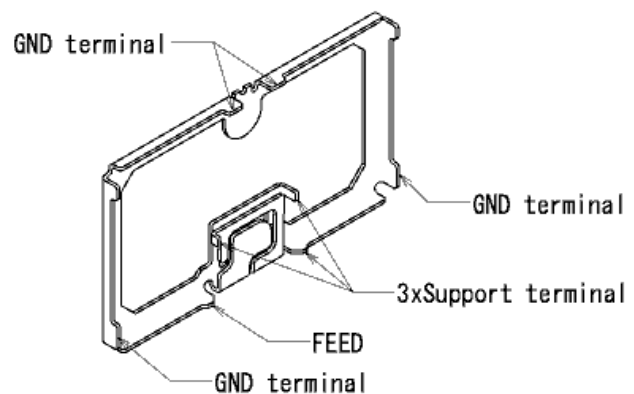
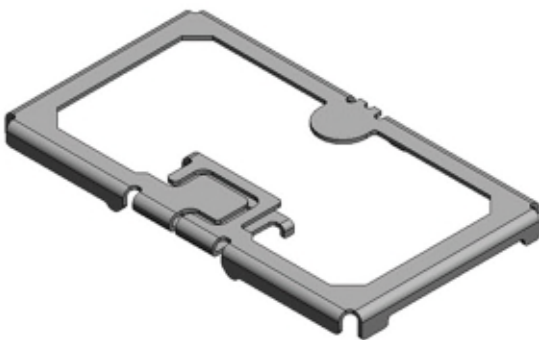


868 MHz Split Ring Resonator for Long Range Applications

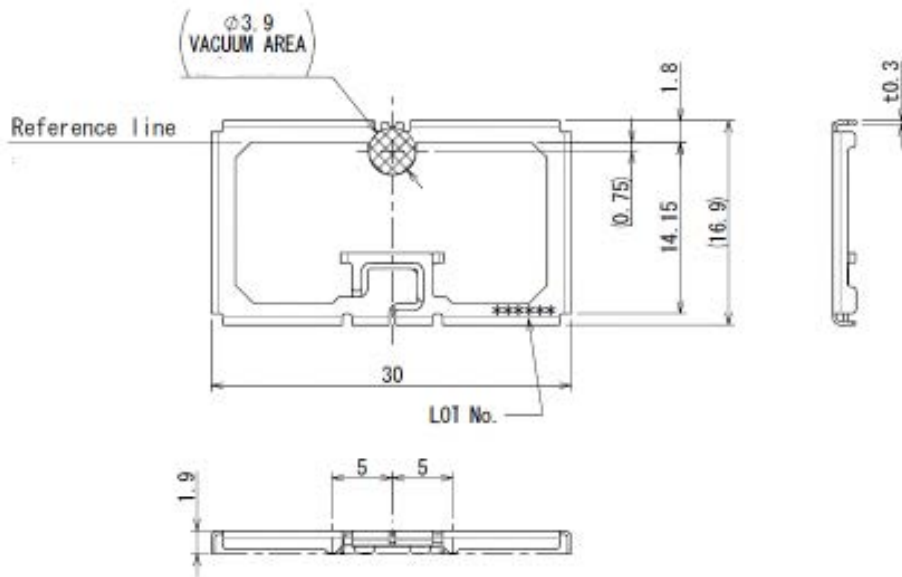
1. Features
 - 868 MHz antenna for smart meter, LPWA, etc.
 - Compact size
 - High efficiency
 - Surface mount device
 - Embossed reel package
2. Part Number
RAC00868-R
1700 pieces per reel
3. Shape, dimensions and weight

3.1. Shape



3.2. Dimensions

30 (width) × 16.9 (depth) × 1.9 (height) mm



3.3. Weight 0.75 g (typical)

3.4. Plating

None

3.5. Type

Split ring

3.6. Material

Copper alloy

4. RF Characteristics

4.1. Frequency range

863- 870 MHz

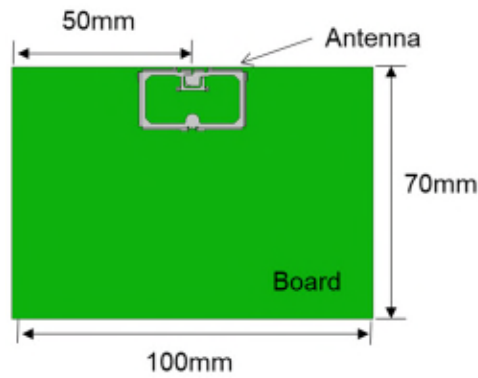
4.2. Impedance

50 Ω

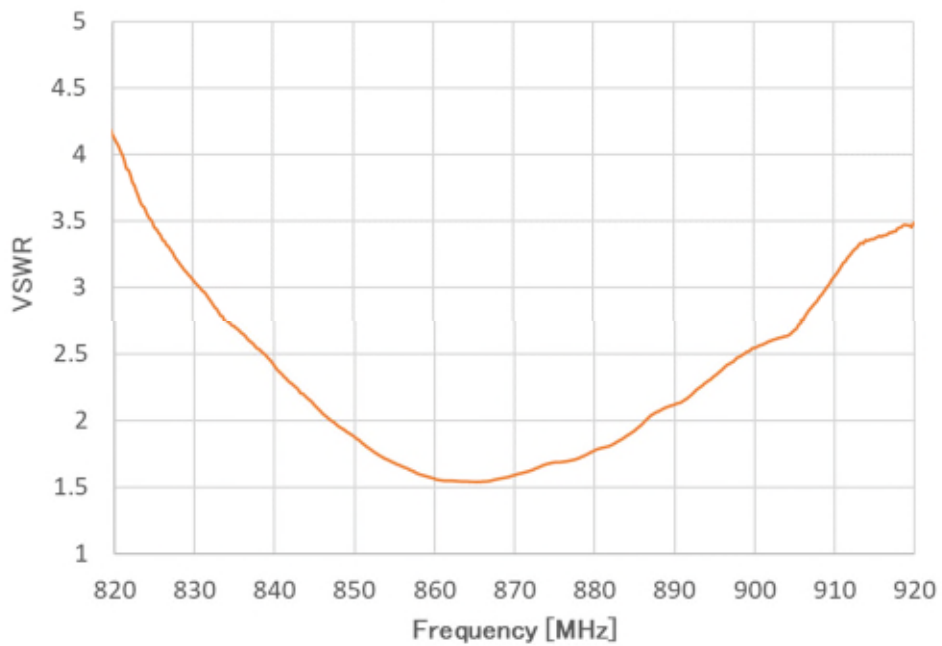
4.3. Voltage standing wave ratio (VSWR)

100 x 70 mm

VSWR characteristics of the antenna on a 100 x 70-mm reference board



VSWR < 2.5 (frequency range: 863 – 870 MHz)

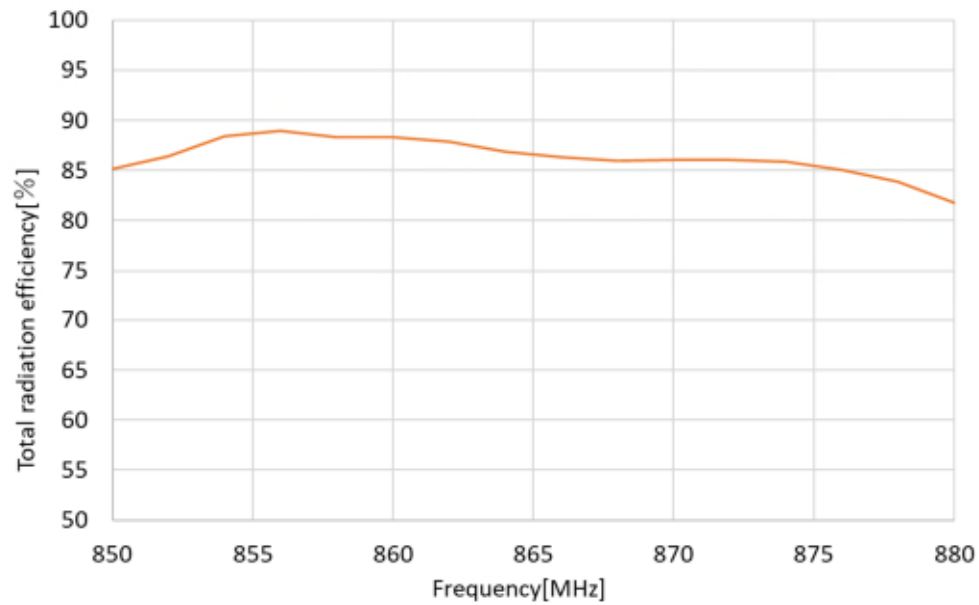


4.4 Radiation efficiency

100 x 70 mm

Radiation efficiency of the antenna mounted on a 100 × 70-mm reference board (excluding cable and feeder-line losses)

Radiation Efficiency > 85 % (frequency range: 850 - 870 GHz)



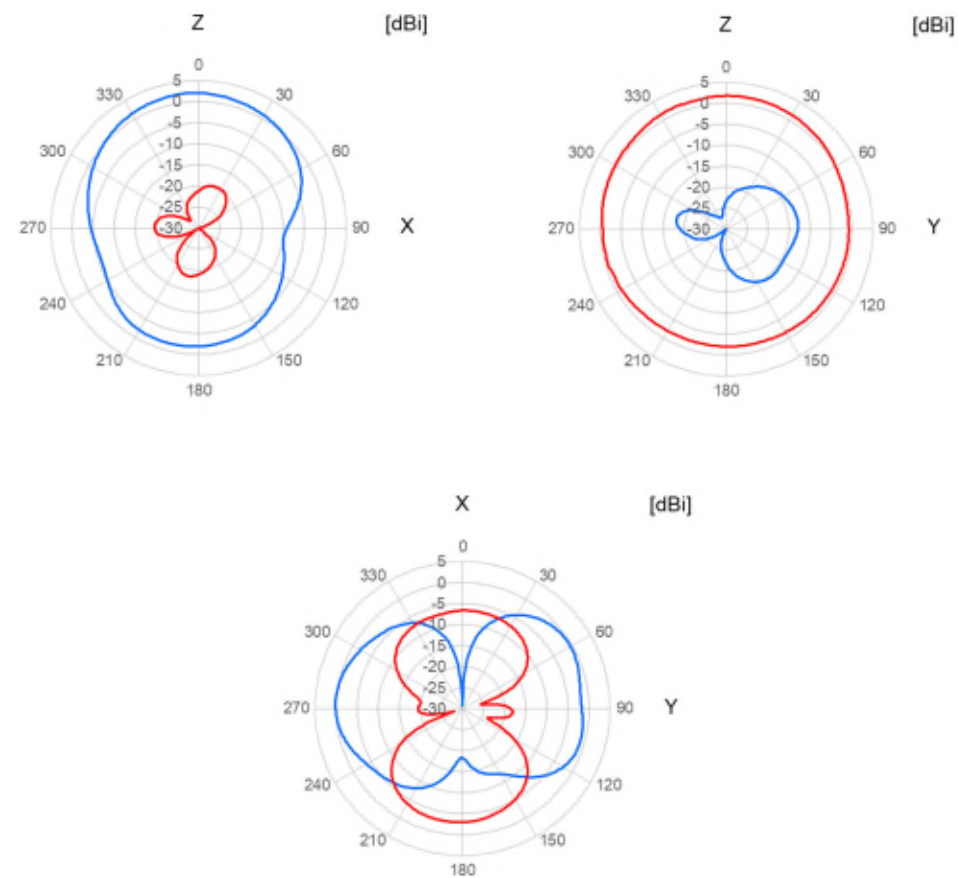
4.5 Radiation pattern

100 x 70mm

Radiation pattern of the antenna mounted on a 100 × 70-mm reference board



Radiation pattern @868 MHz



Blue line: horizontal polarization

Red line: vertical polarization

Peak gain of the main polarization component in the ZX, ZY and XY planes

Frequency [MHz]	Peak gain [dBi]
868	2.14

5. Environmental conditions and reliability

5.1. Operating temperature range

-40 °C to +125 °C

5.2. Storage conditions

IEC 61760-2

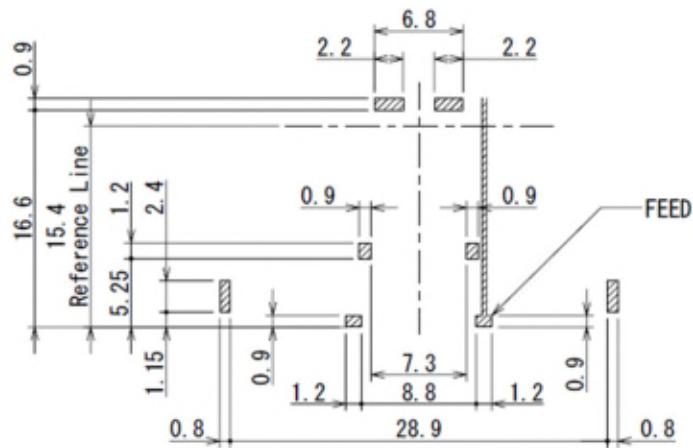
Stock temperature range

+5 °C to +40 °C

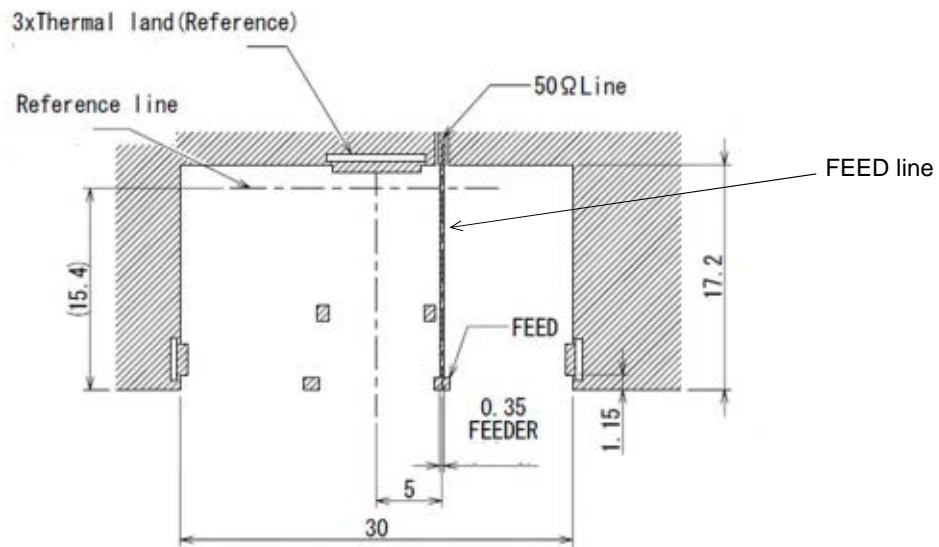
Relative humidity

10 % to 75 %

6. Recommended land pattern and reference board



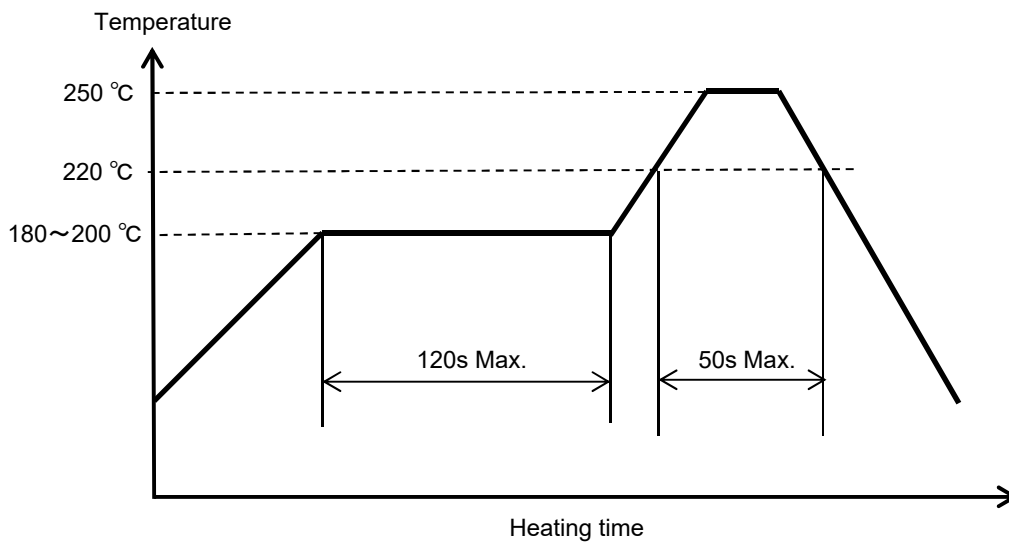
Recommended land pattern



Reference board pattern (board thickness: 1.6 mm)

7. Recommended reflow temperature profile

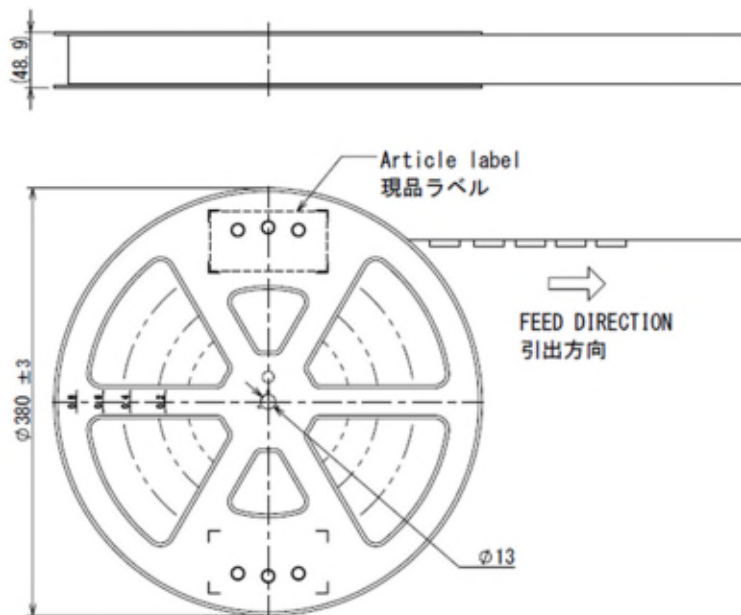
	Temperature	Heating time
Preheating temperature	180 to 200 °C	120s (max.)
Main heating temperature	Above 220 °C	50s (max.)
Peak temperature	250 °C (max.)	-



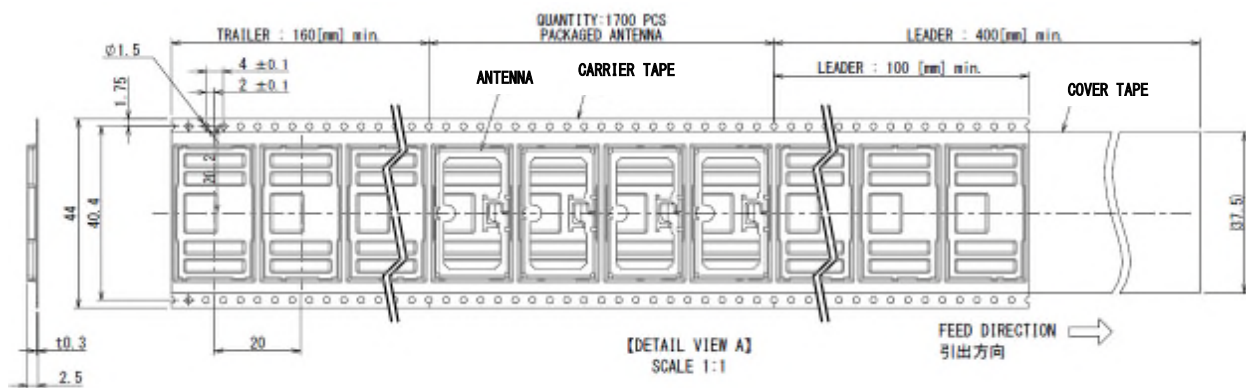
8. Packaging

8.1. Package quantity: 1,700 (pieces / reel)

8.2. Embossed reel dimensions



8.3. Tape dimensions



Revision History

Version	Date	Revision
RAC00868	11/01/2021	Rev A - Initial version