

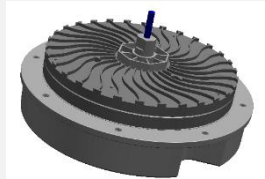
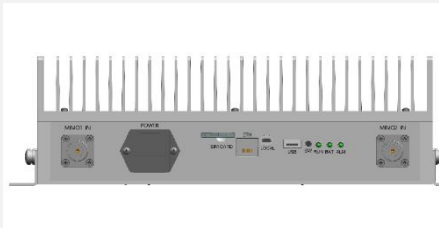


Synergy 5G Indoor Coverage Solutions Introduction



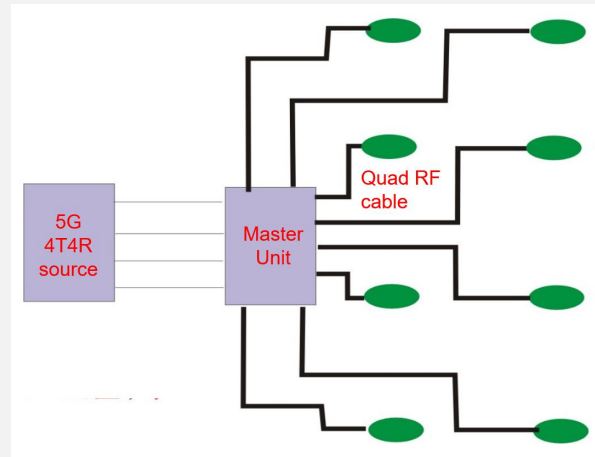
5G Indoor Coverage Solutions Overview

Passive DAS Upgrade to 2*2 MIMO 5G



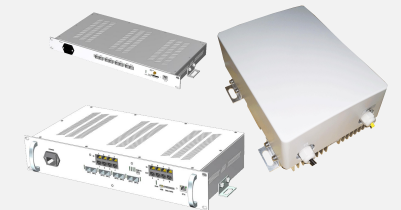
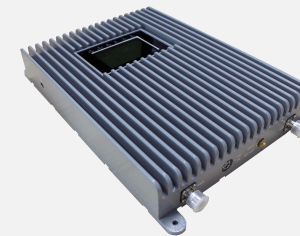
Utilizing **intelligent 5G frequency shift** technology to upgrade existing DAS to support to 2*2 MIMO 5G, no need to change the existing RF cable

High-capacity, Cost-effective 4*4 MIMO Indoor 5G Coverage



4T4R 5G Intelligent Indoor distributed coverage system for 4*4 MIMO 5G, Cost-effective and high-capacity for 5G indoor coverage

Traditional Indoor Coverage Solutions to 5G



Repeater
Plug-and-play, rapid deployment 5G for homes or SMEs

HDAS/MDAS
Medium-power/high-power 5G MDAS solutions



Intelligent 5G NR Frequency Shift Solution

Existing DAS Upgrade to 2*2 MIMO 5G



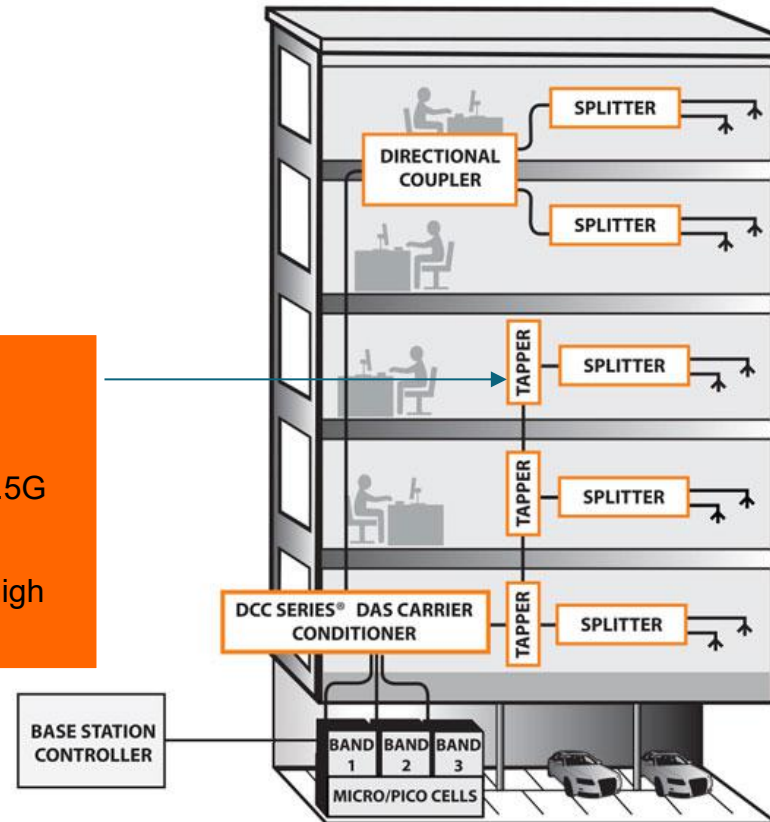
5G MIMO Challenges Passive DAS System

High Frequency

- The splitter, tapper and coupler don't support 3.5G Hz
- High insertion loss on high frequency

MIMO support

- Need 2 ways to support 2*2 MIMO on traditional DAS system



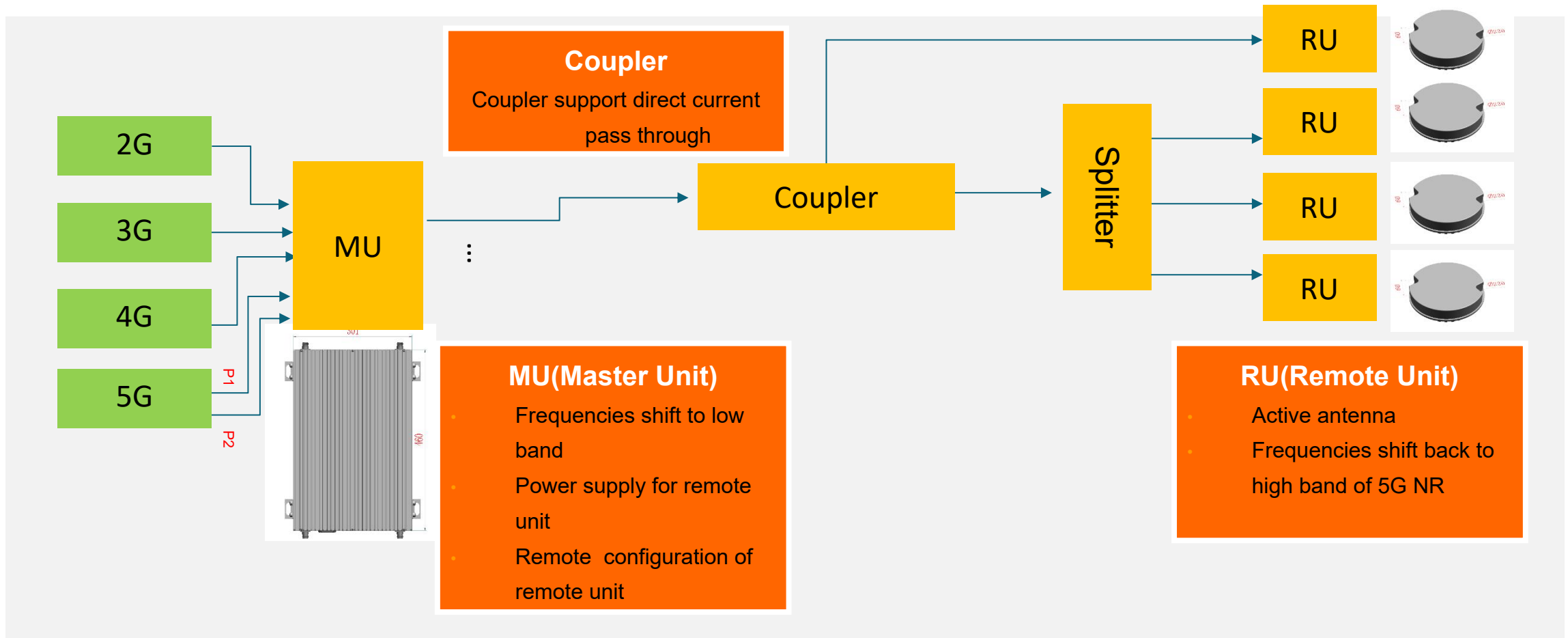
PASSIVE DAS SYSTEM
(LARGER BUILDING USING CELLULAR NETWORK)



Intelligent 5G NR Frequency Shift Upgrade

2*2 MIMO 5G Beyond DAS System

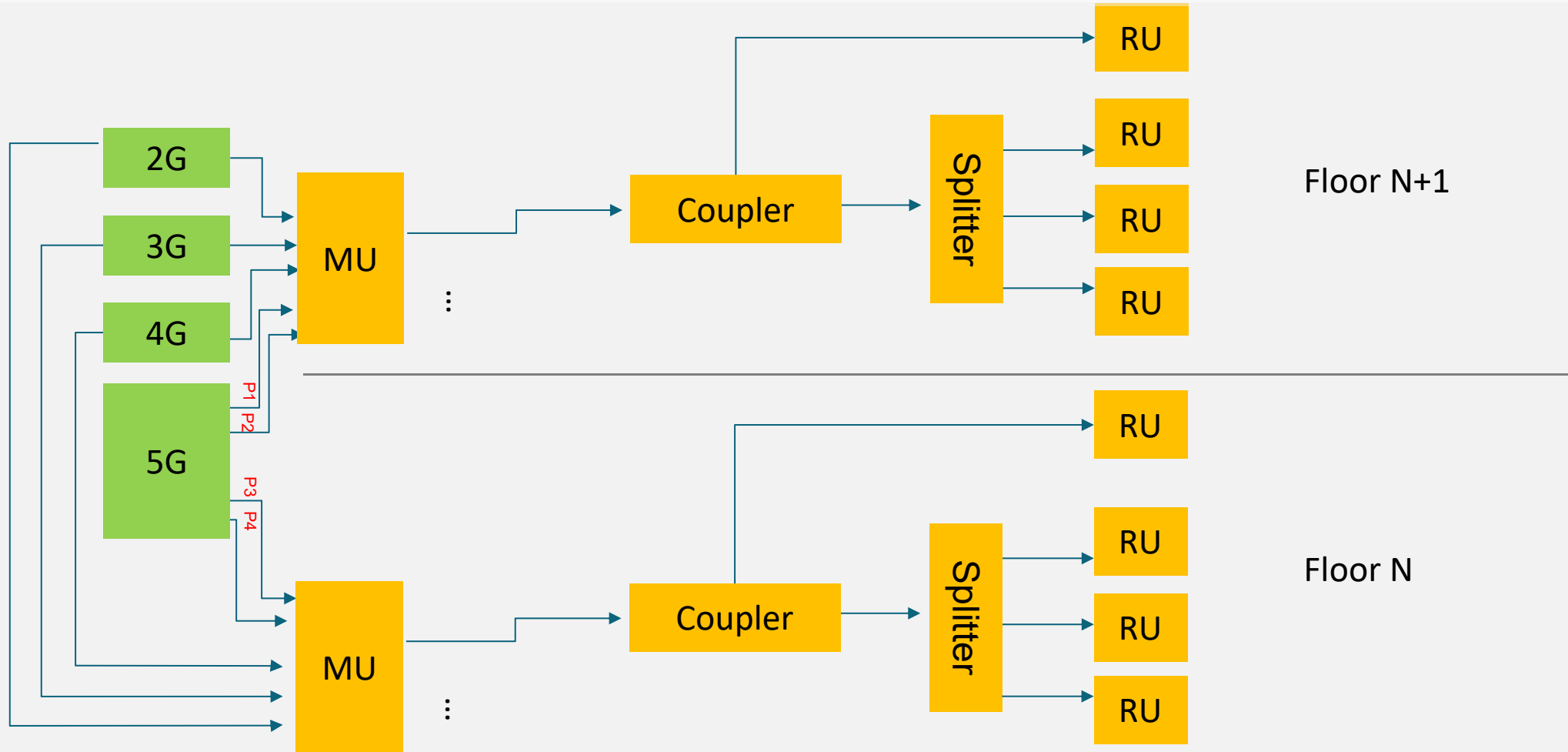
5G NR 2*2 MIMO signal **is shifted by Main Unit** to low frequency band which is supported by passive DAS system and then it is transmitted through the coupler, splitter and RF cable and **shifted back by Remote Unit** to 2*2 MIMO 5G signal





The Solutions Can Achieve 5G 4*4MIMO Coverage

Utilizing 4T4R 5G source and deploying Intelligent 5G NR Frequency Shift Solution in different floors can get 5G 4*4 MIMO gain



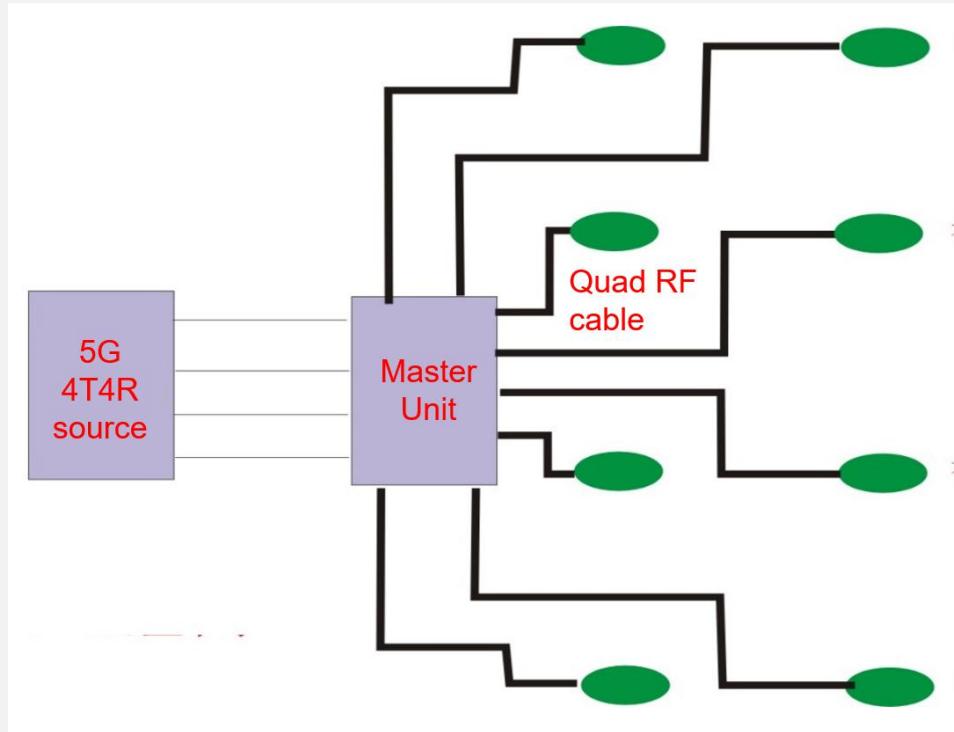


4T4R 5G Intelligent Indoor Distributed Coverage System

Cost-effective And High-capacity



Distributed 4T4R Indoor Coverage System for 5G



5G 4T4R Active antenna:
4*2W

5G 4T4R Active antenna:
4*2W

5G 4T4R Active antenna:
4*2W

5G 4T4R Active antenna:
4*2W



Quad RF Cable



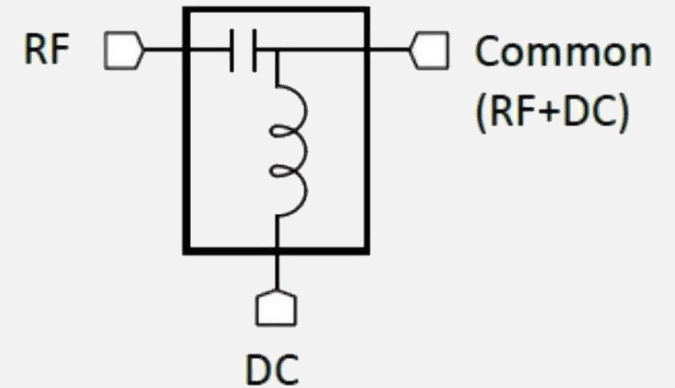
4T4R Active Antenna

The intelligent distributed unit receive the 4T4R 5G signal form 5G pRRU or other 5G source, and then it distributes the 4T4R 5G signal to 5G Active **antennas throughout Quad RF cable**. The 5G Active antennas transmit the fixed power of 4*2W and give good 5G indoor coverage



Flexible Power Supply To Match Scenarios

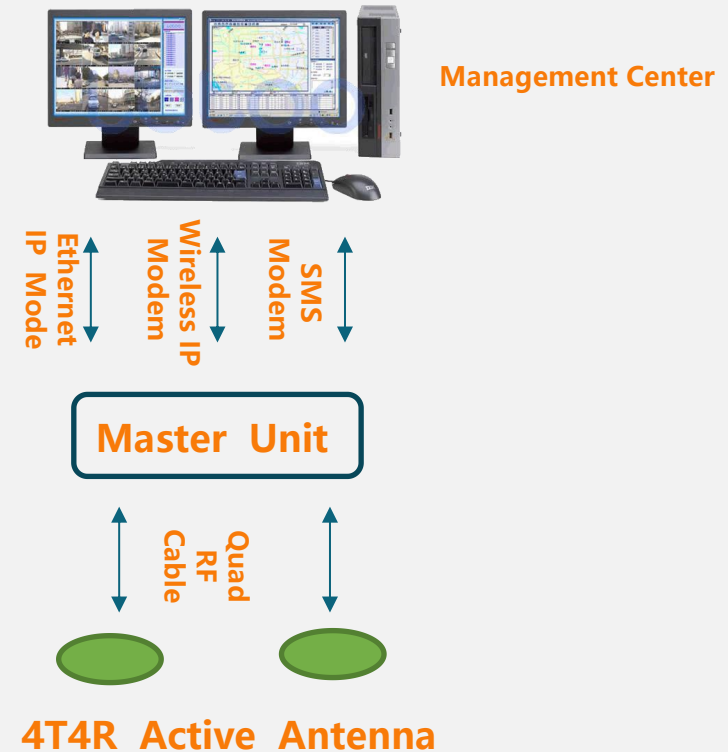
- Master Unit power supply: AC220V/DC48V
- 4T4R Active Antenna power supply: **Supplied by Master Unit through Quad RF Cable** or Power supply separately by AC220V/DC48V
- Power support capacity for 4T4R Active Antenna: one Master Unit can provide power for **8 4T4R Active Antenna** with **the distance of 150 meters**
- Power capacity can be customized as required





Varied Management Capability for Requirements

- Supporting network management protocol of digital optical repeater
- The Master Unit manage the 4T4R Active Antennas through Quad RF Cable
- Supporting management modes of **ethernet IP, wireless IP or SMS**



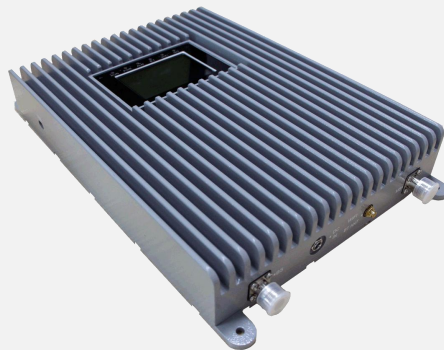
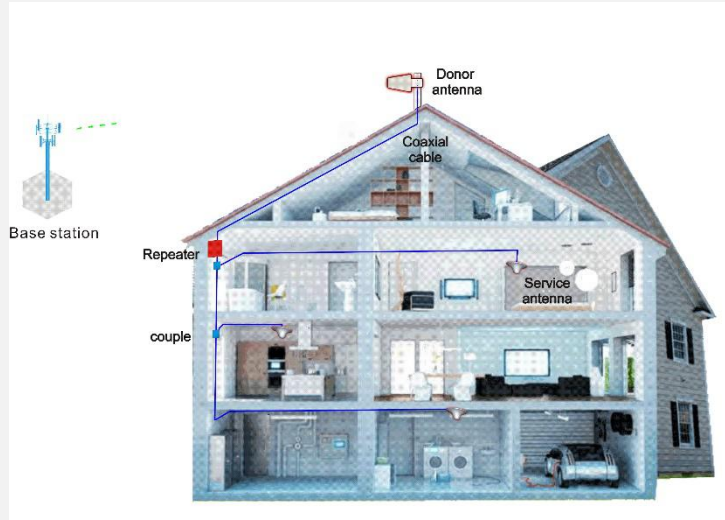


Traditional 5G Indoor Coverage Solutions

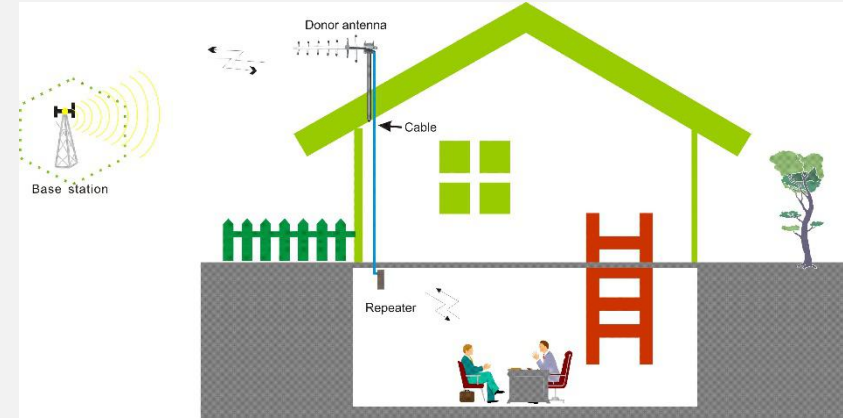
5G Repeater/HDAS/MDAS



5G Wireless Repeater



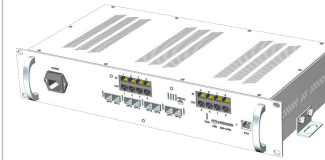
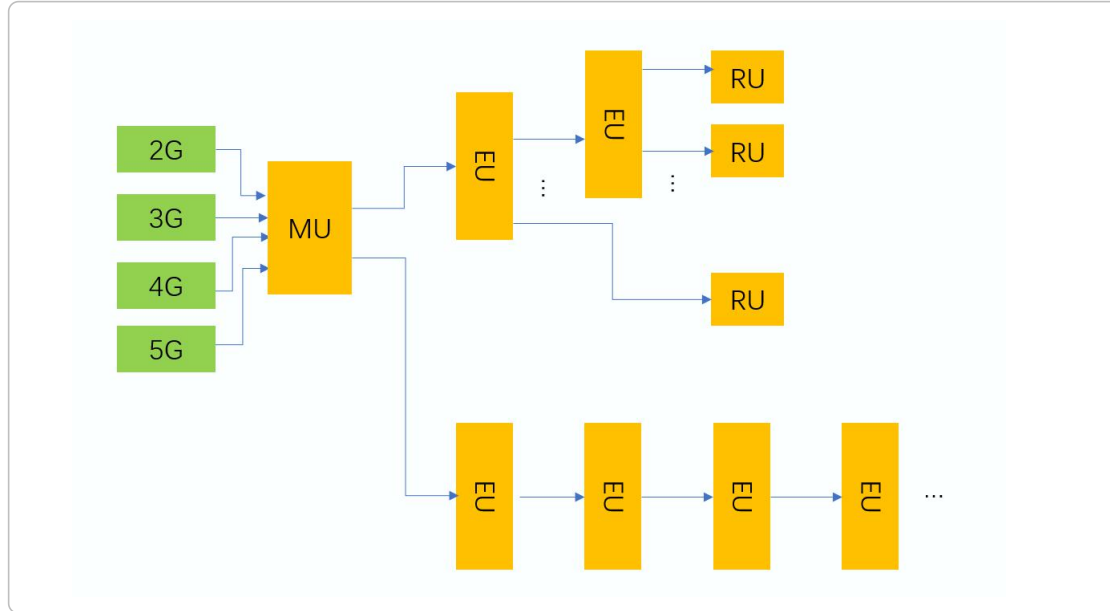
Medium power
for SMEs



Micro power for
households



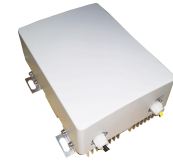
5G HDAS/MDAS Solutions



MU
(Master Unit)



EU
(Extend Unit)



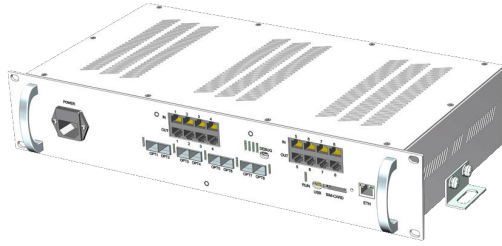
RU
(Remote Unit)

The Master Unit captures the BTS signal and converts it into an optical signal and transmits the amplified signal to the Remote Unit via an Extend Unit and fiber optic cable. The Remote Unit will reconvert the optical signal into an RF signal and provide the signal to the areas where network coverage is inadequate.



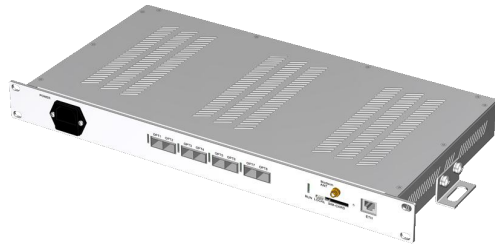
Synergy 5G MDAS Solution Configuration

MU



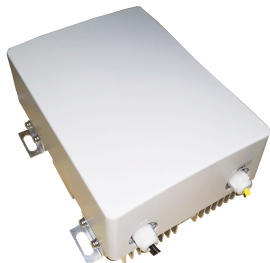
- ✓ Supporting 2G+3G+4G+5G
 - ✓ 1 MU support 4-6 EU/RU
 - ✓ Supporting 4G 2T2R, 5G 2T2R/4T4R
 - ✓ DC48V/AC220V
-

EU



- ✓ EU is optional, 1 EU support 8 RU
 - ✓ Transmission: fiber optic/Ethernet cable
Installation: Indoor/Outdoor
 - ✓ AC220V/DC48V
-

RU

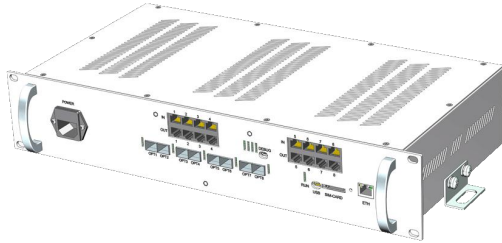


- ✓ Supporting 2G+3G+4G+5G
- ✓ Output power: 37dBm/40dBm/43dBm
- ✓ 4G 2T2R, 5G 2T2R/4T4R



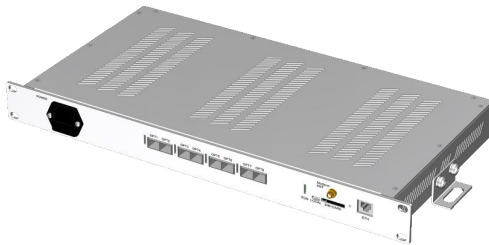
Synergy 5G HDAS Solutions Configuration

MU



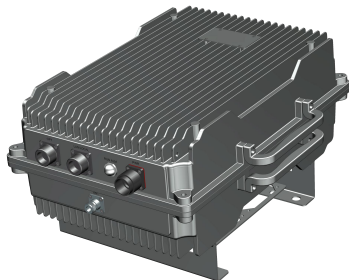
- ✓ Supporting 2G+3G+4G+5G
 - ✓ 1 MU support 4-6 EU/RU
 - ✓ Supporting 4G 2T2R, 5G 2T2R/4T4R
 - ✓ DC48V/AC220V
-

EU



- ✓ EU is optional, 1 EU support 8 RU
 - ✓ Transmission: fiber optic/Ethernet cable
Installation: Indoor/Outdoor
 - ✓ AC220V/DC48V
-

RU



- ✓ Supporting 2G+3G+4G+5G
- ✓ Output power: 24dBm/27dBm/33dBm
- ✓ 4G 2T2R, 5G 2T2R/4T4R



Thank You!