

External MIMO 2xLTE + Wi-Fi + GNSS COMBO ANTENNA



AECW0801C09

Request Samples



Check Inventory



Ø 81.3 x 16.3 mm
RoHS/RoHS II Compliant
MSL Level = 1

Features

- 4 cabled combo antenna
 - 2x MIMO 4G LTE
 - 1x Wi-Fi 2.4/5 GHz
 - 1x Active GNSS/GPS/GLONASS/BeiDou/QZSS
- Global 4G cellular band coverage including CAT M and NB-IoT
- IP67 rated
- Easy installation using Screw
- Fully customizable RF cable and connector options

Applications

- IoT
- M2M
- Smart City
- Telematics
- Transportation
- Smart Agriculture
- Geolocation and Tracking

Product Image



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Part Number Builder

AECW0801C09 -

Color / UV Coating	
Code	Description
S (Standard)	Black without UV coating
A	Black with UV Coating
B	White without UV Coating
C	White with UV Coating

Cable length in 'mm'	
Code	Description
Maximum cable length supported : RG-174 (up to 3000 mm) LMR-100 (up to 5000 mm)	
3000 (Standard)	3000 mm
Other Examples :	
0200	200 mm
2000	2000 mm

Cable Type & Connector Type				
Code	Cable Type	Connector Type		
		LTE	GNSS	Wi-Fi
S (Standard)	RG-174	SMA (M)	SMA (M)	-
	LMR-100	-	-	SMA (M)
A	LMR-100	SMA (M)	SMA (M)	SMA (M)
B	LMR-100	SMA (M)	FAKRA C (F)	SMA (M)
C	LMR-100	FAKRA D (F)	SMA (M)	SMA (M)
D	LMR-100	FAKRA D (F)	FAKRA C (F)	SMA (M)
E	RG-174	SMA (M)	FAKRA C (F)	-
	LMR-100	-	-	SMA (M)
F	RG-174	FAKRA D (F)	SMA (M)	-
	LMR-100	-	-	SMA (M)
G	RG-174	FAKRA D (F)	FAKRA C (F)	-
	LMR-100	-	-	SMA (M)

Example Configurations :

Part Number	UV Protection Coating / Color	Cable length	Cable Type / Connector Type
AECW0801C09 S-3000S	No / Black	3000 mm	2xRG-174 with 2xSMA (M) for LTE + 1xRG-174 with 1xSMA (M) for GNSS + 1xLMR-100 with 1xSMA (M) for Wi-Fi (Standard)
AECW0801C09 A-1000A	Yes / Black	1000 mm	3xLMR-100 with 2xSMA (M) for LTE + 1xSMA (M) for GNSS + 1xSMA (M) for Wi-Fi
AECW0801C09 B-5000G	No / White	5000 mm	2xRG-174 with 2xFAKRA D (F) for LTE + 1xFAKRA C (F) for GNSS + 1xLMR-100 with 1xSMA (M) for Wi-Fi

Note :

- For the standard part number (AECW0801C09**S-3000S**), please refer to the packaging at the end of the document
- For additional configuration (AECW0801C09-), MOQs, pricing and packaging changes may be applicable



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Electrical Specifications

Parameter	Specification			Unit
	Min	Typ	Max	
GNSS Antenna				
Frequency	1561		1602	MHz
Gain			2.0	dBiC
VSWR			1.5	
Impedance		50		Ω
Polarization	RHCP			
Axial Ratio			3.0	dB
LNA				
Noise Figure			1.5	dB
Gain	26	28	30	dB
VSWR			2.0	
Supply Voltage	2.2		5.0	V
Current Consumption			15.0	mA
2xMIMO LTE Antenna – Main & Aux				
Frequency	698		960	MHz
	1710		2690	
VSWR			3.0	
Gain	Main		2.5	dBi
	Aux		2.0	
Impedance		50		Ω
Polarization	Linear			
Wi-Fi Antenna				
Frequency	2400		2483.5	MHz
	4900		5825	
VSWR			2.5	
Gain			3.0	dBi
Impedance		50		Ω
Polarization	Linear			

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Mechanical Specifications

Parameter	Specification
Antenna Dimension	Ø 81.3 x 16.3 mm
Material	ABS
Mounting Type	Screw
RF Connector	4x SMA (M)
RF Cable	3x RG-174 (LTE,GNSS) + 1x LMR-100 (Wi-Fi)
Cable Length	3 m

Environmental Specification

Parameter	Specification
Operating Temperature	-40°C to +85°C
Storage Temperature	-40°C to +85°C
Relative Humidity	Up to 95%
RoHS Compliance	Yes
PB Free	Yes
MSL	1
ESD Sensitive	Yes
Vibration	10 ~ 55 Hz with 1.5 mm amplitude 2 hrs
Ingress Protection	IP67 (excluding cable outlet)
UL rating	UL-94 HB



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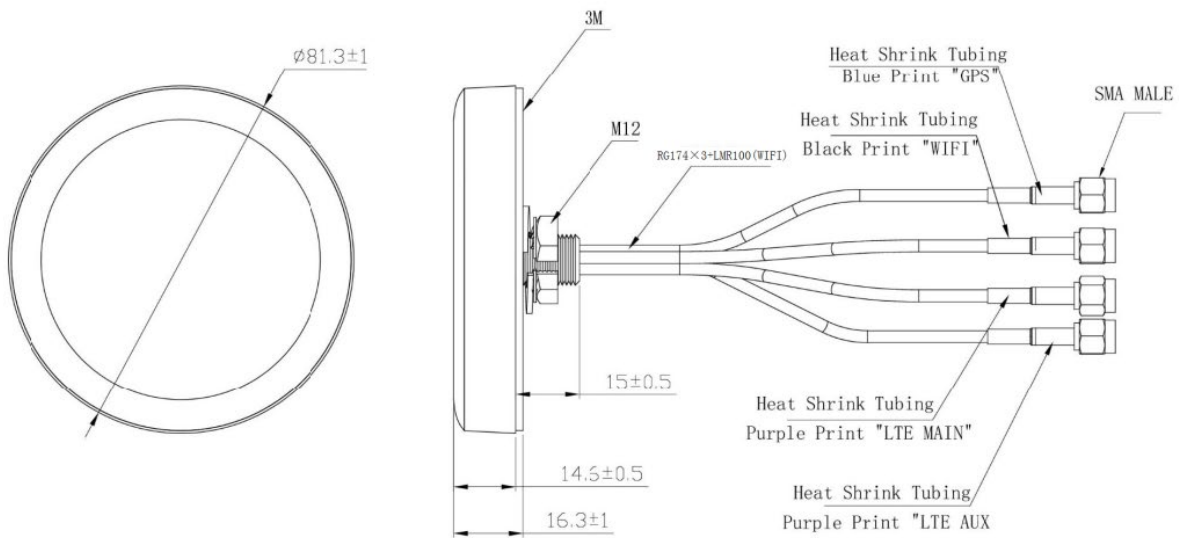
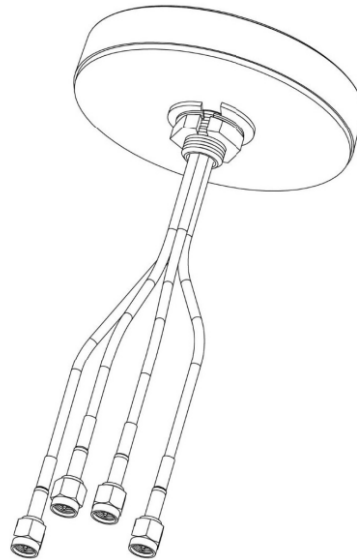


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Product Dimension



Unit: mm

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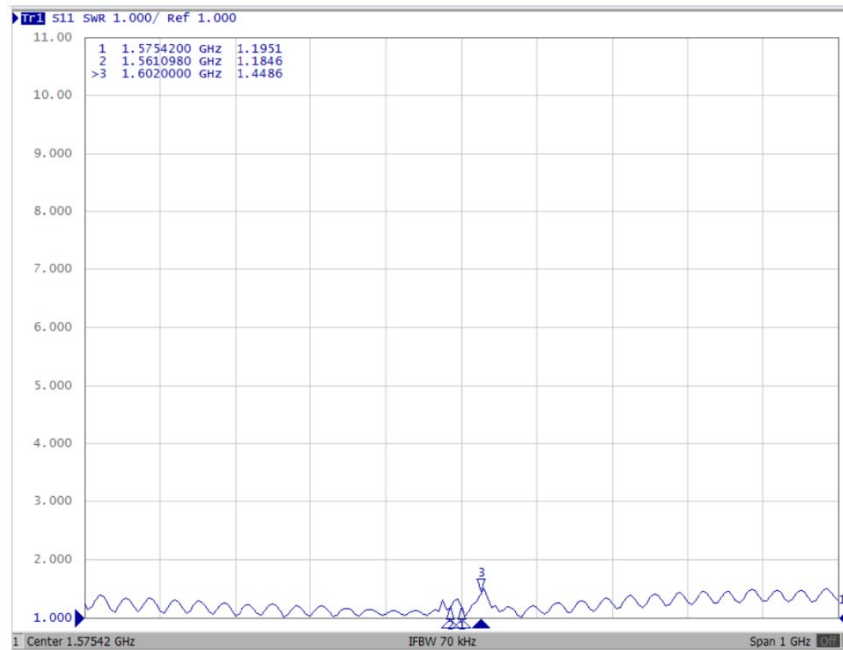
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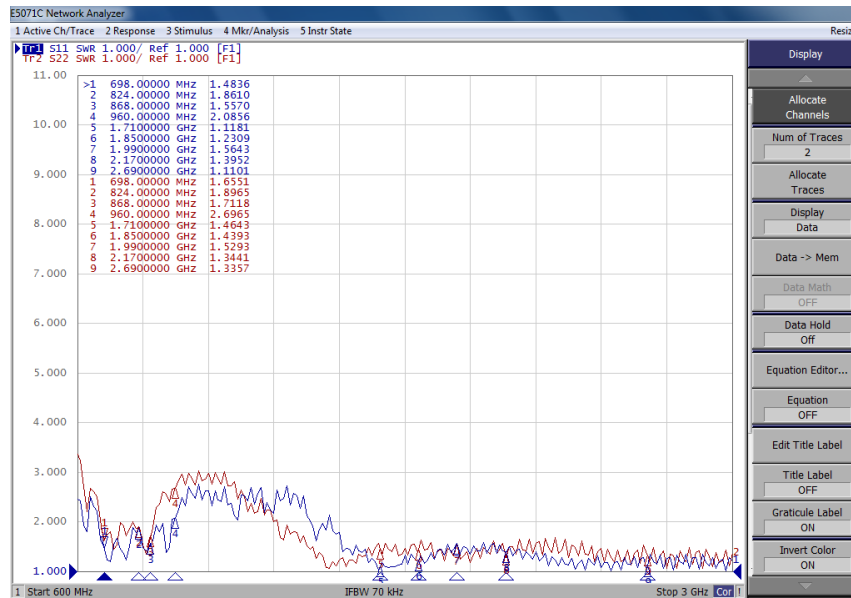
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Test Measurement - VSWR

GNSS Antenna



LTE Antenna – Main & Aux



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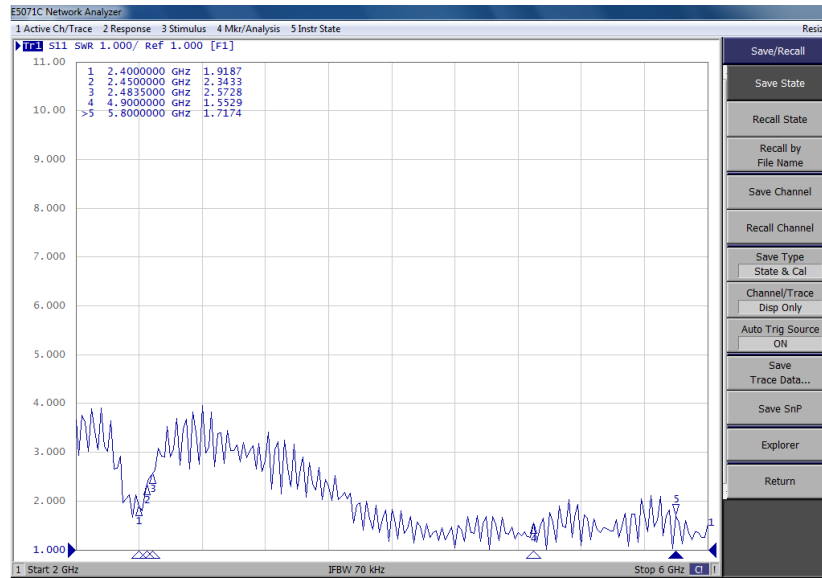


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Wi-Fi Antenna



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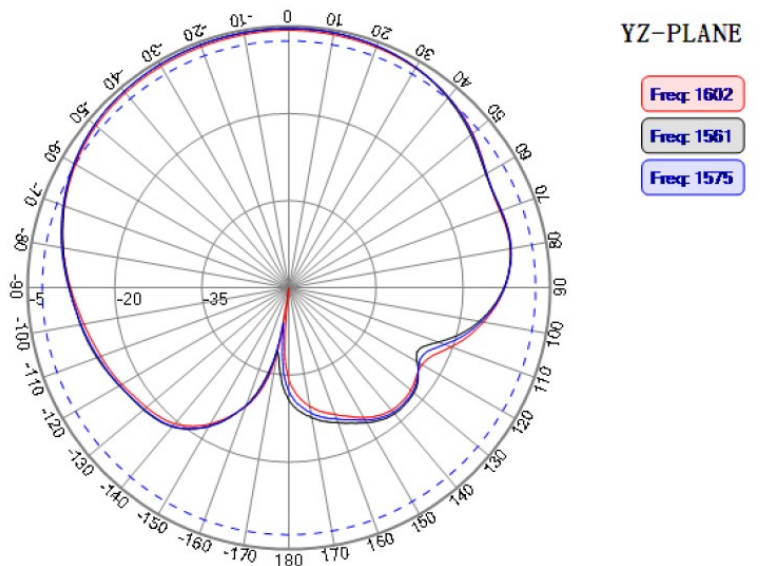
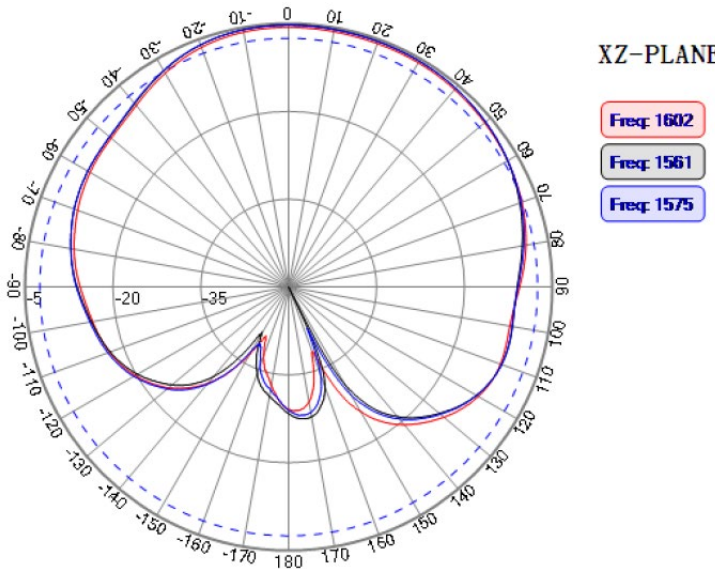
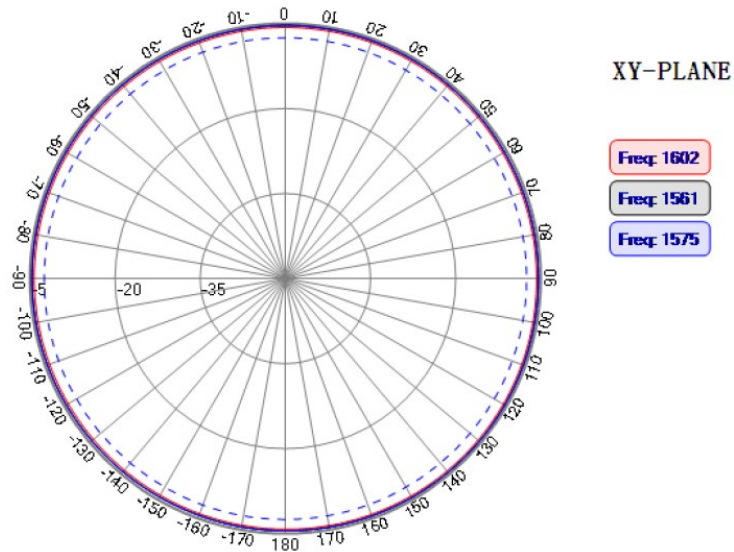


Ø 81.3 x 16.3 mm
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MSL Level = 1

Radiation Characteristics

2D Pattern

GNSS



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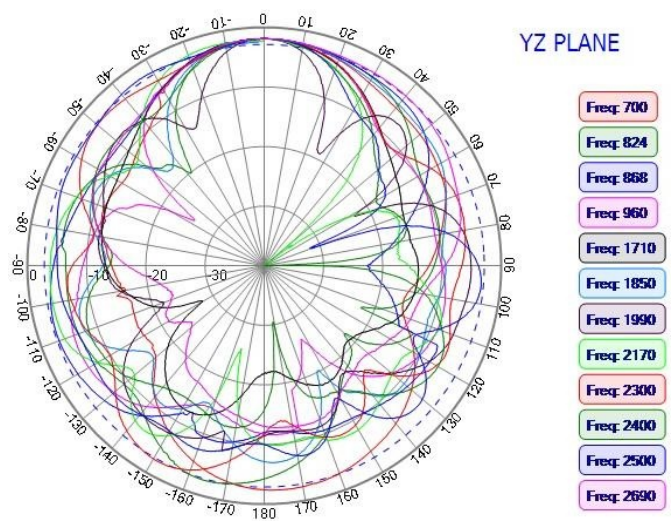
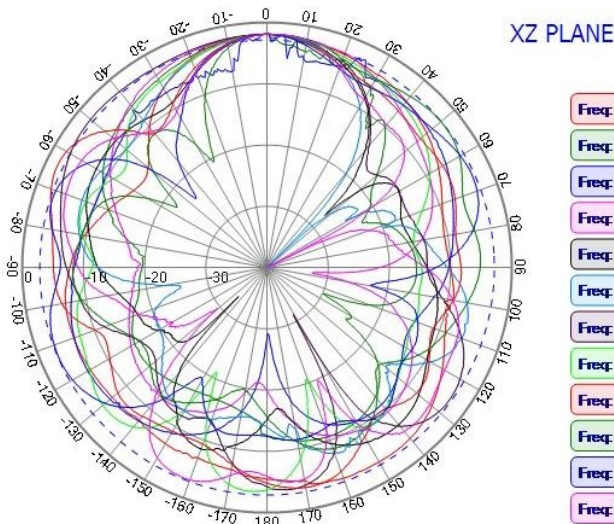
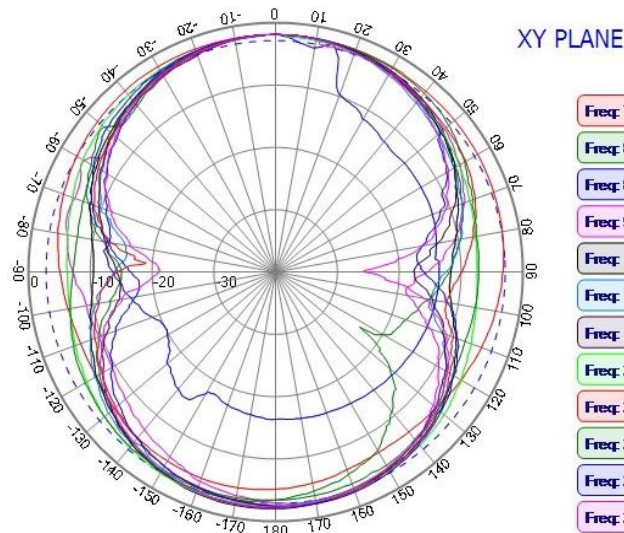


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LTE - Main



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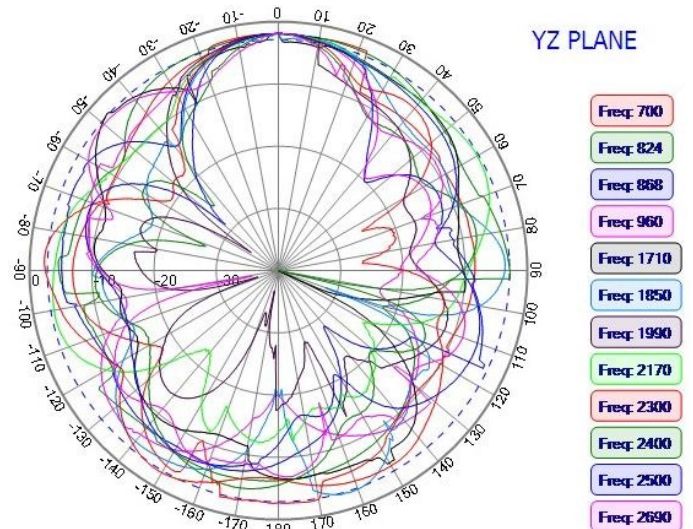
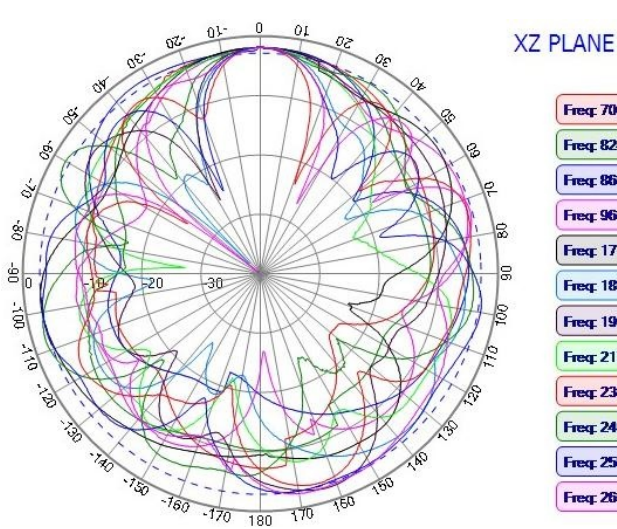
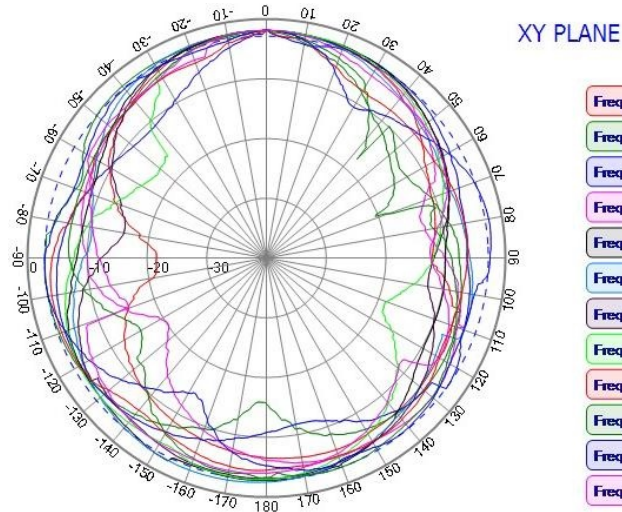


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LTE - Aux



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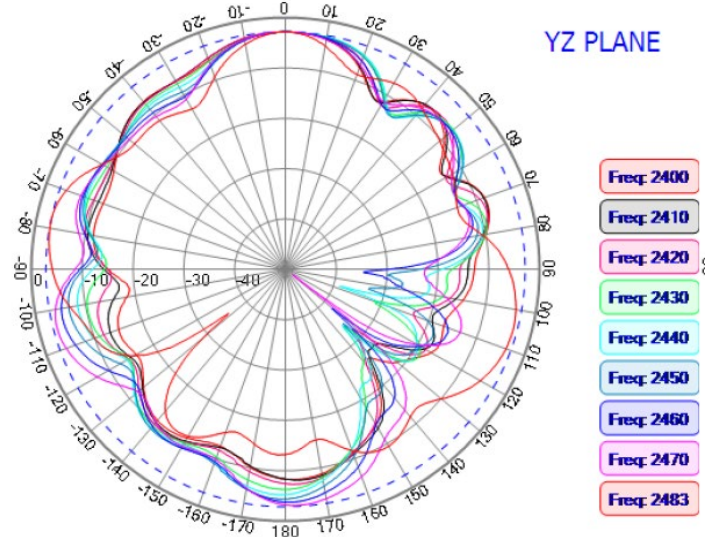
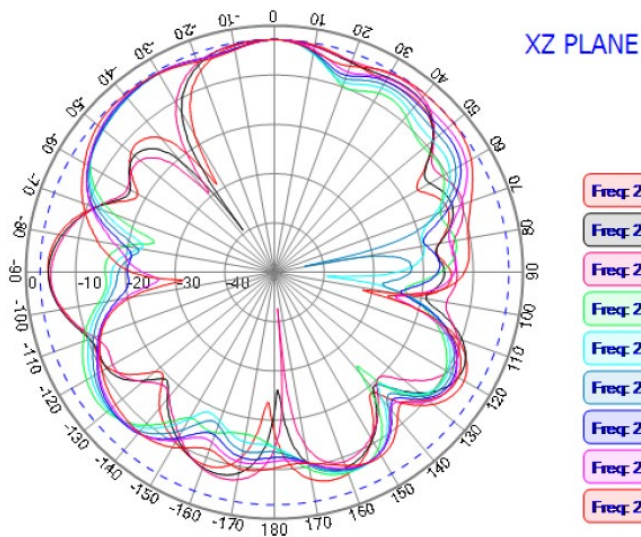
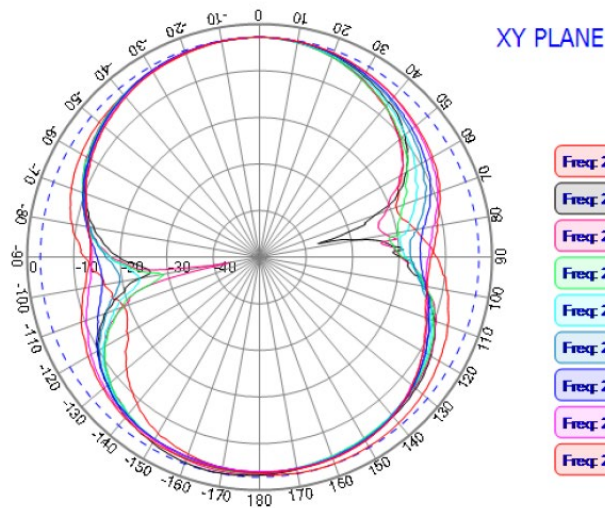
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Wi-Fi

2400~2483.5 MHz



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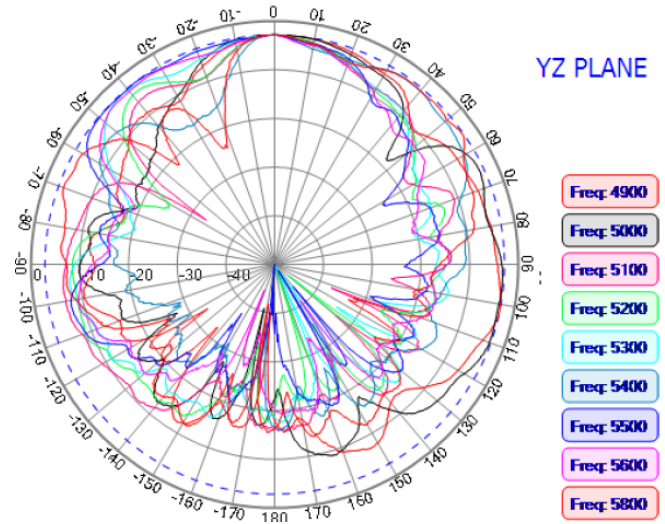
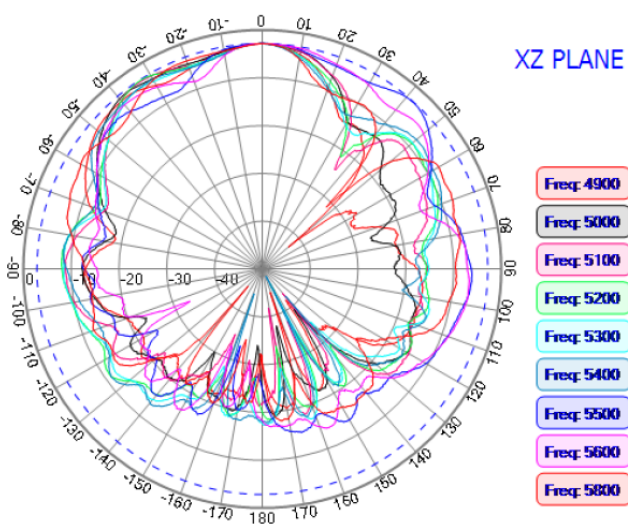
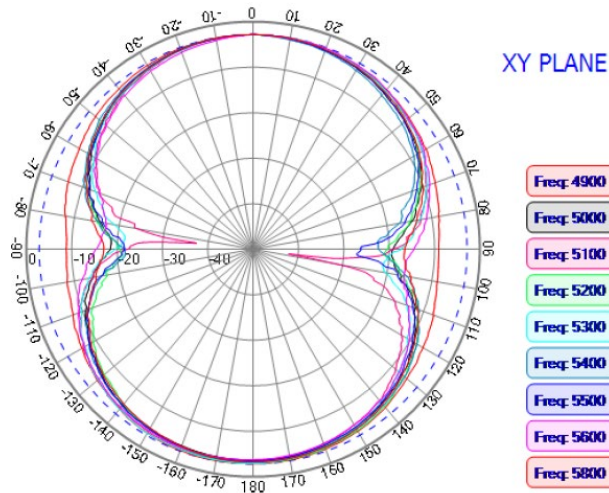


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4900~5800 MHz



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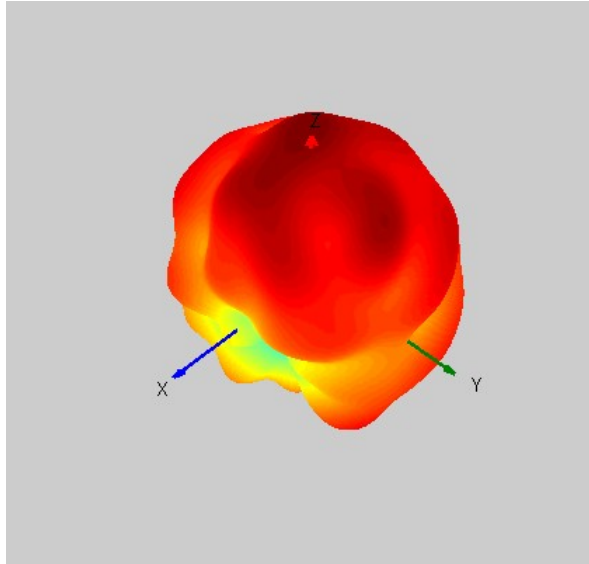


Ø 81.3 x 16.3 mm
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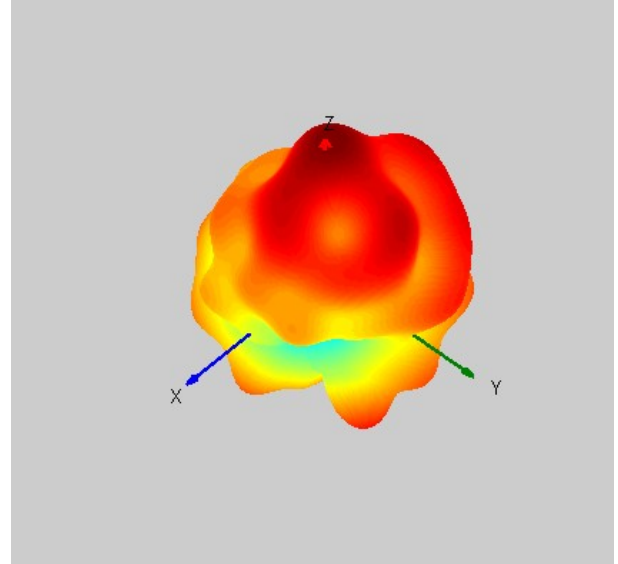
3D Pattern

GNSS

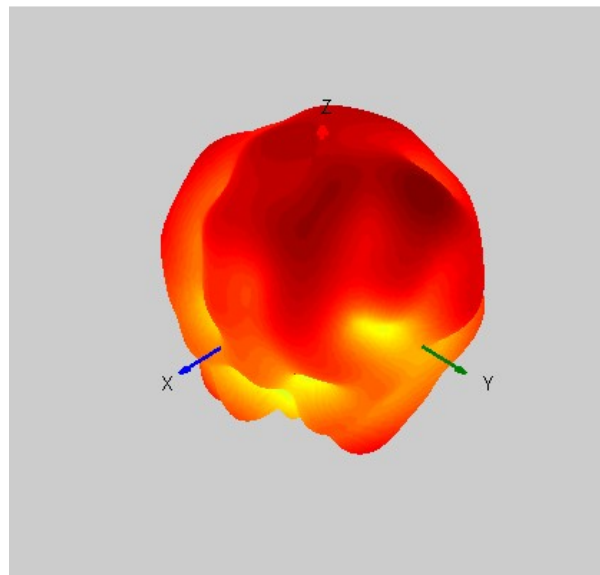
1561 MHz



1575 MHz



1602 MHz



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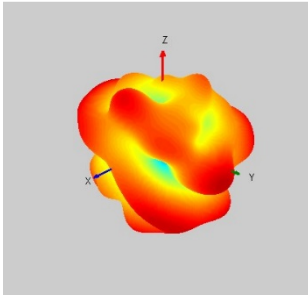
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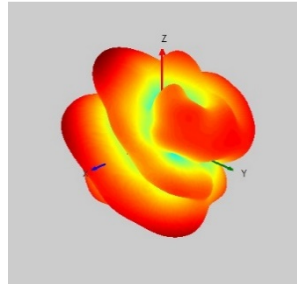
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LTE - Main

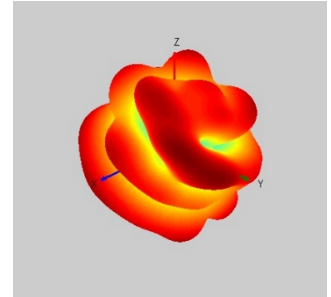
698 MHz



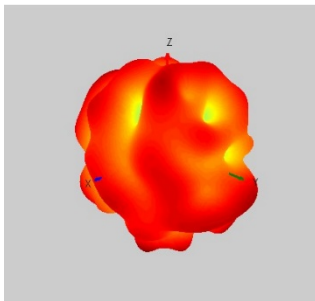
824 MHz



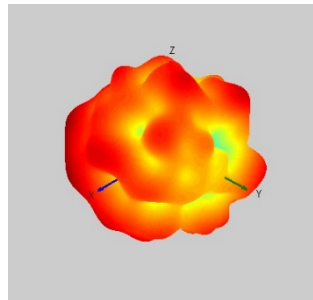
868 MHz



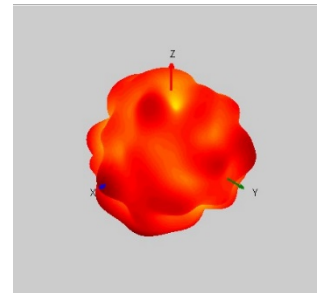
960 MHz



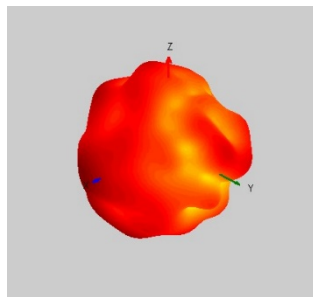
1710 MHz



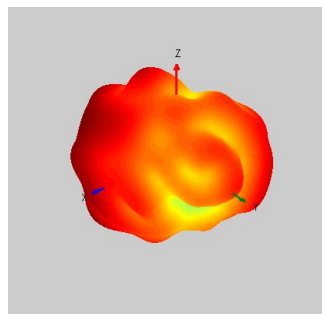
1850 MHz



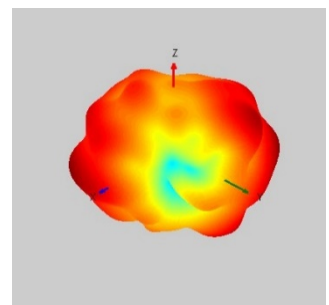
1990 MHz



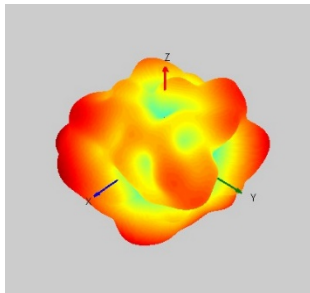
2170 MHz



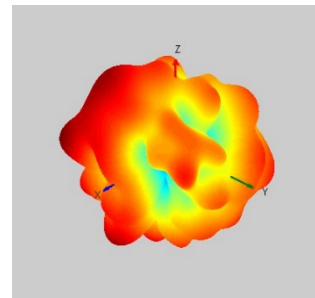
2300 MHz



2500 MHz



2690 MHz



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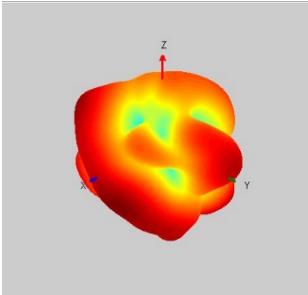
Check Inventory



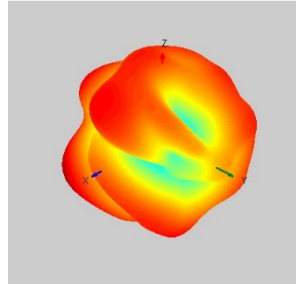
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LTE - Aux

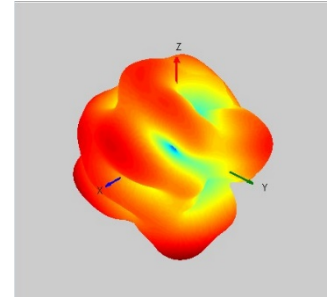
698 MHz



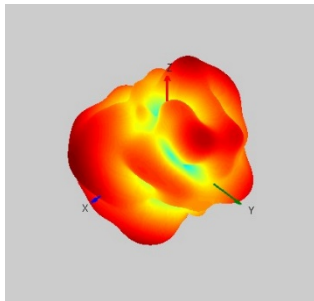
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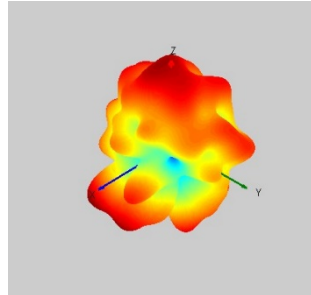
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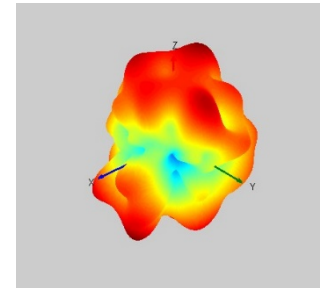
960 MHz



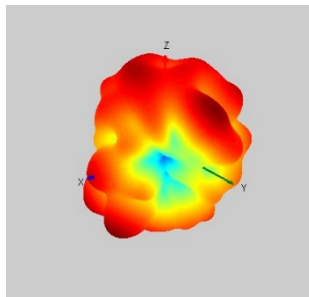
1710 MHz



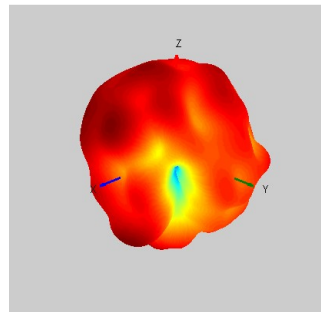
1850 MHz



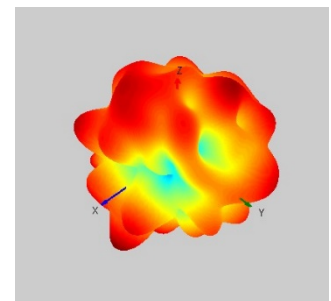
1990 MHz



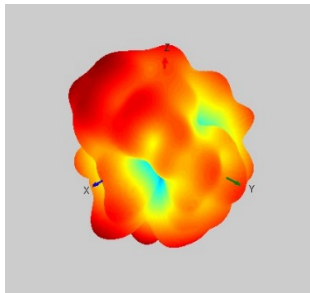
2170 MHz



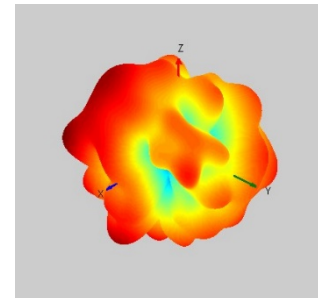
2300 MHz



2500 MHz



2690 MHz



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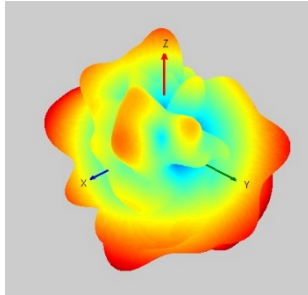
Check Inventory



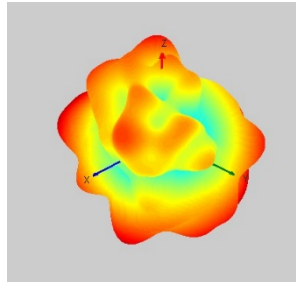
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RoHS/RoHS II Compliant
MSL Level = 1

Wi-Fi

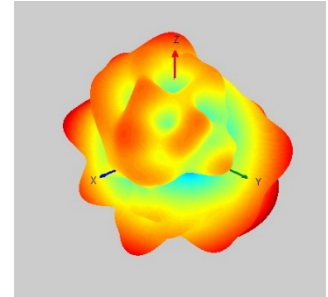
2400 MHz



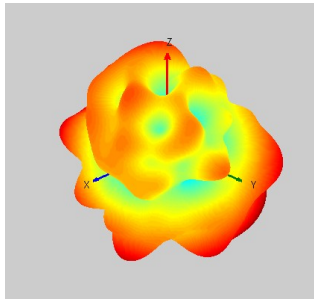
2420 MHz



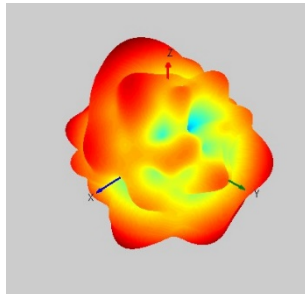
2440 MHz



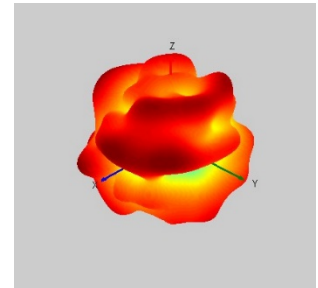
2460 MHz



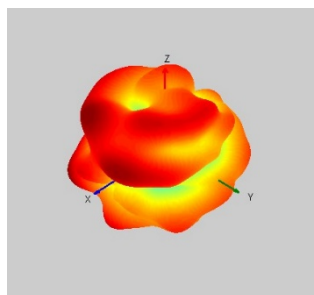
2483 MHz



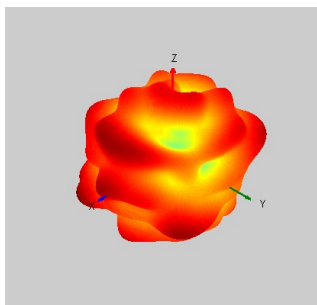
4900 MHz



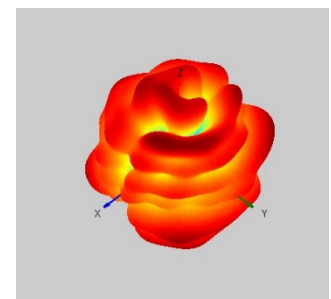
5200 MHz



5500 MHz



5800 MHz



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Ø 81.3 x 16.3 mm
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MSL Level = 1

Gain and Efficiency

LTE – Main and Aux

Frequency (MHz)	Main		Aux	
	Gain (dBi)	Efficiency	Gain (dBi)	Efficiency
698	0.63	0.57	-0.91	0.53
824	2.87	0.61	2.91	0.57
868	1.86	0.58	2.13	0.59
960	0.33	0.53	-1.84	0.50
1710	0.45	0.48	0.65	0.56
1850	-0.17	0.52	-0.93	0.57
1990	-0.25	0.56	0.16	0.53
2170	1.41	0.53	-0.19	0.52
2300	0	0.57	-0.53	0.51
2500	0.29	0.56	-1.05	0.49
2690	-0.21	0.58	-0.08	0.50

Wi-Fi

Frequency (MHz)	Gain (dBi)	Efficiency
2400	-0.29	0.48
2420	-0.17	0.51
2440	-0.5	0.53
2460	-0.73	0.47
2483	-1.36	0.46
4900	1.05	0.56
5200	1.02	0.51
5500	0.07	0.57
5800	3.07	0.73

Packaging Information

Number of antennas/ cartons : 50
Dimension of the carton : 700 x 320 x 155 mm
Weight of the carton : 14 kg
Weight of 1 pc of antenna : 250 g

ATTENTION: Abracon LLC's products are COTS – Commercial-Off-The-Shelf products; suitable for Commercial, Industrial and, where designated, Automotive Applications. Abracon's products are not specifically designed for Military, Aviation, Aerospace, Life-dependent Medical applications or any application requiring high reliability where component failure could result in loss of life and/or property. For applications requiring high reliability and/or presenting an extreme operating environment, written consent and authorization from Abracon LLC is required. Please contact Abracon LLC for more information.



5101 Hidden Creek Ln Spicewood TX 78669
Phone: 512-371-6159 | Fax: 512-351-8858
For terms and conditions of sales, please visit:
www.abracon.com

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