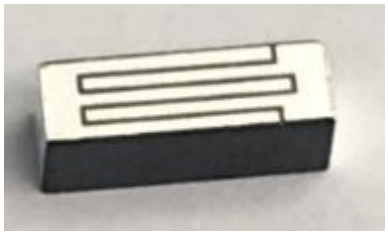
TECHNICAL DATA SHEET

Description: ISM433MHz Embedded Antenna

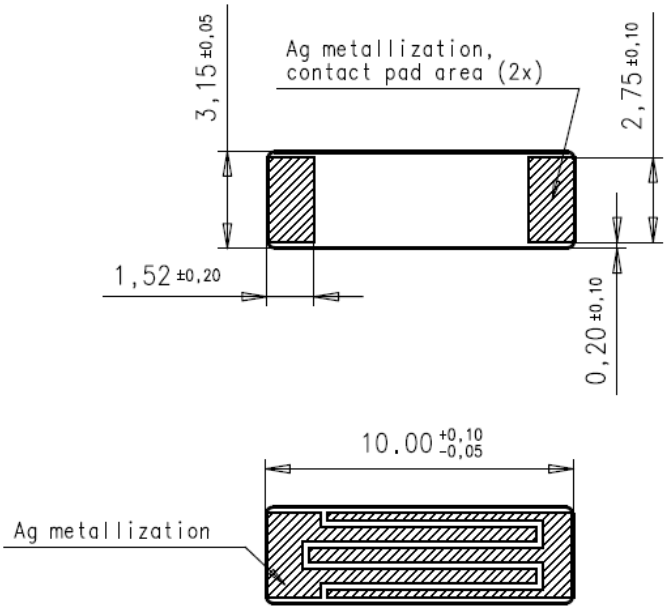
Series: Ceramic Antenna

PART NUMBER: W3015L



Features:

- SMT Chip Antenna
- 433MHz
- 10x3.2x4mm



Applications:

- ISM radios for 433MHz
- Remote controls
- IoT, M2M

All dimensions are in mm / inches

Issue: 1643

RoHS COMPLIANT

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For more information:

Pulse Worldwide Headquarters
12220 World Trade Drive
San Diego, CA 92128
USA
Tel:1-858-674-8100

Pulse/Larsen Antennas
3611 NE 112th Ave
Vancouver, WA 98682
USA
Tel: 1-360-944-7551

Europe Headquarters
Pulse GmbH & Do, KG
Zeppelinstrasse 15
Herrenberg, Germany
Tel: 49 7032 7806 0

Pulse (Suzhou) Wireless Products Co, Inc.
99 Huo Ju Road(#29 Bldg,4th Phase
Suzhou New District
Jiangsu Province, Suzhou 215009 PR China
Tel: 86 512 6807 9998

Description: ISM433MHz Embedded Antenna

Series: Ceramic Antenna

PART NUMBER: W3015L

ELECTRICAL SPECIFICATIONS

Frequency	433MHz
Nominal Impedance	50Ω
VSWR	<2
Gain	-2.5dBi +/- 1 dB
Efficiency(%)	35%
Polarization	Linear
Power withstanding	3W

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RoHS COMPLIANT

Description: ISM433MHz Embedded Antenna

Series: Ceramic Antenna

PART NUMBER: W3015L

MECHANICAL SPECIFICATIONS

Weight	0.64g
Size （W x L x H）	10x3.2x4mm

ENVIRONMENTAL SPECIFICATIONS

Operating temperature	-40～+85° C
Temperature	-40～+85° C
Humidity	Cyclic 6 +25° C/+55° C 95%
Vibration	
Sinusoidal 2-8Hz	7.5 mm
Sinusoidal 8-200Hz	20 m/s²
Shocks	0.5 m/s
Salt mist	96 hours

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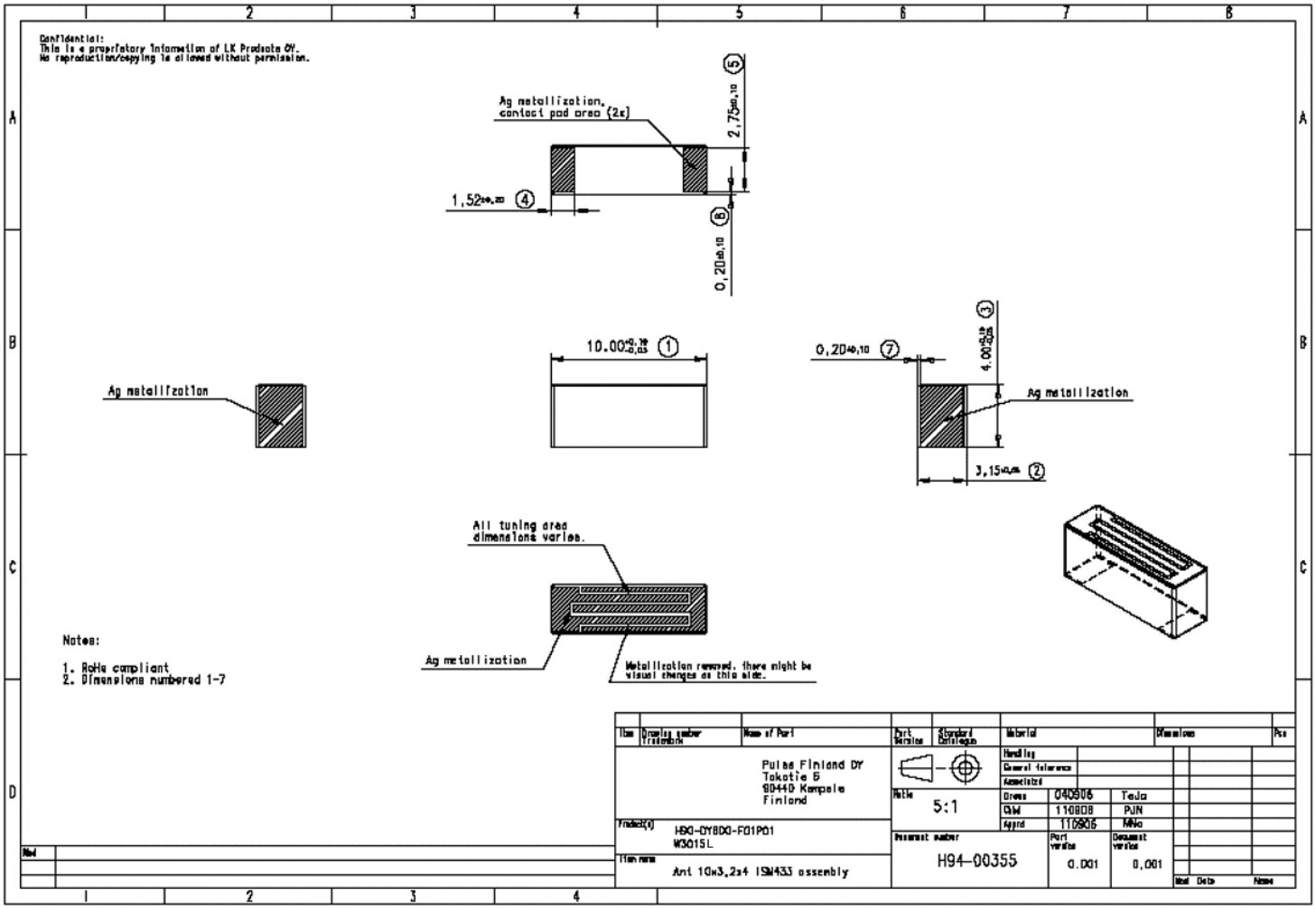
RoHS COMPLIANT

Description: ISM433MHz Embedded Antenna

Series: Ceramic Antenna

PART NUMBER: W3015L

MECHANICAL DRAWING



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PulseLARSEN Antennas

TECHNICAL DATA SHEET

Description: ISM433MHz Embedded Antenna

Series: Ceramic Antenna

PART NUMBER: W3015L

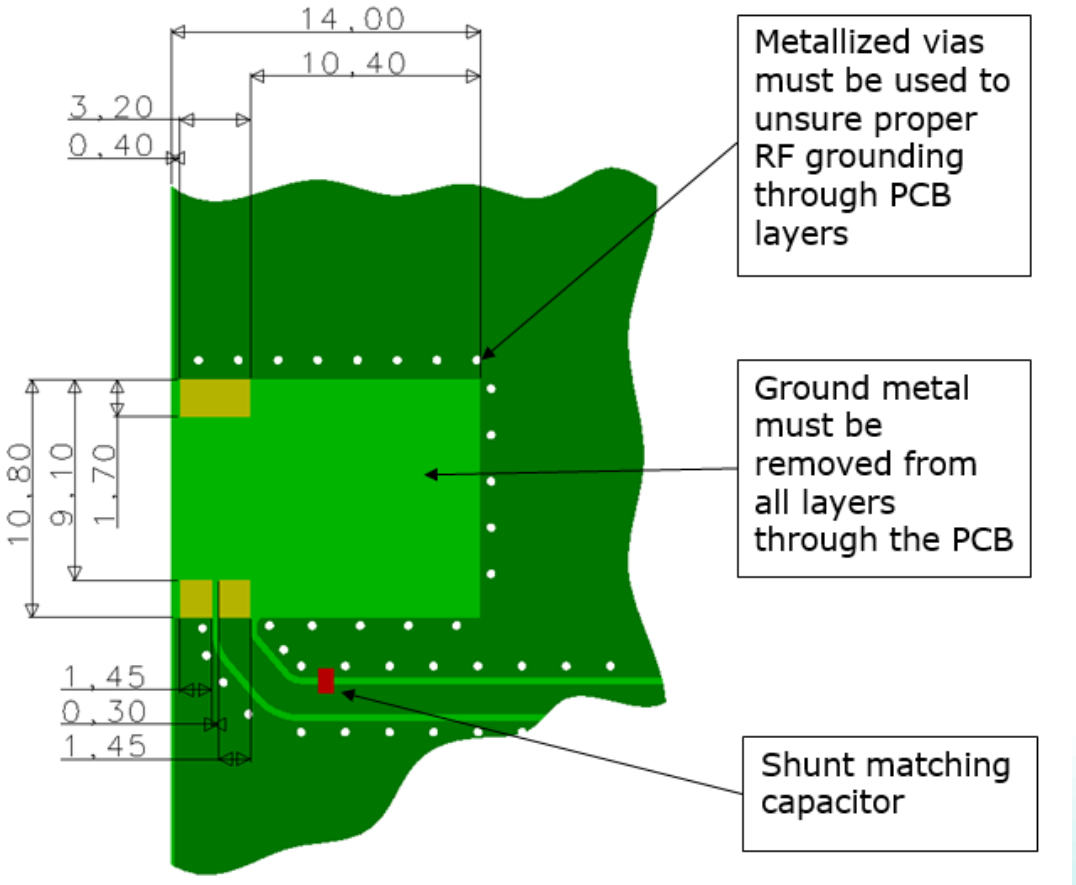
MECHANICAL DRAWING

ISM 433 MHz Antenna

Ceramic Chip Antenna (ground cleared under antenna **10.80 mm x 14.00 mm**)

Recommended test board for electrical characteristic measurement:

- **Ground clearance area dimensions**
- **Soldering pad layout**
- **External matching component**
  - **22pF 0402 sized parallel shunt capacitor,** exact capacitor value depends on used board and feed line configuration



Issue: 1643

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RoHS COMPLIANT

Description: ISM433MHz Embedded Antenna

Series: Ceramic Antenna

PART NUMBER: W3015L

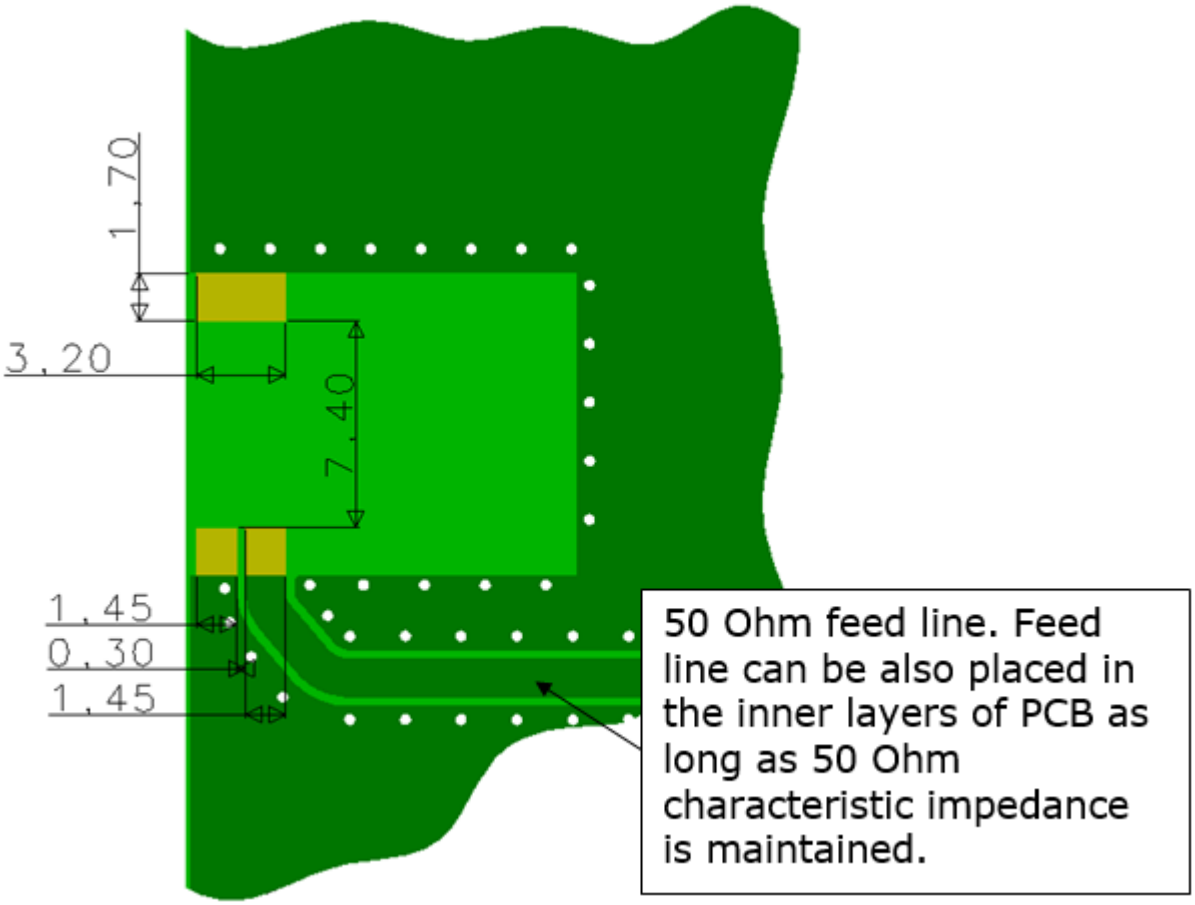
MECHANICAL DRAWING

ISM 433 MHz Antenna

Ceramic Chip Antenna (ground cleared under antenna **10.80 mm x 14.00 mm**)

Recommended test board for electrical characteristic measurement:

- **Detailed soldering pad dimensions**
  - **Note: Antenna chip has only two soldering terminals** (see figure 1.) **but in PCB the feed pad is separated from the adjacent ground pad due to impedance matching**



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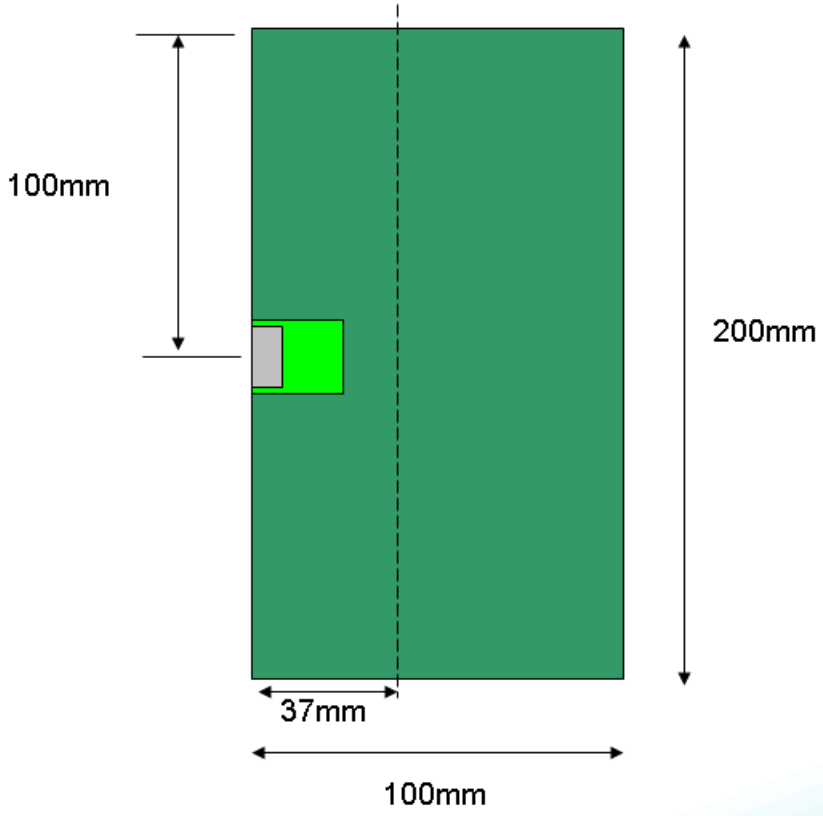
MECHANICAL DRAWING

ISM 433 MHz Antenna

Ceramic Chip Antenna (ground cleared under antenna **10.80 mm x 14.00 mm**)

Recommended test board for electrical characteristic measurement:

- **Evaluation board outline dimensions**
  - **200 x 100 mm or 200 x 37 mm** (note difference in performance, see table 1.)
- **Antenna placement on evaluation board**
  - **In the centre of the board long (200 mm) edge**



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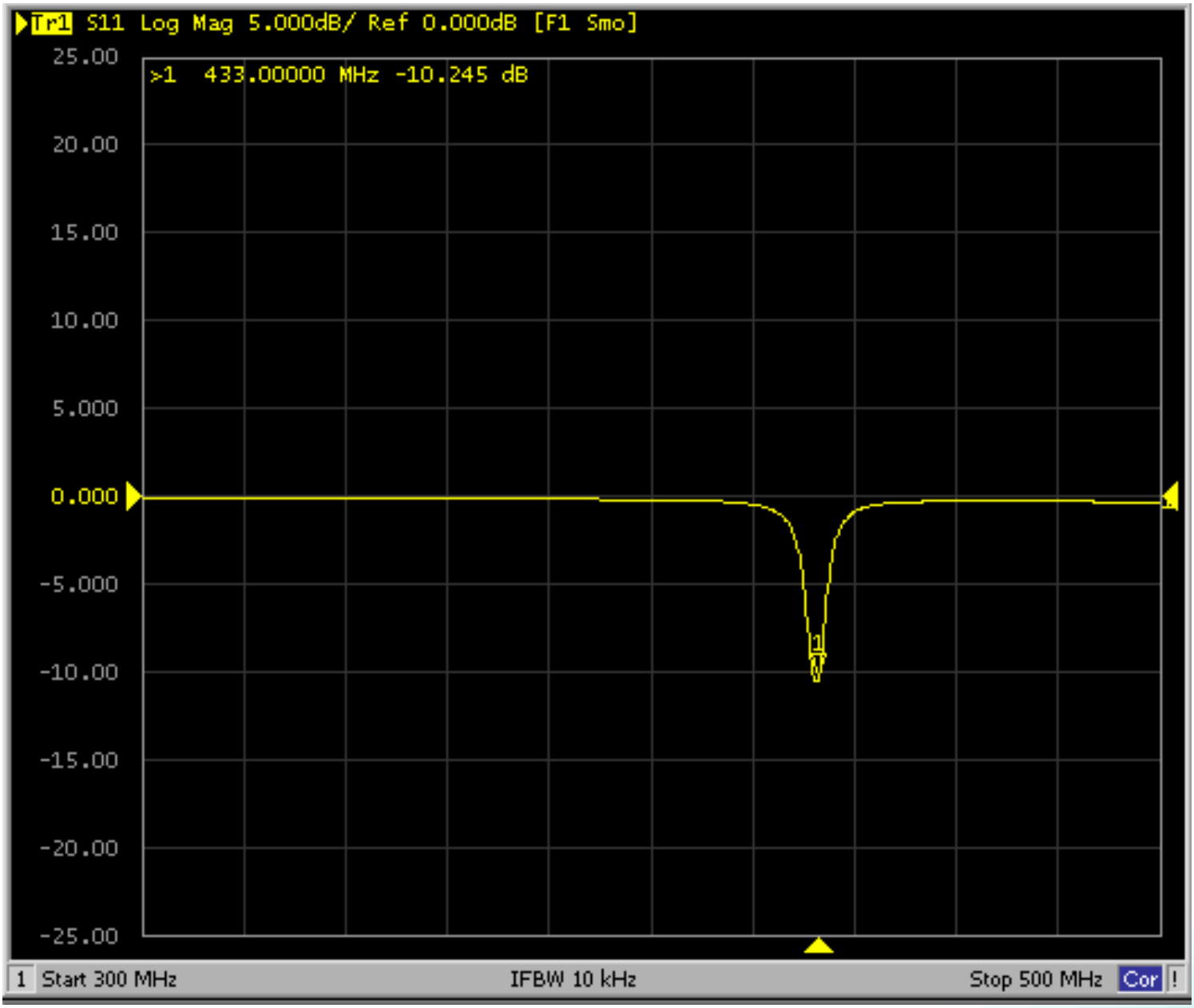
RoHS COMPLIANT

Description: ISM433MHz Embedded Antenna

Series: Ceramic Antenna

PART NUMBER: W3015L

CHARTS



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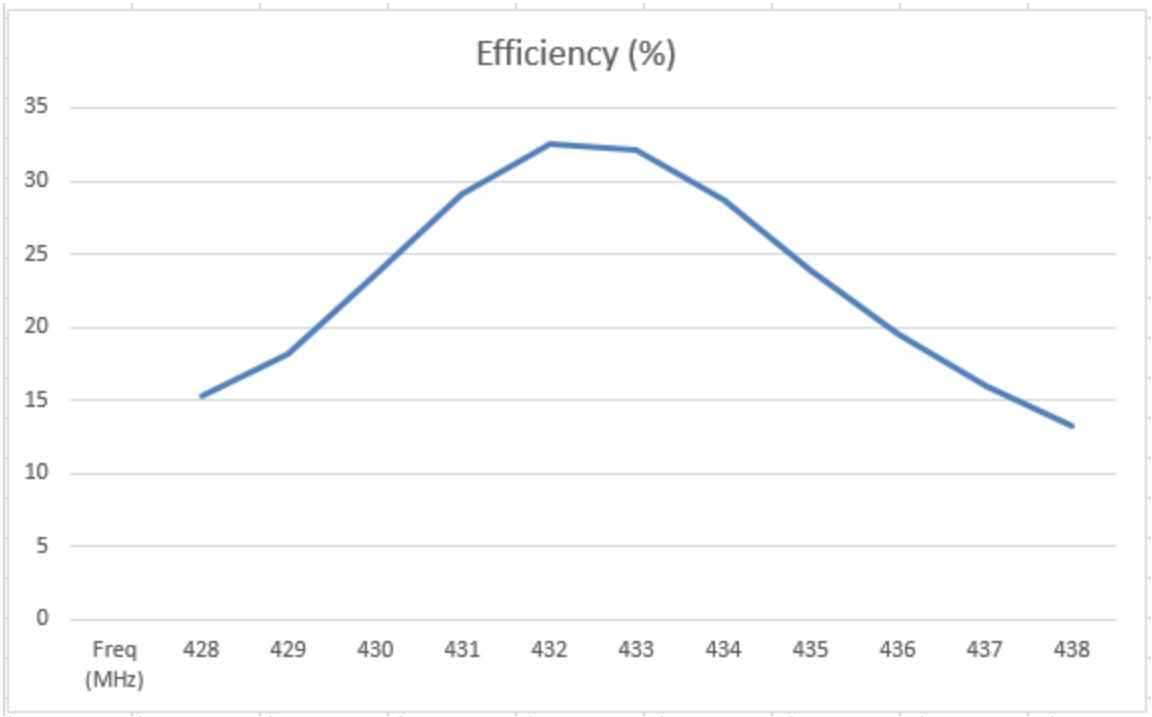
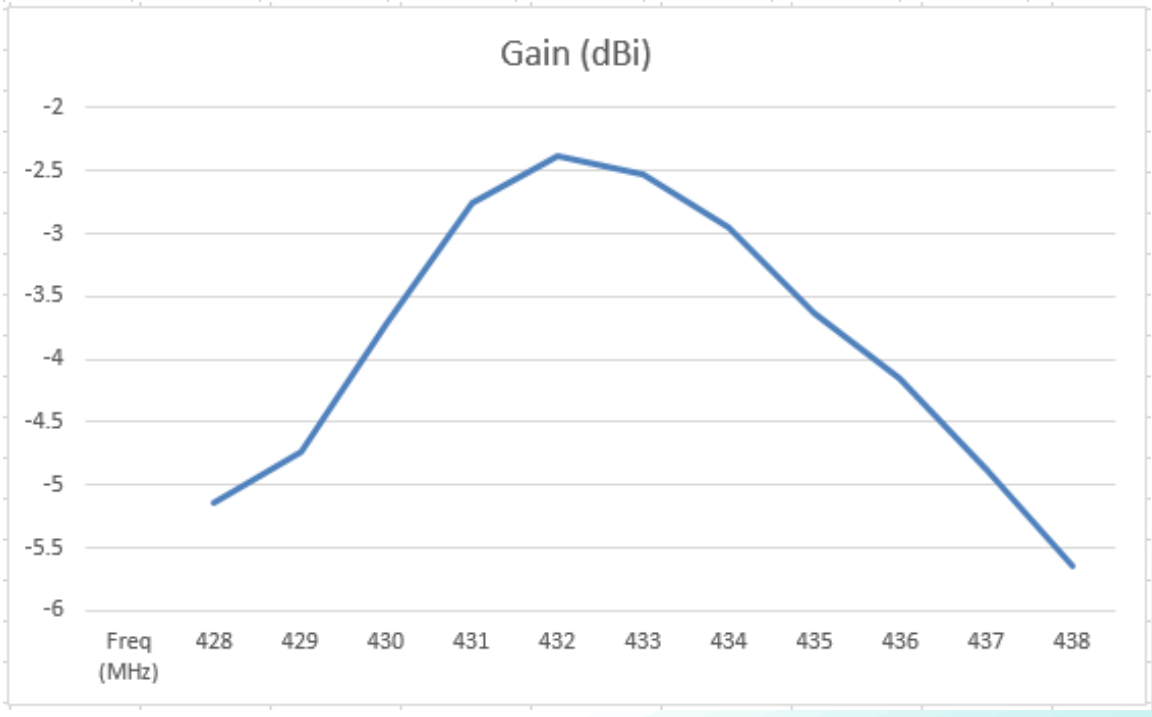
Description: ISM433MHz Embedded Antenna

Series: Ceramic Antenna

PART NUMBER: W3015L

CHARTS





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RoHS COMPLIANT

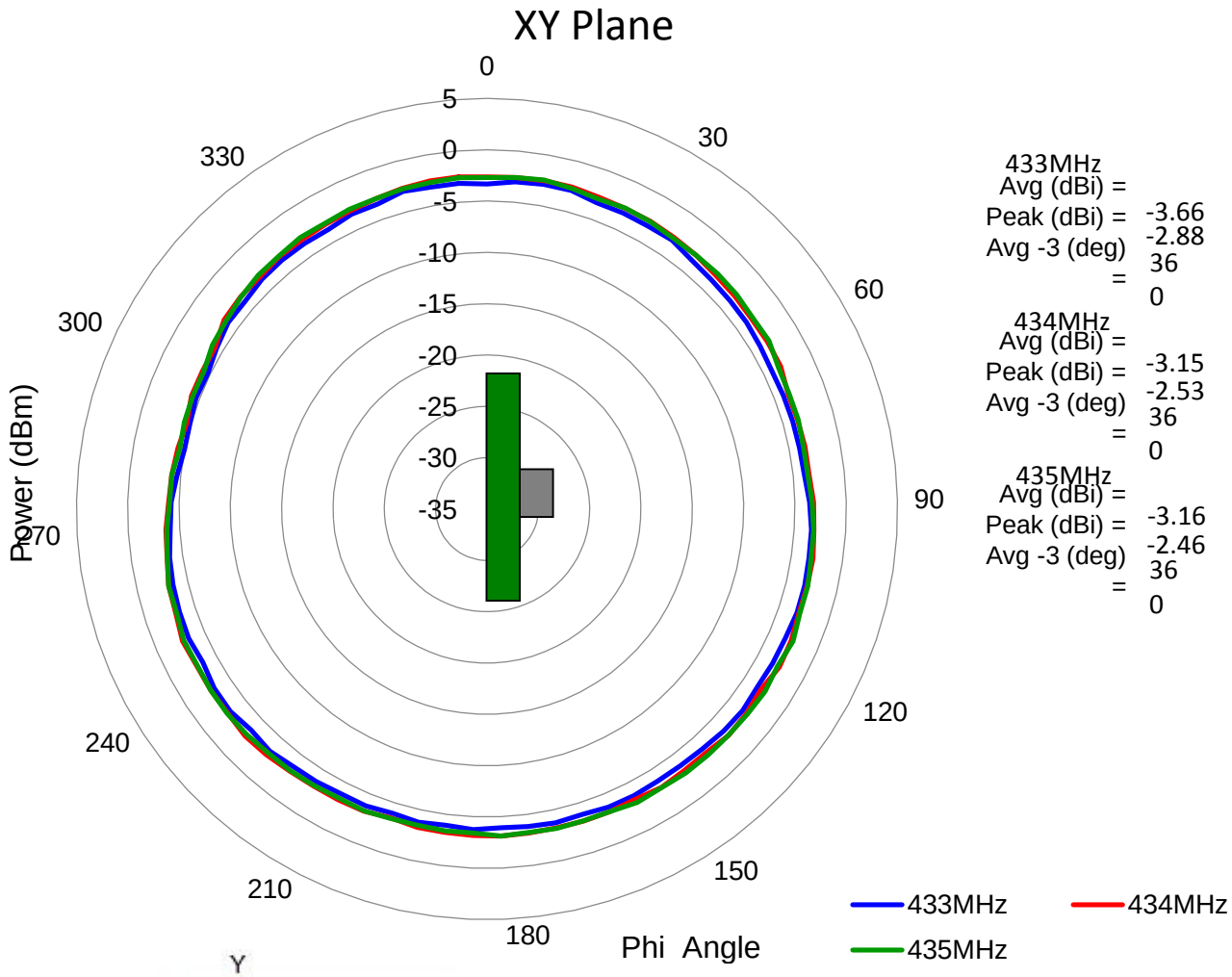
Description: ISM433MHz Embedded Antenna

Series: Ceramic Antenna

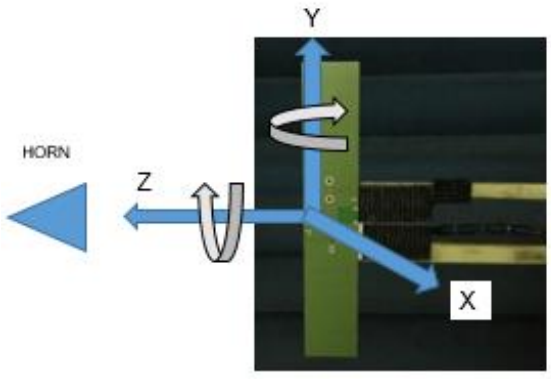
PART NUMBER: W3015L

CHARTS

Typical free space radiation pattern



433MHz	
Avg (dBi) =	-3.66
Peak (dBi) =	-2.88
Avg -3 (deg) =	36
	0
434MHz	
Avg (dBi) =	-3.15
Peak (dBi) =	-2.53
Avg -3 (deg) =	36
	0
435MHz	
Avg (dBi) =	-3.16
Peak (dBi) =	-2.46
Avg -3 (deg) =	36
	0



Issue

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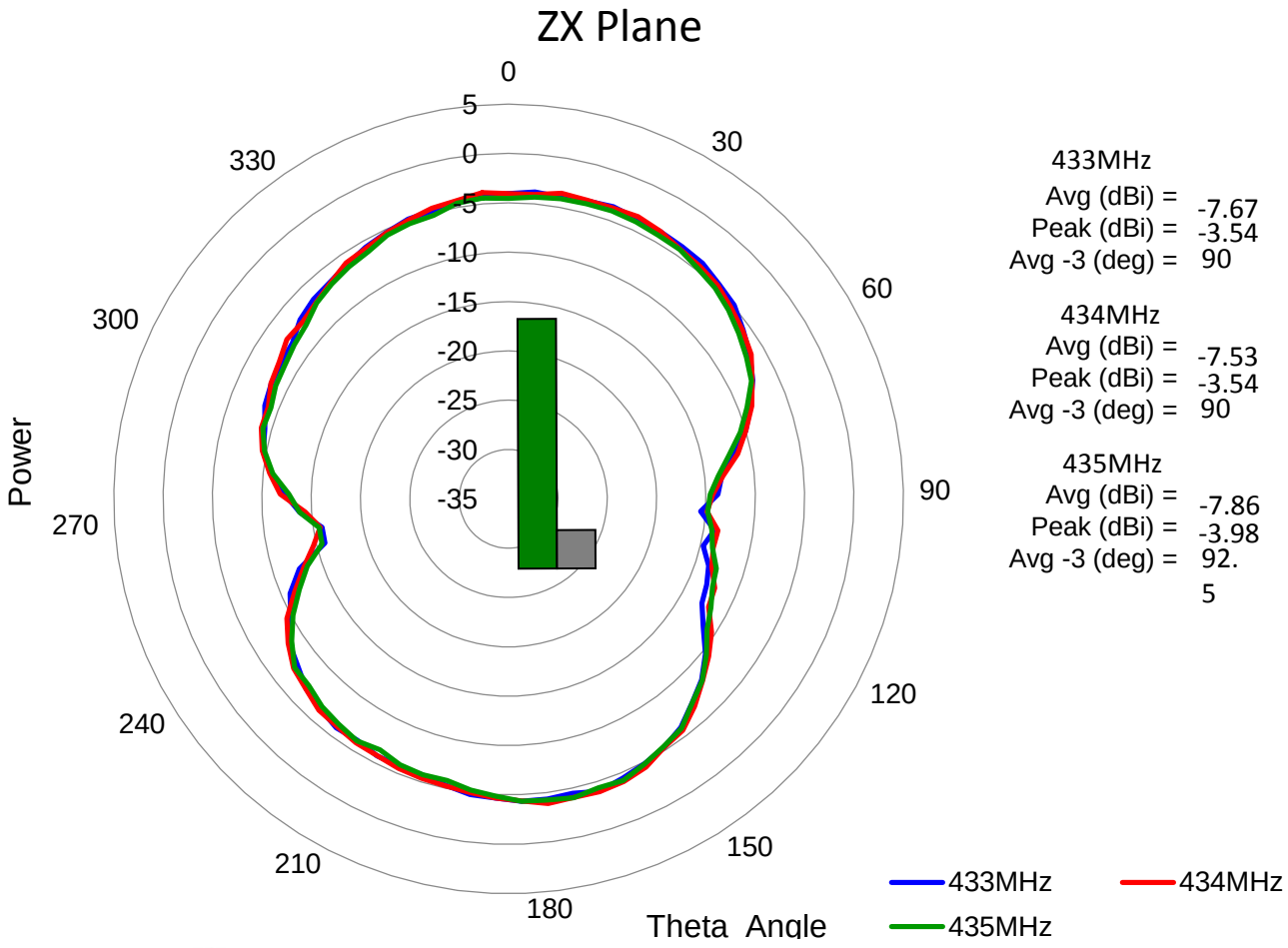
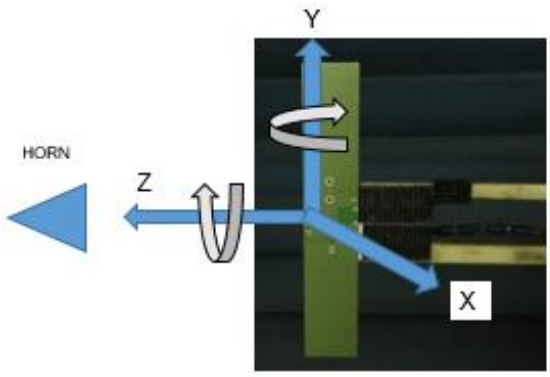
CHARTS

Typical free space radiation pattern



	433MHz	434MHz	435MHz
Avg (dBi) =	-7.67	-7.53	-7.86
Peak (dBi) =	-3.54	-3.54	-3.98
Avg -3 (deg) =	90	90	92.5



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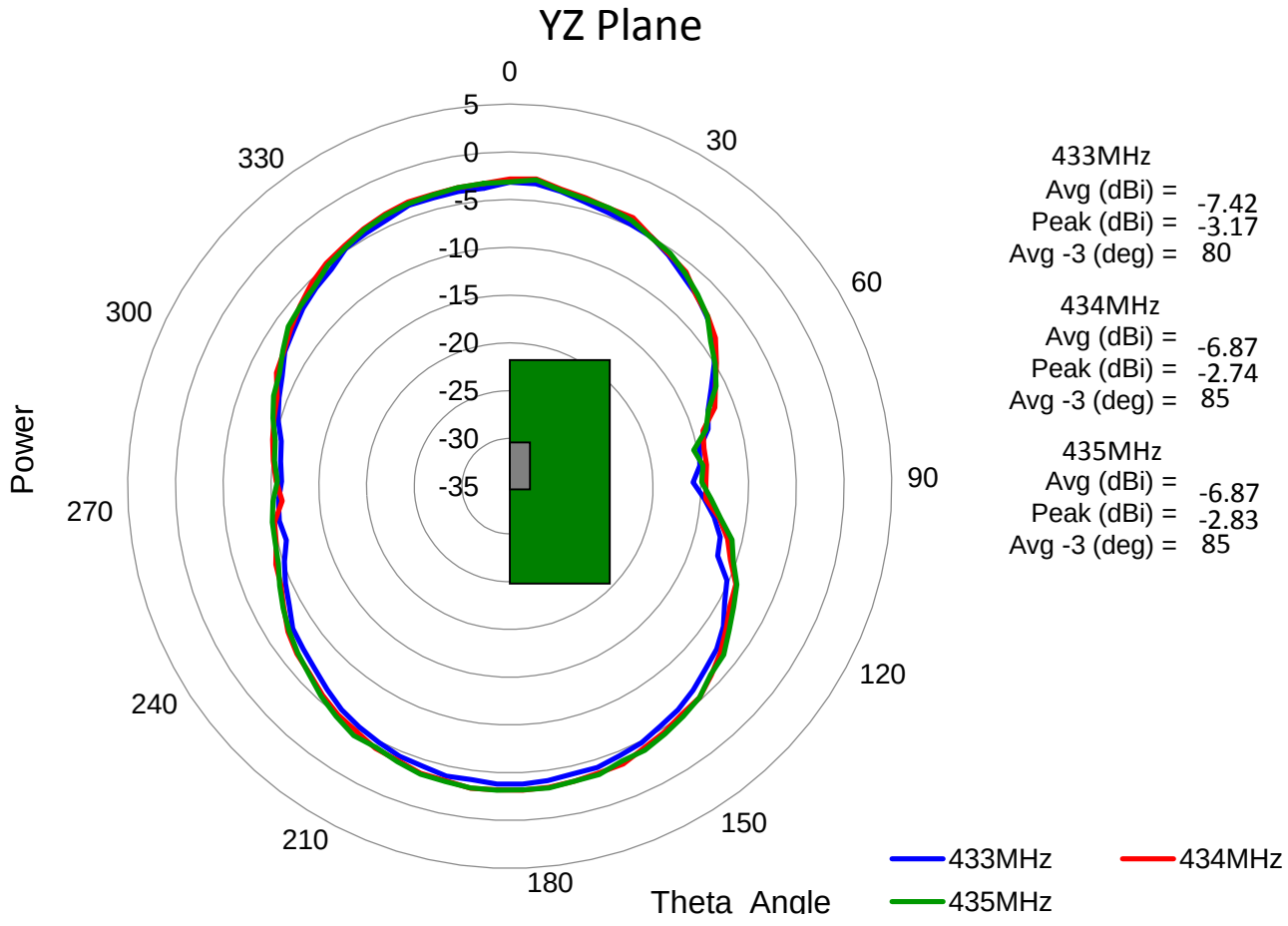
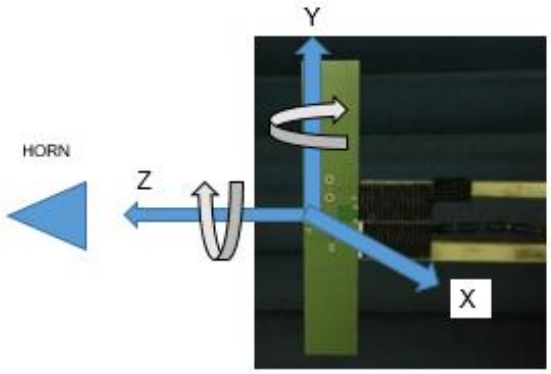
CHARTS

Typical free space radiation pattern



433MHz	
Avg (dBi) =	-7.42
Peak (dBi) =	-3.17
Avg -3 (deg) =	80
434MHz	
Avg (dBi) =	-6.87
Peak (dBi) =	-2.74
Avg -3 (deg) =	85
435MHz	
Avg (dBi) =	-6.87
Peak (dBi) =	-2.83
Avg -3 (deg) =	85



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Series: Ceramic Antenna

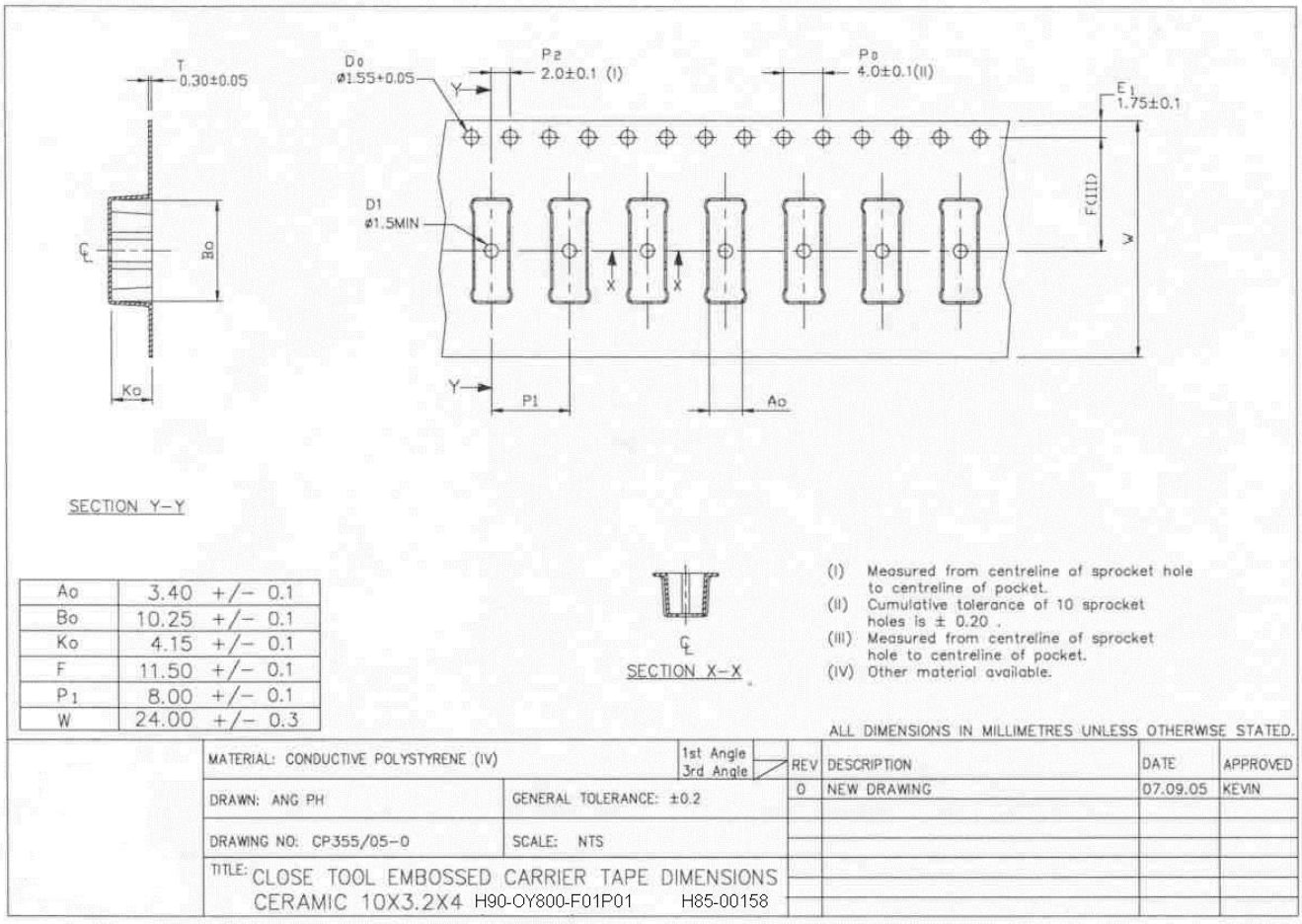
PART NUMBER: W3015L

PACKAGING

General

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

(I) Measured from centreline of sprocket hole to centreline of pocket.
(II) Cumulative tolerance of 10 sprocket holes is ± 0.20 .
(III) Measured from centreline of sprocket hole to centreline of pocket.
(IV) Other material available.

ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE STATED.

MATERIAL: CONDUCTIVE POLYSTYRENE (IV)	1st Angle / 3rd Angle	REV	DESCRIPTION	DATE	APPROVED
DRAWN: ANG PH	GENERAL TOLERANCE: ±0.2	0	NEW DRAWING	07.09.05	KEVIN
DRAWING NO: CP355/05–0	SCALE: NTS				
TITLE: CLOSE TOOL EMBOSSED CARRIER TAPE DIMENSIONS CERAMIC 10X3.2X4 H90-OY800-F01P01 H85-00158					

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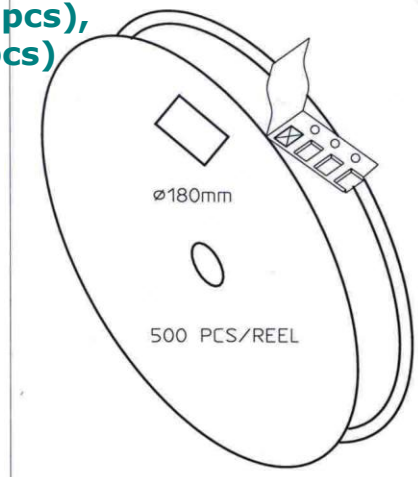
Packing form

500pcs in one Reel,
3 reel in one inbox (1500 pcs),
2 inbox in out box (3000pcs)



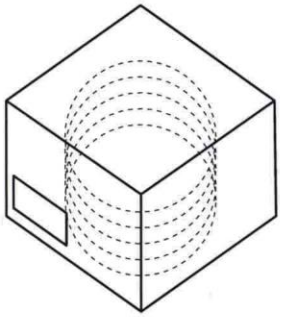
CARRIER TAPE H85-00158
width=24,00 depth=4.15
COVER TAPE H85-00159
width=21.20

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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