MOBILE NETWORK TEST: 
ERICSSON LEAN CARRIER VERIFIED IN 
TELSTRA 4G LTE SERVICE

• Signals Research Group independent testing of Ericsson Lean Carrier software on Telstra’s commercial LTE network confirms improved user performance and network efficiency
• Up to 67% increase in utilization of advanced modulation techniques – both 64 and 256 QAM – when Ericsson Lean Carrier enabled, increasing spectral efficiency
• Results from fixed and mobile testing validate user experience improvements of Ericsson innovation

In October, 2015, Ericsson (NASDAQ:ERIC) launched a new proprietary LTE software innovation, called Ericsson Lean Carrier, to improve both the user experience and the spectrum efficiency of mobile networks by applying 5G ultra-lean design concepts to today’s LTE networks. Both Telstra and SK Telecom have confirmed support for Ericsson Lean Carrier software in their commercial LTE networks. In February, 2016, Signals Research Group (SRG) conducted independent testing on the Telstra 4G LTE service, verifying the increased utilization of both 256 QAM and 64 QAM when Ericsson Lean Carrier software was enabled.

Michael Thelander, President and Founder, Signals Research Group, says: “Our testing reflects that, with Ericsson Lean Carrier, the user experience and network efficiency benefits of higher order modulation techniques, both 256 QAM and 64 QAM, in fixed and mobile applications, can be delivered more often and over a broader coverage area. It is evident in our geo plots that the 256 QAM modulation scheme was used far more frequently when Ericsson Lean Carrier was enabled – this was a very pleasant surprise since 256 QAM was solely targeted for use in small cells when first introduced. We foresee tremendous advantages associated with deploying 256 QAM throughout an operator’s macro network.”

Telstra configured the network so that SRG could conduct testing with Ericsson Lean Carrier enabled and disabled, ensuring a valid basis for comparison. Ericsson was not aware of the test campaign until just prior to SRG releasing the study in its subscription-based Signals Ahead publication. The user device for the testing was the NETGEAR™ 810S mobile hotspot (Category 11 device) with the Qualcomm® Snapdragon™ X12 LTE modem. The device supports 256 QAM and three 20 MHz FDD carriers.

Mike Wright, Telstra Group Managing Director, Networks, says: “Telstra is pleased to have provided a world leading network platform for SRG to independently verify the performance
benefits of Ericsson Lean Carrier. The Telstra mobile network already supports devices capable of download speeds of up to 600 Mbps enabled with 256 QAM and Ericsson Lean Carrier, and we were pleased that Signals Research Group noted, ‘There are very few LTE networks anywhere in the world where this level of performance can be observed’.

For all of the tests, SRG had multiple FTP downloads occurring simultaneously in order to maximize the amount of data being sent through the network. In the mobility testing, it was found that there were numerous regions along the drive route where 256 QAM availability was higher with Ericsson Lean Carrier enabled. In stationary testing, the incidence of 64 and 256 QAM utilization increased by 67%. In addition to improved efficiency, greater utilization of 256 QAM will also increase the data rates users experience enabling peak LTE data rates of 1 Gbps for gigabit LTE equipped networks.

From a network efficiency perspective, SRG highlights a rising tide effect with Ericsson Lean Carrier, noting: “Using 256 QAM, if the network can more efficiently schedule a few users then it has more network resources available to schedule all of the other users which cannot take advantage of the higher modulation.” Comprehensive results are included in the research consultancy’s Signals Ahead report “How Fast is that Kangaroo in the Window? The one with the 256 QAM” published in May, 2016. This study was independently conducted by and entirely self-funded by SRG. Access to the findings is available in SRG’s “Signals Ahead” subscription-based publication.

Per Narvinger, Head of 4G and 5G Access, Business Unit Radio, Ericsson, says: “With Lean Carrier, Ericsson is the first to address inter-cell signaling interference by introducing 5G ultra-lean design concepts to LTE, so we are pleased to see that the results of Signals Research independent testing have validated our own findings, in terms of improved app coverage and network efficiency. With increasing mobile network demand from consumers, industry and the IoT, Ericsson innovation focuses on enhancing the performance and efficiency of today’s LTE networks while supporting our customers’ evolution to 5G.”

Ericsson Lean Carrier has also been validated in the SK Telecom 4G LTE network where the software is running live in thousands of cells. Joint testing conducted with Ericsson in Q3 and Q4, 2015 confirmed that that the reduction of reference signals and related interference enabled 256 QAM to be more broadly applied throughout the outdoor macro environment.

Ericsson is present today in all high traffic LTE markets including US, Japan, and South Korea, and is ranked first for handling the most global LTE traffic. In addition, forty percent of the world’s total mobile traffic is carried over Ericsson networks. More than 250 LTE RAN and Evolved Packet Core networks have been delivered by Ericsson worldwide, of which 190 are live commercially.

NOTES TO EDITORS

Learn more: Ericsson Lean Carrier
Video: Introducing Ericsson Lean Carrier
Ericsson innovation applies 5G concept for up to 50% higher speed on 4G LTE smartphones
Ericsson and Qualcomm Technologies successfully test 1 Gbps for Telstra
Ericsson unleashes Gigabit LTE and creates Hyperscale Cloud RAN

Download the Signals Ahead report preview at http://signalsresearch.com/issue/how-fast-is-that-kangaroo-in-the-window/

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Ericsson is the driving force behind the Networked Society – a world leader in communications technology and services. Our long-term relationships with every major telecom operator in the world allow people, business and society to fulfill their potential and create a more sustainable future.

Our services, software and infrastructure – especially in mobility, broadband and the cloud – are enabling the telecom industry and other sectors to do better business, increase efficiency, improve the user experience and capture new opportunities.

With approximately 115,000 professionals and customers in 180 countries, we combine global scale with technology and services leadership. We support networks that connect more than 2.5 billion subscribers. Forty percent of the world’s mobile traffic is carried over Ericsson networks. And our investments in research and development ensure that our solutions – and our customers – stay in front.

Founded in 1876, Ericsson has its headquarters in Stockholm, Sweden. Net sales in 2014 were SEK 228.0 billion (USD 33.1 billion). Ericsson is listed on NASDAQ OMX stock exchange in Stockholm and the NASDAQ in New York.

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