

FCC ID: A3LSMF926U

Power Density Simulation Report

Revision A

May 27, 2021

SAMSUNG ELECTRONICS

1. Simulation methodology for Power Density (PD)

1.1 Simulation tool

1.1.1 Tool description

For the simulation approach to calculating power density (PD) evaluation for mobile phone with mmWave antenna modules, ANSYS Electromagnetics suite version 2020.R2 (HFSS) is used. ANSYS HFSS is one of several commercial tools for 3D full-wave electromagnetic simulation used for antenna and RF structure design of high frequency component. ANSYS Electromagnetics suite version 2020.R2 (HFSS) is implemented based on Finite Element Method (FEM), which operates in the frequency domain.

1.1.2 Mesh and Convergence criteria

To solve the PD analysis using FEM, volume area containing simulated objects should be subdivided into electrically small parts that are called finite elements as the unknown functions. To subdivide system, the adaptive mesh technique in ANSYS Electromagnetics suite version 2020.R2 (HFSS) is used. ANSYS Electromagnetics suite version 2020.R2 (HFSS) 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 iteration in ANSYS Electromagnetics suite version 2020.R2 (HFSS) is defined as convergence criteria, delta S, and the iterative adaptive mesh process repeats until the delta S is met. In ANSYS Electromagnetics suite version 2020.R2 (HFSS), the accuracy of converged results depends on the delta S. Figure 1 is an example of adaptive mesh of the device (cross-section of top view).

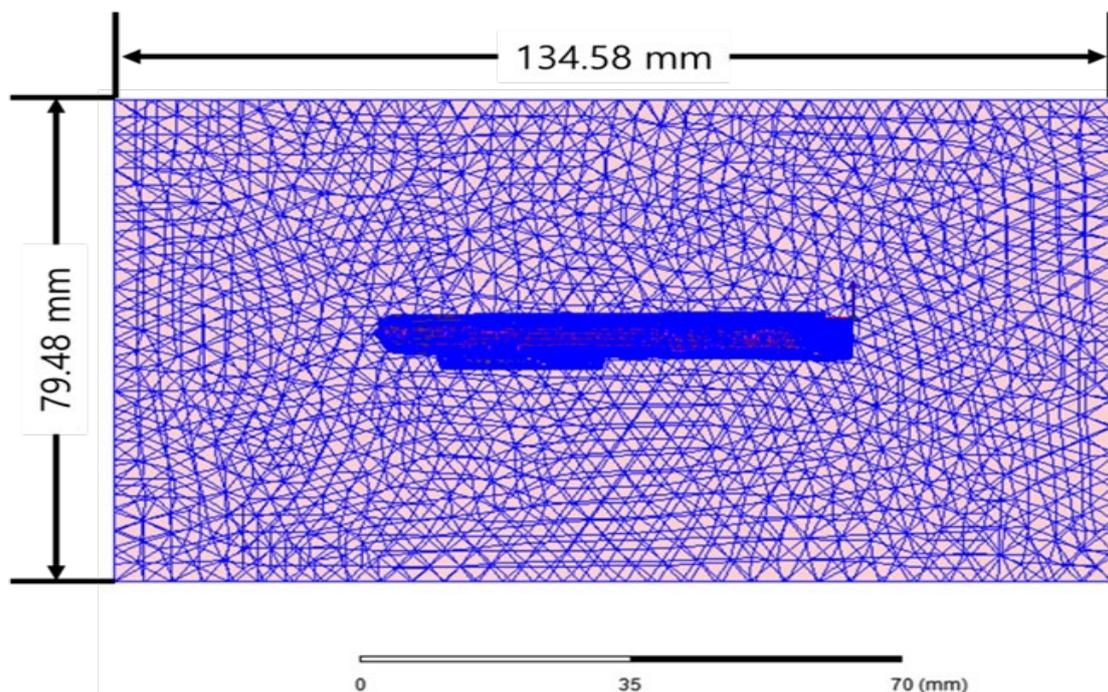


Figure 1 Example of the adaptive mesh technique (Top view)

1.1.3 Power density calculation

After solving 3D full-wave electromagnetic simulation, various kinds of physical quantities can be obtained. To calculate PD evaluation, two physical quantities, an electric field (\vec{E}) and a magnetic field (\vec{H}) are needed. The actual consumption power can be expressed as the real term of the Poynting vector (\vec{S}) from the cross product of \vec{E} and complex conjugation of \vec{H} as shown below:

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

$\langle \vec{S} \rangle$ 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 version 2020.R2 (HFSS).

From the point power density $\langle \vec{S} \rangle$, the spatial-averaged power density (PD_{av}) on an evaluated area (A) can be derived as shown below:

$$PD_{av} = \frac{1}{A} \int_A \langle \vec{S} \rangle \cdot ds = \frac{1}{2A_{av}} \iint_{A_{av}} \| \text{Re}\{E \times H^*\} \| dA$$

, where the spatial-averaged power density (PD_{av}) is total power density value considering on x, y and z components of point power density $\langle \vec{S} \rangle$ and the evaluated area (A) is 4cm^2 .

1.2 Simulation setup

1.2.1 3D modeling

Figure 2 shows the simulation model which is mounted two mmWave antenna modules. The simulation modeling includes most of the entire structure of device itself such as PCB, metal frame, battery, cables, and legacy antennas as well as mmWave antenna modules called as Ant J and Ant K. The modeling contains the entire EUT to enable a Smart transmit GEN2, as well. Ant J is placed on the back side and antennas are facing the back side, and Ant K is placed on the right side and antennas are facing the right side of the device.

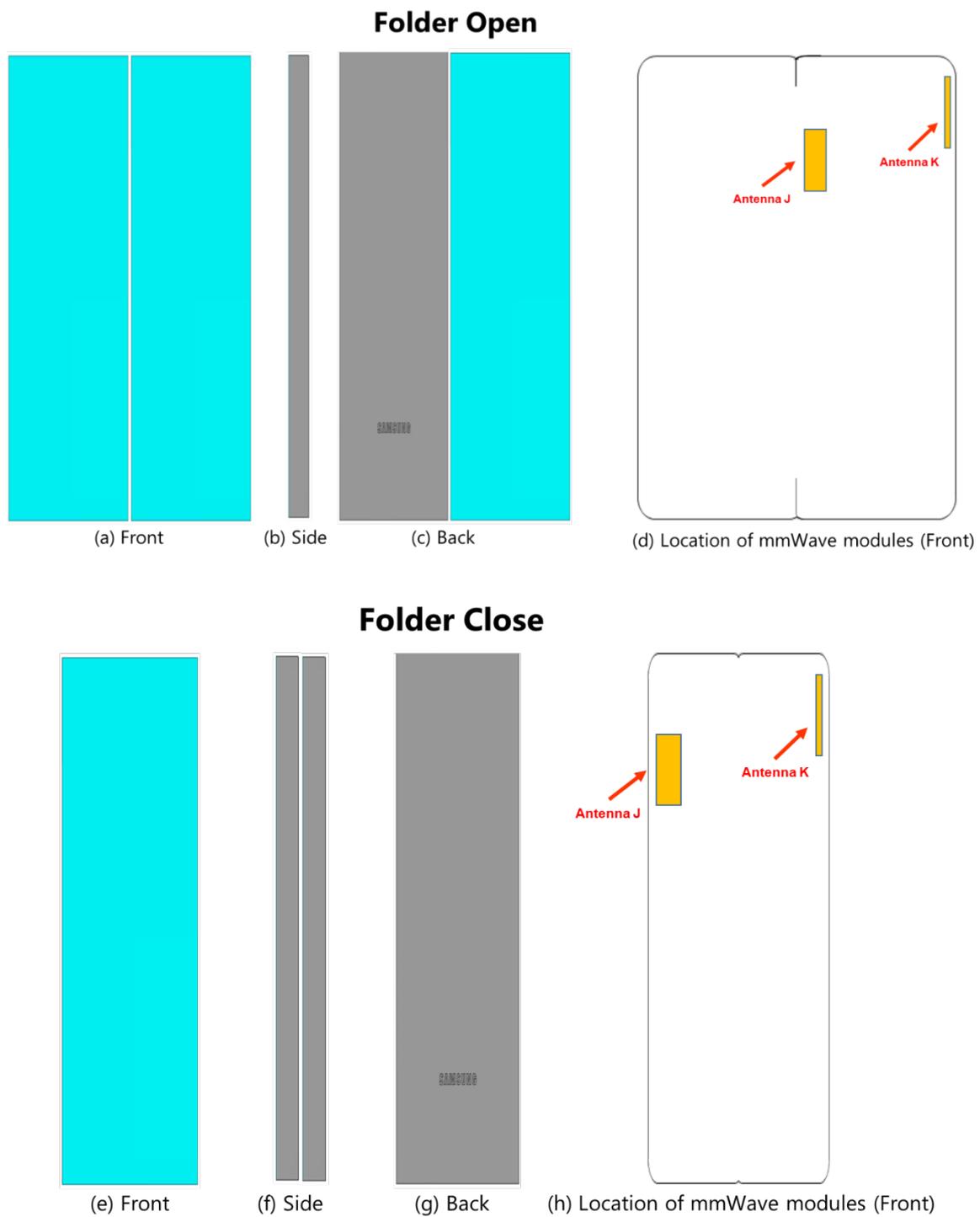


Figure 2 Simulation model which is mounted two mmWave antenna modules

1.2.2 PD evaluation planes

Table 1 shows the PD evaluation planes for each mmWave antenna module and Figure 3 shows the PD evaluation planes and truncation area of the simulation model to find worst case of beamforming cases. In the Ant J and Ant K cases, five PD evaluation planes except bottom side are set up. The Ant J

and Ant K are placed at the upper of the device and the bottom side is excluded from the worst case because the distance from the bottom side is more than 10 lambda at 28GHz and 39 GHz.

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. PD evaluation planes

Module	Front	Back	Left From Front View	Right From Front View	Top	Bottom
	S1	S2	S3	S4	S5	S6
Ant K	O	O	O	O	O	X
Ant J	O	O	O	O	O	X

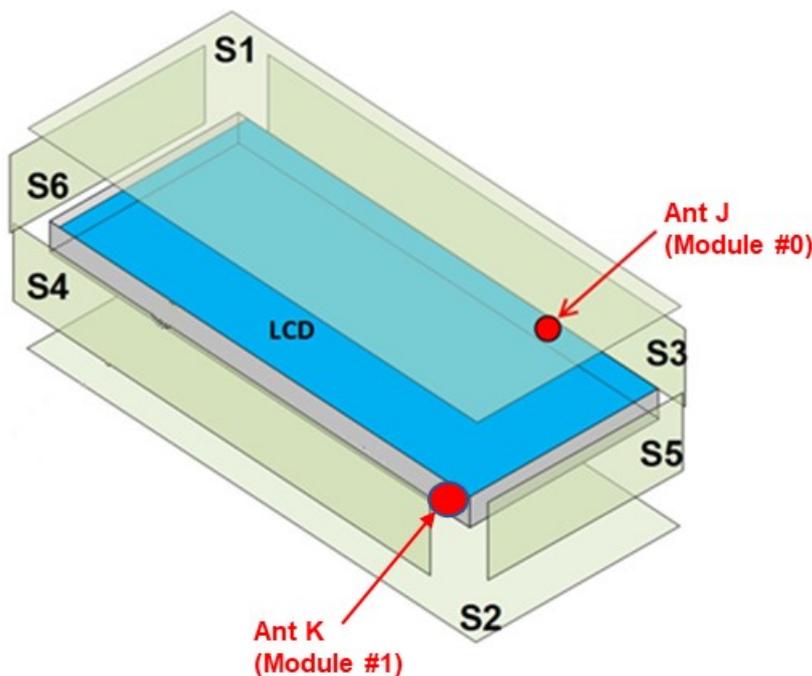


Figure 3. PD evaluation planes

1.2.3 Boundary condition

To simulate electromagnetic tool based on FEM, the boundary condition allows electromagnetic waves to be electrically open at the boundary and radiated far away without reflection. ANSYS Electromagnetics suite version 2020.R2 (HFSS) can support the absorbing boundary condition (ABC) for radiation boundary and make normally a quarter wave length from the radiating structure. In this

report, to cover all beamforming cases of mmWave antenna modules, 40 mm spacing from the device for each surface were adopted. This distance is sufficiently large enough for “Qualcomm MG script” to extract valid E- and H-fields from all adjacent exposure surfaces of the EUT.

1.2.4 Source excitation condition

The number of antenna ports of ANT J and ANT K for source excitation are the same. The antenna port of ANT J and K is divided into 10 ports for n261 1 x 5 patch array antennas, 10 ports for n260 1 x 5 patch array antennas. In the 10 ports included in each patch antenna, 5 ports are divided into vertical polarization feeding, and the other 5 ports are divided into horizontal polarization feeding.

Figure 4 shows the ANT K module structure and surrounding structure. The ANT K module is encrypted in the ANSYS Electromagnetics suite (HFSS) and can only check the feeding position.

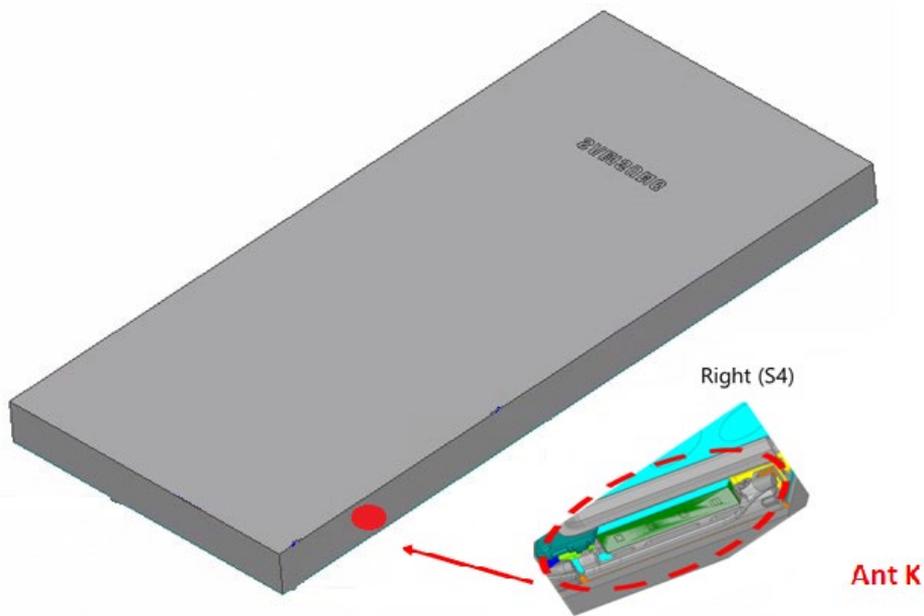


Figure 4. mmWave module (ANT K)

After finishing 3D full wave electromagnetic simulation of modeling structure, the magnitude and phase information can be loaded for each port by using “Edit Sources” function in ANSYS Electromagnetics suite (HFSS). Figure 5 shows an example of antenna port excitations.

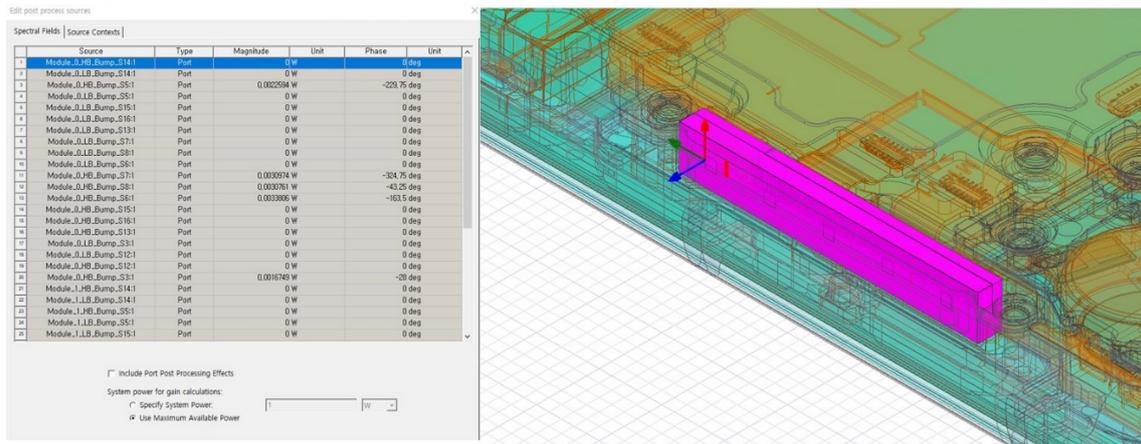


Figure 5. An example of port excitation (ANT K)

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

1.2.5 Condition of simulation completion

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

2. Simulation verification

2.1 Spatial-averaged power density and sim.power.limit

As mentioned in the previous chapter, the Poynting vector (\vec{S}) can be obtained through cross product of an electric field (\vec{E}) and complex conjugate of a magnetic field (\vec{H}). The real term of the Poynting vector can be described as the point power density or peak power density. Using the point power density, the spatial-averaged power density can be obtained by the integral of 4 cm^2 at 2.5 mm intervals of the point power density result. Figure 6 shows examples of the distribution plot of point power density and the averaged power density.

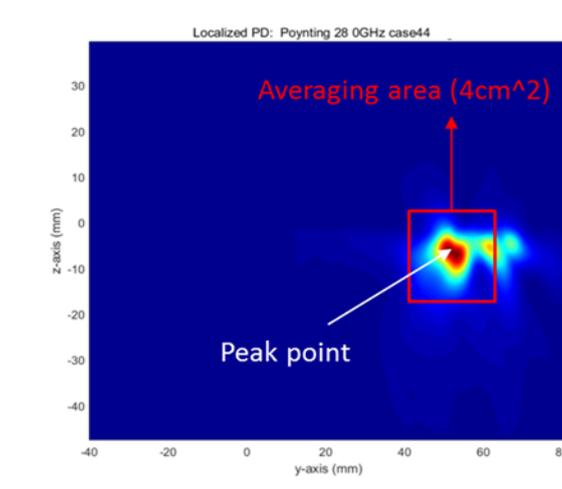


Figure 6. Power density distribution (Example)

For the Smart transmit GEN2, the “Qualcomm MG script” were used to extract E- and H-fields from the validated simulation and to assess the mutual coupling between all the mmWave antenna modules and all the beams in the codebook to determine the backoff value for each mmWave module. Note the assessment and backoff value derivation are automated with “Qualcomm MG script”. Once the script is done with assessment, it will provide the `sim.power.limit` (backoff is already included) for all the beams for all three channels for the specified `PD_design_target`. This mode take the minimum `sim.powerlimit` out of all three channels (low, mid and high) and use the resulted `sim.power.limit`.

2.2 Comparison between simulation, measurement

In this section, the simulated-power density distributions and measured-power density distributions are compared to each mmWave antenna. Furthermore, to verify the Smart transmit GEN2, the PD distributions printing out from the “Qualcomm MG script” are added.

Based on comparison of power density distributions, the power densities of simulated, measured and the “Qualcomm MG Script” have a good correlation. The discrepancy in amplitude between the “Qualcomm MG Script” 4cm^2 averaged power density and measured 4cm^2 averaged power density is considered as housing influence and used in determining input power limit for each beam for RF exposure compliance.

The input powers per each active port are listed below for both Simulation and Measurement validation and power density characterization. For Simulation, these values were entered directly into HFSS model. For measurement, FTM S/W was used to input these values for each active port also.

Case 1 : Folder Open

Mode/Band	Antenna	Input Power (dBm)	
		SISO	MIMO
5G NR n261	J Patch	6.0	6.0
	K Patch	6.0	6.0
5G NR n260	J Patch	6.0	6.0
	K Patch	6.0	6.0

Case 2 : Folder Close

Mode/Band	Antenna	Input Power (dBm)	
		SISO	MIMO
5G NR n261	J Patch	6.0	6.0
	K Patch	6.0	6.0
5G NR n260	J Patch	6.0	6.0
	K Patch	6.0	6.0

* The below simulation and measurement result were performed at 2mm evaluation distance and 28GHz / 38.5GHz. The *input.power.limit* was determined based on below results.

Case 1 : Folder Open

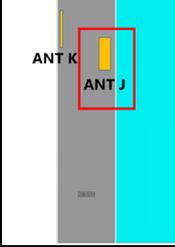
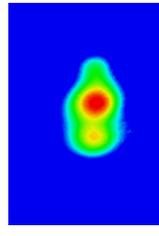
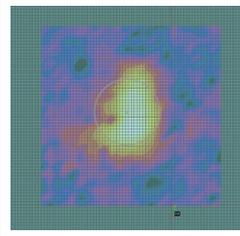
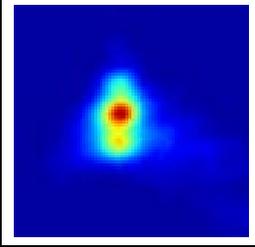
FO	Part#0	* [Meas. PD] pStot Average Area : 4Cm ²							
Band	Channel	Module	Type(P or D)	Side	Beam ID	PLS (10 dBm)	Sim. PD (mW/cm2)	Meas. PD (mW/cm2)	
n261	Mid Ch. 2077891 (27923.5 MHz)	J	Patch	Rear	32	60	1.70	0.95	
				Rear	150		1.67	0.98	
				Rear	26		0.64	0.35	
		K	Patch	Right	33		1.51	0.57	
				Front			0.84	0.31	
				Rear			161	0.73	0.223
			Right	1.60	0.593				
			Front	155	0.91			0.492	
			n260	Mid Ch. 2253331 (38449.9 MHz)	J		Patch	Rear	33
Rear	162	1.14				0.55			
K	Patch	Rear			27	0.60	0.24		
		Right			28	1.20	0.79		
		Front				0.99	0.55		
	Patch	Rear			165	0.74	0.21		
		Right				1.24	0.76		
		Front				164	0.60	0.28	

Case 2 : Folder Close

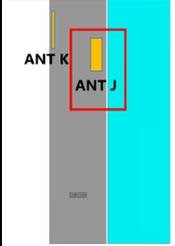
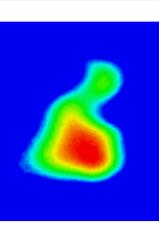
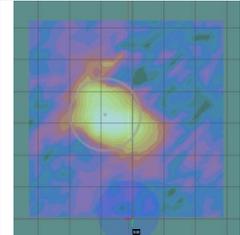
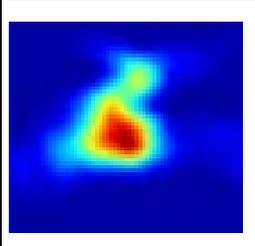
FC	Part#0					* [Meas. PD] pStot Average Area : 4Cm ²		
Band	Channel	Module	Type(P or D)	Side	Beam ID	PLS (10 dBm)	Sim. PD (mW/cm2)	Meas. PD (mW/cm2)
n261	Mid Ch. 2077891 (27923.5 MHz)	J	Patch	Rear	32	60	1.68	1.15
				Left	30		0.44	0.31
				Rear	150		1.65	1.14
				Left	159		0.67	0.49
		K	Patch	Rear	26		0.65	0.29
				Right	33		1.63	0.52
			Patch	Rear	161		0.69	0.218
				Right			1.60	0.73
n260	Mid Ch. 2253331 (38449.9 MHz)	J	Patch	Rear	33	1.68	0.82	
				Left		0.75	0.25	
				Rear		162	1.13	0.58
				Left		160	0.50	0.38
		K	Patch	Rear	27	0.60	0.24	
				Right	28	1.29	0.85	
			Patch	Rear	165	0.70	0.32	
				Right	165	1.23	0.78	

Case 1 : Folder Open

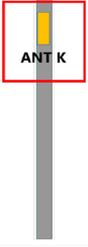
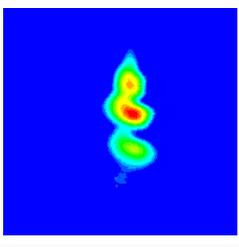
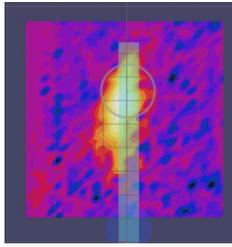
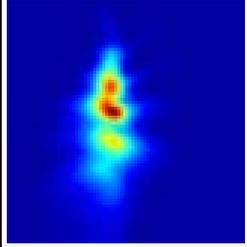
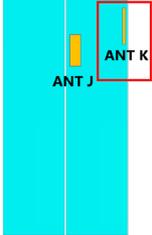
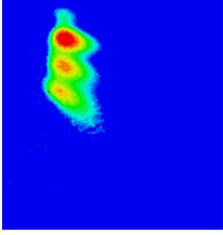
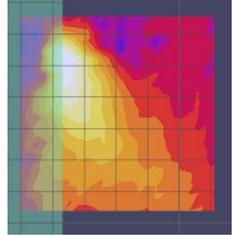
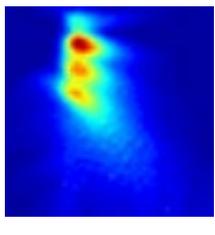
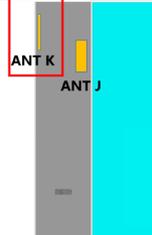
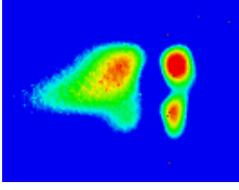
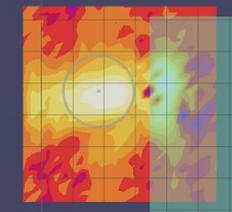
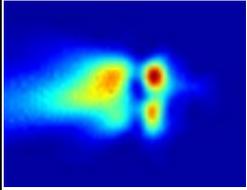
- Table 2-1-1, n261 ANT J-Patch: Mid Channel, Beam ID 32

Beam ID	Surface	View	Simulated PD	Measured PD	Print out from Qualcomm MG Script
32	S2 (Rear)				

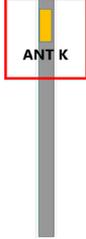
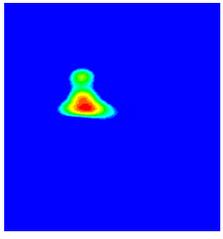
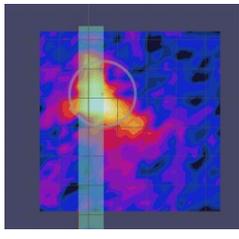
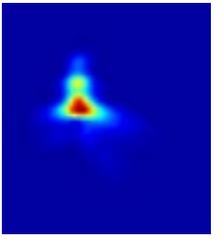
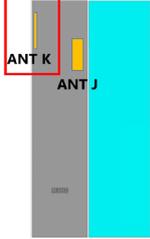
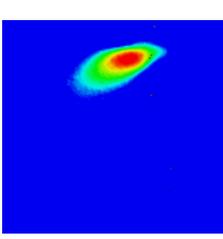
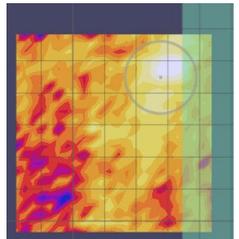
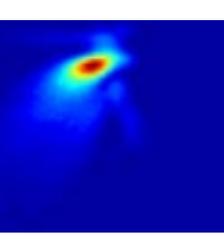
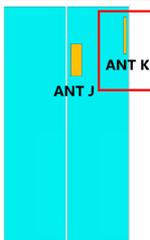
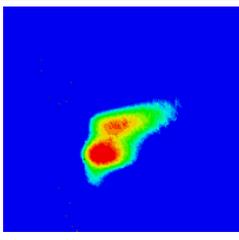
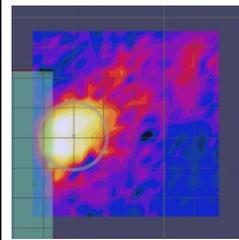
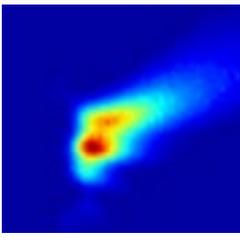
- Table 2-1-2, n261 ANT J-Patch: Mid Channel, Beam ID 150

Beam ID	Surface	View	Simulated PD	Measured PD	Print out from Qualcomm MG Script
150	S2 (Rear)				

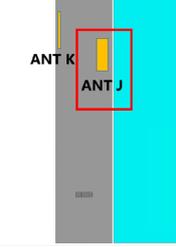
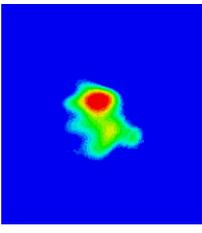
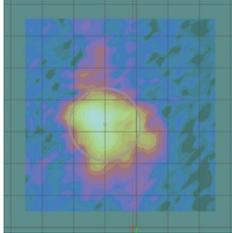
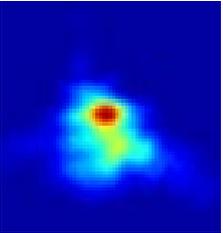
● Table 2-1-3, n261 ANT K-Patch: Mid Channel, Beam ID 33 and Beam ID 26

Beam ID	Surface	View	Simulated PD	Measured PD	Print out from Qualcomm MG Script
33	S4 (Right)				
	S1 (Front)				
26	S2 (Rear)				

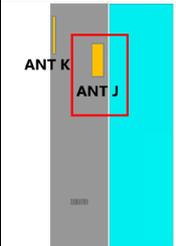
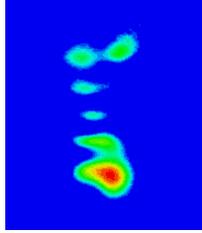
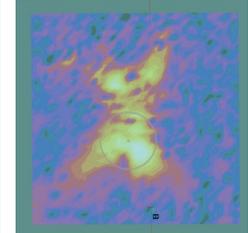
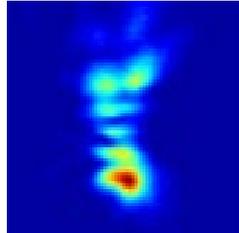
● Table 2-1-4, n261 ANT K-Patch: Mid Channel, Beam ID 161 and Beam ID 155

Beam ID	Surface	View	Simulated PD	Measured PD	Print out from Qualcomm MG Script
161	S4 (Right)				
	S2 (Rear)				
155	S1 (Front)				

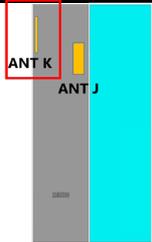
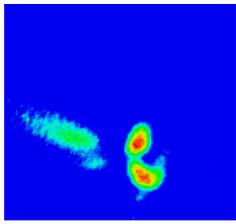
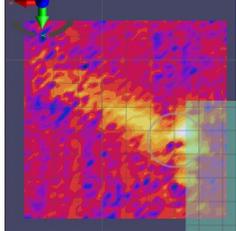
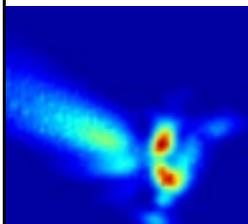
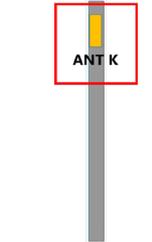
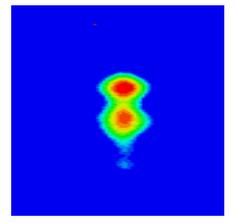
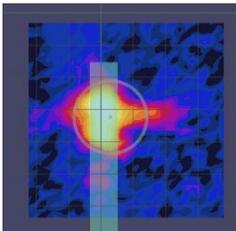
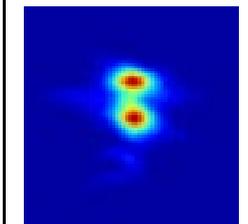
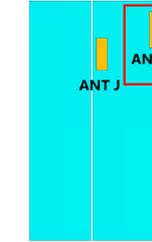
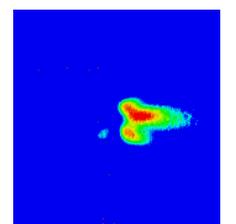
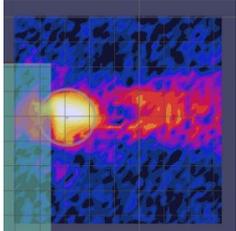
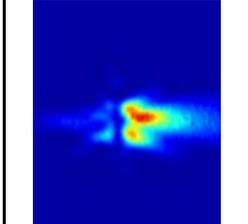
- Table 2-1-5, n260 ANT J-Patch: Mid Channel, Beam ID 33

Beam ID	Surface	View	Simulated PD	Measured PD	Print out from Qualcomm MG Script
33	S2 (Rear)				

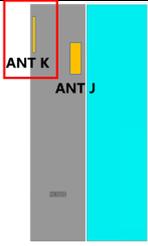
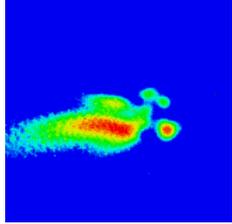
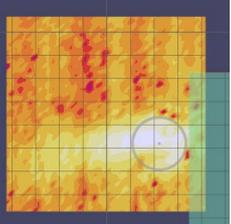
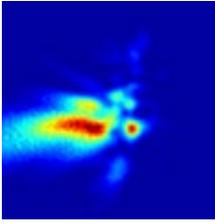
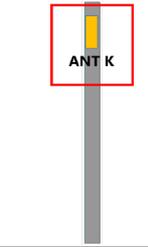
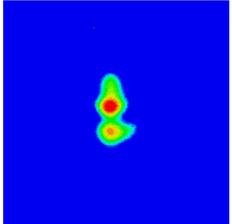
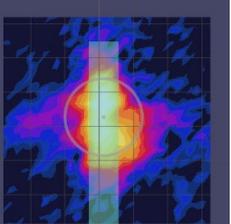
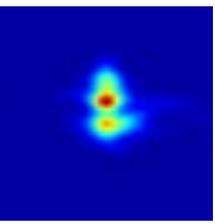
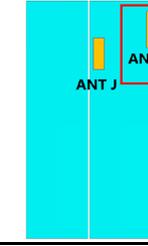
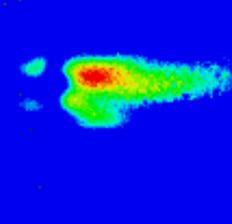
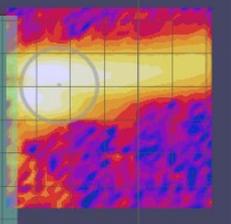
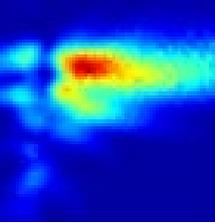
- Table 2-1-6, n260 ANT J-Patch: Mid Channel, Beam ID 162

Beam ID	Surface	View	Simulated PD	Measured PD	Print out from Qualcomm MG Script
162	S2 (Rear)				

● Table 2-1-7, n260 ANT K-Patch: Mid Channel, Beam ID 27 and Beam ID 28

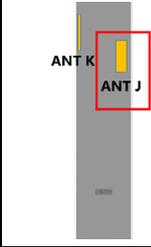
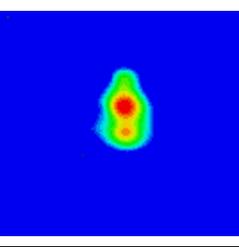
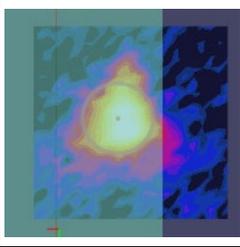
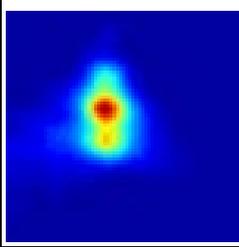
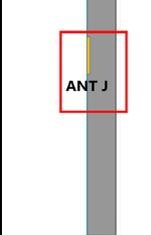
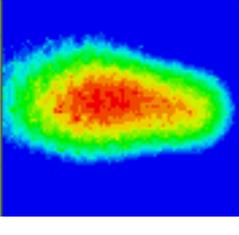
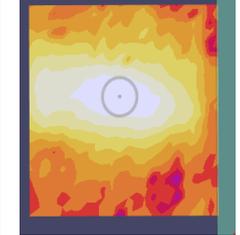
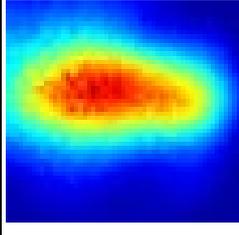
Beam ID	Surface	View	Simulated PD	Measured PD	Print out from Qualcomm MG Script
27	S2 (Rear)				
	S4 (Right)				
28	S1 (Front)				

● Table 2-1-8, n260 ANT K-Patch: Mid Channel, Beam ID 165 and Beam ID 164

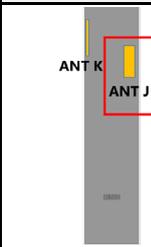
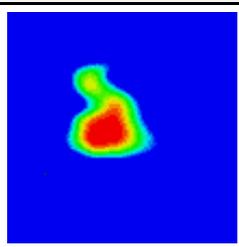
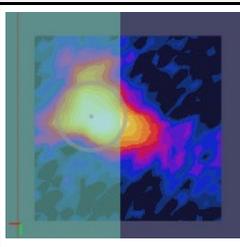
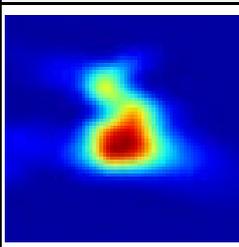
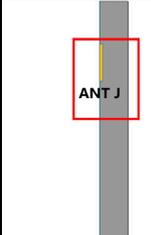
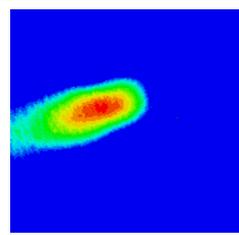
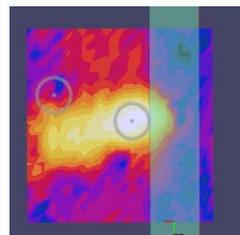
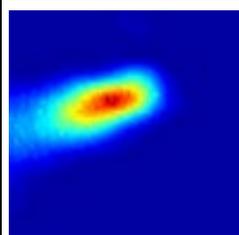
Beam ID	Surface	View	Simulated PD	Measured PD	Print out from Qualcomm MG Script
165	S2 (Rear)				
	S4 (Right)				
164	S1 (Front)				

Case 2 : Folder Close

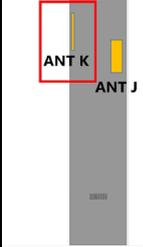
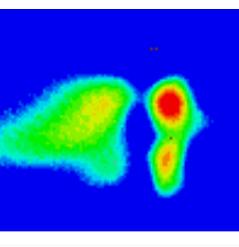
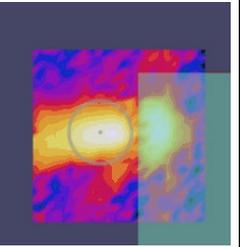
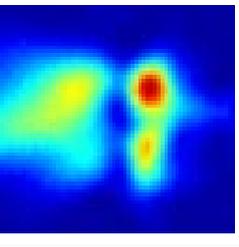
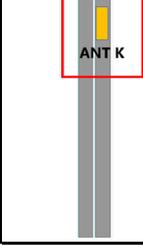
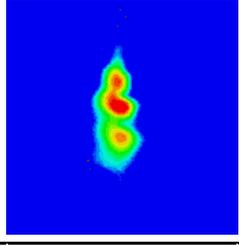
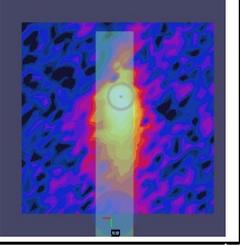
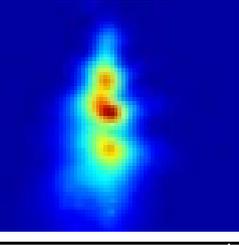
- Table 2-2-1, n261 ANT J-Patch: Mid Channel, Beam ID 32 and Beam ID 30

Beam ID	Surface	View	Simulated PD	Measured PD	Print out from Qualcomm MG Script
32	S2 (Rear)				
30	S3 (Left)				

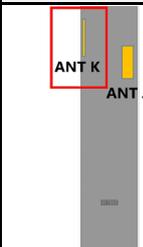
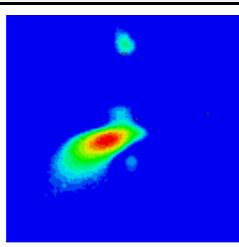
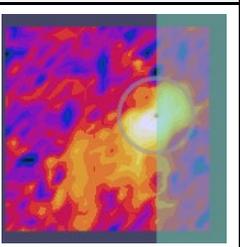
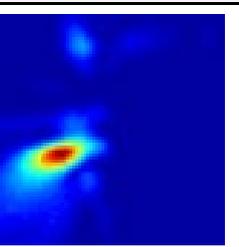
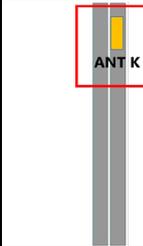
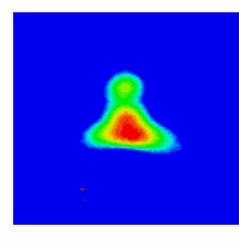
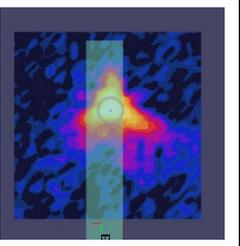
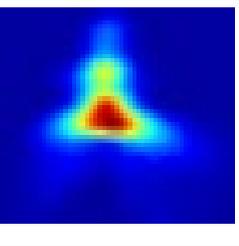
- Table 2-2-2, n261 ANT J-Patch: Mid Channel, Beam ID 150 and Beam ID 159

Beam ID	Surface	View	Simulated PD	Measured PD	Print out from Qualcomm MG Script
150	S2 (Rear)				
159	S3 (Left)				

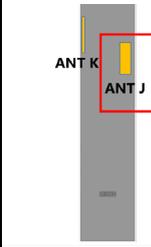
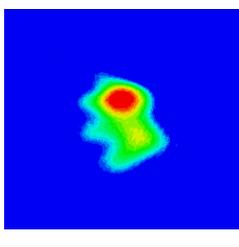
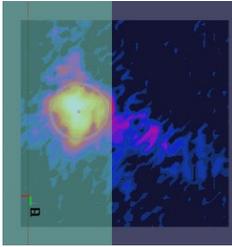
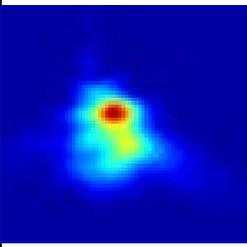
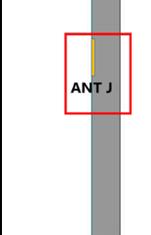
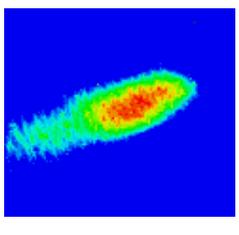
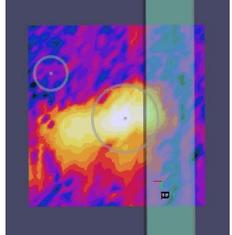
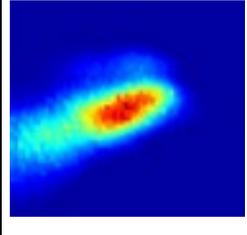
● Table 2-2-3, n261 ANT K-Patch: Mid Channel, Beam ID 33 and Beam ID 26

Beam ID	Surface	View	Simulated PD	Measured PD	Print out from Qualcomm MG Script
26	S2 (Rear)				
	S4 (Right)				

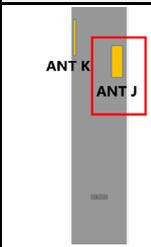
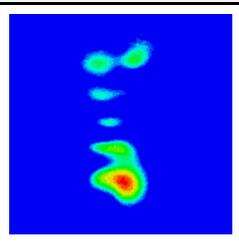
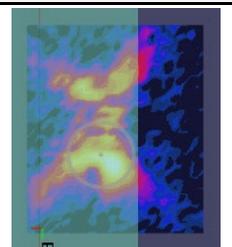
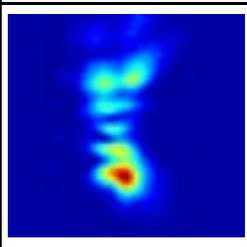
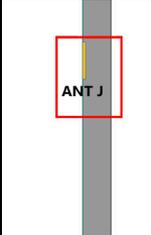
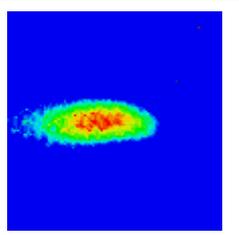
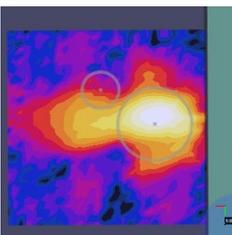
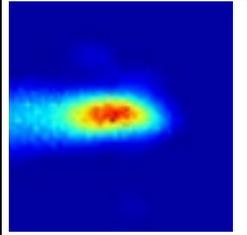
● Table 2-2-4, n261 ANT K-Patch: Mid Channel, Beam ID 161

Beam ID	Surface	View	Simulated PD	Measured PD	Print out from Qualcomm MG Script
161	S2 (Rear)				
	S4 (Right)				

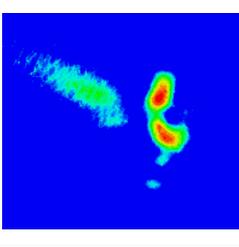
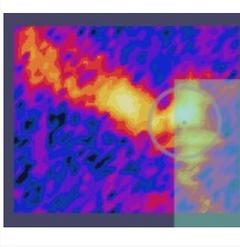
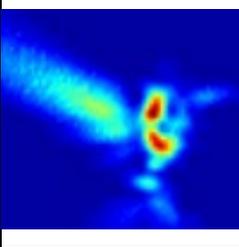
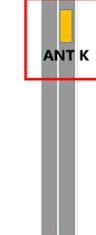
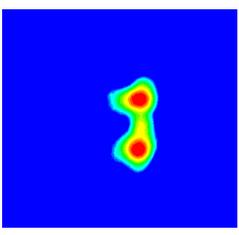
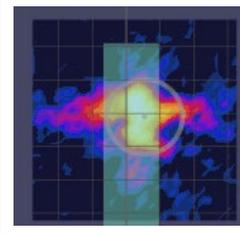
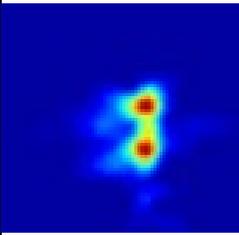
● Table 2-2-5, n260 ANT J-Patch: Mid Channel, Beam ID 33

Beam ID	Surface	View	Simulated PD	Measured PD	Print out from Qualcomm MG Script
33	S2 (Rear)				
	S3 (Left)				

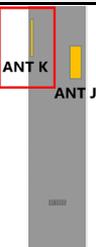
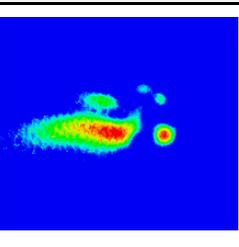
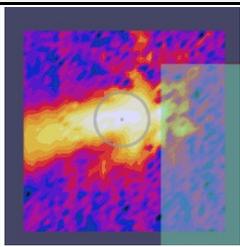
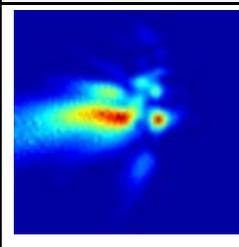
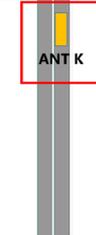
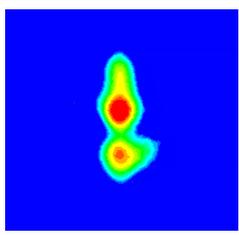
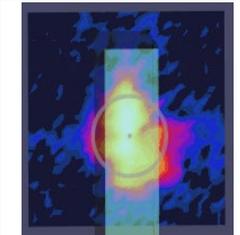
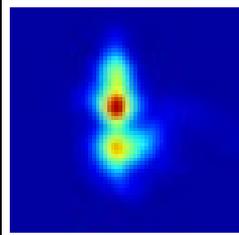
● Table 2-2-6, n260 ANT J-Patch: Mid Channel, Beam ID 162 and Beam ID 160

Beam ID	Surface	View	Simulated PD	Measured PD	Print out from Qualcomm MG Script
162	S2 (Rear)				
160	S3 (Left)				

● Table 2-2-7, n260 ANT K-Patch: Mid Channel, Beam ID 27 and Beam ID 28

Beam ID	Surface	View	Simulated PD	Measured PD	Print out from Qualcomm MG Script
27	S2 (Rear)				
	S4 (Right)				

● Table 2-2-8, n260 ANT K-Patch: Mid Channel, Beam ID 165

Beam ID	Surface	View	Simulated PD	Measured PD	Print out from Qualcomm MG Script
165	S2 (Rear)				
	S4 (Right)				

The Smart transmit GEN2 cannot be finalized until the additional verifications are performed and passed. Follow the below steps for verifications in the mid channel:

VERIFICATION 1: Use “Qualcomm MG script” to print the PD plots for all the beams selected and evaluated for model validation.

- Throughout above comparisons (Table 2-1-1 to 2-2-8), the model validation including MG script were verified.

VERIFICATION 2: Contribution factors from Qualcomm MG script and from HFSS for selected beams, and normalized combined PD verification, for A3LSMF926U device with 2 QTMs. The printed contribution factor from Qualcomm MG Script was within 2% numerical tolerance of the simulated contribution factor. Additionally, the normalized combined PD is < 1.0.

Case 1 : Folder Open

[n261 band]

Worst-case surface:				S4 (Right surface)		
Worst-case location (x,y,z) in meters:				Worst 4cm2 PD value location is 0.06660m, 0.04890m, -0.00490m		
PD design target (W/m ²)				6.166		
Values printed from Qualcomm MG Script				Values obtained by OEM using EM simulation tool		
QTM #	Beam ID	c(i,j) i = beam ID j = QTM #	Backoff factor b _j	verification.sim. power _{limit} (before backoffs) [dBm]	simulated 4cm2 PD(i,j) at (0.06660, 0.04890, -0.00490) at verification.sim.power _{limit} on S4	C _{simulated} (i,j)= 4cm ² PD(i,j)/ PD_design_target
0	148	0.017	0.977	2.01	0.10447	0.017
1	152	1.000	0.955	1.91	6.16594	1.000
Verify 1: $C(i,j) = C_{simulated}(i,j)$, $i = 148, 152; j = 0, 1$						
Verify 2: $b_0 * c(148,0) + b_1 * c(152,1) = 0.977 * 0.017 + 0.955 * 1.000 = 0.972 \leq 1$						

[n260 band]

Worst-case surface:				S4 (Right surface)		
Worst-case location (x,y,z) in meters:				Worst 4cm2 PD value location is 0.06660m, 0.05490m, -0.00690m		
PD design target (W/m ²)				6.166		
Values printed from Qualcomm MG Script				Values obtained by OEM using EM simulation tool		
QTM #	Beam ID	c(i,j) i = beam ID j = QTM #	Backoff factor b _j	verification.sim. power _{limit} (before backoffs) [dBm]	simulated 4cm2 PD(i,j) at (0.06660, 0.05490, -0.00690) at verification.sim.power _{limit} on S4	C _{simulated} (i,j)= 4cm ² PD(i,j)/ PD_design_target
0	150	0.023	0.977	3.52	0.13907	0.023
1	156	0.998	0.955	3.56	6.14955	0.997
Verify 1: $C(i,j) = C_{simulated}(i,j)$, $i = 150, 156; j = 0, 1$						
Verify 2: $b_0 * c(150,0) + b_1 * c(156,1) = 0.977 * 0.023 + 0.955 * 0.998 = 0.976 \leq 1$						

Case 2 : Folder Close

[n261 band]

Worst-case surface:					S4 (Right surface)	
Worst-case location (x,y,z) in meters:					Worst 4cm2 PD value location is 0.06660m, 0.06190m, -0.00690m	
PD design target (W/m ²)					6.166	
Values printed from Qualcomm MG Script					Values obtained by OEM using EM simulation tool	
QTM #	Beam ID	c(i _j) i = beam ID j = QTM #	Backoff factor b _j	verification.sim. power _{limit} (before backoffs) [dBm]	simulated 4cm2 PD(i _j) at 0.06660, 0.06190, -0.00690) at verification.sim.power _{limit} on S4	C _{simulated} (i _j)= 4cm ² PD(i _j)/ PD _{design_target}
0	157	0.017	0.977	2.08	0.10368	0.017
1	27	1.000	0.955	3.4	6.17316	1.001
Verify 1: $C(i,j) = C_{simulated}(i,j), i = 157, 27; j = 0, 1$						
Verify 2: $b_0 * c(157,0) + b_1 * c(27,1) = 0.977 * 0.017 + 0.955 * 1.000 = 0.972 \leq 1$						

[n260 band]

Worst-case surface:					S4 (Right surface)	
Worst-case location (x,y,z) in meters:					Worst 4cm2 PD value location is 0.06660m, 0.05490m, -0.00690m	
PD design target (W/m ²)					6.166	
Values printed from Qualcomm MG Script					Values obtained by OEM using EM simulation tool	
QTM #	Beam ID	c(i _j) i = beam ID j = QTM #	Backoff factor b _j	verification.sim. power _{limit} (before backoffs) [dBm]	simulated 4cm2 PD(i _j) at (0.06660, 0.05490, -0.00690) at verification.sim.power _{limit} on S4	C _{simulated} (i _j)= 4cm ² PD(i _j)/ PD _{design_target}
0	150	0.022	0.977	3.57	0.13281	0.022
1	156	0.999	0.955	3.45	6.162338797	0.999
Verify 1: $C(i,j) = C_{simulated}(i,j), i = 150, 156; j = 0, 1$						
Verify 2: $b_0 * c(150,0) + b_1 * c(156,1) = 0.977 * 0.022 + 0.955 * 0.999 = 0.976 \leq 1$						

VERIFICATION3: Measured 4cm² PD on worst surface and combined PD at worst-case location for A3LSMF926U device with 2 QTMS. The device should be measured at the reference power level and scaled to the input.power.limit. The combined PD should be less than or equal to the *PD_Design_Target* within the uncertainty at the reference power level.

Case 1 : Folder Open

[n261 band]

QTM #	Beam ID	c(i,j) i = beam ID j = QTM #	Dominant surface	4cm ² PD at input.power.limit on QTM dominant surface (W/m ²)	input.power.limit (before permanent backoff)	Measured PD at reference power level on Beam Dominant Surface (mW/cm ²)
0	148	0.017	S3 (Back)	5.961	3.5	1.060
1	152	1.000	S4 (Right)	4.198	3.4	0.764
combined PD at the worst-case location (x,y,z)				c(148,0)*meas.4cm ² PD(148,0) + c(152,1)*meas.4cm ² PD(152,1) = 0.017*5.961 + 1.000*4.198 = 4.299 W/m ²		
PD_design_target + uncertainty at reference power level of 0.5 dB				= 6.166*10*(0.5/10) = 6.918 W/m ²		
Verify				combined PD < PD_design_target + uncertainty at reference power level		

[n260 band]

QTM #	Beam ID	c(i,j) i = beam ID j = QTM #	Dominant surface	4cm ² PD at input.power.limit on QTM dominant surface (W/m ²)	input.power.limit (before permanent backoff)	Measured PD at reference power level on Beam Dominant Surface (mW/cm ²)
0	150	0.023	S3 (Back)	5.161	5.7	0.553
1	156	0.998	S4 (Right)	4.372	4.4	0.632
combined PD at the worst-case location (x,y,z)				c(150,0)*meas.4cm ² PD(150,0) + c(156,1)*meas.4cm ² PD(156,1) = 0.023*5.161 + 0.998*4.372 = 4.481 W/m ²		
PD_design_target + uncertainty at reference power level of 0.5 dB				= 6.166*10*(0.5/10) = 6.918 W/m ²		
Verify				combined PD < PD_design_target + uncertainty at reference power level		

Case 2 : Folder Close

[n261 band]

QTM #	Beam ID	c(i,j) i = beam ID j = QTM #	Dominant surface	4cm ² PD at input.power.limit on QTM dominant surface (W/m ²)	input.power.limit (before permanent backoff)	Measured PD at reference power level on Beam Dominant Surface (mW/cm ²)
0	157	0.017	S3 (Back)	5.217	2.8	1.090
1	27	1.000	S4 (Right)	6.396	6.1	0.625
combined PD at the worst-case location (x,y,z)				c(157,0)*meas.4cm ² PD(157,0) + c(27,1)*meas.4cm ² PD(27,1) = 0.017*5.217 + 1.000*6.396 = 6.483 W/m ²		
PD_design_target + uncertainty at reference power level of 0.5 dB				= 6.166*10*(0.5/10) = 6.918 W/m ²		
Verify				combined PD < PD_design_target + uncertainty at reference power level		

[n260 band]

QTM #	Beam ID	c(i,j) i = beam ID j = QTM #	Dominant surface	4cm ² PD at input.power.limit on QTM dominant surface (W/m ²)	input.power.limit (before permanent backoff)	Measured PD at reference power level on Beam Dominant Surface (mW/cm ²)
0	150	0.022	S3 (Back)	3.845	4.2	0.582
1	156	0.999	S4 (Right)	4.116	4.2	0.623
combined PD at the worst-case location (x,y,z)				c(150,0)*meas.4cm ² PD(150,0) + c(156,1)*meas.4cm ² PD(156,1) = 0.022*3.845 + 0.999*4.116 = 4.193 W/m ²		
PD_design_target + uncertainty at reference power level of 0.5 dB				= 6.166*10*(0.5/10) = 6.918 W/m ²		
Verify				combined PD < PD_design_target + uncertainty at reference power level		

3 Simulation results

This section shows the PD simulation results of Ant J and Ant K at 28GHz and 39GHz for each evaluation plane specified in Table 1 at two separation distances of 2mm and 10mm. 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 in this section to support RF exposure analysis for simultaneous transmission scenarios performed in the Part 1 Near Field PD report.

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 MIMO results represent the highest reported MIMO simulation results after sweeping across the relative phase between beams a 5° step interval from 0° to 360°,

The worst-case simulated PD determined from the tables in this section were used for conservativeness in *input.power.limit* determination in RF Exposure Part 0 Report.

3.1 PD for Low/Mid/High Channel at 28GHz / 39GHz

Case 1 : Folder Open

3.1.1.1 Ant J– Patch Antenna

Table 3 and 4 show the PD simulation evaluation of Ant J patch antenna at 28GHz / 39GHz for the corresponding evaluation planes specified in Table 1.

Table 3. PD of Ant J – patch antenna (28GHz – n261)

- J-patch Low CH

No.	Module	Type	Beam ID_1	Beam ID_2	Feed no.	max ratio out of all beams												max ratio out of all beams													
						4cm2 PD(mW/cm2)						3.8%				1.7%		2.0%		4cm2 PD(mW/cm2) at 10mm evaluation distance				68.3%		68.3%		2.6%		1.5%	
						S4(Right)	S3(Left)	S5(Top)	S6(Bottom)	S1(Front)	S2(Rear)	ratio (Left 2mm)/(worst surface 2mm)	ratio (Bottom 2mm)/(worst surface 2mm)	ratio (Front 2mm)/(worst surface 2mm)	ratio (Top 2mm)/(worst surface 2mm)	S4(Right)	S3(Left)	S5(Top)	S6(Bottom)	S1(Front)	S2(Rear)	ratio worst-surface (10mm/2mm)	ratio (back 10mm)/(worst-surface 2mm)	ratio (Left 10mm)/(worst surface 2mm)	ratio (Bottom 10mm)/(worst surface 2mm)						
1	0	1	0.01	0.00	0.01	0.00	0.00	0.38	0.5%	0.5%	0.5%	5.4%	0.01	0.00	0.01	0.00	0.00	0.17	44.1%	44.1%	0.3%	0.5%									
2	0.01	0.00	0.02	0.00	0.00	0.46	0.5%	0.5%	0.5%	4.0%	0.01	0.00	0.01	0.00	0.00	0.17	41.9%	41.9%	0.3%	0.5%											
3	5	2	0.01	0.01	0.06	0.00	0.01	0.76	0.9%	0.4%	0.8%	7.2%	0.01	0.01	0.05	0.00	0.00	0.41	53.5%	53.5%	0.8%	0.4%									
4	6	2	0.01	0.00	0.01	0.00	0.00	0.90	0.4%	0.2%	0.4%	1.1%	0.01	0.00	0.01	0.00	0.00	0.51	56.4%	56.4%	0.3%	0.2%									
5	7	0.03	0.00	0.01	0.00	0.01	0.55	0.5%	0.7%	1.3%	2.8%	0.02	0.00	0.01	0.00	0.00	0.28	50.8%	50.8%	0.4%	0.5%										
6	8	2	0.03	0.01	0.02	0.01	0.00	0.87	0.7%	1.2%	0.6%	3.0%	0.02	0.00	0.01	0.01	0.00	0.30	44.5%	44.5%	0.4%	1.0%									
7	13	2	0.01	0.01	0.04	0.00	0.00	0.87	0.7%	0.0%	0.3%	4.0%	0.01	0.01	0.03	0.00	0.00	0.49	56.4%	56.4%	0.6%	0.0%									
8	14	2	0.03	0.00	0.01	0.00	0.01	0.57	0.5%	0.5%	1.3%	1.2%	0.02	0.00	0.01	0.00	0.00	0.30	53.6%	53.6%	0.4%	0.4%									
9	15	2	0.02	0.01	0.02	0.01	0.01	0.80	0.7%	0.9%	1.9%	0.9%	0.02	0.00	0.01	0.01	0.00	0.38	47.8%	47.8%	0.5%	0.7%									
10	19	5	0.03	0.02	0.12	0.00	0.01	1.76	0.9%	0.2%	0.4%	6.9%	0.02	0.01	0.09	0.00	0.00	1.01	57.3%	57.3%	0.7%	0.1%									
11	20	5	0.03	0.01	0.03	0.00	0.00	1.65	0.6%	0.3%	0.3%	1.7%	0.02	0.01	0.02	0.00	0.00	1.08	65.3%	65.3%	0.5%	0.1%									
12	21	5	0.04	0.02	0.01	0.00	0.01	1.80	1.1%	0.1%	0.5%	0.7%	0.03	0.01	0.01	0.00	0.01	1.07	67.1%	67.1%	0.8%	0.1%									
13	22	5	0.08	0.02	0.01	0.01	0.02	1.79	1.2%	0.1%	1.3%	0.4%	0.06	0.02	0.01	0.00	0.01	1.07	59.6%	59.6%	0.8%	0.2%									
14	23	5	0.10	0.02	0.02	0.03	0.02	1.83	0.8%	1.5%	0.8%	1.1%	0.07	0.01	0.02	0.02	0.01	0.75	60.7%	60.7%	0.7%	1.3%									
15	29	5	0.04	0.02	0.06	0.00	0.00	1.75	0.9%	0.1%	0.2%	3.3%	0.02	0.01	0.04	0.00	0.00	1.11	63.3%	63.3%	0.7%	0.1%									
16	30	5	0.03	0.02	0.01	0.00	0.00	1.59	0.9%	0.2%	0.2%	0.7%	0.02	0.01	0.01	0.00	0.00	1.09	68.3%	68.3%	0.8%	0.1%									
17	31	5	0.07	0.02	0.01	0.00	0.02	1.70	1.1%	0.2%	1.2%	0.6%	0.05	0.01	0.01	0.00	0.01	1.11	65.3%	65.3%	0.8%	0.1%									
18	32	5	0.10	0.02	0.01	0.01	0.02	1.84	0.9%	0.7%	1.3%	0.7%	0.07	0.01	0.01	0.01	0.01	0.93	50.5%	50.5%	0.7%	0.6%									
19	128	1	0.01	0.00	0.03	0.00	0.01	0.37	1.1%	0.5%	1.6%	7.1%	0.01	0.00	0.02	0.00	0.00	0.15	41.1%	41.1%	0.8%	0.5%									
20	130	1	0.00	0.01	0.01	0.00	0.00	0.22	2.2%	0.4%	0.4%	3.1%	0.00	0.00	0.01	0.00	0.00	0.02	27.6%	37.6%	1.7%	0.4%									
21	133	2	0.01	0.01	0.04	0.00	0.01	0.56	1.6%	0.5%	2.0%	7.6%	0.01	0.01	0.03	0.00	0.01	0.22	39.7%	39.7%	1.2%	0.4%									
22	134	2	0.01	0.01	0.01	0.00	0.00	0.61	1.3%	0.2%	0.3%	1.8%	0.01	0.01	0.01	0.00	0.00	0.32	53.4%	53.4%	1.0%	0.2%									
23	135	2	0.02	0.01	0.02	0.00	0.00	0.64	2.0%	0.6%	0.6%	3.5%	0.01	0.01	0.02	0.00	0.00	0.28	43.6%	43.6%	1.4%	0.6%									
24	136	2	0.02	0.01	0.01	0.01	0.00	0.83	1.7%	0.6%	0.4%	0.6%	0.02	0.01	0.00	0.00	0.00	0.40	48.7%	48.7%	1.1%	0.5%									
25	143	2	0.02	0.01	0.03	0.00	0.01	0.76	1.7%	0.1%	1.1%	4.5%	0.02	0.01	0.02	0.00	0.00	0.38	50.5%	50.5%	1.5%	0.1%									
26	142	2	0.03	0.01	0.01	0.00	0.00	0.85	1.1%	0.2%	0.5%	1.1%	0.02	0.01	0.01	0.00	0.00	0.46	54.1%	54.1%	0.8%	0.2%									
27	143	2	0.03	0.01	0.03	0.01	0.01	0.73	1.1%	1.0%	1.0%	4.5%	0.02	0.01	0.02	0.01	0.00	0.34	46.0%	46.0%	0.8%	0.8%									
28	147	5	0.03	0.03	0.09	0.00	0.02	1.50	2.1%	0.2%	1.3%	6.1%	0.03	0.02	0.06	0.00	0.01	0.78	52.2%	52.2%	1.5%	0.2%									
29	148	5	0.06	0.05	0.01	0.00	0.01	1.63	2.8%	0.2%	0.5%	0.9%	0.05	0.03	0.01	0.00	0.01	0.96	59.0%	59.0%	1.9%	0.2%									
30	149	5	0.08	0.06	0.02	0.00	0.01	1.64	3.3%	0.1%	0.8%	1.4%	0.06	0.04	0.02	0.00	0.01	0.89	53.9%	53.9%	1.9%	0.1%									
31	150	5	0.04	0.04	0.01	0.01	0.01	1.71	2.4%	0.4%	0.4%	0.8%	0.03	0.03	0.01	0.01	0.01	0.97	56.5%	56.5%	1.6%	0.3%									
32	151	5	0.01	0.02	0.03	0.00	0.01	1.67	1.4%	1.4%	0.4%	1.7%	0.03	0.02	0.02	0.00	0.00	0.84	60.7%	60.7%	1.9%	1.2%									
33	157	5	0.04	0.05	0.05	0.00	0.01	1.60	3.0%	0.3%	0.6%	3.3%	0.03	0.04	0.03	0.00	0.01	0.88	54.8%	54.8%	2.0%	0.2%									
34	158	5	0.08	0.05	0.02	0.00	0.01	1.62	3.1%	0.2%	0.7%	1.0%	0.06	0.04	0.01	0.00	0.01	0.94	57.7%	57.7%	2.2%	0.2%									
35	159	5	0.06	0.06	0.02	0.00	0.01	1.66	3.8%	0.2%	0.5%	1.0%	0.04	0.04	0.01	0.00	0.00	0.90	54.9%	54.9%	2.8%	0.1%									
36	160	5	0.03	0.03	0.02	0.02	0.01	1.70	1.3%	1.0%	0.4%	1.2%	0.02	0.02	0.02	0.01	0.00	0.91	53.4%	53.4%	1.1%	0.8%									
37	128	0	2	0.02	0.01	0.05	0.01	0.61	0.7%	0.8%	1.5%	6.2%	0.01	0.01	0.04	0.01	0.01	0.34	43.7%	43.7%	0.6%	0.8%									
38	130	2	0.04	0.02	0.04	0.00	0.00	0.66	1.2%	0.8%	0.4%	4.6%	0.02	0.01	0.02	0.00	0.00	0.20	42.1%	42.1%	0.8%	0.6%									
39	133	5	4	0.03	0.02	0.12	0.01	0.02	1.48	0.5%	1.6%	8.0%	0.03	0.02	0.10	0.01	0.01	0.69	46.8%	46.8%	1.0%	0.5%									
40	134	6	4	0.04	0.02	0.03	0.01	0.61	1.4%	1.3%	0.5%	2.1%	0.03	0.01	0.02	0.00	0.00	0.83	57.0%	57.0%	0.8%	0.3%									
41	135	7	4	0.04	0.02	0.04	0.08	0.61	1.1%	1.7%	1.3%	3.5%	0.03	0.01	0.03	0.01	0.01	0.56	50.5%	50.5%	1.1%	0.9%									
42	136	8	4	0.06	0.03	0.04	0.02	0.61	1.4%	1.2%	0.6%	2.5%	0.06	0.02	0.03	0.02	0.01	0.65	45.0%	45.0%	1.3%	1.0%									
43	141	13	4	0.05	0.02	0.08	0.00	0.62	1.7%	1.0%	1.0%	4.5%	0.04	0.02	0.07	0.00	0.01	0.50	50.8%	50.8%	0.8%	0.1%									
44	142	14	4	0.06	0.02	0.05	0.01	0.61	1.4%	1.2%	0.3%	4.6%	0.05	0.02	0.03	0.01	0.00	0.40	54.3%	54.3%	0.8%	0.3%									
45	143	15	4	0.08	0.02	0.05	0.02	0.62	1.8%	1.2%	1.1%	3.2%	0.06	0.01	0.04	0.02	0.01	0.69	41.4%	41.4%	0.8%	1.0%									
46	147	19	10	0.07	0.06	0.29	0.01	0.63	3.7%	1.6%	0.2%	0.8%	0.04	0.05	0.19	0.01	0.01	2.08	56.1%	56.1%	1.4%	0.1%									
47	148	20	10	0.12	0.07	0.05	0.01	0.62	3.4%	1.9%	0.3%	0.4%	0.10	0.05	0.04	0.01	0.01	2.09	62.1%	62.1%	1.8%	0.2%									
48	149	21	10	0.20	0.10	0.04	0.01	0.63	3.4%	3.0%	0.1%	0.9%	0.15	0.07	0.03	0.00	0.02	2.04	59.6%	59.6%	2.1%	0.1%									
49	150	22	10	0.19	0.10	0.03	0.02	0.65	3.8%	2.4%	0.4%	1.4%	0.16	0.06	0.02	0.01	0.03	2.30	58.7%	58.7%	1.6%	0.3%									
50	151	23	10	0.19	0.08	0.09	0.08	0.63	4.4%	1.5%	0.7%	2.6%	0.14	0.04	0.07	0.07	0.01	2.13	68.2%	68.2%	1.9%	1.5%									
51	152	29	10	0.09	0.07	0.09	0.01	0.62	3.5%	1.9%	0.5%	2.6%	0.07	0.05	0.06	0.01	0.01	2.31	62.5%	62.5%	1.5%	0.2%									
52	158	30	10	0.17	0.08	0.03	0.01	0.62	3.8%	2.4%	0.6%	1.0%	0.13	0.06	0.03	0.01	0.01	2.04	61.8%	61.8%	1.8%	0.3%									
53	159	31	10	0.22	0.12	0.05	0.01	0.65	3.5%	3.3%	0.2%	1.3%	0.16	0.08	0.04	0.01	0.03	2.02	62.9%	62.9%	2.2%	0.2%									
54	160	32	10	0.20	0.07	0.05	0.04	0.64	4.2%	3.9%	1.0%	1.2%	0.14	0.05	0.04	0.03	0.02	2.23	52.2%	52.2%	1.8%	0.8%									

- J-patch Mid CH

No.	Module	Type	Beam ID_1	Bema ID_2	feed no.	max ratio out of all beams										max ratio out of all beams							
						4cm2 PD(mW/cm2)										4cm2 PD(mW/cm2) at 10mm evaluation distance				max ratio out of all beams			
						54(Right)	53(Left)	55(Top)	56(Bottom)	51(Front)	52(Rear)	ratio (Left 2mm)/(worst surface 2mm)	ratio (Bottom 2mm)/(worst surface 2mm)	ratio (Front 2mm)/(worst surface 2mm)	ratio (Top 2mm)/(worst surface 2mm)	54(Right)	53(Left)	55(Top)	56(Bottom)	51(Front)	52(Rear)	ratio worst-surface (10mm/2mm)	ratio (Back 10mm)/(worst surface 2mm)
1	0	1	0.01	0.00	0.01	0.00	0.00	0.36	0.6%	0.6%	0.6%	3.3%	0.01	0.00	0.01	0.00	0.00	0.16	44.9%	44.9%	0.0%	0.3%	
2	2	1	0.01	0.00	0.02	0.00	0.00	0.37	0.5%	0.5%	0.5%	4.3%	0.01	0.00	0.01	0.00	0.00	0.16	44.1%	44.1%	0.3%	0.3%	
3	5	2	0.01	0.01	0.05	0.00	0.01	0.70	0.7%	0.7%	0.7%	6.9%	0.01	0.00	0.04	0.00	0.00	0.40	56.7%	56.7%	0.6%	0.3%	
4	6	2	0.01	0.00	0.01	0.00	0.00	0.52	0.5%	0.5%	0.5%	6.9%	0.01	0.00	0.01	0.00	0.00	0.47	57.2%	57.2%	0.4%	0.3%	
5	7	2	0.02	0.00	0.01	0.00	0.00	0.50	0.6%	0.6%	0.6%	1.4%	0.02	0.00	0.01	0.00	0.00	0.26	52.2%	52.2%	0.4%	0.4%	
6	8	2	0.03	0.00	0.02	0.01	0.00	0.62	0.6%	0.6%	0.6%	3.2%	0.02	0.00	0.02	0.01	0.00	0.30	47.5%	47.5%	0.5%	0.8%	
7	13	2	0.01	0.00	0.01	0.00	0.00	0.40	0.5%	0.5%	0.5%	5.5%	0.01	0.00	0.01	0.00	0.00	0.47	58.5%	58.5%	0.4%	0.0%	
8	14	2	0.02	0.00	0.01	0.00	0.00	0.51	0.6%	0.6%	0.6%	1.0%	0.02	0.00	0.00	0.00	0.00	0.27	54.7%	54.7%	0.4%	0.4%	
9	15	2	0.03	0.01	0.01	0.01	0.00	0.75	0.9%	0.9%	0.9%	1.7%	0.02	0.01	0.01	0.01	0.00	0.38	48.8%	48.8%	0.8%	0.7%	
10	19	5	0.03	0.02	0.10	0.00	0.01	1.64	0.9%	0.9%	0.9%	6.0%	0.02	0.01	0.06	0.00	0.00	0.97	59.2%	59.2%	0.7%	0.1%	
11	20	5	0.03	0.01	0.02	0.00	0.00	1.53	0.9%	0.9%	0.9%	1.4%	0.02	0.01	0.01	0.00	0.00	1.02	66.4%	66.4%	0.7%	0.1%	
12	21	5	0.04	0.02	0.01	0.00	0.01	1.45	1.2%	1.2%	1.2%	0.8%	0.03	0.01	0.01	0.00	0.00	1.06	66.1%	66.1%	1.0%	0.1%	
13	22	5	0.07	0.02	0.01	0.00	0.02	1.64	1.2%	1.2%	1.2%	0.9%	0.04	0.02	0.01	0.00	0.01	1.02	62.0%	62.0%	0.9%	0.2%	
14	23	5	0.08	0.01	0.02	0.02	0.01	1.87	0.8%	0.8%	0.8%	1.0%	0.06	0.01	0.01	0.02	0.01	1.04	44.4%	44.4%	0.7%	1.1%	
15	29	5	0.03	0.01	0.05	0.00	0.01	1.61	0.7%	0.7%	0.7%	3.0%	0.02	0.01	0.03	0.00	0.00	1.05	65.1%	65.1%	0.6%	0.1%	
16	30	5	0.03	0.02	0.01	0.00	0.00	1.45	1.2%	1.2%	1.2%	0.9%	0.02	0.01	0.01	0.00	0.00	0.99	68.0%	68.0%	1.0%	0.1%	
17	31	5	0.06	0.02	0.01	0.00	0.01	1.95	1.2%	1.2%	1.2%	0.7%	0.05	0.01	0.01	0.00	0.01	1.02	66.0%	66.0%	0.8%	0.1%	
18	32	5	0.08	0.02	0.01	0.01	0.02	1.70	1.1%	1.1%	1.1%	0.9%	0.06	0.01	0.01	0.01	0.01	1.02	54.2%	54.2%	0.8%	0.5%	
19	128	1	0.01	0.01	0.02	0.00	0.01	0.35	1.7%	1.7%	1.7%	6.3%	0.01	0.01	0.02	0.00	0.00	0.14	60.6%	60.6%	1.4%	0.6%	
20	130	1	0.00	0.00	0.01	0.00	0.00	0.22	1.4%	1.4%	1.4%	3.7%	0.00	0.00	0.01	0.00	0.00	0.09	42.7%	42.7%	0.9%	0.5%	
21	133	2	0.01	0.01	0.04	0.00	0.01	0.54	1.3%	1.3%	1.3%	1.5%	0.01	0.01	0.03	0.00	0.00	0.22	41.2%	41.2%	0.9%	0.4%	
22	134	2	0.01	0.01	0.04	0.00	0.02	0.56	1.4%	1.4%	1.4%	1.5%	0.01	0.01	0.01	0.00	0.00	0.30	53.7%	53.7%	1.1%	0.2%	
23	135	2	0.01	0.01	0.02	0.01	0.00	0.82	1.6%	1.6%	1.6%	3.4%	0.01	0.01	0.02	0.00	0.00	0.27	44.0%	44.0%	1.1%	0.6%	
24	136	2	0.02	0.01	0.01	0.01	0.00	0.79	1.4%	1.4%	1.4%	0.8%	0.01	0.01	0.00	0.00	0.00	0.41	51.8%	51.8%	1.0%	0.5%	
25	141	2	0.02	0.02	0.03	0.00	0.01	0.77	1.5%	1.5%	1.5%	0.9%	0.02	0.01	0.02	0.00	0.00	0.38	48.8%	48.8%	1.6%	0.3%	
26	142	2	0.03	0.01	0.01	0.00	0.00	0.82	1.2%	1.2%	1.2%	0.5%	0.02	0.01	0.01	0.00	0.00	0.45	55.2%	55.2%	0.9%	0.2%	
27	143	2	0.03	0.01	0.02	0.01	0.01	0.69	1.4%	1.4%	1.4%	3.5%	0.02	0.01	0.02	0.01	0.00	0.33	47.9%	47.9%	1.0%	1.0%	
28	147	5	0.04	0.04	0.10	0.00	0.02	1.56	2.3%	2.3%	2.3%	4.9%	0.02	0.01	0.02	0.00	0.00	0.74	47.8%	47.8%	2.4%	0.2%	
29	148	5	0.07	0.04	0.02	0.00	0.01	1.95	3.8%	3.8%	3.8%	1.2%	0.05	0.03	0.01	0.00	0.00	0.83	60.4%	60.4%	2.1%	0.2%	
30	149	5	0.07	0.06	0.02	0.00	0.01	1.55	3.8%	3.8%	3.8%	1.6%	0.05	0.04	0.02	0.00	0.01	0.85	55.6%	55.6%	2.6%	0.1%	
31	150	5	0.05	0.04	0.01	0.00	0.01	1.67	2.4%	2.4%	2.4%	0.7%	0.04	0.03	0.02	0.00	0.01	0.87	57.9%	57.9%	1.9%	0.4%	
32	151	5	0.02	0.02	0.03	0.02	0.01	1.81	1.4%	1.4%	1.4%	0.6%	0.02	0.02	0.02	0.02	0.01	0.83	51.4%	51.4%	0.9%	1.2%	
33	157	5	0.04	0.04	0.06	0.00	0.01	1.54	2.7%	2.7%	2.7%	4.1%	0.04	0.03	0.04	0.00	0.01	0.84	54.1%	54.1%	2.0%	0.2%	
34	158	5	0.07	0.05	0.02	0.00	0.01	1.54	3.5%	3.5%	3.5%	1.3%	0.05	0.04	0.01	0.00	0.01	0.90	58.9%	58.9%	2.5%	0.2%	
35	159	5	0.06	0.05	0.01	0.00	0.01	1.58	3.4%	3.4%	3.4%	0.8%	0.04	0.04	0.01	0.00	0.00	0.89	56.4%	56.4%	2.3%	0.2%	
36	160	5	0.03	0.03	0.02	0.02	0.01	1.65	1.8%	1.8%	1.8%	1.3%	0.02	0.02	0.02	0.01	0.00	0.89	54.1%	54.1%	1.8%	0.2%	
37	128	0	0.02	0.01	0.02	0.00	0.01	0.72	1.7%	1.7%	1.7%	6.3%	0.01	0.01	0.02	0.00	0.00	0.14	60.6%	60.6%	1.4%	0.6%	
38	130	2	0.02	0.01	0.04	0.00	0.00	0.83	1.0%	1.0%	1.0%	1.1%	0.01	0.00	0.03	0.00	0.00	0.29	46.5%	46.5%	0.6%	0.6%	
39	133	5	0.04	0.02	0.11	0.00	0.02	1.40	1.1%	1.1%	1.1%	0.9%	0.03	0.01	0.09	0.01	0.01	0.89	48.9%	48.9%	0.9%	0.5%	
40	134	6	4	0.03	0.03	0.00	0.01	1.39	1.3%	1.3%	1.3%	0.8%	0.03	0.01	0.01	0.00	0.00	0.71	47.0%	47.0%	0.9%	0.1%	
41	135	7	4	0.03	0.02	0.04	0.01	1.09	1.4%	1.4%	1.4%	0.8%	0.02	0.01	0.03	0.01	0.01	0.64	50.0%	50.0%	1.0%	0.9%	
42	136	8	4	0.07	0.02	0.03	0.02	0.01	1.37	1.7%	1.7%	0.6%	2.3%	0.06	0.02	0.03	0.02	0.00	0.44	46.7%	46.7%	1.2%	1.0%
43	143	13	4	0.06	0.02	0.06	0.00	0.62	1.3%	1.3%	1.3%	4.8%	0.02	0.01	0.01	0.00	0.00	0.51	43.9%	43.9%	1.1%	1.1%	
44	142	14	4	0.06	0.02	0.02	0.01	1.38	1.2%	1.2%	1.2%	0.7%	0.04	0.01	0.02	0.00	0.01	0.76	54.8%	54.8%	0.8%	0.1%	
45	143	15	4	0.09	0.03	0.05	0.02	0.01	1.60	1.6%	1.6%	0.8%	3.1%	0.07	0.02	0.04	0.02	0.01	0.48	42.0%	42.0%	1.1%	1.1%
46	147	19	10	0.09	0.08	0.11	0.01	0.63	1.9%	1.9%	1.9%	0.6%	0.08	0.07	0.02	0.00	0.00	0.58	55.8%	55.8%	1.6%	0.4%	
47	148	20	10	0.14	0.06	0.04	0.01	0.62	3.14	2.0%	2.0%	0.2%	0.5%	0.14	0.05	0.03	0.01	0.01	1.98	63.0%	63.0%	1.5%	0.2%
48	148	21	10	0.19	0.10	0.04	0.01	0.63	3.21	3.2%	3.2%	0.8%	1.3%	0.14	0.07	0.03	0.02	0.02	1.92	59.0%	59.0%	2.2%	0.1%
49	150	22	10	0.19	0.08	0.03	0.00	0.61	3.11	2.9%	2.9%	0.7%	1.2%	0.12	0.06	0.02	0.00	0.00	2.07	61.2%	61.2%	1.9%	0.4%
50	151	23	10	0.16	0.06	0.07	0.07	0.62	4.18	1.3%	1.6%	0.5%	1.0%	0.12	0.04	0.06	0.06	0.01	2.09	49.9%	49.9%	0.9%	1.4%
51	152	20	10	0.11	0.06	0.10	0.01	0.62	3.33	1.8%	2.0%	1.0%	1.0%	0.08	0.05	0.07	0.01	0.01	2.11	63.4%	63.4%	1.9%	0.2%
52	158	30	10	0.17	0.04	0.01	0.00	0.62	3.11	2.7%	2.7%	0.3%	1.1%	0.11	0.06	0.02	0.00	0.00	2.10	61.0%	61.0%	2.0%	0.2%
53	159	31	10	0.21	0.10	0.03	0.01	0.63	3.36	3.1%	3.2%	1.0%	1.0%	0.16	0.07	0.03	0.01	0.02	2.07	61.8%	61.8%	2.1%	0.2%
54	160	32	10	0.17	0.08	0.05	0.03	0.64	4.07	1.8%	2.0%	0.9%	1.3%	0.14	0.05	0.04	0.03	0.02	2.22	54.6%	54.6%	1.9%	0.7%

- J-patch High CH

No.	Module	Type	Beam ID_1	Bema ID_2	feed no.	max ratio out of all beams										max ratio out of all beams							
						4cm2 PD(mW/cm2)										4cm2 PD(mW/cm2) at 10mm evaluation distance				max ratio out of all beams			
						54(Right)	53(Left)	55(Top)	56(Bottom)	51(Front)	52(Rear)	ratio (Left 2mm)/(worst surface 2mm)	ratio (Bottom 2mm)/(worst surface 2mm)	ratio (Front 2mm)/(worst surface 2mm)	ratio (Top 2mm)/(worst surface 2mm)	54(Right)	53(Left)	55(Top)	56(Bottom)	51(Front)	52(Rear)	ratio worst-surface (10mm/2mm)	ratio (Back 10mm)/(worst surface 2mm)
1	0	1	0.01	0.00	0.01	0.00	0.00	0.34	0.6%	0.6%	0.6%	2.7%	0.01	0.00	0.01	0.00	0.00	0.15	44.2%	44.2%	0.0%	0.6%	
2	2	1	0.01	0.00	0.01	0.00	0.00	0.34	0.6%	0.6%	0.6%	3.8%	0.01	0.00	0.01	0.00	0.00	0.15	45.0%	45.0%	0.3%	0.6%	
3	5	2	0.01	0.00	0.04	0.00	0.00																

Table 4. PD of Ant J – patch antenna (39GHz – n260)

- J-patch Low CH

No.	Module	Type	Beam ID_1	Bema ID_2	Feed no	4cm2 PD(mW/cm2)										max ratio out of all beams					4cm2 PD(mW/cm2) at 10mm evaluation distance					max ratio out of all beams				
						54(Right)					53(Left)					Per Beam Backoff (dB)	ratio (Left 2mm)/(worst surface 2mm)	ratio (Bottom 2mm)/(worst surface 2mm)	ratio (front 2mm)/(worst surface 2mm)	ratio (Top 2mm)/(worst surface 2mm)	54(Right)	53(Left)	55(Top)	56(Bottom)	51(Front)	52(Rear)	ratio worst-surface (10mm/2mm)	ratio (Back 10mm)/(worst surface 2mm)	ratio (Left 10mm)/(worst surface 2mm)	ratio (Bottom 10mm)/(worst surface 2mm)
						S4(Right)	S3(Left)	S5(Top)	S6(Bottom)	S1(Front)	S2(Rear)	6.4%	3.3%	2.5%	1.5%															
1			0	1	0.00	0.00	0.00	0.00	0.00	0.00	0.17	1.7%	1.2%	0.6%	1.2%	0.00	0.00	0.00	0.00	0.00	0.00	0.06	36.0%	36.0%	0.3%	0.1%				
2			2	1	0.00	0.00	0.01	0.00	0.00	0.00	0.28	1.4%	0.7%	0.4%	2.5%	0.00	0.00	0.01	0.00	0.00	0.00	0.11	38.0%	38.0%	0.3%	0.1%				
3			4	1	0.01	0.01	0.01	0.00	0.00	0.00	0.38	1.7%	0.6%	0.4%	2.6%	0.01	0.01	0.01	0.00	0.00	0.00	0.15	41.5%	41.5%	0.4%	0.2%				
4			6	1	0.01	0.00	0.00	0.00	0.00	0.00	0.34	1.7%	0.6%	0.4%	2.7%	0.00	0.00	0.00	0.00	0.00	0.00	0.11	44.0%	44.0%	0.3%	0.1%				
5			7	2	0.01	0.01	0.01	0.00	0.00	0.00	0.44	2.3%	0.7%	0.5%	3.2%	0.00	0.01	0.01	0.00	0.00	0.00	0.17	38.2%	38.2%	0.4%	0.2%				
6			8	2	0.02	0.02	0.01	0.00	0.00	0.00	0.39	2.2%	0.7%	0.5%	3.2%	0.00	0.01	0.01	0.00	0.00	0.00	0.17	44.0%	44.0%	0.4%	0.2%				
7			9	2	0.01	0.01	0.01	0.00	0.00	0.00	0.45	2.4%	0.4%	0.2%	1.8%	0.01	0.01	0.01	0.00	0.00	0.00	0.22	48.5%	48.5%	0.5%	0.1%				
8			10	2	0.01	0.01	0.02	0.01	0.00	0.00	0.53	1.3%	0.9%	0.6%	2.7%	0.01	0.01	0.01	0.00	0.00	0.00	0.18	34.7%	34.7%	0.3%	0.3%				
9			15	2	0.01	0.01	0.01	0.00	0.00	0.00	0.48	2.2%	0.8%	0.5%	3.2%	0.00	0.01	0.01	0.00	0.00	0.00	0.19	54.0%	54.0%	0.3%	0.3%				
10			16	2	0.01	0.02	0.01	0.00	0.00	0.00	0.48	2.2%	0.6%	0.3%	1.6%	0.01	0.01	0.01	0.00	0.00	0.00	0.34	50.7%	50.7%	0.5%	0.2%				
11			17	2	0.01	0.01	0.01	0.00	0.00	0.00	0.49	2.6%	0.6%	0.4%	2.0%	0.01	0.01	0.01	0.00	0.00	0.00	0.22	45.2%	45.2%	0.5%	0.2%				
12			21	3	0.03	0.04	0.05	0.00	0.01	0.01	0.97	3.2%	0.4%	0.4%	2.9%	0.00	0.03	0.03	0.00	0.00	0.00	0.55	55.1%	55.1%	0.6%	0.5%				
13			22	3	0.04	0.05	0.01	0.00	0.01	0.01	1.07	4.2%	0.5%	0.3%	1.1%	0.03	0.03	0.03	0.00	0.00	0.00	0.59	55.2%	55.2%	0.6%	0.1%				
14			23	5	0.05	0.06	0.02	0.00	0.00	0.00	1.10	5.6%	0.1%	0.3%	1.6%	0.04	0.04	0.01	0.00	0.00	0.00	0.60	54.3%	54.3%	0.9%	0.0%				
15			24	5	0.02	0.06	0.03	0.01	0.01	0.01	1.27	3.2%	0.4%	0.4%	2.9%	0.00	0.04	0.01	0.00	0.00	0.00	0.70	57.3%	57.3%	0.7%	0.1%				
16			25	5	0.02	0.02	0.09	0.03	0.01	0.01	1.07	2.2%	2.3%	0.7%	2.7%	0.01	0.02	0.07	0.02	0.00	0.00	0.47	43.8%	43.8%	0.3%	0.4%				
17			31	5	0.03	0.05	0.04	0.00	0.00	0.00	1.06	4.3%	0.4%	0.3%	2.4%	0.02	0.03	0.02	0.00	0.00	0.00	0.60	56.5%	56.5%	0.7%	0.1%				
18			33	5	0.05	0.06	0.01	0.00	0.00	0.00	1.14	5.3%	0.3%	0.4%	0.8%	0.04	0.04	0.01	0.00	0.00	0.00	0.61	54.8%	54.8%	0.9%	0.0%				
19			33	5	0.05	0.06	0.02	0.00	0.01	0.01	1.33	4.4%	0.3%	0.4%	1.7%	0.04	0.05	0.02	0.00	0.00	0.00	0.75	56.7%	56.7%	0.9%	0.1%				
20			34	5	0.02	0.05	0.06	0.01	0.01	0.01	1.31	3.9%	1.1%	0.7%	4.5%	0.01	0.04	0.04	0.02	0.00	0.00	0.65	53.6%	53.6%	0.7%	0.2%				
21			130	1	0.00	0.00	0.01	0.00	0.00	0.00	0.32	0.9%	0.6%	0.3%	1.6%	0.00	0.00	0.00	0.00	0.00	0.00	0.16	49.4%	49.4%	0.0%	0.0%				
22			132	1	0.00	0.00	0.01	0.00	0.00	0.00	0.28	1.4%	1.1%	0.7%	4.6%	0.00	0.00	0.01	0.00	0.00	0.00	0.11	39.9%	39.9%	0.0%	0.0%				
23			134	1	0.01	0.01	0.01	0.00	0.00	0.00	0.30	1.5%	1.0%	0.5%	2.7%	0.00	0.00	0.00	0.00	0.00	0.00	0.08	40.0%	40.0%	0.0%	0.0%				
24			135	2	0.01	0.01	0.02	0.00	0.00	0.00	0.35	2.6%	0.9%	0.9%	3.7%	0.01	0.01	0.02	0.00	0.00	0.00	0.16	46.4%	46.4%	0.0%	0.0%				
25			136	2	0.01	0.01	0.01	0.00	0.00	0.00	0.53	1.5%	0.4%	0.2%	1.1%	0.00	0.01	0.01	0.00	0.00	0.00	0.33	62.2%	62.2%	0.0%	0.0%				
26			137	2	0.01	0.01	0.01	0.00	0.00	0.00	0.53	1.5%	0.6%	0.2%	1.2%	0.00	0.01	0.01	0.00	0.00	0.00	0.08	49.3%	49.3%	0.0%	0.0%				
27			138	2	0.01	0.01	0.03	0.01	0.00	0.00	0.58	1.1%	0.9%	0.4%	0.9%	0.01	0.01	0.02	0.00	0.00	0.00	0.22	39.4%	39.4%	0.0%	0.0%				
28			143	2	0.00	0.01	0.01	0.00	0.00	0.00	0.54	1.5%	0.7%	0.2%	2.0%	0.00	0.01	0.01	0.00	0.00	0.00	0.31	57.3%	57.3%	0.0%	0.0%				
29			145	2	0.01	0.01	0.01	0.00	0.00	0.00	0.52	1.9%	0.2%	0.4%	2.3%	0.00	0.01	0.01	0.00	0.00	0.00	0.16	43.3%	43.3%	0.0%	0.0%				
30			145	2	0.01	0.01	0.02	0.01	0.00	0.00	0.54	1.5%	0.9%	0.6%	2.9%	0.01	0.01	0.02	0.00	0.00	0.00	0.40	46.3%	46.3%	0.0%	0.0%				
31			149	5	0.04	0.04	0.04	0.00	0.01	0.01	1.12	3.5%	0.4%	0.5%	3.9%	0.03	0.03	0.03	0.00	0.00	0.00	0.63	54.6%	54.6%	0.0%	0.0%				
32			150	5	0.03	0.04	0.01	0.00	0.00	0.00	1.48	4.4%	0.5%	0.4%	3.2%	0.01	0.01	0.01	0.00	0.00	0.00	0.64	58.9%	58.9%	0.0%	0.0%				
33			151	5	0.02	0.03	0.02	0.00	0.00	0.00	1.06	2.6%	0.1%	0.2%	1.7%	0.01	0.01	0.01	0.00	0.00	0.00	0.73	68.6%	68.6%	0.0%	0.0%				
34			152	5	0.02	0.01	0.17	0.00	0.01	0.01	0.86	1.3%	0.5%	2.9%	19.5%	0.02	0.01	0.13	0.00	0.01	0.00	0.60	70.4%	70.4%	0.0%	0.0%				
35			153	5	0.03	0.04	0.01	0.00	0.00	0.00	1.01	1.8%	2.7%	1.2%	4.6%	0.02	0.01	0.09	0.00	0.00	0.00	0.63	68.9%	68.9%	0.0%	0.0%				
36			159	5	0.04	0.04	0.04	0.00	0.00	0.00	1.06	4.0%	0.4%	0.4%	3.6%	0.03	0.03	0.03	0.00	0.00	0.00	0.60	56.4%	56.4%	0.0%	0.0%				
37			160	5	0.03	0.04	0.02	0.00	0.00	0.00	1.05	3.3%	0.3%	0.2%	1.4%	0.02	0.03	0.01	0.00	0.00	0.00	0.70	67.0%	67.0%	0.0%	0.0%				
38			161	5	0.03	0.04	0.01	0.00	0.00	0.00	1.06	3.9%	0.2%	0.4%	3.0%	0.02	0.01	0.04	0.00	0.00	0.00	0.63	68.8%	68.8%	0.0%	0.0%				
39			162	5	0.03	0.01	0.18	0.02	0.01	0.01	1.01	0.8%	2.3%	1.5%	18.2%	0.01	0.01	0.14	0.02	0.01	0.00	0.56	55.5%	55.5%	0.0%	0.0%				
40			128	0	2	0.01	0.01	0.01	0.00	0.00	0.50	1.5%	0.9%	0.4%	2.0%	0.01	0.01	0.01	0.00	0.00	0.00	0.36	47.1%	47.1%	0.3%	0.2%				
41			130	2	0.02	0.02	0.01	0.00	0.00	0.00	0.66	2.9%	1.0%	0.6%	3.2%	0.01	0.01	0.02	0.00	0.00	0.00	0.27	41.1%	41.1%	0.3%	0.2%				
42			132	4	2	0.02	0.02	0.03	0.01	0.01	0.70	2.2%	1.1%	0.6%	3.8%	0.02	0.01	0.02	0.01	0.00	0.00	0.30	42.4%	42.4%	0.3%	0.2%				
43			134	6	2	0.01	0.01	0.02	0.01	0.01	0.46	2.4%	1.1%	0.9%	3.5%	0.01	0.01	0.02	0.00	0.00	0.00	0.29	43.8%	43.8%	0.1%	0.1%				
44			135	7	2	0.02	0.04	0.01	0.00	0.00	0.66	3.9%	0.2%	0.4%	4.6%	0.02	0.01	0.02	0.00	0.00	0.00	0.42	49.0%	49.0%	0.2%	0.1%				
45			136	8	4	0.03	0.03	0.02	0.01	0.00	1.10	2.9%	0.4%	0.3%	1.2%	0.02	0.02	0.01	0.00	0.00	0.00	0.37	62.3%	62.3%	0.3%	0.1%				
46			137	9	4	0.02	0.03	0.04	0.01	0.00	1.05	2.6%	0.8%	0.4%	3.9%	0.02	0.02	0.03	0.01	0.00	0.00	0.53	51.6%	51						

3.1.1.2 Ant K – Patch Antenna

Table 5 and 6 show the PD simulation evaluation of Ant K patch antenna at 28GHz / 39GHz for the corresponding evaluation plane specified in Table 1.

Table 5. PD of Ant K – patch antenna (28GHz – n261)

- K-patch Low CH

No.	Module	Type	Beam ID_1	Bema ID_2	Feed no.	max ratio out of all beams																							
						4cm2 PD(mW/cm2)								0.6%				2.9%				68.2%				32.2%			
						S4(Right)	S3(Left)	S5(Top)	S6(Bottom)	S1(Front)	S2(Rear)	ratio (Left 2mm)/(worst surface 2mm)	ratio (Bottom 2mm)/(worst surface 2mm)	ratio (Front 2mm)/(worst surface 2mm)	ratio (Top 2mm)/(worst surface 2mm)	S4(Right)	S3(Left)	S5(Top)	S6(Bottom)	S1(Front)	S2(Rear)	ratio (back 10mm)/(worst surface 2mm)	ratio (10mm)/(worst surface 2mm)	ratio (Left 10mm)/(worst surface 2mm)	ratio (Bottom 10mm)/(worst surface 2mm)				
55	1	1	0.26	0.00	0.02	0.00	0.08	0.08	0.00	1.5%	31.3%	6.9%	0.08	0.00	0.01	0.00	0.02	0.02	30.1%	8.9%	0.0%	1.5%							
56	3	1	0.27	0.00	0.03	0.00	0.10	0.09	0.00	1.1%	32.2%	9.4%	0.10	0.00	0.01	0.00	0.03	0.03	30.2%	12.4%	0.4%	1.1%							
57	4	1	0.31	0.00	0.04	0.00	0.11	0.11	0.00	0.3%	35.9%	13.1%	0.12	0.00	0.02	0.00	0.03	0.04	36.9%	11.1%	0.3%	0.3%							
58	9	2	0.53	0.00	0.08	0.01	0.23	0.13	0.00	2.7%	43.4%	14.3%	0.16	0.00	0.04	0.01	0.06	0.04	29.9%	8.4%	0.4%	2.5%							
59	10	2	0.55	0.00	0.02	0.00	0.26	0.26	0.00	0.2%	36.2%	15.9%	0.22	0.00	0.01	0.00	0.10	0.11	37.2%	22.3%	0.2%	0.2%							
60	11	2	0.39	0.00	0.02	0.00	0.14	0.24	0.00	0.5%	34.9%	6.1%	0.21	0.00	0.02	0.00	0.05	0.09	33.9%	23.9%	0.3%	0.5%							
61	12	2	0.45	0.00	0.08	0.01	0.16	0.15	0.2%	2.9%	35.9%	16.9%	0.16	0.00	0.05	0.01	0.05	0.06	35.4%	13.4%	0.2%	2.7%							
62	16	2	0.57	0.00	0.05	0.00	0.27	0.21	0.00	0.5%	37.2%	8.2%	0.25	0.00	0.03	0.00	0.10	0.10	44.2%	12.0%	0.2%	0.5%							
63	17	2	0.63	0.00	0.03	0.00	0.27	0.29	0.00	0.2%	42.6%	6.0%	0.35	0.00	0.01	0.00	0.10	0.13	35.9%	20.9%	0.2%	0.2%							
64	18	2	0.57	0.00	0.14	0.00	0.19	0.17	0.2%	0.7%	33.1%	24.1%	0.17	0.00	0.08	0.00	0.05	0.07	28.2%	11.4%	0.2%	0.7%							
65	24	5	1.56	0.00	0.15	0.06	0.83	0.35	0.2%	3.4%	33.0%	8.4%	0.47	0.00	0.07	0.03	0.25	0.14	36.7%	8.0%	0.2%	2.4%							
66	25	5	1.13	0.00	0.09	0.01	0.53	0.48	0.00	0.6%	36.9%	8.2%	0.51	0.00	0.05	0.01	0.23	0.23	44.7%	20.4%	0.3%	0.5%							
67	26	5	1.35	0.00	0.03	0.00	0.63	0.70	0.2%	0.1%	46.8%	2.2%	0.85	0.00	0.02	0.00	0.28	0.38	63.0%	28.2%	0.2%	0.1%							
68	27	5	1.08	0.00	0.13	0.00	0.44	0.55	0.2%	0.2%	40.2%	13.8%	0.42	0.00	0.06	0.00	0.18	0.29	37.5%	22.1%	0.2%	0.2%							
69	28	5	1.38	0.00	0.45	0.01	0.56	0.51	0.1%	1.0%	40.4%	32.2%	0.47	0.00	0.27	0.01	0.18	0.18	33.7%	15.2%	0.1%	0.9%							
70	33	5	1.54	0.00	0.11	0.03	0.83	0.39	0.3%	1.9%	53.7%	7.4%	0.59	0.00	0.05	0.03	0.27	0.15	38.0%	9.9%	0.2%	1.8%							
71	34	5	1.44	0.01	0.03	0.00	0.73	0.62	0.3%	0.3%	46.9%	2.3%	0.66	0.01	0.03	0.00	0.24	0.32	58.0%	22.7%	0.4%	0.3%							
72	35	5	1.31	0.00	0.06	0.00	0.58	0.67	0.2%	0.3%	44.0%	4.9%	0.81	0.00	0.04	0.00	0.25	0.36	61.7%	27.2%	0.2%	0.3%							
73	36	5	1.13	0.00	0.27	0.01	0.38	0.54	0.3%	0.8%	33.8%	24.0%	0.45	0.00	0.18	0.01	0.14	0.21	40.2%	18.9%	0.2%	0.5%							
74	129	1	0.40	0.00	0.02	0.00	0.18	0.14	0.0%	0.3%	44.8%	9.5%	0.14	0.00	0.03	0.00	0.06	0.05	34.8%	13.1%	0.0%	0.3%							
75	131	1	0.36	0.00	0.04	0.00	0.15	0.15	0.0%	0.3%	40.9%	11.6%	0.11	0.00	0.03	0.00	0.05	0.06	39.8%	17.4%	0.0%	0.3%							
76	132	1	0.47	0.00	0.02	0.00	0.13	0.09	0.0%	0.4%	48.4%	7.8%	0.09	0.00	0.01	0.00	0.05	0.05	34.6%	16.7%	0.0%	0.4%							
77	137	2	0.20	0.00	0.07	0.00	0.28	0.26	0.1%	0.3%	39.7%	10.2%	0.15	0.00	0.05	0.00	0.10	0.12	35.7%	12.4%	0.1%	0.3%							
78	138	2	0.69	0.00	0.02	0.00	0.34	0.30	0.1%	0.3%	49.1%	1.2%	0.27	0.00	0.01	0.00	0.15	0.16	39.5%	23.2%	0.1%	0.1%							
79	139	2	0.78	0.00	0.07	0.00	0.41	0.34	0.1%	0.1%	52.1%	8.9%	0.35	0.00	0.05	0.00	0.18	0.17	44.5%	21.9%	0.1%	0.1%							
80	140	2	0.83	0.00	0.04	0.00	0.39	0.33	0.2%	0.9%	43.7%	8.4%	0.43	0.00	0.03	0.00	0.08	0.06	30.5%	14.3%	0.3%	0.7%							
81	144	2	0.54	0.00	0.02	0.00	0.25	0.25	0.2%	0.2%	46.4%	8.7%	0.26	0.00	0.01	0.00	0.11	0.13	47.5%	23.4%	0.2%	0.2%							
82	145	2	0.75	0.00	0.02	0.00	0.42	0.30	0.1%	0.0%	55.8%	3.1%	0.36	0.00	0.02	0.00	0.20	0.15	48.1%	20.1%	0.1%	0.0%							
83	146	2	0.68	0.00	0.11	0.00	0.28	0.28	0.2%	0.3%	47.9%	18.9%	0.33	0.00	0.07	0.00	0.13	0.15	39.7%	25.8%	0.3%	0.2%							
84	152	5	1.76	0.00	0.07	0.01	0.67	0.78	0.1%	0.7%	38.3%	6.9%	0.72	0.00	0.03	0.01	0.31	0.35	41.1%	19.8%	0.1%	0.6%							
85	153	5	1.59	0.00	0.05	0.00	0.75	0.74	0.1%	0.3%	47.1%	2.9%	0.72	0.00	0.02	0.00	0.36	0.43	45.5%	27.0%	0.1%	0.2%							
86	154	5	1.37	0.00	0.03	0.00	0.81	0.56	0.1%	0.1%	49.6%	3.3%	0.71	0.00	0.02	0.00	0.44	0.34	52.2%	24.7%	0.1%	0.1%							
87	155	5	1.43	0.00	0.26	0.00	1.06	0.72	0.4%	0.2%	58.2%	14.2%	0.94	0.00	0.13	0.00	0.54	0.42	51.6%	22.8%	0.1%	0.1%							
88	156	5	1.36	0.00	0.14	0.00	0.55	0.66	0.1%	0.2%	40.3%	25.0%	0.52	0.00	0.22	0.00	0.24	0.35	38.5%	25.8%	0.1%	0.2%							
89	161	5	1.78	0.00	0.06	0.01	0.68	0.80	0.2%	0.7%	38.2%	1.7%	0.79	0.00	0.04	0.01	0.31	0.36	41.2%	20.1%	0.3%	0.6%							
90	162	5	1.56	0.00	0.02	0.00	0.88	0.68	0.4%	0.1%	56.4%	1.2%	0.81	0.00	0.01	0.00	0.47	0.41	51.7%	26.4%	0.1%	0.1%							
91	163	5	1.48	0.00	0.07	0.00	0.91	0.59	0.1%	0.1%	61.3%	4.7%	0.78	0.00	0.02	0.00	0.48	0.35	52.8%	23.6%	0.1%	0.1%							
92	164	5	1.71	0.00	0.14	0.00	0.81	0.75	0.1%	0.1%	47.6%	19.7%	0.73	0.00	0.21	0.00	0.39	0.42	52.2%	24.7%	0.1%	0.1%							
93	129	1	0.72	0.00	0.04	0.01	0.29	0.25	0.4%	0.8%	40.3%	6.1%	0.23	0.00	0.03	0.01	0.09	0.10	31.2%	13.1%	0.1%	0.7%							
94	133	3	0.72	0.00	0.07	0.00	0.32	0.27	0.3%	0.6%	43.8%	8.6%	0.24	0.00	0.04	0.00	0.12	0.12	32.7%	16.0%	0.3%	0.6%							
95	132	4	0.63	0.00	0.07	0.00	0.20	0.25	0.2%	0.2%	48.4%	12.2%	0.23	0.00	0.04	0.00	0.11	0.10	34.8%	15.8%	0.3%	0.3%							
96	137	5	1.48	0.01	0.13	0.02	0.78	0.54	0.3%	1.3%	52.4%	1.6%	0.48	0.01	0.08	0.02	0.26	0.20	52.1%	13.6%	0.3%	1.1%							
97	138	10	1.34	0.00	0.06	0.00	0.80	0.65	0.3%	0.3%	59.7%	4.3%	0.61	0.00	0.02	0.00	0.37	0.32	45.7%	23.8%	0.3%	0.2%							
98	139	11	1.22	0.00	0.10	0.00	0.64	0.64	0.2%	0.2%	53.5%	8.5%	0.67	0.00	0.07	0.00	0.27	0.32	46.6%	26.1%	0.1%	0.2%							
99	140	12	0.94	0.00	0.12	0.01	0.44	0.32	0.3%	1.5%	46.8%	12.8%	0.36	0.00	0.07	0.01	0.19	0.15	37.8%	16.4%	0.3%	1.4%							
100	144	16	1.12	0.00	0.08	0.01	0.53	0.45	0.2%	0.5%	46.9%	7.4%	0.53	0.00	0.04	0.01	0.24	0.20	47.1%	17.8%	0.2%	0.5%							
101	145	17	1.02	0.00	0.06	0.00	0.63	0.66	0.2%	0.1%	48.2%	4.1%	0.73	0.00	0.04	0.00	0.40	0.31	51.1%	21.6%	0.2%	0.1%							
102	146	18	1.13	0.00	0.29	0.01	0.50	0.56	0.4%	0.5%	44.4%	25.8%	0.39	0.00	0.18	0.01	0.20	0.29	34.5%	25.9%	0.2%	0.3%							
103	152	24	1.02	0.01	0.33	0.05	2.28	1.52	0.2%	1.3%	56.7%	8.1%	1.49	0.01	0.14	0.05	0.84	0.60	37.2%	14.9%	0.2%	1.2%							
104	153	25	1.01	0.01	0.12	0.01	1.14	1.69	0.1%	0.2%	61.0%	6.3%	1.17	0.01	0.10	0.01	1.00	0.93	44.7%	26.5%	0.2%	0.3%							
105	154	26	1.02	0.01	0.06	0.00	1.20	1.54	0.4%	0.1%	60.4%	2.3%	1.68	0.01	0.04	0.00	0.91	0.84	59.6%	29.7%	0.4%	0.1%							
106	155	27	1.09	0.00	0.45	0.01	1.80	1.44	0.1%	0.2%	61.3%	14.6%	1.77	0.00	0.24	0.01	0.92	0.87	57.3%	28.2%	0.1%	0.2%							
107	156	28	1.04	0.01	0.01	0.02	1.53	1.65	0.2%	0.7%	60.5%	20.8%	1.07	0.01	0.57	0.02	0.57	0.75	55.1%	24.7%	0.3%	0.6%							
108	161	33	1.04	0.01	0.29	0.05	2.37	1.60	0.4%	1.1%	57.8%	17.2%	1.60	0.01	0.13	0.04	0.92	0.68	39.1%	16.5%	0.4%	1.0%							
109	162	34	1.00	0.01	0.05	0.01	2.05	1.77	0.3%	0.2%	68.2%	3.7%	1.61	0.01	0.03	0.01	1.08	0.98	53.5%	32.7%	0.3%	0.2%							
110	163	35	1.08	0.01	0.16	0.01	1.61	1.38	0.2%	0.2%	64.1%	9.4%	1.77	0.01	0.06	0.01	0.76	0.72	59.6%	24.0%	0.2%	0.2%							
111	164	36	1.09	0.01	0.72	0.02	1.64	1.65	0.2%	0.5%	56.9%	24.9%	1.28	0.01	0.47	0.01	0.73	0.83	44.1%	28.8%	0.2%	0.3%							

- K-patch Mid CH

No.	Module	Type	Beam ID_1	Bema ID_2	Feed no.	max ratio out of all beams										max ratio out of all beams								
						4cm2 PD(mW/cm2)										4cm2 PD(mW/cm2) at 10mm evaluation distance				ratio				
						54(Right)	53(Left)	55(Top)	56(Bottom)	51(Front)	52(Rear)	ratio (Left 2mm)/(worst surface 2mm)	ratio (Bottom 2mm)/(worst surface 2mm)	ratio (Front 2mm)/(worst surface 2mm)	ratio (Top 2mm)/(worst surface 2mm)	54(Right)	53(Left)	55(Top)	56(Bottom)	51(Front)	52(Rear)	ratio worst surface (10mm/2mm)	ratio (back 10mm)/(worst surface 2mm)	ratio (Left 10mm)/(worst surface 2mm)
55			1	1	0.26	0.00	0.02	0.00	0.09	0.08	0.4%	1.2%	53.3%	6.3%	0.08	0.00	0.01	0.00	0.02	0.03	51.0%	10.2%	0.4%	1.2%
56			1	1	0.29	0.00	0.03	0.00	0.12	0.10	0.3%	1.0%	40.1%	9.2%	0.10	0.00	0.02	0.00	0.04	0.03	33.7%	10.5%	0.3%	1.0%
57			4	1	0.31	0.00	0.04	0.00	0.12	0.11	0.3%	0.6%	38.4%	12.9%	0.11	0.00	0.02	0.00	0.04	0.04	35.2%	12.3%	0.3%	0.9%
58			9	2	0.59	0.00	0.08	0.01	0.25	0.13	0.6%	2.4%	59.1%	15.1%	0.15	0.00	0.04	0.01	0.07	0.04	39.4%	8.3%	0.6%	2.0%
59			10	2	0.64	0.00	0.02	0.00	0.26	0.26	0.4%	0.2%	48.3%	2.8%	0.31	0.00	0.01	0.00	0.11	0.11	56.5%	20.5%	0.4%	0.2%
60			10	2	0.39	0.00	0.02	0.00	0.14	0.25	0.3%	0.5%	33.6%	6.1%	0.20	0.00	0.01	0.00	0.05	0.09	51.4%	23.9%	0.3%	0.3%
61			12	2	0.52	0.00	0.07	0.01	0.27	0.18	0.4%	2.1%	43.7%	14.0%	0.21	0.00	0.05	0.01	0.07	0.07	40.4%	14.4%	0.4%	1.5%
62			16	2	0.65	0.00	0.04	0.00	0.27	0.22	0.2%	0.7%	49.5%	6.4%	0.25	0.00	0.02	0.00	0.10	0.09	46.3%	16.1%	0.2%	0.5%
63			17	2	0.63	0.00	0.03	0.00	0.28	0.29	0.5%	0.2%	44.1%	3.4%	0.34	0.00	0.02	0.00	0.11	0.12	53.4%	19.1%	0.3%	0.2%
64			18	2	0.57	0.00	0.14	0.00	0.21	0.14	0.2%	0.7%	37.0%	21.1%	0.17	0.00	0.08	0.00	0.06	0.05	39.5%	8.3%	0.2%	0.7%
65			24	5	1.47	0.00	0.14	0.01	0.42	0.36	0.8%	2.3%	55.8%	9.4%	0.52	0.00	0.08	0.03	0.24	0.21	35.7%	7.8%	0.2%	2.0%
66			25	5	1.18	0.00	0.07	0.01	0.59	0.51	0.3%	0.4%	49.9%	6.1%	0.54	0.00	0.04	0.01	0.24	0.21	45.8%	17.8%	0.3%	0.4%
67			26	5	1.21	0.00	0.01	0.00	0.59	0.64	0.3%	0.3%	48.4%	2.2%	0.75	0.00	0.02	0.00	0.27	0.33	41.7%	27.0%	0.3%	0.1%
68			27	5	1.13	0.00	0.13	0.00	0.43	0.39	0.4%	0.2%	38.0%	11.3%	0.61	0.00	0.07	0.00	0.18	0.30	54.0%	26.7%	0.1%	0.2%
69			28	5	1.45	0.00	0.42	0.01	0.66	0.46	0.2%	0.9%	45.6%	28.8%	0.52	0.00	0.26	0.01	0.21	0.17	36.1%	11.4%	0.2%	0.8%
70			33	11	0.91	0.00	0.09	0.00	0.84	0.42	0.2%	0.8%	49.0%	29.9%	0.54	0.00	0.17	0.01	0.19	0.22	43.2%	17.7%	0.2%	0.4%
71			34	5	1.07	0.01	0.02	0.00	0.56	0.62	0.6%	0.2%	42.7%	2.2%	0.81	0.01	0.02	0.00	0.26	0.26	57.0%	24.7%	0.3%	0.2%
72			35	5	1.26	0.00	0.07	0.00	0.55	0.63	0.2%	0.2%	53.7%	3.7%	0.76	0.00	0.04	0.00	0.23	0.34	60.5%	26.7%	0.2%	0.2%
73			36	5	1.25	0.00	0.29	0.01	0.51	0.52	0.3%	0.5%	49.6%	29.9%	0.54	0.00	0.17	0.01	0.19	0.22	43.2%	17.7%	0.2%	0.4%
74			129	1	0.37	0.00	0.02	0.00	0.16	0.14	0.0%	0.3%	43.0%	4.9%	0.13	0.00	0.01	0.00	0.05	0.05	36.7%	13.4%	0.0%	0.3%
75			131	1	0.34	0.00	0.03	0.00	0.14	0.14	0.0%	0.3%	40.2%	9.7%	0.11	0.00	0.02	0.00	0.05	0.06	32.4%	14.4%	0.0%	0.3%
76			132	1	0.35	0.00	0.02	0.00	0.12	0.09	0.0%	0.4%	42.2%	9.3%	0.09	0.00	0.01	0.00	0.04	0.05	36.3%	18.1%	0.0%	0.2%
77			137	2	0.76	0.00	0.06	0.00	0.27	0.29	0.1%	0.4%	38.6%	7.9%	0.27	0.00	0.04	0.00	0.10	0.12	38.2%	17.0%	0.1%	0.4%
78			138	2	0.63	0.00	0.02	0.00	0.30	0.27	0.1%	0.3%	48.4%	2.4%	0.27	0.00	0.01	0.00	0.13	0.14	42.8%	22.9%	0.2%	0.3%
79			139	2	0.70	0.00	0.05	0.00	0.37	0.31	0.0%	0.3%	52.3%	7.1%	0.34	0.00	0.04	0.00	0.16	0.16	47.7%	24.9%	0.2%	0.3%
80			140	2	0.39	0.00	0.04	0.00	0.14	0.13	0.3%	1.0%	34.6%	10.0%	0.10	0.00	0.02	0.00	0.05	0.07	25.4%	17.9%	0.1%	1.0%
81			144	2	0.51	0.00	0.02	0.00	0.22	0.23	0.0%	0.2%	44.3%	4.0%	0.24	0.00	0.02	0.00	0.10	0.11	46.4%	22.3%	0.0%	0.2%
82			145	2	0.65	0.00	0.02	0.00	0.35	0.28	0.0%	0.3%	49.2%	6.2%	0.35	0.00	0.02	0.00	0.15	0.15	49.2%	23.7%	0.0%	0.2%
83			146	2	0.85	0.00	0.10	0.00	0.27	0.25	0.2%	0.4%	49.0%	10.0%	0.22	0.00	0.05	0.00	0.12	0.14	41.1%	26.2%	0.2%	0.4%
84			152	5	1.58	0.00	0.11	0.01	0.56	0.71	0.3%	0.9%	39.7%	6.8%	0.65	0.00	0.04	0.01	0.23	0.29	41.4%	38.1%	0.2%	0.8%
85			153	5	1.40	0.00	0.07	0.00	0.63	0.67	0.1%	0.2%	42.3%	4.6%	0.58	0.00	0.05	0.00	0.27	0.38	46.6%	27.1%	0.2%	0.3%
86			154	5	1.17	0.00	0.02	0.00	0.67	0.49	0.1%	0.1%	37.7%	1.9%	0.82	0.00	0.01	0.00	0.35	0.30	53.6%	26.0%	0.1%	0.1%
87			155	5	1.53	0.00	0.22	0.00	0.91	0.61	0.0%	0.1%	39.2%	14.0%	0.89	0.00	0.11	0.00	0.45	0.35	54.0%	22.8%	0.0%	0.2%
88			156	5	1.62	0.00	0.12	0.00	0.83	0.62	0.1%	0.2%	40.9%	10.3%	0.83	0.00	0.12	0.00	0.42	0.36	39.9%	29.7%	0.2%	0.3%
89			161	5	1.60	0.00	0.10	0.01	0.56	0.73	0.2%	0.9%	34.7%	6.2%	0.85	0.00	0.04	0.01	0.21	0.32	40.3%	19.6%	0.2%	0.8%
90			162	5	1.37	0.00	0.02	0.00	0.77	0.59	0.1%	0.1%	35.5%	1.2%	0.73	0.00	0.01	0.00	0.40	0.35	53.2%	25.3%	0.1%	0.1%
91			163	5	1.32	0.00	0.05	0.00	0.74	0.54	0.1%	0.1%	34.9%	1.4%	0.84	0.00	0.01	0.00	0.34	0.31	34.9%	23.9%	0.1%	0.1%
92			164	5	1.60	0.00	0.29	0.00	0.76	0.69	0.1%	0.1%	47.6%	18.1%	0.89	0.00	0.20	0.00	0.35	0.40	43.3%	24.8%	0.1%	0.1%
93			129	1	0.68	0.00	0.05	0.00	0.29	0.28	0.1%	0.6%	43.1%	6.5%	0.23	0.00	0.03	0.00	0.10	0.11	33.2%	15.4%	0.1%	0.6%
94			132	3	0.72	0.00	0.06	0.00	0.33	0.33	0.1%	0.3%	43.2%	3.0%	0.32	0.00	0.03	0.00	0.13	0.13	32.9%	18.0%	0.0%	0.2%
95			137	4	0.59	0.00	0.06	0.00	0.30	0.27	0.2%	0.5%	50.3%	9.8%	0.21	0.00	0.03	0.00	0.11	0.12	34.7%	20.6%	0.2%	0.3%
96			132	9	0.44	0.01	0.13	0.02	0.42	0.58	0.4%	1.1%	36.9%	9.2%	0.51	0.01	0.09	0.01	0.29	0.27	35.3%	15.5%	0.3%	1.0%
97			138	10	0.26	0.00	0.05	0.00	0.17	0.13	0.2%	0.2%	33.0%	4.2%	0.17	0.00	0.02	0.00	0.11	0.13	48.2%	24.9%	0.2%	0.2%
98			139	11	0.45	0.00	0.09	0.00	0.65	0.70	0.2%	0.3%	36.5%	7.4%	0.54	0.00	0.05	0.00	0.27	0.35	47.5%	30.5%	0.2%	0.2%
99			140	12	0.42	0.00	0.13	0.01	0.45	0.41	0.3%	1.5%	48.0%	14.4%	0.35	0.00	0.08	0.01	0.16	0.20	38.0%	21.9%	0.3%	1.3%
100			145	16	0.40	0.00	0.05	0.00	0.48	0.43	0.2%	0.9%	46.0%	10.0%	0.44	0.00	0.04	0.00	0.22	0.19	46.3%	18.4%	0.2%	0.3%
101			145	17	0.34	0.00	0.06	0.00	0.77	0.61	0.3%	0.1%	37.7%	4.5%	0.65	0.00	0.04	0.00	0.38	0.28	48.5%	21.2%	0.3%	0.1%
102			146	18	0.47	0.00	0.23	0.01	0.50	0.47	0.2%	0.2%	46.6%	20.9%	0.39	0.00	0.14	0.01	0.19	0.28	35.8%	21.7%	0.2%	0.6%
103			151	24	0.46	0.00	0.13	0.00	0.32	0.32	0.2%	0.2%	43.0%	11.3%	0.37	0.00	0.13	0.00	0.27	0.19	39.5%	16.0%	0.2%	0.3%
104			153	25	0.17	0.01	0.19	0.01	2.00	1.65	0.2%	0.3%	61.1%	1.8%	1.45	0.01	0.09	0.01	0.89	0.85	45.8%	27.0%	0.2%	0.3%
105			154	26	0.16	0.01	0.05	0.00	1.46	1.55	0.1%	0.1%	64.9%	1.9%	1.48	0.01	0.03	0.00	0.76	0.80	58.0%	29.8%	0.2%	0.1%
106			155	27	0.10	0.01	0.41	0.00	2.80	2.15	0.1%	0.2%	61.0%	17.1%	1.49	0.01	0.23	0.00	0.74	0.84	58.4%	31.4%	0.2%	0.1%
107			156	28	0.21	0.01	0.77	0.02	1.68	1.50	0.3%	0.8%	59.7%	27.5%	1.08	0.01	0.52	0.02	0.62	0.77	48.4%	27.2%	0.3%	0.7%
108			162	33	0.39	0.01	0.29	0.04	2.24	1.57	0.2%	1.1%	62.5%	5.1%	1.48	0.01	0.13	0.04	0.79	0.64	40.1%	17.7%	0.2%	1.1%
109			163	34	0.53	0.01	0.05	0.00	2.02	1.66	0.4%	0.1%	74.9%	3.9%	1.04	0.01	0.08	0.01	1.08	0.77	54.4%	30.8%	0.4%	0.1%
110			163	35	0.26	0.01	0.15	0.01	1.35	1.32	0.2%	0.2%	50.9%	5.6%	1.59	0.00	0.08	0.00	0.62	0.73	59.6%	27.5%	0.2%	0.2%
111			164	36	0.10	0.01	0.68	0.01	1.73	1.65	0.2%	0.4%	58.2%	23.0%	1.									

Table 6. PD of Ant K – patch antenna (39GHz – n260)

- K-patch Low CH

No.	Module	Type	Beam ID_1	Bema ID_2	Feed no.	max ratio out of all beams																							
						4cm2 PD(mW/cm2)								1.0%				2.0%				75.2%				99.9%			
						S4(Right)	S3(Left)	S5(Top)	S6(Bottom)	S1(Front)	S2(Rear)	Per Beam Backoff (dB)	ratio (Left 2mm)/(worst surface 2mm)	ratio (Bottom 2mm)/(worst surface 2mm)	ratio (Front 2mm)/(worst surface 2mm)	ratio (Top 2mm)/(worst surface 2mm)	S4(Right)	S3(Left)	S5(Top)	S6(Bottom)	S1(Front)	S2(Rear)	ratio (Left 10mm)/(worst surface 2mm)	ratio (Bottom 10mm)/(worst surface 2mm)	ratio (Left 10mm)/(worst surface 2mm)	ratio (Bottom 10mm)/(worst surface 2mm)			
61			1		1	0.20	0.00	0.01	0.00	0.11	0.07		0.0%	0.0%	56.2%	1.0%	0.12	0.00	0.00	0.00	0.04	0.02	56.7%	7.4%	0.0%	0.0%			
62			3		1	0.23	0.00	0.01	0.00	0.12	0.07		0.4%	0.0%	52.4%	1.8%	0.11	0.00	0.01	0.00	0.04	0.02	46.7%	9.6%	0.1%	0.0%			
63			5		1	0.20	0.00	0.02	0.00	0.14	0.09		0.3%	0.3%	46.3%	1.8%	0.14	0.00	0.01	0.00	0.04	0.03	48.1%	11.5%	0.1%	0.1%			
64			11		2	0.47	0.00	0.07	0.00	0.20	0.15		0.2%	0.8%	41.9%	15.0%	0.20	0.00	0.04	0.00	0.06	0.06	42.4%	12.7%	0.1%	0.2%			
65			12		2	0.45	0.00	0.05	0.00	0.27	0.17		0.4%	0.4%	40.0%	10.0%	0.28	0.00	0.02	0.00	0.12	0.06	42.3%	13.8%	0.1%	0.1%			
66			13		2	0.45	0.00	0.04	0.00	0.27	0.17		0.2%	0.1%	40.5%	8.9%	0.30	0.00	0.03	0.00	0.11	0.06	43.9%	12.9%	0.1%	0.1%			
67			14		2	0.48	0.00	0.03	0.00	0.24	0.15		0.2%	0.2%	49.9%	5.5%	0.29	0.00	0.02	0.00	0.10	0.05	47.8%	9.9%	0.1%	0.1%			
68			18		2	0.51	0.00	0.06	0.00	0.25	0.18		0.2%	0.4%	49.5%	11.1%	0.28	0.00	0.03	0.00	0.09	0.07	55.4%	13.3%	0.1%	0.1%			
69			19		2	0.44	0.00	0.03	0.00	0.31	0.21		0.2%	0.1%	49.6%	5.9%	0.29	0.00	0.01	0.00	0.13	0.06	47.6%	12.9%	0.2%	0.1%			
70			20		2	0.47	0.00	0.06	0.00	0.20	0.14		0.4%	0.6%	43.5%	13.8%	0.22	0.00	0.04	0.00	0.08	0.06	46.9%	12.0%	0.1%	0.1%			
71			26		5	0.90	0.00	0.23	0.01	0.45	0.37		0.2%	1.4%	49.9%	25.8%	0.41	0.00	0.15	0.01	0.15	0.13	45.9%	14.6%	0.0%	0.2%			
72			27		5	0.88	0.00	0.21	0.01	0.48	0.38		0.2%	0.7%	56.6%	14.1%	0.41	0.00	0.07	0.01	0.11	0.15	70.6%	12.7%	0.0%	0.1%			
73			28		5	1.01	0.01	0.04	0.00	0.83	0.25	0.80		0.8%	0.2%	68.6%	1.4%	0.69	0.01	0.02	0.00	0.40	0.11	68.9%	11.2%	0.2%	0.0%		
74			29		5	0.86	0.00	0.07	0.00	0.60	0.38		0.3%	0.2%	69.1%	7.5%	0.46	0.00	0.03	0.00	0.29	0.16	76.5%	18.5%	0.1%	0.0%			
75			36		5	0.89	0.00	0.13	0.01	0.46	0.33		0.3%	0.9%	45.4%	14.3%	0.40	0.00	0.14	0.01	0.16	0.13	44.9%	14.6%	0.0%	0.1%			
76			35		5	0.88	0.00	0.16	0.01	0.47	0.33		0.1%	1.2%	53.3%	18.9%	0.53	0.00	0.16	0.01	0.20	0.14	59.8%	15.6%	0.0%	0.2%			
77			36		5	0.80	0.00	0.04	0.00	0.56	0.39		0.5%	0.4%	69.5%	5.5%	0.61	0.00	0.02	0.00	0.27	0.17	76.1%	21.5%	0.1%	0.1%			
78			37		5	0.56	0.01	0.05	0.00	0.76	0.30	0.20		0.9%	0.2%	75.2%	5.2%	0.70	0.01	0.03	0.00	0.36	0.13	72.8%	13.7%	0.2%	0.0%		
79			38		5	0.92	0.01	0.14	0.00	0.56	0.31		0.5%	0.4%	61.4%	14.9%	0.61	0.01	0.09	0.00	0.27	0.13	65.9%	14.1%	0.1%	0.1%			
80			129		1	0.31	0.00	0.01	0.00	0.11	0.18		0.3%	0.7%	37.0%	3.6%	0.16	0.00	0.01	0.00	0.03	0.06	52.1%	20.0%	0.0%	0.0%			
81			131		1	0.27	0.00	0.01	0.00	0.10	0.14		0.4%	1.1%	35.6%	4.1%	0.13	0.00	0.01	0.00	0.03	0.05	48.7%	18.7%	0.0%	0.0%			
82			133		1	0.29	0.00	0.02	0.00	0.11	0.16		0.3%	0.3%	39.1%	8.2%	0.15	0.00	0.02	0.00	0.04	0.06	50.3%	21.1%	0.0%	0.0%			
83			139		2	0.61	0.00	0.04	0.01	0.19	0.31		0.2%	1.0%	30.9%	6.4%	0.20	0.00	0.03	0.01	0.06	0.12	32.9%	20.1%	0.0%	0.0%			
84			140		2	0.55	0.00	0.03	0.00	0.25	0.28		0.2%	0.7%	45.8%	4.0%	0.36	0.00	0.01	0.00	0.09	0.11	45.4%	19.7%	0.0%	0.0%			
85			141		2	0.53	0.00	0.02	0.00	0.21	0.34		0.4%	0.4%	40.0%	4.3%	0.32	0.00	0.01	0.00	0.08	0.17	59.1%	31.5%	0.0%	0.0%			
86			142		2	0.42	0.00	0.07	0.00	0.15	0.23		0.2%	0.7%	36.1%	12.3%	0.15	0.00	0.05	0.00	0.05	0.11	36.3%	25.2%	0.0%	0.0%			
87			146		2	0.44	0.00	0.07	0.00	0.16	0.29		0.5%	0.7%	41.1%	15.5%	0.22	0.00	0.04	0.00	0.08	0.13	42.2%	20.5%	0.0%	0.0%			
88			147		2	0.52	0.00	0.02	0.00	0.25	0.29		0.2%	0.4%	47.4%	3.7%	0.37	0.00	0.01	0.00	0.09	0.12	71.2%	23.8%	0.0%	0.0%			
89			148		2	0.58	0.00	0.03	0.00	0.20	0.34		0.3%	0.5%	34.7%	5.2%	0.27	0.00	0.02	0.00	0.07	0.17	46.2%	29.3%	0.0%	0.0%			
90			154		5	0.90	0.00	0.16	0.02	0.37	0.62		0.2%	1.8%	41.2%	29.0%	0.42	0.00	0.18	0.02	0.16	0.28	47.1%	31.6%	0.0%	0.0%			
91			155		5	1.19	0.01	0.10	0.00	0.54	0.64		0.5%	0.4%	48.8%	8.9%	0.71	0.01	0.04	0.00	0.25	0.29	64.5%	26.2%	0.0%	0.0%			
92			156		5	1.17	0.00	0.04	0.01	0.55	0.65		0.3%	0.4%	47.5%	3.2%	0.62	0.00	0.02	0.00	0.23	0.30	70.1%	25.8%	0.0%	0.0%			
93			157		5	1.22	0.01	0.04	0.00	0.56	0.68		0.5%	0.2%	45.8%	3.4%	0.78	0.01	0.02	0.00	0.23	0.39	64.5%	24.1%	0.0%	0.0%			
94			158		5	0.91	0.01	0.19	0.01	0.41	0.52		0.5%	1.2%	44.4%	20.5%	0.43	0.01	0.13	0.01	0.17	0.26	46.9%	28.1%	0.0%	0.0%			
95			163		5	1.07	0.00	0.17	0.02	0.50	0.69		0.2%	2.1%	46.5%	25.6%	0.60	0.00	0.17	0.02	0.24	0.30	56.3%	28.0%	0.0%	0.0%			
96			164		5	1.12	0.00	0.02	0.00	0.58	0.66		0.4%	0.4%	52.1%	2.0%	0.61	0.00	0.01	0.00	0.27	0.32	72.7%	28.7%	0.0%	0.0%			
97			165		5	1.23	0.00	0.07	0.00	0.55	0.69		0.2%	0.2%	44.5%	6.0%	0.79	0.00	0.03	0.00	0.23	0.34	64.4%	27.9%	0.0%	0.0%			
98			166		5	1.04	0.01	0.09	0.01	0.51	0.63		0.7%	0.6%	49.3%	8.3%	0.60	0.01	0.05	0.01	0.23	0.39	57.5%	37.1%	0.0%	0.0%			
99			1		1	0.55	0.00	0.01	0.00	0.27	0.28		0.4%	0.5%	48.4%	4.6%	0.31	0.00	0.02	0.00	0.09	0.10	56.2%	18.6%	0.1%	0.2%			
100			3		2	0.54	0.00	0.04	0.01	0.27	0.26		0.4%	0.9%	49.9%	4.7%	0.26	0.00	0.02	0.00	0.20	0.10	47.1%	19.0%	0.0%	0.1%			
101			5		2	0.48	0.00	0.05	0.00	0.32	0.33		0.3%	0.6%	46.5%	8.3%	0.36	0.00	0.04	0.00	0.10	0.15	52.9%	22.1%	0.0%	0.1%			
102			11		4	1.51	0.00	0.15	0.02	0.43	0.47		0.3%	1.3%	35.5%	12.4%	0.45	0.00	0.09	0.01	0.16	0.21	37.6%	19.0%	0.0%	0.1%			
103			12		4	0.96	0.01	0.10	0.01	0.55	0.47		0.5%	1.2%	57.2%	10.6%	0.61	0.01	0.04	0.01	0.22	0.18	63.4%	18.8%	0.0%	0.1%			
104			13		4	1.10	0.01	0.08	0.01	0.56	0.55		0.3%	0.5%	50.9%	6.9%	0.63	0.01	0.06	0.01	0.23	0.26	59.0%	23.7%	0.0%	0.0%			
105			14		4	0.80	0.00	0.13	0.01	0.39	0.40		0.4%	0.8%	48.6%	15.8%	0.35	0.00	0.09	0.01	0.14	0.15	63.6%	19.1%	0.0%	0.0%			
106			18		4	1.14	0.00	0.19	0.01	0.54	0.55		0.4%	0.6%	47.4%	18.8%	0.62	0.00	0.10	0.01	0.21	0.22	58.4%	19.6%	0.0%	0.0%			
107			19		4	1.05	0.01	0.05	0.01	0.59	0.50		0.7%	0.6%	56.8%	5.2%	0.70	0.01	0.09	0.01	0.24	0.20	66.9%	18.8%	0.0%	0.0%			
108			20		4	1.14	0.01	0.12	0.01	0.45	0.54		0.4%	0.8%	39.7%	10.6%	0.64	0.00	0.09	0.01	0.17	0.25	47.2%	22.1%	0.0%	0.0%			
109			26		10	2.45	0.01	0.71	0.04	1.27	1.43		0.2%	1.8%	51.8%	29.2%	1.12	0.01	0.48	0.09	0.53	0.54	49.9%	31.9%	0.0%	0.2%			
110			27		10	2.53	0.01	0.69	0.02	1.30	1.48		0.4%	0.8%	53.4%	15.0%	1.24	0.01	0.15	0.02	0.64	0.69	66.4%	27.1%	0.0%	0.1%			
111			28		10	2.53	0.02	0.10	0.01	1.57	1.20		0.9%	0.3%	61.9%	4.0%	1.71	0.02	0.06	0.01	0.75	0.57	67.5%	22.6%	0.1%	0.0%			
112			29		10	2.34	0.02	0.17	0.01	1.28	1.21		0.6%	0.4%	54.7%	7.0%	1.62	0.01	0.08	0.01	0.59	0.70	69.2%	29.8%	0.0%	0.0%			
113			30		10	2.27	0.01	0.39	0.02	0.93	1.08		0.6%	2.0%	41.0%	26.0%	1.80	0.01	0.44	0.02	0.31	0.41	45.9%	28.2%	0.0%	0.1%			
114			35		10	2.42	0.00	0.83	0.06	1.51	1.58		0.1%	2.2%	53.4%	29.3%	1.69	0.00	0.49	0.06	0.69	0.64	60.0%	22.5%	0.0%	0.2%			
115			36		10	2.20	0.02																						

- K-patch Mid CH

No.	Module	Type	Beam ID_1	Bema ID_2	Feed no	4cm2 PD(mW/cm2)										max ratio out of all beams				4cm2 PD(mW/cm2) at 10mm evaluation distance				max ratio out of all beams								
						S4(Right)		S3(Left)		S5(Top)		S6(Bottom)		S1(Front)		S2(Rear)		Per Beam Backoff (dB)	ratio (Left 2mm)/(worst surface 2mm)	ratio (Bottom 2mm)/(worst surface 2mm)	ratio (Front 2mm)/(worst surface 2mm)	ratio (Top 2mm)/(worst surface 2mm)	S4(Right)	S3(Left)	S5(Top)	S6(Bottom)	S1(Front)	S2(Rear)	ratio worst-ratio (10mm/2mm)	ratio (back 10mm)/(worst surface 2mm)	ratio (Left 10mm)/(worst surface 2mm)	ratio (Bottom 10mm)/(worst surface 2mm)
						S4(Right)	S3(Left)	S5(Top)	S6(Bottom)	S1(Front)	S2(Rear)	1.2%	3.2%	7.5%	28.3%	75.9%	37.9%															
61			1		1	0.20	0.00	0.01	0.00	0.13	0.06			0.5%	0.5%	62.9%	4.0%	0.10	0.00	0.01	0.00	0.05	0.03	51.5%	14.4%	0.1%	0.1%					
62			1		1	0.26	0.00	0.01	0.00	0.14	0.11			0.4%	0.4%	54.5%	5.4%	0.13	0.00	0.01	0.00	0.04	0.04	51.8%	14.0%	0.1%	0.1%					
63			5		1	0.36	0.00	0.02	0.00	0.20	0.16			0.3%	0.3%	54.1%	6.4%	0.19	0.00	0.01	0.00	0.07	0.07	51.4%	18.8%	0.1%	0.1%					
64			11		1	0.63	0.00	0.10	0.00	0.30	0.26			0.3%	0.3%	47.8%	8.2%	0.30	0.00	0.05	0.00	0.12	0.13	47.0%	17.1%	0.1%	0.2%					
65			12		2	0.62	0.00	0.07	0.00	0.40	0.27			0.6%	0.2%	47.7%	12.0%	0.40	0.00	0.03	0.00	0.17	0.13	44.2%	20.3%	0.2%	0.1%					
66			13		2	0.60	0.00	0.04	0.00	0.39	0.31			0.3%	0.3%	65.2%	8.6%	0.41	0.00	0.03	0.00	0.17	0.14	48.2%	22.5%	0.1%	0.1%					
67			14		2	0.50	0.00	0.03	0.00	0.24	0.17			0.2%	0.2%	49.3%	5.3%	0.22	0.00	0.01	0.00	0.11	0.06	44.2%	13.5%	0.1%	0.1%					
68			18		2	0.60	0.00	0.07	0.00	0.33	0.23			0.3%	0.5%	54.3%	10.8%	0.33	0.00	0.03	0.00	0.13	0.14	55.3%	23.5%	0.1%	0.2%					
69			19		2	0.61	0.00	0.04	0.00	0.41	0.27			0.5%	0.2%	67.2%	5.9%	0.41	0.00	0.01	0.00	0.18	0.12	46.3%	19.8%	0.2%	0.0%					
70			20		2	0.62	0.00	0.06	0.00	0.31	0.30			0.3%	0.3%	49.7%	8.9%	0.34	0.00	0.03	0.00	0.12	0.11	44.4%	18.2%	0.1%	0.1%					
71			26		5	1.01	0.00	0.25	0.01	0.45	0.34			0.3%	1.2%	45.0%	25.1%	0.44	0.00	0.15	0.01	0.17	0.18	43.3%	17.6%	0.0%	0.2%					
72			27		5	1.00	0.00	0.10	0.01	0.46	0.40			0.2%	0.5%	62.7%	27.2%	0.80	0.00	0.10	0.01	0.31	0.28	74.4%	26.1%	0.0%	0.1%					
73			28		5	1.00	0.01	0.03	0.00	0.39	0.42	0.80		1.0%	0.1%	68.8%	2.2%	0.82	0.01	0.02	0.00	0.49	0.19	68.8%	15.7%	0.2%	0.0%					
74			29		5	1.08	0.00	0.06	0.00	0.72	0.58			0.4%	0.2%	66.1%	5.6%	0.78	0.00	0.03	0.00	0.37	0.29	71.8%	27.0%	0.1%	0.0%					
75			30		5	0.96	0.00	0.10	0.01	0.50	0.43			0.3%	0.8%	52.1%	20.4%	0.53	0.00	0.17	0.01	0.21	0.15	52.7%	16.0%	0.1%	0.1%					
76			35		5	1.00	0.00	0.06	0.00	0.50	0.50			0.2%	1.2%	54.4%	24.8%	0.68	0.00	0.18	0.01	0.23	0.15	52.3%	21.4%	0.2%	0.2%					
77			36		5	1.18	0.01	0.05	0.00	0.89	0.56			0.6%	0.1%	75.7%	4.5%	0.87	0.01	0.01	0.00	0.44	0.30	73.9%	25.2%	0.1%	0.0%					
78			37		5	1.15	0.01	0.08	0.00	0.90	0.57	0.20		0.6%	0.2%	8.9%	3.2%	0.82	0.01	0.03	0.00	0.45	0.27	71.7%	23.4%	0.1%	0.0%					
79			38		5	1.11	0.00	0.12	0.01	0.69	0.53			0.4%	0.5%	59.5%	11.0%	0.75	0.00	0.08	0.05	0.30	0.21	67.6%	19.4%	0.1%	0.1%					
80			129		1	0.29	0.00	0.01	0.00	0.10	0.18			0.3%	1.0%	35.1%	4.5%	0.15	0.00	0.01	0.00	0.03	0.06	50.5%	20.3%	0.0%	0.0%					
81			131		1	0.31	0.00	0.02	0.00	0.12	0.11			0.0%	2.3%	30.3%	4.8%	0.16	0.00	0.01	0.00	0.04	0.04	52.7%	11.6%	0.0%	0.0%					
82			133		1	0.28	0.00	0.02	0.00	0.11	0.13			0.4%	0.7%	38.3%	4.2%	0.15	0.00	0.01	0.00	0.03	0.05	51.4%	16.3%	0.0%	0.0%					
83			139		2	0.63	0.00	0.05	0.01	0.39	0.24			0.3%	1.3%	30.2%	8.4%	0.25	0.00	0.03	0.01	0.06	0.08	39.7%	12.7%	0.0%	0.0%					
84			140		2	0.58	0.00	0.02	0.01	0.24	0.20			0.2%	2.7%	41.3%	2.9%	0.35	0.00	0.01	0.00	0.09	0.12	39.9%	29.6%	0.0%	0.0%					
85			141		2	0.56	0.00	0.03	0.00	0.20	0.18			0.2%	0.2%	35.3%	5.7%	0.34	0.00	0.02	0.00	0.08	0.13	59.9%	23.2%	0.0%	0.0%					
86			142		2	0.40	0.00	0.07	0.01	0.15	0.18			0.2%	1.2%	36.2%	17.9%	0.16	0.00	0.04	0.00	0.06	0.08	38.7%	18.6%	0.0%	0.0%					
87			146		2	0.67	0.00	0.07	0.01	0.21	0.20			0.2%	0.2%	44.7%	16.7%	0.25	0.00	0.04	0.00	0.08	0.07	43.5%	24.4%	0.0%	0.0%					
88			147		2	0.56	0.00	0.02	0.01	0.15	0.21			0.2%	1.1%	41.6%	3.5%	0.35	0.00	0.01	0.01	0.09	0.11	52.5%	23.0%	0.0%	0.0%					
89			148		2	0.60	0.00	0.04	0.00	0.19	0.30			0.2%	0.3%	30.9%	6.3%	0.29	0.00	0.02	0.00	0.06	0.11	47.9%	18.4%	0.0%	0.0%					
90			154		5	0.83	0.00	0.25	0.01	0.46	0.42			0.2%	0.2%	74.6%	20.1%	0.82	0.00	0.02	0.00	0.46	0.36	68.2%	25.6%	0.0%	0.0%					
91			155		5	1.18	0.00	0.10	0.02	0.59	0.57			0.3%	1.3%	49.8%	8.7%	0.77	0.00	0.04	0.01	0.25	0.26	54.9%	22.1%	0.0%	0.0%					
92			156		5	1.08	0.00	0.05	0.01	0.53	0.59			0.3%	0.6%	49.0%	4.6%	0.74	0.00	0.02	0.00	0.23	0.28	58.8%	25.4%	0.0%	0.0%					
93			157		5	0.92	0.00	0.11	0.01	0.44	0.47			0.2%	0.2%	40.2%	10.4%	0.62	0.00	0.02	0.00	0.24	0.28	63.4%	23.4%	0.0%	0.0%					
94			158		5	0.79	0.01	0.18	0.01	0.38	0.48			0.5%	1.5%	47.1%	23.4%	0.59	0.01	0.11	0.01	0.15	0.24	49.4%	30.0%	0.0%	0.0%					
95			163		5	1.11	0.00	0.13	0.04	0.57	0.50			0.2%	3.2%	51.1%	29.7%	0.73	0.00	0.15	0.02	0.25	0.20	65.6%	18.1%	0.0%	0.0%					
96			164		5	1.04	0.00	0.11	0.01	0.44	0.48			0.4%	0.4%	44.8%	14.8%	0.64	0.00	0.02	0.00	0.24	0.28	60.3%	26.9%	0.0%	0.0%					
97			165		5	1.24	0.00	0.05	0.00	0.53	0.24			0.5%	4.2%	42.0%	4.2%	0.85	0.00	0.02	0.00	0.22	0.26	70.8%	29.1%	0.0%	0.0%					
98			166		5	0.88	0.01	0.16	0.01	0.36	0.57			0.7%	0.7%	40.4%	18.1%	0.53	0.01	0.08	0.01	0.14	0.32	59.8%	36.3%	0.0%	0.0%					
99			130		3	0.41	0.00	0.02	0.00	0.28	0.25			0.2%	0.4%	40.8%	6.2%	0.32	0.00	0.01	0.00	0.08	0.10	51.2%	13.2%	0.0%	0.0%					
100			131		3	0.40	0.00	0.04	0.01	0.29	0.26			0.3%	1.0%	47.5%	6.4%	0.32	0.00	0.02	0.01	0.09	0.12	52.0%	14.1%	0.1%	0.2%					
101			133		5	0.72	0.00	0.07	0.00	0.36	0.40			0.4%	0.6%	50.1%	10.0%	0.37	0.00	0.03	0.00	0.13	0.18	53.0%	24.5%	0.1%	0.1%					
102			134		5	1.02	0.00	0.06	0.00	0.46	0.46			0.2%	0.2%	47.4%	11.1%	0.52	0.00	0.01	0.00	0.16	0.16	60.5%	16.6%	0.0%	0.0%					
103			140		12	4	1.17	0.01	0.12	0.61	0.64			0.6%	1.2%	55.2%	10.3%	0.70	0.01	0.05	0.01	0.26	0.22	60.1%	19.1%	0.1%	0.1%					
104			141		13	4	1.22	0.01	0.09	0.60	0.58			0.6%	0.3%	47.7%	7.1%	0.73	0.01	0.05	0.00	0.26	0.27	60.1%	22.2%	0.0%	0.0%					
105			142		14	4	1.24	0.00	0.06	0.60	0.53			0.6%	0.3%	52.2%	7.1%	0.73	0.01	0.05	0.00	0.26	0.27	60.1%	22.2%	0.0%	0.0%					
106			146		18	4	1.10	0.00	0.21	0.61	0.54			0.4%	1.0%	49.4%	18.0%	0.71	0.00	0.11	0.01	0.23	0.25	64.7%	22.8%	0.0%	0.1%					
107			147		19	4	1.20	0.01	0.05	0.61	0.64	</																				

Case 2 : Folder Close

3.2.1.1 Ant J– Patch Antenna

Table 7 and 8 show the PD simulation evaluation of Ant J patch antenna at 28GHz / 39GHz for the corresponding evaluation planes specified in Table 1.

Table 7. PD of Ant J – patch antenna (28GHz – n261)

- J–patch Low CH

No.	Module	Type	Beam ID_1	Bema ID_2	Feed no.	max ratio out of all beams												max ratio out of all beams								
						4cm2 PD(mW/cm2)						4cm2 PD(mW/cm2) at 10mm evaluation distance				4cm2 PD(mW/cm2) at 10mm evaluation distance										
						S4(Right)	S3(Left)	S5(Top)	S6(Bottom)	S1(Front)	S2(Rear)	42.5%	1.7%	1.5%	7.8%	S4(Right)	S3(Left)	S5(Top)	S6(Bottom)	S1(Front)	S2(Rear)	68.3%	68.3%	28.9%	1.4%	
1			0		1	0.01	0.05	0.01	0.00	0.00	0.38	13.2%	0.5%	0.3%	3.4%	0.01	0.02	0.01	0.00	0.00	0.17	44.5%	44.5%	6.1%	0.5%	
2			1		1	0.01	0.05	0.02	0.00	0.00	0.46	11.5%	0.5%	0.3%	4.0%	0.01	0.02	0.01	0.00	0.00	0.17	41.9%	41.9%	5.5%	0.5%	
3			5		2	0.01	0.13	0.05	0.00	0.00	0.26	17.1%	0.3%	0.4%	2.3%	0.01	0.06	0.04	0.00	0.00	0.40	33.9%	33.9%	7.2%	0.3%	
4			6		2	0.01	0.17	0.01	0.00	0.00	0.89	18.7%	0.2%	0.2%	1.1%	0.01	0.08	0.01	0.00	0.00	0.50	56.7%	56.7%	9.2%	0.1%	
5			7		2	0.03	0.09	0.01	0.00	0.00	0.54	16.2%	0.7%	0.6%	1.7%	0.02	0.04	0.01	0.00	0.00	0.27	50.6%	50.6%	7.6%	0.6%	
6			8		2	0.03	0.10	0.02	0.01	0.00	0.47	15.0%	0.9%	0.4%	2.7%	0.02	0.05	0.01	0.01	0.00	0.30	44.0%	44.0%	7.1%	0.9%	
7			13		2	0.01	0.16	0.03	0.00	0.00	0.87	18.0%	0.0%	0.2%	3.9%	0.01	0.07	0.03	0.00	0.00	0.49	56.3%	56.3%	8.3%	0.0%	
8			14		2	0.03	0.10	0.01	0.00	0.00	0.58	17.9%	0.5%	0.5%	1.3%	0.02	0.05	0.01	0.00	0.00	0.30	53.8%	53.8%	8.6%	0.4%	
9			15		2	0.02	0.13	0.02	0.01	0.00	0.80	16.0%	0.8%	0.4%	3.9%	0.02	0.06	0.01	0.01	0.00	0.38	48.1%	48.1%	7.8%	0.6%	
10			19		5	0.03	0.33	0.12	0.00	0.00	1.76	18.9%	0.1%	0.2%	6.7%	0.02	0.18	0.09	0.00	0.00	1.00	57.1%	57.1%	10.0%	0.1%	
11			20		5	0.03	0.42	0.03	0.00	0.00	1.65	25.5%	0.2%	0.1%	1.8%	0.02	0.24	0.02	0.00	0.00	1.07	65.0%	65.0%	14.4%	0.1%	
12			21		5	0.04	0.48	0.01	0.00	0.01	1.58	30.3%	0.3%	0.3%	0.8%	0.03	0.29	0.01	0.00	0.00	1.07	67.9%	67.9%	18.3%	0.1%	
13			22		5	0.08	0.41	0.01	0.01	0.01	1.78	23.1%	0.3%	0.7%	0.4%	0.06	0.23	0.01	0.00	0.01	1.06	59.5%	59.5%	12.7%	0.2%	
14			24		5	0.10	0.31	0.02	0.08	0.01	1.81	17.0%	1.4%	0.5%	1.1%	0.07	0.15	0.02	0.00	0.01	1.14	41.0%	41.0%	8.2%	1.2%	
15			25		5	0.03	0.39	0.06	0.00	0.00	1.14	22.5%	0.3%	0.2%	3.3%	0.02	0.22	0.04	0.00	0.00	1.10	63.1%	63.1%	12.4%	0.1%	
16			30		5	0.03	0.48	0.01	0.00	0.00	1.58	30.2%	0.2%	0.1%	0.7%	0.02	0.29	0.01	0.00	0.00	1.08	68.3%	68.3%	18.2%	0.1%	
17			31		5	0.07	0.44	0.01	0.00	0.01	1.68	26.4%	0.1%	0.6%	0.5%	0.05	0.26	0.01	0.00	0.01	1.10	65.7%	65.7%	15.4%	0.1%	
18			32		5	0.10	0.36	0.01	0.01	0.01	1.83	19.5%	0.7%	0.5%	0.7%	0.06	0.18	0.01	0.01	0.01	0.93	50.7%	50.7%	10.0%	0.5%	
19			128		1	0.01	0.08	0.03	0.00	0.00	0.37	22.5%	0.5%	0.8%	7.1%	0.01	0.04	0.02	0.00	0.00	0.15	41.6%	41.6%	10.4%	0.5%	
20			130		1	0.00	0.08	0.01	0.00	0.00	0.23	33.6%	0.4%	1.3%	3.5%	0.00	0.04	0.01	0.00	0.00	0.09	38.5%	38.5%	19.5%	0.4%	
21			131		2	0.01	0.14	0.04	0.00	0.00	0.66	25.2%	0.4%	0.5%	2.4%	0.01	0.07	0.03	0.00	0.00	0.23	40.2%	40.2%	11.9%	0.4%	
22			134		2	0.01	0.21	0.01	0.00	0.01	0.60	34.3%	0.2%	1.0%	2.0%	0.01	0.11	0.01	0.00	0.00	0.33	54.0%	54.0%	17.9%	0.2%	
23			135		2	0.02	0.23	0.02	0.00	0.01	0.67	37.1%	0.6%	1.0%	1.5%	0.01	0.11	0.02	0.00	0.00	0.29	45.4%	45.4%	17.7%	0.5%	
24			136		2	0.02	0.24	0.01	0.01	0.00	0.82	28.7%	0.7%	0.5%	2.0%	0.02	0.12	0.00	0.00	0.00	0.41	49.5%	49.5%	14.4%	0.5%	
25			141		2	0.02	0.22	0.03	0.00	0.01	0.76	28.5%	0.1%	0.7%	4.5%	0.02	0.11	0.03	0.00	0.00	0.33	50.8%	50.8%	14.1%	0.1%	
26			142		2	0.03	0.26	0.01	0.00	0.00	0.66	29.8%	0.2%	0.5%	1.0%	0.02	0.13	0.01	0.00	0.00	0.46	53.9%	53.9%	15.4%	0.1%	
27			143		2	0.03	0.18	0.03	0.01	0.01	0.72	25.4%	1.0%	0.7%	4.5%	0.02	0.09	0.02	0.01	0.00	0.39	46.6%	46.6%	12.0%	0.7%	
28			147		5	0.03	0.50	0.09	0.00	0.02	1.47	34.2%	0.1%	1.2%	6.2%	0.02	0.28	0.06	0.00	0.01	0.79	53.7%	53.7%	18.9%	0.1%	
29			148		5	0.06	0.65	0.01	0.01	0.02	1.54	39.5%	0.3%	1.3%	0.7%	0.05	0.44	0.01	0.00	0.01	0.97	59.2%	59.2%	26.9%	0.1%	
30			149		5	0.08	0.70	0.02	0.00	0.02	1.65	42.3%	0.1%	1.4%	4.4%	0.06	0.46	0.02	0.00	0.01	0.90	54.3%	54.3%	27.9%	0.1%	
31			150		5	0.05	0.65	0.01	0.00	0.02	1.88	38.4%	0.2%	1.0%	0.8%	0.03	0.37	0.01	0.00	0.01	0.87	57.4%	57.4%	22.1%	0.1%	
32			151		5	0.03	0.69	0.03	0.00	0.01	1.64	30.0%	1.5%	0.8%	2.0%	0.02	0.36	0.03	0.02	0.01	0.83	50.6%	50.6%	15.9%	1.1%	
33			157		5	0.04	0.58	0.03	0.00	0.02	1.57	36.9%	0.2%	1.3%	1.7%	0.03	0.38	0.02	0.00	0.01	0.89	56.6%	56.6%	24.0%	0.1%	
34			158		5	0.08	0.69	0.01	0.00	0.02	1.83	42.5%	0.2%	1.5%	0.9%	0.06	0.47	0.01	0.00	0.01	0.95	57.8%	57.8%	28.9%	0.2%	
35			159		5	0.06	0.69	0.02	0.00	0.02	1.64	42.2%	0.2%	1.3%	1.0%	0.05	0.43	0.01	0.00	0.01	0.92	55.9%	55.9%	26.5%	0.1%	
36			160		5	0.03	0.54	0.02	0.02	0.02	1.66	32.3%	0.9%	0.9%	4.4%	0.02	0.29	0.02	0.01	0.01	0.90	54.3%	54.3%	17.2%	0.7%	
37			138		0	2	0.02	0.16	0.05	0.01	0.60	20.3%	0.6%	0.5%	6.6%	0.01	0.07	0.04	0.01	0.00	0.34	44.4%	44.4%	9.1%	0.6%	
38			139		2	2	0.02	0.15	0.04	0.01	0.65	22.4%	0.8%	0.8%	5.4%	0.01	0.06	0.03	0.00	0.00	0.30	42.4%	42.4%	11.6%	0.6%	
39			133		5	4	0.03	0.31	0.11	0.01	1.47	21.2%	0.6%	0.6%	4.0%	0.02	0.15	0.09	0.01	0.01	0.70	47.3%	47.3%	10.0%	0.5%	
40			134		6	4	0.04	0.37	0.03	0.00	1.45	25.8%	0.3%	0.7%	2.0%	0.03	0.20	0.02	0.00	0.01	0.83	57.2%	57.2%	13.5%	0.2%	
41			135		7	4	0.04	0.31	0.04	0.00	1.10	27.8%	0.9%	0.6%	3.4%	0.03	0.15	0.03	0.01	0.01	0.56	50.5%	50.5%	13.6%	0.8%	
42			136		8	4	0.06	0.45	0.04	0.02	1.44	30.8%	1.1%	0.8%	4.4%	0.06	0.23	0.03	0.01	0.01	0.65	44.9%	44.9%	15.8%	0.9%	
43			141		13	4	0.05	0.45	0.08	0.00	1.78	25.3%	0.1%	0.4%	4.5%	0.04	0.21	0.06	0.00	0.01	0.91	51.2%	51.2%	12.0%	0.1%	
44			142		14	4	0.07	0.39	0.02	0.00	1.46	26.3%	0.3%	0.5%	1.5%	0.05	0.20	0.02	0.00	0.01	0.80	53.5%	53.5%	13.1%	0.3%	
45			143		15	4	0.08	0.45	0.05	0.02	1.65	27.3%	1.1%	0.7%	4.3%	0.06	0.20	0.04	0.02	0.01	0.69	41.9%	41.9%	12.4%	0.9%	
46			147		19	10	0.07	0.93	0.29	0.01	0.63	3.69	25.2%	0.2%	0.8%	7.8%	0.04	0.48	0.18	0.01	0.02	2.09	56.6%	56.6%	13.0%	0.2%
47			148		20	10	0.12	1.14	0.05	0.01	0.63	33.9%	0.3%	0.7%	1.5%	0.10	0.71	0.04	0.01	0.02	2.09	62.3%	62.3%	21.5%	0.2%	
48			149		21	10	0.20	1.27	0.04	0.01	0.64	34.3	37.1%	0.1%	1.1%	1.3%	0.15	0.80	0.03	0.00	0.02	2.09	59.1%	59.1%	23.3%	0.1%
49			150		22	10	0.20	1.16	0.03	0.02	0.65	33.3	34.5%	0.4%												

- J-patch Mid CH

No.	Module	Type	Beam ID_1	Bema ID_2	Feed no.	max ratio out of all beams										max ratio out of all beams						
						4cm2 PD(mW/cm2)						4cm2 PD(mW/cm2) at 10mm evaluation distance				4cm2 PD(mW/cm2) at 10mm evaluation distance						
						S4(Right)	S3(Left)	S5(Top)	S6(Bottom)	S1(Front)	S2(Rear)	ratio (left 2mm)/(Bottom surface 2mm)	ratio (Bottom 2mm)/(Front surface 2mm)	ratio (Front 2mm)/(Worst surface 2mm)	ratio (Top 2mm)/(Worst surface 2mm)	S4(Right)	S3(Left)	S5(Top)	S6(Bottom)	S1(Front)	S2(Rear)	ratio (left 10mm)/(Worst surface 2mm)
1	0	1	0.01	0.05	0.01	0.00	0.00	0.30	13.4%	0.6%	0.3%	3.1%	0.01	0.02	0.01	0.00	0.00	0.16	45.1%	45.1%	6.4%	0.3%
2	1	0.01	0.04	0.02	0.00	0.00	0.37	11.7%	0.5%	0.3%	4.3%	0.01	0.02	0.01	0.00	0.00	0.16	44.2%	44.2%	5.1%	0.3%	
3	5	2	0.01	0.13	0.05	0.00	0.00	0.70	19.0%	0.3%	0.4%	6.9%	0.01	0.06	0.04	0.00	0.00	0.39	56.3%	56.3%	8.2%	0.3%
4	6	2	0.01	0.15	0.01	0.00	0.00	0.82	18.7%	0.1%	0.1%	1.0%	0.01	0.08	0.01	0.00	0.00	0.47	57.3%	57.3%	9.2%	0.1%
5	7	2	0.02	0.09	0.01	0.00	0.00	0.50	17.5%	0.6%	0.4%	1.4%	0.02	0.04	0.01	0.00	0.00	0.26	52.2%	52.2%	8.2%	0.4%
6	8	2	0.02	0.10	0.02	0.00	0.00	0.62	18.5%	0.6%	0.5%	2.1%	0.02	0.05	0.02	0.00	0.00	0.30	47.2%	47.2%	7.6%	0.6%
7	13	2	0.01	0.15	0.03	0.00	0.00	0.80	18.9%	0.0%	0.3%	3.6%	0.01	0.07	0.02	0.00	0.00	0.47	58.3%	58.3%	8.9%	0.0%
8	14	2	0.02	0.10	0.01	0.00	0.00	0.51	18.7%	0.4%	0.4%	1.2%	0.01	0.05	0.00	0.00	0.00	0.28	54.8%	54.8%	8.8%	0.4%
9	15	2	0.02	0.13	0.01	0.00	0.00	0.75	17.2%	0.5%	0.4%	1.7%	0.02	0.06	0.01	0.00	0.00	0.37	49.3%	49.3%	7.9%	0.5%
10	19	5	0.03	0.33	0.10	0.00	0.01	1.44	19.9%	0.1%	0.3%	5.9%	0.02	0.18	0.08	0.00	0.00	0.97	58.9%	58.9%	10.7%	0.1%
11	20	5	0.03	0.42	0.02	0.00	0.00	1.52	27.4%	0.1%	0.1%	1.4%	0.02	0.24	0.01	0.00	0.00	1.01	66.3%	66.3%	15.8%	0.1%
12	21	5	0.04	0.43	0.01	0.00	0.00	1.44	30.0%	0.1%	0.2%	0.9%	0.03	0.26	0.01	0.00	0.00	0.96	66.3%	66.3%	17.2%	0.1%
13	22	5	0.07	0.41	0.01	0.00	0.01	1.62	25.5%	0.2%	0.5%	0.5%	0.06	0.23	0.01	0.01	0.01	1.01	62.3%	62.3%	14.2%	0.2%
14	23	5	0.08	0.29	0.02	0.02	0.01	1.47	17.2%	0.1%	0.5%	1.0%	0.05	0.15	0.01	0.02	0.01	0.74	44.2%	44.2%	8.7%	1.0%
15	29	5	0.03	0.39	0.05	0.00	0.00	1.60	24.3%	0.1%	0.2%	3.1%	0.02	0.21	0.01	0.00	0.00	1.04	64.9%	64.9%	13.4%	0.1%
16	30	5	0.03	0.44	0.01	0.00	0.00	1.44	30.8%	0.1%	0.1%	0.8%	0.02	0.27	0.01	0.00	0.00	0.98	68.0%	68.0%	16.4%	0.1%
17	31	5	0.06	0.42	0.01	0.00	0.01	1.54	27.5%	0.1%	0.5%	0.7%	0.04	0.24	0.01	0.00	0.00	1.02	66.3%	66.3%	15.8%	0.1%
18	32	5	0.08	0.36	0.01	0.01	0.01	1.48	21.5%	0.5%	0.5%	0.7%	0.06	0.20	0.01	0.01	0.01	0.91	54.1%	54.1%	11.9%	0.5%
19	128	1	0.01	0.09	0.02	0.00	0.00	0.37	24.6%	0.0%	0.9%	6.3%	0.01	0.04	0.02	0.00	0.00	0.14	41.0%	41.0%	11.7%	0.8%
20	130	1	0.00	0.05	0.01	0.00	0.00	0.22	24.7%	0.3%	0.8%	4.2%	0.00	0.09	0.01	0.00	0.00	0.09	43.7%	43.7%	13.5%	0.9%
21	133	2	0.01	0.15	0.04	0.00	0.01	0.53	27.2%	0.4%	0.9%	6.6%	0.01	0.07	0.03	0.00	0.00	0.22	41.8%	41.8%	13.3%	0.4%
22	134	2	0.01	0.18	0.02	0.00	0.00	0.55	32.2%	0.2%	0.7%	2.7%	0.01	0.09	0.01	0.00	0.00	0.30	54.2%	54.2%	16.4%	0.2%
23	135	2	0.02	0.11	0.02	0.00	0.01	0.42	34.0%	0.7%	0.8%	2.7%	0.01	0.09	0.02	0.00	0.00	0.35	44.2%	44.2%	16.1%	0.7%
24	136	2	0.02	0.23	0.01	0.01	0.00	0.79	28.6%	0.8%	0.9%	0.9%	0.06	0.11	0.00	0.01	0.00	0.41	51.3%	51.3%	13.5%	0.0%
25	141	2	0.02	0.25	0.03	0.00	0.01	0.77	32.1%	0.1%	0.8%	4.2%	0.02	0.12	0.02	0.00	0.00	0.38	49.4%	49.4%	15.1%	0.1%
26	142	2	0.03	0.27	0.01	0.00	0.01	0.83	32.4%	0.1%	0.6%	1.1%	0.02	0.14	0.01	0.00	0.00	0.45	54.4%	54.4%	16.4%	0.1%
27	143	2	0.03	0.20	0.03	0.01	0.00	0.69	28.8%	1.0%	0.8%	0.8%	0.02	0.09	0.01	0.00	0.00	0.33	47.7%	47.7%	14.6%	0.9%
28	147	5	0.04	0.51	0.10	0.00	0.02	1.51	33.6%	0.2%	1.4%	6.6%	0.03	0.30	0.07	0.00	0.01	0.75	49.6%	49.6%	19.7%	0.1%
29	148	5	0.06	0.63	0.02	0.00	0.02	1.57	40.3%	0.3%	1.1%	1.0%	0.05	0.43	0.01	0.00	0.01	0.93	59.3%	59.3%	27.2%	0.2%
30	149	5	0.07	0.66	0.02	0.00	0.02	1.54	41.2%	0.1%	1.2%	1.2%	0.05	0.45	0.01	0.00	0.01	0.86	58.5%	58.5%	27.2%	0.2%
31	150	5	0.04	0.64	0.01	0.00	0.02	1.45	38.8%	0.1%	1.1%	0.8%	0.04	0.38	0.01	0.00	0.01	0.97	58.5%	58.5%	23.0%	0.1%
32	151	5	0.03	0.49	0.04	0.02	0.01	1.59	30.9%	1.5%	0.8%	2.3%	0.02	0.25	0.03	0.02	0.01	0.82	51.5%	51.5%	15.9%	1.2%
33	152	5	0.04	0.54	0.03	0.00	0.02	1.45	36.8%	0.1%	1.2%	2.2%	0.04	0.35	0.02	0.00	0.01	0.84	55.2%	55.2%	23.3%	0.1%
34	158	5	0.07	0.47	0.02	0.00	0.02	1.57	42.6%	0.3%	1.1%	1.1%	0.06	0.46	0.01	0.00	0.01	0.90	57.9%	57.9%	29.3%	0.2%
35	159	5	0.06	0.67	0.01	0.00	0.02	1.59	42.2%	0.3%	1.3%	0.6%	0.05	0.42	0.01	0.00	0.01	0.89	55.9%	55.9%	26.2%	0.2%
36	160	5	0.03	0.53	0.03	0.01	0.01	1.62	37.2%	0.9%	0.8%	1.5%	0.02	0.28	0.02	0.01	0.01	0.89	54.7%	54.7%	17.2%	0.7%
37	128	0	2	0.02	0.16	0.05	0.01	0.47	21.5%	0.7%	0.7%	6.8%	0.04	0.16	0.01	0.00	0.00	0.18	45.2%	45.2%	9.4%	0.7%
38	130	2	0.02	0.11	0.04	0.00	0.00	0.63	17.3%	0.6%	0.5%	5.9%	0.01	0.06	0.03	0.00	0.00	0.29	46.8%	46.8%	8.9%	0.9%
39	133	5	0.04	0.29	0.11	0.01	0.01	1.39	20.7%	0.6%	0.7%	7.8%	0.03	0.14	0.09	0.01	0.01	0.68	49.0%	49.0%	9.7%	0.4%
40	134	5	0.02	0.08	0.03	0.00	0.00	0.46	22.8%	0.3%	0.4%	4.2%	0.03	0.17	0.01	0.00	0.00	0.26	37.0%	37.0%	13.3%	0.3%
41	135	7	4	0.03	0.28	0.04	0.01	0.91	26.1%	1.0%	0.6%	3.8%	0.02	0.14	0.03	0.01	0.00	0.54	49.8%	49.8%	13.2%	0.8%
42	136	8	4	0.07	0.43	0.03	0.02	0.93	31.2%	1.1%	0.9%	2.8%	0.06	0.22	0.02	0.01	0.01	0.64	46.5%	46.5%	15.8%	0.9%
43	141	13	4	0.05	0.47	0.08	0.00	1.48	27.7%	1.1%	0.5%	4.6%	0.04	0.22	0.06	0.00	0.01	0.88	52.1%	52.1%	12.8%	0.7%
44	142	14	4	0.02	0.08	0.03	0.00	0.46	28.8%	0.4%	0.6%	3.1%	0.02	0.09	0.01	0.00	0.00	0.33	44.3%	44.3%	14.6%	0.9%
45	143	15	4	0.09	0.45	0.05	0.02	0.91	29.5%	1.0%	0.8%	3.1%	0.07	0.21	0.04	0.01	0.01	0.68	42.5%	42.5%	13.4%	0.9%
46	147	19	10	0.09	0.91	0.25	0.01	0.84	34.2%	0.1%	1.0%	6.8%	0.07	0.46	0.17	0.01	0.02	2.05	56.5%	56.5%	12.8%	0.1%
47	148	20	10	0.05	0.81	0.02	0.00	0.74	35.0%	0.0%	1.0%	1.2%	0.05	0.40	0.01	0.00	0.01	1.87	63.8%	63.8%	20.6%	0.1%
48	149	21	10	0.19	1.20	0.04	0.01	0.93	37.2%	0.2%	1.0%	1.2%	0.15	0.76	0.02	0.00	0.02	1.89	58.6%	58.6%	23.4%	0.1%
49	150	22	10	0.20	1.34	0.03	0.01	0.94	36.1%	0.2%	1.1%	0.8%	0.17	0.72	0.01	0.01	0.02	2.25	60.8%	60.8%	20.0%	0.2%
50	151	23	10	0.16	1.24	0.08	0.07	0.94	29.2%	1.6%	0.9%	1.9%	0.12	0.62	0.07	0.06	0.02	2.09	49.1%	49.1%	14.8%	1.3%
51	152	29	10	0.12	0.99	0.01	0.00	0.84	33.9%	0.3%	0.9%	2.7%	0.08	0.39	0.01	0.00	0.01	1.40	64.0%	64.0%	17.8%	0.1%
52	158	30	10	0.17	1.18	0.04	0.01	0.93	37.7%	0.3%	0.8%	1.2%	0.14	0.76	0.03	0.01	0.02	1.88	60.3%	60.3%	24.2%	0.2%
53	159	31	10	0.21	1.29	0.04	0.01	0.94	38.3%	0.2%	1.1%	1.0%	0.16	0.79	0.03	0.01	0.02	2.06	61.2%	61.2%	23.4%	0.1%
54	160	32	10	0.17	1.39	0.05	0.04	0.94	31.9%	0.9%	1.0%	1.3%	0.13	0.69	0.04	0.03	0.02	2.10	54.4%	54.4%	17.1%	0.7%

- J-patch High CH

No.	Module	Type	Beam ID_1	Bema ID_2	Feed no.	max ratio out of all beams										max ratio out of all beams						
						4cm2 PD(mW/cm2)						4cm2 PD(mW/cm2) at 10mm evaluation distance				4cm2 PD(mW/cm2) at 10mm evaluation distance						
						S4(Right)	S3(Left)	S5(Top)	S6(Bottom)	S1(Front)	S2(Rear)	ratio (left 2mm)/(Bottom surface 2mm)	ratio (Bottom 2mm)/(Front surface 2mm)	ratio (Front 2mm)/(Worst surface 2mm)	ratio (Top 2mm)/(Worst surface 2mm)	S4(Right)	S3(Left)	S5(Top)	S6(Bottom)	S1(Front)	S2(Rear)	ratio (left 10mm)/(Worst surface 2mm)
1	0	1	0.01	0.04	0.01	0.00	0.00	0.34	12.8%	0.6%	0.3%	3.0%	0.01	0.02	0.01	0.00	0.00	0.15	44.8%	44.8%	6.3%	0.3%
2	1	0.01	0.04	0.01	0.00	0.00	0.34	10.9%	0.3%	0.3%	4.1%	0.01	0.02	0.01	0.00	0.00	0.15	45.0%	45.0%	5.0%	0.3%	
3	5	2	0.01	0.11	0.04	0.00	0.00	0.64														

Table 8. PD of Ant J – patch antenna (39GHz – n260)

- J-patch Low CH

No.	Module	Type	Beam ID_1	Bema ID_2	Feed no.	4cm2 PD(mW/cm2)										max ratio out of all beams				4cm2 PD(mW/cm2) at 10mm evaluation distance				max ratio out of all beams				
						54(Right)					53(Left)					Per Beam Backoff (dB)	ratio (Left 2mm)/(worst surface 2mm)	ratio (Bottom 2mm)/(worst surface 2mm)	ratio (front 2mm)/(worst surface 2mm)	ratio (Top 2mm)/(worst surface 2mm)	71.0%		71.0%		33.1%		2.9%	
						S4(Right)	S3(Left)	S5(Top)	S6(Bottom)	S1(Front)	S2(Rear)	S4(Right)	S3(Left)	S5(Top)	S6(Bottom)						S1(Front)	S2(Rear)	ratio worst-surface (10mm/2mm)	ratio (Back 10mm)/(worst surface 2mm)	ratio (Left 10mm)/(worst surface 2mm)	ratio (Bottom 10mm)/(worst surface 2mm)		
1			0		1	0.00	0.04	0.00	0.00	0.00	0.17	23.4%	1.2%	0.6%	1.2%	0.00	0.02	0.00	0.00	0.00	0.06	37.4%	37.4%	12.1%	0.4%			
2			2		1	0.00	0.08	0.01	0.00	0.00	0.28	27.0%	0.4%	0.4%	2.5%	0.00	0.03	0.01	0.00	0.00	0.11	39.3%	39.3%	12.1%	0.4%			
3			4		1	0.01	0.09	0.01	0.00	0.00	0.27	26.3%	0.6%	0.6%	2.9%	0.00	0.04	0.01	0.00	0.00	0.11	42.3%	42.3%	12.0%	0.3%			
4			6		1	0.01	0.07	0.00	0.00	0.00	0.24	28.2%	0.4%	0.4%	1.7%	0.00	0.03	0.00	0.00	0.00	0.11	44.5%	44.5%	12.1%	0.4%			
5			7		2	0.01	0.13	0.02	0.00	0.00	0.63	30.6%	0.7%	0.7%	3.5%	0.00	0.07	0.01	0.00	0.00	0.16	38.0%	38.0%	16.7%	0.5%			
6			9		2	0.01	0.13	0.02	0.00	0.00	0.58	40.2%	0.2%	0.7%	3.2%	0.00	0.03	0.01	0.00	0.00	0.21	55.9%	55.9%	22.3%	0.3%			
7			7		2	0.01	0.17	0.03	0.00	0.00	0.56	38.5%	0.4%	0.9%	3.0%	0.00	0.09	0.01	0.00	0.00	0.22	49.7%	49.7%	20.1%	0.2%			
8			10		2	0.01	0.13	0.02	0.00	0.00	0.52	24.2%	0.8%	0.6%	3.8%	0.01	0.06	0.01	0.00	0.00	0.18	55.1%	55.1%	11.5%	0.8%			
9			15		2	0.01	0.13	0.02	0.00	0.00	0.58	36.2%	0.9%	0.6%	3.7%	0.00	0.06	0.01	0.00	0.00	0.19	52.7%	52.7%	18.1%	0.8%			
10			16		2	0.01	0.17	0.03	0.00	0.00	0.56	40.1%	0.3%	0.8%	3.7%	0.00	0.11	0.01	0.00	0.00	0.25	52.6%	52.6%	20.0%	0.3%			
11			17		2	0.01	0.18	0.03	0.00	0.00	0.69	36.7%	0.6%	0.8%	2.0%	0.01	0.09	0.01	0.00	0.00	0.23	46.3%	46.3%	18.6%	0.4%			
12			21		3	0.01	0.18	0.04	0.00	0.00	0.56	39.2%	0.3%	0.9%	4.0%	0.00	0.11	0.01	0.00	0.00	0.25	56.9%	56.9%	21.9%	0.3%			
13			22		5	0.04	0.45	0.01	0.00	0.01	1.05	42.7%	0.6%	1.0%	1.1%	0.04	0.29	0.01	0.00	0.01	0.59	56.0%	56.0%	27.7%	0.4%			
14			23		5	0.04	0.48	0.02	0.00	0.01	1.08	44.7%	0.1%	1.0%	1.7%	0.04	0.31	0.01	0.00	0.01	0.60	55.3%	55.3%	28.5%	0.1%			
15			24		5	0.02	0.40	0.01	0.00	0.01	1.35	44.8%	0.4%	1.3%	2.2%	0.03	0.36	0.01	0.00	0.01	0.79	58.8%	58.8%	26.9%	0.3%			
16			25		5	0.02	0.38	0.09	0.02	0.01	1.05	36.6%	2.0%	1.1%	8.9%	0.01	0.19	0.07	0.02	0.01	0.66	44.4%	44.4%	18.5%	1.6%			
17			31		5	0.03	0.43	0.02	0.01	0.01	1.04	41.2%	0.5%	0.9%	1.7%	0.02	0.27	0.01	0.00	0.01	0.60	57.0%	57.0%	25.5%	0.4%			
18			32		5	0.05	0.49	0.01	0.00	0.01	1.10	44.8%	0.2%	1.2%	0.6%	0.04	0.32	0.01	0.00	0.01	0.62	55.8%	55.8%	29.0%	0.2%			
19			33		5	0.04	0.59	0.02	0.00	0.02	1.31	45.4%	0.2%	1.2%	1.8%	0.04	0.36	0.02	0.00	0.01	0.76	57.9%	57.9%	27.8%	0.2%			
20			34		5	0.02	0.50	0.06	0.01	0.01	1.30	42.0%	0.7%	1.2%	8.8%	0.01	0.30	0.04	0.02	0.01	0.66	54.9%	54.9%	25.0%	0.6%			
21			130		1	0.00	0.06	0.01	0.00	0.00	0.15	25.3%	0.6%	0.3%	1.6%	0.00	0.04	0.00	0.00	0.00	0.08	49.7%	49.7%	11.9%	0.6%			
22			122		1	0.00	0.06	0.01	0.00	0.00	0.28	20.6%	1.1%	0.4%	4.3%	0.00	0.03	0.01	0.00	0.00	0.11	40.4%	40.4%	9.7%	1.1%			
23			134		1	0.01	0.05	0.01	0.00	0.00	0.15	24.6%	1.0%	0.6%	7.2%	0.00	0.02	0.01	0.00	0.00	0.08	39.5%	39.5%	12.0%	1.0%			
24			135		2	0.01	0.11	0.02	0.00	0.00	0.35	31.9%	0.9%	0.6%	4.7%	0.01	0.05	0.01	0.00	0.00	0.16	46.7%	46.7%	16.2%	0.9%			
25			136		2	0.01	0.20	0.02	0.00	0.00	0.53	37.0%	0.6%	0.4%	1.1%	0.00	0.10	0.00	0.00	0.00	0.23	63.1%	63.1%	19.3%	0.4%			
26			137		2	0.01	0.13	0.02	0.00	0.00	0.53	25.0%	0.6%	0.4%	4.0%	0.00	0.06	0.01	0.00	0.00	0.23	49.5%	49.5%	24.7%	0.2%			
27			138		2	0.01	0.11	0.03	0.00	0.00	0.58	19.9%	0.7%	0.5%	5.5%	0.01	0.05	0.02	0.00	0.00	0.20	40.2%	40.2%	8.7%	6.7%			
28			143		2	0.00	0.18	0.01	0.00	0.00	0.55	32.5%	0.7%	0.4%	2.0%	0.00	0.09	0.01	0.00	0.00	0.22	58.0%	58.0%	15.6%	0.7%			
29			144		2	0.01	0.13	0.02	0.00	0.00	0.52	36.5%	0.4%	0.4%	2.3%	0.00	0.08	0.01	0.00	0.00	0.23	63.3%	63.3%	19.2%	0.1%			
30			145		2	0.01	0.12	0.02	0.00	0.00	0.54	22.0%	0.7%	0.4%	4.3%	0.01	0.06	0.02	0.00	0.00	0.25	46.3%	46.3%	10.4%	0.6%			
31			149		5	0.04	0.41	0.04	0.01	0.01	1.11	36.5%	0.5%	1.0%	3.3%	0.03	0.24	0.03	0.00	0.01	0.63	55.3%	55.3%	21.9%	0.4%			
32			150		5	0.03	0.44	0.01	0.00	0.01	0.99	44.2%	0.2%	0.7%	4.0%	0.00	0.27	0.01	0.00	0.00	0.64	64.8%	64.8%	24.8%	0.1%			
33			151		5	0.02	0.48	0.02	0.00	0.00	1.06	45.7%	0.1%	0.3%	3.3%	0.01	0.30	0.01	0.00	0.00	0.73	68.8%	68.8%	27.8%	0.5%			
34			152		5	0.02	0.38	0.15	0.00	0.01	0.85	33.2%	0.5%	1.7%	18.8%	0.01	0.14	0.12	0.00	0.01	0.60	71.0%	71.0%	16.9%	0.5%			
35			153		5	0.03	0.44	0.01	0.00	0.01	0.92	32.2%	0.2%	1.0%	2.0%	0.00	0.19	0.00	0.00	0.00	0.65	69.9%	69.9%	24.7%	2.4%			
36			159		5	0.04	0.41	0.02	0.00	0.01	1.04	39.2%	0.5%	1.2%	3.1%	0.04	0.24	0.02	0.00	0.00	0.65	57.1%	57.1%	23.3%	0.4%			
37			160		5	0.03	0.49	0.02	0.00	0.00	1.04	47.4%	0.3%	0.4%	1.5%	0.02	0.30	0.01	0.00	0.00	0.71	67.7%	67.7%	28.6%	0.2%			
38			161		5	0.03	0.44	0.01	0.00	0.01	0.92	42.0%	0.3%	1.1%	2.4%	0.00	0.27	0.01	0.00	0.00	0.68	68.0%	68.0%	24.9%	0.1%			
39			162		5	0.01	0.25	0.18	0.02	0.01	0.99	24.8%	2.2%	1.2%	17.8%	0.01	0.11	0.14	0.02	0.01	0.56	56.7%	56.7%	11.1%	2.1%			
40			128		0	2	0.01	0.18	0.01	0.00	0.00	0.54	32.2%	0.7%	0.6%	3.8%	0.00	0.08	0.02	0.00	0.00	0.26	47.9%	47.9%	15.5%	0.7%		
41			130		2	0.01	0.15	0.01	0.00	0.00	0.56	30.6%	0.6%	0.6%	3.4%	0.00	0.06	0.02	0.00	0.00	0.27	43.9%	43.9%	14.0%	0.6%			
42			132		4	2	0.02	0.20	0.03	0.01	0.51	34.2%	1.0%	0.4%	3.8%	0.00	0.09	0.02	0.01	0.00	0.30	42.7%	42.7%	13.3%	0.8%			
43			134		6	2	0.01	0.15	0.02	0.00	0.00	0.46	34.2%	0.9%	0.7%	4.9%	0.00	0.08	0.02	0.00	0.00	0.20	44.8%	44.8%	18.0%	0.9%		
44			135		7	4	0.01	0.17	0.01	0.00	0.56	43.0%	0.6%	1.0%	4.9%	0.00	0.10	0.02	0.00	0.00	0.27	49.7%	49.7%	23.0%	0.4%			
45			136		8	4	0.03	0.45	0.02	0.01	0.51	39.6%	0.4%	0.7%	1.4%	0.02	0.23	0.01	0.01	0.00	0.30	63.1%	63.1%	19.9%	0.4%			
46			137		9	4	0.02	0.40	0.04	0.01	0.51	38.3%	0.6%	0.8%	1.7%	0.00	0.21	0.03	0.01	0.00	0.33	52.3%	52.3%	20.7%	0.7%			
47			138		10	4	0.02	0.36	0.01	0.00	0.42	25.6%	1.4%	0.8%	3.6%	0.04	0.24	0.04	0.01	0.00	0.41	60.8%	60.8%	21.4%	1.1%			
48			143		15	4	0.02	0.42	0.02	0.01	1.09	38.2%	0.6%	0.7%	2.0%	0.01	0.22	0.02	0.01	0.00	0.43	57.9%	57.9%	21.7%	0.5%			
49			144		15	4	0.02	0.39	0.01	0.00	1.07	43.0%	0.6%	0.7%	2.3%	0.00	0.20	0.01	0.00	0.00	0.41	61.1%	61.1%	22.0%	0.5%			
50			145		17	4	0.02	0.37	0.05	0.01	1.10	34.2%	1.0%	0.7%	4.3%	0.02	0.19	0.04	0.01	0.00	0.44	49.2%	49.2%	17.5%	0.9%			
51			149		21	10	0.11	1.17	0.11	0.01	2.56	45.2%	0.4%	1.4%	4.2%	0.08	0.69	0.05	0.01	0.00	1.54	56.7%	56.7%	26.8%	0.4%			
52			150		22	10	0.12	1.14	0.01	0.00	2.52	46.2%	0.2%	1.4%	4.2%	0.00	0.67	0.02	0.00	0.00	1.46	62.9%	62.9%	29.2%	0.4%			
53			151		23	10	0.08	1.04	0.04	0.00	2.30	54.0%	0.1%	1.0%	1.9%	0.07	0.76	0.03	0.00	0.00	1.60	65.0%	65.0%	33.1%	0.1%			
54			152		24	10	0.07	0.96	0.21	0.01	0.23	38.4%	0.4%	1.0%	8.5%	0.06	0.52	0.16	0.00	0.00	1.60	64.1%	64.1%	20.9%	0.4%			
55			153		25	10	0.06	0.88	0.21	0.00	0.23	32.0%	0.3%	1.2%	11.2%	0.00	0.47	0.21	0.00	0.00	1.60	62.9%	62.9%	21.2%</				

- J-patch High CH

No.	Module	Type	Beam ID_1	Bema ID_2	Feed no	4cm2 P0(MW/cm2)										Per Beam Backoff (dB)	max ratio out of all beams				4cm2 P0(MW/cm2) at 10mm evaluation distance				max ratio out of all beams									
						S4(Right)	S3(Left)	S5(Top)	S6(Bottom)	S1(Front)	S2(Rear)	53.0%		2.2%			1.7%		14.9%		S4(Right)	S3(Left)	S5(Top)	S6(Bottom)	S1(Front)	S2(Rear)	55.6%		65.6%		33.3%		1.9%	
												ratio (Left 2mm)/(worst surface 2mm)	ratio (Bottom 2mm)/(worst surface 2mm)	ratio (Front 2mm)/(worst surface 2mm)	ratio (Top 2mm)/(worst surface 2mm)		ratio (back 10mm)/(worst surface 2mm)	ratio (Bottom 10mm)/(worst surface 2mm)	ratio (Left 10mm)/(worst surface 2mm)	ratio (Bottom 10mm)/(worst surface 2mm)														
1			0		1	0.00	0.03	0.00	0.00	0.00	0.18	35.5%	0.6%	0.6%	2.2%	0.00	0.01	0.00	0.00	0.00	0.07	38.2%	38.2%	7.7%	0.6%									
2			2		1	0.01	0.08	0.01	0.00	0.00	0.39	28.4%	0.3%	0.3%	2.7%	0.00	0.04	0.01	0.00	0.00	0.11	36.8%	36.8%	12.5%	0.3%									
3			4		1	0.01	0.10	0.01	0.00	0.00	0.39	28.5%	0.3%	0.5%	3.3%	0.01	0.05	0.01	0.00	0.00	0.15	39.0%	39.0%	12.0%	0.3%									
4			6		1	0.00	0.08	0.01	0.00	0.00	0.31	27.5%	0.3%	0.2%	3.0%	0.00	0.04	0.01	0.00	0.00	0.12	40.5%	40.5%	13.4%	0.3%									
5			7		2	0.01	0.11	0.04	0.00	0.00	0.51	21.0%	0.4%	0.4%	7.3%	0.00	0.05	0.02	0.00	0.00	0.24	47.3%	47.3%	10.3%	0.4%									
6			8		2	0.02	0.25	0.01	0.00	0.00	0.67	37.0%	0.1%	0.4%	0.7%	0.01	0.12	0.00	0.00	0.00	0.37	54.6%	54.6%	18.0%	0.1%									
7			9		2	0.01	0.13	0.01	0.00	0.00	0.66	28.8%	0.2%	0.4%	2.0%	0.01	0.07	0.01	0.00	0.00	0.22	50.3%	50.3%	14.3%	0.2%									
8			10		2	0.01	0.13	0.04	0.00	0.00	0.66	19.3%	0.3%	0.5%	6.4%	0.00	0.07	0.03	0.00	0.00	0.26	39.7%	39.7%	10.2%	0.3%									
9			15		2	0.01	0.15	0.01	0.00	0.00	0.38	39.7%	0.5%	0.8%	2.1%	0.01	0.08	0.01	0.00	0.00	0.16	42.9%	42.9%	20.2%	0.5%									
10			16		2	0.02	0.28	0.02	0.00	0.01	0.68	40.3%	0.1%	0.9%	2.8%	0.01	0.15	0.01	0.00	0.00	0.31	48.8%	48.8%	21.3%	0.1%									
11			17		2	0.01	0.13	0.01	0.00	0.00	0.51	25.5%	0.4%	0.4%	2.6%	0.00	0.07	0.01	0.00	0.00	0.24	46.6%	46.6%	13.4%	0.4%									
12			21		5	0.03	0.39	0.01	0.01	0.01	1.10	34.8%	0.5%	1.0%	1.0%	0.02	0.22	0.02	0.01	0.01	0.69	54.3%	54.3%	19.9%	0.5%									
13			22		5	0.04	0.43	0.01	0.00	0.01	1.12	38.4%	0.3%	1.0%	1.3%	0.03	0.27	0.01	0.00	0.01	0.59	53.0%	53.0%	24.1%	0.3%									
14			23		5	0.05	0.64	0.01	0.00	0.02	1.38	46.5%	0.1%	1.1%	0.9%	0.04	0.39	0.01	0.00	0.01	0.75	64.1%	64.1%	28.1%	0.1%									
15			24		5	0.02	0.16	0.09	0.00	0.00	1.24	43.3%	0.2%	1.3%	2.0%	0.02	0.35	0.07	0.00	0.01	0.69	53.6%	53.6%	27.0%	0.2%									
16			25		5	0.01	0.27	0.17	0.01	0.01	1.14	23.7%	1.1%	0.6%	4.9%	0.01	0.15	0.12	0.01	0.00	0.57	60.6%	60.6%	13.1%	0.8%									
17			31		5	0.03	0.43	0.03	0.00	0.01	1.14	37.7%	0.4%	1.0%	1.0%	0.03	0.27	0.02	0.00	0.01	0.63	53.5%	53.5%	23.6%	0.4%									
18			32		5	0.05	0.65	0.02	0.00	0.01	1.18	38.4%	0.1%	0.9%	1.3%	0.04	0.27	0.01	0.00	0.01	0.59	50.6%	50.6%	23.1%	0.1%									
19			33		5	0.04	0.69	0.03	0.00	0.02	1.26	47.2%	0.2%	1.4%	2.1%	0.03	0.41	0.02	0.00	0.01	0.80	54.6%	54.6%	28.1%	0.1%									
20			34		5	0.02	0.42	0.12	0.00	0.01	1.21	34.9%	0.3%	1.1%	3.7%	0.01	0.25	0.09	0.00	0.01	0.64	52.8%	52.8%	20.9%	0.3%									
21			130		1	0.01	0.09	0.01	0.00	0.00	0.23	27.3%	0.6%	0.7%	2.1%	0.00	0.04	0.01	0.00	0.00	0.14	43.6%	43.6%	13.3%	0.6%									
22			131		1	0.01	0.06	0.01	0.00	0.00	0.27	23.1%	0.7%	0.4%	1.4%	0.00	0.03	0.01	0.00	0.00	0.11	40.3%	40.3%	11.2%	0.7%									
23			132		1	0.01	0.07	0.01	0.00	0.00	0.29	24.3%	0.3%	0.3%	1.1%	0.01	0.03	0.01	0.00	0.00	0.10	35.4%	35.4%	11.1%	0.3%									
24			134		1	0.01	0.05	0.01	0.00	0.00	0.21	23.7%	0.5%	0.5%	3.4%	0.00	0.02	0.01	0.00	0.00	0.08	36.7%	36.7%	11.1%	0.5%									
25			135		2	0.01	0.11	0.00	0.00	0.00	0.36	28.4%	0.8%	0.5%	4.2%	0.01	0.05	0.01	0.00	0.00	0.15	42.5%	42.5%	15.0%	0.6%									
26			136		2	0.01	0.17	0.01	0.01	0.00	0.47	36.0%	1.3%	0.5%	2.3%	0.01	0.09	0.01	0.02	0.00	0.22	47.3%	47.3%	18.1%	1.1%									
27			137		2	0.01	0.20	0.02	0.00	0.00	0.46	30.8%	0.6%	0.3%	3.0%	0.01	0.10	0.01	0.00	0.00	0.21	47.0%	47.0%	15.5%	0.5%									
28			138		2	0.02	0.12	0.03	0.01	0.00	0.58	20.0%	0.9%	0.5%	4.7%	0.01	0.06	0.02	0.00	0.00	0.19	32.9%	32.9%	10.6%	0.7%									
29			143		2	0.02	0.16	0.02	0.01	0.00	0.46	34.7%	1.5%	0.9%	3.7%	0.01	0.09	0.01	0.02	0.00	0.20	48.0%	48.0%	18.6%	1.3%									
30			144		2	0.01	0.22	0.01	0.00	0.00	0.49	37.4%	0.3%	0.3%	2.2%	0.01	0.12	0.01	0.00	0.00	0.21	51.8%	51.8%	19.2%	0.3%									
31			145		2	0.01	0.18	0.02	0.00	0.00	0.46	28.8%	1.6%	0.3%	3.7%	0.01	0.10	0.01	0.00	0.00	0.20	45.3%	45.3%	14.5%	0.6%									
32			149		5	0.04	0.35	0.05	0.01	0.02	0.97	38.5%	0.6%	1.5%	5.0%	0.03	0.22	0.03	0.02	0.01	0.80	53.5%	53.5%	22.7%	0.5%									
33			150		5	0.05	0.47	0.02	0.01	0.01	1.04	44.8%	0.6%	1.2%	3.8%	0.04	0.30	0.01	0.02	0.01	0.52	48.6%	48.6%	28.3%	0.5%									
34			151		5	0.05	0.33	0.03	0.01	0.01	0.91	36.0%	0.8%	1.6%	3.4%	0.04	0.21	0.02	0.02	0.00	0.47	51.9%	51.9%	22.7%	0.7%									
35			152		5	0.03	0.47	0.09	0.00	0.01	1.19	39.7%	0.3%	0.7%	7.8%	0.03	0.28	0.07	0.00	0.00	0.73	61.6%	61.6%	23.4%	0.3%									
36			153		5	0.02	0.17	0.10	0.01	0.01	0.45	38.4%	2.1%	0.9%	10.2%	0.02	0.16	0.05	0.02	0.01	0.41	43.4%	43.4%	17.2%	1.9%									
37			159		5	0.05	0.39	0.04	0.00	0.02	1.00	39.2%	0.2%	1.6%	4.0%	0.04	0.25	0.03	0.00	0.01	0.50	50.5%	50.5%	24.9%	0.2%									
38			160		5	0.06	0.48	0.01	0.00	0.01	1.04	48.0%	0.4%	0.9%	7.9%	0.05	0.30	0.01	0.00	0.01	0.55	52.7%	52.7%	28.9%	0.3%									
39			161		5	0.06	0.42	0.03	0.01	0.00	1.00	42.4%	0.6%	0.3%	2.9%	0.05	0.26	0.01	0.00	0.00	0.60	60.5%	60.5%	26.0%	0.5%									
40			162		5	0.02	0.40	0.08	0.01	0.01	1.20	33.5%	0.7%	0.5%	6.7%	0.02	0.21	0.07	0.01	0.01	0.68	56.8%	56.8%	17.4%	0.5%									
41			128		0	2	0.01	0.15	0.02	0.01	0.00	0.57	28.1%	1.0%	0.5%	3.1%	0.01	0.07	0.01	0.01	0.00	0.26	45.8%	45.8%	12.7%	0.9%								
42			130		2	1	0.02	0.23	0.02	0.00	0.00	0.65	35.1%	0.5%	0.6%	3.6%	0.01	0.11	0.01	0.00	0.00	0.35	38.6%	38.6%	16.5%	0.5%								
43			132		4	2	0.02	0.15	0.03	0.00	0.00	0.74	34.1%	0.5%	0.5%	3.9%	0.02	0.12	0.02	0.00	0.00	0.30	39.8%	39.8%	16.0%	0.4%								
44			134		6	2	0.01	0.18	0.02	0.00	0.00	0.65	32.2%	0.5%	0.5%	3.6%	0.01	0.09	0.02	0.00	0.00	0.24	43.8%	43.8%	15.5%	0.4%								
45			135		7	4	0.02	0.17	0.07	0.01	0.01	1.01	36.8%	0.6%	0.7%	6.5%	0.02	0.19	0.04	0.01	0.00	0.45	44.1%	44.1%	18.6%	0.6%								
46			136		8	4	0.03	0.42	0.02	0.01	0.01	1.16	36.1%	0.9%	1.0%	1.8%	0.02	0.23	0.02	0.01	0.01	0.56	48.1%	48.1%	19.5%	0.8%								
47			137		9	4	0.02	0.39	0.04	0.01	0.01	1.12	29.2%	0.5%	0.4%	3.0%	0.02	0.20	0.03	0.02	0.00	0.72	54.6%	54.6%	15.0%	0.5%								
48			138		10	4	0.02	0.27	0.08	0.01	0.01	1.08	25.0%	0.8%	0.7%	7.6%	0.02	0.14	0.05	0.01	0.01	0.43	40.0%	40.0%	13.0%	0.7%								
49			143		15	4	0.03	0.52	0.04	0.01	0.01	1.06	48.5%	0.8%	1.3%	3.4%	0.03	0.27	0.02	0.01	0.01	0.50	47.5%	47.5%	25.2%	0.8%								
50			144		16	4	0.03	0.53	0.05	0.01	0.01	1.43	36.7%	0.3%	0.8%	3.2%	0.02	0.28	0.04	0.01	0.01	0.77	54.0%	54.0%	19.2%	0.3%								
51			145		17	4	0.02	0.17	0.05	0.01	0.01	1.12	27.9%	0.7%	0.4%	3.6%	0.02	0.19	0.01	0.01	0.00	0.70	52.9%	52.9%	14.2%	0.6%								
52			149		21	10	0.10	1.26	0.09	0.02	0.04	1.41	48.2%	0.7%	1.7%	1.4%	0.08	0.26	0.07	0.02	0.03	1.41	53.9%	53.9%	29.3%	0.6%								
53			150		22	10	0.15	1.91	0.03	0.01	0.05	2.83	51.2%	0.4%	1.6%	1.1%	0.12	0.94	0.02	0.01	0.03	1.55	54.8%	54.8%	33.3%	0.3%								
54			151		23	10	0.17	1.14	0.07	0.01	0.04	2.64	44.9%	0.5%	1.4%	2.7%	0.14	0.72	0.05	0.02	0.02	1.41	63.4%	63.4%	28.5%	0.4%								
55			152		24	10	0.08	1.17	0.28	0.01	0.02																							

3.2.1.2 Ant K – Patch Antenna

Table 9 and 10 show the PD simulation evaluation of Ant K patch antenna at 28GHz / 39GHz for the corresponding evaluation plane specified in Table 1.

Table 9. PD of Ant K – patch antenna (28GHz – n261)

- K-patch Low CH

No.	Module	Type	Beam ID_1	Bema ID_2	Feed no.	max ratio out of all beams																							
						4cm2 PD(mW/cm2)								1.5%				2.1%				34.6%				33.8%			
						S4(Right)	S3(Left)	S5(Top)	S6(Bottom)	S1(Front)	S2(Rear)	ratio (left 2mm)/(worst surface 2mm)	ratio (Bottom 2mm)/(worst surface 2mm)	ratio (Front 2mm)/(worst surface 2mm)	ratio (Top 2mm)/(worst surface 2mm)	S4(Right)	S3(Left)	S5(Top)	S6(Bottom)	S1(Front)	S2(Rear)	ratio worst surface (10mm/2mm)	ratio (back 10mm)/(worst surface 2mm)	ratio (left 10mm)/(worst surface 2mm)	ratio (Bottom 10mm)/(worst surface 2mm)				
55			1		1	0.26	0.00	0.02	0.00	0.02	0.08	0.4%	1.1%	7.2%	6.5%	0.08	0.00	0.01	0.00	0.01	0.02	31.9%	9.1%	0.4%	1.1%				
56			1		1	0.27	0.00	0.03	0.00	0.03	0.08	0.4%	1.1%	7.2%	6.5%	0.10	0.00	0.02	0.00	0.02	0.03	30.1%	12.5%	0.4%	0.8%				
57			4		1	0.32	0.00	0.05	0.00	0.03	0.11	0.3%	0.6%	9.7%	14.6%	0.12	0.00	0.03	0.00	0.02	0.04	38.6%	12.5%	0.3%	0.3%				
58			9		2	0.53	0.00	0.07	0.01	0.06	0.14	0.4%	1.8%	10.8%	12.6%	0.17	0.00	0.05	0.01	0.03	0.05	30.4%	9.7%	0.4%	1.6%				
59			10		2	0.56	0.01	0.07	0.00	0.10	0.27	0.9%	0.4%	17.2%	14.4%	0.24	0.00	0.01	0.00	0.05	0.12	60.8%	22.0%	0.1%	0.2%				
60			11		2	0.41	0.00	0.03	0.00	0.06	0.25	0.5%	0.5%	11.9%	9.3%	0.23	0.00	0.02	0.00	0.03	0.10	55.9%	24.4%	0.3%	0.5%				
61			12		2	0.47	0.00	0.08	0.01	0.05	0.16	0.4%	1.9%	10.7%	16.9%	0.17	0.00	0.05	0.01	0.02	0.06	37.0%	12.8%	0.4%	1.7%				
62			16		2	0.58	0.01	0.06	0.00	0.08	0.22	1.3%	0.5%	14.3%	9.7%	0.26	0.00	0.03	0.00	0.04	0.09	44.9%	16.0%	0.7%	0.5%				
63			17		2	0.62	0.00	0.03	0.00	0.11	0.29	0.5%	0.2%	17.6%	9.8%	0.37	0.00	0.02	0.00	0.06	0.13	59.9%	21.0%	0.3%	0.2%				
64			18		2	0.59	0.00	0.16	0.00	0.05	0.18	0.5%	0.7%	7.7%	26.6%	0.19	0.00	0.10	0.00	0.02	0.07	31.9%	12.3%	0.3%	0.7%				
65			24		5	1.68	0.01	0.11	0.06	0.23	0.43	0.4%	0.3%	13.8%	6.6%	0.65	0.01	0.06	0.03	0.11	0.17	37.4%	6.8%	0.3%	1.9%				
66			25		5	1.34	0.01	0.11	0.01	0.21	0.48	1.1%	0.6%	18.2%	9.4%	0.51	0.01	0.07	0.01	0.11	0.22	44.6%	15.5%	0.7%	0.5%				
67			26		5	1.35	0.01	0.03	0.00	0.32	0.70	0.9%	0.1%	23.6%	2.0%	0.91	0.01	0.02	0.00	0.18	0.38	67.2%	28.3%	0.7%	0.1%				
68			27		5	1.86	0.01	0.12	0.00	0.20	0.53	0.7%	0.3%	19.0%	13.6%	0.64	0.01	0.06	0.00	0.12	0.26	60.9%	26.5%	0.4%	0.2%				
69			28		5	1.53	0.01	0.52	0.01	0.17	0.59	0.4%	0.5%	18.8%	13.8%	0.58	0.00	0.35	0.01	0.08	0.22	37.7%	14.3%	0.3%	0.4%				
70			33		5	1.65	0.01	0.10	0.03	0.25	0.45	0.4%	1.8%	15.2%	5.8%	0.64	0.01	0.06	0.03	0.12	0.19	38.7%	11.2%	0.4%	1.6%				
71			34		5	1.59	0.02	0.04	0.01	0.23	0.62	1.3%	0.5%	30.8%	4.4%	0.67	0.01	0.03	0.00	0.13	0.30	41.7%	22.9%	0.6%	0.4%				
72			35		5	1.30	0.01	0.07	0.00	0.28	0.67	0.5%	0.2%	21.5%	5.6%	0.85	0.01	0.04	0.00	0.16	0.35	65.8%	26.9%	0.4%	0.2%				
73			36		5	1.23	0.01	0.34	0.01	0.13	0.58	0.4%	0.7%	10.7%	27.7%	0.51	0.00	0.23	0.00	0.07	0.23	41.4%	18.9%	0.3%	0.3%				
74			129		1	0.39	0.00	0.02	0.00	0.07	0.14	0.3%	0.3%	17.3%	9.2%	0.13	0.00	0.01	0.00	0.03	0.05	33.8%	12.9%	0.3%	0.3%				
75			131		1	0.36	0.00	0.04	0.00	0.05	0.16	0.6%	0.3%	14.7%	10.2%	0.11	0.00	0.03	0.00	0.02	0.07	39.1%	18.8%	0.3%	0.3%				
76			132		1	0.27	0.00	0.03	0.00	0.05	0.09	1.1%	0.4%	18.3%	9.5%	0.09	0.00	0.02	0.00	0.02	0.05	33.0%	18.7%	0.4%	0.4%				
77			137		2	0.46	0.01	0.06	0.00	0.10	0.38	0.8%	0.6%	15.1%	9.0%	0.23	0.00	0.04	0.00	0.06	0.13	33.4%	20.0%	0.1%	0.5%				
78			138		2	0.68	0.00	0.01	0.00	0.15	0.30	0.4%	0.3%	21.5%	5.1%	0.26	0.00	0.01	0.00	0.07	0.16	38.8%	23.8%	0.3%	0.3%				
79			139		2	0.79	0.00	0.06	0.00	0.19	0.33	0.3%	0.1%	23.6%	7.6%	0.33	0.00	0.04	0.00	0.09	0.17	41.4%	21.2%	0.3%	0.1%				
80			140		2	0.44	0.01	0.04	0.00	0.08	0.14	1.1%	0.9%	17.9%	9.3%	0.13	0.00	0.03	0.00	0.04	0.07	39.2%	19.7%	0.7%	0.7%				
81			144		2	0.54	0.00	0.02	0.00	0.13	0.23	0.4%	0.4%	24.0%	4.4%	0.23	0.00	0.01	0.00	0.07	0.13	43.2%	23.3%	0.4%	0.2%				
82			145		2	0.76	0.00	0.02	0.00	0.20	0.31	0.3%	0.1%	25.6%	3.2%	0.34	0.00	0.02	0.00	0.10	0.16	44.0%	20.9%	0.1%	0.1%				
83			146		2	0.69	0.01	0.11	0.00	0.13	0.38	1.0%	0.3%	22.0%	19.2%	0.33	0.00	0.07	0.00	0.07	0.16	38.1%	26.6%	0.1%	0.3%				
84			152		5	1.69	0.01	0.07	0.02	0.32	0.71	0.5%	0.9%	49.0%	8.8%	0.65	0.01	0.04	0.01	0.17	0.31	38.6%	18.3%	0.4%	0.8%				
85			153		5	1.59	0.01	0.04	0.01	0.38	0.74	0.4%	0.3%	23.9%	2.4%	0.67	0.01	0.02	0.00	0.22	0.43	42.2%	27.2%	0.3%	0.3%				
86			154		5	1.40	0.01	0.03	0.00	0.45	0.56	0.3%	0.2%	32.0%	3.1%	0.48	0.01	0.02	0.00	0.28	0.35	48.6%	25.3%	0.4%	0.1%				
87			155		5	1.84	0.00	0.24	0.00	0.55	0.72	0.2%	0.2%	39.9%	13.2%	0.87	0.00	0.12	0.00	0.32	0.42	47.5%	22.7%	0.2%	0.1%				
88			156		5	1.40	0.02	0.30	0.01	0.25	0.62	1.1%	0.5%	18.0%	21.7%	0.50	0.01	0.20	0.00	0.12	0.33	35.9%	23.8%	0.8%	0.3%				
89			161		5	1.74	0.01	0.07	0.01	0.33	0.75	0.3%	0.8%	34.4%	4.8%	0.48	0.01	0.04	0.01	0.17	0.34	39.0%	19.5%	0.3%	0.7%				
90			162		5	1.57	0.00	0.02	0.00	0.48	0.67	0.1%	0.2%	30.5%	1.0%	0.76	0.00	0.01	0.00	0.29	0.42	48.6%	26.7%	0.1%	0.1%				
91			163		5	1.49	0.00	0.07	0.00	0.51	0.57	0.3%	0.1%	34.0%	4.4%	0.74	0.00	0.02	0.00	0.33	0.35	49.3%	23.5%	0.2%	0.1%				
92			164		5	1.75	0.01	0.31	0.00	0.43	0.73	0.3%	0.2%	23.8%	17.4%	0.76	0.01	0.30	0.00	0.23	0.41	40.0%	22.9%	0.3%	0.1%				
93			129		1	0.72	0.00	0.05	0.01	0.10	0.25	0.4%	0.7%	14.1%	9.3%	0.22	0.00	0.03	0.00	0.05	0.09	30.9%	12.8%	0.3%	0.6%				
94			131		3	0.72	0.00	0.07	0.00	0.11	0.29	0.6%	0.6%	15.5%	10.0%	0.24	0.00	0.05	0.00	0.05	0.12	33.3%	17.1%	0.4%	0.4%				
95			132		4	0.61	0.00	0.08	0.00	0.10	0.24	0.7%	0.5%	16.8%	12.8%	0.23	0.00	0.05	0.00	0.05	0.10	35.5%	16.6%	0.3%	0.5%				
96			137		9	1.49	0.01	0.13	0.02	0.27	0.53	0.7%	1.0%	18.0%	5.5%	0.45	0.01	0.09	0.01	0.13	0.21	30.6%	14.0%	0.5%	0.9%				
97			138		10	1.30	0.01	0.05	0.01	0.32	0.65	0.5%	0.5%	24.8%	4.0%	0.61	0.01	0.03	0.00	0.17	0.32	46.7%	24.9%	0.4%	0.3%				
98			139		11	1.25	0.01	0.08	0.01	0.30	0.65	0.4%	0.5%	23.6%	7.1%	0.56	0.00	0.06	0.00	0.14	0.32	44.8%	26.5%	0.3%	0.2%				
99			140		12	0.86	0.01	0.14	0.01	0.19	0.36	0.8%	1.4%	18.6%	14.1%	0.36	0.01	0.09	0.01	0.10	0.16	38.1%	16.2%	0.3%	1.3%				
100			144		16	1.16	0.01	0.08	0.01	0.24	0.48	1.1%	0.5%	20.7%	6.6%	0.51	0.01	0.05	0.01	0.14	0.20	43.7%	17.6%	0.8%	0.5%				
101			145		17	1.45	0.01	0.06	0.00	0.28	0.66	0.4%	0.3%	26.1%	4.4%	0.70	0.00	0.04	0.00	0.20	0.32	48.2%	21.8%	0.3%	0.1%				
102			146		18	1.16	0.01	0.30	0.01	0.18	0.52	0.8%	0.7%	18.6%	26.1%	0.39	0.01	0.30	0.01	0.09	0.28	33.4%	23.9%	0.6%	0.6%				
103			152		24	1.10	0.03	0.26	0.06	0.89	1.57	0.6%	1.4%	23.7%	6.3%	1.41	0.02	0.12	0.05	0.45	0.38	34.2%	14.1%	0.5%	1.3%				
104			153		25	1.00	0.02	0.12	0.01	1.00	1.63	0.8%	0.4%	17.8%	6.1%	1.49	0.02	0.12	0.01	0.55	0.87	41.3%	14.2%	0.5%	0.3%				
105			154		26	1.00	0.03	0.05	0.01	0.91	1.56	0.9%	0.2%	31.2%	2.8%	1.69	0.02	0.03	0.01	0.57	0.87	58.3%	29.9%	0.7%	0.2%				
106			155		27	1.00	0.01	0.41	0.01	0.92	1.43	0.5%	0.4%	30.2%	13.4%	1.67	0.01	0.24	0.01	0.55	0.84	54.7%	27.6%	0.4%	0.3%				
107			156		28	1.09	0.02	0.59	0.02	0.64	1.61	0.8%	0.6%	30.8%	20.2%	1.16	0.02	0.62	0.01	0.30	0.75	57.6%	24.4%	0.5%	0.4%				
108			163		33	1.00	0.01	0.26	0.05	0.95	1.63	0.6%	1.2%	22.6%	6.1%	1.62	0.02	0.15	0.04	0.49	0.64	36.0%	15.2%	0.6%	1.0%				
109			162		34	1.00	0.02	0.07	0.01	1.02	1.76	0.8%	0.3%	34.6%	2.4%	1.57	0.01	0.04	0.01	0.62									

- K-patch Mid CH

No.	Module	Type	Beam ID_1	Bema ID_2	Feed no.	max ratio out of all beams										max ratio out of all beams																			
						4cm2 PD(mW/cm2)										4cm2 PD(mW/cm2) at 10mm evaluation distance				6.7%				35.3%				1.4%				2.1%			
						S4(Right)	S3(Left)	S5(Top)	S6(Bottom)	S1(Front)	S2(Rear)	ratio (left 2mm)/(worst surface 2mm)	ratio (Bottom 2mm)/(worst surface 2mm)	ratio (Front 2mm)/(worst surface 2mm)	ratio (Top 2mm)/(worst surface 2mm)	S4(Right)	S3(Left)	S5(Top)	S6(Bottom)	S1(Front)	S2(Rear)	ratio (left 10mm)/(worst surface 10mm)	ratio (back 10mm)/(worst surface 10mm)	ratio (left 10mm)/(worst surface 2mm)	ratio (Bottom 10mm)/(worst surface 2mm)										
55			1		1	0.27	0.00	0.02	0.00	0.02	0.08	0.4%	1.1%	7.9%	6.4%	0.08	0.00	0.01	0.00	0.01	0.03	31.2%	9.4%	0.4%	0.8%										
56			1		1	0.33	0.00	0.03	0.00	0.08	0.30	0.3%	1.0%	10.8%	9.8%	0.10	0.00	0.02	0.00	0.02	0.03	35.8%	11.5%	0.3%	1.0%										
57			1		1	0.51	0.00	0.07	0.01	0.07	0.14	0.6%	2.1%	13.8%	13.0%	0.16	0.00	0.05	0.01	0.03	0.04	31.4%	8.4%	0.4%	1.9%										
58			1		2	0.53	0.01	0.02	0.00	0.11	0.27	1.3%	0.4%	19.9%	4.1%	0.32	0.01	0.01	0.00	0.05	0.11	59.1%	20.1%	1.1%	0.2%										
59			1		2	0.52	0.00	0.08	0.01	0.07	0.19	0.4%	1.9%	13.4%	15.7%	0.23	0.00	0.06	0.01	0.03	0.08	43.3%	14.8%	0.3%	1.5%										
60			1		2	0.56	0.01	0.04	0.00	0.10	0.22	1.3%	0.7%	17.1%	7.5%	0.26	0.01	0.03	0.00	0.04	0.08	46.8%	14.3%	0.9%	0.7%										
61			1		2	0.63	0.01	0.04	0.00	0.11	0.30	0.9%	0.2%	16.7%	6.1%	0.35	0.00	0.02	0.00	0.05	0.12	56.4%	18.9%	0.5%	0.2%										
62			1		2	0.60	0.00	0.16	0.01	0.09	0.16	0.5%	1.0%	10.1%	26.0%	0.20	0.00	0.05	0.01	0.03	0.06	33.6%	10.2%	0.3%	0.8%										
63			1		2	0.63	0.01	0.10	0.04	0.28	0.39	0.4%	2.3%	17.3%	5.9%	0.41	0.00	0.03	0.13	0.14	27.2%	8.6%	0.3%	2.1%											
64			1		2	0.59	0.01	0.09	0.01	0.23	0.51	1.2%	0.8%	19.5%	7.6%	0.55	0.01	0.05	0.01	0.12	0.21	45.9%	17.6%	0.8%	0.7%										
65			1		2	0.58	0.01	0.02	0.00	0.29	0.65	1.9%	0.2%	24.9%	2.1%	0.78	0.02	0.02	0.00	0.17	0.31	65.7%	26.4%	1.4%	0.1%										
66			1		2	0.52	0.00	0.12	0.00	0.20	0.58	0.4%	0.4%	17.5%	11.0%	0.62	0.00	0.07	0.00	0.11	0.29	55.4%	26.1%	0.3%	0.2%										
67			1		2	0.58	0.01	0.49	0.01	0.21	0.54	0.3%	0.4%	13.3%	31.2%	0.61	0.00	0.33	0.01	0.10	0.21	38.2%	13.2%	0.2%	0.4%										
68			1		2	0.57	0.01	0.05	0.01	0.29	0.61	0.6%	2.1%	17.7%	2.6%	0.62	0.01	0.06	0.03	0.14	0.15	37.6%	9.3%	0.4%	1.8%										
69			1		2	0.52	0.02	0.03	0.00	0.23	0.61	2.1%	0.3%	22.3%	3.2%	0.61	0.01	0.02	0.00	0.13	0.25	59.5%	24.7%	1.4%	0.3%										
70			1		2	0.54	0.01	0.09	0.00	0.27	0.62	0.5%	0.2%	21.5%	6.8%	0.79	0.00	0.05	0.00	0.15	0.33	63.8%	26.4%	0.3%	0.2%										
71			1		2	0.53	0.00	0.34	0.01	0.19	0.55	0.3%	0.4%	13.9%	25.4%	0.59	0.00	0.21	0.00	0.10	0.24	44.7%	17.9%	0.3%	0.2%										
72			1		2	0.49	0.00	0.02	0.00	0.11	0.23	0.4%	0.3%	16.1%	4.8%	0.12	0.00	0.01	0.00	0.09	0.05	33.8%	13.8%	0.3%	0.3%										
73			1		2	0.44	0.00	0.03	0.00	0.05	0.14	0.3%	0.6%	15.6%	7.7%	0.11	0.00	0.02	0.00	0.02	0.07	31.0%	19.5%	0.3%	0.6%										
74			1		2	0.25	0.00	0.03	0.00	0.05	0.10	0.8%	0.4%	17.9%	11.1%	0.09	0.00	0.02	0.00	0.02	0.05	33.7%	19.4%	0.4%	0.4%										
75			1		2	0.47	0.00	0.05	0.01	0.11	0.28	0.5%	0.8%	15.8%	7.4%	0.24	0.00	0.04	0.00	0.05	0.12	36.2%	14.1%	0.5%	0.6%										
76			1		2	0.63	0.00	0.01	0.00	0.14	0.27	0.3%	0.3%	22.8%	2.1%	0.25	0.00	0.01	0.00	0.07	0.15	40.1%	24.4%	0.5%	0.3%										
77			1		2	0.70	0.00	0.05	0.00	0.17	0.30	0.1%	0.1%	24.4%	6.6%	0.31	0.00	0.03	0.00	0.08	0.16	44.0%	23.1%	0.1%	0.1%										
78			1		2	0.41	0.00	0.05	0.00	0.09	0.15	1.0%	1.0%	13.2%	12.0%	0.10	0.00	0.03	0.00	0.03	0.08	24.4%	18.3%	1.0%	1.0%										
79			1		2	0.49	0.00	0.02	0.00	0.11	0.23	0.4%	0.4%	21.4%	3.5%	0.21	0.00	0.01	0.00	0.05	0.12	42.2%	24.1%	0.4%	0.2%										
80			1		2	0.66	0.00	0.02	0.00	0.17	0.29	0.2%	0.0%	25.3%	2.4%	0.30	0.00	0.01	0.00	0.08	0.15	44.9%	23.2%	0.1%	0.0%										
81			1		2	0.55	0.00	0.10	0.00	0.13	0.25	0.7%	0.5%	23.9%	17.7%	0.21	0.00	0.07	0.00	0.07	0.14	39.0%	25.7%	0.5%	0.5%										
82			1		2	0.55	0.00	0.10	0.00	0.13	0.25	0.7%	0.5%	23.9%	17.7%	0.21	0.00	0.07	0.00	0.07	0.14	39.0%	25.7%	0.5%	0.5%										
83			1		2	0.55	0.00	0.10	0.00	0.13	0.25	0.7%	0.5%	23.9%	17.7%	0.21	0.00	0.07	0.00	0.07	0.14	39.0%	25.7%	0.5%	0.5%										
84			1		2	0.55	0.00	0.10	0.00	0.13	0.25	0.7%	0.5%	23.9%	17.7%	0.21	0.00	0.07	0.00	0.07	0.14	39.0%	25.7%	0.5%	0.5%										
85			1		2	0.50	0.01	0.05	0.00	0.33	0.65	0.5%	0.3%	23.6%	3.3%	0.61	0.01	0.02	0.00	0.19	0.36	43.2%	25.9%	0.4%	0.2%										
86			1		2	0.54	0.00	0.02	0.00	0.37	0.57	0.3%	0.2%	30.4%	1.7%	0.57	0.00	0.01	0.00	0.23	0.34	47.5%	28.2%	0.2%	0.1%										
87			1		2	0.57	0.00	0.21	0.00	0.50	0.61	0.2%	0.2%	31.9%	13.5%	0.77	0.00	0.11	0.00	0.30	0.37	49.8%	29.6%	0.1%	0.1%										
88			1		2	0.58	0.01	0.28	0.01	0.56	0.56	1.0%	0.3%	39.4%	23.8%	0.94	0.01	0.03	0.00	0.12	0.33	37.1%	27.3%	0.4%	0.2%										
89			1		2	0.60	0.01	0.10	0.02	0.72	0.69	0.7%	1.0%	15.9%	6.2%	0.63	0.01	0.05	0.01	0.12	0.29	39.5%	18.0%	0.6%	0.9%										
90			1		2	0.59	0.00	0.01	0.00	0.43	0.59	0.1%	0.1%	30.9%	0.8%	0.68	0.00	0.02	0.00	0.26	0.36	48.6%	25.9%	0.1%	0.1%										
91			1		2	0.57	0.00	0.14	0.02	0.51	0.51	0.5%	0.1%	30.6%	0.5%	0.65	0.00	0.01	0.00	0.26	0.31	48.0%	25.5%	0.2%	0.1%										
92			1		2	0.57	0.01	0.28	0.00	0.39	0.65	0.4%	0.4%	24.7%	17.6%	0.64	0.01	0.18	0.00	0.21	0.38	40.9%	24.1%	0.4%	0.1%										
93			1		2	0.68	0.00	0.04	0.00	0.10	0.29	0.4%	0.6%	15.1%	6.5%	0.21	0.00	0.03	0.00	0.04	0.11	31.5%	15.5%	0.3%	0.1%										
94			1		2	0.41	0.00	0.05	0.01	0.11	0.28	0.6%	0.2%	18.2%	10.4%	0.24	0.00	0.06	0.00	0.14	0.44	34.4%	20.0%	0.4%	0.4%										
95			1		2	0.41	0.00	0.08	0.00	0.11	0.23	0.7%	0.5%	18.2%	11.2%	0.21	0.00	0.05	0.00	0.05	0.13	34.2%	22.0%	0.7%	0.5%										
96			1		2	0.45	0.01	0.14	0.02	0.30	0.56	0.5%	1.1%	20.6%	9.5%	0.48	0.01	0.09	0.01	0.14	0.22	32.9%	14.9%	0.3%	1.0%										
97			1		2	0.46	0.01	0.05	0.00	0.35	0.62	1.0%	0.3%	27.6%	3.8%	0.59	0.01	0.02	0.00	0.17	0.34	46.7%	26.7%	0.7%	0.3%										
98			1		2	0.47	0.01	0.16	0.02	0.37	0.44	0.3%	0.2%	25.0%	6.8%	0.58	0.01	0.02	0.00	0.17	0.34	46.0%	26.0%	0.7%	0.3%										
99			1		2	0.47	0.01	0.16	0.02	0.37	0.44	0.3%	0.2%	25.0%	6.8%	0.58	0.01	0.10	0.01	0.29	0.21	38.8%	21.9%	0.6%	1.3%										
100			1		2	0.42	0.01	0.07	0.01	0.22	0.42	1.4%	0.6%	21.9%	6.9%	0.47	0.01	0.05	0.01	0.13	0.19	46.3%	18.6%	1.0%	0.5%										
101			1		2	0.46	0.00	0.05	0.01	0.26	0.46	0.6%	0.6%	26.1%	4.6%	0.46	0.00	0.02	0.00	0.13	0.19	45.8%	18.6%	1.0%	0.5%										
102			1		2	0.43	0.01	0.26	0.01	0.20	0.46	0.6%	0.9%	18.0%	23.8%	0.39	0.01	0.17	0.01	0.10	0.27	34.5%	24.1%	0.4%	0.8%										
103			1		2	0.46	0.01	0.26	0.01	0.20	0.46	0.6%	0.9%	18.0%	23.8%	0.39	0.01	0.17	0.01	0.10	0.27	34.5%	24.1%	0.4%	0.8%										
104			1		2	0.46	0.01	0.26	0.01	0.20	0.46	0.6%	0.9%	18.0%	23.8%	0.39	0.01	0.17	0.01	0.10	0.27	34.5%	24.1%	0.4%	0.8%										
105			1		2	0.41	0.01	0.21	0.02	0.94	1.57	0.8%	0.5%	29.5%	1.8%	1.42	0.02	0.11	0.01	0.52	0.80	43.0%	24.2%	0.5%	0.3%										
106			1		2	0.49	0.00	0.02	0.00	0.36	1.59	1.3%	0.2%	33.4%	1.8%	1.49	0.00	0.03	0.00	0.54	0.84	27.7%	24.4%	1.1%	0.1%										
107			1		2	0.41	0.00	0.40	0.01	0.88	1.63	0.2%	0.2%	31.3%	14.2%	1.55	0.01	0.24	0.01	0.53	0.99	55.1%	35.3%	0.2%	0.2%										
108			1		2	0.56	0.02	0.85	0.02	0.71	1.54	0.7%	0.2%	24.0%	29.0%	1.16	0.02	0.59	0.01	0.35	0.80	39.6%	27.4%	0.6%	0.5%										
109			1		2	0.57	0.02	0.85	0.02	0.71	1.54	0.7%	0.2%	24.0%	29.0%	1.16	0.02	0.59	0.01	0.35	0.80	39.6%	27.4%	0.6%	0.5%										
110			1		2	0.50	0.03	0.06	0.01	1.02	1.62	1.2%	0.2%	36.4%	5.3%	1.45	0.02	0.54	0.01	0.62	0.85	52.0%	30.3%</												

- K-patch Mid CH

No.	Module	Type	Beam ID_1	Bema ID_2	Feed no	4cm2 PD(W/cm2)										Per Beam Backoff (dB)	max ratio out of all beams				4cm2 PD(W/cm2) at 10mm evaluation distance				max ratio out of all beams							
						S4(Right)		S3(Left)		S5(Top)		S6(Bottom)		S1(Front)			S2(Rear)		ratio (Left 2mm)/(worst surface 2mm)	ratio (Bottom 2mm)/(worst surface 2mm)	ratio (Front 2mm)/(worst surface 2mm)	ratio (Top 2mm)/(worst surface 2mm)	S4(Right)	S3(Left)	S5(Top)	S6(Bottom)	S1(Front)	S2(Rear)	ratio worst-surface (10mm/2mm)	ratio (back 10mm)/(worst surface 2mm)	ratio (Left 10mm)/(worst surface 2mm)	ratio (Bottom 10mm)/(worst surface 2mm)
						S4(Right)	S3(Left)	S5(Top)	S6(Bottom)	S1(Front)	S2(Rear)	S4(Right)	S3(Left)	S5(Top)	S6(Bottom)		S1(Front)	S2(Rear)														
61			1		1	0.21	0.00	0.01	0.00	0.06	0.07	0.5%	0.5%	27.3%	3.7%	0.10	0.00	0.00	0.00	0.03	0.03	45.5%	13.9%	0.2%	0.2%							
62			1		1	0.27	0.00	0.01	0.00	0.05	0.11	0.8%	0.4%	16.9%	5.3%	0.13	0.00	0.01	0.00	0.02	0.04	48.5%	15.0%	0.8%	0.4%							
63			5		1	0.38	0.00	0.02	0.00	0.07	0.16	0.8%	0.3%	18.5%	6.9%	0.18	0.00	0.01	0.00	0.04	0.07	47.0%	17.4%	0.5%	0.3%							
64			11		2	0.65	0.01	0.09	0.00	0.13	0.26	0.8%	0.3%	20.8%	9.2%	0.22	0.00	0.02	0.00	0.07	0.11	44.7%	16.3%	0.8%	0.3%							
65			12		2	0.65	0.00	0.07	0.00	0.17	0.26	0.6%	0.3%	26.1%	10.5%	0.38	0.00	0.03	0.00	0.10	0.13	58.9%	19.3%	0.5%	0.2%							
66			13		2	0.63	0.01	0.03	0.00	0.17	0.31	1.0%	0.3%	27.3%	5.2%	0.40	0.01	0.02	0.00	0.10	0.13	62.9%	21.1%	0.8%	0.2%							
67			14		2	0.51	0.00	0.03	0.00	0.11	0.18	0.8%	0.2%	22.0%	4.9%	0.32	0.00	0.02	0.00	0.07	0.06	42.4%	11.6%	0.8%	0.2%							
68			18		2	0.62	0.01	0.07	0.00	0.14	0.23	1.1%	0.5%	23.0%	10.7%	0.32	0.01	0.03	0.00	0.10	0.14	52.4%	22.7%	1.0%	0.5%							
69			19		2	0.64	0.00	0.03	0.00	0.18	0.27	0.6%	0.2%	27.4%	5.0%	0.39	0.00	0.01	0.00	0.11	0.13	60.5%	19.6%	0.5%	0.0%							
70			20		2	0.64	0.01	0.06	0.00	0.12	0.20	1.1%	0.3%	19.3%	3.1%	0.32	0.01	0.04	0.00	0.07	0.11	50.6%	16.0%	0.9%	0.3%							
71			26		5	1.04	0.01	0.26	0.01	0.20	0.36	1.3%	1.3%	19.4%	24.8%	0.44	0.01	0.16	0.01	0.12	0.18	42.0%	17.8%	1.0%	1.1%							
72			27		5	1.13	0.02	0.29	0.01	0.21	0.40	1.3%	0.9%	22.6%	25.4%	0.79	0.01	0.09	0.01	0.21	0.28	68.4%	24.6%	1.1%	0.5%							
73			28		5	1.29	0.02	0.03	0.00	0.44	0.43	0.80	1.0%	2.0%	28.5%	2.2%	0.76	0.01	0.02	0.00	0.11	0.22	63.9%	16.9%	1.0%	0.2%						
74			29		5	1.12	0.02	0.04	0.00	0.37	0.57	1.6%	0.3%	33.1%	3.9%	0.76	0.02	0.02	0.00	0.24	0.28	67.2%	21.3%	0.2%	0.2%							
75			30		5	0.98	0.02	0.10	0.01	0.24	0.45	1.9%	0.7%	24.6%	20.7%	0.69	0.02	0.13	0.01	0.15	0.16	50.4%	16.0%	1.1%	0.0%							
76			35		5	1.22	0.01	0.04	0.00	0.46	0.48	1.4%	1.3%	23.5%	0.4%	0.66	0.01	0.18	0.01	0.16	0.23	62.9%	20.6%	1.2%	1.2%							
77			36		5	1.23	0.01	0.06	0.00	0.43	0.57	1.1%	0.2%	35.1%	4.7%	0.84	0.01	0.02	0.00	0.30	0.31	68.7%	25.0%	0.7%	0.1%							
78			37		5	1.22	0.01	0.04	0.00	0.46	0.48	0.20	0.7%	35.5%	3.7%	0.79	0.01	0.02	0.00	0.32	0.27	63.5%	22.3%	0.6%	0.2%							
79			38		5	1.14	0.02	0.13	0.01	0.31	0.53	1.8%	0.4%	27.0%	11.5%	0.73	0.02	0.08	0.00	0.19	0.21	64.1%	18.5%	1.7%	0.4%							
80			129		1	0.28	0.00	0.01	0.00	0.03	0.18	0.7%	0.7%	9.5%	4.2%	0.14	0.00	0.01	0.00	0.01	0.06	50.2%	21.6%	0.7%	0.4%							
81			131		1	0.32	0.00	0.02	0.00	0.05	0.11	0.2%	0.6%	14.4%	4.7%	0.17	0.00	0.01	0.00	0.04	0.04	52.0%	11.3%	0.3%	0.6%							
82			133		1	0.28	0.00	0.02	0.00	0.04	0.13	0.7%	0.4%	13.2%	4.5%	0.15	0.00	0.01	0.00	0.02	0.05	51.6%	16.4%	0.4%	0.4%							
83			139		2	0.64	0.01	0.05	0.01	0.07	0.23	0.8%	0.8%	10.8%	8.0%	0.25	0.00	0.03	0.00	0.03	0.08	39.1%	12.1%	0.5%	0.6%							
84			140		2	0.58	0.00	0.02	0.00	0.11	0.28	0.5%	0.7%	10.0%	2.8%	0.35	0.00	0.01	0.00	0.06	0.11	59.7%	29.5%	0.5%	0.5%							
85			141		2	0.56	0.00	0.03	0.00	0.10	0.33	0.7%	0.4%	17.0%	5.0%	0.33	0.00	0.02	0.00	0.05	0.13	58.7%	22.7%	0.5%	0.4%							
86			142		2	0.39	0.00	0.03	0.00	0.05	0.19	0.5%	0.8%	13.7%	16.0%	0.16	0.00	0.04	0.00	0.03	0.08	40.4%	20.1%	0.5%	0.5%							
87			146		2	0.67	0.00	0.06	0.00	0.20	0.20	0.4%	0.8%	18.2%	4.4%	0.35	0.00	0.04	0.00	0.04	0.06	64.9%	24.8%	0.8%	0.6%							
88			147		2	0.56	0.00	0.03	0.00	0.11	0.30	0.5%	0.3%	19.3%	3.4%	0.35	0.00	0.01	0.00	0.06	0.13	52.7%	23.4%	0.5%	0.4%							
89			148		2	0.61	0.00	0.04	0.00	0.08	0.29	0.7%	0.5%	13.0%	6.1%	0.28	0.00	0.02	0.00	0.04	0.11	48.8%	18.6%	0.5%	0.3%							
90			154		5	0.86	0.01	0.03	0.01	0.21	0.43	1.0%	0.2%	14.6%	10.4%	0.36	0.01	0.01	0.00	0.06	0.14	63.6%	24.7%	0.6%	0.4%							
91			155		5	1.24	0.01	0.10	0.01	0.27	0.52	0.7%	0.6%	23.5%	5.4%	0.75	0.01	0.03	0.00	0.16	0.23	66.1%	20.4%	0.8%	0.4%							
92			156		5	1.11	0.01	0.05	0.01	0.27	0.59	0.7%	0.6%	24.0%	4.6%	0.75	0.01	0.02	0.00	0.16	0.27	67.2%	24.5%	0.5%	0.3%							
93			157		5	0.82	0.01	0.03	0.00	0.21	0.43	0.8%	0.6%	23.2%	4.8%	0.62	0.01	0.02	0.00	0.12	0.24	62.8%	20.8%	0.6%	0.2%							
94			158		5	0.92	0.01	0.11	0.01	0.13	0.48	1.3%	1.5%	16.1%	24.9%	0.42	0.01	0.13	0.01	0.07	0.24	51.3%	29.2%	1.0%	0.6%							
95			163		5	1.13	0.01	0.14	0.01	0.27	0.49	1.0%	1.2%	24.2%	29.8%	0.74	0.01	0.16	0.02	0.16	0.20	65.7%	17.6%	0.4%	1.1%							
96			164		5	1.12	0.01	0.13	0.01	0.26	0.48	0.8%	0.8%	21.4%	24.8%	0.68	0.01	0.14	0.01	0.16	0.20	66.3%	26.3%	0.7%	0.4%							
97			165		5	1.23	0.01	0.03	0.00	0.28	0.29	0.8%	0.2%	22.5%	2.8%	0.69	0.01	0.02	0.00	0.17	0.34	67.5%	27.6%	0.6%	0.1%							
98			166		5	0.88	0.01	0.15	0.01	0.19	0.57	0.9%	0.6%	20.9%	17.2%	0.53	0.01	0.08	0.00	0.09	0.34	60.3%	37.9%	0.6%	0.3%							
99			168		5	0.82	0.01	0.08	0.00	0.10	0.28	0.8%	0.6%	18.6%	6.6%	0.52	0.01	0.02	0.00	0.06	0.12	52.4%	24.6%	0.4%	0.2%							
100			131		3	2	0.61	0.00	0.04	0.00	0.10	0.27	0.7%	0.7%	16.0%	6.5%	0.32	0.00	0.03	0.00	0.09	0.29	52.2%	14.7%	0.5%	0.7%						
101			133		5	2	0.72	0.01	0.08	0.01	0.13	0.39	1.0%	0.7%	18.4%	10.6%	0.37	0.01	0.04	0.00	0.07	0.17	51.1%	23.5%	0.7%	0.6%						
102			134		11	4	1.21	0.01	0.03	0.01	0.28	0.54	1.2%	0.9%	20.6%	14.1%	0.61	0.01	0.01	0.00	0.14	0.22	68.2%	16.0%	0.6%	0.2%						
103			140		12	4	1.13	0.01	0.11	0.01	0.26	0.54	1.2%	1.0%	22.1%	9.8%	0.68	0.01	0.05	0.01	0.15	0.22	57.6%	18.1%	0.8%	0.6%						
104			141		13	4	1.23	0.01	0.08	0.00	0.27	0.63	1.3%	0.3%	21.9%	6.7%	0.71	0.01	0.06	0.00	0.16	0.27	58.1%	22.3%	0.8%	0.2%						
105			142		14	4	1.22	0.01	0.06	0.00	0.23	0.53	1.1%	0.3%	20.3%	17.7%	0.67	0.01	0.04	0.00	0.17	0.25	62.5%	22.1%	0.7%	0.2%						
106			146		18	4	1.16	0.01	0.22	0.01	0.24	0.69	1.2%	0.9%	20.9%	19.9%	0.73	0.01	0.11	0.01	0.13	0.24	63.5%	20.4%	0.8%	0.8%						
107			147		19	4	1.22	0.01	0.03	0.00	0.28	0.67	0.8%	0.3%	22.8%	3.6%	0.72	0.01	0.02	0.00	0.16	0.24	59.4%	19.9%	0.7%	0.2%						
108			148		20	4	1.26	0.02	0.12	0.01	0.27	0.58	1.3%	0.7%	17.6%	6.2%	0.72	0.01	0.02	0.00	0.16	0.24	52.4%	19.0%	1.0%	0.2%						
109			154		26	10	2.28	0.04	0.77	0.06	0.59	1.22	1.5%	2.1%	26.0%	33.6%	1.25	0.03	0.50	0.05	0.52	15.0%	22.8%	1.1%	2.1%							
110			155		27	10	2.47	0.03	0.58	0.02	0.64	1.52	1.2%	0.6%	24.0%	21.8%	1.02	0.03	0.16	0.01	0.41	0.69	71.9%	25.9%	1.0%	0.5%						
111			156		28	10	2.44	0.02	0.54	0.02	0.64	1.50	1.2%	0.6%	24.0%	21.8%	1.02	0.03	0.16	0.01	0.41	0.69	71.9%	25.9%	1.0%	0.5%						
112			157		29	10	2.57	0.04	0.18	0.01	0.79	1.41	1.4%	0.3%	30.7%	7.1%	1.83	0.03	0.08	0.00	0.51	0.66	71.2%	37.1%	1.2%	0.2%						
113			158		30	10	2.44	0.04	0.37	0.02	0.41	1.20	1.7%	0.9%	17.5%	23.2%	1.40	0.03	0.39	0.02	0.24	0.50	57.5%	20.6%	1.1%	0.7%						
114			163		35	10	2.41	0.01	0.11	0.00	0.67	1.44	1.7%	2.0%	20.7%	14.5%	1.40	0.03	0.14	0.01	0.43	0.79	71.8%	21.7%	1.1%	1.8%						
115			164		36	10	2.54																									