



# TAOGLAS®



## Datasheet

### LTE Ultima II

**Part No:**  
**G35.A.305111**

#### **Description:**

Ultima II Super Low Profile LTE Permanent Mount

#### **Features:**

LTE Cellular  
Durable PC Enclosure  
Heavy Duty Permanent (Screw) Mount  
IP67 Rated Enclosure  
Diameter: 57mm  
Height: 17.4mm (Not including thread)  
Cable: 3000mm TGC-200  
Connector: SMA(M)  
RoHS & Reach Compliant

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## 1. Introduction



The G35 Ultima II is a high-performance permanent mount wideband cellular for external use on vehicles and assets worldwide. With diameter of 57mm and at only 17.4mm in height it is one of the lowest profile LTE antennas on the market.

Taoglas strive to continuously improve and expand our product portfolio in terms of both performance and design. With this in mind, the Ultima II is an upgrade on the original form factor, designed with a profile of just 17mm - 3mm lower than the first-generation Ultima, making it one of the lowest profile external LTE antenna solutions on the market. The mounting thread size has decreased from M24 to M14 making it much easier to install. The internal antenna has also been redesigned and see great improvements in efficiency in comparison to the original Ultima design.

Typical Applications Include:

- Smart Lighting
- Smart Cities
- Connected Enterprise
- Digital Signage

The IP67 rated enclosure is made from durable UV resistant PC making it extremely light, economical for shipping and with a minimum weight impact on vehicles. This also makes it ideal for use in humid environments such as water pits or marine applications as there are no external metal parts that may corrode. The closed cell foam with double-sided adhesive provides a permanent waterproof seal and can adjust to different curvatures, stopping water from leaking under the antenna into the mounting hole.

Cables and Connectors are customizable, contact your regional Taoglas sales office for support or installation instructions.

**Note: The G35 is not suitable for mounting on a metal enclosure.**

## 2. Specifications

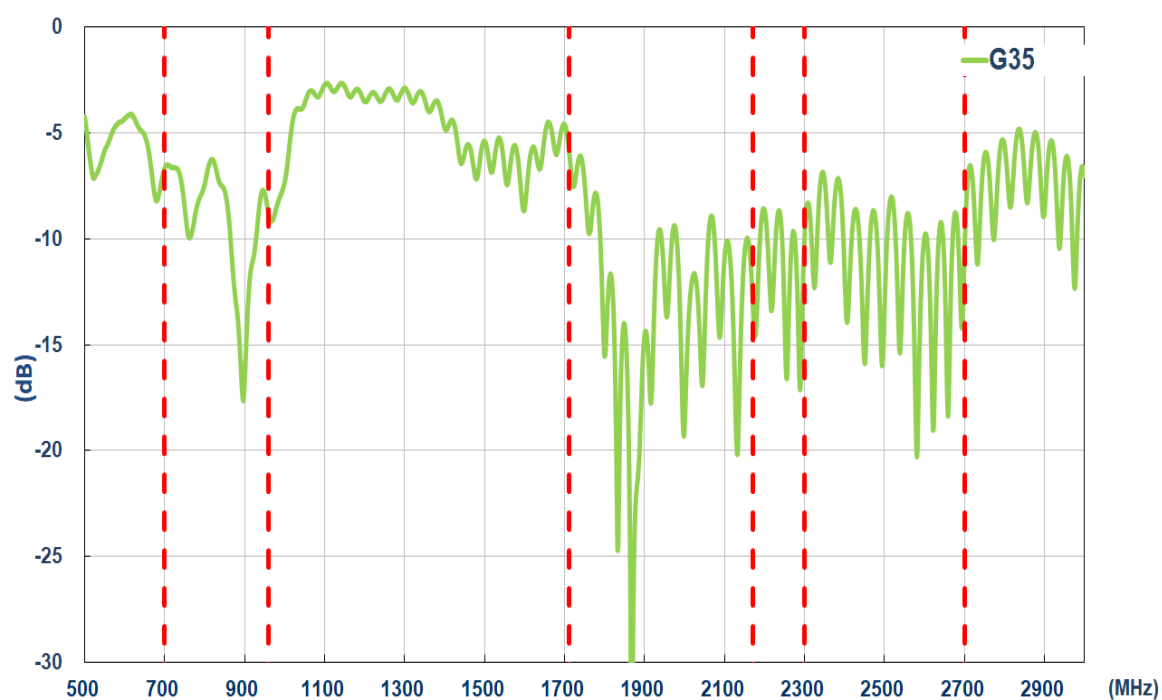
| Electrical              |                            |         |         |           |           |           |           |
|-------------------------|----------------------------|---------|---------|-----------|-----------|-----------|-----------|
| Frequency               | 698~806                    | 824~894 | 880~960 | 1710~1880 | 1850~1990 | 1920~2170 | 2300~2690 |
| Peak Gain (dBi)         |                            |         |         |           |           |           |           |
| On 30x30cm Ground Plane | 1.32                       | 2.05    | 1.88    | 3.83      | 4.67      | 4.89      | 4.91      |
| Average Gain (dB)       |                            |         |         |           |           |           |           |
| On 30x30cm Ground Plane | -4.98                      | -3.35   | -3.71   | -2.76     | -2.33     | -2.19     | -3.21     |
| Efficiency (%)          |                            |         |         |           |           |           |           |
| On 30x30cm Ground Plane | 32.81                      | 40.59   | 39.6    | 46.81     | 52.62     | 54.78     | 41.18     |
| Return Loss (dB)        |                            |         |         |           |           |           |           |
| On 30x30cm Ground Plane | <-4                        | <-10    | <-6     | <-7       | <-6       | <-6       | <-4       |
| Impedance               | 50Ω                        |         |         |           |           |           |           |
| Polarization            | Linear                     |         |         |           |           |           |           |
| Radiation Pattern       | Omni                       |         |         |           |           |           |           |
| Input Power             | 2W max.                    |         |         |           |           |           |           |
| Mechanical              |                            |         |         |           |           |           |           |
| Dimensions              | 57.01mm x 17.4 mm          |         |         |           |           |           |           |
| Housing Material        | PC                         |         |         |           |           |           |           |
| Cable                   | 3000mm TGC-200             |         |         |           |           |           |           |
| Connector               | SMA(M)                     |         |         |           |           |           |           |
| IP Rating               | IP67                       |         |         |           |           |           |           |
| Environmental           |                            |         |         |           |           |           |           |
| Temperature Range       | -40°C to 85°C              |         |         |           |           |           |           |
| Humidity                | Non-condensing 65°C 95% RH |         |         |           |           |           |           |

| LTE Bands   |                                                      |                      |         |
|-------------|------------------------------------------------------|----------------------|---------|
| Band Number | LTE / LTE-Advanced / WCDMA / HSPA / HSPA+ / TD-SCDMA |                      |         |
|             | Uplink                                               | Downlink             | Covered |
| 1           | UL: 1920 to 1980                                     | DL: 2110 to 2170     | ✓       |
| 2           | UL: 1850 to 1910                                     | DL: 1930 to 1990     | ✓       |
| 3           | UL: 1710 to 1785                                     | DL: 1805 to 1880     | ✓       |
| 4           | UL: 1710 to 1755                                     | DL: 2110 to 2155     | ✓       |
| 5           | UL: 824 to 849                                       | DL: 869 to 894       | ✓       |
| 7           | UL: 2500 to 2570                                     | DL: 2620 to 2690     | ✓       |
| 8           | UL: 880 to 915                                       | DL: 925 to 960       | ✓       |
| 9           | UL: 1749.9 to 1784.9                                 | DL: 1844.9 to 1879.9 | ✓       |
| 11          | UL: 1427.9 to 1447.9                                 | DL: 1475.9 to 1495.9 | ✗       |
| 12          | UL: 699 to 716                                       | DL: 729 to 746       | ✓       |
| 13          | UL: 777 to 787                                       | DL: 746 to 756       | ✓       |
| 14          | UL: 788 to 798                                       | DL: 758 to 768       | ✓       |
| 17          | UL: 704 to 716                                       | DL: 734 to 746       | ✓       |
| 18          | UL: 815 to 830                                       | DL: 860 to 875       | ✓       |
| 19          | UL: 830 to 845                                       | DL: 875 to 890       | ✓       |
| 20          | UL: 832 to 862                                       | DL: 791 to 821       | ✓       |
| 21          | UL: 1447.9 to 1462.9                                 | DL: 1495.9 to 1510.9 | ✗       |
| 22          | UL: 3410 to 3490                                     | DL: 3510 to 3590     | ✗       |
| 23          | UL: 2000 to 2020                                     | DL: 2180 to 2200     | ✓       |
| 24          | UL: 1625.5 to 1660.5                                 | DL: 1525 to 1559     | ✗       |
| 25          | UL: 1850 to 1915                                     | DL: 1930 to 1995     | ✓       |
| 26          | UL: 814 to 849                                       | DL: 859 to 894       | ✓       |
| 27          | UL: 807 to 824                                       | DL: 852 to 869       | ✓       |
| 28          | UL: 703 to 748                                       | DL: 758 to 803       | ✓       |
| 29          | UL: -                                                | DL: 717 to 728       | ✓       |
| 30          | UL: 2305 to 2315                                     | DL: 2350 to 2360     | ✓       |
| 31          | UL: 452.5 to 457.5                                   | DL: 462.5 to 467.5   | ✗       |
| 32          | UL: -                                                | DL: 1452 - 1496      | ✗       |
| 35          |                                                      | 1850 to 1910         | ✓       |
| 38          |                                                      | 2570 to 2620         | ✓       |
| 39          |                                                      | 1880 to 1920         | ✓       |
| 40          |                                                      | 2300 to 2400         | ✓       |
| 41          |                                                      | 2496 to 2690         | ✓       |
| 42          |                                                      | 3400 to 3600         | ✓       |
| 43          |                                                      | 3600 to 3800         | ✗       |
| 71          |                                                      | 617 to 698           | ✗       |

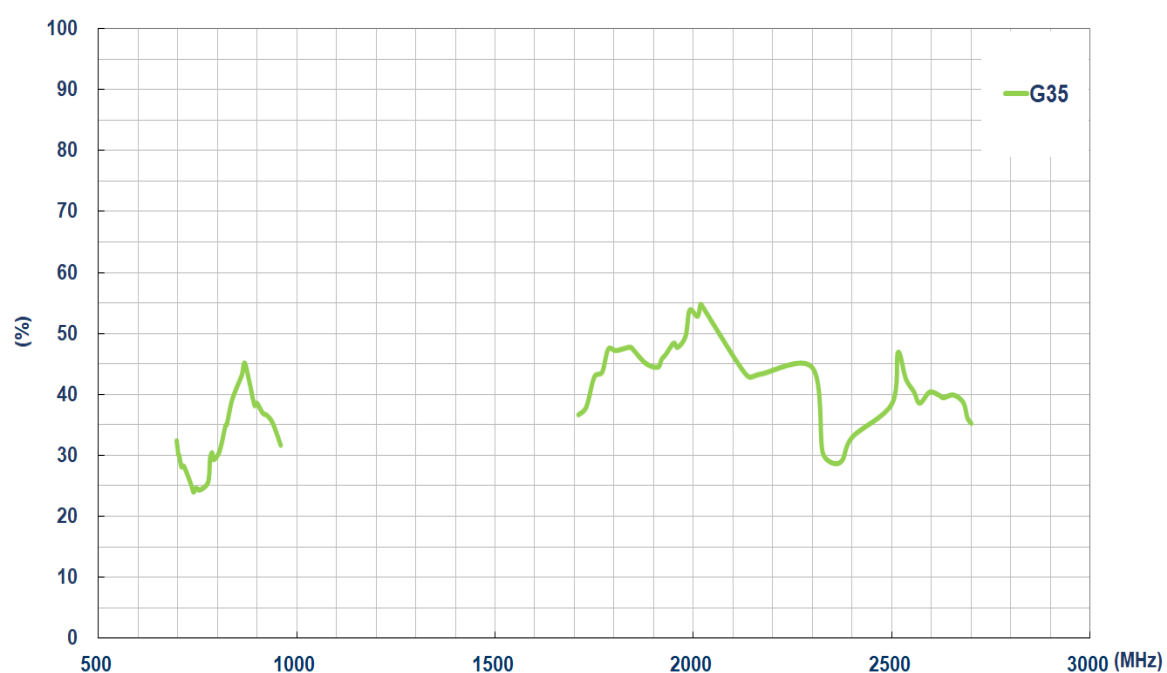
\*Covered bands represent an efficiency greater than 20%

## 3. Antenna Characteristics

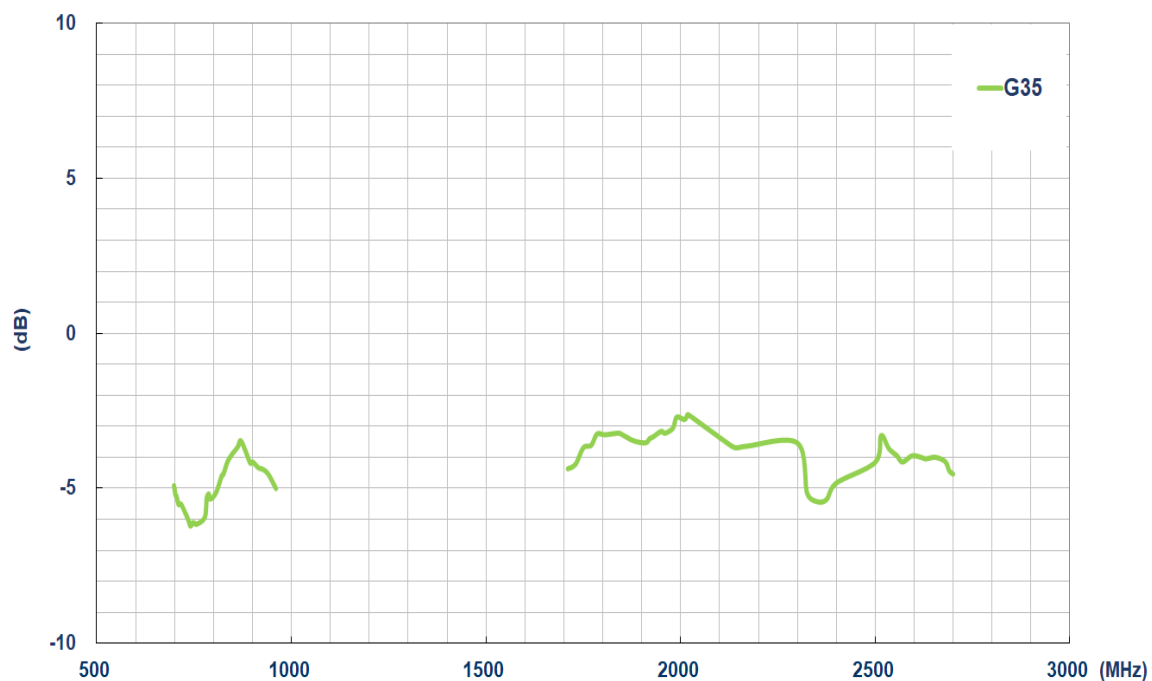
### 3.1 Return Loss



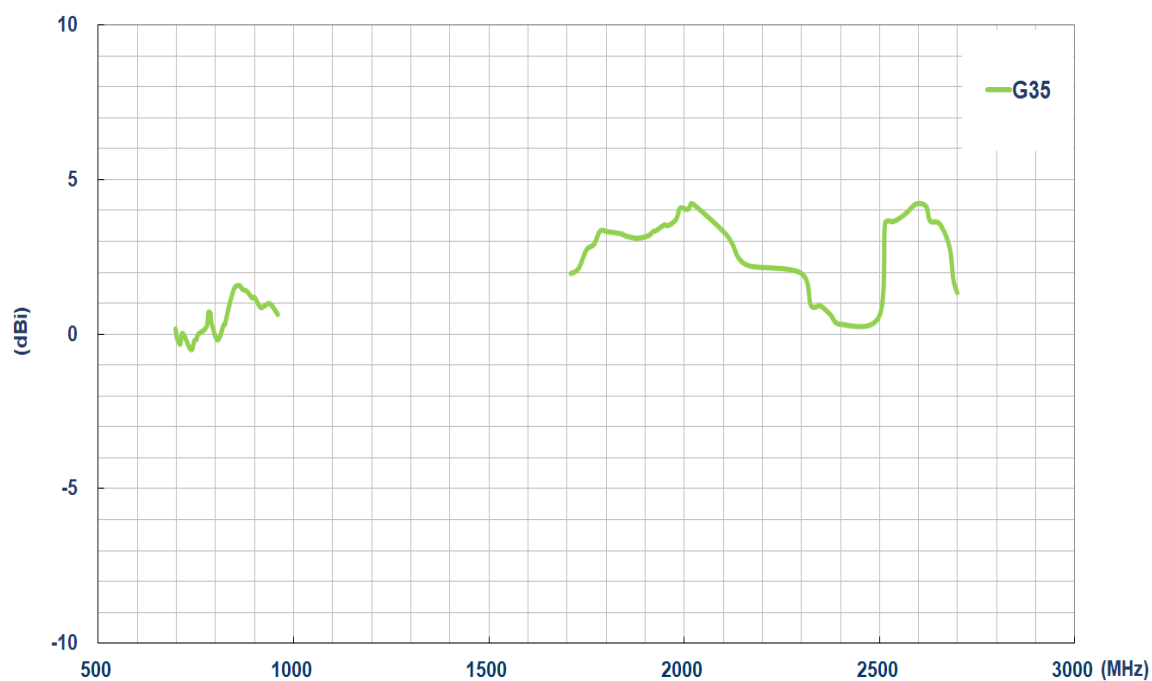
### 3.2 Efficiency



### 3.3 Average Gain

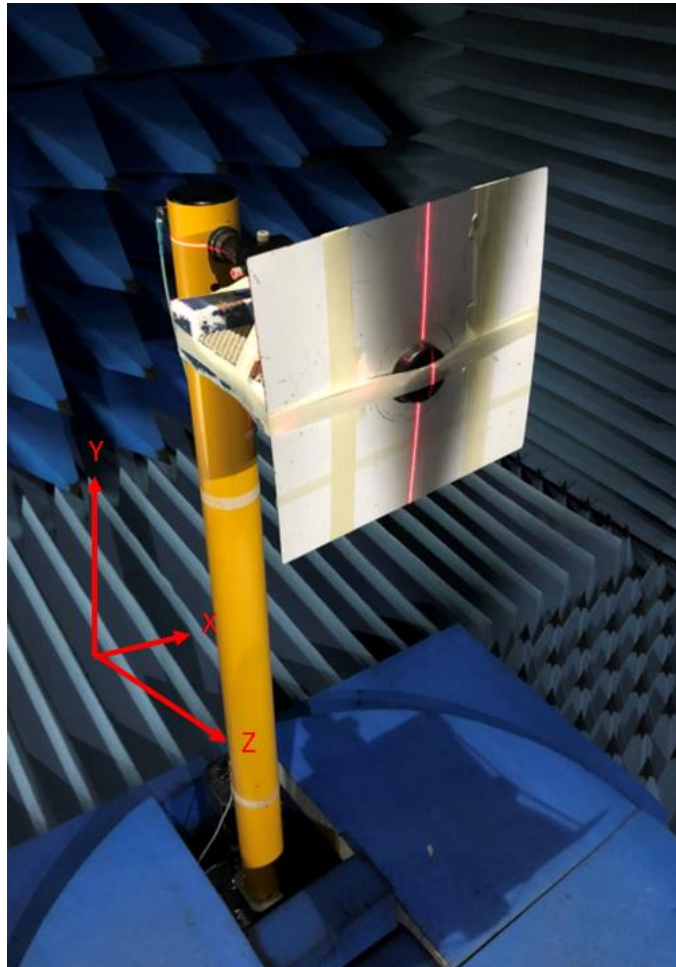


### 3.4 Peak Gain



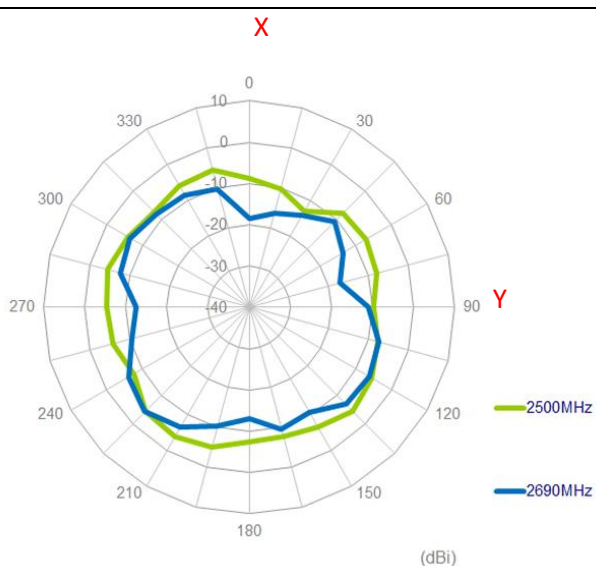
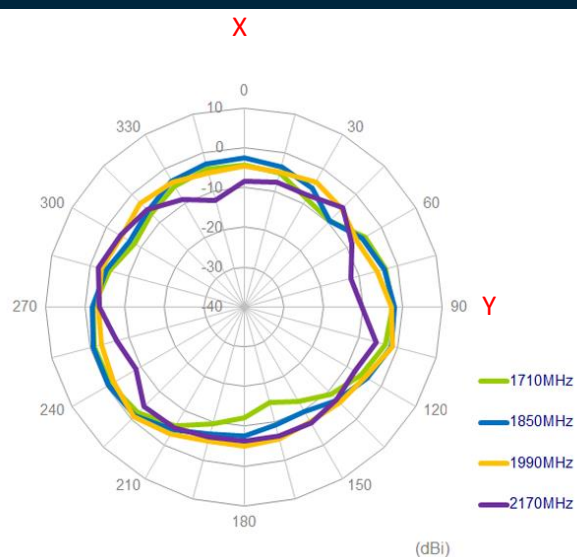
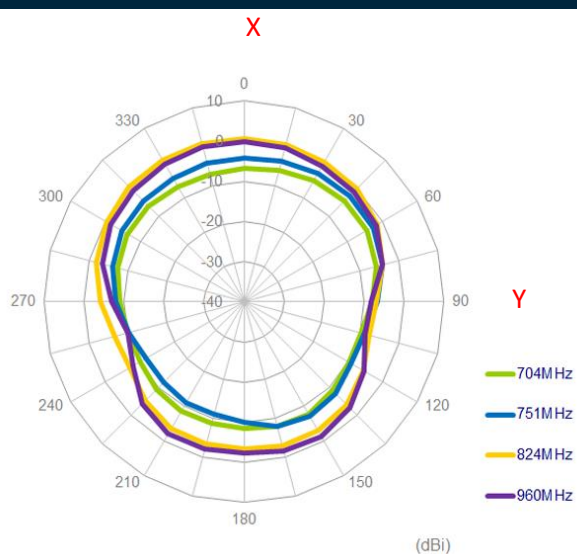
## 4. 2D Radiation Patterns

### 4.1 Test Setup

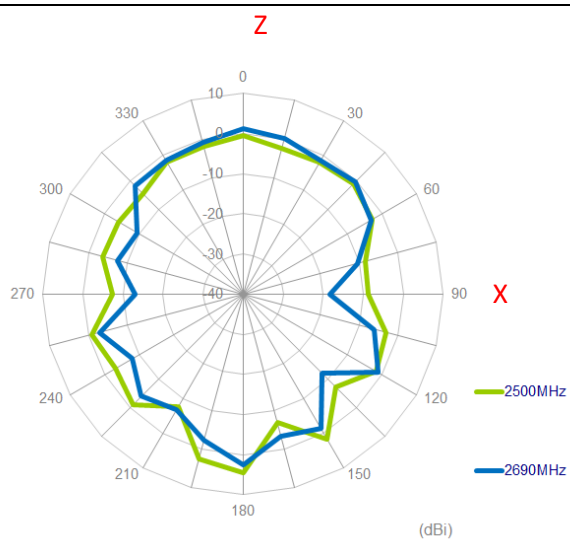
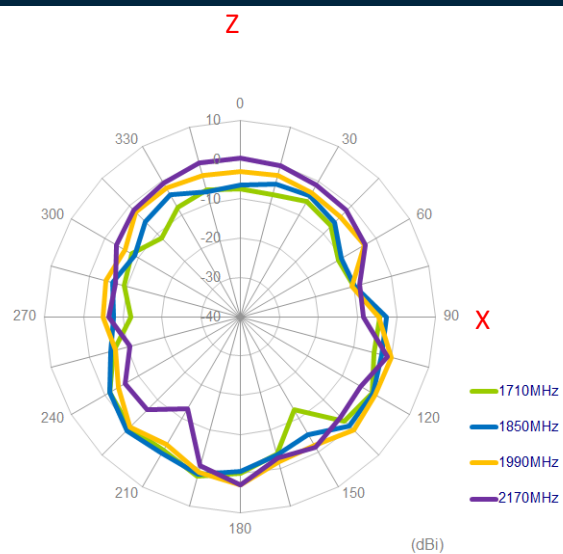
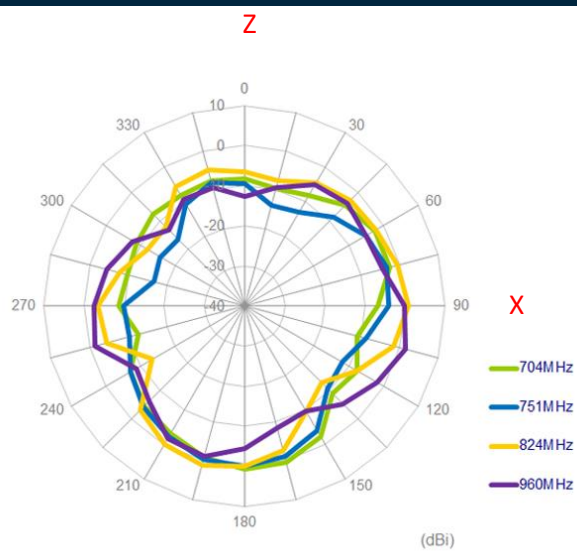


On 30x30cm Ground Plane

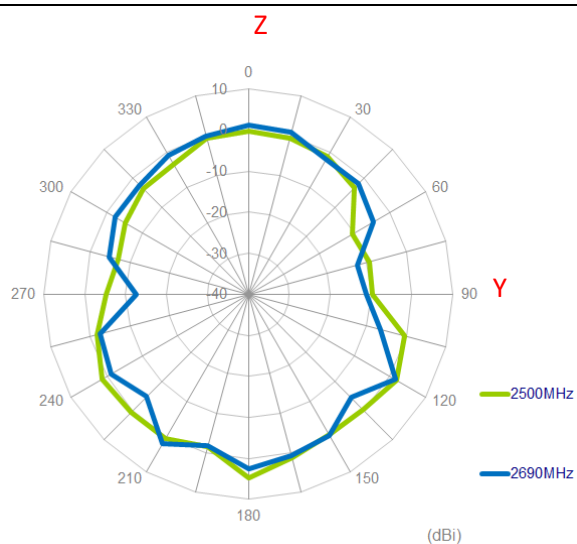
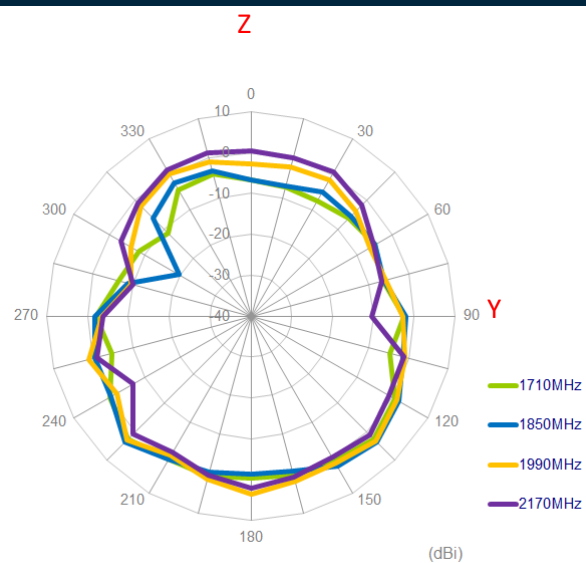
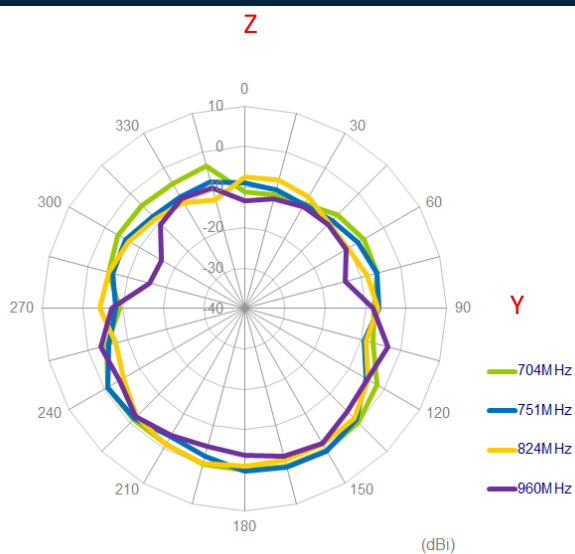
# XY Plane



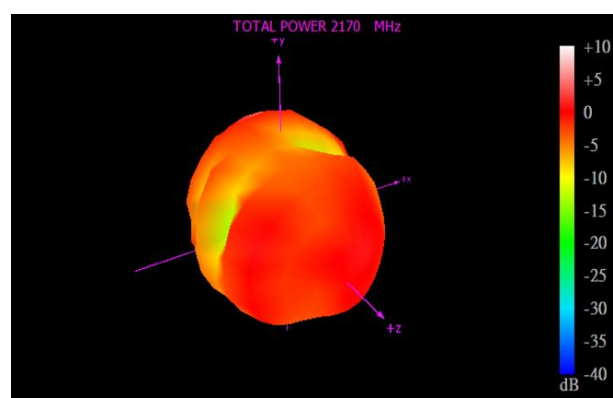
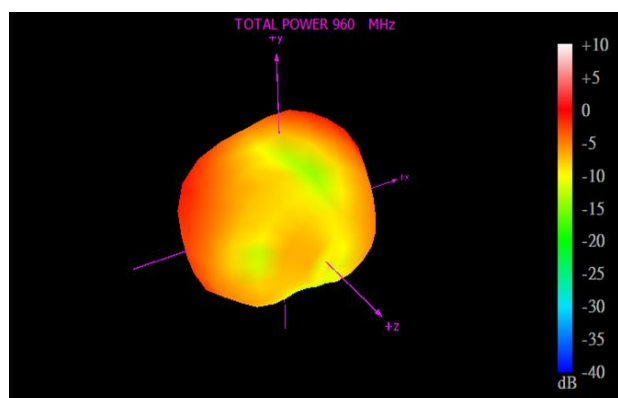
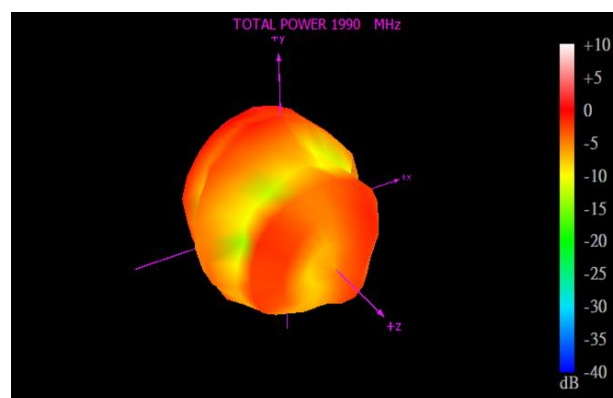
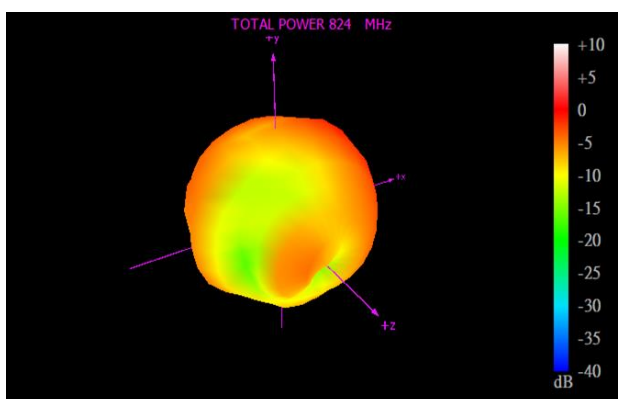
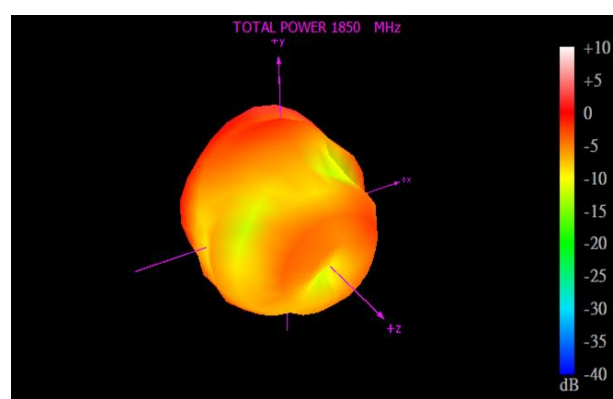
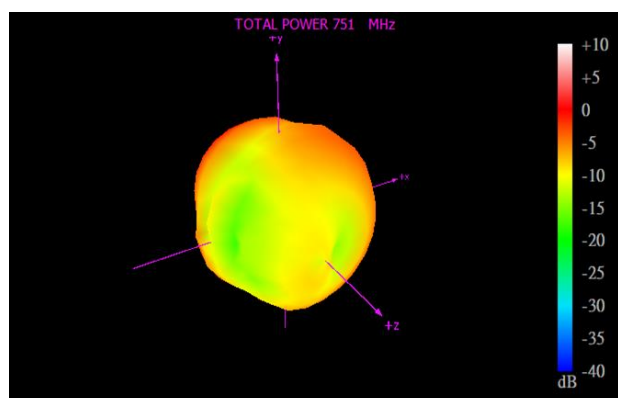
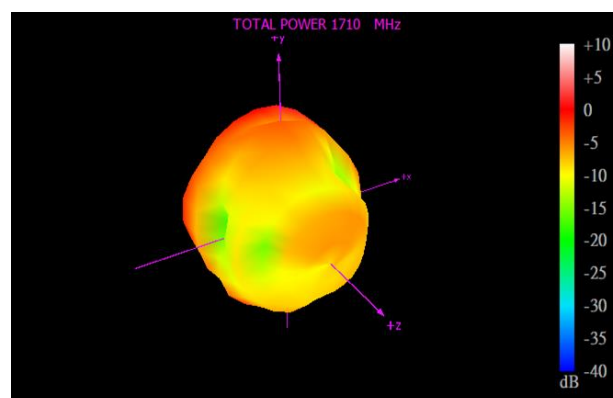
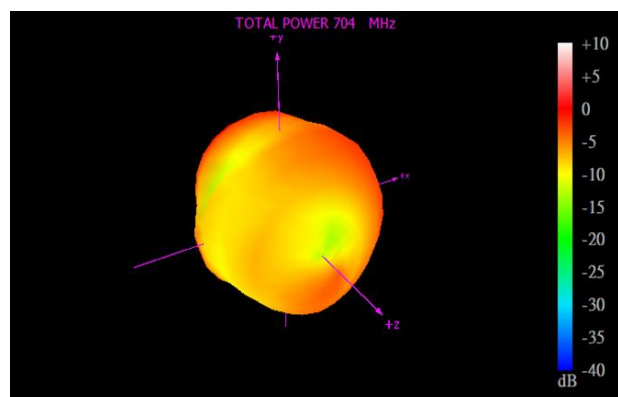
## ZX Plane

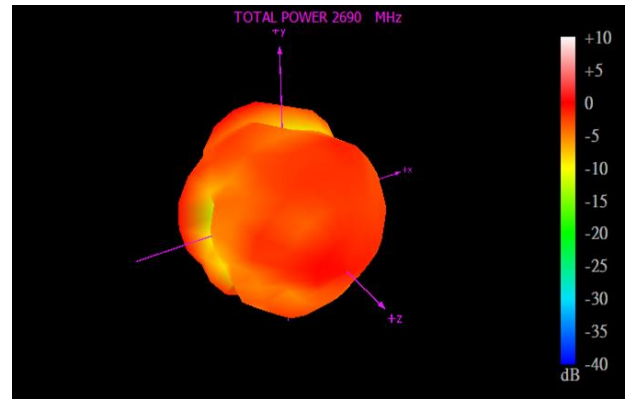
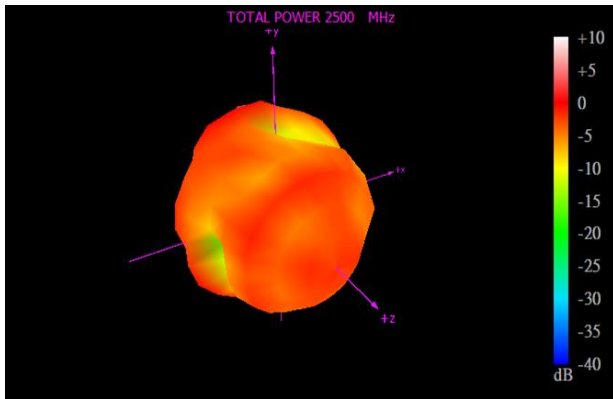


## ZY Plane

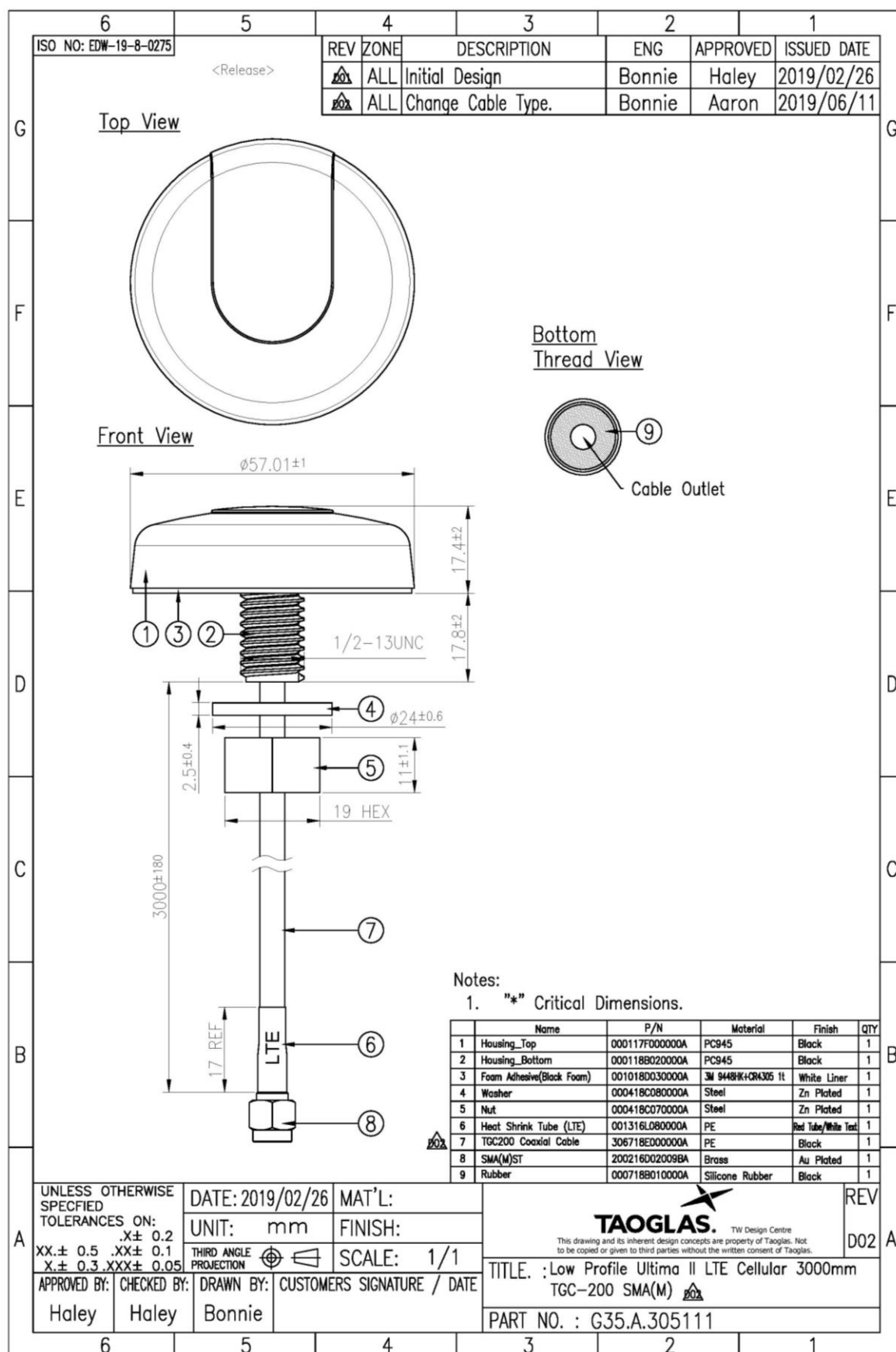


## 5. 3D Radiation Patterns





## 6. Mechanical Drawing (Units: mm)

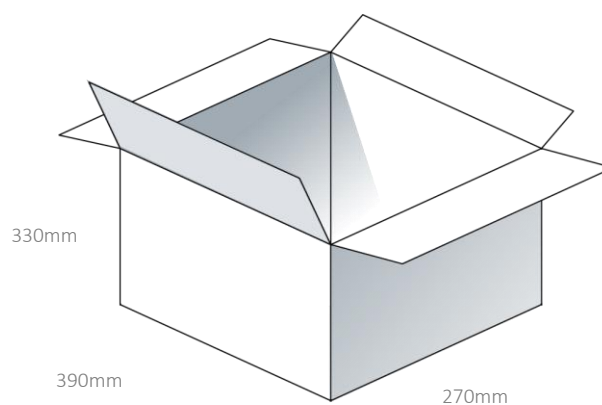


## 7. Packaging

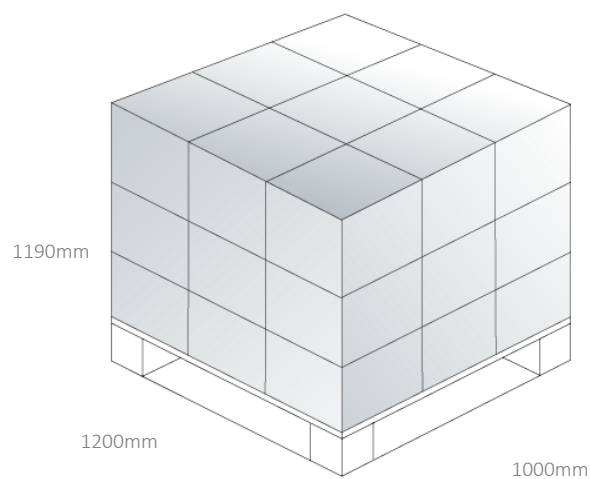
1pcs G35.A.305111 per PE Bag  
 Dimensions - 300\*160mm  
 Weight - 160g



40pcs G35.A.305111 per carton  
 Dimensions - 390\*270\*330mm  
 Weight – 6.9Kg



Pallet Dimensions:  
 1200\*1000\*1190mm  
 27 Cartons Per Pallet  
 9 Cartons Per Layer, 3 Layers



## Changelog for the datasheet

### SPE-18-8-069 – G35.A.305111

#### Revision: D (Current Version)

|                  |             |
|------------------|-------------|
| Date:            | 2019-06-06  |
| Changes:         | Updated EDW |
| Changes Made by: | Jack Conroy |

#### Previous Revisions

##### Revision: C

|                  |                                  |
|------------------|----------------------------------|
| Date:            | 2018-09-14                       |
| Changes:         | Updated Part Number & Cable Type |
| Changes Made by: | Jack Conroy                      |

##### Revision: B

|                  |             |
|------------------|-------------|
| Date:            | 2018-08-17  |
| Changes:         |             |
| Changes Made by: | Jack Conroy |

##### Revision: A (Original First Release)

|         |             |
|---------|-------------|
| Date:   | 2018-07-19  |
| Notes:  |             |
| Author: | Jack Conroy |



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