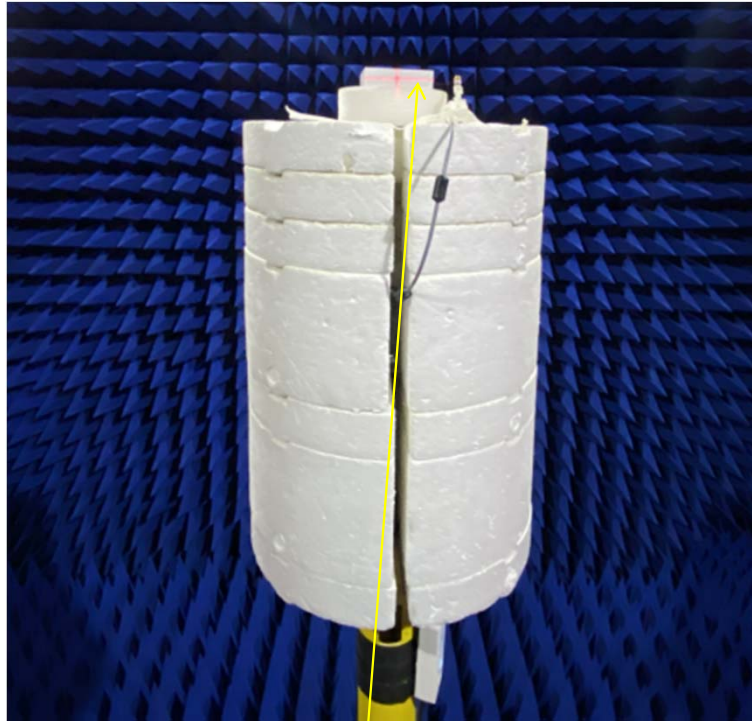


Antenna Study

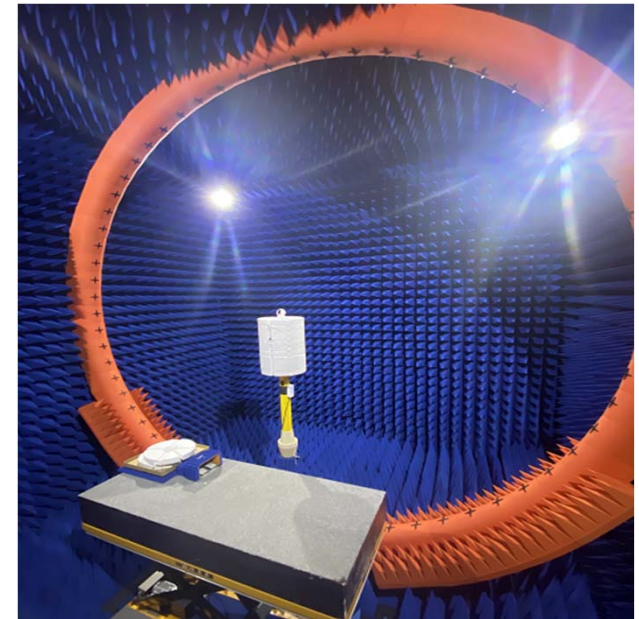
- **Client Name:Nexelec**
- **Project Name : Nexgen**
- **Debugging frequency band: 860HMz-920HMz**
- **Valuation date: 2023.08.02**

PCB Antenna

Dongguan UB Electronics Co., Ltd



Testing environment



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

PCB Antenna

Dongguan UB Electronics Co., Ltd

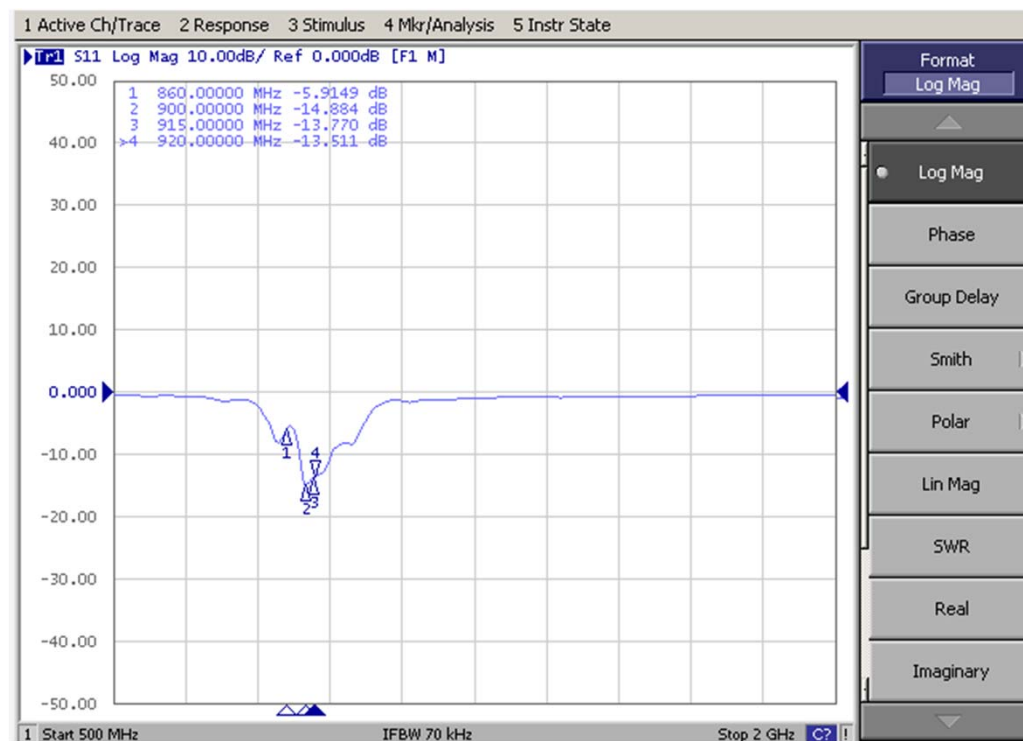
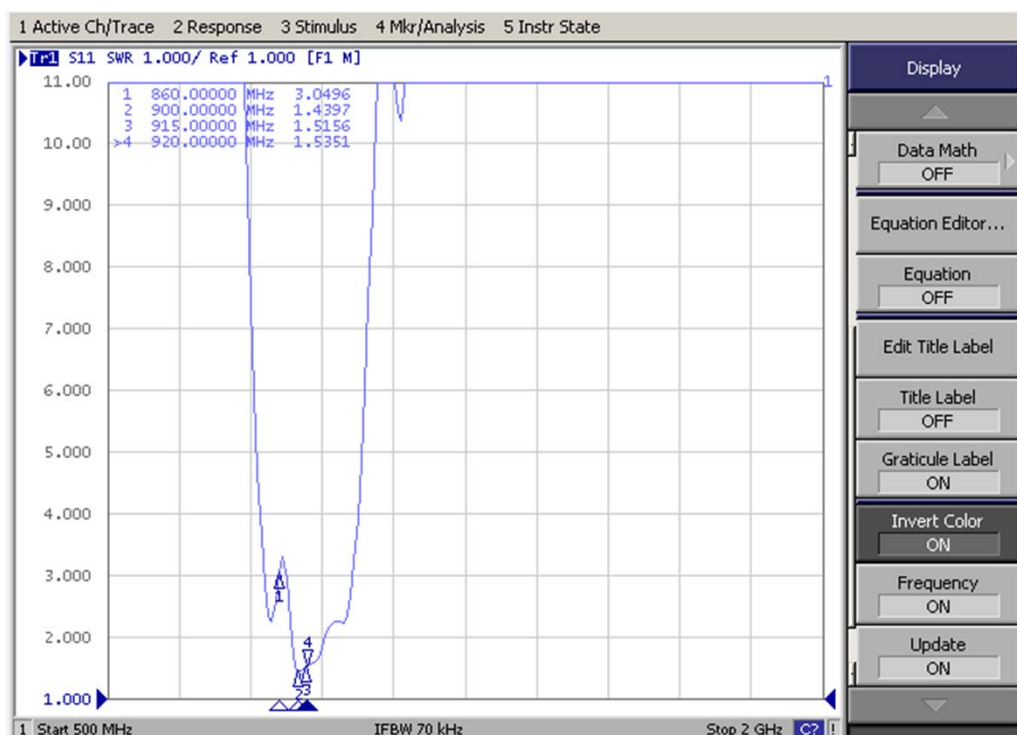


- Antenna name: LoRa
- Antenna Type: PCB
- Covers : 2.4G

Antenna

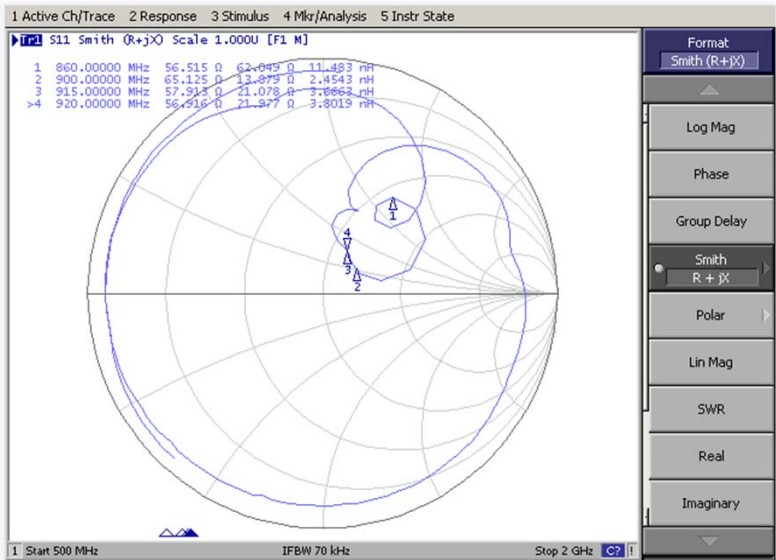
S Parameter_Return Loss&VSWR

Dongguan UB Electronics Co., Ltd



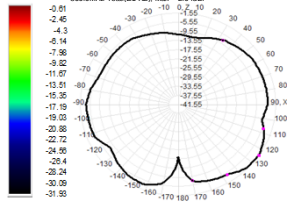
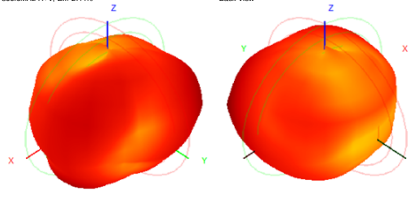
Efficiency and Gain-Smith

Dongguan UB Electronics Co., Ltd

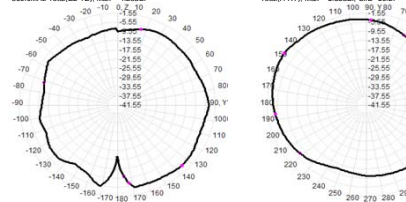


Frequency ID	1	2	3	4	5	6	7	8	9	10	11	12	13
Frequency (MHz)	860.0	865.0	870.0	875.0	880.0	885.0	890.0	895.0	900.0	905.0	910.0	915.0	920.0
Gain (dBi)	-0.61	-0.55	-0.59	-0.54	-0.45	-0.44	-0.43	-0.44	-0.06	0.35	0.86	1.16	1.32
Efficiency (%)	27.42	24.05	20.56	17.87	16.58	16.61	17.96	20.09	22.75	25.52	29.00	32.16	34.91

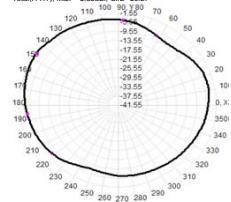
860.0MHz H+V, ER: 27.4%



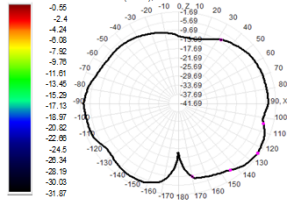
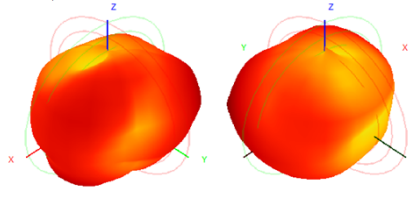
860.0MHz Total(E2-YZ), Max=-4.28dB



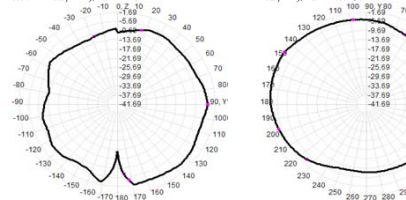
Total(H+V), Max=-1.55dB, CRD=10.27



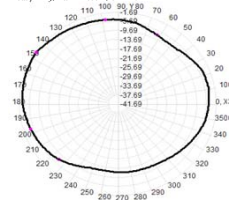
865.0MHz H+V, ER: 24.1%



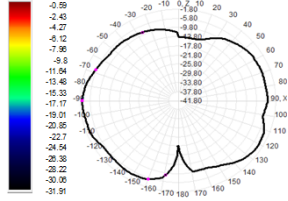
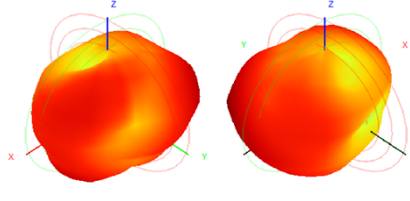
865.0MHz Total(E2-YZ), Max=-4.97dB



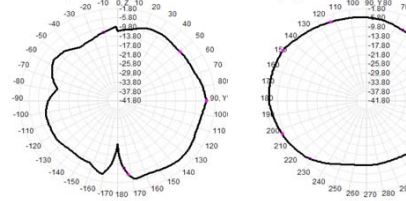
Total(H+V), Max=-1.69dB, CRD=10.72



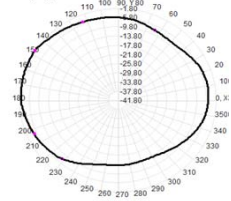
870.0MHz H+V, ER: 20.8%



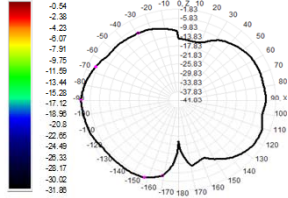
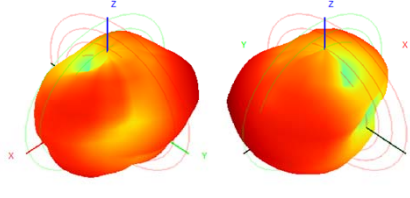
870.0MHz Total(E2-YZ), Max=-5.66dB



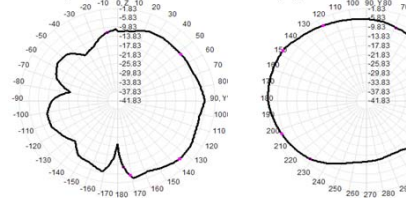
Total(H+V), Max=-1.80dB, CRD=12.16



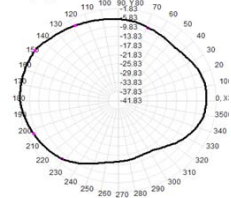
875.0MHz H+V, ER: 17.9%



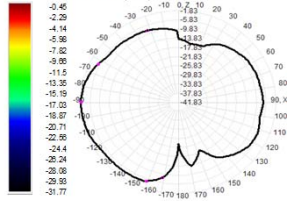
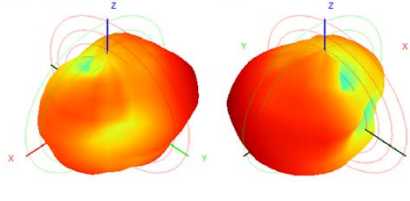
875.0MHz Total(E2-YZ), Max=-6.04dB



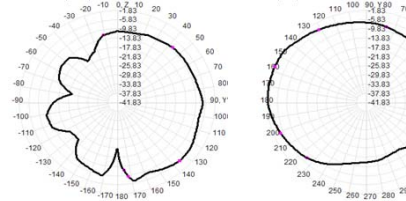
Total(H+V), Max=-1.83dB, CRD=14.08



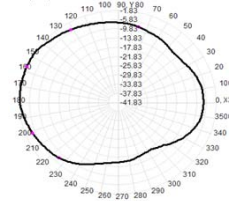
880.0MHz H+V, ER: 16.6%



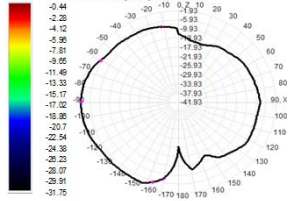
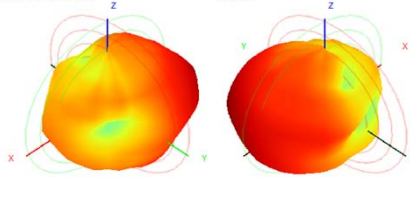
880.0MHz Total(E2-YZ), Max=-6.04dB



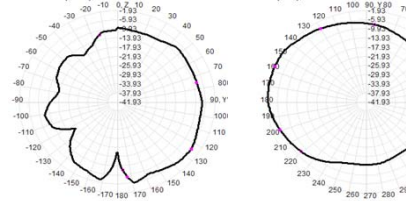
Total(H+V), Max=-1.83dB, CRD=15.60



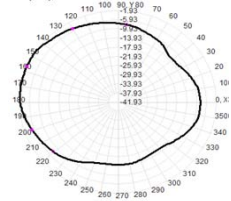
885.0MHz H+V, ER: 16.0%



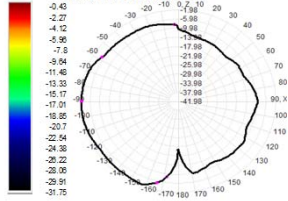
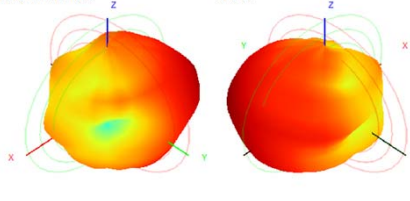
885.0MHz Total(E2-YZ), Max=-5.62dB



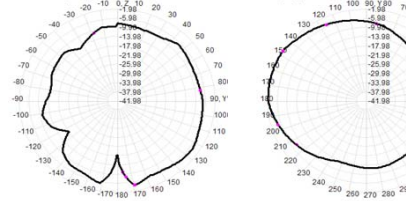
Total(H+V), Max=-1.93dB, CRD=13.89



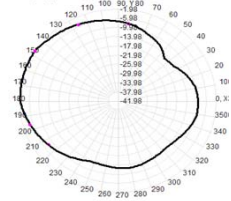
890.0MHz H+V, ER: 18.0%



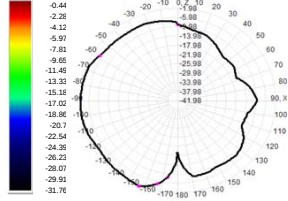
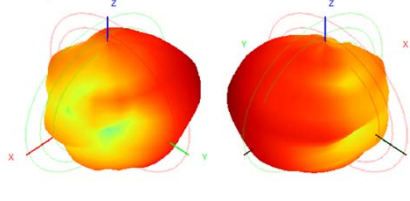
890.0MHz Total(E2-YZ), Max=-4.90dB



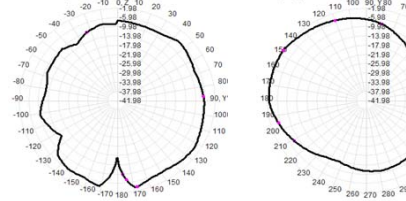
Total(H+V), Max=-1.98dB, CRD=13.63



895.0MHz H+V, ER: 20.1%



895.0MHz Total(E2-YZ), Max=-3.91dB



Total(H+V), Max=-2.08dB, CRD=14.26

