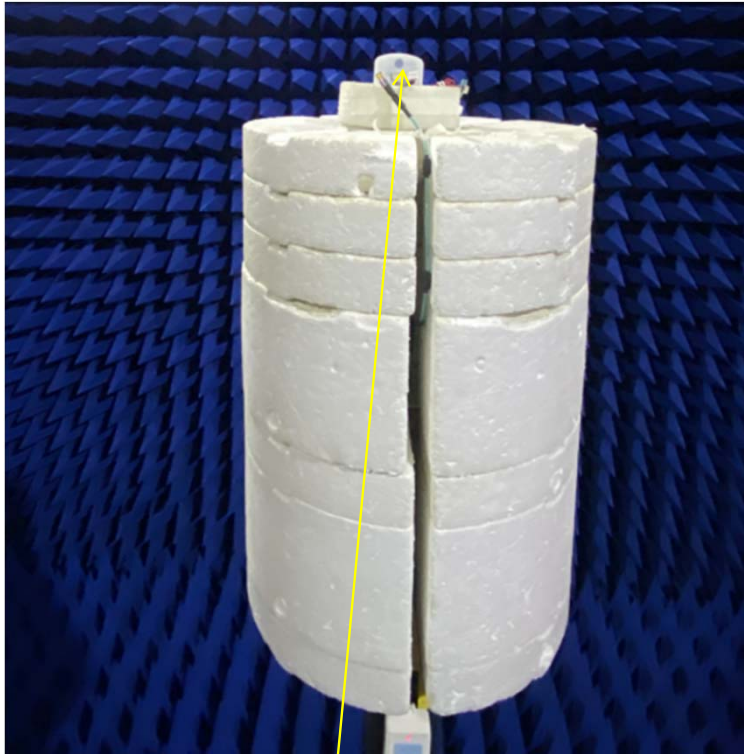
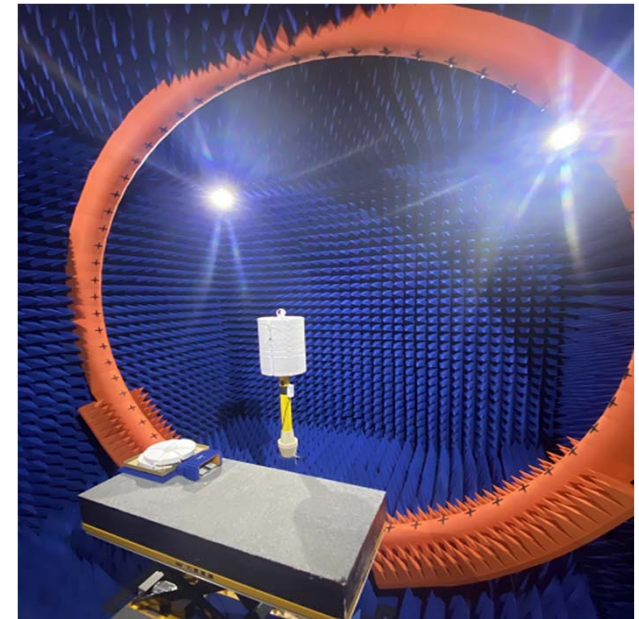


Antenna Study

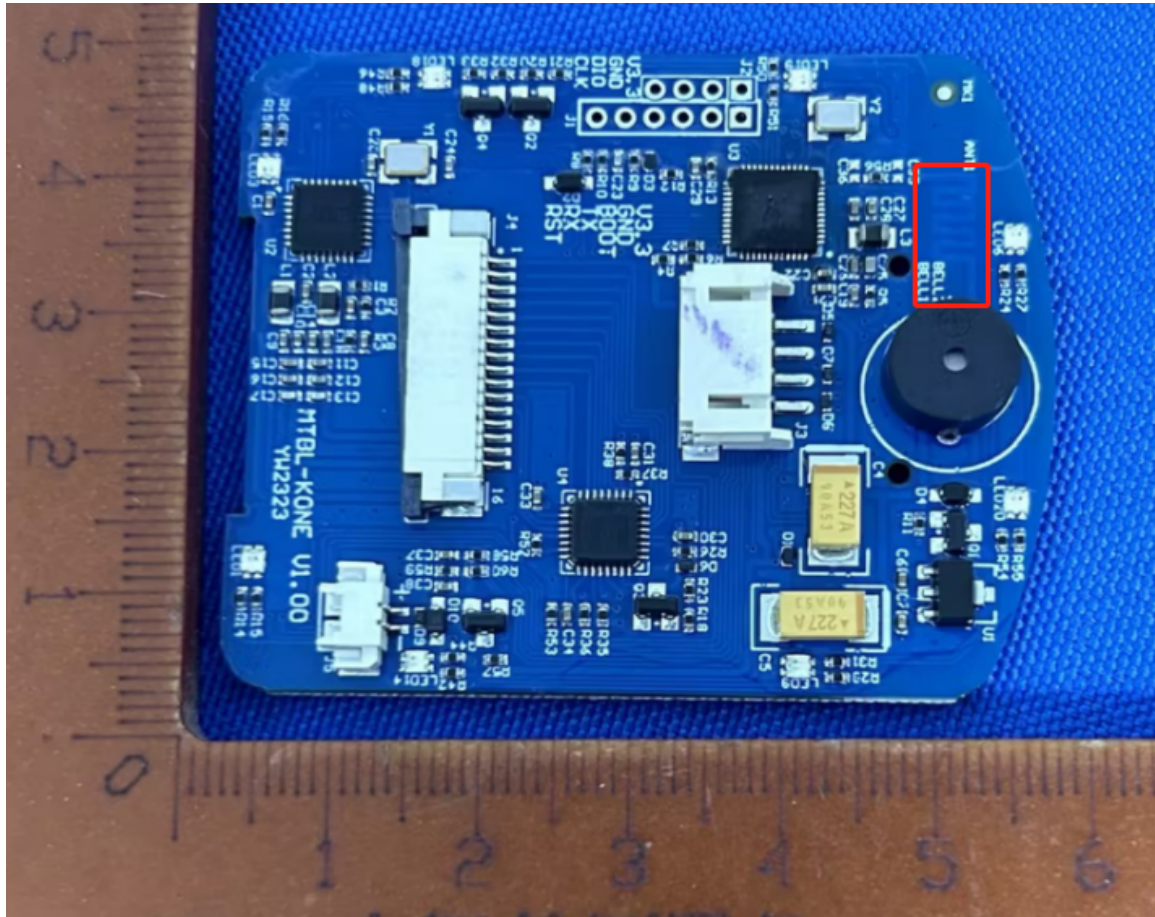
- **Client Name:TOWNSTEEL INC.**
- **Project Name : NET DOOR LOCK**
- **Debugging frequency band: 900/930/2400/2500HMz**
- **Valuation date: 2024.05.15**
- **Linkman contacts: gao shang 18925546490**



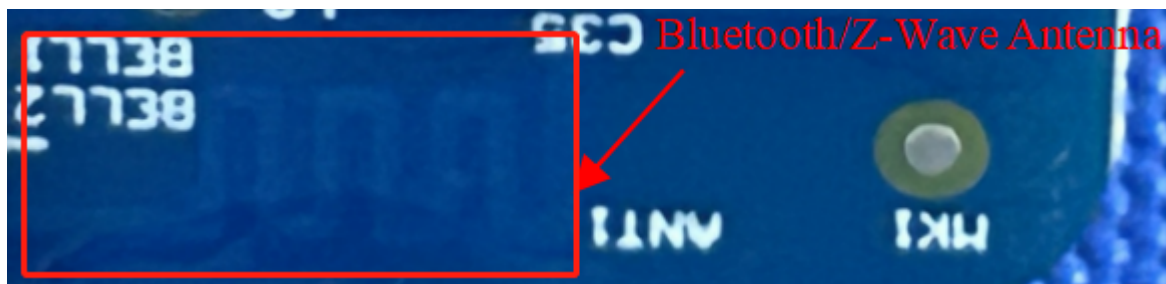
Testing environment



Testing 3D microwave darkroom(6m*6m*6m)

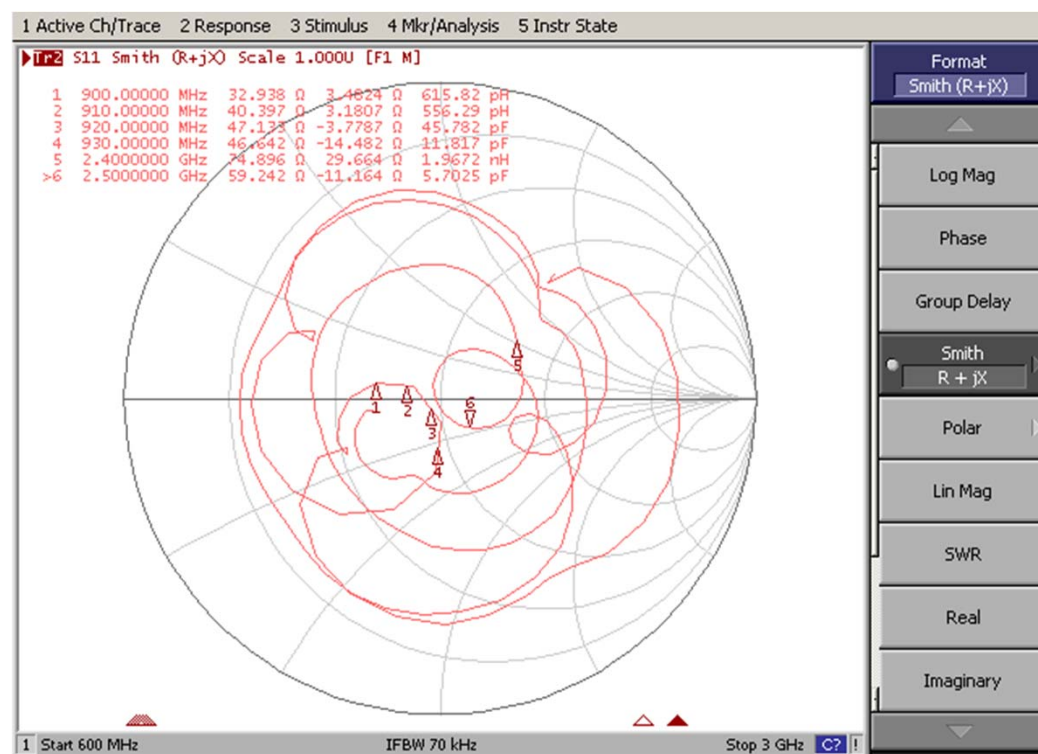
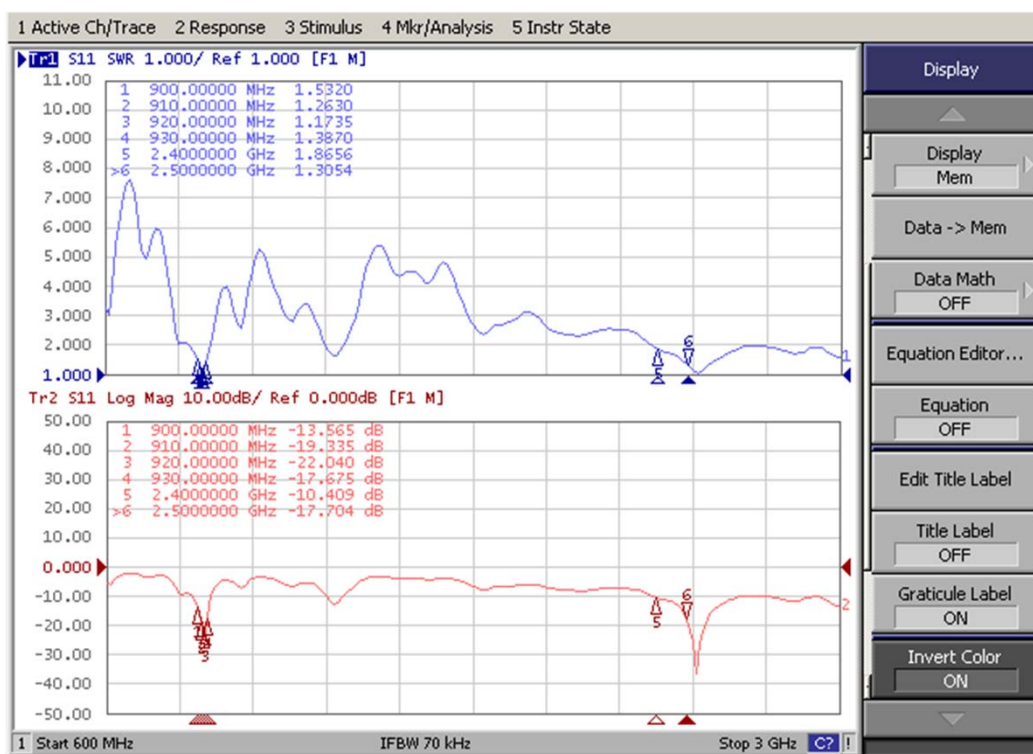


- Antenna name: NDL-ANT
- Antenna Type: PCB Antenna
- Covers : 900/930/2400/2500MHz



S Parameter_Return Loss&VSWR-Smith

Dongguan UB Electronics Co., Ltd

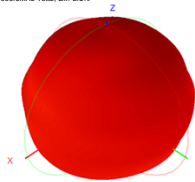


Efficiency and Gain

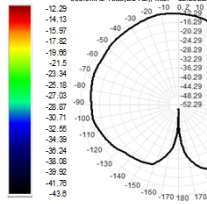
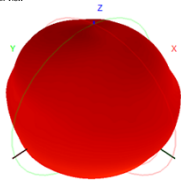
Frequency ID	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Frequency (MHz)	900.0	902.0	904.0	906.0	908.0	910.0	912.0	914.0	916.0	918.0	920.0	922.0	924.0	926.0	928.0	930.0
Gain (dBi)	1.91	2.01	2.02	2.05	2.09	2.14	2.17	2.10	2.14	2.16	2.15	2.15	2.17	2.19	2.23	2.23

17	18	19	20	21	22	23	24	25	26	27
2400.0	2410.0	2420.0	2430.0	2440.0	2450.0	2460.0	2470.0	2480.0	2490.0	2500.0
2.07	2.02	2.03	2.05	2.04	2.03	2.02	2.23	2.10	2.17	2.11

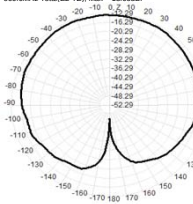
900.0MHz Total, Eff: 2.1%



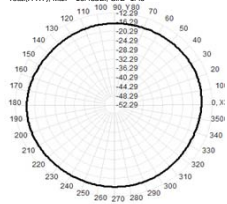
Back View



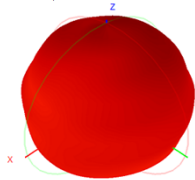
900.0MHz Total(E1-YZ), Max=-13.06dB



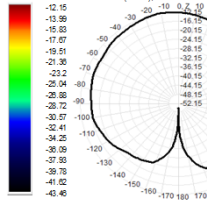
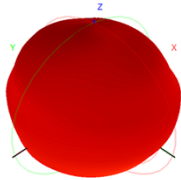
Total(H-XY), Max=-16.43dB, Crd=1.45



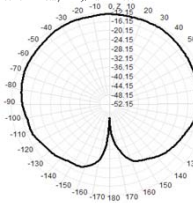
902.0MHz Total, Eff: 2.2%



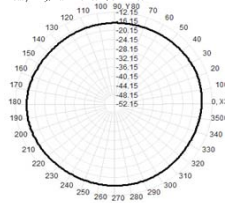
Back View



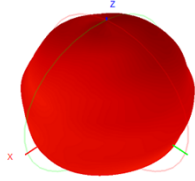
902.0MHz Total(E1-YZ), Max=-12.99dB



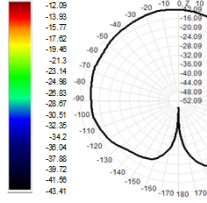
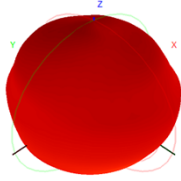
Total(H-XY), Max=-16.23dB, Crd=1.53



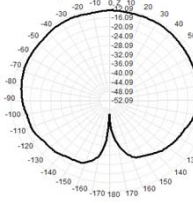
904.0MHz Total, Eff: 2.2%



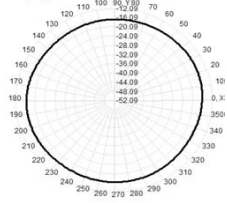
Back View



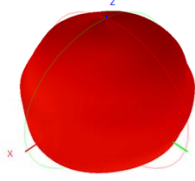
904.0MHz Total(E1-YZ), Max=-12.91dB



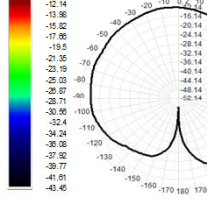
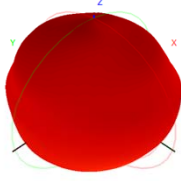
Total(H-XY), Max=-16.04dB, Crd=1.63



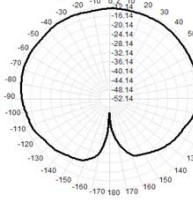
906.0MHz Total, Eff: 2.3%



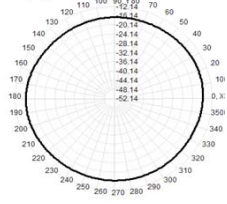
Back View



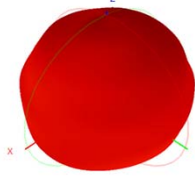
906.0MHz Total(E1-YZ), Max=-12.84dB



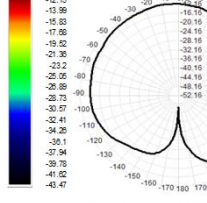
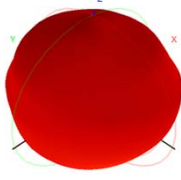
Total(H-XY), Max=-15.84dB, Crd=1.73



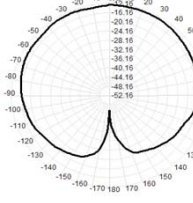
908.0MHz Total, Eff: 2.3%



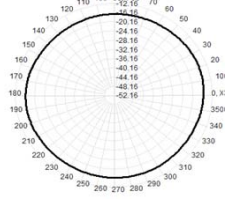
Back View



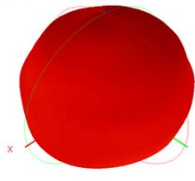
908.0MHz Total(E1-YZ), Max=-12.74dB



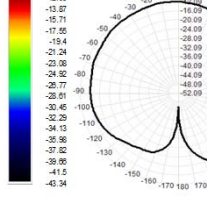
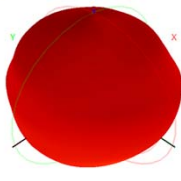
Total(H-XY), Max=-15.66dB, Crd=1.85



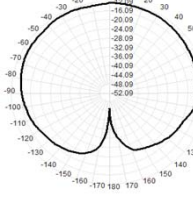
910.0MHz Total, Eff: 2.3%



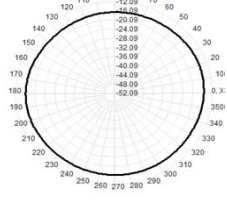
Back View



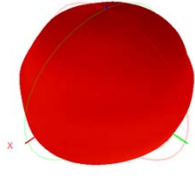
910.0MHz Total(E1-YZ), Max=-12.56dB



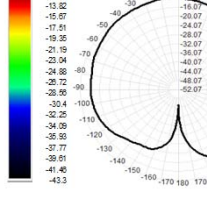
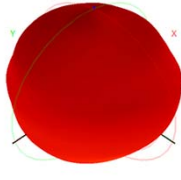
Total(H-XY), Max=-15.52dB, Crd=1.99



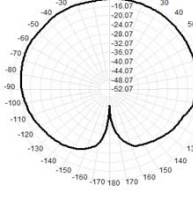
912.0MHz Total, Eff: 2.4%



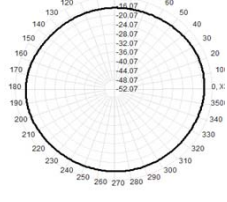
Back View



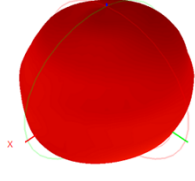
912.0MHz Total(E1-YZ), Max=-12.45dB



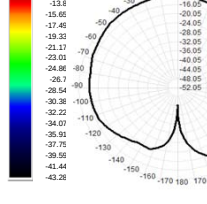
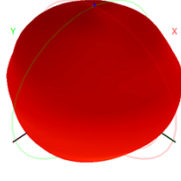
Total(H-XY), Max=-15.37dB, Crd=2.17



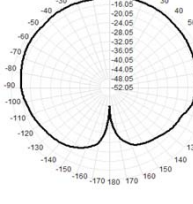
914.0MHz Total, Eff: 2.4%



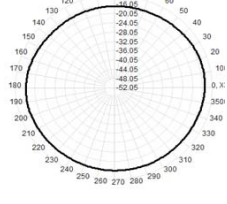
Back View

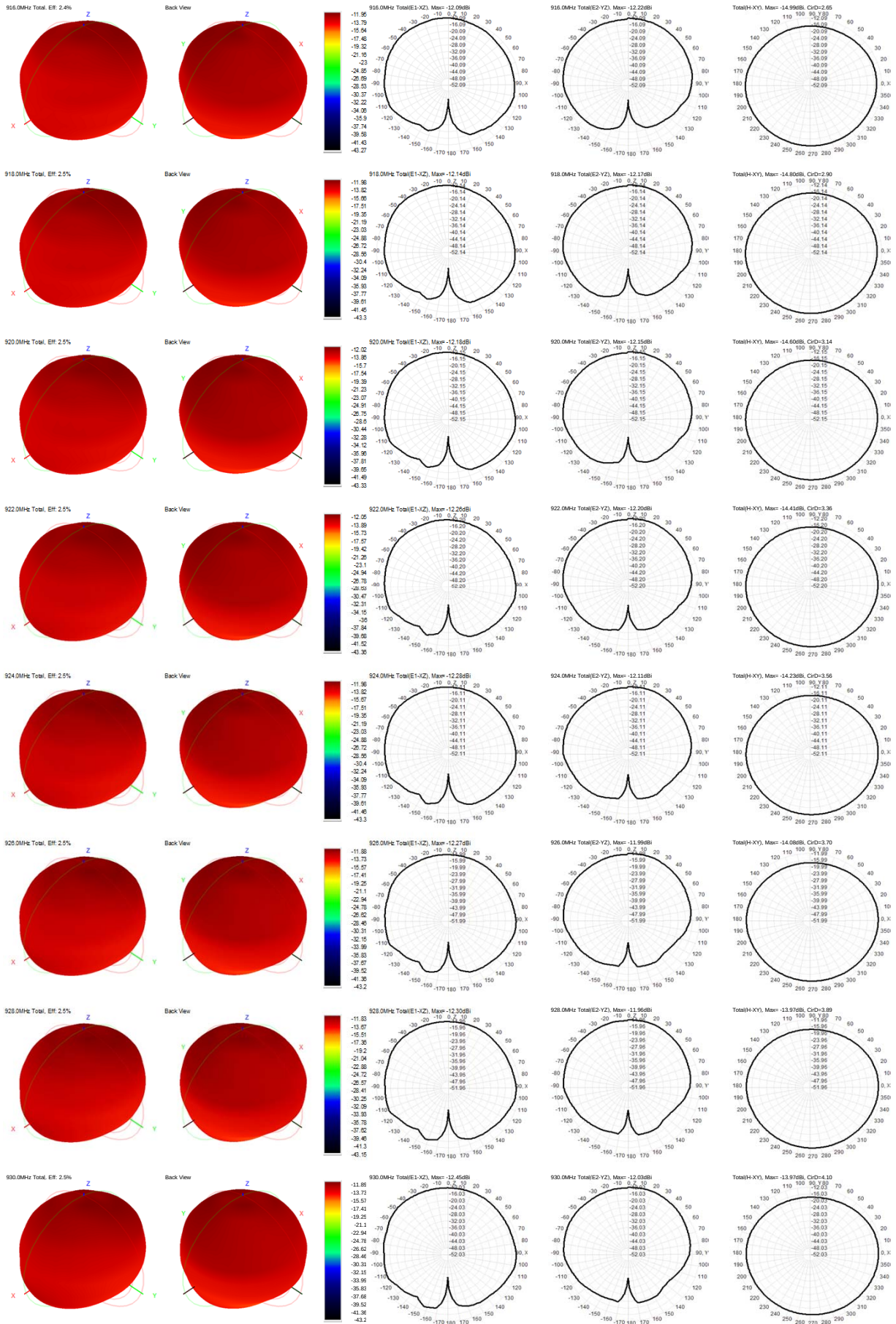


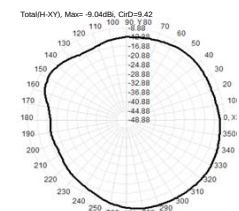
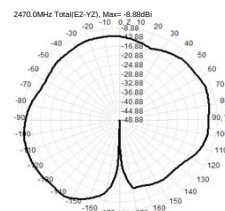
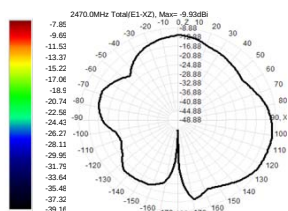
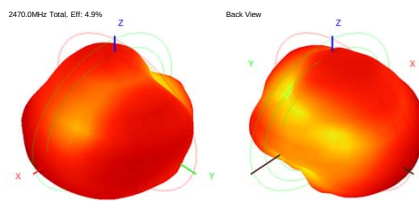
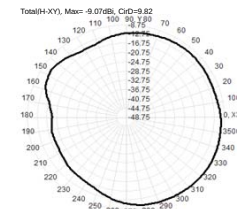
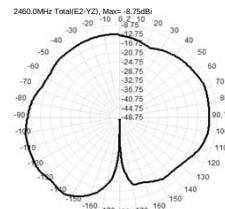
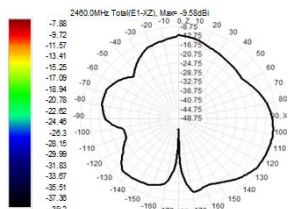
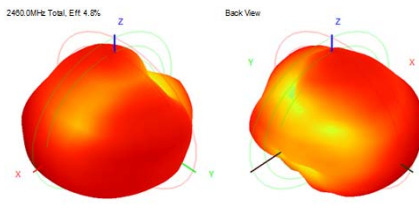
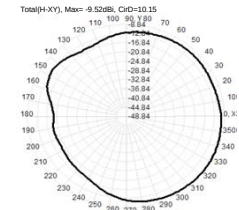
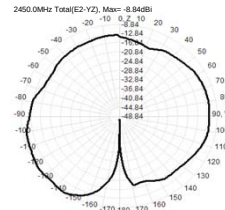
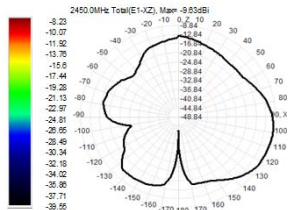
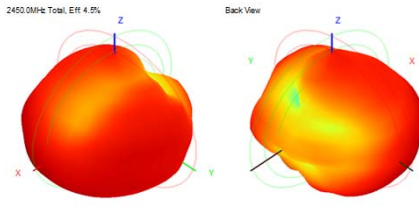
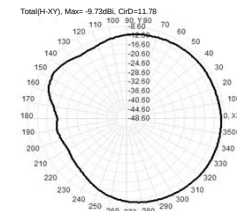
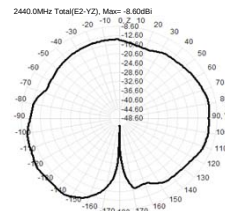
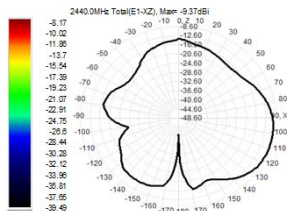
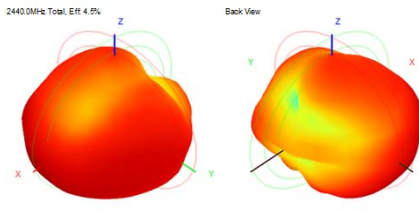
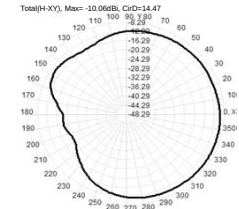
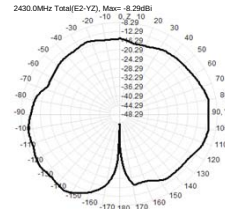
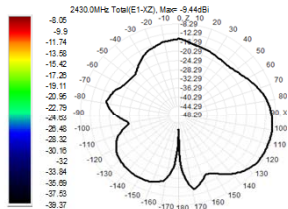
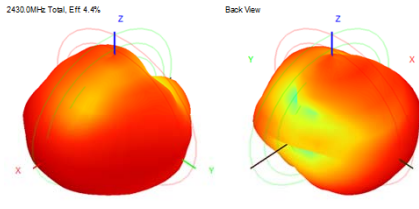
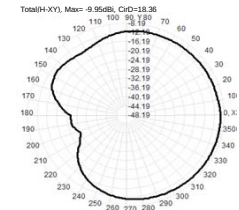
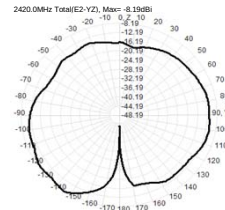
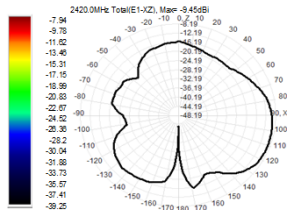
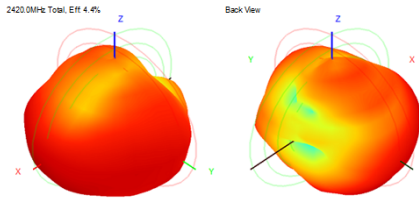
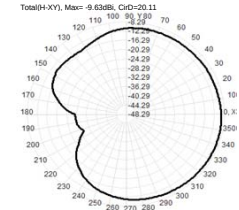
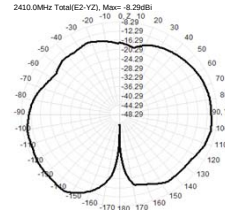
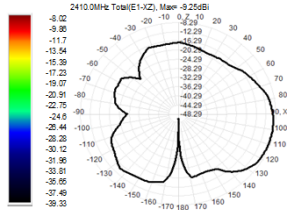
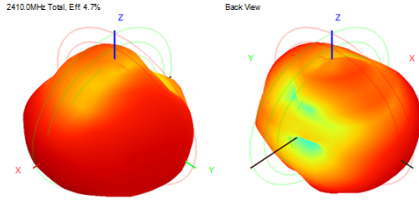
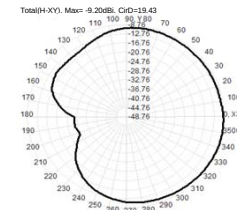
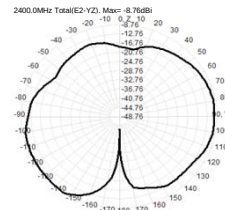
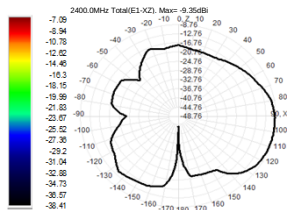
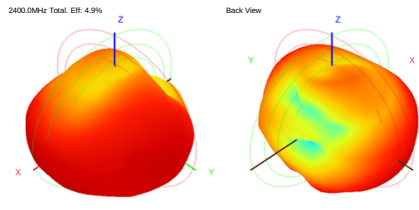
914.0MHz Total(E1-YZ), Max=-12.33dB



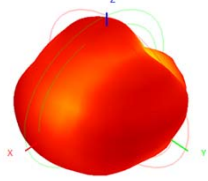
Total(H-XY), Max=-15.18dB, Crd=2.40



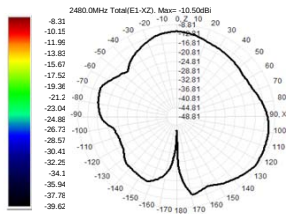
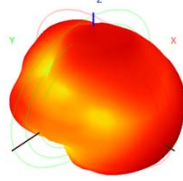




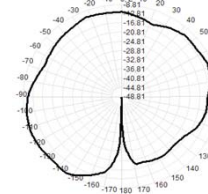
2480.0MHz Total, Eff: 4.7%



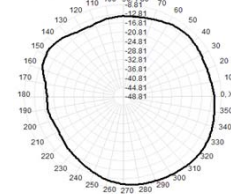
Back View



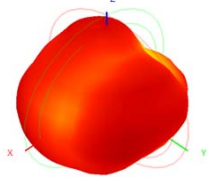
2480.0MHz Total(E2-YZ), Max:-8.81dBi



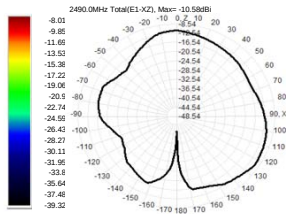
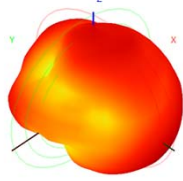
Total(H-XY), Max:-9.16dBi, Crd=9.60



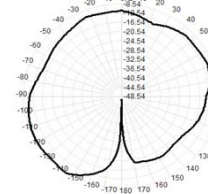
2490.0MHz Total, Eff: 4.7%



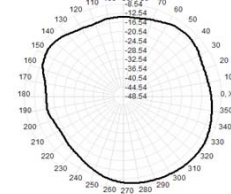
Back View



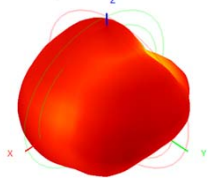
2490.0MHz Total(E2-YZ), Max:-8.54dBi



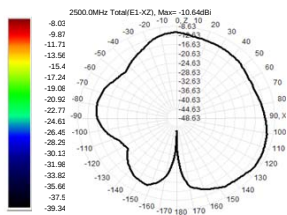
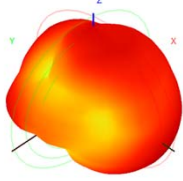
Total(H-XY), Max:-9.50dBi, Crd=9.57



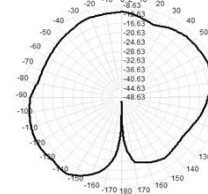
2500.0MHz Total, Eff: 4.7%



Back View



2500.0MHz Total(E2-YZ), Max:-8.63dBi



Total(H-XY), Max:-9.95dBi, Crd=9.90

