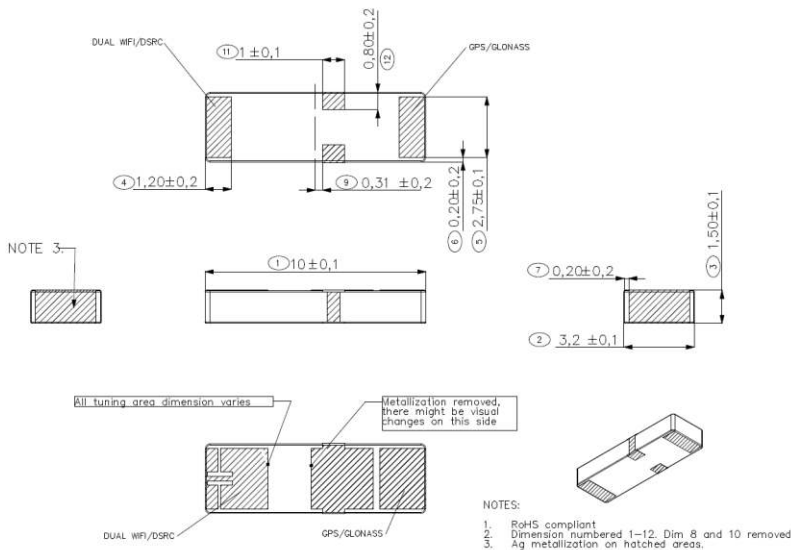


## Features:

- 3 in 1 solution on a ceramic chip with two separate feeds.
- Need smaller antenna space on PCB to integrate GNSS, Dual WiFi and DSRC bands
- Compact Size (L x W x H) 10 x 3.2 x 1.5mm.
- Fully SMD compatible



## Applications:

- GNSS(1560-1610MHz)
- GPS, Glonass, Beidou
- IEEE 802.11 a/b/g/n compliant 2.4 and 5GHz. (2400-2485/ 4900-5850MHz)
- DSRC (5850-5925MHz)
- Mobile navigation device

All dimensions are in mm / inches

Issue: 2042

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Pulse (Suzhou) Wireless Products Co, Inc.  
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Suzhou New District  
Jiangsu Province, Suzhou 215009 PR China  
Tel: 86 512 6807 9998



**ELECTRICAL SPECIFICATIONS**

Frequency, Port 1	1.560-1.610 GHz
Frequency, Port 2	2.4-2.485/ 4.9-5.925 GHz
Normal Impedance	50 Ohm
Return Loss, Port 1	<2.5:1
Return Loss, Port 1	<2:1 at low band <2.8:1 at high band
Efficiency (Typ.), Port 1	65 %
Efficiency (Typ.), Port 2	70/ 55 %
Peak Gain, Port 1	1.5 dBi
Peak Gain, Port 2	1.5/ 3.5 dBi
Isolation (Min.) at 1.560-1.610 GHz	20 dB
Isolation (Min.) at 2.4-2.485 GHz	18 dB
Isolation (Min.) at 4.9-5.925 GHz	22 dB
Polarization	Linear
Interface	SMD Mount

**Description:** GNSS-DUAL WIFI-DSRC ANT**PART NUMBER:** W3095**MECHANICAL SPECIFICATIONS**

Block material	Dielectric ceramic
Plating material	Ag
Weight	0.24 g
RoHS Compliant Product	
Tape and reel packing	
Lead free materials	
Lead free soldering compatible	
Vibration test	According to AEC-Q200-Rev-D MIL-STD-202 Method 204, 5g's for 20 min., 12 cycles each of 3 orientations. Note: USE 8" x 5" PCB .031" thick 7 secure points on one long side and 2 secure points at corners of opposite sides. Parts mounted within 2" from any secure point. Test from 10-2000 Hz.
Moisture sensitivity level	MSL 1

**ENVIRONMENTAL SPECIFICATIONS**

Operating temperature	-30 to +80° C
-----------------------	---------------

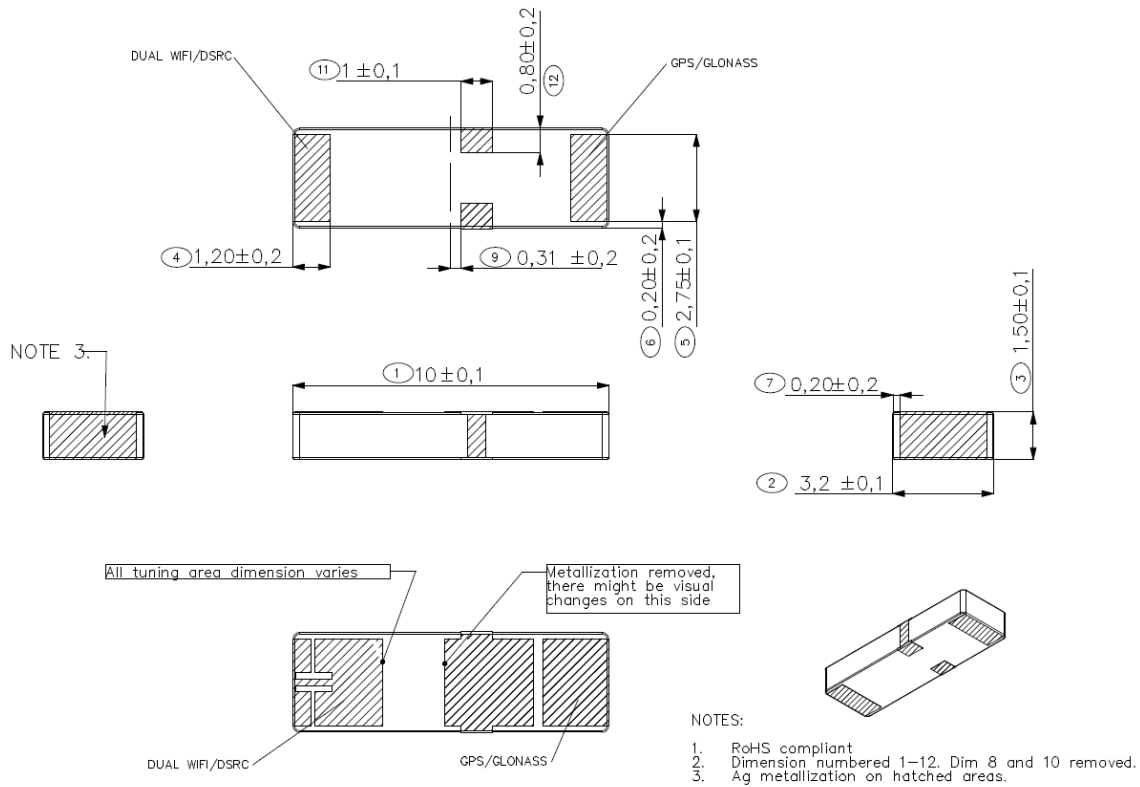
a YAGEO company

Description: GNSS-DUAL WIFI-DSRC ANT

Series: CERAMIC CHIP

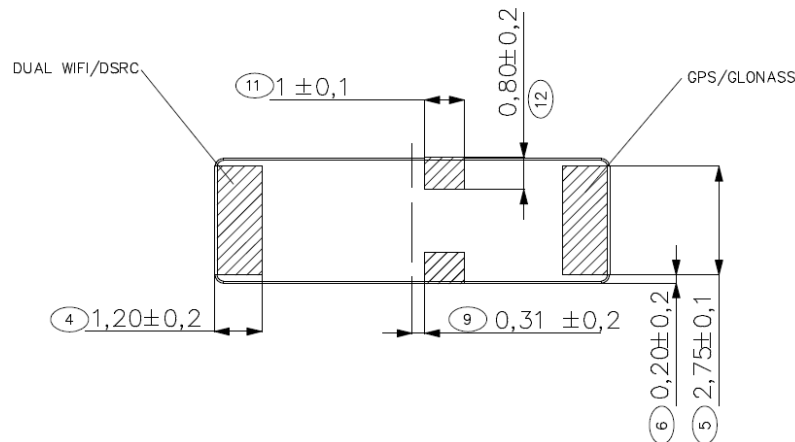
PART NUMBER: W3095

## MECHANICAL DRAWING



Dimensions: (mm)

### Details of antenna pad dimension on the bottom in mm.



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a YAGEO company

Description: GNSS-DUAL WIFI-DSRC ANT

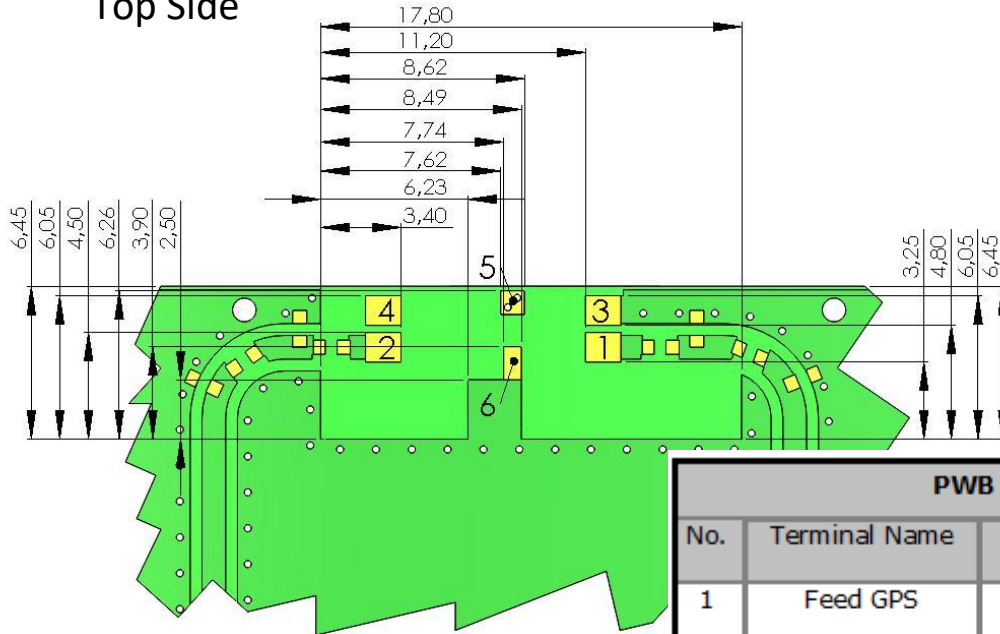
Series: CERAMIC CHIP

PART NUMBER: W3095

### OTHER SPECIFICATIONS

#### PCB Layout Recommendation

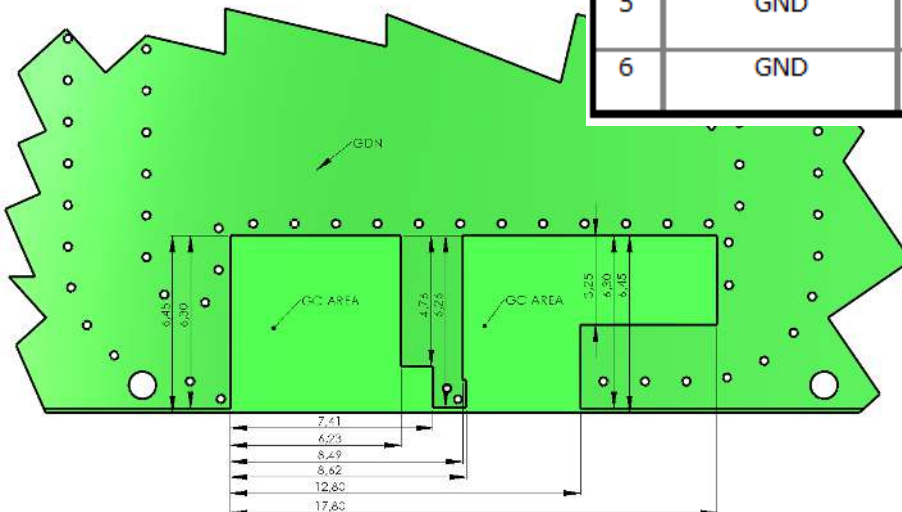
Top Side



#### PWB features

No.	Terminal Name	Terminal Dimensions
1	Feed GPS	1.25 x 1.50 mm
2	Feed 2,4-5,925GHZ	1.25 x 1.50 mm
3	GND	1.25 x 1.50 mm
4	Support pad	1.25 x 1.50 mm
5	GND	1.00 x 1.00 mm
6	GND	1.40x 0.75 mm

Bottom Side



Issue: 2042

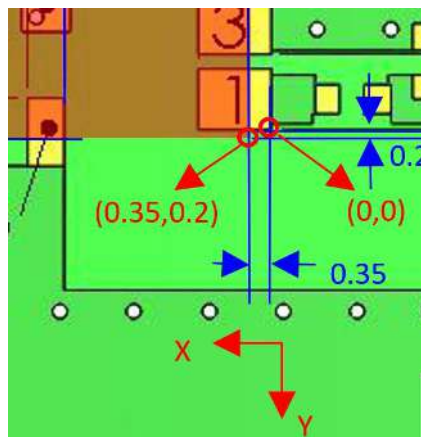
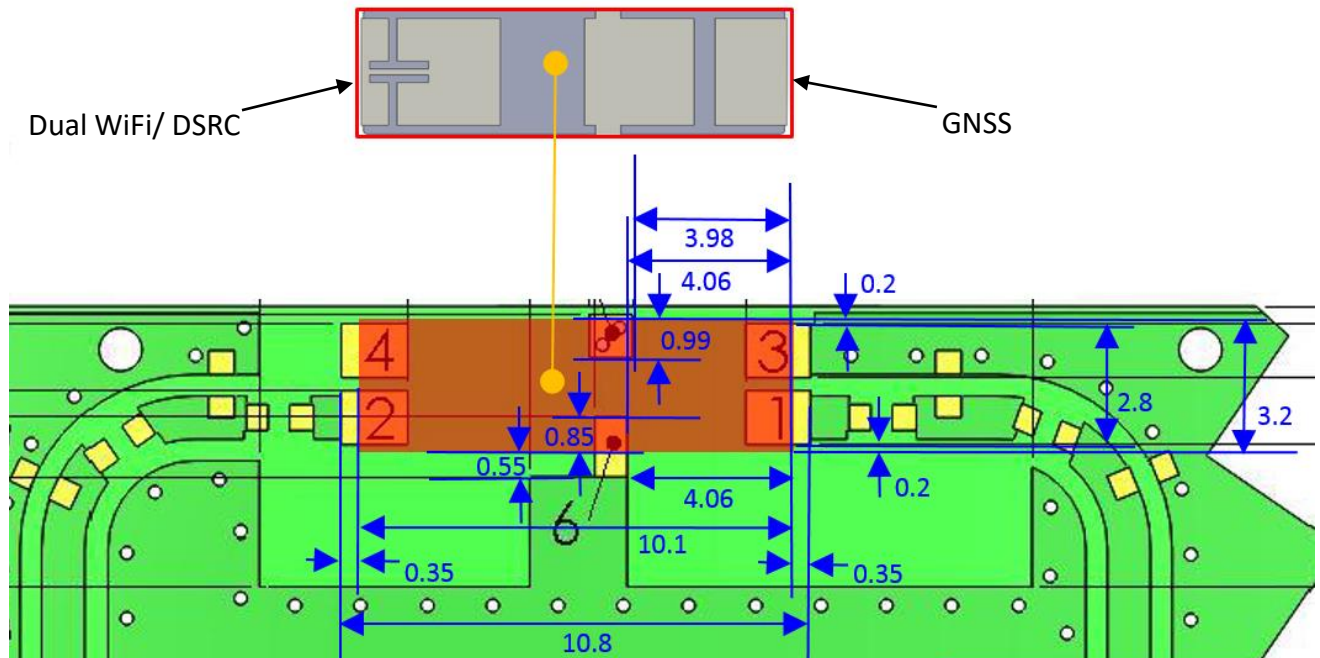
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## OTHER SPECIFICATIONS

### Antenna Alignment on PCB Layout



a YAGEO company

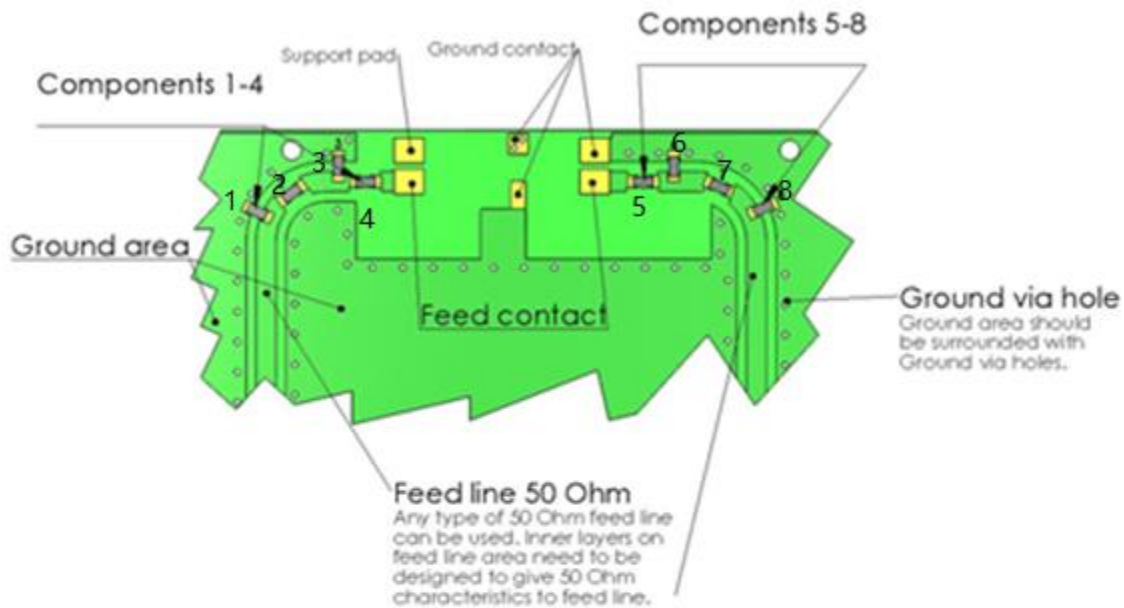
Description: GNSS-DUAL WIFI-DSRC ANT

Series: CERAMIC CHIP

PART NUMBER: W3095

## OTHER SPECIFICATIONS

### Suggested Matching on PCB



Antenna	Component NO.	Value
2,4-5,85GHz	1	Not in use
2,4-5,85GHz	2	0 Ohm
2,4-5,85GHz	3	2,2nH
2,4-5,85GHz	4	1,2pF
GNSS	5	0 Ohm
GNSS	6	1,8pF
GNSS	7	0 Ohm
GNSS	8	Not in use

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## CHARTS

### Typical GNSS antenna Return Loss



### Typical WIFI antenna Return Loss



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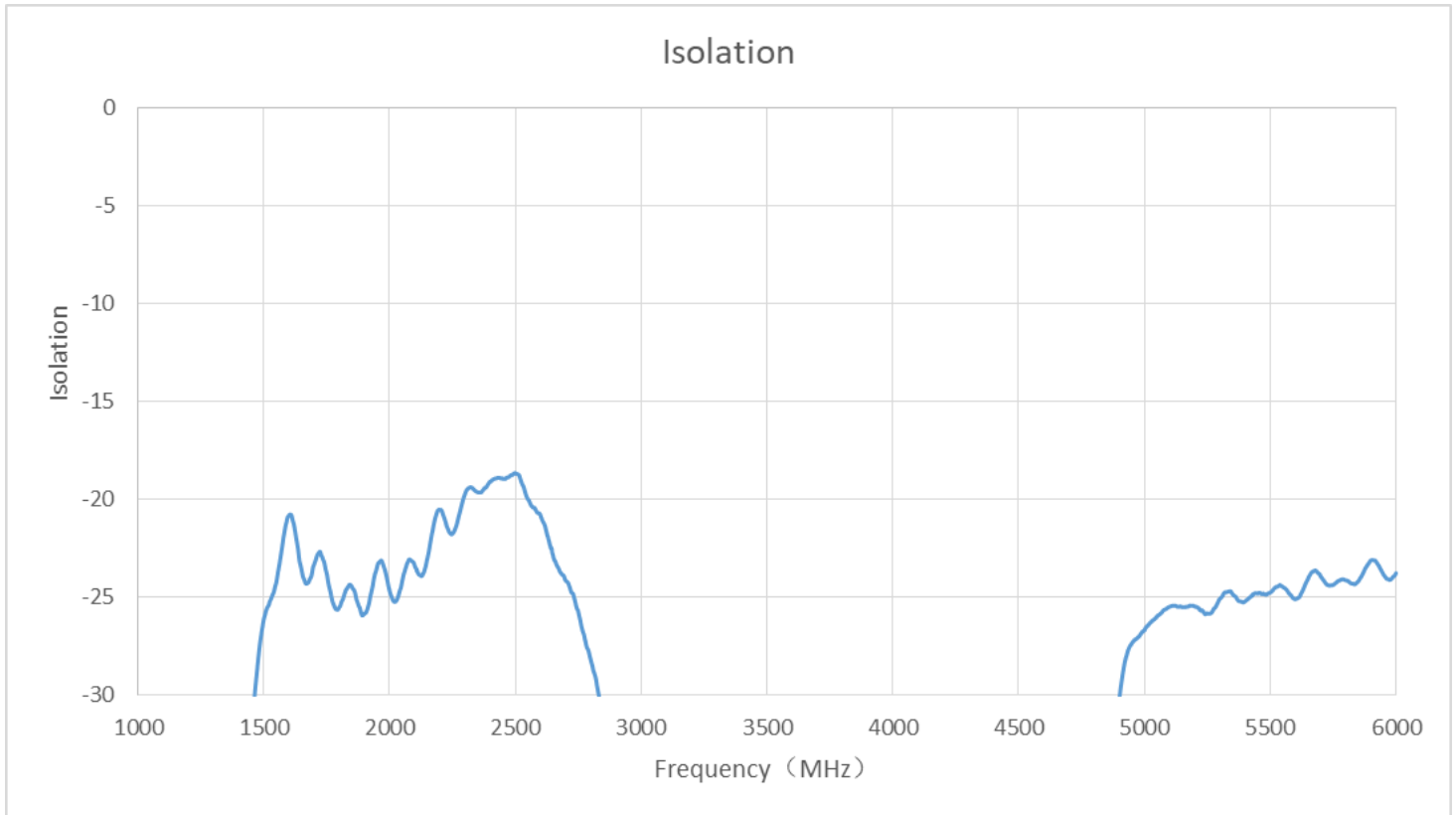
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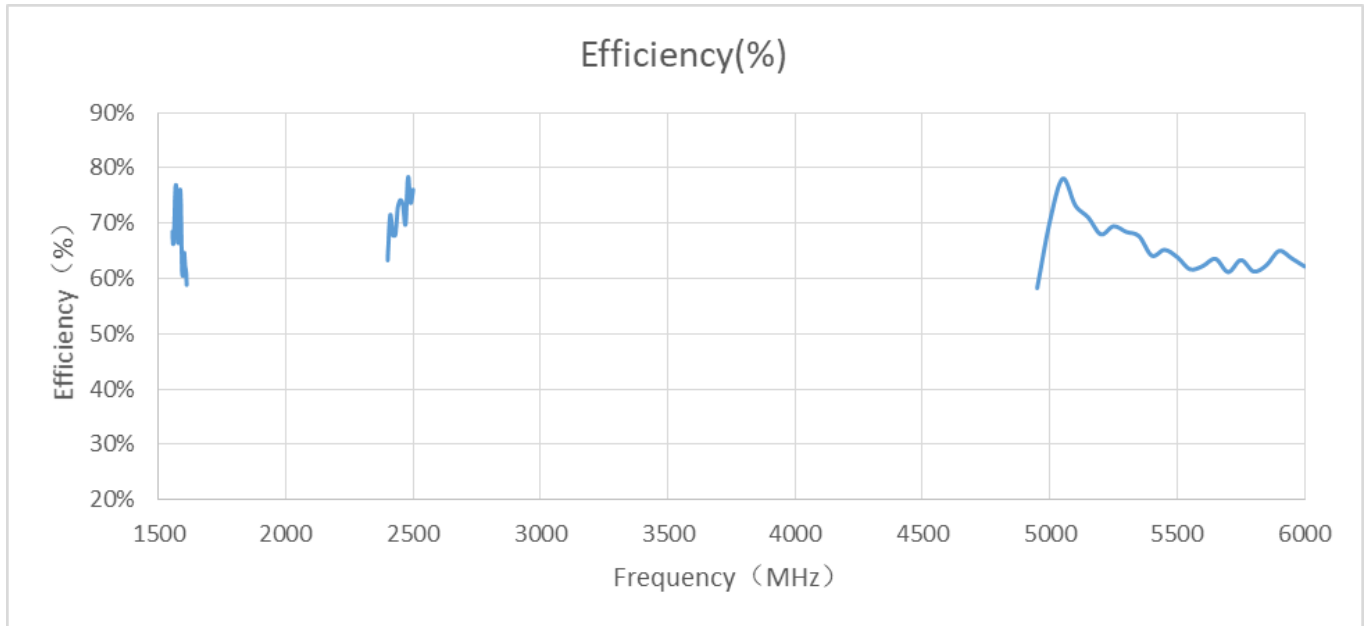
## CHARTS

### Typical Isolation

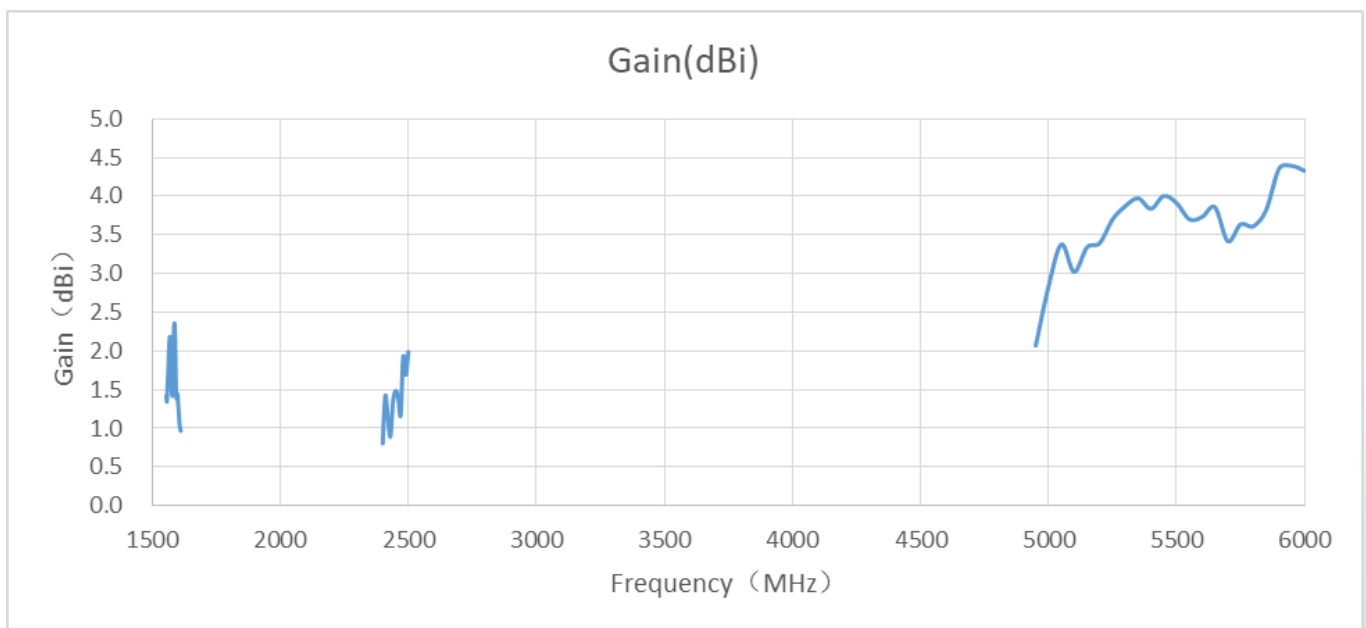


## CHARTS

### Typical Antenna Total Efficiency



### Typical Antenna Peak Gain



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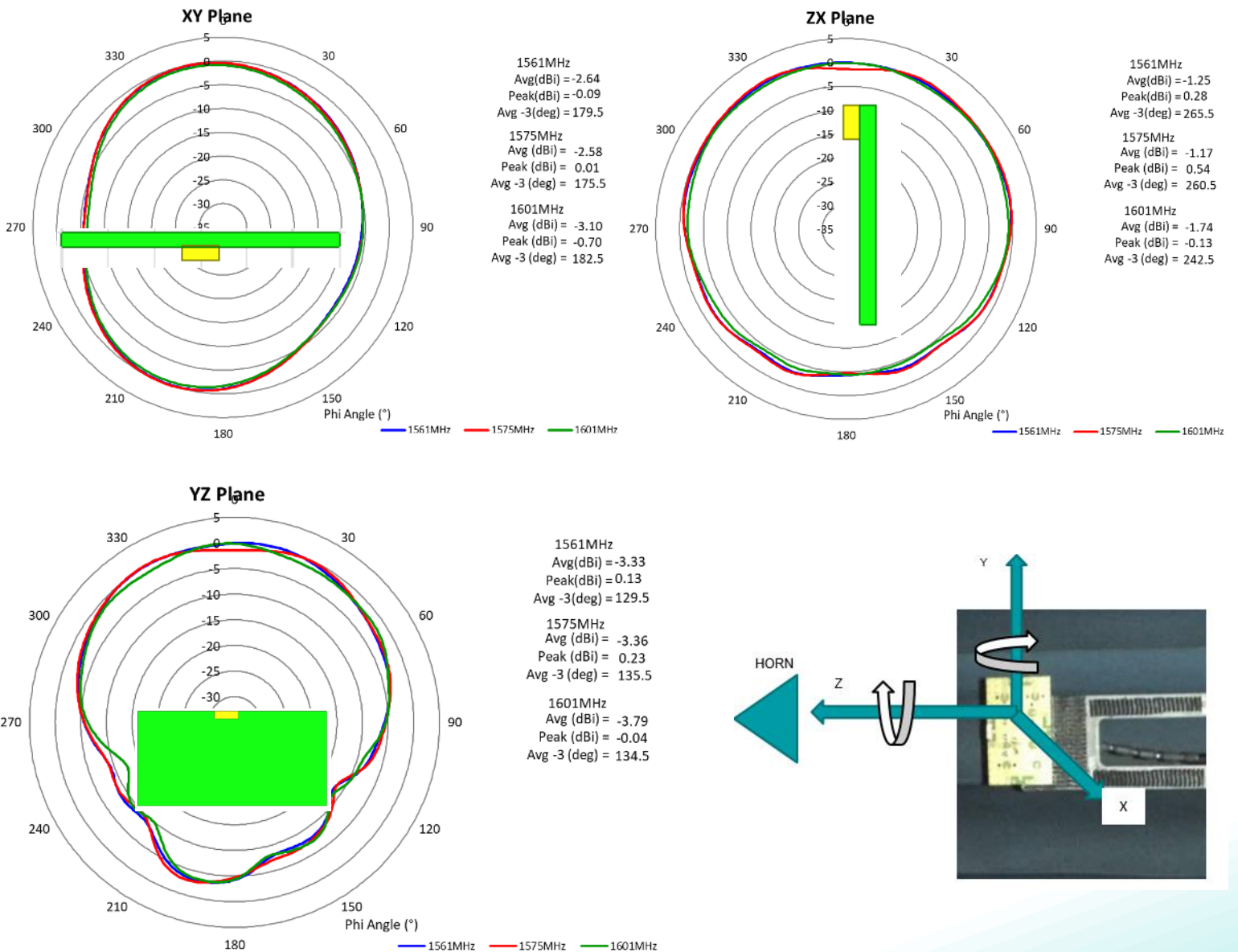
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## CHARTS

### Typical free space radiation pattern—GNSS



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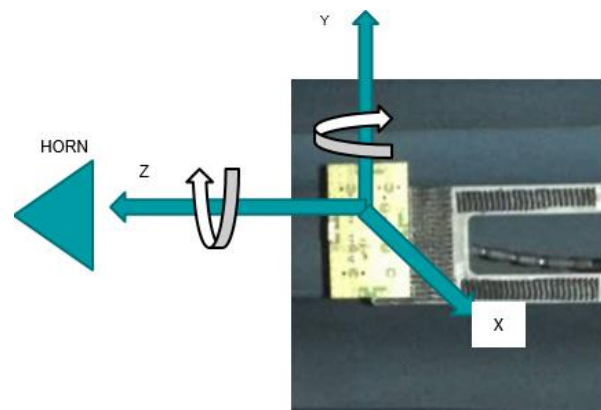
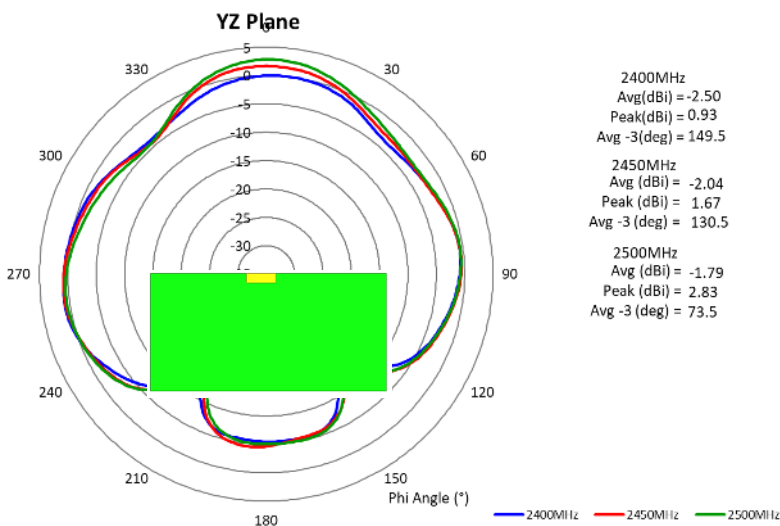
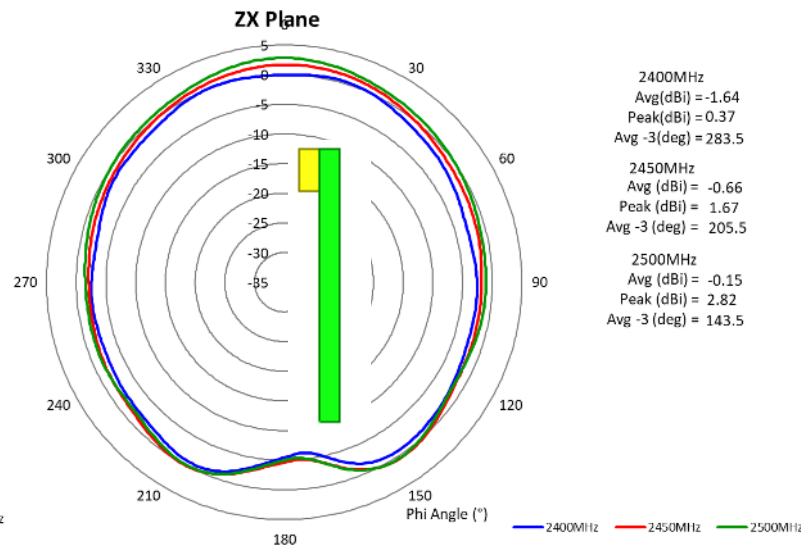
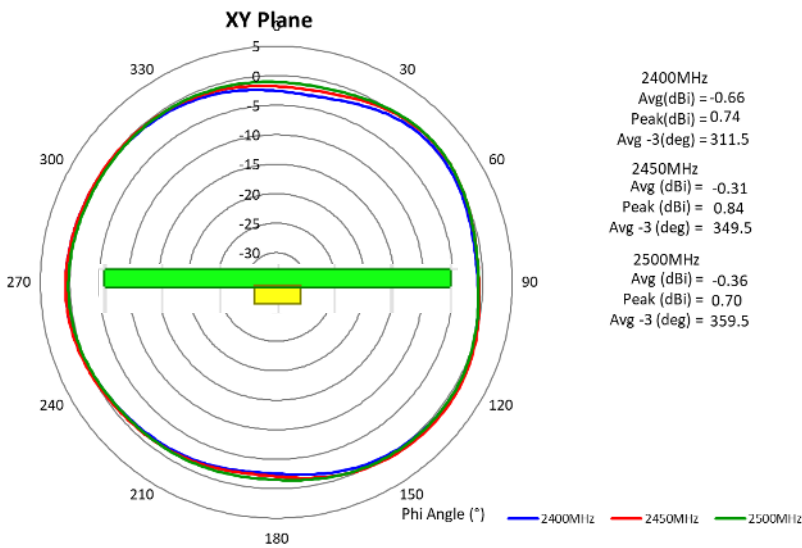
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## CHARTS

### Typical free space radiation pattern—2.4G



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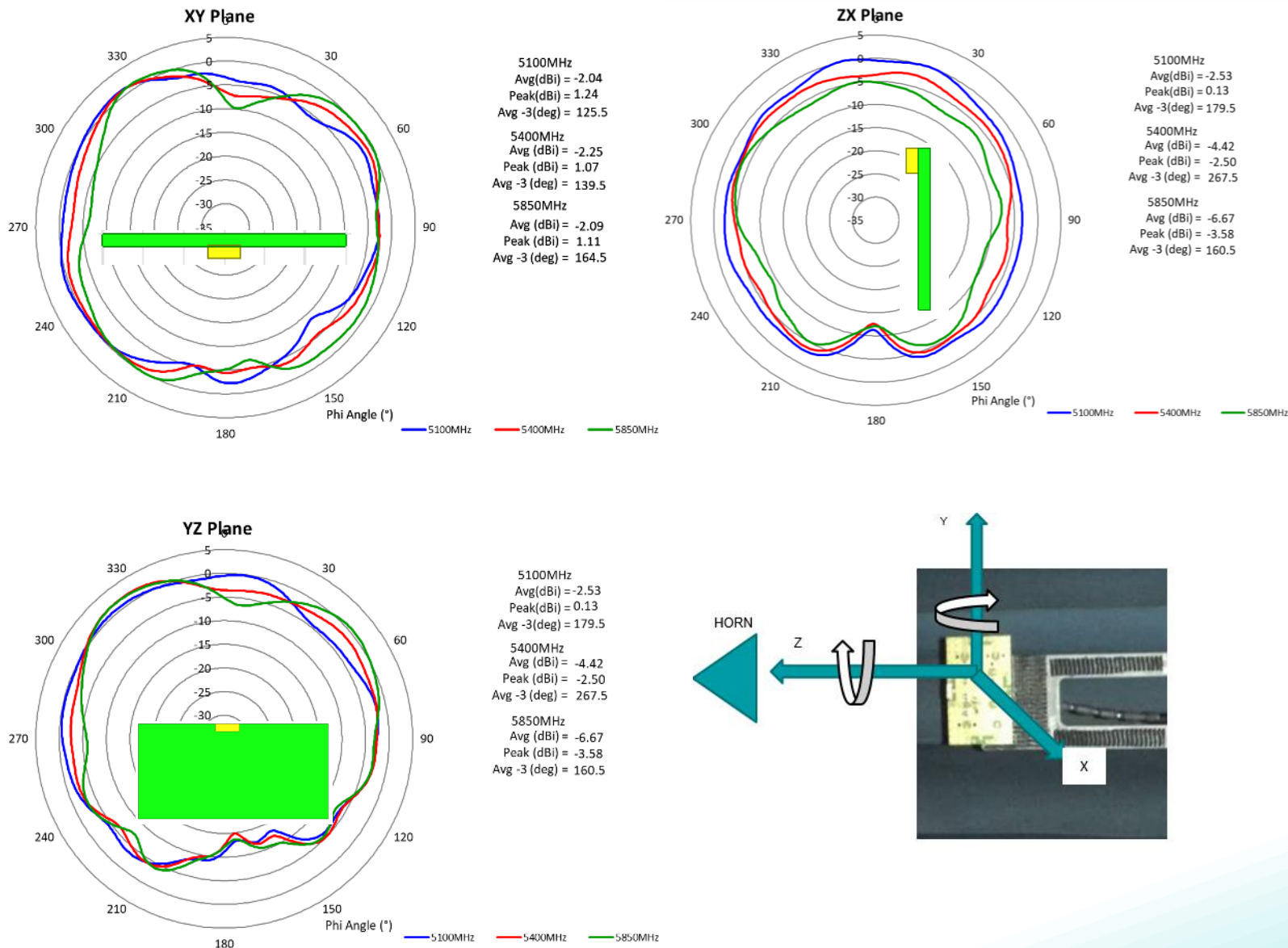
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## CHARTS

### Typical free space radiation pattern—5G



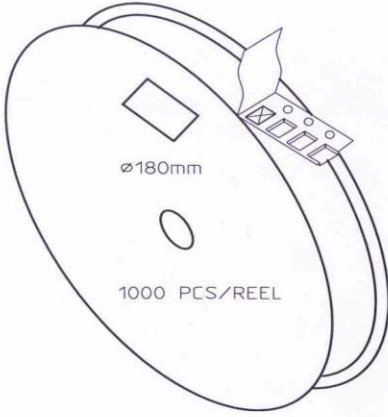
Issue: 2042

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## PACKAGING

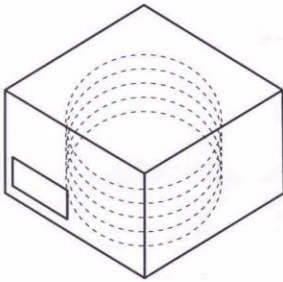


CARRIER TAPE H85-00188  
 width=24,00 depth=2.20  
 COVER TAPE H85-00159  
 width=21.20


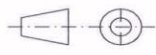
LENGTH OF TAPE:

- 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																							
	<table border="1"> <tr> <td>DRWN</td> <td>160107 PeHa</td> <td>H</td> </tr> <tr> <td>DGNER</td> <td></td> <td>G</td> </tr> <tr> <td>CHKD</td> <td></td> <td>F</td> </tr> <tr> <td>APPRD</td> <td></td> <td>E</td> </tr> <tr> <td>APPRD BY</td> <td></td> <td>D</td> </tr> <tr> <td></td> <td></td> <td>C</td> </tr> <tr> <td></td> <td></td> <td>B</td> </tr> <tr> <td></td> <td></td> <td>A</td> </tr> </table>	DRWN	160107 PeHa	H	DGNER		G	CHKD		F	APPRD		E	APPRD BY		D			C			B		
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APPRD		E																						
APPRD BY		D																						
		C																						
		B																						
		A																						
PRODUCT	H90-OY113-F01P01																							
DENOMINATION	PACKING FORM																							
VERSION	MOD/DATE/NAME																							

## Block Orientation

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

Top view of the carrier tape

