



Lighthouse™ Micro SOHO Smart Repeater

Airgain's Lighthouse™ Micro Smart Repeater is a 5G NR small office/home office (SOHO) solution that expands access to high-quality 5G NR networks operating at sub 6GHz frequencies (FDD, TDD FR1). This innovative smart repeater design can improve outdoor to indoor signal quality by offering either a single or multi-band solution. It has optional built-in antennas (Service and Donor) but also accommodates external antennas to achieve the desired coverage. Automated features such as TDD detection, gain control, and echo cancellation bring signal quality stability. Both SISO and 2x2 MIMO versions are available for different applications. With Lighthouse Micro, you can accelerated your 5G experience.

FEATURES

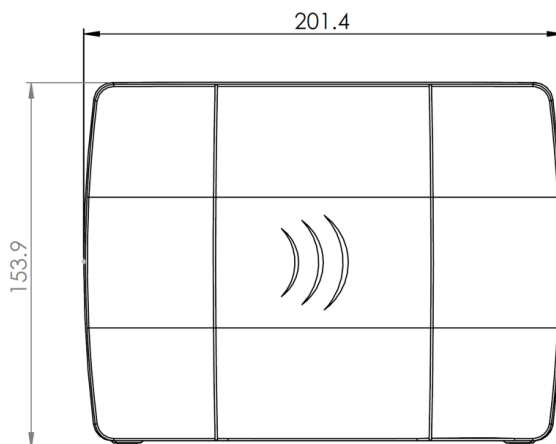
- 17dBm output power
- Up to 2T2R MIMO
- Plug and play with automatic gain control, TDD synchronization, and active echo cancellation
- Compliant to 3GPP TS 38.106
- Built-in or external antennas (donor and service)
- RSSI detection for automatic shutdown

ADVANTAGES

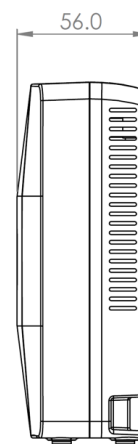
- Easy installation
- Built for small commercial use
- Offers a flexible design for multiple configurations
- Delivers excellent signal quality
- Supports remote control and management

DIMENSIONS (in mm)

Front View



Side View



TECHNICAL SPECIFICATIONS

ELECTRICAL

System	5G NR FDD/TDD
Frequency Range *	3700~4000 MHz (TDD n77) 3300~3600 MHz (TDD n78) 2500~2700 MHz (TDD n41) 1920~1980 / 2110~2170 (FDD UL/DL n1) 1710~1785 / 1805~1880 (FDD UL/DL n3)
Max. Sub-block Bandwidth	100 MHz
Number of Sub-block	Up to 4 Sub-block
Max. Output Power UL/DL	17/17 dBm ± 2dB
Max. Gain UL/DL	40~60 dB ± 2 dB, 1 dB/step, Manual or Auto Gain Control Support
Gain Flatness	<= 3 dBpp within 100 MHz
Group Delay	<= 3.0 μs
UL/DL EVM	<= 3.5% (at Max. Output Power)
UL Noise Figure	<= 6 dB (at Max. Gain)
VSWR	<= 1.8
Max. Input Power Without Damage	>= 0 dBm (UL&DL)
Out-of-band Gain Rejection	Compliant to 3GPP TS 38.106
Adjacent Channel Leakage Ratio	
Frequency Stability	
Spurious Emission	
Unwanted Emission (Emission Mask)	
TDD Synchronization	Automatic Frame Start Time Acquisition Rx Sensitivity: -88 dBm for 100 MHz and 30 kHz SCS User-set TDD Slot Format for RF SW Control
Built-in Antenna **	Antenna Gain ≥ 5dBi for Frequency Band < 1700MHz Antenna Gain ≥ 5.5dBi for Frequency Band > 1700MHz Automatically Switch Off When Using DC-Short External Antenna
Antenna Port	SISO (or 2x2 MIMO Optional) SMA Female RF Connector
Impedance	50Ω
Power Adapter	Input: AC 100~240V, 50/60Hz Output: DC 12V/3A (SISO), 12V/5A (2x2 MIMO)
Power Consumption ***	< 22W for SISO, < 40W for 2x2 MIMO
Dimensions ***	200 x 156 x 50 mm (excluding RF connector)
Weight ***	<= 2.5kg
Operating Temperature	0°C ~ +55°C
MTBF ***	50,000 hrs
Automatic Shutdown Function	RSSI Overpower Shutdown (Max. -20 dBm ± 2 dB, OMT Programmable) RSSI Underpower Shutdown (Min. -86 dBm ± 2 dB, OMT Programmable)
LED Indicators	RSSI: Green LED x 3 to Indicate Receive Power Level ALM: Red LED x 1 to Indicate the Unit Is Alarming STATE: Green LED x 1 to Indicate Operating Status (Blinking: Out-of-sync, Solid: In-Sync)
Local Control	OMT: PC Tool or Android APP Connection: USB Type-C OTG Cable or BT (Optional)
Remote Control	OMC: Web Server Connection: MQTT/TCP/IP or SNMP/UDP/IP RCU with IoT Modem (Optional)

* The operational bands will be tuned and optimized based on customer request
 ** Built-in antennas are optional and can be removed based on customer request
 *** For 2-block dual-band design