



Features:

- 3G, GPRS, GSM
 - 824-960, 1710-2170MHz
- GNSS
 - GPS, Galileo Glonass, Beidou
 - 1560-1608MHz
 - 30dB LNA
- Magnetic mount onto metal surfaces
- IP67

Applications:

- Vehicular use
- Fleet management
- Tracking, navigation
- For easy installation and removal, no need to drill any holes

All dimensions are in mm / inches

Issue: 1719

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

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Vancouver, WA 98683
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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



This document covers all product variants of the following product family

Antennas	GSM Cable			GPS Cable		
	Cable Type	Cable Length	Connector	Cable Type	Cable Length	Connector
W4165MM	RG-174 Black	4000mm/157.5"/13.2'	SMA Male	RG-174 Black	4000mm/157.5"/13.2'	SMA Male
W4165MMAI		1524mm/60"/5'	TNC Male		1524mm/60"/5'	RP-TNC Male
W4165MMSMA5		1524mm/60"/5'	SMA Male		1524mm/60"/5'	SMA Male
W4165MMRPSMA10		3048mm/120"/10'	RP-SMA Male		3048mm/120"/10'	RP-SMA Male

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Description: 3G/GPRS/GSM + GNSS IP67 with
Magnetic Mount

PART NUMBER: W4165MMXX

Series: Outdoor Multi Band

ELECTRICAL SPECIFICATIONS

Frequency (GSM)	824-960/1710-2170 MHz
Frequency (Beidou,GPS,Galileo,Glonass)	1561.098±2.046/ 1575.42±1.023/ 1602.5625±4MHz
Nominal Impedance	50 Ω
VSWR** (GSM)	< 2:1
Average Peak Gain* (GSM antenna, Low band, typical)	4 dB
Average Peak Gain* (GSM antenna, High band, typical)	4.5 dB
GNSS antenna RHCP gain	1 dBic ± 2 dB
LNA gain	30 dB ± 2 dB
Noise Figure	2.5 (cascade) dB
Current	9 mA ± 2 mA
Vdc	3-5Vdc
LNA and filter attenuation	
@ 824 MHz	70 dB
@960 MHz	65 dB
@1710 MHz	60 dB
@2170 MHz	65 dB

*Measured on diameter 500mm GND plane and with 5 inch cables

** Measured on diameter 500mm GND plane and with 10 feet cables

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Description: 3G/GPRS/GSM + GNSS IP67 with
Magnetic Mount

PART NUMBER: W4165MMXX

Series: Outdoor Multi Band

MECHANICAL SPECIFICATIONS

Antenna Color / Material	Black
Connector type	As requested
Cable type	RG-174, Black
Cable length	As requested
Fixing system	Magnetic mount
Pull Force (in Z direction)	min. 100N (22.5 lbf)
Side Push Forth (in X/Y direction)	min. 140N (30 lbf)
Connector retention	30 N
Strain relief	30 N, applied to cable along axis and perpendicular to cable entry

ENVIRONMENTAL SPECIFICATIONS

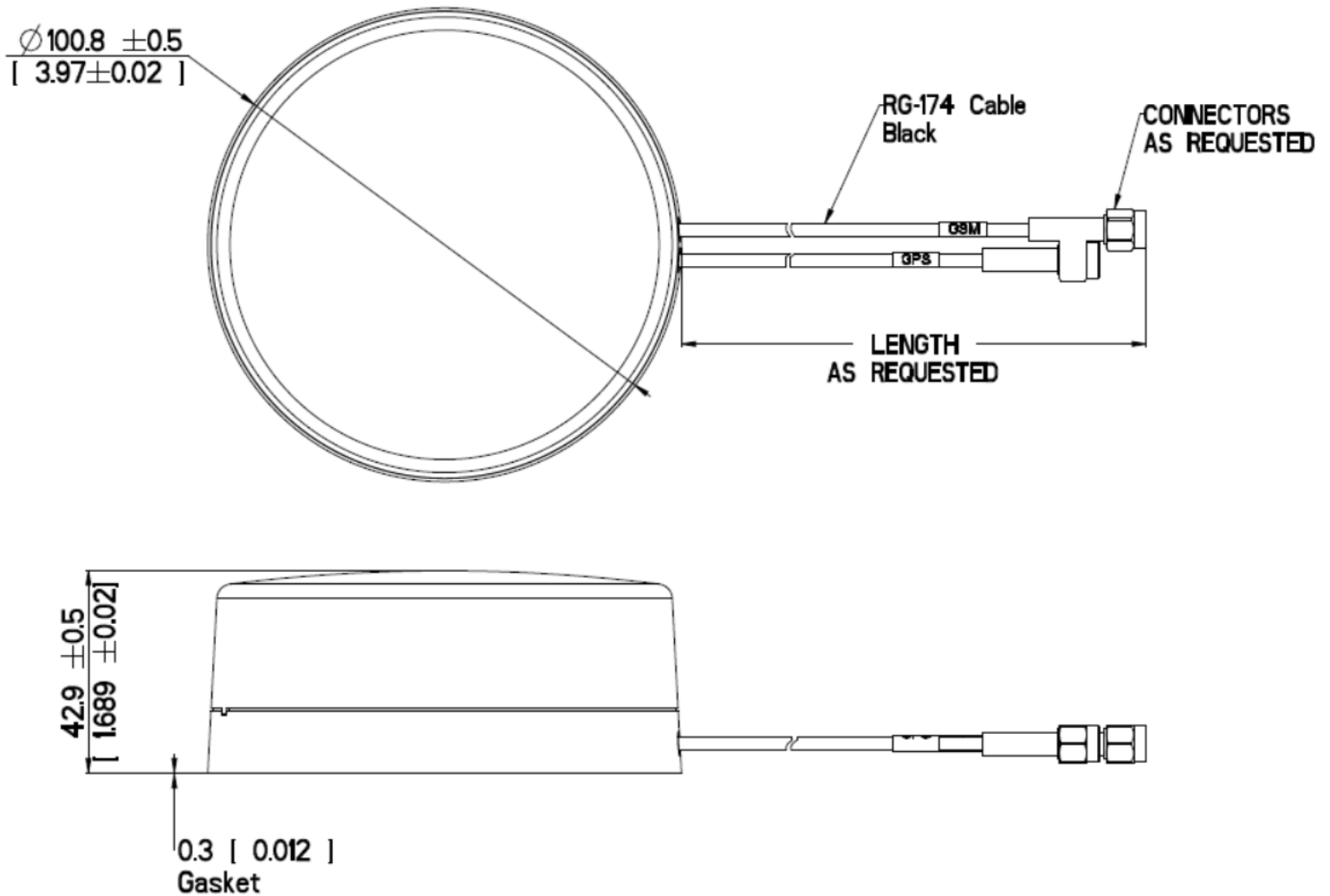
Operating Temperature	-40 ~ 85° C
Storage Temperature	-40 ~ 85° C
Ingress Protection	IP67
Wind-loading	160 km/h
RoHS Compliant	Yes

Description: 3G/GPRS/GSM + GNSS IP67 with
Magnetic Mount

PART NUMBER: W4165MMXX

Series: Outdoor Multi Band

MECHANICAL DRAWING



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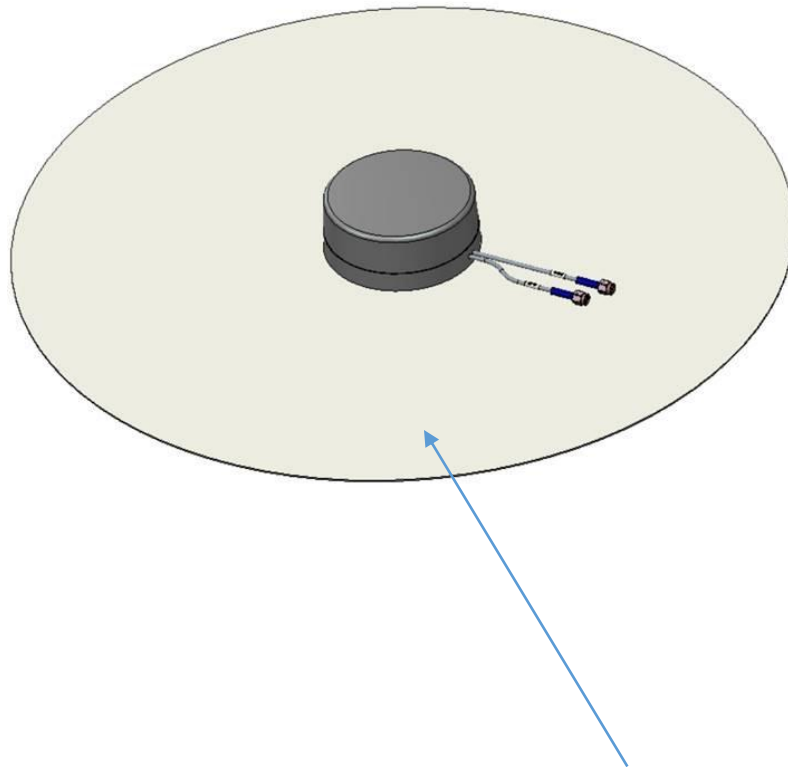
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Description: 3G/GPRS/GSM + GNSS IP67 with
Magnetic Mount

PART NUMBER: W4165MMXX

TEST SETUP



Diameter: 500mm ground pane

*Measured on diameter 500mm GND plane and with 5 inch cables for radiation performance

** Measured on diameter 500mm GND plane and with 10 feet cables for VSWR

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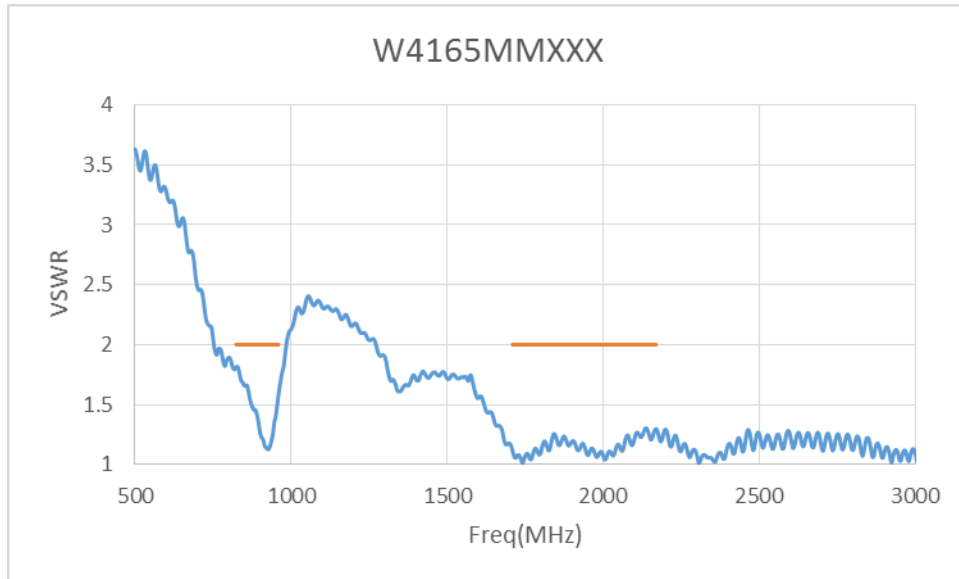
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Description: 3G/GPRS/GSM + GNSS IP67 with
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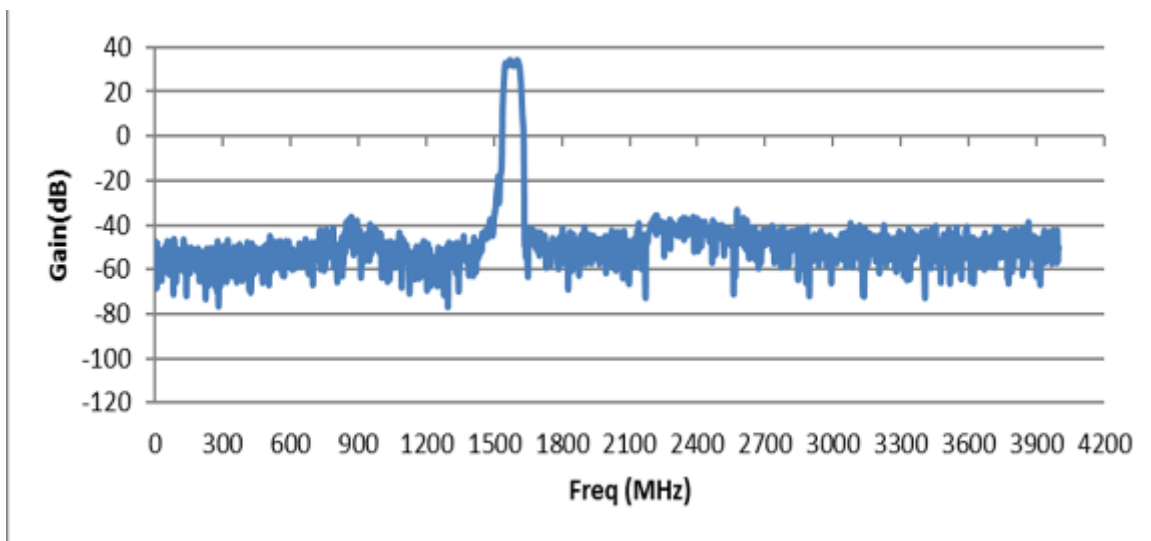
PART NUMBER: W4165MMXX

CHARTS

VSWR*



GNSS LNA performance



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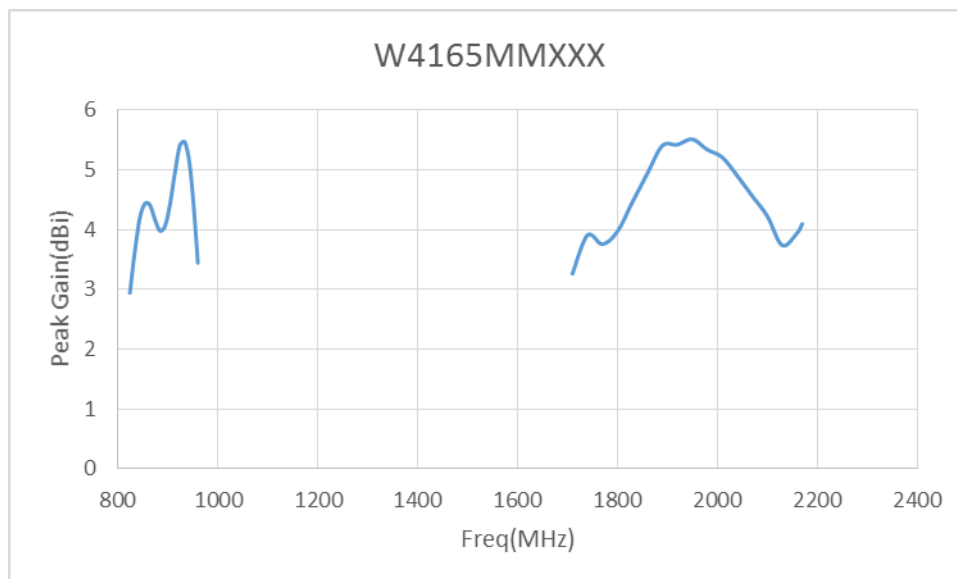
Series: Outdoor Multi Band

CHARTS

GSM antenna total efficiency*



Maximum 3D gain, GSM antenna*



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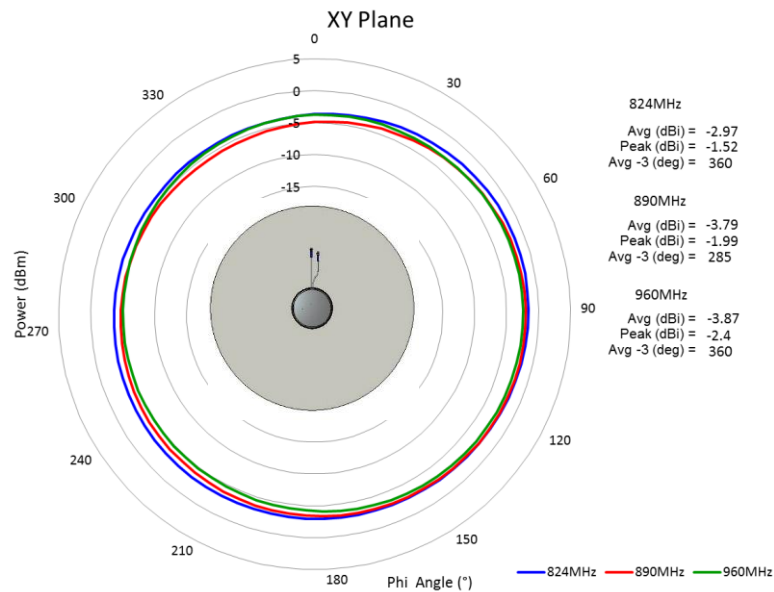
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PART NUMBER: W4165MMXX

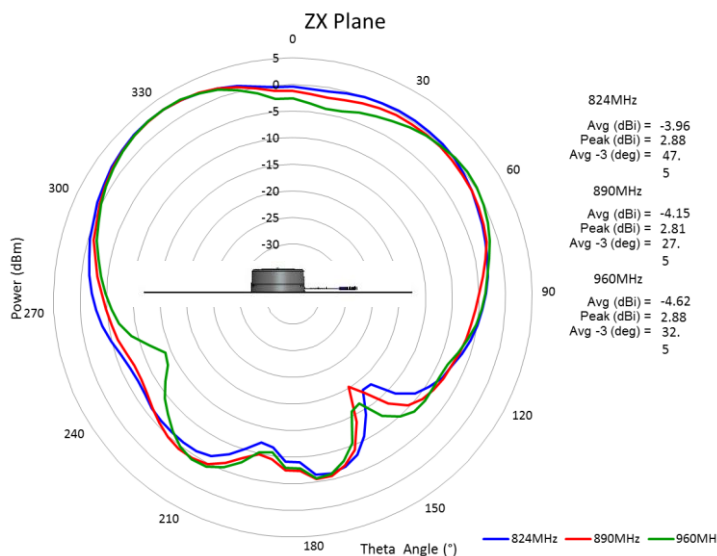
Series: Outdoor Multi Band

CHARTS

GSM antenna Low band Radiation Pattern X-Y Plane*



GSM antenna Low band Radiation Pattern Z-X Plane*



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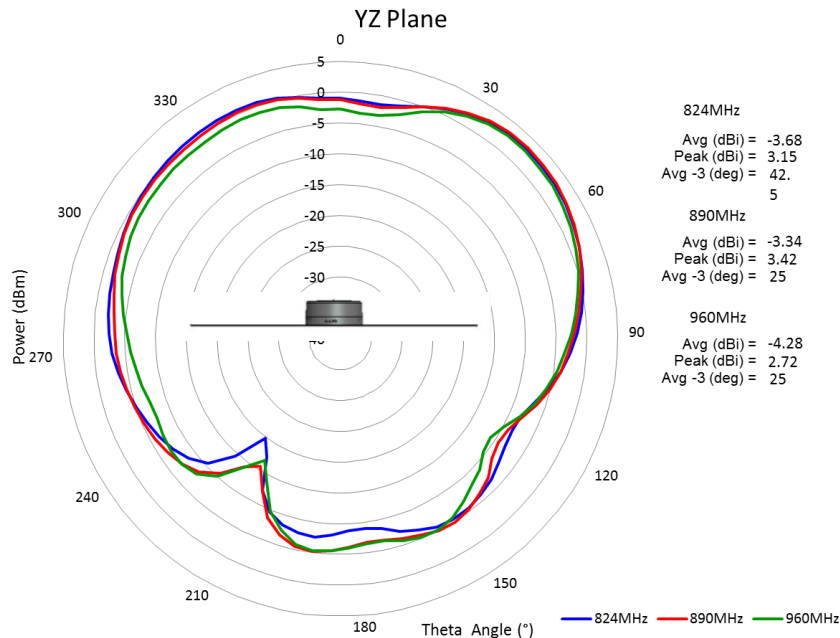
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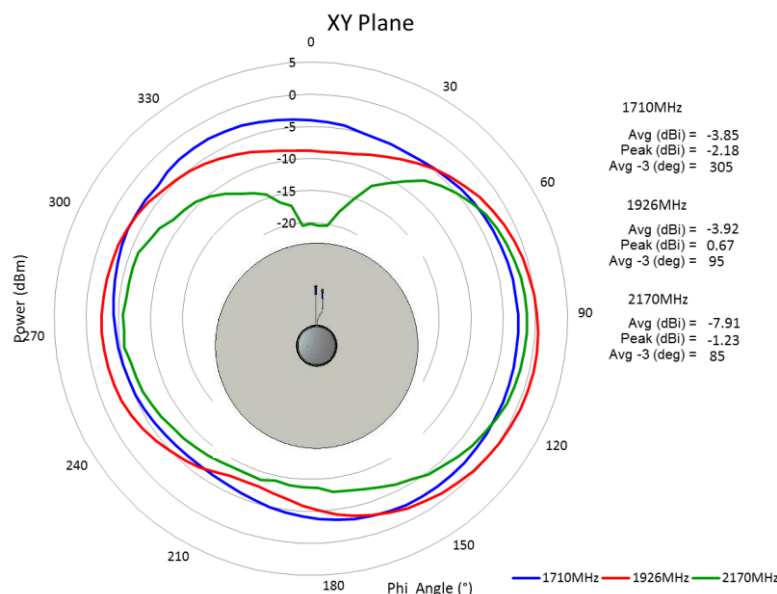
Series: Outdoor Multi Band

CHARTS

GSM antenna Low band Radiation Pattern Y-Z Plane*



GSM antenna High band Radiation Pattern X-Y Plane*



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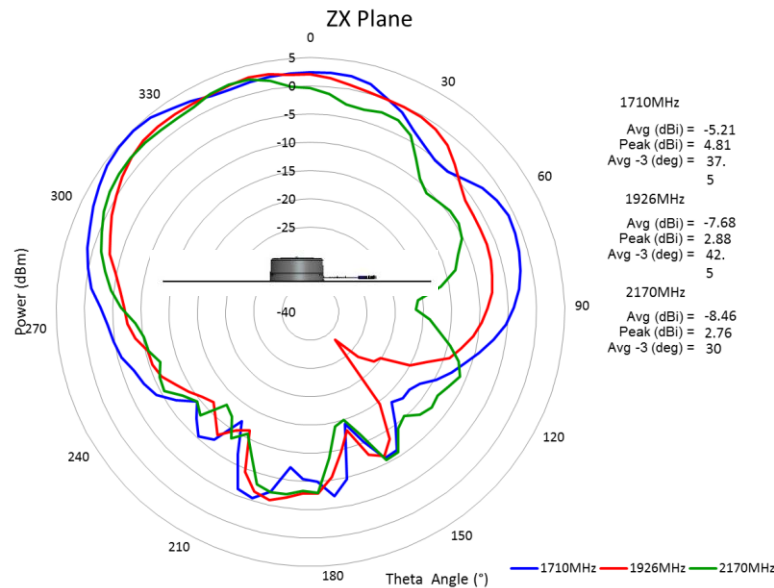
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PART NUMBER: W4165MMXX

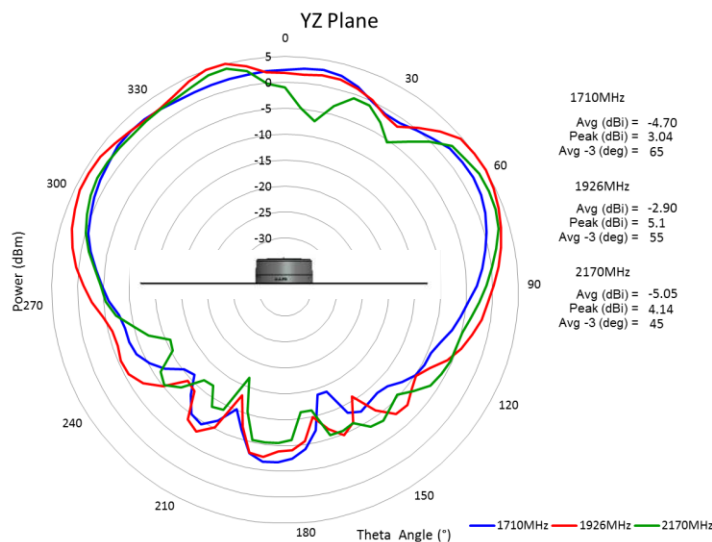
Series: Outdoor Multi Band

CHARTS

GSM antenna High band Radiation Pattern Z-X Plane*



GSM antenna High band Radiation Pattern Y-Z Plane*



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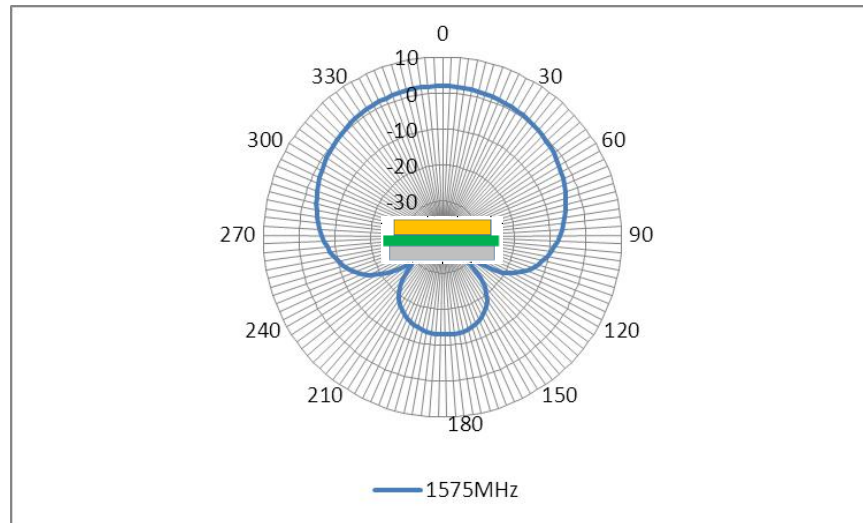
Description: 3G/GPRS/GSM + GNSS IP67 with Magnetic Mount

PART NUMBER: W4165MMXX

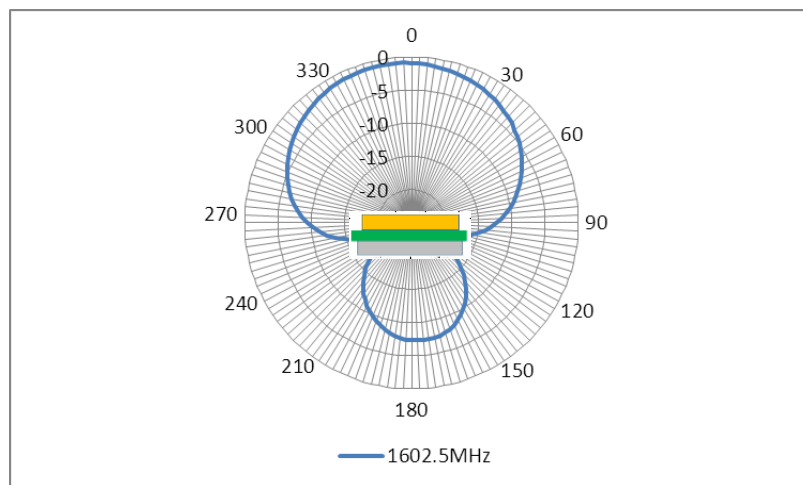
Series: Outdoor Multi Band

CHARTS

RHCP Radiation Pattern (70mm x 70mm ground plane) GPS & Galileo



RHCP Radiation Pattern (70mm x 70mm ground plane) GLONASS



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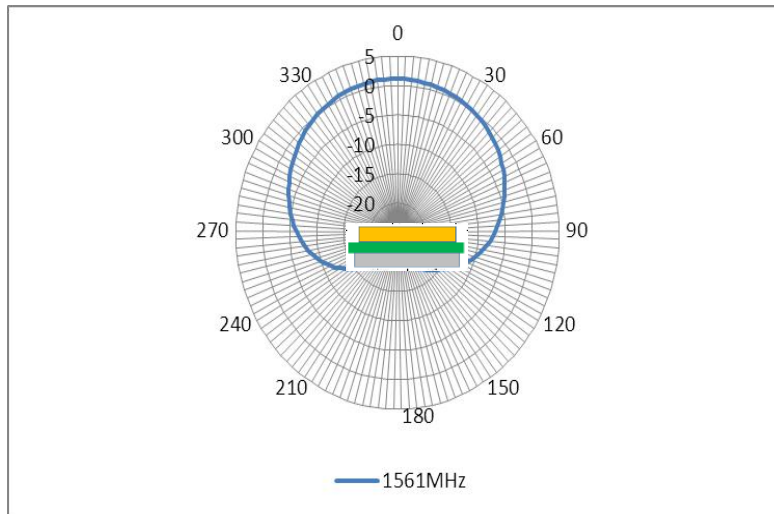
Description: 3G/GPRS/GSM + GNSS IP67 with
Magnetic Mount

PART NUMBER: W4165MMXX

Series: Outdoor Multi Band

CHARTS

RHCP Radiation Pattern (70mm x 70mm ground plane) BD2



Description: 3G/GPRS/GSM + GNSS IP67 with
Magnetic Mount

PART NUMBER: W4165MMXX

PACKAGING

1 antenna packed in a plastic bag

12 plastic bags of antennas packed in a carton

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

Компания «Океан Электроники» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Поставка оригинальных импортных электронных компонентов напрямую с производств Америки, Европы и Азии, а так же с крупнейших складов мира;
- Широкая линейка поставок активных и пассивных импортных электронных компонентов (более 30 млн. наименований);
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Помощь Конструкторского Отдела и консультации квалифицированных инженеров;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Поставка электронных компонентов под контролем ВП;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- При необходимости вся продукция военного и аэрокосмического назначения проходит испытания и сертификацию в лаборатории (по согласованию с заказчиком);
- Поставка специализированных компонентов военного и аэрокосмического уровня качества (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Actel, Aeroflex, Peregrine, VPT, Syfer, Eurofarad, Texas Instruments, MS Kennedy, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Компания «Океан Электроники» является официальным дистрибьютором и эксклюзивным представителем в России одного из крупнейших производителей разъемов военного и аэрокосмического назначения «JONHON», а так же официальным дистрибьютором и эксклюзивным представителем в России производителя высокотехнологичных и надежных решений для передачи СВЧ сигналов «FORSTAR».



JONHON

«JONHON» (основан в 1970 г.)

Разъемы специального, военного и аэрокосмического назначения:

(Применяются в военной, авиационной, аэрокосмической, морской, железнодорожной, горно- и нефтедобывающей отраслях промышленности)

«FORSTAR» (основан в 1998 г.)

ВЧ соединители, коаксиальные кабели,
кабельные сборки и микроволновые компоненты:

(Применяются в телекоммуникациях гражданского и специального назначения, в средствах связи, РЛС, а так же военной, авиационной и аэрокосмической отраслях промышленности).



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