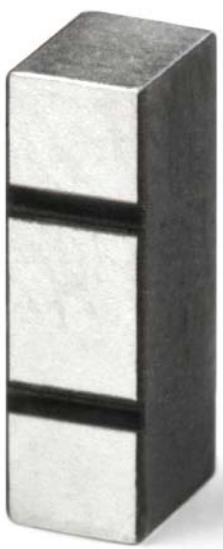
2.4 GHz WiFi Antenna

10 x 3.2 x 4.0 mm Ceramic Chip Antenna (On Ground type, Top surface ground removal area 10.80 x 6.25 mm).
Pulse Part Number: W3001



Features

- Omni directional radiation (Azimuthal plane)
- Low profile
- Compact size W x L x H (10 x 3.2 x 4 mm)
- Low weight (600 mg)
- Lead free materials
- Fully SMD compatible
- Lead free soldering compatible
- Tape and reel packing
- RoHS compliant product

Applications

- Bluetooth
- 2.4 GHz WLAN
- 2.4 GHz ISM Band System

Electrical specifications @ +25 °C

Note: Electrical characteristics depend on test board (GP) size and antenna positioning on GP and Ground Clearance area size.

WiFi 2.4 GHz

Typical performance
(Test board size 80 x 37 mm, PWB top surface ground removal area 10.80 x 6.25 mm, position 1 on PWB)

Frequency Range [MHz]	Max Gain [dBi]	Efficiency [%] / [dB]	Return loss min. [dB]	Impedance [Ω]	Operating Temperature [° C]
2400 – 2483.5	1.5 (Peak) 0.5 (Band edges)	75 /-1.25 (Peak) 60/-2.25 (Band edges)	-6	50	-45 to +85

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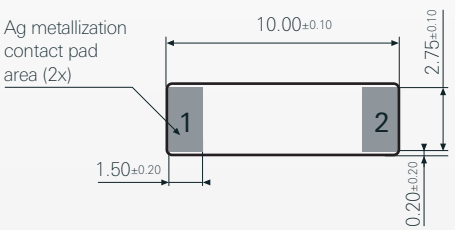
Terminal Configuration and Dimensions

On Ground type, Top surface ground removal area 10.80 x 6.25 mm

Antenna features

No.	Terminal name	Terminal Dimensions
1	Feed / GND	1.5 x 2.75 mm
2	Feed / GND	1.5 x 2.75 mm



Antenna is symmetrical.
Either of terminals 1 or 2 can be feed / GND

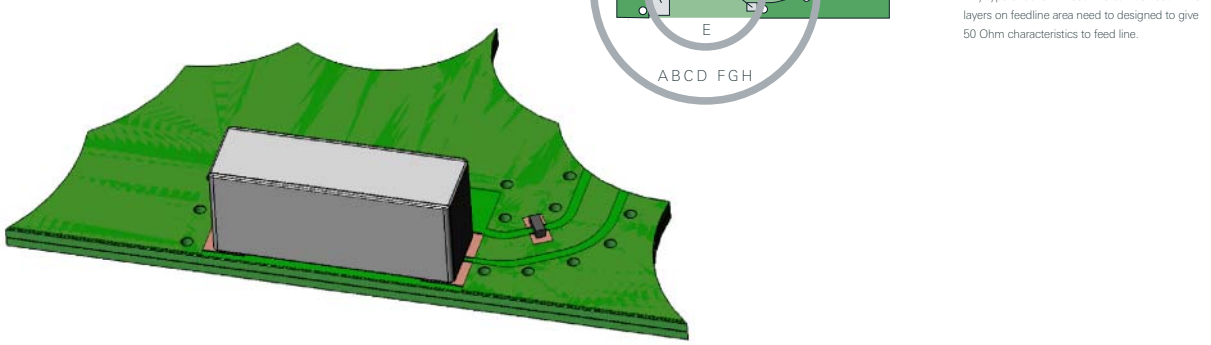
Antenna PWB Layout Specifications

On Ground type, Top surface ground removal area 10.80 x 6.25 mm

Matching and tuning component values depend on application and surrounding mechanics / materials.
Feed line should be designed to match 50 Ω characteristic impedance, depending on PWB material and thickness.
Recommended test board layout for electrical characteristic measurement, test board outline size 80 x 37 mm.

PWB layout for W3001 Antenna

Note: All dimensions are in metric system.



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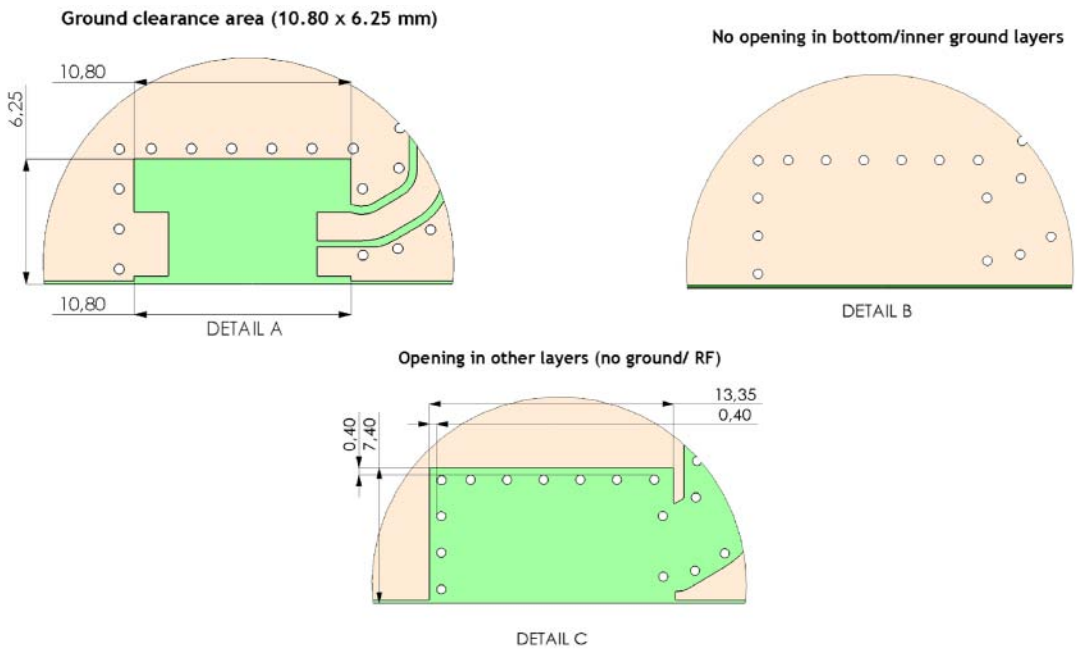
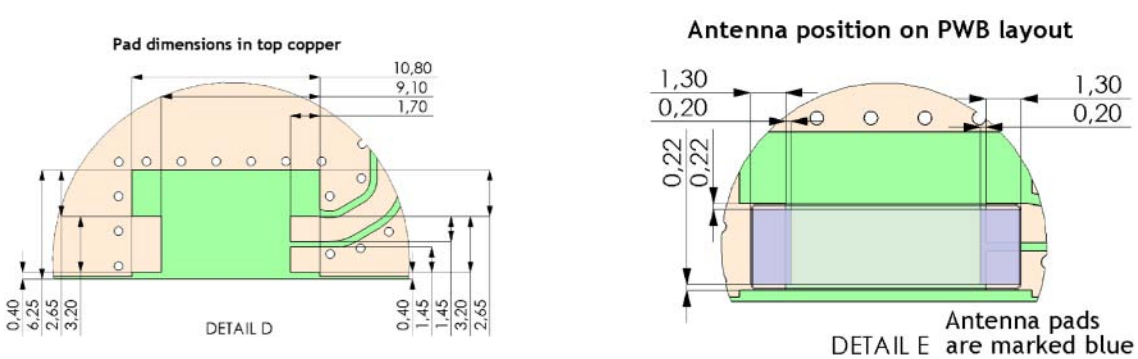
Metallization layers for W3001 Antenna



PWB pad dimensions and antenna position for W3001 Antenna



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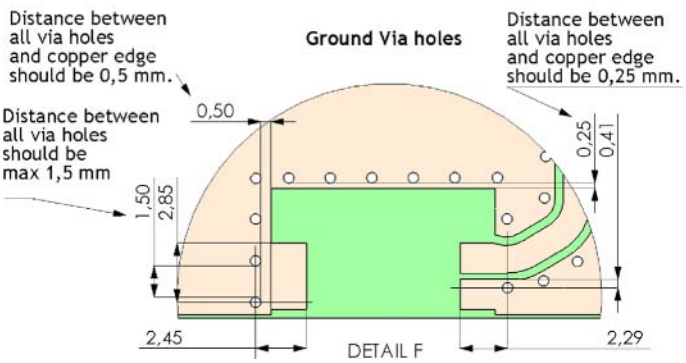
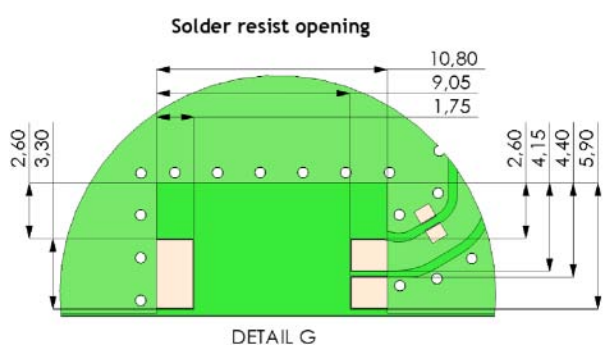
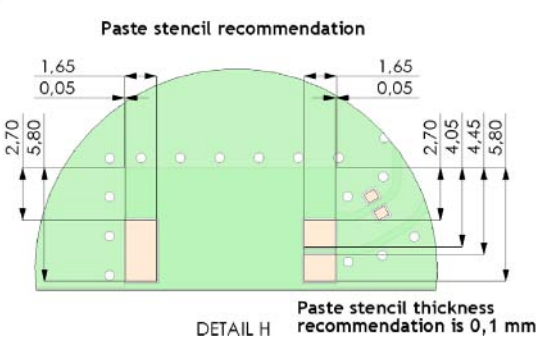
Typical ground via hole placement in PWB layout for W3001 Antenna



Solder resist opening and Paste stencil recommendation for W3001 Antenna





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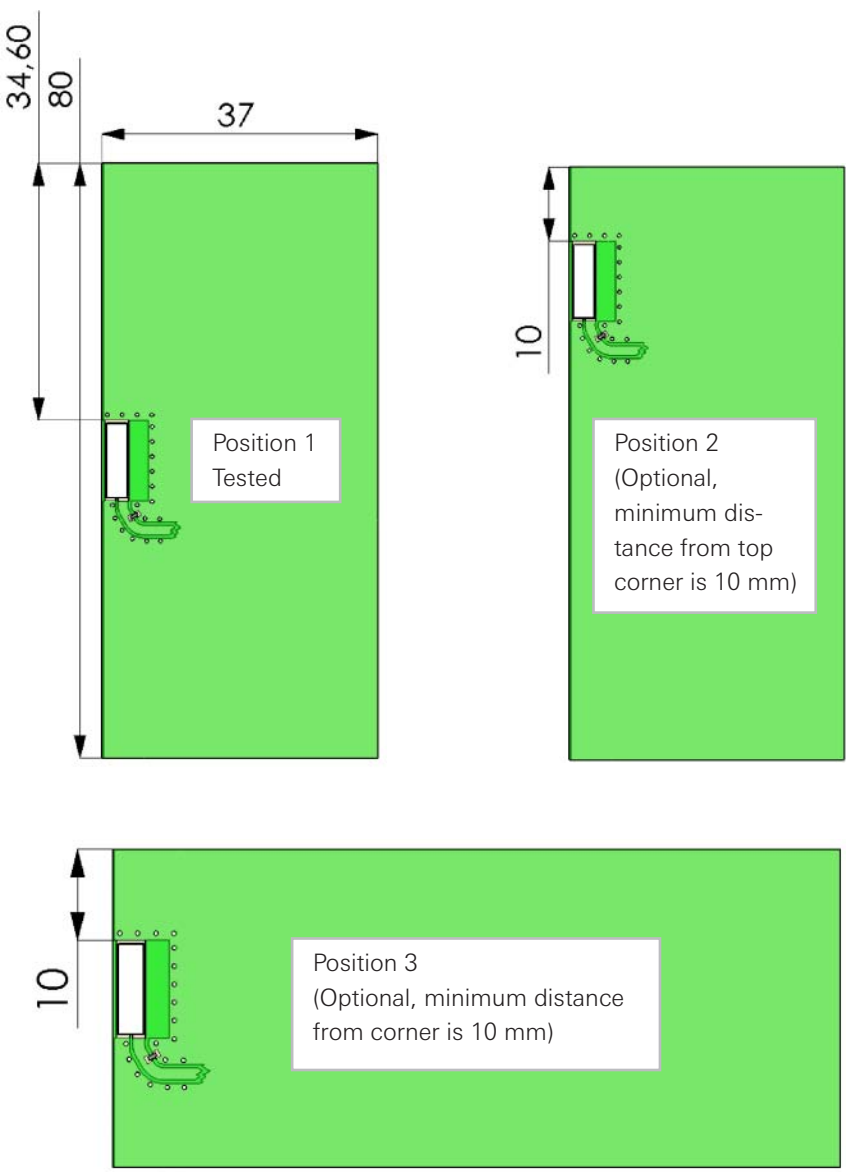
Recommended antenna position on PWB for W3001 Antenna

Our test PWB size is 37 x 80 mm, other sized boards can be used depending on customer device size (minimum 35 x 35 mm).



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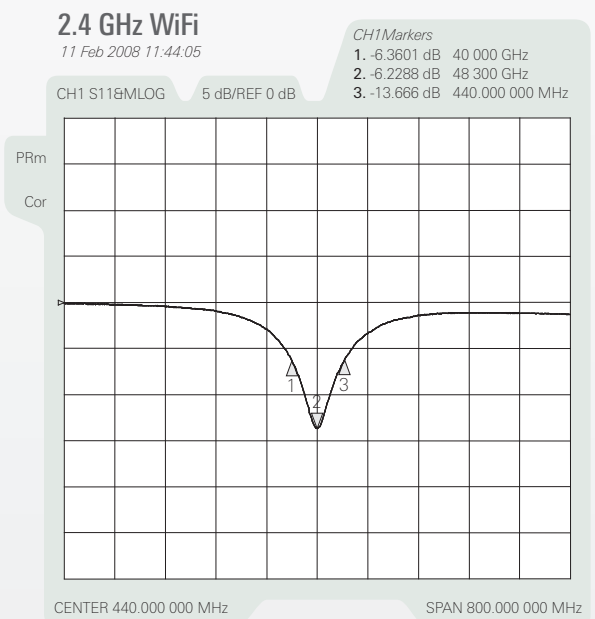
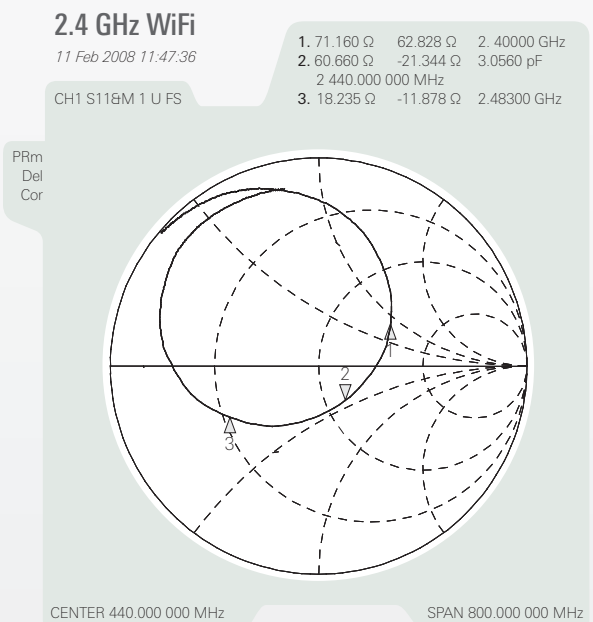
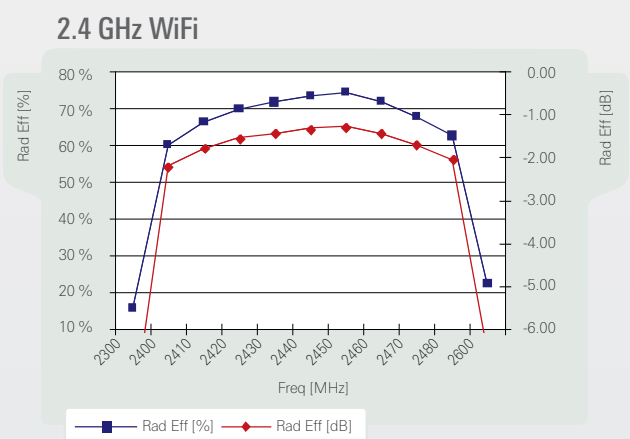
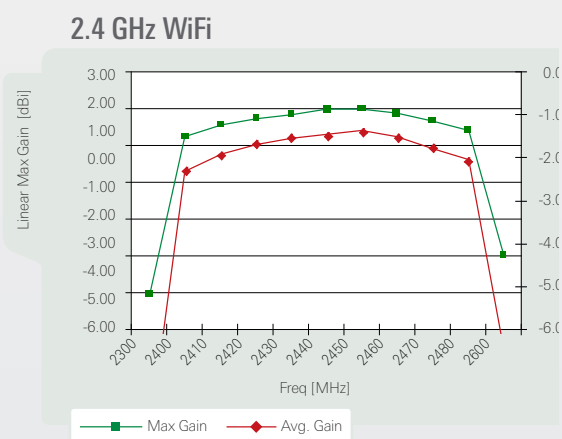
Typical Electrical Characteristics (T=25 °C)

Measured on the 80 x 37 mm test board with matching circuit (1.2 pF shunt matching capacitor on feed). Measured in antenna position 1 on PWB layout, see previous page.









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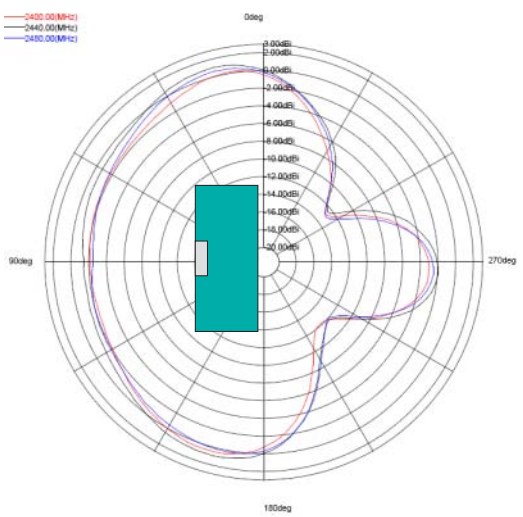
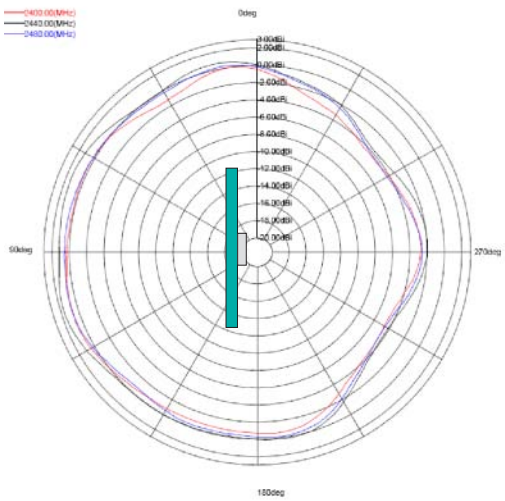
Typical Free Space Radiation Patterns

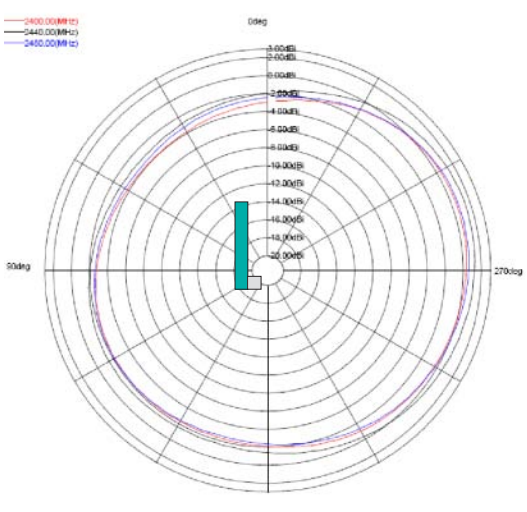
XZ-PLANE

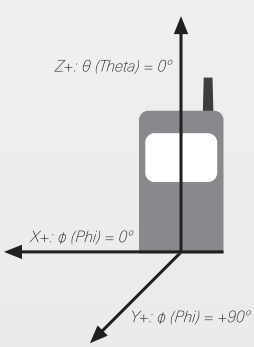


ZY-PLANE



XY-PLANE





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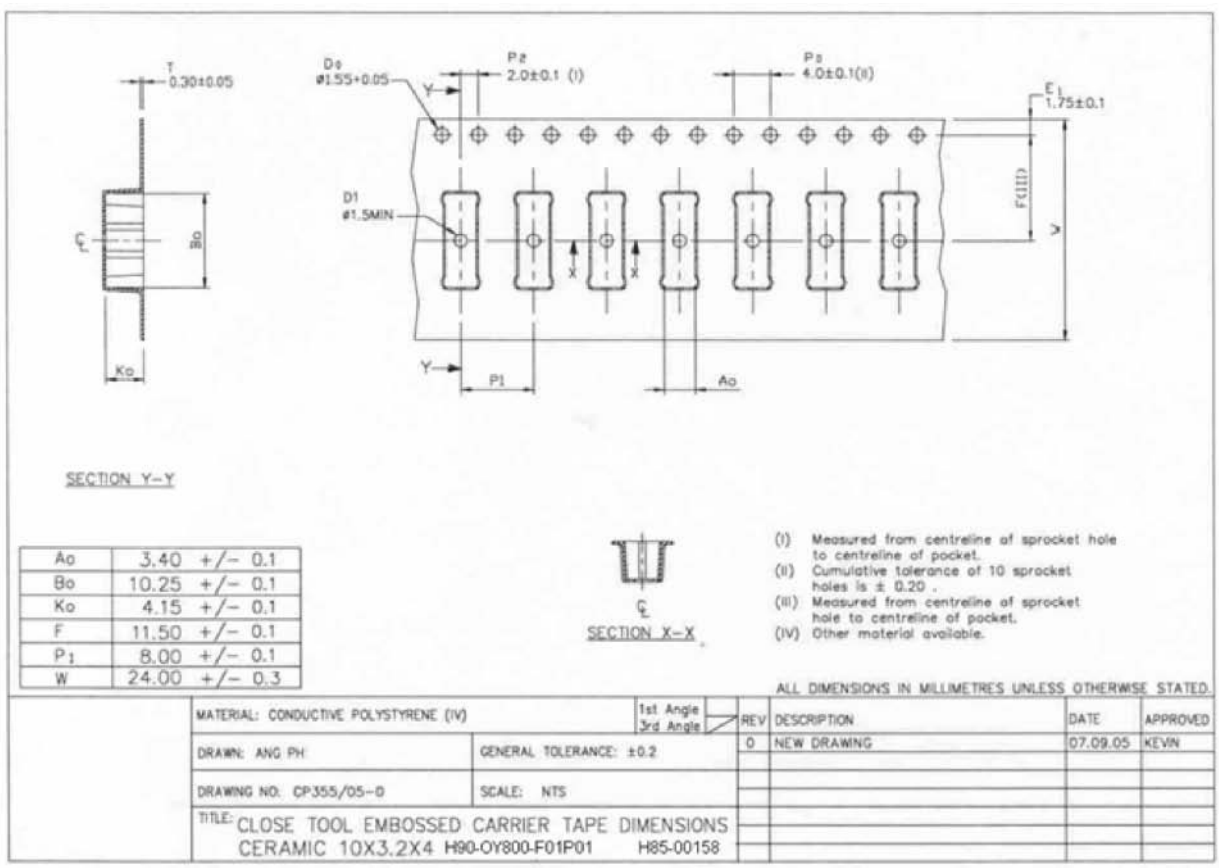
Packing

Tape and reel packing is used. Carrier tape, reel and box dimensions are presented in following pictures.

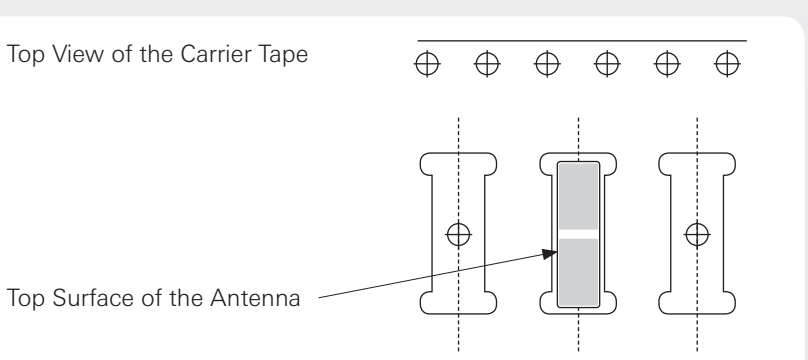
Carrier Tape



Ao	3.40 +/- 0.1
Bo	10.25 +/- 0.1
Ko	4.15 +/- 0.1
F	11.50 +/- 0.1
P1	8.00 +/- 0.1
W	24.00 +/- 0.3

Block Orientation

Antenna soldering pads facing down to the bottom of the carrier tape.



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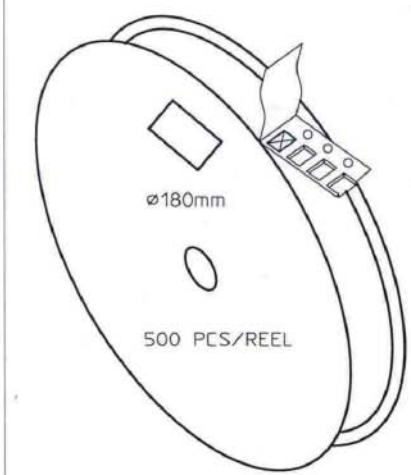
Packing Form



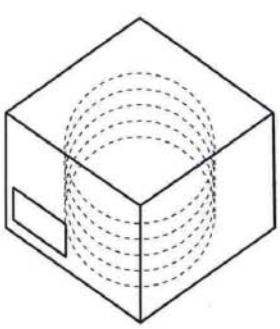
CARRIER TAPE H85-00158
width=24,00 depth=4.15
COVER TAPE H85-00159
width=21.20

LENGTH OF TAPE:

- Leader section: min 350 mm before component section
- Trailer section: min 40 mm after component section.

Empty part cavities at leader and trailer section of the tape must be sealed with top cover tape.

BOX H85-00128 (182x182x125)	1 pcs
- LABEL	1 pcs/BOX
REEL H85-00160 (D180,W28)	4 pcs
- REEL LABEL	1 pcs/REEL



MATERIAL					
HANDLINGS					
		RATIO	DRWN	160107 PeHa	H
			DGNER		G
			CHKD		F
			APPRD		E
PRODUCT H90-0Y800-F01P01			APPRD BY		D
					C
					B
DENOMINATION PACKING FORM					A
			VERSION		MOD/DATE/NAME

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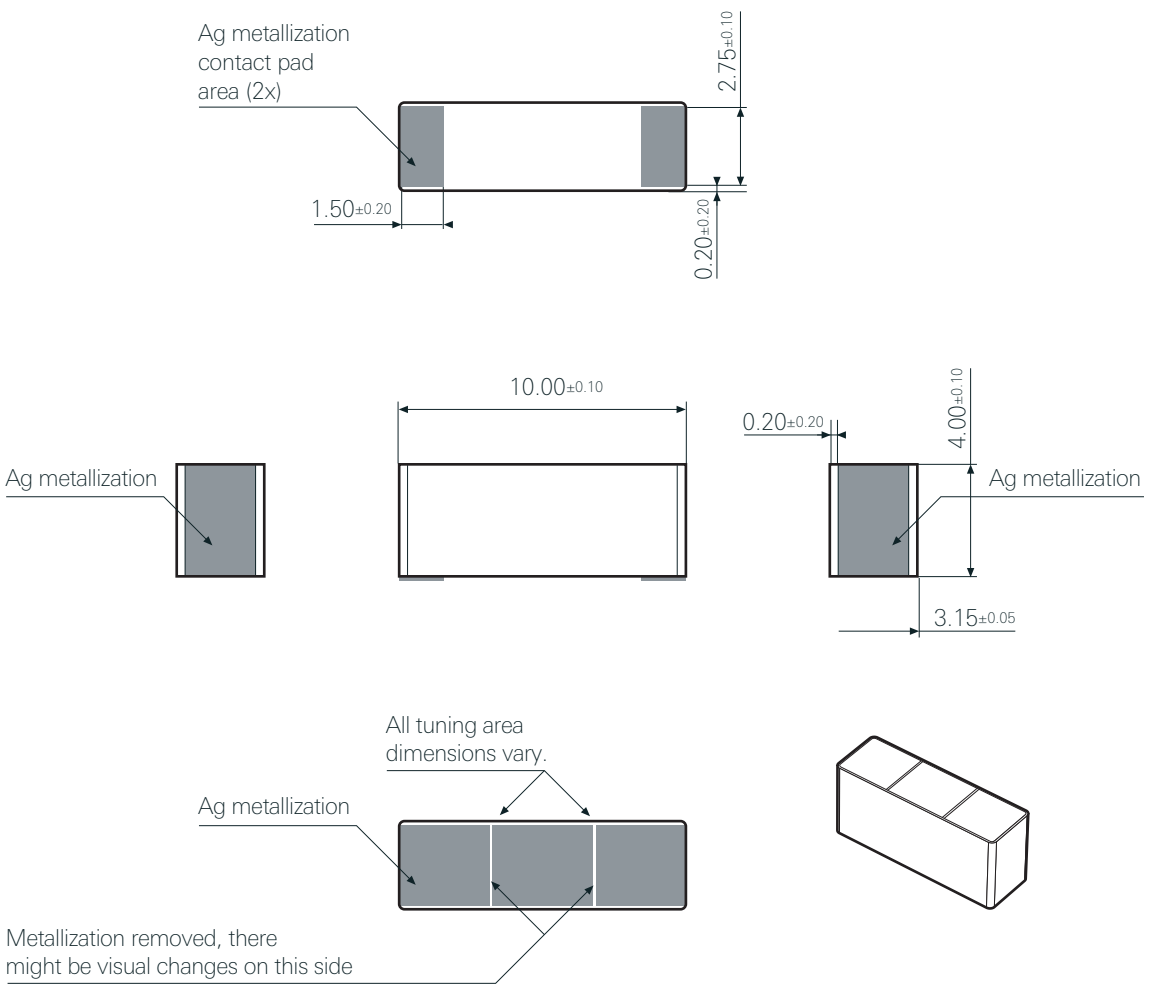
Mechanical Outline



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