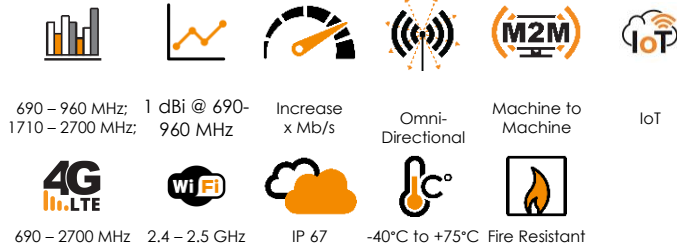


ANTENNAS | DASH-1 SERIES

ULTRA LOW PROFILE, SMART METER LTE ANTENNA

LTE; 690 – 2700 MHz, 4 dBi



- Smart Meter, M2M, IoT Antenna
- Futureproof wideband LTE antenna
- Backwards compatible with 2G and 3G technologies
- Increased connectivity stability
- Low profile design



Product Overview

The DASH-1 antenna is purposefully designed for low profile requirements such as Smart Meters. This omni-directional antenna is suitable for indoor and outdoor use, typically mounted on the top or side of smart meter boxes. The DASH-1 antenna is designed with installation simplicity in mind, while covering the LTE frequency bands from 690 – 2700MHz. This antenna has a superior electrical performance over the whole 690 - 2700MHz LTE/cellular bands.

Features

- Omni-directional antenna
- Wideband frequency ranges from 690 – 2700 MHz
- Stylish, but robust design
- Robust, vandal resistant and waterproof (IP67) antenna
- Ultra-versatile mounting options for easy installation

Application Areas

- Smart Utilities: Smart Power Metering, Gas & Water Metering
- Smart Buildings: Climate control, access control, security, irrigation
- Digital signage
- Smart environmental & water systems
- Warehouses & logistics systems
- Industrial factory automation and M2M systems
- Farming & agricultural M2M & IoT

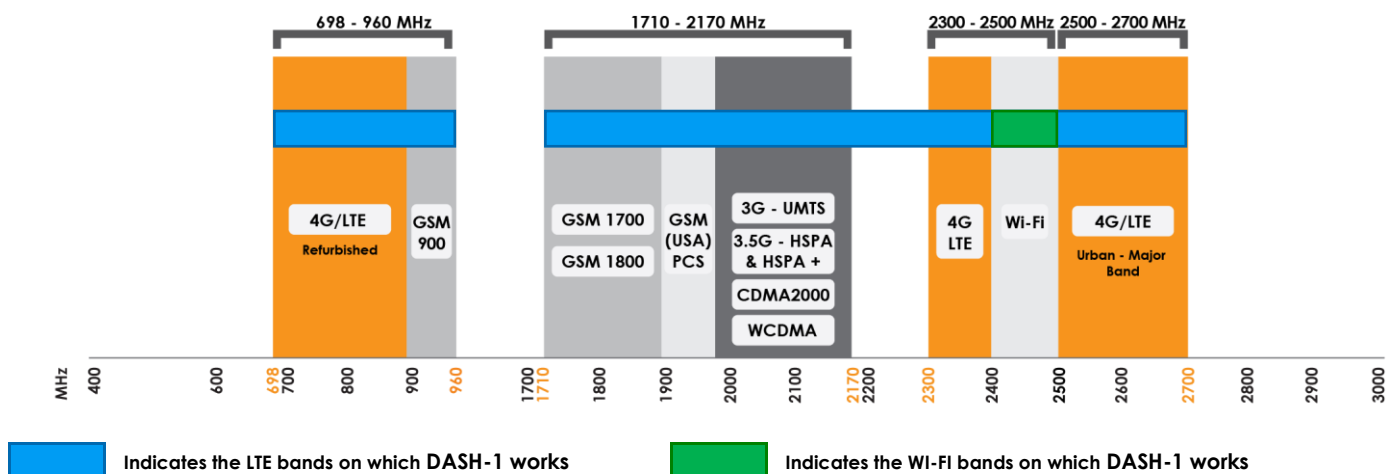
Can be used with the following IoT technologies:

- Zigbee
- Z-Wave
- LoRaWAN
- Sigfox
- Wi-Fi
- Wi-Fi HaLow
- LTE-M/NB-IoT
- Bluetooth



Frequency Bands

The DASH-1 works from 690 – 960 MHz | 1710 – 2700 MHz



Antenna Derivatives

Product Order Code (SKU)	A-DASH-0001-V1	A-DASH-0001-01-V1
Ports	1	1
SISO / MIMO	SISO	SISO
Coax Cable Type	RG 174	HDF 195
Coax Cable Length	1m	1m
Connector Type	Right Angle MCX	Right Angle SMA
Product Weight	0.057kg	0.06kg
Packaged Weight	0.068kg	0.071kg
EAN	0707273470010	0707273470157

*The coax cable & connector are factory mounted to the antenna

Electrical Specifications

Frequency bands:	690 – 960 MHz 1710 – 2700 MHz
Gain (max):	1 dBi @ 690-960 MHz 4 dBi @ 1710-2700 MHz
VSWR:	<3:1 Across 90% of the bands
Feed power handling:	10 W
Input impedance:	50 Ohm (nominal)
Coax cable loss:	0.78 dB/m @ 600 MHz 0.92 dB/m @ 900 MHz 1.35 dB/m @ 1800 MHz 1.6 dB/m @ 2400 MHz
DC short:	Yes

Product Box Contents

Antenna:	A-DASH-0001-V1
Mounting bracket:	N/A

Mechanical Specifications

Product dimensions	258 mm x 13 mm x 34 mm
Packaged dimensions:	265 mm x 100 mm x 15 mm
Radome material:	ABS/PC
Radome colour:	Pantone Cool Gray 1C
Mounting Type:	Adhesive backing & M8 x 17 mm spigot with M8 brass nut

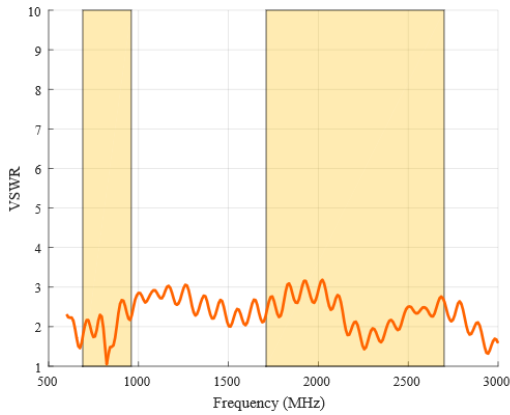
Environmental Specifications, Certification & Approvals

Wind Survival:	≤120 km/h
Temperature Range (Operating):	-40°C to +70°C
Environmental Conditions:	Outdoor/Indoor
Water ingress protection ratio/standard:	IP 65
Salt Spray:	MIL-STD 810F/ASTM B117
Operating Relative Humidity:	Up to 98%
Storage Humidity:	5% to 95% - non-condensing
Storage Temperature:	-40°C to +70°C
Enclosure Flammability Rating:	UL 94-HB
Impact resistance:	IK 08
Product Safety & Environmental:	Complies with CE and RoHS standards

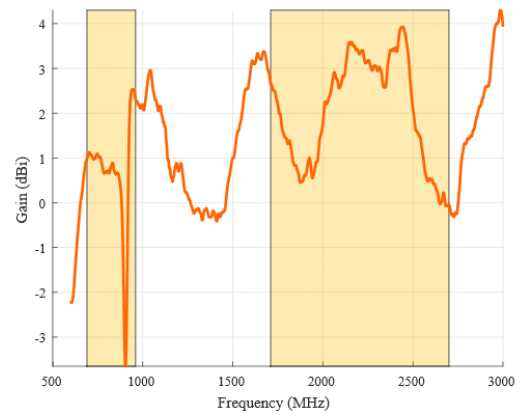


Antenna Performance Plots

VSWR



GAIN (EXCLUDING CABLE LOSS)



Voltage Standing Wave Ratio (VSWR)

VSWR is a measure of how efficiently radio-frequency power is transmitted from a power source, through a transmission line, into a load. In an ideal system, 100% of the energy is transmitted which corresponds to a VSWR of 1:1.

The DASH-1 delivers superior performance across all bands with a VSWR of 3:1 or better across 90% of the bands.

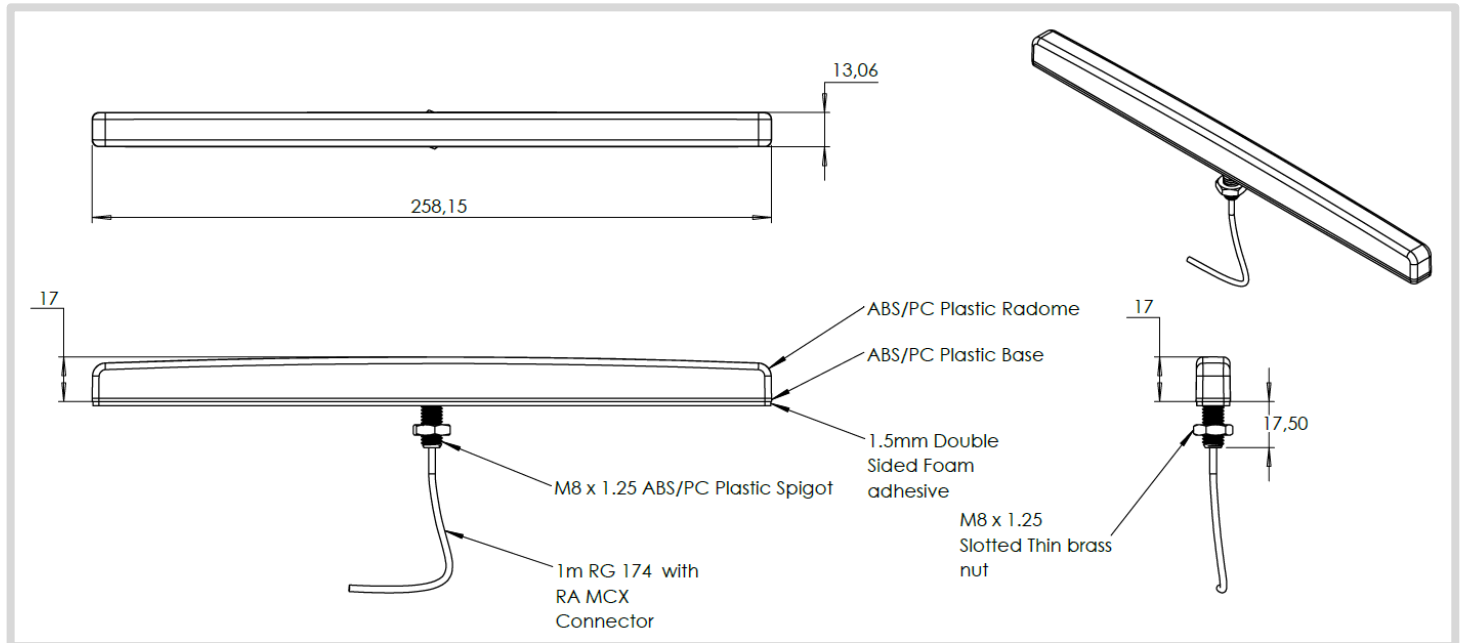
Gain* in dBi

4 dBi is the peak gain across all bands from 690-2700 MHz

Gain @ 690 – 960 MHz:	1 dBi
Gain @ 1710 – 2700 MHz:	4 dBi

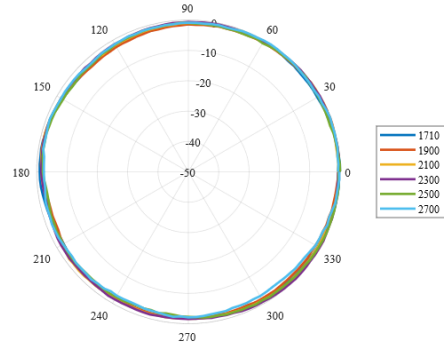
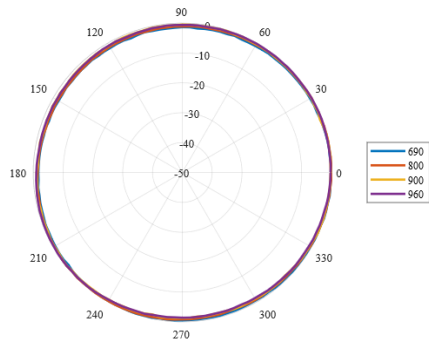
**Antenna gain measured with polarisation aligned standard antenna*

Technical Drawings

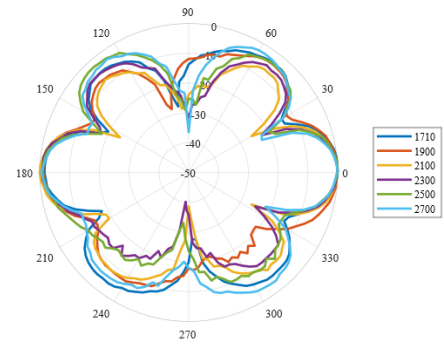
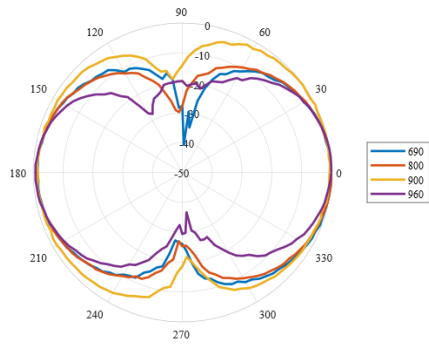


Radiation Patterns

Azimuth: 690 – 960 MHz **Azimuth: 1710 – 2700 MHz**



Elevation: 690 – 960 MHz **Elevation: 1710 – 2700 MHz**



Mounting Options



Surface Mount

Surface mounted using the provided adhesive backing.

Additional Accessories

For more information, visit www.poynting.tech

Contact Poynting

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E-mail: sales@poynting.co.za

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Kronstadter Straße 4
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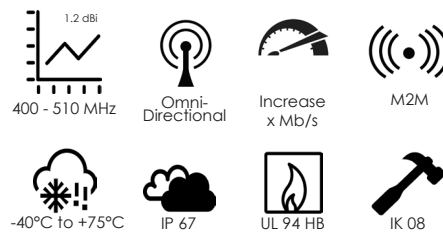
Phone: +49 89 208026538

E-mail: sales-europe@poynting.tech

ANTENNAS | DASH SERIES, SMART METER ANTENNA

DASH-3

Ultra low profile smart meter/M2M/IoT antenna, 400MHz - 510MHz



- Smart Meter, M2M, IoT antenna
- Futureproof wideband LTE antenna
- Backwards compatible with 3G and 2G technologies
- Increased connectivity stability
- LoRa 433 MHz
- CDMA 450 MHz
- NB-IoT/LTE-M 450 MHz



Product Overview

The DASH-3 antenna is purposefully designed for low profile requirements such as Smart Meters. This omni-directional antenna is suitable for indoor and outdoor use, typically mounted on the top or side of smart meter boxes. The DASH-3 antenna is designed with installation simplicity in mind, while covering the LTE frequency bands 400 – 510MHz. This antenna has a superior electrical performance over the 433MHz - 510MHz international bands for IoT, and can also be used for the whole 400MHz - 510MHz LTE/cellularCDMA bands.

Features

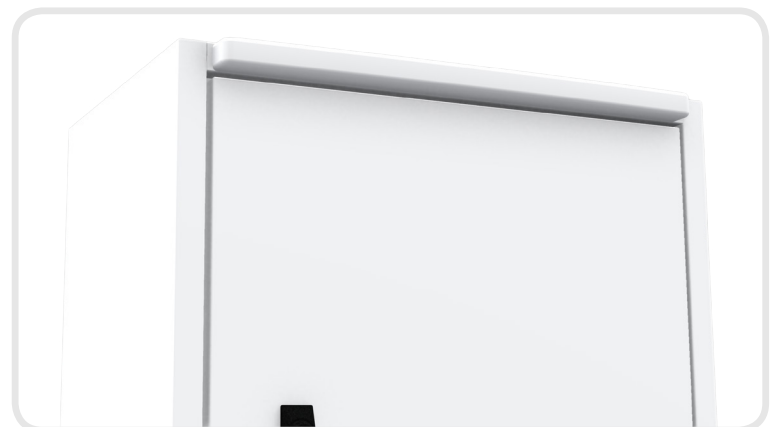
- Omni-directional antenna
- ISM frequency band
- Easy installation
- Stylish, but robust design
- Weather & vandal resistant

M2M and IoT Application areas

- Smart Utilities: Smart Power Metering, Gas & Water Metering
- Smart Buildings: Climate control, access control, security, irrigation
- Digital Signage
- Smart Environmental & Water Systems
- Warehouses & Logistic systems
- Industrial factory automation and M2M systems
- Farming & Agricultural M2M & IoT


Can be used with the following IoT technologies:

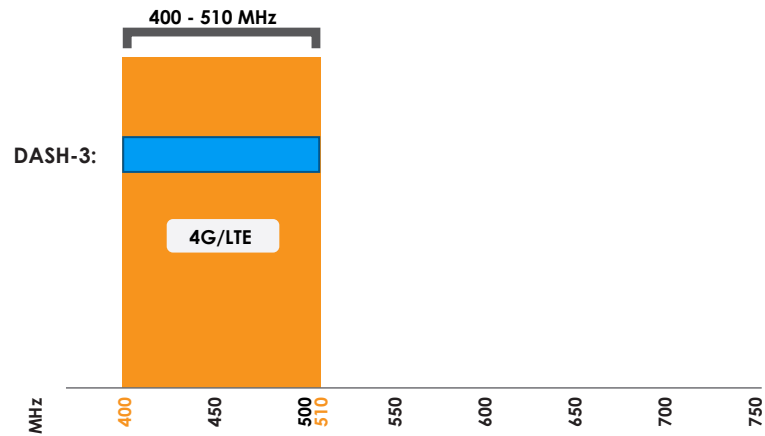
- LoRa 433MHz
- LTE-M/NB-IoT band 31, 72, 73
- CDMA 450



Frequency bands

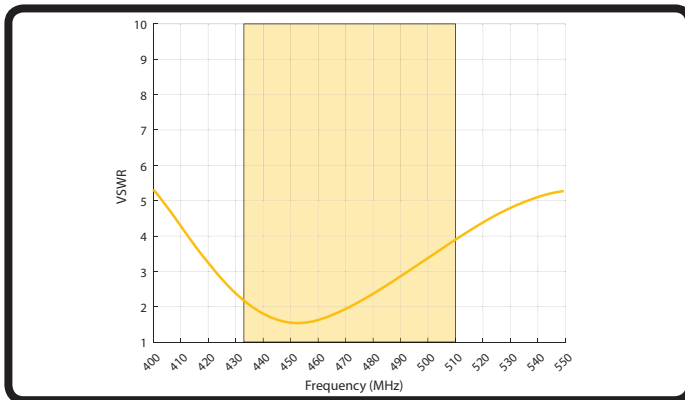
LTE bands 31, 72, 73

 Indicates the bands on which this antenna works



Antenna Performance Plots

VSWR:



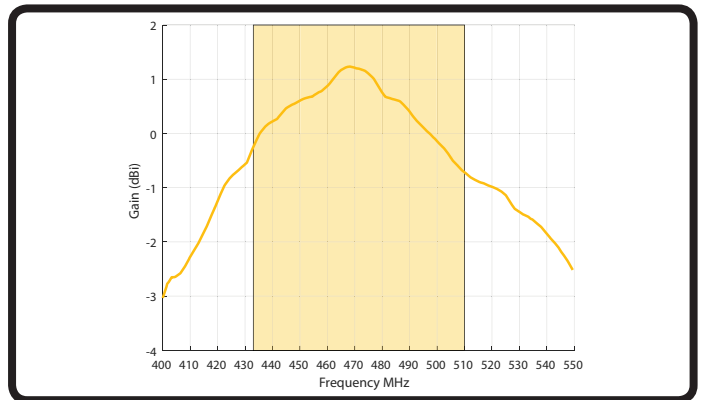
Voltage Standing Wave Ratio (VSWR)

VSWR is a measure of how efficiently radio-frequency power is transmitted from a power source, through a transmission line, into a load. In an ideal system, 100% of the energy is transmitted which corresponds to a VSWR of 1:1.

The DASH-3 delivers superior performance with a VSWR of:

- < 2.2:1 @ 433 MHz
- < 2:1 @ 450 - 470 MHz

Gain : (excluding cable loss)



Gain* in dBi

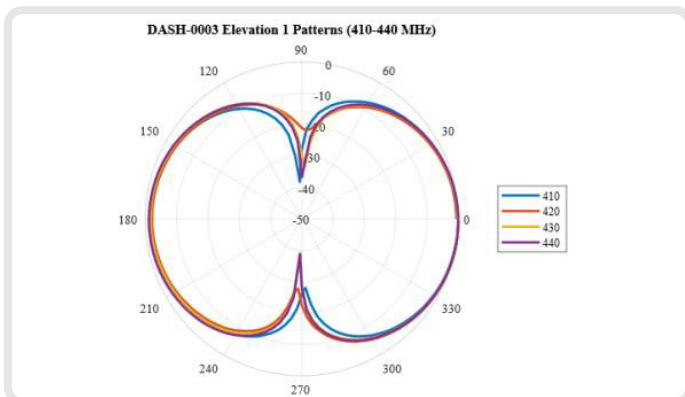
Gain @ 433 - 510 MHz:

1.2 dBi

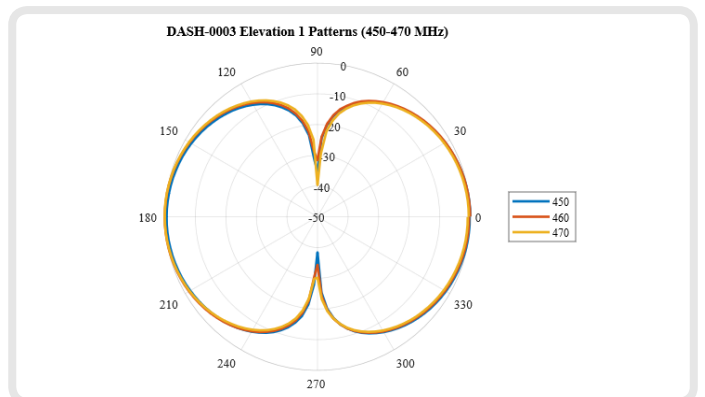
*Antenna gain measured with polarisation aligned standard antenna

Radiation Patterns - Antenna mounted vertically

Elevation: 410 - 440 MHz (side view)



Elevation: 450 - 470 MHz (side view)



Electrical Specifications

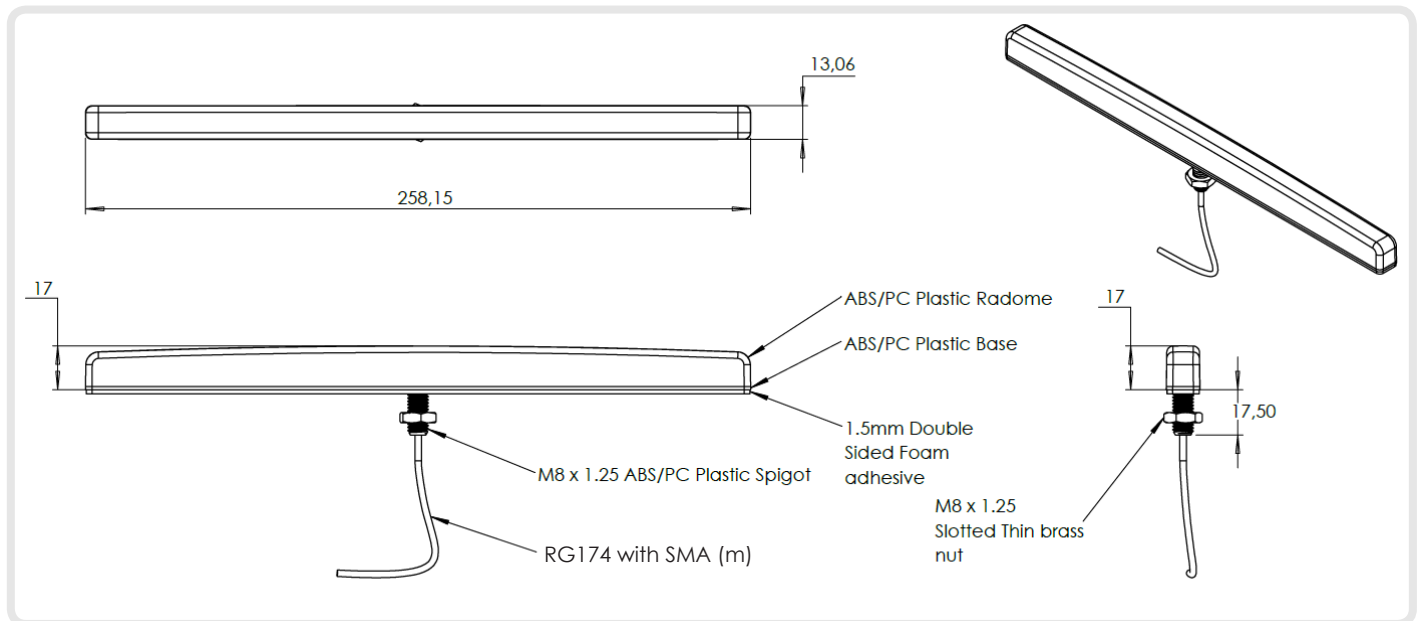
Operating Frequency:	400 - 510 MHz
Gain (Max):	1.2 dBi
VSWR:	< 2.2:1 @ 433 MHz < 2:1 @ 450-470 MHz
Feed Power Handling:	10 W
Input impedance:	50 Ohm (nominal)
Polarisation:	Linear Horizontal / Vertical
Cable loss:	0.62dB/m @ 400 MHz
Cable:	RG 174
Cable length:	1m ±5%
Connector:	SMA male
DC Short:	Yes

Mechanical Specifications

Product Dimensions (L x W x D):	258mm x 34mm x 13mm
Packaging Material:	Poly bag
Packaged Dimensions:	265mm x 100mm x 15mm
Weight:	60g
Packaged Weight:	70g
Radome Material:	ABS/PC (Halogen Free)
Radome Colour:	Cool Gray 1C
Mounting:	Adhesive backing & M8 x 17mm spigot with M8 brass nut

Environmental Specifications

Wind Survival:	160 km/h
Temperature Range (Operating):	-40°C to +75°C
Environmental Conditions:	IP67 (excl. Spigot Mounting)
Operating Relative Humidity:	Up to 98%
Storage Humidity:	5% to 95% non-condensing
Storage Temperature:	-40°C to +75°C



Certification Approvals and Standards

Cable Flammability rating:	UL 94-HB
Water Ingress Protection Ratio/Standard:	IP 67 (NEMA 4X)
Impact resistance:	IK 08
Salt Spray:	MIL-STD 810F/ASTM B117
Product Safety:	Complies with UL, CE, EN, CSA and IEC standards

Ordering Information

Commercial name:	DASH-3
Order Product Code:	A-DASH-0003-V1
EAN number:	0707273470256



For more detailed information and availability in your region, visit our web site: www.poynting.tech

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DASH-3

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Product Specifications may change without prior notice
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