

2JE06a

169 MHz ISM-ERMES Surface Mount

Key Features

169 MHz ISM-ERMES

- 169.4-169.9 MHz

Surface Mount

Easy to Integrate

Compact Size

Fiberglass Material

Ground Plane Dependent

Dimensions 40 x 7 x 2.4 mm



1. Antenna and electrical specifications

Parameters	169 MHz ISM Antenna
Standards	ERMES, ISM, VHF
Band (MHz)	169
Frequency (MHz)	169.4-169.9
Return Loss (dB)	~-20.0
VSWR	~1.2:1
Peak Gain (dBi)	~-6.0
Impedance (Ohm)	50
Polarisation	Linear
Radiation Pattern	Omni-Directional
Max. Input Power (W)	10

Antenna Measurement Conditions:

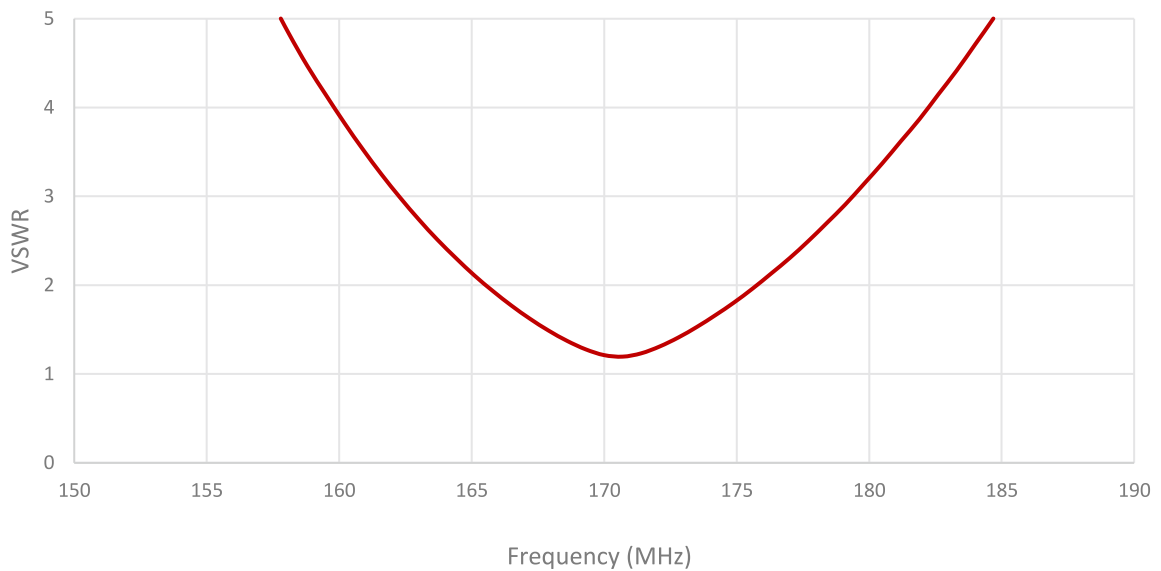
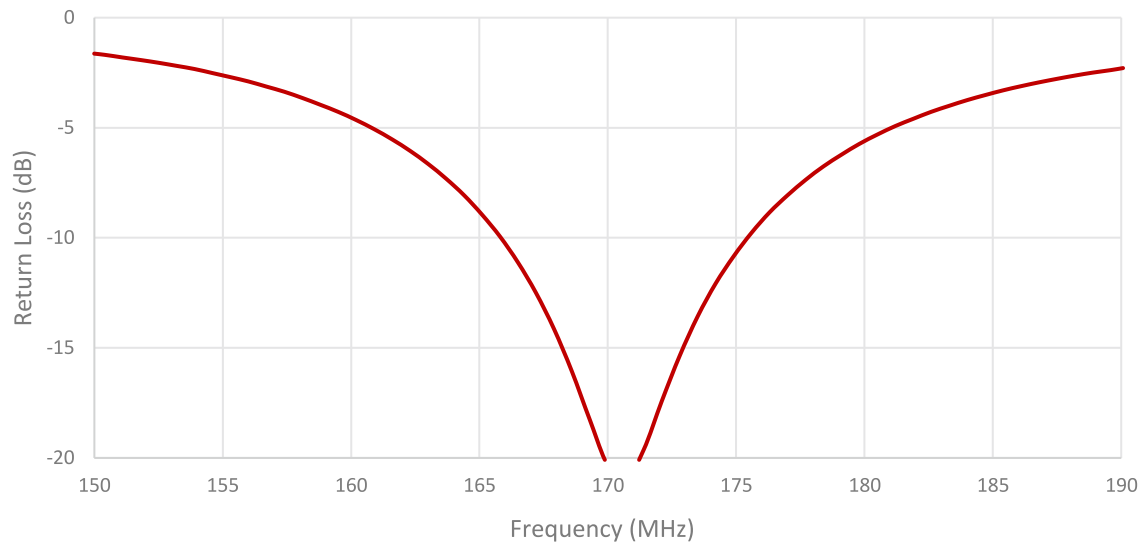
Mounted on ground plane of 50 x 90 mm

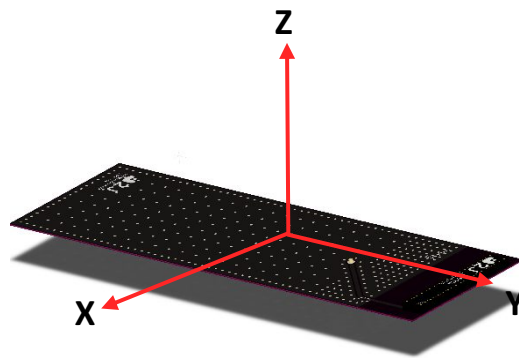
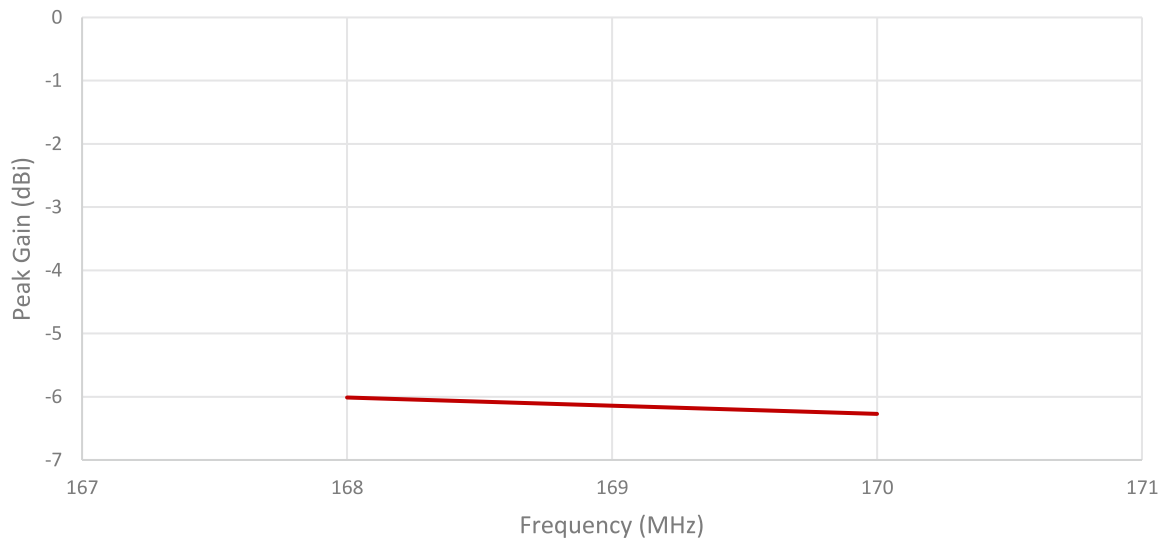
Measured in Certified CTIA 3D Anechoic Chamber

2. Mechanical and environmental specifications

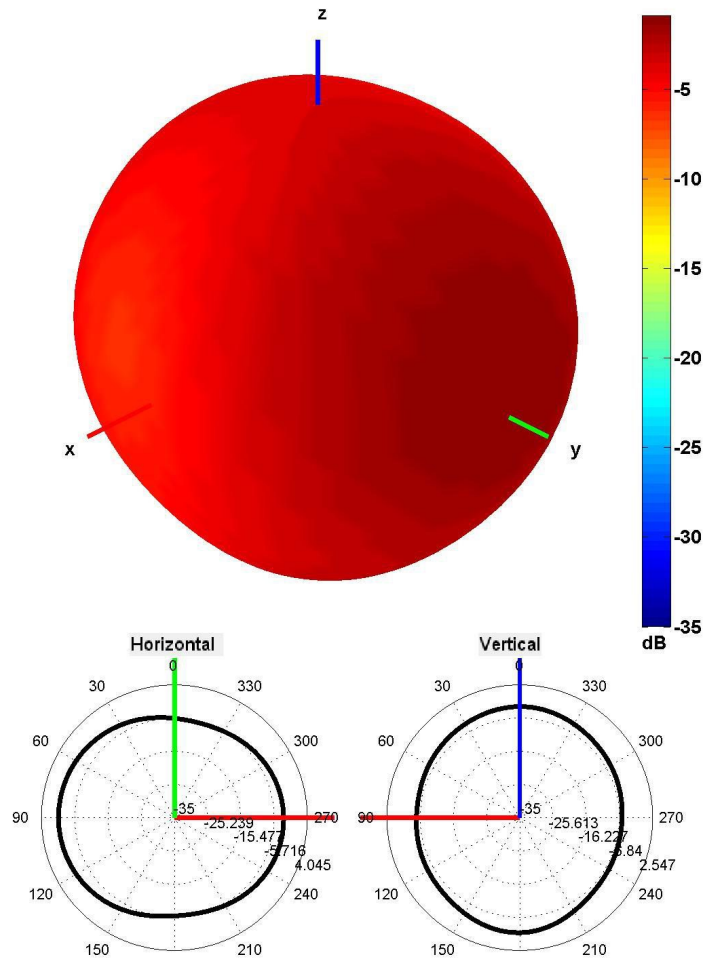
Specifications	2JE06a
Mounting Type	Surface Mount
Dimensions (mm)	40 x 7 x 2.4
Material	Fiberglass
Operating Temperature (C)	-40 to +105
Storage Temperature (C)	-40 to +85
Substance Compliance	RoHS
Typical Shear Force Test	34.5 Kgf according to IEC62137-1-2:2007

3. Antenna parameters



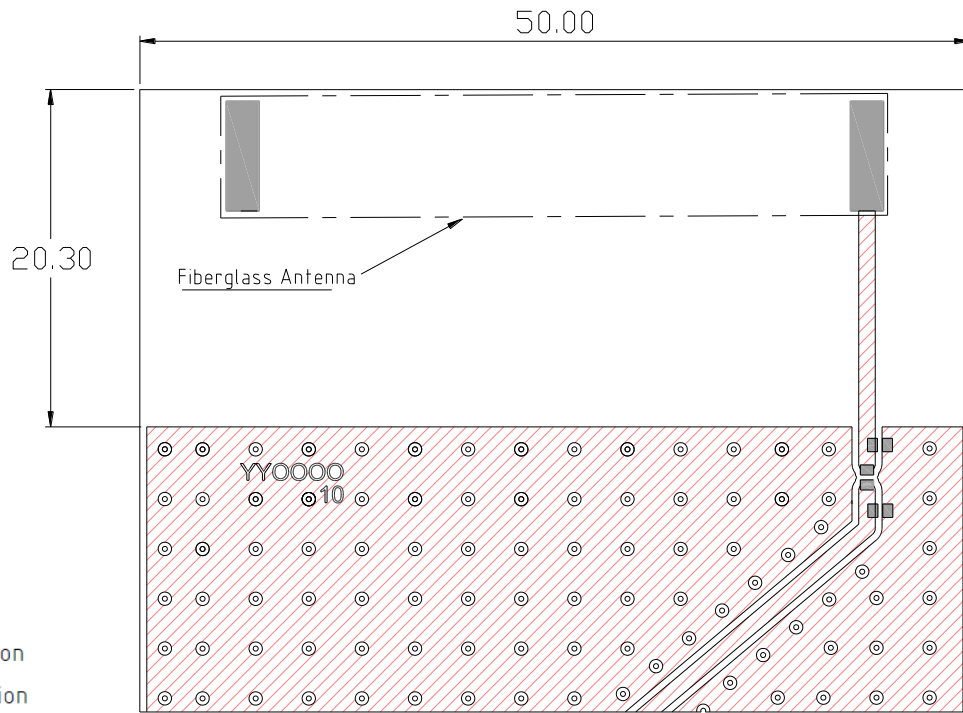


RADIATION PATTERN REFERENCE



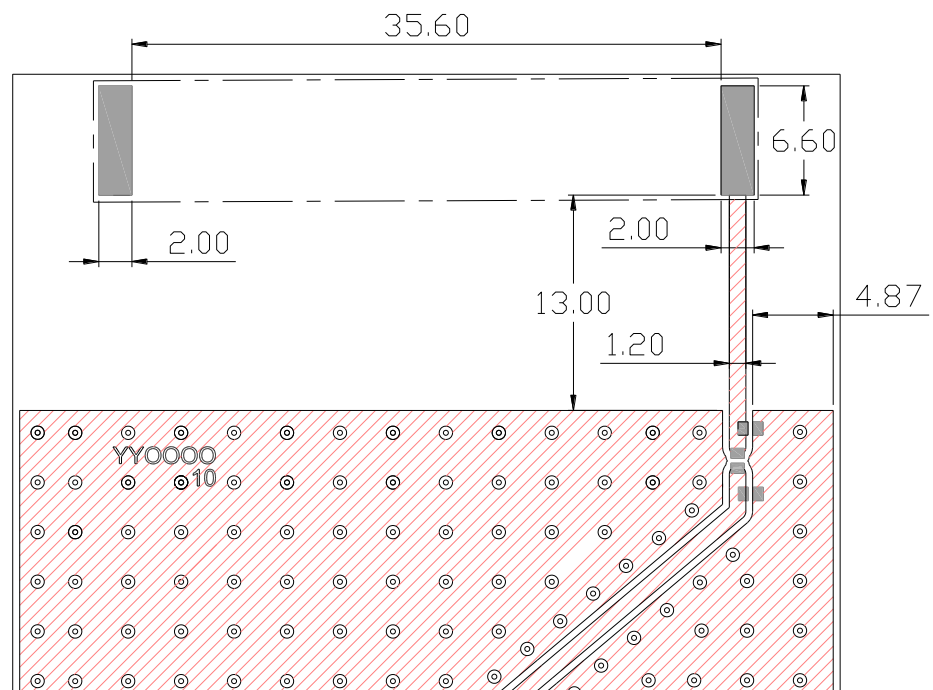
169 MHz Radiation pattern

4. PCB Layout



- Solder Region
- Copper Region
- Copper-Free Region

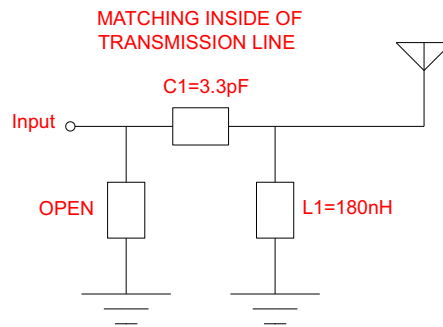
Minimum area required for antenna integration (50mm × 20.3mm)



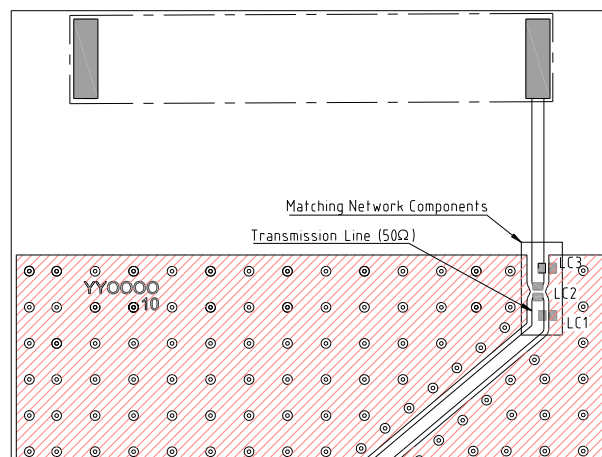
- Solder Region
- Copper Region
- Copper-Free Region

Layout dimensions for antenna integration (mm)

5. Matching Components



Matching Network Schematic



Matching network drawing (LC1=0.3pF, LC2=2.7pF, LC3=OPEN)

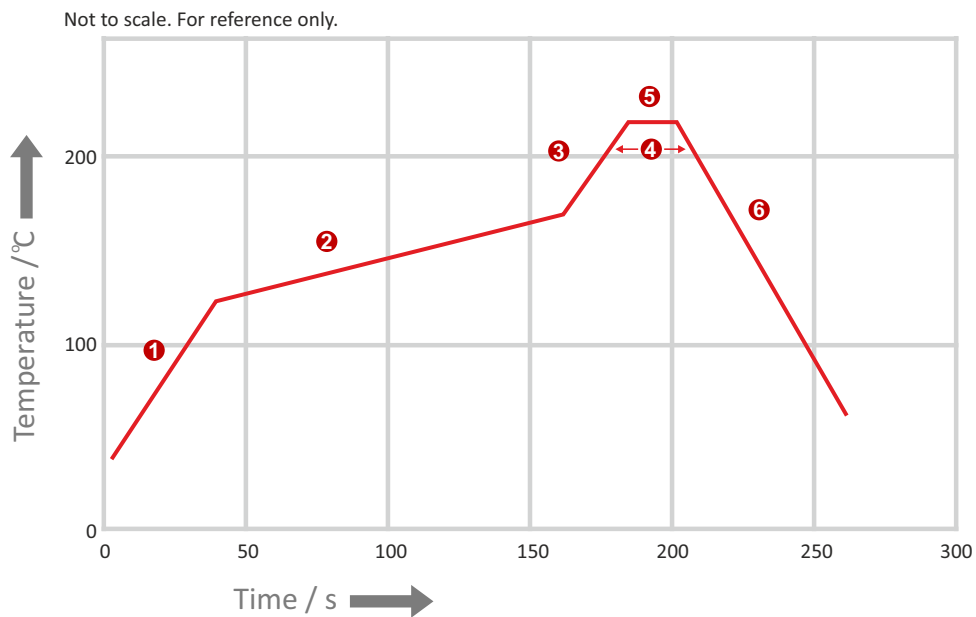


3D View of matching components and recommended values (LC1 = OPEN, LC2=3.3pF, LC3= 180nH)

REFLOW TEMPERATURE PROFILE

Minimum Recommended Reflow Profile

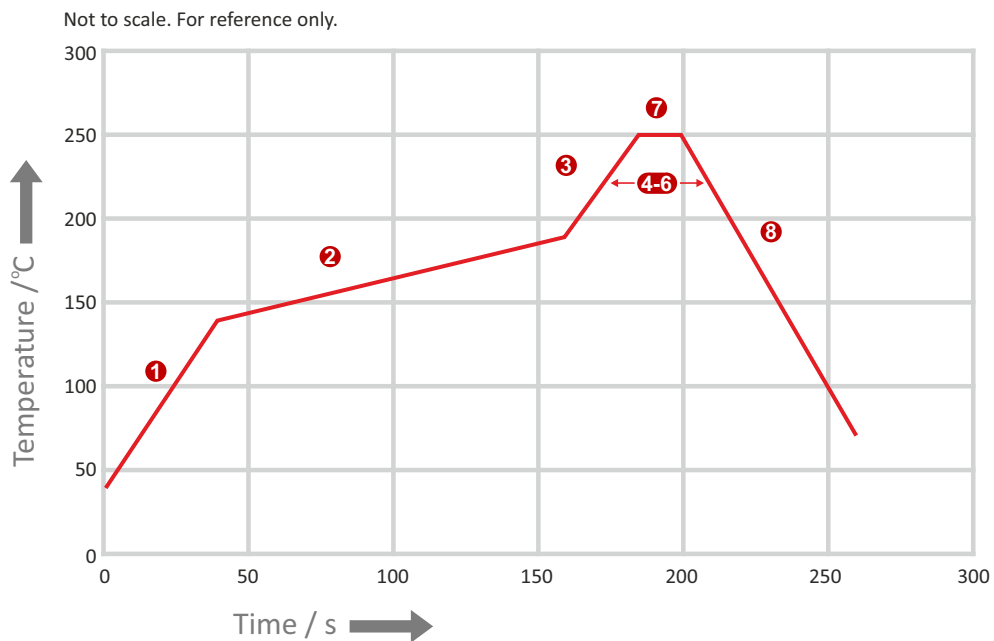
	Method of heat transfer	Controlled hot air convection
1	Average temperature gradient in preheating	2.5 °C/s
2	Soak time	2-3 minutes
3	Max temperature gradient in reflow	3 °C/s
4	Time above 217 °C	Max 30 sec
5	Peak temperature in reflow	230 °C for 10 seconds
6	Temperature gradient in cooling	Max -5 °C/s



REFLOW TEMPERATURE PROFILE

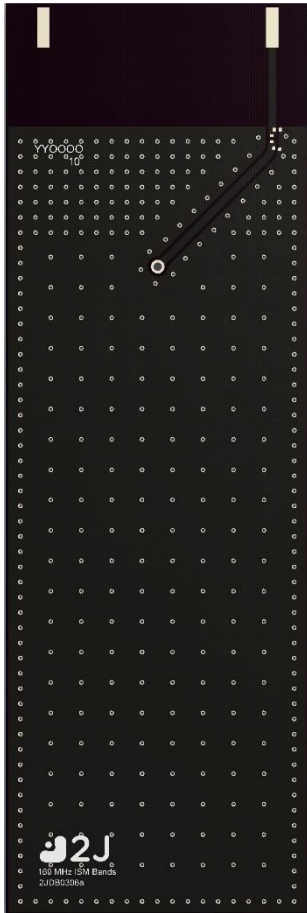
Maximum Recommended Reflow Profile

	Method of heat transfer	Controlled hot air convection
1	Average temperature gradient in preheating	2.5 °C/s
2	Soak time	2-3 minutes
3	Max temperature gradient in reflow	3 °C/s
4	Time above 217 °C	Max 60 sec
5	Time above 230 °C	Max 50 sec
6	Time above 250 °C	Max 10 sec
7	Peak temperature in reflow	260 °C for 5 seconds
8	Temperature gradient in cooling	Max -5 °C/s



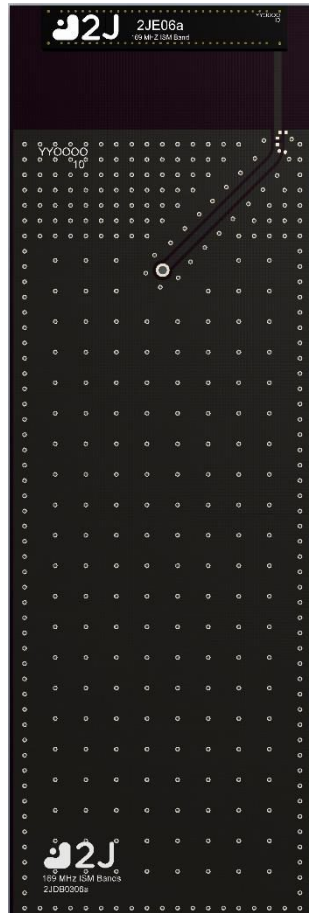
6. Evaluation Board

90mm x 50mm



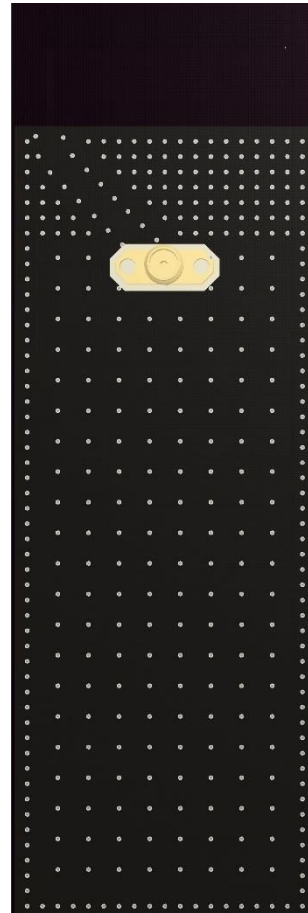
Front View without Antenna

90mm x 50mm



Front View with Antenna

90mm x 50mm



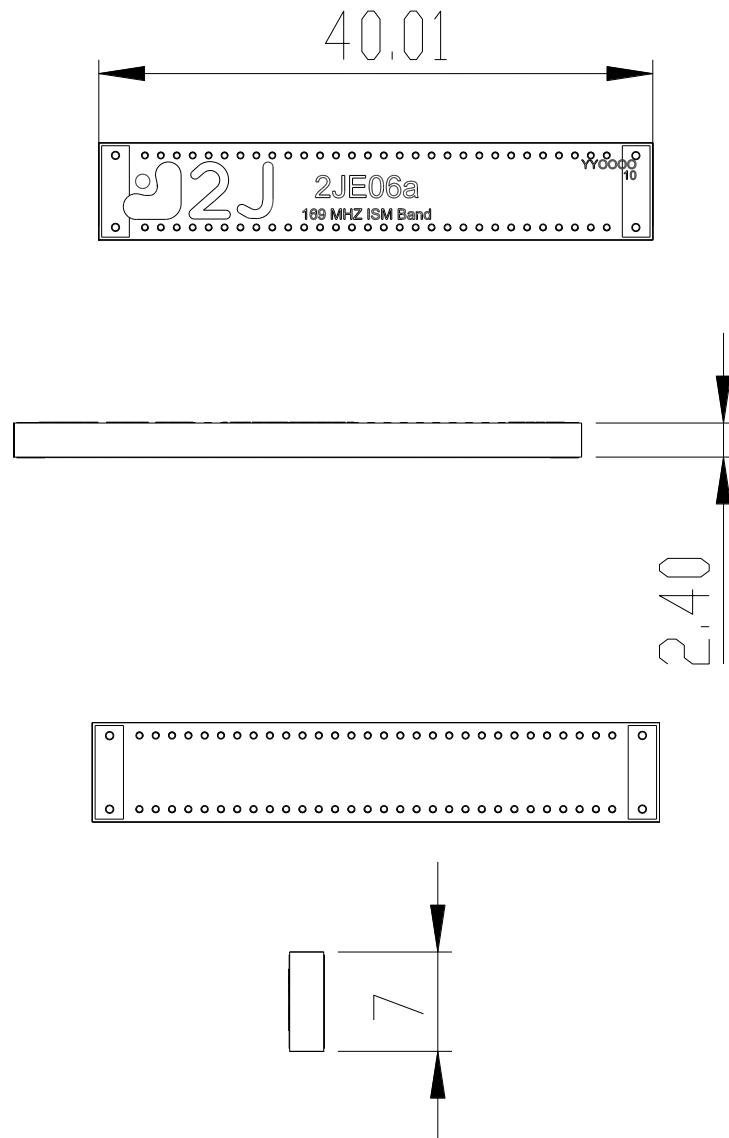
Back View

90mm x 11.9mm
(PCB: 0.8mm, Antenna: 1.6mm,
Connector: 9.5mm)



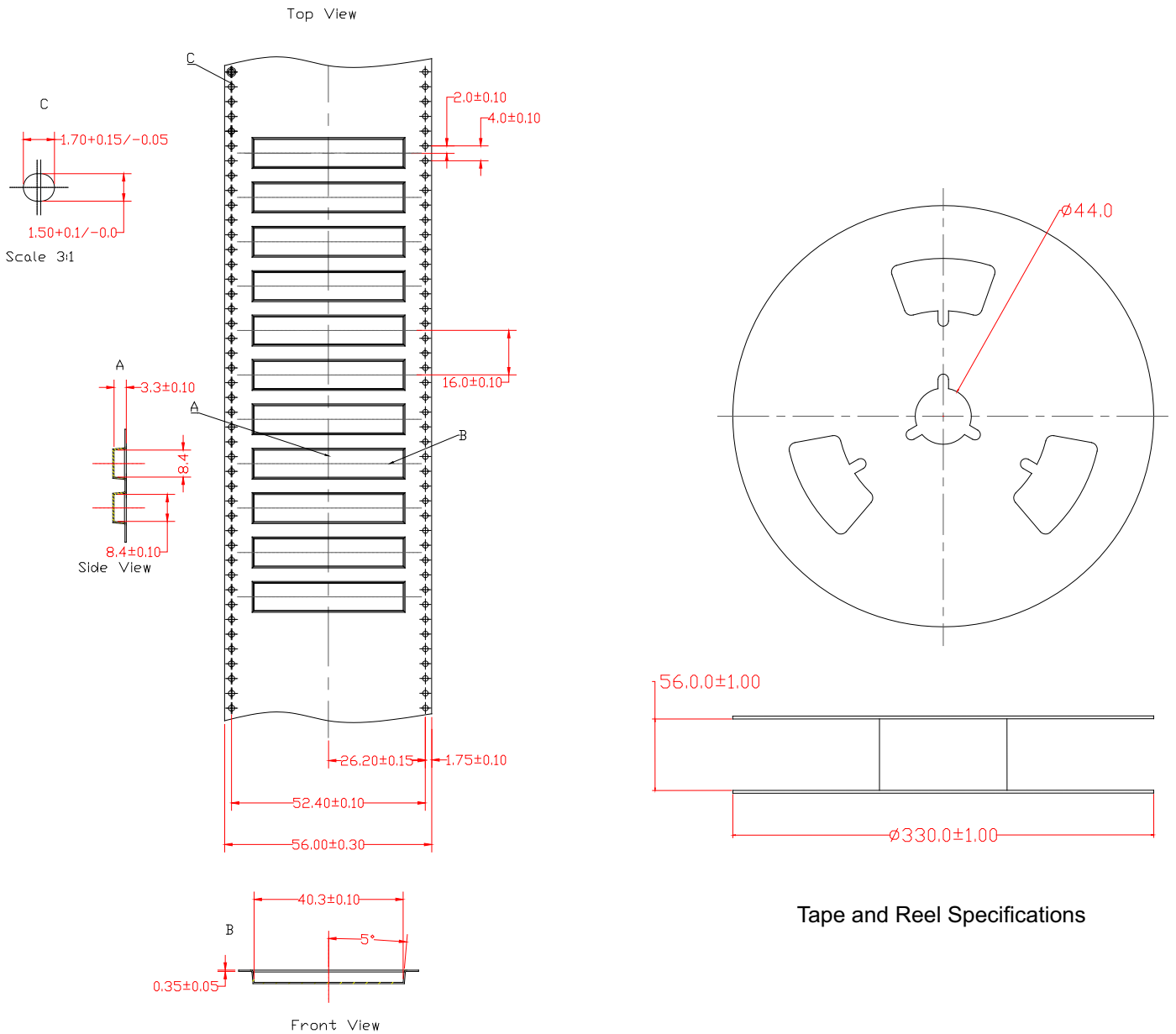
Side View

7. Antenna drawings



Fiberglass antenna body (mm)

8. Tape and Reel Information



Tape and Reel Specifications

9. Packaging

PACKAGING SPECIFICATION

Antenna	2JE06a
REEL	
Max Quantity per Reel	1000
REEL CARTON	
Reels per Carton	2
Max Quantity per Carton	2000
Reel Carton Dimensions (cm)	36.5 x 36.5 x 16
Reel Carton Weight (Kg)	4
PALLET	
Max Cartons per Pallet	42
Cartons per Layer	6
Number of Layers	7
Max Quantities per Pallet	84,000
Total Cartons Dimensions (cm)	109.5 x 73 x 112
Total Cartons Weight (Kg)	168
Pallet size and weight not included above	
Typical Pallet Size (cm)	120 x 100 x 14.4
Typical Pallet Weight (Kg)	5-25

Storage Conditions:

- Storage Temperature Range: -40 °C to +85 °C
- Oxidizable material. Store for 12 months in vacuum sealed bag.
- Repack material after use by re-sealing package.

10. Antenna Images

