



Coverage.
Performance.
Smart.

Profile Series N08CBAUB

Airgain Embedded Antenna Engineering Data Sheet

3611 Valley Centre Drive, Suite 150
San Diego, CA 92130 USA
Tel: +1 760 579 0200
Fax: +1 760 579 0892
Information: info@airgain.com
Sales: sales@airgain.com
Support: support@airgain.com

Revision History (Required)

Revision	Date	Note
5012C-02-00-001-1 Rev1.0	March 12, 2024	Preliminary Datasheet 1.0
5012C-02-00-001-1 Rev1.1	June 27, 2024	Released datasheet

Disclaimers

The information in this document is provided in connection with Airgain Antenna products. It is Airgain proprietary and is protected by international intellectual property laws. Airgain may make changes at any time, without notice.

Please verify with Airgain before finalizing a product design.

Contents

1. Airgain N08CBAUB Embedded Antenna.....	4
2. Features.....	4
3. Specifications and Interface.....	5
4. Radiation Patterns.....	5
5. Dimensions	8
6. ROHS& REACH/SVHC247	8
7. Feature and Options Information.....	8
7.1 Part Number Conventions	8
7.2 Part Number Example	9
8. Cable Data Sheet	10

Figures

Figure 1 Model N08CBAUB Embedded Antenna.....	4
Figure 2 Model N08CBAUB Measurement axes	5
Figure 3 N08CBAUB Azimuth pattern at 2.44 GHz	6
Figure 4 N08CBAUB Elevation pattern at 6.5 GHz	7
Figure 5 N08CBAUB Antenna dimensions.....	8
Figure 6 N08CBAUB with connector or stripped cable.....	9

1. Airgain N08CBAUB Embedded Antenna

The Model N08CBAUB Embedded Antenna provides a high efficiency, band embedded antenna solution for Wi-Fi and ISM band applications, such as WLAN products. As embedded antenna solutions become the focus of next generation wireless product design, the Model N08CBAUB provides the flexibility of an embedded antenna with top performance. The Model N08CBAUB Embedded Antenna is a shorter, center fed version of its predecessor, the N08CBAUB, allowing it to fit in shorter spaces where center feeding is better suited.. It is designed to accommodate most WLAN access point applications, such as routers and gateways can be easily integrated into an ID package design.

2. Features

The Model N08CBAUB Embedded Antenna is defined by the following features:

- IEEE 802.11 a/b/g/n/ac standards
- Case mount
- High efficiency
- Quick integration

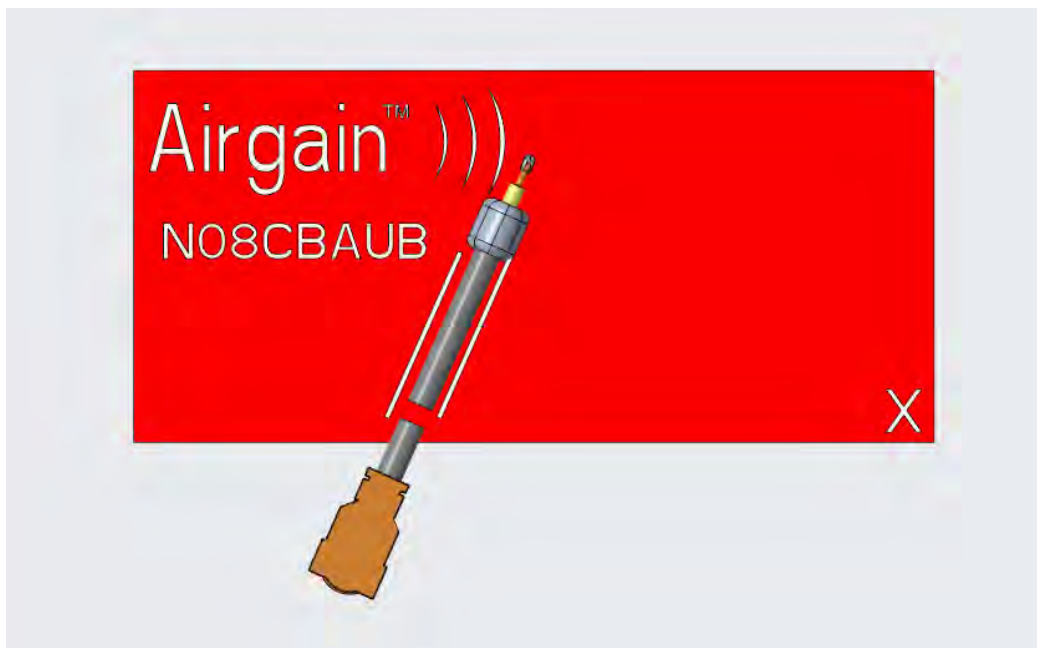


Figure 1 Model N08CBAUB Embedded Antenna

3. Specifications and Interface

Standard	IEEE 802.11 a/b/g/n/ac
Frequency range	2400-2490 MHz, 5925-7125MHz
Peak gain	2.7 dBi@2440 MHz, 2.8 dBi@5925 MHz; 2.5 dBi@6300 MHz; 2.2 dBi@6500 MHz; 2.6 dBi@6800 MHz; 4.0 dBi@7125 MHz;
VSWR	< 2:1
Feed impedance	50 ohms
Power handling	30 dBm
Interface	50 ohms, 1.13 mm diameter, micro coax cable (available with optional U.FL-compatible cable connector and/or cable-mounted EMI ferrites)
Antenna dimensions	33.55 x 15.55 x 0.5 mm
Weight	0.89 g
Temperature range	Operating: -40° C to +75° C (-40° F to +167° F) Storage: -40° C to +85° C (-40° F to +185° F)
Humidity range	0% to 95% non-condensing

4. Radiation Patterns

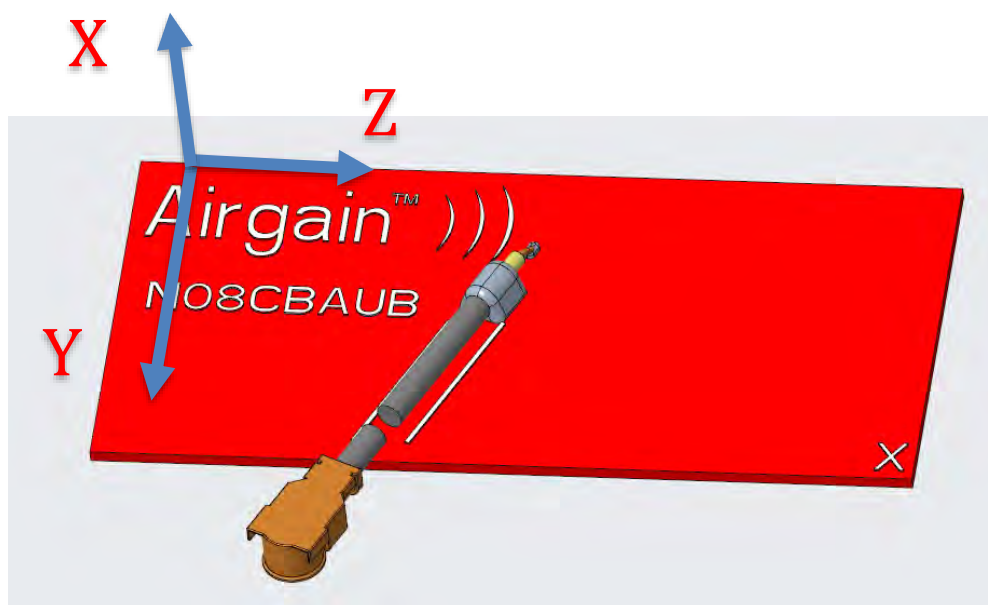


Figure 2 Model N08CBAUB Measurement axes

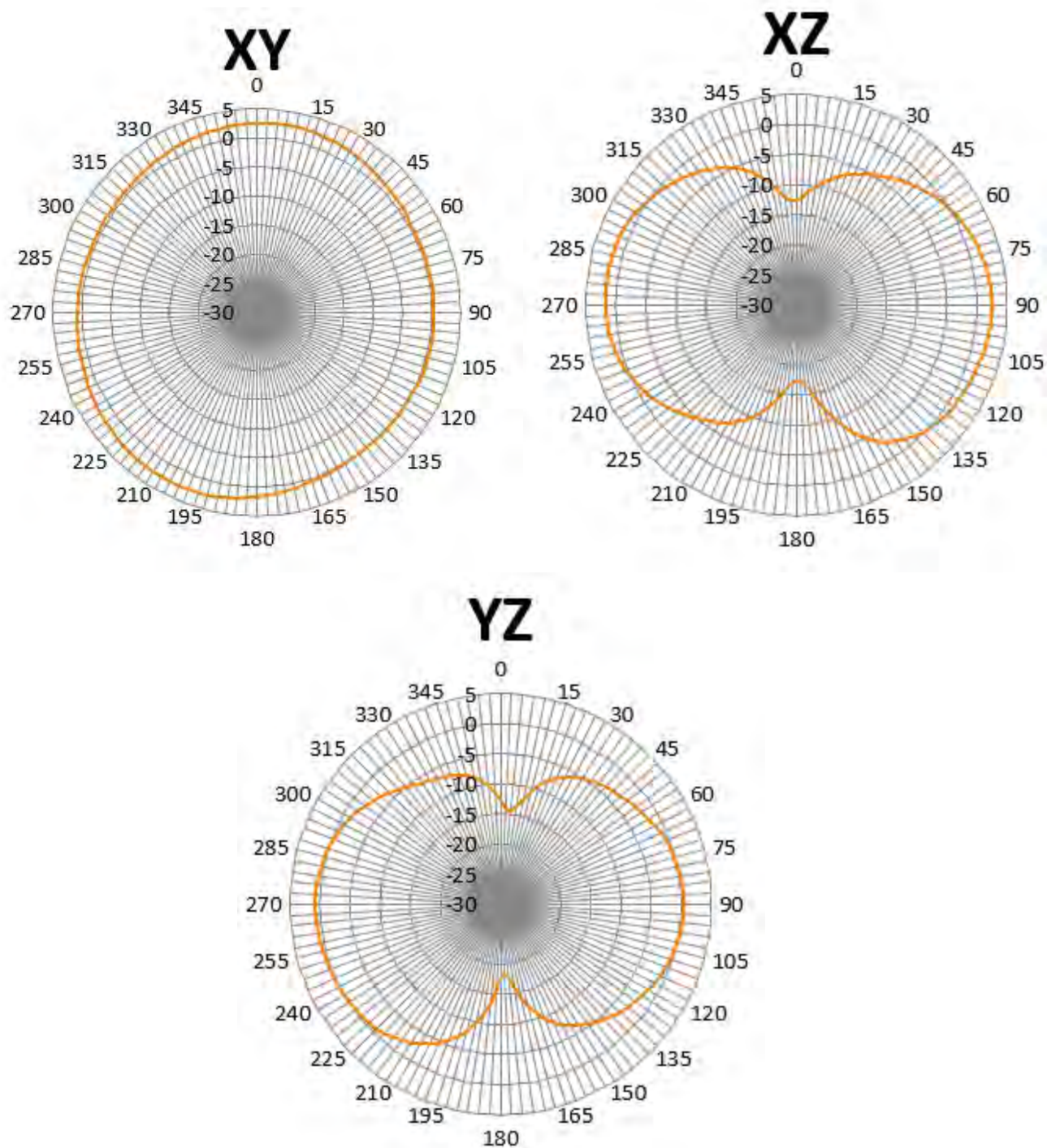


Figure 3 N08CBAUB Azimuth pattern at 2.44 GHz

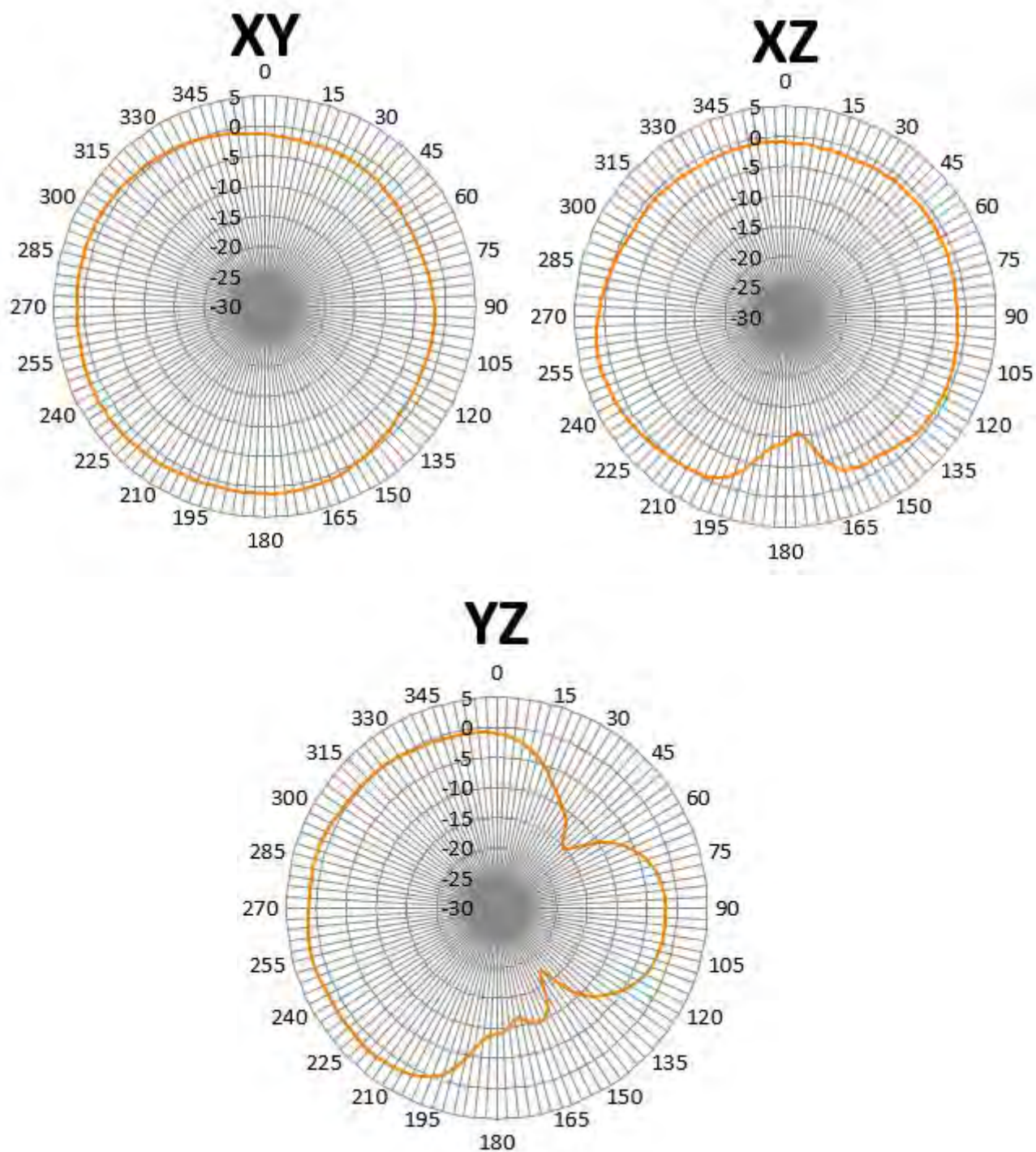


Figure 4 N08CBAUB Elevation pattern at 6.5 GHz

5. Dimensions

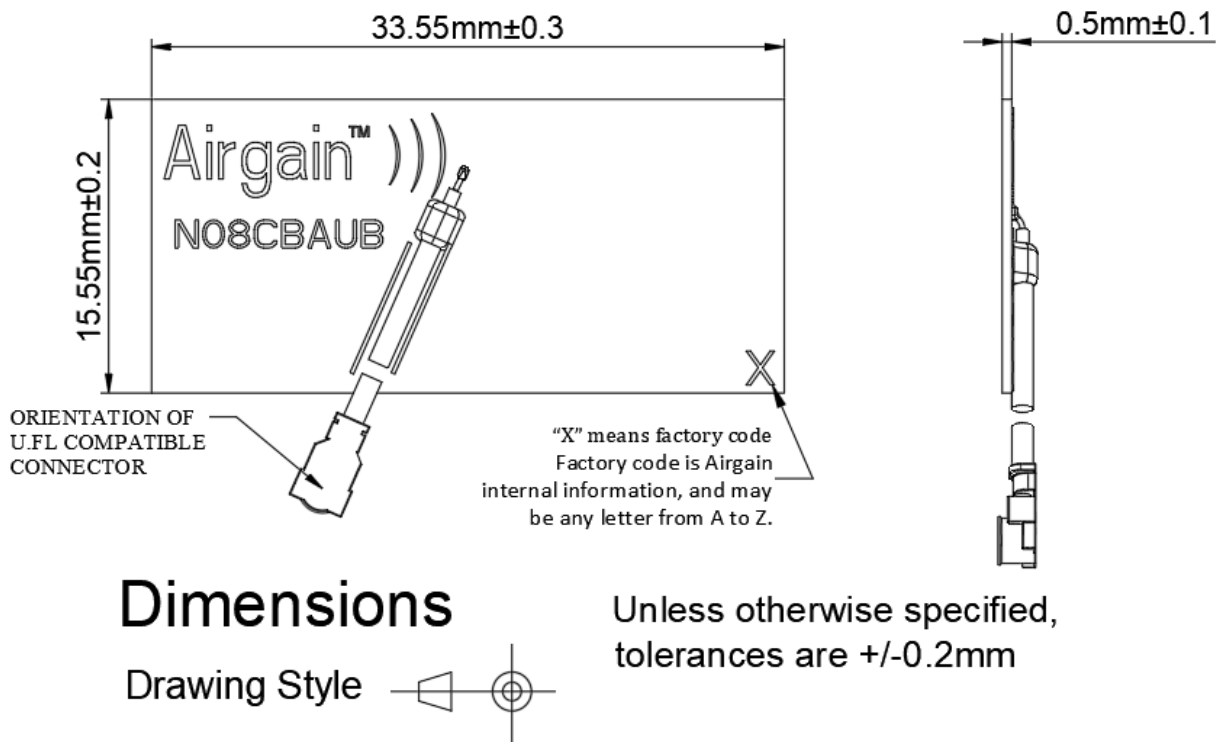


Figure 5 N08CBAUB Antenna dimensions

6. ROHS& REACH/SVHC247

Airgain N06CBAUA embedded antennas are ROHS& REACH/SVHC247 compliant.

7. Feature and Options Information

Airgain N08CBAUB antennas are equipped with an RF cable I/O interface. Optional cable termination such as U.FL-compatible micro coax connectors and cable mounted EMI ferrite cores are available. To aid mounting the N08CBAUB, pre-applied, double-sided adhesive tape is available on the N08CBAUB -T Series.

7.1 Part Number Conventions

Airgain uses a six-staged standard number system for our part numbers, which serially define the antenna type, tape type, cable type/length, and connector type/interface, as described below:

Antenna #	Tape type -XX (if required)	Packaging type -xx	Cable Assembly Type -xxxxxx		
			Cable Color -x	Cable length XXX	Connector type XX (if required)
N08CBAUB	Blank = No tape T = Tape on bottom of element	PK1= singulated (individual) antennas (PK1 is mandatory)	G = Grey (Standard) B = Black (Non Standard) W = White (Non Standard) A = Blue(Non Standard) L* = 1.13mmOD, Low loss Cable	Cable length in millimeters (mm) Sample Lengths*: 65, 100, 130, 150, 190, 230, 250, 300,400	Blank = Stripped Cable U = U.FL connector C = U.FL connector plus Ferrite Core, core size: 3.5mm * 9.0mm * 1.5mm UR1 = U.FL compatible connector, rotated 90° UR2 = U.FL compatible connector, rotated 180° UR3 = U.FL compatible connector, rotated 270°

* Standard cable lengths listed in RF Cable Datasheet

7.2 Part Number Example

N08CBAUB-T-G100U – N08CBAUB antenna with 1.6-mm double-sided adhesive tape, 100-mm cable, and U.FL-compatible connector.

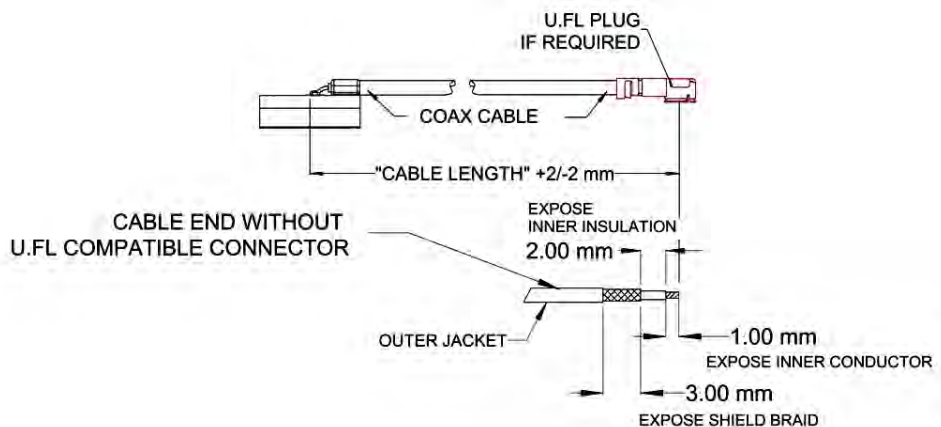


Figure 6 N08CBAUB with connector or stripped cable

8. Cable Data Sheet

Item	Specification	
Cable type	RF-1.13L/50	
Impedance	50 ± 2 ohms	
Inner conductor	Material	Silverplated copper wire
	Conductor numbers	7
	Conductor size	0.083 mm
	Outer diameter	0.249±0.02 mm
Insulation	Material	FEP
	Color	Clarity
	Diameter	0.735±0.03 mm
Outer conductor	Material	Cu-plastic composite tape
	Makeup: thickness × width	0.012×2.5 mm
	Coverage	100%
	NOM.O.D.	0.759±0.03 mm
Outer conductor	Material	Tinned copper wire
	Makeup:total / O.D. of every wire	4/0.05 mm
	Coverage	90±5%
	NOM.O.D.	0.96±0.05 mm
Outer cover	Material	FEP
	Color	Black / white / grey / blue
	Diameter	1.15±0.05 mm
VSWR testing	< 1.3@0~6GHz	
Attenuation (dB/1meter)	1GHz	≤1.88
	2GHz	≤2.55
	3GHz	≤3.05
	4GHz	≤3.52
	5GHz	≤4.05
	6GHz	≤4.4
Operating temperature	-55~+200℃	