Mobile industry works together to deliver complete 5G system standard on time

China Mobile, Anritsu Corporation, Asia Pacific Telecom, AT&T, British Telecom, CAICT , CATT, China Telecom, China Unicom, Chunghwa Telecom, Deutsche Telekom, DISH Network, Ericsson, Fujitsu Limited, Huawei, Intel Corporation, InterDigital, Keysight Technologies, KDDI Corporation, KT Corp, KYOCERA Corporation, Lenovo, LG Electronics, LG Uplus, MediaTek, Microelectronics Technology Inc., Mitsubishi Electric Corporation, NEC Corporation, Nokia, NTT DOCOMO, INC., OPPO, Orange, Panasonic Corporation, Qualcomm Technologies, Inc., Rohde-Schwarz, Samsung Electronics, Sharp Corporation, SK Telecom, SoftBank Corp., Sony Mobile Communications Inc., Spirent Communications, StarPoint, Sumitomo Electric Industries, Ltd., TIM, Unisoc, Verizon, VIAVI, vivo, Vodafone, Xiaomi, ZTE

La Jolla, USA, 20:18 PDT, June 13th, 2018 - 3GPP TSG #80 Plenary Meeting has approved the completion of the standalone (SA) Release 15 5G specifications. After the release of the 5G NR specifications for non-standalone (NSA) operation in Dec. 2017, another essential step of standardization of 5G has been successfully completed. Now, the whole industry is taking the final sprint towards 5G commercialization. The completion of SA specifications which complements the NSA specifications, not only gives 5G NR the ability of independent deployment, but also brings a brand new end-to-end network architecture, making 5G a facilitator and an accelerator during the intelligent information and communications technology improvement process of enterprise customers and vertical industries. New business models will be enabled and a new era where everything is interconnected will be opened up for both mobile operators and industrial partners.

More than 600 delegates from the world's major telecom operators, network, terminals and chipset vendors, internet companies and other vertical industry companies have witnessed this historic moment for 5G. Balázs Bertényi, Chairman of 3GPP TSG RAN, said: “The freeze of Standalone 5G NR radio specifications represents a major milestone in the quest of the wireless industry towards realizing the holistic 5G vision. 5G NR Standalone systems not only dramatically increase the mobile broadband speeds and capacity, but also open the door for new industries beyond telecommunications that are looking to revolutionize their ecosystem through 5G.” Erik Guttman, Chairman of 3GPP TSG SA, adds: “The agreed completion of the stage 3 freeze milestone for the 5G standalone system has great significance. The 5G System specification has now reached its official stage of completion, thanks to the intense efforts of hundreds of engineers over the past three years. A special acknowledgment is due to those who led this remarkable effort in diverse committees. 5G promises a broad expansion of telecommunications, as an ever more central component of our economies, societies and individual activities. The 5G System opens the way for commercialization of services based on the New Radio and 5G Core Network and their advanced extensible capabilities. The new

system provides the foundation for ongoing specialization for support of new business sectors, for unlike 4G and past generations, 5G supports the very specific requirements and individual service characteristics of diverse communications. Already, 3GPP activities have begun to leverage the 5G system to realize opportunities in areas such as industrial automation. This activity will intensify in the months and years to come, in increasingly many sectors, all on the foundation of the work that has been achieved on this occasion." Georg Mayer, Chairman of 3GPP TSG CT, said: "Two years ago, 5G was seen as a vision or even just a hype - with the closing of Rel-15 3GPP has made 5G a reality within a very short time. The outcome is an amazing set of standards that will not only provide higher data rates and bandwidth to end customers but which is open and flexible enough to satisfy the communication needs of different industries -- 5G will be the integration platform for heterogeneous businesses. All this could only be achieved thanks to the willingness of the stakeholders to work together on a common goal and due to the effectiveness of 3GPPs structure and processes. Rel-15 only marks the first step of the 5G story and 3GPP will further develop it into the future, aligning it to the needs of customers and industries." It is firmly believed by the whole industry that, after 34 months of hard and efficient work, the carefully crafted and elaborately designed 5G specifications, a fruit of close collaborations and collective wisdom, will surely meet the high expectations.

China Mobile

Mr. Li Zhengmao, Vice President of China Mobile, said: "The name of the host place, La Jolla, means "the jewel" in Spanish. As the name of the host place, 5G has been viewed as a "jewel" from its birth and bears the expectations and dreams of the entire mobile communications industry to provide faster and smoother mobile broadband services and more comprehensive and more effective communication solutions to vertical industries. The whole industry will carry the momentum to accelerate the maturity of the 5G end-to-end system, create a new ecology of cross-industry integration, cultivate a new model for 5G development, and make greater contributions to the development of the global digital economy".

Anritsu Corporation

Takashi Seike, the Senior Vice President of Anritsu Corporation, said: "We are very pleased to see the next frontier of wireless communication coming closer to reality by the completion of Standalone 5G NR specification. Anritsu is committed to contribute to commercial success of 5G by ensuring device and service quality through close collaboration with customers and partners."

Asia Pacific Telecom

Mr. Fang-Ming Lu, Chairman of Asia Pacific Telecom, said: "The complete of Rel-15 NR specification opens the door for introducing more intelligence into the world. We are very pleased to continue cooperating with global industry partner to explore new applications of 5G

technology. More specifically, Asia Pacific Telecom is willing to create 5G+8K eco-system to enrich our digital life and provide Industrial IoT services to offer more innovative solutions for society."

AT&T

"Commercial 5G services are closer than ever with the completion of 3GPP Release 15," said Hank Kafka, VP Access Architecture and Standards. "This milestone will allow for more advanced testing using standards-compliant equipment and paves the way for our commercial 5G launch in a dozen cities later this year. We are proud to have been part of the process as the industry participants in 3GPP came together to achieve the acceleration, and now completion, of the first phase of 5G specifications."

British Telecom

"BT recognises another significant milestone on the path of 5G." said Neil J. McRae, Chief Architect at BT, "This step provides the crucial foundation to enable the power of 5G to deliver on low latency, scale and high availability- the foundation that our customers need to usher in the fourth industrial revolution and the era of ultra collaboration."

CAICT

Ms. Wang Zhiqin, Deputy Director of the China Academy of Information and Communications Technology (CAICT), said: "The on-time delivery of the first version of 5G specifications does not come easily. It is the result of wisdom and sweat of people who has devoted themselves to 5G standardization. The new end-to-end business capability of 5G will become an essential engine to open up an era where everything is inter-connected. IMT-2020 (5G) Promotion Group is going to work with industrial partners to promote the successful deployment and development of 5G."

CATT

Chen Shanzhi, the Vice President of Datang Telecom Group (CATT), said: "The success of 5G NR first full specification comes from the joint efforts of the industry. SA operation can be regarded as a prerequisite of 5G supporting both mobile internet and IoT, and also an accelerator for 5G successful commercialization and even a multiplier for 5G showing its social value. Therefore, the successful completion of SA specification has laid a foundation for the overall launch of 5G industry. With 5G commercialization entering the final sprint phase, Datang Telecom Group will continuously endeavor to promote 5G into global commercial success."

China Telecom

China Telecom EVP, Dr. Liu Guiqing said: “China Telecom is proud of being important part of the team for completing this historical 5G milestone. With this Rel-15 SA specification frozen, China Telecom plans to lead the efforts on verifying the specified performance and optimizing the innovative features through field trials in many cities. In parallel to the verification efforts of Rel-15, China Telecom looks forward to working with others in 3GPP to define Rel-16 that is critical for URLLC applications. To get ready for commercialization, China Telecom will work closely with the vendors and partners to promote 5G ecosystem and to explore new applications and business cases. ”

China Unicom

Dr. Shao Guanglu, China Unicom EVP, said: "The 5G standard completed at this meeting is result of sincere cooperation of the whole industry. It is the result of wisdom and sweat of experts in communications, and carries high expectation and dreams of the whole society to form a more intelligent world. The completion of specifications is a milestone for 5G commercialization. 5G can meet various business requirements in different scenarios. It can not only provide high speed wireless access, but also enable vertical industry applications. It help us carry out the national strategies such as *Internet+* and *Made in China 2025*. China Unicom will work together with the whole industry to build a good ecosystem and create a new dimension for 5G development, with the "five new" attitude”.

Chunghwa Telecom

Mr. Kuo-Feng Lin, SEVP and CTO, Chunghwa Telecom said: "We are delighted to see R15 5G NR specifications have been successfully and timely completed. It not only sets a remarkable milestone for the global ecosystem towards 5G eMBB commercialization, but also heralds the start of R16 5G specifications towards broader mMTC and uRLLC opportunities. We appreciate the efforts and contributions from 3GPP colleagues and stakeholders. Chunghwa Telecom will continue cooperating with the whole industrial players to enter the 5G wonderland. "

Deutsche Telekom

“We welcome the on-time completion of the Standalone Architecture with a cloud-friendly core network as part of the Rel-15 3GPP standard. This is another crucial milestone to realize a full end-to-end 5G system,” says Alex Jinsung Choi, SVP Research & Technology Innovation, Deutsche Telekom. “Deutsche Telekom recently implemented the world’s first non-standalone architecture trial in a commercial network in Germany. We now look forward to continuing our cross-industry collaboration to accelerate the 5G ecosystem development and explore the applications of reduced latency and network slicing, so that we can bring the full benefits of 5G to our customers.”

DISH Network

“Congratulations to 3GPP, we are excited to be a part of the completion of this important milestone,” said Mariam Sorond, Vice President of Technology Development at DISH Network. “5G is set to be a paradigm shift for the industry and the completion of standalone (SA) 5G new radio (NR) specifications will enable new entrants to usher in innovative solutions. We look forward to contribute to future milestones which enable the full potential of 5G to address massive connectivity and solutions for other verticals beyond broadband.

Ericsson

Erik Ekudden, Senior Vice President and Chief Technology Officer, Ericsson, says: “5G is fast approaching commercial reality thanks to the dedicated, industry-wide standardization work lead by 3GPP, we together have accelerated the delivery of the standard well ahead of time. Together with our ecosystem partners we will sustain this momentum and ensure that communication service providers can successfully launch 3GPP standard-based 5G networks.”

Fujitsu Limited

Masayuki Seno, SVP and Head of Network Products Business Unit at Fujitsu, said: "Fujitsu is very proud to reach a major milestone by successfully completing standalone (SA) 5G NR specifications together with the world’s mobile operators and vendors. The 5G network is surely the foundation for the secure exchange of information between trusted communities in the hyper-connected world. Fujitsu will strive to provide 5G network products and connected services to co-create human centric innovation through digital technologies with our customers and partners all over the world.”

Huawei

Yang Chaobin, president of Huawei 5G product line, said: “With the development of 5G NR standardization, We are pleased to cooperate with global organizations to reach a great milestone that 3GPP 5G NR specification of Standalone(SA) have been completed, which is a critical step forward for the 5G standardization and industry ecosystem. Huawei will positively invest on the research and development of 5G key technology and product, continue cooperating with global industry partner, and promote the implementation of 5G commercial deployment and health industry ecosystem worldwide. ”

Intel Corporation

Asha Keddy, Vice President and General Manager Next Generation and Standards, Intel:
“As the world prepares for 5G network deployments later this year, Intel is proud to have worked alongside our industrial partners to complete the standalone (SA) 5G new radio (NR)

specification. This new air interface is another major step in our journey to power this first wave of 5G. Intel, with our end to end network, cloud and client focus, and our partners are reimagining the network to deliver a true convergence of computing and communications."

InterDigital

Dr. Robert DiFazio, Vice President, InterDigital Labs: "The completion of the 5G NR standalone specification and indeed all the new technologies that will make up 5G are the culmination of many years of work from all the companies and hundreds of engineers at 3GPP, and InterDigital is proud to have worked alongside them. InterDigital has been committed to playing a leading role in mobile industry standards across multiple generations of wireless, and we are excited to continue contributing our best technology as 5G deploys and brings amazing connectivity and economic opportunity throughout the world."

Keysight Technologies

Satish Dhanasekaran, senior vice president of Keysight Technologies, and president of the Communications Solutions Group (CSG): "We are excited to enable the industry at a threshold of 5G acceleration and commercialization. The completion of the standalone (SA) 5G new radio (NR) specification marks a distinct milestone and offers a playbook for a connected ecosystem to move forward, in making 5G a reality and unlocking huge potential for society. Keysight's is engaged with market leaders, contributions to the 3GPP standardization development and providing scalable 5G test and measurement solutions all the way from L1 to L7."

KDDI Corporation

Mr. Yoshiaki Uchida, Senior Managing Executive Officer, Director of KDDI, said: "We are proud to have played a part in completion of 5G standardization as one of the leaderships of 3GPP TSG. With this successful completion of the 5G NR specification, KDDI will continue our collaboration with various business partners and prepare for the commercial 5G service launch in 2020."

KT Corp

Dr. Hongbeom Jeon, Executive Vice President and Head of KT Corp.'s Infra Lab., said: "Ever since our successful 5G trial at the Pyeongchang Winter Olympics in February, we have sought to elevate 5G standards in 3GPP to a higher level of excellence. KT Corp. greatly appreciates the timely establishment of the full 5G specifications and will continue to lead the global efforts for the coming commercial launch of 5G."

KYOCERA Corporation

Masahiro Inagaki, Senior Executive Officer, General Manager of Corporate R&D Group at Kyocera Corporation said: “The completion of the 5G NR SA specification marks a key turning point in the evolution of the next generation of wireless technology. Kyocera believes the new technology will fundamentally change the efficiency of network resource utilization, deployment flexibility and support of various applications with different QoS requirements such as IoT and V2X, some of which require high efficiency, ultra-reliable, low latency operations.”

Lenovo

Dr. Yong Rui, CTO&SVP of Lenovo Group, said: “The 5G has arrived at one of its key milestones, namely, the 5G NR SA specs has just been released in the 3GPP Plenary. The game-changing 5G has extremely broad implications for the telecommunications as well as many other industries that affect the most exciting and promising fields of the modern society for years to come. Lenovo has been working closely with key industry partners like China Mobile to accelerate the commercialization of 5G technologies to bring their full benefits to both our consumers and clients. ”

LG Electronics

“LG is proud to be one of the key contributors toward the timely and successful completion of the 5G Phase-1 standard including 5G NR Stand Alone specifications, an important milestone to extend the application of 5G technologies to diverse deployment environments and emerging vertical sectors," said Dr. I.P. Park, Chief Technology Officer of LG Electronics. "We are ready to deliver 5G-based intelligent mobile products and convergence services to worldwide markets and look forward to making significant contributions to the evolution of 5G standards.”

LG Uplus

Joosik Choi, executive vice president and Head of 5G Strategy Planning, said: "We would like to thank to 3GPP and all companies for great effort on 5G SA NR standard, Release 15. Based on this standard, LG Uplus is preparing for the successful deployment and commercialization of 5G in 2019. We will contribute to the continued development of 5G NR.”

MediaTek

MediaTek Senior Vice President Cheng-Te Chuang said: “The completion of standalone 5G NR specifications is another remarkable milestone in the progress of 5G and the goal of full coverage 5G SA networks. MediaTek is deeply involved in the standardization of 5G core technologies. With the completion of both SA and NSA specifications, MediaTek’s

commercial-ready 5G chipset is getting mature and MediaTek will be one of the first-tier suppliers in 5G commercial markets.”

Mitsubishi Electric Corporation

Dr. Takashi Nishimura, executive officer in charge of Communication Systems Group, said: "It is our great pleasure to be a member of the group that has created a new 5G standard. Mitsubishi Electric Corporation wishes to contribute to the realization of a prosperous society that simultaneously achieves "sustainability" and "safety, security and comfort", making the best use of the strengths of our existing businesses as well as the opportunities presented by this recently developed 5G standard."

NEC Corporation

Atsuo Kawamura, Executive Vice President and Head of the Network Service Business Unit at NEC Corporation, said: “NEC is proud to have contributed to the completion of 5G NR standardization. This is a significant milestone towards successful commercialization of 5G, which will enable new value and services through its secure and intelligent technologies. Going forward, NEC will continue to develop and provide innovative 5G solutions for society that enable advanced communications and a diversified range of sophisticated services.”

Nokia

Marcus Weldon, President of Bell Labs and Corporate Chief Technology Officer, Nokia, said: "Nokia is proud to have played a significant role in achieving this milestone with excellent global industry cooperation. This milestone connects the 5G radio (NR) to the new 5G Core Network, in line with Nokia’s Future X vision. It enables exciting possibilities for the digital transformation that 5G will bring us for a connected world. A whole new horizon is available to create a digital economy with vertical industries beyond mobile broadband. Nokia will continue to leverage our unique 5G E2E capabilities and bring this vision into reality together with industry partners.”

NTT DOCOMO, INC.

Dr. Hiroshi Nakamura, Executive Vice President and Chief Technology Officer, NTT DOCOMO said: "I’m very glad that the first release of 5G specifications has been completed. This completion is the starting point of sustainable 5G development and the expansion of the 5G global ecosystem by leveraging unified NSA and SA. NTT DOCOMO has been collaborating with many partners across various industries to co-create 5G services through activities such as ‘DOCOMO 5G Open Partner Program’ and ‘DOCOMO 5G Open Labs’. We believe that the completion of the specifications will accelerate open innovation that will bring about solutions to social issues and new style creation for a richer future for all. NTT DOCOMO will continue the collaborative effort aiming to spark the Fourth Industrial Revolution. "

OPPO

Levin Liu, VP of OPPO & Director of OPPO Research Center, said, "The completion of 5G Standalone (SA) specifications marks the milestone where 5G NR truly becomes a complete system and thus is able to take full advantage of its high speed, low latency features. OPPO is willing to cooperate closely with China Mobile and other operator partners to provide richer and unprecedented user experience to end-users globally by introducing 5G capable devices at the earliest time."

Orange

Arnaud Vamparys, SVP Radio Networks in Orange, said: “Orange welcomes the successful development of this new 5G standard release. This ensures more flexibility and freedom for our future 5G roll-outs, enabling 5G autonomous deployment, depending on each country’s specific context and corresponding strategy.”

Panasonic Corporation

Yoshiyuki Miyabe, the Senior Managing Executive Officer and CTO, Panasonic, said: "Panasonic is pleased this set for the 5G NR standard has been completed. 5G can be used not only for enhancement of voice and visual communication but also for new services such as IoT and autonomous driving, which ultimately contribute to resolving social issues. We would like to contribute to achieving ‘A Better Life, A Better World’ using 5G."

Qualcomm Technologies, Inc.

“We are proud to have worked with our industry counterparts in 3GPP RAN as well as in 3GPP CT and SA to achieve this milestone of including standalone 5G NR operation as part of the 5G global standard,” said Cristiano Amon, President, Qualcomm Incorporated. “In addition to our leadership in developing and contributing new ideas and directions to 3GPP, Qualcomm Technologies is putting tremendous effort into making NR commercial through our 3GPP 5G NR spec compliant prototypes and interoperability testing and with the development of 5G NR modem chipsets which support both NSA and SA operation. We will continue to work with the industry to drive the evolution of 5G technologies as well as the worldwide commercialization of both SA and NSA 5G networks and mobile devices.”

Rohde-Schwarz

Mr. Andreas Pauly, EVP of R&S and head of Test and Measurement division said: “This is an important step of 5G development. In the process of 5G industrialization, Standardization is the cornerstone while test provides assurance. As a leading wireless test vendor, R&S participated in all stages of 5G standard development, and cooperated with industry chain partners to

complete all 5G trial test. With formal freeze on 5G NR SA standard, R&S intensifies close work with all partners in 5G new technology and various 5G application fields, provides innovative test solutions to meet 5G challenges, and contributes to the prosperity of future 5G industry."

Samsung Electronics

Seunghwan Cho, Executive Vice President of Samsung Research, said: "We are very pleased to see the completion of the first release of 5G standard. Samsung has pioneered breakthrough technologies for 5G and has been actively collaborating with key partners to achieve this milestone. We will continue our efforts for the commercial success of 5G and deliver a new level of mobile experience to everyone's life."

Sharp Corporation

Yoshiro Nakano, BU President, Mobile Communication BU at Sharp Corporation said: "I'm delighted that 3GPP has completed their work on global 5G specifications today. Utilizing the 5G standards, SHARP will accelerate development of innovative technologies, such as "8K" (ultra-high-definition imaging) and "AIoT" (people-oriented IoT), aiming to contribute to people's rich lives and a sustainable society."

SK Telecom

"It is a significant step that enables new levels of mobile innovation with 5G technology by taking full advantage of new 5G NR and 5GC features. We are proud to be one of the key contributors of this important milestone," said Jinhyo Park, EVP, Head of ICT R&D Division, SK Telecom, "Timely completion of the 5G NR SA standard will encourage operators to quickly move towards 5G commercialization. We truly look forward to taking the first step in the 5G commercialization and keeping the momentum with all 5G ecosystem players."

SoftBank Corp.

Junichi Miyakawa, Representative Director & CTO of SoftBank Corp., said: "SoftBank would like to express our gratitude to the leading companies for the timely completion of 5G standardization in 3GPP. In 2020s, everything will be connected to the internet, guiding us to greater revolution than ever. SoftBank has a huge expectation toward the upcoming 5G era, and is willing to lead the whole industry to accelerate the commercialization of 5G."

Sony Mobile Communications Inc.

Hidehiko Teshirogi, Director, EVP, Sony Mobile Communications Inc., said: "Sony has been part of the 5G NR and SA standardization and recognizes the progress in 3GPP to reach the

completion of the SA 5G NR specifications. Sony Mobile is ready for full-scale development of 5G NR smartphones to take benefit of the opportunities offered by the new standard."

Spirent Communications

“Delivery of the standalone 5G NR specifications is a milestone for the industry,” said Wright Nigel, EVP Global Sales, Spirent Communications, “As a test solution provider, Spirent will continue to work with the industry to reduce the complexity and cost of 5G testing, and accelerate innovation and time to revenue for new 5G-enabled services. Spirent will continue the close cooperation with our industry partners that will help to bring forward the implementation of 5G commercial deployment worldwide.”

StarPoint

“Congratulations to 3GPP for successfully completing Rel-15 5G SA standard", said Professor Zhang Ping, founder of StarPoint, "This is a pivotal milestone of 5G commercialization, which will profoundly change the way we live for many years to come. As a world leading mobile testing solution provider, StarPoint is proud of having played a part of this process and will continue to work closely with our partners and the whole ecosystem to ensure that our 5G testing solutions always meet what the industry requires."

Sumitomo Electric Industries, Ltd.

Toshiaki Kakii, Managing Executive Officer of Sumitomo Electric Industries, Ltd., said: "As a global leading manufacturer of infocommunication devices and infocommunication/automotive network systems, we are pleased that the first release of the 5G NR specification has been completed and are proud to be a member of the 5G NR pioneers. Sumitomo Electric will continue developing advanced products to support the introduction of 5G NR commercial devices and networks."

TIM

Enrico Bagnasco, Head of Technology Innovation of TIM, said: “The timely delivery of Rel 15 is another big step forward in the adoption of 5G to expand the footprint of the current mobile network into new market segments. We at TIM are particularly proud to have contributed with the 3GPP family for this achievement. The availability of a full set of NSA and SA standards will open several options for the deployment of the new technology, boosting a new generation of devices.”

Unisoc

Mr. Jingming Wang, Chief Operation Officer of Unisoc, said: “The 5G SA mode can decently reveal the technical advances of 5G. It will extensively fulfill the technical needs of intelligent transformation of global society in the coming 5G era. The prompt finalization of 3GPP R15 consolidates the standard foundation for the successful commercialization of 5G in year 2020, aiming at which the 1st generation 5G terminal chip from Unisoc is under developing with full power.”

Verizon

Ed Chan, Senior Vice President and Chief Technology Architect of Verizon, said: “I applaud 3GPP’s completion of Release 15 including the Standalone NR System specifications. This milestone mirrors our active contributions and collaboration in industry standards and our continued leadership in 5G with our vendor partners, like the creation of Verizon 5G Technical Forum with key industry players in 2015 to accelerate the pace of 5G innovation. Earlier this month, Verizon marked two important industry firsts in 5G development: the successful completion of outdoor data sessions based on the 3GPP NR standard and the successful completion of multi-carrier aggregation, boosting the signals into the gigabit range. The pair of successes, based on 3GPP’s NR standard and Verizon’s 28GHz millimeter wave spectrum, proved the exciting potential of 5G technologies. It demonstrated the transmission of multiple live interactive virtual reality (VR) sessions with a latency of 1.5 milliseconds and simultaneous 4K streaming video. We are working with our industry partners in leading the 5G fixed wireless and enhanced mobile broadband deployments. Verizon believes 3GPP’s standardization of 5G technologies will further help us build the future as we embark into a new era of services for our customers.”

VIAVI

Ian Langley, SVP and GM at VIAVI, said, “The completion of the first-phase full-featured 5G NR standardization work is an exciting news for the entire wireless communications industry. Since the 3G era, VIAVI test solutions have been dedicated to helping the industry accelerate the development and deployment of next-generation mobile and broadband services. VIAVI will accelerate the development of TM500 test instruments supporting the 5G SA and provide comprehensive support for the development and verification of 5G network infrastructure.”

Vivo

Yujian Shi, SVP and CTO of vivo, said: "To provide better user experience in 5G, we joined 3GPP and made lots of technical contributions on 5G SA&NSA. We appreciate the great efforts made by thousands of telecommunication experts to accelerate the 5G standards. Vivo are stepping up the 5G smart phone R&D and strive to release 5G SA smartphone in 2019.”

Vodafone

Luke Ibbetson, Head of Vodafone Group R&D said “This is another important step towards being able to realise the full potential of 5G as we look ahead to the next decade of mobile innovation. This adds further capability to the 5G family of technologies including 5G NR, LTE evolution and LPWA”

Xiaomi

Mr. Wang Xiang, the senior VP of Xiaomi, said:” Xiaomi always adheres to the concept of “Let everyone in the world to enjoy the fun of science and technology”. With this concept in mind, we have been actively participating in the 5G standardization. 5G will provide a broader platform and market for industrial applications. By making full use of the advantages of its ecological system and 5G technology, Xiaomi will continue to make contributions to the development of 5G industrial applications. “

ZTE

Mr. Zhang Jianguo, Senior Vice President of ZTE Corporation, said: “The complete Phase-I 5G standard published on schedule has embodied collective wisdom and painstaking efforts of operators and industrial partners, and will definitely accelerate the global 5G industrial process. A more open, agile, and smart high-speed full-connectivity era is coming in the blink of an eye. The development of enterprises and industrial applications will benefit the whole society. ZTE will continue to work together with industrial partners to make a contribution to global digital development.”