

# External / In-building 5G/4G Stick Monopole Antenna

W1696/W1697/W1696-M/W1696-MW - 617 to 3800 MHz (Several 5G FR1 bands)



## Applications:

- ② Small form factor monopole
- ② 4G LTE/LTE-A, 5G NR/
- ② LTE CAT 1M
- ② NB IoT
- ② CBRS US B48
- ② Gateways, Set Top boxes
- ② Telemetry, High speed data
- ② IoT and M2M solutions

Electrical Specifications @ 25°C - Operating Temperature -40°C to +85°C<sup>1</sup>

Frequency Bands: 617-960/1710-2690/3400-3800 MHz

Antenna <sup>2</sup> Type	Nominal Impedance	Return Loss	Radiation Pattern	Polarization	Power Withstanding
Monopole	50Ω	per below	Omni	Linear	5W

Frequency	617-960 MHz	1710-2690 MHz	3400-3800 MHz
Return Loss	<-5 dB	<-5 dB	<-4 dB
Peak Gain	>-0.5 dBi	>1 dBi	>0 dBi
Efficiency	40%	45%	30%

## Mechanical Specifications

Orderable PN: W1696, W1696-M, W1697, W1696-MW

Part Number	Size (Length * Dia)	Color	Wind-loading	Weight	Connector Type	Ingress Protection
W1696	49.6 * 10	Black	100 km/h	7.5grms	SMA Male	IP42
W1697	49.6 * 10	Black	100 km/h	7.5grms	RP - SMA Male	IP42
W1696-M	50 * 12	Black	100 km/h	7.8grms	SMA Male	IP65
W1696-MW	50 * 12	Black	100 km/h	7.8grms	SMA Male	IP68 (24H 1MWater)

Notes:

1. Storage Temperature: -40°C to 85°C
2. Measured on 120 x 40mm ground plane

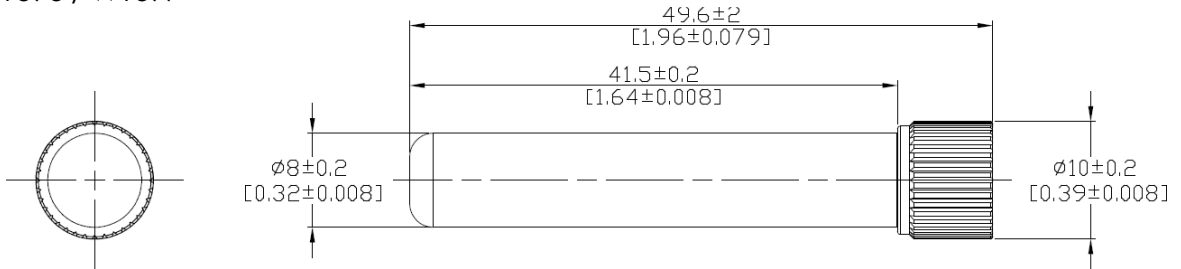
# External / In-building 5G/4G Stick Monopole Antenna

W1696/W1697/W1696-M/W1696-MW - 617 to 3800 MHz (Several 5G FR1 bands)

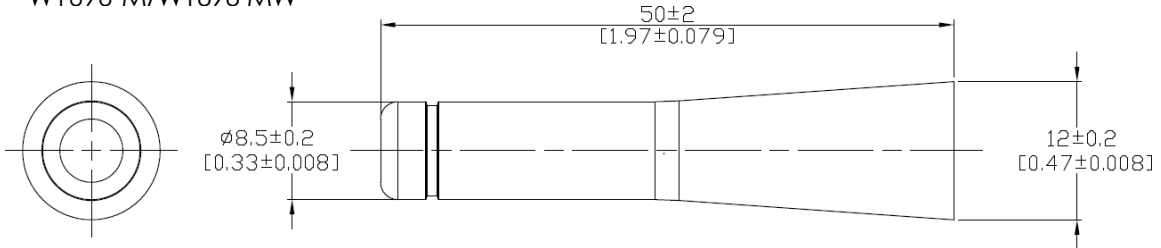
## Mechanical

W1696/W1697/1696-M/W1696-MW

W1696 / W1697



W1696-M/W1696-MW



Dimensions:  $\frac{\text{Inches}}{\text{mm}}$

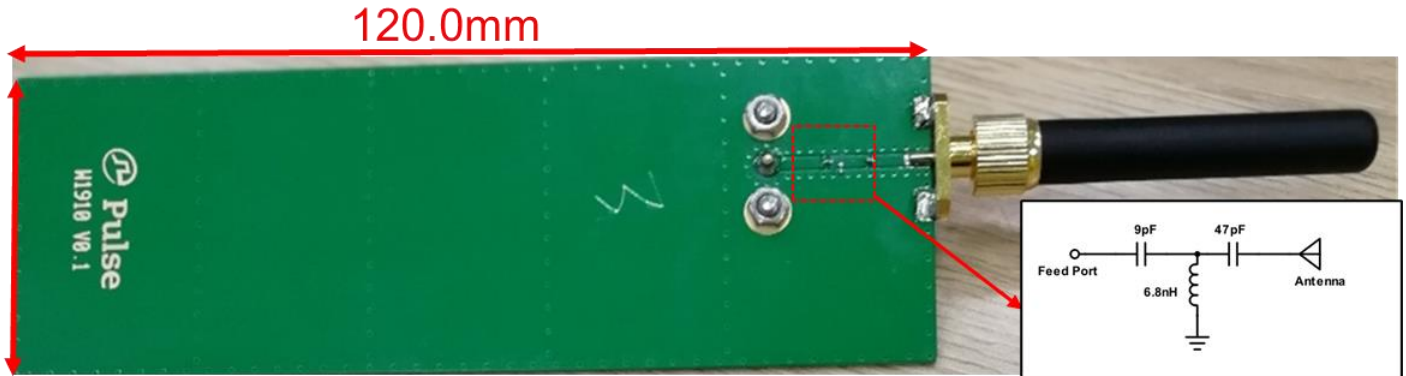
Unless otherwise specified,  
all tolerances are  $\pm \frac{0.10}{0.25}$

# External / In-building 5G/4G Stick Monopole Antenna

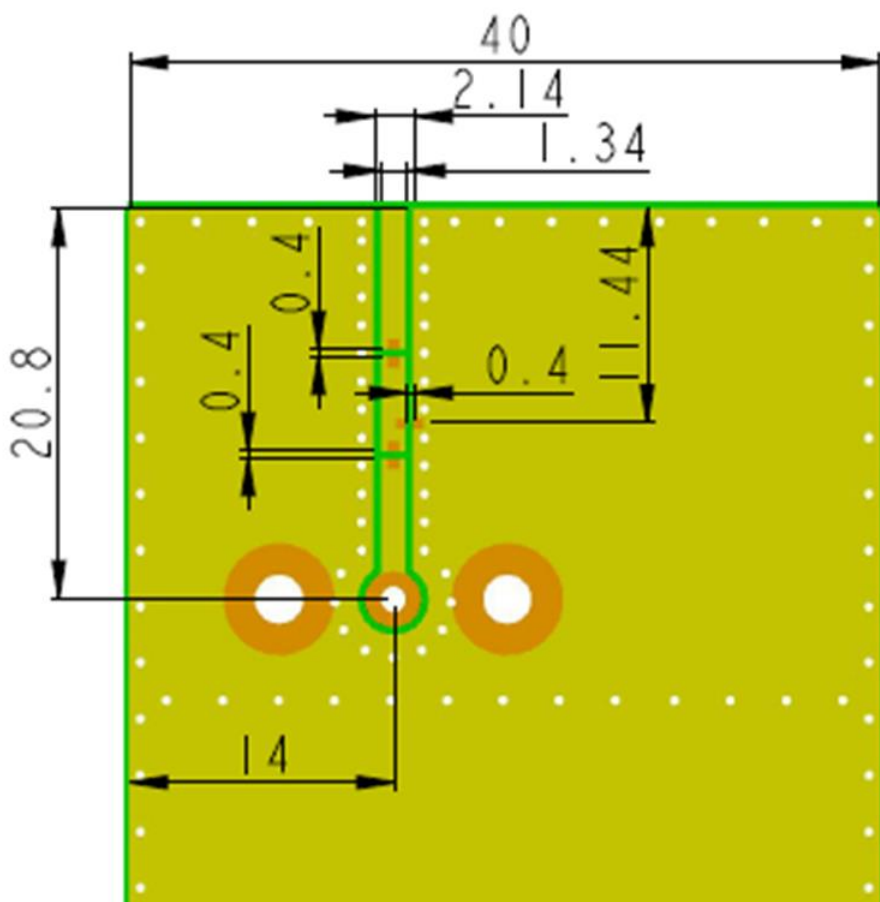
W1696/W1697/W1696-M/W1696-MW - 617 to 3800 MHz (Several 5G FR1 bands)

## Test setup

W1696/W1697/1696-M/W1696-MW



#Test on 40.0\*120.0mm ground plane with matching circuit.



Unit: mm



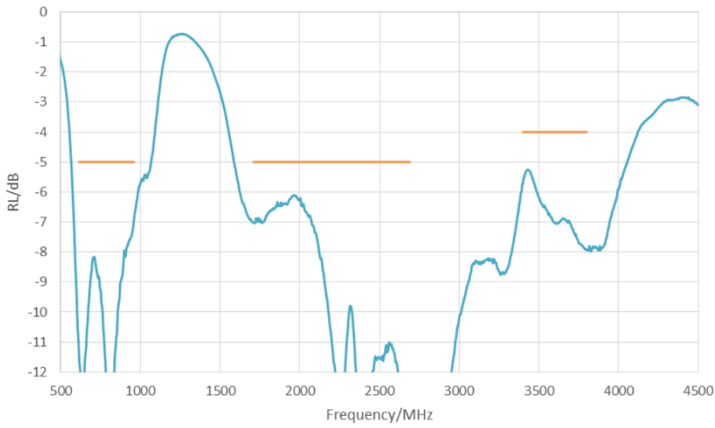
# External / In-building 5G/4G Stick Monopole Antenna

W1696/W1697/W1696-M/W1696-MW - 617 to 3800 MHz (Several 5G FR1 bands)

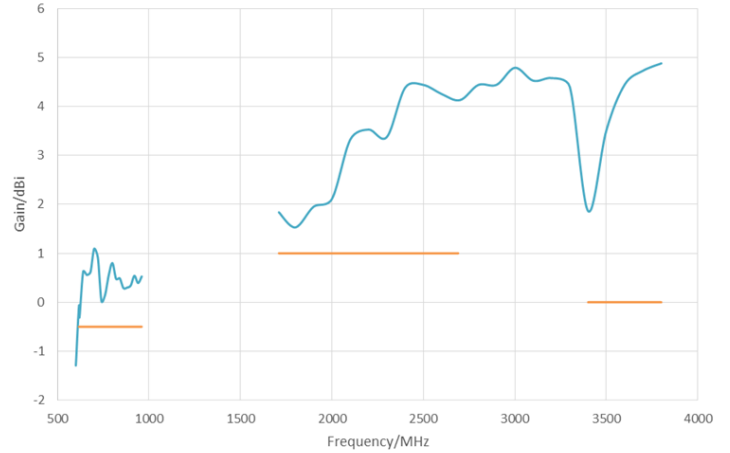
## Charts

W1696/W1697/1696-M/W1696-MW

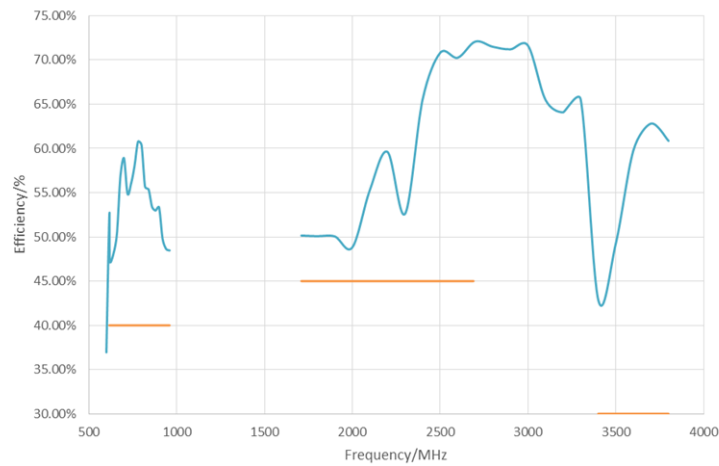
### Return Loss vs Frequency



### Peak Gain vs Frequency



### Radiation Efficiency vs Frequency

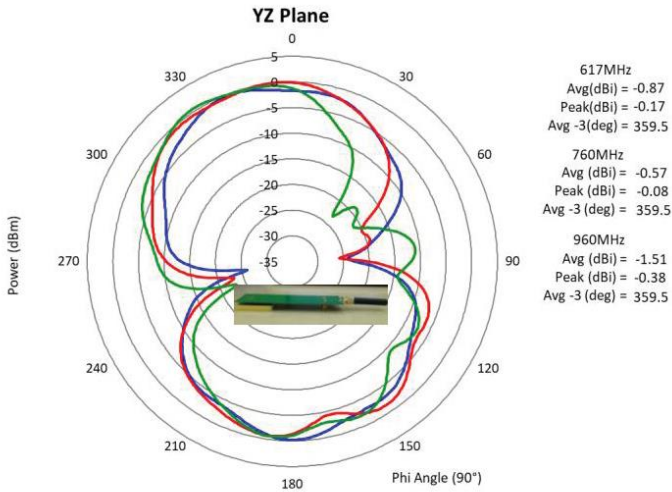
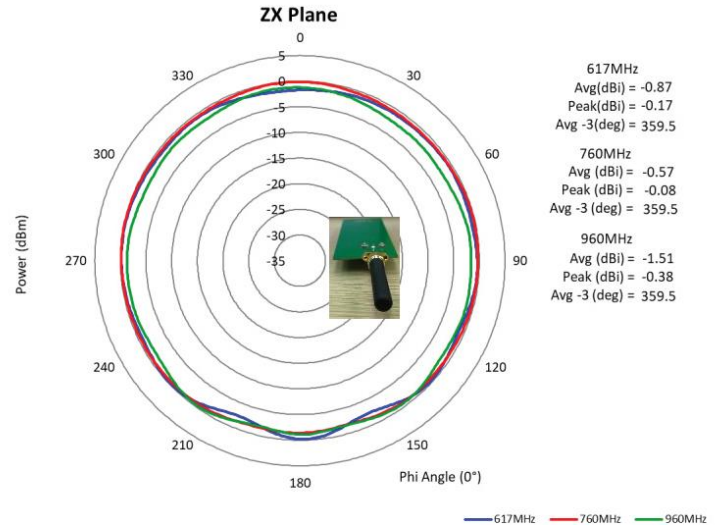
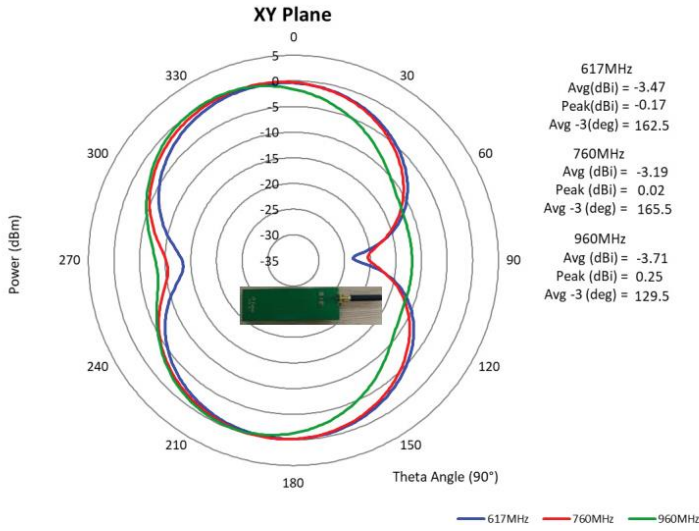


# External / In-building 5G/4G Stick Monopole Antenna

W1696/W1697/W1696-M/W1696-MW - 617 to 3800 MHz (Several 5G FR1 bands)

## Free Space Radiation Pattern

617MHz - 960MHz

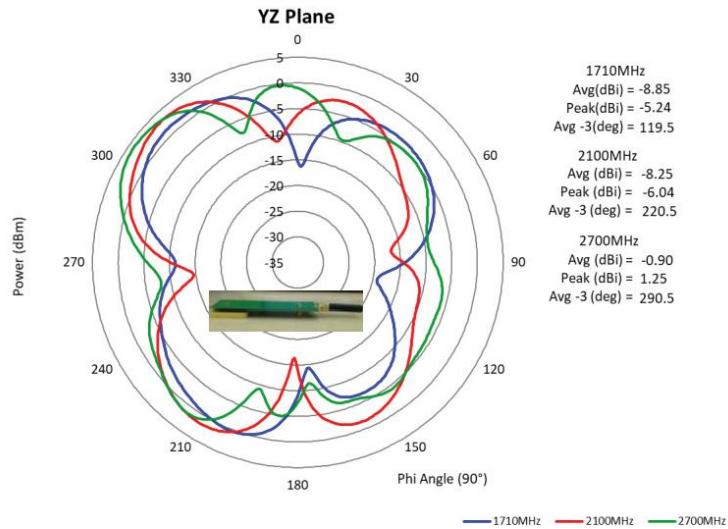
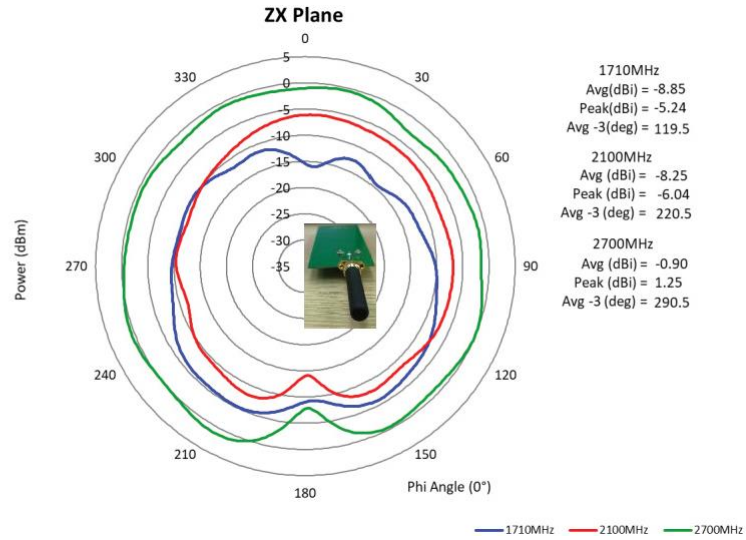
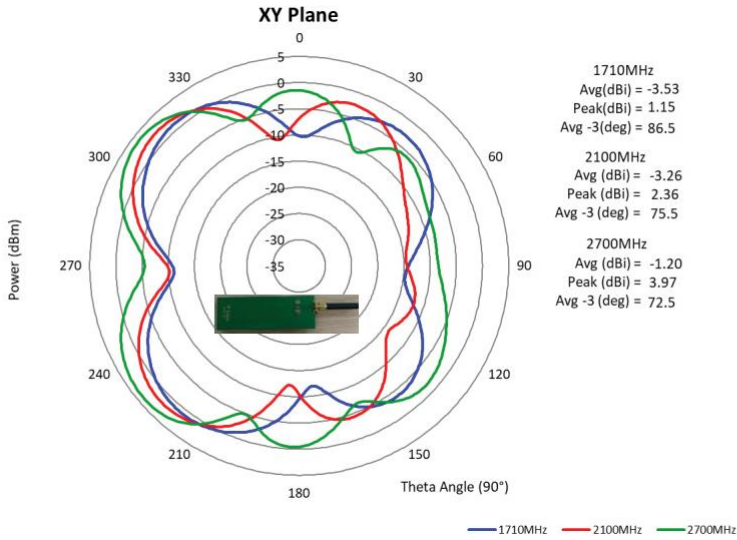


# External / In-building 5G/4G Stick Monopole Antenna

W1696/W1697/W1696-M/W1696-MW - 617 to 3800 MHz (Several 5G FR1 bands)

## Free Space Radiation Pattern

1710MHz 2690MHz



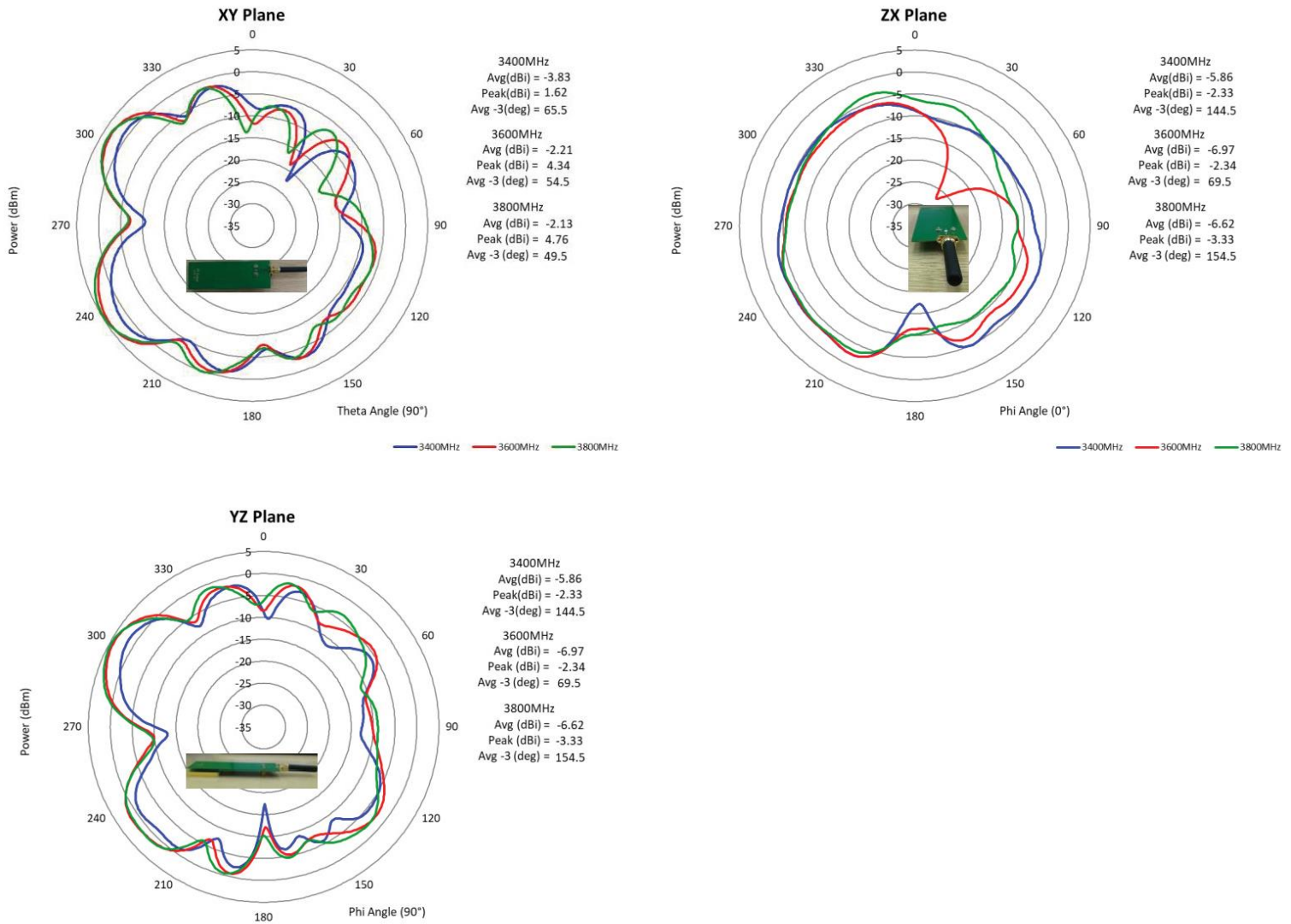


# External / In-building 5G/4G Stick Monopole Antenna

W1696/W1697/W1696-M/W1696-MW - 617 to 3800 MHz (Several 5G FR1 bands)

## Free Space Radiation Pattern

3400MHz-3800MHz



# External / In-building 5G/4G Stick Monopole Antenna

W1696/W1697/W1696-M/W1696-MW - 617 to 3800 MHz (Several 5G FR1 bands)



## Packing Info

W1696/W1697/1696-M/W1696-MW

1 pcs antenna per PE bag 24 pcs PE bags per tray  
14 pcs trays per package box (2 pcs empty tray) 288 pcs antenna per package  
Package box: 460mm\*235mm\*140mm

### For More Information:

Americas - [antennas.us@pulseelectronics.com](mailto:antennas.us@pulseelectronics.com) | Europe - [antennas.eu@pulseelectronics.com](mailto:antennas.eu@pulseelectronics.com) | Asia - [antennas.as@pulseelectronics.com](mailto:antennas.as@pulseelectronics.com) | Questions? +1-800-ANTENNA  
Performance warranty of products offered on this data sheet is limited to the parameters specified. Data is subject to change without notice. Other brand and product names mentioned herein may be trademarks or registered trademarks of their respective owners. © Copyright , 2020. Pulse Electronics, Inc. All rights reserved.  
Company address: Pulse Electronics, a YAGEO Company, 15255 Innovation Drive, Suite #100, San Diego, CA 92128.

***'YAGEO Corporation and its affiliates do not recommend the use of commercial, automotive, and/or COTS grade products for high reliability applications or manned space flight.'***