WHA YU INDUSTRIAL CO., LTD.(HEAD OFFICE)
DONGGUAN AEON TECH CO.,LTD.(CHINA)
SUZHOU AEON TECH CO.,LTD.(CHINA)
AEON TECH (SHANGHAI) CO.,LTD(CHINA)
DONGGUAN PARNER TECH CO.,LTD.(CHINA)

SPECIFICATION FOR APPROVAL

CUSTOMER: 優必闊

PART NAME: *Outdoor Omni Antenna Assembly*

PART NO.: *M701-3C333074* *REVISION:*

W. Y. P/NO.: *C1991-690053-A(SRF2023215)* *REV.: X1*

	MANUFACTURER SIGNATURE	CUSTOMER SIGNATURE
APPROVED BY :	23/2/16	
DATE :		

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RF Omni Antenna Assembly

Specification

1. Electrical Properties (With Radome)

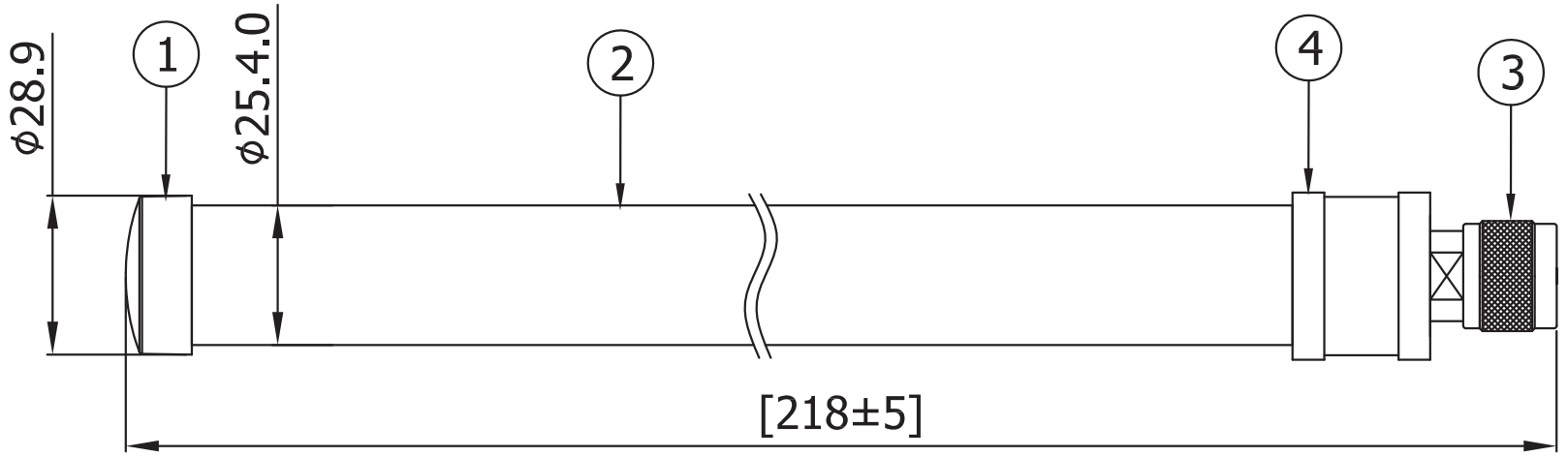
1.1	Frequency Range	0.70~0.96 GHz
1.2	Impedance	50Ω Nominal
1.3	VSWR	2.5：1 Max.
1.4	Return Loss	-7.3 dB Max.
1.5	Radiation	Omni-directional
1.6	Peak Gain	1dBi@0.70~0.96GHz
1.7	Polarization	Linear(Vertical or Horizontal)
1.8	Cable	RG-178 Coaxial Cable; Brown
1.9	Connector	N Stright Plug

2. Physical Properties :

2.1	Operating Temp.	-30℃ ~ +75℃
2.2	Storage Temp.	-40℃ ~ +85℃

CG-

REV	DATE	DESCRIPTION
X1	01/03-2020	New Issue



NO	DESCRIPTION	Q'TY	REMARK
4	Tube Hold — Alum	1	
3	Connector — N-Type Plug Standard	1	
2	Tube — FRP; White; L=175mm	1	
1	Tube Cap — PC-9330,Color:White	1	

CUSTOMER'S SIGNATURE

XX.	±5
X.	±3.0
.X	±1.0
.XX	±0.5
.XXX	±0.1

APPROVED

CHECKED

DRAWING

CUSTOMER: 優必闊

PART NO : M701-3C333074

PARTNAME: Outdoor Omni Antenna

W.Y P/NO : C1991-690053-A

REV	UNIT	FILE : SRF2023215
X1	m/m	SHEET : 1/1

M.gear Wha Yu Group

We connect the wireless world.

ubiik_external_omni_700 to 960 antenna test report 230202

Version: V 4.0
Released Date: 2023/02/03
Prepared By : BOBO
Reviewed By :J.H

Contents

- Revised History
- Conclusion & Comments
- Specification
- Antenna Placement & Solution
- VSWR Results
- Test Setup for Radiation Pattern Measurement
- 2D Radiation Pattern Results
- Results Summary (peak gain, efficiency)

Revision History

Released Date	Version	Record
2019/12/25	V1.00	Antenna Testing Report
2019/12/26	V1.10	Add competitor data
2020/02/05	V3.00	changed pcb size
2023/02/02	V4.0	Add test frequency.

Specification

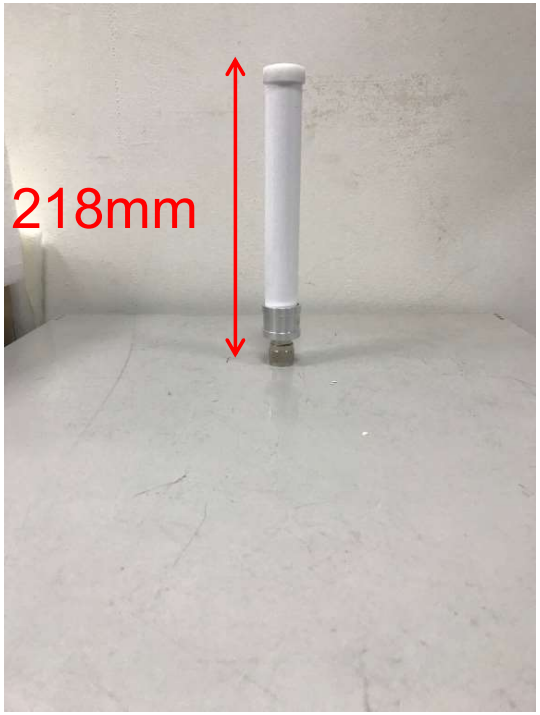
Requirements of Antenna Design

RF Function	Number of ANT	Frequency Band	Remark
LoRa	1	700~960 (MHz)	

Requirements of Measurement

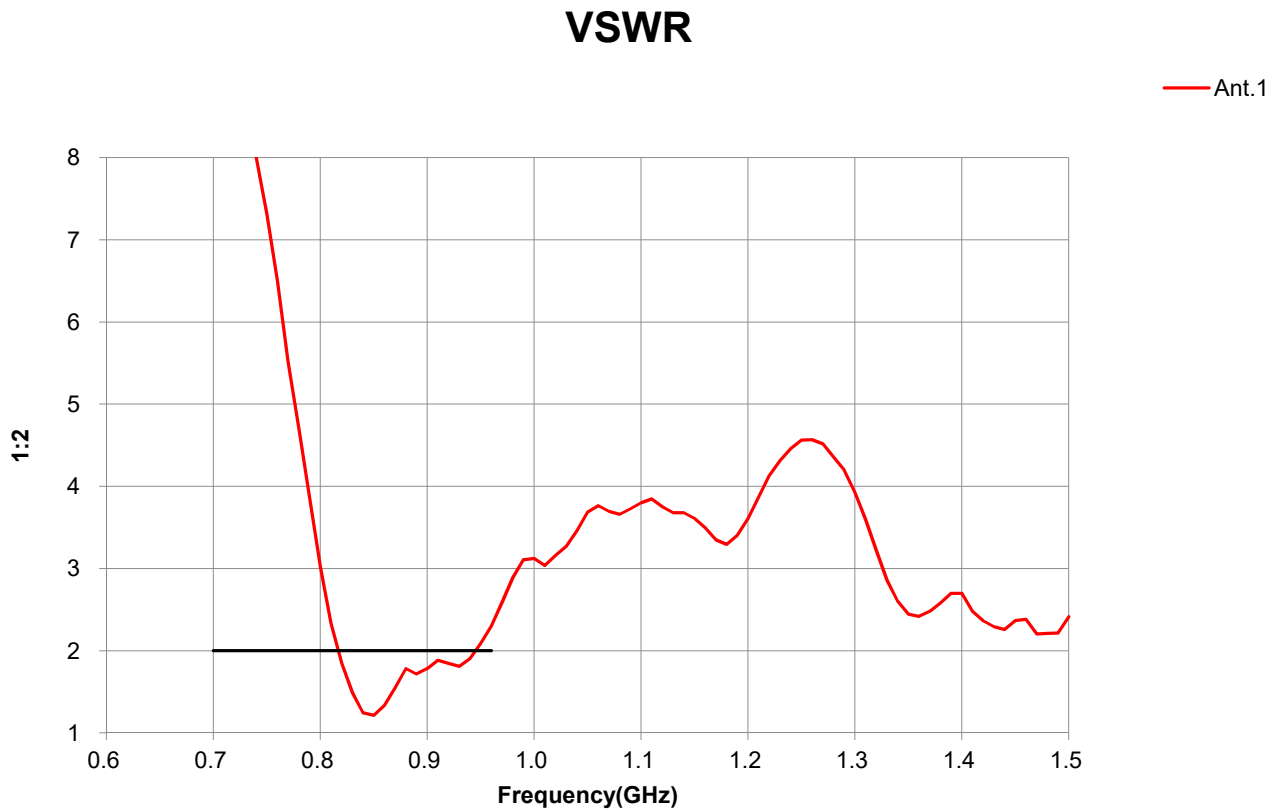
Test Item	Specification	Remark
VSWR	839~930 MHz<2	
Peak gain	839~930 > 1 dBi	
Efficiency	839~930 > 60%	

Antenna Placement & Solution



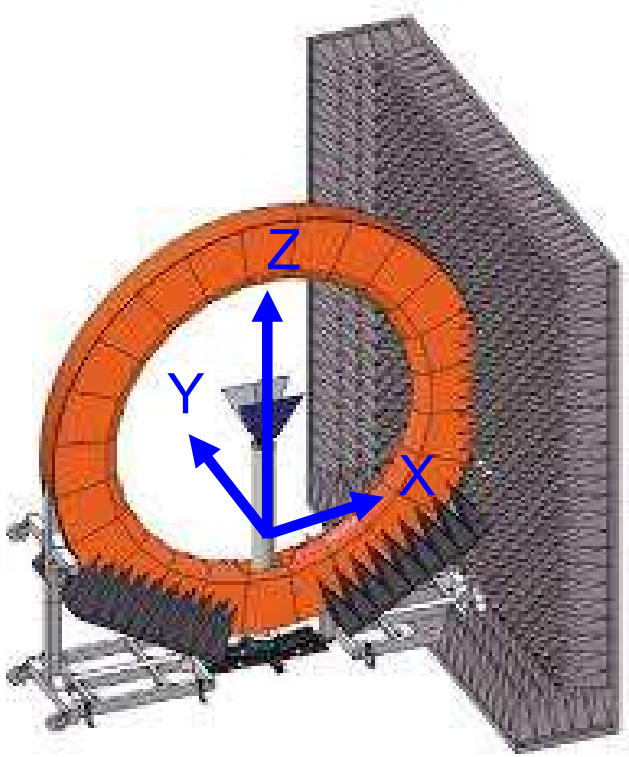
Size	Cable Length (mm)	Cable Type
218mm	93	RG178

VSWR Results

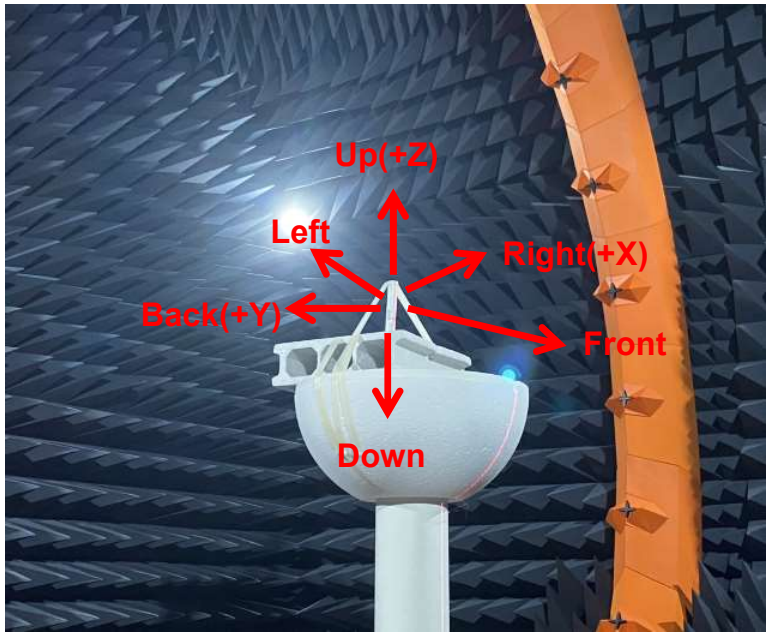


Test Setup for Radiation Pattern Measurement

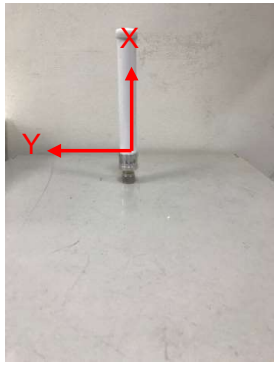
Chamber Information

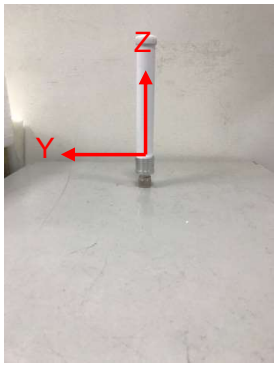


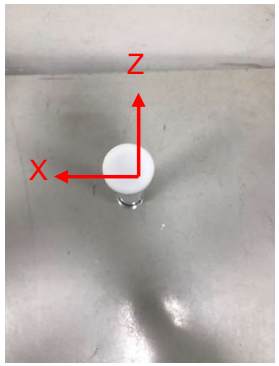
- SATIMO SG-24L Multi-Probe Antenna Measurement System
  - Angle between probes: 15°
  - Frequency range: 400 MHz – 9 GHz
  - Chamber Room Size: 5m L x 5m W x 5m H

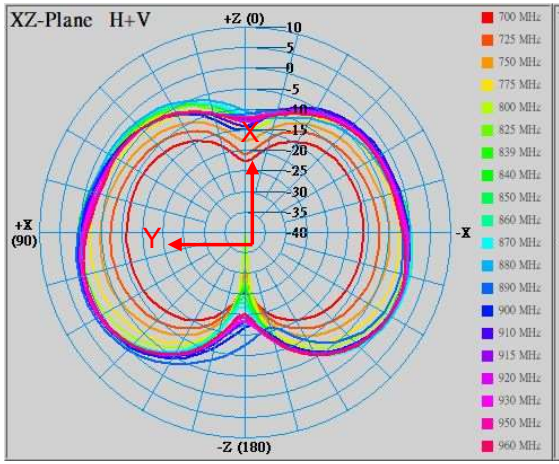


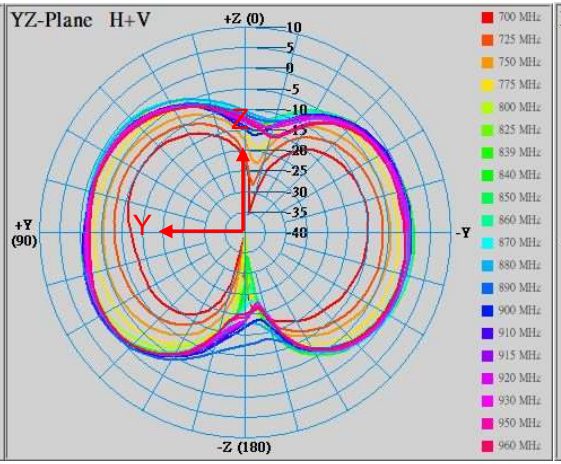
2D Radiation Pattern Results

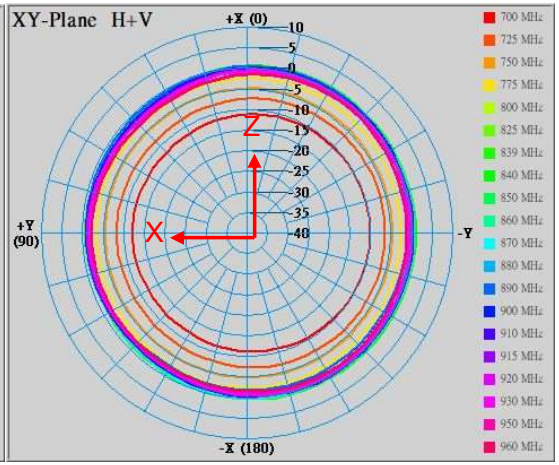




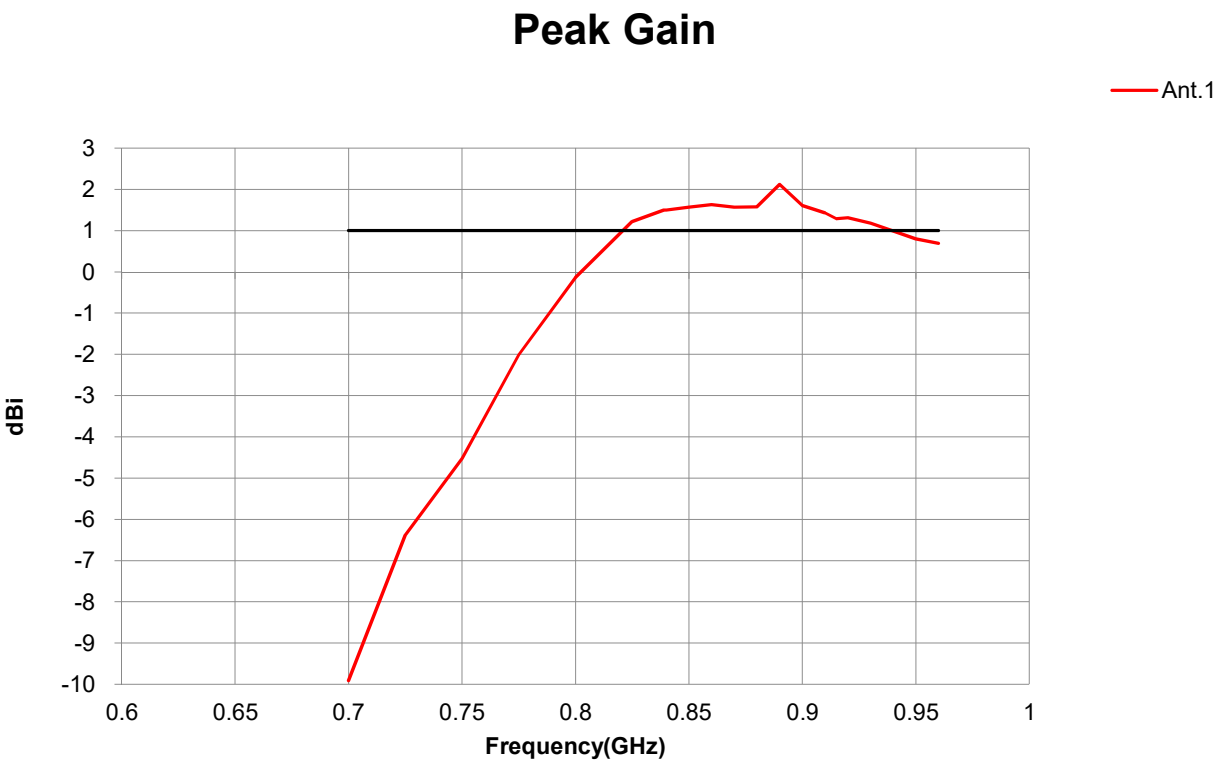






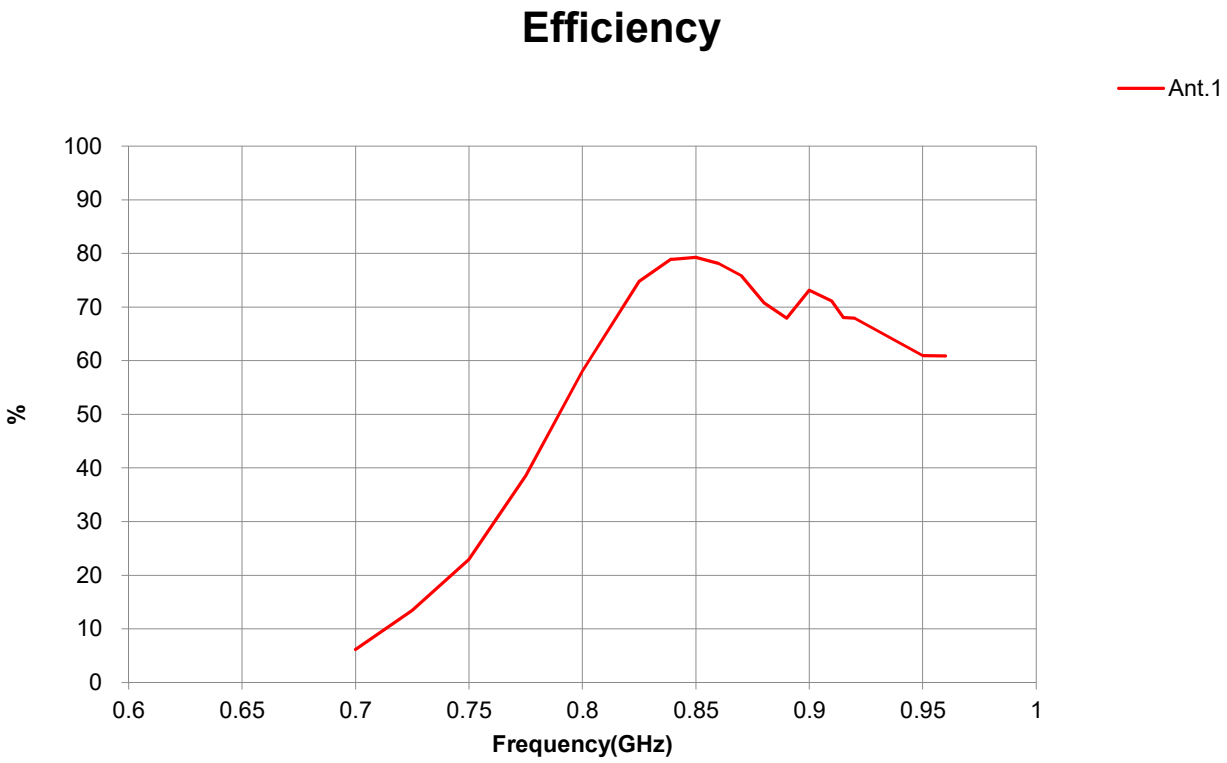


Peak Gain



Peak Gain (dBi)	
Frequency (MHz)	Ant.1
700	-9.91
725	-6.39
750	-4.52
775	-2.01
800	-0.14
825	1.22
839	1.5
840	1.5
850	1.57
860	1.63
870	1.57
880	1.58
890	2.12
900	1.61
910	1.43
915	1.29
920	1.31
930	1.18
950	0.8
960	0.69

Efficiency



Efficiency (%)	
Frequency (MHz)	Ant.1
700	6.15
725	13.43
750	22.91
775	38.55
800	58.08
825	74.82
839	78.89
840	78.89
850	79.25
860	78.16
870	75.86
880	70.79
890	67.92
900	73.11
910	71.12
915	68.08
920	67.92
930	65.61
950	60.95
960	60.88

Thank You

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