

VLVDFA1R Antenna Report

Antenna details

The primary antenna is a non-resonant fractal chip style antenna. The secondary antenna is a PCB patch style antenna array, used for Bluetooth Direction Finding. Both antennas are connected to individual nRF52833 Bluetooth Low Energy radios capable of operating in the 2402 - 2480 MHz frequency range at up to +10 dBm output power.

Classification of Radio Equipment

Primary Radio

Class: 2.4 GHz Bluetooth Low Energy

Frequency: F1D 2402 MHz - 2480 MHz

Channels: 2402 MHz, 2404 MHz, ..., 2478 MHz, 2480 MHz
(40 channels, 2 MHz Separation)

Modulation: GFSK

Antenna Details:

Type: Fractal chip

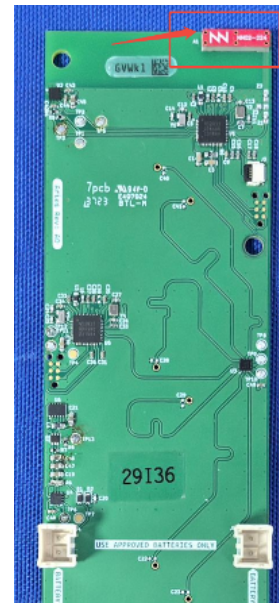
Efficiency: 75%

Peak Gain: 3.8 dBi

Model: NN02-224

Manufacturer: Ignion

Address: Calle Jesús Serra Santamans, 2-4-6-8,
Edificio 2, Planta 3ª, Spain



Secondary Radio

Class: 2.4 GHz Bluetooth Low Energy

Frequency: F1D 2402 MHz - 2480 MHz

Channels: 2402 MHz, 2404 MHz, ..., 2478 MHz, 2480 MHz
(40 channels, 2 MHz Separation)

Modulation: GFSK

Antenna Details:

Type: 3-element linear array (PCB Patch)

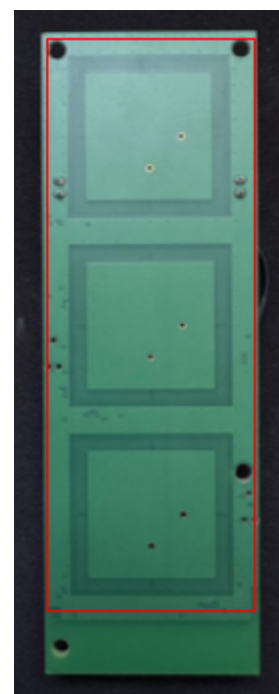
Efficiency: 45%

Peak Gain: 1.8 dBi

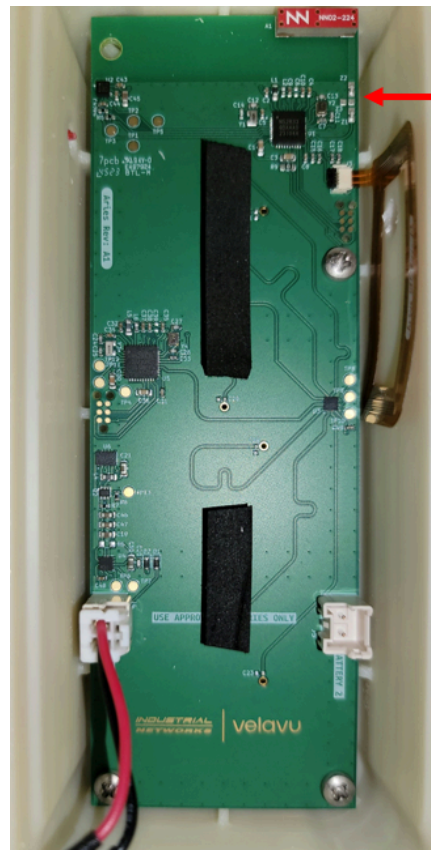
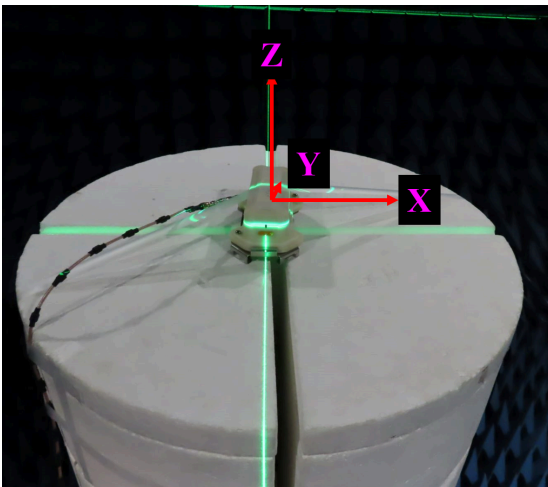
Model: ANT-PATCH-2424

Manufacturer: Velavu

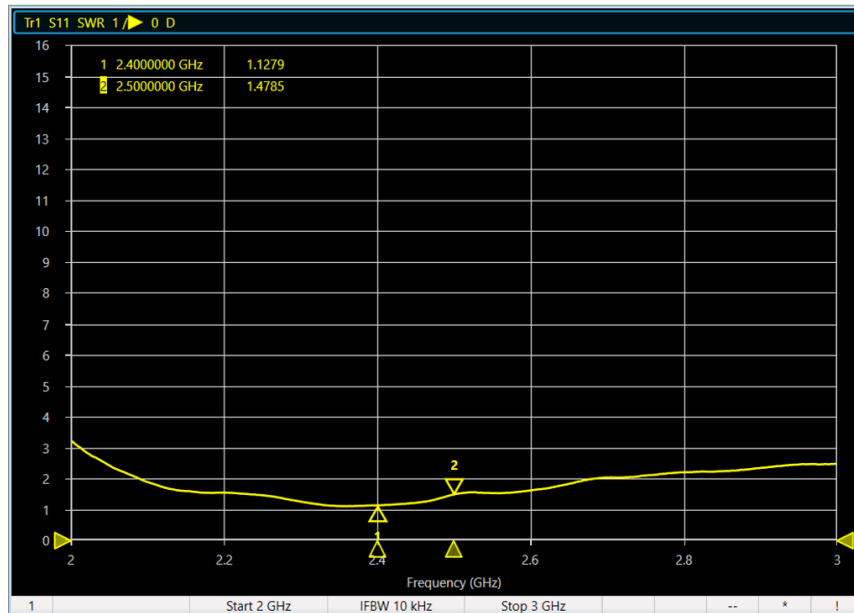
Address: 168 Dalhousie St, Ottawa, ON, Canada



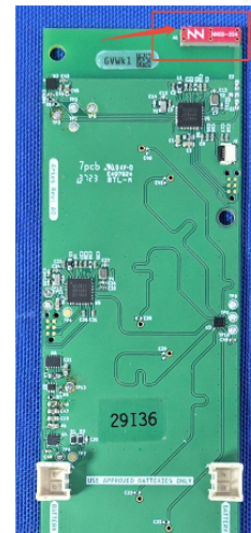
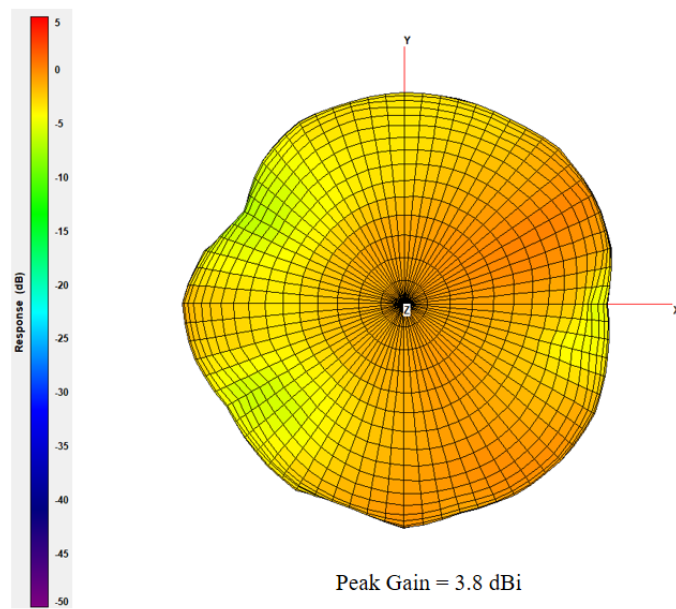
Test Setup



Results - VSWR, Radiation Pattern



3D Radiation Patterns for Aries Primary BLE Antenna



3D Radiation Patterns for Aries Secondary BLE Antenna

