



ACTIVE DAS DEPLOYMENT IN HONG KONG

Providing ubiquitous in-building solution to enhance mobile network performance

Case Study

May 2021
Comba Telecom

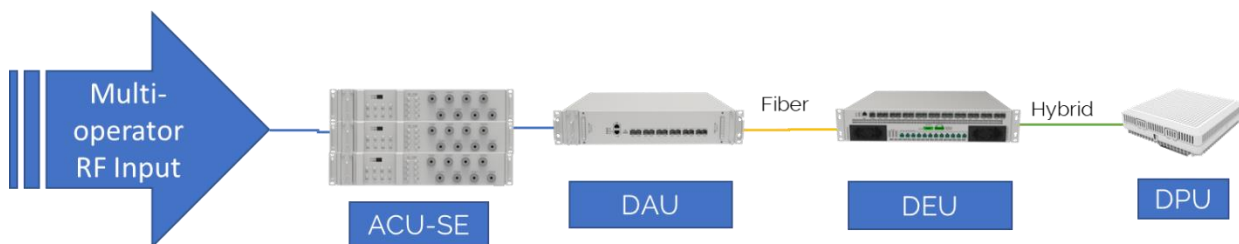


BACKGROUND

Located in one of the main business and tourist districts in Hong Kong, the commercial mall-cum-office complex accommodates a large number of visitors and tenants every day. In fulfilling the demand from local mobile network operators, Comba had deployed the active solution of Distributed Antenna System (DAS) in multi-system 900/1800/2100/2300/2600MHz as well as 3.5GHz for all mobile generation technologies to support multi-operator scenario in the building. This is a hybrid integrated radio system comprising of Comba's active DAS solution serving the traffic of a 6-storey shopping arcade, and traditional passive DAS serving 10 floors of Grade-A business offices. In this case study, we will share how Comba's active DAS solution deployed for the 6-storey shopping arcade.

SOLUTION

Here's the highlight: Comba's ComFlex Pro Low Power solution can support 300MHz instantaneous bandwidth in 3.5GHz frequency range with 4x4 MIMO capability as shown in system architecture below.



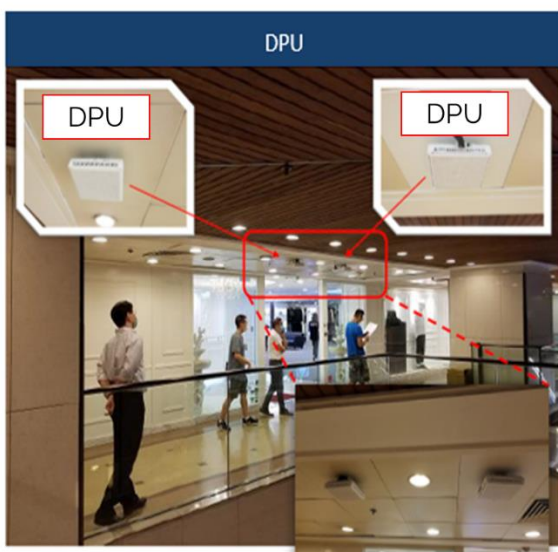
For the deployment in this building, some of the active antenna units, also called Distributed Point Unit (DPU) in ComFlex Pro solution, are installed above the false ceiling while the others are mounted underneath. In both cases, coverage result is highly satisfied for accomplishing in the range of -60dBm to -80dBm. With a total of 60MHz bandwidth in 3.5GHz band, the throughput of more than **400Mbps in downlink** and more than **90Mbps in uplink** can be achieved for a single user. It is worth noting that the result was collected during business hours.

ComFlex Pro Low Power solution helps operators resolve the installation difficulty in traditional DAS. Omitting passive components such as power splitter and coupler, DPU can be easily connected via fiber optic cable from the extension unit. There is also no need to worry about Passive Intermodulation which commonly happen in passive DAS. To deliver high data throughput in next generation mobile communication, indoor DAS needs to evolve to support multiple data stream. In passive DAS, multiple SISO antenna or 2x2 MIMO antenna are installed to form virtual 4x4 MIMO coverage. This problem can be solved by using ComFlex Pro Low Power where a single DPU can support 4x4 MIMO. With the continuous strong rapport between Comba and local mobile network operators, there will be more successful cases of ComFlex Pro solution deployed in the region.

INSTALLATION PHOTOS



WALK TEST RESULTS



Band: n78
Bandwidth: 60 MHz
RSRP: -76 dBm
SINR: 17.7 dB

DL Throughput: 403Mbps
UL Throughput: 64.8Mbps
Latency: 9 ms

ABOUT COMBA TELECOM

Comba Telecom is a leading supplier of infrastructure and wireless enhancement solutions to mobile operators and enterprises to enhance and extend their wireless communications networks. With over 50,000 system deployments around the world including turnkey in-building systems, urban/rural wireless systems, and transport wireless networks, Comba Telecom's end-to-end network solutions include consultation, network design, optimization and commissioning. Comba Telecom's product portfolio includes DAS, small cells, tower mounted systems, antennas, subsystems, passive accessories, Wi-Fi systems and digital microwave links.

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