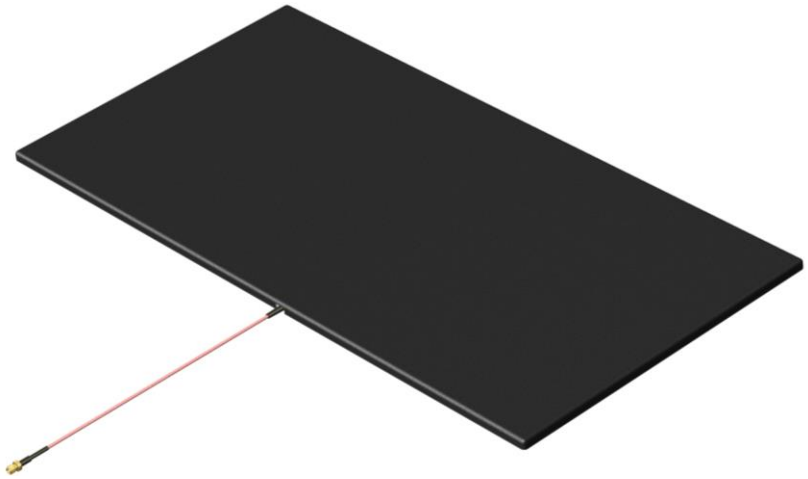
A5060

Circularly Polarized High Gain Antenna



Formed and flat radome available
(pictured: formed radome)

Introducing the A5060 Circularly Polarized (CP) High Gain Antenna that redefines RFID technology. With an ultra-low profile and an impressive read range of up to 10m (33'), the A5060 is engineered to deliver exceptional performance in demanding industrial environments.

The A5060 is designed with a multi-element array to avoid distortion for maximum readability in a highly reflective and densely populated tag environment. This makes the A5060 ideal for industrial portal applications.

Measuring 604 x 304 x 8.6mm (23.78 x 11.97 x 0.34") in standard size, the A5060 offers versatility in installation. You can easily mount it behind ceiling tiles, in cabinets, or use it to cover large benchtops. The six integrated mounting holes allow for flush mounting, while the option to VESA mount using the Times-7 Mounting Plate adds further flexibility to your setup.

Ordering Information

Note: Please quote product code, band, cable type & part number

*Antenna Product Code	Band	Part Number
A5060 Formed Radome (standard size)	ETSI 865-868 MHz	75236
A5060 Formed Radome (standard size)	FCC 902-928 MHz	75238
A5060 Flat Radome	ETSI 865-868 MHz	71876
A5060 Flat Radome	FCC 902-928 MHz	71875
***Mounting Accessories Product Code**	**Band**	**Part Number**
Mounting Plate (A5060)	N/A	72095
***Cable Accessories Product Code**	**Cable Type**	**Part Number**
Cable 2m, SMA to RPTNC	T7 195 / 240 / 400	71436 / 71782 / 72042
Cable 4m, SMA to RPTNC	T7 240 / 400	71784 / 72043
Cable 6m, SMA to RPTNC	T7 240 / 400	71904 / 72044
Cable 8m, SMA to RPTNC	T7 240 / 400	71788 / 72045

*RoHS & CE compliant.

View the Times-7 Cable Accessory datasheet here

ABOUT TIMES-7

We are a high-tech company specializing in the design and manufacture of RAIN (UHF) RFID antennas.

Our journey began in 2006, when Times-7 was founded. Since then, we have developed the largest portfolio of fixed RAIN RFID reader antennas, which are famous for their quality and performance.

We are based in Lower Hutt, New Zealand, but our reach extends worldwide as we export our products through our authorized partner network.

In addition to our world-class products and in-depth expertise, our customers appreciate Times-7's customer service and technical support.

We are responsive in supporting a large global customer base and ensuring the success of our customer's implementations.

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P: +1 408 769 5025

E: sales@times-7.com

W: www.times-7.com

Patent Info: www.times-7.com/patents

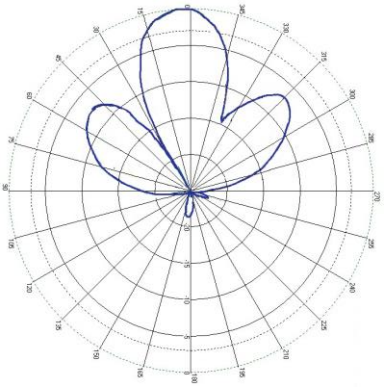
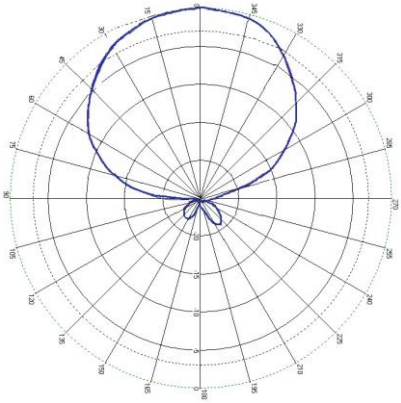
Physical / Environmental Specifications

Unboxed Dimensions: ***Length (x) x Width (y) x Depth (z)**	604 x 304 x 8.6mm 23.78 x 11.97 x 0.34”
Boxed Unit Dimensions: **(L x W x D)**	650 x 360 x 30mm 25.59 x 14.17 x 1.18”
Weight:	Net: 1.48kg / 3.3lbs. Gross: 1.79kg / 3.9lbs.
Radome Material:	Flame retardant ABS
Environmental Rating:	IP54
Operating / Storage Temperature:	-20° to +55°C / -30° to +60°C -4° to +131°F / -22° to +140°F
Mounting:	Integrated flush mounting holes or VESA mount
Connector Type:	SMA female fly lead
Cable Type / Length:	RG316 / 270mm / 10.6"

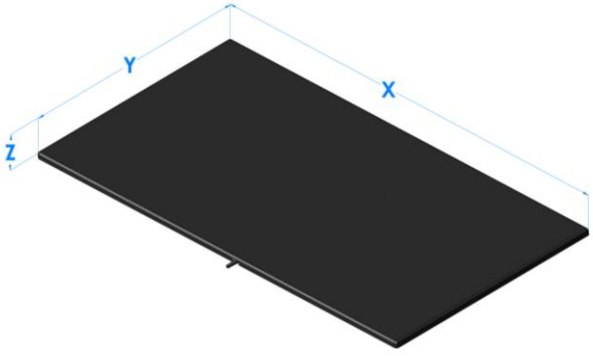
Electrical Specifications

Frequency Range:	865-868 MHz (ETSI) / 902-928 MHz (FCC)
Polarization:	Right hand circularly polarized (RHCP)
Far-Field Gain:	10.5dBiC typical
***Far-Field 3dB Beamwidth:**	25° in XZ-plane, 60° in YZ-plane
VSWR:	1.4 typical
Front-To-Back Ratio:	-25dB
Axial Ratio:	2dB typical
Nominal Impedance:	50Ω
Anti-Static Protection:	Yes, DC grounded
Antenna Detection:	10KΩ resistance
Maximum Input Power:	3W

Radiating Pattern

A5060 XZ Plane	A5060 YZ Plane
	

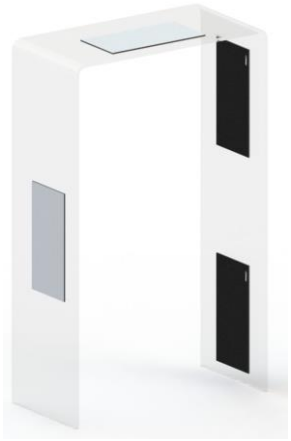
*Azimuth Planes



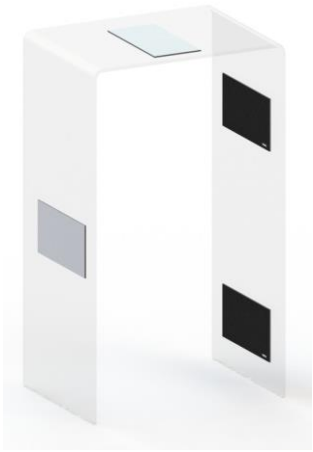
Applications

Industrial Portal

The IP54 rating and the 10.5dBiC gain makes this antenna highly suitable for industrial applications. A densely packed asset with numerous tags can be identified accurately and efficiently. A stand-alone portal can be realized with four A5060 antennas (pictured below). All possible tag orientations will be captured due to its circular polarization and positions. The antennas on the sides are offset so that they do not face each other and induce maximum coverage within the portal. Almost all assets can be tracked with greater accuracy using our A5060 antenna.



The vertical configuration is recommended for high density asset tracking (such as palatized boxes, a trolley of laundry goods, etc.,) where you will need a larger RF zone to efficiently read all the tagged items. The RF read window is expanded in and out of the portal.



The horizontal configuration is recommended to avoid stray reads due to a confined RF read window. The RF read zone is restricted within the width of the portal. Assets that are not densely packed can be read efficiently using this configuration.

Laundry Applications

With its high gain, the A5060 antenna has the potential to read through densely packed laundry items. The antennas can either be configured as a standalone industrial portal to track trolleys full of laundry goods, or they can be used in a conveyor to track movement. The antenna's confined RF emission eliminates stray tag reads. The antennas can also be used over bench tops in packing/folding stations.

Vehicle Tolling / Access Control

The A5060's 10.5dBiC gain is powerful enough to read vehicular tags, e.g., embedded in the windscreen or the number plate, from greater distances. The 25° narrow beam can be used to create confined RF zones for each lane.

Tool Tracking

The A5060 antenna is an excellent option for tracking tools within your tool cabinetry. In environments with highly reflective metallic surfaces, traditional RFID antennas often encounter challenges. However, the A5060 stands out due to its multi-element design, resulting in reduced sensitivity to metallic objects. To ensure efficient reading, it's recommended to use specially designed 'on-metal' RFID tags and position the items within the line of sight of the antenna.

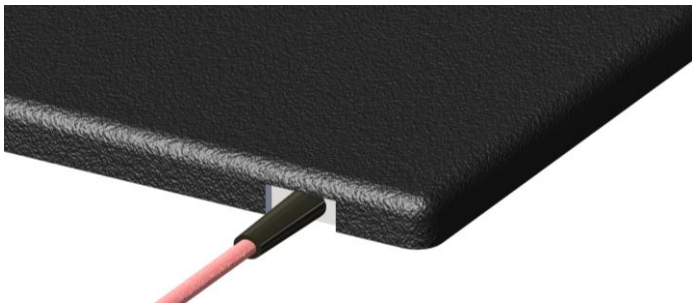
Warehouse Shelving Application

The A5060's footprint fits both metric and imperial shelves. The slim antenna offers a snug fit inside the shelf without engulfing a lot of useful space. The multi-element antenna design keeps the antenna's beam active in every nook and corner. Assets on the shelves can be monitored in real-time with great accuracy.

Formed Radome vs. Flat Radome

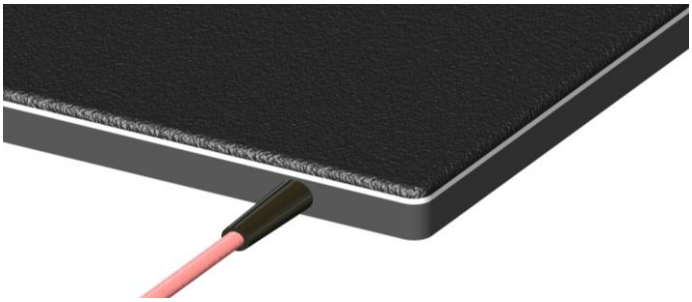
Formed Radome

Crafted through thermoforming, the formed radome has been engineered to deliver a seamless finish to the antenna. Its modern and sophisticated aesthetic is complemented by its ability to ensure optimal protection.



Flat Radome

The flat radome is recognized by its sleek and contemporary flat form, showcasing attention to detail in the way it is skillfully finished, resulting in a refined and modest appearance.



Note: These images illustrate the distinction between formed and flat radomes and do not depict the actual product.

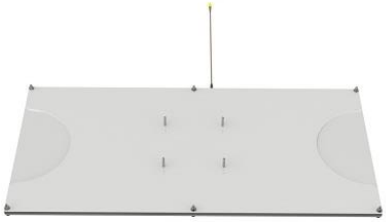
Mounting Information

Flush Mount

The A5060 antenna has 6 pre-drilled mounting holes on the rear side, which can be drilled completely through without damaging the antenna. For further instructions, please click here.

Mounting Plate

The Times-7 Mounting Plate for the A5060 is designed to support a VESA plate. Each Mounting Plate comes with a screw kit. For instructions on how to attach the Mounting Plate to the antenna, please click here.

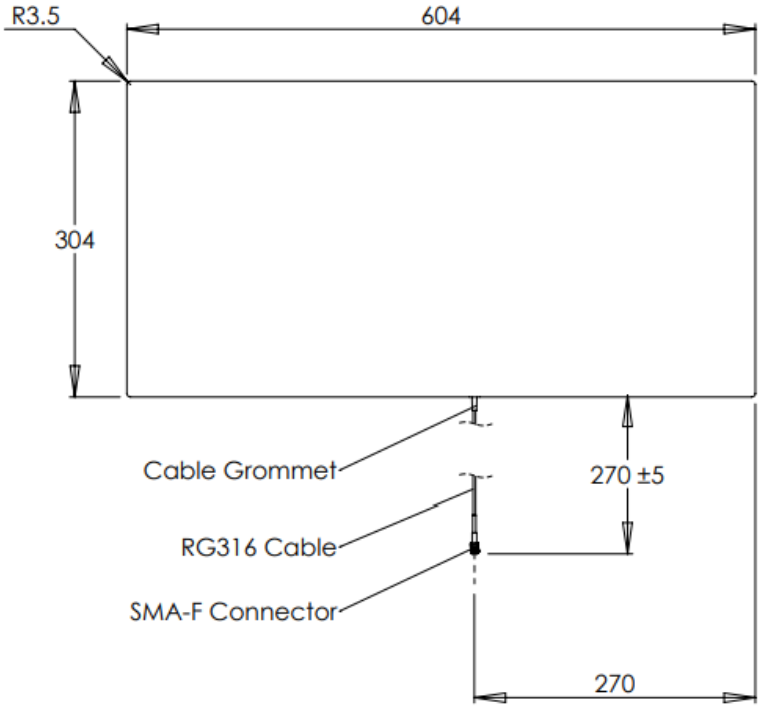


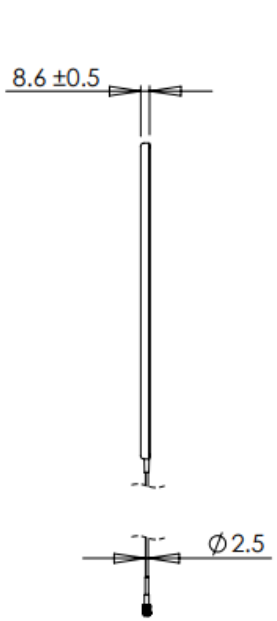
Installation Instructions

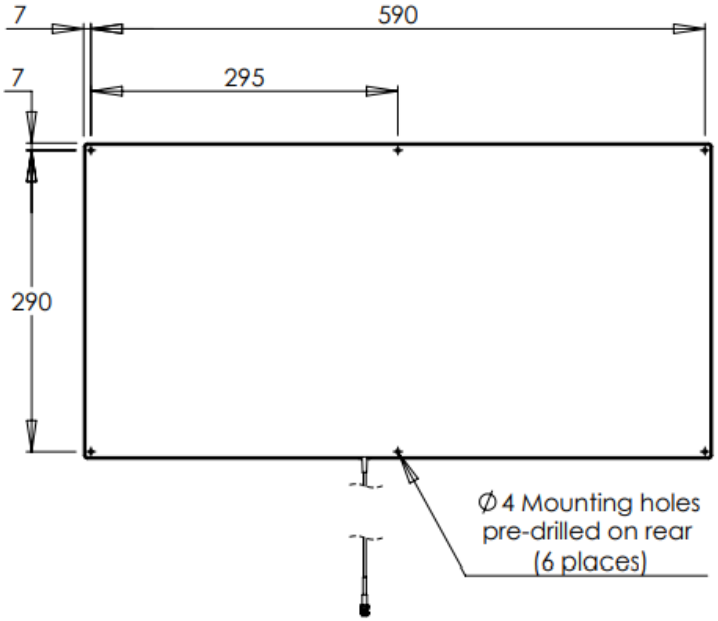
Ensure that only finger tightness is used for the SMA connector. Use of tools to tighten the connector will apply excessive force and will damage the connector.

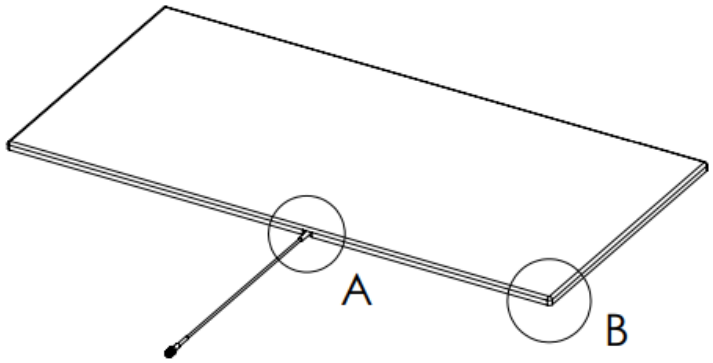
Avoid any excessive pulling force on the cable and be mindful of its bend radius to prevent damage and ensure proper functioning.

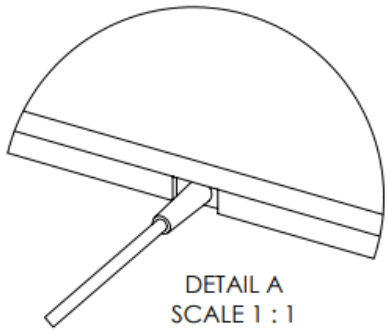
Mechanical Drawing for the A5060 Circularly Polarized High Gain Antenna (Formed Radome)



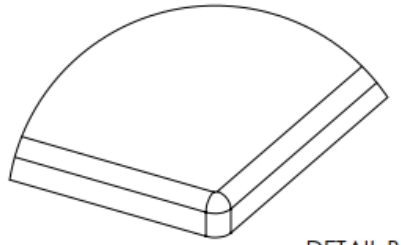








DETAIL A
SCALE 1 : 1



DETAIL B
SCALE 1 : 1

DIMENSIONS ARE IN mm

UNLESS OTHERWISE SPECIFIED
TOLERANCES:
NO DECIMAL PLACES ± 1
ONE PLACE DECIMAL ± 0.8

DESCRIPTION

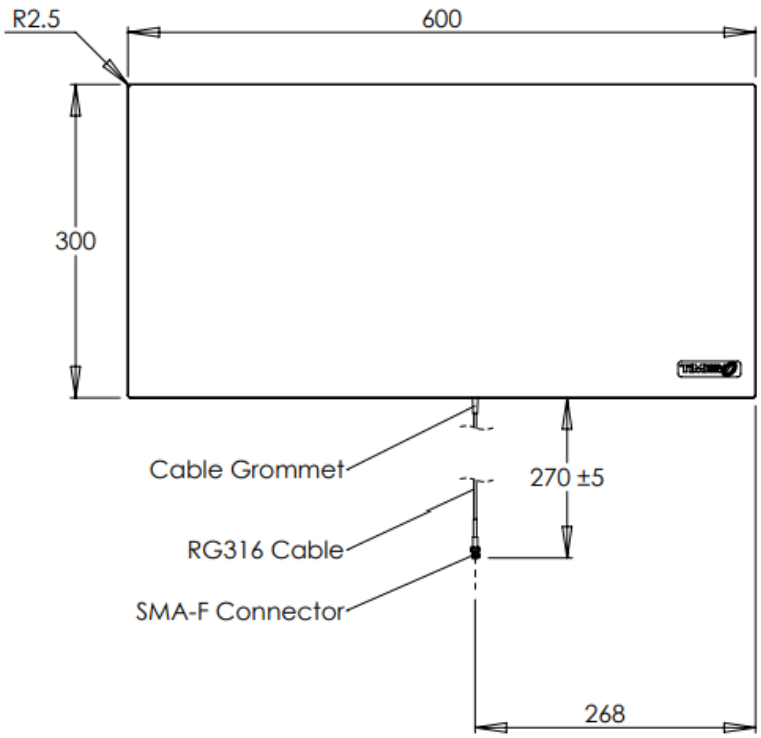
A5060 Circularly Polarized
High Gain Antenna (Formed Radome)

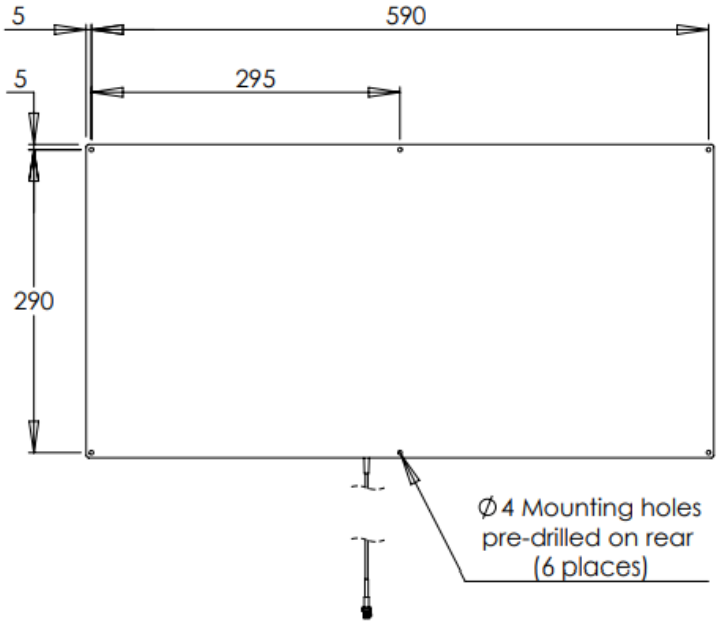
DRAWN BY: Maria Price	DATE: 26-10-23
APPROVED BY: Peter Wilcock	DATE: 26-10-23

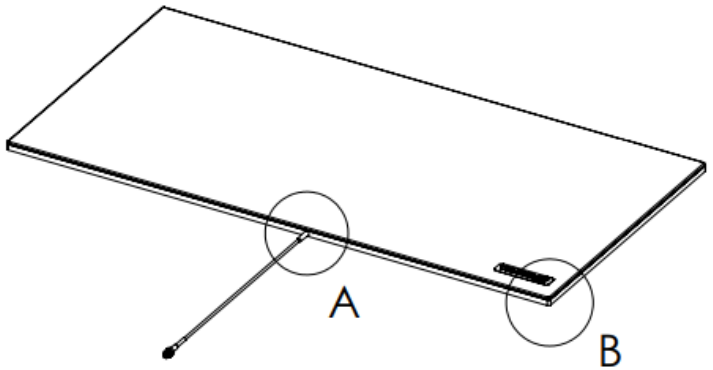
SIZE	PART NO.	REV
A3	75236 (ETSI), 75238 (FCC)	A

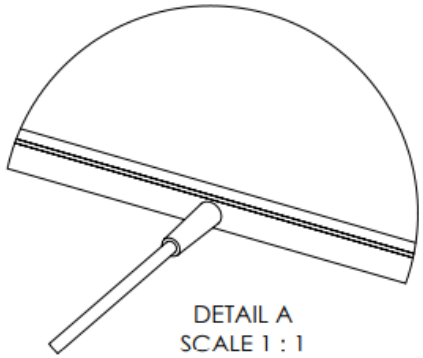
DO NOT SCALE DRAWING | SHEET 1 OF 1

Mechanical Drawing for the A5060 Circularly Polarized High Gain Antenna (Flat Radome)









DETAIL A
SCALE 1 : 1

DETAIL B
SCALE 1 : 1

DIMENSIONS ARE IN mm

UNLESS OTHERWISE SPECIFIED
TOLERANCES:
NO DECIMAL PLACES ± 1
ONE PLACE DECIMAL ± 0.8

DRAWN BY : Maria Price	DATE : 26-10-23
APPROVED BY : Peter Wilcock	DATE : 26-10-23

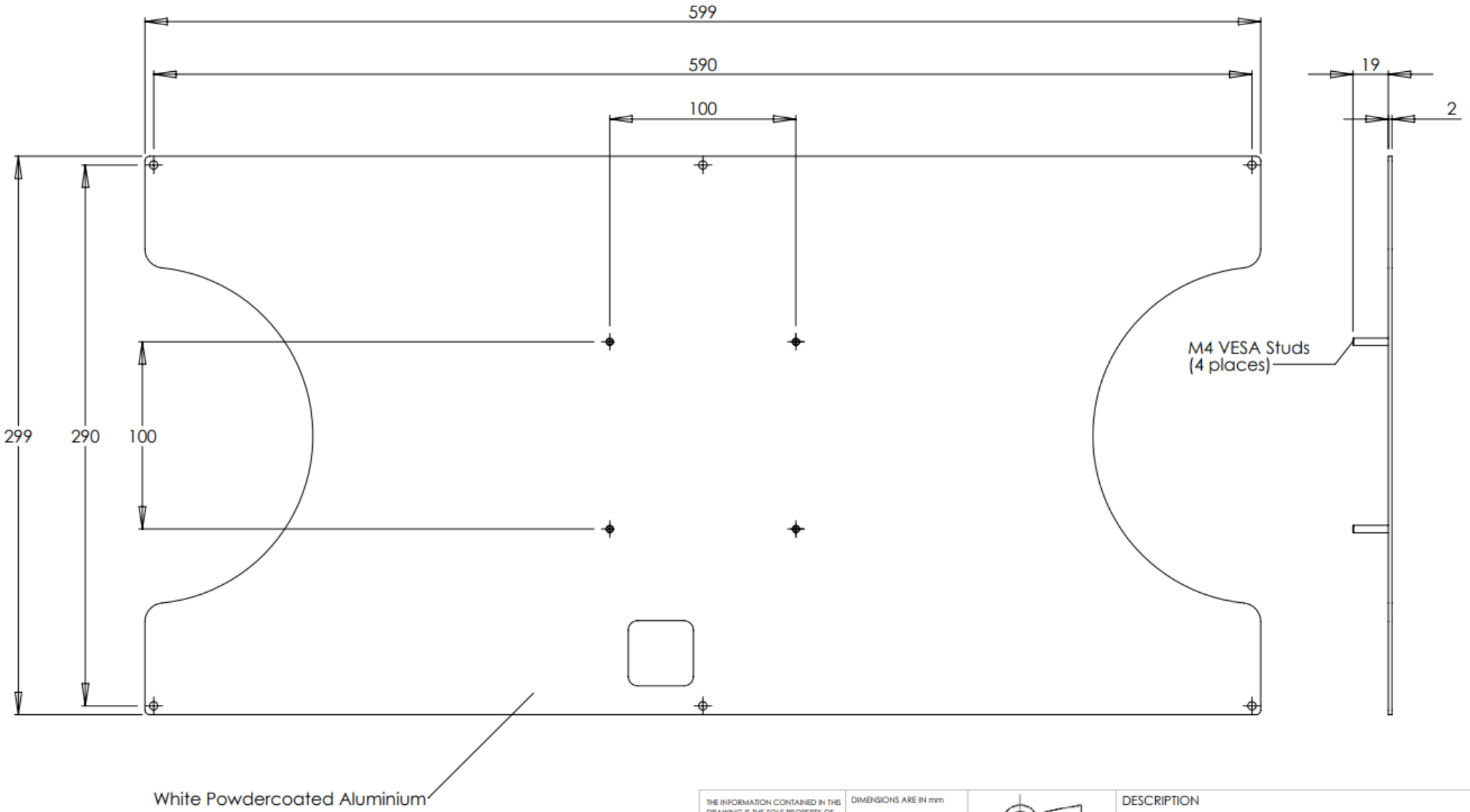
DESCRIPTION

A5060 Circularly Polarized
High Gain Antenna (Flat Radome)

SIZE	PART NO.	REV
A3	71876 (ETSI), 71875 (FCC)	A

DO NOT SCALE DRAWING | SHEET 1 OF 1

Mechanical Drawing for the A5060 Circularly Polarized High Gain Antenna Mounting Plate



DIMENSIONS ARE IN mm

UNLESS OTHERWISE SPECIFIED
TOLERANCES:
NO DECIMAL PLACES ± 1
ONE PLACE DECIMAL ± 0.8

DESCRIPTION: A5060 / A1163 Mounting Plate

DRAWN BY:	DATE:
Maria Price	26-10-23
APPROVED BY:	DATE:
Peter Wilcock	26-10-23

SIZE	PART NO.	REV
A3	72095	A

DO NOT SCALE DRAWING | SHEET 1 OF 1