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Power Density Simulation Report

Revision B

May 08, 2025

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 2023.R1 (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 2023.R1 (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 2023.R1 (HFSS) is used. ANSYS Electromagnetics suite version 2023.R1 (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 2023.R1 (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 2023.R1 (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).

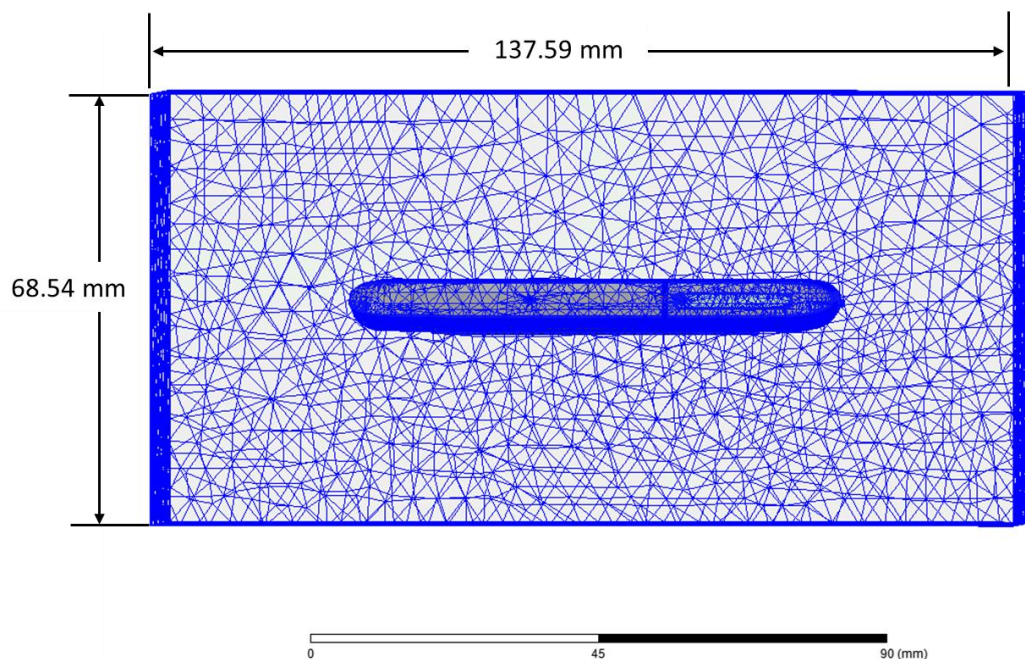


Figure 1 Example of the adaptive mesh technique (Top view)

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 2022.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 one mmWave antenna module. The simulation modeling includes most of the entire structure of device itself such as PCB, metal frame, battery, cables, and legacy antennas as well as mmWave antenna module called as Ant K. For a folder open status (Fig. 2-1), Ant K is placed on the left side and antennas are facing the left side. For a folder closed status (Fig. 2-2), Ant K is placed same of the folder open status.

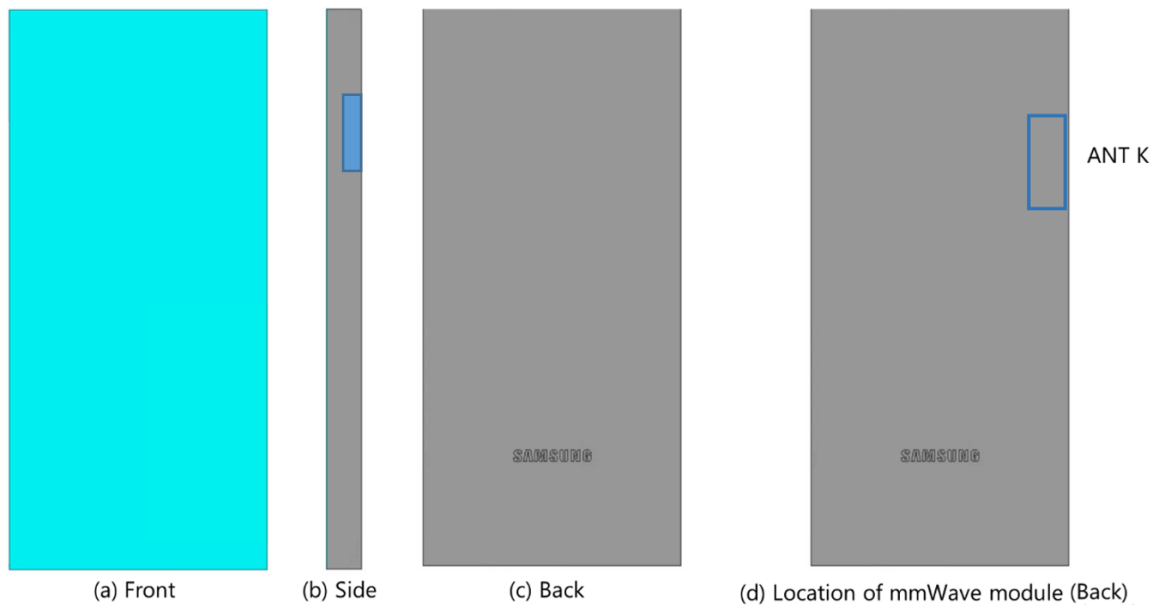


Figure 2-1. Simulation model which is mounted one mmWave antenna module (Folder Open Status)

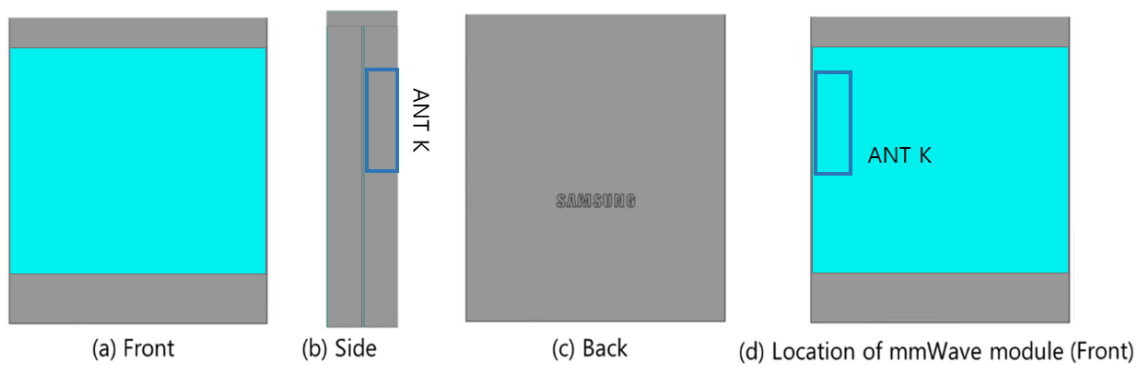


Figure 3-2. Simulation model which is mounted one mmWave antenna module (Folder Closed Status)

1.2.2 PD evaluation planes

Table 1 shows the PD evaluation planes for 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

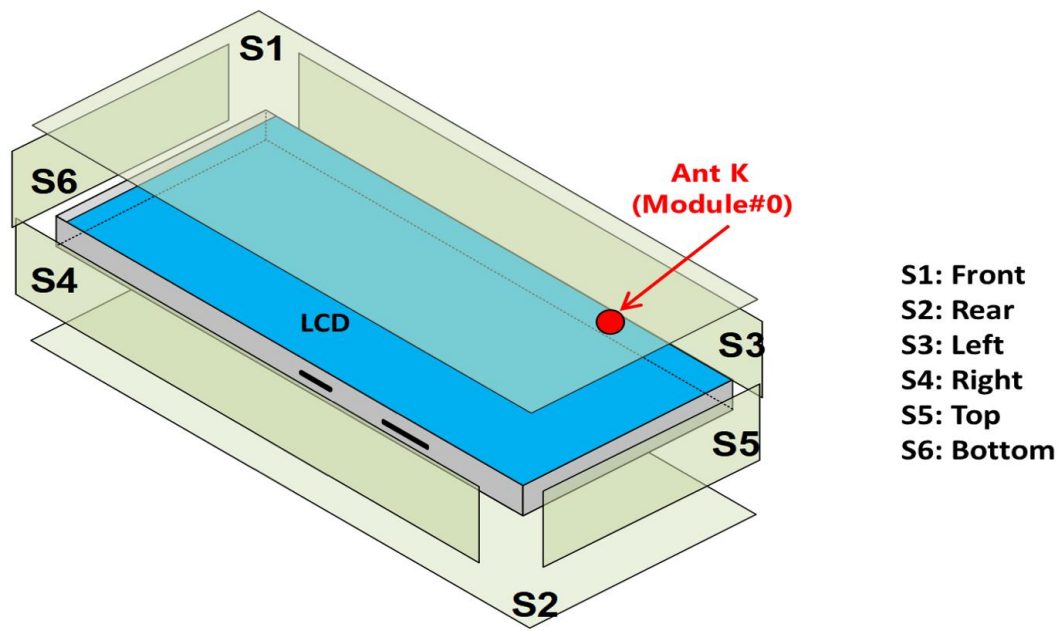


Figure 4. PD evaluation planes

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 2023.R1 (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 module, 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 for source excitation are the same. The antenna port of ANT K is divided into 10 ports for n261 1 x 5 patch array antennas, 10 ports for n260 1 x 5 patch array antennas. In the 10 ports included in each patch antenna, 5 ports are divided into vertical polarization feeding, and the other 5 ports are divided into horizontal polarization feeding.

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

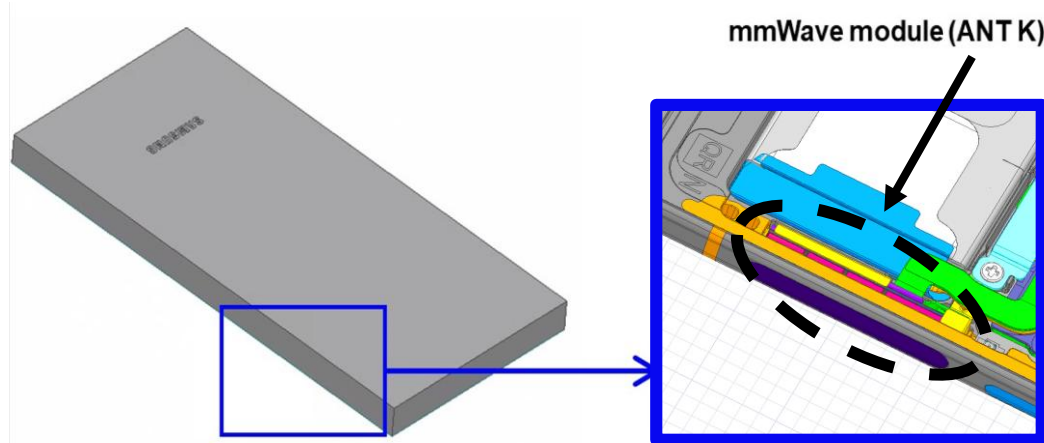


Figure 5. mmWave module (ANT K)

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.

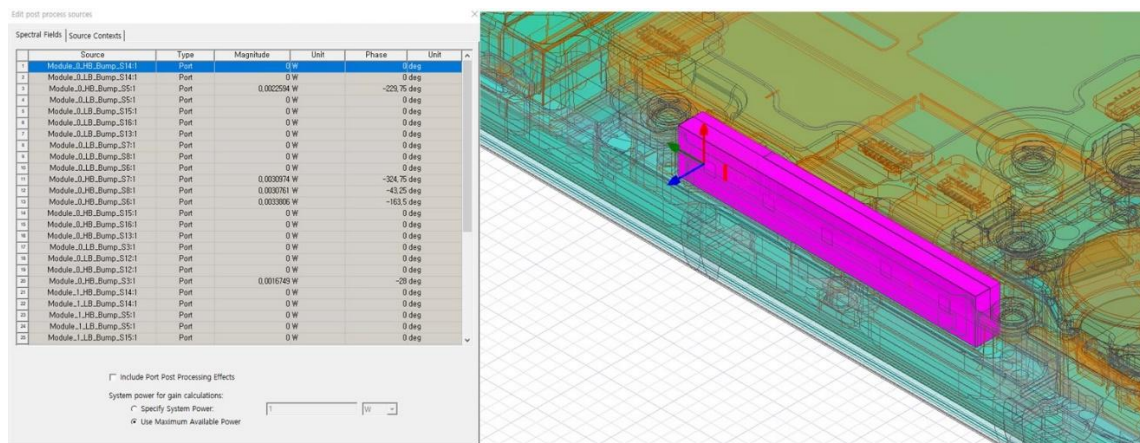


Figure 6. An example of port excitation (ANT K)

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

1.2.5 Condition of simulation completion

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

2. Simulation verification

2.1 Spatial-averaged power density

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.

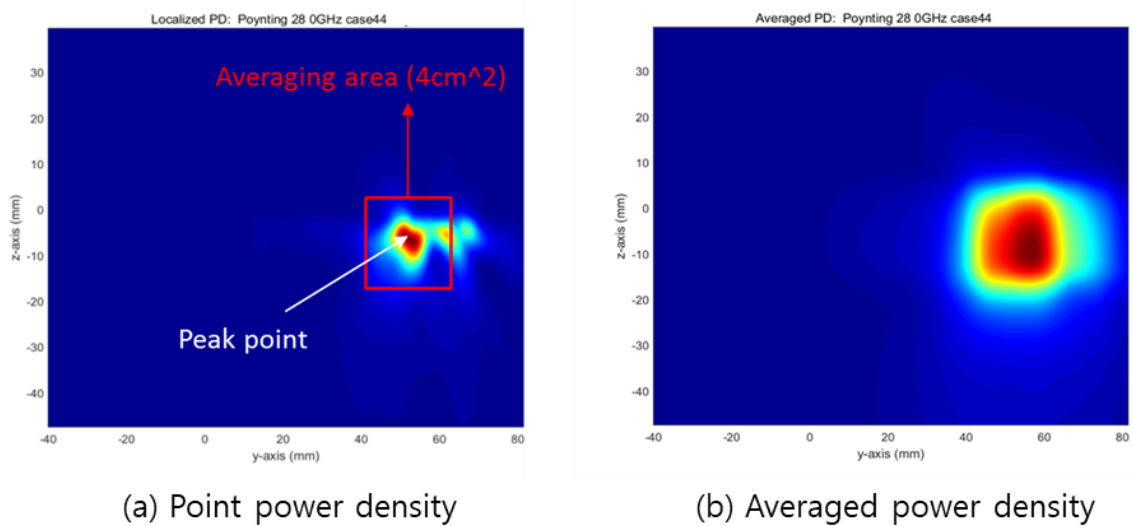


Figure 7. Power density distribution (Example)

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 4 cm^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	Input Power (dBm) MIMO
5G NR n261	K Patch	18.0	18.0
5G NR n260	K Patch	18.0	18.0
5G NR n258	K Patch	18.0	18.0

5G mmWave NR Device Surfaces

Band	Antenna	Condition	Rear (S2)	Front (S1)	Left (S3)	Right (S4)	Bottom (S6)	Top (S5)
NR n261	Patch K	Open	No	No	Yes	No	No	No
NR n260	Patch K	Open	No	No	Yes	No	No	No
NR n258	Patch K	Open	No	Yes	Yes	No	No	No
NR n261	Patch K	Closed	No	No	Yes	No	No	No
NR n260	Patch K	Closed	No	No	Yes	No	No	No
NR n258	Patch K	Closed	No	No	Yes	No	No	No

Note:

1. All test configurations are based on front position view.
2. Additional surfaces were evaluated for simultaneous transmission analysis

* The below simulation and measurement result were performed at 2mm evaluation distance and 28GHz / 39GHz / 24GHz. The *input.power.limit* was determined based on below results in RF Exposure Part 0 Report.

Band	Channel	Module	Type(P or D)	Side	Beam ID	PLS (10 dBm)	Sim. PD (mW/cm ²)	Meas. PD (mW/cm ²)	STTS Read
n261	Mid Ch. 2077915 (27924.96MHz)	K	Patch	Left	1	180	0.498	0.333	1668
				Left	9		0.458	0.394	1776
n260	Mid Ch. 2254165 (38499.96 MHz)	K	Patch	Left	2	180	0.501	0.411	1845
				Left	11		1.469	0.689	2112
n258	Mid Ch. 2025833 (24800.04 MHz)	K	Patch	Left	8	180	0.689	0.333	1904
				Front	8		0.350	0.252	1747
				Left	16		0.383	0.408	1825

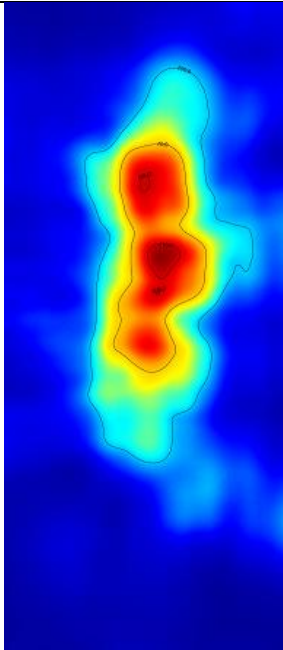
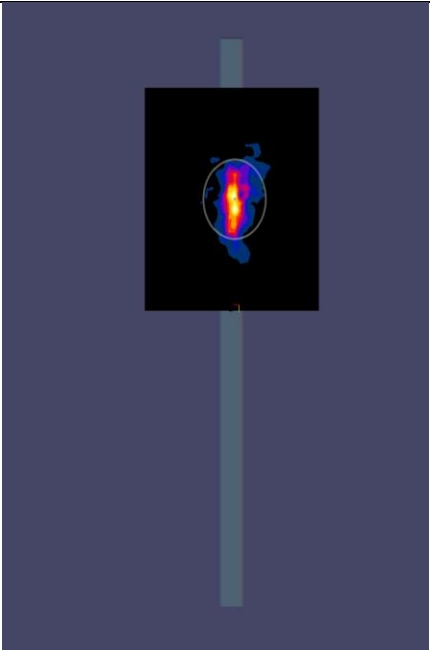
(a) Measured PD for Folder Open Status

Band	Channel	Module	Type(P or D)	Side	Beam ID	PLS (10 dBm)	Sim. PD (mW/cm2)	Meas. PD (mW/cm2)	STTS Read
n261	Mid Ch. 2077915 (27924.96MHz)	K	Patch	Left	3	180	0.569	0.781	1825
				Left	9		0.454	0.320	1698
n260	Mid Ch. 2254165 (38499.96 MHz)	K	Patch	Left	0	180	0.544	0.310	1806
				Left	11		1.452	0.619	1727
n258	Mid Ch. 2025833 (24800.04 MHz)	K	Patch	Left	7	180	0.695	0.541	1766
				Left	13		0.341	0.374	1707

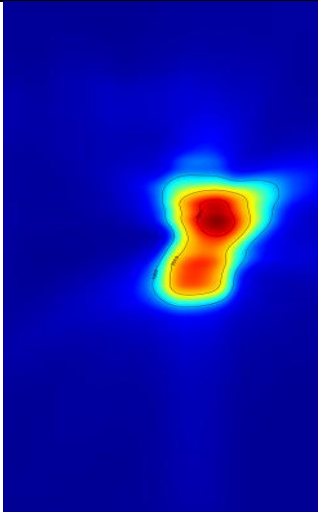
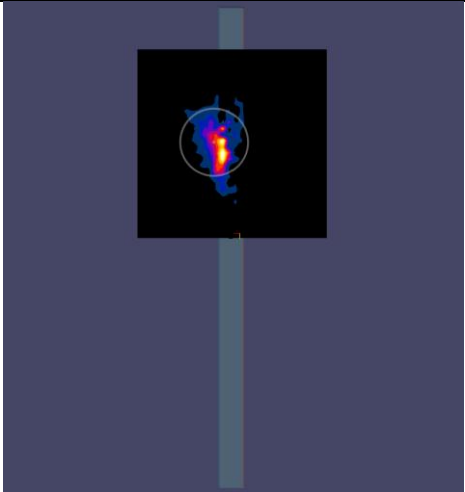
(b) Measured PD for Folder Closed Status

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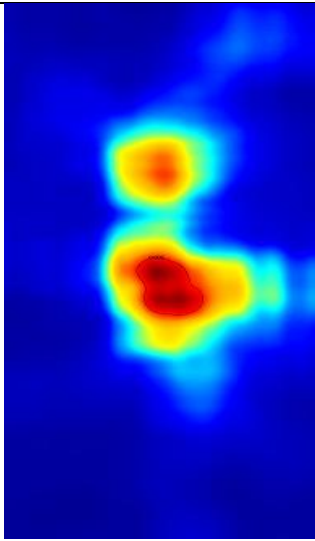
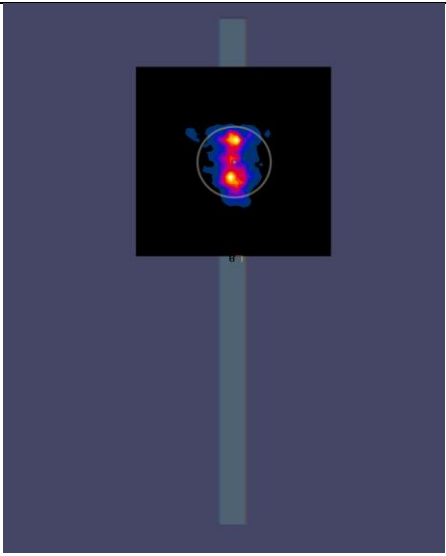
- Table 2-1, n261 ANT K-Patch: Mid Channel, Beam ID 1 for selected surfaces

Beam ID	Surface	View	Simulated PD	Measured PD
1	S3(Left)			

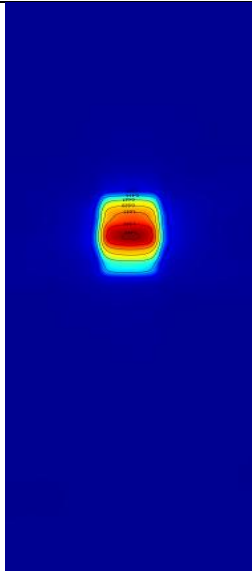
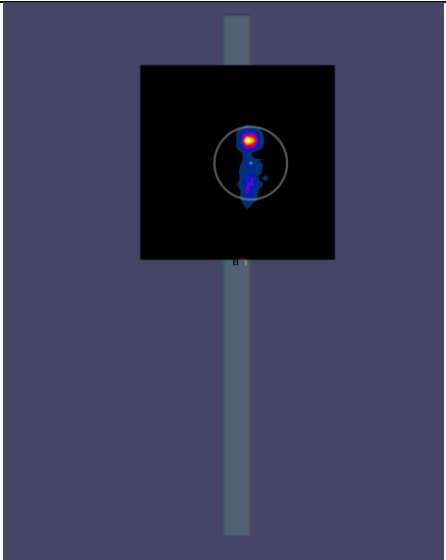
● Table 2-2, n261 ANT K-Patch: Mid Channel, Beam ID 9 for selected surfaces

Beam ID	Surface	View	Simulated PD	Measured PD
9	S3(Left)			

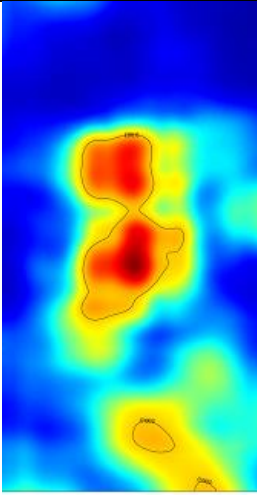
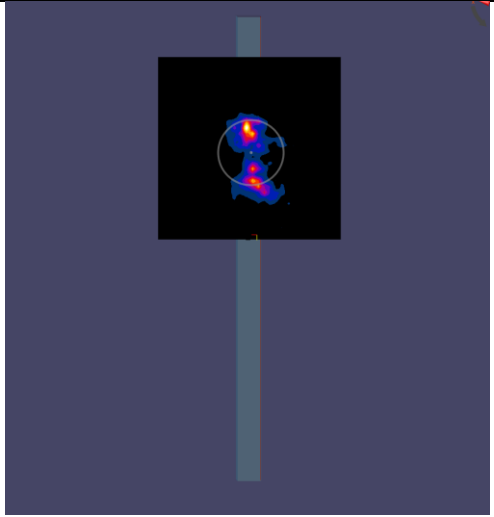
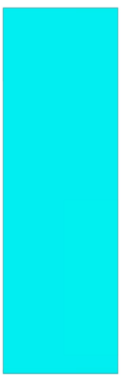
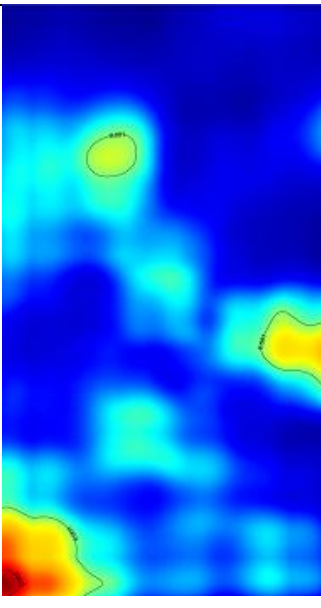
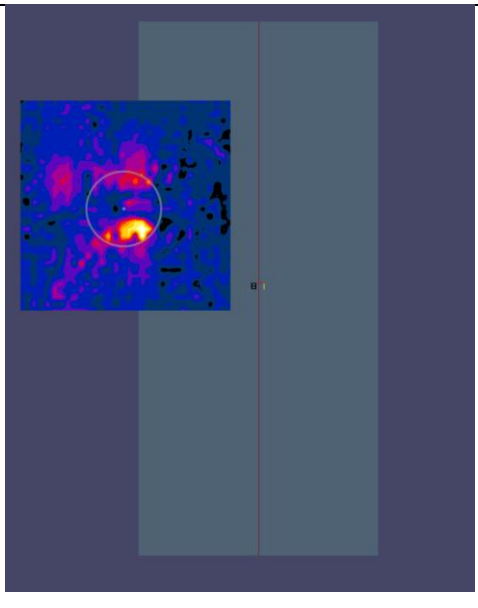
- Table 2-3, n260 ANT K-Patch: Mid Channel, Beam ID 2 for selected surfaces

Beam ID	Surface	View	Simulated PD	Measured PD
2	S3(Left)			

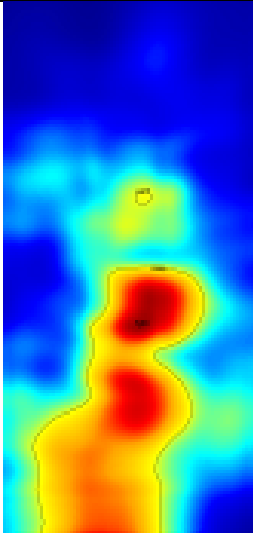
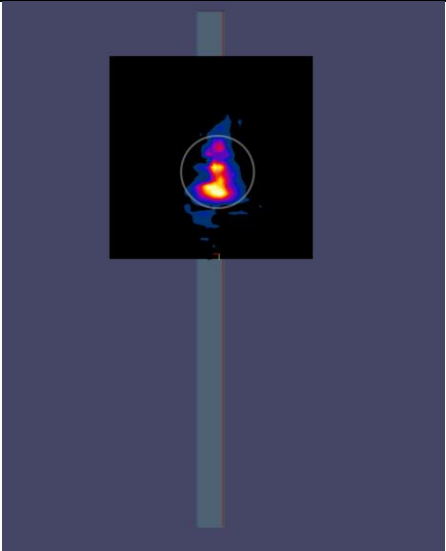
- Table 2-4, n260 ANT K-Patch: Mid Channel, Beam ID 11 for selected surfaces

Beam ID	Surface	View	Simulated PD	Measured PD
11	S3(Left)			

- Table 2-5, n258 ANT K-Patch: Mid Channel, Beam ID 8 for selected surfaces

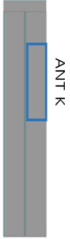
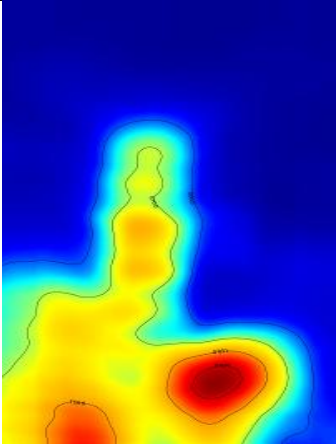
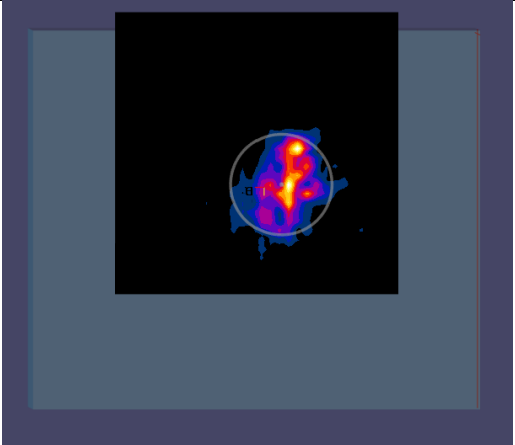
Beam ID	Surface	View	Simulated PD	Measured PD
8	S3 (Left)			
Beam ID	Surface	View	Simulated PD	Measured PD
8	S1 (Front)			

● Table 2-6, n258ANT K-Patch: Mid Channel, Beam ID 16 for selected surfaces

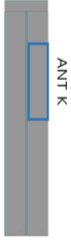
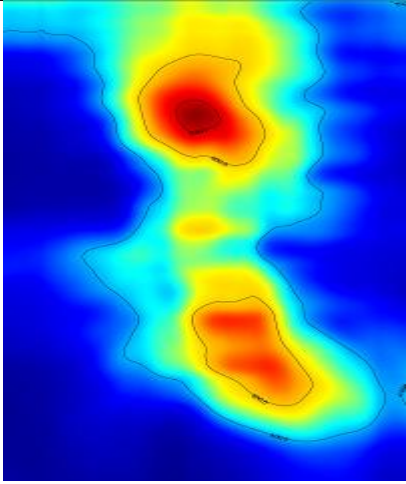
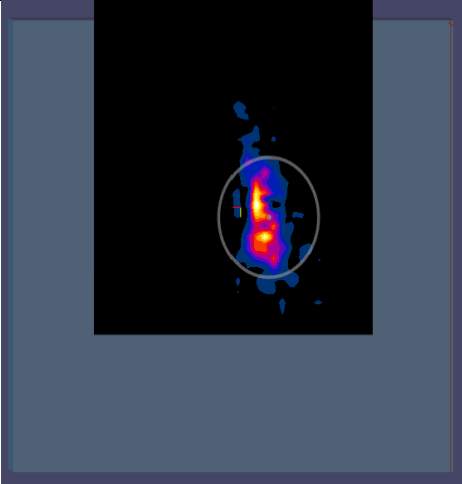
Beam ID	Surface	View	Simulated PD	Measured PD
16	S3 (Left)			

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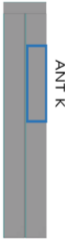
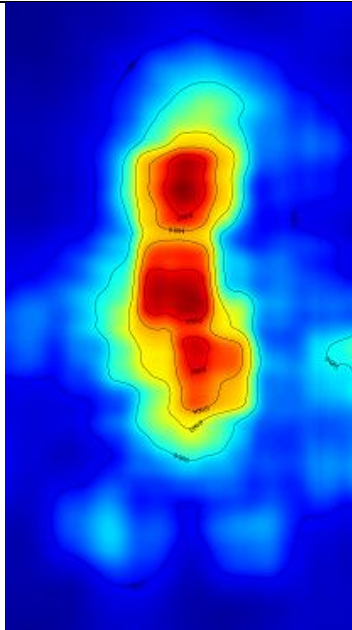
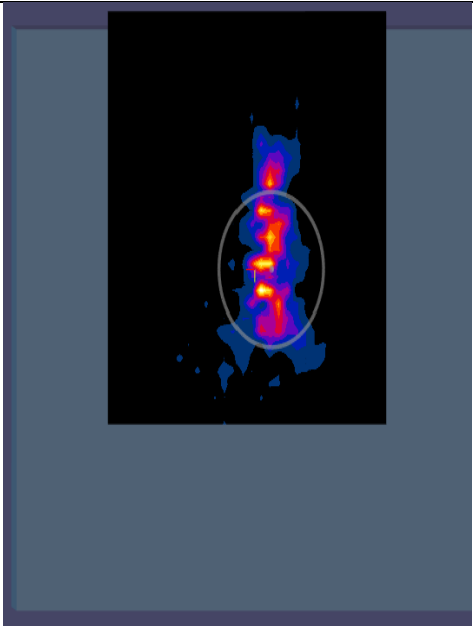
- Table 2-7, n261 ANT K-Patch: Mid Channel, Beam ID 3 for selected surfaces

Beam ID	Surface	View	Simulated PD	Measured PD
3	S3 (Left)			

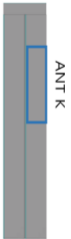
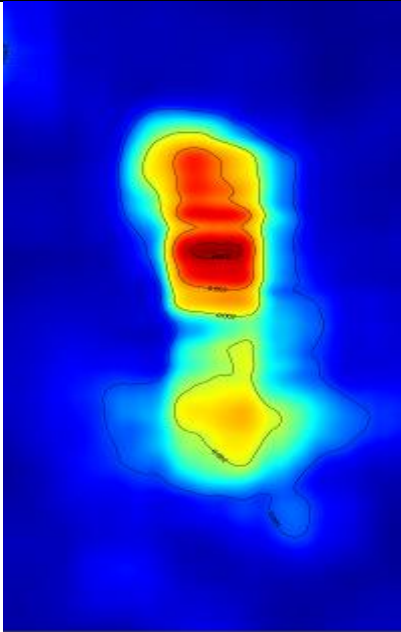
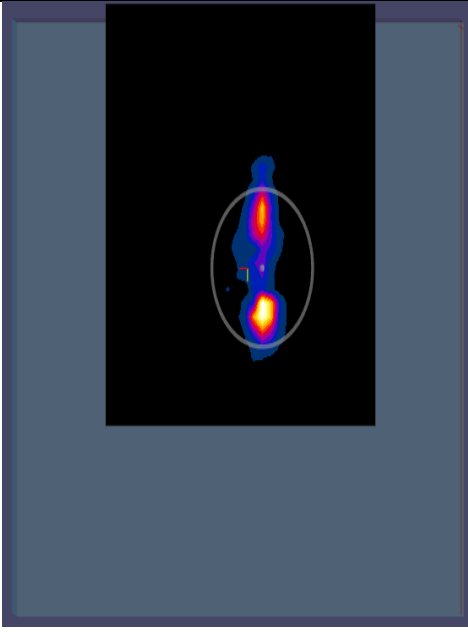
- Table 2-8, n261 ANT K-Patch: Mid Channel, Beam ID 9 for selected surfaces

Beam ID	Surface	View	Simulated PD	Measured PD
9	S3 (Left)			

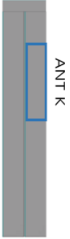
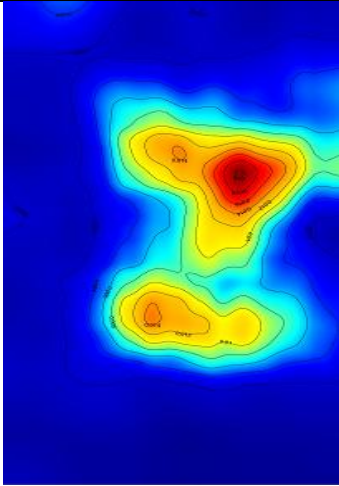
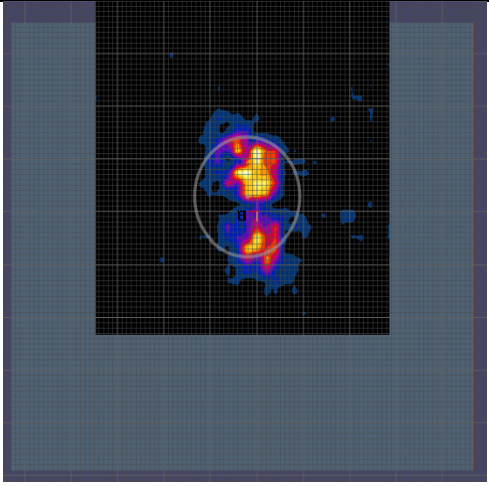
- Table 2-9, n260 ANT K-Patch: Mid Channel, Beam ID 0 for selected surfaces

Beam ID	Surface	View	Simulated PD	Measured PD
0	S3 (Left)			

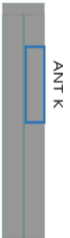
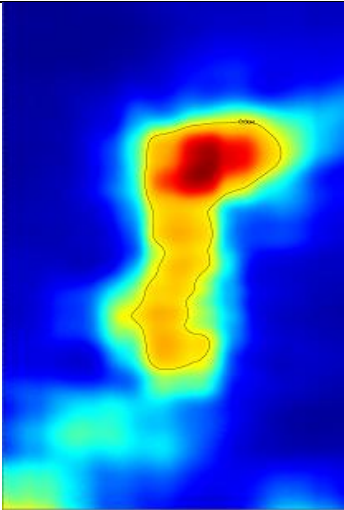
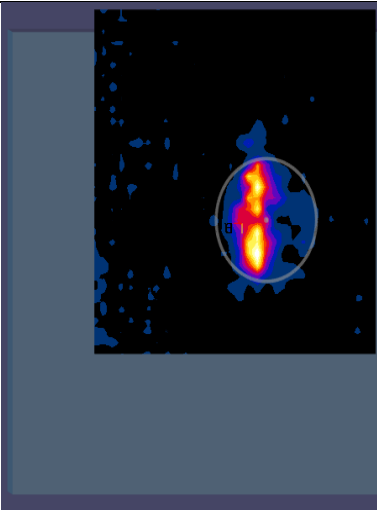
● Table 2-10, n260 ANT K-Patch: Mid Channel, Beam ID 11 for selected surfaces

Beam ID	Surface	View	Simulated PD	Measured PD
11	S3 (Left)			

- Table 2-11, n258 ANT K-Patch: Mid Channel, Beam ID 7 for selected surfaces

Beam ID	Surface	View	Simulated PD	Measured PD
7	S3 (Left)			

- Table 2-12, n258 ANT K-Patch: Mid Channel, Beam ID 13 for selected surfaces

Beam ID	Surface	View	Simulated PD	Measured PD
13	S3 (Left)			

3 Simulation results

This section shows the PD simulation results of Ant K at 28GHz, 39GHz and 24GHz for each evaluation plane specified in Table 1 at two separation distances of 2mm and 10mm for open condition and 2mm and 5mm for closed condition. 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) or 2mm to 5mm (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 Part 0 PD Report.

3.1 PD for Low/Mid/High Channel at 28GHz / 39GHz / 24GHz

3.1.1 Ant K– Patch Antenna

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

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

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- K-patch Low CH

No.	Module	Type	Beam ID_1	Bema ID_2	Feed no.	4cm2 PD(mW/cm2)							max ratio out of all beams					
						S4(Right)	S3(Left)	S5(Top)	S6(Bottom)	S1(Front)	S2(Rear)	per Beam Back-off (dB)	8.1%	100.0%	5.5%	0.9%	76.6%	45.8%
													ratio (Right 2mm)/(worst-surface 2mm)	ratio (Left 2mm)/(worst-surface 2mm)	ratio (Top 2mm)/(worst-surface 2mm)	ratio (Bottom 2mm)/(worst-surface 2mm)	ratio (Front 2mm)/(worst-surface 2mm)	ratio (Rear 2mm)/(worst-surface 2mm)
1	K	Patch	0		6	0.01	0.38	0.01	0.00	0.15	0.16		2.7%	100.0%	2.5%	0.5%	39.1%	42.2%
2			1		6	0.01	0.45	0.01	0.00	0.16	0.19		2.1%	100.0%	1.8%	0.5%	34.8%	42.5%
3			2		6	0.00	0.47	0.01	0.00	0.15	0.15		1.0%	100.0%	1.7%	0.4%	31.2%	32.3%
4			3		6	0.00	0.51	0.01	0.00	0.15	0.13		0.7%	100.0%	1.6%	0.5%	29.5%	25.3%
5			4		6	0.01	0.54	0.01	0.00	0.21	0.14		1.1%	100.0%	1.1%	0.4%	39.0%	26.3%
6			5		6	0.01	0.51	0.01	0.00	0.17	0.12		1.3%	100.0%	2.0%	0.1%	33.7%	24.5%
7			6		6	0.01	0.38	0.02	0.00	0.12	0.10		3.0%	100.0%	4.2%	0.3%	30.3%	27.6%
8			7		6	0.01	0.35	0.01	0.00	0.22	0.08		3.4%	100.0%	2.0%	0.7%	62.0%	22.3%
9			8		6	0.01	0.44	0.01	0.00	0.27	0.10		2.3%	100.0%	1.3%	0.6%	62.8%	21.8%
10			9		6	0.01	0.38	0.01	0.00	0.19	0.11		3.1%	100.0%	2.9%	0.9%	50.6%	28.6%
11			10		6	0.01	0.35	0.01	0.00	0.15	0.09		3.3%	100.0%	3.8%	0.6%	41.6%	24.3%
12			11		6	0.01	0.29	0.01	0.00	0.12	0.08		5.0%	100.0%	4.0%	0.4%	39.4%	27.4%
13			12		6	0.02	0.26	0.01	0.00	0.14	0.08		7.4%	100.0%	3.2%	0.6%	52.7%	30.2%
14			13		6	0.01	0.48	0.01	0.00	0.14	0.16		1.7%	100.0%	3.0%	0.5%	29.8%	33.2%
15			14		6	0.02	0.38	0.02	0.00	0.16	0.11		6.3%	100.0%	5.5%	0.6%	56.0%	38.4%
16			15		6	0.03	0.36	0.01	0.00	0.18	0.13		8.1%	100.0%	1.9%	0.4%	49.6%	35.7%
17			16		6	0.02	0.39	0.01	0.00	0.20	0.14		5.8%	100.0%	2.4%	0.3%	50.0%	36.8%
18			17		6	0.02	0.42	0.01	0.00	0.24	0.14		5.4%	100.0%	1.7%	0.3%	57.5%	33.8%
19			0	9	12	0.03	0.62	0.03	0.01	0.42	0.37		3.5%	100.0%	3.5%	0.7%	51.6%	45.8%
20			1	10	12	0.03	0.88	0.03	0.01	0.41	0.33		3.2%	100.0%	3.0%	0.7%	46.6%	37.5%
21			2	11	12	0.03	0.83	0.03	0.00	0.32	0.29		3.1%	100.0%	3.3%	0.5%	38.2%	34.8%
22			3	12	12	0.02	0.89	0.02	0.00	0.37	0.29		2.7%	100.0%	2.6%	0.5%	41.2%	32.6%
23			4	13	12	0.01	1.22	0.02	0.01	0.50	0.32		1.2%	100.0%	1.7%	0.7%	40.8%	36.5%
24			5	14	12	0.03	1.06	0.03	0.00	0.48	0.35		2.4%	100.0%	2.8%	0.3%	45.1%	32.6%
25			6	15	12	0.05	0.92	0.03	0.00	0.38	0.34		5.8%	100.0%	3.4%	0.4%	41.4%	37.3%
26			7	16	12	0.05	0.87	0.02	0.00	0.56	0.34		6.2%	100.0%	2.2%	0.6%	64.4%	39.4%
27			8	17	12	0.05	0.99	0.01	0.01	0.76	0.36		5.0%	100.0%	1.5%	0.6%	76.6%	36.2%

- K-patch Mid CH

												max ratio out of all beams						
No.	Module	Type	Beam ID_1	Bema ID_2	Feed no.	4cm2 PD(mW/cm2)						per (Beam Back-off (dB)	5.5%	100.0%	6.5%	1.4%	83.0%	37.0%
						S4(Right)	S3(Left)	S5(Top)	S6(Bottom)	S1(Front)	S2(Rear)		ratio (Right 2mm)/(worst- surface 2mm)	ratio (Left 2mm)/(worst- surface 2mm)	ratio (Top 2mm)/(worst- surface 2mm)	ratio (Bottom 2mm)/(worst- surface 2mm)	ratio (Font 2mm)/(worst- surface 2mm)	ratio (Rear 2mm)/(worst- surface 2mm)
1	K	Patch	0		6	0.01	0.42	0.02	0.00	0.18	0.15		2.6%	100.0%	3.8%	0.3%	42.8%	34.2%
2			1		6	0.01	0.50	0.01	0.00	0.19	0.18		1.9%	100.0%	1.5%	0.2%	38.6%	37.0%
3			2		6	0.01	0.47	0.01	0.00	0.15	0.15		1.4%	100.0%	2.0%	0.4%	31.4%	26.9%
4			3		6	0.01	0.49	0.01	0.00	0.16	0.12		1.3%	100.0%	1.4%	0.6%	33.0%	25.3%
5			4		6	0.01	0.48	0.01	0.00	0.17	0.14		1.6%	100.0%	1.1%	0.5%	35.7%	28.7%
6			5		6	0.01	0.50	0.01	0.00	0.17	0.13		2.9%	100.0%	2.2%	0.1%	35.0%	25.9%
7			6		6	0.01	0.36	0.01	0.00	0.15	0.08		3.9%	100.0%	3.9%	0.3%	43.0%	21.6%
8			7		6	0.01	0.35	0.01	0.00	0.22	0.07		2.6%	100.0%	2.5%	0.6%	61.2%	19.4%
9			8		6	0.01	0.47	0.01	0.00	0.25	0.11		1.9%	100.0%	1.2%	0.4%	52.6%	23.4%
10			9		6	0.01	0.46	0.02	0.01	0.22	0.12		2.0%	100.0%	4.2%	1.1%	47.4%	25.7%
11			10		6	0.01	0.40	0.02	0.01	0.17	0.11		2.2%	100.0%	6.0%	1.4%	43.0%	28.1%
12			11		6	0.01	0.30	0.02	0.00	0.12	0.09		2.9%	100.0%	5.9%	1.2%	38.3%	30.0%
13			12		6	0.01	0.28	0.01	0.00	0.16	0.08		4.8%	100.0%	3.9%	1.3%	55.9%	29.7%
14			13		6	0.02	0.43	0.02	0.00	0.18	0.12		3.5%	100.0%	4.4%	0.8%	42.4%	27.4%
15			14		6	0.02	0.30	0.02	0.00	0.25	0.10		5.5%	100.0%	4.5%	0.7%	83.0%	34.1%
16			15		6	0.01	0.37	0.01	0.00	0.22	0.12		3.6%	100.0%	1.7%	0.4%	59.0%	31.4%
17			16		6	0.02	0.43	0.01	0.00	0.25	0.15		3.7%	100.0%	2.3%	0.5%	56.9%	33.7%
18			17		6	0.02	0.44	0.00	0.00	0.23	0.14		4.5%	100.0%	1.1%	0.8%	51.7%	32.8%
19			0	9	12	0.03	1.03	0.04	0.01	0.58	0.31		2.6%	100.0%	3.8%	0.6%	56.2%	30.4%
20			1	10	12	0.02	1.02	0.04	0.01	0.51	0.37		1.9%	100.0%	3.5%	0.6%	50.1%	36.1%
21			2	11	12	0.02	0.86	0.04	0.01	0.32	0.29		2.0%	100.0%	4.7%	0.7%	36.9%	33.8%
22			3	12	12	0.02	0.87	0.02	0.01	0.40	0.29		2.6%	100.0%	2.5%	0.9%	46.7%	33.6%
23			4	13	12	0.03	1.13	0.03	0.01	0.50	0.30		2.9%	100.0%	2.3%	0.7%	44.2%	26.4%
24			5	14	12	0.04	0.97	0.05	0.00	0.61	0.35		4.6%	100.0%	4.9%	0.3%	62.3%	35.6%
25			6	15	12	0.04	0.82	0.03	0.00	0.51	0.24		4.7%	100.0%	3.6%	0.5%	62.4%	29.6%
26			7	16	12	0.04	0.84	0.03	0.01	0.58	0.28		4.8%	100.0%	3.7%	0.6%	69.2%	33.6%
27			8	17	12	0.05	1.06	0.02	0.01	0.61	0.35		4.3%	100.0%	1.5%	0.6%	57.2%	33.3%

- K-patch High CH

											max ratio out of all beams							
No.	Module	Type	Beam ID_1	Bema ID_2	Feed no.	4cm2 PD(mW/cm2)						per Beam Back-off (dB)	7.2%	100.0%	9.0%	1.4%	70.8%	38.6%
						S4(Right)	S3(Left)	S5(Top)	S6(Bottom)	S1(Front)	S2(Rear)		ratio (Right 2mm)/(worst-surface 2mm)	ratio (Left 2mm)/(worst-surface 2mm)	ratio (Top 2mm)/(worst-surface 2mm)	ratio (Bottom 2mm)/(worst-surface 2mm)	ratio (Front 2mm)/(worst-surface 2mm)	ratio (Rear 2mm)/(worst-surface 2mm)
1	K	Patch	0		6	0.01	0.45	0.02	0.00	0.18	0.15		2.8%	100.0%	3.4%	0.3%	40.3%	34.1%
2			1		6	0.01	0.47	0.01	0.00	0.19	0.16		2.5%	100.0%	1.3%	0.3%	40.1%	33.5%
3			2		6	0.01	0.44	0.00	0.00	0.16	0.10		1.6%	100.0%	1.1%	0.3%	36.5%	22.7%
4			3		6	0.01	0.49	0.01	0.00	0.17	0.12		1.4%	100.0%	1.7%	0.4%	35.7%	23.9%
5			4		6	0.00	0.49	0.01	0.00	0.18	0.12		0.9%	100.0%	1.1%	0.7%	36.6%	23.9%
6			5		6	0.01	0.51	0.01	0.00	0.20	0.11		2.0%	100.0%	1.7%	0.2%	39.0%	20.8%
7			6		6	0.01	0.36	0.01	0.00	0.15	0.08		2.8%	100.0%	3.9%	0.5%	42.8%	20.9%
8			7		6	0.01	0.38	0.01	0.00	0.23	0.08		2.2%	100.0%	2.7%	0.7%	59.8%	20.9%
9			8		6	0.01	0.52	0.01	0.00	0.27	0.12		1.9%	100.0%	1.5%	0.5%	52.2%	24.0%
10			9		6	0.01	0.49	0.02	0.00	0.22	0.11		1.6%	100.0%	5.1%	1.0%	44.9%	22.2%
11			10		6	0.01	0.44	0.04	0.01	0.15	0.11		2.0%	100.0%	8.2%	1.4%	34.5%	25.2%
12			11		6	0.01	0.33	0.03	0.00	0.11	0.10		4.3%	100.0%	3.0%	1.1%	33.1%	28.5%
13			12		6	0.01	0.34	0.02	0.00	0.17	0.09		2.5%	100.0%	6.0%	1.2%	51.5%	25.9%
14			13		6	0.01	0.47	0.02	0.00	0.23	0.11		3.0%	100.0%	3.7%	0.9%	48.1%	23.2%
15			14		6	0.02	0.29	0.02	0.00	0.21	0.11		7.2%	100.0%	7.1%	0.7%	70.8%	38.6%
16			15		6	0.02	0.37	0.00	0.00	0.19	0.13		4.0%	100.0%	1.3%	0.7%	49.4%	34.2%
17			16		6	0.01	0.46	0.01	0.00	0.22	0.14		2.5%	100.0%	1.7%	0.5%	47.8%	30.0%
18			17		6	0.01	0.42	0.01	0.00	0.21	0.13		2.9%	100.0%	1.5%	0.5%	49.2%	31.0%
19			0	9	12	0.02	1.13	0.05	0.01	0.59	0.27		2.0%	100.0%	4.3%	0.7%	51.7%	23.5%
20			1	10	12	0.02	1.05	0.05	0.01	0.47	0.32		2.3%	100.0%	4.7%	0.7%	44.3%	30.4%
21			2	11	12	0.02	0.88	0.04	0.01	0.33	0.21		2.8%	100.0%	4.7%	0.7%	38.0%	24.4%
22			3	12	12	0.02	0.98	0.04	0.01	0.45	0.25		2.0%	100.0%	3.8%	1.1%	45.5%	25.4%
23			4	13	12	0.02	1.20	0.04	0.01	0.50	0.31		2.1%	100.0%	3.1%	0.9%	41.9%	26.0%
24			5	14	12	0.05	1.11	0.04	0.00	0.53	0.37		4.3%	100.0%	3.7%	0.4%	47.6%	33.0%
25			6	15	12	0.04	0.81	0.03	0.01	0.49	0.27		4.6%	100.0%	3.1%	0.8%	59.8%	33.0%
26			7	16	12	0.03	0.93	0.03	0.01	0.47	0.31		2.8%	100.0%	3.5%	0.7%	50.5%	32.9%
27			8	17	12	0.04	1.00	0.02	0.01	0.59	0.33		3.6%	100.0%	1.9%	0.5%	59.4%	33.5%

[Folder Closed Status]

- K-patch Low CH

											max ratio out of all beams							
No.	Module	Type	Beam ID_1	Bema ID_2	Feed no.	4cm2 PD(mW/cm2)					per Beam Back-off (dB)	5.7%	100.0%	9.4%	4.5%	38.0%	36.9%	
						S4(Right)	S3(Left)	S5(Top)	S6(Bottom)	S1(Front)	S2(Rear)	ratio (Right 2mm)/(worst-surface 2mm)	ratio (Left 2mm)/(worst-surface 2mm)	ratio (Top 2mm)/(worst-surface 2mm)	ratio (Bottom 2mm)/(worst-surface 2mm)	ratio (Front 2mm)/(worst-surface 2mm)	ratio (Rear 2mm)/(worst-surface 2mm)	
1	K	Patch	0	6	0.01	0.47	0.01	0.01	0.14	0.14	1	2.0%	100.0%	2.9%	2.6%	30.0%	30.1%	
2			1	6	0.01	0.55	0.01	0.01	0.17	0.16	1	1.4%	100.0%	1.5%	1.9%	31.2%	29.9%	
3			2	6	0.00	0.56	0.02	0.01	0.14	0.12		0.8%	100.0%	3.5%	1.2%	25.3%	21.8%	
4			3	6	0.00	0.57	0.04	0.01	0.15	0.08		0.8%	100.0%	6.9%	2.1%	26.0%	14.1%	
5			4	6	0.00	0.55	0.04	0.01	0.15	0.10		0.9%	100.0%	7.4%	1.4%	27.3%	17.6%	
6			5	6	0.00	0.54	0.03	0.01	0.12	0.10		0.6%	100.0%	5.4%	2.7%	21.6%	19.3%	
7			6	6	0.01	0.38	0.01	0.01	0.09	0.07		1.3%	100.0%	2.9%	3.7%	22.5%	19.4%	
8			7	6	0.01	0.34	0.03	0.01	0.07	0.11		2.2%	100.0%	9.0%	2.6%	20.5%	33.3%	
9			8	6	0.01	0.48	0.05	0.01	0.11	0.13		2.0%	100.0%	9.4%	1.1%	23.5%	27.8%	
10			9	6	0.02	0.42	0.03	0.02	0.13	0.10		4.2%	100.0%	6.9%	4.5%	31.3%	23.2%	
11			10	6	0.01	0.40	0.02	0.01	0.11	0.08		2.6%	100.0%	6.0%	3.1%	27.7%	20.0%	
12			11	6	0.01	0.32	0.02	0.01	0.08	0.06		2.2%	100.0%	6.4%	3.0%	26.2%	19.1%	
13			12	6	0.01	0.28	0.01	0.01	0.08	0.06		4.3%	100.0%	4.0%	3.2%	28.5%	22.8%	
14			13	6	0.01	0.43	0.03	0.02	0.15	0.05		3.0%	100.0%	6.2%	4.2%	34.9%	12.3%	
15			14	6	0.01	0.29	0.02	0.01	0.11	0.09		4.4%	100.0%	7.9%	3.5%	38.0%	30.6%	
16			15	6	0.01	0.34	0.01	0.01	0.11	0.07		4.6%	100.0%	8.2%	3.8%	34.1%	23.4%	
17			16	6	0.02	0.37	0.01	0.01	0.13	0.06		5.7%	100.0%	3.9%	3.0%	35.9%	17.5%	
18			17	6	0.02	0.40	0.01	0.01	0.15	0.09		5.6%	100.0%	3.4%	2.2%	37.5%	22.9%	
19			0	9	12	0.03	0.99	0.05	0.03	0.32	0.37		3.0%	100.0%	5.0%	3.1%	32.0%	36.9%
20			1	10	12	0.02	1.13	0.04	0.02	0.36	0.36		1.9%	100.0%	3.9%	2.1%	31.8%	31.7%
21			2	11	12	0.02	0.96	0.04	0.02	0.29	0.19		1.7%	100.0%	3.8%	2.4%	30.4%	20.2%
22			3	12	12	0.03	1.01	0.05	0.03	0.32	0.19		2.8%	100.0%	5.4%	3.3%	31.6%	19.3%
23			4	13	12	0.02	1.08	0.09	0.03	0.35	0.21		2.0%	100.0%	8.3%	2.9%	32.8%	19.6%
24			5	14	12	0.02	1.06	0.09	0.03	0.35	0.31		1.7%	100.0%	8.3%	2.7%	33.1%	28.8%
25			6	15	12	0.03	0.91	0.02	0.02	0.30	0.21		2.9%	100.0%	2.7%	2.7%	33.5%	22.6%
26			7	16	12	0.03	0.88	0.06	0.02	0.30	0.22		3.9%	100.0%	6.9%	2.6%	33.8%	24.5%
27			8	17	12	0.04	1.08	0.08	0.02	0.39	0.28		3.3%	100.0%	7.2%	1.7%	36.5%	26.1%

- K-patch Mid CH

											max ratio out of all beams							
No.	Module	Type	Beam ID_1	Berna ID_2	Feed no.	4cm2 PD(mW/cm2)						per Beam Back-off (dB)	3.0%	100.0%	9.3%	7.0%	36.3%	44.3%
						S4(Right)	S3(Left)	S5(Top)	S6(Bottom)	S1(Front)	S2(Rear)		ratio (Right 2mm/worst-surface 2mm)	ratio (Left 2mm/worst-surface 2mm)	ratio (Top 2mm/worst-surface 2mm)	ratio (Bottom 2mm/worst-surface 2mm)	ratio (Front 2mm/worst-surface 2mm)	ratio (Rear 2mm/worst-surface 2mm)
1	K	Patch	0	6	0.01	0.43	0.02	0.02	0.14	0.11	1.3%	100.0%	3.7%	3.8%	32.0%	25.4%		
2			1	6	0.00	0.50	0.01	0.01	0.16	0.13	0.9%	100.0%	2.1%	1.7%	32.8%	26.7%		
3			2	6	0.01	0.54	0.03	0.01	0.12	0.12	0.9%	100.0%	4.1%	1.1%	23.1%	22.8%		
4			3	6	0.00	0.57	0.04	0.01	0.13	0.10	0.5%	100.0%	6.3%	2.0%	22.6%	18.1%		
5			4	6	0.00	0.51	0.04	0.01	0.14	0.09	0.7%	100.0%	7.3%	1.5%	26.3%	16.9%		
6			5	6	0.00	0.49	0.02	0.01	0.11	0.10	0.8%	100.0%	4.9%	2.7%	22.8%	20.2%		
7			6	6	0.01	0.46	0.01	0.02	0.07	0.08	1.6%	100.0%	2.7%	4.0%	17.5%	20.8%		
8			7	6	0.00	0.39	0.04	0.01	0.07	0.12	1.2%	100.0%	8.9%	2.3%	18.0%	31.4%		
9			8	6	0.01	0.52	0.05	0.01	0.10	0.16	1.0%	100.0%	9.3%	1.3%	19.6%	31.2%		
10			9	6	0.01	0.45	0.02	0.01	0.12	0.09	2.9%	100.0%	5.2%	2.9%	27.2%	20.6%		
11			10	6	0.01	0.44	0.02	0.02	0.11	0.07	2.3%	100.0%	4.6%	4.2%	25.7%	16.5%		
12			11	6	0.01	0.34	0.02	0.02	0.09	0.06	2.5%	100.0%	4.8%	5.8%	27.3%	16.5%		
13			12	6	0.01	0.29	0.02	0.01	0.09	0.07	2.9%	100.0%	6.7%	4.7%	31.4%	23.7%		
14			13	6	0.01	0.45	0.03	0.02	0.13	0.10	2.7%	100.0%	6.1%	4.9%	28.6%	22.0%		
15			14	6	0.01	0.36	0.02	0.02	0.10	0.12	2.5%	100.0%	9.0%	7.0%	36.3%	44.2%		
16			15	6	0.01	0.26	0.01	0.01	0.11	0.09	2.0%	100.0%	3.1%	3.8%	30.7%	24.0%		
17			16	6	0.01	0.42	0.01	0.01	0.13	0.08	2.6%	100.0%	3.0%	3.2%	31.9%	19.7%		
18			17	6	0.01	0.42	0.01	0.01	0.14	0.10	3.0%	100.0%	3.4%	3.0%	32.7%	23.7%		
19			0	9	12	0.02	0.95	0.04	0.04	0.33	0.31	2.1%	100.0%	3.9%	3.8%	34.9%	32.9%	
20			1	10	12	0.02	1.02	0.04	0.03	0.33	0.31	1.7%	100.0%	3.8%	3.3%	33.0%	30.6%	
21			2	11	12	0.02	0.96	0.05	0.04	0.28	0.18	1.6%	100.0%	4.9%	4.0%	29.0%	18.9%	
22			3	12	12	0.01	0.98	0.06	0.03	0.30	0.21	1.4%	100.0%	6.4%	2.6%	30.9%	21.6%	
23			4	13	12	0.02	1.22	0.09	0.04	0.31	0.23	1.5%	100.0%	3.2%	2.5%	32.3%	18.6%	
24			5	14	12	0.01	1.04	0.08	0.03	0.29	0.32	1.3%	100.0%	7.6%	3.2%	28.2%	30.3%	
25			6	15	12	0.02	0.87	0.03	0.03	0.27	0.24	2.3%	100.0%	3.2%	3.5%	30.9%	27.2%	
26			7	16	12	0.02	0.85	0.08	0.03	0.31	0.27	2.2%	100.0%	8.9%	3.0%	35.8%	31.6%	
27			8	17	12	0.02	1.10	0.08	0.02	0.33	0.38	1.9%	100.0%	7.4%	2.0%	30.4%	34.8%	

- K-patch High CH

											max ratio out of all beams							
No.	Module	Type	Beam ID_1	Bema ID_2	Feed no.	4cm2 PD(mW/cm2)						per Beam Back-off (dB)	4.1%	100.0%	10.9%	5.9%	41.0%	33.1%
						S4(Right)	S3(Left)	S5(Top)	S6(Bottom)	S1(Front)	S2(Rear)							
1	K	Patch	0	6	0.01	0.43	0.02	0.02	0.13	0.10	1.9%	100.0%	4.7%	3.8%	30.2%	23.9%		
2			1	6	0.01	0.50	0.01	0.01	0.16	0.11	1.0%	100.0%	2.7%	1.8%	31.6%	22.5%		
3			2	6	0.00	0.50	0.03	0.01	0.10	0.11	0.8%	100.0%	5.0%	1.3%	20.7%	21.5%		
4			3	6	0.00	0.56	0.03	0.02	0.12	0.11	0.6%	100.0%	5.9%	3.3%	20.9%	19.9%		
5			4	6	0.00	0.49	0.03	0.01	0.12	0.08	0.7%	100.0%	6.9%	2.0%	24.4%	16.7%		
6			5	6	0.00	0.50	0.02	0.01	0.10	0.11	0.9%	100.0%	4.7%	3.0%	20.9%	22.2%		
7			6	6	0.01	0.35	0.01	0.02	0.06	0.07	2.0%	100.0%	3.7%	4.9%	18.0%	20.8%		
8			7	6	0.01	0.37	0.04	0.01	0.07	0.10	1.5%	100.0%	10.9%	2.4%	19.4%	28.3%		
9			8	6	0.01	0.50	0.05	0.01	0.10	0.15	1.5%	100.0%	9.5%	1.3%	19.7%	29.2%		
10			9	6	0.01	0.48	0.02	0.02	0.12	0.11	2.2%	100.0%	4.2%	3.3%	25.5%	22.4%		
11			10	6	0.01	0.48	0.03	0.02	0.14	0.09	1.9%	100.0%	6.1%	3.9%	28.3%	18.7%		
12			11	6	0.01	0.35	0.02	0.02	0.11	0.06	2.2%	100.0%	7.1%	4.9%	30.9%	16.7%		
13			12	6	0.01	0.38	0.03	0.01	0.09	0.06	4.1%	100.0%	6.0%	4.2%	33.6%	21.2%		
14			13	6	0.01	0.49	0.04	0.03	0.13	0.15	1.8%	100.0%	7.2%	5.9%	26.8%	29.8%		
15			14	6	0.01	0.30	0.02	0.01	0.12	0.09	2.3%	100.0%	7.2%	4.6%	41.0%	28.6%		
16			15	6	0.01	0.37	0.01	0.01	0.12	0.08	1.8%	100.0%	3.1%	1.9%	32.2%	20.0%		
17	16	6	0.01	0.46	0.01	0.01	0.14	0.15	3.1%	100.0%	6.1%	3.2%	30.8%	21.9%				
18	17	6	0.01	0.44	0.01	0.01	0.15	0.10	2.1%	100.0%	6.1%	2.7%	33.8%	23.4%				
19	0	9	12	0.02	1.12	0.05	0.03	0.29	0.33	1.7%	100.0%	4.1%	2.9%	25.9%	29.7%			
20	1	10	12	0.02	1.16	0.05	0.03	0.38	0.31	1.3%	100.0%	3.9%	2.5%	32.4%	26.7%			
21	2	11	12	0.02	0.93	0.05	0.03	0.27	0.17	1.9%	100.0%	5.2%	3.6%	29.1%	18.7%			
22	3	12	12	0.02	0.92	0.06	0.03	0.29	0.19	3.3	2.2%	100.0%	6.5%	3.2%	31.7%	30.8%		
23	4	13	12	0.01	1.28	0.09	0.06	0.30	0.34	1.1%	100.0%	7.1%	4.6%	23.6%	26.7%			
24	5	14	12	0.02	1.12	0.07	0.04	0.35	0.28	1.4%	100.0%	6.5%	3.9%	31.3%	24.7%			
25	6	15	12	0.02	0.93	0.03	0.03	0.26	0.27	7.5	1.5%	100.0%	5.2%	3.1%	31.5%	24.9%		
26	7	16	12	0.02	0.94	0.08	0.03	0.30	0.24	7.5	1.5%	100.0%	3.3%	31.9%	31.9%			
27	8	17	12	0.03	1.05	0.08	0.02	0.34	0.35	2.8%	100.0%	7.7%	2.0%	32.2%	33.1%			

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

[Folder Open Status]

- K–patch Low CH

No.	Module	Type	Beam ID,1	Berna ID,2	Feed no.	4cm2 PD(mW/cm2)							max ratio out of all beams					
						S4(Right)	S3(left)	S5(Top)	S6(Bottom)	S1(Front)	S2(Rear)	per Beam Back-off (dB)	1.1%	100.0%	4.8%	2.3%	60.4%	39.3%
													ratio (Right 2mm)/(worst-surface 2mm)	ratio (Left 2mm)/(worst-surface 2mm)	ratio (Top 2mm)/(worst-surface 2mm)	ratio (Bottom 2mm)/(worst-surface 2mm)	ratio (Font 2mm)/(worst-surface 2mm)	ratio (Rear 2mm)/(worst-surface 2mm)
1			0		6	0.00	0.47	0.00	0.00	0.27	0.11		0.9%	100.0%	0.5%	0.1%	57.1%	22.8%
2			1		6	0.01	0.49	0.00	0.00	0.30	0.12		1.1%	100.0%	0.4%	0.2%	60.4%	23.9%
3			2		6	0.00	0.59	0.01	0.00	0.30	0.15		0.4%	100.0%	1.6%	0.1%	50.6%	26.4%
4			3		6	0.00	0.47	0.02	0.00	0.20	0.11		0.9%	100.0%	4.8%	0.1%	41.9%	24.6%
5			4		6	0.00	0.40	0.01	0.00	0.16	0.11		0.6%	100.0%	1.1%	1.0%	38.8%	27.4%
6			5		6	0.00	0.50	0.01	0.00	0.18	0.18		0.8%	100.0%	1.8%	0.2%	35.2%	35.7%
7			6		6	0.00	0.42	0.00	0.00	0.19	0.13		1.0%	100.0%	0.9%	0.5%	45.8%	32.3%
8			7		6	0.01	0.52	0.01	0.00	0.22	0.16		1.0%	100.0%	1.0%	0.2%	42.8%	30.1%
9			8		6	0.00	0.51	0.01	0.00	0.23	0.16		0.7%	100.0%	1.6%	0.1%	45.0%	30.6%
10			9		6	0.01	1.36	0.01	0.00	0.48	0.49		0.6%	100.0%	0.6%	0.2%	35.0%	35.7%
11			10		6	0.01	1.42	0.01	0.01	0.55	0.47		0.5%	100.0%	0.8%	0.5%	38.8%	33.5%
12			11		6	0.01	1.37	0.01	0.00	0.54	0.43		0.6%	100.0%	0.9%	0.3%	39.4%	31.6%
13			12		6	0.01	1.76	0.03	0.00	0.66	0.57		0.3%	100.0%	1.8%	0.1%	37.8%	32.9%
14			13		6	0.00	1.54	0.03	0.02	0.58	0.44		0.2%	100.0%	1.9%	1.5%	37.9%	28.7%
15			14		6	0.00	1.32	0.02	0.01	0.44	0.33		0.3%	100.0%	1.4%	0.8%	33.4%	25.2%
16			15		6	0.01	1.10	0.04	0.00	0.29	0.27		0.5%	100.0%	3.3%	0.2%	25.1%	24.3%
17			16		6	0.01	1.19	0.05	0.03	0.41	0.32		0.5%	100.0%	4.0%	2.3%	34.1%	26.9%
18			17		6	0.01	1.38	0.04	0.02	0.37	0.34		0.4%	100.0%	2.9%	1.7%	27.1%	24.6%
19			0	9	12	0.01	1.89	0.01	0.00	0.85	0.74		0.7%	100.0%	0.7%	0.2%	44.7%	39.3%
20			1	10	12	0.01	2.02	0.04	0.02	0.67	0.61		0.5%	100.0%	0.9%	0.5%	50.0%	36.0%
21			2	11	12	0.01	2.14	0.02	0.01	1.00	0.66		0.2%	100.0%	0.4%	0.6%	46.6%	30.7%
22			3	12	12	0.01	2.41	0.07	0.00	0.98	0.73		0.5%	100.0%	3.0%	0.4%	40.4%	30.4%
23			4	13	12	0.01	2.12	0.05	0.03	0.89	0.60		0.3%	100.0%	2.4%	1.4%	41.9%	28.1%
24			5	14	12	0.01	2.02	0.04	0.02	0.67	0.61		0.5%	100.0%	0.9%	0.5%	50.0%	36.0%
25			6	15	12	0.01	1.56	0.05	0.01	0.71	0.47		0.9%	100.0%	3.0%	0.3%	45.5%	30.1%
26			7	16	12	0.02	1.75	0.05	0.03	0.71	0.56		0.9%	100.0%	3.1%	1.9%	40.4%	32.2%
27			8	17	12	0.02	1.89	0.05	0.03	0.67	0.55		0.6%	100.0%	2.8%	1.3%	35.6%	28.9%

- K–patch Mid CH

No.	Module	Type	Beam ID,1	Berna ID,2	Feed no.	4cm2 PD(mW/cm2)							max ratio out of all beams					
						S4(Right)	S3(left)	S5(Top)	S6(Bottom)	S1(Front)	S2(Rear)	per Beam Back-off (dB)	1.1%	100.0%	3.8%	1.7%	56.7%	38.0%
													ratio (Right 2mm)/(worst-surface 2mm)	ratio (Left 2mm)/(worst-surface 2mm)	ratio (Top 2mm)/(worst-surface 2mm)	ratio (Bottom 2mm)/(worst-surface 2mm)	ratio (Font 2mm)/(worst-surface 2mm)	ratio (Rear 2mm)/(worst-surface 2mm)
1			0		6	0.00	0.50	0.00	0.00	0.26	0.13		0.4%	100.0%	0.7%	0.1%	52.8%	25.8%
2			1		6	0.00	0.47	0.00	0.00	0.27	0.13		0.4%	100.0%	0.6%	0.2%	56.7%	27.6%
3			2		6	0.00	0.50	0.00	0.00	0.23	0.14		0.5%	100.0%	0.8%	0.2%	46.4%	28.6%
4			3		6	0.00	0.41	0.02	0.00	0.18	0.10		0.6%	100.0%	3.8%	0.4%	43.5%	24.0%
5			4		6	0.00	0.32	0.01	0.00	0.16	0.08		0.7%	100.0%	1.1%	1.3%	51.5%	25.3%
6			5		6	0.00	0.40	0.01	0.00	0.17	0.14		0.6%	100.0%	1.8%	0.2%	42.0%	36.0%
7			6		6	0.00	0.42	0.01	0.00	0.19	0.14		1.0%	100.0%	2.1%	0.5%	45.1%	34.2%
8			7		6	0.00	0.45	0.00	0.00	0.18	0.15		0.9%	100.0%	0.8%	0.3%	40.6%	33.1%
9			8		6	0.00	0.49	0.01	0.00	0.21	0.16		0.7%	100.0%	1.3%	0.1%	43.7%	32.8%
10			9		6	0.01	1.22	0.01	0.00	0.39	0.43		1.1%	100.0%	1.2%	0.3%	32.1%	34.9%
11			10		6	0.01	1.32	0.01	0.00	0.52	0.47		0.6%	100.0%	0.9%	0.1%	39.0%	35.8%
12			11		6	0.00	1.47	0.01	0.00	0.61	0.48		0.3%	100.0%	0.9%	0.3%	41.2%	32.9%
13			12		6	0.00	1.39	0.03	0.00	0.50	0.46		0.3%	100.0%	2.1%	0.2%	35.7%	33.4%
14			13		6	0.01	1.39	0.02	0.02	0.50	0.42		0.9%	100.0%	1.4%	1.2%	36.0%	30.0%
15			14		6	0.00	1.29	0.01	0.01	0.44	0.36		0.3%	100.0%	0.6%	0.6%	33.9%	27.9%
16			15		6	0.01	1.12	0.04	0.00	0.30	0.30		0.5%	100.0%	3.6%	0.2%	26.6%	26.9%
17			16		6	0.01	1.03	0.03	0.01	0.32	0.34		0.5%	100.0%	3.3%	0.9%	31.3%	33.0%
18			17		6	0.01	1.14	0.02	0.01	0.30	0.35		0.8%	100.0%	1.9%	1.2%	26.5%	30.8%
19			0	9	12	0.02	1.80	0.02	0.00	0.78	0.60		1.0%	100.0%	1.3%	0.2%	43.4%	33.1%
20			1	10	12	0.01	1.92	0.02	0.00	0.93	0.67		0.6%	100.0%	0.2%	0.5%	48.4%	34.7%
21			2	11	12	0.01	2.15	0.02	0.01	0.98	0.65		0.3%	100.0%	0.7%	0.4%	45.6%	30.4%
22			3	12	12	0.01	1.89	0.05	0.01	0.75	0.63		0.4%	100.0%	2.5%	0.5%	39.8%	33.4%
23			4	13	12	0.02	1.75	0.04	0.03	0.68	0.54		1.0%	100.0%	2.5%	1.7%	38.6%	30.6%
24			5	14	12	0.01	1.85	0.02	0.01	0.61	0.54		0.5%	100.0%	0.6%	0.6%	32.9%	29.5%
25			6	15	12	0.01	1.55	0.05	0.01	0.55	0.54		0.9%	100.0%	3.0%	0.4%	35.3%	34.8%
26			7	16	12	0.02	1.58	0.03	0.01	0.53	0.60		0.9%	100.0%	2.1%	0.7%	33.4%	38.0%
27			8	17	12	0.02	1.71	0.04	0.01	0.55	0.54		0.9%	100.0%	2.2%	0.8%	32.4%	31.4%

- K–patch High CH

											max ratio out of all beams							
No.	Module	Type	Beam ID,1	Berna ID,2	Feed no.	4cm2 PD(mW/cm2)						per Beam Back-off (dB)	0.7%	100.0%	4.5%	1.8%	47.0%	38.0%
						S4(Right)	S3(Left)	S5(Top)	S6(Bottom)	S1(Front)	S2(Rear)		ratio (Right 2mm)/(worst-surface 2mm)	ratio (Left 2mm)/(worst-surface 2mm)	ratio (Top 2mm)/(worst-surface 2mm)	ratio (Bottom 2mm)/(worst-surface 2mm)	ratio (Front 2mm)/(worst-surface 2mm)	ratio (Rear 2mm)/(worst-surface 2mm)
1			0		6	0.00	0.44	0.00	0.00	0.20	0.15		0.4%	100.0%	0.5%	0.1%	45.2%	35.4%
2			1		6	0.00	0.42	0.00	0.00	0.20	0.15		0.6%	100.0%	0.4%	0.2%	47.0%	35.1%
3			2		6	0.00	0.46	0.00	0.00	0.21	0.15		0.4%	100.0%	0.7%	0.2%	46.1%	33.1%
4			3		6	0.00	0.40	0.02	0.00	0.18	0.11		0.4%	100.0%	1.1%	0.1%	46.3%	28.7%
5			4		6	0.00	0.34	0.01	0.00	0.14	0.12		0.4%	100.0%	2.7%	0.5%	40.0%	34.0%
6			5		6	0.00	0.44	0.01	0.00	0.19	0.13		0.4%	100.0%	3.0%	0.1%	44.4%	30.0%
7			6		6	0.00	0.38	0.01	0.00	0.16	0.13		0.7%	100.0%	1.9%	0.4%	41.9%	33.8%
8			7		6	0.00	0.42	0.00	0.00	0.20	0.14		0.4%	100.0%	0.8%	0.1%	46.0%	32.1%
9			8		6	0.00	0.47	0.01	0.00	0.21	0.16		0.5%	100.0%	1.1%	0.0%	45.7%	34.3%
10			9		6	0.01	1.07	0.01	0.01	0.40	0.41		0.5%	100.0%	0.8%	0.7%	37.0%	37.9%
11			10		6	0.01	1.10	0.01	0.01	0.29	0.41		0.5%	100.0%	0.7%	0.9%	35.9%	37.0%
12			11		6	0.00	1.17	0.00	0.00	0.46	0.43		0.3%	100.0%	0.6%	0.7%	39.2%	36.5%
13			12		6	0.00	1.22	0.02	0.00	0.43	0.41		0.4%	100.0%	1.4%	0.1%	35.6%	33.7%
14			13		6	0.01	1.10	0.01	0.02	0.38	0.36		0.5%	100.0%	1.1%	1.7%	34.7%	32.5%
15			14		6	0.00	1.12	0.01	0.00	0.27	0.32		0.2%	100.0%	1.2%	0.2%	33.0%	28.7%
16			15		6	0.00	0.96	0.02	0.00	0.25	0.24		0.5%	100.0%	2.6%	0.3%	29.6%	28.1%
17			16		6	0.00	0.87	0.03	0.01	0.26	0.27		0.4%	100.0%	3.0%	1.3%	30.2%	31.4%
18			17		6	0.00	0.96	0.03	0.01	0.26	0.27		0.5%	100.0%	2.7%	0.8%	31.5%	28.1%
19			0	9	12	0.01	1.53	0.01	0.01	0.56	0.57		0.7%	100.0%	0.7%	0.7%	36.6%	37.5%
20			1	10	12	0.01	1.56	0.01	0.01	0.60	0.59		0.7%	100.0%	0.9%	0.9%	38.7%	38.0%
21			2	11	12	0.01	1.67	0.01	0.01	0.68	0.61		0.4%	100.0%	0.4%	0.9%	41.0%	36.9%
22			3	12	12	0.01	1.62	0.01	0.00	0.64	0.60		0.4%	100.0%	2.7%	0.1%	35.3%	32.9%
23			4	13	12	0.01	1.59	0.03	0.03	0.57	0.55		0.4%	100.0%	1.8%	0.8%	34.8%	34.6%
24			5	14	12	0.01	1.68	0.03	0.00	0.58	0.47		12	100.0%	0.2%	0.2%	34.5%	27.9%
25			6	15	12	0.01	1.26	0.03	0.00	0.46	0.45		0.7%	100.0%	2.5%	0.3%	36.5%	35.9%
26			7	16	12	0.01	1.38	0.01	0.01	0.51	0.48		0.5%	100.0%	2.5%	1.0%	36.5%	34.5%
27			8	17	12	0.01	1.46	0.03	0.01	0.53	0.49		8	12	21%	0.6%	32.7%	33.5%

[Folder Closed Status]

- K-patch Low CH

No.	Module	Type	Beam ID_1	Bema ID_2	Feed no.	4cm2 PD(mW/cm2)						per Beam Back-off (dB)	max ratio out of all beams					
						S4(Right)	S3(Left)	S5(Top)	S6(Bottom)	S1(Front)	S2(Rear)		1.2%	100.0%	9.2%	5.0%	37.9%	29.1%
													ratio (Right 2mm)/(worst-surface 2mm)	ratio (Left 2mm)/(worst-surface 2mm)	ratio (Top 2mm)/(worst-surface 2mm)	ratio (Bottom 2mm)/(worst-surface 2mm)	ratio (Font 2mm)/(worst-surface 2mm)	ratio (Rear 2mm)/(worst-surface 2mm)
1	K	Patch	0		6	0.00	0.47	0.01	0.00	0.13	0.12		0.8%	100.0%	1.1%	0.5%	26.8%	26.3%
2			1		6	0.01	0.49	0.01	0.00	0.13	0.14		1.1%	100.0%	2.4%	0.4%	26.9%	28.8%
3			2		6	0.00	0.58	0.01	0.02	0.16	0.15		0.4%	100.0%	2.5%	2.8%	26.9%	25.9%
4			3		6	0.00	0.45	0.00	0.02	0.12	0.10		1.0%	100.0%	5.0%	0.0%	25.9%	21.2%
5			4		6	0.00	0.39	0.03	0.01	0.12	0.09		0.5%	100.0%	7.8%	2.9%	30.0%	22.7%
6			5		6	0.00	0.49	0.05	0.01	0.18	0.08		0.7%	100.0%	9.2%	2.8%	36.8%	16.6%
7			6		6	0.00	0.47	0.02	0.00	0.15	0.10		0.5%	100.0%	4.1%	0.7%	32.9%	20.6%
8			7		6	0.00	0.51	0.03	0.00	0.14	0.12		0.6%	100.0%	6.6%	3.9%	27.3%	24.3%
9			8		6	0.01	0.48	0.02	0.01	0.14	0.11		1.2%	100.0%	5.0%	1.4%	29.0%	23.4%
10			9		6	0.00	1.32	0.06	0.01	0.45	0.28		0.3%	100.0%	4.4%	0.8%	34.0%	21.4%
11			10		6	0.00	1.38	0.05	0.02	0.46	0.30		0.2%	100.0%	3.3%	1.1%	33.5%	21.8%
12			11		6	0.01	1.32	0.02	0.02	0.40	0.28		0.4%	100.0%	1.5%	1.4%	30.3%	21.2%
13			12		6	0.00	1.75	0.02	0.04	0.52	0.36		0.2%	100.0%	1.0%	2.3%	29.7%	20.8%
14			13		6	0.00	1.58	0.06	0.04	0.41	0.29		0.2%	100.0%	4.1%	2.6%	26.2%	18.2%
15			14		6	0.00	1.33	0.07	0.01	0.52	0.26		0.2%	100.0%	5.1%	1.1%	24.2%	19.8%
16			15		6	0.00	1.09	0.08	0.04	0.26	0.18		0.3%	100.0%	7.5%	3.9%	24.0%	16.9%
17			16		6	0.01	1.16	0.08	0.05	0.31	0.24		0.4%	100.0%	6.5%	4.1%	27.0%	20.8%
18			17		6	0.01	1.35	0.12	0.03	0.33	0.19		0.5%	100.0%	8.1%	2.5%	24.8%	14.4%
19			0	9	12	0.01	1.84	0.07	0.02	0.70	0.48		0.5%	100.0%	4.0%	1.0%	37.9%	26.2%
20			1	10	12	0.01	1.58	0.05	0.02	0.72	0.58		0.5%	100.0%	1.0%	1.0%	36.4%	29.1%
21			2	11	12	0.01	2.10	0.04	0.04	0.63	0.57		0.5%	100.0%	2.1%	1.7%	29.9%	27.2%
22			3	12	12	0.01	2.36	0.03	0.09	0.68	0.53		0.4%	100.0%	1.1%	3.9%	28.6%	22.5%
23			4	13	12	0.00	2.26	0.09	0.06	0.56	0.48		0.2%	100.0%	4.3%	2.9%	25.5%	21.7%
24			5	14	12	0.01	1.97	0.14	0.04	0.57	0.36		0.4%	100.0%	5.7%	1.8%	29.1%	18.4%
25			6	15	12	0.01	1.75	0.12	0.05	0.49	0.38		0.4%	100.0%	6.6%	3.1%	28.0%	21.9%
26			7	16	12	0.01	1.78	0.11	0.05	0.52	0.40		0.8%	100.0%	6.0%	2.7%	28.9%	22.6%
27			8	17	12	0.01	1.86	0.14	0.04	0.52	0.34		0.7%	100.0%	7.5%	2.1%	27.7%	18.1%

- K-patch Mid CH

No.	Module	Type	Beam ID_1	Bema ID_2	Feed no.	4cm2 PD(mW/cm2)						per Beam Back-off (dB)	max ratio out of all beams					
						S4(Right)	S3(Left)	S5(Top)	S6(Bottom)	S1(Front)	S2(Rear)		1.1%	100.0%	10.2%	3.6%	37.4%	28.2%
													ratio (Right 2mm)/(worst-surface 2mm)	ratio (Left 2mm)/(worst-surface 2mm)	ratio (Top 2mm)/(worst-surface 2mm)	ratio (Bottom 2mm)/(worst-surface 2mm)	ratio (Font 2mm)/(worst-surface 2mm)	ratio (Rear 2mm)/(worst-surface 2mm)
1	K	Patch	0		6	0.00	0.54	0.01	0.00	0.14	0.14		0.8%	100.0%	1.6%	0.7%	25.7%	25.5%
2			1		6	0.00	0.49	0.01	0.00	0.15	0.14		0.7%	100.0%	1.8%	0.5%	29.8%	28.2%
3			2		6	0.00	0.54	0.01	0.00	0.16	0.14		0.4%	100.0%	2.5%	0.5%	29.2%	26.3%
4			3		6	0.00	0.40	0.01	0.01	0.09	0.09		1.1%	100.0%	1.8%	3.6%	22.0%	22.4%
5			4		6	0.00	0.34	0.02	0.01	0.08	0.08		0.8%	100.0%	6.8%	0.0%	23.9%	22.5%
6			5		6	0.00	0.41	0.03	0.01	0.15	0.08		0.5%	100.0%	8.2%	1.5%	36.6%	19.5%
7			6		6	0.00	0.43	0.01	0.01	0.14	0.10		0.8%	100.0%	4.9%	1.4%	33.3%	22.9%
8			7		6	0.00	0.47	0.03	0.01	0.14	0.11		0.6%	100.0%	6.1%	1.3%	31.1%	24.1%
9			8		6	0.00	0.52	0.02	0.01	0.15	0.13		0.5%	100.0%	4.6%	1.4%	29.8%	24.4%
10			9		6	0.01	1.26	0.08	0.01	0.42	0.23		0.4%	100.0%	6.6%	1.1%	33.5%	18.5%
11			10		6	0.01	1.38	0.04	0.01	0.46	0.29		0.4%	100.0%	2.6%	0.6%	33.3%	20.9%
12			11		6	0.01	1.45	0.02	0.01	0.46	0.32		0.4%	100.0%	1.2%	0.7%	31.5%	22.1%
13			12		6	0.00	1.36	0.02	0.03	0.42	0.27		0.2%	100.0%	1.1%	2.1%	31.2%	19.8%
14			13		6	0.01	1.42	0.06	0.02	0.42	0.25		0.4%	100.0%	4.3%	1.6%	29.4%	17.2%
15			14		6	0.00	1.28	0.10	0.01	0.32	0.24		0.4%	100.0%	3.1%	0.6%	25.4%	19.6%
16			15		6	0.00	1.08	0.07	0.04	0.29	0.15		0.4%	100.0%	6.1%	3.5%	26.6%	13.6%
17			16		6	0.01	1.03	0.06	0.03	0.32	0.20		0.7%	100.0%	6.2%	2.8%	31.5%	19.4%
18			17		6	0.00	1.20	0.12	0.02	0.35	0.17		0.4%	100.0%	10.2%	1.5%	28.8%	14.0%
19			0	9	12	0.01	1.95	0.11	0.02	0.58	0.45		0.7%	100.0%	1.5%	1.5%	29.8%	23.3%
20			1	10	12	0.01	2.02	0.05	0.02	0.67	0.55		0.6%	100.0%	2.4%	1.0%	33.0%	27.1%
21			2	11	12	0.01	2.17	0.05	0.02	0.65	0.59		0.5%	100.0%	2.1%	0.7%	30.1%	27.0%
22			3	12	12	0.01	1.86	0.04	0.06	0.57	0.41		0.5%	100.0%	1.9%	3.1%	30.9%	22.3%
23			4	13	12	0.01	1.80	0.10	0.05	0.56	0.34		0.5%	100.0%	2.7%	2.7%	30.9%	18.8%
24			5	14	12	0.01	1.86	0.15	0.02	0.54	0.33		0.5%	100.0%	0.9%	0.8%	28.9%	17.8%
25			6	15	12	0.01	1.52	0.11	0.04	0.52	0.28		0.7%	100.0%	7.1%	2.8%	34.5%	18.6%
26			7	16	12	0.01	1.55	0.07	0.04	0.58	0.32		0.6%	100.0%	2.4%	4.7%	37.4%	20.8%
27			8	17	12	0.01	1.81	0.15	0.03	0.52	0.30		0.5%	100.0%	8.1%	1.7%	28.9%	16.4%

- K-patch High CH

												max ratio out of all beams						
No.	Module	Type	Beam ID_1	Bema ID_2	Feed no.	4cm2 PD(mW/cm2)						per Beam Back-off (dB)	0.6%	100.0%	8.2%	4.0%	39.5%	24.7%
						S4(Right)	S3(left)	S5(Top)	S6(Bottom)	S1(Front)	S2(Rear)	ratio (Right 2mm)/(worst-surface 2mm)	ratio (Left 2mm)/(worst-surface 2mm)	ratio (Top 2mm)/(worst-surface 2mm)	ratio (Bottom 2mm)/(worst-surface 2mm)	ratio (Front 2mm)/(worst-surface 2mm)	ratio (Rear 2mm)/(worst-surface 2mm)	
1	K	Patch	0		6	0.00	0.46	0.01	0.00	0.17	0.10	0.3%	100.0%	1.5%	0.6%	38.3%	20.9%	
2			1	6	0.00	0.43	0.01	0.00	0.17	0.10	0.3%	100.0%	2.4%	0.3%	38.4%	22.4%		
3			2	6	0.00	0.49	0.01	0.00	0.18	0.11	0.2%	100.0%	2.5%	0.7%	37.6%	21.8%		
4			3	6	0.00	0.40	0.00	0.02	0.12	0.08	0.3%	100.0%	0.6%	4.0%	31.3%	20.7%		
5			4	6	0.00	0.36	0.02	0.01	0.13	0.06	0.4%	0.3%	100.0%	4.6%	1.7%	36.9%	17.0%	
6			5	6	0.00	0.45	0.03	0.01	0.13	0.09	0.3%	100.0%	5.1%	2.8%	29.5%	20.4%		
7			6	6	0.00	0.40	0.01	0.01	0.14	0.09	0.5%	100.0%	3.2%	1.5%	35.5%	21.5%		
8			7	6	0.00	0.44	0.02	0.00	0.14	0.11	0.4%	100.0%	5.2%	0.5%	33.2%	24.4%		
9			8	6	0.00	0.49	0.02	0.01	0.17	0.12	0.3%	100.0%	4.0%	1.2%	34.2%	24.7%		
10			9	6	0.00	1.07	0.09	0.01	0.40	0.21	0.3%	100.0%	0.6%	0.9%	37.2%	19.4%		
11			10	6	0.00	1.10	0.04	0.01	0.40	0.21	0.3%	100.0%	3.6%	0.6%	35.9%	18.7%		
12			11	6	0.00	1.14	0.02	0.00	0.40	0.24	0.3%	100.0%	2.1%	0.3%	34.7%	21.4%		
13			12	6	0.00	1.27	0.01	0.02	0.39	0.23	0.3%	100.0%	1.0%	1.5%	30.8%	17.9%		
14			13	6	0.00	1.09	0.08	0.02	0.34	0.18	0.3%	100.0%	1.3%	1.1%	31.9%	16.5%		
15			14	6	0.00	1.13	0.08	0.01	0.32	0.21	0.3%	100.0%	6.7%	0.5%	28.2%	18.4%		
16			15	6	0.00	0.89	0.06	0.03	0.23	0.13	0.3%	100.0%	6.8%	3.0%	25.9%	14.8%		
17	16	6	0.00	0.85	0.07	0.03	0.25	0.16	0.4%	100.0%	7.9%	3.1%	29.3%	18.8%				
18	17	6	0.00	1.00	0.08	0.03	0.27	0.14	0.3%	100.0%	2.7%	2.6%	26.5%	14.2%				
19	0	9	12	0.01	1.59	0.11	0.01	0.60	0.29	0.4%	100.0%	6.0%	0.6%	37.7%	18.0%			
20	1	10	12	0.01	1.59	0.06	0.01	0.63	0.33	0.3%	100.0%	3.5%	0.7%	39.5%	20.5%			
21	2	11	12	0.01	1.70	0.03	0.01	0.61	0.36	0.3%	100.0%	2.0%	0.3%	35.7%	20.9%			
22	3	12	12	0.01	1.90	0.02	0.06	0.59	0.36	0.3%	100.0%	0.9%	0.3%	31.1%	18.8%			
23	4	13	12	0.00	1.62	0.11	0.03	0.57	0.25	0.3%	100.0%	6.6%	2.1%	35.2%	15.3%			
24	5	14	12	0.01	1.68	0.11	0.03	0.47	0.27	0.4%	100.0%	6.4%	1.5%	28.2%	16.1%			
25	6	15	12	0.01	1.77	0.08	0.04	0.46	0.20	0.6%	100.0%	6.2%	2.7%	33.2%	14.3%			
26	7	16	12	0.01	1.38	0.08	0.03	0.46	0.27	0.6%	100.0%	5.6%	2.3%	33.0%	19.6%			
27	8	17	12	0.01	1.53	0.09	0.03	0.49	0.27	0.4%	100.0%	6.8%	2.1%	32.2%	17.4%			

Table 5. PD of Ant K – patch antenna (24GHz – n258)

[Folder Open Status]

- K-patch Low CH

											max ratio out of all beams																		
No.	Module	Type	Beam ID_1	Bema ID_2	Feed no.	4cm2 PD(mW/cm2)						per Beam Back-off (db)	5.8%	100.0%	8.6%	2.0%	61.6%	37.3%											
																		ratio (Right 2mm)/(worst-surface 2mm)	ratio (Left 2mm)/(worst-surface 2mm)	ratio (Top 2mm)/(worst-surface 2mm)	ratio (Bottom 2mm)/(worst-surface 2mm)	ratio (Front 2mm)/(worst-surface 2mm)	ratio (Rear 2mm)/(worst-surface 2mm)						
																		S4(Right)	S3(Left)	S5(Top)	S6(Bottom)	S1(Front)	S2(Rear)						
1	K	Patch	0	6	0.01	0.25	0.02	0.00	0.15	0.06			4.8%	100.0%	8.6%	1.5%	59.3%	23.7%											
2			1	6	0.02	0.33	0.02	0.00	0.18	0.09			4.6%	100.0%	5.9%	0.9%	55.1%	26.4%											
3			2	6	0.01	0.28	0.01	0.00	0.16	0.08			4.8%	100.0%	5.1%	0.9%	58.3%	28.0%											
4			3	6	0.02	0.28	0.02	0.00	0.16	0.06			5.5%	100.0%	6.5%	1.3%	57.8%	22.0%											
5			4	6	0.02	0.46	0.01	0.00	0.21	0.09			4.7%	100.0%	4.0%	0.8%	45.9%	19.9%											
6			5	6	0.01	0.51	0.01	0.00	0.28	0.10			1.9%	100.0%	2.3%	0.6%	55.8%	19.4%											
7			6	6	0.01	0.55	0.01	0.00	0.34	0.11			1.7%	100.0%	1.0%	0.2%	61.6%	21.1%											
8			7	6	0.02	0.58	0.00	0.00	0.32	0.17			3.1%	100.0%	0.9%	0.2%	55.5%	29.4%											
9			8	6	0.01	0.60	0.01	0.00	0.24	0.19			2.2%	100.0%	1.7%	0.4%	39.6%	31.8%											
10			9	6	0.00	0.25	0.01	0.00	0.07	0.08			0.7%	100.0%	2.8%	0.7%	27.7%	30.6%											
11			10	6	0.01	0.13	0.01	0.00	0.05	0.04			4.4%	100.0%	4.7%	0.8%	35.9%	30.9%											
12			11	6	0.01	0.18	0.01	0.00	0.06	0.05			3.1%	100.0%	3.9%	1.1%	32.5%	25.8%											
13			12	6	0.01	0.23	0.00	0.00	0.07	0.08			3.4%	100.0%	1.5%	2.0%	27.8%	35.5%											
14			13	6	0.01	0.29	0.01	0.00	0.08	0.10			2.9%	100.0%	1.8%	1.2%	29.4%	33.3%											
15			14	6	0.01	0.23	0.01	0.00	0.06	0.06			3.0%	100.0%	3.0%	1.5%	27.5%	28.3%											
16			15	6	0.01	0.30	0.00	0.00	0.08	0.09			1.9%	100.0%	1.1%	1.6%	27.8%	28.4%											
17			16	6	0.01	0.34	0.01	0.00	0.11	0.12			1.8%	100.0%	1.8%	1.2%	31.3%	36.6%											
18			17	6	0.01	0.31	0.01	0.00	0.10	0.11			1.7%	100.0%	2.6%	0.7%	31.6%	34.7%											
19			0	9	12	0.02	0.53	0.04	0.01	0.27	0.19		3.3%	100.0%	7.6%	1.0%	30.2%	25.1%											
20			1	10	12	0.03	0.55	0.03	0.01	0.29	0.15		5.8%	100.0%	5.9%	1.0%	53.0%	33.9%											
21			2	11	12	0.03	0.53	0.03	0.01	0.28	0.17		5.0%	100.0%	6.3%	1.5%	53.7%	26.0%											
22			3	12	12	0.03	0.59	0.03	0.01	0.26	0.22		5.6%	100.0%	4.9%	1.7%	44.1%	37.3%											
23			4	13	12	0.04	0.95	0.02	0.01	0.36	0.24		4.1%	100.0%	2.5%	0.9%	38.2%	25.8%											
24			5	14	12	0.02	0.84	0.03	0.01	0.41	0.22		2.5%	100.0%	4.4%	1.5%	49.2%	26.7%											
25			6	15	12	0.02	0.93	0.02	0.01	0.52	0.27		2.2%	100.0%	1.8%	1.0%	55.6%	28.6%											
26			7	16	12	0.03	0.98	0.01	0.00	0.45	0.36		2.6%	100.0%	1.4%	0.5%	45.7%	36.1%											
27			8	17	12	0.02	0.97	0.03	0.00	0.38	0.32		2.5%	100.0%	2.8%	0.5%	39.4%	32.9%											

- K-patch Mid CH

											max ratio out of all beams								
No	Module	Type	Beam ID_1	Bema ID_2	Feed no.	4cm2 PD(mW/cm2)						per Beam Back-off (dB)	5.0%	100.0%	7.6%	3.0%	60.3%	42.8%	
						S4(Right)	S3(Left)	S5(Top)	S6(Bottom)	S1(Front)	S2(Rear)		ratio (Right 2mm/(worst-surface 2mm))	ratio (Left 2mm/(worst-surface 2mm))	ratio (Top 2mm/(worst-surface 2mm))	ratio (Bottom 2mm/(worst-surface 2mm))	ratio (Front 2mm/(worst-surface 2mm))	ratio (Rear 2mm/(worst-surface 2mm))	
1	K	Patch	0	6	0.01	0.25	0.02	0.00	0.13	0.05			3.4%	100.0%	7.6%	0.7%	50.7%	20.8%	
2			1	6	0.01	0.37	0.01	0.00	0.17	0.09			1.4%	100.0%	3.7%	0.5%	47.8%	24.3%	
3			2	6	0.01	0.31	0.01	0.00	0.16	0.11			3.5%	100.0%	6.6%	0.6%	50.4%	35.1%	
4			3	6	0.02	0.33	0.02	0.00	0.18	0.08			5.0%	100.0%	5.6%	0.5%	56.5%	25.7%	
5			4	6	0.01	0.52	0.01	0.00	0.30	0.08			2.5%	100.0%	1.2%	0.9%	57.0%	15.4%	
6			5	6	0.01	0.57	0.01	0.00	0.35	0.09			1.9%	100.0%	1.2%	0.4%	60.3%	15.0%	
7			6	6	0.02	0.60	0.01	0.00	0.33	0.15			3.1%	100.0%	1.2%	0.1%	55.3%	24.7%	
8			7	6	0.02	0.67	0.01	0.00	0.30	0.24			3.4%	100.0%	1.0%	0.2%	44.3%	35.9%	
9			8	6	0.01	0.69	0.01	0.00	0.35	0.17			1.0%	100.0%	1.4%	0.3%	50.7%	24.8%	
10			9	6	0.00	0.32	0.01	0.00	0.10	0.10			0.9%	100.0%	2.7%	0.2%	31.7%	30.2%	
11			10	6	0.00	0.17	0.01	0.00	0.05	0.07			2.5%	100.0%	0.2%	0.4%	32.7%	42.1%	
12			11	6	0.00	0.23	0.01	0.00	0.07	0.07			1.6%	100.0%	4.2%	1.3%	29.3%	29.3%	
13			12	6	0.00	0.24	0.00	0.01	0.06	0.08			1.8%	100.0%	1.5%	3.0%	24.7%	33.1%	
14			13	6	0.00	0.31	0.01	0.00	0.08	0.10			1.6%	100.0%	2.0%	1.6%	24.7%	31.2%	
15			14	6	0.01	0.36	0.01	0.01	0.09	0.12			1.8%	100.0%	3.2%	1.8%	26.0%	32.0%	
16			15	6	0.01	0.38	0.01	0.01	0.11	0.13			2.3%	100.0%	2.1%	1.7%	27.7%	34.1%	
17			16	6	0.00	0.38	0.01	0.00	0.12	0.15			1.3%	100.0%	2.1%	0.7%	30.6%	40.3%	
18			17	6	0.00	0.34	0.01	0.00	0.12	0.13			1.2%	100.0%	2.5%	0.4%	36.4%	38.5%	
19			0	9	12	0.02	0.66	0.05	0.00	0.27	0.23			2.3%	100.0%	7.1%	0.6%	40.5%	35.1%
20			1	10	12	0.02	0.70	0.03	0.00	0.29	0.24			2.0%	100.0%	4.9%	0.6%	42.3%	34.2%
21			2	11	12	0.02	0.60	0.04	0.01	0.26	0.23			3.5%	100.0%	3.2%	1.3%	43.1%	38.8%
22			3	12	12	0.03	0.68	0.03	0.01	0.27	0.24			3.9%	100.0%	4.2%	1.7%	39.1%	25.8%
23			4	13	12	0.02	0.99	0.01	0.01	0.50	0.25			2.4%	100.0%	1.5%	1.0%	50.3%	24.8%
24			5	14	12	0.03	0.98	0.02	0.02	0.54	0.27			2.9%	100.0%	2.0%	1.6%	54.8%	27.4%
25			6	15	12	0.05	1.12	0.02	0.01	0.52	0.40			4.0%	100.0%	1.5%	0.9%	46.4%	35.6%
26			7	16	12	0.04	1.32	0.02	0.00	0.47	0.57			3.3%	100.0%	1.6%	0.4%	35.2%	42.8%
27			8	17	12	0.01	1.04	0.02	0.01	0.57	0.35			1.4%	100.0%	2.2%	0.5%	54.5%	33.9%

- K-patch High CH

											max ratio out of all beams							
No.	Module	Type	Beam ID_1	Bema ID_2	Feed no.	4cm2 PD(mW/cm2)						per Beam Back-off (dB)	6.4%	100.0%	6.1%	3.1%	62.1%	43.8%
						S4(Right)	S3(Left)	S5(Top)	S6(Bottom)	S1(Front)	S2(Rear)		ratio (Right 2mm)/(worst-surface 2mm)	ratio (Left 2mm)/(worst-surface 2mm)	ratio (Top 2mm)/(worst-surface 2mm)	ratio (Bottom 2mm)/(worst-surface 2mm)	ratio (Front 2mm)/(worst-surface 2mm)	ratio (Rear 2mm)/(worst-surface 2mm)
1	K	Patch	0	6	0.01	0.24	0.01	0.00	0.10	0.06			4.4%	100.0%	6.1%	1.8%	43.7%	23.0%
2			1	6	0.01	0.34	0.01	0.00	0.14	0.09			3.4%	100.0%	2.9%	1.0%	42.3%	26.1%
3			2	6	0.01	0.32	0.01	0.00	0.14	0.09			3.8%	100.0%	1.9%	0.4%	44.7%	29.9%
4			3	6	0.01	0.35	0.01	0.00	0.20	0.07			3.4%	100.0%	3.5%	0.6%	57.2%	20.0%
5			4	6	0.01	0.56	0.01	0.00	0.35	0.08			1.8%	100.0%	1.5%	0.8%	62.1%	14.9%
6			5	6	0.01	0.57	0.01	0.00	0.35	0.10			2.3%	100.0%	1.4%	0.3%	60.9%	17.1%
7			6	6	0.02	0.62	0.01	0.00	0.29	0.21			2.7%	100.0%	1.4%	0.1%	47.0%	33.1%
8			7	6	0.01	0.72	0.01	0.00	0.32	0.28			1.8%	100.0%	0.9%	0.2%	44.9%	39.0%
9			8	6	0.01	0.64	0.01	0.00	0.33	0.16			1.1%	100.0%	1.3%	0.3%	51.7%	24.8%
10			9	6	0.01	0.31	0.01	0.00	0.10	0.09			2.2%	100.0%	0.3%	0.3%	33.9%	30.6%
11			10	6	0.00	0.11	0.00	0.00	0.04	0.04			3.8%	100.0%	3.8%	0.7%	37.2%	21.1%
12			11	6	0.01	0.20	0.01	0.00	0.06	0.05			4.7%	100.0%	3.8%	1.1%	30.8%	23.2%
13			12	6	0.01	0.23	0.01	0.01	0.08	0.08			3.0%	100.0%	2.9%	1.1%	35.8%	34.8%
14			13	6	0.07	0.37	0.00	0.07	0.11	0.13			1.7%	100.0%	1.1%	1.5%	28.7%	35.2%
15			14	6	0.01	0.37	0.01	0.01	0.10	0.14			2.0%	100.0%	1.4%	1.4%	25.8%	36.5%
16			15	6	0.01	0.38	0.00	0.00	0.09	0.14			2.1%	100.0%	1.2%	1.2%	24.1%	37.7%
17	16	6	0.01	0.35	0.01	0.00	0.10	0.14			2.7%	100.0%	1.6%	0.6%	28.5%	41.0%		
18	17	6	0.01	0.33	0.00	0.00	0.13	0.13			2.9%	100.0%	1.4%	0.5%	39.3%	37.9%		
19	0	9	12	0.02	0.56	0.04	0.01	0.28	0.23			3.0%	100.0%	1.0%	1.0%	42.6%	35.0%	
20	1	10	12	0.02	0.58	0.02	0.01	0.22	0.19			3.4%	100.0%	3.9%	1.3%	38.5%	33.1%	
21	2	11	12	0.03	0.53	0.02	0.01	0.22	0.19			6.4%	100.0%	3.9%	1.2%	42.4%	35.4%	
22	3	12	12	0.03	0.76	0.02	0.00	0.33	0.22			1.6%	100.0%	3.0%	1.6%	43.2%	28.6%	
23	4	13	12	0.02	0.97	0.01	0.02	0.59	0.25			2.1%	100.0%	2.3%	1.7%	61.1%	25.1%	
24	5	14	12	0.03	1.04	0.02	0.01	0.62	0.30			3.1%	100.0%	1.8%	1.0%	59.9%	28.7%	
25	6	15	12	0.04	1.26	0.02	0.01	0.47	0.52			3.1%	100.0%	1.5%	0.5%	37.6%	41.7%	
26	16	12	0.04	1.32	0.02	0.00	0.47	0.58				2.9%	100.0%	1.4%	0.7%	35.3%	43.8%	
27	8	17	12	0.03	1.12	0.02	0.01	0.58	0.35			2.5%	100.0%	1.5%	0.5%	51.3%	31.3%	

[Folder Closed Status]

- K-patch Low CH

No.	Module	Type	Beam ID_1	Bema ID_2	Feed no.	4cm2 PD(mW/cm2)						max ratio out of all beams						
						S4(Right)	S3(Left)	S5(Top)	S6(Bottom)	S1(Front)	S2(Rear)	per Beam Back-off (dB)	4.4%	100.0%	10.9%	9.9%	42.7%	31.7%
													ratio (Right 2mm)/(worst-surface 2mm)	ratio (Left 2mm)/(worst-surface 2mm)	ratio (Top 2mm)/(worst-surface 2mm)	ratio (Bottom 2mm)/(worst-surface 2mm)	ratio (Front 2mm)/(worst-surface 2mm)	ratio (Rear 2mm)/(worst-surface 2mm)
1	K	Patch	0	6	0.01	0.28	0.01	0.01	0.06	0.06		3.0%	100.0%	2.8%	4.9%	21.2%	21.4%	
2			1	6	0.01	0.34	0.01	0.01	0.10	0.07		2.5%	100.0%	2.8%	3.8%	28.6%	22.2%	
3			2	6	0.01	0.26	0.01	0.02	0.09	0.05		4.1%	100.0%	4.2%	6.8%	35.4%	20.5%	
4			3	6	0.01	0.30	0.03	0.03	0.07	0.05		2.8%	100.0%	8.8%	3.7%	23.6%	18.2%	
5			4	6	0.01	0.52	0.06	0.02	0.10	0.13		1.6%	100.0%	10.9%	3.0%	18.5%	24.0%	
6			5	6	0.01	0.53	0.04	0.01	0.10	0.15		2.6%	100.0%	7.7%	2.1%	18.8%	28.1%	
7			6	6	0.01	0.52	0.02	0.01	0.14	0.16		2.4%	100.0%	4.1%	1.9%	27.1%	31.7%	
8			7	6	0.02	0.58	0.02	0.01	0.22	0.16		3.2%	100.0%	1.1%	3.8%	38.6%	28.0%	
9			8	6	0.01	0.65	0.02	0.01	0.20	0.17		1.7%	100.0%	3.3%	0.9%	30.6%	25.6%	
10			9	6	0.00	0.26	0.00	0.01	0.08	0.03		1.3%	100.0%	1.4%	2.5%	29.5%	13.4%	
11			10	6	0.01	0.17	0.01	0.01	0.06	0.02		3.6%	100.0%	3.3%	4.6%	36.2%	11.9%	
12			11	6	0.00	0.16	0.01	0.01	0.04	0.02		2.7%	100.0%	4.9%	5.7%	27.0%	9.3%	
13			12	6	0.01	0.23	0.02	0.00	0.09	0.03		2.2%	100.0%	10.4%	1.9%	36.4%	11.0%	
14			13	6	0.01	0.30	0.03	0.01	0.11	0.03		3.2%	100.0%	8.6%	2.4%	35.6%	10.5%	
15			14	6	0.01	0.23	0.02	0.01	0.07	0.02		2.3%	100.0%	9.0%	5.2%	28.7%	9.8%	
16			15	6	0.01	0.39	0.03	0.01	0.08	0.04		1.7%	100.0%	9.3%	3.7%	28.6%	13.0%	
17			16	6	0.01	0.33	0.02	0.01	0.12	0.04		2.3%	100.0%	7.4%	3.6%	37.3%	13.0%	
18			17	6	0.01	0.30	0.02	0.01	0.11	0.04		2.0%	100.0%	5.6%	3.7%	37.5%	14.0%	
19			0	9	12	0.02	0.57	0.02	0.03	0.20	0.13		3.1%	100.0%	3.2%	5.2%	35.3%	22.0%
20			1	10	12	0.02	0.53	0.02	0.03	0.19	0.11		4.0%	100.0%	4.0%	5.5%	37.0%	20.9%
21			2	11	12	0.02	0.42	0.03	0.04	0.16	0.09		4.4%	100.0%	6.9%	9.9%	38.5%	21.9%
22			3	12	12	0.02	0.63	0.05	0.04	0.25	0.08		2.7%	100.0%	6.0%	6.0%	39.4%	13.0%
23			4	13	12	0.03	1.12	0.11	0.02	0.32	0.22		2.9%	100.0%	9.5%	2.1%	28.9%	19.5%
24			5	14	12	0.02	0.86	0.07	0.03	0.22	0.21		3.3%	100.0%	7.8%	3.4%	25.3%	24.5%
25			6	15	12	0.02	0.92	0.05	0.02	0.27	0.26		2.2%	100.0%	5.2%	2.6%	29.7%	28.2%
26			7	16	12	0.03	1.01	0.07	0.02	0.43	0.24		2.5%	100.0%	7.0%	2.4%	42.7%	24.1%
27			8	17	12	0.02	1.03	0.04	0.02	0.38	0.24		2.4%	100.0%	4.2%	1.5%	36.4%	22.9%

- K-patch Mid CH

											max ratio out of all beams							
No.	Module	Type	Beam ID_1	Berna ID_2	Feed no.	4cm2 PD(mW/cm2)						5.9%	100.0%	15.1%	10.9%	41.5%	36.2%	
						S4(Right)	S3(Left)	S5(Top)	S6(Bottom)	S1(Front)	S2(Rear)	per Beam Back-off (dB)	ratio (Right 2mm)/(worst-surface 2mm)	ratio (Left 2mm)/(worst-surface 2mm)	ratio (Top 2mm)/(worst-surface 2mm)	ratio (Bottom 2mm)/(worst-surface 2mm)	ratio (Front 2mm)/(worst-surface 2mm)	ratio (Rear 2mm)/(worst-surface 2mm)
1	K	Patch	0	6	0.01	0.22	0.01	0.02	0.05	0.04		5.4%	100.0%	4.4%	10.9%	24.2%	19.7%	
2			1	6	0.33	0.01	0.02	0.08	0.05		2.2%	100.0%	3.7%	4.9%	22.8%	15.4%		
3			2	6	0.01	0.27	0.02	0.01	0.08	0.06		2.4%	100.0%	6.2%	4.5%	29.0%	22.4%	
4			3	6	0.01	0.30	0.03	0.02	0.06	0.09		4.2%	100.0%	9.3%	5.3%	20.7%	29.4%	
5			4	6	0.01	0.58	0.06	0.01	0.09	0.18		1.9%	100.0%	9.7%	1.6%	16.2%	30.6%	
6			5	6	0.01	0.64	0.05	0.01	0.10	0.22		1.8%	100.0%	8.2%	1.5%	16.0%	35.1%	
7			6	6	0.01	0.59	0.03	0.01	0.16	0.21		2.1%	100.0%	4.8%	1.8%	27.8%	36.2%	
8			7	6	0.01	0.69	0.02	0.01	0.26	0.22		1.8%	100.0%	2.7%	0.8%	37.6%	31.1%	
9			8	6	0.01	0.67	0.02	0.01	0.17	0.19		1.4%	100.0%	2.3%	1.2%	25.6%	28.9%	
10			9	6	0.01	0.31	0.01	0.01	0.10	0.03		2.2%	100.0%	2.0%	2.6%	32.6%	10.2%	
11			10	6	0.01	0.15	0.00	0.01	0.06	0.02		5.9%	100.0%	3.3%	6.0%	40.0%	10.2%	
12			11	6	0.01	0.18	0.01	0.01	0.05	0.02		3.3%	100.0%	5.8%	5.4%	29.7%	11.9%	
13			12	6	0.00	0.20	0.03	0.00	0.07	0.02		2.2%	100.0%	15.1%	2.1%	35.2%	11.8%	
14			13	6	0.01	0.34	0.04	0.01	0.11	0.03		3.2%	100.0%	10.6%	2.1%	32.7%	8.1%	
15			14	6	0.01	0.34	0.04	0.01	0.12	0.03		2.2%	100.0%	11.2%	2.8%	35.9%	8.3%	
16			15	6	0.00	0.33	0.03	0.01	0.12	0.04		1.1%	100.0%	10.1%	1.7%	34.7%	10.5%	
17			16	6	0.00	0.33	0.02	0.01	0.13	0.04		1.0%	100.0%	6.9%	2.7%	37.6%	13.1%	
18			17	6	0.00	0.30	0.01	0.01	0.12	0.04		1.4%	100.0%	3.7%	2.9%	40.0%	14.1%	
19			0	9	12	0.02	0.65	0.02	0.04	0.25	0.10		3.2%	100.0%	6.7%	3.4%	38.4%	14.7%
20			1	10	12	0.02	0.63	0.03	0.03	0.20	0.08		3.2%	100.0%	4.6%	5.3%	32.2%	13.1%
21			2	11	12	0.02	0.47	0.04	0.03	0.15	0.08		3.4%	100.0%	8.5%	7.4%	33.0%	17.7%
22			3	12	12	0.02	0.60	0.06	0.03	0.19	0.12		3.7%	100.0%	9.5%	4.4%	31.6%	19.8%
23			4	13	12	0.02	1.15	0.11	0.03	0.29	0.26		3.4%	100.0%	9.6%	2.3%	25.1%	22.3%
24			5	14	12	0.02	1.10	0.10	0.03	0.28	0.33		1.9%	100.0%	8.8%	2.5%	25.9%	29.9%
25			6	15	12	0.02	1.02	0.06	0.02	0.40	0.31		2.0%	100.0%	6.1%	2.2%	38.6%	29.9%
26			7	16	12	0.02	1.26	0.06	0.02	0.52	0.28		1.7%	100.0%	5.0%	1.6%	41.5%	22.4%
27			8	17	12	0.02	1.05	0.03	0.03	0.36	0.26		2.2%	100.0%	3.1%	2.4%	34.1%	24.4%

- K-patch High CH

											max ratio out of all beams							
No.	Module	Type	Beam ID_1	Bema ID_2	Feed no.	4cm2 PD(mW/cm2)						per Beam Back-off (dB)	5.2%	100.0%	19.0%	12.2%	45.1%	32.6%
						S4(Right)	S3(Left)	S5(Top)	S6(Bottom)	S1(Front)	S2(Rear)		ratio (Right 2mm)/(worst-surface 2mm)	ratio (Left 2mm)/(worst-surface 2mm)	ratio (Top 2mm)/(worst-surface 2mm)	ratio (Bottom 2mm)/(worst-surface 2mm)	ratio (Front 2mm)/(worst-surface 2mm)	ratio (Rear 2mm)/(worst-surface 2mm)
1	K	Patch	0	6	0.01	0.20	0.01	0.01	0.04	0.04		3.5%	100.0%	4.7%	3.0%	18.4%	19.9%	
2			1	6	0.01	0.32	0.01	0.01	0.06	0.06		1.6%	100.0%	3.5%	2.1%	18.4%	19.1%	
3			2	6	0.01	0.29	0.01	0.01	0.07	0.05		2.3%	100.0%	5.2%	2.9%	24.4%	18.9%	
4			3	6	0.01	0.33	0.03	0.01	0.05	0.08		2.8%	100.0%	8.3%	2.6%	16.5%	25.6%	
5			4	6	0.01	0.54	0.05	0.01	0.08	0.17		1.8%	100.0%	8.8%	1.8%	13.9%	31.4%	
6			5	6	0.01	0.57	0.04	0.01	0.09	0.19		1.5%	100.0%	9.3%	1.7%	16.5%	32.6%	
7			6	6	0.01	0.63	0.03	0.01	0.19	0.18		1.0%	100.0%	4.6%	1.2%	30.0%	29.0%	
8			7	6	0.01	0.70	0.02	0.01	0.25	0.20		1.1%	100.0%	2.5%	1.0%	35.2%	28.4%	
9			8	6	0.01	0.61	0.01	0.01	0.13	0.16		1.4%	100.0%	2.2%	1.4%	22.1%	26.7%	
10			9	6	0.01	0.30	0.01	0.01	0.10	0.04		2.1%	100.0%	3.5%	2.4%	34.2%	13.3%	
11			10	6	0.01	0.13	0.00	0.01	0.05	0.02		5.2%	100.0%	2.6%	5.2%	40.1%	13.9%	
12			11	6	0.01	0.13	0.02	0.02	0.03	0.02		5.1%	100.0%	14.4%	12.2%	26.0%	11.6%	
13			12	6	0.00	0.20	0.04	0.01	0.08	0.02		2.5%	100.0%	19.0%	2.5%	37.5%	10.8%	
14			13	6	0.01	0.40	0.05	0.01	0.15	0.03		1.5%	100.0%	11.9%	1.6%	38.7%	7.9%	
15			14	6	0.01	0.39	0.05	0.01	0.14	0.03		1.8%	100.0%	12.0%	2.8%	37.3%	8.7%	
16	15	6	0.00	0.34	0.03	0.01	0.12	0.04		1.3%	100.0%	8.0%	1.6%	36.1%	12.6%			
17	16	6	0.01	0.31	0.01	0.01	0.14	0.05		2.0%	100.0%	4.5%	1.6%	43.6%	15.4%			
18	17	6	0.01	0.31	0.01	0.01	0.13	0.05		2.4%	100.0%	4.4%	1.9%	43.7%	15.2%			
19	0	9	12	0.02	0.64	0.03	0.02	0.22	0.10		2.5%	100.0%	3.0%	35.0%	15.2%			
20	1	10	12	0.02	0.55	0.02	0.01	0.18	0.11		3.0%	100.0%	3.5%	31.6%	17.1%			
21	2	11	12	0.02	0.47	0.06	0.04	0.14	0.09		3.3%	100.0%	12.0%	7.5%	30.6%	18.7%		
22	3	12	12	0.02	0.63	0.07	0.01	0.20	0.11		3.6%	100.0%	10.5%	8.4%	31.6%	17.1%		
23	4	13	12	0.03	1.08	0.10	0.03	0.27	0.26		2.6%	100.0%	9.7%	2.6%	25.3%	24.1%		
24	5	14	12	0.02	1.04	0.07	0.03	0.30	0.23		1.6%	100.0%	12.0%	3.0%	28.4%	22.5%		
25	6	15	12	0.01	1.21	0.26	0.06	0.47	0.23		1.1%	100.0%	14.9%	1.2%	39.2%	28.8%		
26	7	16	12	0.02	1.24	0.56	0.02	0.56	0.28		0.5%	100.0%	4.3%	2.0%	45.1%	20.5%		
27	8	17	12	0.03	1.09	0.03	0.02	0.35	0.23		2.7%	100.0%	2.9%	1.9%	32.4%	18.6%		