Handset Designs for Regional Cellular Markets

Today’s device manufacturers have to develop for a broad list of regional markets all with different requirements. Each device must be performance and cost optimized but flexible enough to be deployed in new regions with little redesign.

The typical frequency band count for mass market LTE devices is increasing rapidly each year. New bands, up to 20 or more in 2018, require more filters and a more capable front-end solution.

Carrier Aggregation Coverage Requires New, Flexible Front-Ends

Diversity of carrier aggregation band combinations across regions is expanding rapidly. To enable these new combinations, front-end solutions have to connect to multiplexers and antennas in various ways depending on regional requirements.

Reduced Antenna Area Requires Higher Power

More power
More linearity

Flip to discover the Qorvo solution
RF Flex™ enables solutions for regionally focused mid- and entry-tier LTE devices. These solutions provide the performance and size OEMs need while remaining flexible and scalable for the broad world market.

- Solving advanced RF complexity
- Broad portfolio addressing many sub-markets
- Optimized for flexibility & scalability
- Addressing power amplifier, switch & filter needs
- Right-sized integration
- Supported by world-class systems & applications team

RF Flex LTE Solutions

- 150 Mbps
  - 10 + 10 MHz
  - 2x2 MIMO
  - Cat 4

- 300 Mbps
  - 20 + 20 MHz
  - 2x2 MIMO
  - Cat 6

- 450 Mbps
  - 3CA
  - 2x2 MIMO
  - Cat 9

Gen 5 TxM
- Multiple antenna outputs support CA by enabling various multiplexer and antenna connections in a flexible, scalable way
- Increased 2G output power improves TRP and overcomes higher insertion losses

Gen 5 MBPA
- Increased output power and linearity supports higher order modulation and UL CA
- High Power UE/Power Class 2 enabled by high-performance PA core

Increased Complexity

- 2015
  - GEN 2
  - 3 Mode/5 Mode

- 2016
  - GEN 3
  - 6 Mode + DL CA

- 2017
  - GEN 5
  - Overseas + UL CA

- 2018

Each new generation of RF Flex offers a higher level of performance and capability required by OEMs to meet changing market needs. Gen 5, Qorvo’s latest generation of RF Flex, continues this trend through implementation of new technology to support 3+ downlink and select uplink carrier aggregation cases. Gen 5 brings OEMs a solution that is both globally capable and regionally optimized.