

# LPCA-MIMO

Low Profile Combination Antenna 4 in 1  
MIMO 2/3/4G, WiFi and GNSS+  
Beidou, GPS, Glonass, Galileo, QZSS



LPCA-MIMO offer excellent RF performance in a discreet rugged, low profile design for use in telematics applications. The antenna platform is configurable enabling adaption to your antenna system need. LPCA-MIMO standard configuration contains two cellular band antennas designed for 698-960/1710-2690MHz functionality and could be configured with a dual feed GNSS antenna enabling excellent axial ratio and gain. Pre-filtered LNA ensures high functionality in a combination antenna. LPCA MIMO could also include a WiFi antenna. LPCA-MIMO antenna platform is designed to support multi system solutions for: Off-road vehicles, ambulances, forest machines and Internet On Board services.

## Features

- 4 in 1 antenna
- 2-/3-/4G 2x MIMO: 698-960MHz,1710-2690MHz
- WiFi / BT: 2400-2485MHz and 4915-6000MHz
- GNSS: 1559-1610MHz
- GPS, Galileo, Glonass, BeiDou, QZSS
- LNA gain 30dB with pre-filter
- IP67 class
- Cable approved according to ECE-R118

## Applications

- Track and trace
- Fleet management
- Navigation / Positioning
- V2X
- Cargo/load handling
- Internet On Board

**SMARTEQ**<sup>™</sup>  
WIRELESS

Smarteq, based in Stockholm, Sweden, is a leading developer of antennas and antenna systems for increased availability. Smarteq aims towards the market segments industry, energy and vehicles.

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## Specifications

### Electrical

#### Cellular 2- /3- /4G

Frequency band [MHz]	698 – 730	730 – 960	1710 – 2170	2500 – 2700
VSWR (typical)*	≤ 3 : 1	≤ 2.7 : 1	< 2.1 : 1	< 1.9 : 1
Peak gain*	4.5dBi	5.5dBi	6.5dBi	6.5dBi
Antenna efficiency*	~72%	~82%	~82%	~80%
Isolation Port 1 to 2	12 dB	16 dB	25 dB	30 dB
Correlation factor	<0.04 on ground plane			
Impedance	50Ω			
Polarization	Linear			
Radiation characteristics	Omnidirectional			
Max power	10W			
DC short	Yes			

#### GPS / Glonass / Galileo / Beidou

Frequency	1559 - 1610MHz	
Impedance	50Ω	
Polarization	RHCP	
VSWR	≤ 2:1	
Gain Passive (peak gain)	1585MHz	4.5dBic
	GPS	3.0dBic
	GLONASS	2.0dBic
	BEIDOU	1.5dBic
	GALILEO	2.0dBic
Active gain	30 ± 1 dB	
Noise figure	<2.5dB including pre-filter	
Supply voltage	2.5 - 6V	
Typical current consumption	8 - 10mA	

#### WiFi

Frequencies	2400-2485MHz / 4915-5875MHz	
Impedance	50Ω	
Polarization	Vertical	
Radiation characteristics	Omni	
VSWR	1.5:1 *	
Peak Gain*	2400-2485MHz	3.5dBi
	4900-6000MHz	6.5dBi



## Mechanical

Dimensions (L x W x H)	280 x 120 x 50mm	
Installation	Hole mount, Ø19mm Installation thickness ≤ 6mm	
Wight	~500 gram	
Cable type	RG316	
Connector	FAKRA-Male (Other connector type upon request)	
IP class	IP67	
Temperature	Storage / Operating	-40°C to +85°C

\*Measurements are made on Ø1m ground plan 0,1m cable.

## Selection of LPCA versions

Part number	Antenna color	Radio System	Cable length (m)	Connector	Code
710524	Black	Cellular-1	0.50	FAKRA-m	D
		Cellular-2	0.55		D
		GNSS+	0.60		C
710638	Black	Cellular-1	0.50	FAKRA-m	D
		Cellular-2	0.55		D
		GNSS+	0.60		C
		WiFi	0.45		I
710393	Black	Cellular-1	0.50	FAKRA-m	D
		Cellular-2	0.55		D
710394	Black	Cellular-1	0.50	FAKRA-m	D
		Cellular-2	0.55		D
		WiFi	0.45		I

## Other

REACH, RoHS compliant.

Certified according to 2014/53/EU Radio Equipment Directive (RED)

Type approval: E5 (ECE R10.5)

Smarteq reserves the right to change specifications without prior notice.

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Slitted nut



Extension nut to be used on  
LPCA with long screw  
enabling installation  
thickness 25-50mm

### Accessories

710598	Slitted nut
710206	Extension nut

### Extension cables

LL58	Part number	Connector	Gender	Code
2,5 meter	710606	FAKRA/SMA	Female/Male	Z/
	710608	FAKRA	Female/Male	D
	710609	FAKRA	Female/Male	C
	710610	FAKRA	Female/Male	I
5 meter	710607	FAKRA/SMA	Female/Male	Z/
	710611	FAKRA	Female/Male	D
	710612	FAKRA	Female/Male	C
	710613	FAKRA	Female/Male	I

Other antenna combinations and connector/cable lengths are available  
please contact Smarteq Sales for information