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Pulse | LARSEN Antennas
A YAGEO Company

TECHNICAL DATA SHEET

Description: 824-960/1710-2170MHz 2G/3G Pentaband PCB antenna with coax feed

Series: Internal PCB Antenna

PART NUMBER: W3538XXXXX



Features:

- Small form factor
- PCB size W x L x H (with adhesive): 40 [1.57] x 15 [0.59] x 0.7[0.028]mm [inch]
- Lead free materials
- RoHS Compliant Product
- Mounting with adhesive tape
- Various cable lengths available
- Connector options:
- Hirose connector U.FL-series (I.PEX connector MHF-series compatible)
- MMCX right angle jack (male)
- Sunridge MCD series connector

Applications:

- Penta band EU/US GSM/WCDMA
- Frequency range: 850 / 900 / 1800 / 1900/ 2100 MHz
- 824-960MHz/1710-2170MHz

All dimensions are in mm / inches

Issue: 1942

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Pulse GmbH & Do, KG
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Tel: 49 7032 7806 0

Pulse (Suzhou) Wireless Products Co, Inc.
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Suzhou New District
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Tel: 86 512 6807 9998

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This document covers all product variants of the following product family:

P/N	Cable length (mm/inch)	Connector	P/N	Cable length (mm/inch)	Connector
W3538B0035	35/1.38	U.FL	W3538E0300	300/11.81	MMCX
W3538B0045	45/1.77	U.FL	W3538T0150	150/5.91	MCD
W3538B0075	75/2.95	U.FL	W3538T0200	200/7.87	MCD
W3538B0085	85/3.35	U.FL	W3538T0300	300/11.81	MCD
W3538B0100	100/3.94	U.FL	W3538M0085	85/3.35	Murata
W3538B0150	150/5.91	U.FL	W3538M0150	150/5.91	Murata
W3538B0200	200/7.87	U.FL	W3538M0200	200/7.87	Murata
W3538B0300	300/11.81	U.FL	W3538M0300	300/11.81	Murata
W3538E0075	75/2.95	MMCX	W3538G0500	500/19.69	SMA
W3538E0150	150/5.91	MMCX	W3538A0200	200/7.87	N/A
W3538E0200	200/7.87	MMCX			

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ELECTRICAL SPECIFICATIONS

Typical free space performance, measured in test unit mechanics(position 1).

Cable Length (mm)	P/N	Frequency Range(MHz)	Max Gain (dBi)	Efficiency (%)	Return Loss min(dB)
35	W3538B0035	824-960	-1.2	27	-4
		1710-1990	1.0	33	-7
		1920-2170	1.1	40	-4
45	W3538B0045	824-960	0.78	44	-3
		1710-1990	1.73	49	-5
		1920-2170	1.84	50	-5
75	W3538B0075	824-960	-1.64	30	-3
		1710-1990	2.26	53	-6
		1920-2170	2.37	55	-6
85	W3538B0085	824-960	-2.38	25	-3
		1710-1990	2.3	57	-6
		1920-2170	1.96	58	-6
100	W3538B0100	824-960	-1.77	14	-3
		1710-1990	2.55	40	-6
		1920-2170	2.89	47	-6

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Cable Length (mm)	P/N	Frequency Range(MHz)	Max Gain (dBi)	Efficiency (%)	Return Loss min. (dB)
150	W3538B0150 W3538E0150 W3538T0150 W3538M0150	824 - 960	-1.05	37	-3
		1710 - 1990	2.27	47	-6
		1920 - 2170	2.04	53	-6
200	W3538B0200 W3538E0200 W3538T0200 W3538M0200 W3538A0200	824 - 960	0.53	40	-6
		1710 - 1990	4.18	56	-6
		1920 - 2170	4.06	57	-6
300	W3538B0300 W3538E0300 W3538T0300 W3538M0300	824 - 960	2.40	42	-6
		1710 - 1990	3.21	45	-6
		1920 - 2170	2.68	44	-6
500	W3538G0500	824 - 960	1.61	30	-5
		1710 - 1990	3.10	47	-6
		1920 - 2170	2.78	44	-6

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MECHANICAL SPECIFICATIONS

PCB size	40 [1.57] x 15 [0.59] x 0.7[0.028](with adhesive) mm[inch]
Connector type	Optional
Cable type	Optional
Cable length	Optional

ENVIRONMENTAL SPECIFICATIONS

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

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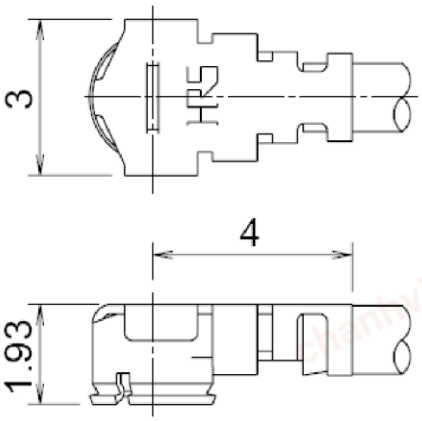
Series: Internal PCB Antenna **PART NUMBER: W3538XXXXX**

OTHER SPECIFICATIONS

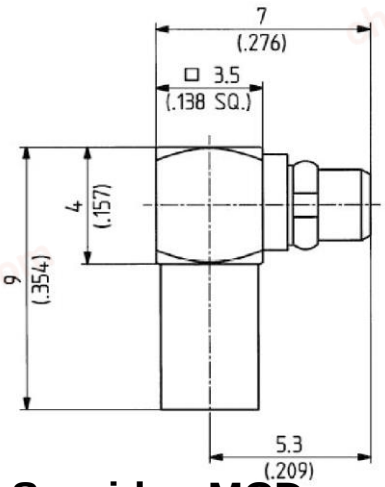
Cable and Connector Configuration

Antenna feed cable:
1.13mm OD with Hirose connector (U.FL series, MHF compatible)
1.13mm OD with MMCX right angle jack (male)
0.81mm OD with Murata GSC connector
0.81mm OD with Sunridge MCD connector
1.13mm OD with SMA male connector

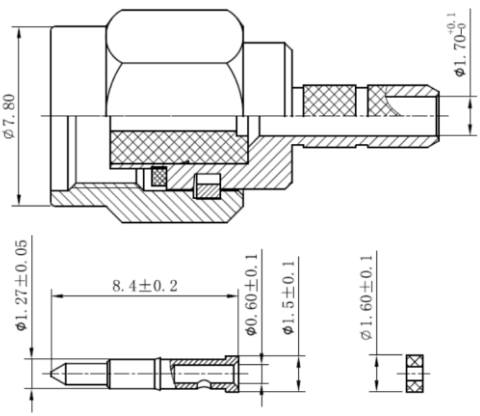
Hirose U.FL connector



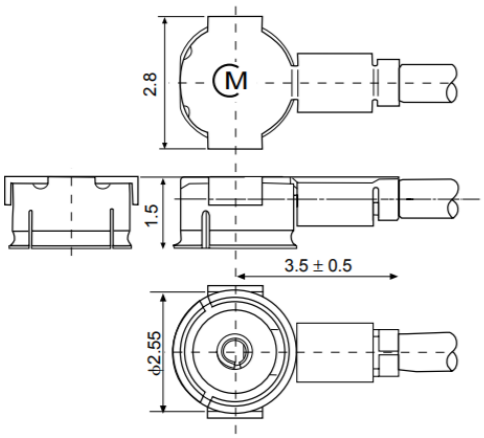
MMCX right angle jack (male)



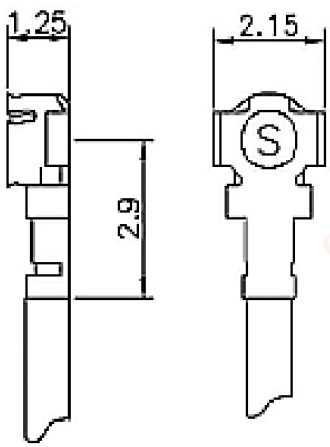
SMA male connector



Murata GSC connector



Sunridge MCD connector



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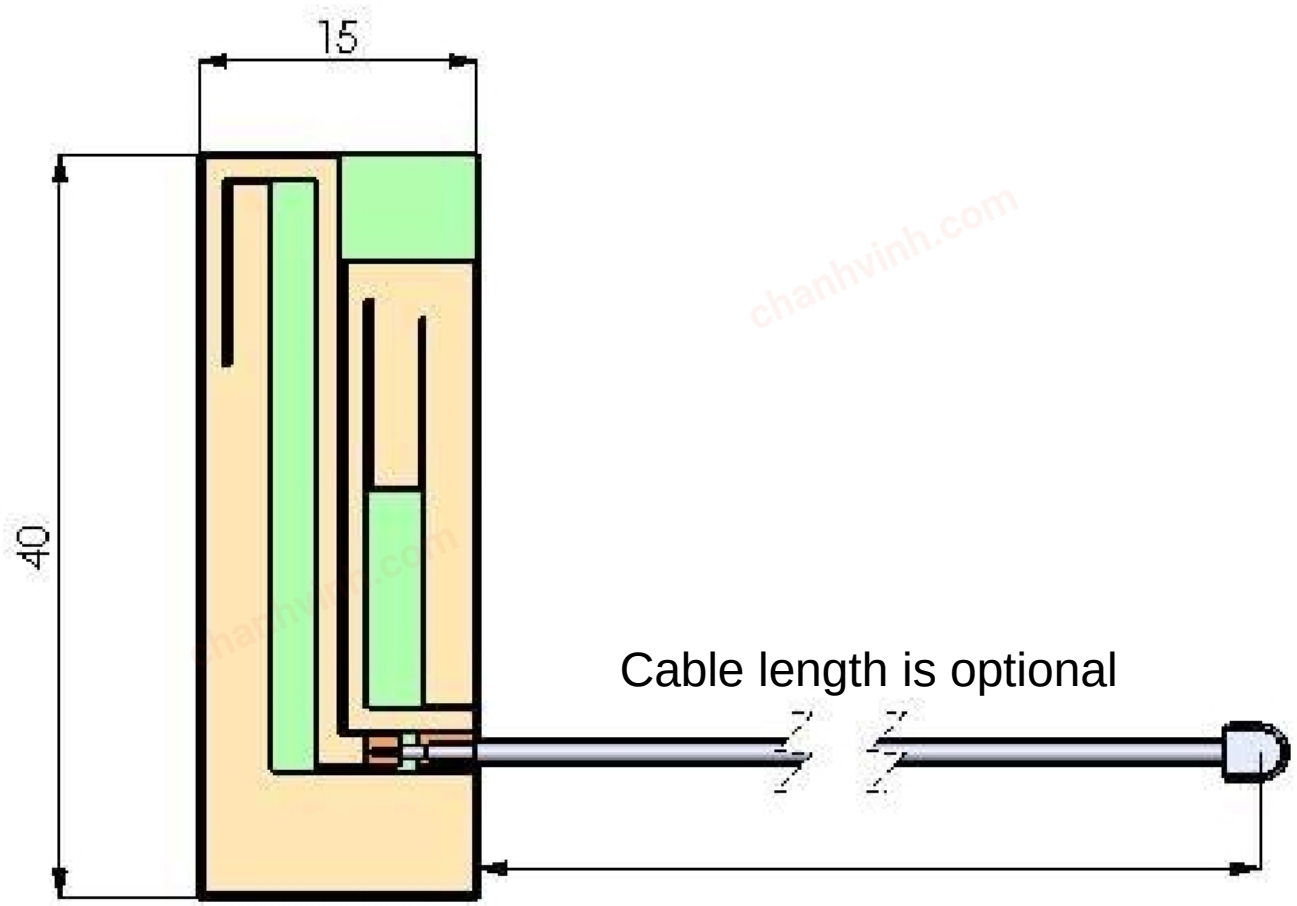
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MECHANICAL DRAWING



Dimension unit is mm

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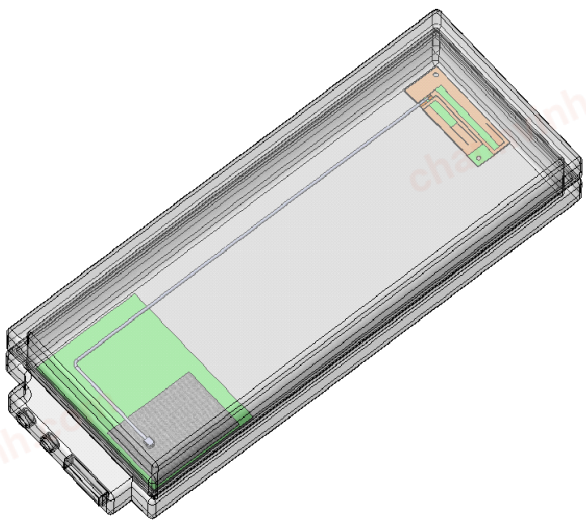
Series: Internal PCB Antenna **PART NUMBER: W3538XXXXX**

TEST SETUP

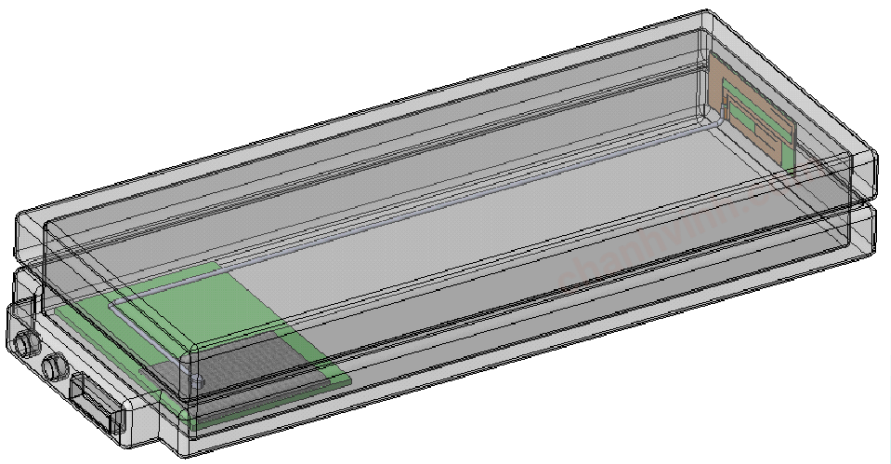
Test Unit and Antenna Mounting Options

Test unit is illustrative and antenna does not need effective ground plane

Position 1. Antenna could be mounted at same plane and level as device board or a different level also



Position 2. Antenna could be mounted on upright position at bottom end of device



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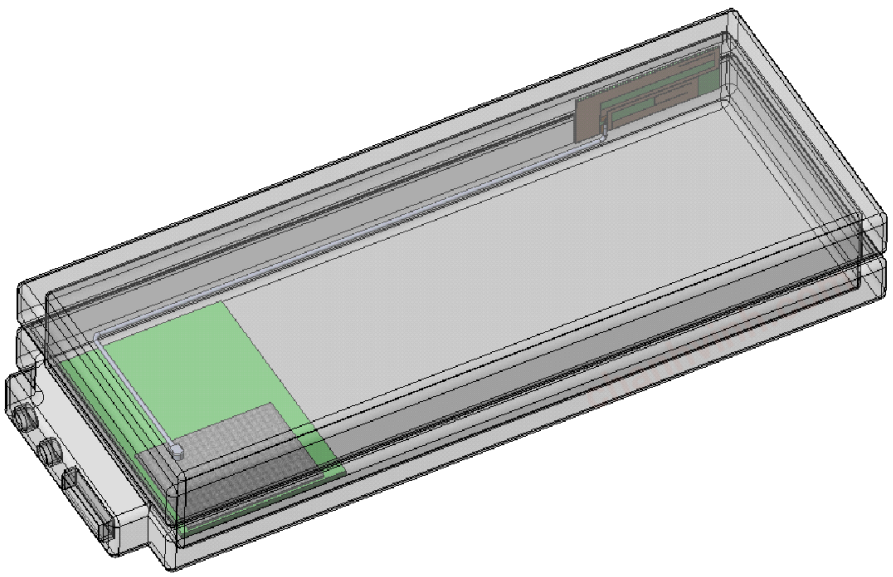
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TEST SETUP

Position 3. Antenna could be mounted on upright position at long edge of device



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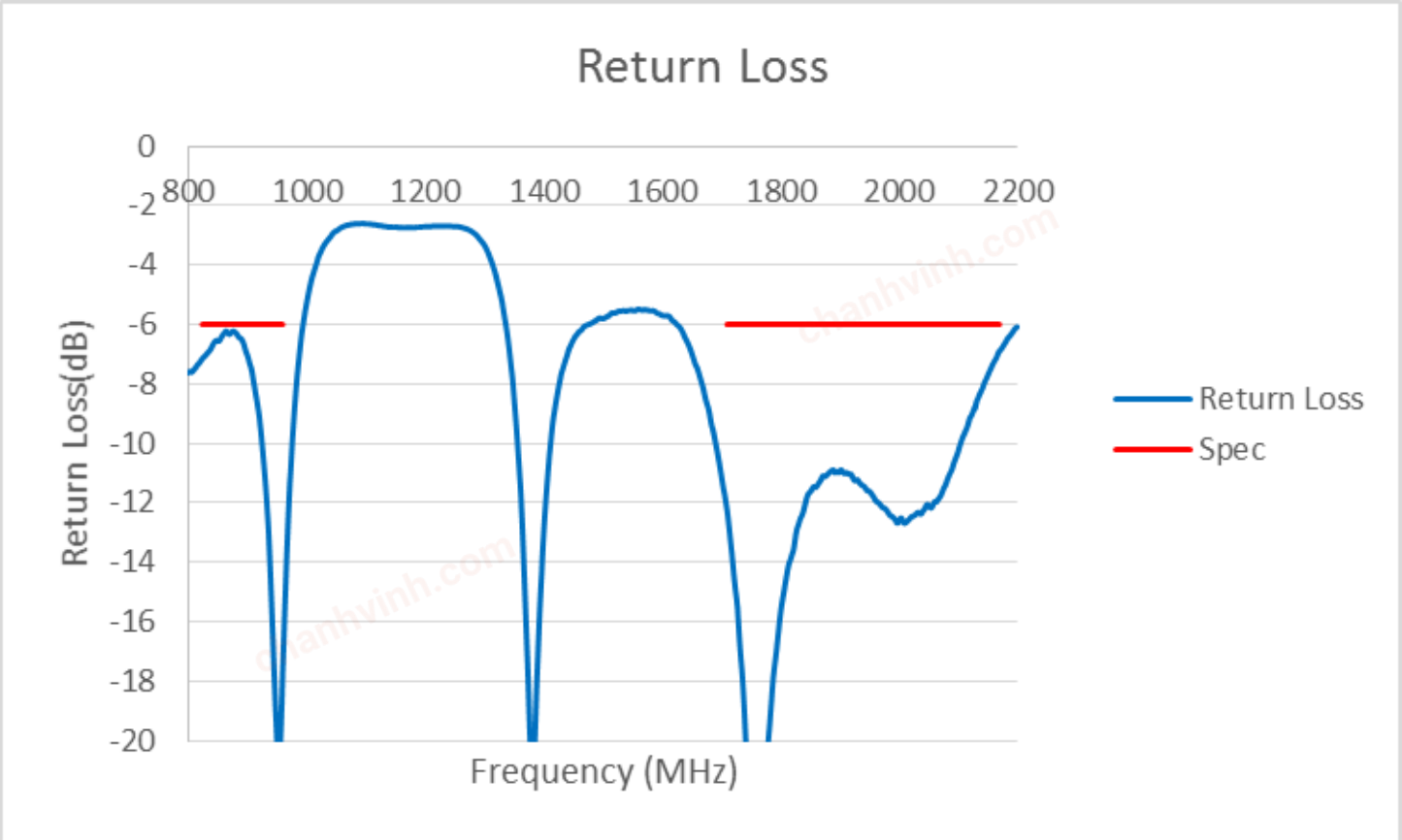
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CHARTS



Note: Antenna tested on 2mm plastic plate with 200mm feed cable.

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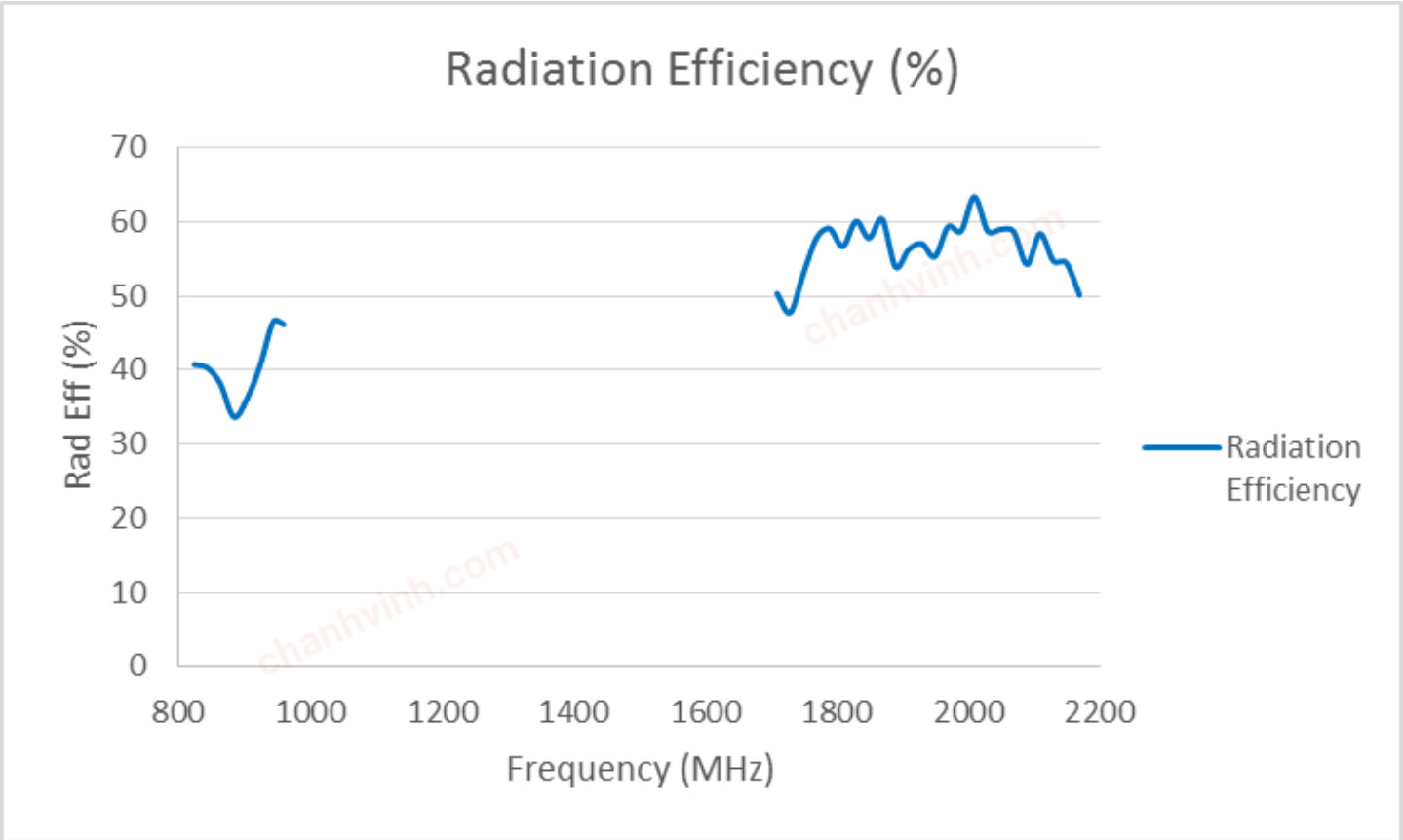
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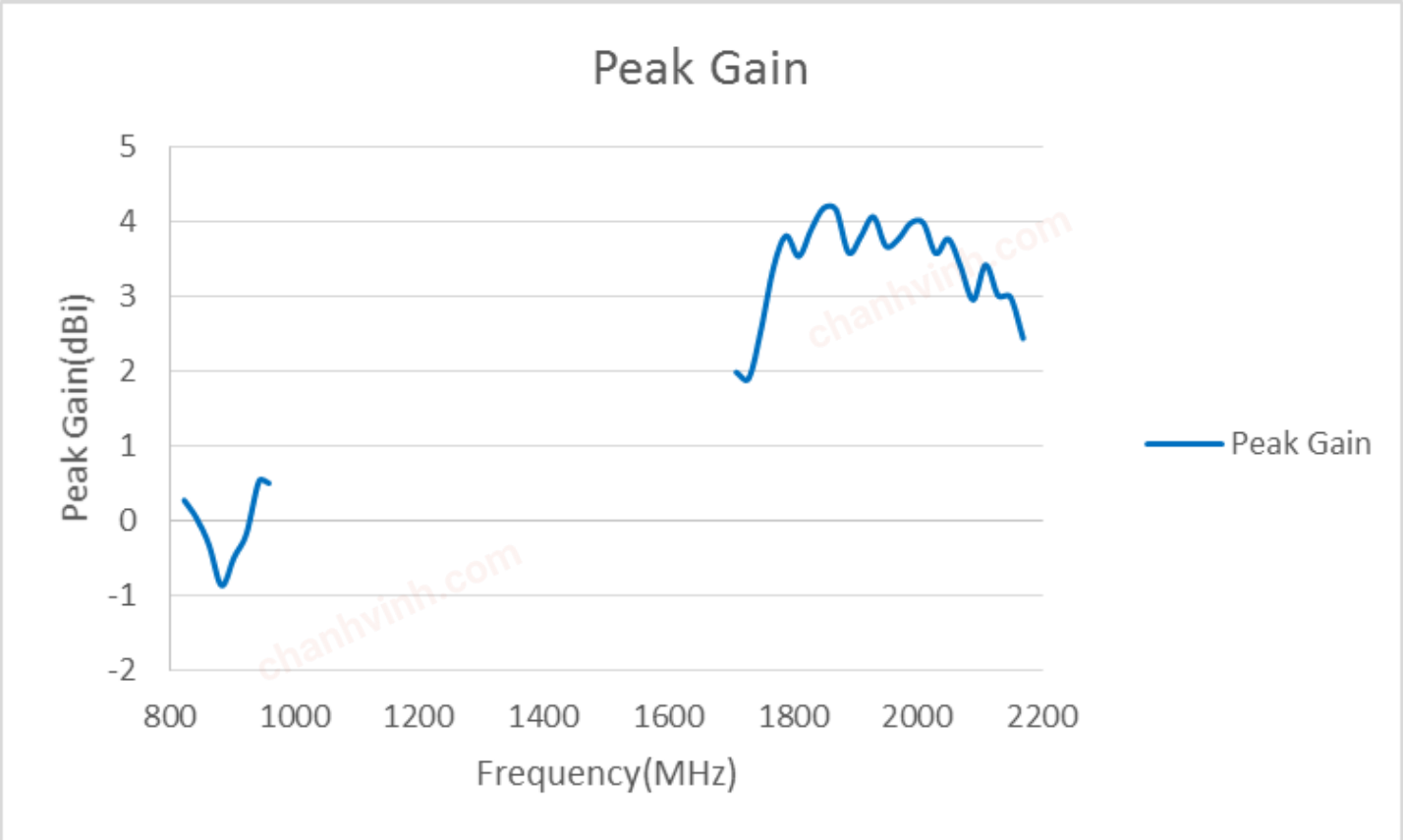
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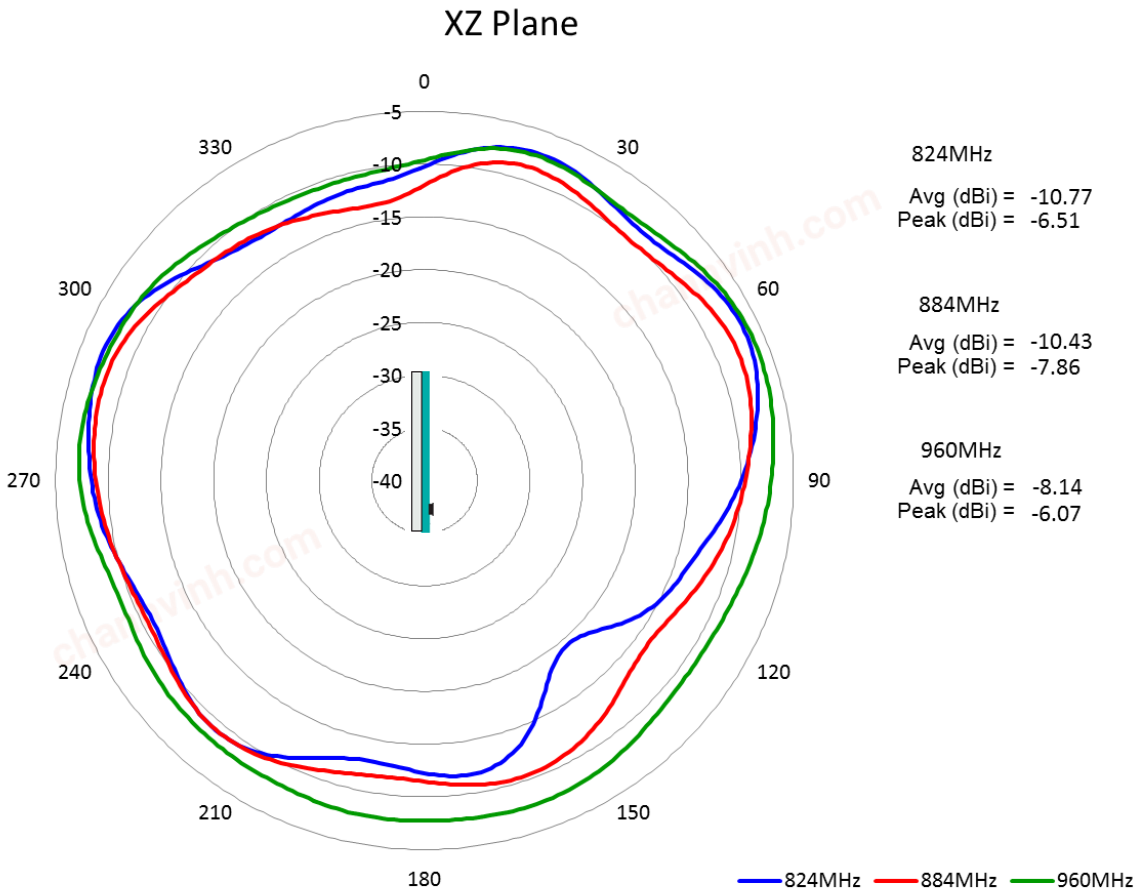
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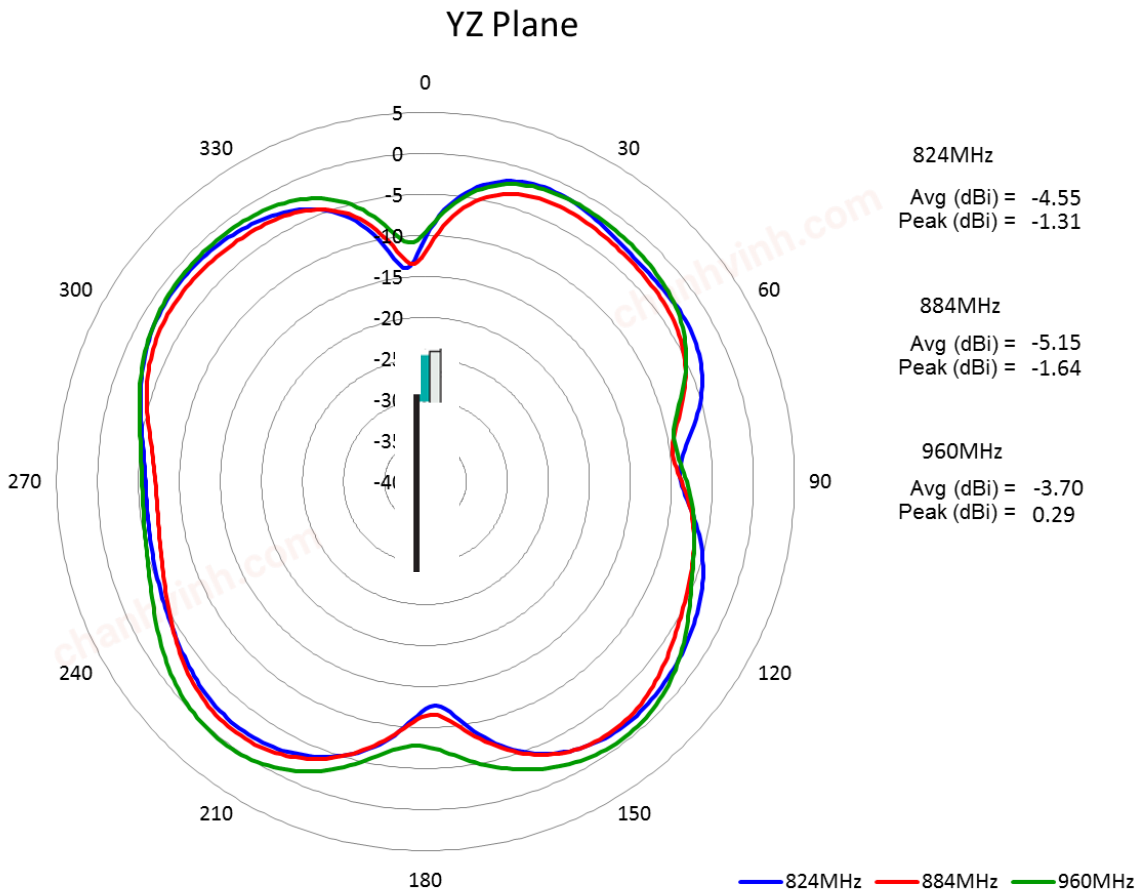
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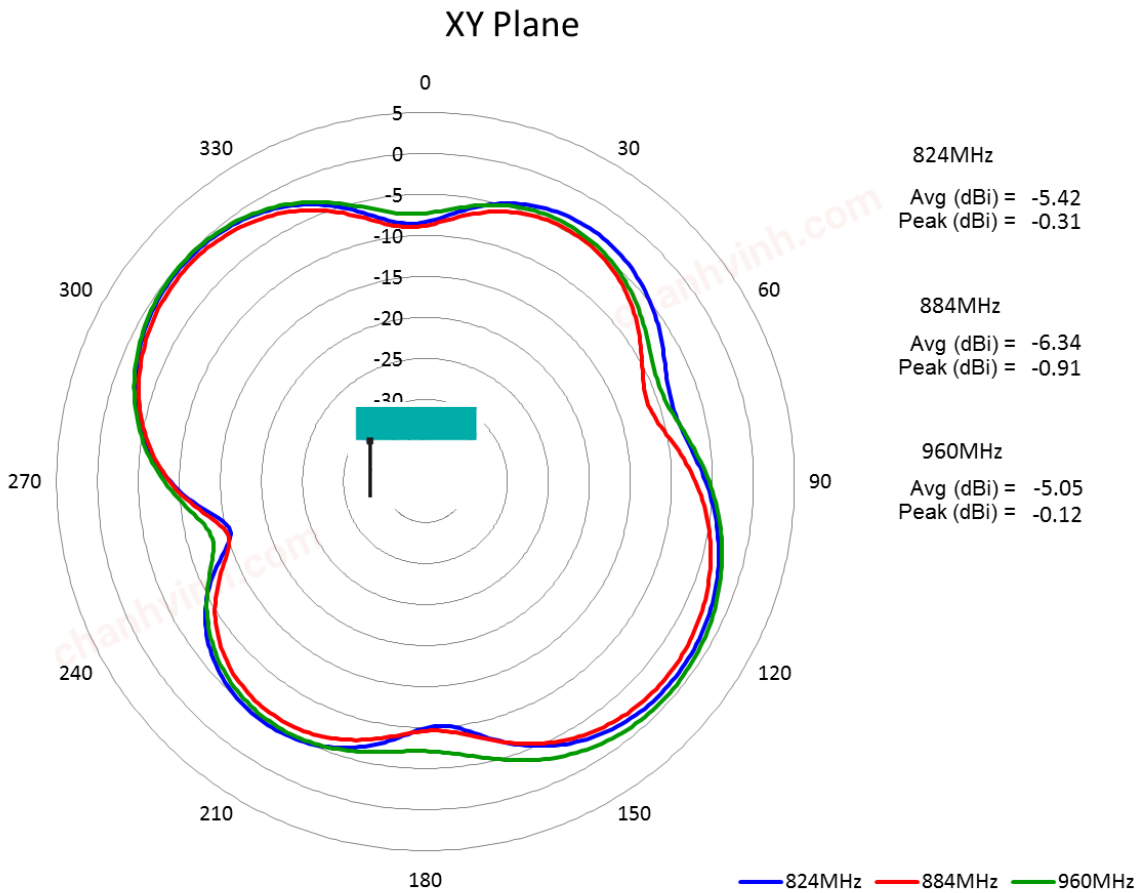
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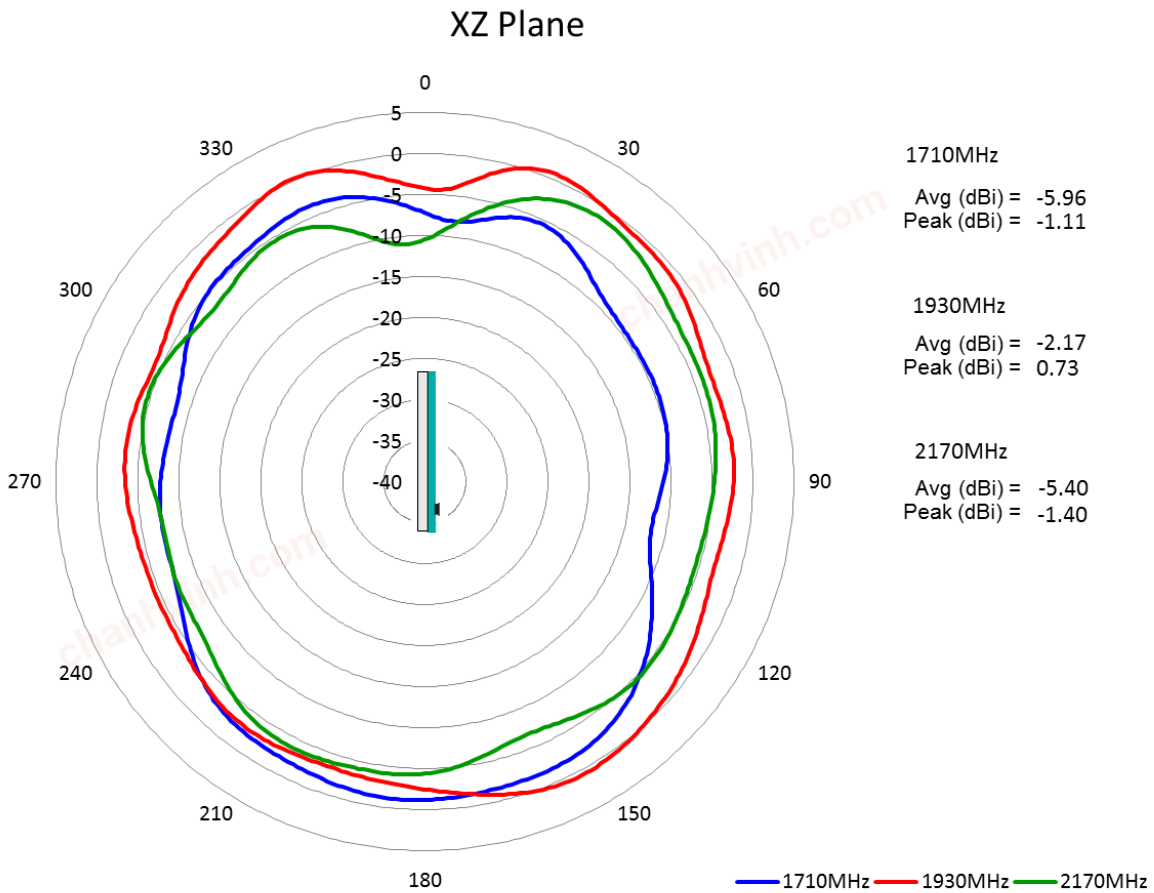
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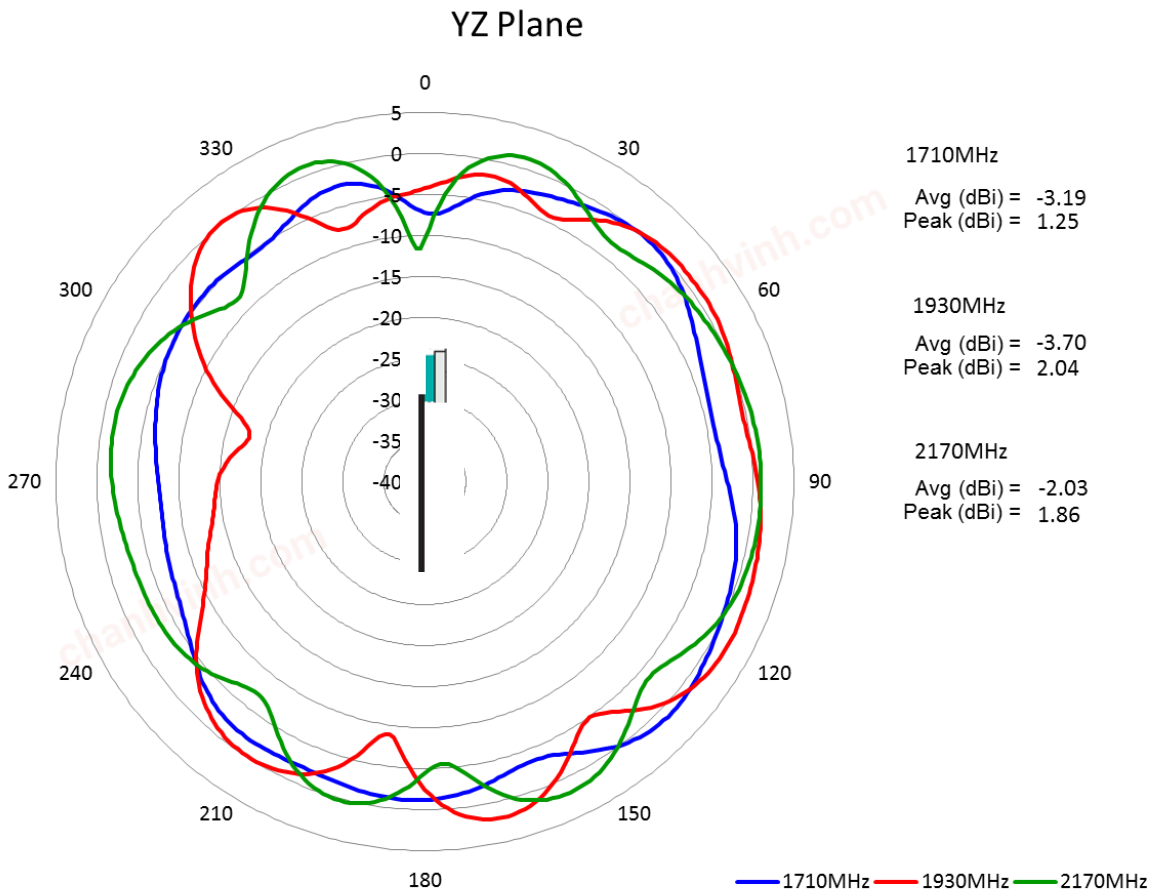
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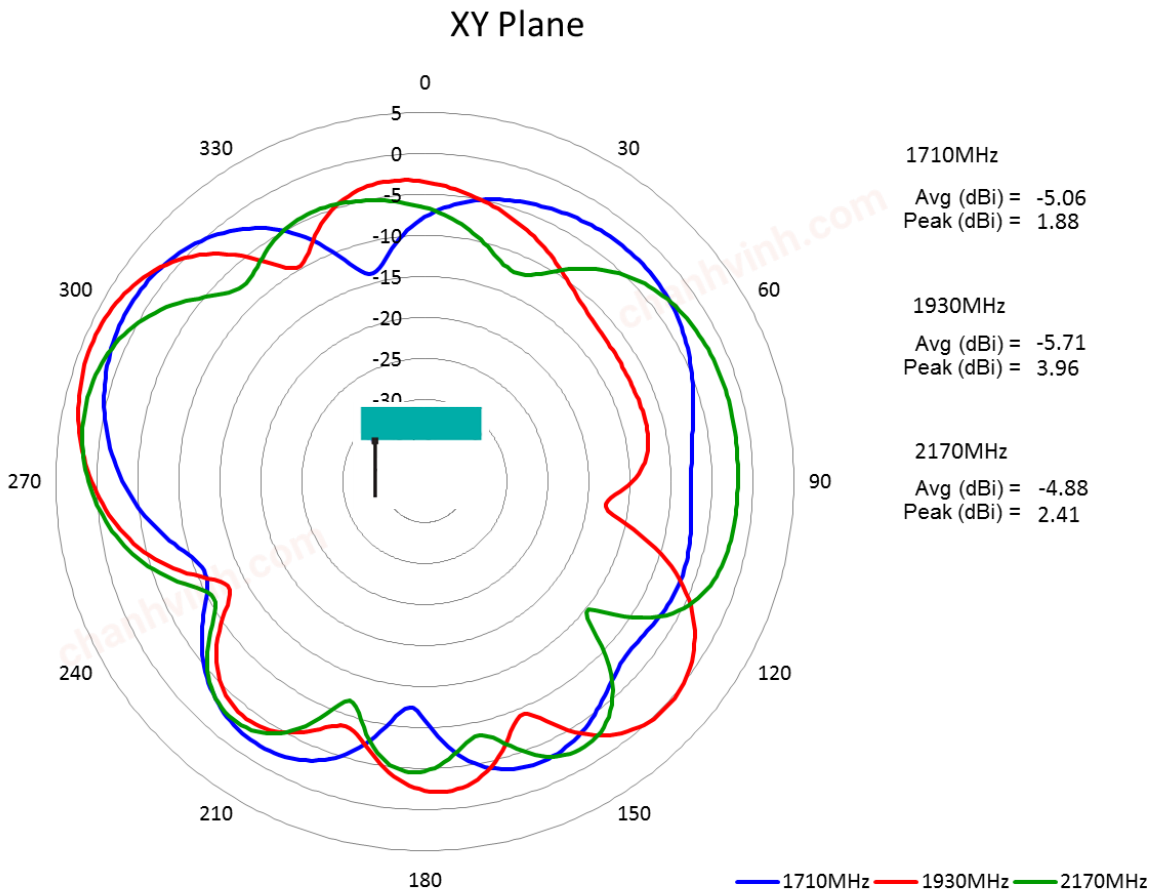
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chanhvinh.com

Pulse | LARSEN Antennas
A YAGEO Company

TECHNICAL DATA SHEET

Description: 824-960/1710-2170MHz 2G/3G Pentaband PCB antenna with coax feed

Series: Internal PCB Antenna

PART NUMBER: W3538XXXXX

PACKAGING

10PCS/PE bag
10PE bag/foam bag
10 foam bag/ carton box
Total 1000PCS/carton box



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