

FCC ID: A3LSMF946U

Power Density Simulation Report

Revision A

May 11, 2023

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 2022.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 2021.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 2021.R2 (HFSS) is used. ANSYS Electromagnetics suite version 2021.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 2021.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 2021.R2 (HFSS), the accuracy of converged results depends on the delta S. Figure 1 is an example of final adaptive mesh of the device (cross-section of top view).

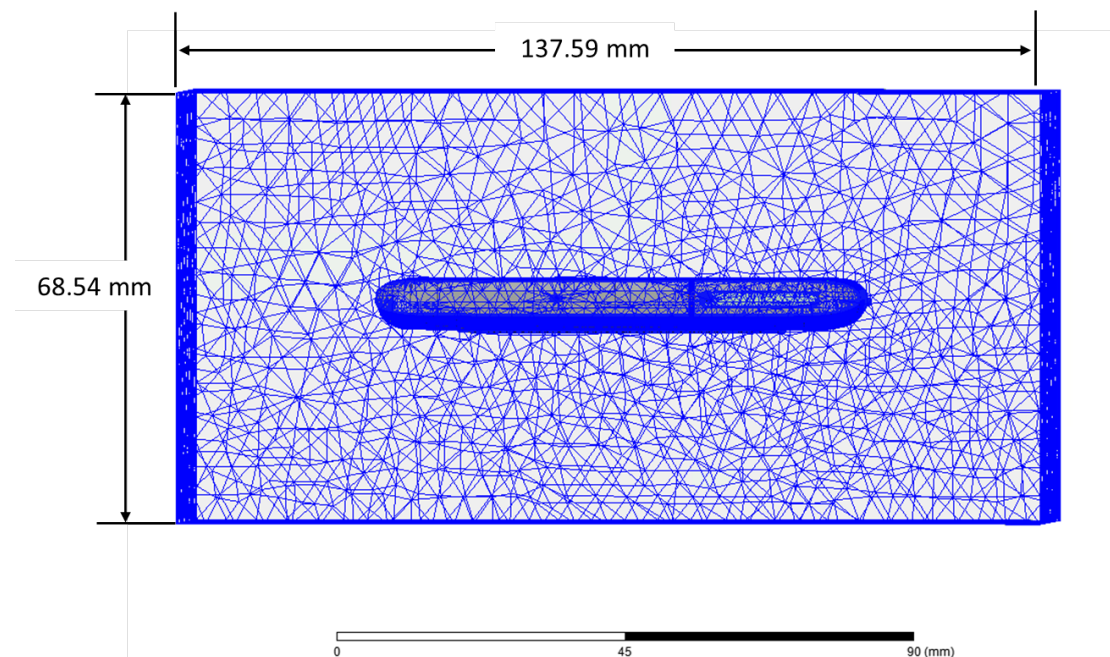


Figure 1 Example of the adaptive mesh technique (Top view)

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.R1 (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:

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

, 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 K and Ant M. For a folder open status (Fig. 2-1), Ant M is placed on the right side and antennas are facing the right side, and Ant K is placed on the back side and antennas are facing the back side of the device. For a folder close status (Fig. 2-2), Ant K and Ant M are placed same of the folder open status.

Folder Open

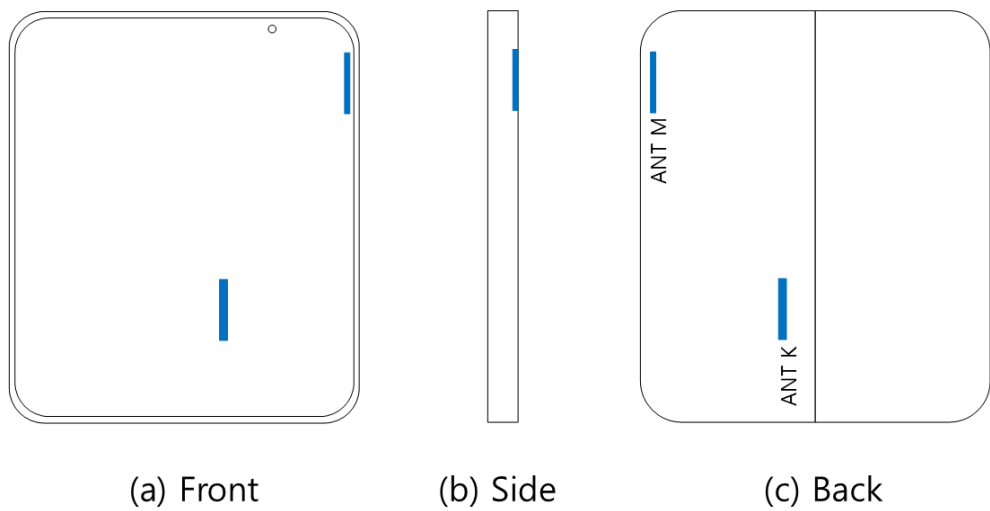


Figure 2-1. Simulation model which is mounted two mmWave antenna modules (Folder Open Status)

Folder Closed

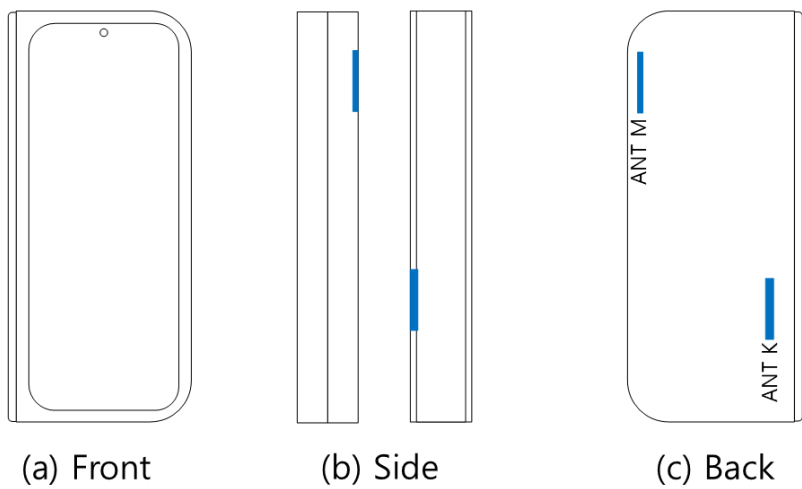


Figure 3-2. Simulation model which is mounted two mmWave antenna modules (Folder Closed Status)

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 whole area of the simulation model to find worst case of beamforming cases.

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	O
Ant M	O	O	O	O	O	O

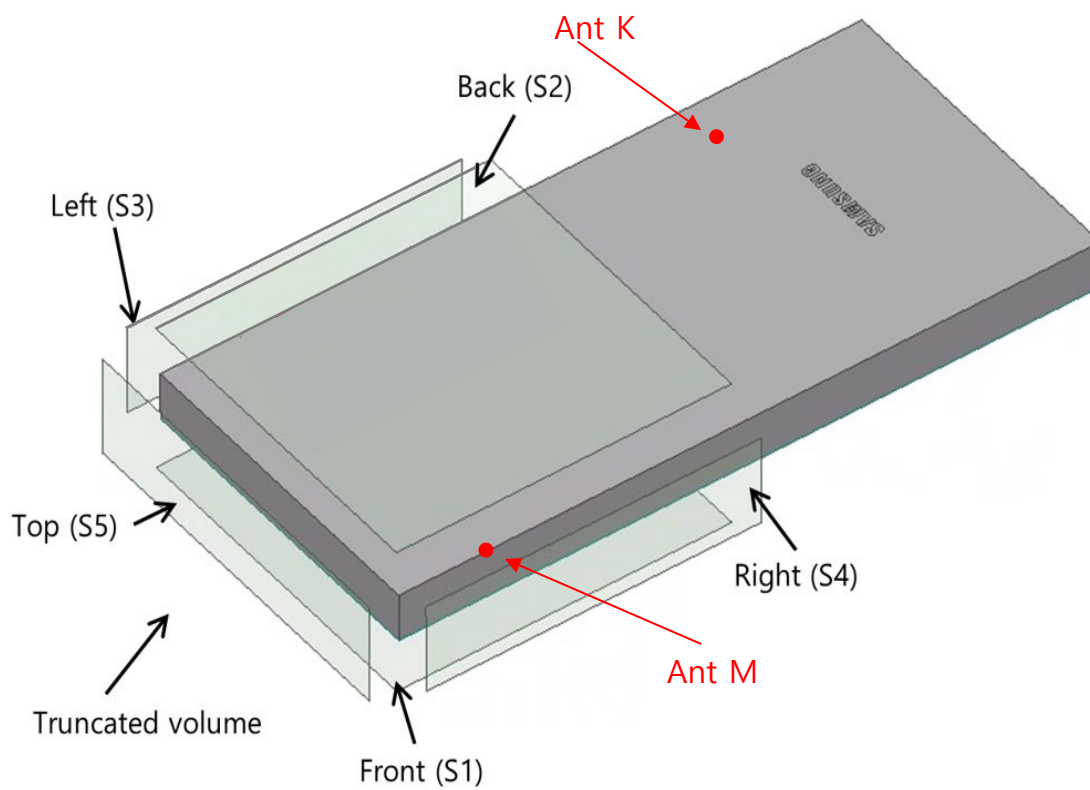


Figure 4. PD evaluation planes

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 2022.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 each surfaces of the device were used.

1.2.4 Source excitation condition

The number of antenna ports of ANT K and ANT M for source excitation are the same. The antenna port of ANT K and M 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.

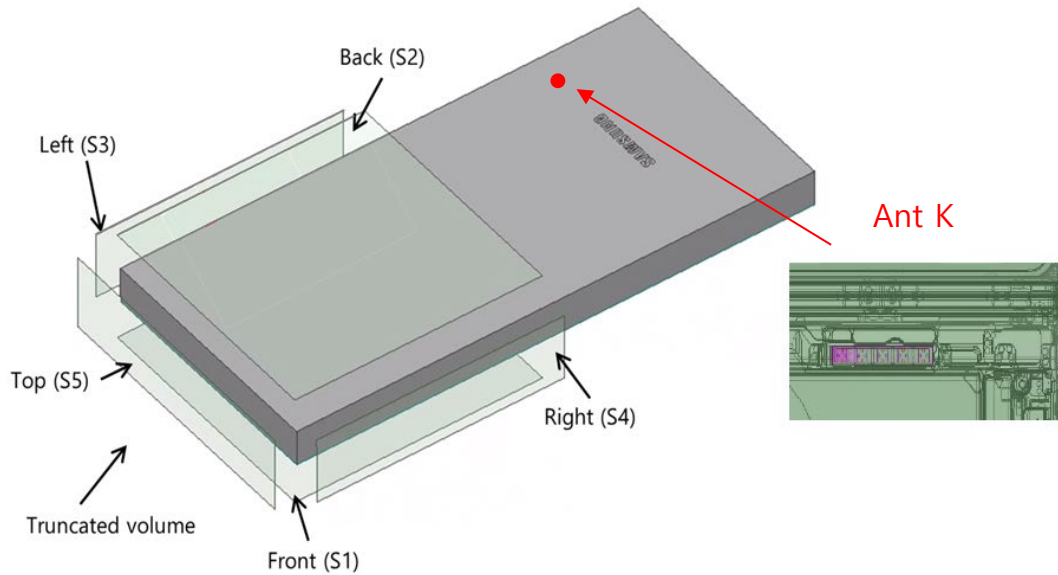


Figure 5. mmWave module (ANT K)

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.

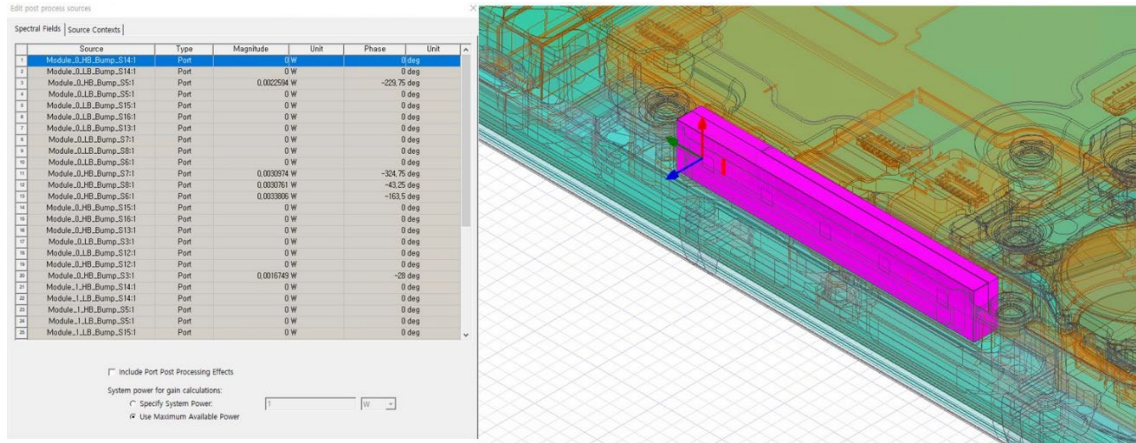


Figure 6. An example of port excitation (ANT M)

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

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.

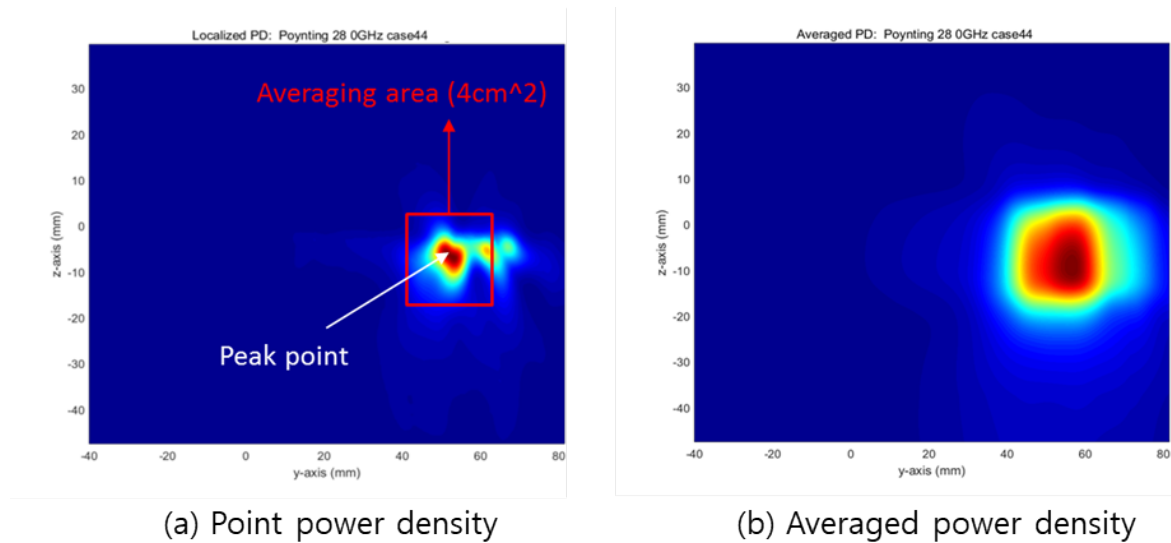


Figure 7. Power density distribution (Example)

2.2 Comparison between simulation and measurement

In this section, the simulated-power density distributions and measured-power density distributions are compared to each mmWave antenna.

Based on comparison of power density distributions, simulated power density and measured power density have a good correlation. The discrepancy in amplitude between simulated 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.

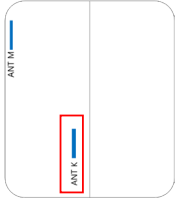
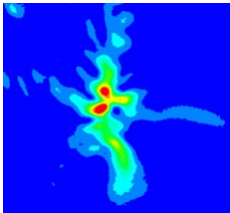
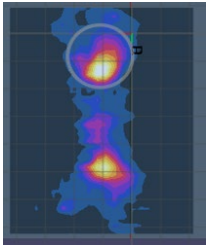
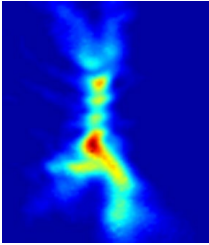
The input powers per each active port are listed below for both Simulation and Measurement validation and power density characterization. For Simulation, these values were entered directly into HFSS model. For measurement, FTM S/W was used to input these values for each active port also.

Mode/Band	Antenna	Input Power (dBm)	
		SISO	MIMO
5G NR n261	K Patch	6.0	6.0
	M Patch	6.0	6.0
5G NR n260	K Patch	6.0	6.0
	M Patch	6.0	6.0
5G NR n258	K Patch	6.0	6.0
	M Patch	6.0	6.0

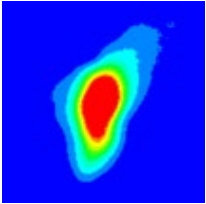
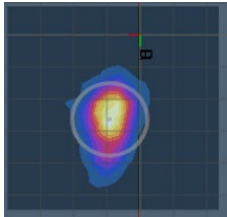
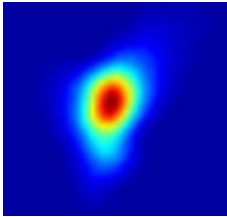
* The below simulation and measurement result were performed at 2mm evaluation distance and 28GHz / 38.5GHz. The *input.power.limit* was determined based on below results in RF Exposure Part 0 Report.

[Folder Open Status]

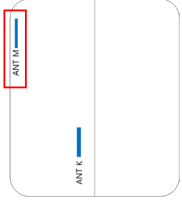
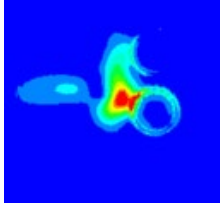
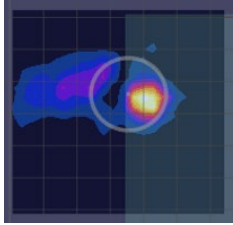
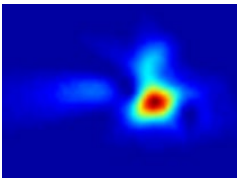
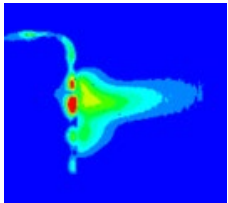
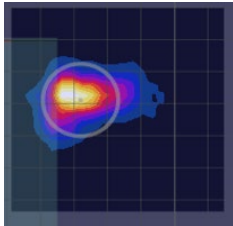
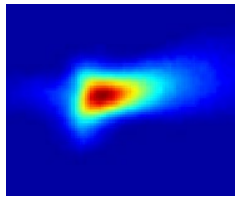
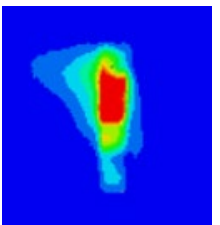
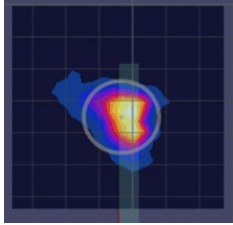
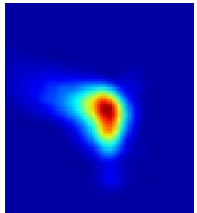
- Table 2-1, n258 ANT K-Patch: Mid Channel, Beam ID 34 for selected surfaces

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

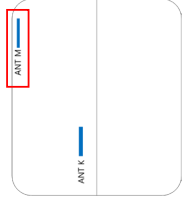
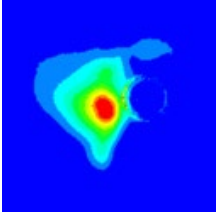
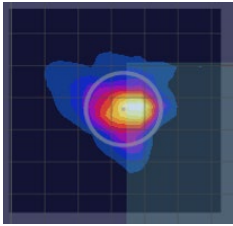
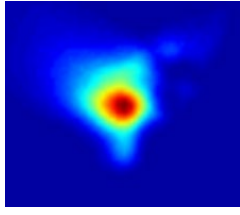
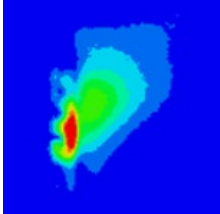
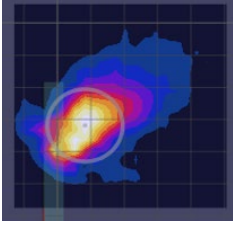
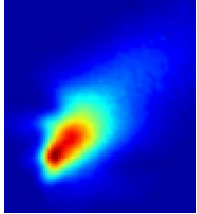
- Table 2-2, n258 ANT K-Patch: Mid Channel, Beam ID 165 for selected surfaces

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

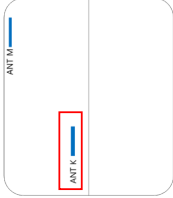
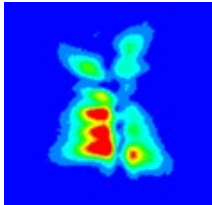
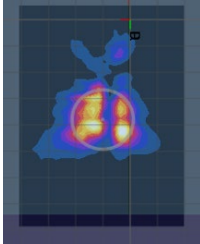
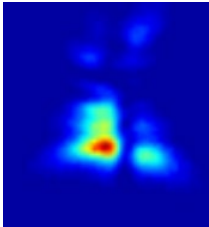
● Table 2-3, n258 ANT M-Patch: Mid Channel, Beam ID 39,40,41 for selected surfaces

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

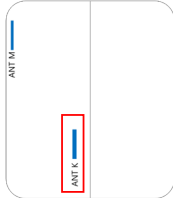
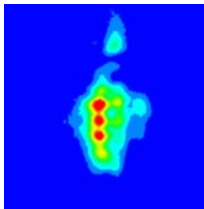
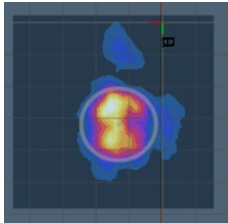
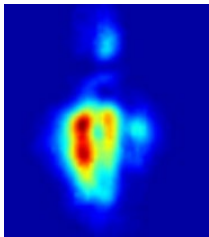
● Table 2-4, n258 ANT M-Patch: Mid Channel, Beam ID 169 for selected surfaces

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169	S2 (Rear)				
	S4 (Right)				

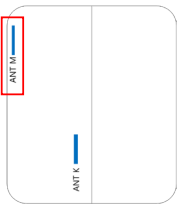
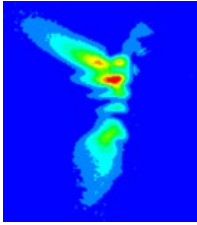
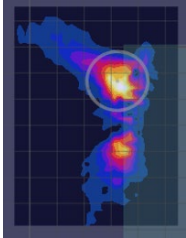
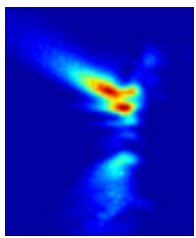
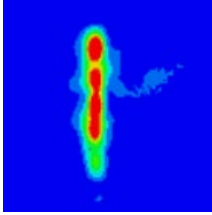
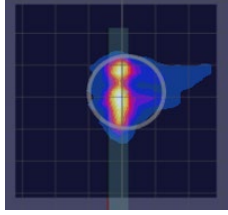
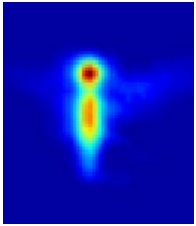
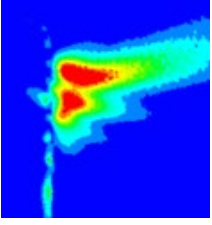
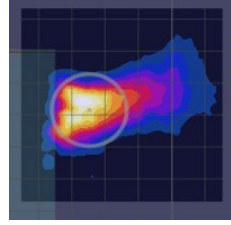
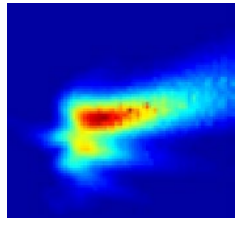
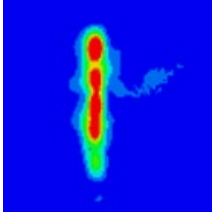
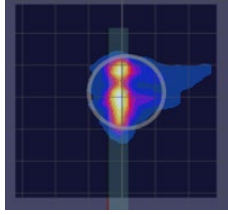
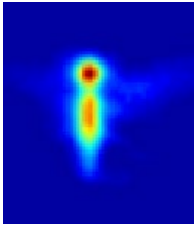
- Table 2-5, n260 ANT K-Patch: Mid Channel, Beam ID 34 for selected surfaces

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

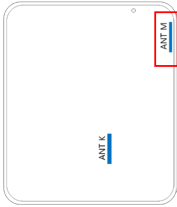
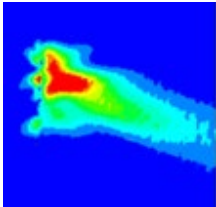
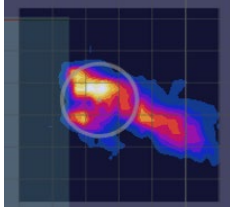
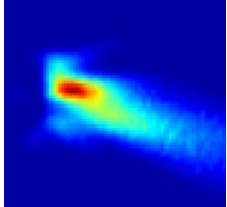
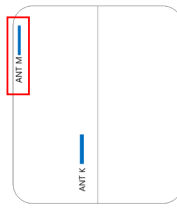
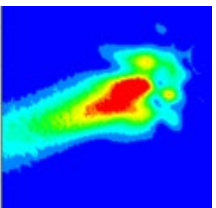
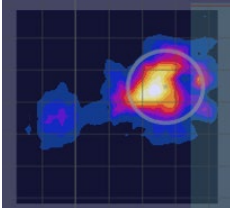
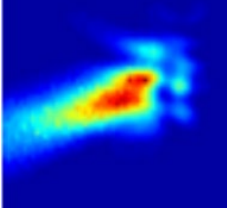
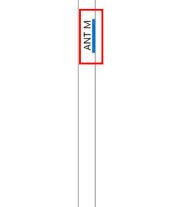
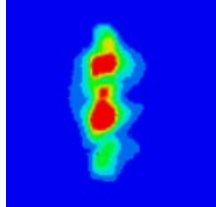
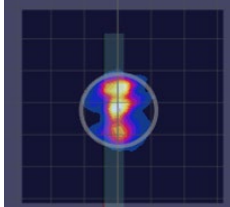
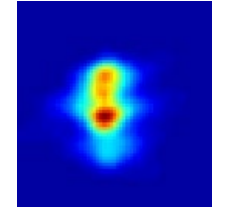
- Table 2-6, n260 ANT K-Patch: Mid Channel, Beam ID 154 for selected surfaces

Beam ID	Surface	View	Simulated PD	Measured PD	Print out from Qualcomm MG Script
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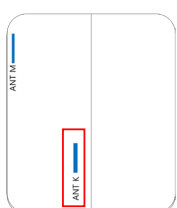
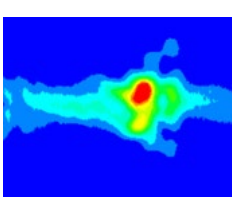
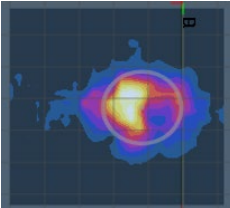
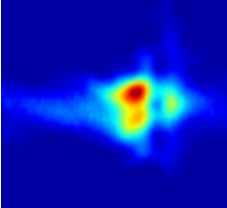
● Table 2-7, n260 ANT M-Patch: Mid Channel, Beam ID 38,39 for selected surfaces

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

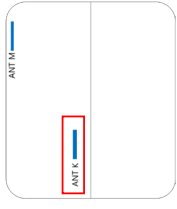
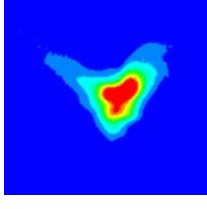
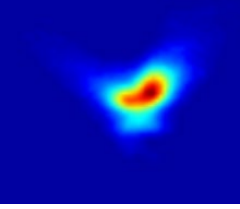
● Table 2-8, n260 ANT M-Patch: Mid Channel, Beam ID 160 for selected surfaces

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

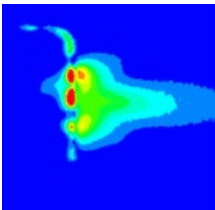
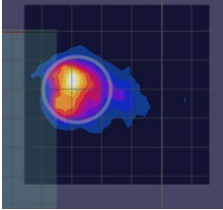
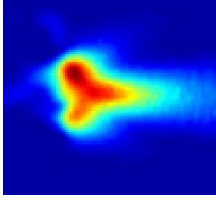
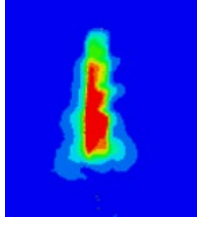
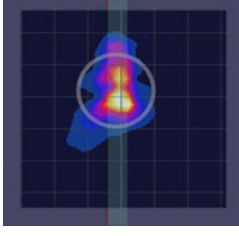
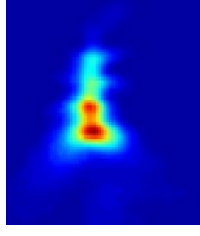
● Table 2-9, n261 ANT K-Patch: Mid Channel, Beam ID 26 for selected surfaces

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

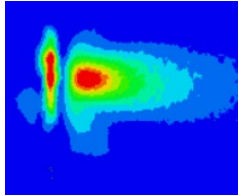
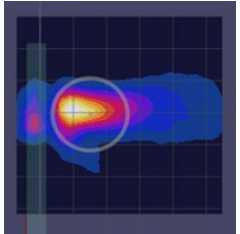
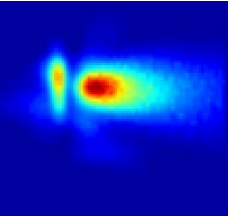
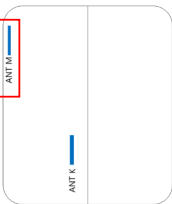
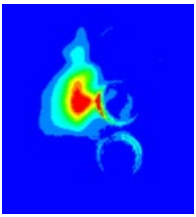
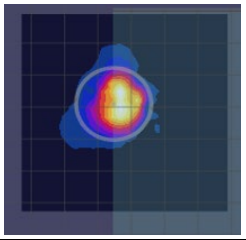
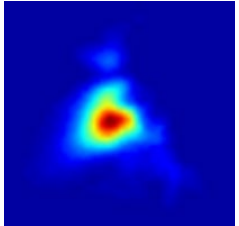
- Table 2-10, n261 ANT K-Patch: Mid Channel, Beam ID 165 for selected surfaces

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

- Table 2-11, n261 ANT M-Patch: Mid Channel, Beam ID 31,33 for selected surfaces

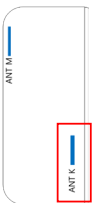
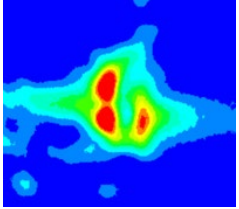
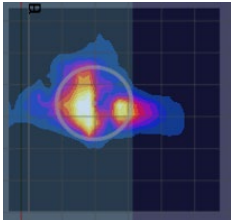
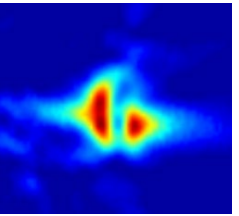
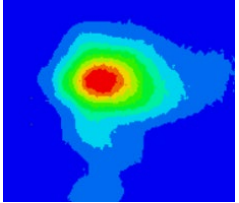
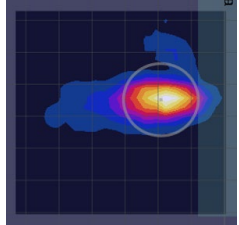
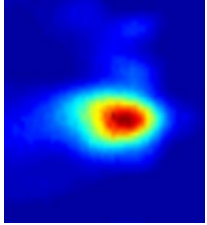
Beam ID	Surface	View	Simulated PD	Measured PD	Print out from Qualcomm MG Script
31	S1 (Front)				
33	S4 (Right)				

- Table 2-12, n261 ANT M-Patch: Mid Channel, Beam ID 159,169 for selected surfaces

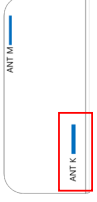
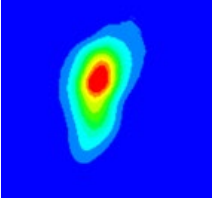
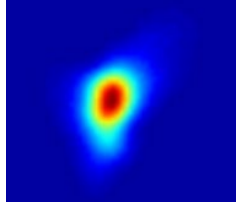
Beam ID	Surface	View	Simulated PD	Measured PD	Print out from Qualcomm MG Script
159	S4 (Right)				
169	S2 (Rear)				

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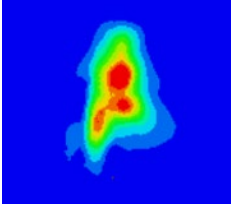
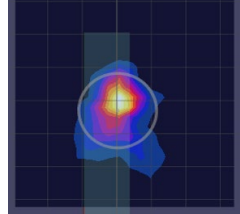
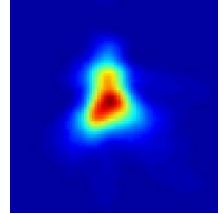
- Table 2-13, n258 ANT K-Patch: Mid Channel, Beam ID 26 for selected surfaces

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

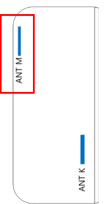
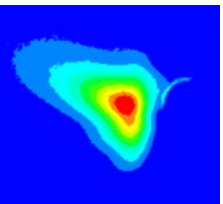
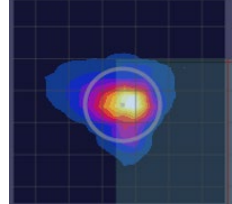
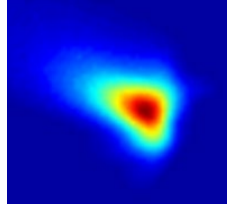
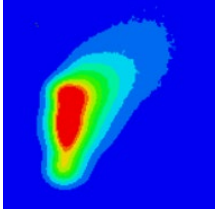
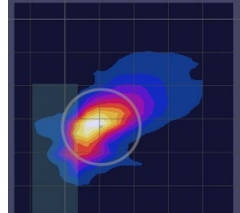
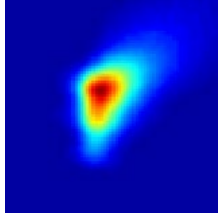
- Table 2-14, n258 ANT K-Patch: Mid Channel, Beam ID 165 for selected surfaces

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

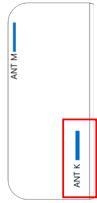
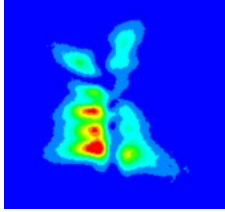
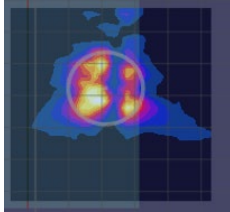
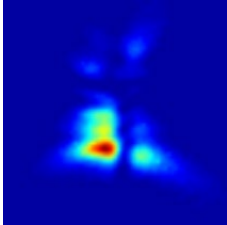
- Table 2-15, n258 ANT M-Patch: Mid Channel, Beam ID 29 for selected surfaces

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

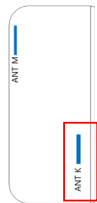
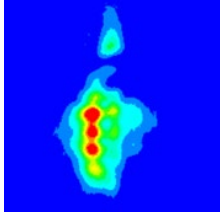
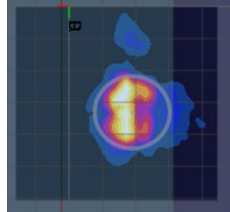
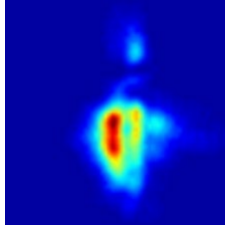
- Table 2-16, n258 ANT M-Patch: Mid Channel, Beam ID 169 for selected surfaces

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

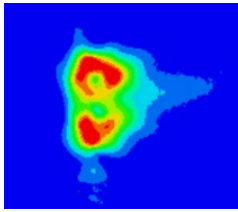
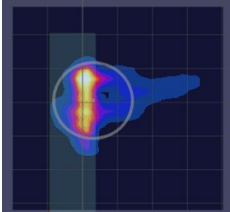
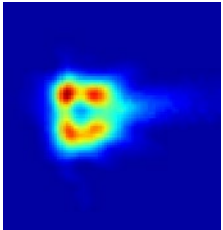
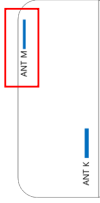
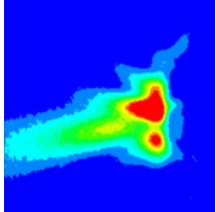
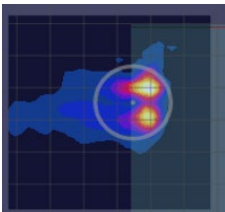
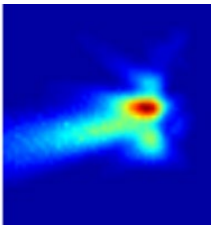
- Table 2-17, n260 ANT K-Patch: Mid Channel, Beam ID 34 for selected surfaces

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

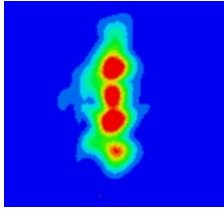
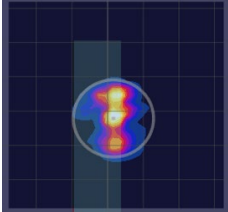
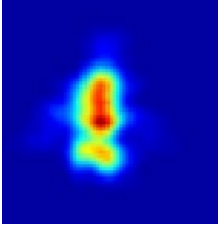
- Table 2-18, n260 ANT K-Patch: Mid Channel, Beam ID 154 for selected surfaces

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

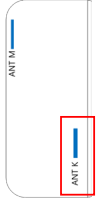
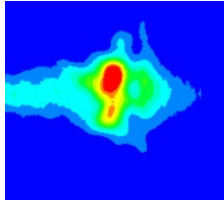
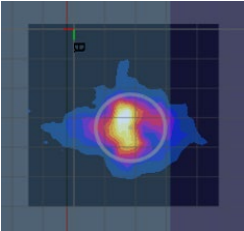
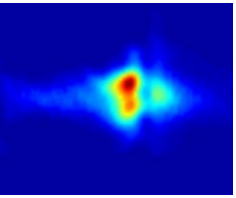
- Table 2-19, n260 ANT M-Patch: Mid Channel, Beam ID 31,40 for selected surfaces

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

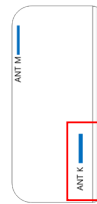
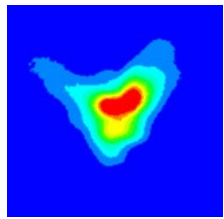
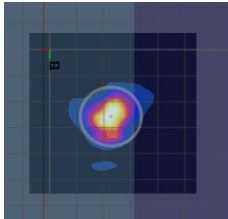
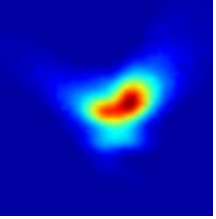
- Table 2-20, n260 ANT M-Patch: Mid Channel, Beam ID 160 for selected surfaces

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

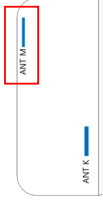
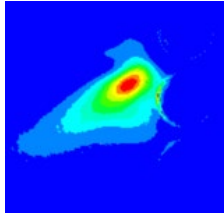
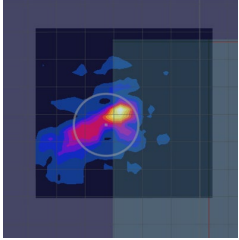
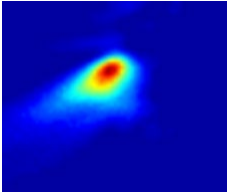
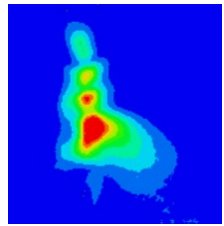
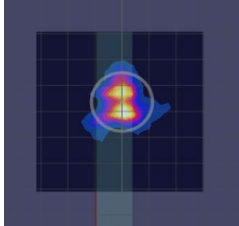
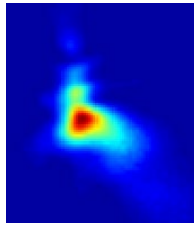
- Table 2-21, n261 ANT K-Patch: Mid Channel, Beam ID 26 for selected surfaces

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

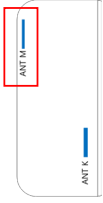
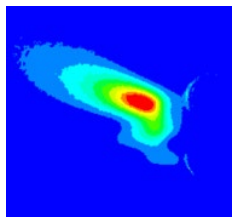
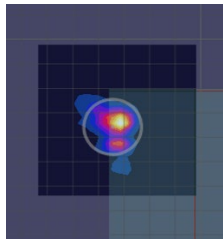
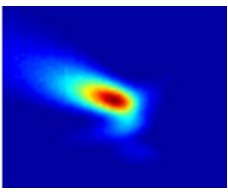
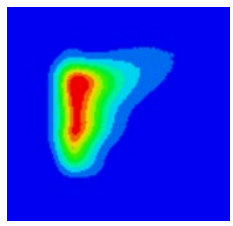
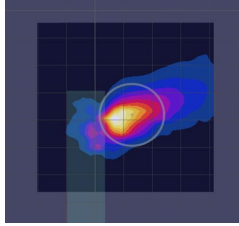
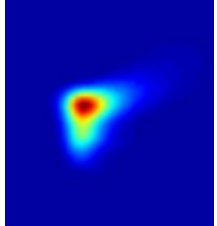
- Table 2-22, n261 ANT K-Patch: Mid Channel, Beam ID 165 for selected surfaces

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

● Table 2-23, n261 ANT M-Patch: Mid Channel, Beam ID 41 for selected surfaces

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

● Table 2-24, n261 ANT M-Patch: Mid Channel, Beam ID 166 for selected surfaces

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

3 Simulation results

This section shows the PD simulation results of Ant K and Ant M at 24GHz, 28GHz and 39GHz for each evaluation plane specified in Table 1 at two separation distances of 2mm and 10mm for open condition and for closed conditions. The ratio of PD exposure from front surface to the worst surface at 2mm, and the ratio of PD exposure from 2mm to 10mm (open and closed) 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 24GHz / 28GHz / 39GHz

3.1.1 Ant K– Patch Antenna

Table 3 & Table 4 & Table 5 show the PD simulation evaluation of Ant K patch antenna at 24GHz / 28GHz / 39GHz for the corresponding evaluation planes specified in Table 1.

Table 3. PD of Ant K – patch antenna (24GHz – n258)

[Folder Open Status]

- K-patch Low CH

[illegible]

- K-patch Mid CH

[illegible]

- K-patch High CH

[illegible]

[Folder Closed Status]

- K-patch Low CH

[illegible]

- K-patch Mid CH

[illegible]

- K-patch High CH

[illegible]

Table 4. PD of Ant K – patch antenna (28GHz – n261)

[Folder Open Status]

- K-patch Low CH

[illegible]

- K-patch Mid CH

No.	Module	Type	Beam C-1	Beam C-2	Feed No.	near ratio out of all beams										near ratio out of all beams																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
						near (100%) ratio										near (100%) ratio @ 3mm evaluation distance																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
						Left (°)	Right (°)	Up (°)	Down (°)	Left (°)	Right (°)	Up (°)	Down (°)	Left (°)	Right (°)	Left (°)	Right (°)	Up (°)	Down (°)	Left (°)	Right (°)	Up (°)	Down (°)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
1	1	1	1	1	1	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

- K-patch High CH

No.	Module	Type	Beam (C-1)	Beam (C-2)	Feed no.	near ratio set of 10 beams										near ratio set of all beams																																																																																																																																																																																																																																																																																																																																					
						near F2000(beam)					near F2000(beam) at times evaluation distance																																																																																																																																																																																																																																																																																																																																										
						45Right	45Left	45Bottom	45Front	45Back	45Right	45Left	45Bottom	45Front	45Back	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams	near ratio set of all beams

[Folder Closed Status]

- K-patch Low CH

No.	Module	Type	Beam C-1	Beam C-2	Feed no.	max ratio out of 8 beams										max ratio out of 16 beams											
						Beam FID(s) (Hz)								Beam FID(s) (Hz) at 10mm evaluation distance								Beam FID(s) (Hz) at 20mm evaluation distance					
						15W	35W	45W	60W	75W	Other	max Ratio out of 8	max Ratio out of 8	15W	35W	45W	60W	75W	Other	max Ratio out of 8	max Ratio out of 8	15W	35W	45W	60W	75W	Other
1	1	1	1	1	1	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100
2	2	1	1	1	1	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100
3	3	1	1	1	1	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100
4	4	1	1	1	1	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100
5	5	1	1	1	1	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100
6	6	1	1	1	1	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100
7	7	1	1	1	1	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100
8	8	1	1	1	1	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100
9	9	1	1	1	1	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100
10	10	1	1	1	1	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100
11	11	1	1	1	1	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100
12	12	1	1	1	1	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100
13	13	1	1	1	1	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100
14	14	1	1	1	1	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100
15	15	1	1	1	1	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100
16	16	1	1	1	1	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100
17	17	1	1	1	1	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100
18	18	1	1	1	1	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100
19	19	1	1	1	1	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100
20	20	1	1	1	1	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100
21	21	1	1	1	1	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100
22	22	1	1	1	1	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100
23	23	1	1	1	1	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100
24	24	1	1	1	1	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100
25	25	1	1	1	1	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100
26	26	1	1	1	1	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100
27	27	1	1	1	1	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100
28	28	1	1	1	1	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100
29	29	1	1	1	1	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100
30	30	1	1	1	1	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100
31	31	1	1	1	1	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100
32	32	1	1	1	1	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100
33	33	1	1	1	1	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100
34	34	1	1	1	1	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100
35	35	1	1	1	1	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100
36	36	1	1	1	1	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100
37	37	1	1	1	1	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100
38	38	1	1	1	1	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100
39	39	1	1	1	1	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100
40	40	1	1	1	1	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100
41	41	1	1	1	1	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100
42	42	1	1	1	1	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100
43	43	1	1	1	1	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100
44	44	1	1	1	1	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100
45	45	1	1	1	1	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100
46	46	1	1	1	1	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100
47	47	1	1	1	1	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100
48	48	1	1	1	1	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100
49	49	1	1	1	1	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100
50	50	1	1	1	1	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100
51	51	1	1	1	1	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100
52	52	1	1	1	1	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100
53	53	1	1	1	1	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100
54	54	1	1	1	1	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100	1.00	1.00	100	100	100	100	100	100
55	55	1	1	1	1	100	100	100																			

- K-patch Mid CH

[illegible]

- K-patch High CH

[illegible]

Table 5. PD of Ant K – patch antenna (39GHz – n260)

[Folder Open Status]

- K-patch Low CH

[illegible]

- K-patch Mid CH

[illegible]

- K-patch High CH

		near ratio set of all beams																				near ratio set of all beams											
No.	Module	Type	Beam C-1	Beam C-2	Feed no.	near P (Power) (mW)										near Beam Back up (dB)	near P (Power) (mW) at 10mm evaluation distance										near Beam Back up (dB)						
						15Wright	15Wleft	15Wtop	15Wbottom	15Wfront	15Wback	4.8W	4.8W	2.6W	0.75W		1.7W	160.0W	15Wright	15Wleft	15Wtop	15Wbottom	15Wfront	15Wback	32.4W	7.6W		3.8W	1.7W	8.6W	6.6W	32.4W	
near ratio (near surface zone)																																	
1	1	1	1	1	1	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
2	2	1	1	1	1	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
3	3	1	1	1	1	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
4	4	1	1	1	1	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
5	5	1	1	1	1	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
6	6	1	1	1	1	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
7	7	1	1	1	1	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
8	8	1	1	1	1	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
9	9	1	1	1	1	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
10	10	1	1	1	1	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
11	11	1	1	1	1	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
12	12	1	1	1	1	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
13	13	1	1	1	1	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
14	14	1	1	1	1	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
15	15	1	1	1	1	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
16	16	1	1	1	1	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
17	17	1	1	1	1																												
18	18	1	1	1	1	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
19	19	1	1	1	1	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
20	20	1	1	1	1	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
21	21	1	1	1	1	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
22	22	1	1	1	1	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
23	23	1	1	1	1	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
24	24	1	1	1	1	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
25	25	1	1	1	1	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
26	26	1	1	1	1	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
27	27	1	1	1	1	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
28	28	1	1	1	1	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
29	29	1	1	1	1	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
30	30	1	1	1	1	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
31	31	1	1	1	1	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
32	32	1	1	1	1	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
33	33	1	1	1	1	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
34	34	1	1	1	1	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
35	35	1	1	1	1	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
36	36	1	1	1	1	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
37	37	1	1	1	1	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
38	38	1	1	1	1	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
39	39	1	1	1	1	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
40	40	1	1	1	1	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
41	41	1	1	1	1	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
42	42	1	1	1	1	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
43	43	1	1	1	1	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
44	44	1	1	1	1	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
45	45	1	1	1	1	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
46	46	1	1	1	1	100	100	100	100	100	100	100	100	100	100																		

[Folder Closed Status]

- K-patch Low CH

[illegible]

- K-patch Mid CH

[illegible]

- K-patch High CH

[illegible]

Table 5 & Table 6 & Table 7 show the PD simulation evaluation of Ant M patch antenna at 24GHz / 28GHz / 39GHz for the corresponding evaluation planes specified in Table 1. As shown, a per beam back-off for TER analysis is added to Table 5 (28 GHz Ant. M). This back-off is originated by the 2mm/10mm PD worst ratio which is used for TER calculation of ‘Hotspot’ condition of folder closed status. If the ratio is large, the *input.power.limit* of this model should be decreased large enough to meet the TER analysis. To avoid the large back-off, therefore, the per beam back-off is adopted and the back-off are applied to several beam IDs in Table 5 to meet the worst surface conditions that satisfying the ‘Hotspot’ TER analysis.

[Folder Open Status]

more rates out of all beams													more rates out of all beams																			
No.	Module	Type	Beam ID-1	Beam ID-2	Feed No.	A-Net FID500(mcd)						Gain Ratio Beam ID-1/2	A-Net FID500(mcd) at 10mm evaluation distance						Gain Ratio Beam ID-1/2	A-Net FID500(mcd) at 10mm evaluation distance												
						Wavelength	OTF ₁	OTF ₂	Modulation	OTF ₃	OTF ₄		Wavelength	OTF ₁	OTF ₂	Modulation	OTF ₃	OTF ₄		Wavelength	OTF ₁	OTF ₂	Modulation	OTF ₃	OTF ₄							
						Ratio	Ratio	Ratio	Ratio	Ratio	Ratio		Ratio	Ratio	Ratio	Ratio	Ratio	Ratio		Ratio	Ratio	Ratio	Ratio	Ratio	Ratio							
more rates out of all beams													more rates out of all beams																			
more rates out of all beams													more rates out of all beams																			
more rates out of all beams													more rates out of all beams																			
more rates out of all beams													more rates out of all beams																			
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more rates out of all beams													more rates out of all beams																			
more rates out of all beams													more rates out of all beams																			
more rates out of all beams													more rates out of all beams																			

- M-patch Mid CH

No.	Module	Type	Beam ID	EC	EC-2	Feed no.	KIND POSITION(S)										more ratio out of all beams													
							SWR10	SWR20	CW10	CW20	SWR100	SWR200	CW100	CW200	Left 100%Ratio surface zone	1.1%	40.2%	1.2%	50.6%	100.0%	Right 100%Ratio surface zone	1.1%	40.2%	1.2%	50.6%	100.0%				
																											more ratio out of all beams			
							KIND POSITION(S) or Time evaluation distance										more ratio out of all beams													
							SWR10	SWR20	CW10	CW20	SWR100	SWR200	CW100	CW200	Left 100%Ratio surface zone	1.1%	40.2%	1.2%	50.6%	100.0%	Right 100%Ratio surface zone	1.1%	40.2%	1.2%	50.6%	100.0%				
1	F	F	1	1	1	1	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420				
						2	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	
						3	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420
						4	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420
						5	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420
						6	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420
						7	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420
						8	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420
						9	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420
						10	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420
						11	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420
						12	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420
						13	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420
						14	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420
						15	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420
						16	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420
						17	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420
						18	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420
						19	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420
						20	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420
						21	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420
						22	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420
						23	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420
						24	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420	0.420

- M-patch High CH

[illegible]

[Folder Closed Status]

- M-patch Low CH

[illegible]

- M-patch Mid CH

						max ratio out of all beams																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
No.	Model	Type	Beam D-1	Beam D-2	Feed no.	4mm FWHM(20dB)										4mm FWHM(20dB) at 30mm evaluation distance																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
						off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
						27.0%					50.0%					7.4%					27.0%					1.8%					41.0%					0.4%																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
						ratio (out of all beams)					ratio (out of all beams)					ratio (out of all beams)					ratio (out of all beams)					ratio (out of all beams)					ratio (out of all beams)					ratio (out of all beams)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
						off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid	CGF	CGF	robustness	CGF	CGF	off-grid

- M-patch High CH

[illegible]

Table 6. PD of Ant M – patch antenna (28GHz – n261)

[Folder Open Status]

- M-patch Low CH

Tax	Module	Type	Beam C-1	Beam C-2	Feed no.	near 0° (Windward)										near 90° out of all beams									
						near 0° (Windward)										near 90° out of all beams									
						Weight	CGM	ACTG	Skidder	CGM	CGM	CGM	CGM	CGM	CGM	Weight	CGM	ACTG	Skidder	CGM	CGM	CGM	CGM	CGM	CGM
						ratio (first windward surface zone)	ratio (left windward surface zone)	ratio (right windward surface zone)	ratio (first windward surface zone)	ratio (left windward surface zone)	ratio (right windward surface zone)	ratio (first windward surface zone)	ratio (left windward surface zone)	ratio (right windward surface zone)	ratio (first windward surface zone)	ratio (left windward surface zone)	ratio (right windward surface zone)	ratio (first windward surface zone)	ratio (left windward surface zone)	ratio (right windward surface zone)	ratio (first windward surface zone)	ratio (left windward surface zone)	ratio (right windward surface zone)		
						100.0%	8.8%	34.4%	2.8%	74.6%	100.0%	40.0%	CGM	CGM	Skidder	71.4%	90.2%	8.6%	30.8%	2.1%	23.1%	71.4%			
101	Wind	1	2.40	1.02	1	100.0%	8.8%	34.4%	2.8%	74.6%	100.0%	40.0%	CGM	CGM	Skidder	71.4%	90.2%	8.6%	30.8%	2.1%	23.1%	71.4%			
102		2	2.40	1.02	1	100.0%	8.8%	34.4%	2.8%	74.6%	100.0%	40.0%	CGM	CGM	Skidder	71.4%	90.2%	8.6%	30.8%	2.1%	23.1%	71.4%			
103		3	2.40	1.02	1	100.0%	8.8%	34.4%	2.8%	74.6%	100.0%	40.0%	CGM	CGM	Skidder	71.4%	90.2%	8.6%	30.8%	2.1%	23.1%	71.4%			
104		4	2.40	1.02	1	100.0%	8.8%	34.4%	2.8%	74.6%	100.0%	40.0%	CGM	CGM	Skidder	71.4%	90.2%	8.6%	30.8%	2.1%	23.1%	71.4%			
105		5	2.40	1.02	1	100.0%	8.8%	34.4%	2.8%	74.6%	100.0%	40.0%	CGM	CGM	Skidder	71.4%	90.2%	8.6%	30.8%	2.1%	23.1%	71.4%			
106		6	2.40	1.02	1	100.0%	8.8%	34.4%	2.8%	74.6%	100.0%	40.0%	CGM	CGM	Skidder	71.4%	90.2%	8.6%	30.8%	2.1%	23.1%	71.4%			
107		7	2.40	1.02	1	100.0%	8.8%	34.4%	2.8%	74.6%	100.0%	40.0%	CGM	CGM	Skidder	71.4%	90.2%	8.6%	30.8%	2.1%	23.1%	71.4%			
108		8	2.40	1.02	1	100.0%	8.8%	34.4%	2.8%	74.6%	100.0%	40.0%	CGM	CGM	Skidder	71.4%	90.2%	8.6%	30.8%	2.1%	23.1%	71.4%			
109		9	2.40	1.02	1	100.0%	8.8%	34.4%	2.8%	74.6%	100.0%	40.0%	CGM	CGM	Skidder	71.4%	90.2%	8.6%	30.8%	2.1%	23.1%	71.4%			
110		10	2.40	1.02	1	100.0%	8.8%	34.4%	2.8%	74.6%	100.0%	40.0%	CGM	CGM	Skidder	71.4%	90.2%	8.6%	30.8%	2.1%	23.1%	71.4%			
111		11	2.40	1.02	1	100.0%	8.8%	34.4%	2.8%	74.6%	100.0%	40.0%	CGM	CGM	Skidder	71.4%	90.2%	8.6%	30.8%	2.1%	23.1%	71.4%			
112		12	2.40	1.02	1	100.0%	8.8%	34.4%	2.8%	74.6%	100.0%	40.0%	CGM	CGM	Skidder	71.4%	90.2%	8.6%	30.8%	2.1%	23.1%	71.4%			
113		13	2.40	1.02	1	100.0%	8.8%	34.4%	2.8%	74.6%	100.0%	40.0%	CGM	CGM	Skidder	71.4%	90.2%	8.6%	30.8%	2.1%	23.1%	71.4%			
114	Wind	1	2.40	1.02	1	100.0%	8.8%	34.4%	2.8%	74.6%	100.0%	40.0%	CGM	CGM	Skidder	71.4%	90.2%	8.6%	30.8%	2.1%	23.1%	71.4%			
115		2	2.40	1.02	1	100.0%	8.8%	34.4%	2.8%	74.6%	100.0%	40.0%	CGM	CGM	Skidder	71.4%	90.2%	8.6%	30.8%	2.1%	23.1%	71.4%			
116		3	2.40	1.02	1	100.0%	8.8%	34.4%	2.8%	74.6%	100.0%	40.0%	CGM	CGM	Skidder	71.4%	90.2%	8.6%	30.8%	2.1%	23.1%	71.4%			
117		4	2.40	1.02	1	100.0%	8.8%	34.4%	2.8%	74.6%	100.0%	40.0%	CGM	CGM	Skidder	71.4%	90.2%	8.6%	30.8%	2.1%	23.1%	71.4%			
118		5	2.40	1.02	1	100.0%	8.8%	34.4%	2.8%	74.6%	100.0%	40.0%	CGM	CGM	Skidder	71.4%	90.2%	8.6%	30.8%	2.1%	23.1%	71.4%			
119		6	2.40	1.02	1	100.0%	8.8%	34.4%	2.8%	74.6%	100.0%	40.0%	CGM	CGM	Skidder	71.4%	90.2%	8.6%	30.8%	2.1%	23.1%	71.4%			
120		7	2.40	1.02	1	100.0%	8.8%	34.4%	2.8%	74.6%	100.0%	40.0%	CGM	CGM	Skidder	71.4%	90.2%	8.6%	30.8%	2.1%	23.1%	71.4%			
121		8	2.40	1.02	1	100.0%	8.8%	34.4%	2.8%	74.6%	100.0%	40.0%	CGM	CGM	Skidder	71.4%	90.2%	8.6%	30.8%	2.1%	23.1%	71.4%			
122		9	2.40	1.02	1	100.0%	8.8%	34.4%	2.8%	74.6%	100.0%	40.0%	CGM	CGM	Skidder	71.4%	90.2%	8.6%	30.8%	2.1%	23.1%	71.4%			
123		10	2.40	1.02	1	100.0%	8.8%	34.4%	2.8%	74.6%	100.0%	40.0%	CGM	CGM	Skidder	71.4%	90.2%	8.6%	30.8%	2.1%	23.1%	71.4%			
124		11	2.40	1.02	1	100.0%	8.8%	34.4%	2.8%	74.6%	100.0%	40.0%	CGM	CGM	Skidder	71.4%	90.2%	8.6%	30.8%	2.1%	23.1%	71.4%			
125		12	2.40	1.02	1	100.0%	8.8%	34.4%	2.8%	74.6%	100.0%	40.0%	CGM	CGM	Skidder	71.4%	90.2%	8.6%	30.8%	2.1%	23.1%	71.4%			
126		13	2.40	1.02	1	100.0%	8.8%	34.4%	2.8%	74.6%	100.0%	40.0%	CGM	CGM	Skidder	71.4%	90.2%	8.6%	30.8%	2.1%	23.1%	71.4%			
127	Wind	1	2.40	1.02	1	100.0%	8.8%	34.4%	2.8%	74.6%	100.0%	40.0%	CGM	CGM	Skidder	71.4%	90.2%	8.6%	30.8%	2.1%	23.1%	71.4%			
128		2	2.40	1.02	1	100.0%	8.8%	34.4%	2.8%	74.6%	100.0%	40.0%	CGM	CGM	Skidder	71.4%	90.2%	8.6%	30.8%	2.1%	23.1%	71.4%			
129		3	2.40	1.02	1	100.0%	8.8%	34.4%	2.8%	74.6%	100.0%	40.0%	CGM	CGM	Skidder	71.4%	90.2%	8.6%	30.8%	2.1%	23.1%	71.4%			
130		4	2.40	1.02	1	100.0%	8.8%	34.4%	2.8%	74.6%	100.0%	40.0%	CGM	CGM	Skidder	71.4%	90.2%	8.6%	30.8%	2.1%	23.1%	71.4%			
131		5	2.40	1.02	1	100.0%	8.8%	34.4%	2.8%	74.6%	100.0%	40.0%	CGM	CGM	Skidder	71.4%	90.2%	8.6%	30.8%	2.1%	23.1%	71.4%			
132		6	2.40	1.02	1	100.0%	8.8%	34.4%	2.8%	74.6%	100.0%	40.0%	CGM	CGM	Skidder	71.4%	90.2%	8.6%	30.8%	2.1%	23.1%	71.4%			
133		7	2.40	1.02	1	100.0%	8.8%	34.4%	2.8%	74.6%	100.0%	40.0%	CGM	CGM	Skidder	71.4%	90.2%	8.6%	30.8%	2.1%	23.1%	71.4%			
134		8	2.40	1.02	1	100.0%	8.8%	34.4%	2.8%	74.6%	100.0%	40.0%	CGM	CGM	Skidder	71.4%	90.2%	8.6%	30.8%	2.1%	23.1%	71.4%			
135		9	2.40	1.02	1	100.0%	8.8%	34.4%	2.8%	74.6%	100.0%	40.0%	CGM	CGM	Skidder	71.4%	90.2%	8.6%	30.8%	2.1%	23.1%	71.4%			
136		10	2.40	1.02	1	100.0%	8.8%	34.4%	2.8%	74.6%	100.0%	40.0%	CGM	CGM	Skidder	71.4%	90.2%	8.6%	30.8%	2.1%	23.1%	71.4%			
137		11	2.40	1.02	1	100.0%	8.8%	34.4%	2.8%	74.6%	100.0%	40.0%	CGM	CGM	Skidder	71.4%	90.2%	8.6%	30.8%	2.1%	23.1%	71.4%			
138		12	2.40	1.02	1	100.0%	8.8%	34.4%	2.8%	74.6%	100.0%	40.0%	CGM	CGM	Skidder	71.4%	90.2%	8.6%	30.8%	2.1%	23.1%	71.4%			
139		13	2.40	1.02	1	100.0%	8.8%	34.4%	2.8%	74.6%	100.0%	40.0%	CGM	CGM	Skidder	71.4%	90.2%	8.6%	30.8%	2.1%	23.1%	71.4%			
140	Wind	1	2.40	1.02	1	100.0%	8.8%	34.4%	2.8%	74.6%	100.0%	40.0%	CGM	CGM	Skidder	71.4%	90.2%	8.6%	30.8%	2.1%	23.1%	71.4%			
141		2	2.40	1.02	1	100.0%	8.8%	34.4%	2.8%	74.6%	100.0%	40.0%	CGM	CGM	Skidder	71.4%	90.2%	8.6%	30.8%	2.1%	23.1%	71.4%			
142		3	2.40	1.02	1	100.0%	8.8%	34.4%	2.8%	74.6%	100.0%	40.0%	CGM	CGM	Skidder	71.4%	90.2%	8.6%	30.8%	2.1%	23.1%	71.4%			
143		4	2.40	1.02	1	100.0%	8.8%	34.4%	2.8%	74.6%	100.0%	40.0%	CGM	CGM	Skidder	71.4%	90.2%	8.6%	30.8%	2.1%	23.1%	71.4%			
144		5	2.40	1.02	1	100.0%	8.8%	34.4%	2.8%	74.6%	100.0%	40.0%	CGM	CGM	Skidder	71.4%	90.2%	8.6%	30.8%	2.1%	23.1%	71.4%			
145		6	2.40	1.02	1	100.0%	8.8%	34.4%	2.8%	74.6%	100.0%	40.0%	CGM	CGM	Skidder	71.4%	90.2%	8.6%	30.8%	2.1%	23.1%	71.4%			
146		7	2.40	1.02	1	100.0%	8.8%	34.4%	2.8%	74.6%	100.0%	40.0%	CGM	CGM	Skidder	71.4%	90.2%	8.6%	30.8%	2.1%	23.1%	71.4%			
147		8	2.40	1.02	1	100.0%	8.8%	34.4%	2.8%	74.6%	100.0%	40.0%	CGM	CGM	Skidder	71.4%	90.2%	8.6%	30.8%	2.1%	23.1%	71.4%			
148		9	2.40	1.02	1	100.0%	8.8%	34.4%	2.8%	74.6%	100.0%	40.0%	CGM	CGM	Skidder	71.4%	90.2%	8.6%	30.8%	2.1%	23.1%	71.4%			
149		10	2.40	1.02	1	100.0%	8.8%	34.4%	2.8%	74.6%	100.0%	40.0%	CGM	CGM	Skidder	71.4%	90.2%	8.6%	30.8%	2.1%	23.1%	71.4%			
150		11	2.40	1.02	1	100.0%	8.8%	34.4%	2.8%	74.6%	100.0%	40.0%	CGM	CGM	Skidder	71.4%	90.2%	8.6%	30.8%	2.1%	23.1%	71.4%			
151		12	2.40	1.02	1	100.0%	8.8%	34.4%	2.8%	74.6%	100.0%	40.0%	CGM	CGM	Skidder	71.4%	90.2%	8.6%	30.8%	2.1%	23.1%	71.4%			
152		13	2.40	1.02	1	100.0%	8.8%	34.4%	2.8%	74.6%	100.0%	40.0%	CGM	CGM	Skidder	71.4%	90.2%	8.6%	30.8%	2.1%	23.1%	71.4%			
153	Wind	1	2.40	1.02	1	100.0%	8.8%	34.4%	2.8%	74.6%	100.0%	40.0%	CGM	CGM	Skidder	71.4%	90.2%	8.6%	30.8%	2.1%	23.1%	71.4%			
154		2	2.40	1.02	1	100.0%	8.8%	34.4%	2.8%	74.6%	100.0%	40.0%	CGM	CGM	Skidder	71.4%	90.2%	8.6%	30.8%	2.1%	23.1%	71.4%			
155		3	2.40	1.02	1	100.0%	8.8%	34.4%	2.8%	74.6%	100.0%	40.0%	CGM	CGM	Skidder	71.4%	90.2%	8.6%	30.8%	2.1%	23.1%	71.4%			
156		4	2.40	1.02	1	100.0%	8.8%	34.4%	2.8%	74.6%	100.0%	40.0%	CGM	CGM	Skidder	71.4%	90.2%	8.6%	30.8%	2.1%	23.1%	71.4%			
157		5	2.40	1.02	1	100.0%	8.8%	34.4%	2.8%	74.6%	100.0%	40.0%	CGM	CGM	Skidder	71.4%	90.2%	8.6%	30.8%	2.1%	23.1%	71.4%			
158		6	2.40	1.02	1	100.0%	8.8%	34.4%	2.8%	74.6%	100.0%	40.0%	CGM	CGM	Skidder	71.4%	90.2%	8.6%	30.8%	2.1%	23.1%	71.4%			
159		7	2.40	1.02	1																				

- K-patch Mid CH

[illegible]

- M-patch High CH

No.	Module	Type	Beam C-1	Beam C-2	Feed no.	max ratio out of 6 beams																max ratio out of 16 beams																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
						max ratio out of 6 beams												max ratio out of 6 beams				max ratio out of 16 beams																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
						4x4 (F0.000000)	6x6 (F0.000000)	8x8 (F0.000000)	10x10 (F0.000000)	12x12 (F0.000000)	14x14 (F0.000000)	16x16 (F0.000000)	18x18 (F0.000000)	20x20 (F0.000000)	22x22 (F0.000000)	24x24 (F0.000000)	26x26 (F0.000000)	28x28 (F0.000000)	30x30 (F0.000000)	32x32 (F0.000000)	34x34 (F0.000000)	36x36 (F0.000000)	38x38 (F0.000000)	40x40 (F0.000000)	42x42 (F0.000000)	44x44 (F0.000000)	46x46 (F0.000000)	48x48 (F0.000000)	50x50 (F0.000000)	52x52 (F0.000000)	54x54 (F0.000000)	56x56 (F0.000000)	58x58 (F0.000000)	60x60 (F0.000000)	62x62 (F0.000000)	64x64 (F0.000000)	66x66 (F0.000000)	68x68 (F0.000000)	70x70 (F0.000000)	72x72 (F0.000000)	74x74 (F0.000000)	76x76 (F0.000000)	78x78 (F0.000000)	80x80 (F0.000000)	82x82 (F0.000000)	84x84 (F0.000000)	86x86 (F0.000000)	88x88 (F0.000000)	90x90 (F0.000000)	92x92 (F0.000000)	94x94 (F0.000000)	96x96 (F0.000000)	98x98 (F0.000000)	100x100 (F0.000000)	102x102 (F0.000000)	104x104 (F0.000000)	106x106 (F0.000000)	108x108 (F0.000000)	110x110 (F0.000000)	112x112 (F0.000000)	114x114 (F0.000000)	116x116 (F0.000000)	118x118 (F0.000000)	120x120 (F0.000000)	122x122 (F0.000000)	124x124 (F0.000000)	126x126 (F0.000000)	128x128 (F0.000000)	130x130 (F0.000000)	132x132 (F0.000000)	134x134 (F0.000000)	136x136 (F0.000000)	138x138 (F0.000000)	140x140 (F0.000000)	142x142 (F0.000000)	144x144 (F0.000000)	146x146 (F0.000000)	148x148 (F0.000000)	150x150 (F0.000000)	152x152 (F0.000000)	154x154 (F0.000000)	156x156 (F0.000000)	158x158 (F0.000000)	160x160 (F0.000000)	162x162 (F0.000000)	164x164 (F0.000000)	166x166 (F0.000000)	168x168 (F0.000000)	170x170 (F0.000000)	172x172 (F0.000000)	174x174 (F0.000000)	176x176 (F0.000000)	178x178 (F0.000000)	180x180 (F0.000000)	182x182 (F0.000000)	184x184 (F0.000000)	186x186 (F0.000000)	188x188 (F0.000000)	190x190 (F0.000000)	192x192 (F0.000000)	194x194 (F0.000000)	196x196 (F0.000000)	198x198 (F0.000000)	200x200 (F0.000000)	202x202 (F0.000000)	204x204 (F0.000000)	206x206 (F0.000000)	208x208 (F0.000000)	210x210 (F0.000000)	212x212 (F0.000000)	214x214 (F0.000000)	216x216 (F0.000000)	218x218 (F0.000000)	220x220 (F0.000000)	222x222 (F0.000000)	224x224 (F0.000000)	226x226 (F0.000000)	228x228 (F0.000000)	230x230 (F0.000000)	232x232 (F0.000000)	234x234 (F0.000000)	236x236 (F0.000000)	238x238 (F0.000000)	240x240 (F0.000000)	242x242 (F0.000000)	244x244 (F0.000000)	246x246 (F0.000000)	248x248 (F0.000000)	250x250 (F0.000000)	252x252 (F0.000000)	254x254 (F0.000000)	256x256 (F0.000000)	258x258 (F0.000000)	260x260 (F0.000000)	262x262 (F0.000000)	264x264 (F0.000000)	266x266 (F0.000000)	268x268 (F0.000000)	270x270 (F0.000000)	272x272 (F0.000000)	274x274 (F0.000000)	276x276 (F0.000000)	278x278 (F0.000000)	280x280 (F0.000000)	282x282 (F0.000000)	284x284 (F0.000000)	286x286 (F0.000000)	288x288 (F0.000000)	290x290 (F0.000000)	292x292 (F0.000000)	294x294 (F0.000000)	296x296 (F0.000000)	298x298 (F0.000000)	300x300 (F0.000000)	302x302 (F0.000000)	304x304 (F0.000000)	306x306 (F0.000000)	308x308 (F0.000000)	310x310 (F0.000000)	312x312 (F0.000000)	314x314 (F0.000000)	316x316 (F0.000000)	318x318 (F0.000000)	320x320 (F0.000000)	322x322 (F0.000000)	324x324 (F0.000000)	326x326 (F0.000000)	328x328 (F0.000000)	330x330 (F0.000000)	332x332 (F0.000000)	334x334 (F0.000000)	336x336 (F0.000000)	338x338 (F0.000000)	340x340 (F0.000000)	342x342 (F0.000000)	344x344 (F0.000000)	346x346 (F0.000000)	348x348 (F0.000000)	350x350 (F0.000000)	352x352 (F0.000000)	354x354 (F0.000000)	356x356 (F0.000000)	358x358 (F0.000000)	360x360 (F0.000000)	362x362 (F0.000000)	364x364 (F0.000000)	366x366 (F0.000000)	368x368 (F0.000000)	370x370 (F0.000000)	372x372 (F0.000000)	374x374 (F0.000000)	376x376 (F0.000000)	378x378 (F0.000000)	380x380 (F0.000000)	382x382 (F0.000000)	384x384 (F0.000000)	386x386 (F0.000000)	388x388 (F0.000000)	390x390 (F0.000000)	392x392 (F0.000000)	394x394 (F0.000000)	396x396 (F0.000000)	398x398 (F0.000000)	400x400 (F0.000000)	402x402 (F0.000000)	404x404 (F0.000000)	406x406 (F0.000000)	408x408 (F0.000000)	410x410 (F0.000000)	412x412 (F0.000000)	414x414 (F0.000000)	416x416 (F0.000000)	418x418 (F0.000000)	420x420 (F0.000000)	422x422 (F0.000000)	424x424 (F0.000000)	426x426 (F0.000000)	428x428 (F0.000000)	430x430 (F0.000000)	432x432 (F0.000000)	434x434 (F0.000000)	436x436 (F0.000000)	438x438 (F0.000000)	440x440 (F0.000000)	442x442 (F0.000000)	444x444 (F0.000000)	446x446 (F0.000000)	448x448 (F0.000000)	450x450 (F0.000000)	452x452 (F0.000000)	454x454 (F0.000000)	456x456 (F0.000000)	458x458 (F0.000000)	460x460 (F0.000000)	462x462 (F0.000000)	464x464 (F0.000000)	466x466 (F0.000000)	468x468 (F0.000000)	470x470 (F0.000000)	472x472 (F0.000000)	474x474 (F0.000000)	476x476 (F0.000000)	478x478 (F0.000000)	480x480 (F0.000000)	482x482 (F0.000000)	484x484 (F0.000000)	486x486 (F0.000000)	488x488 (F0.000000)	490x490 (F0.000000)	492x492 (F0.000000)	494x494 (F0.000000)	496x496 (F0.000000)	498x498 (F0.000000)	500x500 (F0.000000)	502x502 (F0.000000)	504x504 (F0.000000)	506x506 (F0.000000)	508x508 (F0.000000)	510x510 (F0.000000)	512x512 (F0.000000)	514x514 (F0.000000)	516x516 (F0.000000)	518x518 (F0.000000)	520x520 (F0.000000)	522x522 (F0.000000)	524x524 (F0.000000)	526x526 (F0.000000)	528x528 (F0.000000)	530x530 (F0.000000)	532x532 (F0.000000)	534x534 (F0.000000)	536x536 (F0.000000)	538x538 (F0.000000)	540x540 (F0.000000)	542x542 (F0.000000)	544x544 (F0.000000)	546x546 (F0.000000)	548x548 (F0.000000)	550x550 (F0.000000)	552x552 (F0.000000)	554x554 (F0.000000)	556x556 (F0.000000)	558x558 (F0.000000)	560x560 (F0.000000)	562x562 (F0.000000)	564x564 (F0.000000)	566x566 (F0.000000)	568x568 (F0.000000)	570x570 (F0.000000)	572x572 (F0.000000)	574x574 (F0.000000)	576x576 (F0.000000)	578x578 (F0.000000)	580x580 (F0.000000)	582x582 (F0.000000)	584x584 (F0.000000)	586x586 (F0.000000)	588x588 (F0.000000)	590x590 (F0.000000)	592x592 (F0.000000)	594x594 (F0.000000)	596x596 (F0.000000)	598x598 (F0.000000)	600x600 (F0.000000)	602x602 (F0.000000)	604x604 (F0.000000)	606x606 (F0.000000)	608x608 (F0.000000)	610x610 (F0.000000)	612x612 (F0.000000)	614x614 (F0.000000)	616x616 (F0.000000)	618x618 (F0.000000)	620x620 (F0.000000)	622x622 (F0.000000)	624x624 (F0.000000)	626x626 (F0.000000)	628x628 (F0.000000)	630x630 (F0.000000)	632x632 (F0.000000)	634x634 (F0.000000)	636x636 (F0.000000)	638x638 (F0.000000)	640x640 (F0.000000)	642x642 (F0.000000)	644x644 (F0.000000)	646x646 (F0.000000)	648x648 (F0.000000)	650x650 (F0.000000)	652x652 (F0.000000)	654x654 (F0.000000)	656x656 (F0.000000)	658x658 (F0.000000)	660x660 (F0.000000)	662x662 (F0.000000)	664x664 (F0.000000)	666x666 (F0.000000)	668x668 (F0.000000)	670x670 (F0.000000)	672x672 (F0.000000)	674x674 (F0.000000)	676x676 (F0.000000)	678x678 (F0.000000)	680x680 (F0.000000)	682x682 (F0.000000)	684x684 (F0.000000)	686x686 (F0.000000)	688x688 (F0.000000)	690x690 (F0.000000)	692x692 (F0.000000)	694x694 (F0.000000)	696x696 (F0.000000)	698x698 (F0.000000)	700x700 (F0.000000)	702x702 (F0.000000)	704x704 (F0.000000)	706x706 (F0.000000)	708x708 (F0.000000)	710x710 (F0.000000)	712x712 (F0.000000)	714x714 (F0.000000)	716x716 (F0.000000)	718x718 (F0.000000)	720x720 (F0.000000)	722x722 (F0.000000)	724x724 (F0.000000)	726x726 (F0.000000)	728x728 (F0.000000)	730x730 (F0.000000)	732x732 (F0.000000)	734x734 (F0.000000)	736x736 (F0.000000)	738x738 (F0.000000)	740x740 (F0.000000)	742x742 (F0.000000)	744x744 (F0.000000)	746x746 (F0.000000)	748x748 (F0.000000)	750x750 (F0.000000)	752x752 (F0.000000)	754x754 (F0.000000)	756x756 (F0.000000)	758x758 (F0.000000)	760x760 (F0.000000)	762x762 (F0.000000)	764x764 (F0.000000)	766x766 (F0.000000)	768x768 (F0.000000)	770x770 (F0.000000)	772x772 (F0.000000)	774x774 (F0.000000)	776x776 (F0.000000)	778x778 (F0.000000)	780x780 (F0.000000)	782x782 (F0.000000)	784x784 (F0.000000)	786x786 (F0.000000)	788x788 (F0.000000)	790x790 (F0.000000)	792x792 (F0.000000)	794x794 (F0.000000)	796x796 (F0.000000)	798x798 (F0.000000)	800x800 (F0.000000)	802x802 (F0.000000)	804x804 (F0.000000)	806x806 (F0.000000)	808x808 (F0.000000)	810x810 (F0.000000)	812x812 (F0.000000)	814x814 (F0.000000)	816x816 (F0.000000)	818x818 (F0.000000)	820x820 (F0.000000)	822x822 (F0.000000)	824x824 (F0.000000)	826x826 (F0.000000)	828x828 (F0.000000)	830x830 (F0.000000)	832x832 (F0.000000)	834x834 (F0.000000)	836x836 (F0.000000)	838x838 (F0.000000)	840x840 (F0.000000)	842x842 (F0.000000)	844x844 (F0.000000)	846x846 (F0.000000)	848x848 (F0.000000)	850x850 (F0.000000)	852x852 (F0.000000)	854x854 (F0.000000)	856x856 (F0.000000)	858x858 (F0.000000)	860x860 (F0.000000)	862x862 (F0.000000)	864x864 (F0.000000)	866x866 (F0.000000)	868x868 (F0.000000)	870x870 (F0.000000)	872x872 (F0.000000)	874x874 (F0.000000)	876x876 (F0.000000)	878x878 (F0.000000)	880x880 (F0.000000)	882x882 (F0.000000)	884x884 (F0.000000)	886x886 (F0.000000)	888x888 (F0.000000)	890x890 (F0.000000)	892x892 (F0.000000)	894x894 (F0.000000)	896x896 (F0.000000)	898x898 (F0.000000)	900x900 (F0.000000)	902x902 (F0.000000)	904x904 (F0.000000)	906x906 (F0.000000)	908x908 (F0.000000)	910x910 (F0.000000)	912x912 (F0.000000)	914x914 (F0.000000)	916x916 (F0.000000)	918x918 (F0.000000)	920x920 (F0.000000)	922x922 (F0.000000)	924x924 (F0.000000)	926x926 (F0.000000)	928x928 (F0.000000)	930x930 (F0.000000)	932x932 (F0.000000)	934x934 (F0.000000)	936x936 (F0.000000)	938x938 (F0.000000)	940x940 (F0.000000)	942x942 (F0.000000)	944x944 (F0.000000)	946x946 (F0.000000)	948x948 (F0.000000)	950x950 (F0.000000)	952x952 (F0.000000)	954x954 (F0.000000)	956x956 (F0.000000)	958x958 (F0.000000)	960x960 (F0.000000)	962x962 (F0.000000)	964x964 (F0.000000)	966x966 (F0.000000)	968x968 (F0.000000)	970x970 (F0.000000)	972x972 (F0.000000)	974x974 (F0.000000)	976x976 (F0.000000)	978x978 (F0.000000)	980x980 (F0.000000)	982x982 (F0.000000)	984x984 (F0.000000)	986x986 (F0.000000)	988x988 (F0.000000)	990x990 (F0.000000)	992x992 (F0.000000)	994x994 (F0.000000)	996x996 (F0.000000)	998x998 (F0.000000)	1000x1000 (F0.000000)	1002x1002 (F0.000000)	1004x1004 (F0.000000)	1006x1006 (F0.000000)	1008x1008 (F0.000000)	1010x1010 (F0.000000)	1012x1012 (F0.000000)	1014x1014 (F0.000000)	1016x1016 (F0.000000)	1018x1018 (F0.000000)	1020x1020 (F0.000000)	1022x1022 (F0.000000)	1024x1024 (F0.000000)	1026x1026 (F0.000000)	1028x1028 (F0.000000)	1030x1030 (F0.000000)	1032x1032 (F0.000000)	1034x1034 (F0.000000)	1036x1036 (F0.000000)	1038x1038 (F0.000000)	1040x1040 (F0.000000)	1042x1042 (F0.000000)	1044x1044 (F0.000000)	1046x1046 (F0.000000)	1048x1048 (F0.000000)	1050x1050 (F0.000000)	1052x1052 (F0.000000)	1054x1054 (F0.000000)	1056x1056 (F0.000000)	1058x1058 (F0.000000)	1060x1060 (F0.000000)	1062x1062 (F0.000000)	1064x1064 (F0.000000)	1066x1066 (F0.000000)	1068x1068 (F0.000000)	1070x1070 (F0.000000)	1072x1072 (F0.000000)	1074x1074 (F0.000000)	1076x1076 (F0.000000)	1078x1078 (F0.000000)	1080x1080 (F0.000000)	1082x1082 (F0.000000)	1084x1084 (F0.000000)	1086x1086 (F0.000000)	1088x1088 (F0.000000)	1090x1090 (F0.000000)	1092x1092 (F0.000000)	1094x1094 (F0.000000)	1096x1096 (F0.000000)	1098x1098 (F0.000000)	1100x1100 (F0.000000)	1102x1102 (F0.000000)

[Folder Closed Status]

- M-patch Low CH

[illegible]

- M-patch Mid CH

[illegible]

- M-patch High CH

[illegible]

Table 7. PD of Ant M – patch antenna (39GHz – n260)

[Folder Open Status]

- M-patch Low CH

[illegible]

- M-patch Mid CH

						near ratio out of all beams										near ratio out of all beams																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
No.	Module	Type	Beam 42-1	Beam 42-2	Feed no.	40m (F500nm)										40m (F500nm) at 10mm evaluation distance																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
						light%	Clare	Clare	Clare	Clare	Beam 40-1	near ratio out of all beams	near ratio out of all beams	near ratio out of all beams	near ratio out of all beams	light%	Clare	Clare	Clare	Clare	Beam 40-1	near ratio out of all beams	near ratio out of all beams	near ratio out of all beams	near ratio out of all beams																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
1	1	1	1	1	1	100.0%	0.4%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%

- M-patch High CH

[illegible]

[Folder Closed Status]

- M-patch Low CH

[illegible]

- M-patch Mid CH

[illegible]

- M-patch High CH

No.	Module	Type	Beam (C-1)	Beam (C-2)	Feed no.	Area (F2000mm2)										Area (F2000mm2) at times evaluation distance										max ratio out of all beams																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
						47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%		47.5%	