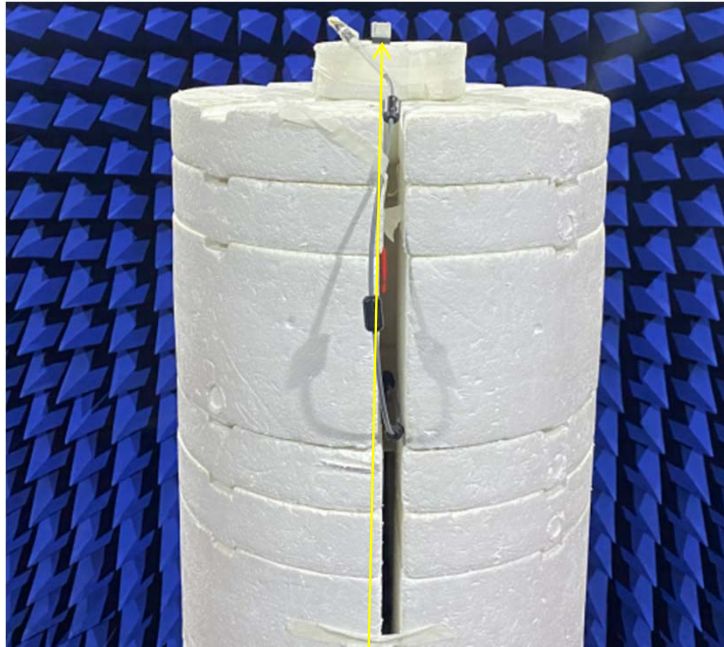


Antenna Study

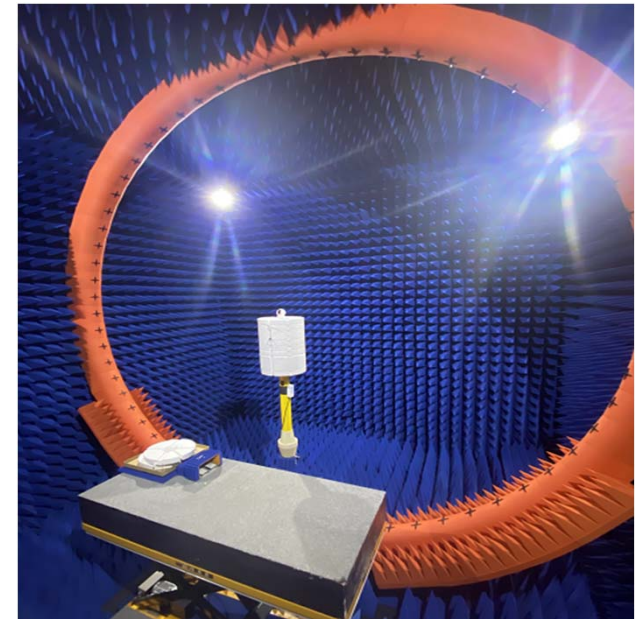
- **Client Name:**Magforms Technology Co., Ltd
- **Project Name:**LCD 3D Printer ; **Model :** AT-1
- **Debugging frequency band:** 2400-2500MHz, 4900-5900MHz
- **Valuation date:** 2023.03.28

PCB Antenna

Dongguan UB Electronics Co., Ltd



Testing environment



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

PCB Antenna

Dongguan UB Electronics Co., Ltd

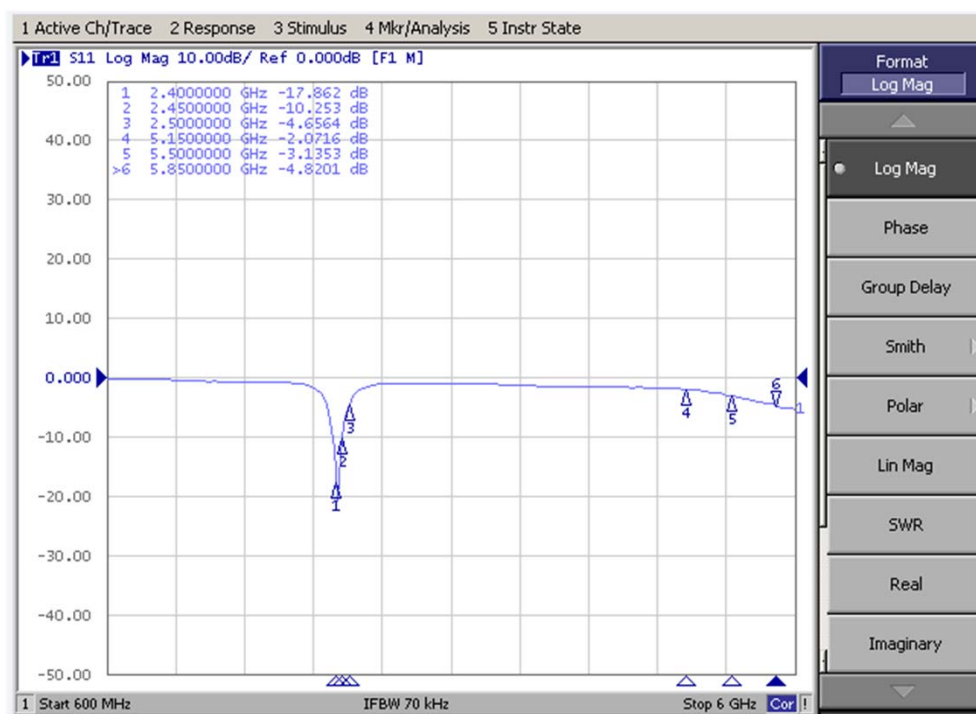
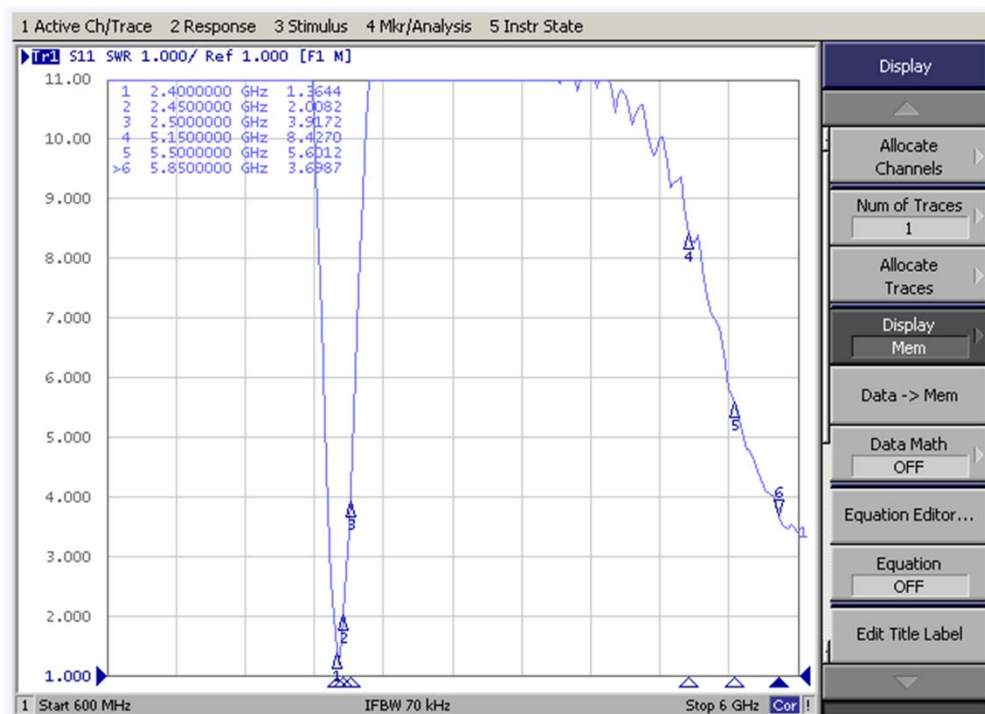


Antenna

- Antenna name: PCB Antenna
- Antenna Type: PCB
- Covers : 2400-2500MHz
4900-5900MHz

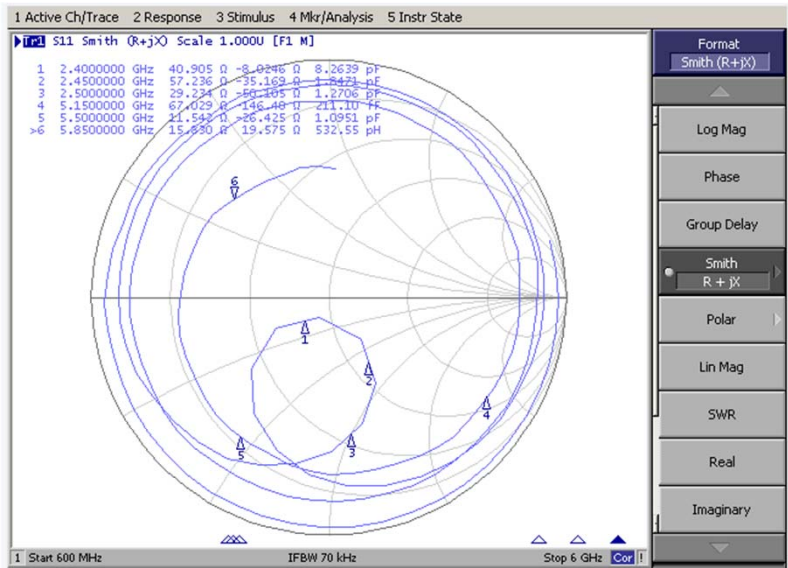
S Parameter_Return Loss&VSWR

Dongguan UB Electronics Co., Ltd



Efficiency and Gain-Smith

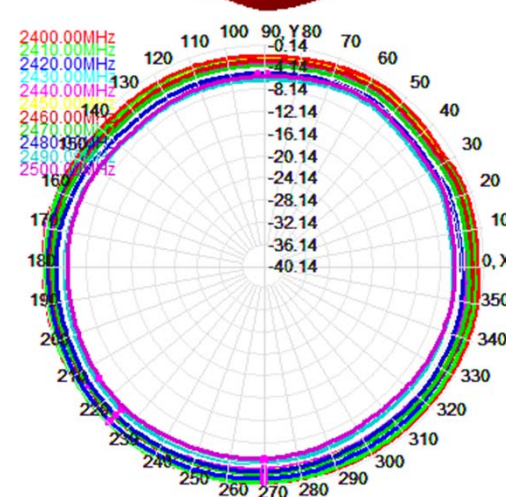
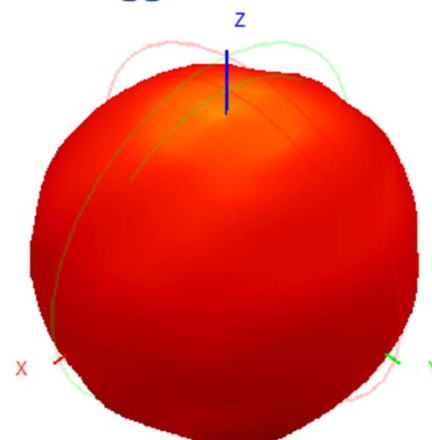
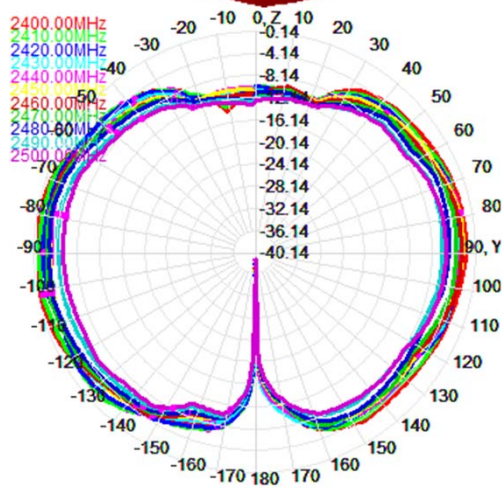
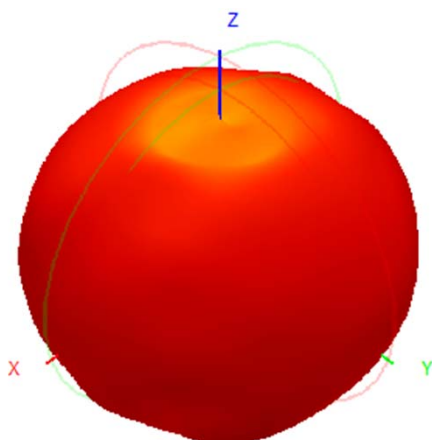
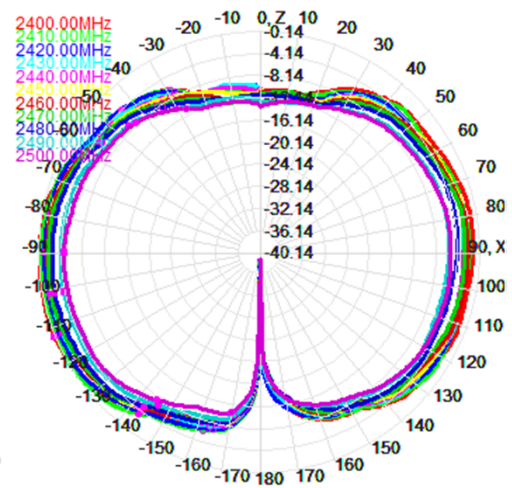
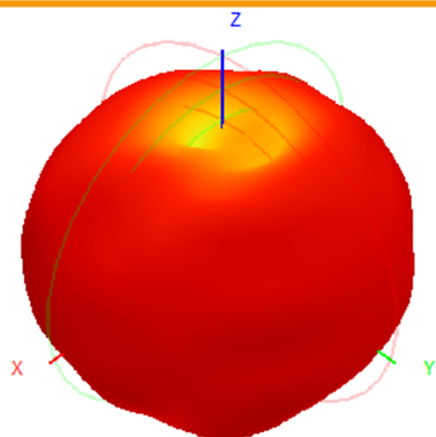
Dongguan UB Electronics Co., Ltd



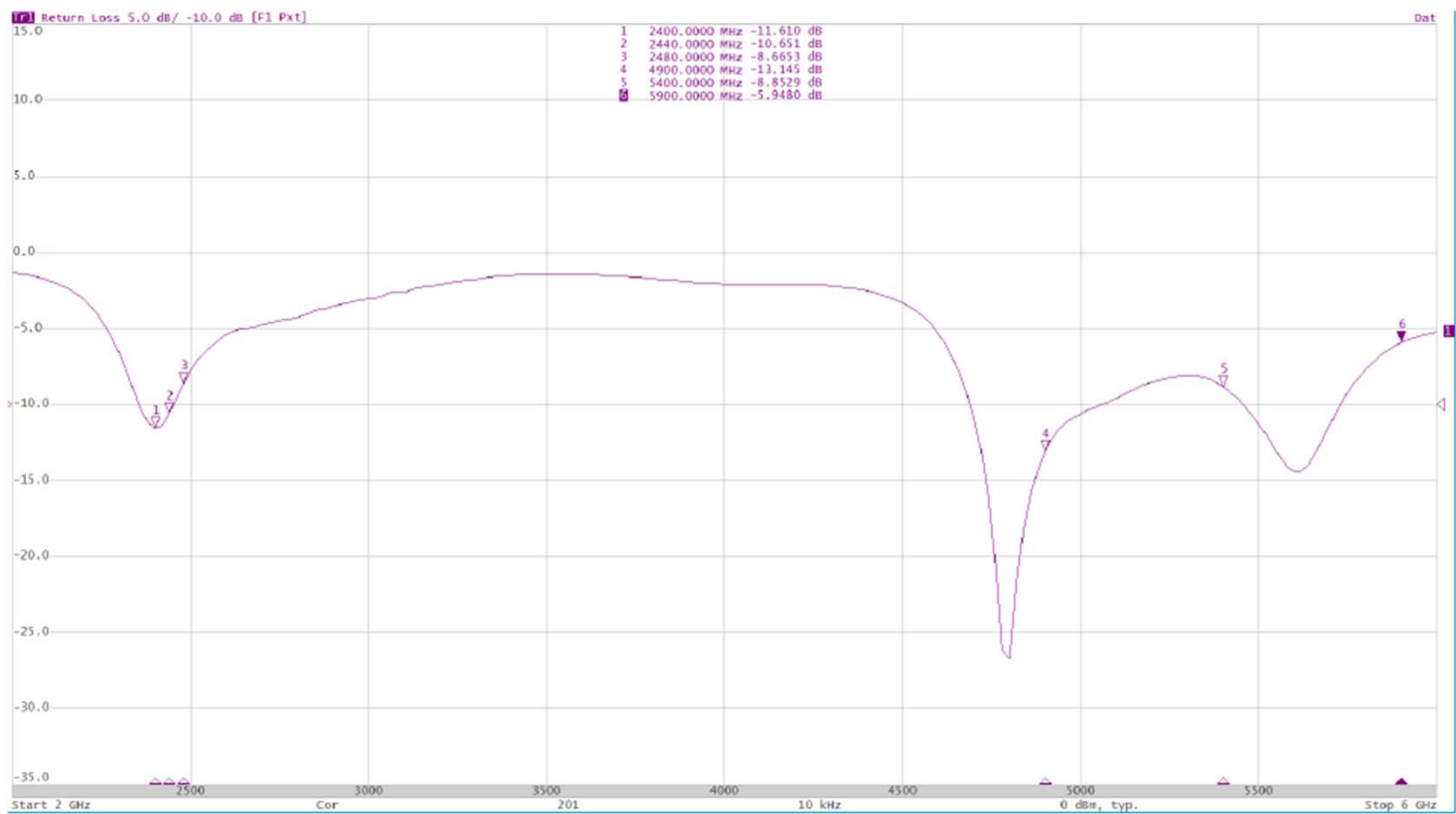
Frequency ID	1	2	3	4	5	6	7	8	9	10	11
Frequency (MHz)	2400.0	2410.0	2420.0	2430.0	2440.0	2450.0	2460.0	2470.0	2480.0	2490.0	2500.0
Gain (dBi)	-0.01	-0.26	-0.83	-1.47	-1.68	-1.57	-1.57	-1.52	-2.06	-3.60	-4.18
Efficiency (%)	55.02	51.05	47.20	45.01	44.64	44.71	42.65	39.30	34.32	27.08	25.04

Freespace Environment Performance – WIFI

Dongguan UB Electronics Co., Ltd

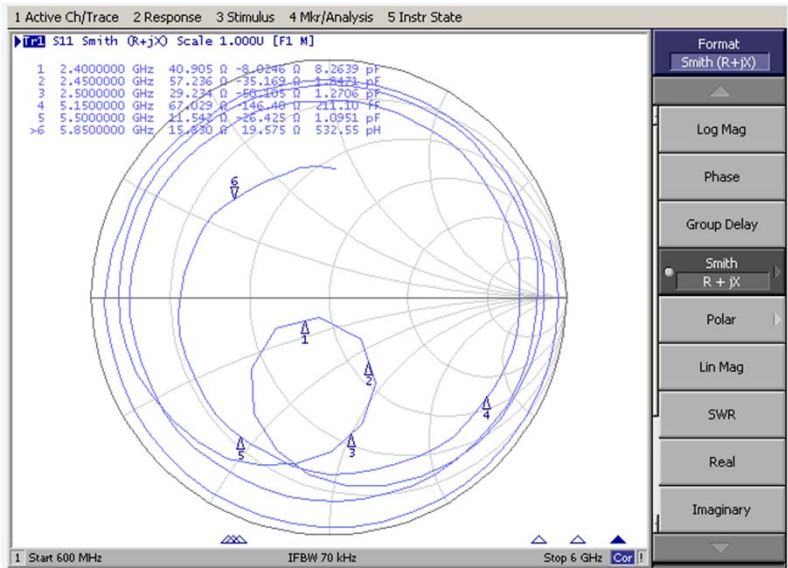


S Parameter_Return Loss&VSWR



Efficiency and Gain-Smith

Dongguan UB Electronics Co., Ltd

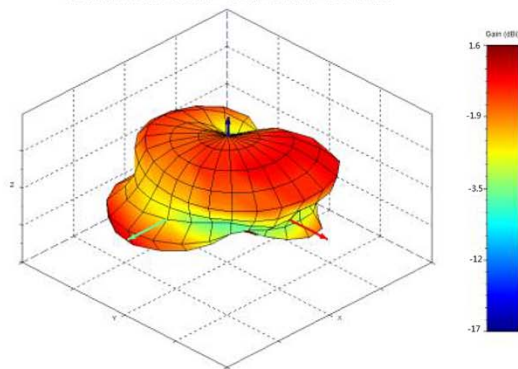


Frequency ID	1	2	3	4	5	6	7	8	9	10	11
Frequency (MHz)	4900	5000	5100	5200	5300	5400	5500	5600	5700	5800	5900
Gain (dBi)	1.56	-0.13	-1.76	0.72	-0.79	1.57	-1.24	-1.37	-1.36	-1.28	1.06
Efficiency (%)	65.36	63.67	60.94	60.04	58.43	55.86	54.89	54.67	52.52	49.83	46.84

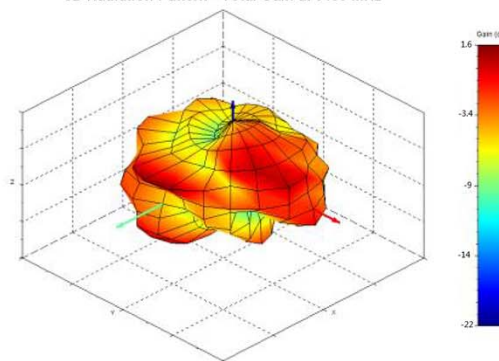
Freespace Environment Performance – WIFI

Dongguan UB Electronics Co., Ltd

3D Radiation Pattern - Total Gain at 4900 MHz



3D Radiation Pattern - Total Gain at 5400 MHz



3D Radiation Pattern - Total Gain at 5900 MHz

