## 600 MHz / 960 MHz / 1.427 GHz / 1.695 GHz / 2.69 GHz / 3.3 GHz / 6 GHz PCB Antenna (5G NR, LTE)

| General information |
|---|
| Planar ultra-wideband dipole antenna for various applications including laboratory measurements, spectrum monitoring etc. |

| Typical applications |
|---|
| 5G NR, LTE, ISM, RFID, IoT (Sigfox, LoRa, NB-IoT), LP-WAN, Smart meters, Bluetooth, Wi-Fi |

| Electrical data | | | | |
|---|---|---|---|---|
| Antenna type | planar ultrabroadband dipole PCB antenna | | | |
| 5G bands | 1, 2, 3, 5, 7, 8, 12, 13, 14, 18, 20, 25, 26, 28 - 30, 34, 38, 39, 40, 41, 46 - 48, 50, 53, 65, 66, 70, 71, 74 - 84, 86, 89 - 98 | | | |
| 4G bands | 1 - 14, 17 - 30, 32 - 53, 65 -71, 74 – 76, 85 | | | |
| Other frequency bands | SRD860 (EU), ISM915 (US), GNSS, ISM2400, Wi-Fi 6 GHz, ISM5800 | | | |
| Frequency range [MHz] | 600...960 | 1427...1517 | 1695...2690 | 3300...6000 |
| Return loss [dB] | -10 | -13 | -14 | -10 |
| Peak gain [dBi] | 2.45 | 4.4 | 5 | 5 |
| Radiation efficiency [%] | 95 | 80 | 80 | 70 |
| Nominal input impedance [Ohm] | 50 | | | |
| Polarization | linear | | | |
| Radiation pattern | omnidirectional | | | |
| Maximum input power [W] | 10 | | | |

| Mechanical data | |
|---|---|
| Antenna PCB dimensions [mm] | 174.6 x 86.3 x 0.8 |
| Connector type [1)] | IPEX MHF1 / Hirose U.FL (UMCC) compatible [1)] |
| Cable type and thickness [2)] [mm] | micro coax 1.13 [2)] |
| Cable length [3)] [mm] | 200 [3)] |
| PCB material | FR4 |

| Environmental data | |
|---|---|
| Operating temperature [ºC] | -40…+85 |
| Storage temperature [ºC] | -40…+85 |
| Ambient relative humidity [%] | 0…95 |
| RoHS / REACH compliant | yes / yes |

| Additional information |
|---|
| [1)] Other connector types can be offered on request. |
| [2)] Following cable thicknesses can be used with MHF1 connector: 0.81 mm, 1.13 mm, 1.32 mm, 1.37 mm. |
| [3)] Other cable lengths can be provided. |
| Antenna performance was measured using the specified cable length in free space. |
| Further customization, electromagnetic simulations and measurements can be offered on request. |
| The antenna can be additionally equipped with adhesive tape and mounting holes. |



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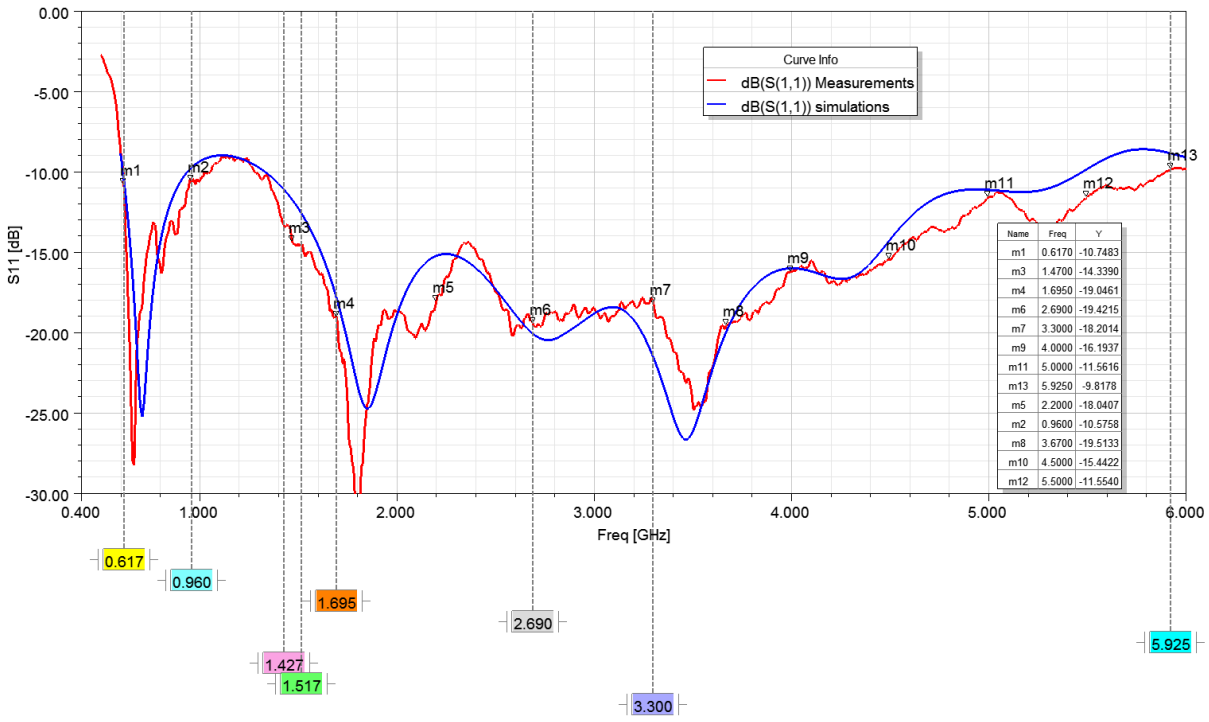
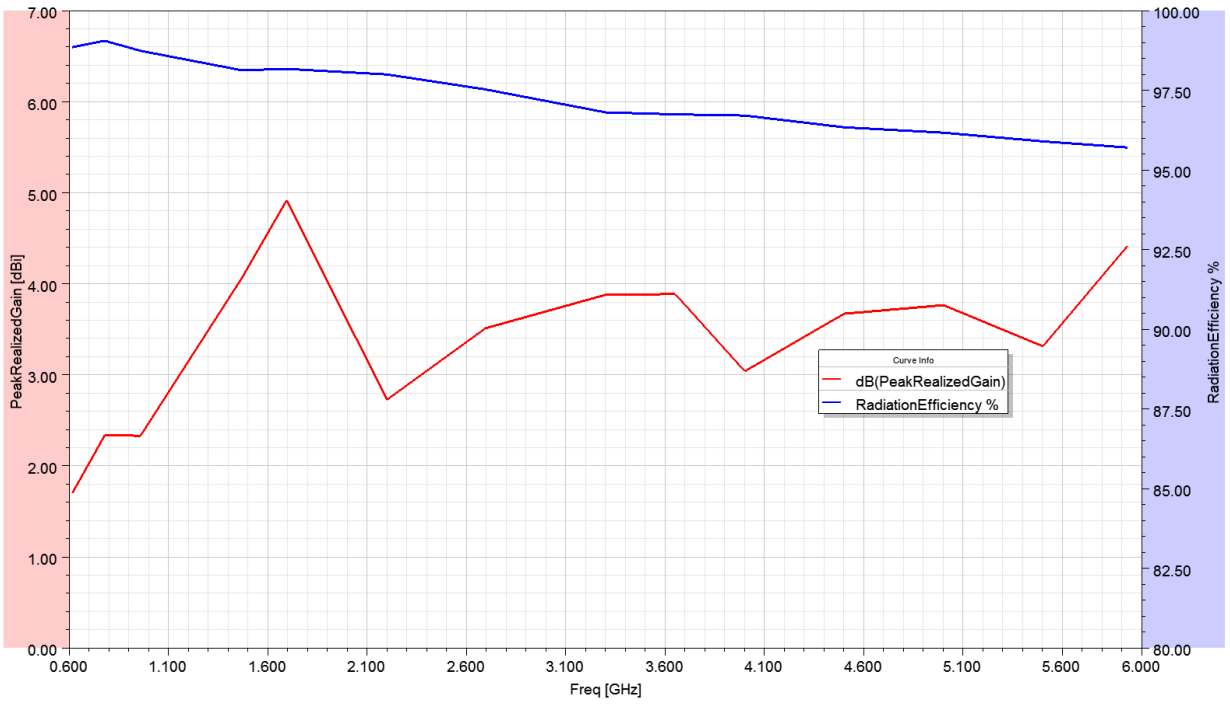
### Measured input impedance matching




| Name | Freq | Y |
|---|---|---|
| m1 | 0.6170 | -10.7483 |
| m3 | 1.4700 | -14.3390 |
| m4 | 1.6950 | -19.0461 |
| m6 | 2.6900 | -19.4215 |
| m7 | 3.3000 | -18.2014 |
| m9 | 4.0000 | -16.1937 |
| m11 | 5.0000 | -11.5616 |
| m13 | 5.9250 | -9.8178 |
| m5 | 2.2000 | -18.0407 |
| m2 | 0.9600 | -10.5758 |
| m8 | 3.6700 | -19.5133 |
| m10 | 4.5000 | -15.4422 |
| m12 | 5.5000 | -11.5540 |

### Radiation characteristics (simulations)



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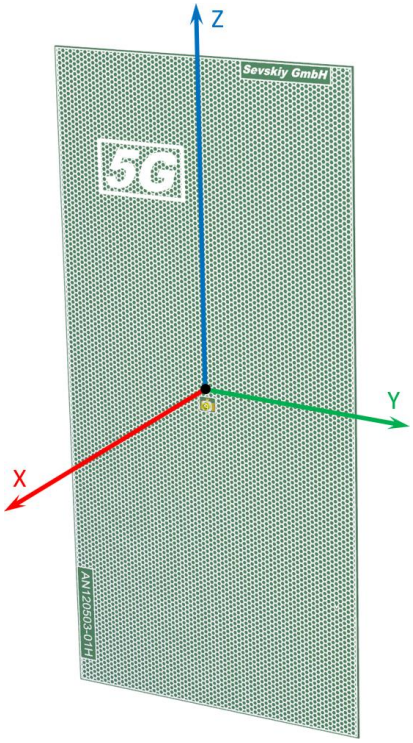
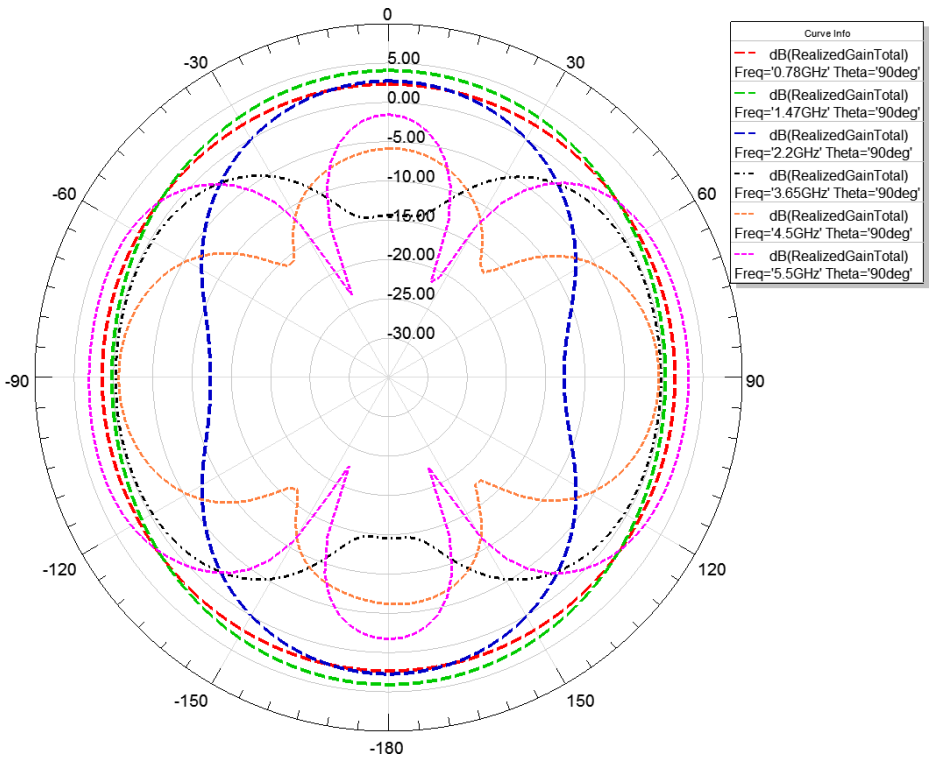
### Coordinate system




### 2D Radiation pattern (total realized gain, dBi)




XY plane



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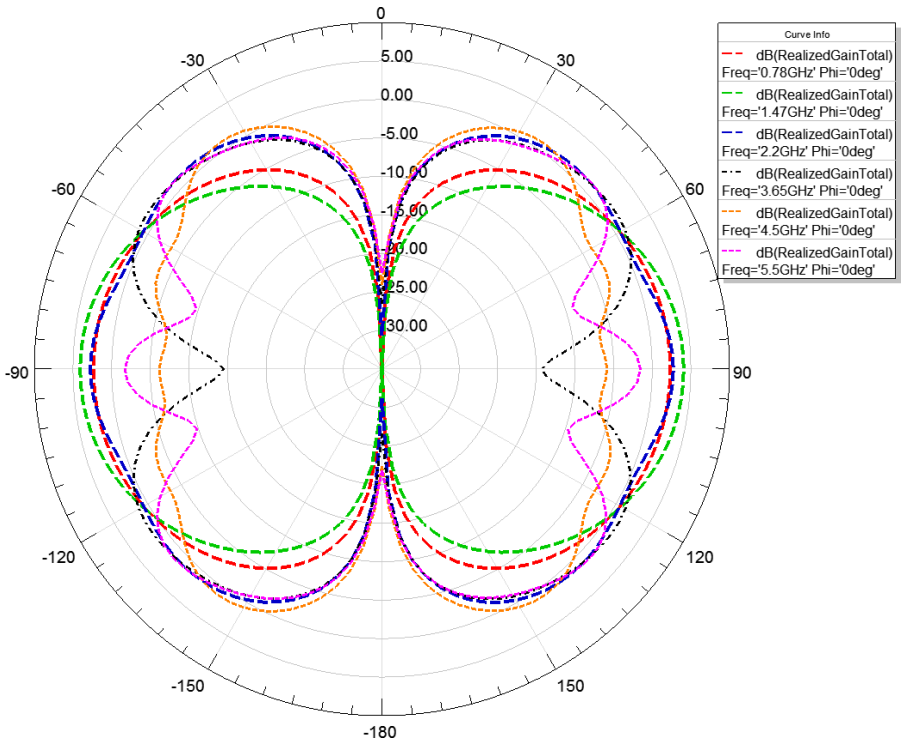
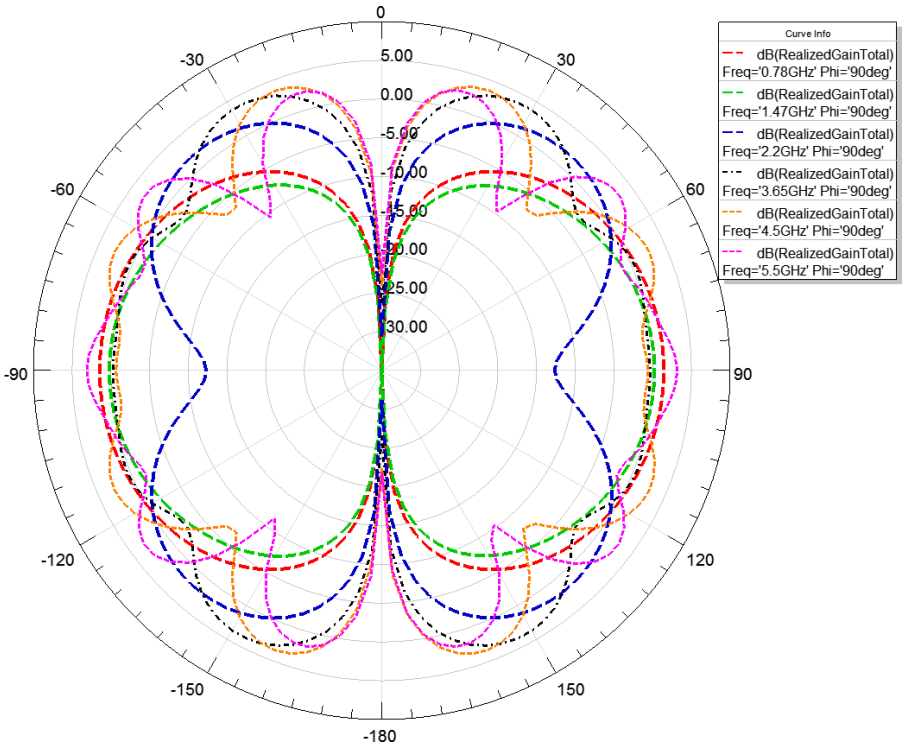



XZ plane:




YZ plane



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