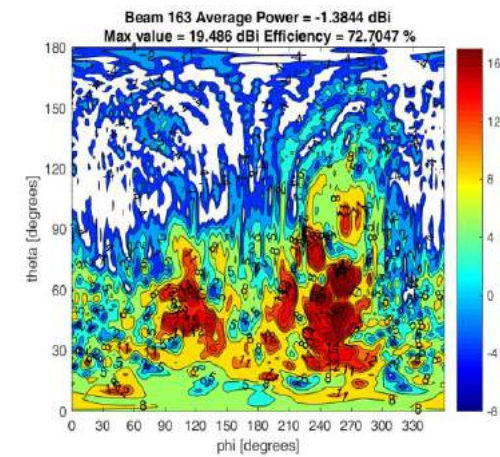
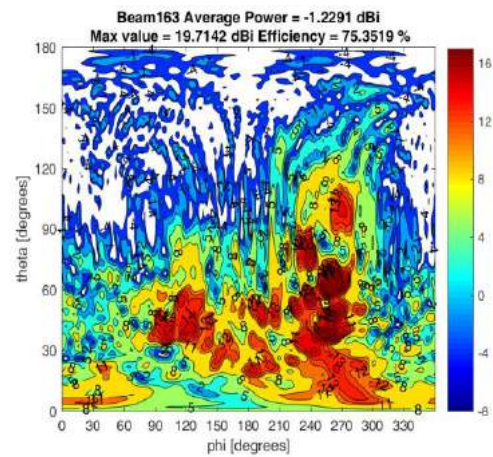
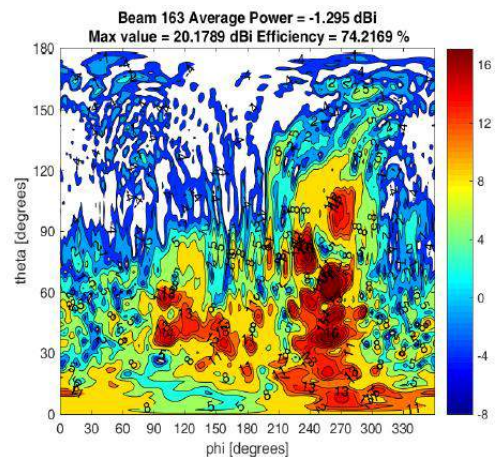
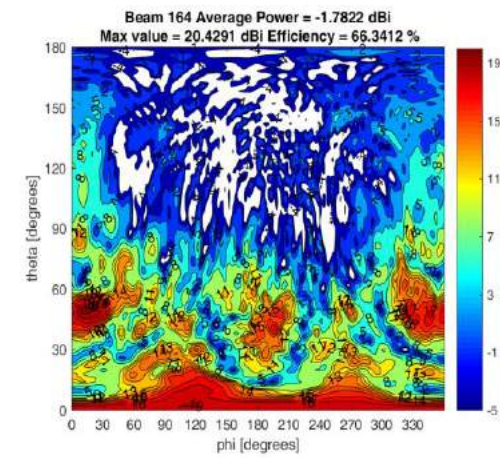
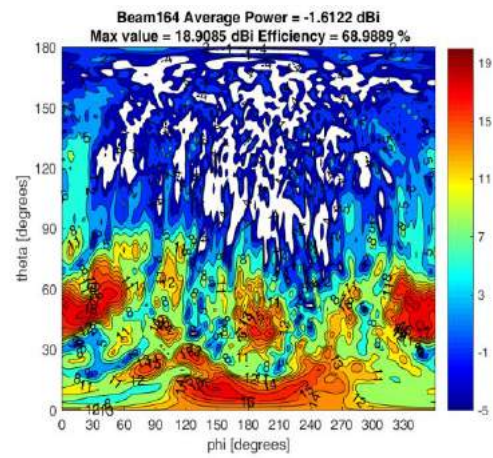
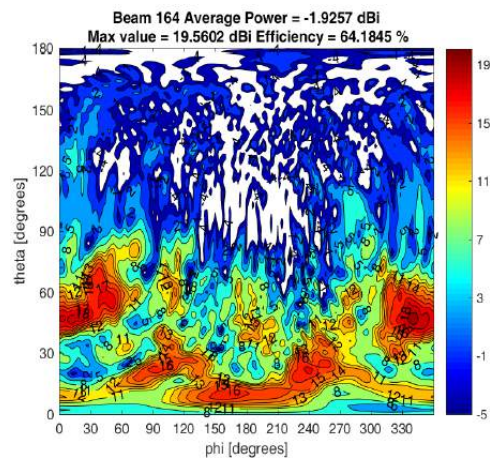


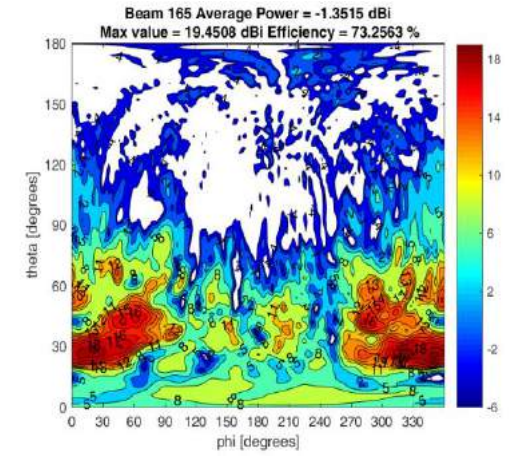
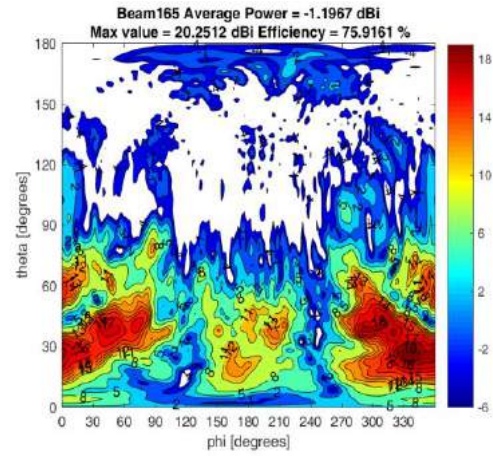
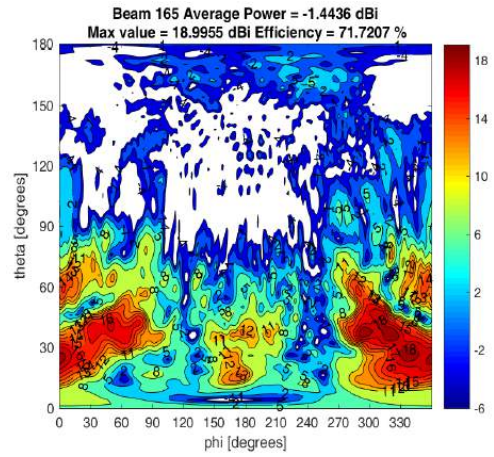
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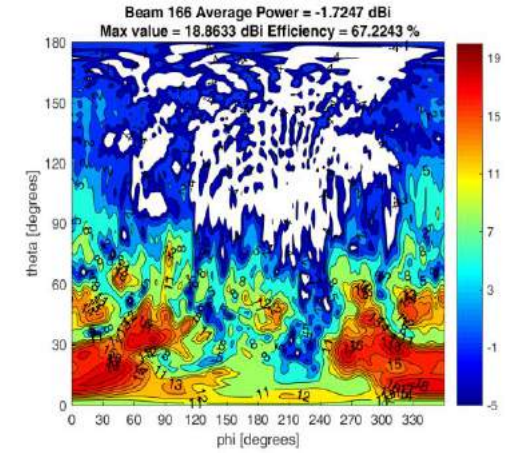
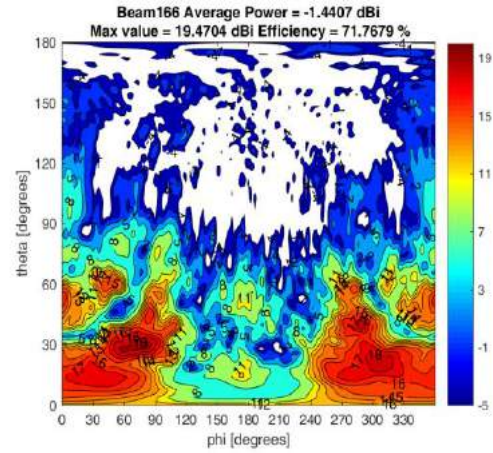
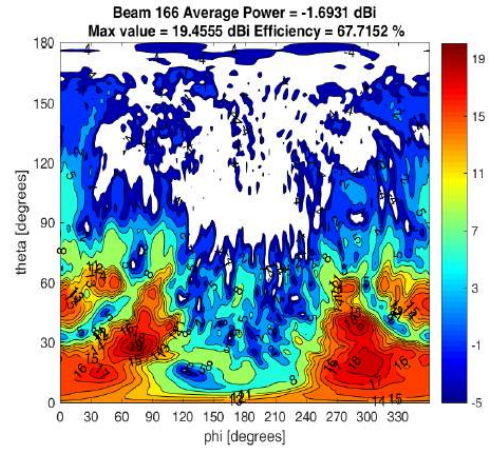
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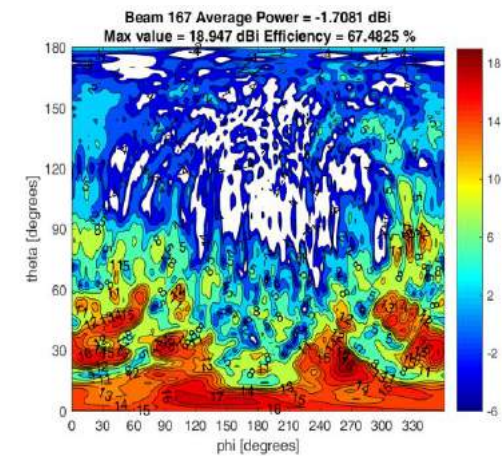
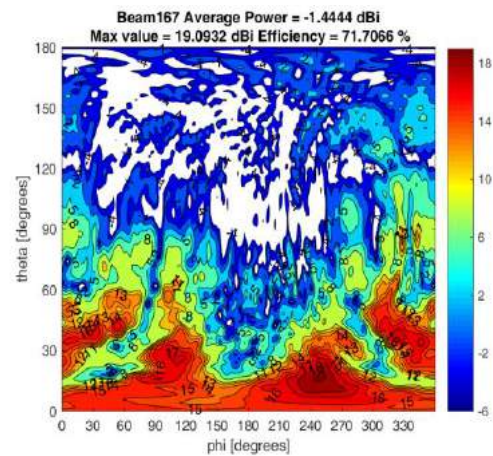
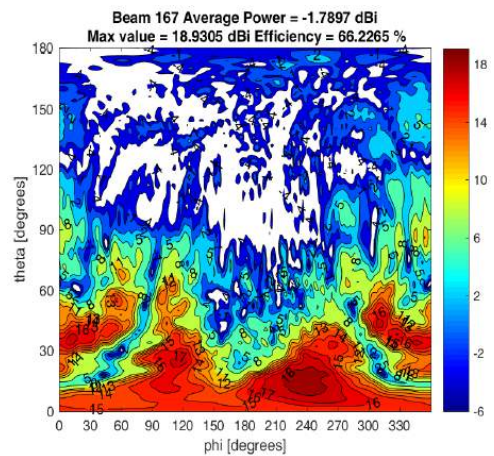
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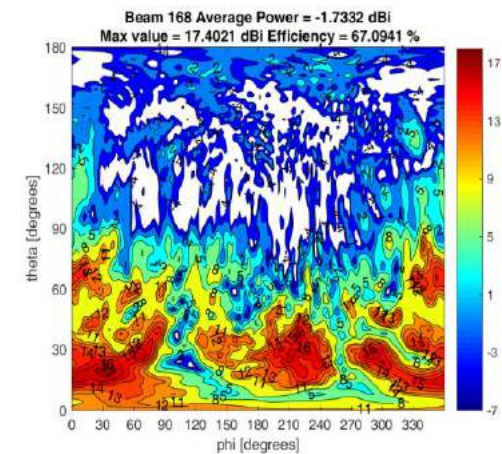
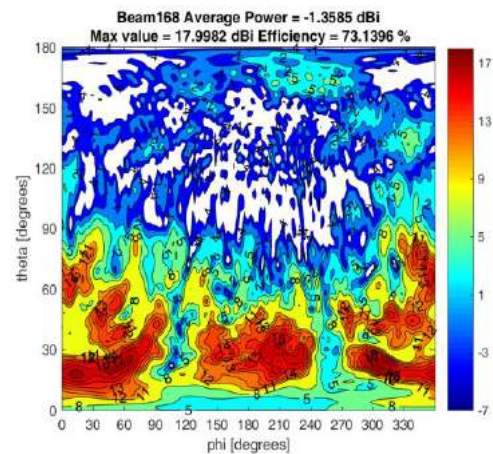
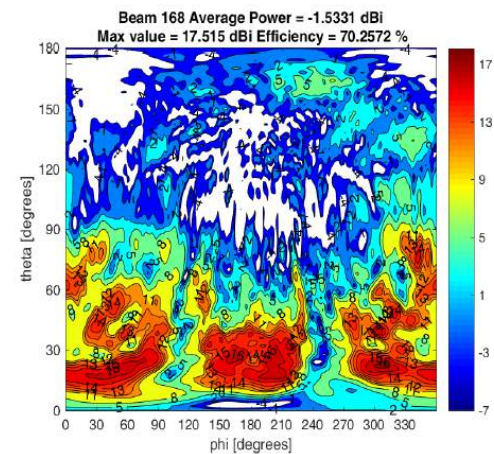
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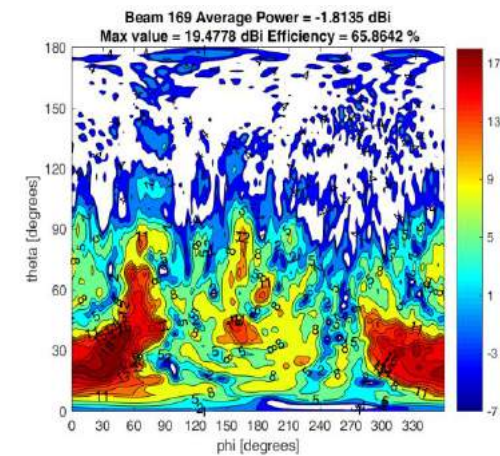
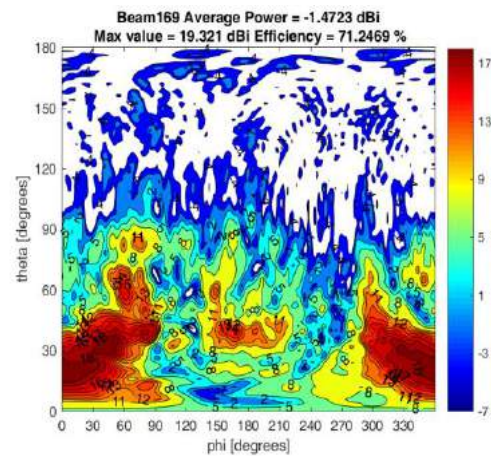
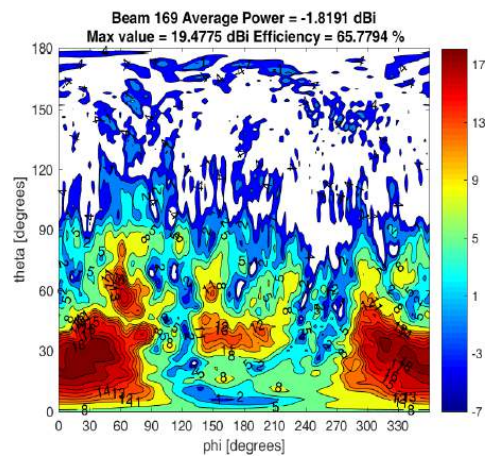
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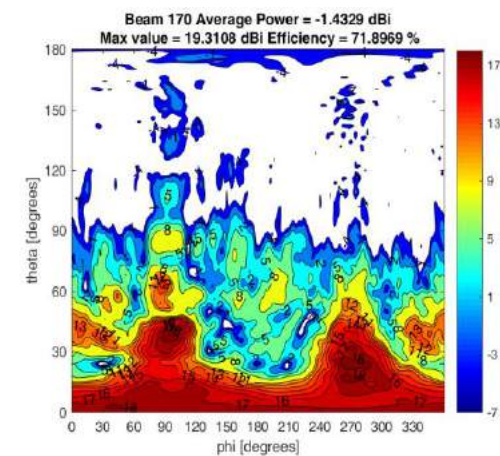
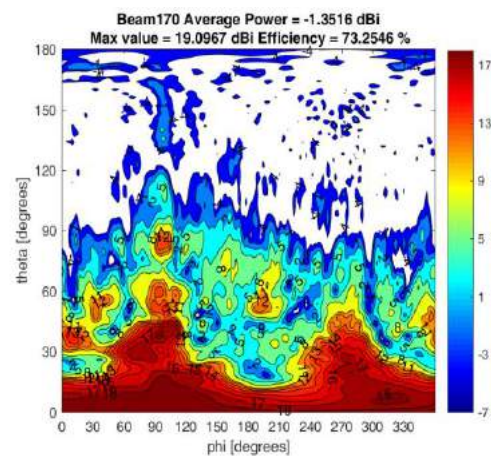
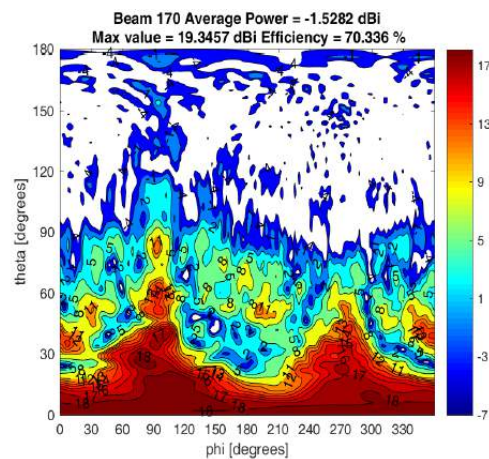
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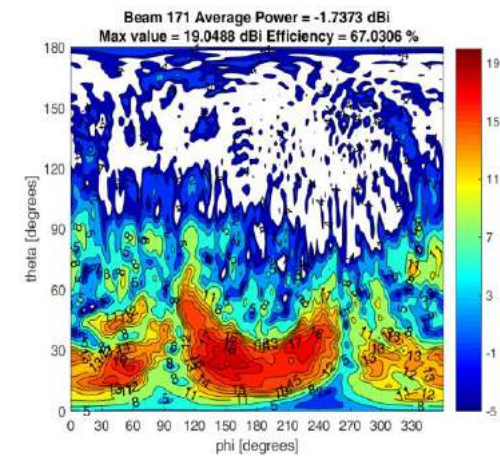
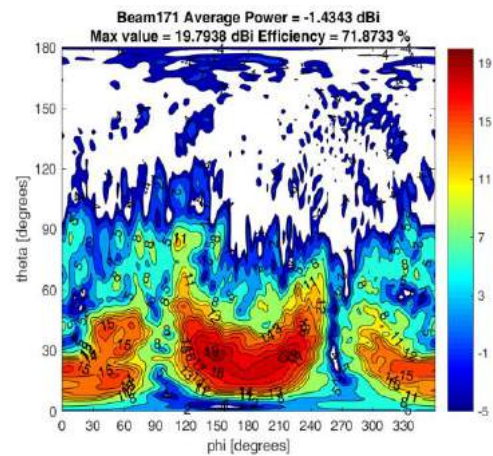
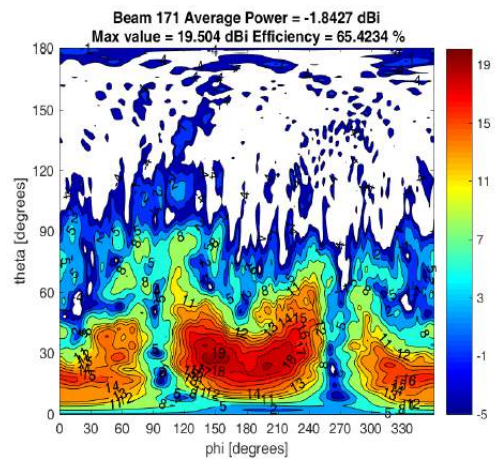
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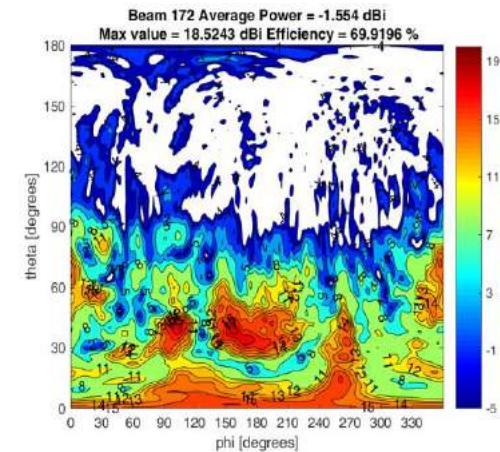
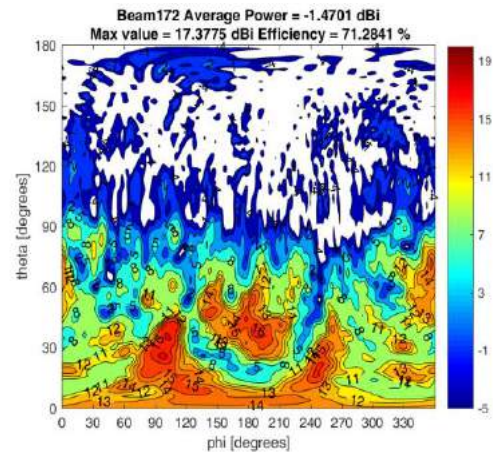
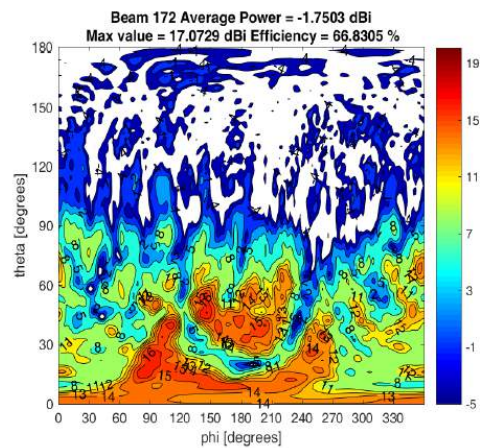
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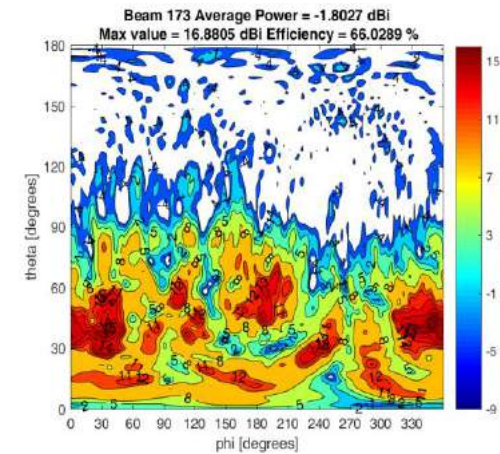
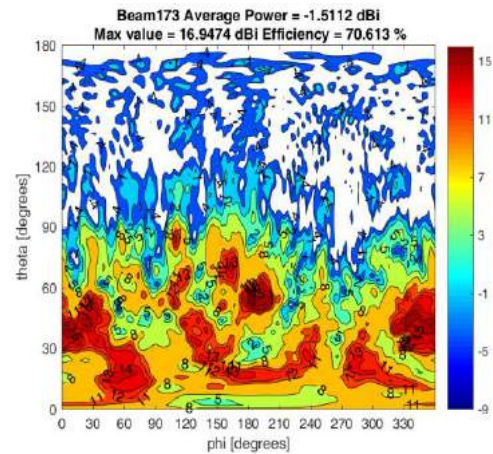
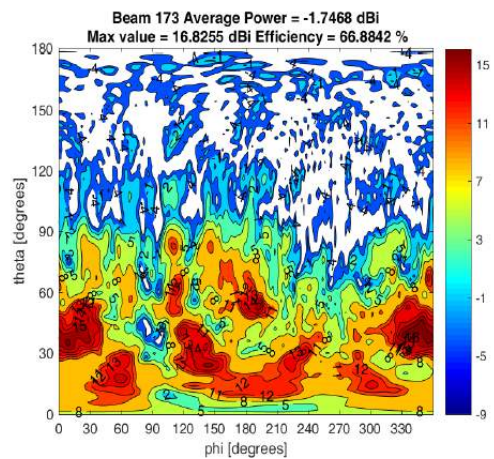
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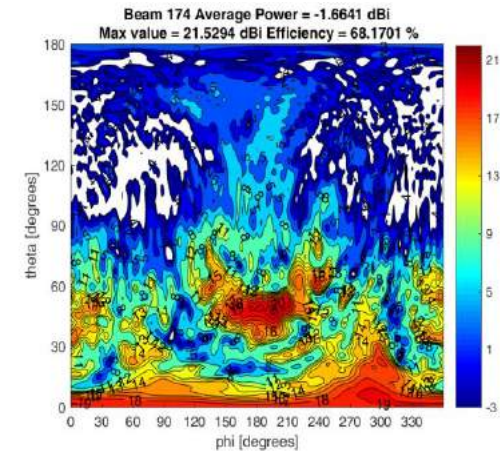
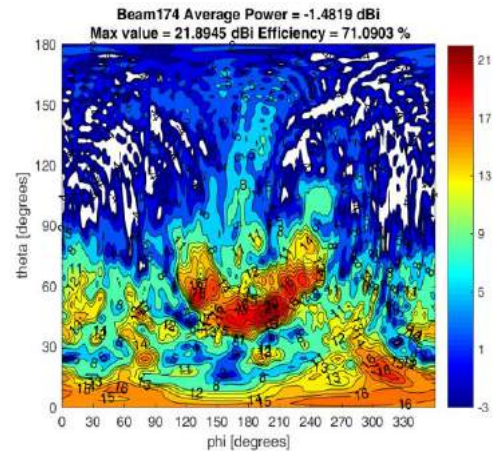
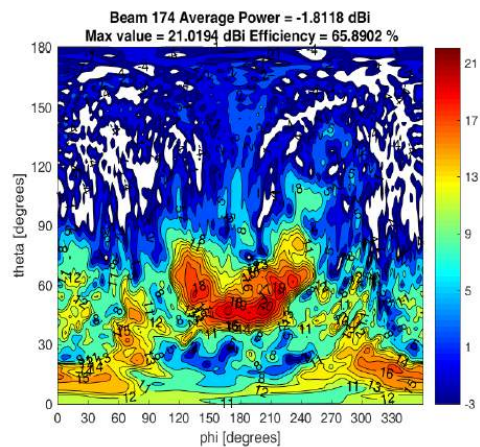
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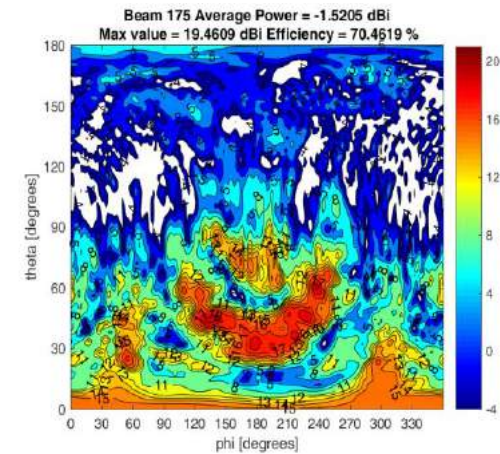
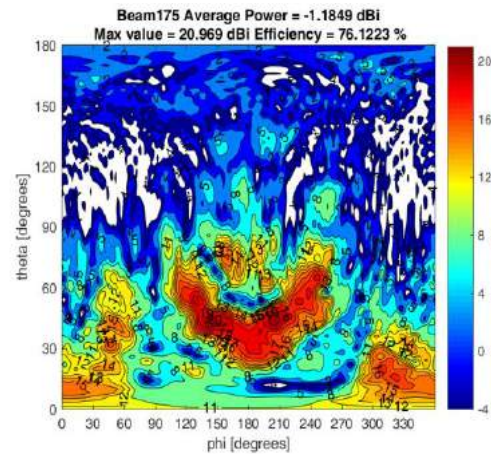
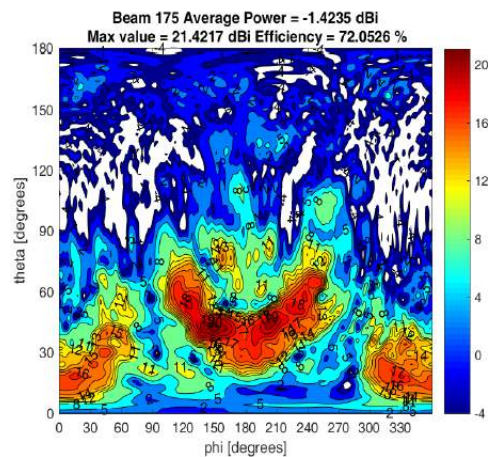
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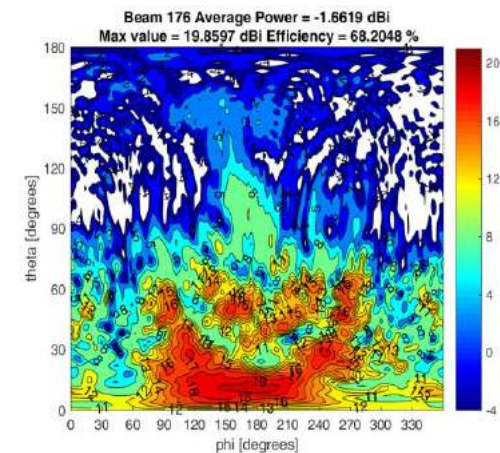
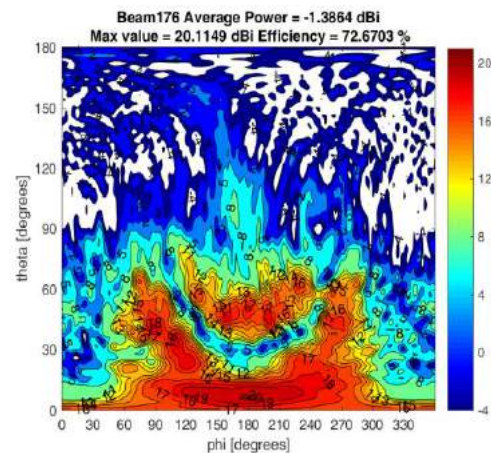
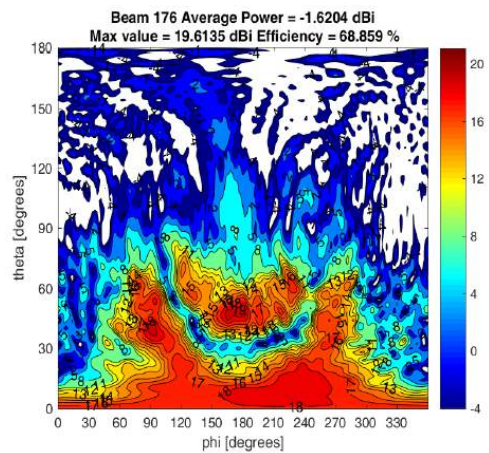
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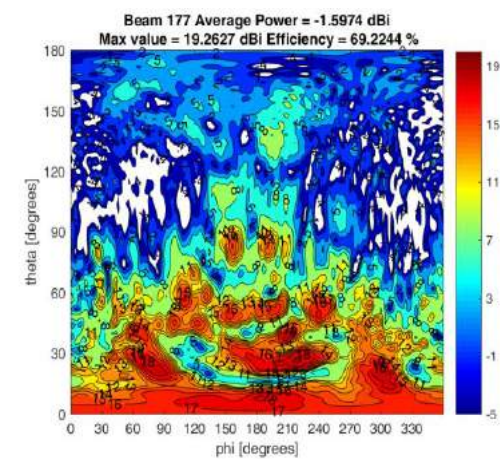
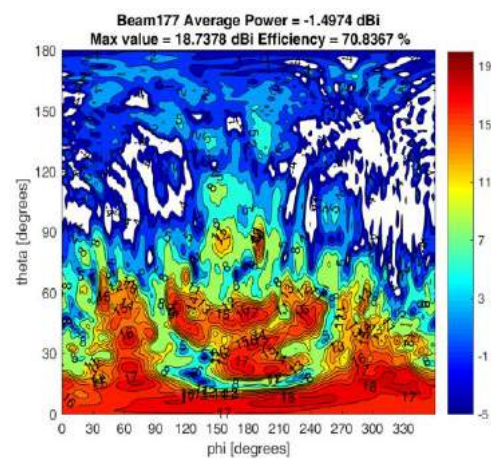
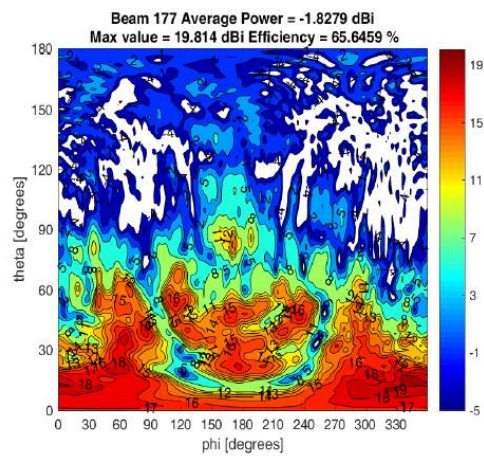
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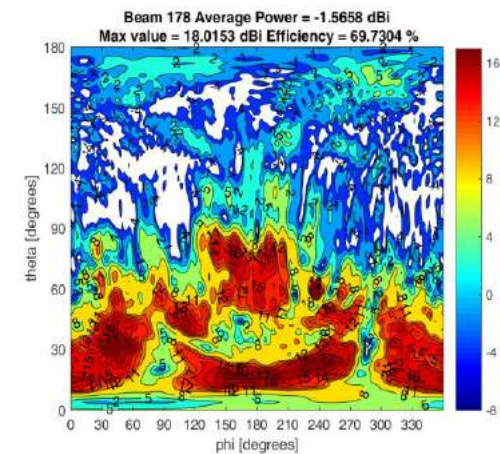
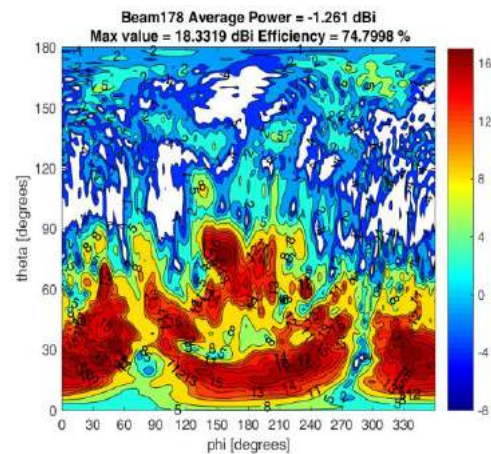
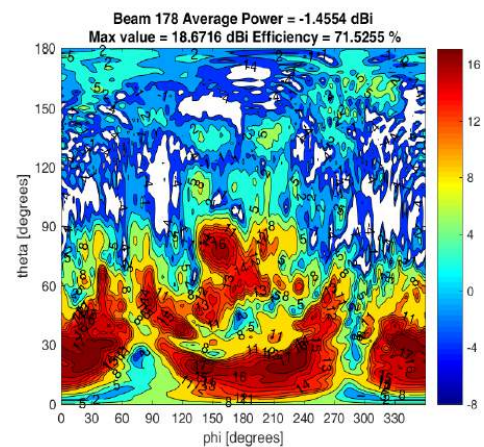
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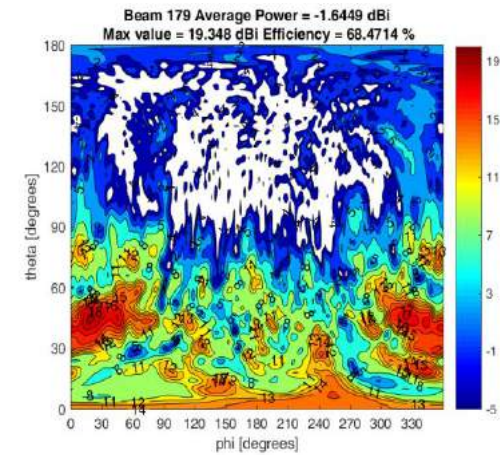
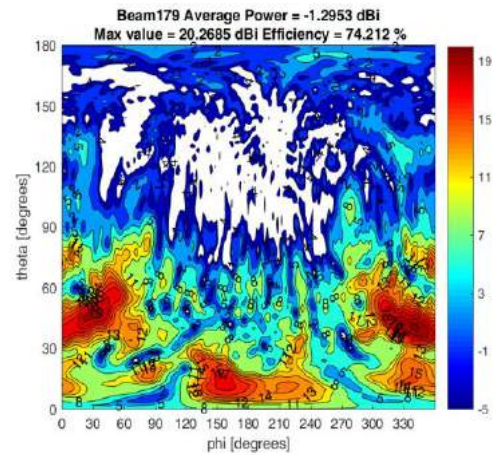
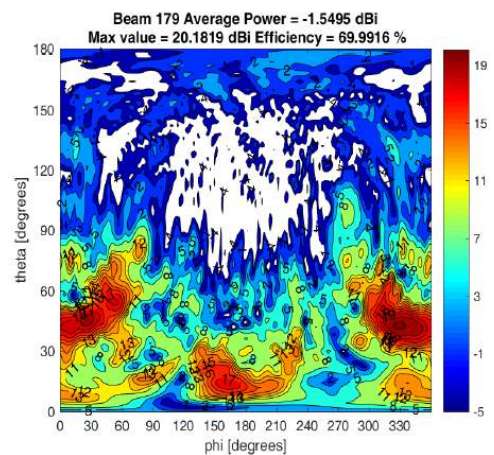
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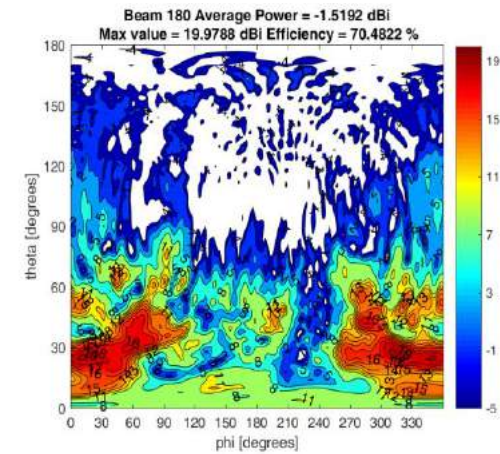
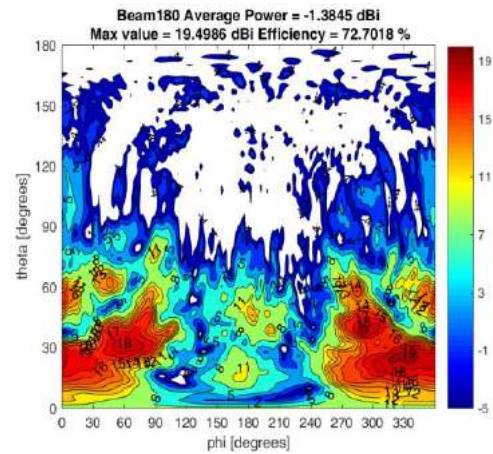
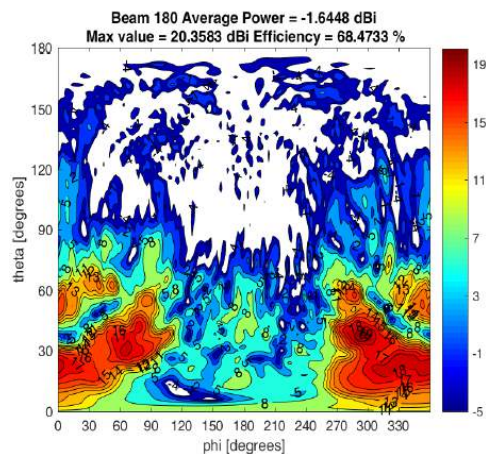
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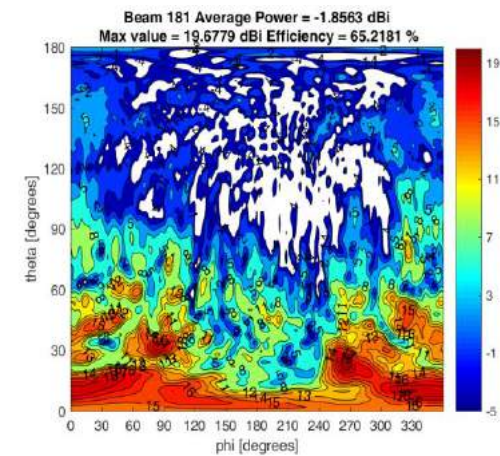
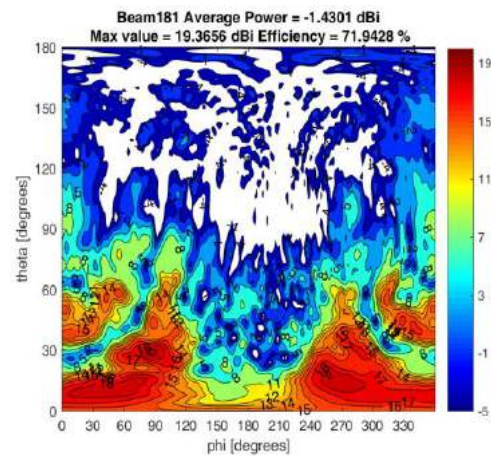
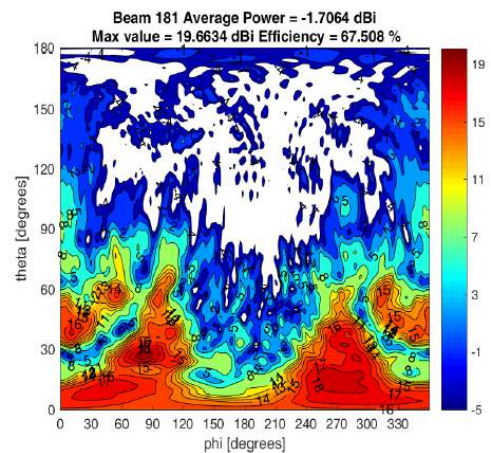
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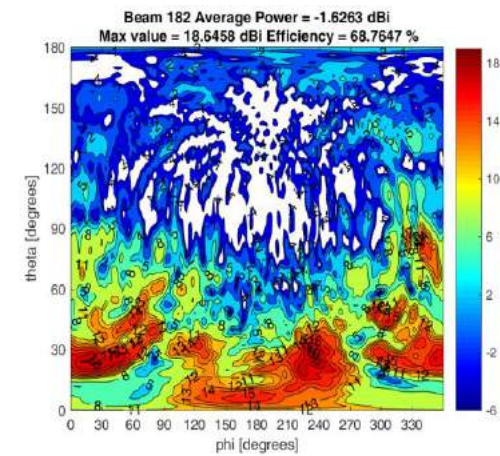
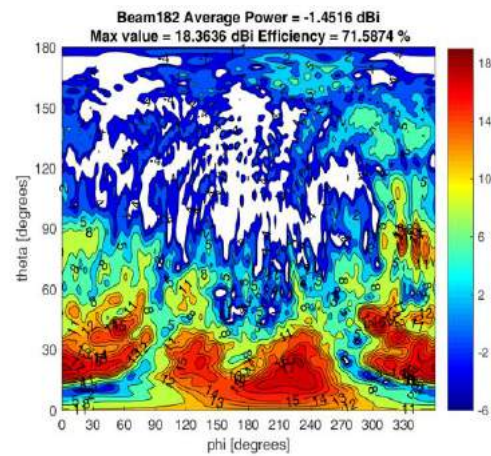
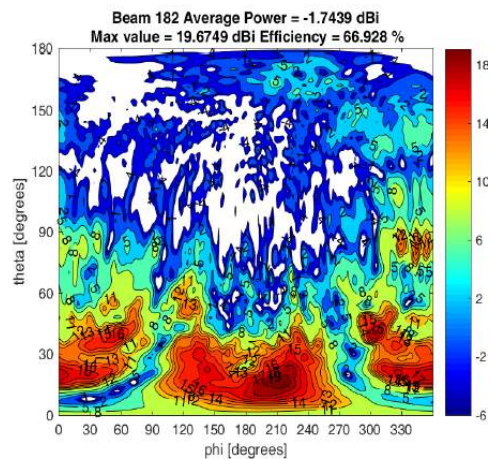
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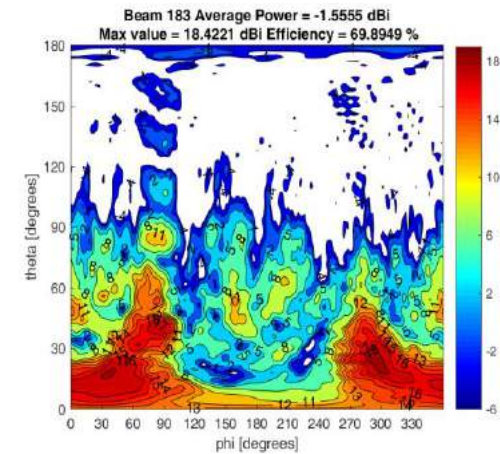
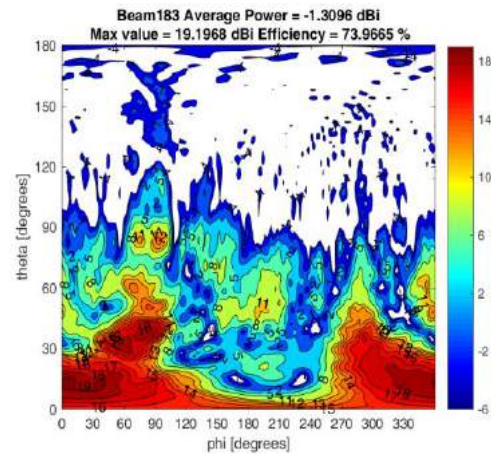
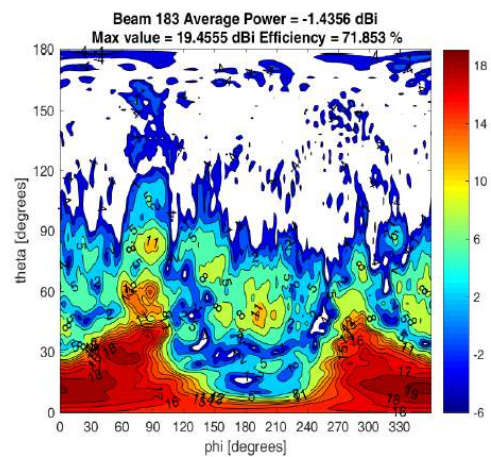
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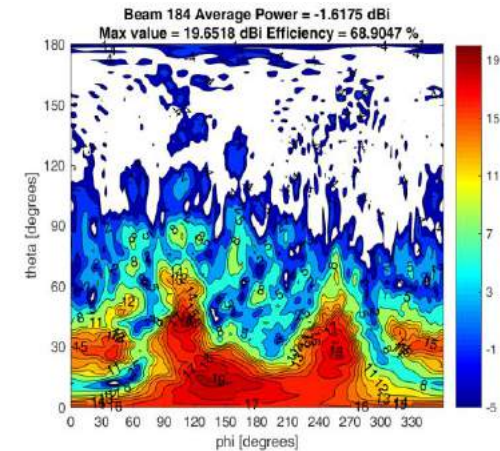
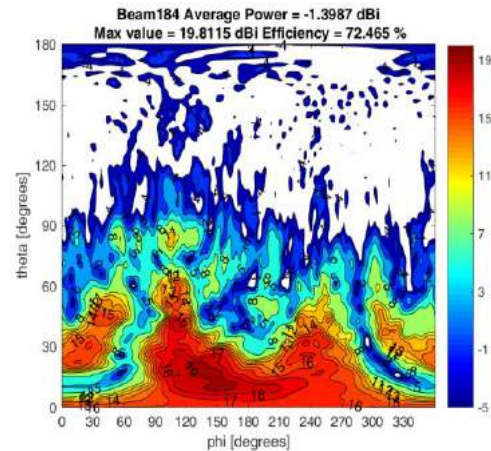
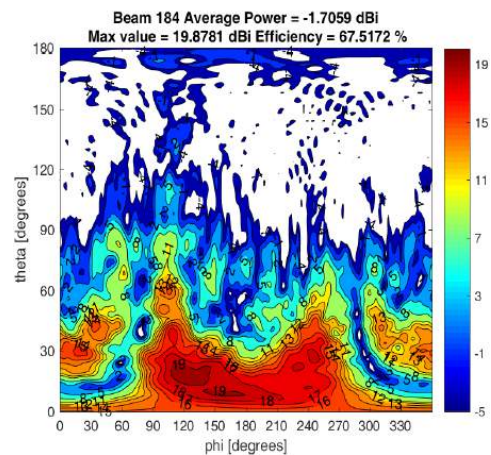
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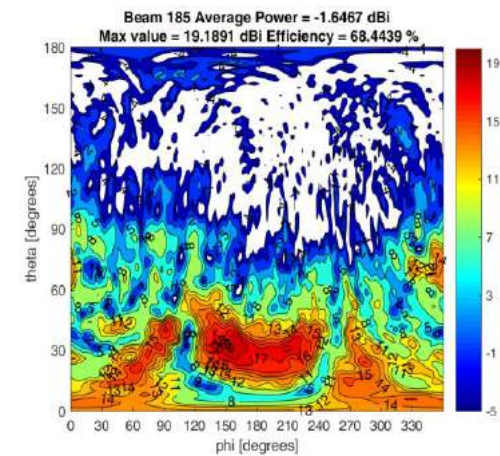
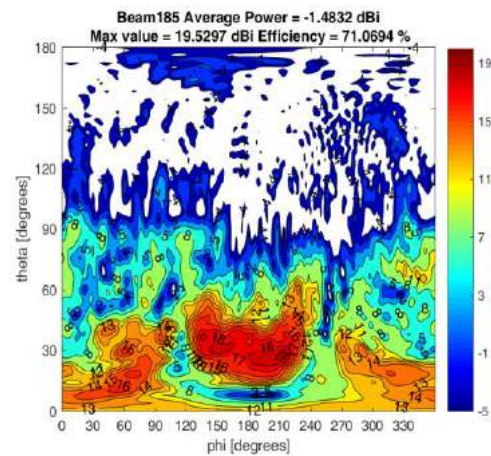
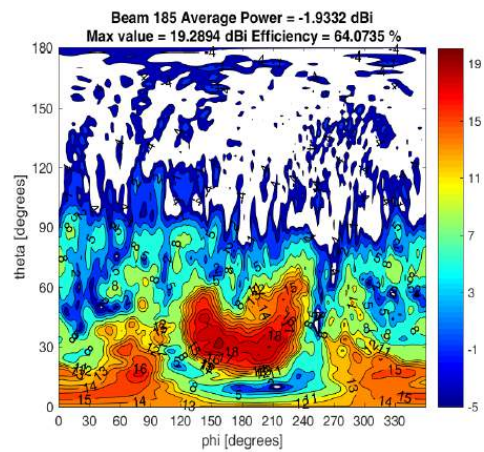
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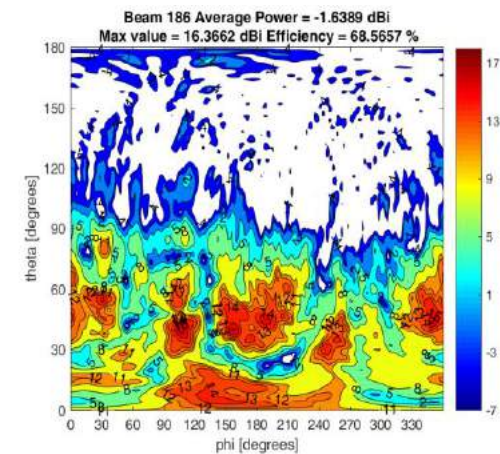
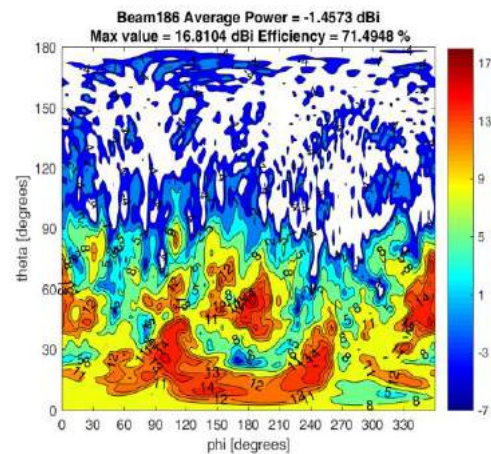
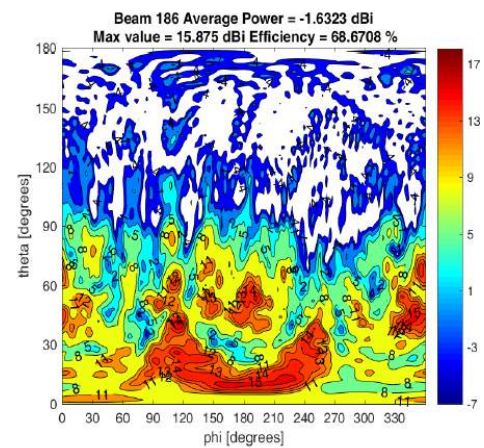
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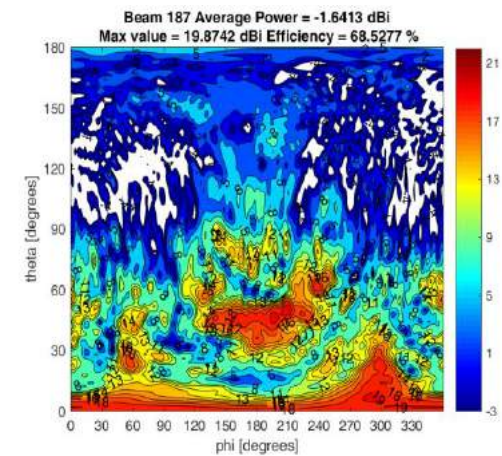
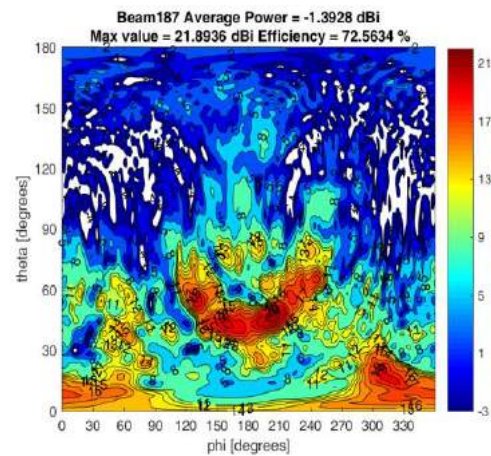
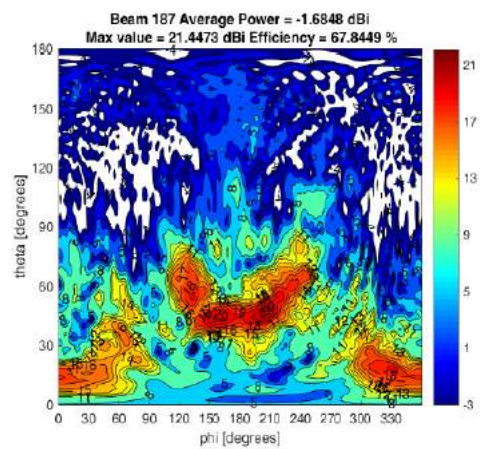
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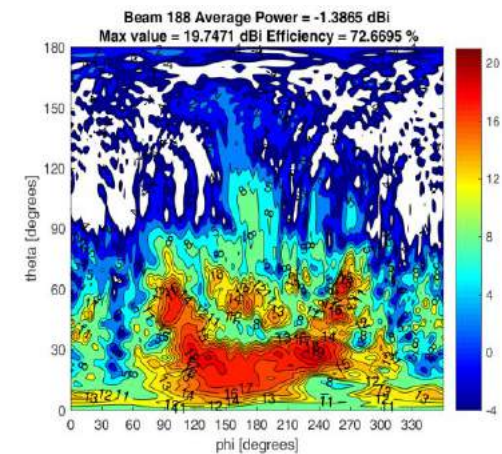
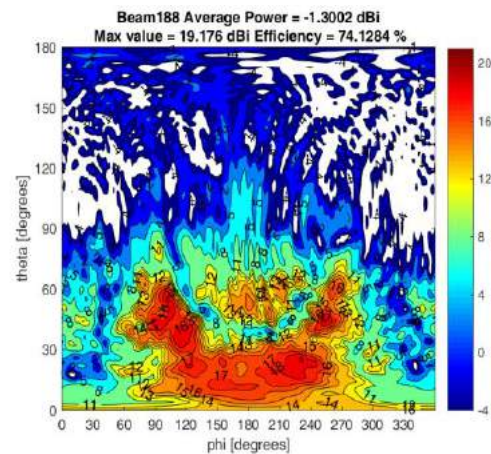
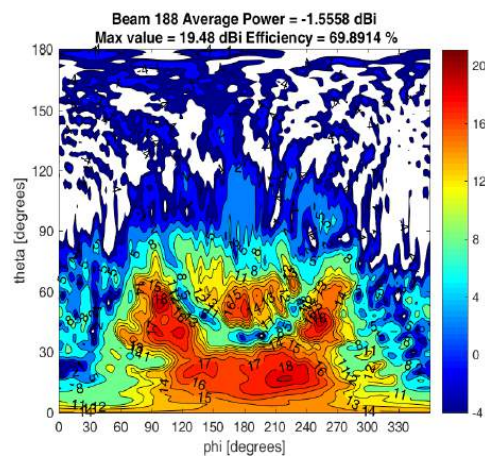
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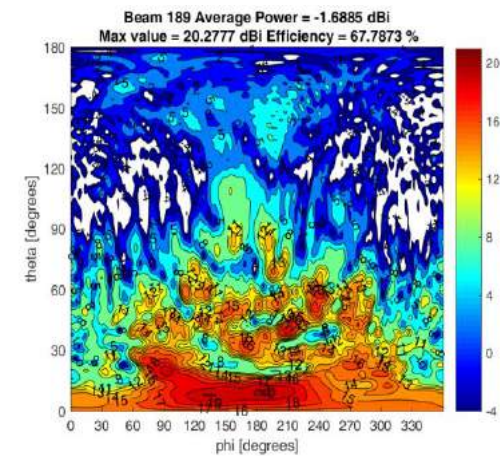
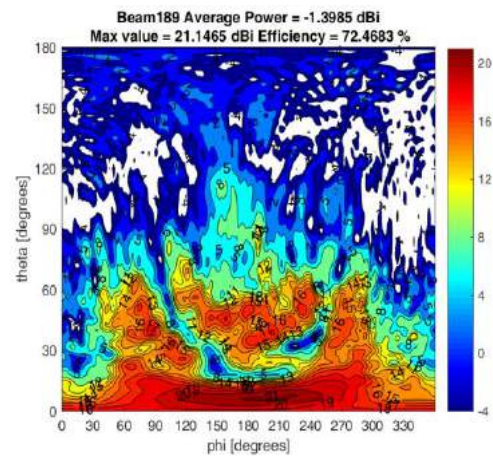
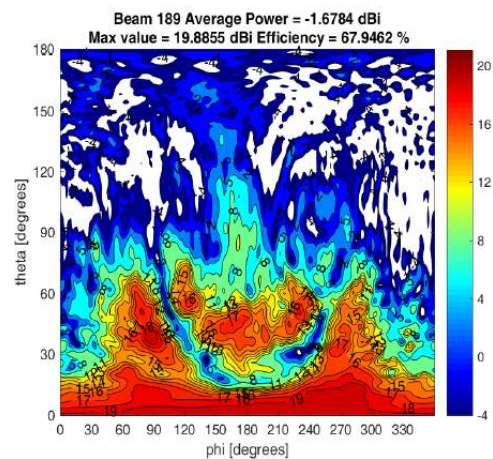
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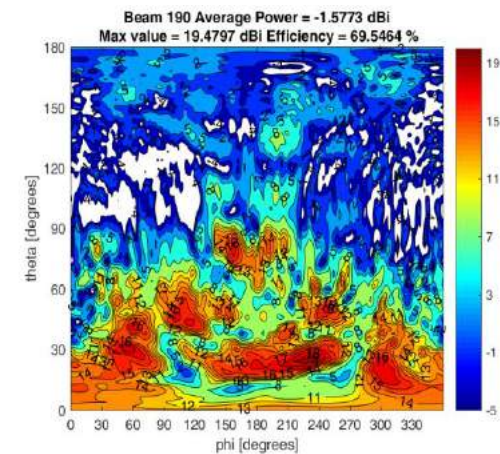
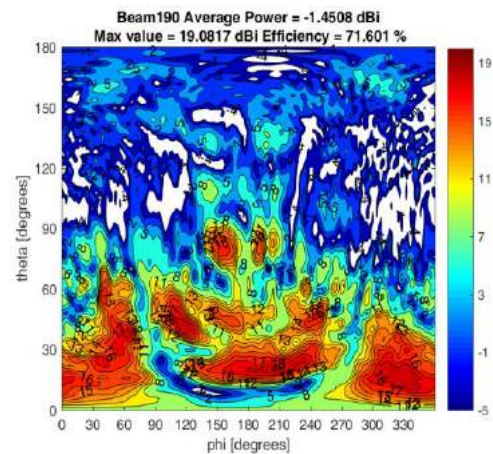
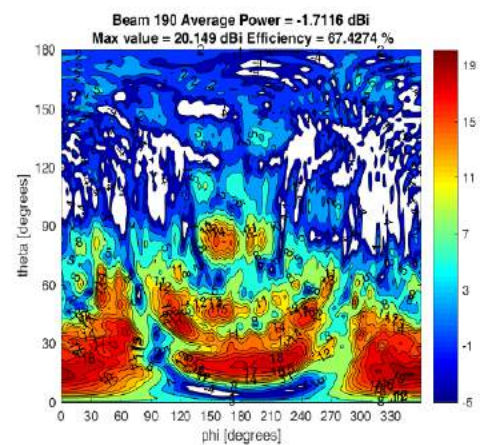
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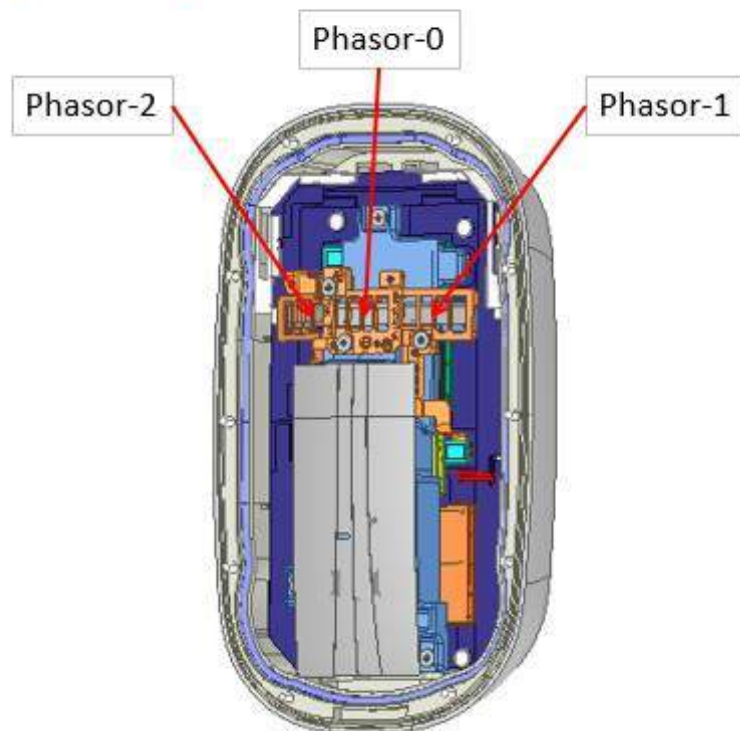


EUT information:

- **QTM052_1, 2, 3** : 5G : n260/n261 (29/39 GHz)
- There are three QTM's 5G array antenna modules, and each 5G array antenna module consists of two sub-arrays.

These three 5G arrays antenna modules do not operate simultaneously of each other. The purpose of the three spatially separated 5G arrays is for spatial diversity. As for beam-steering/beam-forming mechanism, the wide beam-width on the best array, sweeps begin to improve link, and beam-width then reduces on best beam location.

QTM052 (Phasor) Placement



Test Standard

Item	Standard List	Remark
1	FCC Part 30	NR Band: n260 & n261

2. Test Plan

Test Item	FCC Part Section(s)	Measurement Procedure	Test Condition
Occupied Bandwidth	2.1094	ANSI C63.26:2015 -Far-field mmWave Procedure (See following radiated measurement process)	Radiated (See Figure-1)
RF Output power/ EIRP	2.1046 / 30.202	ANSI C63.26:2015 -Far-field mmWave Procedure	
Spurious Emission	2.1051 / 30.203	ANSI C63.26:2015-Far-field mmWave Procedure	
Frequency Stability	2.1055	ANSI C63.26:2015-Far-field mmWave Procedure	

Radiated Measurement process (Far-field mmWave Procedure)

1. The radiated measurement will perform at an indoor 3 meter semic-anechoic chamber for final measurement.
2. Absorbers are arranged on the floor between the turn table and the antenna master for measurement above 1GHz.
3. Propose to adopt procedure from ANSI C63.26:2015 and KDB 842590 D01
4. The EUT is placed on turntable and receiver measurement antenna is located 3m (or less than 3m) from the EUT which is in the far field of the EUT per formula $(2 \cdot D^2) / \text{wavelength}$.

Table 2 – Measurement Distance

Measurement Frequency range	Far Field calculation distance	Measurement Distance (Far field)
Below 18GHz	0.05m	3m
18GHz to 40GHz	0.12m	1m
40GHz to 200GHz	0.12m to 0.59m	0.6m
Note: EUT Antenna Dimension is 21mm length, 2.2mm thick and 6.7mm high.		

5. The EUT is manipulated through all orthogonal planes representative of its typical use to achieve the highest reading on spectrum. (see Figure-1 Test configuration)
6. Radiated power levels are investigated with the receiver antenna horizontally and vertically polarized.
7. The maximized power level is rescored using the spectrum analyzer channel power function with the integration band set to emission's occupied bandwidth. The EIRP is calculated from the raw power level measured with the spectrum.
8. For band edge : The requirements in 30.203 are expressed in terms of conductive power, and then conducted power will be calculated by EIRP-Array Gain.
9. For out-of-band emission (NOT include band edge), the EIRP will be measured to demonstrate compliance with the requirement in section 30.203.

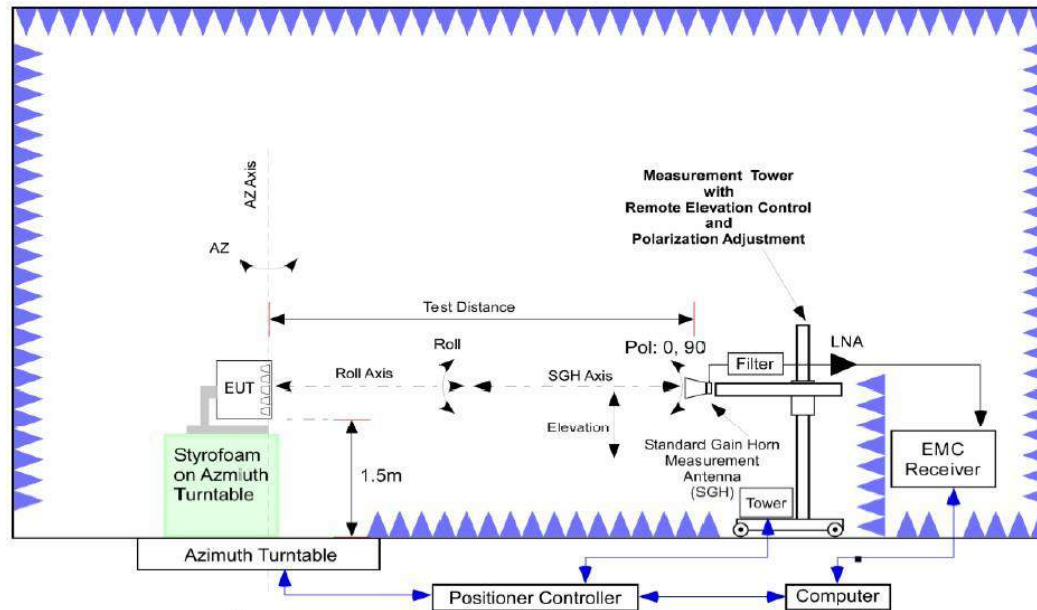


Figure-1: Test Configuration