

**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: 1819

In the effort to improve our products, we reserve the right to make changes judged to be necessary.

CONFIDENTIAL AND PROPRIETARY INFORMATION

This document contains confidential and proprietary information of Pulse Electronics, Inc. (Pulse) and is protected by copyright, trade secret and other state and federal laws. Its receipt or possession does not convey any rights to reproduce, disclose its contents, or to manufacture, use or sell anything it may describe. Reproduction, disclosure or use without specific written authorization of Pulse is strictly forbidden.

For more information:

Pulse Worldwide Headquarters  
15255 Innovation Drive #100  
San Diego, CA 92128  
USA  
Tel:1-858-674-8100

Pulse/Larsen Antennas  
18110 SE 34<sup>th</sup> St Bldg 2 Suite 250  
Vancouver, WA 98683  
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,4<sup>th</sup> Phase  
Suzhou New District  
Jiangsu Province, Suzhou 215009 PR China  
Tel: 86 512 6807 9998



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

**Series:** Internal PCB Antenna

**PART NUMBER:** W3538XXXXX

**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
W3538B0045	45/1.77	U.FL	W3538E0300	300/11.81	MMCX
W3538B0075	75/2.95	U.FL	W3538T0150	150/5.91	MCD
W3538B0085	85/3.35	U.FL	W3538T0200	200/7.87	MCD
W3538B0100	100/3.94	U.FL	W3538T0300	300/11.81	MCD
W3538B0150	150/5.91	U.FL	W3538M0085	85/3.35	Murata
W3538B0200	200/7.87	U.FL	W3538M0150	150/5.91	Murata
W3538B0300	300/11.81	U.FL	W3538M0200	200/7.87	Murata
W3538E0075	75/2.95	MMCX	W3538M0300	300/11.81	Murata
W3538E0150	150/5.91	MMCX	W3538G0500	500/19.69	SMA
W3538E0200	200/7.87	MMCX	W3538A0200	200/7.87	N/A

Issue: 1819

In the effort to improve our products, we reserve the right to make changes judged to be necessary.

CONFIDENTIAL AND PROPRIETARY INFORMATION

This document contains confidential and proprietary information of Pulse Electronics, Inc. (Pulse) and is protected by copyright, trade secret and other state and federal laws. Its receipt or possession does not convey any rights to reproduce, disclose its contents, or to manufacture, use or sell anything it may describe. Reproduction, disclosure or use without specific written authorization of Pulse is strictly forbidden.

For more information:

 Pulse Worldwide Headquarters  
 15255 Innovation Drive #100  
 San Diego, CA 92128  
 USA  
 Tel: 1-858-674-8100

 Pulse/Larsen Antennas  
 18110 SE 34<sup>th</sup> St Bldg 2 Suite 250  
 Vancouver, WA 98683  
 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,4<sup>th</sup> Phase  
 Suzhou New District  
 Jiangsu Province, Suzhou 215009 PR China  
 Tel: 86 512 6807 9998


**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)
45	W3538B0045	824 - 960	0.78	44	-3
		1710 - 1990	1.73	49	-5
		1920 - 2170	1.84	50	-5
75	W3538B0075 W3538E0075	824 - 960	-1.64	30	-3
		1710 - 1990	2.26	53	-6
		1920 - 2170	2.37	55	-6
85	W3538B0085 W3538M0085	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

**ELECTRICAL SPECIFICATIONS**

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

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

**Series:** Internal PCB Antenna    **PART NUMBER:** W3538XXXX

### 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

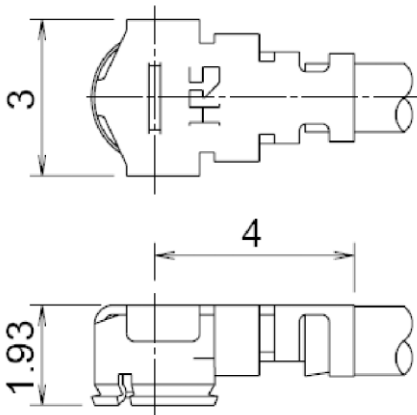
**OTHER SPECIFICATIONS**

**Cable and Connector Configuration**

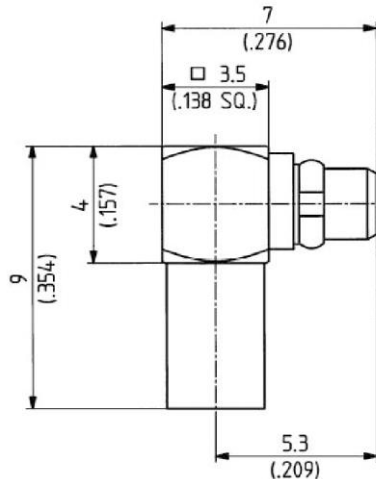
Antenna feed cable:

- 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

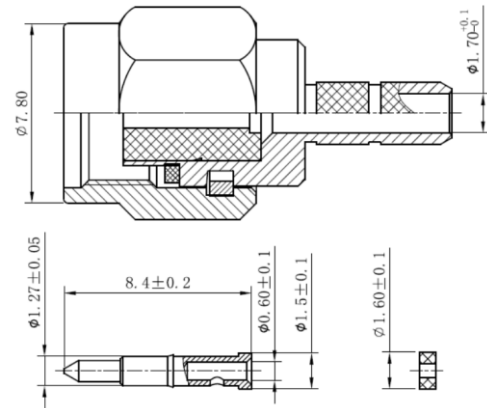
**Hirose U.FL connector**



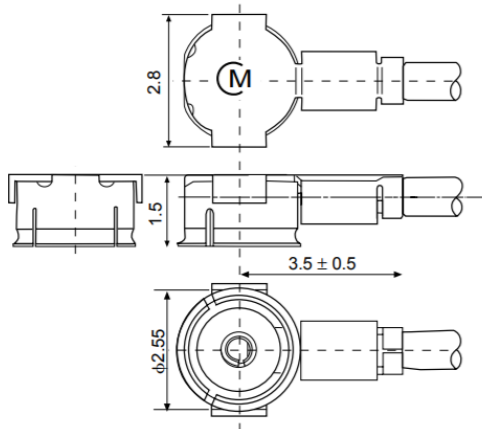
**MMCX right angle jack (male)**



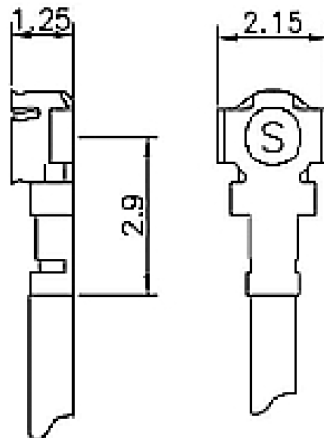
**SMA male connector**



**Murata GSC connector**



**Sunridge MCD connector**



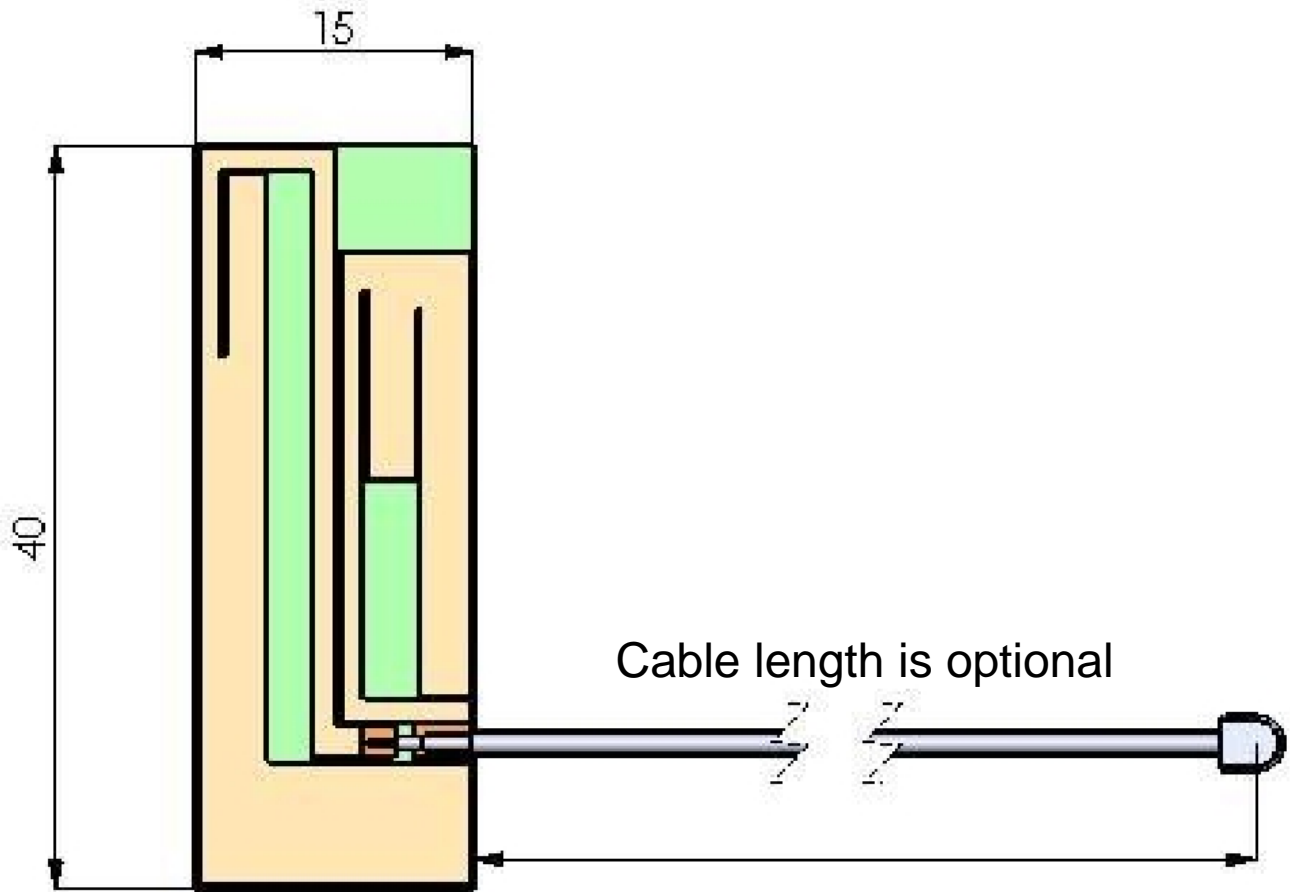
Issue: Issue: 1819

In the effort to improve our products, we reserve the right to make changes judged to be necessary.

CONFIDENTIAL AND PROPRIETARY INFORMATION

This document contains confidential and proprietary information of Pulse Electronics, Inc. (Pulse) and is protected by copyright, trade secret and other state and federal laws. Its receipt or possession does not convey any rights to reproduce, disclose its contents, or to manufacture, use or sell anything it may describe. Reproduction, disclosure or use without specific written authorization of Pulse is strictly forbidden.

MECHANICAL DRAWING



Dimension unit is mm

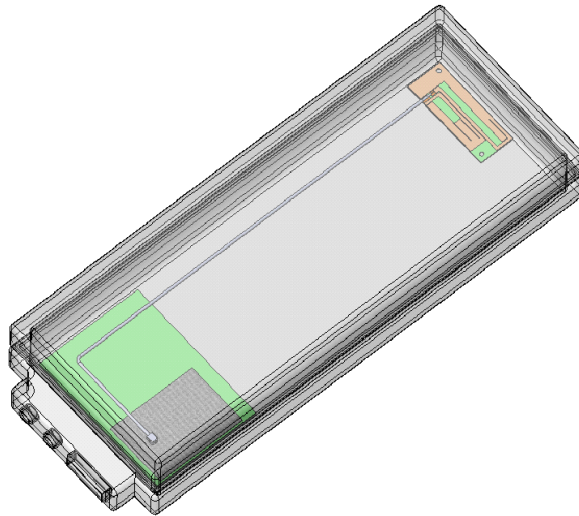


## TEST SETUP

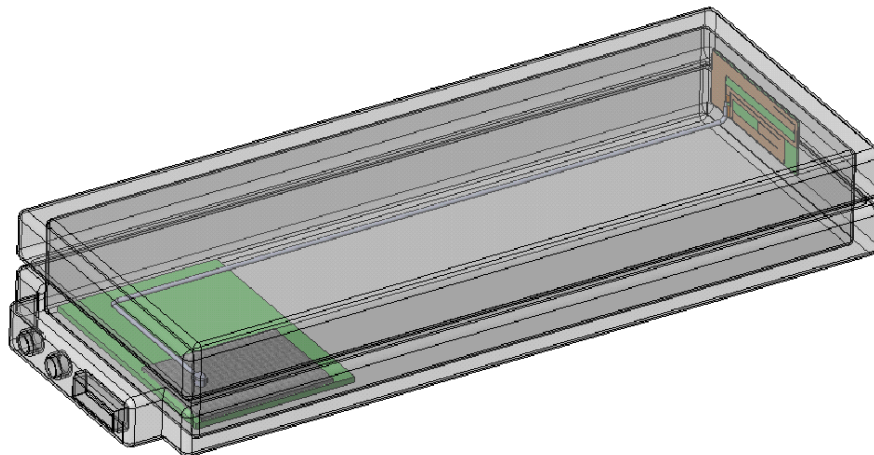
### Test Unit and Antenna Mounting Options

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



Issue: Issue: 1819

In the effort to improve our products, we reserve the right to make changes judged to be necessary.

CONFIDENTIAL AND PROPRIETARY INFORMATION

This document contains confidential and proprietary information of Pulse Electronics, Inc. (Pulse) and is protected by copyright, trade secret and other state and federal laws. Its receipt or possession does not convey any rights to reproduce, disclose its contents, or to manufacture, use or sell anything it may describe. Reproduction, disclosure or use without specific written authorization of Pulse is strictly forbidden.

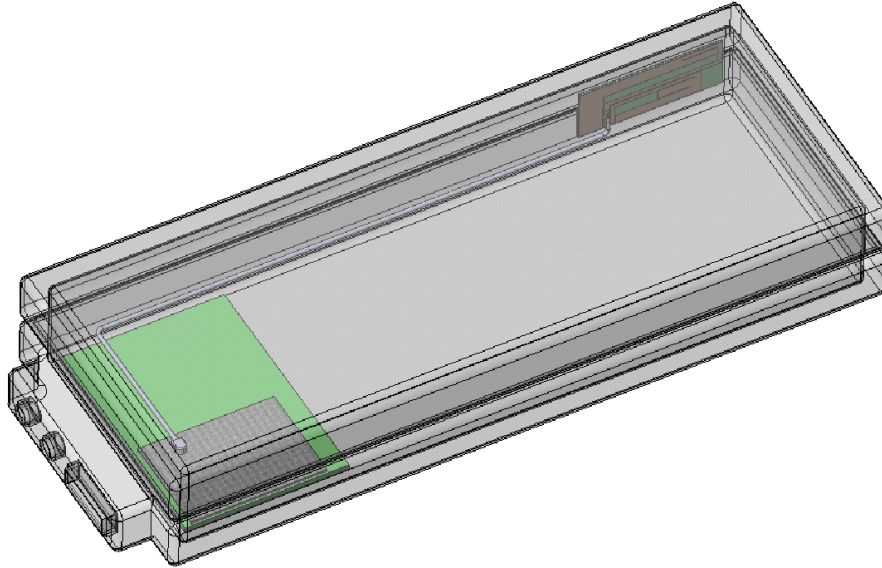


**Description:** 824-960/1710-2170MHz 2G/3G  
Pentaband PCB antenna with coax feed

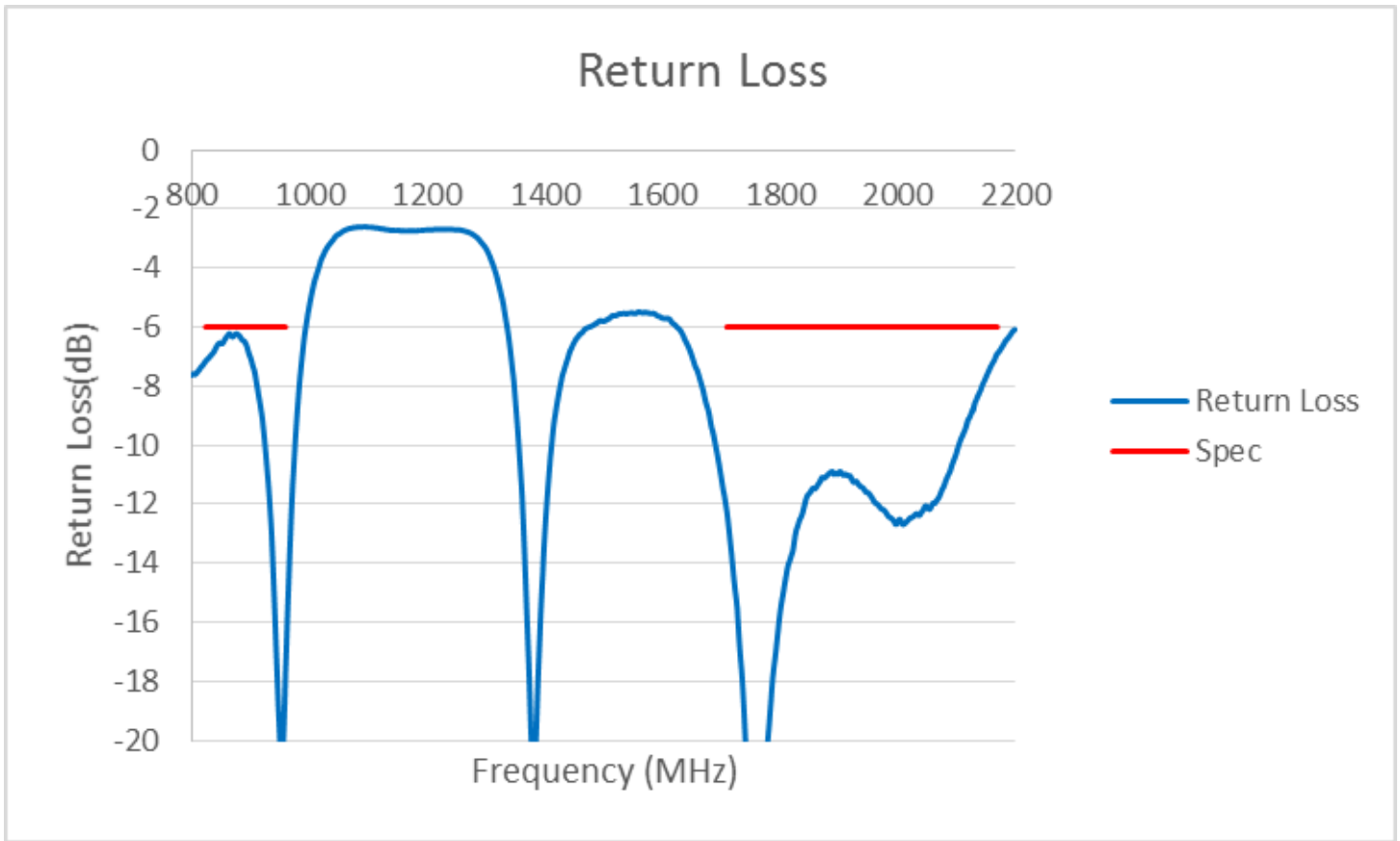
**Series:** Internal PCB Antenna **PART NUMBER:** W3538XXXXX

### TEST SETUP

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



CHARTS



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

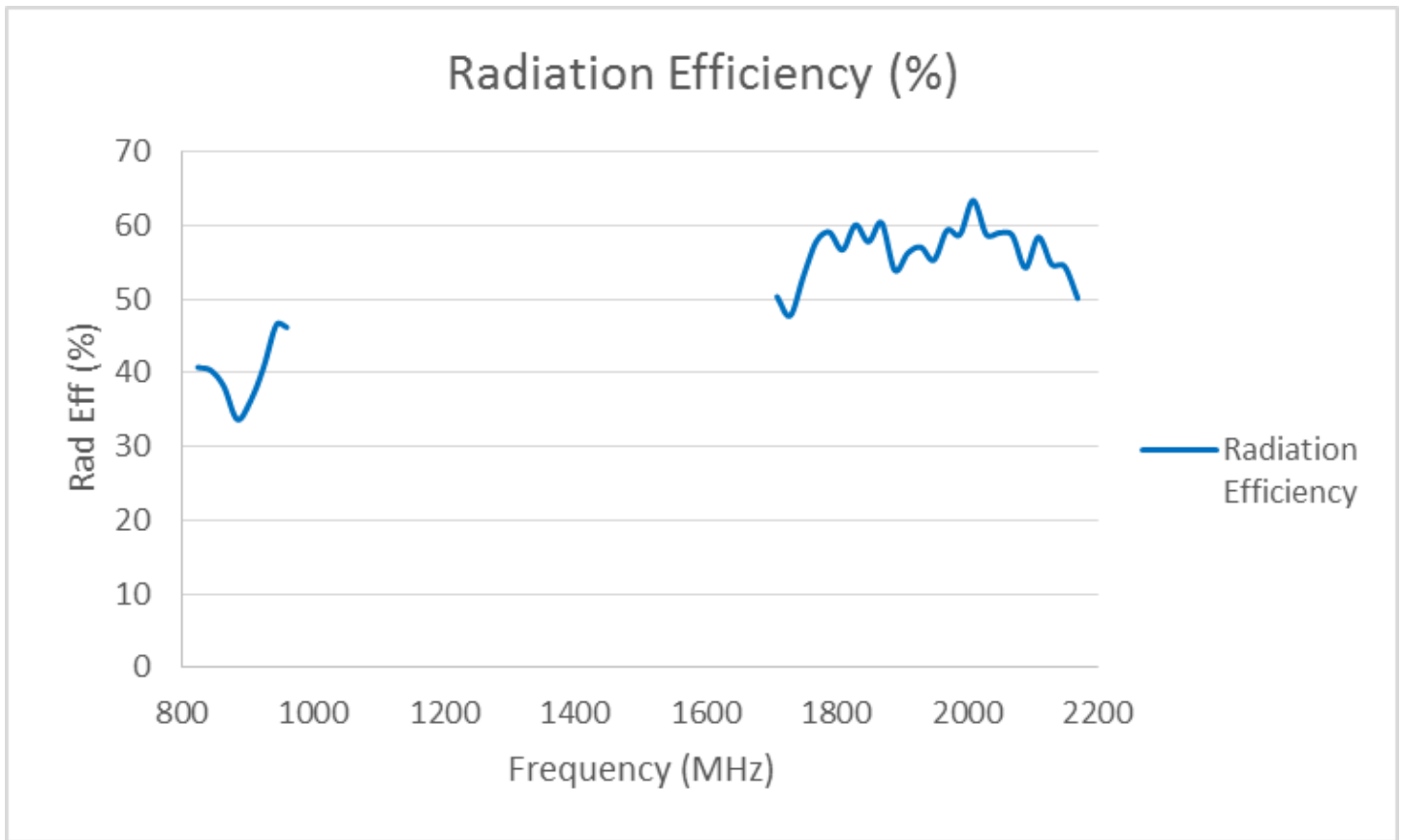
Issue: Issue: 1819

In the effort to improve our products, we reserve the right to make changes judged to be necessary.

CONFIDENTIAL AND PROPRIETARY INFORMATION

This document contains confidential and proprietary information of Pulse Electronics, Inc. (Pulse) and is protected by copyright, trade secret and other state and federal laws. Its receipt or possession does not convey any rights to reproduce, disclose its contents, or to manufacture, use or sell anything it may describe. Reproduction, disclosure or use without specific written authorization of Pulse is strictly forbidden.

CHARTS



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

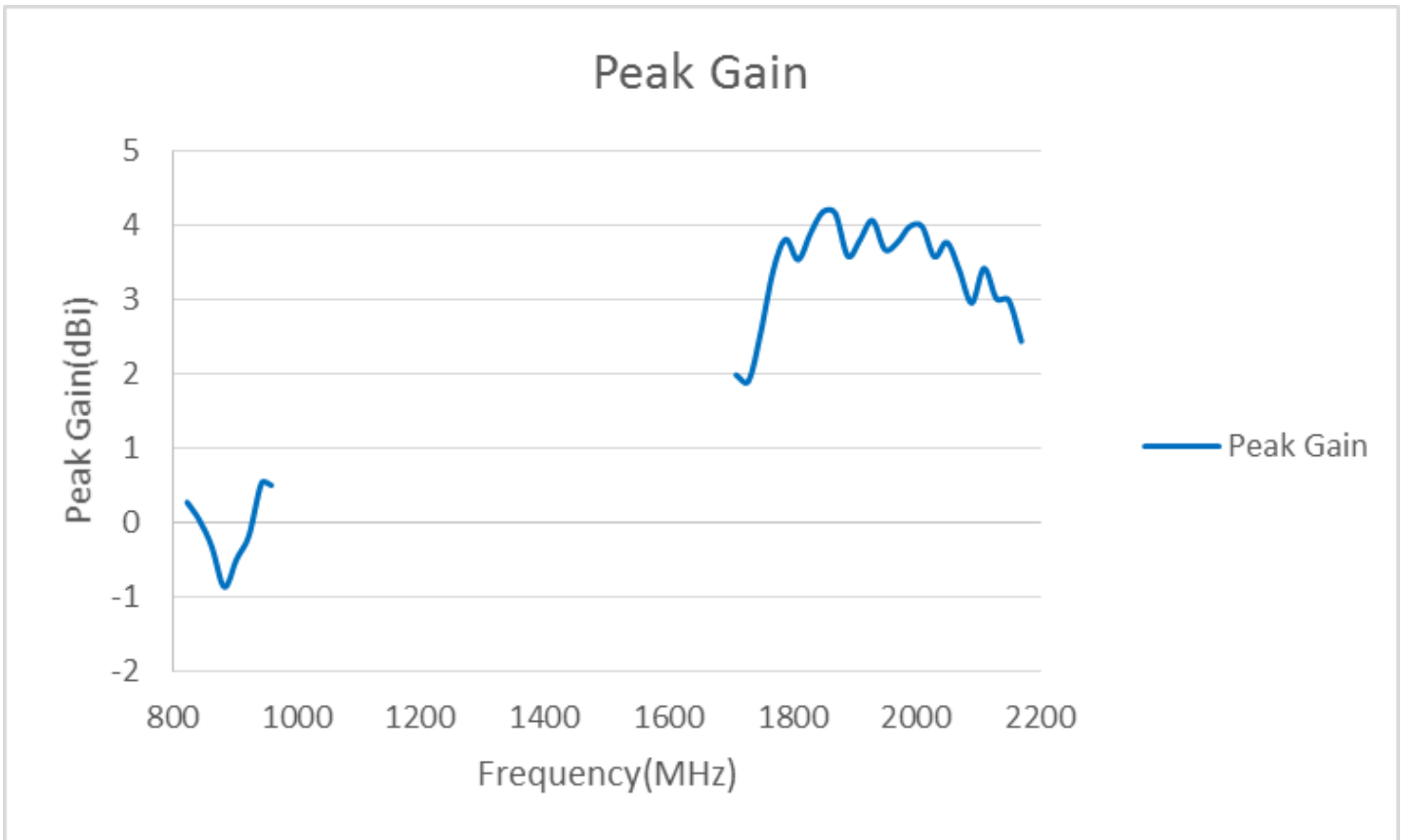
Issue: Issue: 1819

In the effort to improve our products, we reserve the right to make changes judged to be necessary.

CONFIDENTIAL AND PROPRIETARY INFORMATION

This document contains confidential and proprietary information of Pulse Electronics, Inc. (Pulse) and is protected by copyright, trade secret and other state and federal laws. Its receipt or possession does not convey any rights to reproduce, disclose its contents, or to manufacture, use or sell anything it may describe. Reproduction, disclosure or use without specific written authorization of Pulse is strictly forbidden.

CHARTS



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

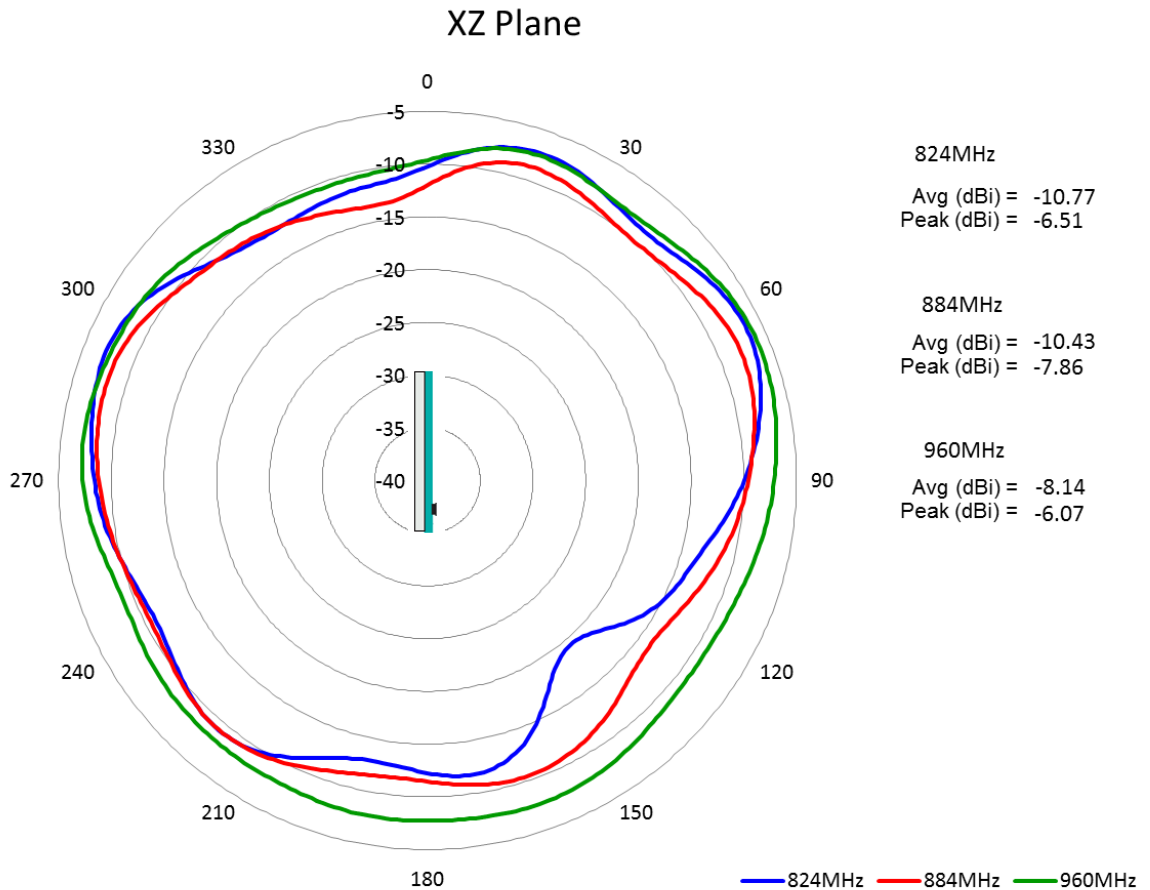
Issue: Issue: 1819

In the effort to improve our products, we reserve the right to make changes judged to be necessary.

CONFIDENTIAL AND PROPRIETARY INFORMATION

This document contains confidential and proprietary information of Pulse Electronics, Inc. (Pulse) and is protected by copyright, trade secret and other state and federal laws. Its receipt or possession does not convey any rights to reproduce, disclose its contents, or to manufacture, use or sell anything it may describe. Reproduction, disclosure or use without specific written authorization of Pulse is strictly forbidden.

CHARTS



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

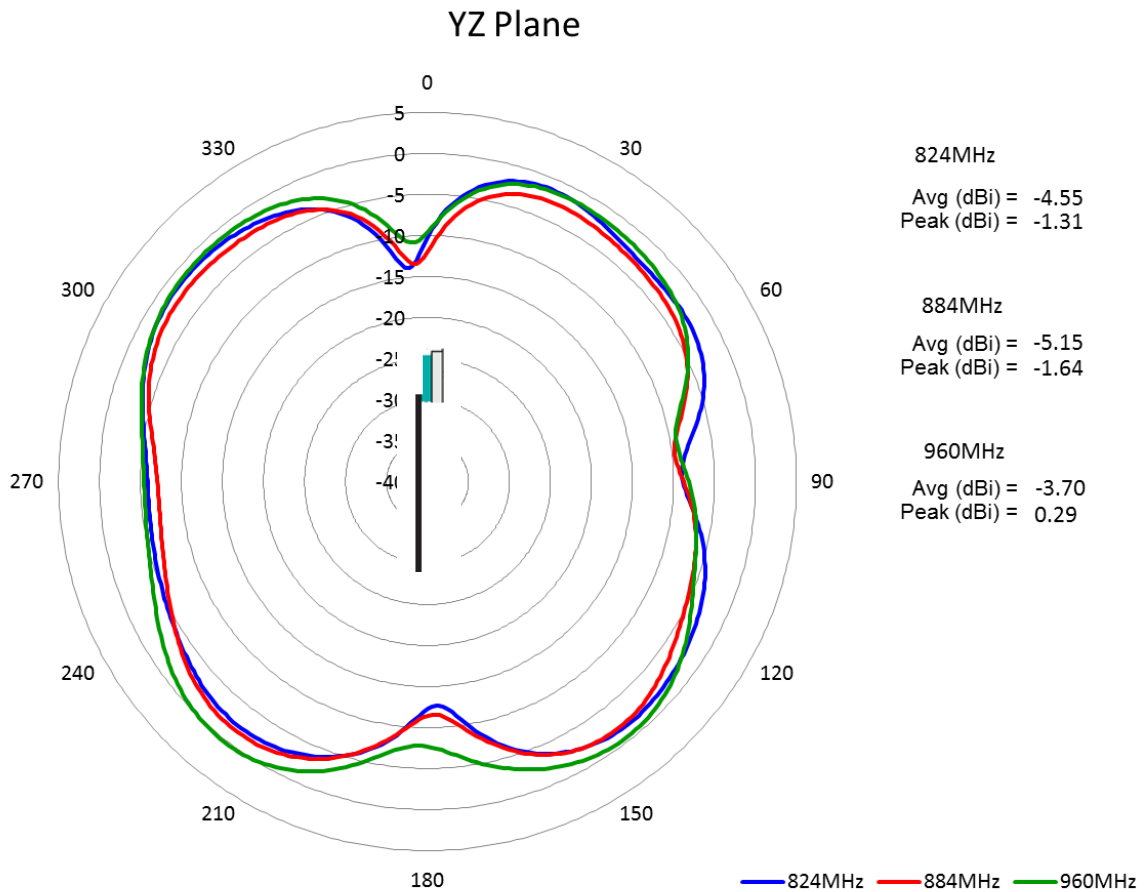
Issue: Issue: 1819

In the effort to improve our products, we reserve the right to make changes judged to be necessary.

CONFIDENTIAL AND PROPRIETARY INFORMATION

This document contains confidential and proprietary information of Pulse Electronics, Inc. (Pulse) and is protected by copyright, trade secret and other state and federal laws. Its receipt or possession does not convey any rights to reproduce, disclose its contents, or to manufacture, use or sell anything it may describe. Reproduction, disclosure or use without specific written authorization of Pulse is strictly forbidden.

**CHARTS**



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

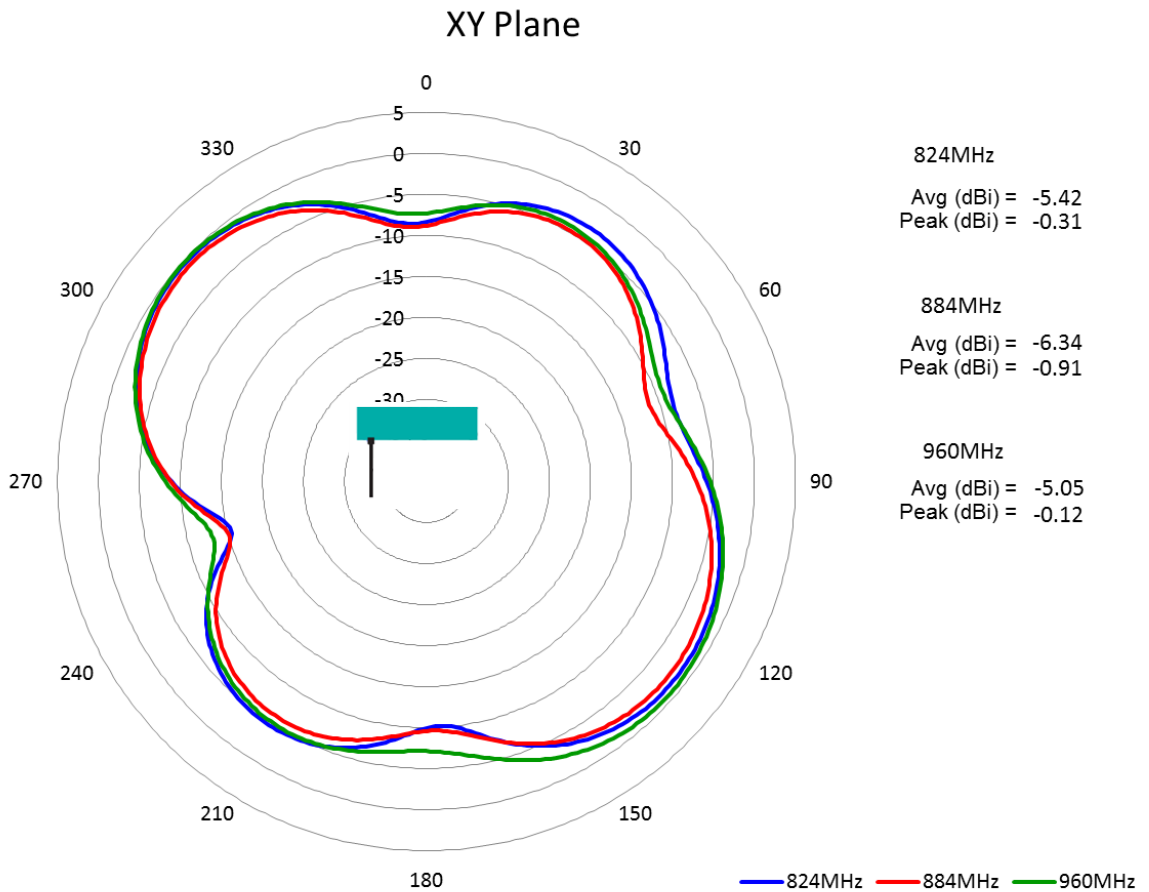
Issue: Issue: 1819

In the effort to improve our products, we reserve the right to make changes judged to be necessary.

CONFIDENTIAL AND PROPRIETARY INFORMATION

This document contains confidential and proprietary information of Pulse Electronics, Inc. (Pulse) and is protected by copyright, trade secret and other state and federal laws. Its receipt or possession does not convey any rights to reproduce, disclose its contents, or to manufacture, use or sell anything it may describe. Reproduction, disclosure or use without specific written authorization of Pulse is strictly forbidden.

CHARTS



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

Issue: Issue: 1819

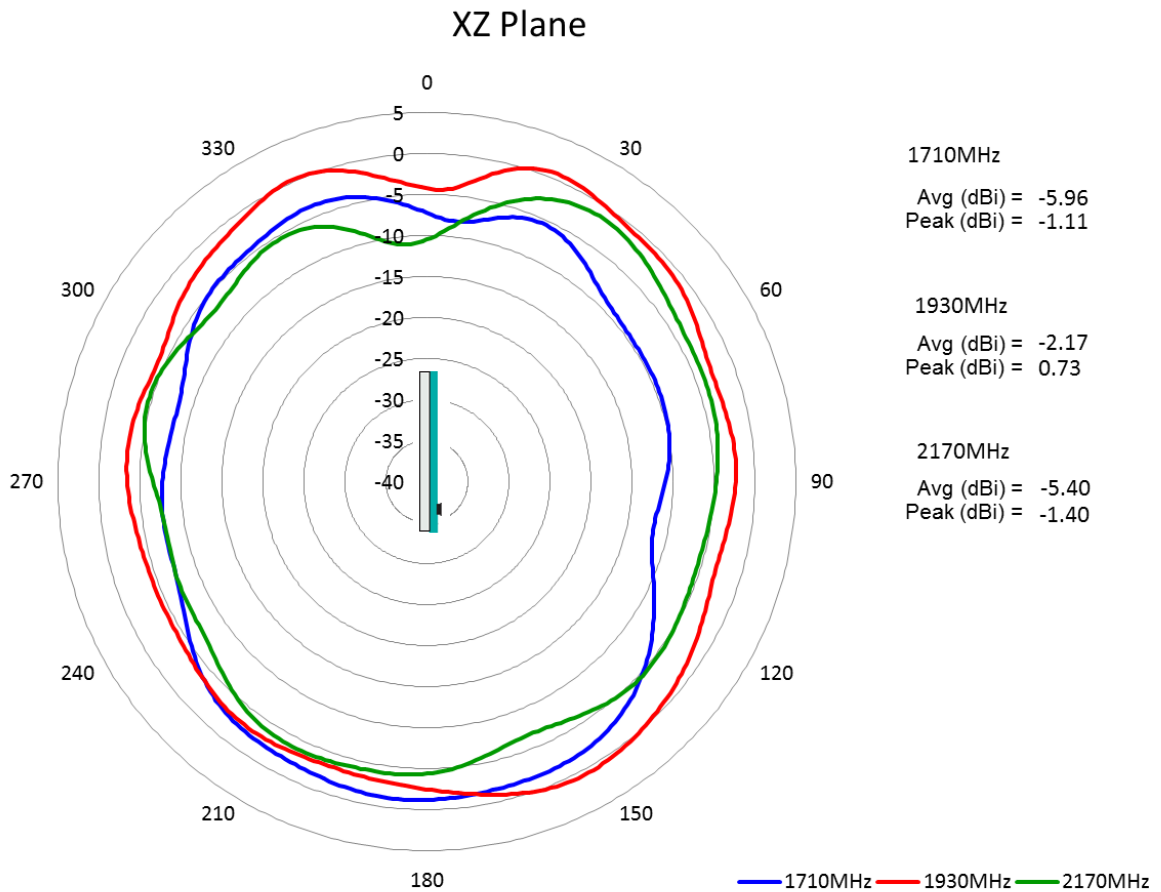
In the effort to improve our products, we reserve the right to make changes judged to be necessary.

CONFIDENTIAL AND PROPRIETARY INFORMATION

This document contains confidential and proprietary information of Pulse Electronics, Inc. (Pulse) and is protected by copyright, trade secret and other state and federal laws. Its receipt or possession does not convey any rights to reproduce, disclose its contents, or to manufacture, use or sell anything it may describe. Reproduction, disclosure or use without specific written authorization of Pulse is strictly forbidden.



CHARTS



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

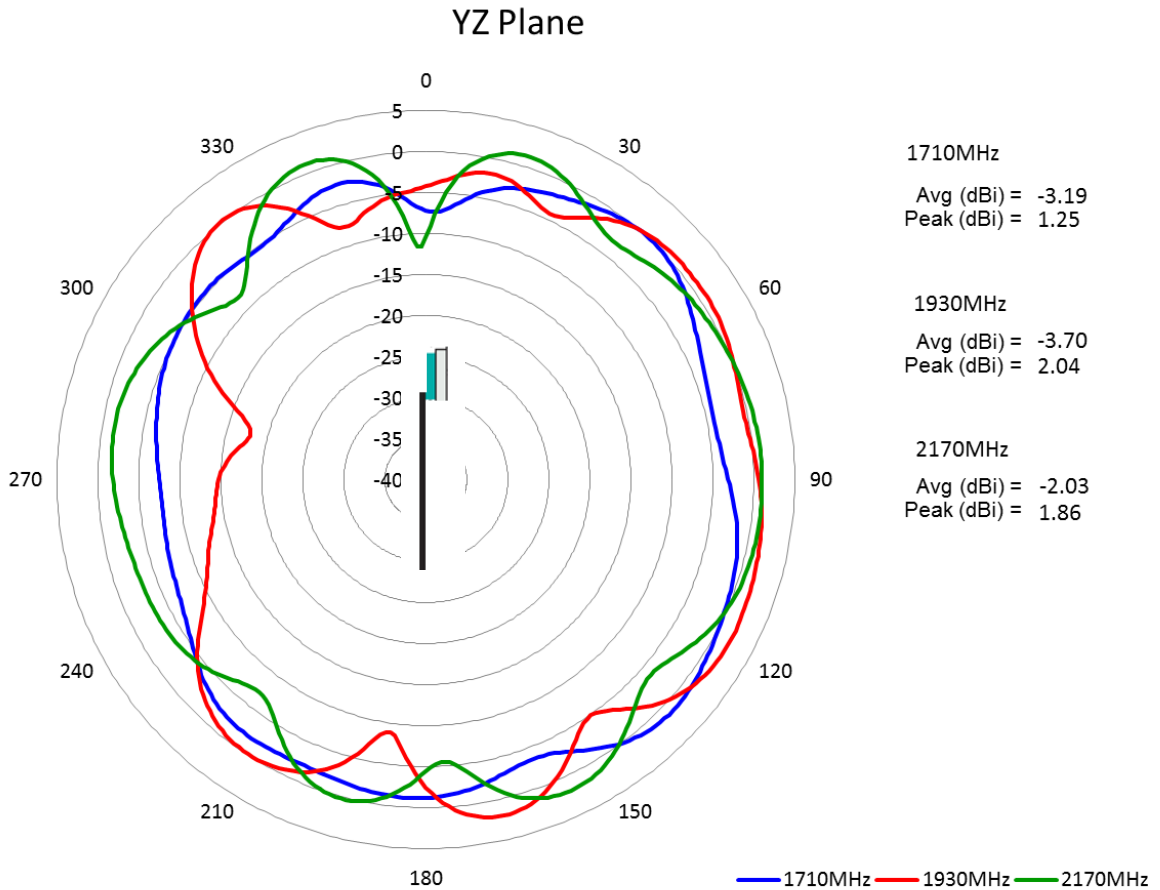
Issue: Issue: 1819

In the effort to improve our products, we reserve the right to make changes judged to be necessary.

CONFIDENTIAL AND PROPRIETARY INFORMATION

This document contains confidential and proprietary information of Pulse Electronics, Inc. (Pulse) and is protected by copyright, trade secret and other state and federal laws. Its receipt or possession does not convey any rights to reproduce, disclose its contents, or to manufacture, use or sell anything it may describe. Reproduction, disclosure or use without specific written authorization of Pulse is strictly forbidden.

CHARTS



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

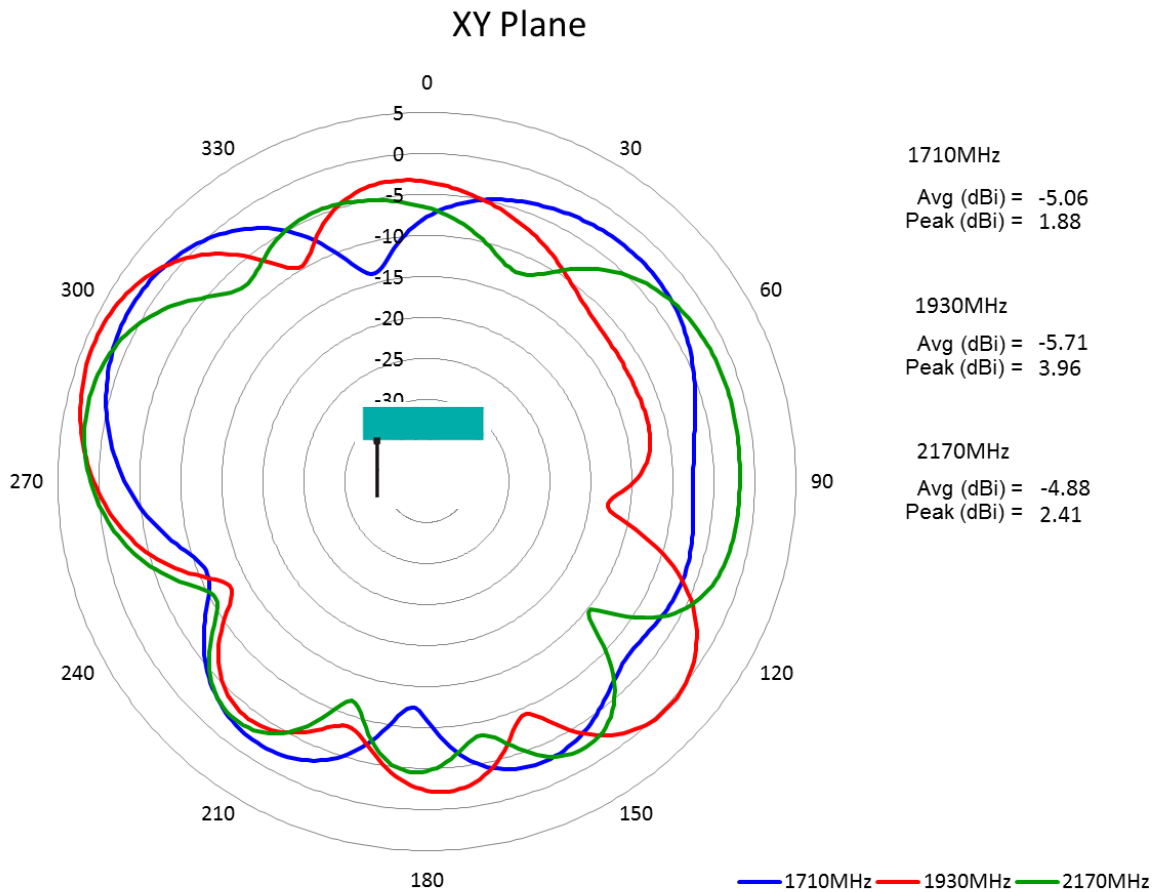
Issue: Issue: 1819

In the effort to improve our products, we reserve the right to make changes judged to be necessary.

CONFIDENTIAL AND PROPRIETARY INFORMATION

This document contains confidential and proprietary information of Pulse Electronics, Inc. (Pulse) and is protected by copyright, trade secret and other state and federal laws. Its receipt or possession does not convey any rights to reproduce, disclose its contents, or to manufacture, use or sell anything it may describe. Reproduction, disclosure or use without specific written authorization of Pulse is strictly forbidden.

CHARTS



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

Issue: Issue: 1819

In the effort to improve our products, we reserve the right to make changes judged to be necessary.

CONFIDENTIAL AND PROPRIETARY INFORMATION

This document contains confidential and proprietary information of Pulse Electronics, Inc. (Pulse) and is protected by copyright, trade secret and other state and federal laws. Its receipt or possession does not convey any rights to reproduce, disclose its contents, or to manufacture, use or sell anything it may describe. Reproduction, disclosure or use without specific written authorization of Pulse is strictly forbidden.

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

**Series:** Internal PCB Antenna

**PART NUMBER:** W3538XXXX

## PACKAGING

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



Issue: Issue: 1819

In the effort to improve our products, we reserve the right to make changes judged to be necessary.

CONFIDENTIAL AND PROPRIETARY INFORMATION

This document contains confidential and proprietary information of Pulse Electronics, Inc. (Pulse) and is protected by copyright, trade secret and other state and federal laws. Its receipt or possession does not convey any rights to reproduce, disclose its contents, or to manufacture, use or sell anything it may describe. Reproduction, disclosure or use without specific written authorization of Pulse is strictly forbidden.

## X-ON Electronics

Largest Supplier of Electrical and Electronic Components

*Click to view similar products for [Antennas](#) category:*

*Click to view products by [PulseLarsen](#) manufacturer:*

Other Similar products are found below :

[GAN30084EU](#) [930-033-R](#) [GW17.07.0250E](#) [1513563-1](#) [EXE902SM](#) [APAMPG-117](#) [MAF94383](#) [W3908B0100](#) [W6102B0100](#) [YE572113-30RSMM](#) [108-00014-50](#) [66089-2406](#) [SPDA17RP918](#) [A09-F8NF-M](#) [A09-F5NF-M](#) [RGFRA1903041A1T](#) [W3593B0100](#) [W3921B0100](#) [SIMNA-868](#) [SIMNA-915](#) [SIMNA-433](#) [W1044](#) [W1049B090](#) [A75-001](#) [WTL2449CQ1-FRSMM](#) [CPL9C](#) [EXB148BN](#) [0600-00060](#) [TRA9020S3PBN-001](#) [Y4503](#) [GD5W-28P-NF](#) [MA9-7N](#) [GD53-25](#) [GD5W-21P-NF](#) [C37](#) [MAF94051](#) [MA9-5N](#) [EXD420PL](#) [B1322NR](#) [QWFTB120](#) [MAF94271](#) [MAF94300](#) [GPSMB301](#) [FG4403](#) [AO-AGSM-OM54](#) [5200232](#) [MIKROE-2349](#) [WCM.01.0111](#) [MIKROE-2393](#) [MIKROE-2352](#)