

APPROVAL SHEET

MESSRS. (주)아이디로

ITEM : Quadrifilar Wideband Antenna

PART NAME : MQWA70F55SP966-A

MODEL NAME : IDRO 900H

REVISION : 0

ISSUE DATE : March 22, 2024

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BUYER : (주)아이디로	SUPPLIER : MAC technologies Inc.		
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Title	RFID Quadrifilar Wideband Ant. Specification
Document Number	MAC-08-02-05-24003
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1. Scope.

This specification covers the characteristics of the quadrifilar wideband antenna element for the ISM band.

2. Part Name Information.

Part Name : M QWA 70F55S P 966 – A
 ① ② ③ ④ ⑤ ⑥

- ① : MAC technologies Inc.
- ② : Quadrifilar Wideband Antenna
- ③ : 70 mm Bottom substrate, 55 mm Top substrate Square (Size)
- ④ : 17 mm Thickness (A : 2 mm, B : 3 mm, C : 4 mm, D : 5 mm ...)
- ⑤ : Center Frequency : 966 MHz (± 3 MHz)
- ⑥ : Assembly – Cable

3. Composition and Materials.

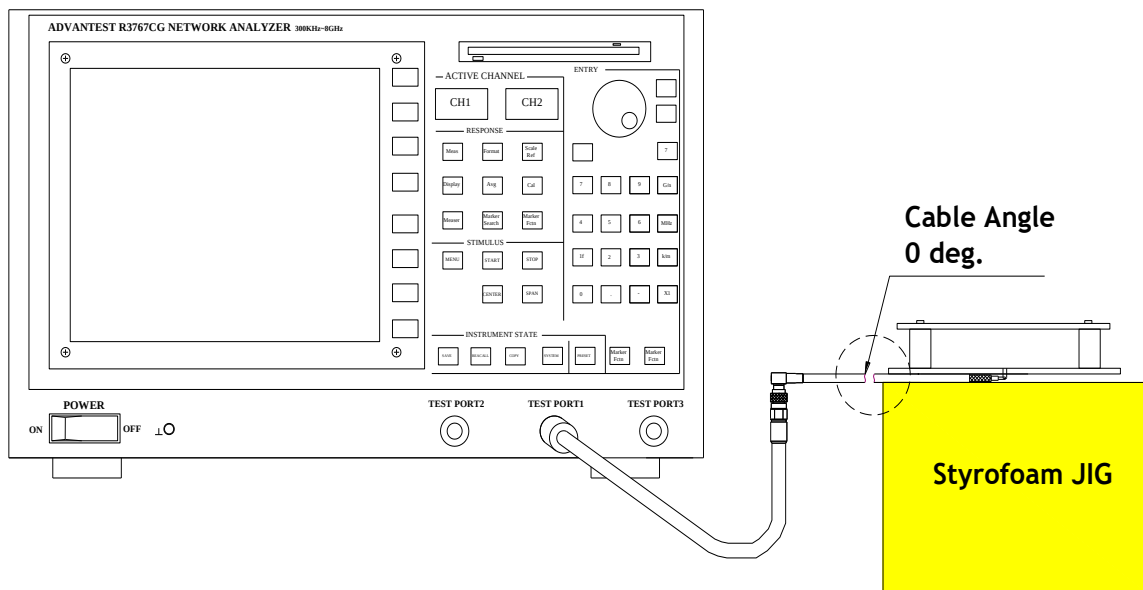
- 3-1. Substrate : Keeping a secret from outsiders
- 3-2. Metal Connector : Metal and teflon
- 3-3. Halogen Free

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5. Electrical Specifications.

NO.	Parameter	Spec.		Unit	Remark
		Cable Ass'y	Set Ass'y		
1	Center Frequency	966.0 $\pm$ 3	919.0 $\pm$ 3	MHz	
2	Peak Gain	typ.	-0.7 typ.	dBiL	@919 MHz
		typ.	1.7 typ.	dBiC	
3	Polarization	RHCP	RHCP		
4	Beam Width	typ.	110 typ.	Deg.	
5	Band Width	typ.	280 typ.	MHz	
6	VSWR	max.	2.0 : 1 max.	Ratio	
7	Impedance	50	50	Ohm	

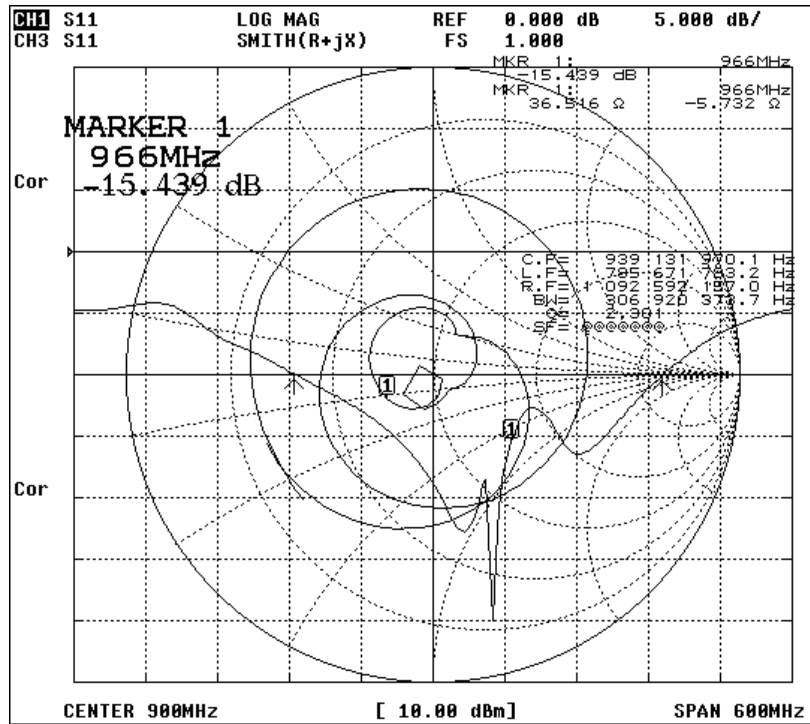
6. Test Fixture.



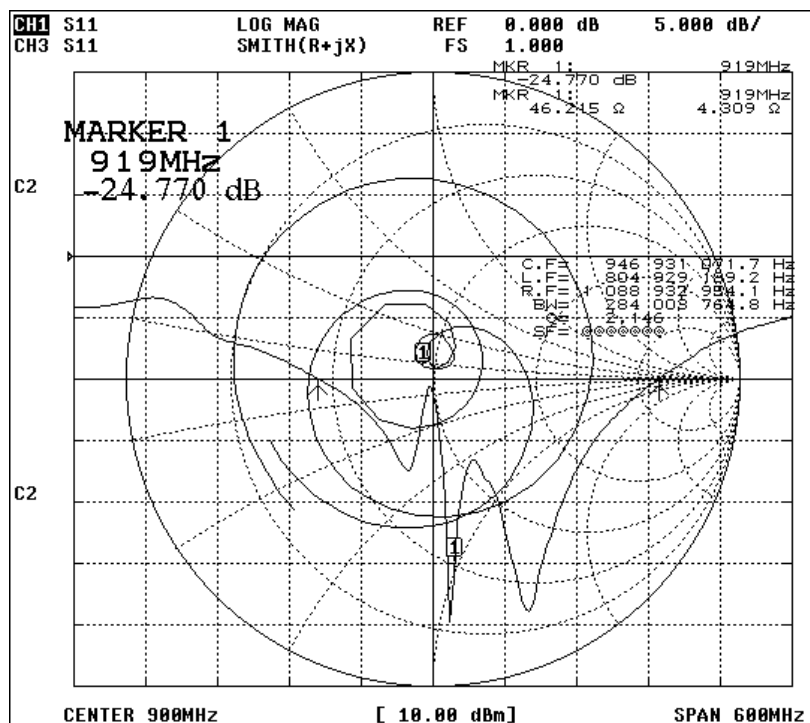
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7. S11 Measurement Data.

7-1. Cable Ass'y



7-2. Set Ass'y



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8. Environmental Specifications.

** Operation conditions : Temperature range : -30 °C ~ +85 °C

Humidity range : 45 ~ 85 % RH

The device should satisfy the electrical characteristics specified in paragraph 5 after the following tests.

Measurements should be done after putting in the typical condition (20~30 °C / 55~75 % RH) for 2 hours minimum.

8-1. Temperature Characteristics

The device should satisfy the electrical characteristics specified in paragraph 5 at the temperature range of -30 °C ~ +85 °C.

8-2. Heat Proof

The device should satisfy the electrical characteristics specified in paragraph 5 after exposed to the temperature 85 ± 2 °C for 72 hours.

8-3. Cold Proof

The device should satisfy the electrical characteristics specified in paragraph 5 after exposed to the temperature -30 ± 2 °C for 72 hours.

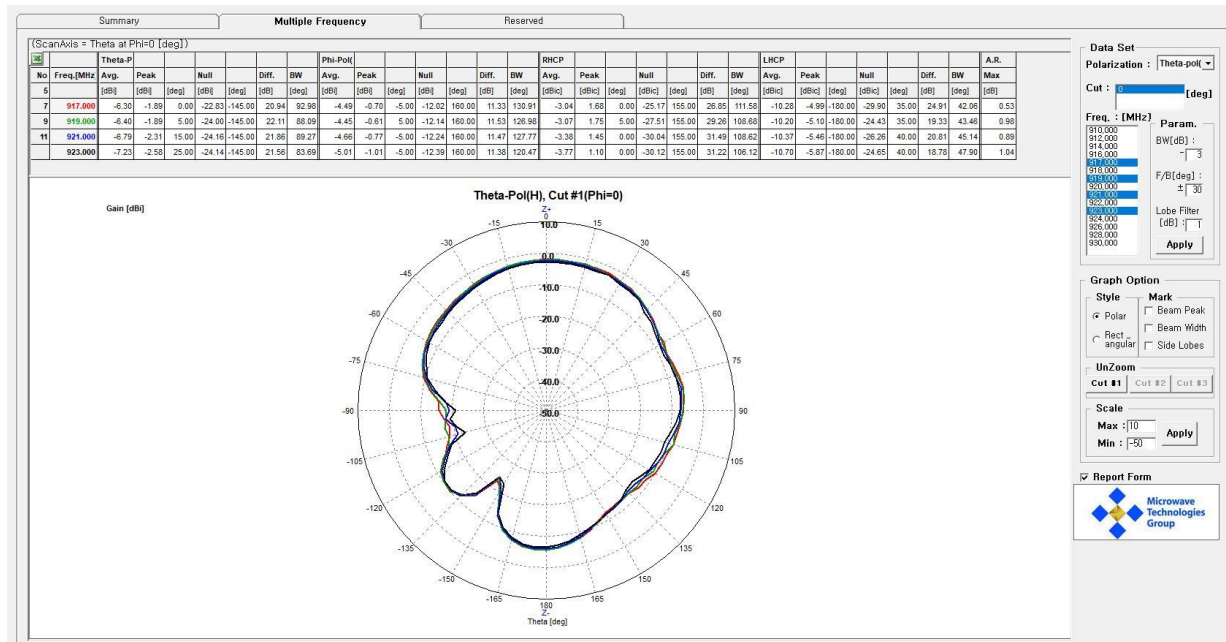
8-4. Moisture Proof

The device should satisfy the electrical characteristics specified in paragraph 5 after exposed to the temperature 40 ± 2 °C and the humidity 95 % RH for 72 hours.

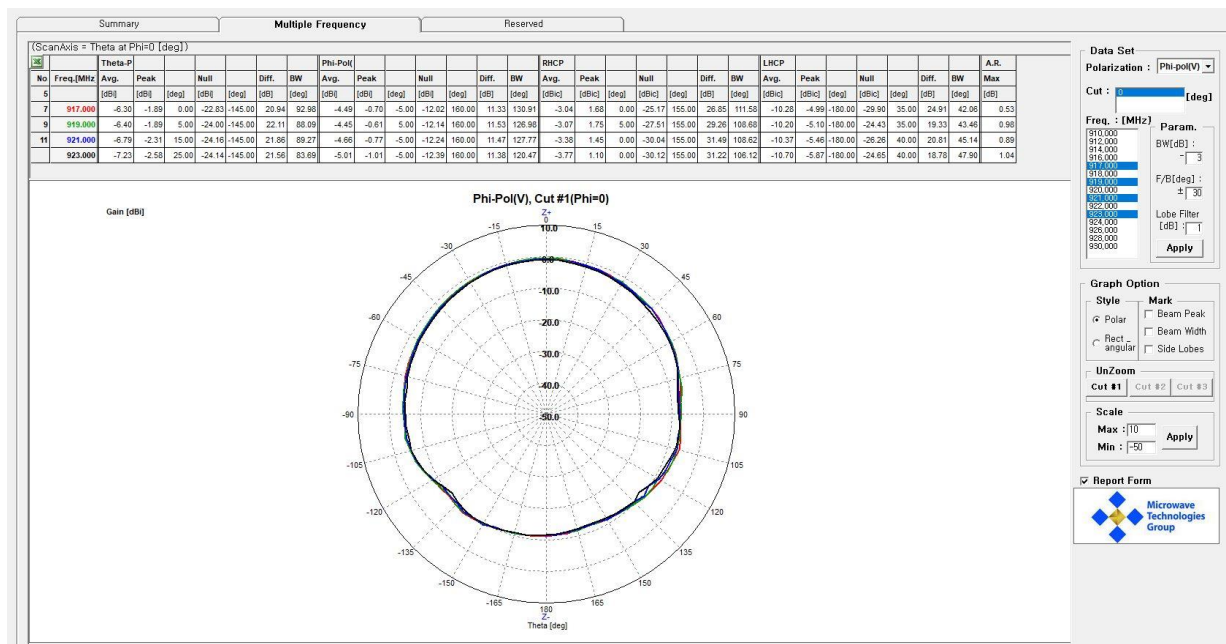
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9. Radiation Patterns after Set Ass'y

9-1. H-pol. (Frequency 917.0, 919.0, 921.0, 923.0 MHz)



9-2. V-pol. (Frequency 917.0, 919.0, 921.0, 923.0 MHz)



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9-5. List of Equipments (MAC technologies Inc.)

NO	Equipments	Maker	Model No.	S/N	Specification	Note
1	Anechoic Chamber	MTG	Mobile Chamber		4.0 m X 2.5 m X 2.5 m (0.4 ~ 3 GHz)	
2	Network Analyzer	Agilent	8753ES	US39173213	30 KHz ~ 6 GHz	
3	Dual-Polarization Horn Antenna with RF Switch	MTG	QRH-004060/ RSW-001060		0.4 GHz ~ 6 GHz	Source
4	Calibration Antenna	Schwarzbeck Mess - Elektronik	BBHA 9120 A	1201	0.8 GHz ~ 5 GHz	Reference
5	Absorber Installation	EMERSON & CUMING	SABS-003 18"		Reflectivity : -25 dB @ 0.8 GHz -30 dB @ 1.0 GHz	

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10. Remark.

- If there is any doubt in this specification and product, it should be resolved between made and manufacture.
- Don't handling by unarmed.
- No responsibility is assumed by us for any consequence resulting from any wrong or improper use or operation, etc. of the product.
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