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IoA - IoT for Antennas
IoT Antenna Sensor

Attach and Monitor

IoA – IoT for Antennas is an IoT antenna sensor that monitors alignment in three dimensions: azimuth, tilt and roll. IoA utilizes LTE CAT-M1/NB-IoT to alert users of any undesired changes to antennas being monitored.

Real-Time Antenna Alignment Monitoring

IoA offers real-time antenna alignment monitoring on all wireless network antenna arrays. Data captured with IoA's patented monitoring technology is made available over the cloud, allowing operators to remotely view the history of all physical antenna alignment changes.

From the Field to Your Desk

Each antenna can be individually identified on a tower or throughout the entire network. With IoA, operators can set thresholds for changes in azimuth, tilt and roll. When these thresholds are exceeded, an alarm will be generated, and the operator will be notified immediately. In case of emergencies, priority lists can be easily created using available alignment data, allowing for faster disaster recovery.

KEY FEATURES

- LTE CAT-M1/NB-IoT ready
- Firmware upgradeable over the radio interface
- E-paper display for status and alerts
- 5+ year battery life1
- IP67 rated
- Alarm capable
- Weather-resistant adhesive
- No maintenance required
- Cloud data storage

Easy to Set Up

Installing IoA is a quick process designed with the technician in mind. Simply insert an IoT-enabled SIM card and attach IoA to the back of the antenna to start reporting antenna alignment data to the cloud. Use the software to set alignment thresholds.

General Specifications

Accuracy	
Azimuth	1° RMS
Mechanical Tilt	1° RMS
Roll	1° RMS
Remote Monitoring	
User-defined alarm thresholds	
3D antenna view	
E-paper display	
Power	
Battery	3.7 VDC
Battery Life[1]	5+ years
Dimensions	
Length	5.2" (132 mm)
Width 2"	(48.5 mm)
Height[2]	1" (26 mm)
Weight	3.8 oz (108 g)
Adhesion to Antenna	
High strength bonding tape	
Instant bond	
Extreme temperature and UV resistant	
Expansion and contraction	
20+ year bonding	
Compliance	
LTE CAT-M1/NB-IoT	
FCC Part 15 compliant	
IC & CE compliant	
RF Specifications	
Output Power	UE Class 3 (23dBm); according to 3GPP TS 36.521-1
Modulation	QPSK
Antenna Type	SMD chip antenna
Antenna Gain	
698-798 MHz: Peak: 0.4dBi, Average: -2.0dBi	
824-960 MHz: Peak: 1.6dBi, Average: -1.1dBi	
1710-2170 MHz: Peak: 3.5dBi, Average: -2.0dBi	

Frequencies/Bands	
Band 2	1850-1910 MHz Up, 1930-1990 MHZ Down
Band 3	1710-1785 MHz Up, 1805-1880 MHZ Down
Band 4	1710-1755 MHz Up, 2110-2155 MHZ Down
Band 5	824-849 MHz Up, 869-894 MHZ Down
Band 8	880-915 MHz Up, 925-960 MHZ Down
Band 12	699-716 MHz Up, 729-746 MHZ Down
Band 13	777-787 MHz Up, 746-756 MHZ Down
Band 17	704-716 MHz Up, 734-746 MHZ Down
Band 20	832-862 MHz Up, 791-821 MHZ Down
Band 28	703-748 MHz Up, 758-803 Mhz Down

Technical Support

Professional training and technical support are available to guarantee the best user experience. Contact your sales representative for more information.

Ordering Information

Description	Part Number
IoA - IoT for Antennas	3Z-IoA-1000

1. Depending on reporting frequency.
2. 0.6" (14.5 mm) at the thinnest part and 1" (26 mm) on the thicker end.

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