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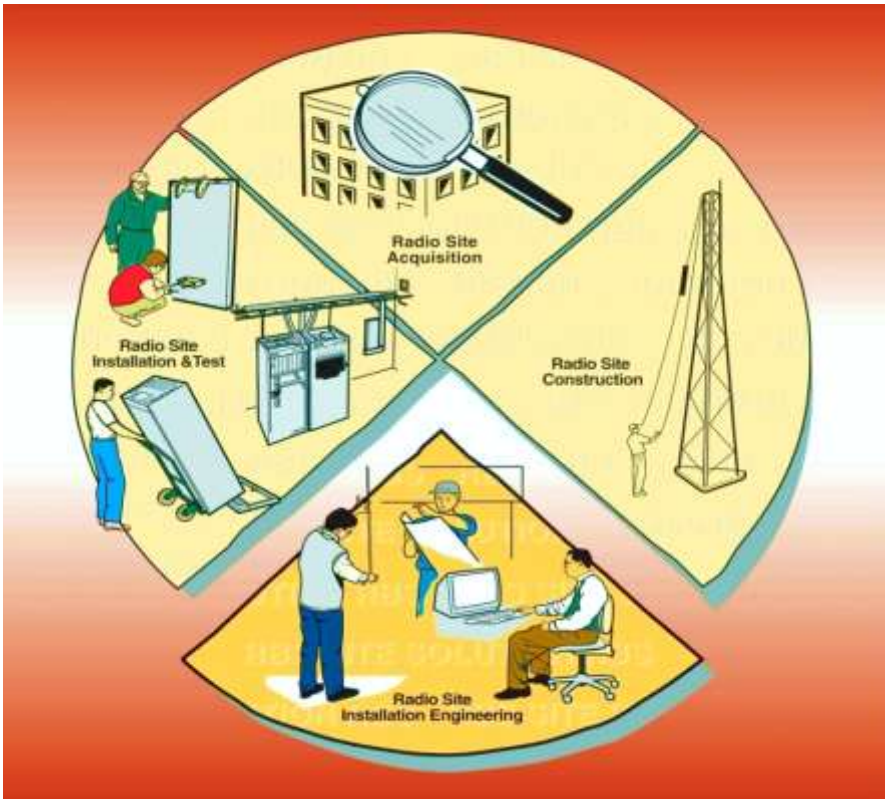


# RADIO SITE DESIGN DOCUMENTATION

Region : North

MD0767

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CAPTION LIST

Document No.
001 53-IPA 165 6922 Uen

Date
2017-07-06

Rev.
A

**SITE**

**INSTALLATION DOCUMENT**

telenor

**Telenor Myanmar**

**MD0767**

**Mandalay**

**GSM+U900+U2100+L2100+LTE1800**

ATTENTION
This documentation must be updated on site. All the documents must be corrected, where changes have occurred, and signed by the Installation Supervisor.

This documentation must then be returned to Installation Engineering for hand-over to Customer.

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# DOCUMENT LIST

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PA3 2014-07-28

| Prepared (also subject responsible if other) | | Document No. | | |
|---|---|---|---|---|
| EMZ Arkar Zin | | 001 51-IPA 165 6922 Uen | | |
| **Doc respons/Approved** | **Checked** | **Date** | **Rev.** | **File** |
| EMZ Manoj Kumar A | | 2017-07-06 | A | SDD_MD0767_A |

**Project:** Telenor Myanmar
**Site:** MD0767

| | Document name | Document number | Rev. |
|---|---|---|---|
| | **SITE INSTALLATION DOCUMENT** | 001 53-IPA 165 6922 Uen | A |
| **1** | **DOCUMENT LIST** | | |
| | Document List | 001 51-IPA 165 6922 Uen | A |
| **2** | **SITE DOCUMENTS** | | |
| **2.1** | Configuration Data RBS | 1/127 04-IPA 165 6922 Uen | A |
| **2.2** | Situating Plan | 153 38-IPA 165 6922 Uen | A |
| **2.3** | Antenna Placement Information | 153 12-IPA 165 6922 Uen | A |
| **2.4** | Grounding Information | 193 34-IPA 165 6922 Uen | A |
| **2.5** | Cable way Drawing | 193 24-IPA 165 6922 Uen | A |
| **3** | **PLANT SPECIFICATION** | | |
| **3.1** | Plant Specification (RBS) | 1/127 11-IPA 165 6922 Uen | A |
| **4** | **CABLING DIAGRAM** | | |
| **4.1** | Cabling Diagram (power and earth) | 1/193 18-IPA 1/356 07 Uen | A |
| **4.2** | Cabling Diagram (signal and antenna) | 2/193 18-IPA 1/356 08 Uen | A |
| **4.3** | Allocation Drawing (Cabinet) | 193 26-IPA 1/356 09 Uen | A |
| **5** | **EXTERNAL ALARM** | | |
| | Allocation Table | 193 19-IPA 165 6922 Uen | A |
| **6** | **CHECK LISTS** | | |
| **6.1** | Installation Check List | 153 11-IPA 165 6922 Uen | A |
| **6.2** | OHS Check List | 176 27-IPA 165 6922 Uen | A |
| **7** | **TEST DOCUMENTS** | | |
| **7.1** | RBS Test Report - G900 | ## | A |
| **7.2** | RBS Test Report - W2100 | 2/153 83-IPA 165 6922 Uen | A |
| **8** | **ACCEPTANCE CERTIFICATE** | | |
| | Product List | 1/193 32-IPA 165 6922 Uen | A |
| | Site Photos | PHT-09:0001-IPA 165 6922 Uen | A |
| | Acceptance Certificate | 179 61-IPA 165 6922 Uen | A |

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# CONFIGURATION DATA RBS

| Prepared (also subject responsible if other) | | Document No. | | |
|---|---|---|---|---|
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**Project:** Telenor Myanmar
**Site:** MD0767

## 1 GENERAL SITE DATA

| | | |
|---|---|---|
| 1.1 | Geographical coordinates | N 21º 56' 55.64" - E 96º 6' 34.09" |
| 1.2 | Region | North |
| 1.3 | Address | Ta -2 , No (13) , Corner of Nguwar street and 63 street,Chan Mya Thar Si Tsp,MDY Mandalay. |
| 1.4 | Type of Site | Roof Top |
| 1.5 | Equipment location | Outdoor cabinet |
| 1.6 | Floor material | Concrete |

## 2 TECHNICAL DATA RBS GSM SYSTEM

| | | |
|---|---|---|
| 2.1 | System | GSM |
| 2.2 | RBS type | RBS 6601 |
| 2.3 | No. of sector | 3 |
| 2.4 | No. of carrier | 2/2/2 |
| 2.5 | No. of Remote Radio Unit (RRU) | 3 |
| 2.6 | RRU type | RRUS 12 B8 |
| 2.7 | Mechanical Dimensions RRUS (mm) WxDxH | 470x190x518 |
| 2.8 | Weight for one RRU (kg) | 22.4 |
| 2.9 | Mechanical Dimensions MU(mm) WxDxH | 483x355x66 |
| 2.10 | Weight for one Main Unit (fully equiped) | 10 kg |
| 2.11 | Power supply | -48V DC |
| 2.12 | Power consumption (maximum) | 437 W (MU) 300 W (RRUs) |
| 2.13 | Mains circuit breaker | 15A + 3x 25A |
| 2.14 | Heat dissipation (maximum) | 340 W (MU) 300 W (RRUs) |

## 3 TECHNICAL DATA RBS WCDMA SYSTEM

| | | |
|---|---|---|
| 3.1 | System | WCDMA |
| 3.2 | RBS type | RBS 6601 |
| 3.3 | No. of sector | 3 |
| 3.4 | No. of carrier | 2/2/2 |
| 3.5 | No. of Remote Radio Unit (RRU) | 3 |
| 3.6 | RRU type | RRUS 12 B1 |
| 3.7 | Mechanical Dimensions RRUS (mm) WxDxH | 470x190x518 |
| 3.8 | Weight for one RRU (kg) | 22.4 |
| 3.9 | Mechanical Dimensions MU(mm) WxDxH | 483x355x66 |
| 3.10 | Weight for one Main Unit (fully equiped) | 10 kg |
| 3.11 | Power supply | -48V DC |
| 3.12 | Power consumption (maximum) | 437 W (MU) 300 W (RRUs) |
| 3.13 | Mains circuit breaker | 15A + 3x 25A |
| 3.14 | Heat dissipation (maximum) | 340 W (MU) 300 W (RRUs) |

## 5 TECHNICAL DATA CABINET

| | | |
|---|---|---|
| 5.1 | Mechanical Dimensions (mm) WxDxH | 750x 750 x 2000 |
| 5.2 | Free space for equipment | 9U |

**Project:** **Telenor Myanmar**
**Site:** **MD0767**

## 6 TECHNICAL DATA RBS ANTENNA SYSTEM

| | | | | |
|---|---|---|---|---|
| 6.1 | Antenna height (m.a.g.l.) | A= 6 | B= 6 | C= 6 |
| 6.2 | Antenna directions | A= 70° | B= 170° | C= 300° |
| 6.3 | Mech/Elec Downtilt, deg | A= $1^0/2^0$ | B= $1^0/2^0$ | C= $1^0/2^0$ |
| 6.4 | Quantity of RRU | 6 pcs | | |
| 6.5 | Antenna type | RVV65D-C3-3XR | | |
| 6.6 | Antenna model | 694–960/2x1695–2690 MHz-65° | | |
| 6.7 | Antenna dimensions (mm) | 2645 x 301 x 180 | | |
| 6.8 | Weight of one antenna (kg) | 27.5 | | |
| 6.9 | Wind load (N) | Frontal: | 958 | (at 150 km/h) |
| | | Lateral: | 299 | (at 150 km/h) |
| | | Rear: | 1125 | (at 150 km/h) |
| 6.10 | No. of Fiber Optic | 9 | | |

## 7 TECHNICAL DATA RBS ANTENNA SUPPORT STRUCTURE

| | | |
|---|---|---|
| 7.1 | Tower/mast/pole type | Rooftop pole 9m |

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# SITUATING PLAN

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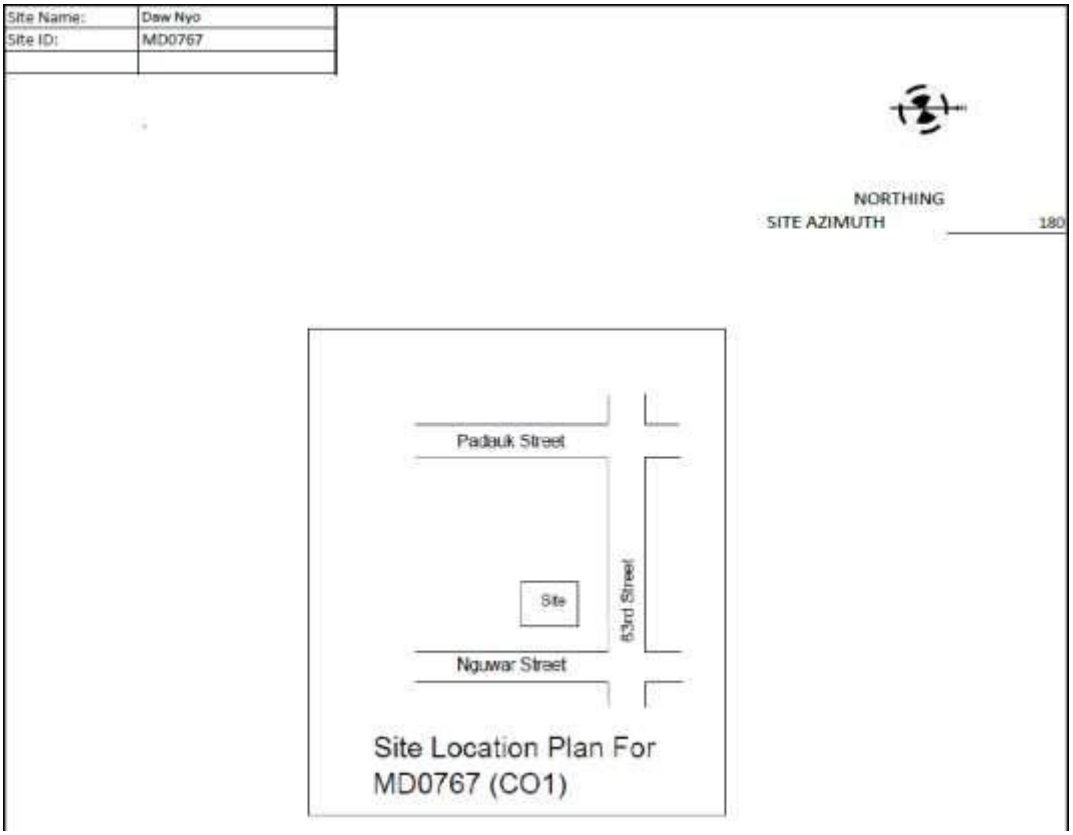
| Prepared (also subject responsible if other) | | Document No. | | |
|---|---|---|---|---|
| EMZ Arkar Zin | | 153 38-IPA 165 6922 Uen | | |
| Doc respons/Approved | Checked | Date | Rev. | File |
| EMZ Manoj Kumar A | | 2017-07-06 | A | SDD_MD0767_A |

**Project:** **Telenor Myanmar**
**Site:** **MD0767**

| | |
|---|---|
| Geographical coordinates | N 21º 56' 55.64" - E 96º 6' 34.09" |
| Address | Ta -2 , No (13) , Corner of Nguwar street and Mandalay. |



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## ANTENNA PLACEMENT INFORMATION

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| EMZ Manoj Kumar A | | 2017-07-06 | A | SDD_MD0767_A |

**Project:** **Telenor Myanmar**
**Site:** **MD0767**

| | |
|---|---|
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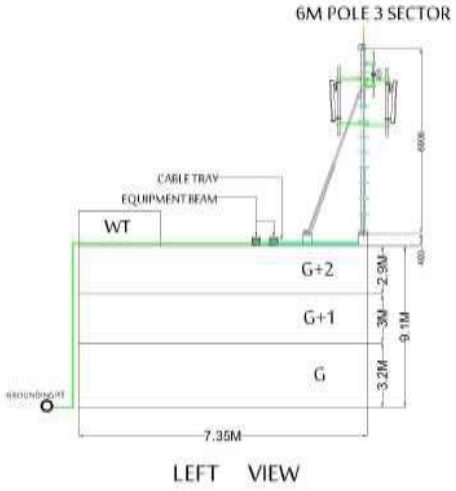
| Address | Ta -2 , No (13) , Corner of Nguwar street and Mandalay. |

| | |
|---|---|
| Site Name: | Daw Nyo |
| Site ID: | MD0767 |




RF Information

| SECTOR | AZIMUTH | AMH |
|---|---|---|
| A | 70 | 14 |
| B | 170 | 14 |
| C | 300 | 14 |

TX Information

| MW | AZIMUTH | DIAMETER | AMH |
|---|---|---|---|
| MW1 | 64.06° | 0.3 | 15 |

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# GROUNDING INFORMATION

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| EMZ Manoj Kumar A | | 2017-07-06 | A | SDD_MD0767_A |

**Project:** **Telenor Myanmar**
**Site:** **MD0767**

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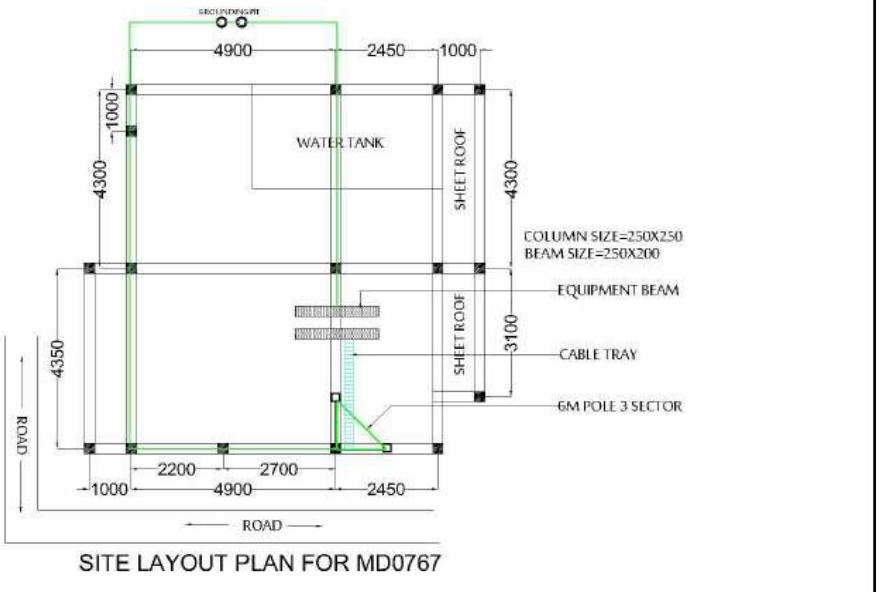
| | |
|---|---|
| Site Name: | Daw Nyo |
| Site ID: | MD0767 |




SITE LAYOUT PLAN FOR MD0767

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# CABLE WAY DRAWING

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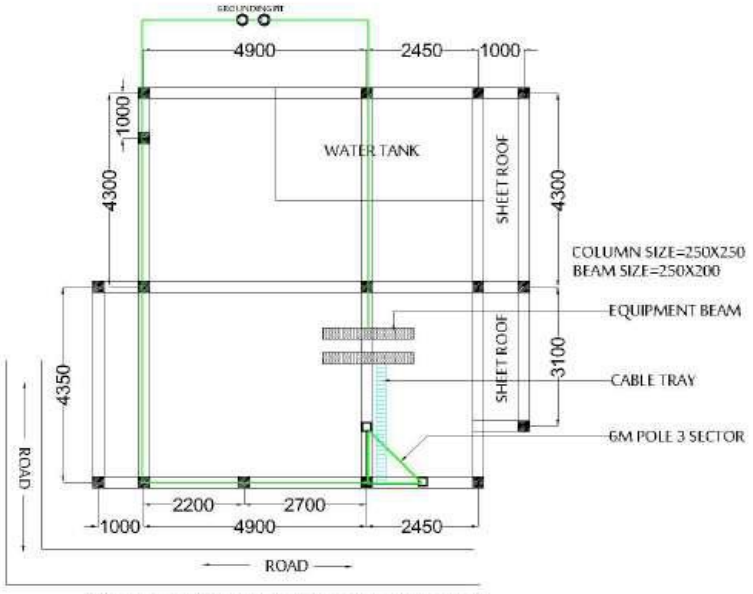
| EMZ Manoj Kumar A | | 2017-07-06 | A | SDD_MD0767_A |

**Project:** Telenor Myanmar
**Site:** MD0767

| | |
|---|---|
| Geographical coordinates | N 21º 56' 55.64" - E 96º 6' 34.09" |
| Address | Ta -2 , No (13) , Corner of Nguwar street and Mandalay. |

| | |
|---|---|
| Site Name: | Daw Nyo |
| Site ID: | MD0767 |

NORTHING
SITE AZIMUTH 180°




SITE LAYOUT PLAN FOR MD0767

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# PLANT SPECIFICATION (RBS)

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| EMZ Manoj Kumar A | | 2017-07-06 | A | SDD_MD0767_A |

**Project:** **Telenor Myanmar**
**Site:** **MD0767**

| | Product number | Description | Quantity |
|---|---|---|---|
| **1** | **RBS 6601 for 2G** | | |
| 1.1 | ..ERI_BTS_SOLUTION | ERI_BTS_SOLUTION | 1 |
| **1** | **RBS 6601 for 3G #REF!** | | |
| 2.1 | ..ERI_NB5216_Solution | ERI_NB5216_Solution | 1 |
| 2.2 | ..KDU137925/31 | PROCESSOR UNIT/Baseband 5216; Digital Un | 1 |
| 2.3 | ..RPM777193/00200 | CABLE WITH CONNECTOR/DC POWER CABLE | 1 |
| 2.4 | ..RPM77701/00300 | CABLE WITH CONNECTOR/SIGNAL CABLE | 1 |
| **3** | **ANTENNA SYSTEM** | | |
| 3.1 | RVV65D-C3-3XR | RVV65D-C3-3XR Tri band antenna | 3 |

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PLANT SPECIFICATION (RBS)

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**Project:** **Telenor Myanmar**
**Site:** **MD0767**

| | | | |
|---|---|---|---|
| **4** | **RET MATERIAL** | | |
| 4.1 | ATCB-B01-005 | RET cable | 3 |
| **5** | **CABINET** | | |
| 5.3 | ESOA300FBG10 | OUTD-6602-RF SERIES RBS 6601 2.0M | 1 |
| **6** | **INSTALLATION MATERIALS** | | |
| 6.1 | TFL492324/500M | POWER CABLE/2X6 MM2;UL;LSOH;ALU+CU-SCREE | 5 M |
| 6.2 | TSR951362/3 | ½# JUMPER 4.3-10 MALE / 4.3-10 MALE, 3me | 6 |
| 6.3 | NTM2013727/1 | SET OF MATERIALS/TUBE KIT 8,5M | 2 |
| 6.4 | LTRFSEAL300 | Silicon box | 1 |
| 6.5 | EAB-LTACCTIECV4830 | Plastic tie Strap, 100 pcs/package, | 1 |
| 6.6 | EAB-LTPWACCLUGM825 | ACC -25MM2 GROUNDING CABLE 16X CABL | 1 |
| 6.7 | EAB-LTACBOLTM6ZERC | 10X NUTS,SCREWS, WASHERS- MOUNTING | 1 |
| 6.8 | TFL492324/500M | POWER CABLE/2X6 MM2;UL;LSOH;ALU+CU-SCREE | 360 |
| 6.9 | EMZ-AC 4x16mm2 | AC power cable | 7 |
| 6.10 | EAB-ESR4856BAS | HE 96 PERCENT 2900W RECTIFIER | 3 |
| 6.11 | MPG12V170F | NARADA MPG12V170F 12V BATTERY 170AH | 8 |
| **7** | **OTICAL CABLE** | | |
| 7.1 | RPM2531610/70M | CABLE WITH CONNECTOR/2F LC(FullAXS)-LC S | 9 |

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# CABLING DIAG. ( POWER AND EARTH )

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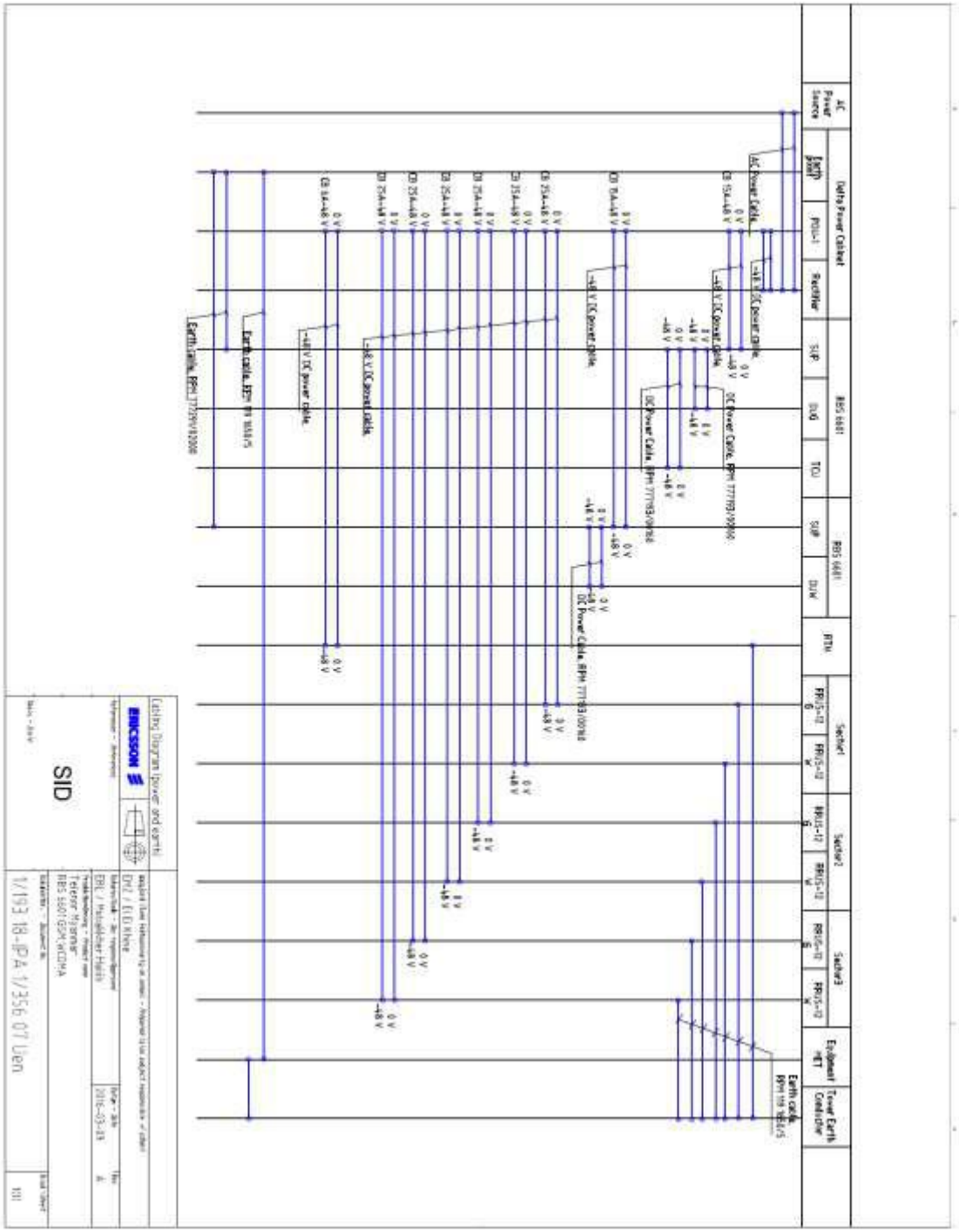
| EMZ Manoj Kumar A | | 2017-07-06 | A | SDD_MD0767_A |

**Project:** **Telenor Myanmar**
**Site:** **MD0767**

| | |
|---|---|
| Geographical coordinates | N 21º 56' 55.64" - E 96º 6' 34.09" |
| Address | Ta -2 , No (13) , Corner of Nguwar street and ## |



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## CABLING DIAG. ( SIGNAL AND ANTENNA)

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| EMZ Arkar Zin | | 2/193 18-IPA 165 6922 Uen | | |
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**Project:** **Telenor Myanmar**
**Site:** **MD0767**

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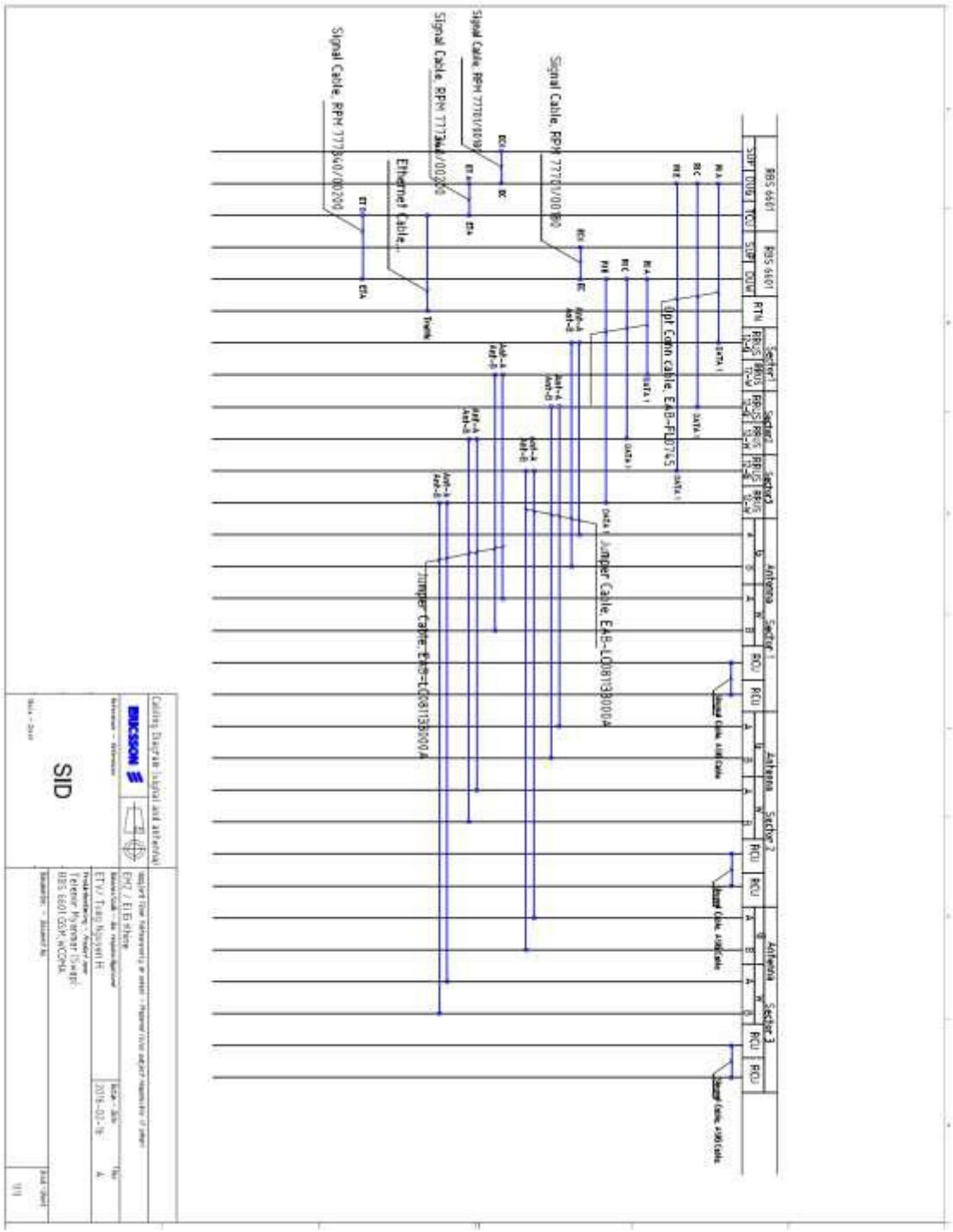

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# ALLOCATION DRAWING ( CABINET)

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|---|---|---|---|---|
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**Project:** **Telenor Myanmar**
**Site:** **MD0767**

| | |
|---|---|
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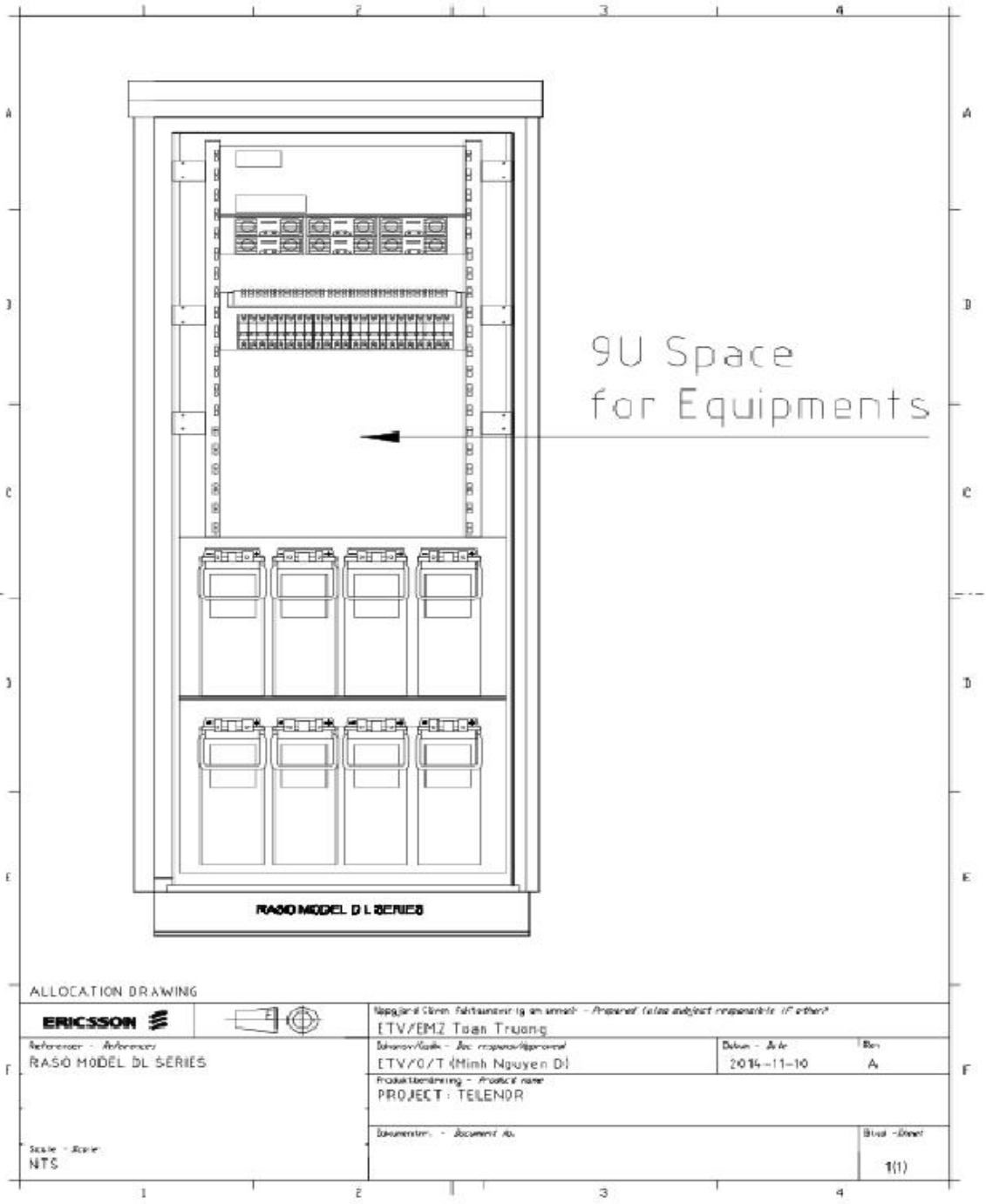
| Address | Ta -2 , No (13) , Corner of Nguwar street and ## |



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**ALLOCATION DRAWING**

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|---|---|---|---|---|
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**Project:** Telenor Myanmar
**Site:** MD0767

## ALLOCATION TABLE: ALARMS

### 1 RBS 6601 for 2G (G900)

| Sl. | Alarm | Type | Physical port |
|---|---|---|---|
| 1 | AC MAIN POWER FAILURE | Breaking | |
| 2 | Rectifier Module Failure | Breaking | |
| 3 | LOW BATTERY | Breaking | |
| 4 | Door Open-2 | Breaking | |
| 5 | HIGH TEMP (TAH) | Breaking | |
| 6 | DOOR ALARM | Breaking | |
| 7 | DC SPD FAULT | Breaking | |
| 8 | | | |
| | | | |
| | | | |
| | | | |
| | | | |

*Closing: the alarm cable is open when no alarms are present*
*Breaking: the alarm cable is closed when no alarms are present*

** Need to mark from site after alarm configuration

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# INSTALLATION CHECK LIST- RBS

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| Doc respons/Approved | Checked | Date | Rev. | File |
| EMZ Manoj Kumar A | | 2017-07-06 | A | SDD_MD0767_A |

**Project:** Telenor Myanmar
**Site:** MD0767

## INSTALLATION CHECK LIST

OK = Correctly installed, NOK = Not Correctly installed, N/A = Not applicable

**INSTALLATION CHECK LIST**
OK = Correctly installed, NOK = Not Correctly installed, N/A = Not applicable

| A. CABINET | OK | NOK | N/A | COMMENTS |
|---|---|---|---|---|
| 1. Cabinet clean and undamaged | OK | | | |
| 2. Cabinet installed according to SID | OK | | | |
| 3. Cable lead-in (cable gland) | OK | | | |
| 4. PDUs connected to correct fuse | OK | | | |
| 5. DC cable for RRUs and MU properly connected | OK | | | |
| 6. Grounded, washers in place and bolts tightened | OK | | | torque of 15 Nm |
| 7. Grounding cable insulation undamaged | OK | | | |

| B. MAIN UNIT (MU) | OK | NOK | N/A | COMMENTS |
|---|---|---|---|---|
| 1. Equipment clean and undamaged | OK | | | |
| 2. Installed according to allocation drawing | OK | | | |
| 3. Minimum 50mm between MU & cabinet door | OK | | | |
| 4. Minimum 50 mm at the rear of MU | OK | | | |
| 5. Power cable connected to correct fuse | OK | | | |
| 6. All cables in the front properly connected | OK | | | |
| 7. All screws tightened to correct torque | OK | | | |
| 8. No cables damaged | OK | | | |
| 9. Equipment labeled according to SID | OK | | | |
| 10. Grounded, washers in place and bolts tightened | OK | | | |
| 11. Grounding cable insulation undamaged | OK | | | |
| 12. All cables have enough extra length to enable the removal of the main unit without damaging or | OK | | | |

| C. REMOTE RADIO UNIT (RRU) | OK | NOK | N/A | COMMENTS |
|---|---|---|---|---|
| 1. RRUS clean and undamaged | OK | | | |
| 2. RRU installed as specified in SID | OK | | | |
| 3. RRU properly aligned horizontally & vertically | OK | | | |
| 4. RRU mounting bracket tightened properly | OK | | | torque of 41 Nm |
| 5. RRU Grounding installed and connected to MET | OK | | | |
| 6. Connector jumper tightened and sealed | OK | | | torque of 25 Nm |
| 7. Installation cover for optical cable tightened | OK | | | torque of 1.7 Nm |
| 8. RET cables routed correctly and tightened | OK | | | |
| 9. Power socket securely & correctly attached | OK | | | |
| 10. Protective covers installed on unused ports | OK | | | |
| 11. Optical cable undamaged | OK | | | |
| 12. Equipment labeled according to SID | OK | | | |
| 13. Protective covers, dust caps, and terminations plugs are installed on unused ports? | OK | | | |
| 14. RET cable is correctly connected to ALD ctrl connector and tightened | OK | | | |

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# INSTALLATION CHECK LIST- RBS

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|---|---|---|---|---|
| EMZ Arkar Zin | | 153 11-IPA 165 6922 Uen | | |
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| EMZ Manoj Kumar A | | 2017-07-06 | A | SDD_MD0767_A |

**Project:** **Telenor Myanmar**
**Site:** **MD0767**

| D. ANTENNA SYSTEM - RADIO | OK | NOK | N/A | COMMENTS |
|---|---|---|---|---|
| 1. Antenna system installed as specified in SID | OK | | | |
| 2. Height, Azimuth and Tilt checked | OK | | | |
| 3. No cables or connectors damaged | OK | | | |
| 4. RF cables properly labeled | OK | | | |
| 5. Connectors properly connected | OK | | | |
| 6. Minimum bending of the RF cables correct | OK | | | radius of 50mm |
| 7. Correct cable connected to correct antenna port | OK | | | |
| 8. RET cable correctly connected & tightened | OK | | | |
| 9. Optical cables properly connected and strapped | OK | | | |
| 10. Minimum bending of the optical cables correct | OK | | | radius of 40mm |
| 11. Antenna support bonded to tower | OK | | | |
| 12. Tower legs earthed (minimum 2 legs) | OK | | | |

| E. CONCLUDING ROUTINES | OK | NOK | N/A | COMMENTS |
|---|---|---|---|---|
| 1. SID marked for as-built | OK | | | |
| 2. Labeling of the external cables | OK | | | |
| 3. Painting of cabinet scratching | OK | | | |
| 4. Site area cleaned | OK | | | |
| 5. | | | | |

All installation activities have been completed [ **NO** ] [ **YES** ] (if no, specify below)

YES

Problems/Comments (Refer to applicable activity numbers)

**Responsible Engineer (Ericsson)**

*Name* *Signature* *Date*

**Accepted by (Telenor)**

*Name* *Signature* *Date*

ERICSSON

# CHECK LIST (OHS)

telenor

PA3 2014-07-28

| Prepared (also subject responsible if other) | | Document No. | | |
|---|---|---|---|---|
| EMZ Arkar Zin | | 176 27-IPA 165 6922 Uen | | |
| Doc respons/Approved | Checked | Date | Rev. | File |
| EMZ Manoj Kumar A | | 2017-07-06 | A | SDD_MD0767_A |

**Project:** Telenor Myanmar
**Site:** MD0767

| MANPOWER | | NOS. |
|---|---|---|
| 1 | Site Supervisor | 1 |
| 2 | Team Leader | 2 |
| 3 | Technician | 3 |
| 4 | Laborers | 2 |
| 5 | Others | 1 |

| EQUIPMENT USED | | NOS. |
|---|---|---|
| 1 | DUG+TCU | 1 |
| 2 | BASEBAND | 1 |
| 3 | RRU 2G | 3 |
| 4 | RRU 3G | 3 |
| 5 | RF ANTENNA | 3 |
| 6 | ALARM PANEL | 1 |

| EQUIPMENT USED | NOS. |
|---|---|
| 7 | |
| 8 | |
| 9 | |
| 10 | |
| 11 | |
| 12 | |

**WORK ACTIVITIES:**

| Health & Safety Observation/Check list | | OK | NOK | N/A | Comments |
|---|---|---|---|---|---|
| 1 | Safety Shoe | OK | | | |
| 2 | Safety Gloves | OK | | | |
| 3 | Safety Helmets | OK | | | |
| 4 | Safety Belts | OK | | | |
| 5 | Arrangement for Emergency Evacuation | OK | | | |
| 6 | Arrangement for Emergency Communication | OK | | | |
| 7 | Arrangement for First Aid | OK | | | |
| 8 | Arrangement for Toilets / Washing | OK | | | |
| 9 | Site Safety Protection | OK | | | |
| 10 | Security Guard at site | OK | | | |

**OTHER MATTERS / ISSUES:**

| OHS confirmed by (ASP): | | Checked and Verified by: Ericson Myanmar Co. Ltd. | |
|---|---|---|---|
| Signature: | | Signature: | |
| Print Name: | | Print Name: | |
| Date: | | Date: | |

ERICSSON

# TEST REPORT RBS - G900

telenor

PA3 2014-07-28

| Prepared (also subject responsible if other) | | Document No. | | |
|---|---|---|---|---|
| EMZ Arkar Zin 0 | | 1/153 83-IPA 165 6922 Uen | | |
| Doc respons/Approved | Checked | Date | Rev. | File |
| EMZ Manoj Kumar A | | 2017-07-06 | A | SDD_MD0767_A |

**Project:** Telenor Myanmar
**Site:** MD0767

## Test Record for Site Installation Verification

| Date: | Site Name: |
|---|---|
| Site No.: | Cell Configuration: |
| **MD0767** | **G900 #** |
| RBS Type: | Testers Name: |
| # | |

| NE Standalone test | Pass | Fail | N/A | Remark |
|---|---|---|---|---|
| Incoming voltage verified | √ | | | |
| Circuit breaker with correct rating | √ | | | |
| Cable connection inspected | √ | | | |
| Cables properly labeled | √ | | | |
| IDB parameter set | √ | | | |
| Fault Status Read | √ | | | |
| Internal alarm tested | √ | | | |
| External alarm tested | √ | | | |
| Antenna system test | √ | | | |

**Notes:**

**Responsible Engineer (Ericsson)**

*Name* *Signature* *Date*

**Accepted by (Telenor)**

*Name* *Signature* *Date*

## Test Record for Antenna System Tests

| Date: | Site name: |
|---|---|
| Site No.: | Cell Configuration: |
| **MD0767** | **GSM900 #** |
| Testers Name: | |
| RBS Type: | Serial Number (Site Master): |
| # | |

**Installation check** ☐

**Cell A**

| | DX1 | DX2 | |
|---|---|---|---|
| Jumper Marking : | | | |
| Jumper Length : | 3 | 3 | m |
| Optical Cable Length : | | | m |
| VSWR : | | | < 1.4 |
| Cable Attenuation : | | | db |

**Cell B**

| | | | |
|---|---|---|---|
| Jumper Marking : | DX1 | DX2 | |
| Jumper Length : | 3 | 3 | m |
| Optical Cable Length : | | | m |
| VSWR : | | | < 1.4 |
| Cable Attenuation : | | | db |

**Cell C**

| | | | |
|---|---|---|---|
| Jumper Marking : | DX1 | DX2 | |
| Jumper Length : | 3 | 3 | m |
| Optical Cable Length : | | | m |
| VSWR : | | | < 1.4 |
| Cable Attenuation : | | | db |

| | Sector A | Sector B | Sector C |
|---|---|---|---|
| Direction | | | |
| Mechanical Tilt | | | |
| Electrical Tilt-GSM | | | |
| Mounting Height | | | |

**Responsible Engineer (Ericsson)**

*Name* *Signature* *Date*

**Accepted by (Telenor)**

*Name* *Signature* *Date*

## Test Record for Site Integration

| | |
|---|---|
| Date: | Site name: |
| Site No.: **MD0767** | Cell Configuration: **GSM900** # |
| RBS Type: # | Testers Name: |

| | IP | VLAN |
|---|---|---|
| Abis over IP | | |
| OAM | | |

### VOICE, SMS, MMS, SPEED TEST

| | | | | THROUGHPUT/SPEED TEST | |
|---|---|---|---|---|---|
| Cell | MO/MT Voice Call | SMS | MMS | Downlaod | Upload |
| Cell 1 | | | | | |
| Cell 2 | | | | | |
| Cell 3 | | | | | |
| Cell 4 | | | | | |
| Cell 5 | | | | | |
| Cell 6 | | | | | |

### HANDOVER TEST

| A to B | A to C | B to A | B to C | C to A | C to B | Remark |
|---|---|---|---|---|---|---|
| | | | | | | |

**EXTERNAL ALARM TEST**

| Alm# | Designation | Type | Pass | Fail | Remarks |
|---|---|---|---|---|---|
| 01 0 | | Closing | | | |
| 02 0 | | Breaking | | | |
| 03 0 | | | | | |
| 04 0 | | | | | |
| 05 0 | | | | | |
| 06 0 | | | | | |
| 07 0 | | | | | |
| 08 | | | | | |

Remarks:

**Responsible Engineer (Ericsson)**

*Name* *Signature* *Date*

**Accepted by (Telenor)**

*Name* *Signature* *Date*

## Test Record for Site Hardware Status

| Date: | Site name: |
|---|---|
| Site No.: **MD0767** | Cell Configuration: **GSM900** |
| RBS Type: # | Testers Name: |

**Power System**

| Unit | Product number | Serial |
|---|---|---|
| DC power | | |
| Rectifier Module #1 | | |
| Rectifier Module #2 | | |
| Rectifier Module #3 | | |
| Rectifier Module #4 | | |
| Battery | | |

**Antenna**

| Unit | Product number | Serial |
|---|---|---|
| sector A | | |
| sector B | | |
| ,sector C | | |

**RBS Cabinet**

| Unit | Product number | Serial |
|---|---|---|
| RBS 6601 | 305/BFL901009 | |
| DUG 20 01 | KDU137569/1 | |
| TCU-02 01 | KDU137739/1 | |
| RUS 12 B8,sector A | KRC161262/2 | |
| RUS 12 B8,sector B | KRC161262/2 | |
| RUS 12 B8,sector C | KRC161262/2 | |

Remarks:

**Responsible Engineer (Ericsson)**

*Name* *Signature* *Date*

**Accepted by (Telenor)**

*Name* *Signature* *Date*

PA3 2014-07-28

| Prepared (also subject responsible if other) | | Document No. | | |
|---|---|---|---|---|
| EMZ Arkar Zin | | 2/153 83-IPA 165 6922 Uen | | |
| Doc respons/Approved | Checked | Date | Rev. | File |
| EMZ Manoj Kumar A | | 2017-07-06 | A | SDD_MD0767_A |

**Project:** **Telenor Myanmar**
**Site:** **MD0767**

## Test Record for Site Installation Verification

| Date: | Site name: |
|---|---|
| Site No.: **MD0767** | Cell Configuration: **W2100** **##** |
| RBS Type: **##** | Testers Name: |

| **NE Standalone test** | Pass | Fail | N/A | Remark |
|---|---|---|---|---|
| Incoming voltage verified | √ | | | |
| Circuit breaker with correct rating | √ | | | |
| Cable connection inspected | √ | | | |
| Cables properly labeled | √ | | | |
| Check configuration | √ | | | |
| Fault Status Read | √ | | | |
| Internal alarm tested | √ | | | |
| External alarm tested | √ | | | |
| Antenna system test | √ | | | |

**Notes:**

**Responsible Engineer (Ericsson)**

*Name* *Signature* *Date*

**Accepted by (Telenor)**

*Name* *Signature* *Date*

PA3 2014-07-28

| Prepared (also subject responsible if other) | | Document No. | | |
|---|---|---|---|---|
| EMZ Arkar Zin | | 2/153 83-IPA 165 6922 Uen | | |
| Doc respons/Approved | Checked | Date | Rev. | File |
| EMZ Manoj Kumar A | | 2017-07-06 | A | SDD_MD0767_A |

**Project:** Telenor Myanmar
**Site:** MD0767

# Test Record for Antenna System Tests

| Date: | Site name: |
|---|---|
| Site No.: **MD0767** | Cell Configuration: **W2100 ##** |
| Testers Name: | |
| RBS Type: ## | Serial Number (Site Master): |

**Installation check** ☐

**Sector 1**

| | A | B | |
|---|---|---|---|
| Jumper Marking : | | | |
| Jumper Length : | 3 | 3 | m |
| VSWR : | | | < 1.4 |
| DTF : | | | < 1.05 |
| Cable Attenuation : | | | db |

**Sector 2**

| | A | B | |
|---|---|---|---|
| Jumper Marking : | | | |
| Jumper Length : | 3 | 3 | m |
| VSWR : | | | < 1.4 |
| DTF : | | | < 1.05 |
| Cable Attenuation : | | | db |

**Sector 3**

| | A | B | |
|---|---|---|---|
| Jumper Marking : | | | |
| Jumper Length : | 3 | 3 | m |
| VSWR : | | | < 1.4 |
| DTF : | | | < 1.05 |
| Cable Attenuation : | | | db |

**Responsible Engineer (Ericsson)**

*Name* *Signature* *Date*

**Accepted by (Telenor)**

*Name* *Signature* *Date*

ERICSSON

**TEST REPORT RBS - W2100**

telenor

PA3 2014-07-28

| Prepared (also subject responsible if other) | | Document No. | | |
|---|---|---|---|---|
| EMZ Arkar Zin | | 2/153 83-IPA 165 6922 Uen | | |
| **Doc respons/Approved** | **Checked** | **Date** | **Rev.** | **File** |
| EMZ Manoj Kumar A | | 2017-07-06 | A | SDD_MD0767_A |

**Project:** **Telenor Myanmar**
**Site:** **MD0767**

## Test Record for Site Integration

| Date: | Site name: |
|---|---|
| Site No.: **MD0767** | Cell Configuration: **W2100** ## |
| RBS Type: ## | Testers Name: |

| | IP | Checked |
|---|---|---|
| NODE B | | |
| OAM Link | | |
| RNC Name | | |

### VOICE, VIDEO, SMS, MMS, SPEED TEST

| | | MOBILE ORIGINATING/MOBILE TERMINATING | | | | THROUGHPUT/SPEED | |
|---|---|---|---|---|---|---|---|
| Sector | Carrier | Voice call | Video call | SMS | MMS | Download | Upload |
| Sector 1 | 1 | | | | | | |
| | 2 | | | | | | |
| Sector 2 | 1 | | | | | | |
| | 2 | | | | | | |
| Sector 3 | 1 | | | | | | |
| | 2 | | | | | | |
| Sector 4 | 1 | | | | | | |
| | 2 | | | | | | |
| Sector 5 | 1 | | | | | | |
| | 2 | | | | | | |
| Sector 6 | 1 | | | | | | |
| | 2 | | | | | | |

### HANDOVER TEST

| 1 to 2 | 1 to 3 | 2 to 1 | 2 to 3 | 3 to 1 | 3 to 2 | Remark |
|---|---|---|---|---|---|---|
| | | | | | | |

### EXTERNAL ALARM TEST

| Alm# | Designation | Type | Pass | Fail | Remarks |
|---|---|---|---|---|---|
| 01 | | Closing | | | |
| 02 | | Breaking | | | |
| 03 | | | | | |
| 04 | | | | | |
| 05 | | | | | |
| 06 | | | | | |
| 07 | | | | | |
| 08 | | | | | |

Remarks: _____

**Responsible Engineer (Ericsson)**

*Name* *Signature* *Date*

**Accepted by (Telenor)**

*Name* *Signature* *Date*

PA3 2014-07-28

| Prepared (also subject responsible if other) | | Document No. | | |
|---|---|---|---|---|
| EMZ Arkar Zin | | 2/153 83-IPA 165 6922 Uen | | |
| Doc respons/Approved | Checked | Date | Rev. | File |
| EMZ Manoj Kumar A | | 2017-07-06 | A | SDD_MD0767_A |

**Project:** **Telenor Myanmar**
**Site:** **MD0767**

# Test Record for Site Hardware Status

| Date: | Site name: |
|---|---|
| Site No.: **MD0767** | Cell Configuration: **W2100** ## |
| RBS Type: ## | Testers Name: |

## Power System

| Unit | Product number | Serial |
|---|---|---|
| DC power | | |
| Rectifier Module #1 | | |
| Rectifier Module #2 | | |
| Rectifier Module #3 | | |
| Rectifier Module #4 | | |
| Battery | | |

## Antenna

| Unit | Product number | Serial |
|---|---|---|
| 694–960/2x1695–2690 MHz-65° | RVV65D-C3-3XR | |
| 694–960/2x1695–2690 MHz-65° | RVV65D-C3-3XR | |
| 694–960/2x1695–2690 MHz-65° | RVV65D-C3-3XR | |

## RBS Cabinet

| Unit | Product number | Serial |
|---|---|---|
| RBS 6601 | 305/BFL901009 | |
| Baseband 5216 | KDU137925/31 | |
| Baseband 5216 | KDU137925/31 | |
| RUS 12 B1,sector A | KRC161297/2 | |
| RUS 12 B1,sector B | KRC161297/2 | |
| RUS 12 B1,sector C | KRC161297/2 | |

Remarks: _____

**Responsible Engineer (Ericsson)**

*Name* *Signature* *Date*

**Accepted by (Telenor)**

*Name* *Signature* *Date*

ERICSSON

# PRODUCT LIST

Telenor

PA3 2014-07-28

| Prepared (also subject responsible if other) | | Document No. | | |
|---|---|---|---|---|
| EMZ Arkar Zin | | 1/193 32-IPA 165 6922 Uen | | |
| Doc respons/Approved | Checked | Date | Rev. | File |
| EMZ Manoj Kumar A | | 2017-07-06 | A | SDD_MD0767_A |

**Project:** Telenor Myanmar
**Site:** MD0767 MD0767 -

| UNIT | PRODUCT CODE | REV | SERIAL No. | MFG.DATE |
|---|---|---|---|---|
| **GSM 900** | | | | |
| RBS 6601 | 305/BFL901009 | | C970004360 | |
| DUG 20 01;Digital Unit | KDU137569/1 | | CD3M05785820160919 | |
| TCU 02 01;Transport Con. Unit | KDU137739/1 | | TU8XAZ661220160816 | |
| RRUS 12 B8;Radio Unit | KRC161262/2 | | D824654393 | |
| RRUS 12 B8;Radio Unit | KRC161262/2 | | D824654391 | |
| RRUS 12 B8;Radio Unit | KRC161262/2 | | D824657070 | |
| | | | | |
| **WCDMA 2100** | | | | |
| RBS 6601 | 305/BFL901009 | | C970003121 | |
| Baseband 5216;Digital Unit | KDU137925/31 | | CD3M39308520161011 | |
| Baseband 5216;Digital Unit | KDU137925/31 | | CD3P17597020170112 | |
| RRUS 12 B1;Radio Unit | KRC161297/2 | | CD3N194263 | |
| RRUS 12 B1;Radio Unit | KRC161297/2 | | CD3N194285 | |
| RRUS 12 B1;Radio Unit | KRC161297/2 | | CD3N194269 | |

| | | | | |
|---|---|---|---|---|
| **ANTENNA** | | | | |
| Sec1- 694–960/2x1695–2690 MHz-65° RVV65D-C3-3XR | | | 16CN104695247 | |
| Sec2- 694–960/2x1695–2690 MHz-65° RVV65D-C3-3XR | | | 16CN104733602 | |
| Sec3- 694–960/2x1695–2690 MHz-65° RVV65D-C3-3XR | | | 16CN104733599 | |
| | | | | |

| | | | | |
|---|---|---|---|---|
| **RET** | | | | |
| RCU136 Cell A GSM | 27150136 | | | |
| RCU136 Cell B GSM | 27150136 | | | |
| RCU136 Cell C GSM | 27150136 | | | |
| RCU136 Cell A UMTS | 27150136 | | | |
| RCU136 Cell B UMTS | 27150136 | | | |
| RCU136 Cell C UMTS | 27150136 | | | |
| | | | | |
| **CABINET** | | | | |
| EAB-ESR4856BAS | DPR 2900C | | VI143209952W0 | |
| EAB-ESR4856BAS | DPR 2900C | | VI163208110W0 | |
| EAB-MPG12V170F | EAB-MPG12V170F | | VI163208287W0 | |
| ESOA300FBG10 | ESOA300FBG10 | | HY5164801589W0 | |
| | | | | |
| | | | | |
| | | | | |

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# SITE PHOTO

| Prepared (also subject responsible if other) | | Document No. | | |
|---|---|---|---|---|
| EMZ Arkar Zin | | PHT-09:0001-IPA 165 6922 Uen | | |
| Doc respons/Approved | Checked | Date | Rev. | File |
| EMZ Manoj Kumar A | | 2017-07-06 | A | SDD_MD0767_A |

PA3 2014-07-28

Project: **Telenor Myanmar**
Site: **MD0767**

**Site Location**


**Tower View**

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# SITE PHOTO

PA3 2014-07-28

| Prepared (also subject responsible if other) | | Document No. | | |
|---|---|---|---|---|
| EMZ Arkar Zin | | PHT-09:0001-IPA 165 6922 Uen | | |
| Doc respons/Approved | Checked | Date | Rev. | File |
| EMZ Manoj Kumar A | | 2017-07-06 | A | SDD_MD0767_A |

Project: **Telenor Myanmar**
Site: **MD0767**

**Vertical Cable Ladder**

**Horizontal Cable Ladder**

**Antenna Cell A**

**Antenna Cell B**

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**SITE PHOTO**

| Prepared (also subject responsible if other) | | Document No. | | |
|---|---|---|---|---|
| EMZ Arkar Zin | | PHT-09:0001-IPA 165 6922 Uen | | |
| Doc respons/Approved | Checked | Date | Rev. | File |
| EMZ Manoj Kumar A | | 2017-07-06 | A | SDD_MD0767_A |

PA3 2014-07-28

Project: **Telenor Myanmar**
Site: **MD0767**

**Antenna Cell C**


**RCU Cell A**


**RCU Cell B**


**RCU Cell C**

**RRUS 12 B1 Cell A**

**RRUS 12 B1 Cell B**

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**SITE PHOTO**

PA3 2014-07-28

| Prepared (also subject responsible if other) | | Document No. | | |
|---|---|---|---|---|
| EMZ Arkar Zin | | PHT-09:0001-IPA 165 6922 Uen | | |
| Doc respons/Approved | Checked | Date | Rev. | File |
| EMZ Manoj Kumar A | | 2017-07-06 | A | SDD_MD0767_A |

Project: **Telenor Myanmar**
Site: **MD0767**

**RRUS 12 B1 Cell C**

**Earth Bar for RRU**

**RRUS 12 B8 Cell A**

**RRUS 12 B8 Cell B**

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**SITE PHOTO**

PA3 2014-07-28

| Prepared (also subject responsible if other) | | Document No. | | |
|---|---|---|---|---|
| EMZ Arkar Zin | | PHT-09:0001-IPA 165 6922 Uen | | |
| Doc respons/Approved | Checked | Date | Rev. | File |
| EMZ Manoj Kumar A | | 2017-07-06 | A | SDD_MD0767_A |

Project: **Telenor Myanmar**
Site: **MD0767**

**RRUS 12 B8 Cell C**

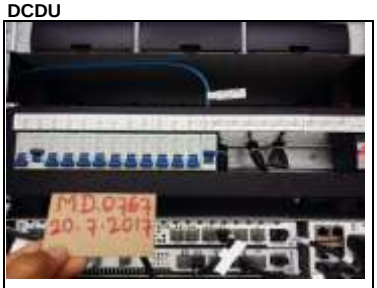
**Earth Bar for RRU**

**Cabinet (Close)**

**Cabinet (Open)**

**DUG+BB5216**

**DCDU**



ERICSSON

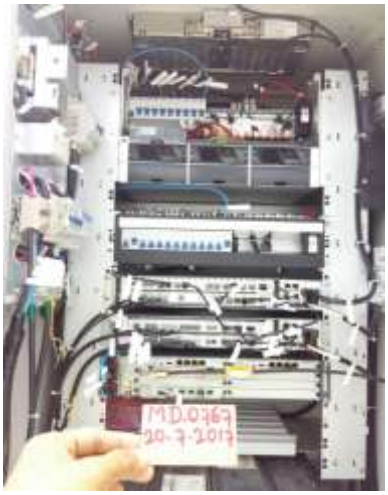
**SITE PHOTO**

PA3 2014-07-28

| Prepared (also subject responsible if other) | | Document No. | | |
|---|---|---|---|---|
| EMZ Arkar Zin | | PHT-09:0001-IPA 165 6922 Uen | | |
| Doc respons/Approved | Checked | Date | Rev. | File |
| EMZ Manoj Kumar A | | 2017-07-06 | A | SDD_MD0767_A |

Project: **Telenor Myanmar**
Site: **MD0767**

**External Alarm connection (with clear Label)**




**External Alarm connection (with clear Label)**


**Cable inlet outdoor**


**Cable inlet outdoor**

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**SITE PHOTO**

| Prepared (also subject responsible if other) | | Document No. | | |
|---|---|---|---|---|
| EMZ Arkar Zin | | PHT-09:0001-IPA 165 6922 Uen | | |
| Doc respons/Approved | Checked | Date | Rev. | File |
| EMZ Manoj Kumar A | | 2017-07-06 | A | SDD_MD0767_A |

PA3 2014-07-28

Project: **Telenor Myanmar**
Site: **MD0767**

**AC Power cable at Telecom Cabinet**


**AC Power cable at AC Box**


**Main Earth Bar for Cabinet**


**Earth Bar Cabinet**

ERICSSON

# ACCEPTANCE CERTIFICATE

telenor

PA3 2014-07-28

| Prepared (also subject responsible if other) | | Document No. | | |
|---|---|---|---|---|
| EMZ Arkar Zin | | 179 61-IPA 165 6922 Uen | | |
| **Doc respons/Approved** | **Checked** | **Date** | **Rev.** | **File** |
| EMZ Manoj Kumar A | | 2017-07-06 | A | SDD_MD0767_A |

**Project:** **Telenor Myanmar**
**Site:** **MD0767**

## NETWORK ELEMENT ACCEPTANCE CERTIFICATE

This is to certify that Ericsson Radio Systems AB has delivered, installed and tested the Network Elements on site **MD0767** as defined in PO_NS_000017 and PO_NS_000018

PO RBS: PO_NS_000017
PO TRM: PO_NS_000018
PO Antenna:

The Network element acceptance has been performed in accordance with the procedures described in above mentioned contract. Further reference should be made to the acceptance documents. The Network element passed the acceptance with remarks per attached test report.

| TEST DOCUMENTS | Documents Number |
|---|---|
| RBS 6601 Test Report - G900 | ## |
| RBS 6601 Test Report - W2100 | 2/153 83-IPA 165 6922 Uen rev A |
| Test Report (TRM Functional) | ## |

Date: .....

for

**Telonor**
(The Buyer)

Name: .....

Title: .....

for

**Ericsson Myanmar**
(The Vendor)

Name: .....

Title: .....