**MINUTE OF MEETING HELD ON MONDAY, 22nd AUGUST 2022 VIA MICROSOFT TEAMS BETWEEN NCA AND MTN GHANA ON QUARTER TWO (2) QOS FIELD MONITORING DRIVE TEST RESULTS**

**ATTENDANCE**

**NCA**

Mr Isaac Boateng **Chairperson**

Mr Isaac Annan Laryea

Mr Paul Amoako

Mr Ezer Osei Yeboah-Boateng

Mr Nana Akosah Sarpong

Mr Michael Asiedu Offei

Mr George K Abrokwah

Mr Franzel Atta Opoku

Mr Raymond Tuffuor

Mr Clive E. Barton-Odro

Mr Iddrisu Mohammed

Mr Isaac Nkoah-Mensah

Mr Nathan Wunsonti Musah

Mr Cosih Seddoh Smith

Mr Francis Yiryel

Mr Norbert Yao Borklo

Mrs. Yvonne Oyeson

**MTNGHANA**

Mrs. Kukua Awo Pratt

Mrs. Yvonne Nyanu

Mr Wilson Semanhyia

Mrs. Doreen Ansah

Mr Thomas Terkuu

Mrs. Angela Adu Ampofo

Mrs. Doreen Ansah-Appiah

Mr Kwame Asante

Mr Wilson Semanhyia

Mr Maxwell Offei Dei

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| **Item No** | **DETAIL** | **ACTION BY** |
| **1.0**  **1.1** | **AGENDA**  RECONCILATION OF 2022 Q2 DRIVE TEST RESULTS WITH MTN  **OPENING**  The meeting commenced at 2:06 pm. The Chairperson, Mr Isaac Boateng thanked all attendees for honouring the Authority’s invitation and introduced the team from the NCA.  He informed the MTN team of the absence of Mr Nii Ayitey Komey, the unit head of the QoS Field Monitoring unit. He added that Mr Thomas Hayford, head of the Service Improvement unit will have oversight over the QoS Field Monitoring unit in the absence of Mr Nii Ayitey Komey.  Mrs. Angela Adu Ampofo also introduced the MTN team. |  |
| **2.0**  **2.1**  **2.2** | **PRESENTATION OF Q2 2022 QOS FIELD MONITROING RESULTS**  Mr Franzel Atta Opoku took the meeting through the NCA’s presentation. Below was the outline:   * INTRODUCTION * DRIVE TEST RESULTS AND FINDINGS * AOB   **INTRODUCTION**  Mr Franzel Atta Opoku stated that the drive test was conducted from 25th June to 29th July 2022. Nine regions were involved in the drive test. These were Ahafo, Bono, Bono East, Oti, Upper East, Upper West, Volta, Western and Western North regions. A total of 52 district capitals were tested in the nine (9) regions.  **DRIVE TEST RESULTS AND FINDINGS**  Mr Franzel Atta Opoku presented a chart showing the number of district capitals in which MTN was compliant:   1. 3G Data Throughput, 3G Coverage, CST and MOS: MTN passed in all 52 district capitals tested. 2. 4G Data Throughput: MTN passed 43 out of the 52 District capitals. 3. 4G Data Service Access Time: MTN passed 46 out of the 52 District capitals. 4. 4G Latency: MTN passed 46 out of the 52 District capitals. 5. 4G Coverage: MTN passed 49 out of the 52 District capitals.   He went on to mention the below district capitals where MTN failed it’s licence obligation:   * 4G Data Throughput: Drobo and Wamfie. * 4G Data Service Access Time: Jinijini, Jema, Lawra and Kpeve. * 4G Latency: Atebubu, Kadjebi and Nadowli. * 4G Coverage: Adabokrom, Dadieso and Busunya.   Mr Franzel Atta Opoku also stated that for Drobo and Wamfie where MTN failed 4G Data Throughput, the NCA team compared MTN’s 4G Data Throughput performance with that of the 3G. In Drobo, the data test locations were the Municipal Assembly, Lorry station and the District Court. At Wamfie, the data test locations were the District Assembly, Lorry Station and the Senior High School. The observation was that the 3G outperformed the 4G in some of the test locations. Franzel asked MTN to look into these anomalies and rectify them.  He continued with the list below showing district capitals where MTN failed three (3) days and passed just one (1) day:   * CST: Hohoe. * 3G Data Throughput: Hohoe and Enchi. * 4G Coverage: Juaboso. * 4G Data Throughput: Kukuom, Nadowli, Mpohor and Tarkwa. * 4G Data Service Access Time: 14 District capitals. * 4G Latency: Prang, Jirapa and Keta.   Franzel then presented a graph showing MTN’s CST performance in Hohoe where MTN failed the first three (3) days and narrowly passed on the fourth day. He advised MTN to pay attention to these district capitals where they passed just one day out of the four (4) days. |  |
| **3.0** | **PRESENTATION BY MTN**  Mrs Yvonne Nyanu presented the following Concerns and Challenges MTN had with the Q2 2022 Drive Test:   1. Missing data (excel and logfiles) for some districts for which the MTN & NCA teams have engaged and aligned on most except for 4G Coverage in Adabokrom and Dadieso. According to her, NCA recorded no RSRP measurements for both Adabokrom and Dadieso and NCA concluded that MTN did not have 4G coverage but MTN can independently confirm that they have 4G coverage in both district capitals. 2. NCA test devices did not pick the L800 frequencies in the Western North region. MTN suspects that the test device for this region was locked to the L2600 frequency band that is why the NCA test did not capture their L800 frequencies there. Mrs. Yvonne Nyanu presented charts showing data usage in Dedieso and Adabokrom on the days of the drive test. She added that the results of a field monitoring exercise carried out by MTN in Dadieso earlier today, 22nd August, 2022 confirms good 4G coverage in the town. MTN’s test devices were locked to both the L800 and L2600 bands. 3. Throughput methodology review to consider the ramping up and down effects of a data download session. Yvonne reminded the NCA of MTN’s earlier request for the 3G Data Throughput methodology to be revised to the use of session throughput measurement instead of instantaneous measurements.   Mrs. Angela Ampofo added that in the NCA’s presentation it was mentioned that MTN failed for Busunya but MTN’s internal checks shows otherwise. |  |
| **4.0** | **DISCUSSIONS**  Mr Isaac Boateng mentioned that it appeared the results from this Q2 drive test was poor compared to Q1. He asked MTN for their opinion. Mrs Yvonne Nyanu replied that to her, the Q2 results were better than Q1. Mr Franzel Atta Opoku mentioned that it is difficult to compare the Q1 and Q2 results since they were done in different regions. He added that for the Q2 test, MTN passed just one day in several district capitals and these could have easily ended up as four day failures.  Mr Thomas Hayford asked if MTN could explain why they had poor 4G performance in Accra and Kumasi. Mrs Yvonne Nyanu answered that MTN had informed the NCA severally that they had exhausted all their capacity in these towns but unfortunately data growth and subscriber demand in these places keeps rising.  Mr Isaac Boateng acknowledged the capacity issues in places like Accra and Kumasi but did not understand why less densely populated outskirts were also experiencing poor 4G performance. He asked if there were other reasons for the poor performance apart from the capacity or spectrum issues because the NCA keeps getting complaints from subscribers including Parliamentarians.  Mrs. Yvonne Nyanu answered that MTN’s earlier 4G expansions focused on major cities but recently MTN is expanding the outskirts which will guarantee improved performance from MTN in future drive tests.  Mr Isaac Nkoah-Mensah inquired if the deadline for MTN meeting their 4G coverage obligation rollout had not elapsed.  Mrs. Yvonne Nyanu responded that per MTN’s 4G Licence, they are obliged to cover metropolitan and municipal capitals by a certain date and proceed to cover a certain number of district capitals by the end of 5 years. Coverage to the remaining district capitals per the licence will depend on utilization on the 3G in those district capitals. She added that the current situation where MTN has 4G installed at all sites is an internal target set by MTN and this exceeds the target in the license. With the chairman’s permission, Mrs Angela Adu Ampofo read out portions of MTN’s BWA Licence on 4G coverage rollout to support Mrs. Yvonne Nyanu’s response.  Mr Isaac Boateng mentioned that the NCA was under a lot of pressure from the Ministry on network performance and encouraged MTN to improve their services. He wondered how the NCA could make a case for 5G trials when currently the 4G was underperforming.  Mr Maxwell Offei responded that towns earlier considered as outskirts currently have a lot of traffic. He added that currently, every MTN site has 4G installed. He added that the challenge was that data traffic on the 4G keeps increasing exponentially especially in the outskirts despite the fact that the 4G is limited in spectrum unlike the 3G which currently has three (3) carriers on 2100MHz band plus the U900 frequencies.  Mr Franzel Atta Opoku in response to Mrs. Yvonne Nyanu’s comment on an apparent locking of the Western North 4G test devices to the L2600 band, said that all the Q2 4G test devices were L800 and L2600 capable and were locked to both bands. He however added that the NCA would investigate the apparent locking of the Western North 4G test devices.  On MTN’s proposal for a change to the 4G Data test methodology due to the ramping up and down effect of the data session, Mr Franzel Atta Opoku responded that the NCA will engage further for a possible consideration next year since there is already an agreed methodology for this year.  Mr Franzel Atta Opoku requested that MTN updates the NCA with all their UARFCN and EARFCN for their 3G and 4G respectively by 23rd August, 2022.  Mr Cosih Smith mentioned a complaint of poor MTN service he got on Friday, 19th August, 2022 from a police commander in Juaboso. He inquired if MTN’s field monitoring assessment done earlier today was in the entire Western North region. Mrs. Yvonne Nyanu responded that MTN’s drive test earlier today was only in the Dadieso in response to the NCA’s claim of no 4G coverage there. Mr Maxwell Offei requested that Mr Cosih Smith shares details of the said customer complaint for redress because he was aware MTN had coverage in Juaboso. Mr Maxwell Offei added that MTN was always cautious when extending coverage especially to rural areas to avoid conflict with GIFEC.  Mr Isaac Boateng inquired how often MTN independently carried out drive tests. Mr Maxwell Offei responded that MTN drives each month but one region at a time. He added that once a year, MTN gets a vendor, Rhode & Schwarz todo an independent verification for MTN.  Mr Isaac Boateng asked Mr Maxwel Offei to explain how MTN was managing the challenge MTN has with GIFEC in rolling out rural sites. Mr Maxwel Offei responded that sometimes just when MTN is about to install a macro site in an area, GIFEC comes in to stop them because GIFEC claims they have plans of bringing up a rural site there. Going forward, MTN relies on GIFEC’s plans so MTN can cover other areas to avoid conflict. Mr Isaac Boateng noted Mr Maxwell Ofei’s comments and asked Mr Thomas Hayford to bring GIFEC into the loop on coverage rollout in rural areas. |  |
| **5.0** | **ACTION ITEMS**   * MTN to share their UARFCN and EARFCN with NCA by 23rd August, 2022. * NCA to investigate reasons for lack of RSRP measurements for Dadieso and Adabokrom even though MTN had 4G coverage in both towns. * NCA to bring GIFEC into the loop to avoid rural rollout conflicts with MTN. * NCA to share minutes of meeting with MTN. | MTN  NCA  NCA  NCA |
| **6.0** | **CONCLUSION**  Mr Isaac Boateng brought the meeting to a close and thanked all attendees.  The meeting ended at 3:24 pm  Chairperson: Mr Isaac Boateng ----------------------------  Recorder: Mr Franzel Opoku ----------------------------- |  |