# Report for Broadcom

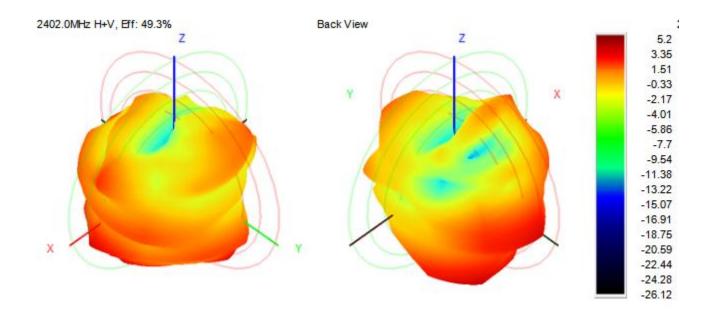
# Tested Products.

- Antenna 1: external antenna.
  - Frequency =2402MHz
  - Frequency =2404MHz
  - Frequency =2440MHz
  - Frequency =2441MHz
  - Frequency =2472MHz
  - Frequency =2480MHz

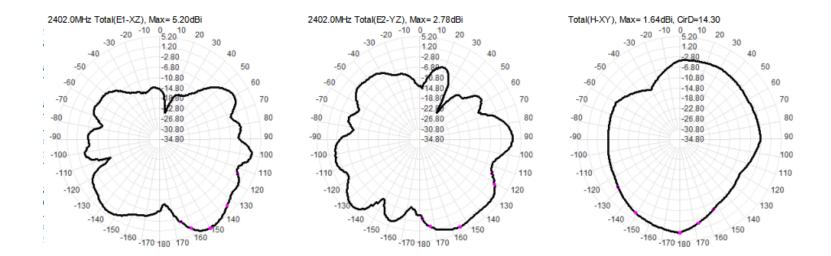
# Coordinate System Reference: Antenna-TX



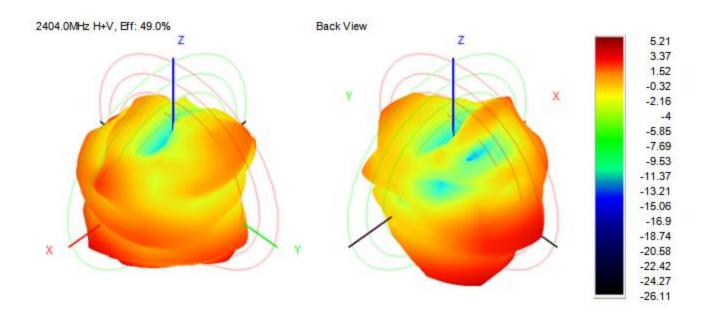
# Radiation pattern: Antenna 3D Pattern at f = 2402MHz Coordinate System Reference: Antenna-TX



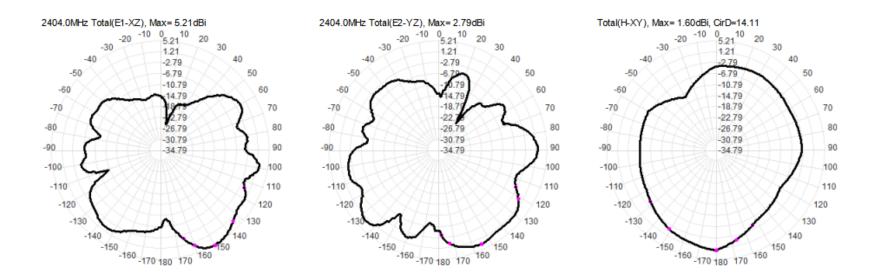
#### Radiation pattern: Antenna 2D Pattern at f = 2402MHz



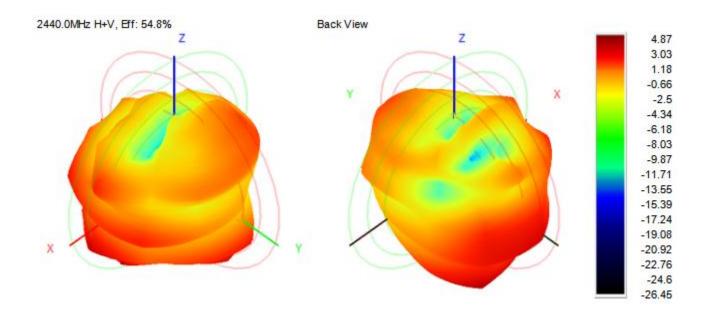
# Radiation pattern: Antenna 3D Pattern at f = 2404 MHz



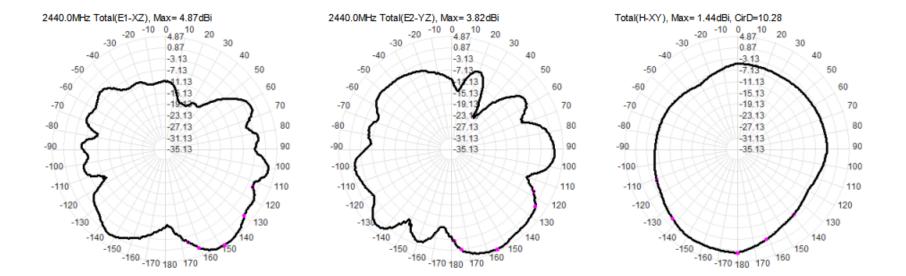
### Radiation pattern: Antenna 2D Pattern at f = 2404MHz



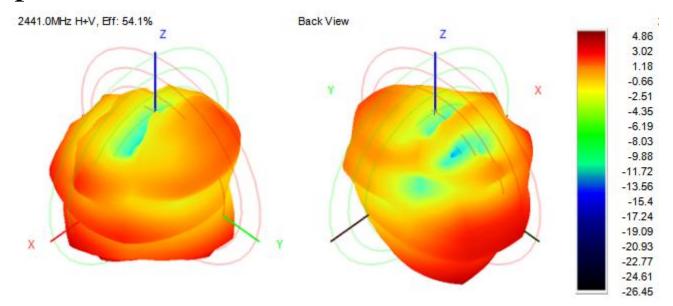
# Radiation pattern: Antenna 3D Pattern at f = 2440 MHz

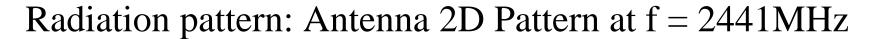


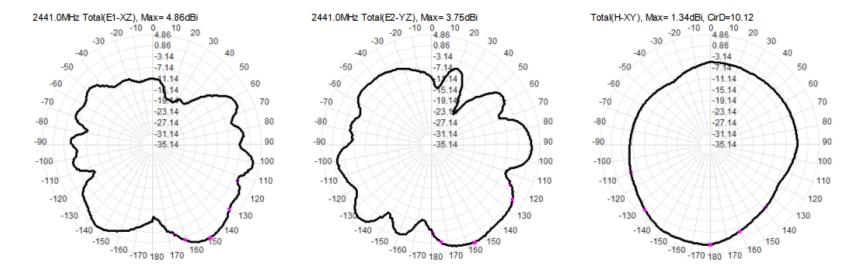
### Radiation pattern: Antenna 2D Pattern at f = 2440MHz



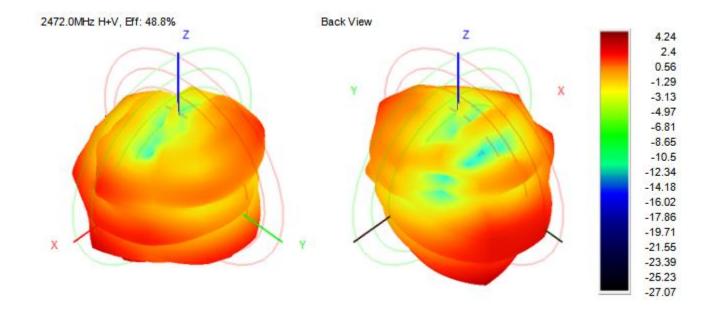
### Radiation pattern: Antenna 3D Pattern at f = 2441MHz

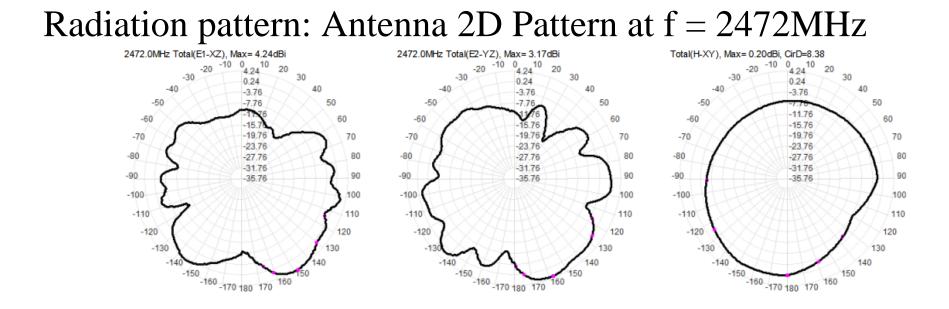




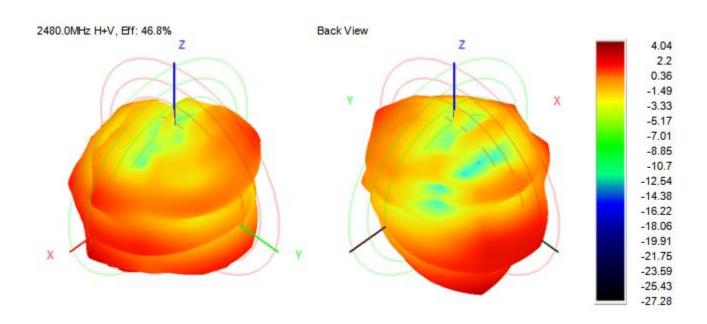


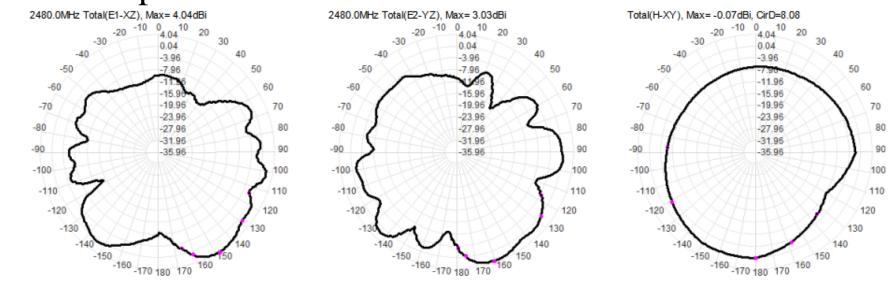
# Radiation pattern: Antenna 3D Pattern at f = 2472MHz





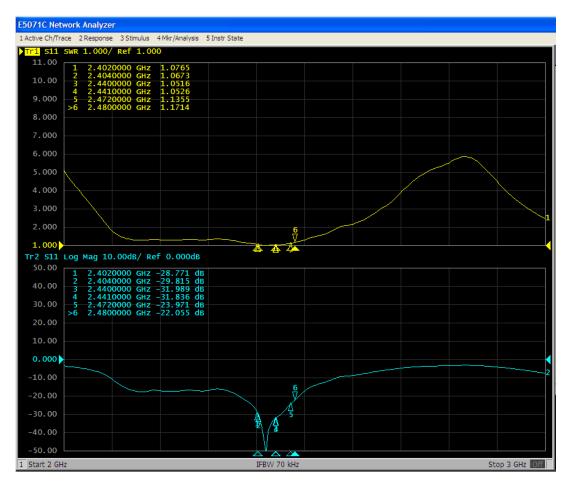
# Radiation pattern: Antenna 3D Pattern at f = 2480MHz





#### Radiation pattern: Antenna 2D Pattern at f = 2480MHz

# Rturn Loss: Antenna1



Frequency ID	1	2	3	4	5	6
Frequency (MHz)	2402.0	2404.0	2440.0	2441.0	2472.0	2480.0
Efficiency (dBi)	-3.07	-3.10	-2.61	-2.66	-3.12	-3.30
Gain (dBi)	5.20	5.21	4.87	4.86	4.24	4.04
Efficiency (%)	49.29	49.03	54.85	54.15	48.78	46.82
Directivity (dB)	8.27	8.30	7.48	7.53	7.36	7.34
Peak Gain Position (Theta)	30.00	30.00	32.00	32.00	32.00	32.00
Peak Gain Position (Phi)	0.00	0.00	0.00	0.00	0.00	0.00
Efficiency ThetaPol (%)	22.91	22.80	25.97	25.78	24.06	23.08
Efficiency PhiPol (%)	26.39	26.23	28.88	28.37	24.72	23.74
Upper Hem. Efficiency (%)	13.16	13.11	15.83	15.63	14.02	13.49
Lower Hem. Efficiency (%)	36.13	35.92	39.02	38.52	34.77	33.33