
28	0	Path		145	8.46	1.91	16.04	0.21	0.53	0.12	0.01	4.17	1.46	9.44	0.13	0.26	0.09	0.59	0.01
28	0	Path		146	9.39	2.23	18.12	0.05	0.52	0.12	0.00	4.74	1.51	11.23	0.04	0.26	0.08	0.62	0.00
28	0	Path		147	9.17	2.38	16.93	0.11	0.54	0.14	0.01	4.7	1.7	10.35	0.09	0.28	0.10	0.61	0.01
28	0	Path		148	8.51	2.16	16.52	0.11	0.52	0.13	0.01	4.09	1.49	8.27	0.09	0.25	0.09	0.50	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			
									0.58	0.14	0.05					0.29	0.09	0.63	0.04
									Ratio							Ratio			
					Front	Back	Bottom	Left	Front/worse surface	Back/worse surface	Left/worse surface	Front	Back	Bottom	Left	Front/worse surface	Back/worse surface	Bottom/worse surface	Left/worse surface
28	0	Path	128	0	3.75	0.52	7.99	0.16	0.47	0.07	0.02	1.31	0.3	3.5	0.12	0.16	0.04	0.44	0.02
28	0	Path	129	1	2.93	0.5	7.52	0.15	0.39	0.07	0.02	0.97	0.31	2.88	0.12	0.13	0.04	0.38	0.02
28	0	Path	130	2	2.7	0.68	7.32	0.11	0.37	0.09	0.02	0.96	0.43	2.95	0.08	0.13	0.06	0.40	0.01
28	0	Path	131	3	2.74	0.68	7.28	0.12	0.38	0.09	0.02	1.05	0.48	2.9	0.09	0.14	0.07	0.40	0.01
28	0	Path	132	4	2.63	0.57	6.74	0.11	0.39	0.08	0.02	0.95	0.36	2.96	0.08	0.14	0.05	0.44	0.01
28	0	Path	133	5	6.49	1.22	14.7	0.36	0.44	0.08	0.02	2.56	0.84	6.57	0.25	0.17	0.06	0.45	0.02
28	0	Path	134	6	6.88	1.75	14.91	0.19	0.46	0.12	0.01	2.71	1.16	8.09	0.14	0.18	0.08	0.54	0.01
28	0	Path	135	7	7.28	2	14.76	0.13	0.49	0.14	0.01	3.03	1.33	7.84	0.09	0.21	0.09	0.53	0.01
28	0	Path	136	8	5.49	1.32	13.21	0.3	0.42	0.10	0.02	2.12	0.8	5.49	0.23	0.16	0.06	0.42	0.02
28	0	Path	137	9	6.72	1.41	15.31	0.31	0.44	0.09	0.02	2.53	0.82	7.53	0.22	0.17	0.05	0.49	0.01
28	0	Path	138	10	7.3	2.08	15.43	0.1	0.47	0.13	0.01	2.94	1.26	8.9	0.08	0.19	0.08	0.58	0.01
28	0	Path	139	11	7.31	1.19	14.3	0.26	0.51	0.08	0.02	2.91	0.7	7.45	0.21	0.20	0.05	0.52	0.01
28	0	Path	140	12	17.98	3.88	38.56	1.99	0.47	0.10	0.05	8.59	3.03	19.97	1.46	0.22	0.08	0.52	0.04
28	0	Path	141	13	20.41	4.59	37.62	0.13	0.54	0.12	0.00	10.14	3	23.54	0.1	0.27	0.08	0.63	0.00
28	0	Path	142	14	19.53	5.2	37.44	0.07	0.52	0.14	0.00	9.7	3.46	22.7	0.05	0.26	0.09	0.61	0.00
28	0	Path	143	15	20.73	4.66	36.01	0.18	0.58	0.13	0.00	10.5	3.39	22.25	0.14	0.29	0.09	0.62	0.00
28	0	Path	144	16	15.09	3.24	38.73	0.84	0.39	0.08	0.02	6.55	2.09	16.92	0.64	0.17	0.05	0.44	0.02
28	0	Path	145	17	19.65	4.14	38.18	0.79	0.51	0.11	0.02	9.63	2.94	22.47	0.52	0.25	0.08	0.59	0.01
28	0	Path	146	18	19.94	5.21	37.3	0.19	0.53	0.14	0.01	9.71	3.44	22.78	0.14	0.26	0.09	0.61	0.00
28	0	Path	147	19	19.68	4.48	36.06	0.17	0.55	0.12	0.00	9.7	3.23	22.69	0.14	0.27	0.09	0.63	0.00
28	0	Path	148	20	19.08	4.07	36.81	0.29	0.52	0.11	0.01	9.3	2.82	20.03	0.22	0.25	0.08	0.54	0.01

▪ 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			
									0.56	0.14	0.06					0.27	0.09	0.63	0.04
									Ratio							Ratio			
					Front	Back	Bottom	Left	Front/worse surface	Back/worse surface	Left/worse surface	Front	Back	Bottom	Left	Front/worse surface	Back/worse surface	Bottom/worse surface	Left/worse surface
28.35	0	Path		0	1.23	0.23	3.45	0.05	0.36	0.07	0.01	0.41	0.14	1.48	0.04	0.12	0.04	0.43	0.01
28.35	0	Path		1	1.12	0.26	3.31	0.05	0.34	0.08	0.02	0.36	0.15	1.32	0.04	0.11	0.05	0.40	0.01
28.35	0	Path		2	1.33	0.22	3.28	0.04	0.41	0.07	0.01	0.48	0.13	1.38	0.03	0.15	0.04	0.42	0.01
28.35	0	Path		3	1.43	0.19	2.93	0.04	0.49	0.06	0.01	0.53	0.12	1.32	0.03	0.18	0.04	0.45	0.01
28.35	0	Path		4	1.31	0.18	2.7	0.05	0.49	0.07	0.02	0.49	0.12	1.32	0.03	0.18	0.04	0.49	0.01
28.35	0	Path		5	2.7	0.52	6.24	0.14	0.43	0.08	0.02	1.03	0.3	2.64	0.1	0.17	0.05	0.42	0.02
28.35	0	Path		6	3.63	0.63	7.37	0.05	0.49	0.09	0.01	1.45	0.37	4.16	0.04	0.20	0.05	0.56	0.01
28.35	0	Path		7	3.7	0.58	6.76	0.04	0.55	0.09	0.01	1.58	0.37	3.97	0.03	0.23	0.05	0.59	0.00
28.35	0	Path		8	2.31	0.39	4.7	0.1	0.49	0.08	0.02	0.95	0.25	1.99	0.07	0.20	0.05	0.42	0.01
28.35	0	Path		9	3.21	0.59	6.89	0.11	0.47	0.09	0.02	1.26	0.33	3.38	0.08	0.18	0.05	0.49	0.01
28.35	0	Path		10	3.42	0.82	7.75	0.03	0.44	0.11	0.00	1.3	0.47	4.4	0.02	0.17	0.06	0.57	0.00
28.35	0	Path		11	2.54	0.62	6.32	0.08	0.40	0.10	0.01	0.92	0.4	3.08	0.07	0.15	0.06	0.49	0.01
28.35	0	Path		12	8	1.57	15.17	0.84	0.53	0.10	0.06	3.82	1.02	7.54	0.6	0.25	0.07	0.50	0.04
28.35	0	Path		13	9.4	1.99	17.48	0.05	0.54	0.11	0.00	4.71	1.21	10.62	0.04	0.27	0.07	0.61	0.00
28.35	0	Path		14	9.31	2.3	17.86	0.03	0.52	0.13	0.00	4.57	1.34	11.2	0.02	0.26	0.08	0.63	0.00
28.35	0	Path		15	8.48	1.58	15.18	0.04	0.56	0.10	0.00	4.07	1.17	9.11	0.03	0.27	0.08	0.60	0.00
28.35	0	Path		16	5.15	1.31	12.87	0.34	0.40	0.10	0.03	2.29	0.94	5.96	0.27	0.18	0.07	0.46	0.02
28.35	0	Path		17	8.76	1.81	16.58	0.37	0.53	0.11	0.02	4.27	1.26	9.01	0.24	0.26	0.08	0.54	0.01
28.35	0	Path		18	9.26	2.24	17.8	0.07	0.52	0.13	0.00	4.51	1.34	11	0.05	0.25	0.08	0.62	0.00
28.35	0	Path		19	8.98	2.06	17.25	0.03	0.52	0.12	0.00	4.35	1.2	10.67	0.03	0.25	0.07	0.62	0.00
28.35	0	Path		20	7.64	1.58	13.61	0.12	0.56	0.12	0.01	3.6	1.18	7.63	0.09	0.26	0.09	0.56	0.01
28.35	0	Path		128	1.83	0.12	3.63	0.04	0.50	0.03	0.01	0.69	0.08	1.61	0.03	0.19	0.02	0.44	0.01
28.35	0	Path		129	1.32	0.15	3.2	0.03	0.41	0.05	0.01	0.47	0.09	1.35	0.03	0.15	0.03	0.42	0.01
28.35	0	Path		130	1.11	0.32	3.35	0.04	0.33	0.10	0.01	0.34	0.2	1.38	0.03	0.10	0.06	0.41	0.01
28.35	0	Path		131	1.16	0.32	3.28	0.05	0.35	0.10	0.02	0.38	0.21	1.35	0.04	0.12	0.06	0.41	0.01
28.35	0	Path		132	1.1	0.35	2.99	0.04	0.37	0.12	0.01	0.39	0.24	1.29	0.03	0.13	0.08	0.43	0.01
28.35	0	Path		133	2.89	0.41	5.9	0.14	0.49	0.07	0.02	1.23	0.18	2.66	0.1	0.21	0.03	0.45	0.02
28.35	0	Path		134	2.93	0.89	6.61	0.08	0.44	0.13	0.01	1.11	0.57	3.81	0.05	0.17	0.09	0.58	0.01
28.35	0	Path		135	3.08	0.83	6.76	0.06	0.46	0.12	0.01	1.2	0.54	3.46	0.05	0.18	0.08	0.51	0.01
28.35	0	Path		136	2.31	0.74	5.48	0.15	0.42	0.14	0.03	0.88	0.48	2.13	0.11	0.16	0.09	0.39	0.02
28.35	0	Path		137	2.91	0.59	6.36	0.11	0.46	0.09	0.02	1.1	0.37	3.28	0.08	0.17	0.06	0.52	0.01
28.35	0	Path		138	3.41	0.69	7.47	0.04	0.46	0.09	0.01	1.32	0.43	4.2	0.03	0.18	0.06	0.56	0.00
28.35	0	Path		139	3.66	0.45	6.8	0.05	0.54	0.07	0.01	1.59	0.27	3.62	0.04	0.23	0.04	0.53	0.01
28.35	0	Path		140	6.9	1.78	13.98	0.65	0.49	0.13	0.05	3.36	1.31	7.09	0.47	0.24	0.09	0.51	0.03
28.35	0	Path		141	8.83	2.16	17.18	0.08	0.51	0.13	0.00	4.32	1.46	10.84	0.06	0.25	0.08	0.63	0.00
28.35	0	Path		142	9.38	2.32	18.23	0.02	0.51	0.13	0.00	4.77	1.5	11.11	0.02	0.26	0.08	0.61	0.00
28.35	0	Path		143	8.97	2.39	16.41	0.11	0.55	0.15	0.01	4.47	1.7	9.68	0.09	0.27	0.10	0.59	0.01
28.35	0	Path		144	7.26	1.59	15.7	0.23	0.46	0.10	0.01	3.17	1.06	6.59	0.18	0.20	0.07	0.42	0.01
28.35	0	Path		145	8.5	1.91	16.31	0.2	0.52	0.12	0.01	4.15	1.45	9.66	0.13	0.25	0.09	0.59	0.01
28.35	0	Path		146	9.17	2.37	17.9	0.05	0.51	0.13	0.00	4.57	1.45	11.07	0.04	0.26	0.08	0.62	0.00
28.35	0	Path		147	9.21	2.27	17.08	0.09	0.54	0.13	0.01	4.7	1.61	10.46	0.07	0.28	0.09	0.61	0.00
28.35	0	Path		148	8.4	2.13	16.26	0.12	0.52	0.13	0.01	4.08	1.48	8.29	0.09	0.25	0.09	0.51	0.01

▪ QTM0 N261 High channel MIMO

Frequency (GHz)	Module	Antenna type	Beam 2	Beam 1	4cm2 PD(W/m2) at 2mm evaluation surfaces @6dBm				Max Ratio 0.57 0.14 0.05 Ratio			4cm2 PD(W/m2) at 10mm evaluation surfaces @6dBm				Max Ratio 0.28 0.10 0.62 0.04 Ratio			
					Front	Back	Bottom	Left	Front/worse surface	Back/worse surface	Left/worse surface	Front	Back	Bottom	Left	Front/worse surface	Back/worse surface	Bottom/worse surface	Left/worse surface
28.35	0	Path	128	0	3.7	0.5	7.95	0.16	0.47	0.06	0.02	1.28	0.29	3.46	0.12	0.16	0.04	0.44	0.02
28.35	0	Path	129	1	2.91	0.49	7.52	0.15	0.39	0.07	0.02	0.99	0.31	2.89	0.11	0.13	0.04	0.38	0.01
28.35	0	Path	130	2	2.68	0.7	7.28	0.1	0.37	0.10	0.01	0.98	0.44	2.89	0.08	0.13	0.06	0.40	0.01
28.35	0	Path	131	3	2.76	0.67	7.22	0.12	0.38	0.09	0.02	1.02	0.48	2.89	0.1	0.14	0.07	0.40	0.01
28.35	0	Path	132	4	2.58	0.58	6.67	0.11	0.39	0.09	0.02	0.96	0.37	2.94	0.08	0.14	0.06	0.44	0.01
28.35	0	Path	133	5	6.38	1.18	14.38	0.37	0.44	0.08	0.03	2.54	0.78	6.45	0.26	0.18	0.05	0.45	0.02
28.35	0	Path	134	6	6.83	1.7	14.87	0.18	0.46	0.11	0.01	2.7	1.12	8.04	0.14	0.18	0.08	0.54	0.01
28.35	0	Path	135	7	7.12	1.97	14.67	0.14	0.49	0.13	0.01	2.98	1.33	7.86	0.11	0.20	0.09	0.54	0.01
28.35	0	Path	136	8	5.41	1.36	13.1	0.36	0.41	0.10	0.03	2.06	0.84	5.49	0.27	0.16	0.06	0.42	0.02
28.35	0	Path	137	9	6.54	1.36	15.35	0.31	0.43	0.09	0.02	2.53	0.82	7.4	0.22	0.16	0.05	0.48	0.01
28.35	0	Path	138	10	7.15	2.04	15.45	0.1	0.46	0.13	0.01	2.87	1.23	8.77	0.07	0.19	0.08	0.57	0.00
28.35	0	Path	139	11	7.28	1.16	14.45	0.24	0.50	0.08	0.02	2.93	0.72	7.4	0.19	0.20	0.05	0.51	0.01
28.35	0	Path	140	12	18.05	3.56	38.88	2.01	0.46	0.09	0.05	8.59	2.78	20.11	1.46	0.22	0.07	0.52	0.04
28.35	0	Path	141	13	19.71	4.62	37.18	0.15	0.53	0.12	0.00	9.82	3.16	23.08	0.11	0.26	0.08	0.62	0.00
28.35	0	Path	142	14	18.98	5.17	37.01	0.07	0.51	0.14	0.00	9.42	3.39	22.65	0.05	0.25	0.09	0.61	0.00
28.35	0	Path	143	15	20.14	4.76	35.62	0.19	0.57	0.13	0.01	10.11	3.41	22.05	0.16	0.28	0.10	0.62	0.00
28.35	0	Path	144	16	15.29	3.08	38.55	0.96	0.40	0.08	0.02	6.58	2.01	16.87	0.74	0.17	0.05	0.44	0.02
28.35	0	Path	145	17	19.31	4.04	38.17	0.73	0.51	0.11	0.02	9.44	2.71	22.41	0.48	0.25	0.07	0.59	0.01
28.35	0	Path	146	18	19.27	5.23	37	0.17	0.52	0.14	0.00	9.3	3.46	22.42	0.13	0.25	0.09	0.61	0.00
28.35	0	Path	147	19	18.8	4.53	35.54	0.16	0.53	0.13	0.00	9.13	3.23	22.34	0.13	0.26	0.09	0.63	0.00
28.35	0	Path	148	20	19.18	4.05	36.88	0.36	0.52	0.11	0.01	9.36	2.8	20.31	0.27	0.25	0.08	0.55	0.01

Table 3.4-1：Max Ratio for SISO and MIMO per band per module

Band	module	Distance	Max Ratio for SISO	Max Ratio for MIMO
N260	0	2mm	0.69	0.67
		10mm	0.71	0.73
N261	0	2mm	0.59	0.58
		10mm	0.63	0.63

3.5. Power Density Characterization

PD design target

For Qualcomm SDX62/QTM545, the total device uncertainty for mmW radio is 2.0dB.

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

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

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 3.1-2, 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 3.3-2. Thus, the worst-case housing influence, denoted as $\Delta min=Sim.PD-Meas.PD$, is determined as:

Table 3.5-1: Δmin for QTM0

Band	QTM	Δmin(db)
N260	0	-0.31
N261	0	2.25

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 3.5.1 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:

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

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:

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

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 3.5-2: 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	2.07	2.03	2.03	**2.03**	n261	0		0	1.85	1.77	1.74	**1.74**
n260	0		1	2.11	2.13	2.14	**2.11**	n261	0		1	1.90	1.83	1.81	**1.81**
n260	0		2	1.73	1.80	1.85	**1.73**	n261	0		2	1.81	1.80	1.83	**1.80**
n260	0		3	1.88	1.93	2.04	**1.88**	n261	0		3	2.11	2.07	2.05	**2.05**
n260	0		4	1.73	1.80	1.94	**1.73**	n261	0		4	2.30	2.21	2.22	**2.21**
n260	0		5	0.95	0.96	0.94	**0.94**	n261	0		5	0.94	0.95	0.96	**0.94**
n260	0		6	0.98	1.05	1.10	**0.98**	n261	0		6	0.86	0.82	0.81	**0.81**
n260	0		7	0.95	1.02	1.08	**0.95**	n261	0		7	0.85	0.87	0.89	**0.85**
n260	0		8	0.87	0.87	0.92	**0.87**	n261	0		8	1.30	1.26	1.28	**1.26**
n260	0		9	0.96	1.00	1.03	**0.96**	n261	0		9	0.88	0.87	0.87	**0.87**
n260	0		10	0.96	1.00	1.10	**0.96**	n261	0		10	0.79	0.77	0.77	**0.77**
n260	0		11	0.92	0.91	0.93	**0.91**	n261	0		11	0.99	0.96	0.95	**0.95**
n260	0		12	0.57	0.54	0.53	**0.53**	n261	0		12	0.38	0.39	0.40	**0.38**
n260	0		13	0.48	0.54	0.57	**0.48**	n261	0		13	0.37	0.35	0.34	**0.34**
n260	0		14	0.43	0.44	0.51	**0.43**	n261	0		14	0.34	0.33	0.34	**0.33**
n260	0		15	0.44	0.48	0.49	**0.44**	n261	0		15	0.41	0.40	0.40	**0.40**
n260	0		16	0.52	0.54	0.53	**0.52**	n261	0		16	0.46	0.47	0.47	**0.46**
n260	0		17	0.56	0.59	0.58	**0.56**	n261	0		17	0.36	0.36	0.36	**0.36**
n260	0		18	0.45	0.49	0.55	**0.45**	n261	0		18	0.35	0.33	0.34	**0.33**
n260	0		19	0.42	0.42	0.47	**0.42**	n261	0		19	0.36	0.34	0.35	**0.34**
n260	0		20	0.47	0.51	0.51	**0.47**	n261	0		20	0.45	0.44	0.44	**0.44**
n260	0		21	2.07	2.14	2.28	**2.07**	n261	0		21	1.71	1.65	1.65	**1.65**
n260	0		22	1.88	1.92	1.98	**1.88**	n261	0		22	2.01	1.89	1.88	**1.88**
n260	0		23	1.71	1.71	1.78	**1.71**	n261	0		23	1.76	1.76	1.79	**1.76**
n260	0		24	1.9	1.93	1.94	**1.90**	n261	0		24	1.88	1.83	1.83	**1.83**
n260	0		25	1.79	1.80	1.89	**1.79**	n261	0		25	2.08	2.04	2.01	**2.01**
n260	0		26	0.96	0.94	0.97	**0.94**	n261	0		26	1.06	1.02	1.02	**1.02**
n260	0		27	1.03	1.07	1.16	**1.03**	n261	0		27	0.90	0.90	0.91	**0.90**
n260	0		28	0.92	0.95	1.01	**0.92**	n261	0		28	0.93	0.89	0.89	**0.89**
n260	0		29	0.92	0.91	0.93	**0.91**	n261	0		29	1.10	1.10	1.09	**1.09**
n260	0		30	0.96	0.94	0.94	**0.94**	n261	0		30	1.01	0.96	0.94	**0.94**
n260	0		31	0.95	1.00	1.05	**0.95**	n261	0		31	0.86	0.81	0.80	**0.80**
n260	0		32	0.94	0.92	0.94	**0.92**	n261	0		32	0.95	0.90	0.88	**0.88**
n260	0		33	0.56	0.51	0.52	**0.51**	n261	0		33	0.44	0.43	0.43	**0.43**
n260	0		34	0.47	0.53	0.52	**0.47**	n261	0		34	0.36	0.35	0.35	**0.35**
n260	0		35	0.43	0.44	0.49	**0.43**	n261	0		35	0.34	0.33	0.33	**0.33**
n260	0		36	0.45	0.47	0.49	**0.45**	n261	0		36	0.39	0.37	0.37	**0.37**
n260	0		37	0.54	0.52	0.53	**0.52**	n261	0		37	0.36	0.37	0.38	**0.36**
n260	0		38	0.55	0.54	0.54	**0.54**	n261	0		38	0.40	0.37	0.37	**0.37**
n260	0		39	0.44	0.47	0.51	**0.44**	n261	0		39	0.34	0.33	0.34	**0.33**
n260	0		40	0.4	0.44	0.50	**0.40**	n261	0		40	0.37	0.35	0.35	**0.35**
n260	0		41	0.5	0.52	0.51	**0.50**	n261	0		41	0.38	0.36	0.37	**0.36**
n260	0		128	1.01	0.99	1.02	**0.99**	n261	0		128	0.76	0.75	0.75	**0.75**
n260	0		129	0.93	0.93	0.91	**0.91**	n261	0		129	0.82	0.80	0.80	**0.80**
n260	0		130	0.78	0.83	0.84	**0.78**	n261	0		130	0.83	0.82	0.82	**0.82**
n260	0		131	0.88	0.91	0.92	**0.88**	n261	0		131	0.85	0.82	0.83	**0.82**
n260	0		132	0.84	0.87	0.93	**0.84**	n261	0		132	0.91	0.89	0.90	**0.89**
n260	0		133	0.46	0.44	0.45	**0.44**	n261	0		133	0.41	0.41	0.42	**0.41**
n260	0		134	0.52	0.56	0.60	**0.52**	n261	0		134	0.42	0.40	0.40	**0.40**
n260	0		135	0.42	0.45	0.45	**0.42**	n261	0		135	0.42	0.41	0.41	**0.41**
n260	0		136	0.4	0.40	0.41	**0.40**	n261	0		136	0.48	0.45	0.46	**0.45**
n260	0		137	0.47	0.45	0.46	**0.45**	n261	0		137	0.41	0.39	0.39	**0.39**
n260	0		138	0.44	0.44	0.48	**0.44**	n261	0		138	0.40	0.39	0.39	**0.39**
n260	0		139	0.39	0.38	0.39	**0.38**	n261	0		139	0.44	0.42	0.42	**0.42**
n260	0		140	0.23	0.22	0.23	**0.22**	n261	0		140	0.16	0.16	0.15	**0.15**
n260	0		141	0.21	0.22	0.22	**0.21**	n261	0		141	0.16	0.16	0.16	**0.16**
n260	0		142	0.21	0.21	0.24	**0.21**	n261	0		142	0.17	0.16	0.16	**0.16**
n260	0		143	0.18	0.19	0.19	**0.18**	n261	0		143	0.17	0.17	0.17	**0.17**
n260	0		144	0.21	0.20	0.21	**0.20**	n261	0		144	0.16	0.15	0.16	**0.15**
n260	0		145	0.25	0.25	0.25	**0.25**	n261	0		145	0.16	0.16	0.16	**0.16**
n260	0		146	0.21	0.20	0.22	**0.20**	n261	0		146	0.16	0.16	0.16	**0.16**
n260	0		147	0.18	0.20	0.21	**0.18**	n261	0		147	0.17	0.17	0.17	**0.17**
n260	0		148	0.19	0.20	0.19	**0.19**	n261	0		148	0.17	0.16	0.16	**0.16**

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 3.5-2: power.limit calculation

Band	Module	Δmin(db)	Input.power.limit(dbm)	Notes
N260	0	-0.31	6dbm+10*log(S(i))	Using Eq.1
N261	0	2.25	6dbm+10*log(S(i))+(2.25-0.63)	Using Eq.3

Note the **Δmin (dB)** used is the minimum of Hpol and Vpol per QTM per band (see Table 3.3-2).

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

Table 3.5-3: 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	2.03	-0.31	Eq.1	**9.08**	n261	0		0	1.74	2.25	Eq.3	**10.02**
n260	0		1	2.11	-0.31	Eq.1	**9.23**	n261	0		1	1.81	2.25	Eq.3	**10.20**
n260	0		2	1.73	-0.31	Eq.1	**8.38**	n261	0		2	1.80	2.25	Eq.3	**10.16**
n260	0		3	1.88	-0.31	Eq.1	**8.74**	n261	0		3	2.05	2.25	Eq.3	**10.73**
n260	0		4	1.73	-0.31	Eq.1	**8.39**	n261	0		4	2.21	2.25	Eq.3	**11.06**
n260	0		5	0.94	-0.31	Eq.1	**5.73**	n261	0		5	0.94	2.25	Eq.3	**7.36**
n260	0		6	0.98	-0.31	Eq.1	**5.93**	n261	0		6	0.81	2.25	Eq.3	**6.73**
n260	0		7	0.95	-0.31	Eq.1	**5.77**	n261	0		7	0.85	2.25	Eq.3	**6.93**
n260	0		8	0.87	-0.31	Eq.1	**5.39**	n261	0		8	1.26	2.25	Eq.3	**8.63**
n260	0		9	0.96	-0.31	Eq.1	**5.83**	n261	0		9	0.87	2.25	Eq.3	**6.99**
n260	0		10	0.96	-0.31	Eq.1	**5.82**	n261	0		10	0.77	2.25	Eq.3	**6.49**
n260	0		11	0.91	-0.31	Eq.1	**5.59**	n261	0		11	0.95	2.25	Eq.3	**7.39**
n260	0		12	0.53	-0.31	Eq.1	**3.25**	n261	0		12	0.38	2.25	Eq.3	**3.42**
n260	0		13	0.48	-0.31	Eq.1	**2.83**	n261	0		13	0.34	2.25	Eq.3	**2.98**
n260	0		14	0.43	-0.31	Eq.1	**2.31**	n261	0		14	0.33	2.25	Eq.3	**2.82**
n260	0		15	0.44	-0.31	Eq.1	**2.43**	n261	0		15	0.40	2.25	Eq.3	**3.59**
n260	0		16	0.52	-0.31	Eq.1	**3.19**	n261	0		16	0.46	2.25	Eq.3	**4.23**
n260	0		17	0.56	-0.31	Eq.1	**3.48**	n261	0		17	0.36	2.25	Eq.3	**3.16**
n260	0		18	0.45	-0.31	Eq.1	**2.58**	n261	0		18	0.33	2.25	Eq.3	**2.87**
n260	0		19	0.42	-0.31	Eq.1	**2.24**	n261	0		19	0.34	2.25	Eq.3	**2.99**
n260	0		20	0.47	-0.31	Eq.1	**2.74**	n261	0		20	0.44	2.25	Eq.3	**4.06**
n260	0		128	2.07	-0.31	Eq.1	**9.16**	n261	0		128	1.65	2.25	Eq.3	**9.80**
n260	0		129	1.88	-0.31	Eq.1	**8.74**	n261	0		129	1.88	2.25	Eq.3	**10.35**
n260	0		130	1.71	-0.31	Eq.1	**8.33**	n261	0		130	1.76	2.25	Eq.3	**10.07**
n260	0		131	1.90	-0.31	Eq.1	**8.80**	n261	0		131	1.83	2.25	Eq.3	**10.24**
n260	0		132	1.79	-0.31	Eq.1	**8.53**	n261	0		132	2.01	2.25	Eq.3	**10.64**
n260	0		133	0.94	-0.31	Eq.1	**5.72**	n261	0		133	1.02	2.25	Eq.3	**7.69**
n260	0		134	1.03	-0.31	Eq.1	**6.13**	n261	0		134	0.90	2.25	Eq.3	**7.14**
n260	0		135	0.92	-0.31	Eq.1	**5.66**	n261	0		135	0.89	2.25	Eq.3	**7.10**
n260	0		136	0.91	-0.31	Eq.1	**5.59**	n261	0		136	1.09	2.25	Eq.3	**8.01**
n260	0		137	0.94	-0.31	Eq.1	**5.71**	n261	0		137	0.94	2.25	Eq.3	**7.37**
n260	0		138	0.95	-0.31	Eq.1	**5.76**	n261	0		138	0.80	2.25	Eq.3	**6.67**
n260	0		139	0.92	-0.31	Eq.1	**5.66**	n261	0		139	0.88	2.25	Eq.3	**7.08**
n260	0		140	0.51	-0.31	Eq.1	**3.11**	n261	0		140	0.43	2.25	Eq.3	**3.95**
n260	0		141	0.47	-0.31	Eq.1	**2.76**	n261	0		141	0.35	2.25	Eq.3	**3.05**
n260	0		142	0.43	-0.31	Eq.1	**2.29**	n261	0		142	0.33	2.25	Eq.3	**2.75**
n260	0		143	0.45	-0.31	Eq.1	**2.49**	n261	0		143	0.37	2.25	Eq.3	**3.25**
n260	0		144	0.52	-0.31	Eq.1	**3.16**	n261	0		144	0.36	2.25	Eq.3	**3.19**
n260	0		145	0.54	-0.31	Eq.1	**3.29**	n261	0		145	0.37	2.25	Eq.3	**3.28**
n260	0		146	0.44	-0.31	Eq.1	**2.43**	n261	0		146	0.33	2.25	Eq.3	**2.82**
n260	0		147	0.40	-0.31	Eq.1	**2.06**	n261	0		147	0.35	2.25	Eq.3	**3.08**
n260	0		148	0.50	-0.31	Eq.1	**2.99**	n261	0		148	0.36	2.25	Eq.3	**3.22**
n260	0	128	0	0.99	-0.31	Eq.1	**5.95**	n261	0	128	0	0.75	2.25	Eq.3	**6.38**
n260	0	129	1	0.91	-0.31	Eq.1	**5.59**	n261	0	129	1	0.80	2.25	Eq.3	**6.64**
n260	0	130	2	0.78	-0.31	Eq.1	**4.93**	n261	0	130	2	0.82	2.25	Eq.3	**6.76**
n260	0	131	3	0.88	-0.31	Eq.1	**5.45**	n261	0	131	3	0.82	2.25	Eq.3	**6.78**
n260	0	132	4	0.84	-0.31	Eq.1	**5.26**	n261	0	132	4	0.89	2.25	Eq.3	**7.11**
n260	0	133	5	0.44	-0.31	Eq.1	**2.43**	n261	0	133	5	0.41	2.25	Eq.3	**3.73**
n260	0	134	6	0.52	-0.31	Eq.1	**3.19**	n261	0	134	6	0.40	2.25	Eq.3	**3.67**
n260	0	135	7	0.42	-0.31	Eq.1	**2.28**	n261	0	135	7	0.41	2.25	Eq.3	**3.71**
n260	0	136	8	0.40	-0.31	Eq.1	**1.98**	n261	0	136	8	0.45	2.25	Eq.3	**4.19**
n260	0	137	9	0.45	-0.31	Eq.1	**2.52**	n261	0	137	9	0.39	2.25	Eq.3	**3.54**
n260	0	138	10	0.44	-0.31	Eq.1	**2.44**	n261	0	138	10	0.39	2.25	Eq.3	**3.51**
n260	0	139	11	0.38	-0.31	Eq.1	**1.85**	n261	0	139	11	0.42	2.25	Eq.3	**3.80**
n260	0	140	12	0.22	-0.31	Eq.1	**-0.55**	n261	0	140	12	0.15	2.25	Eq.3	**-0.50**
n260	0	141	13	0.21	-0.31	Eq.1	**-0.75**	n261	0	141	13	0.16	2.25	Eq.3	**-0.35**
n260	0	142	14	0.21	-0.31	Eq.1	**-0.87**	n261	0	142	14	0.16	2.25	Eq.3	**-0.33**
n260	0	143	15	0.18	-0.31	Eq.1	**-1.36**	n261	0	143	15	0.17	2.25	Eq.3	**-0.16**
n260	0	144	16	0.20	-0.31	Eq.1	**-0.89**	n261	0	144	16	0.15	2.25	Eq.3	**-0.48**
n260	0	145	17	0.25	-0.31	Eq.1	**-0.10**	n261	0	145	17	0.16	2.25	Eq.3	**-0.42**
n260	0	146	18	0.20	-0.31	Eq.1	**-0.95**	n261	0	146	18	0.16	2.25	Eq.3	**-0.32**
n260	0	147	19	0.18	-0.31	Eq.1	**-1.35**	n261	0	147	19	0.17	2.25	Eq.3	**-0.17**
n260	0	148	20	0.19	-0.31	Eq.1	**-1.19**	n261	0	148	20	0.16	2.25	Eq.3	**-0.27**