

# 承認書

## APPROVAL SHEET

CUSTOMER: MAP ELECTRONICS CO., LTD

CUSTOMER MODEL NO.: MEGWX-2102SABX-920

DESCRIPTION Waterproof Replacement Antenna

REV.: 01

DATE 2019/8/29

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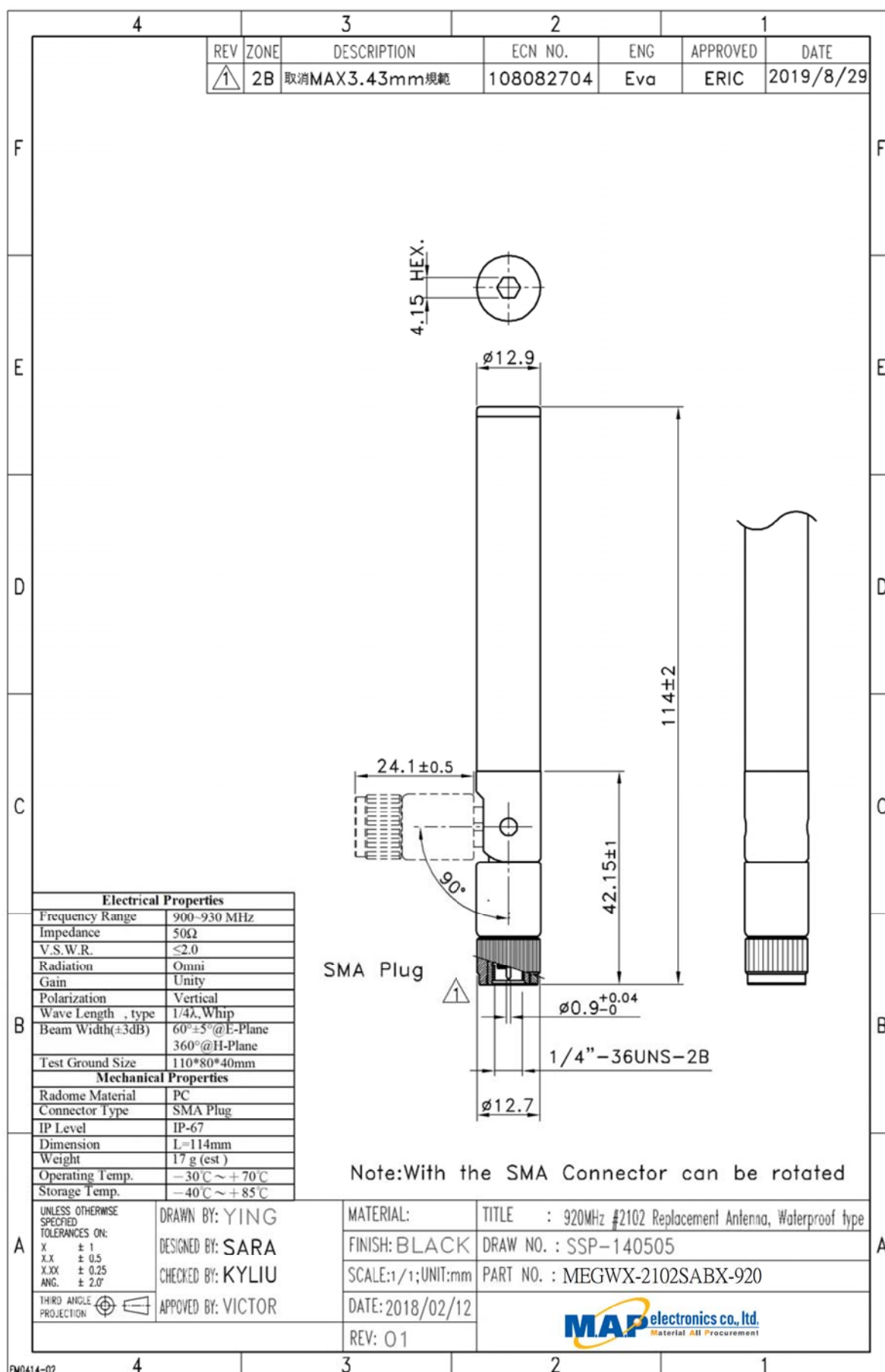
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## Modification History:

| Rev. | Date      | Content         |
|------|-----------|-----------------|
| 00   | 2017/1/24 |                 |
| 01   | 2017/1/25 | 圖面取消MAX3.43mm規範 |

# 1. Specification

## 1.1 Drawing



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## 1. Specification

### 1.1 Drawing

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| Electrical Properties |                                |
|-----------------------|--------------------------------|
| Frequency Range       | 900~930 MHz                    |
| Impedance             | 50Ω                            |
| V.S.W.R.              | ≤2.0                           |
| Radiation             | Omni                           |
| Gain                  | Unity                          |
| Polarization          | Vertical                       |
| Wave Length , type    | 1/4λ, Whip                     |
| Beam Width(±3dB)      | 60°±5°@E-Plane<br>360°@H-Plane |
| Test Ground Size      | 110*80*40mm                    |
| Mechanical Properties |                                |
| Radome Material       | PC                             |
| Connector Type        | SMA Plug                       |
| IP Level              | IP-67                          |
| Dimension             | L=114mm                        |
| Weight                | 17 g (est )                    |
| Operating Temp.       | −30°C ~ +70°C                  |
| Storage Temp.         | −40°C ~ +85°C                  |

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**Connector****SMA**

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|                       |                                    |                                                                             |
|-----------------------|------------------------------------|-----------------------------------------------------------------------------|
| Specification<br>Data | 1) Impedance                       | 50 ohm                                                                      |
|                       | 2) Frequency Range                 | 0~6GHz                                                                      |
|                       | 3) Working Voltage                 | $\leq 250$ Vrms                                                             |
|                       | 4) Dielectric Withstanding         | $\leq 670$ Vrms                                                             |
|                       | 5) Voltage Insulation Resistance   | $\geq 2000$ Mega ohm                                                        |
|                       | 6) Contact Resistance              | Center contact: 3.0 Milliohms (Max.)<br>Outer contact: 2.0 Milliohms (Max.) |
|                       | 7) Recommended coupling nut torque | 4.0~8.8 in. lbs (0.45~0.99Nm)                                               |
|                       | 8) Coupling nut retention force    | $\geq 50$ lbs (222N)                                                        |
|                       | 9) Contact captivation force       | $\geq 5$ lbs (22.2N)                                                        |
|                       | 10) Durability (mating)            | $\geq 500$ cycles                                                           |

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|                       |                          |                                                 |
|-----------------------|--------------------------|-------------------------------------------------|
| Environmental<br>Data | 1) Operating Temperature | $-65^{\circ}\text{C} \sim +165^{\circ}\text{C}$ |
|                       | 2) Thermal Shock         | MIL-STD-202, Method 107, Condition B            |
|                       | 3) Corrosion             | MIL-STD-202, Method 101, Condition B            |
|                       | 4) Shock                 | MIL-STD-202, Method 213, Condition I            |
|                       | 5) Vibration             | MIL-STD-202, Method 204, Condition D            |
|                       | 6) Moisture Resistance   | MIL-STD-202, Method 106                         |

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|                            |               |                  |
|----------------------------|---------------|------------------|
| Material<br>Specifications | Material Data | Material         |
|                            | 1) Body       | Brass            |
|                            | 2) Contact    | Brass            |
|                            | 3) Insulator  | Teflon or Delrin |

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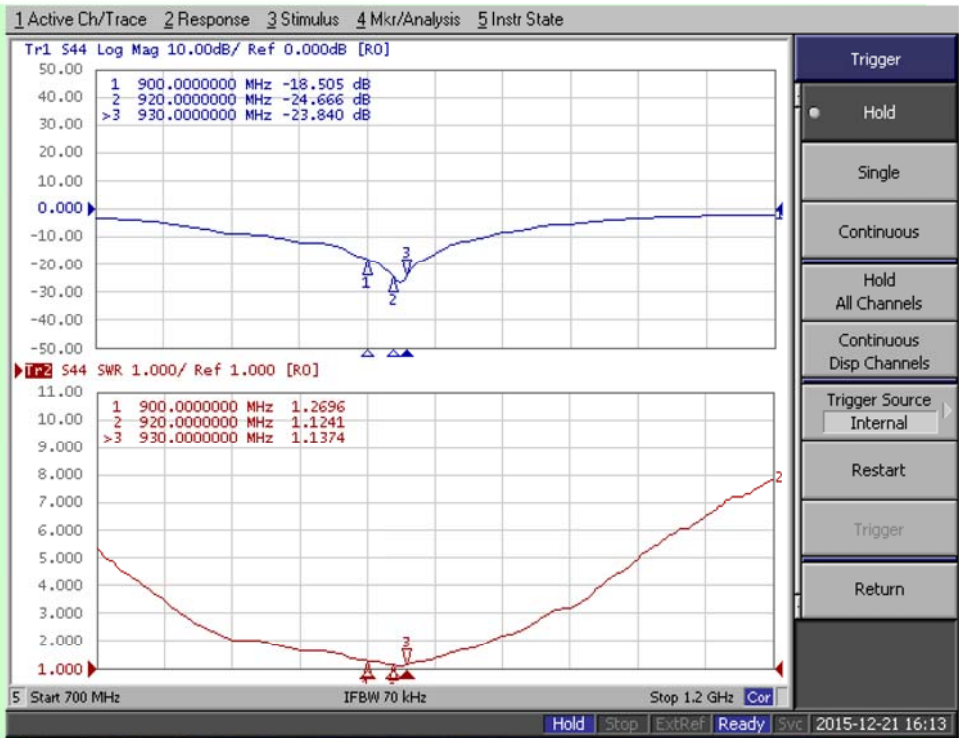
2. Test Report

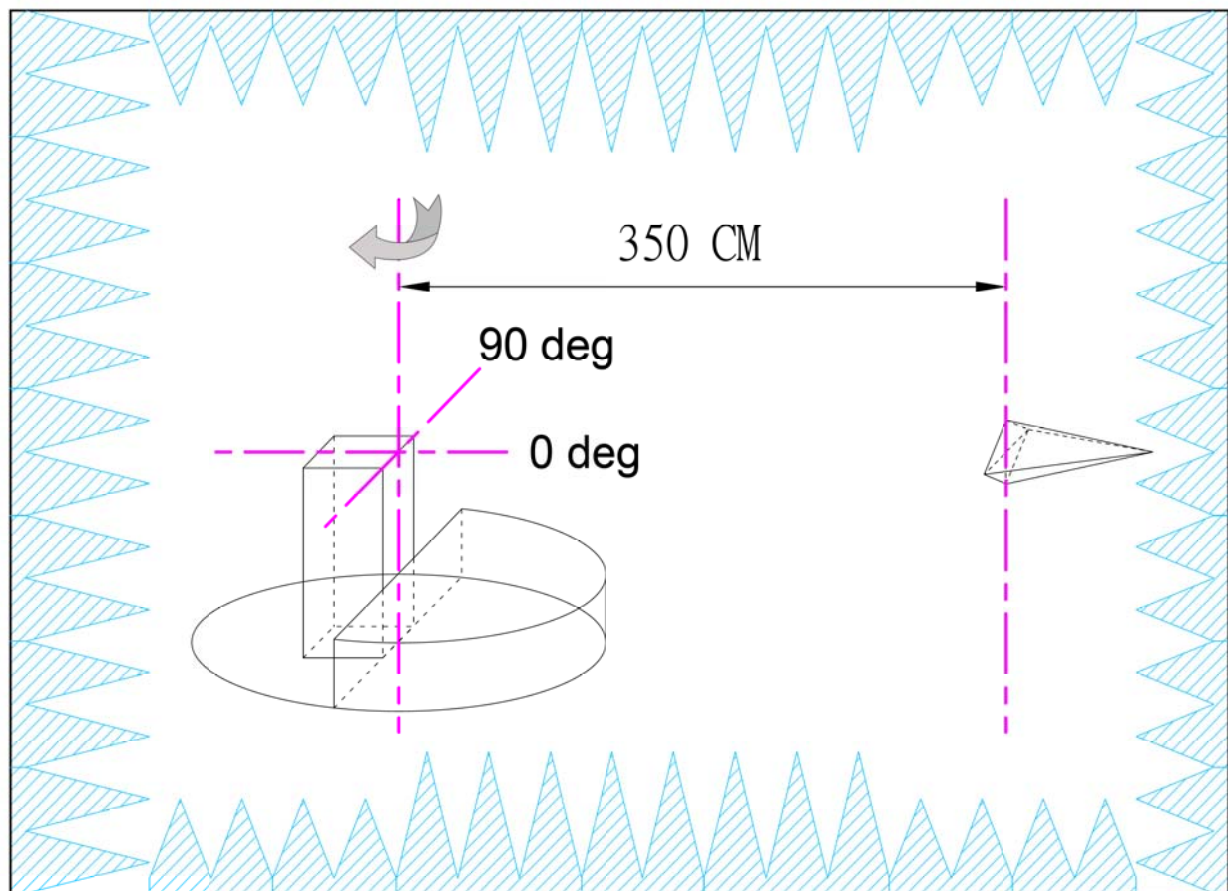
2.1 Electrical test

Return loss/V.S.W.R

Return loss

V.S.W.R.





### Test Equipment

Anechoic chamber: 100MHz~6GHz 8\*6\*6m (※ 1m Quiet zone at 800MHz)

Source Antenna: ETS-3164 Dual Polarized Horn

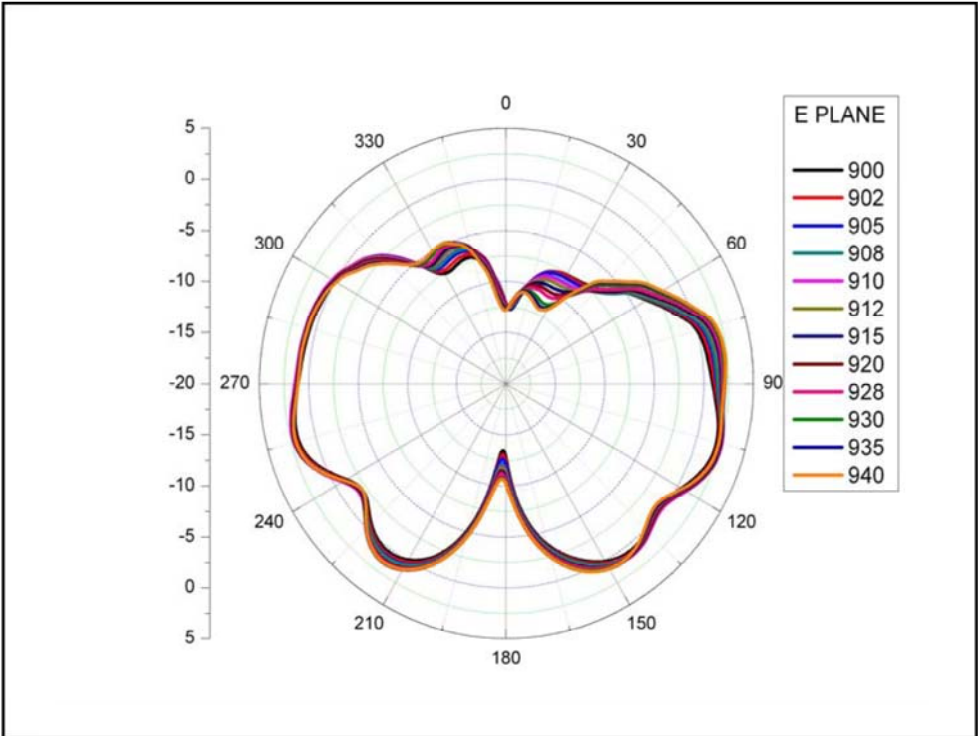
Network Analyzer: Agilent E5071B 100kHz~8.5GHz

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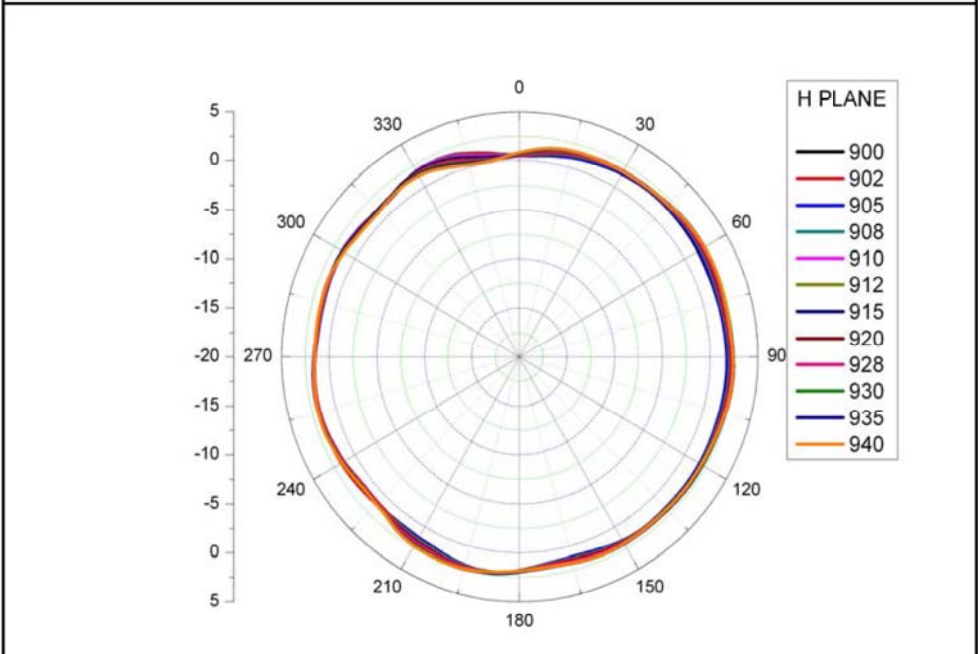
Test Setup

Pattern Test

E-plane



H-plane



| Freq | 900  | 902  | 905  | 908  | 910  | 912  | 915  | 920  | 928  | 930  | 935  | 940  |
|------|------|------|------|------|------|------|------|------|------|------|------|------|
| E    | 1.02 | 1.13 | 1.24 | 1.25 | 1.63 | 1.89 | 1.74 | 2.03 | 2.01 | 2    | 1.88 | 1.95 |
| H    | 0.9  | 0.86 | 0.98 | 0.85 | 0.81 | 0.78 | 1.12 | 1.65 | 1.55 | 1.47 | 0.98 | 1.45 |