

# Starlink Circular Actuated Dish, Gen 1

MPN: UTA-211

## Description

Starlink's Generation 1 User Terminal, known as the Circular Dish, or "Round Dishy" is a satellite terminal provided by Starlink as the main user equipment between April 2021 and early 2022. Within G1 "Round Dishy" there are two revisions, Rev1 and Rev2 which can be differentiated between visually by the Rev1 having a black mounting tube and Rev2 having a grey mounting tube. Depending on when the UT was manufactured it may have a sub-version of rev2\_proto2, rev2\_proto3, or rev2\_proto4.

The antenna unit UTA-211 connects to its corresponding router UTR-201. Specification here refers to the UTA-211 only.

The Starlink G1 User Terminal is a satellite transceiver which uses a digital beamformer, 16 front-end modules, and 1280-element phased array antenna to track and maintain connectivity with LEO satellites as they move overhead. G2 uses motors to adjust azimuth and elevation to position the phased array to an optimal alignment.

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## Starlink

Starlink, initiated by US company SpaceX in January 2015, is a satellite network project aimed at providing satellite internet connectivity. The project's primary objective is to deliver broadband services globally, particularly to underserved areas of the planet. Starlink's constellation comprises thousands of mass-produced small satellites, orbiting in low Earth orbit (LEO), working in ...

# Network Interfaces

## Wireless Interfaces

|             |                                |               |       |
|-------------|--------------------------------|---------------|-------|
| Topology:   | Multipoint Terminal/Subscriber | Max. Clients: | 1     |
| Encryption: | AES-256                        | Latency:      | 40 ms |

## Electronically Steerable Antenna

|                 |           |                 |                |                      |               |            |                |
|-----------------|-----------|-----------------|----------------|----------------------|---------------|------------|----------------|
| Transmit Power: |           | 33.87 dBm       |                | Receive Sensitivity: |               | -89 dBm    |                |
| Wireless Bands  | Path Mode | Start Frequency | Stop Frequency | MIMO                 | Channel Width | Modulation | Max. Data Rate |
| X Band          | Receive   | 10700 MHz       | 12700 MHz      | 1x1 SISO             | 240 MHz       | 64QAM      | 720 Mb/s       |
| Ku Band         | Transmit  | 14000 MHz       | 14500 MHz      | 1x1 SISO             | 60 MHz        | 64QAM      | 180 Mb/s       |

## Ethernet Interfaces

|            |          |                        |                       |              |
|------------|----------|------------------------|-----------------------|--------------|
| Interface  | Quantity | Function               | Signalling            | PoE Input    |
| SPX 20-Pin | 1        | LAN, to UTR-201 Router | 100BASE-T, 1000BASE-T | Starlink PoE |

# Antenna Specifications

|                  |           |                  |   |
|------------------|-----------|------------------|---|
| Start Frequency: | 10700 MHz | Polarisation:    | Left Hand Circular (LHCP), Right Hand Circular (RHCP) |
| Stop Frequency:  | 14500 MHz | Input Impedance: | 50  |

## Frequency Test Data

| Start Freq. | Stop Freq. | Peak Gain | Azimuth | Elevation |
|-------------|------------|-----------|---------|-----------|
| 10700 MHz   | 12700 MHz  | 33.2 dBi  | 3.5°    | 3.5°      |
| 14000 MHz   | 14500 MHz  | 34.6 dBi  | 2.8°    | 2.8°      |

## Physical Specification

|                             |                    |             |                               |
|-----------------------------|--------------------|-------------|-------------------------------|
| Subtype:                    | Satellite Terminal | Dimensions: | 589 × 589 × 396 mm            |
| Min. Operating Temperature: | -30 °C             | Weight:     | 7.3 kg                        |
| Max. Operating Temperature: | 50 °C              | Materials:  | Aluminium                     |
| Ingress Protection:         | IP54               | Mounting:   | Starlink G1/G2 36mm OD Spigot |

## Power Specifications

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