

For Manufacturer

Product Description: 4G/3G/2G External Patch Antenna	Abracon Part Number / Part Series: APAMS-102	☐ Documentation only ☒ ECN ☐ EOL	☐ Series ☐ Part Number
Affected Revision: B	New Revision: C	Application:	☐ Safety ☒ Non-Safety

Prior to Change:

 ABBRACON CORPORATION 135125form	APACS-102 GS&M Antenna Module	RoHS Compliant
Date of Issue: Oct 15th 2014	135125form	
Page 1 of 3	Abrakon Drawing #: 424442	Revision #: 3

Source Control Drawing

Part Description:	GS&M Antenna Module
Customer Part Number:	
Abrakon Part Number:	APACS-102

Customer Approval

(Please return this copy as a certification of your approval)

Approved By: _____

Approval Date: _____

DISSEMINATION NOTICE

This document, and the associated information herein, are proprietary and are not to be reproduced, used or disclosed to others for manufacture or for any other purposes, except as specifically authorized, in writing, by ABBRACON Corporation.

Abrakon Corporation Headquarters:

2 Frazier, Spawell,
 Seattle, CA 94110, (415) 446-4000
 Fax: (415) 546-0001

Revision History									
Rev.	ECO	Description	Issued	By	App'd	CHK'd	CHK'd	App'd	CHK'd
A	2013	Initial engineering and design completion	10-15-2013	JLW	SK	JLW	SK	JLW	SK
A	2012	Creating assembly Discreetized drawing Assembly instructions added, release drawings were updated, 135125-1 UNDESIGNED (in Sale & support) (Sale & support Release)	10-14-2012	JLW	SK	JLW	SK	JLW	SK

Internal Use Only

	APAMS-102 GM2 Antenna Module	
Date of Issue: 01 July 2014	1302516form	
Page 21 of 31	Abrakon Drawing #_000001	Revision # 0
1.0 Electrical Specifications:		
Parameters	Min. Typ. Max. Unit	Test
Frequency Range	1750 1800 1850 MHz	(1750-1850)
	1850 1900 1950 MHz	(1850-1950)
	1950 2100 2170 MHz	(1950-2170)
Bandwidth	140 MHz	(120-140)
	140 MHz	(120-140)
	170 MHz	(120-170)
1/2dB		
Isolation Model	Lower Polarization	
Isolation	50 dB	(10-50)
Gain	1 dBi	(0-10)
	2 dBi	(0-10)
	3 dBi	(0-10)
Asimuth	Omni Directional	(0-360)
Operating Temperature	-40 -80 °C	
Storage Temperature	-45 -85 °C	

 ABRASION COMPACTION	APAMS-102 <i>GSM Antenna Module</i>	 RoHS Compliant
Date of Issue: Oct 14 th 2014 Page 11 of 15	338251efame Abrasion Drawing #: 00041	Revision #: B

4.0 Outline Dimensions:



The figure shows two views of the antenna module: a Top View and a Side View. The Top View shows a rectangular module with a circular antenna element in the center. The Side View shows the profile of the module, including the antenna element and the mounting bracket. Dimensions are provided in millimeters (mm).

Parameters	Description
L (Cable Length)	1004±0mm
Antenna	2.4G
RF Connector	SMA-23
PCB Material	FR-4
PCB Thickness	1.6±0.1mm
PCB Width	25.4±0.1mm
PCB Length	100.4±0.1mm
Mounting Type	Adhesive Type

4.0 Product Image



The product image shows the APAMS-102 GSM Antenna Module. It consists of a black cable with a yellow SMA connector at one end and a black rectangular module at the other end. The module has a circular antenna element on its top surface.







Date of Issue: 01-14-2014

1324724520

Page 01 of 01

Revision Drawing: 010002

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

Page 01 of 01

 AGRACON CONSTRUCTION	APAMR-102 GSM Antenna Module	RoHS compliant
Date of Issue: Oct 14, 2014	13820708mm	
Page 11 of 11	Agracon Drawing: A-110421	Revision: 0

5.8 **Packaging**

Each 475x215x215mm size carton includes 100 pieces of antenna.





[illegible][illegible]

 ARKSHARE CAPITAL CORP. 10000 North Central Expressway Suite 1000 Dallas, Texas 75243-3992 Tel: 214.691.1000 Fax: 214.691.1001 Email: info@arkshare.com	APACMS-102 GSA External Module 3/13/2013 ArkShare Document # 100000	
Date of Issue: Oct 14, 2014 Page 1 of 1	ArkShare Document # 100000	Revision # B

After Change:

Page 2 of 2

Brand	Affected PN	Discontinued/EOL PN	Added PN	Series	ECO#	Datasheet Link	ECN Notification Link
Abracon	APAMS-102		APAMS-102		R0517	https://abracon.com/external-antenna/APAMS-102.pdf	https://abracon.com/downloads/ECN-PCN/ECN-PCN-Notification_ECOR0517_APAMS-102.pdf

**APAMS-102**

Request Samples



Check Inventory

**138 x 21 x 6 mm**
RoHS Compliant
MSL Level = 1**Description**

This weatherproof 4G/3G/2G external patch antenna delivers robust cellular connectivity across 820 - 960 MHz and 1710 - 2170 MHz bands. Housed in a low-profile 138 x 21 x 6 mm, it achieves a high peak gain of 3 dBi for extended range and reliable performance in harsh environments. Supporting LTE-M, NB-IoT, and LTE CAT 1 through CAT 20, this RoHS-compliant, MSL Level 1 antenna features customizable cable and connector options. It is ideal for smart home networking, telecommunications, and traffic monitoring applications requiring durable outdoor installation.

**Features**

- Frequency Range: 820 - 960 / 1710 - 2170 MHz
- Low Profile with Size 138 x 21 x 6 mm
- High Peak Gain up to 3 dBi
- Custom Cable Length Options Available
- [RoHS Compliant | MSL Level 1](#)

Applications

- LTE-M, Cat M, Cat M1, NB-IoT
- LTE CAT 1 up to CAT 20 Supported
- Smart Home Networking
- Networking & Telecommunication
- Traffic Control and Monitoring

Ordering Information

Part Number	Description	Connector Option
APAMS-102	4G/3G/2G External Patch Antenna with 3000 mm RG-174 cable length & SMA(M) connectors	SMA(M)

Note: Other options not listed may be available upon request via [Abracon online support](#)

**APAMS-102**

Request Samples



Check Inventory

**138 x 21 x 6 mm**
RoHS Compliant
MSL Level = 1**Electrical Specification**

Parameters	Typ.		Units
Frequency	820-960	1710-2170	MHz
Return Loss (Typ.)	< -9.6		dB
VSWR (Typ.)	≤ 2.0		:1
Peak Gain ⁽¹⁾	1	3	dBi
Polarization	Linear		-
Impedance	50		Ω
Input Power	5		W

Please note: All measurement data is based on the standard configuration (conducted in free space unless otherwise specified).

Mechanical Specification

Parameter	Specification
Antenna Dimension	138 x 21 x 6 mm
Housing Material	ABS (Black)
Mounting Type	Adhesive Mount
RF Cable Type	RG-174
RF Cable Length ⁽¹⁾	3000 mm
RF Connector	SMA (Male)

(1): Fully customizable RF Cable length

Environmental Specification

Parameter	Specification
Operating Temperature	-25°C to +65°C
Storage Temperature	-45°C to +85°C
RoHS Compliance	Yes
Relative Humidity	Up to 95%



APAMS-102

Request Samples

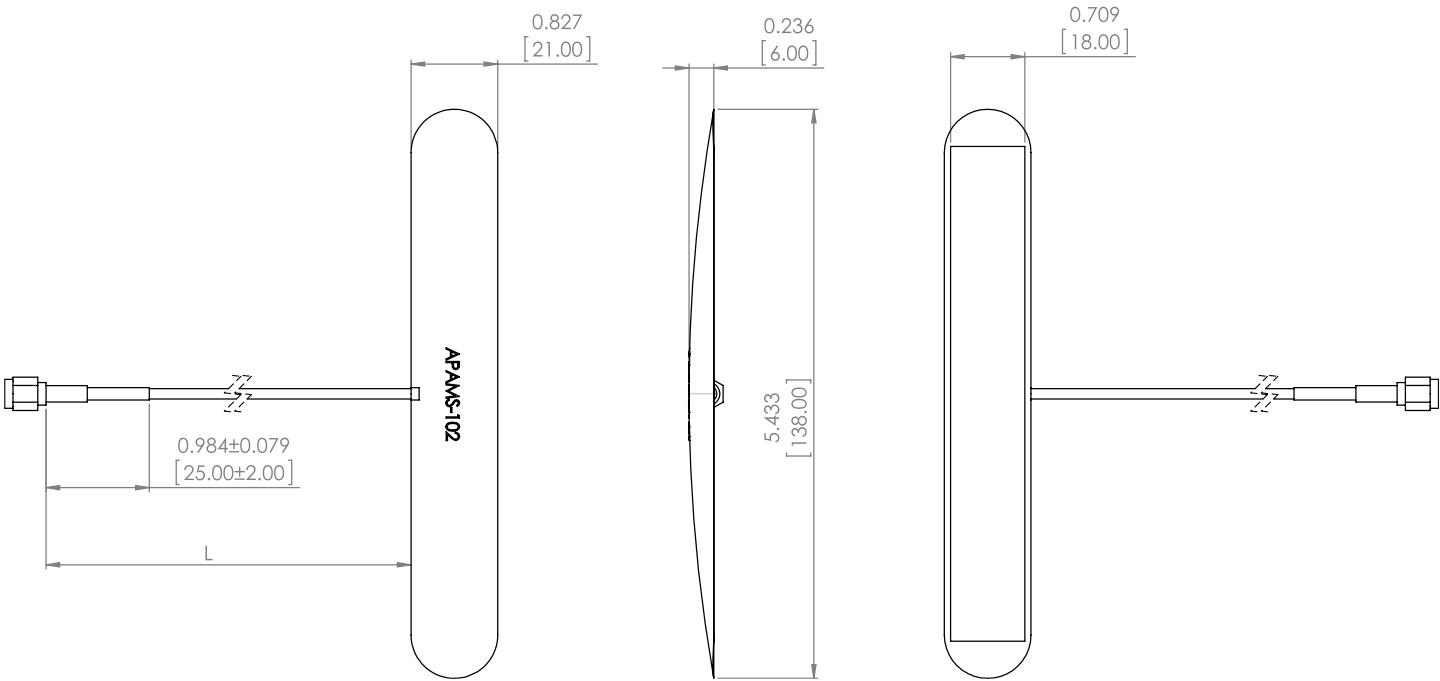


Check Inventory



138 x 21 x 6 mm
RoHS Compliant
MSL Level = 1

Product Dimensions



Unit: inches [mm]

Parameters	Description
L (Cable Length)	300±50cm
Antenna	PCB
RF Connector	SMA-J3
RF Cable	RG174
Thickness	6 mm
Enclosures	Plastic
Mounting Type	Adhesive Tape



APAMS-102

Request Samples



Check Inventory



138 x 21 x 6 mm
RoHS Compliant
MSL Level = 1

Packaging

Each 475 x 215 x 215 mm size carton includes 100 pieces of antenna.



ATTENTION: Abracon LLC's products are Commercial-Off-The-Shelf ('COTS'), which are designed, intended, and validated for use in commercial, industrial, and automotive applications. The customer is responsible for testing and verifying the performance of an Abracon solution to meet their system-level requirements.



12117 Bee Caves Rd, Bldg-3, Suite 200 Bee
Cave, TX 78738
Phone: 512-371-6159 | Fax: 512-351-8858
For terms and conditions of sales, please visit:
www.abracon.com

REVISED: 06-30-26

ABRACON IS
ISO9001-2015
CERTIFIED