

ECN/PCN No.: R0406

For Manufacturer

Product Description: GNSS L1/L2/L5 INTERNAL ACTIVE PATCH ANTENNA	Abracon Part Number / Part Series: APARC2511X-SGL2L5	<input type="checkbox"/> Documentation only <input checked="" type="checkbox"/> ECN <input type="checkbox"/> EOL	<input type="checkbox"/> Series <input type="checkbox"/> Part Number
Affected Revision: IR	New Revision: A	Application:	<input type="checkbox"/> Safety <input checked="" type="checkbox"/> Non-Safety

Prior to Change:

GPS L1+L2+L5 : ACTIVE STACKED PATCH ANTENNA

APARC2511X-SGL2L5

Request Samples



Check Inventory



ESD Sensitive

25.0 x 25.0 x 12.4 mm

RoHS/RoHS II Compliant

MSL Level = N/A

Features

- Multiband GPS L1, L2, L5 Coverage
- High Gain LNA.
- Circular polarization.
- Compact Form Factor.
- Single Feed Stacked Patch
- Easy installation using IPEX Connector
(Customizable Cable and Connector Options)

Applications

- IoT
- M2M
- Logistics
- Navigation
- Geofencing
- Precision Farming
- Remote Monitoring
- Surveying and Mapping Systems

Electrical Specifications

Parameter	Specification			Unit	Note
	L1	L2	L5		
Operating Frequency	1575.42±1.023	1227.6±10	1176.45±10	MHz	
VSWR	1.53	2.24	2.09		
Gain	-3.5	-3	-4	dBi	Zenith
Impedance	50			Ω	
Polarization	RHCP				
Radiation Pattern	Omni-directional				Azimuth
LNA					
Noise Figure	1	0.9	1.3	dB	(+25°C±5°C)
Gain	29±3	30±3	27±3	dB	(+25°C±5°C)
Impedance	50			Ω	
VSWR	2.0				Max
Operating Voltage	3.0-5.0			V	
Current Consumption*	10			mA	Typ
	15			mA	Max

*Note : Current Consumption @3.3V

After Change:

GNSS L1/L2/L5 Internal Active Patch Antenna



APARC2511X-SGL2L5

Request Samples



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25 x 25 x 11.6 mm

RoHS Compliant

MSL Level = N/A

Electrical Specification

Parameters	Typ.			Units	Note
Antenna					
Frequency	1166.22 ~ 1186.68 (L5)	1212 ~ 1242 (L2)	1560 ~ 1590 (L1/E1)	MHz	
VSWR	≤ 2			-	
Polarization	RHCP			-	(Right Hand Circular Polarization)
Nominal Impedance	50			Ω	
Peak Gain	-3.2	-1.4	0.9	dBic	On 70 × 70 mm ground plane
Average Gain	-5.3	-3.8	-3.9	dBic	
Maximum Efficiency	33	43	46	%	
Average Efficiency	17	21	30	%	
LNA					
VSWR	≤ 2.0			-	
Gain	30 ± 3	27 ± 3	28 ± 3	dB	
Noise Figure	1.12	1.4	1.07	dB	
Supply Voltage	2.7	3.3	5.0	V	
Current Consumption	-	10	-	mA	

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

Updated test data

Cause/Reason for Change: Updated test data

Change Plan

Effective Date:

08/27/2025

Additional Remarks:

Change Declaration:

Issued Date:

08/27/2025

Issued By:

Allan

Issued Department:

Engineering

Approval:

Saravanan Subramanian
Engineering Manager

Approval:

Reuben Quintanilla
Quality Director

Approval:

Ying Huang
Purchasing Director

For Abracon EOL only

Last Time Buy (if applicable):

Alternate Part Number / Part Series:

Additional Approval:

Additional Approval:

Additional Approval:

Customer Approval (If Applicable)

Qualification Status:☐ Approved ☐ Not accepted*Note: It is considered approved if there is no feedback from the customer 1 month after ECN/PCN is released.***Customer Part Number:****Customer Project:****Company Name:****Company Representative:****Representative Signature:****Customer Remarks:**