



ADC-JAM2000 LoRa Antenna Datasheet

Antenna Type: Microstrip PCB Trace

Antenna Frequency Range: 863 – 928 MHz

1. Description

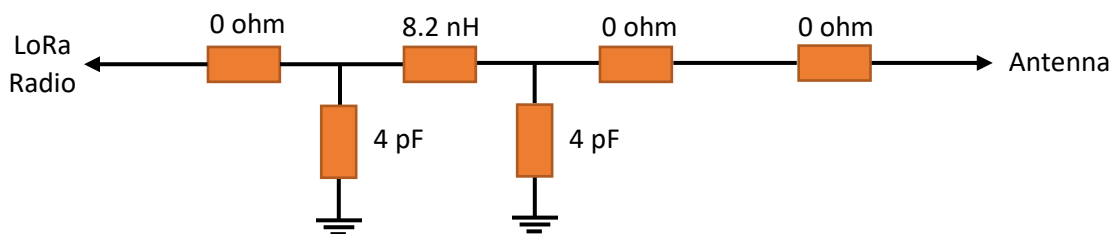
The Alarm.com ADC-JAM2000 uses a microstrip PCB trace antenna for LoRa. The purpose of this datasheet is to provide antenna specifications for the 863-928 MHz frequency band.

2. Key Specifications

Frequency Range	863 – 928 MHz
Peak Gain	3.77 dBi at 863 MHz
VSWR	< 3.0:1
Impedance	50 ohm
Polarization	Linear

Frequency (MHz)	Antenna Efficiency (%)	Peak Gain (dBi)
863	75.595	3.774
865.1	60.482	2.681
867.5	58.753	2.395
869.525	57.329	2.599
902.3	59.022	2.213
914.9	51.307	1.809
927.5	65.691	2.318

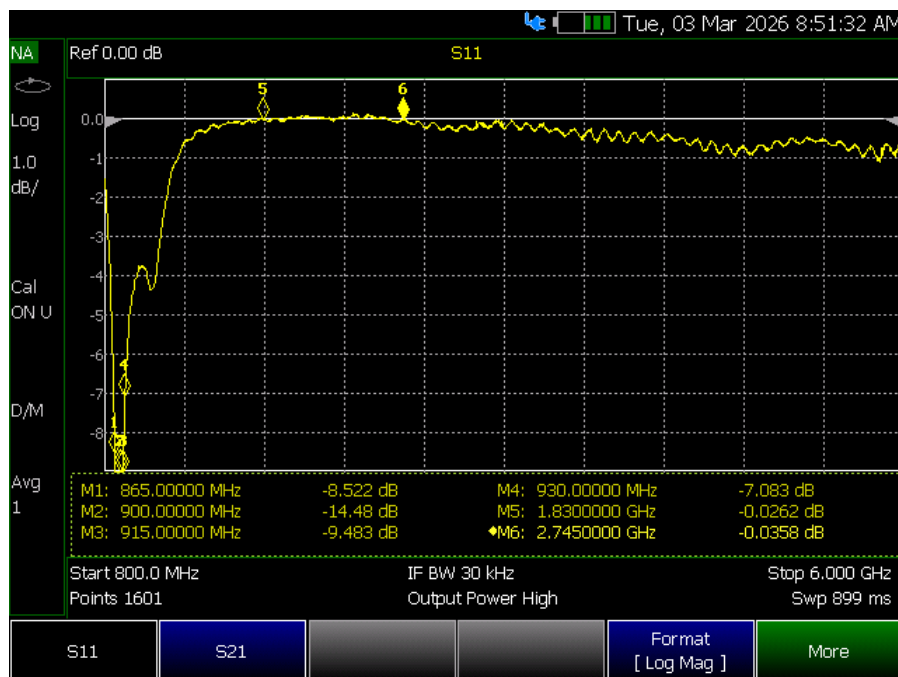
3. Matching Circuit



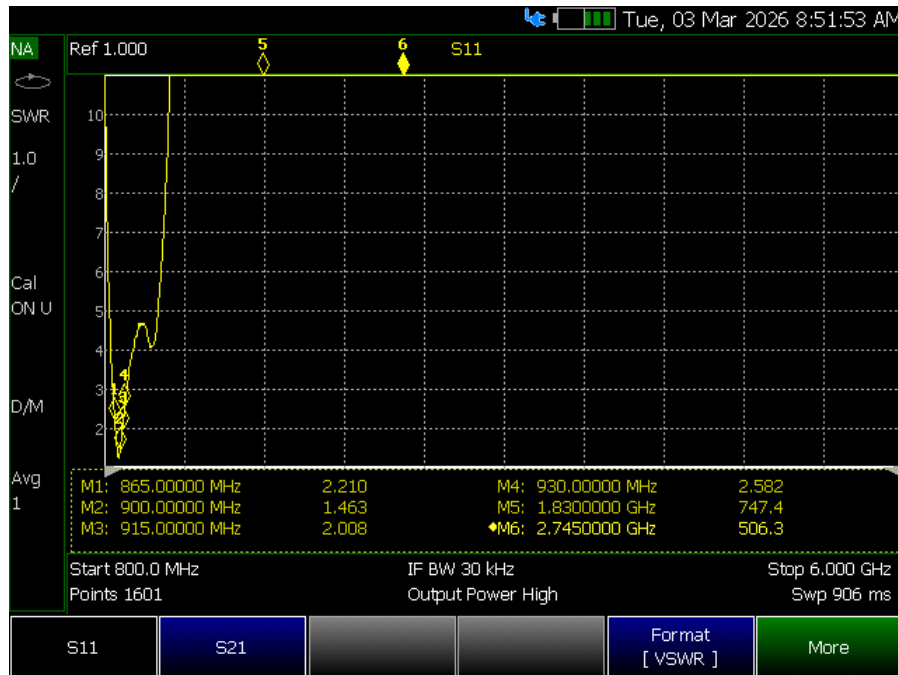
4. S11 Measurements

Equipment	Manufacturer	Model	Serial Number	Cal Date
Network Analyzer	Keysight	N9912A	US48310257	May 2025

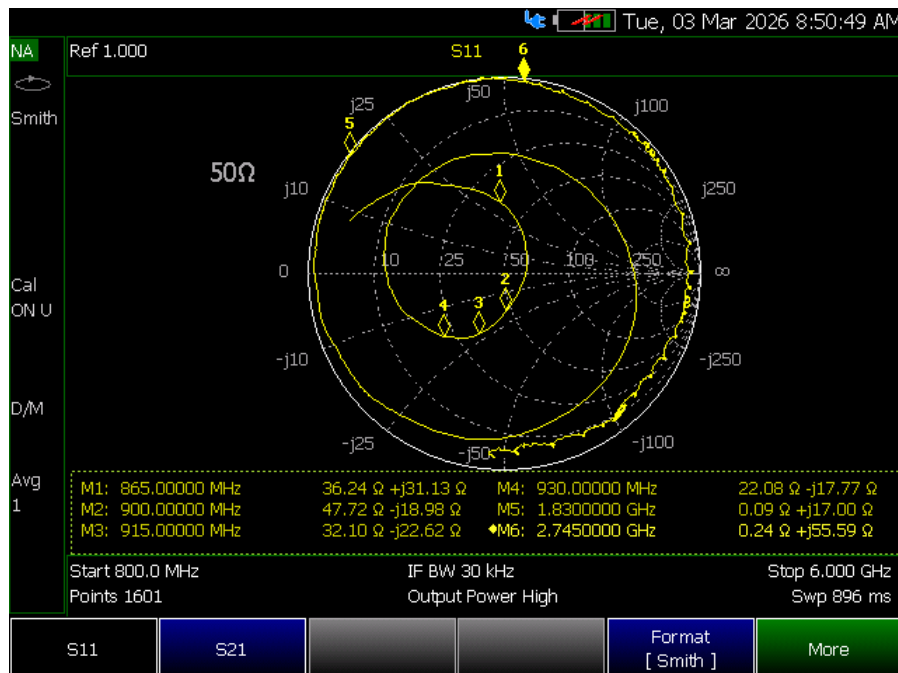
Return Loss



VSWR



Impedance



5. Radiation Pattern Measurements

Equipment	Manufacturer	Model	Serial Number	Cal Date
Spectrum Analyzer	Tektronix	RSA507A	B010176	January 2026

Test Dates: April 16, 2026

Radiation pattern measurements are tested with the LoRa radio transmitting at target power 22 dBm. The results presented here are normalized to 0 dBm.

Frequency (MHz)	TRP (dBm)	EIRP (dBm)	Antenna Efficiency (%)	Peak Gain (dBi)
863	-1.215	3.774	75.595	3.774
865.1	-2.184	2.681	60.482	2.681
867.5	-2.310	2.395	58.753	2.395
869.525	-2.416	2.599	57.329	2.599
902.3	-2.290	2.213	59.022	2.213
914.9	-2.898	1.809	51.307	1.809
927.5	-1.825	2.318	65.691	2.318

