

Antenna Cable

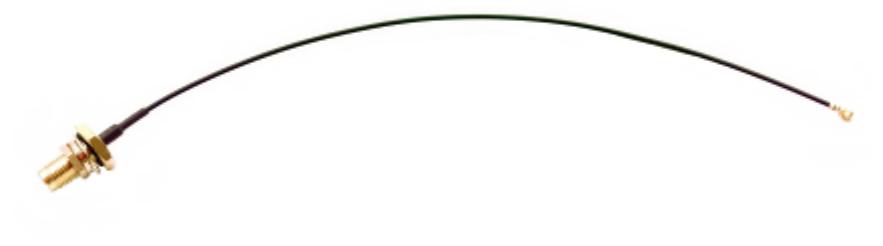
YSAN025xx Datasheet

Antenna Services

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About the Document

Revision History

| Version | Date | Author | Note |
|---------|------------|---------|--------------------------|
| - | 2022-07-18 | Sly LIU | Creation of the document |
| 1.0 | 2022-07-18 | Sly LIU | First official release |

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1 Product Description

To meet the requirements of devices for RF connection among antennas, modules, and motherboards, as well as long-distance wiring, Quectel provides customers with a wide range of RF cable products. These cables use high-quality materials and connectors to reduce the loss to the greatest extent, ensuring overall RF performance. Quectel also provides customized services according to customers' particular requirements for cable material, cable length, and connector type.

This datasheet is applicable for the following five cable assembly products (O-ring can effectively strengthen the waterproof performance of RF connector.):

- YSAN025AA (with O-ring)
- YSAN025BA (with O-ring)
- YSAN025CA (with O-ring)
- YSAN025DA (with O-ring)
- YSAN025EA (with O-ring)

2 Product Features

- Low loss
- Water Resistant



3 Product Specifications

3.1. Cable Construction

| Item | Material | Diameter (mm) |
|-----------|---------------------------|---------------|
| Conductor | Silver plated copper wire | 0.24 |
| Insulator | FEP | 0.7 |
| Shield | Tinned copper wire | 0.92 |
| Jacket | FEP | 1.13 |

3.2. Electrical Properties and Mechanical Properties

| Item | Value |
|-------------------------|---|
| Impedance | 50 ±2 Ω |
| Operating Frequency | DC: 6000 MHz |
| Connectors Type | SMA Female to IPEX I |
| Operation temperature | -20 °C to +85 °C |
| Return Loss | ≥ 20 dB |
| Screening Effectiveness | 500 MHz – 1 GHz: ≥ -50 dB 1–3 GHz: ≥ -60 dB; 3–6 GHz: ≥ -65 dB |

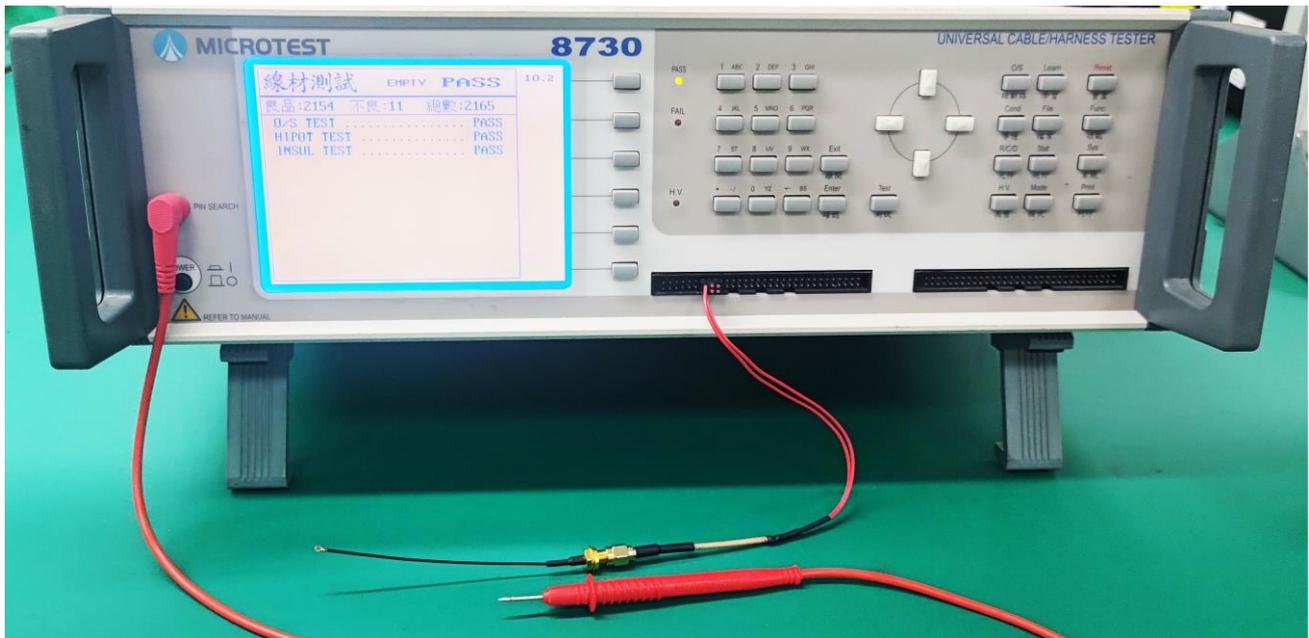
| Frequency | Insertion Loss (dB) | | | | |
|-----------|---------------------|-----------|-----------|-----------|-----------|
| | YSAN025AA | YSAN025BA | YSAN025CA | YSAN025DA | YSAN025EA |
| 698 MHz | -0.28 | -0.36 | -0.43 | -0.52 | -0.58 |
| 960 MHz | -0.33 | -0.41 | -0.51 | -0.61 | -0.70 |
| 1710MHz | -0.47 | -0.58 | -0.70 | -0.84 | -0.98 |
| 2690MHz | -0.64 | -0.78 | -0.92 | -1.16 | -1.32 |
| 3300 MHz | -0.68 | -0.96 | -1.11 | -1.32 | -1.54 |

| | | | | | |
|----------|-------|-------|-------|-------|-------|
| 3800 MHz | -0.83 | -1.02 | -1.24 | -1.43 | -1.64 |
| 4400 MHz | -0.96 | -1.27 | -1.49 | -1.78 | -1.97 |
| 5000 MHz | -1.06 | -1.42 | -1.73 | -1.90 | -2.24 |
| 5800 MHz | -1.42 | -1.79 | -1.92 | -2.28 | -2.59 |

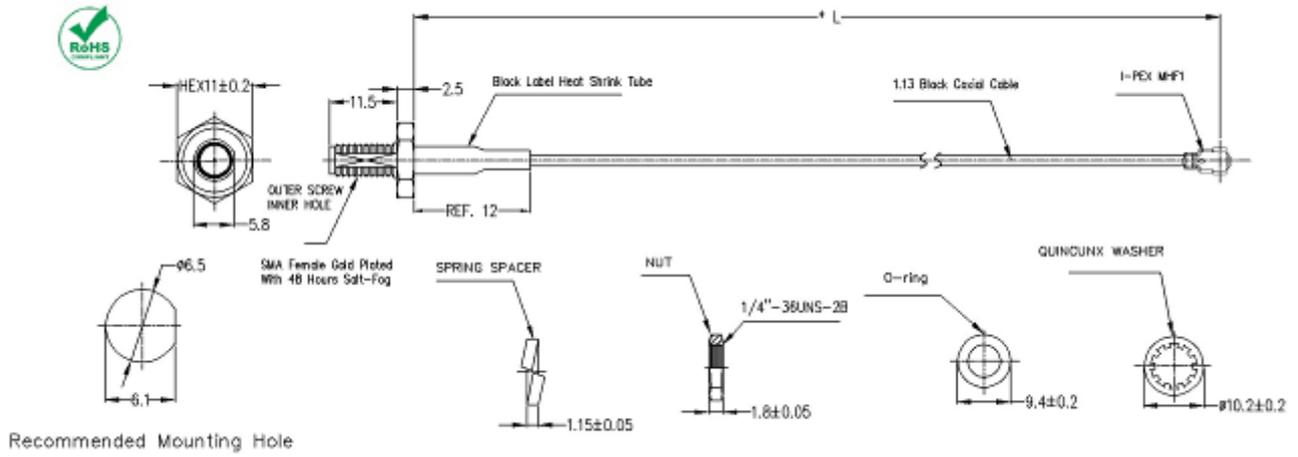
4 Overall Performance

4.1. Test Environment

- Cable/Harness Tester: WB-500, 100 kHz – 6.0 GHz



5 Product Size



| OC | * Length (mm) | Weight(g) |
|-----------|---------------|-----------|
| YSAN025AA | 100 ±2 mm | 4.65 |
| YSAN025BA | 150 ±3 mm | 4.78 |
| YSAN025CA | 200 ±3 mm | 4.97 |
| YSAN025DA | 250 ±5 mm | 5.15 |
| YSAN025EA | 300 ±6 mm | 5.28 |