**NATIONAL COMMUNICATIONS AUTHORITY**



**MTN 3G COVERAGE REPORT – GREATER ACCRA REGION**

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| --- |
| Test conducted | April 2021 |

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## 1.0 EXECUTIVE SUMMARY

Clause 6.4 of Annex A of the 3G Licence directs the Licensee to roll-out 3G deployment across all Metropolitan, Municipal and District capitals of the country within five (5) years after the effective date of the Licence. In order to monitor and ensure compliance of coverage obligations, a 3G Coverage verification campaign was carried out from 18th March to 5th April 2021 in Eight (8) District Capitals in the GREATER ACCRA Region. The findings of the audit exercise revealed MTN’s 3G coverage presence in all Eight (8) tested district capitals; with coverage improvement required in some communities.

## 1.1 METHODOLOGY

The methodology used in this exercise relied on field tests performed using NEMO INVEX II for data collection.

Measurement samples were collected in idle 3G-locked drive-test mode along pre-defined route within each district capital in the Greater Accra Region.

Network coverage assessment was made by measuring the downlink signal levels, CPICH RSCP (Common Pilot Channel Received Signal Code Power) for WCDMA/UMTS services.

The main indicators used for this exercise was based on parameters below:

* Signal Strength (dBm)
* Coverage Status

Generally, the signal strength as seen in NEMO WIND CATCHER is shown below:

Table 1: Signal Strength Range

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Radio Access Technology | Signal Strength Range (dBm) | | | |
| WCDMA (3G) | -105>RSCP | –105≤ RSCP < -95 | –95≤ RSCP< –85 | –85 ≤RSCP < –20 |
| Rating | Non-existent | Poor | Fair | Good |

The essence of the idle 3G-locked mode of coverage sample collection was to obtain on the average a signal strength measurement which is representative of the coverage situation in each of the district capital that was driven.

A “**Not Covered**” coverage status is rated on the basis that either a “No WCDMA signal” was detected by the measurement system or the average RSCP level obtained was less than **-105 dBm** as stipulated under Section 1.5 of Annex A of the 3G Licence.

A “**Not Maintained”** coverage status is rated on the basis that even though a “No WCDMA signal” was detected or RSCP level obtained was less than -105 dBm, an independent analysis by the Authority confirmed that coverage had existed but was not maintained at the period of the drive.

## 1.2 FINDINGS AND ANALYSIS

## 1.2.1 Test Locations

The 3G monitoring exercise was started in the Greater Accra Region on 18th March 2021 at 08:38am and ended on 5th April 2021 at 13.20pm.

The test was conducted on perceived busy hour periods depending on the social and business activities and subscriber behaviour in the Region. Test was carried out every day for four (4) days in each District Capital.

Table 2 below indicates detailed locations and times at which the tests were conducted.

Table 2: 3G Coverage Assessment Schedule and Test Locations

| CLUSTER | DATE | TIME | DRIVEN ROUTE |
| --- | --- | --- | --- |
| A | 03/18/2021 | 08:38 AM - 11:20 AM | NUNGUA |
| B | 03/18/2021 | 14:54 PM - 16:54 PM | DARKUMAN |
| C | 03/19/2021 | 08:17 AM - 10:51 AM | NUNGUA |
| D | 03/19/2021 | 14:43 PM - 17:44 PM | DARKUMAN |
| E | 03/20/2021 | 08:11 AM – 10:43 AM | NUNGUA |
| F | 03/20/2021 | 08:43 AM - 11:22 AM | DARKUMAN |
| G | 03/21/2021 | 10:24 AM – 12:49 AM | NUNGUA |
| H | 03/21/2021 | 13:59 PM - 16:09 PM | DARKUMAN |
| I | 03/22/2021 | 08:33 AM - 10:07 AM | TEMA |
| J | 03/23/2021 | 10:26 AM - 12:04 PM | TEMA |
| K | 03/24/2021 | 09:18 AM- 10:49 AM | TEMA |
| L | 03/24/2021 | 13:16 PM - 16:19 PM | ADENTA |
| M | 03/25/2021 | 08:52 AM - 10:19 AM | TEMA |
| N | 03/25/2021 | 12:55 PM - 15:57 PM | ADENTA |
| O | 03/26/2021 | 10:16 AM - 13:32 AM | ASHAIMAN |
| P | 03/26/2021 | 13:13 PM - 16:15 PM | ADENTA |
| Q | 03/26/2021 | 15:35 PM - 17:14 PM | NIMA |
| R | 03/27/2021 | 07:11 AM - 10:15 AM | ASHAIMAN |
| S | 03/27/2021 | 14:56 PM - 16:16 PM | NIMA |
| T | 03/27/2021 | 13:27 PM - 16:29 PM | ADENTA |
| U | 03/28/2021 | 07:00 AM - 10:02 AM | ASHAIMAN |
| V | 03/28/2021 | 14:10 PM - 15:28 PM | NIMA |
| W | 03/29/2021 | 08:55 AM - 11:49 AM | ASHAIMAN |
| X | 03/29/2021 | 09:10 AM -11:43 AM | ABOKOBI |
| Y | 03/29/2021 | 15:57 PM - 18:15 PM | NIMA |
| Z | 03/30/2021 | 08:34 AM - 10:52 AM | ABOKOBI |
| AA | 03/31/2021 | 08:00 AM – 09:59 AM | ABOKOBI |
| BB | 04/01/2021 | 08:09 AM – 10:24 AM | ABOKOBI |
| CC | 04/02/2021 | 12:28 PM - 18:13 PM | MADINA |
| DD | 04/03/2021 | 10:48 AM - 16:26 PM | MADINA |
| EE | 04/04/2021 | 11:02 AM - 17:01 PM | MADINA |
| FF | 04/05/2021 | 07:33 AM - 13:20 PM | MADINA |

## 1.2.2 Coverage Status

Table 3: Coverage Status and Average Signal strength for each test location

| **No.** | **District Capital** | **Average RSCP (≥ -105dBm)** | | | | **Coverage Status** |
| --- | --- | --- | --- | --- | --- | --- |
| **Day 1** | **Day 2** | **Day 3** | **Day 4** |
| 1 | Abokobi | -80.29 | -81.14 | -81.87 | -81.92 | Good network coverage in Abokobi. However, major network coverage improvement is required around Abokobi Royal Porter’s City Church, around the Hillview Guest Center and the Abokobi Presbyterian Church. |
| 2 | Adenta | -78.00 | -76.27 | -75.46 | -74.23 | Good Network Coverage in Adenta. However, major network coverage improvement is needed in areas around De Youngsters School and to the East of the Adjei Onanor Avenue. |
| 3 | Ashaiman | -70.13 | -70.28 | -69.92 | -72.9 | Good network coverage in Ashaiman. Major network coverage improvement is needed at the Night Market and the Apostolic Academy. |
| 4 | Darkuman | -77.05 | -76.92 | -77.27 | -76.59 | Good Network Coverage in Darkuman. Major network coverage improvement is required in and around the Holy Light International Church, behind the Darkuman Police Station and around the St. Mark Methodist Chapel. |
| 5 | Madina | -72.38 | -74.55 | -73.98 | -75.8 | Good network coverage in Madina. Major network coverage improvement is needed around the Baba Yara Primary and JHS and around the Albany Specialist Clinic. |
| 6 | Nima | -66.77 | -66.26 | -62.44 | -66.93 | Good Network Coverage in Nima. Major network coverage improvement is required on the Hilla Limann Highway close to the 2nd Kwao Link. |
| 7 | Nungua | -75.65 | -76.11 | -75.28 | -75.19 | Good network coverage in Nungua. Major network coverage improvement is required around the Western portion of the Beach Drive and on the Nautical Street. |
| 8 | Tema Community 1 | -73.81 | -75.28 | -74.18 | -75.32 | Good Network Coverage in Tema Community One. Major network coverage improvement is required around the Parkview Plaza on the Krakue Road and around the Kingdom Books and Stationery Limited. |

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## 1.2.3 3G Coverage Plot

Figure . 3G Coverage Plot – Abokobi

Map

Description automatically generated

**Remarks:** Good network coverage in Abokobi. However, major network coverage improvement is required around Abokobi Royal Porter’s City Church, around the Hillview Guest Center and the Abokobi Presbyterian Church.

Figure 2. 3G Coverage Plot – Adenta

A picture containing map

Description automatically generated

**Remarks:** Good Network Coverage in Adenta. However, major network coverage improvement is needed in areas around De Youngsters School and to the East of the Adjei Onanor Avenue.

Figure . 3G Coverage Plot – Ashaiman

Diagram

Description automatically generated

**Remarks:** Good network coverage in Ashaiman. Major network coverage improvement is needed at the Night Market and the Apostolic Academy.

Figure . 3G Coverage Plot – Darkuman

Map

Description automatically generated

**Remarks:** Good Network Coverage in Darkuman. Major network coverage improvement is required in and around the Holy Light International Church, behind the Darkuman Police Station and around the St. Mark Methodist Chapel.

Figure . 3G Coverage Plot – Madina

A picture containing diagram

Description automatically generated

**Remarks:** Good network coverage in Madina. Major network coverage improvement is needed around the Baba Yara Primary and JHS and around the Albany Specialist Clinic.

Figure 6. 3G Coverage Plot **–** Nima

Map

Description automatically generated

**Remarks:** Good Network Coverage in Nima. Major network coverage improvement is required on the Hilla Limann Highway close to the 2nd Kwao Link.

Figure 7. 3G Coverage Plot **–** Nungua

Diagram, map

Description automatically generated

**Remarks:** Good network coverage in Nungua. Major network coverage improvement is required around the Western portion of the Beach Drive and on the Nautical Street.

Figure . 3G Coverage Plot – Tema Community 1

Map

Description automatically generated

**Remarks:** Good Network Coverage in Tema Community One. Major network coverage improvement is required around the Parkview Plaza on the Krakue Road and around the Kingdom Books and Stationery Limited.

## 1.2.4 RSCP Sampling Distribution

Figure . 3G Coverage Samples Plot

**Remarks**: MTN recorded highest count of RSCP samples in the range –85 ≤RSCP < –20 dBm however, major improvement is required in the 16.5% of samples that are out of Good coverage.

## CONCLUSION

* MTN has 3G coverage in all the eight (8) District Capitals tested in the Greater Accra Region.
* MTN requires major 3G coverage improvement in all the district capitals tested with the exception of Nima where minor improvements are needed.