MSA Altair io6 Gas Detector LDS LTE Antenna Datasheet

Antenna Info

Antenna Manufacturer

Pulse/Yageo

Antenna Part Number

10249934

Gain

Table 1 Antenna type and gain data. Data taken from FS device tested at Dekra in May of 2025. If data wasn't provided for an EU band, the nearest NA band was used to give a conservative estimate for that frequency range (knowing the antenna is well tuned to the NA bands).

Antenna	Type	Tx Frequency (MHz)	Peak Gain (dBi)
LTE	PIFA	B12(699-732)	+1.0
LTE	PIFA	B28 (703-748)	+1.0
LTE	PIFA	B13 (777-787)	+1.3
LTE	PIFA	B5/B26(814-848)	+1.3
LTE	PIFA	B20 (832-862)	+1.3
LTE	PIFA	B8 (880-915)	+1.3
LTE	PIFA	B3/B4 (1710-1785)	+0.5
LTE	PIFA	B1/B2 (1850-1980)	+0.5

Impedance

50Ω

Image/Drawing

The LTE LDS antenna is highlighted in yellow in the drawing below. It is on the south end of the io6 device.

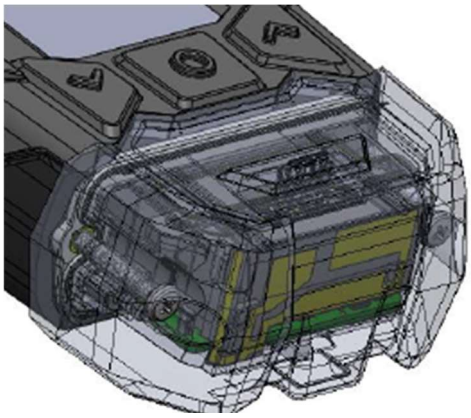

Figure 1 Image of LTE antenna (shown in yellow)

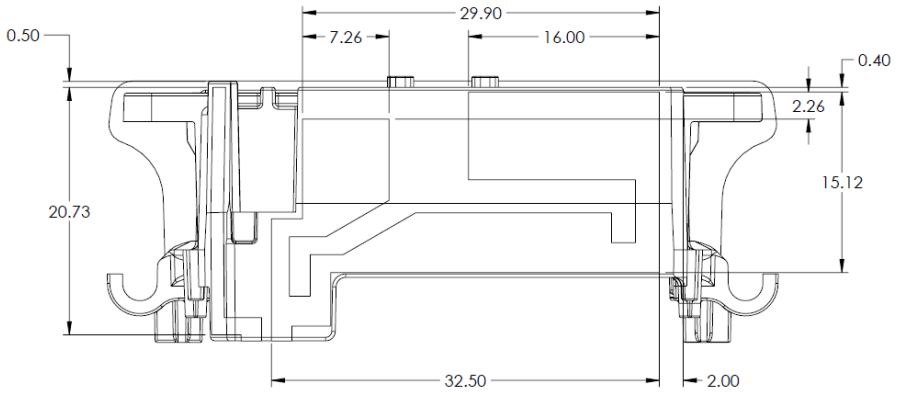

Figure 2 Drawing of LTE Antenna

3D Radiation Patterns

Radiation patterns were taken from TRP results with the LTE SARA-R520 modem transmitting at +23dBm output power. Free space results are shown first, followed by right-hand (RH) test results and left-hand (LH) test results.

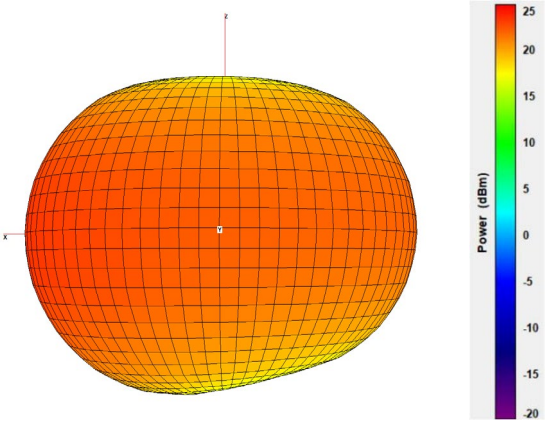

Figure 3 Free space radiation at B12 mid channel 707MHz (tested May 2025).

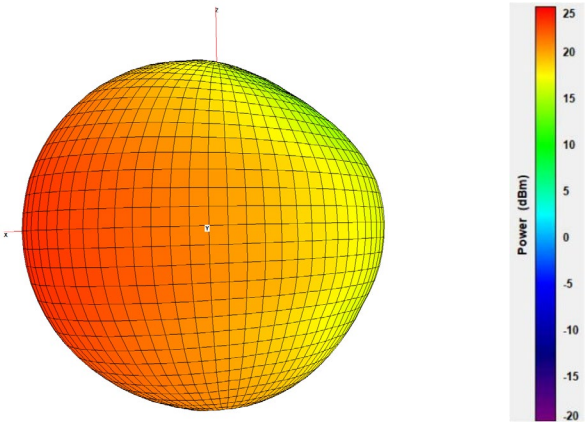

Figure 4 Free space radiation Pattern at B13 mid channel 782MHz (tested May 2025).

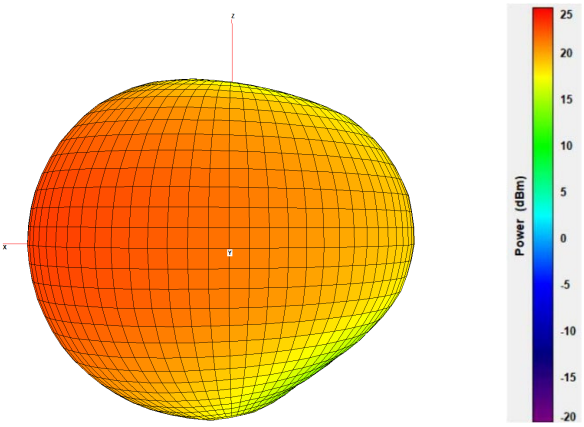

Figure 5 Free space radiation pattern at B5 mid channel 836MHz (tested May 2025).

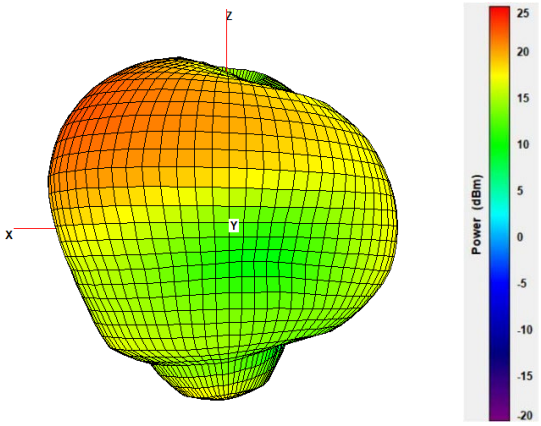

Figure 6 Free space radiation at B4 mid channel 1732MHz (tested May 2025).

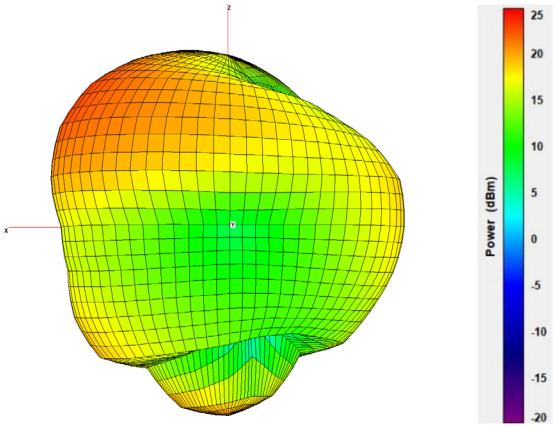

Figure 7 Free space radiation at B2 mid channel 1880MHz (tested May 2025).

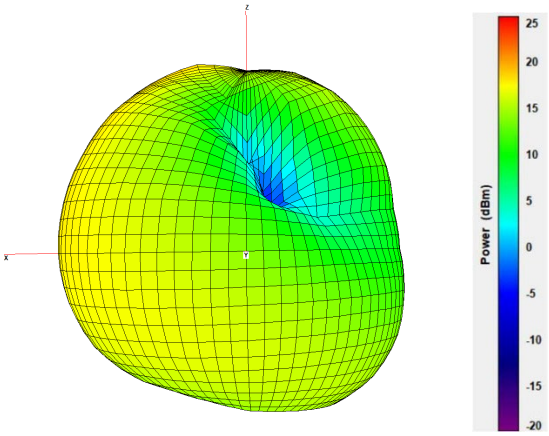

Figure 8 RH radiation pattern at B12 mid channel 707MHz (tested May 2025).

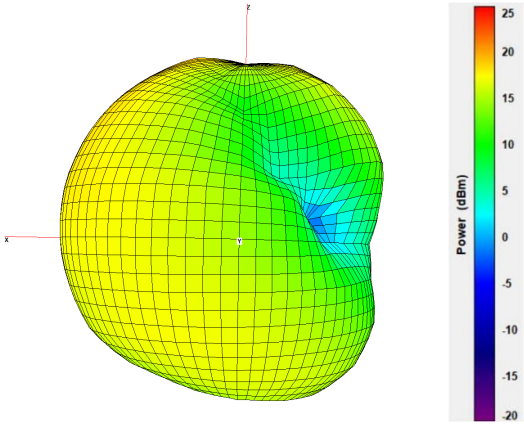

Figure 9 RH radiation pattern at B13 mid channel 782MHz (tested May 2025).

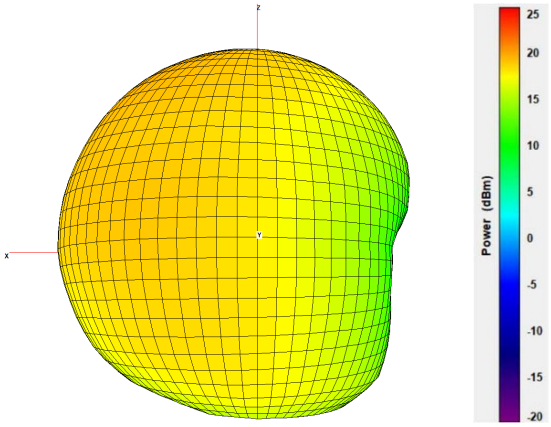

Figure 10 RH radiation pattern at B5 mid channel 836MHz (tested May 2025).

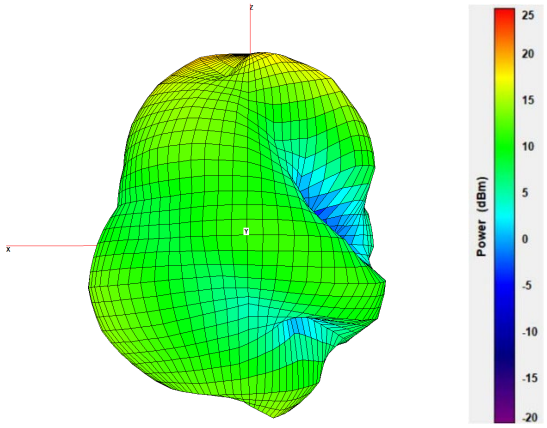

Figure 11 RH radiation pattern at B4 mid channel 1732MHz (tested May 2025).

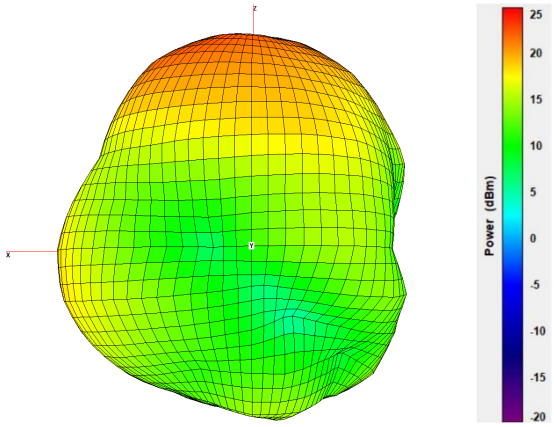

Figure 12 RH radiation pattern at B2 mid channel 1880MHz (tested May 2025).

Figure 1 Left-hand (LH) configuration OTA test setup

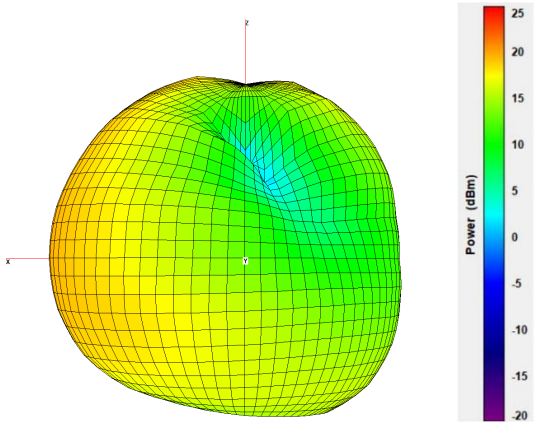

Figure 13 LH radiation pattern at B12 mid channel 707MHz (tested May 2025).

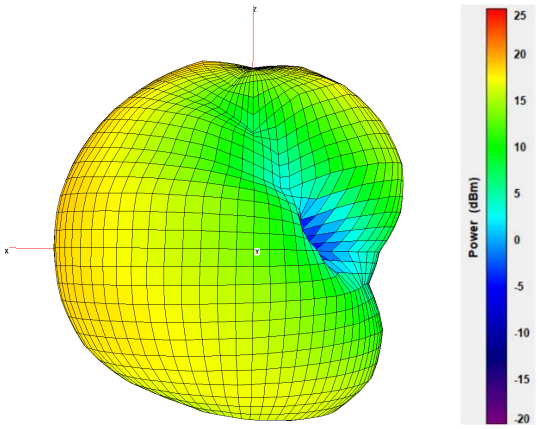

Figure 14 LH radiation pattern at B13 mid channel 782MHz (tested May 2025).

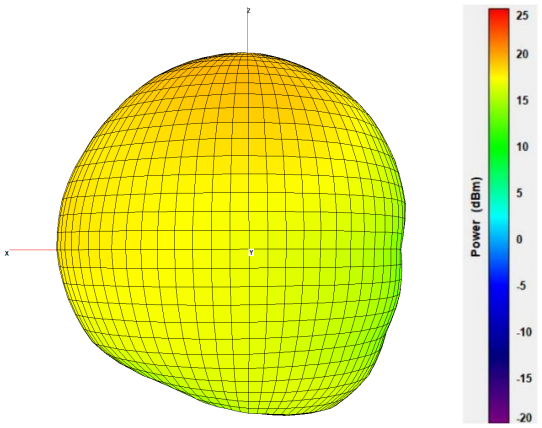

Figure 15 LH radiation pattern at B5 mid channel 836MHz (tested May 2025).

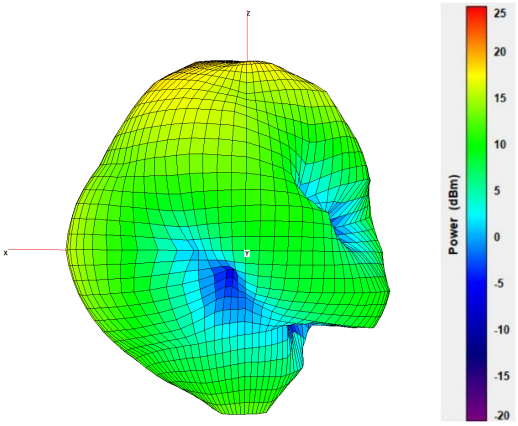

Figure 16 LH radiation pattern at B4 mid channel 1732MHz (tested May 2025).

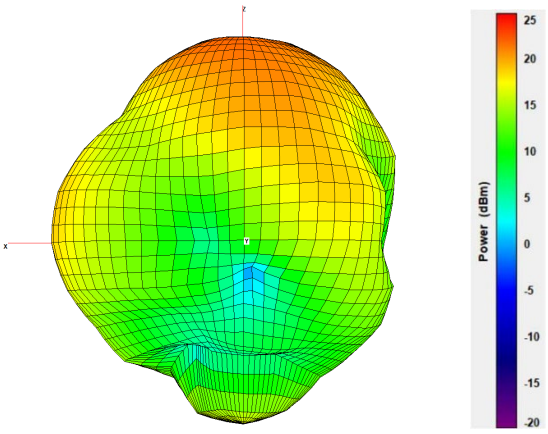

Figure 17 LH radiation pattern at B2 mid channel 1880MHz (tested May 2025).