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PulseLARSEN Antennas

TECHNICAL DATA SHEET

Description: GNSS/LTE, Direct Mount

Series: DISC

PART NUMBER:
DSC21011DM, DSC21012DM (White)



Features:

- 4G antenna:
  - 698-960/1710-2700MHz
- Active GNSS antenna:
  - Beidou, GPS, Galileo, Glonass
  - LNA Gain 30dB
  - Pre and post LNA filtering
- RoHS Compliant
- Diameter 100mm
- IP67

Applications:

- LTE Cat M1 and Cat 1 Devices
- FirstNet Band 14 Compliant
- Vehicular use
- Utility boxes
- Smart metering
- Navigation, Fleet Management, Tracking

Preliminary

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ELECTRICAL SPECIFICATIONS

Antenna Type	GNSS Ceramic Patch / PIFA, Measured on 12” SQ GP
Frequency (GNSS)	1561.098±2.046/1575.42±1.023/1602.5625±4MHz
Frequency (4G)	698-960/1710-2170/2300-2700MHz
Nominal Impedance	50 Ω
VSWR	2.5:1(4G), 2:1(GNSS)
RHCP Gain at zenith (Radiating ele)	-1 dBic ±1 Db
Gain (GNSS LNA gain)	30 dBic ±1 dB
Average Gain (698-960/1710-2700)	2.7 / 4.8 dBi
Efficiency (4G)	66/56%
Polarization (GNSS)	RHCP
Polarization (4G)	Linear Vertical
Power Rating (4G)	20 W
Out of Band Rejection	698 MHz >90dB, 960 MHz >80dB, 1710MHz >70dB, 2170MHz >65dB, 2400MHz >65dB, 2700MHz >75dB
Noise Figure	<2.4 dB
Input voltage (GNSS)	2.5-5 V DC
Current Draw (GNSS)	<10 mA

MECHANICAL SPECIFICATIONS

Overall Height	38mm (1.5”)
Weight	130g
Antenna Color / Material	Black or White / PC/ABS, UV protected
Connector type	As requested
Cable type / Length	RG-174, Black / As requested

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	-40 ~ +85° C
Ingress Protection	IP67
RoHS Compliant	Yes

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PulseLARSEN Antennas

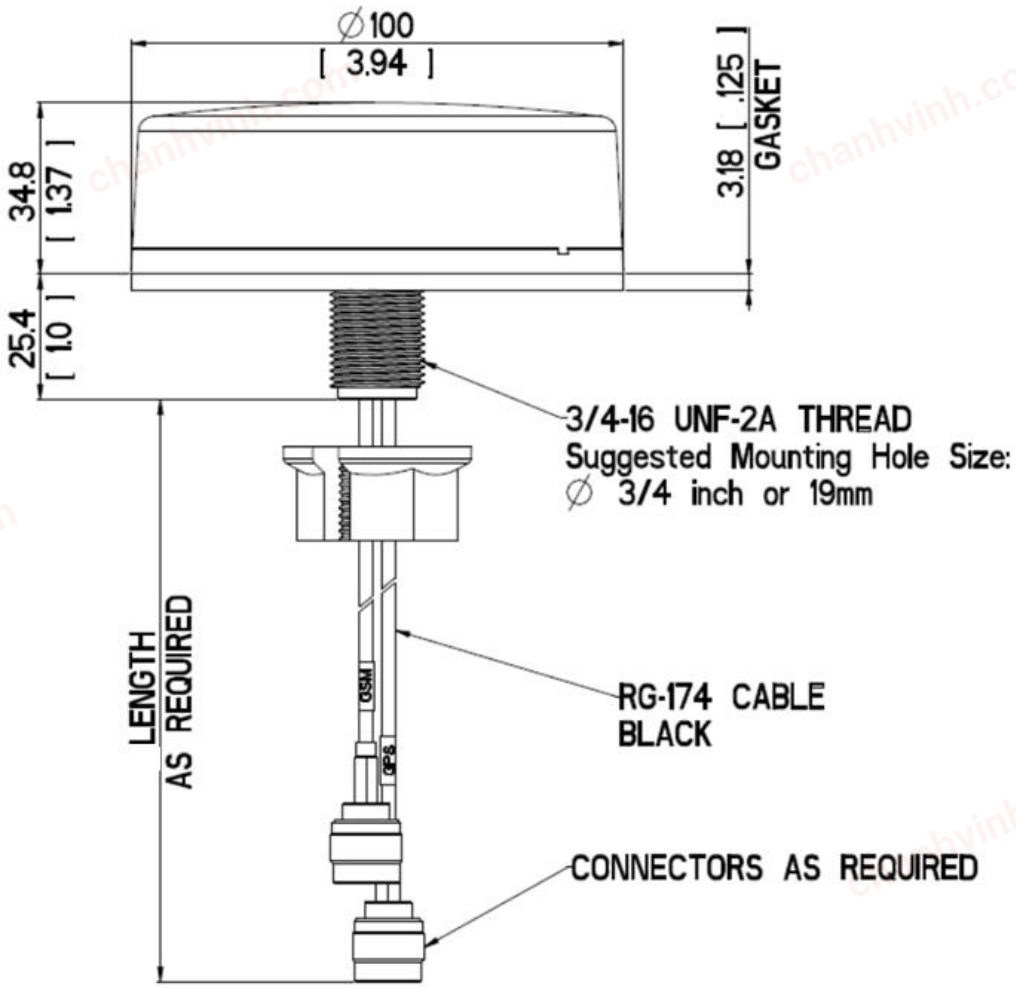
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MECHANICAL DRAWING



Antennas	LTE Cable			GNSS Cable		
	Cable Type	Cable Length	Connector	Cable Type	Cable Length	Connector
DSC21011DM	RG-174 Black	1524mm/60"/5'	SMA Male	RG-174 Black	1524mm/60"/5'	SMA Male
DSC21012DM		1524mm/60"/5'	SMA Male		1524mm/60"/5'	SMA Male

All dimensions are in mm / inches

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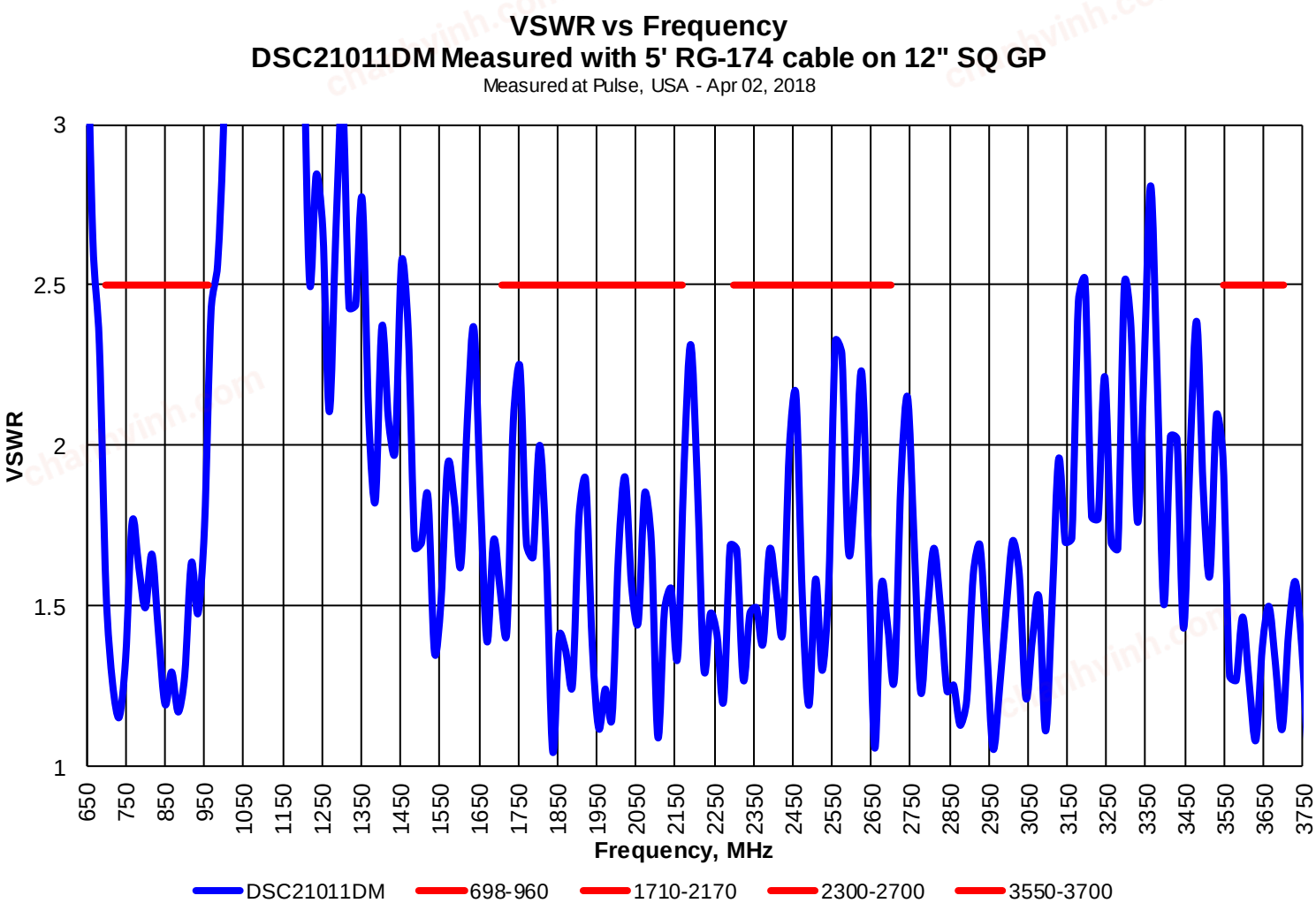
TECHNICAL DATA SHEET

Description: GNSS/LTE, Direct Mount

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PART NUMBER:
DSC21011DM, DSC21012DM (White)

CHARTS



LTE

Measured with
1524mm (5') cable

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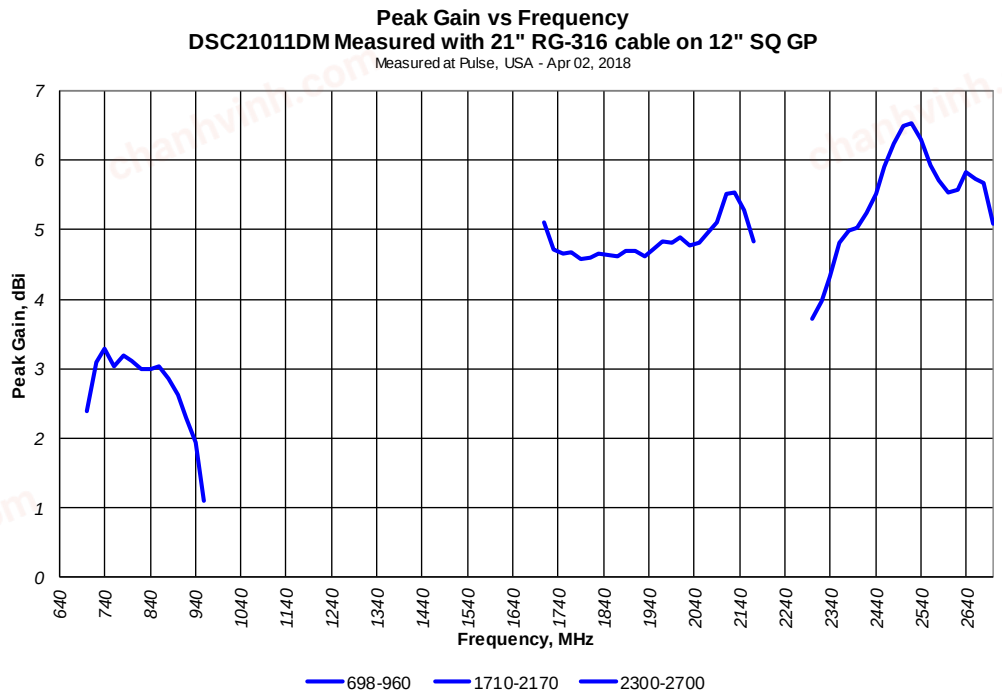
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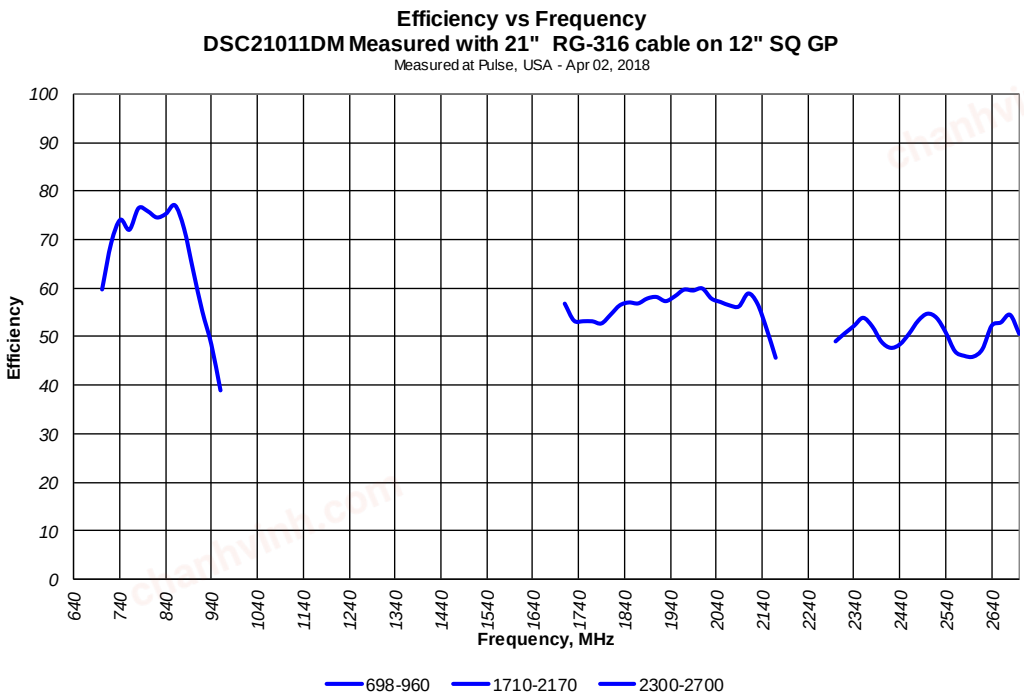
PART NUMBER:
DSC21011DM, DSC21012DM (White)

CHARTS

LTE
Measured with
533.4mm (21") cable



LTE
Measured with
533.4mm (21") cable



Preliminary

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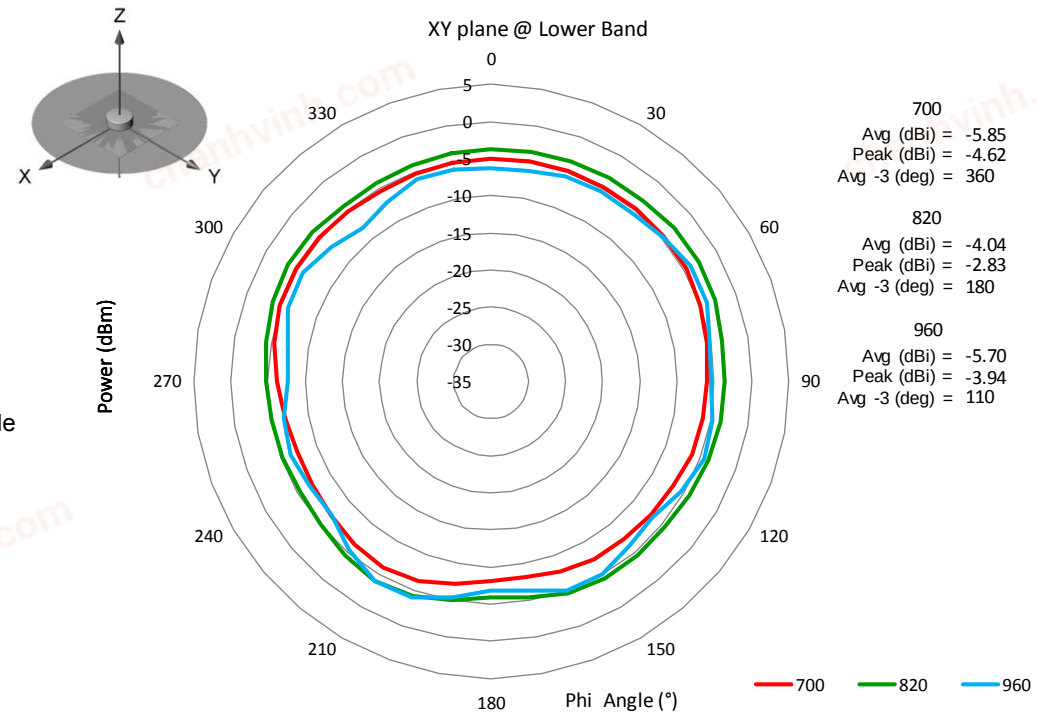
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CHARTS

LTE

Measured with
533.4mm (21") cable



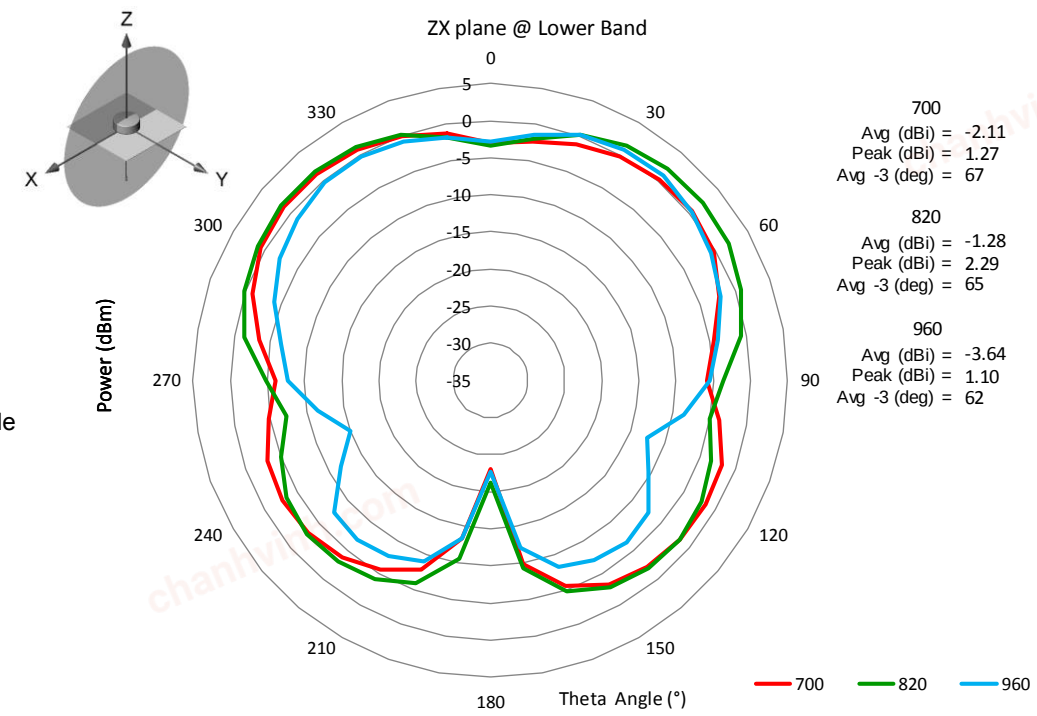
700
Avg (dBi) = -5.85
Peak (dBi) = -4.62
Avg -3 (deg) = 360

820
Avg (dBi) = -4.04
Peak (dBi) = -2.83
Avg -3 (deg) = 180

960
Avg (dBi) = -5.70
Peak (dBi) = -3.94
Avg -3 (deg) = 110

LTE

Measured with
533.4mm (21") cable



700
Avg (dBi) = -2.11
Peak (dBi) = 1.27
Avg -3 (deg) = 67

820
Avg (dBi) = -1.28
Peak (dBi) = 2.29
Avg -3 (deg) = 65

960
Avg (dBi) = -3.64
Peak (dBi) = 1.10
Avg -3 (deg) = 62

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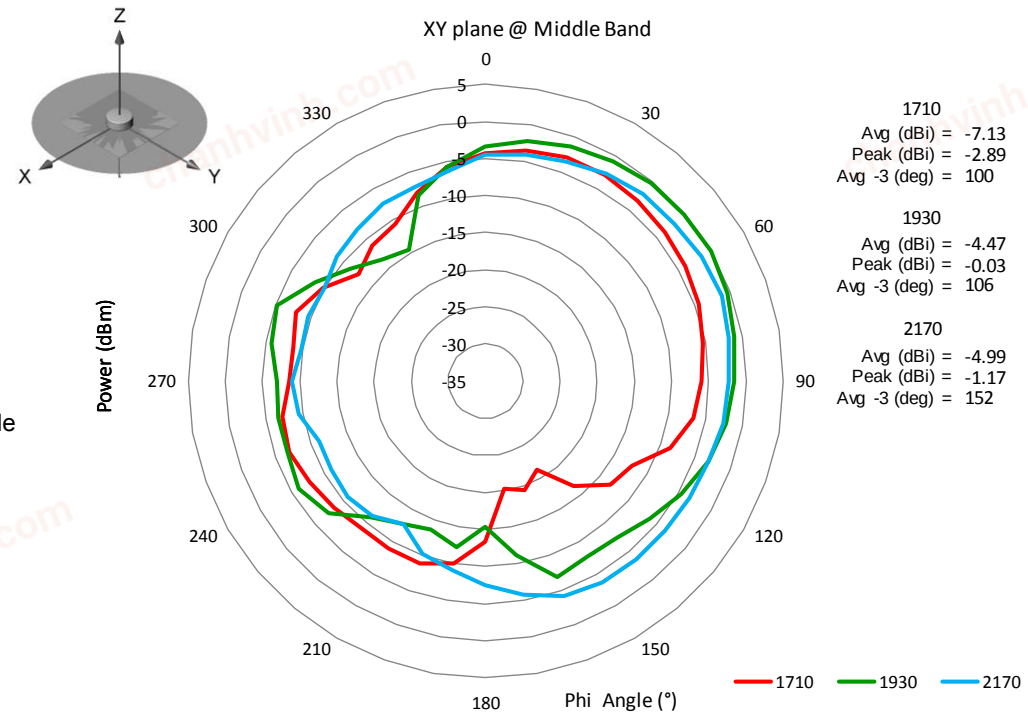
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CHARTS

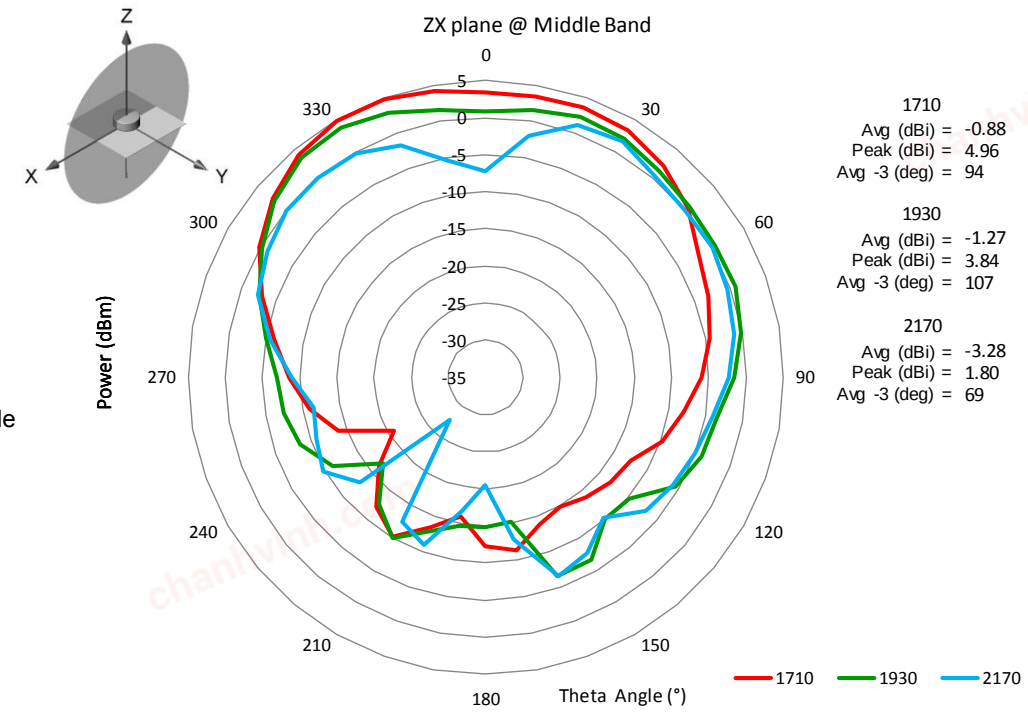
LTE

Measured with
533.4mm (21") cable



LTE

Measured with
533.4mm (21") cable



Preliminary

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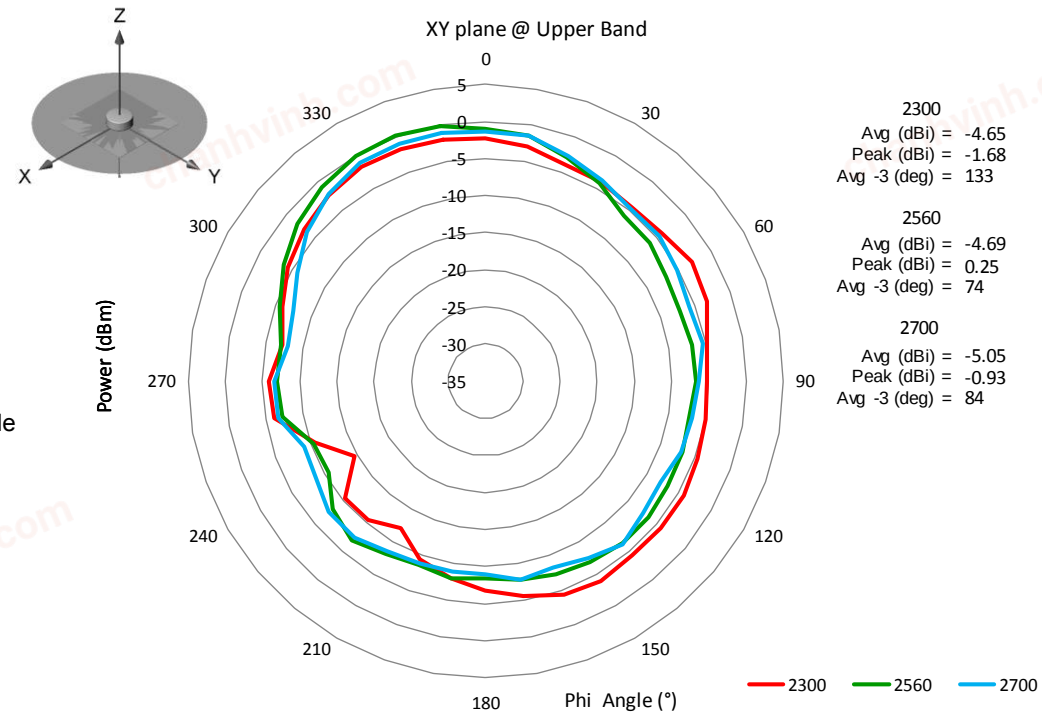
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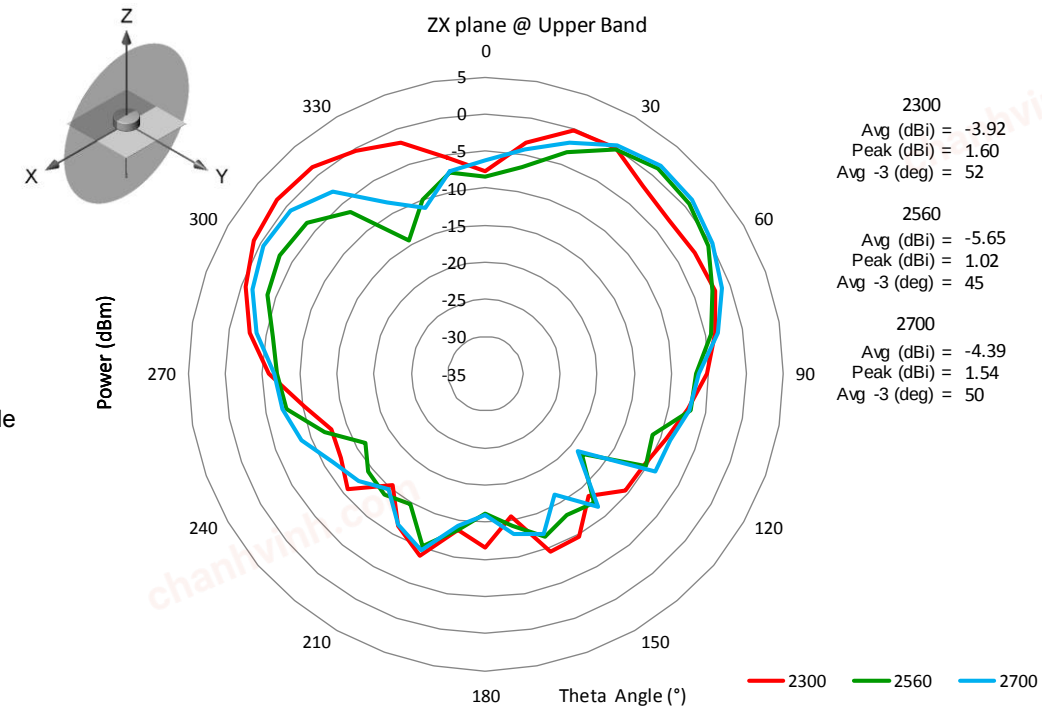
LTE

Measured with
533.4mm (21") cable



LTE

Measured with
533.4mm (21") cable



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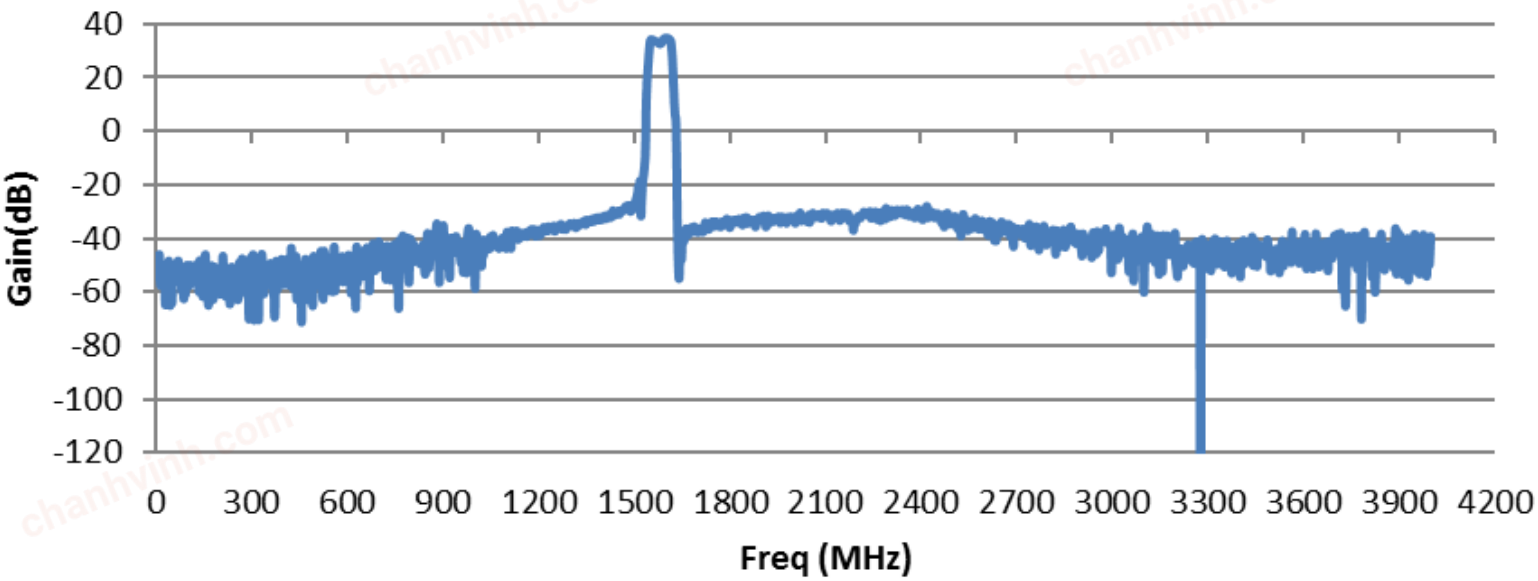
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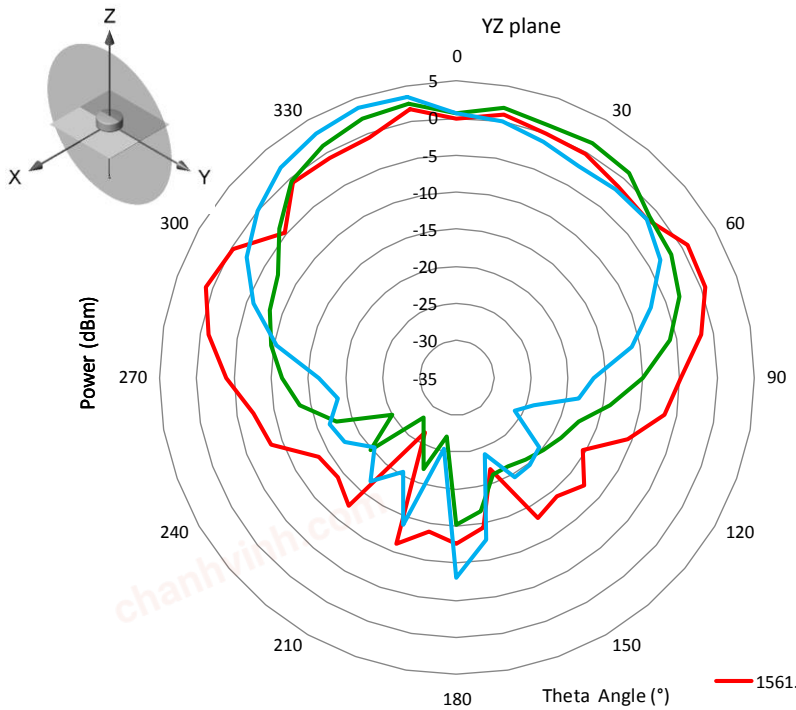
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CHARTS

GNSS LNA Gain and out-of-band rejection





1561.1
Avg (dBi) = -3.18
Peak (dBi) = 1.83
Avg -3 (deg) = 41

1575.42
Avg (dBi) = -3.58
Peak (dBi) = 2.44
Avg -3 (deg) = 89

1602.56
Avg (dBi) = -3.50
Peak (dBi) = 3.68
Avg -3 (deg) = 47

GNSS

Passive
Measurement
Measured with
152mm (6") cable

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PACKAGING

1 antenna packed in a plastic bag

1 label on each plastic with part number, description, date code.

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