

UMTS/GPS Schraubantenne

(Datasheet)

m2m# 3699

Type	Combined antenna
Frequencies	AMPS (850 MHz) GSM (900 MHz) GPS/GLONASS/GALILEO (1572 – 1610 MHz) DCS (1800 MHz) PCS (1900 MHz) 3G (UMTS 2.1 GHz) WIFI / BLUETOOTH (2.4 GHz)
Mounting	Body Mount
Revision	02



1. PRODUCT SELECTOR

B - Version GPS L1/Galileo L1 version (m2m#3699)

BG - Version GPS/GLONASS/GALILEO version (please ask)

2. SPECIFICATION

2.1. Electrical Specifications

Mobile (Cable 1)

Frequencies	AMPS (850 MHz) GSM (900 MHz) DCS (1800 MHz) PCS (1900 MHz) 3G (UMTS 2.1 GHz) WIFI / BLUETOOTH (2.4 GHz)
Impedance	50 Ohms
Polarization	Linear
Gain	2.2 dBi Max
VSWR	<2:1
Power handling	50W

Navigation (Cable2)

	B	BG
Frequencies	GPS (1575.42 MHz) GALILEO L1 (1575.42 MHz)	GPS (1575.42 MHz) GALILEO L1 (1575.42 MHz) GLONASS (1592 - 1610 MHz)
Impedance	50 Ohms	
Noise figure	1.15dB	
Polarization	RHCP	
Patch Gain	3dBiC min at zenith.	
LNA Gain	26dB at 3V, 27dB at 5V	
VSWR	<1.2:1	
Voltage supply	2.7V - 5.5V	
Current	15mA - 25mA	
Power (max.)	138mW	

2.2. General Specification

Operating temperature	-40°C to +85°C
IP rating	IP67

2.3. Connection Specifications

Cable 1 (Mobile):

Connector type: FME female
Cable: RG174U
Cable length: 250 cm

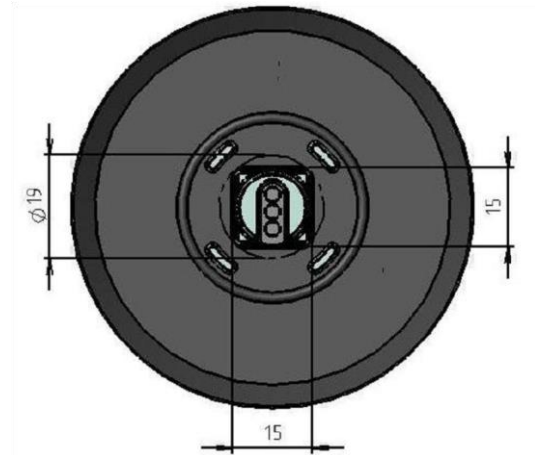
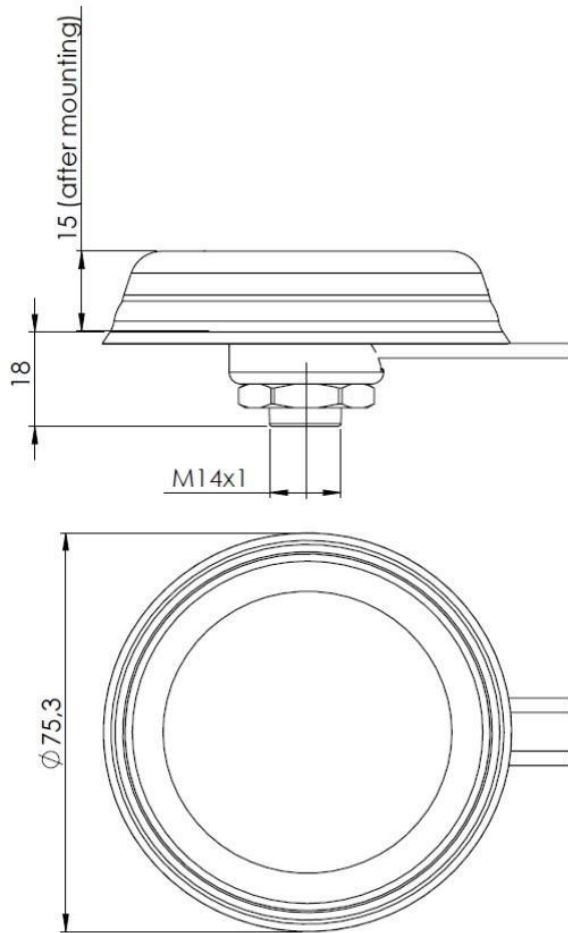
Cable 2 (Navigation):

Connector type: SMA male
Cable: RG174U
Cable length: 250 cm

For different cable or connector type please our sales team.

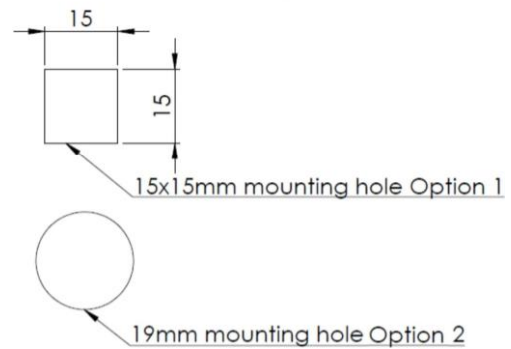
2.4. Mechanical Specifications and Dimensions

Material: Lid: ABS / Base: Zamak / Gasket: TPE
Max. Dimensions: 77.3 mm x 15 mm (D x H after mounting)
Weight: 200 g 'weight with connection above'
Colour: Black (for different colours please ask our sales team)
Mounting hole: Square 15mm x 15mm
 Diameter 19mm
Max. surface thickness: 4.5mm (for thicker surface ask our sales team)
Recommended torque: 6 Nm
Wrench size: 22mm



Basic shape of base

Mounting holes



Optional shape of base with full thread



Mounting hole



15mm mounting hole Option 3

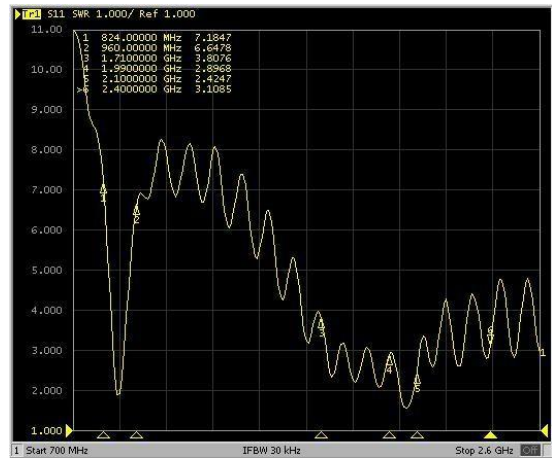
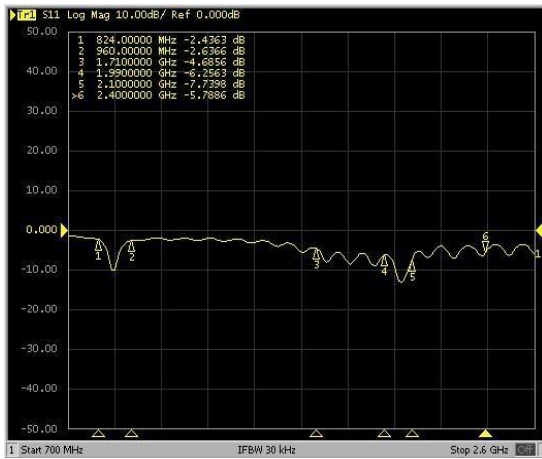
Screw M14x1



3. MEASUREMENT

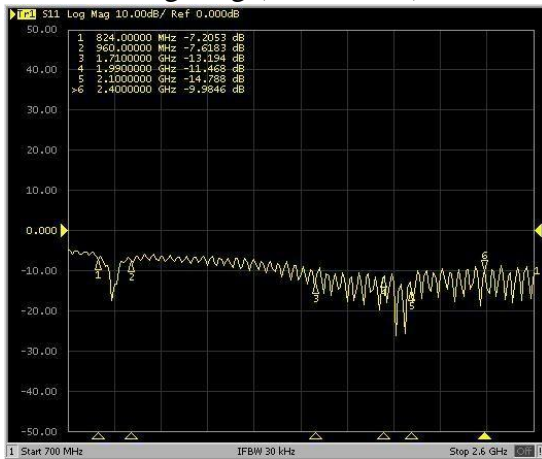
3.1. S11

- Tested with 50cm cable length on 50 cm x 50 cm ground plane.
Log Mag (Penta Band) VSWR (Penta Band)

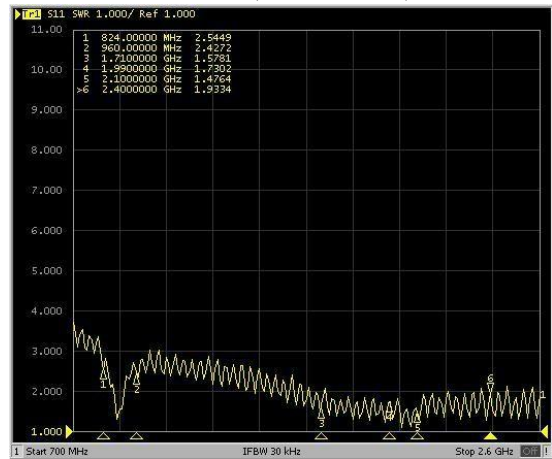


- Tested with 2.5m cable length on 50 cm x 50 cm ground plane.

Log Mag (Penta Band)

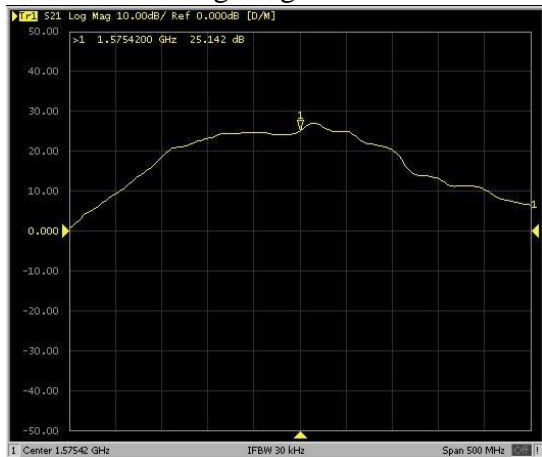


VSWR (Penta Band)

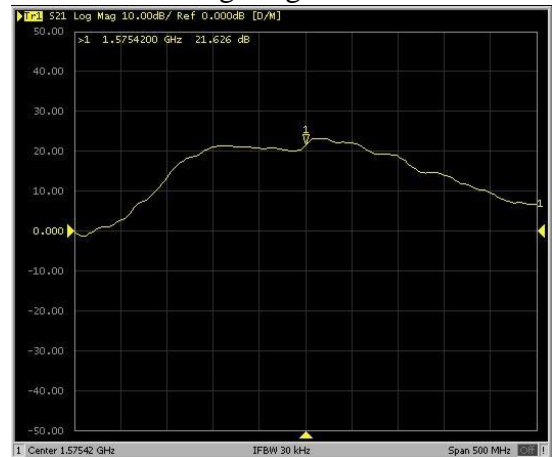


GNSS:

Log Mag at 3V



Log Mag at 3V



Tested with 2.5m cable length - RG174 with C20N

Tested with 5m cable length - RG174 with C20N

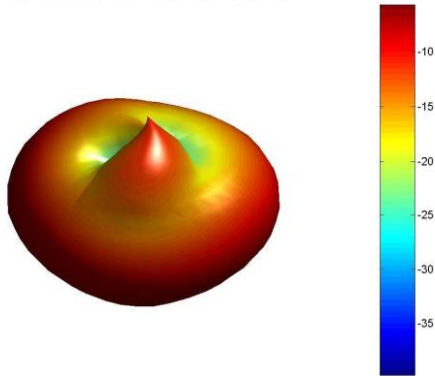
3.2. 3D radiation pattern

3.2.1. GSM

- Tested with 30cm cable length on 25 cm x 25 cm ground plane.

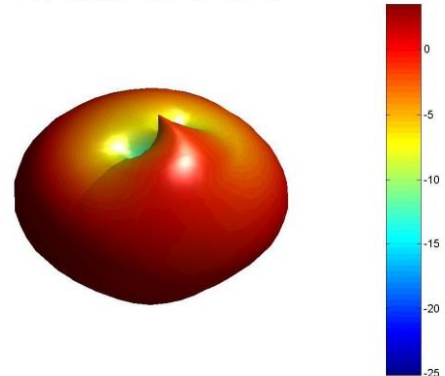
850MHz

Freq = 0.8500GHz Az= 45 EL= 45



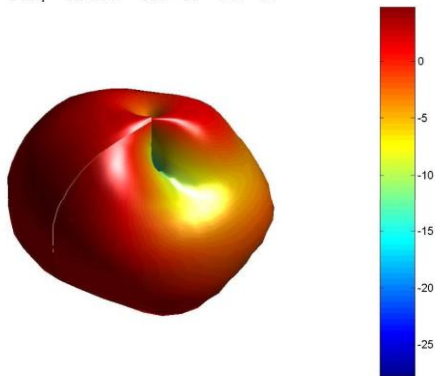
900MHz

Freq = 0.9GHz Az= 45 EL= 45



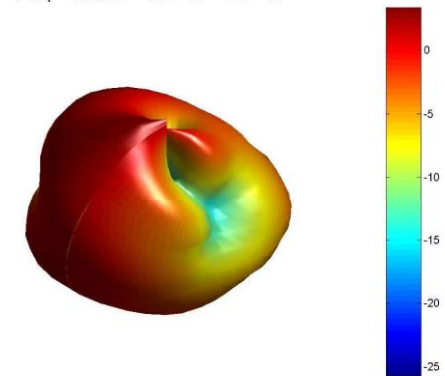
1800MHz

Freq = 1.8GHz Az= 45 EL= 45



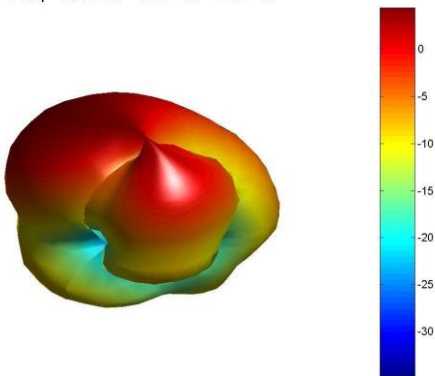
1900MHz

Freq = 1.9GHz Az= 45 EL= 45



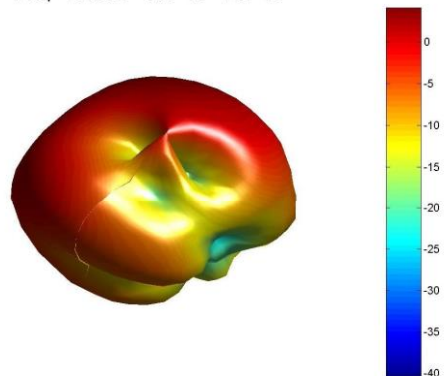
2100MHz

Freq = 2.1GHz Az= 45 EL= 45



2400MHz

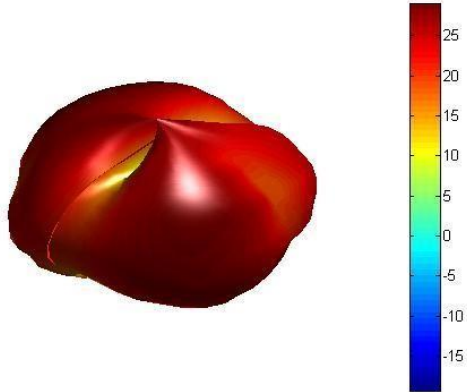
Freq = 2.4GHz Az= 45 EL= 45



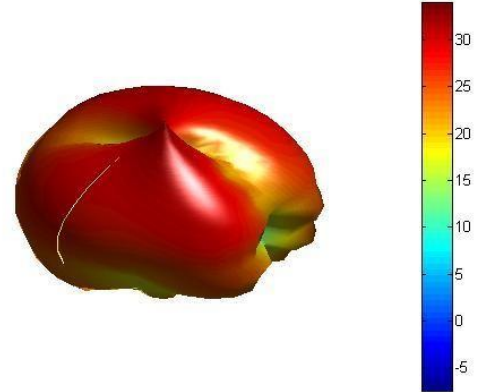
3.2.2. GNSS

- Tested with 30cm cable length on 25 cm x 25 cm ground plane and 5V power supply.

1575.42MHz
Freq = 1.5754GHz Az= 45 EL= 45



1610MHz
Freq = 1.6104GHz Az= 45 EL= 45



4. IMAGES

