



4.0 x 2.0 x 1.2 mm

ACA-108-T

RoHS / RoHS II Compliant

Moisture Sensitivity Level (MSL) – MSL = 1

FEATURES:

- Chip Antenna covering Quad bands from 1550MHz to 2700MHz
- Matching via lumped elements with single footprint
- Constructed from solid dielectric ceramic material
- Suitable for RoHS compliant reflow
- Peak Gain 0.93 ~ 2.98dBi (dependant on band)
- Average Gain -0.51 ~ -1.10dBi (dependant on band)
- VSWR 3.0 : 1 max
- Size – 4.0 x 2.0 x 1.2mm (0.157 x 0.078 x 0.047 inch)
- Non Ground Mounting type
- Linear Polarization
- Matched to 50 Ohm.

APPLICATIONS:

- 1550 ~ 1610MHz & 2400 ~ 2485MHz
 - GPS
 - Bluetooth
- 1920 ~ 2170MHz & 1930 ~ 1990MHz & 2110 ~ 2155MHz
 - WCDMA
 - US PCS Rx
 - AWS Rx
- 2300 ~ 2390MHz & 2400 ~ 2485MHz & 2605 ~ 2655MHz
 - WiBro
 - Bluetooth
 - DMB
- 2500 ~ 2700MHz
 - WiMax

STANDARD SPECIFICATIONS

Maximum Ratings

| Item | Value |
|-----------------------------|---------------------|
| ESD Voltage | 15kV [HBM Class 3B] |
| Operating Temperature Range | -40°C to + 85°C |
| Storage Temperature Range | -40°C to + 85°C |

3D Electrical Characteristics for 1550 ~ 2485MHz

| ITEM | | SPECIFICATION | | | | | |
|-----------------|---------|----------------|-------------|-------------|-------------|-------------|-------------|
| Frequency Range | | 1550 ~ 2485MHz | | | | | |
| VSWR | | 3: 1 Max | | | | | |
| Polarization | | Linear | | | | | |
| Frequency [MHz] | | 1550 | 1580 | 1610 | 2400 | 2445 | 2485 |
| Gain [dBi] | Peak | 2.43 | 2.98 | 0.93 | 1.60 | 2.46 | 2.38 |
| | Average | -1.78 | -1.06 | -2.80 | -2.19 | -1.74 | -2.59 |
| Efficiency [%] | | 66.43 | 78.38 | 52.63 | 60.45 | 67.15 | 55.22 |

3D Electrical Characteristics for 1920 ~ 2170MHz

| ITEM | | SPECIFICATION | | | |
|-----------------|---------|----------------|-------------|-------------|-------------|
| Frequency Range | | 1920 ~ 2170MHz | | | |
| VSWR | | 3: 1 Max | | | |
| Polarization | | Linear | | | |
| Frequency [MHz] | | 1920 | 1980 | 2110 | 2170 |
| Gain [dBi] | Peak | 1.76 | 2.26 | 1.63 | 1.83 |
| | Average | -2.06 | -1.65 | -2.60 | -2.16 |
| Efficiency [%] | | 62.31 | 68.52 | 55.08 | 60.89 |



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3D Electrical Characteristics for 2300 ~ 2655MHz

| ITEM | | SPECIFICATION | | | | | |
|-----------------|---------|----------------|-------------|-------------|-------------|-------------|-------------|
| Frequency Range | | 2300 ~ 2655MHz | | | | | |
| VSWR | | 3: 1 Max | | | | | |
| Polarization | | Linear | | | | | |
| Frequency [MHz] | | 2300 | 2390 | 2400 | 2485 | 2605 | 2655 |
| Gain [dBi] | Peak | 1.43 | 2.69 | 2.52 | 1.33 | 1.09 | 1.86 |
| | Average | -2.34 | -1.37 | -1.60 | -2.54 | -2.47 | -2.33 |
| Efficiency [%] | | 58.51 | 73.13 | 69.25 | 55.78 | 56.74 | 58.63 |

3D Electrical Characteristics for 2550 ~ 2700MHz

| ITEM | | SPECIFICATION | | | | |
|-----------------|---------|----------------|-------------|-------------|-------------|-------------|
| Frequency Range | | 2500 ~ 2700MHz | | | | |
| VSWR | | 3: 1 Max | | | | |
| Polarization | | Linear | | | | |
| Frequency [MHz] | | 2500 | 2550 | 2600 | 2650 | 2700 |
| Gain [dBi] | Peak | 2.11 | 2.34 | 2.47 | 2.88 | 1.95 |
| | Average | -1.68 | -1.22 | -1.03 | -0.51 | -1.37 |
| Efficiency [%] | | 68.10 | 75.67 | 78.97 | 89.10 | 73.11 |

▷ PART IDENTIFICATION:

ACA-108-



| Packaging |
|------------------|
| Blank: Bulk |
| T: Tape and Reel |



4.0 x 2.0 x 1.2 mm

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OUTLINE DIMENSIONS:

Chip Antenna Dimension

Chip Antenna Soldering Pad Dimension

Recommended Land Pattern

PCB Soldering Land Dimension

| Parameter | A | B | C |
|------------|-----|-----|-----|
| Value (mm) | 0.8 | 0.4 | 0.9 |

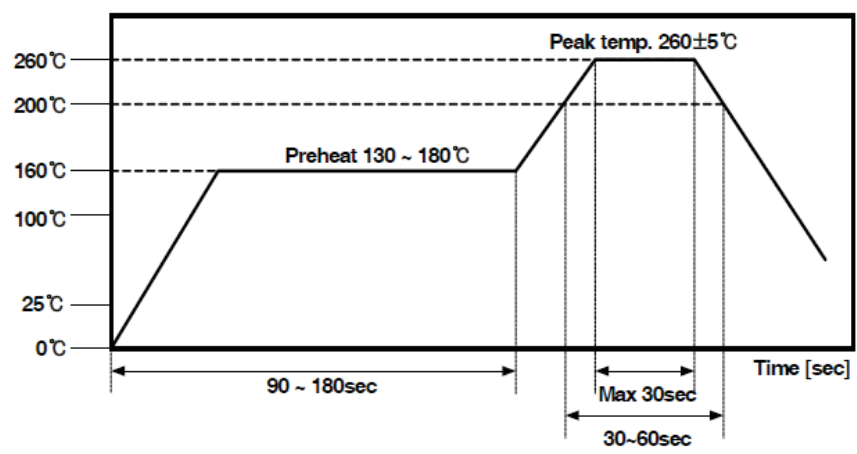
Unless specified tolerances are $\pm 0.05\text{mm}$

| Parameter | L | W | T | A | B |
|------------|-------------------------|-------------------------|-------------------------|-----|-----|
| Value (mm) | $4.0 \pm 0.10\text{mm}$ | $2.0 \pm 0.10\text{mm}$ | $1.2 \pm 0.10\text{mm}$ | 0.8 | 0.4 |

Unless specified tolerances are $\pm 0.05\text{mm}$

(Dimensions: mm)

REFLOW PROFILE:



Manual Soldering

| | Condition |
|-------------------------|---|
| Pre-Heating Temperature | 120 °C , 60 ~ 300 sec |
| Soldering Temperature | 340°C ± 5°C , 5 sec max per each terminal |

Multiband Chip Antenna

ACA-108-T



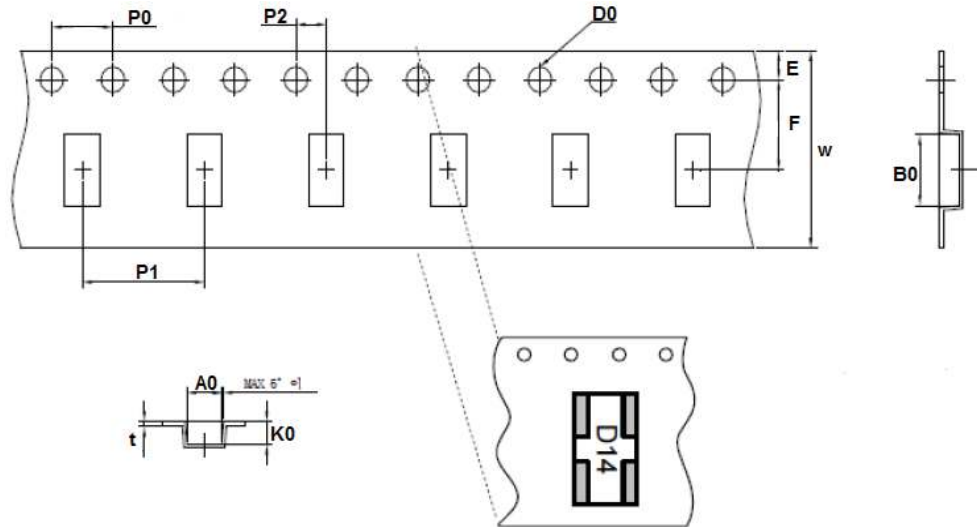
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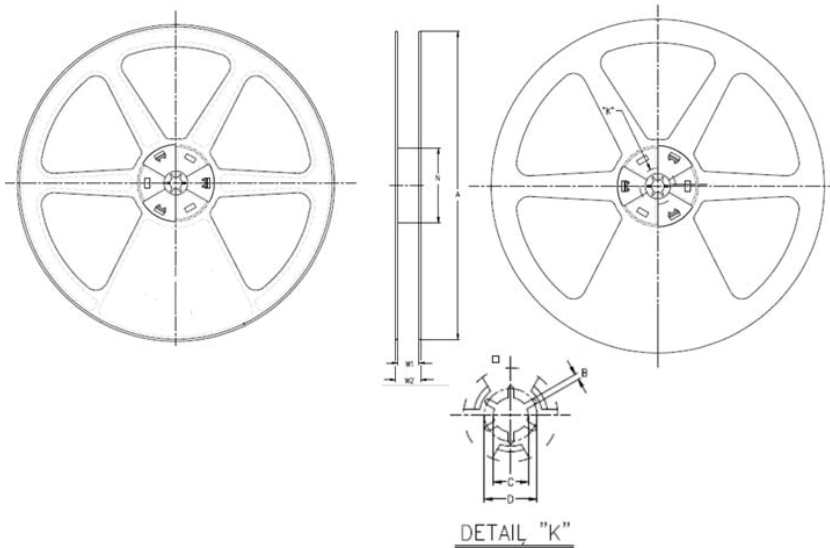
4.0 x 2.0 x 1.2 mm

TAPE & REEL:

Packaging: 5,000 Units Per Reel



| | | | |
|----|------------|----|------------|
| A0 | 2.30±0.10 | E | 1.75±0.10 |
| B0 | 4.30±0.10 | F | 5.50 |
| K0 | 1.35±0.10 | t | 0.3±0.05 |
| D0 | Ø1.55±0.05 | w | 12.00±0.30 |
| P0 | 4.0±0.10 | P1 | 8.00 |
| P2 | 2.00 | | |



| Size | 12mm Reel |
|------|--------------------|
| A | 330 +0.2 / -2.0mm |
| B | 2.0 +0.5 / -0.2mm |
| C | 13.0 +0.5 / -0.0mm |
| D | 20.2mm Min |
| N | 80 +3.0 / -0.0mm |
| W1 | 12.4 +3.0 / -0.0mm |
| W2 | 16.4 +2.0 / -2.0mm |

(Dimensions: mm)

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