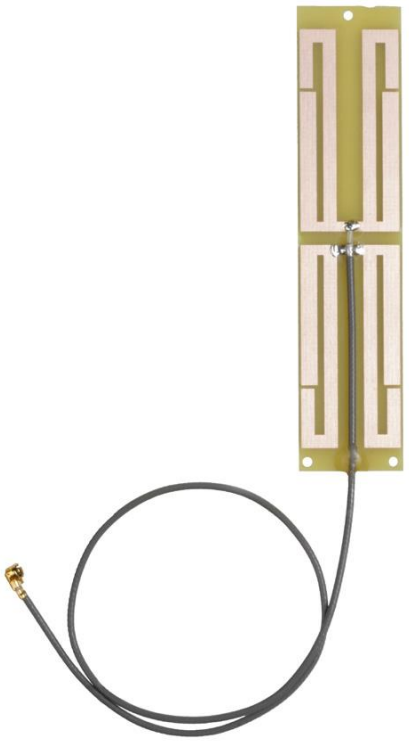
Pulse | LARSEN Antennas
A YAGEO Company

TECHNICAL DATA SHEET

Description: 2.4/5GHz Dual Band Pigtail PCB Dipole

Series: Internal PCB antenna

PART NUMBER: W3513XXXX



Features:

- Low profile
- Omni directional gain in XY-plane
- Size W x L x H (16 x 70 x 0.9 mm)
- Antenna feed cable length
  - W3513: 212mm
  - W3513BD0080: 80mm
- Connector
  - W3513: U.FL compatible
  - W3513BD0080: MHF4

Applications:

- Access point routers 802.11n
- WLAN/WiFi 802.11a/b/g/n

All dimensions are in mm / inches

Issue: 1939

RoHS COMPLIANT

For more information:

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99 Huo Ju Road(#29 Bldg,4th Phase
Suzhou New District
Jiangsu Province, Suzhou 215009 PR China
Tel: 86 512 6807 9998

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ELECTRICAL SPECIFICATIONS

Antenna Type	PCB Dipole
Frequency	2.4-2.5GHz & 4.9-5.9GHz
Nominal Impedance	50 Ω
VSWR	2:1
Radiation Pattern	Omni
Gain	2dBi
Efficiency(2.4-2.5G)	>65%
Efficiency(4.9-5.9G)	>55%
Polarization	Vertical Linear

MECHANICAL SPECIFICATIONS

Size W x L x H	16 x 70 x 0.9 mm
Weight	W3513: 2.57 g W3513BD0080: 2.1 g
Connector type	W3513: U.FL compatible connector W3513BD0080: MHF4 connector
Cable type	W3513: ø1.13 mm Coaxial Cable, Black W3513BD0080: ø0.81 mm Coaxial Cable, Black
Cable length	W3513: 250 mm (total) W3513BD0080: 117.5 mm (total)

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	-40 to +85 ° C
Storage Temperature	-40 to +85 ° C
RoHS Compliant	Yes

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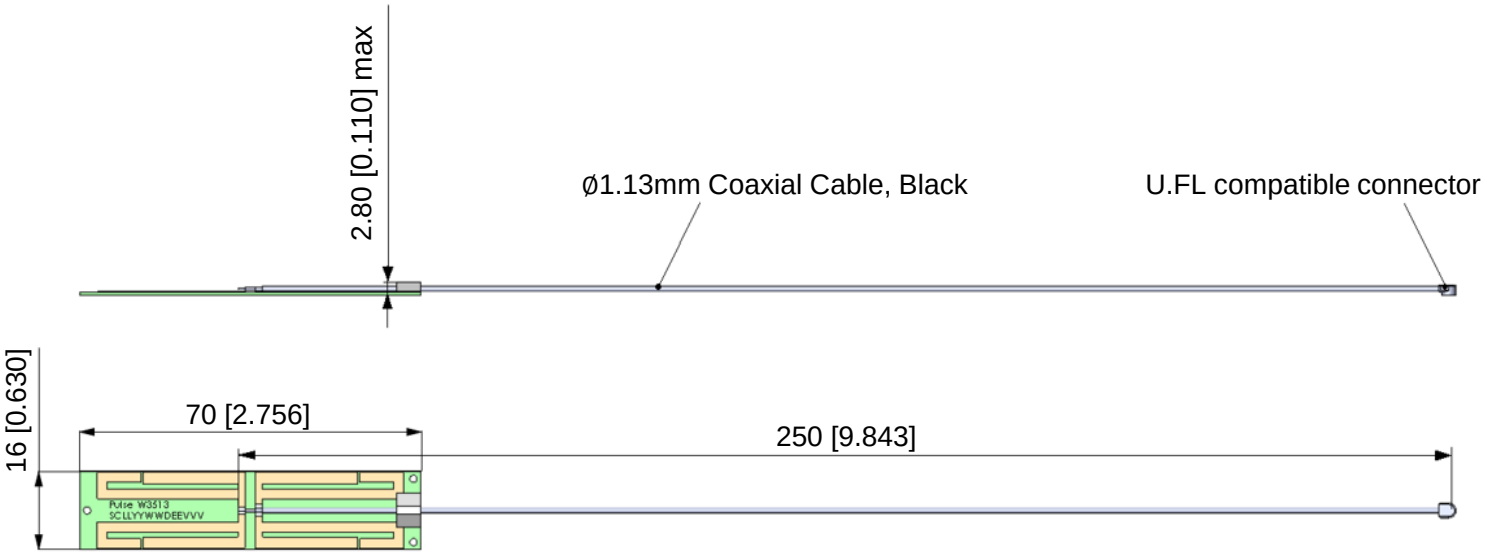
MECHANICAL DRAWING



Note:
- W3513 cable length 250mm (212mm from radiator edge), OD 1.31mm
- W3513BD0080 cable length 117.5mm (80mm from radiator edge), OD 0.81mm

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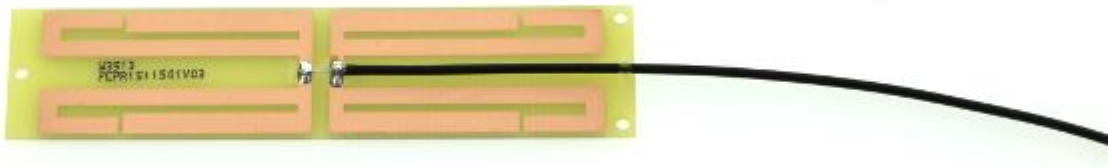
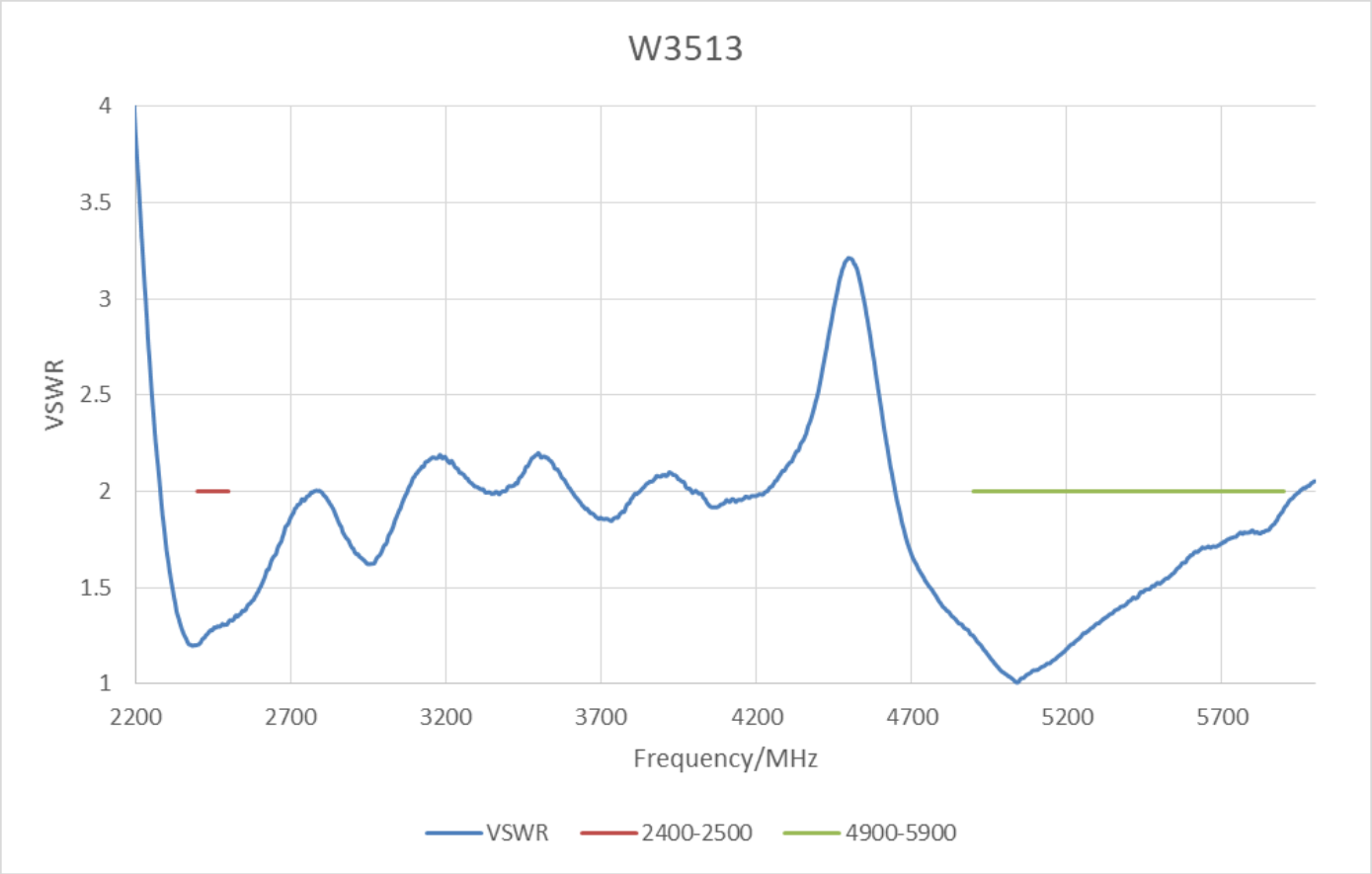
TEST SETUP



Test in free space.

VSWR vs Frequency



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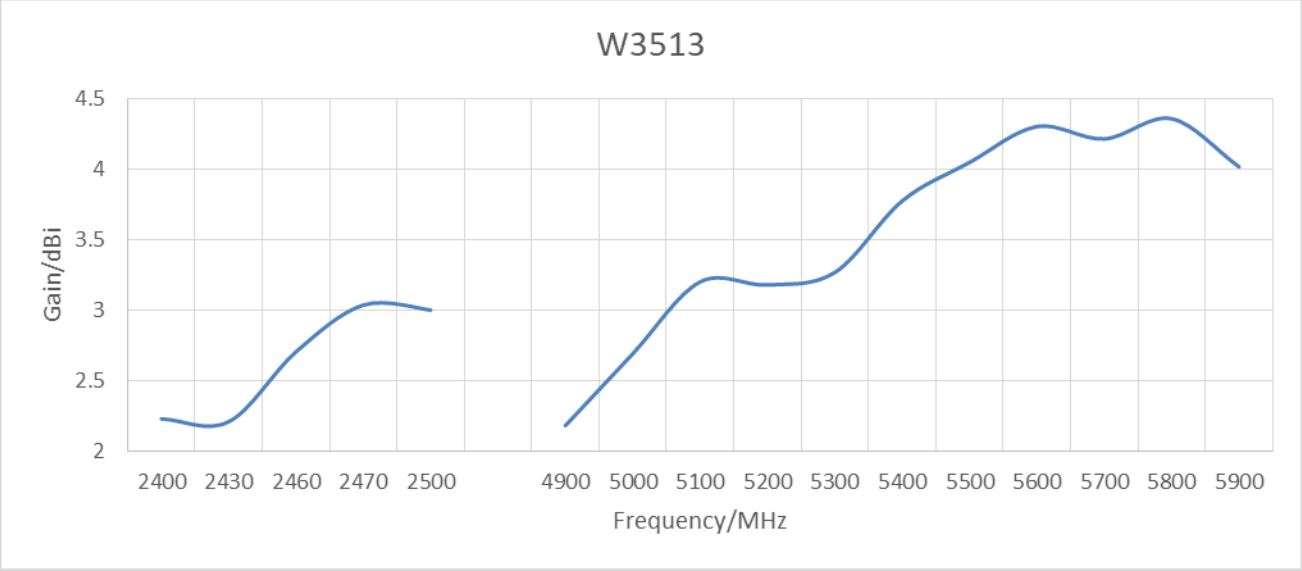
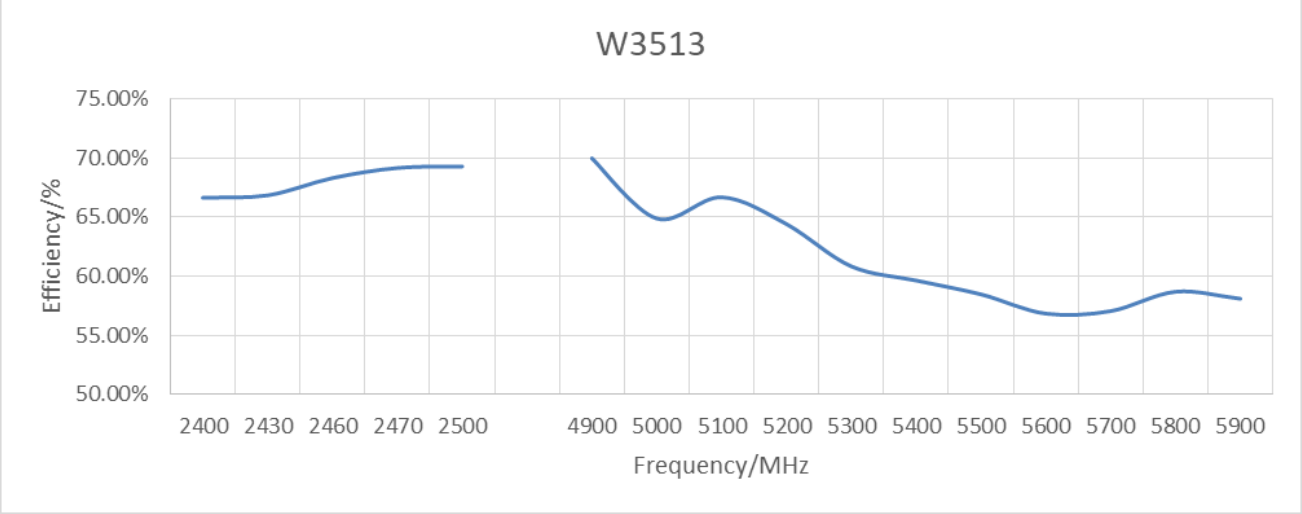
CHARTS

Peak Gain



Radiation Efficiency



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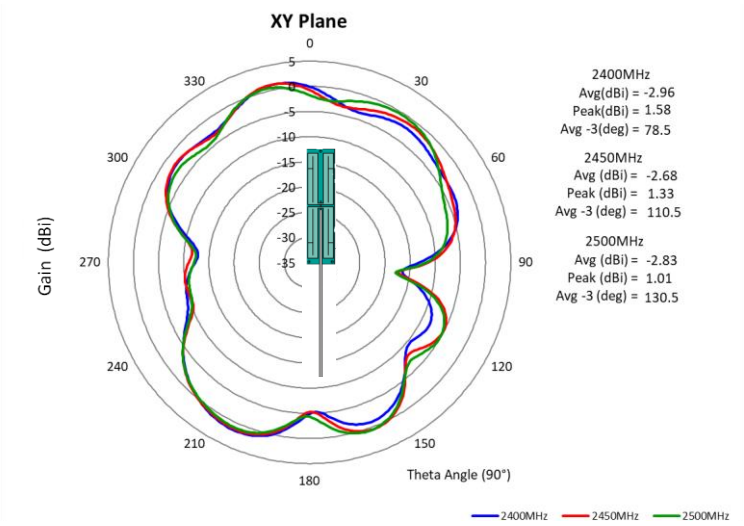
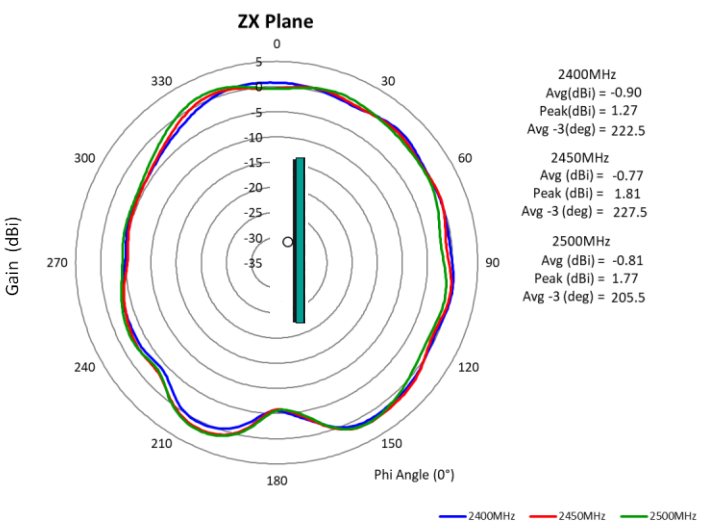
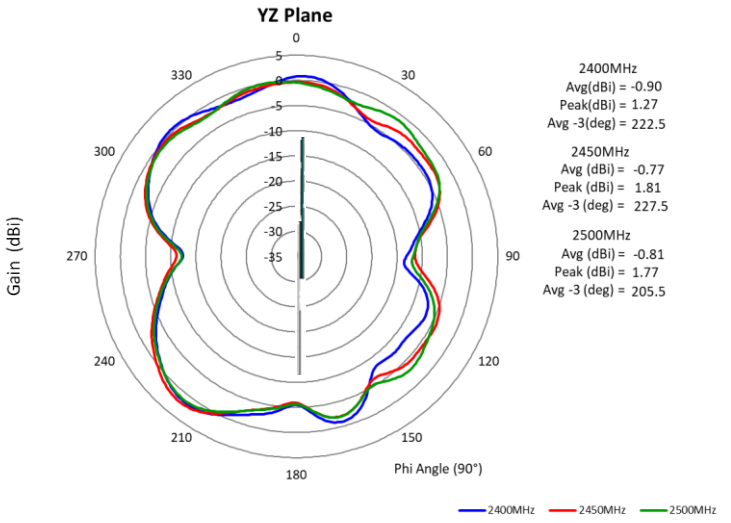
CHARTS

Radiation Pattern 2D (2.4GHz-2.5GHz)







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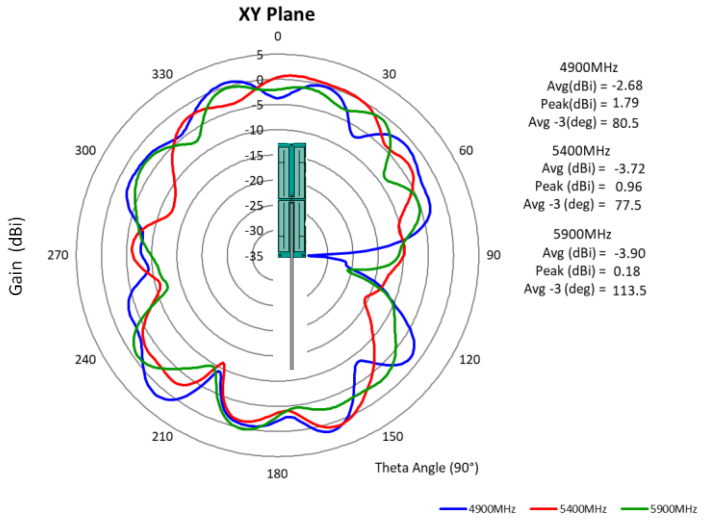
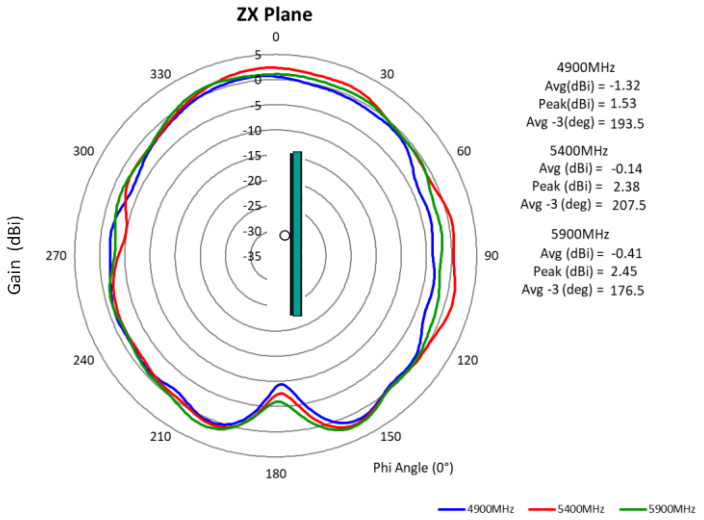
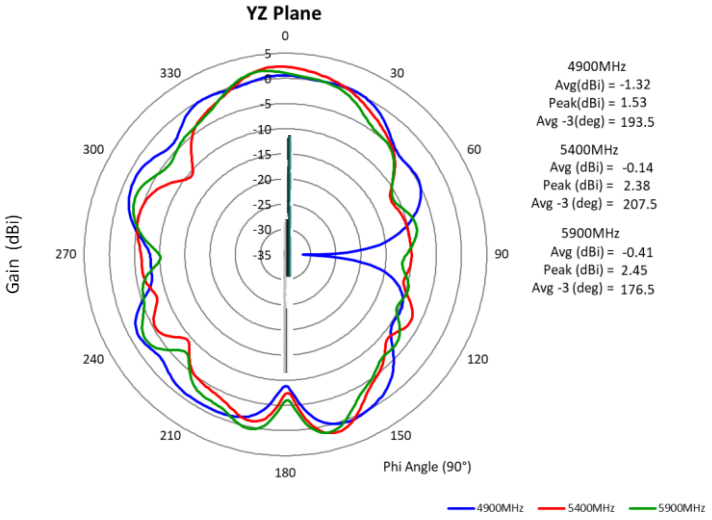
CHARTS

Radiation Pattern 2D (4.9GHz-5.9GHz)







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CHARTS

VSWR when placed on different materials

SETUP	Frequency/GHz	VSWR	
		Min	Max
Space	2.4-2.5	1.20	1.36
	4.9-5.9	1.00	1.90
ABS	2.4-2.5	1.36	1.55
	4.9-5.9	1.20	2.40
glass	2.4-2.5	1.43	1.57
	4.9-5.9	1.38	2.49
Metal_0cm	2.4-2.5	7.80	8.00
	4.9-5.9	5.16	6.00
Metal_0.5cm	2.4-2.5	4.75	4.96
	4.9-5.9	1.50	2.50
Metal_1cm	2.4-2.5	2.88	3.19
	4.9-5.9	1.4	2.21
Metal_2cm	2.4-2.5	1.69	2.03
	4.9-5.9	1.09	1.95
Metal_3cm	2.4-2.5	1.30	1.54
	4.9-5.9	1.10	1.79

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CHARTS

Antenna placed on ABS & glass

When placed on ABS or glass, mainly difference is in high frequency band(4.9G-5.9G).Which performance will decline.

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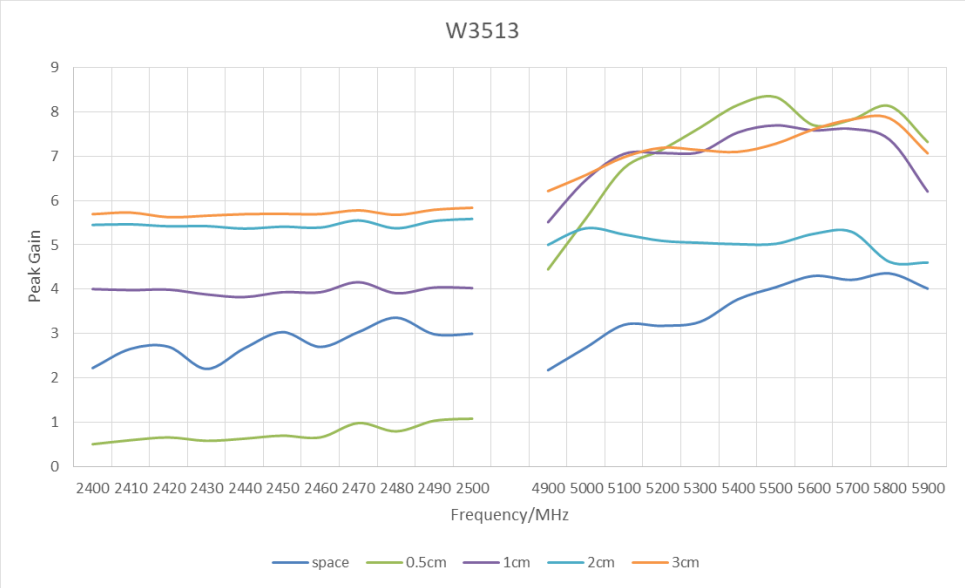
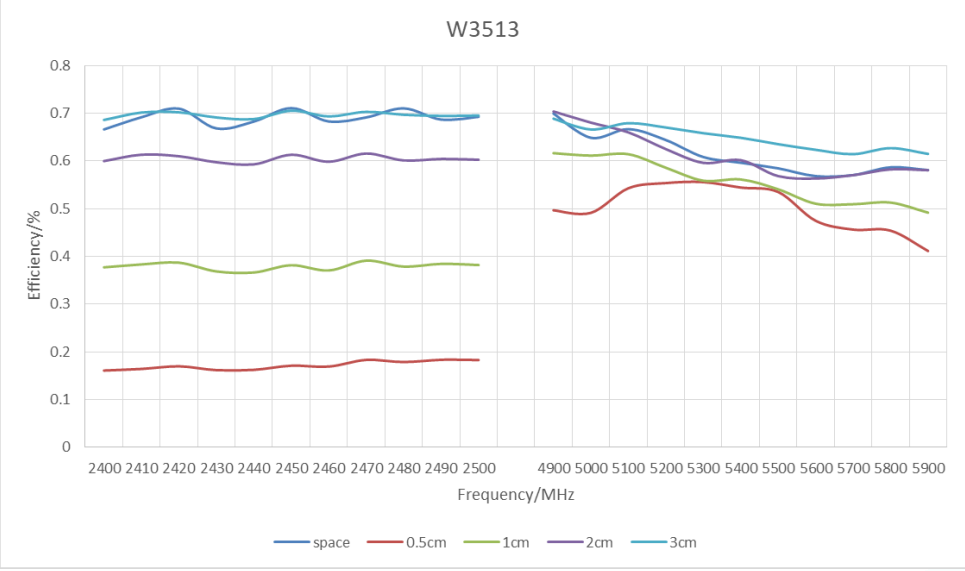
CHARTS

Placed on metal with different distance.





When the distance is 0.5-2cm, the metal mainly affect the performance of low frequency band(2.4G-2.5G). When the distance is above 2cm,the metal will have a little influence in two band.

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PACKAGING

5 pcs per PE bag, 250 pcs per foam bag, 6 foam bags per box, 1500 pcs per box.

RoHS COMPLIANT

X-ON Electronics

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