



# AllDisc Combi Antenna

4 in 1: MIMO LTE / 5G, WiFi 6E, GNSS+

AllDisc Combi MIMO antenna platform can be configured to support several antenna systems; Cellular MIMO 2x2 LTE / 5G, GPS/GLONASS/Galileo or MIMO Wifi-6E in a low profile casing with durable design IP6K9K. It is ground plane independent and enables flexible and easy installation, making it perfect for fleet management, track and trace, navigation, cargo handling and V2X. Dual feed GNSS antenna enables excellent Axial ratio and gain. Pre-filtered LNA ensures functionality in a combination antenna. The superior RF performance enables high connectivity and throughput. The AllDisc has been successfully tested for durability according to Volkswagen automotive test standards.

## Features

- 5G and Wifi 6E
- Cellular Main: 617-960 / 1710-2690MHz and 3300-3800MHz
- Cellular Secondary/ WIF-6E: 1427-7200MHz
- GNSS: GPS, Galileo, Glonass, BeiDou
- LNA gain 30dB with pre-filter
- IP6K9K class
- Approved according to ECE-R118
- Designed in Sweden with design registration

## Applications

- Public safety
- Track and trace
- Fleet management
- Navigation / Positioning
- V2X
- Cargo/load handling

**SMARTEQ™**

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.



## Specifications

### Electrical

#### Cellular Main LTE/5G

| Frequency band [MHz]              | 617 – 698       | 698 – 960     | 1710 – 2690 | 3300 - 3800 |
|-----------------------------------|-----------------|---------------|-------------|-------------|
| VSWR* (typical)                   | $\leq 3 :1$     | $\leq 2.7 :1$ | $< 2.1 :1$  | $< 1.9 :1$  |
| Peak gain* [dBi]                  | 1dBi            | 5.5dBi        | 4.5dBi      | 6.5dBi      |
| Antenna efficiency*               | ~40%            | ~65%          | ~77%        | ~66%        |
| Isolation Port 1 to 2             | 12 dB           | 16 dB         | 25 dB       | 30 dB       |
| Correlation factor                | <0.04           |               |             |             |
| Impedance                         | 50Ω             |               |             |             |
| Polarization                      | Linear          |               |             |             |
| Radiation characteristics         | Omnidirectional |               |             |             |
| Max power (ambient temp. of 25°C) | 10W             |               |             |             |
| DC short                          | Yes             |               |             |             |
| Impedance                         | 50Ω             |               |             |             |
| Polarization                      | Vertical        |               |             |             |

#### 2x Cellular Secondary / Wifi 6E

| Frequency band [MHz]              | 1427-1510       | 1710-2690 | 3300-5000 | 4900-7200 |
|-----------------------------------|-----------------|-----------|-----------|-----------|
| VSWR* [typical]                   | 2:1             | 2:1       | 2:1       | 2:1       |
| Peak gain' [dBi]                  | 4,5             | 6         | 6.5       | 9,5       |
| Antenna efficiency*               | 70%             | 75%       | 70%       | 70%       |
| Isolation Port 1 to 2             |                 |           |           |           |
| Correlation factor                | <0.04           |           |           |           |
| Impedance                         | 50Ω             |           |           |           |
| Polarization                      | Linear          |           |           |           |
| Radiation characteristics         | Omnidirectional |           |           |           |
| Max power (ambient temp. of 25°C) | 10W             |           |           |           |
| Impedance                         | 50Ω             |           |           |           |
| Polarization                      | Vertical        |           |           |           |

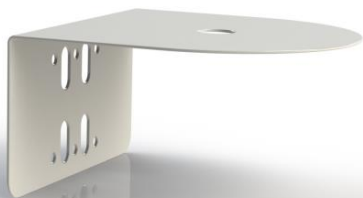
**GNSS**

|                             |                                               |         |
|-----------------------------|-----------------------------------------------|---------|
| Frequencies                 | 1559 - 1610MHz                                |         |
| Impedance                   | 50Ω                                           |         |
| Polarization                | RHCP                                          |         |
| VSWR                        | < 2.0:1                                       |         |
| Gain Passive<br>(peak gain) | 1585MHz                                       | 4,5dBic |
|                             | GPS                                           | 3.0dBic |
|                             | GLONASS                                       | 2.0dBic |
|                             | BEIDOU                                        | 1.5dBic |
|                             | GALILEO                                       | 2.0dBic |
| Gain Active                 | 30 ± 1dB                                      |         |
| Noise figure                | < 2.5dB with pre-filter (1.2dB no pre-filter) |         |
| Out of band rejection       | < 960MHz                                      | > 60dB  |
|                             | > 1710MHz                                     | > 60dB  |
| Compression point           | -20 dBm                                       |         |
| Supply Voltage              | 2.4-6V                                        |         |
| Current Consumption         | 8-10mA                                        |         |

**Mechanical**

|                 |                                 |                |
|-----------------|---------------------------------|----------------|
| Dimension (dxh) | 138 x 55mm                      |                |
| Installation    | Hole mount with center screw    |                |
|                 | Hole dimension Ø19mm            |                |
|                 | Installation thickness ≤ 8.5mm  |                |
|                 | Min. installation radius 2000mm |                |
| Cable           | RG316                           |                |
| Weight          | ~200g                           |                |
| IP class        | IP6K9K                          |                |
| Temperature     | Storage                         | -40°C to +85°C |
|                 | Operating                       | -40°C to +85°C |

| Part number | Radio System      | Cable length (m) | Connector | Code |
|-------------|-------------------|------------------|-----------|------|
| 710679      | LTE Main          | 0.20             | FAKRA-m   | D    |
|             | GNSS+             | 0.25             |           | C    |
|             | LTE Sec / WIFI 6E | 0.30             |           | I    |
|             | LTE Sec / WIFI 6E | 0.35             |           | I    |
| 710680      | LTE Main          | 0.20             | FAKRA-m   | D    |
|             | LTE Sec / WIFI 6E | 0.30             |           | I    |
|             | LTE Sec / WIFI 6E | 0.35             |           | I    |
| 710681      | LTE Main          | 0.20             | FAKRA-m   | D    |
|             | LTE Sec / WIFI 6E | 0.30             |           | I    |



AllDisc bracket



Slitted nut



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

### Accessories

#### Part number

|        |                       |
|--------|-----------------------|
| 710452 | Alldisc Bracket White |
| 710598 | Slitted nut           |
| 710206 | Extension nut         |

### Extension cables

| Part number | Cable<br>LL58 | Connector | Gender        | Code |
|-------------|---------------|-----------|---------------|------|
| 710606      | 2.5m          | FAKRA/SMA | Female/Male   | Z/   |
| 710608      | 2.5m          | FAKRA     | Female/Female | D    |
| 710609      | 2.5m          | FAKRA     | Female/Female | C    |
| 710610      | 2.5m          | FAKRA     | Female/Female | I    |
| 710607      | 5.0m          | FAKRA/SMA | Female/Male   | Z/   |
| 710611      | 5.0m          | FAKRA     | Female/Female | D    |
| 710612      | 5.0m          | FAKRA     | Female/Female | C    |
| 710613      | 5.0m          | FAKRA     | Female/Female | I    |

### Other

RoHS compliant

REACH 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.