

ZTE view on Way Forward towards Global 5G Vision and Collaboration



Concluding comments: Overview

•First, we are very glad to see that the development of 5G will be a world wide cooperation





















- The world wide cooperation is very important for providing energy efficient (green), high performing and low cost 5G solutions, which is the overall targets.
- All are very positive to global harmonization and cooperation
 - Both for standards and spectrum
- •We all need to cooperate in all related areas



Questions to be considered in near future

- 1. How to harmonize the early 5G and full 5G features
- 2. How to harmonize the regional trials
- 3. How to integrate the verticals requirements and commercialization using 5G standard



Questions to be considered in near future,

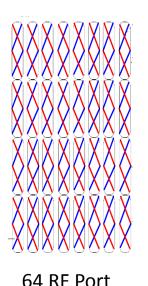
- Some preliminary answers

- 1. How to harmonize the early 5G and full 5G features
 - Early 5G supported with pre5G: LTE-A + extended bandwidth
 - Full 5G to be supported with new RAT, for both IoT and MBB
 - New channel modeling for new candidate high frequencies
- 2. How to harmonize the regional trials
 - Now: Operator driven
 - Future: To be driven by NGMN and regional/national regulators
- 3. How to integrate the verticals requirements and commercialization using 5G standard
 - Now: Telecom lead
 - Future: Vertical and Telecom lead



Pre5G Massive MIMO BTS – ZTE Paper

Architecture



(128 element)

Outlook - Antenna+RRU+BBU



Index

•Band: 2.6 GHz

•Bandwidth: 20MHz

•TX Power: 40W/Carrier

•Weight: 40Kg

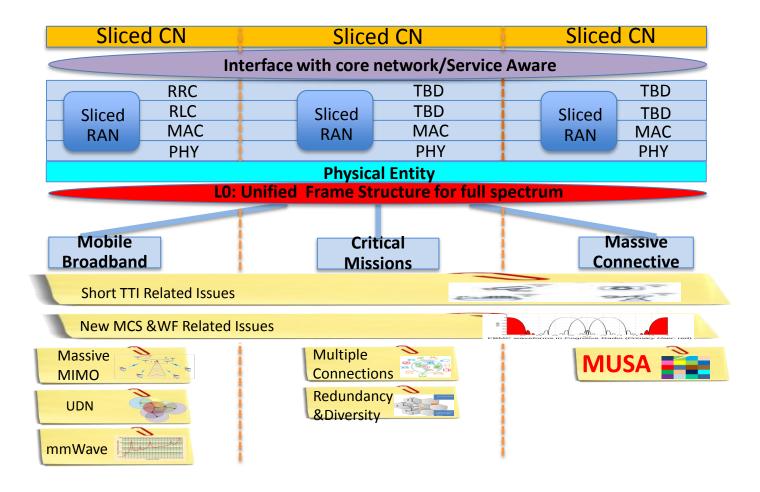
•Size (mm): 900*500*120

4X-6X Average Capacity Improvement

- Windward Area of Massive MIMO BTS is similar as Legacy TD-LTE Antenna
- In China Mobile Test, Massive MIMO BTS achieves 3X peak data rate and obviously improved high building coverage, as compared with legacy TD-LTE



New 5G RAT with unified Air Interface





New 5G RAT based on new channel modeling

- ZTE alliance will contribute with its measurement and analysis results

ZTE-CMCC Alliance on Higher Frequency Band Channel Measurement/Modeling

6GHz

- Xidian Univ: MIMO ULA
- Tongji Univ: V2V

15GHz

- Beijing Jiaotong Univ.
- High-speed
 Train

23/28GHz

- South-Eastern Univ, BUPT
- Indoor
- Outdoor

45GHz

- South Eastern Univ.
- Indoor: Finished
- Outdoor

60GHz

- North China Electric Power Univ (NCPEU)
- Indoor

Scenarios

• Phy Tx Environ.

Parameters

Attributes

Geometry

Material

Real Time Calculation

- Building Main Frame
- Main Ray Distribution

Statistics

- Building Details
- Random Scatter
- Intra-Cluster Small Scale Distribution

Blink & Blockage Model

- Blockage Model
- Blink Model

- Antenna Coupling
- Antenna Pattern
- Beamforming

ZTE

7

© ZTF Corporation All rights reserved

ZTE view on: Way forward towards a global 5G vision and colloboration

Harmonization of early 5G and full 5G features

- Early 5G supported with pre5G: LTE-A + extended bandwidth
- Full 5G to be supported with new RAT, for both IoT and MBB
 - New channel modeling for new candidate high frequencies

Harmonization of regional trials

- Driven by NGMN and regional/national regulators
- Integration of the verticals requirements and commercialization using 5G standard
 - Vertical and Telecom lead
- ZTE is willing to contribute with its global R&D resources for a global harmonization



Thanks

