

ZTE Neat Radio, an all-RAT and all-scenario solution


Nowadays, most mobile network operators are facing two tough challenges at the same time: one is to further modernize the existing 2G/3G/4G network to accommodate explosive mobile data growth and various new services, and the other is to get prepared for the upcoming 5G deployment, which further complicates the first challenge. Finding the best approach to address both challenges in a direct and efficient way is meant to be a key to the success of any mobile operators in question.

Neat Radio is a total site solution for all deployment scenarios

Today's site deployment and optimization requires better capacity and better space efficiency at all scenarios, including high data traffic macro coverage, busy street scenario, hot-spot and blind-spot, and high data traffic indoor coverage. Neat Radio covers all of the key scenarios, with four component solutions, to help operators deploy and optimize network with a comprehensive solution.

- **Neat Macro** focuses on the fundamental macro coverage scenario with many different types of innovative and powerful products, including Massive MIMO for extremely high data traffic scenario, and also for those high-traffic but space-limited scenarios for which we can use highly-integrated and great-performing Ultra-broadband (UBR), Active Antenna Unit (AAU) products, and antenna-port-saving RRUs with “combiner inside” technology to carry out so highly-efficient a site deployment that for a single cell we need just one antenna to enable from 2G, 3G to 4G over multiple frequency bands, while at the same time reserve precious tower space for 5G deployment late on.

For macro site deployment, Neat Radio enables “one antenna for all of 2G/3G/4G” in one cell using compact and powerful equipment including UBR, AAU and combiner-embedded RRUs, to greatly reduce the pressure on antenna space and overall cost, which could be further leveraged, much to the benefits of the operators, by the upcoming 5G deployment.



Neat Radio products combine both compactness and performance. R8894E, for instance, is the first 4T UBR product in the market, offering dual-frequency (1.8G & 2.1G), four-carrier and 4×4 MIMO capabilities, so where two units of RRUs are traditionally required can now do with just one – a 50% saving; ZTE will soon release a triple-band UBR to further improving it to 67% saving of required RRUs. The 4T UBR also has $4 \times 80W$ output power which can be shared flexibly between the two bands, which makes it ideal for dual-band deployment. AAU, another type of products that ZTE has been leading the market with, now supports up to five bands in one product. In other cases, combiner-embedded RRUs like R8854D can make deployment, with just one antenna and no external combiners, of three different bands, 1800M, 2100M and 2600M.

- **Neat Street** aims at those streets that are high on business traffic which means a lot of network users and a lot of network traffic. Once again, there is a variety of radio unit products available for the job, for example all-in-one and high-power iMacro AAU to offer both high capacity and quick deployment.
- **Neat Spot** is for hot spots and blind spots of coverage such as stadiums and scenic areas. The complete and convenient Pad series, including Pad RRU, Pad BBU, Pad Power and Pad Battery, is a light weight, small form-factor and all-weather outdoor solution.
- **Neat Ceiling** is set to enhance indoor deep coverage to much better level and to meet very high demands on data and services in high-value and high-traffic areas. ZTE' s famous QCell products now supports up to four bands and five RATs, with 4×4 MIMO, Carrier Aggregation and 256QAM capability and user throughput up to 1 Gbps.

Success cases

Such a comprehensive and powerful solution has been well received and deployed by many operators around the world and is now serving thousands of millions of subscribers.

In countries such as Italy, Belgium, Japan, Thailand and India the UBR products have helped the operators achieve tremendous saving on deployment cost and also on operational expenditure. More than 100,000 units have been deployed. Qcell, ZTE' s indoor

solution, over 900,000 units have been delivered and is now serving hundreds of millions of users in networks around the world, and has helped ZTE receive many international awards. FDD Massive MIMO, a star product of ZTE, has now been deployed in commercial networks in global market.

Conclusion

To summary it up, Neat Radio addresses the two tough challenges for almost any mobile operators in a straightforward and comprehensively efficient way.

Firstly, it improves site deployment efficiency in all key scenarios and offers best-in-class capacity. All these save costs in many aspects, reduce time-to-market and enhance the quality of the network.

Secondly, it offers support of smooth evolution to 5G by making precious space available for 5G deployment later on and by offering equipment readiness for 5G.

As a result, many Neat Radio products and solutions have been deployed around the world and will definitely continue to help operators achieve much more efficient network modernization and smoother evolution.