

## Antenna Butterfly-4G for LTE-4G (LTE-3,7,8) signals

as well as for GSM-900, GSM-1800, Wi-Fi, BT



*Figure 1 Antenna 3D EM Model and Photo*

### General information

This antenna is designed for optimal LTE reception on three LTE frequency channels - 3,7,8 or any other RF signals between 470 and 3000 GHz (GSM, Wi-Fi, T2 ()). The antenna has a very slender shape, uses lightweight materials. The device has a modern design, can be installed horizontally or vertically (placed on the wall, mounted on a pipe or rack on the table (fastening means 1)), placed directly on the connector of the device. The contacts of the material are varnished for use in the environment.

Application: LTE - 3, LTE-7, LTE - 8 and other signals operating in the frequency range (470-3000 MHz)

### Features

- Small, compact size compared to other antennas (possibility of mounting the antenna on a vertical plane with 2 upper holes)
- Possibility of fastening on a pipe or a rack
- High efficiency
- Broadband frequency range
- Possibility of integration of Maschkygdf1 connectors of different types of SMA, RP-SMA and F-connector
- Modern design

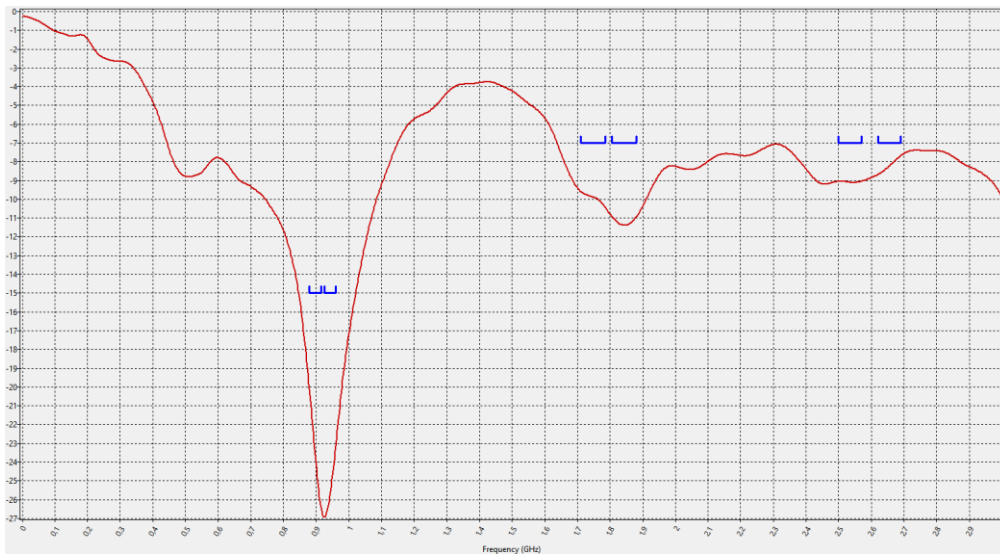
### Specification

- Impedance: 50 (or 75 for T2)
- Dimensions: 130x220x4mm (without connector)
- Operating frequency range: from 470 to 3000 MHz
- Gain: up to 2-5 dBi
- Type of radiation: toroidal - at a frequency of 900MHz
- Matching (reflection coefficient S11): better than -7.5 dB in three LTE-3-7-8 bands
- Connector type: SMA (SMA-13) - another SMA or F-type can be used
- Polarization type: horizontal (antenna has a marker)
- Beam width: 80 ° / 360 ° - at a frequency of 900 MHz

**Typical characteristics in 4G-LTE reception frequencies**

Frequency Range (MHz)	Max Gain (dBi)	Return Loss (worst case in band) (dB)	Impedance (Ohm)	Operating temperature (Celsius degree)
(LTE-8)- 880-960	3.0 (Peak)	-15	50	-85 to 55
(LTE-7)- 1710-1880	3.7 (Peak)	-9	50	-85 to 55
(LTE-3)- 2500-2690	4.5 (Peak)	-7.5	50	-85 to 55

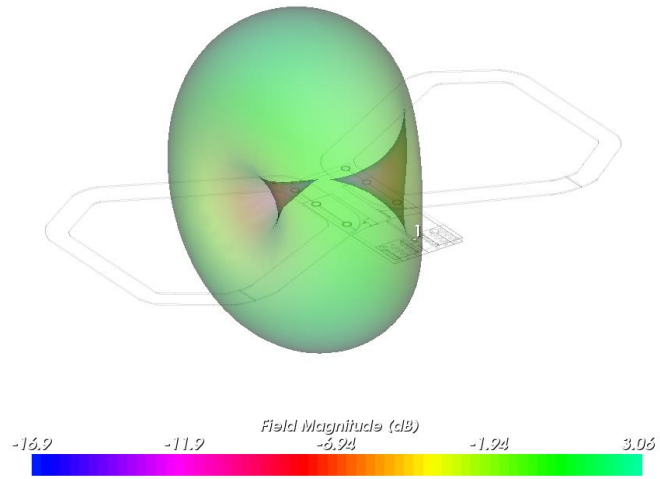
**Typical electrical characteristics (T = 25 ° C)**



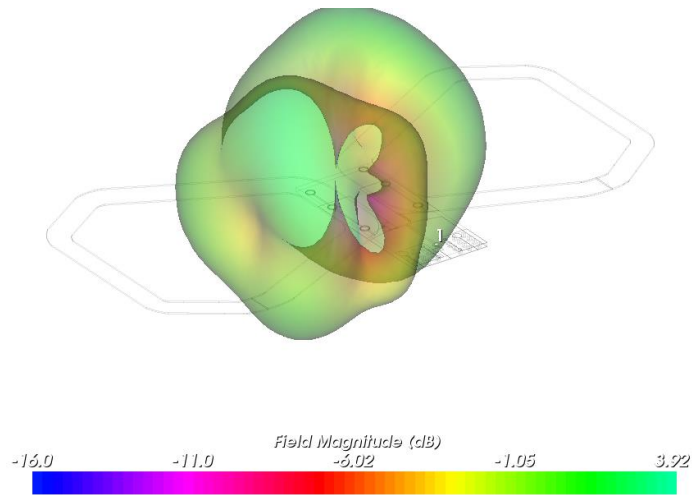
**Figure 1 Antenna Matching (S11) vs Frequency, GHz, Measurements**

**Precautions**

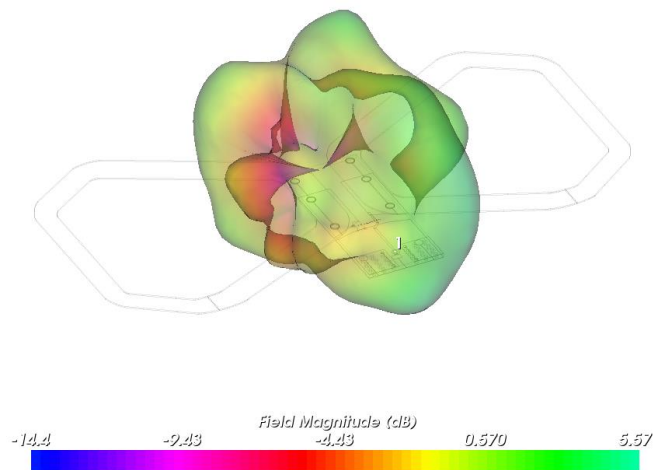
Warning! Be careful when using and installing this antenna. Install the antenna on a stable surface to prevent the antenna from falling. Do not allow the antenna to fall, as the device may cause damage to health. Install the antenna out of the reach of children. Handle the edges of the antenna carefully to avoid cuts and impacts so as not to damage your health or other objects or surfaces. Do not wet the antenna, as this may cause oxidation and deterioration of electrical contacts. When installing the antenna, use a ladder rack to prevent the installer and antenna from falling. Install the antenna not above the location of people.



**Figure 3 Antenna Radiation Pattern - 900 MHz (LTE-8) Gain max = 3dBi**



**Figure 4 Antenna Radiation Pattern - 1800 MHz (LTE-7) Gain max = 3dBi**



**Figure 5 Antenna Radiation Pattern - 2600 MHz (LTE-3) Gain max = 5dBi**

### Complete set and assembly

- Printed circuit board
- Metal wings - 2 pcs.
- M3-8 bolts and M3 lock nuts - 8 pcs.
- Means of fastening-1 with openings M3-M5
- Box
- Documentation

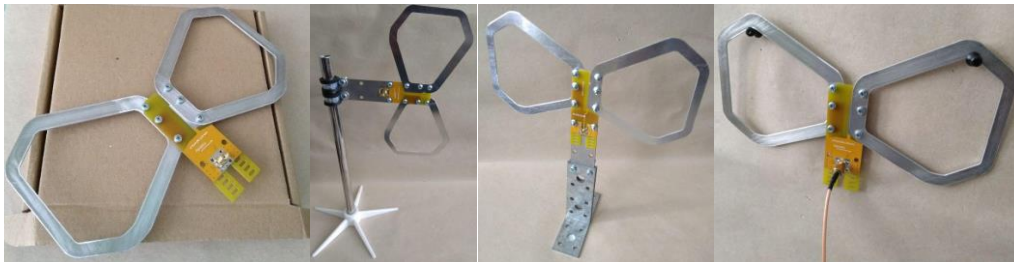
**The wings must be attached to the metal parts of the printed circuit board!  
(Select the correct side of the PCB) - Figure 5**

### Contacts and support

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**Figure 5 Antenna photo – possible installations**