

# Logitech

## Antenna Under Test (AUT)

### Report

**Model Name:** A00187

**Equipment Type:** A50 X HDMI BASESTATION

**Manufacturer:** Logitech Europe S.A.

**Test Location:** 5th Floor, No. 83, Longtan Road, Longtan District, Taoyuan City

**Tested by:** Sam Wu

**Report Date:** 2023/02/02

### Report Release History

| Report version    | Description      | Date Issued |
|-------------------|------------------|-------------|
| A00187 AUT Report | Original release | 2023/02/02  |

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## 1. EUT Antenna Information

- 1) Antenna Material : PCB printed ANT
- 2) Antenna Type : PIFA
- 3) Antenna Dimension: 16.5 x 13.5 mm
- 4) Operating Frequency : 2.4 GHz - 2.476 GHz
- 5) Input Impedance : 50  $\Omega$
- 6) Standing-Wave Ratio : 2<

## 2. Measured Values and Calculation of Antenna Gains

Measure peak horizontal/vertical EIRP on each x-y, y-z, x-z plane. The highest measured values will be used to calculate the antenna peak gain.

|                 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|-----------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Ant3            |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| Frequency(MHz)  | 2400 | 2405 | 2410 | 2415 | 2420 | 2425 | 2430 | 2435 | 2440 | 2445 | 2450 | 2455 | 2460 | 2465 | 2470 | 2475 | 2480 | 2485 |
| Efficiency (%)  | 37.8 | 37.8 | 37.1 | 38.5 | 38.6 | 39.2 | 39.3 | 39.3 | 39.6 | 39.7 | 40.5 | 40.6 | 39.8 | 39.9 | 37.5 | 36.8 | 37.5 | 37.3 |
| Peak Gain (dBi) | 0.9  | 0.9  | 0.8  | 0.9  | 1.0  | 1.1  | 1.1  | 1.1  | 1.2  | 1.2  | 1.3  | 1.4  | 1.3  | 1.4  | 1.2  | 1.1  | 1.3  | 1.2  |
|                 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|                 |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| Ant2            |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| Frequency(MHz)  | 2400 | 2405 | 2410 | 2415 | 2420 | 2425 | 2430 | 2435 | 2440 | 2445 | 2450 | 2455 | 2460 | 2465 | 2470 | 2475 | 2480 | 2485 |
| Efficiency (%)  | 39.5 | 39.7 | 38.7 | 40.1 | 40.3 | 40.9 | 41.1 | 40.8 | 39.6 | 41.3 | 40.7 | 40.5 | 40.4 | 40.2 | 37.7 | 37.3 | 38.2 | 38.0 |
| Peak Gain (dBi) | 1.0  | 1.0  | 0.9  | 1.1  | 1.2  | 1.3  | 1.3  | 1.3  | 1.2  | 1.4  | 1.4  | 1.3  | 1.3  | 1.4  | 1.1  | 1.1  | 1.3  | 1.3  |

Test Date: 2023/02/02

### 3. 3D Radiation Pattern Measurement

#### 3.1 Test Location

3D radiation pattern measurement in the anechoic chamber

#### 3.2 Description of the anechoic chamber

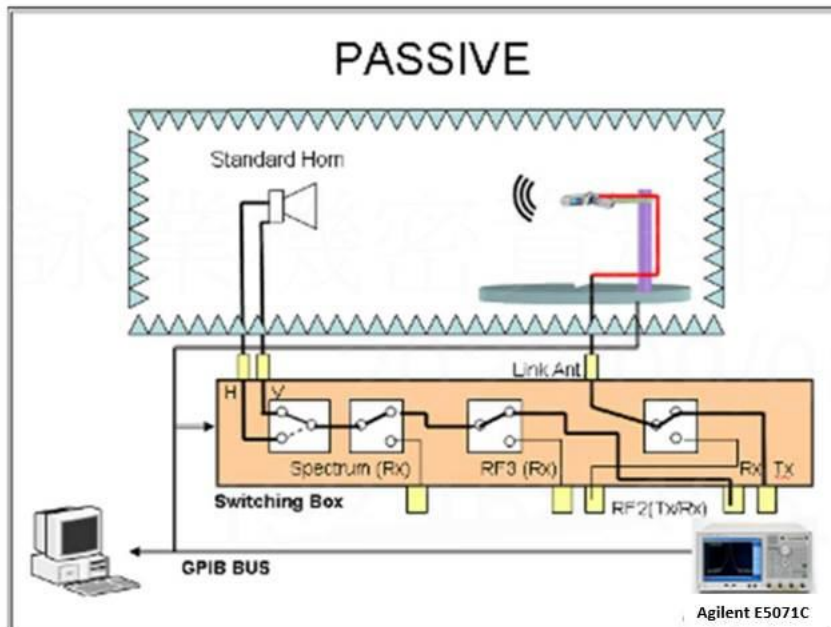
Please fill in our chamber specification

Length: 8M

Width: 4M

Height: 4M

Please post a Block diagram to show the chamber and test equipment like the picture



### 3.3 Test Instruments

Example(all instrument here should have calibration date, only turntable/controller/software could be exempted and software needs SW version):

| Description                | Model No.         | Serial No. | Last Calibration |
|----------------------------|-------------------|------------|------------------|
| Spectrum Analyzer Keysight | E5071C            | N/A        | 2022/07/22       |
| Chamber                    | ETS-844           | N/A        | N/A              |
| Software                   | OTA Maxwell 3.7.1 | N/A        | N/A              |

Note: The calibration interval of the above test instruments is \_12\_ months

### 3.4 Test Procedure

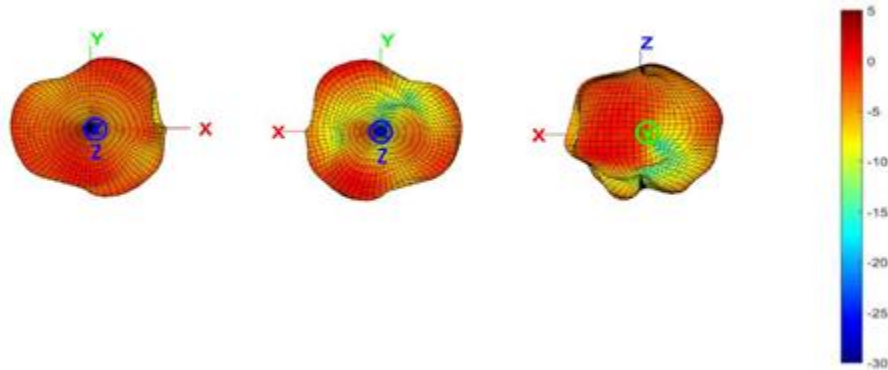
- a. Connect the EUT to the network analyzer and record the EUT's power settings and measured conducted power.
- b. Securely mount the EUT at the center of the turntable, record the coordinates, and take photographs.  
Configure the software to continuously transmit power from the EUT (100% duty cycle).  
Ensure that the transmitted signal is stable and at the maximum radio frequency power level.
- c. Set the channel power function through the software.
- d. Read the data from the network analyzer and record it at the following locations. 6-1 Rotate the turntable along the horizontal plane in 15-degree increments between 0 and 360 degrees. 6-2 The software will record polarization data (theta and phi) for each position.
- e. Rotate the EUT by 90 degrees and repeat steps 6-1 and 6-2 until measurements are completed for all three planes (X-Y, X-Z, Y-Z)."

### 3.5 Test Setup photos

confidential

### 3.6 3D Pattern Test Plot

3D Gain Pattern (Radiation Pattern @ 2442 MHz) (unit: dBi)-Ant2



3D Gain Pattern (Radiation Pattern @ 2442 MHz) (unit: dBi)-Ant3

