

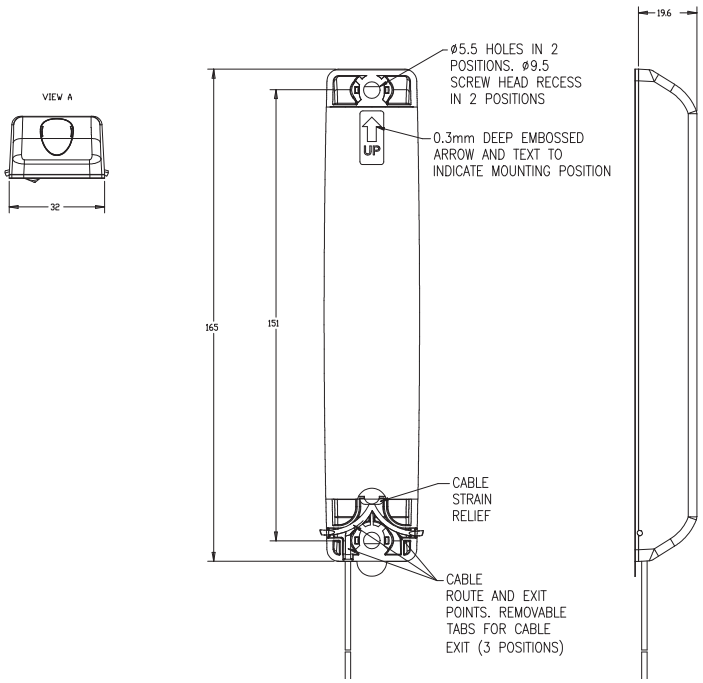
M2M SURFACE MOUNT ANTENNA FOR METERING

ADHESIVE, SCREW OR BRACKET MOUNT

This range of antennas is designed to decrease the lifetime cost of M2M and smart metering installation by offering a robust, effective antennas that is easy to install. The antenna offers omni directional performance across its bands. The efficient element design ensures a high first time connection rate and an ongoing, rbust communications link

The antenna has been designed i.e. for water metering installations where meter locations may be subject to flooding. The housing is supplied fully sealed and the antenna is available with a range of waterproof connectors. The antenna can be installed in a number of ways using the supplied bracketry, screws or adhesive pad. Performance may change based on the mounting surface.

Technical Drawing



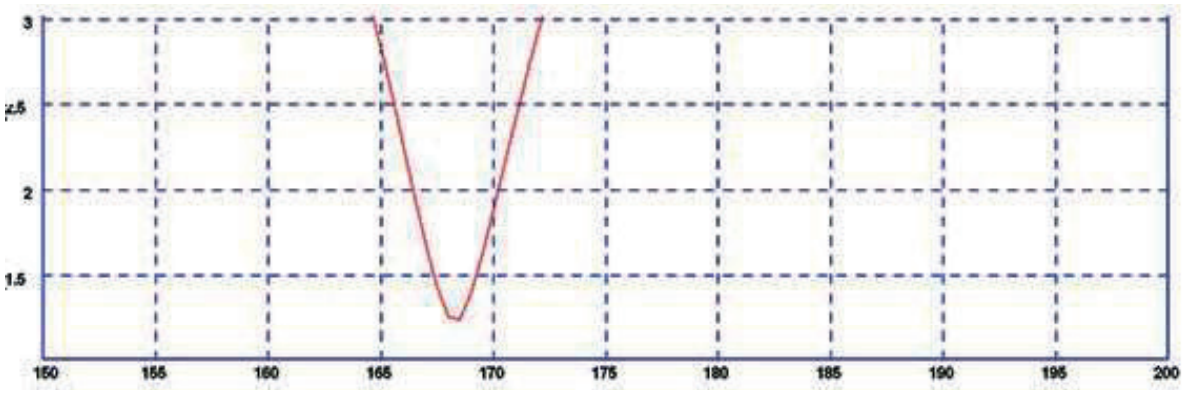
Electrical Data		2363699-1	2363699-2	2363699-3	2363699-4
Frequency Range (MHz)		169MHz		433 MHz	
Operational Band		169MHz		433 MHz UHF	
Peak Gain: Isotropic		-6dBi		-3dBi	
VSWR		<2:1		<2.5:1	
Polarisation		Vertical			
Pattern		Omni-Directional			
Impedance		50Ω			
Max input power (W)		10W		20W	
Mechanical Data					
Dimensions (mm)	Height (mm)	20 (0.79”)			
	Length (mm)	165 (6.5”)			
	Depth (mm)	32 (1.26”)			
Operating Temp (°C)		-30 to +70°C (-30 to 158°F)			
Material		ASA Plastic			
Colour		RAL 7047 - Grey		RAL 9010 - White	
Ingress Protection		Equivalent to IP68		-	
Mounting Data					
Fixing		Acrylic adhesive pad, adjustable offset brackets and/or 2x ST/STL 4.8/19mm screws		Acrylic adhesive pad and 2x ST/STL 4.8/19mm screws	
Cable Data					
Cable Type		RG174		RG178	
Diameter (mm)		2.8 (0.1”)		1.8 (0.07”)	
Length (m)		2 (6.6”)			
Termination		SMB Buccaneer	SMA plug	SMA plug	Reversed Fakra D jack

Electrical Data		2363699-5	2363699-6	2363699-7	2363699-8
Frequency Range (M		450-465MHz		868MHz	698-960, 1710-2700
Operational Band		460MHz UHF		LORA/LPWA	*See below
Peak Gain: Isotropic		-2dBi		2dBi	2dBi
VSWR		<2.5:1		-	<2:1
Polarisation		Vertical			
Pattern		Omni-Directional			
Impedance		50Ω			
Max input power (W)		20W			
Mechanical Data					
Dimensions (mm)	Height (mm)	20 (0.79”)			
	Length (mm)	165 (6.5”)			
	Depth (mm)	32 (1.26”)			
Operating Temp (°C)		-30 to +70°C (-30 to 158°F)			
Material		ASA Plastic			
Colour		RAL 9010 - White		RAL 7047 - Grey	
Ingress Protection		-		-	Equivalent to IP66
Mounting Data					
Fixing		Acrylic adhesive pad and 2x ST/STL 4.8/19mm screws		Acrylic adhesive pad and 2x ST/STL 4.8/19mm screws	Acrylic adhesive pad / 2x4.8mm (0.18”) screws
Cable Data					
Cable Type		RG178		RG174	
Diameter (mm)		1.8 (0.07”)		2.8 (0.1”)	
Length (m)		2 (6.6”)			
Termination		SMA plug	Reversed Fakra D jack	SMA plug	

* LTE 700 /LTE 800 / AMPS 850 / GSM 900 / GSM 1800 / PCS 1900 / AWS / 3G UMTS 2100 / LTE 2600

2363699-1 & 2363699-2 (169MHz)

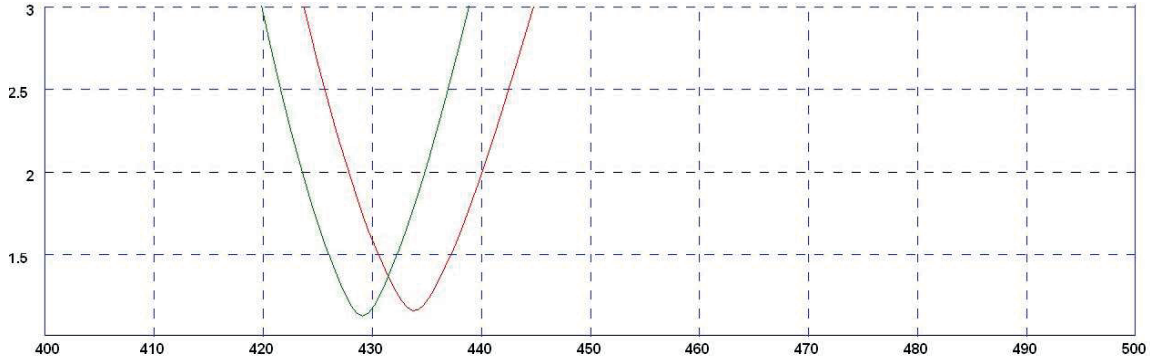
Typical VSWR*



*VSWR measured in free space with 2m of RG174 cable

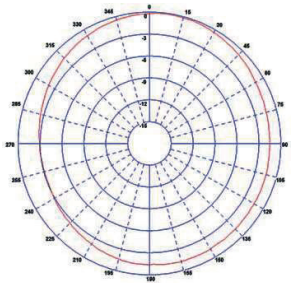
2363699-3 & 2363699-4 (433MHz)

Typical VSWR*

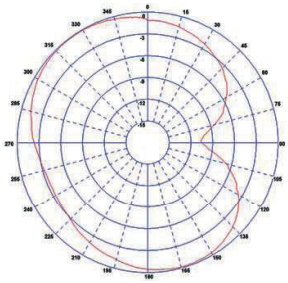


*Red trace = free space, Green trace = on metal ground plane both measured with 2m (6'6") of RG178 cable

Typical H plane (433MHz)



Typical E plane (433MHz)



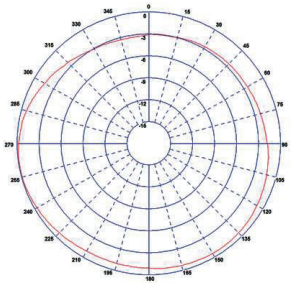
2363699-5 & 2363699-6 (460MHz)

Typical VSWR*

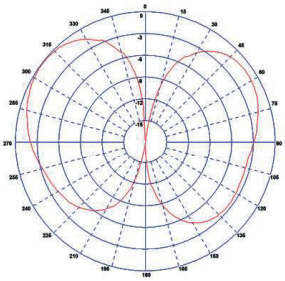


*Red trace = metal groundplane, green trace = in free space both measured with 2m (6'6") of RG178 cable

Typical H plane (460MHz)

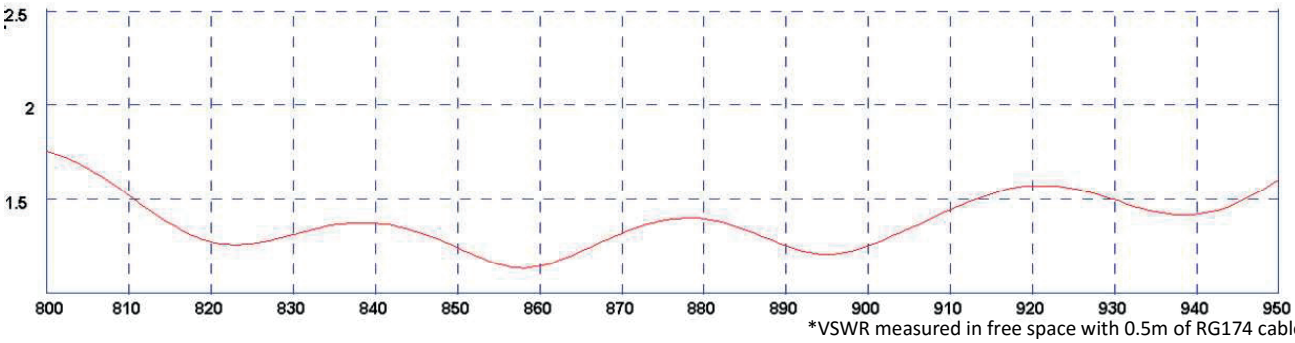


Typical E plane (460MHz)



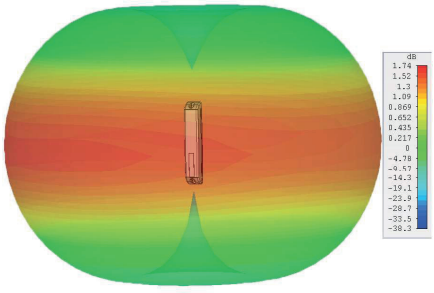
2363699-7 (868MHz)

Typical VSWR*

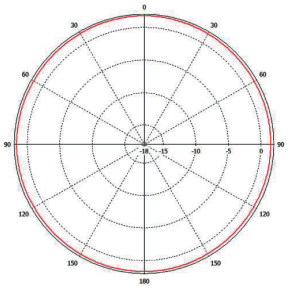


*VSWR measured in free space with 0.5m of RG174 cable

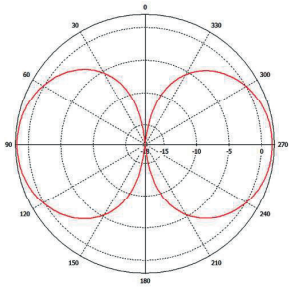
Typical 3D pattern (868MHz)



Typical H plane (868MHz)

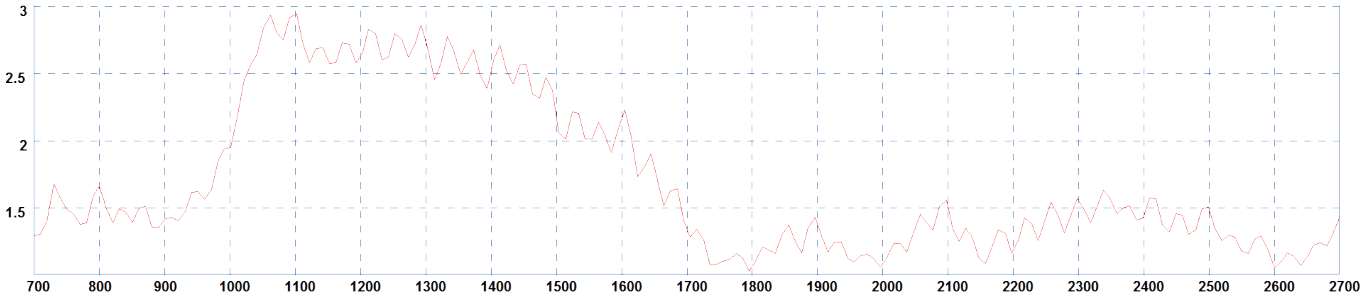


Typical E plane (868MHz)



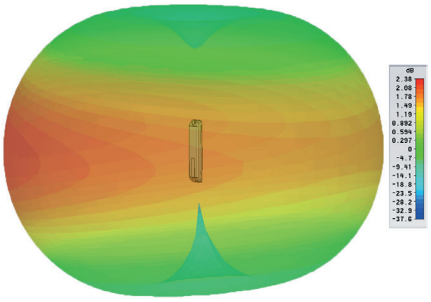
2363699-8 (698-960 & 1710-2700MHz)

Typical VSWR of Antenna in Free Space*

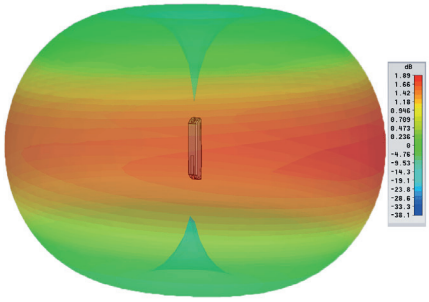


* VSWR measured in free space with 2m (6.6') of RG174 cable

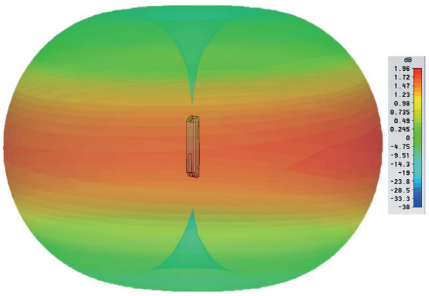
Typical 3D Pattern (700MHz)



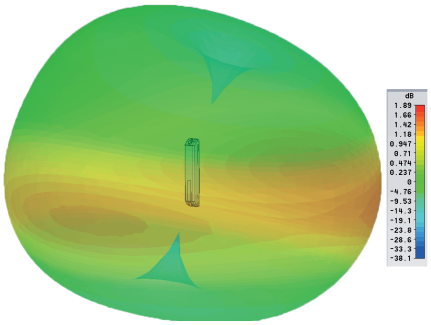
Typical 3D Pattern (800MHz)



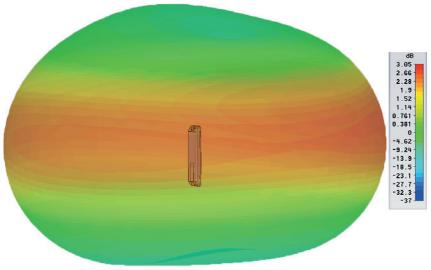
Typical 3D Pattern (900MHz)



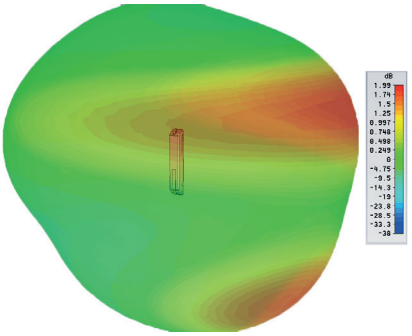
Typical 3D Pattern (1800MHz)



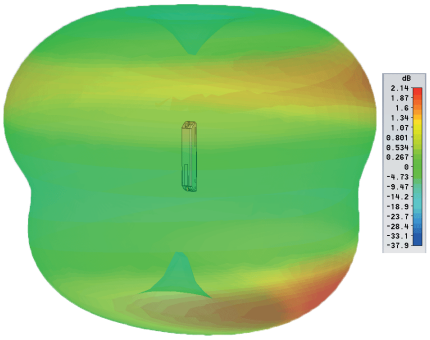
Typical 3D Pattern (1900MHz)



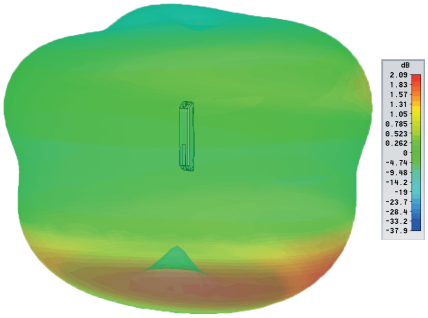
Typical 3D Pattern (2100MHz)



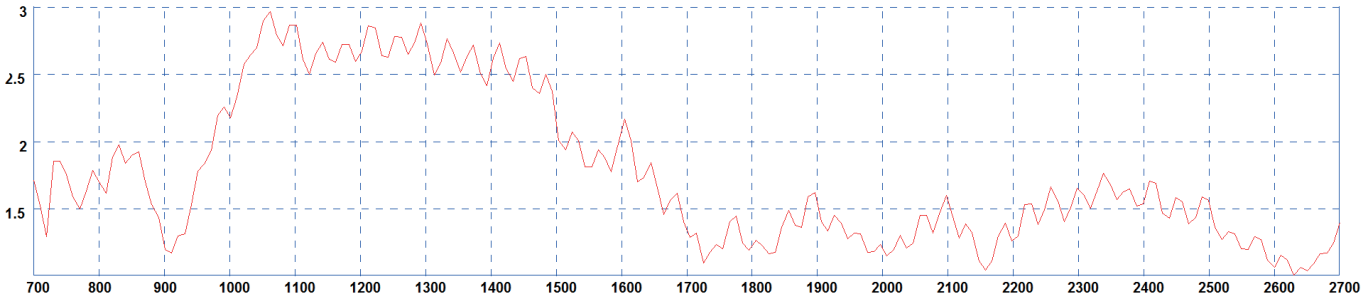
Typical 3D Pattern (2400MHz)



Typical 3D Pattern (2600MHz)

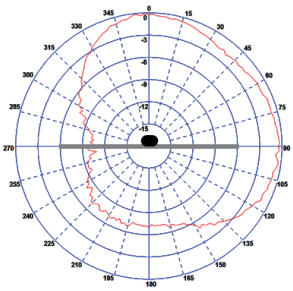


Typical VSWR on 350 x 350mm Ground Plane*

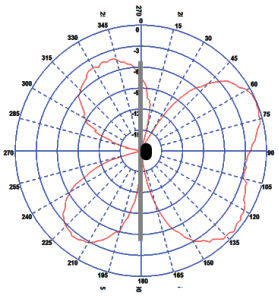


* VSWR measured mounted on a 350 x 350mm (14” x14”) with 2m (6.6’) of RG174 cable

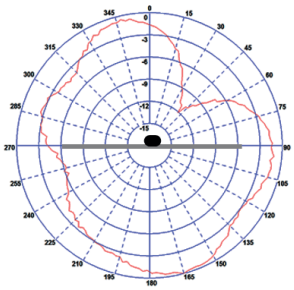
Typical H-Plane (750MHz)



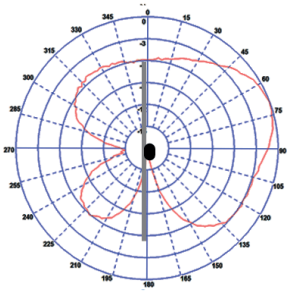
Typical E-Plane (750MHz)



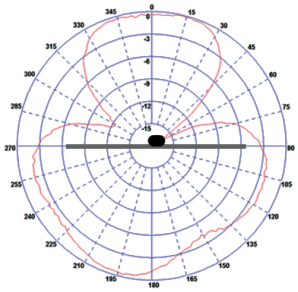
Typical H-Plane (850MHz)



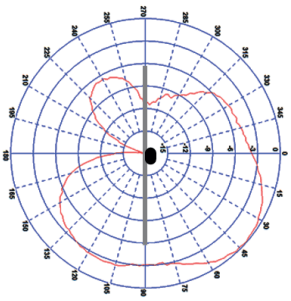
Typical E-Plane (850MHz)



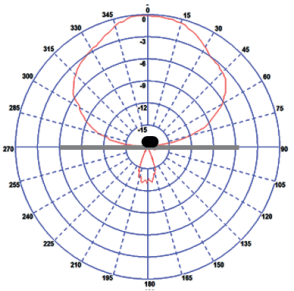
Typical H-Plane (900MHz)



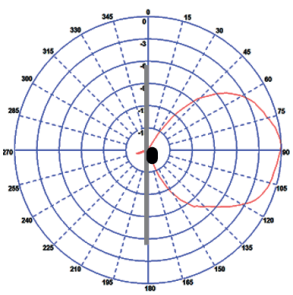
Typical E-Plane (900MHz)



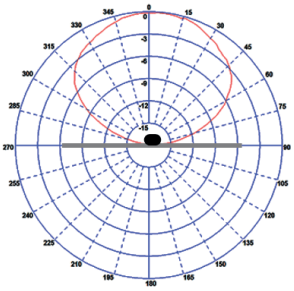
Typical H-Plane (1800MHz)



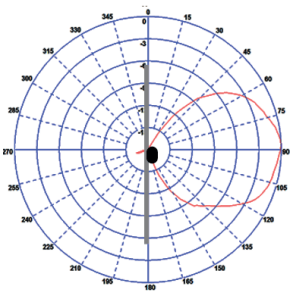
Typical E-Plane (1800MHz)



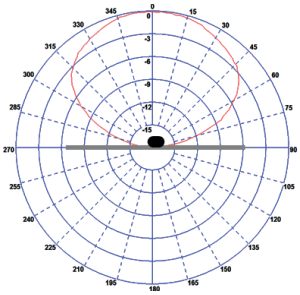
Typical H-Plane (1900MHz)



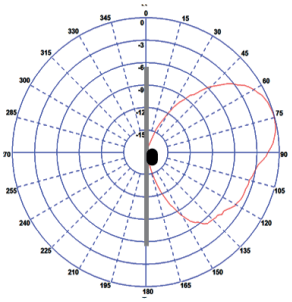
Typical E-Plane (1900MHz)



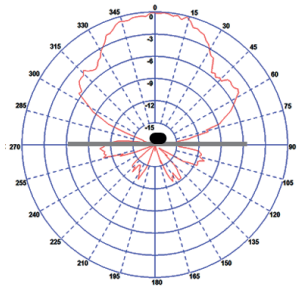
Typical H-Plane (2100MHz)



Typical E-Plane (2100MHz)



Typical H-Plane (2600MHz)



Typical E-Plane (2600MHz)

