

ANT Datasheet



HL GLOBAL

PRELIMINARY ENGINEERING DATASHEET

SA06LWEG01RA

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Datasheet Revision History

Revision	Date	Change Log
SA06LWEG01RA/ Rev.1	28 th /Apr /2022	Preliminary Datasheet 1.0
SA06LWEG01RA/ Rev.2	18 th /May /2022	Update Product Photographs and Principal Dimensions and Assembly Drawing

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1. Antenna Product Description

SA06LWEG01RA Embedded Antenna features provides a high performance, off-board and cable feeding antenna solution. It was designed for 2x LTE antenna (700—960MHz, 1710—1990 MHz, 2110—2200 MHz, 2500-2700 MHz), 2x 2.4/5G WIFI (2400-2490 MHz, 5150-5850 MHz), 1 x BLE(2400-2490 MHz), 1x GNSS (GPS L1 1575.42 $\pm$ 2 MHz, GLONASS L1 1602.5625 $\pm$ 4 MHz).

2. Features Overview

SA06LWEG01RA Embedded Antenna features

- Covering 2x LTE antenna (700—960MHz, 1710—1990 MHz, 2110—2200 MHz, 2500-2700 MHz), 2x 2.4/5G WIFI (2400-2490 MHz, 5150-5850 MHz), 1 x BLE(2400-2490 MHz), 1x GNSS (GPS L1 1575.42 $\pm$ 2 MHz, GLONASS L1 1602.5625 $\pm$ 4 MHz) freq
- 1.0dBi@LTE-B_0.746GHz; 3.5dBi@ LTE-B_1.745GHz; 4.2dBi@ LTE-B_2.11GHz; 5.1dBi@ LTE-B_2.69GHz;
- 1.1dBi@LTE-W_0.769GHz; 3.8dBi@ LTE-W_1.95GHz; 2.9dBi@ LTE-W_2.17GHz; 4.3 dBi@ LTE-W_2.55GHz;
- 4.5dBi@WIFI-W_2.47GHz; 6.4dBi@WIFI-W_5.75GHz;
- 4.5dBi@WIFI-G_2.49GHz; 7.2dBi@WIFI-G_5.55GHz;
- 3.4dBi@BLE_2.48GHz;
- 28.74dBi@GNSS_1.575GHz ;30.34dBi@GNSS_1.602GHz.
- Superior performance
- Off-board, low profile design
- Low Cost, High performance



4. Antenna Specification Summary

Wireless Standard	LTE,WIFI,BLE,GNSS
Frequency Range	2x LTE antenna (700—960MHz, 1710—1990 MHz, 2110—2200 MHz, 2500-2700 MHz) , 2x 2.4/5G WiFi (2400-2490MHz,5150-5850 MHz) ,1 x BLE(2400-2490 MHz),1x GNSS (GPS L1 1575.42 ±2 MHz, GLONASS L1 1602.5625±4 MHz)
Peak Realized Gain	1.0dBi@LTE-B_0.746GHz; 3.5dBi@ LTE-B_1.745GHz; 4.2dBi@ LTE-B_2.11GHz; 5.1dBi@ LTE-B_2.69GHz; 1.1dBi@LTE-W_0.769GHz; 3.8dBi@ LTE-W_1.95GHz; 2.9dBi@ LTE-W_2.17GHz;4.3 dBi@ LTE-W_2.55GHz; 4.5dBi@WIFI-W_2.47GHz; 6.4dBi@WIFI-W_5.75GHz; 4.5dBi@WIFI-G_2.49GHz; 7.2dBi@WIFI-G_5.55GHz; 3.4dBi@BLE_2.48GHz; 28.74dBi@GNSS_1.575GHz ;30.34dBi@GNSS_1.602GHz.
Realized Efficiency	62%@LTE-B_0.746GHz; 48%@ LTE-B_1.745GHz;46 %@ LTE-B_2.11GHz; 51%@ LTE-B_2.69GHz; 55%@LTE-W_0.769GHz; 50%@ LTE-W_1.95GHz; 42%@ LTE-W_2.17GHz;38%@ LTE-W_2.55GHz; 63%@WIFI-W_2.47GHz;68%@WIFI-W_5.75GHz; 65%@WIFI-G_2.49GHz;68%@WIFI-G_5.55GHz; 47%@BLE_2.48GHz
Return Loss	LTE>3dB;WIFI>7dB;BLE>10dB;GNSS>10dB.
Polarization	Linear Polarization
Radiation Pattern	Omni-directional
Feed Impedance	50Ω
Power Handling	30dBm
Antenna Structure	Metal
Feeding Description	Cable Feeding
Antenna Dimensions	210.2*210.2*24.11(mm)
Weight	210.0g
Temperature Range	Operating temperature: -40° C to +75° C (-40° F to +167° F) Storage temperature: -40° C to +85° C (-40° F to +185° F)

Table 1. SA06LWEG01RA antenna specification summary.

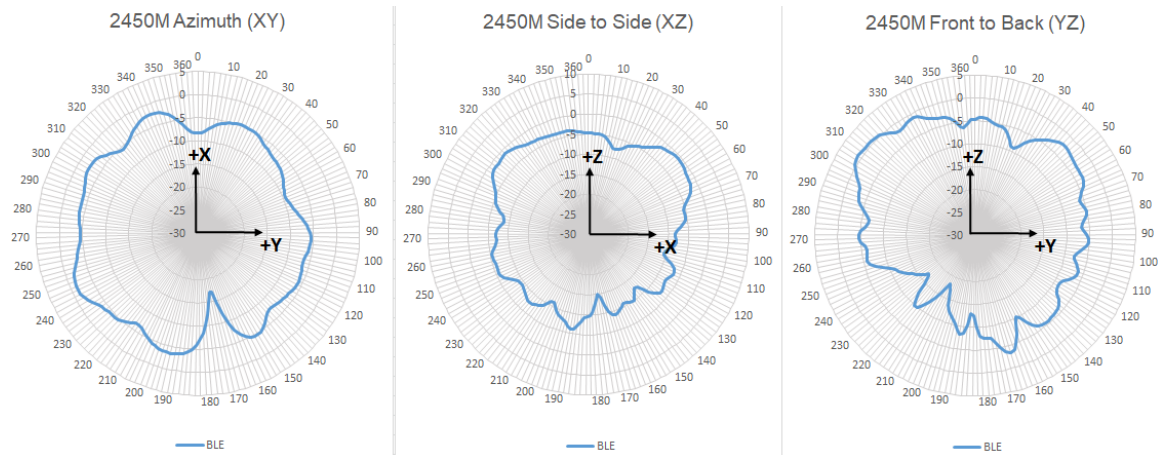


Figure 11. Measured radiation pattern characteristics in principal planes at BLE@2450MHz .

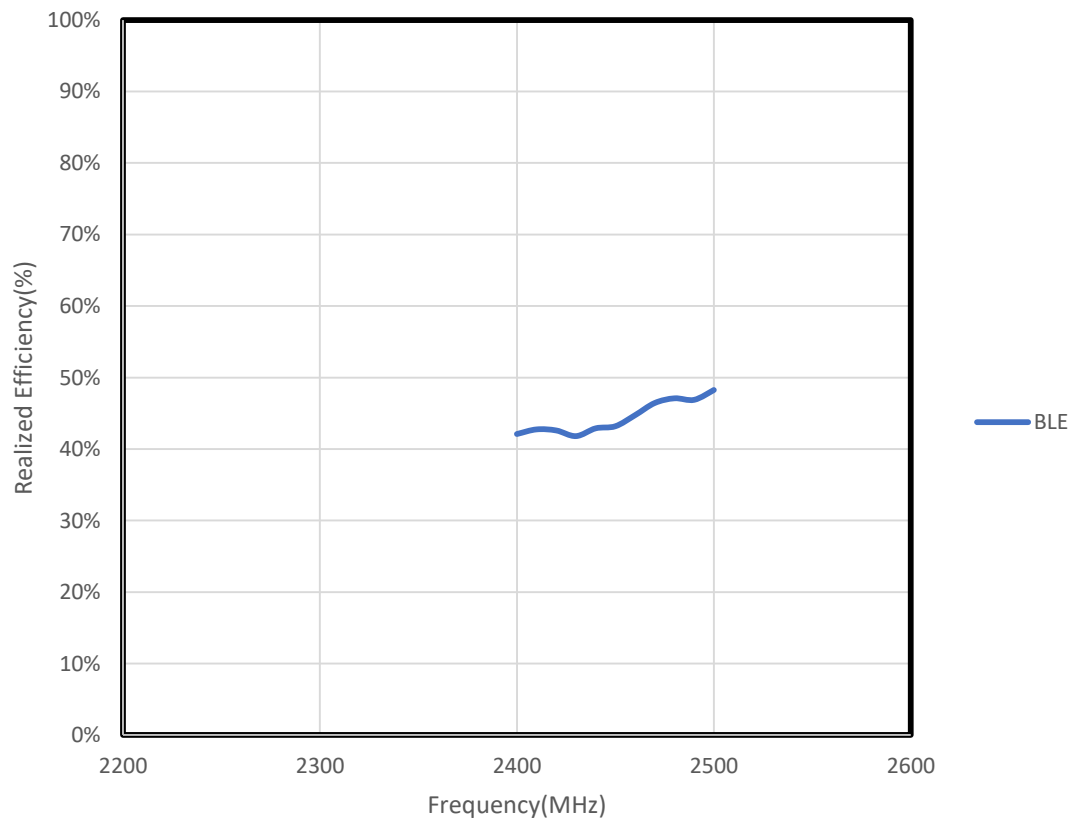


Figure 13.Measured Realized Efficiency over frequency.

