APPROVAL SHEET

MESSRS. ㈜아이디로

ITEM : Ceramic Patch Antenna

PART NAME : MPAC34SC922SS-TA

MODEL NAME : IDROWC-100

REVISION : 0

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BUYER : ㈜아이디로	SUPPLIER : MAC technologies Inc.		
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Revision Log

This log identifies those portions of this document, which have been revised since the original issue and the date of each revision.

Rev.	Authorizing Document	Summary of Changes to Previous Version	Date	Approval

Table of Contents

1. Scope.

This specification covers the characteristics of the ceramic patch antenna element for the ISM band.

2. Part Name Information.

Part Name : **M PA C 34S C 922 SS - TA**
① ② ③ ④ ⑤ ⑥ ⑦ ⑧

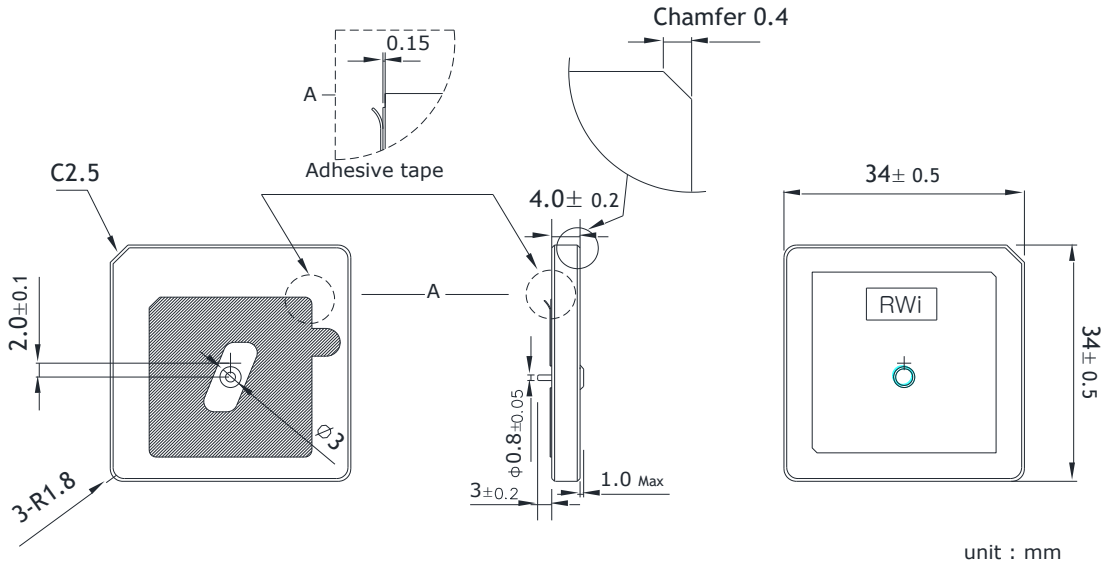
① : MAC technologies Inc.
② : Patch Antenna
③ : Hole Location - Center type (D : Diagonal type)
④ : 34 mm Square (Size)
⑤ : 4 mm Thickness (A : 2 mm, B : 3 mm, C : 4 mm, D : 5 mm ...)
⑥ : Center Frequency : 922 MHz (± 2 MHz)
⑦ : Ground Plane – SS : 78 x 78 **S**pecial Ground, **S**pecial Characteristic Graph
⑧ : Assembly – PCB

3. Composition and Materials.

3-1. Ceramic Substrate : εr = 37.0 ± 1.5
3-2. Electrode Plating : Silver
3-3. Terminal pin : Brass with Silver coating
3-4. Antenna Color : Ceramics antenna color alteration is possible

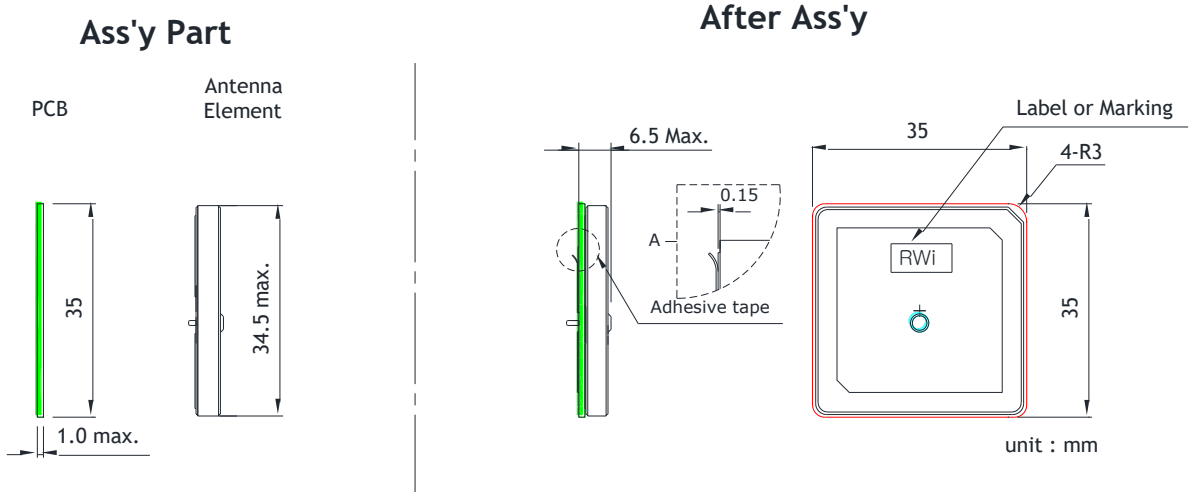
4. Mechanical Dimensions. (unit : mm)

4-1. Antenna Element (The color of ceramic substrates can be changed.)



BOTTOM VIEW SIDE VIEW TOP VIEW

4-2. PCB Ass'y

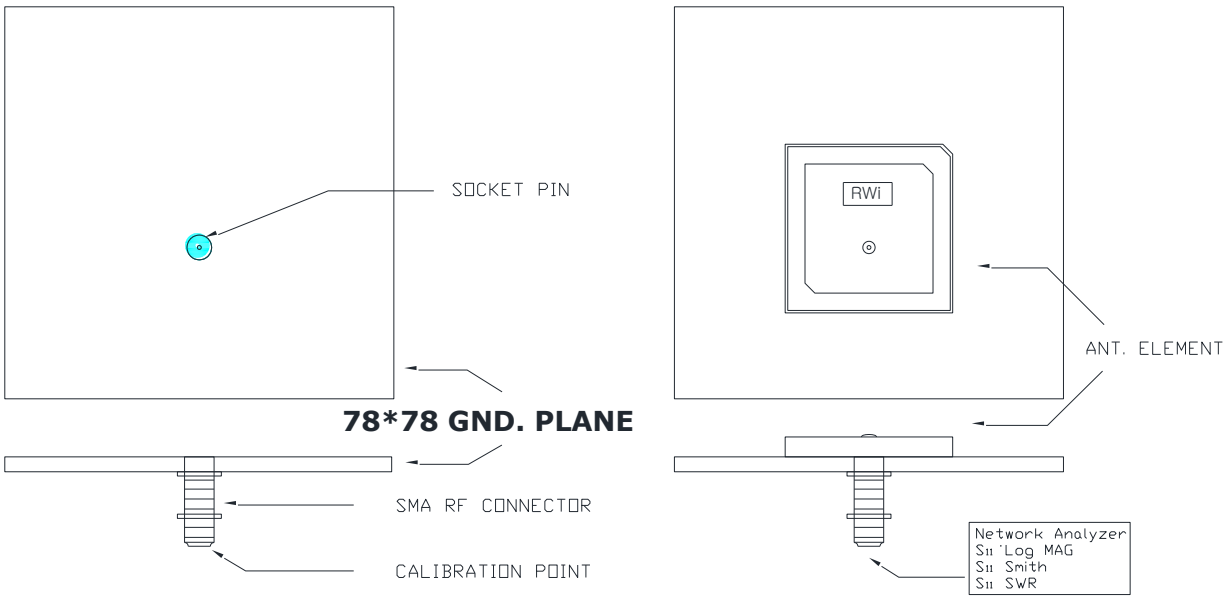


[SIDE VIEW] [SIDE VIEW] [FRONT VIEW]

5. Electrical Specifications.

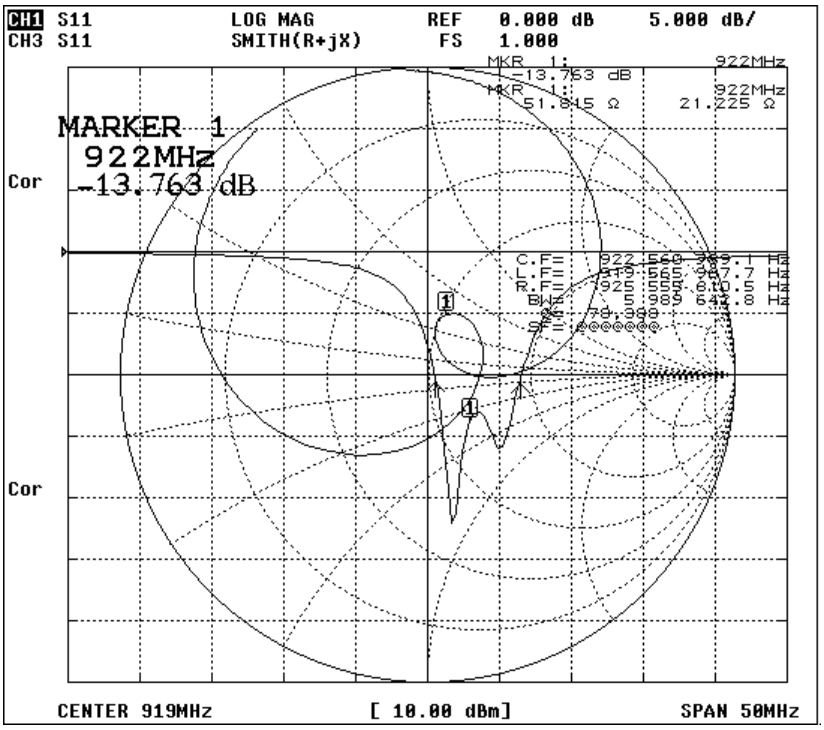
NO.	Parameter	Spec.		Unit	Remark
		Ant. Element (@ 78×78 GND Plane)	Set Ass'y		
1	Center Frequency	922.0 ± 2	919.0 ± 2	MHz	
2	Peak Gain	typ.	-2.5 typ.	dBiL	@ Set Ass,y
		typ.	0 typ.	dBiC	
3	Polarization	RHCP	RHCP		
4	Beam Width	typ.	120 typ.	Deg.	@ -3 dB B.W
5	Band Width	typ.	8 typ.	MHz	@ -5 dB R.L
6	VSWR	max.	2.0 : 1 max.	Ratio	
7	Impedance	50	50	Ohm	

6. Test Fixture.

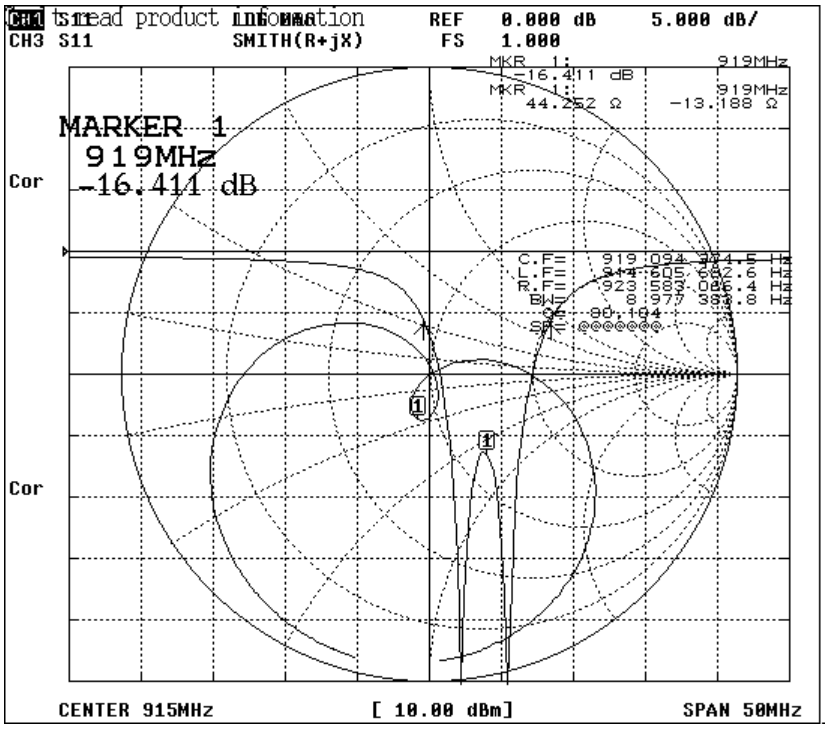


7. S11 Measurement Data.

7-1. 78x78 mm Ground Plane



7-2. Set Ass'y



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

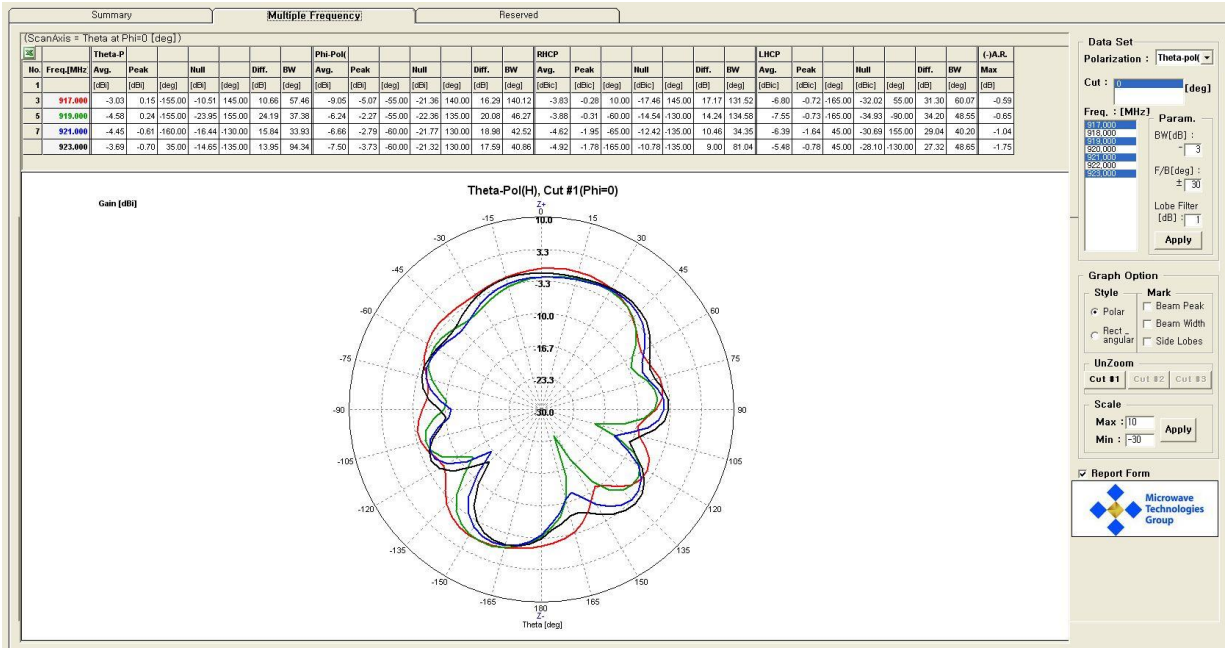
The device should satisfy the electrical characteristics specified in paragraph 5 after exposed to the temperature –30 ± 2 °C for 72 hours.

8-4. Moisture Proof

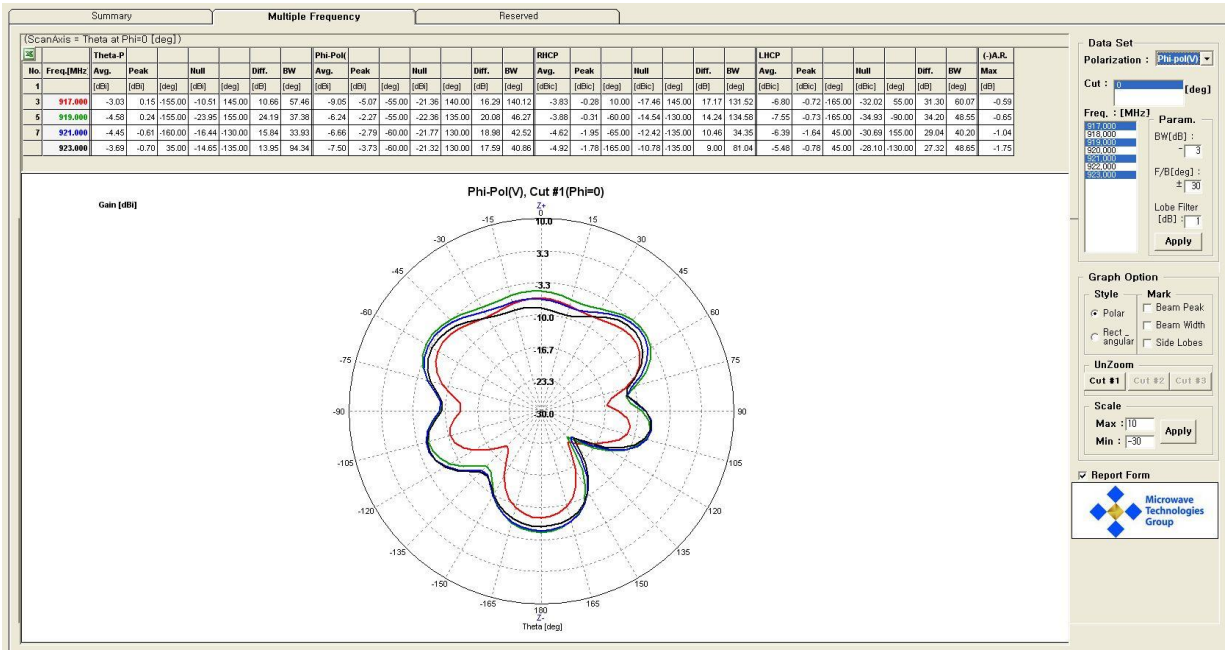
The device should satisfy the electrical characteristics specified in paragraph 5 after exposed to the temperature 40 ± 2 °C and the humidity 95 % RH for 72 hours.

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)



9-3. Gain Test Data

Source Antenna Polarization	Frequency			
	917.0 MHz	919.0 MHz	921.0 MHz	923.0 MHz
H-pol. (dBiL)	0.15	0.24	-0.61	-0.70
V-pol. (dBiL)	-5.07	-2.27	-2.79	-3.73
RHCP (dBiC)	-0.28	-0.31	-1.95	-1.78

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	

10. Remark.

- If there is any doubt in this specification and product, it should be resolved between made and manufacture.
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