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Ericsson AB Lennart Blixt Torshamnsgatan 21 164 80 Stockholm

# Radio measurements on Radio 4490HP 44B5 44B13 C with FCC ID TA8AKRC161985 and IC 287AB-AS161985

Radio 4490HP 44B5 44B13 C Product name: Product number:

KRC 161 985/3

**RISE Research Institutes of Sweden AB** Vehicles and Automation – EMC-IKT

Performed by

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| Standard Listed part of                  |  | Compliant |
|--|--|-----------|
| FCC CFR 47 part 22 / RSS-132 and RSS-Gen |  |           |
|  |  |           |
| 2.1046/ RSS-132 5.4                      | RF power output                        | Yes       |
| 2.1049/ RSS-Gen 6.7                      | Occupied bandwidth                     | Yes       |
| 2.1051/ RSS-132 5.5                      | Band edge                              | Yes       |
| 2.1051/ RSS-132 5.5                      | Spurious emission at antenna terminals | Yes       |
| 2.1053/ RSS-132 5.5                      | Field strength of spurious radiation   | Yes       |
| 2.1055/ RSS-132 5.3                      | Frequency stability                    | Yes       |

# Description of the test object

| Equipment:   | Radio 4490HP<br>Product number<br>FCC ID: TA8A<br>IC: 287AB-AS   | 44B5 44B13 C<br>r KRC 161 985/3 and KRC 161 985/31*<br>KRC161985<br>161985   |
|--|--|--|
|  | * The hardware<br>identical for bot<br>unlocked) and H<br>performed on K<br>testing purpose.   | and software (except for the security software) are<br>th types of Radios, KRC 161 985/3 (Security<br>KRC 161 985/31 (Security locked). The tests were<br>CRC 161 985/3 with security unlocked software for  |
| HVIN:  | AS161985   |  |
| FVIN:  | CXP 202 1113/  | 1, rev. R20A103  |
| Hardware revision state:                             | R1B  |  |
| Radio Access Technology,<br>RAT and Frequency range: | 3GPP Band 5/n<br>Single RAT: W<br>Multi RAT: W   | 5 (B5):<br>C <b>DMA</b> , LTE, NR, NB IoT (IB, GB)<br>C <b>DMA</b> , NR, LTE, ESS, NB IoT (IB, GB)   |
|  | TX: 869 – 894 ]<br>RX: 824 – 849 ]   | MHz<br>MHz   |
|  | 3GPP Band 13/<br>Single RAT: L7<br>Multi RAT: NR   | n13 (B13):<br>TE, NR, NB IoT (IB, GB)<br>2, LTE, ESS, NB IoT (IB, GB)  |
|  | TX: 746 – 756<br>RX: 777 – 787   | MHz<br>MHz   |
| IBW:   | B5: 25 MHz<br>B13: 10 MHz  |  |
| Output power:  | Maximum nom<br>B5 WCDMA:<br>B5 LTE:<br>B5 NR:<br>B5 ESS<br>B13 LTE:<br>B13 NR:<br>B13 ESS<br>Multi band: LT<br>Multi band: N<br>60W, Total 100 | inal output power per band, carrier and port<br><b>5 MHz: 40 W</b><br>5, 10 MHz: 60 W<br>5, 10, 15, 20, 25 MHz: 60 W<br>10 MHz: 60 W<br>5, 10 MHz: 60 W<br>5, 10 MHz: 60 W<br>10 MHz: 60 W<br>E/NR: (B5/n5): 60W+(B13/n13): 60W, Total: 120W.<br><b>R(n5)+WCDMA(B5): 40W+LTE/NR(B13/n13):</b><br>W |
|  | Multi band: L'<br>60W, Total 100<br>Max total powe   | TE(B5)+WCDMA(B5): 40W+LTE/NR(B13/n13):<br>DW<br>rr per Radio (Multi band): 480W  |

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| Antenna ports B5:     | A-D: 4 TX / 4 RX ports   |
|-----------------------|--|
| Antenna ports B13:    | A-D: 4 TX / 4 RX ports   |
| Antenna:              | 50 Ohm Impedance, No dedicated antenna, handled during licensing.  |
| RF configuration B5:  | Single and multi-carrier, 5 carriers per port, Non-Contiguous<br>Spectrum (NCS), Contiguous Spectrum (CS) TX Diversity, 2x2<br>MIMO, 4x4 MIMO, Carrier Aggregation (CA) intra-band and inter-<br>band supported. |
|                       | LTE with NB IoT IB/GB: 1 Anchor PRB + 1 Non-Anchor PRB   |
|                       | NR with NB IoT IB:<br>Max 2 Boosted PRB for 5 and 10 MHz BW<br>Max 4 Boosted for 15MHz BW<br>Max 6 Boosted PRB for 20 MHz BW<br>Max 2 Boosted PRB for 25MHz BW   |
| RF configuration B13: | Single and multi-carrier, 2 carriers per port, Non-Contiguous<br>Spectrum (NCS), Contiguous Spectrum (CS) TX Diversity, 2x2<br>MIMO, 4x4 MIMO, Carrier Aggregation (CA) intra-band and inter-<br>band supported. |
|                       | LTE with NB IoT IB/GB: 1 Anchor PRB + 1 Non-Anchor PRB   |
|                       | NR with NB IoT IB:<br>Max 2 Boosted PRB for 5 and 10 MHz BW  |
| Channel bandwidths:   | B5<br>WCDMA: 5 MHz<br>LTE: 5 MHz and 10 MHz<br>NR: 5 MHz, 10 MHz 15 MHz, 20 MHz and 25 MHz   |
|                       | B13<br>LTE: 5 MHz and 10 MHz<br>NR: 5 MHz and 10 MHz   |
| Sub-carrier spacing:  | LTE: 15 kHz<br>NR: 15 kHz and 30 kHz (30 kHz for 10 MHz BW and wider)  |
| Modulations:          | LTE: QPSK, 16QAM, 64QAM and 256QAM<br>NR: QPSK, 16QAM, 64QAM and 256QAM  |
|                       | NB IoT GB/ IB: QPSK  |
| Emission designators: | B5 WCDMA: 5 MHz, BW: 4M17F9W   |
|                       | LTE with and without NB IoT IB<br>5 MHz, BW: 4M49W7D<br>10 MHz, BW: 8M96W7D<br>20MHz, BW: 18M8W7D (10+10 MHz, Carrier aggregation)   |

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LTE with NB IoT GB: 10 MHz,BW: 9M33W7D

NR with and without NB IoT IB: SCS 15kHz : 5 MHz, BW: 4M51W7D 10 MHz, BW: 9M40W7D 15 MHz, BW: 14M4W7D 20 MHz, BW: 19M2W7D 25 MHz BW: 24M0W7D 20 MHz, BW: 19M2W7D (10+10, 15+5 MHz, Carrier aggregation) 25 MHz, BW 24M1W7D (5+20, Carrier aggregation)

NR SCS 30kHz : 10 MHz, BW: 8M64W7D 15 MHz, BW: 13M6W7D 20 MHz, BW: 18M3W7D 25 MHz BW: 23M2W7D

B13: LTE with and without NB IoT IB 5 MHz, BW: 4M48W7D 10 MHz, BW: 8M96W7D

LTE with NB IoT GB: 10 MHz, BW: 9M34W7D

NR with and without NB IoT IB: SCS 15kHz : 5 MHz, BW: 4M51W7D 10 MHz, BW: 9M41W7D

NR SCS 30kHz: 10 MHz, BW: 8M63W7D

RF power Tolerance: +0.6/-2.5 dB

CPRI Speed Up to 25.8 Gbps

Nominal supply voltage: -48VDC

The information above is supplied by the manufacturer.

# Purpose of test

The purpose of the test is to support a C2PC/ C3PC of the product, with the Radio Access Technology WCDMA functionality added with software upgrade.

No modifications of the test object was made during the testing.

# **Operation modes during measurements**

WCDMA measurements were performed with the test object transmitting the Test models defined in 3GPP TS 25.141. Test model 1 (TM1) represent QPSK modulation. Test model 5 (TM5) includes the 16QAM modulation and Test model 6 (TM6) includes the 64QAM modulation.

LTE measurements were performed with the test object transmitting test models as defined in 3GPP TS 36.141. Test model E-TM1.1 was used to represent QPSK, test model E-TM3.2 to represent 16QAM, test model E-TM3.1 to represent 64QAM modulation and E-TM3.1A to represent 256QAM modulation. Test model E-TM1.1 was used for all measurements representing worst case if not otherwise stated.

NR measurements were performed with the test object transmitting test models as defined in 3GPP TS 38.141-1. Test model NR: FR1-TM1.1 is used to represent QPSK, test model NR: FR1-TM3.2 to represent 16QAM, test model NR: FR1-TM3.1 to represent 64QAM modulation and test model NR: FR1-TM3.1a to represent 256QAM modulation. Test model NR: FR1-TM1.1 was used for all measurements representing worst case.

# **Conducted measurements**

The test object was supplied with -48 VDC by an external power supply. Additional connections are documented in the set-up drawings for conducted measurements.

The signal path of the measurement chain was calibrated with a network analyzer and the correction stored as a transducer factor in the measurement equipment.

# **Radiated measurements**

The test object was powered with -48 VDC by an external power supply. Additional connections are documented in the set-up drawings for radiated measurements.

EUT Emission= SA reading + (CableLosses – Antenna gain(dBi) + TheoreticalPathloss + FilterLoss – LNAgain)

The correction factors are stored in R&S Electra software as separate files and activated as applicable in the Hardware setup, for each measurement configuration. Emissions close or above the limit is verified with the substitution method where the EUT is replaced by a signal generator and an Antenna with known gain.

# **Test facility**

The used semi-anechoic chamber is compliant with ANSI C63.4. RISE is an ISO 17025 accredited test facility for Electromagnetic Compatibility (EMC) and Radio testing. RISE is a Recognized Lab by FCC (Designation number: SE0001) and ISED (CAB identifier: SE0002) for the scope of standards and methods used in this test report.

# References

Measurements were done according to applicable parts of the following standards: ANSI C63.4-2014+ C63.4a-2017 ANSI C63.5-2017 ANSI C63.26-2015 e-CFR 47 part 2, February 2024 e-CFR 47 part 27, February 2024 e-CFR 47 part 22, February 2024 KDB 662911 D01 Multiple Transmitter Output v02r02 KDB 971168 D01 Power Meas License Digital Systems v03r01 KDB 971168 D03 IM Emission Repeater Amp v01 3GPP TS 36.141, version 15.3.0 3GPP TS 38.141-1, version 15.4.0 3GPP TS 25.141, version 17.0.0 RSS-130 Issue 2 RSS-132 Issue 4 **RSS-Gen Issue 5** 

# Measurement equipment

| Item                  | Name                        | Inv.no  | Cal. due date |
|-----------------------|-----------------------------|---------|---------------|
|                       | Tesla                       | 503881  | -             |
| Semi Anechoic Chamber | NSA                         | BX90699 | 2025-11-04    |
|                       | SVSWR                       | BX90702 | 2024-09-20    |
| Spectrum Analyzer     | Rohde & Schwarz ESU40       | 901385  | 2024-07-24    |
| Software              | Rohde & Schwarz EMC32       | BX62351 | -             |
| RF cable              | Huber & Suhner Eacon 4C     | BX91490 | 2024-06-30    |
| RF Cable              | Rosenberger UFB311A         | 503508  | 2024-09-08    |
| RF Cable              | Rosenberger UFB311A         | 503509  | 2024-09-08    |
| Antenna, Bilog        | Teseq CBL6143A              | BX92331 | 2025-09-16    |
| Preamplifier          | MicroComp Nordic MCN-JS42-  | 901545  | 2025-01-25    |
| Treampiner            | 00101800-28-10P             |         |               |
| HP filter             | Wainwright WHKX1.0/18G-10SS | 901373  | 2024-07-08    |
| Antenna, Horn         | Emco 3115                   | 502175  | 2024-07-02    |
| Spectrum analyzer     | R&S FSQ 40                  | 504143  | 2024-07-21    |
| Spectrum analyzer     | R&S FSW 43                  | 902073  | 2024-07-21    |
| RF attenuator         | Weinschel 40dB              | 902282  | 2024-09-09    |
| HP filter             | Wainwright WHKY1.0/15G-12SS | 504199  | 2024-06-08    |
| RF cable              | Sucoflex 102EA              | BX50236 | 2024-09-09    |
| RF Cable              | Sucoflex 102EA              | BX50237 | 2024-09-09    |
| Thermohygrometer      | Testo 635                   | 504203  | 2024-06-30    |
| Thermohygrometer      | Testo 625                   | 504117  | 2024-06-30    |

Date

2024-03-19

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# Uncertainties

Measurement and test instrument uncertainties are described in the quality assurance documentation "RISE – 3936". The uncertainties are calculated with a coverage factor k=2 (95% level of confidence).

# Reservation

The test results in this report apply only to the particular test object as declared in the report.

# **Delivery of test object**

The test object was delivered: 2024-02-15.

# Manufacturer's representative

Patrik Hellström, Ericsson AB.

# **Test engineers**

Tomas Lennhager and Björn Skönvall, RISE.

# Test participant(-s)

None.

# Test frequencies used for conducted and radiated measurements

#### **B5 WCDMA:**

| Frequency | Symbolic | Comment   |
|-----------|----------|---|
| [MHz]     | name     |   |
| 871.4     | В        | TX bottom frequency in 5 MHz BW configuration               |
| 881.6     | М        | TX middle frequency in 5 MHz BW configuration               |
| 891.6     | Т        | TX top frequency in 5 MHz BW configuration.                 |
| 871.4     |          | TV constallation for Dim with 5 MHz DW (D- Dottom frequency |
| 876.6     | Bim      | im-Intermedulation)   |
| 891.6     |          |   |
| 871.4     |          | TV constallation for Tim with 5 MHz DW (T- Top frequency    |
| 886.4     | Tim      | im-Intermedulation)   |
| 891.6     |          |   |
| 871.4     |          |   |
| 878.2     | M4       | TX constellation for maximum number of carriers with 5 MHz  |
| 884.8     | 1014     | bandwidth configuration.                                    |
| 891.6     |          |   |

The RX frequency was configured 45 MHz below the corresponding TX frequency according to the applicable duplex offset for the operating band.

## **B5 Multi RAT**

| Frequency   | Symbolic | Comment   |
|-------------|----------|---|
| [MHz]       | name     |   |
| WCDMA=871.4 |          | TV constallation With WCDMA, ND and I TE comion with 5  |
| NR=881.5    | W+N+L    | MUz constellation with wCDMA, NR and LTE carrier with 5 |
| LTE=891.5   |          |   |

The test object was simultaneously transmitting in both bands at maximum output power settings during all measurements. In Band 13 one carrier with 5 MHz BW NR FR1-TM 1.1 on the frequency 751 MHz was used.

# Test setup: conducted measurements



# Test object:

| 1. | Radio 4490HP 44B5 44B13 C, KRC 161 985/3, rev. R1B, s/n: E23E499389 |
|----|---|
|    | With Radio Software: CXP 202 1113/1, rev. R20A103.                  |
|    | FCC ID: TA8AKRC161985, IC: 287AB-AS161985                           |

#### Associated equipment:

| 2. | Testing Equipment:                                |
|----|---|
|    | CT-DU25, LPC 102 500/1, rev. R3B, s/n: T01G520908 |
|    | with software Ruma R50B02                         |

#### **Functional test equipment:**

| 3. | Computer, Mac book pro, BAMS – 1002122807  |
|----|--|
| 4. | RF Attenuator: RISE number: 902 282  |
| 5. | Terminator, 50 ohm   |
| 6. | RISE Test Instrumentation according to measurement equipment list for each test.   |
|    | The signal analyzer was connected to the RISE 10 MHz reference standard during all |
|    | measurements.  |

# Test setup: radiated measurements



 Radio 4490HP 44B5 44B13 C, KRC 161 985/3, rev. R1B, s/n: E23E499389

 With Radio Software: CXP 202 1113/1, rev. R20A103.

 FCC ID: TA8AKRC161985, IC: 287AB-AS161985

#### Associated equipment:

| 2. | Testing Equipment:                                |
|----|---|
|    | CT-DU25, LPC 102 500/1, rev. R3B, s/n: T01G520908 |
|    | with software Ruma R50B02                         |

#### **Functional test equipment:**

| 3. | Computer, Mac book pro, BAMS – 1002122807                            |
|----|--|
| 4. | Attenuator/ Terminator   |
| 5. | R&S ESIB 26, SP no: 503 885 for supervision purpose only             |
| 6. | Remote Control Unit, ANDREW Model: ATM200-A20, Serial: DESA101412073 |

#### **Interfaces:**

| Power input configuration DC: -48 VDC             | Power   |
|---|---------|
| RF A-D, 4.3-10 connector, combined TX/RX          | Antenna |
| 1, Optical Interface Link, single mode opto fibre | Signal  |
| 2, Optical Interface Link, single mode opto fibre | Signal  |
| ALD Control, shielded multi-wire                  | Signal  |
| EXT Alarm, shielded multi-wire                    | Signal  |
| Ground wire                                       | Ground  |

# RF power output measurements according to CFR 47 § 22.913/ RSS-132 5.4, conducted

| Date       | Temperature                        | Humidity     |
|------------|------------------------------------|--------------|
| 2024-02-19 | $23 \text{ °C} \pm 3 \text{ °C}$   | 17 % ± 5 %   |
| 2024-02-20 | $22 \ ^{\circ}C \pm 3 \ ^{\circ}C$ | $20\%\pm5\%$ |
| 2024-02-21 | $23 \ ^{\circ}C \pm 3 \ ^{\circ}C$ | 24 % ± 5 %   |

## Test set-up and procedure

The measurements were made per definition in ANSI C63.26, 5.2.3.4. The test object was connected to a signal analyser measuring peak and RMS output power in CDF mode. A resolution bandwidth of 80 MHz was used if not otherwise specified.

| Measurement equipment                     | RISE number |
|---|-------------|
| R&S FSW 43                                | 902 073     |
| RF attenuator                             | 902 282     |
| Coaxial cable Sucoflex 102EA              | BX 50236    |
| Coaxial cable Sucoflex 102EA              | BX 50237    |
| Testo 635, temperature and humidity meter | 504 203     |

Measurement uncertainty: 1.1 dB

# **Results WCDMA B5 Single carrier**

Single carrier Test model TM1

#### Rated output power level at each RF port 1x 46.0 dBm/ port.

|                  | Output power CCDF [RMS dBm/ PAR dB] |            |            |            |                           |  |  |
|------------------|-------------------------------------|------------|------------|------------|---------------------------|--|--|
| Symbolic<br>name | Port RF A                           | Port RF B  | Port RF C  | Port RF D  | Total power <sup>1)</sup> |  |  |
| В                | 46.13/7.22                          | 46.18/7.22 | 46.03/7.22 | 46.12/7.22 | 52.13                     |  |  |
| М                | 46.03/7.22                          | 46.00/7.18 | 46.02/7.18 | 46.09/7.18 | 52.05                     |  |  |
| Т                | 46.03/7.24                          | 46.02/7.24 | 45.86/7.24 | 46.04/7.24 | 52.00                     |  |  |

<sup>1</sup>): summed output power according to ANSI C63.26 section 6.4.3.1 Note: The PAR value is the 0.1 % Peak to Average Ratio.

Single carrier Test model TM5

#### Rated output power level at each RF port 1x 46.0 dBm/ port.

|                  | Output power CCDF [RMS dBm/ PAR dB] |            |           |            |                           |  |
|------------------|-------------------------------------|------------|-----------|------------|---------------------------|--|
| Symbolic<br>name | Port RF A                           | Port RF B  | Port RF C | Port RF D  | Total power <sup>1)</sup> |  |
| В                | 46.19/7.18                          | 46.12/7.18 | 46.14/7.2 | 46.18/7.18 | 52.18                     |  |

<sup>1)</sup>: summed output power according to ANSI C63.26 section 6.4.3.1 Note: The PAR value is the 0.1 % Peak to Average Ratio.

Single carrier Test model TM6

Rated output power level at each RF port 1x 46.0 dBm/ port.

|                  | Output power CCDF [RMS dBm/ PAR dB] |            |            |           |                           |  |  |
|------------------|-------------------------------------|------------|------------|-----------|---------------------------|--|--|
| Symbolic<br>name | Port RF A                           | Port RF B  | Port RF C  | Port RF D | Total power <sup>1)</sup> |  |  |
| В                | 46.16/7.18                          | 46.22/7.18 | 46.13/7.18 | 46.17/7.2 | 52.19                     |  |  |

<sup>1)</sup>: summed output power according to ANSI C63.26 section 6.4.3.1 Note: The PAR value is the 0.1 % Peak to Average Ratio.

## Single carrier Test model TM1

#### Rated output power level at each RF port 1x 46.0 dBm/ port.

Date

|                  | Οι           |              |              |              |                              |  |
|------------------|--------------|--------------|--------------|--------------|------------------------------|--|
| Symbolic<br>name | Port RF<br>A | Port RF<br>B | Port RF<br>C | Port RF<br>D | Total<br>power <sup>2)</sup> | Maximum<br>Antenna gain <sup>3)</sup><br>[dBd]/ ERP<br>Limit [dBm] |
| В                | 40.84        | 40.91        | 40.75        | 40.8         | 46.91                        | 16.09/ 63.0  |

<sup>2)</sup>: 6 dB (10 log<sub>10</sub> (N<sub>out</sub>)) was added to the highest measured power among the measured ports, according to the procedure described in ANSI C63.26 section 6.4.3.2.4.

<sup>3)</sup>: The gain value is the maximum antenna gain that can be used with the tested device for the configuration tested, and still comply with the maximum ERP limit as defined in FCC 22.913(a)(4)

Feeder loss is assumed to be 0 dB in the antenna gain calculation.

The used formula is: Maximum antenna gain (dBd) = ERP limit (dBm) - Measured Total  $power^{2}/1 MHz (dBm) + feeder loss (dB).$ 

Please note that the maximum ERP limit for a specific site may be lower due to various site conditions.

Single carrier Test model TM1

|                  | Οι           |              |              |              |                              |   |
|------------------|--------------|--------------|--------------|--------------|------------------------------|---|
| Symbolic<br>name | Port RF<br>A | Port RF<br>B | Port RF<br>C | Port RF<br>D | Total<br>power <sup>2)</sup> | Maximum<br>Antenna gain <sup>3)</sup><br>[dBi]/ EIRP<br>Limit [dBm] |
| В                | 45.66        | 45.75        | 45.63        | 45.69        | 51.75                        | 10.40/ 62.15  |

#### Rated output power level at each RF port 1x 46.0 dBm/ port.

<sup>2)</sup>: 6 dB (10 log<sub>10</sub> (N<sub>out</sub>)) was added to the highest measured power among the measured ports, according to the procedure described in ANSI C63.26 section 6.4.3.2.4.

<sup>3)</sup>: The gain value is the maximum antenna gain that can be used with the tested device for the configuration tested, and still comply with the maximum EIRP limit as defined in SRSP-503. Feeder loss is assumed to be 0 dB in the antenna gain calculation.

The used formula is: Maximum antenna gain (dBi) = EIRP limit (dBm) - Measured Total  $power^{2}/5 \text{ MHz (dBm)} + \text{feeder loss (dB)}.$ 

Please note that the maximum EIRP limit for a specific site may be lower due to various site conditions.

## Single carrier Test model TM5

#### Rated output power level at each RF port 1x 46.0 dBm/ port.

Date

|                  | Οι           |              |              |              |                              |  |
|------------------|--------------|--------------|--------------|--------------|------------------------------|--|
| Symbolic<br>name | Port RF<br>A | Port RF<br>B | Port RF<br>C | Port RF<br>D | Total<br>power <sup>2)</sup> | Maximum<br>Antenna gain <sup>3)</sup><br>[dBd]/ ERP<br>Limit [dBm] |
| В                | 40.78        | 40.82        | 40.79        | 40.81        | 46.81                        | 16.19/ 63.0  |

<sup>2)</sup>: 6 dB (10 log<sub>10</sub> (N<sub>out</sub>)) was added to the highest measured power among the measured ports, according to the procedure described in ANSI C63.26 section 6.4.3.2.4.

<sup>3)</sup>: The gain value is the maximum antenna gain that can be used with the tested device for the configuration tested, and still comply with the maximum ERP limit as defined in FCC 22.913(a)(4)

Feeder loss is assumed to be 0 dB in the antenna gain calculation.

The used formula is: Maximum antenna gain (dBd) = ERP limit (dBm) - Measured Total  $power^{2}/1 MHz (dBm) + feeder loss (dB).$ 

Please note that the maximum ERP limit for a specific site may be lower due to various site conditions.

Single carrier Test model TM5

|                  | Οι           |              |              |              |                              |   |
|------------------|--------------|--------------|--------------|--------------|------------------------------|---|
| Symbolic<br>name | Port RF<br>A | Port RF<br>B | Port RF<br>C | Port RF<br>D | Total<br>power <sup>2)</sup> | Maximum<br>Antenna gain <sup>3)</sup><br>[dBi]/ EIRP<br>Limit [dBm] |
| В                | 45.65        | 45.63        | 45.61        | 45.66        | 51.66                        | 10.49/ 62.15  |

#### Rated output power level at each RF port 1x 46.0 dBm/ port.

<sup>2)</sup>: 6 dB (10 log<sub>10</sub> (N<sub>out</sub>)) was added to the highest measured power among the measured ports, according to the procedure described in ANSI C63.26 section 6.4.3.2.4.

<sup>3)</sup>: The gain value is the maximum antenna gain that can be used with the tested device for the configuration tested, and still comply with the maximum EIRP limit as defined in SRSP-503. Feeder loss is assumed to be 0 dB in the antenna gain calculation.

The used formula is: Maximum antenna gain (dBi) = EIRP limit (dBm) - Measured Total  $power^{2}/5 \text{ MHz} (dBm) + \text{feeder loss (dB)}.$ 

Please note that the maximum EIRP limit for a specific site may be lower due to various site conditions.

## Single carrier Test model TM6

#### Rated output power level at each RF port 1x 46.0 dBm/ port.

Date

|                  | Οι           |              |              |              |                              |  |
|------------------|--------------|--------------|--------------|--------------|------------------------------|--|
| Symbolic<br>name | Port RF<br>A | Port RF<br>B | Port RF<br>C | Port RF<br>D | Total<br>power <sup>2)</sup> | Maximum<br>Antenna gain <sup>3)</sup><br>[dBd]/ ERP<br>Limit [dBm] |
| В                | 40.78        | 40.88        | 40.77        | 40.81        | 46.88                        | 16.12/ 63.0  |

<sup>2)</sup>: 6 dB (10  $\log_{10}$  (N<sub>out</sub>)) was added to the highest measured power among the measured ports, according to the procedure described in ANSI C63.26 section 6.4.3.2.4.

<sup>3)</sup>: The gain value is the maximum antenna gain that can be used with the tested device for the configuration tested, and still comply with the maximum ERP limit as defined in FCC 22.913(a)(4)

Feeder loss is assumed to be 0 dB in the antenna gain calculation.

The used formula is: Maximum antenna gain (dBd) = ERP limit (dBm) - Measured Total  $power^{2}/1 MHz (dBm) + feeder loss (dB).$ 

Please note that the maximum ERP limit for a specific site may be lower due to various site conditions.

Single carrier Test model TM6

|                  | Οι           |              |              |              |                              |   |
|------------------|--------------|--------------|--------------|--------------|------------------------------|---|
| Symbolic<br>name | Port RF<br>A | Port RF<br>B | Port RF<br>C | Port RF<br>D | Total<br>power <sup>2)</sup> | Maximum<br>Antenna gain <sup>3)</sup><br>[dBi]/ EIRP<br>Limit [dBm] |
| В                | 45.63        | 45.73        | 45.62        | 45.66        | 51.73                        | 10.42/ 62.15  |

#### Rated output power level at each RF port 1x 46.0 dBm/ port.

<sup>2)</sup>: 6 dB (10 log<sub>10</sub> (N<sub>out</sub>)) was added to the highest measured power among the measured ports, according to the procedure described in ANSI C63.26 section 6.4.3.2.4.

<sup>3)</sup>: The gain value is the maximum antenna gain that can be used with the tested device for the configuration tested, and still comply with the maximum EIRP limit as defined in SRSP-503. Feeder loss is assumed to be 0 dB in the antenna gain calculation.

The used formula is: Maximum antenna gain (dBi) = EIRP limit (dBm) - Measured Total  $power^{2}/5 \text{ MHz} (dBm) + \text{feeder loss (dB)}.$ 

Please note that the maximum EIRP limit for a specific site may be lower due to various site conditions.

# Results WCDMA B5 Multi carrier

Multi carrier, TM1

#### Rated output power level at each RF port 4x 40 dBm/ port.

|                  | Output power CCDF [RMS dBm] |       |           |                     |       |  |  |  |  |
|------------------|-----------------------------|-------|-----------|---------------------|-------|--|--|--|--|
| Symbolic<br>name | e Port RF A Port RF B       |       | Port RF C | Port RF C Port RF D |       |  |  |  |  |
| M4               | 45.72                       | 45.79 | 45.65     | 45.66               | 51.73 |  |  |  |  |

<sup>1)</sup>: summed output power according to ANSI C63.26 section 6.4.3.1



08:56:15 AM 02/20/2024



08:57:43 AM 02/20/2024

| Level 55.00 dBm<br>25 dB = SWT 100 ms = V<br>%-20GHz 40db"<br>guency Sweep            | BW 5 MHz<br>BW 20 MHz Mode Auto | Sweep    |           |    | -        | SGL          |                    |
|---|---------------------------------|----------|-----------|----|----------|--------------|--------------------|
| 25 dB <b>● SWT</b> 100 ms <b>● V</b> .<br>2k-20GHz 40db <sup>ii</sup><br>quency Sweep | BW 20 MHz Mode Auto             | Sweep    |           |    |          | Count 10     |                    |
| 9k-20GHz 40db"<br>quency Sweep  |                                 | 1        |           |    |          | Count IP     | 0/100              |
| quency Sweep  |                                 | 1        |           |    |          |              | -,                 |
| 9   |                                 |          |           |    | 1        |              | O 1Rm AvgPwi       |
|   |                                 |          |           | M1 |          |              |                    |
|   |                                 |          |           | T  |          |              |                    |
| ů   |                                 |          |           |    | <        | <br>         |                    |
|   |                                 |          |           |    |          |              |                    |
| h   |                                 |          |           |    |          |              |                    |
|   |                                 |          |           |    |          |              |                    |
| 1   | /                               | 1        |           |    |          |              |                    |
|   |                                 |          |           |    |          |              |                    |
|   |                                 |          |           |    |          |              |                    |
|   |                                 |          |           |    |          |              |                    |
|   |                                 |          |           |    |          |              |                    |
| (m.   |                                 |          |           |    |          |              |                    |
|   |                                 |          |           |    |          |              |                    |
|   |                                 |          |           |    |          | <br>L        |                    |
|   |                                 |          |           |    |          |              |                    |
| Jen   |                                 |          |           |    |          | <br>L        |                    |
|   |                                 |          |           |    |          |              |                    |
| Im  |                                 |          |           |    |          |              |                    |
|   |                                 |          |           |    |          |              |                    |
| .m  |                                 |          |           |    |          | <br>         |                    |
|   |                                 |          |           |    |          |              |                    |
| .m  |                                 |          |           |    | -        |              |                    |
| /1.4 MHz  | 1                               | 6001 pts | 1         | 1  | 4.0 MHz/ | <br>         | Span 40.0 Mi       |
| rker Table  |                                 |          |           |    |          |              |                    |
| ype Ref Trc   | X-Value                         |          | Y-Value   |    | Function | Function Res | ult                |
| M1 1  | 071.05996 MH                    | ٤        | 43.73 dBM |    |          |              | 2024.021           |
|   |                                 |          |           |    |          | Ready        | 2024-02-<br>08:58: |

#### Remark

ERP/EIRP compliance is addressed at the time of licensing, as required by the responsible FCC/ISED Bureau(s). Licensees are required to take into account maximum antenna gain used in combination with above power settings to prevent the radiated output power to exceed the limits.

#### Limits

§22.913:

- (a) (4ii) Extend coverage into Unserved Area on a secondary basis (see § 22.949), are permitted to operate base transmitters and repeaters with an ERP greater than 800 watts/MHz (PSD) per sector, up to a maximum of 2000 watts/MHz (PSD) per sector.
- (d) The peak-to-average ratio (PAR) of the transmission must not exceed 13 dB.

RSS-132 section 5.4/ SRSP-503

The peak-to-average ratio (PAR) of the transmission must not exceed 13 dB

Base stations located in geographical areas at a distance greater than 26 km from large or medium population centres and transmitting in accordance with paragraphs 14 and15 within the frequency range 869-894 MHz, may increase their e.i.r.p. up to a maximum of 1640 watts/5 MHz (i.e. no more than 1640 watts e.i.r.p. in any 5 MHz band segment), with an antenna HAAT up to 150 metres.

| Complies? | Yes |
|-----------|-----|
|-----------|-----|

# Occupied bandwidth measurements according to CFR47 §2.1049/ RSS-Gen 6.7

| Date       | Temperature                        | Humidity   |
|------------|------------------------------------|------------|
| 2024-02-22 | $22 \degree C \pm 3 \degree C$     | 22 % ± 5 % |
| 2024-02-23 | $23 \ ^{\circ}C \pm 3 \ ^{\circ}C$ | 24 % ± 5 % |

# Test set-up and procedure

The measurements were made per definition in ANSI C63.26, 5.4.4. The output was connected to a signal analyzer using the built in OBW function with the Peak detector activated in max hold.

| Measurement equipment                     | RISE number |
|---|-------------|
| R&S FSW 43                                | 902 073     |
| RF attenuator                             | 902 282     |
| Coaxial cable Sucoflex 102EA              | BX50236     |
| Coaxial cable Sucoflex 102EA              | BX50237     |
| Testo 635, temperature and humidity meter | 504 203     |

Measurement uncertainty: 2.6%

# **Results WCDMA B5**

Single carrier: TM1

| Diagram | Symbolic name | Tested Port | Occupied BW<br>(99%) [kHz] |
|---------|---------------|-------------|----------------------------|
| 1.1     | В             | RF A        | 4170                       |
| 1.2     | М             | RF C        | 4166                       |
| 1.3     | Т             | RF B        | 4165                       |

| Diagram | Symbolic name | Tested Port | EBW (-26dB) |
|---------|---------------|-------------|-------------|
|         |               |             | [kHz]       |
| 1.4     | В             | RF A        | 4690        |

Single carrier: TM5

| Diagram | Symbolic name | Tested Port | Occupied BW<br>(99%) [kHz] |
|---------|---------------|-------------|----------------------------|
| 1.5     | В             | RF B        | 4167                       |

#### Single carrier: TM6

| Diagram | Symbolic name | Tested Port | Occupied BW<br>(99%) [kHz] |
|---------|---------------|-------------|----------------------------|
| 1.6     | В             | RF A        | 4155                       |





12:39:49 PM 02/20/2024

# Diagram 1.2 WCDMA: TM1\_M\_Port C:

|                                  |                                    |                                 | <b>1</b> , |          |                                |                            |          |            | <b>X</b>           | Y                       |                                      |  |
|----------------------------------|------------------------------------|---------------------------------|---|----------|--------------------------------|----------------------------|----------|------------|--------------------|-------------------------|--------------------------------------|--|
| aft avail EE 00 dBm              |                                    |                                 | × 199704  | <u>^</u> |                                |                            | × ***    | 63.15      |                    | × Braci                 | Problema<br>CCI                      |  |
| er Lever 55.00 dbm<br>H 25 dBu   | SWT 100 ms = VBV                   | wroukniz<br>Mr.1.MHz Modelâuto. | Sween   |          |                                |                            |          |            |                    |                         | Count 10                             | 0/100  |
| "9k-20GHz 40db"                  | - 5471 100 m3 - 454                | F THE MORE PLACE                | oncep   |          |                                |                            |          |            |                    |                         | doune ro                             | 0,100  |
| ccupied Bandwidth                |                                    |                                 |   |          |                                |                            |          |            |                    |                         |                                      | o 1Pk Ma   |
| 10 m -                           |                                    |                                 |   |          |                                |                            |          |            |                    |                         |                                      |  |
|                                  |                                    |                                 |   |          |                                |                            |          |            |                    |                         |                                      |  |
|                                  |                                    |                                 |   |          | M1                             |                            |          |            |                    |                         |                                      |  |
| m                                |                                    |                                 |   |          | we have been a set of the      | Antes Assessed them        | A        |            |                    |                         |                                      |  |
|                                  |                                    |                                 |   | T1       | Barn, AM and start Monthly My. | a su and the second second | WLAT2    |            |                    |                         |                                      |  |
| n                                |                                    |                                 |   | ×        |                                |                            | X        |            |                    |                         |                                      |  |
|                                  |                                    |                                 |   |          |                                |                            |          |            |                    |                         |                                      |  |
| m                                |                                    |                                 |   |          |                                |                            |          |            |                    |                         |                                      |  |
|                                  |                                    |                                 | 1 (   |          |                                |                            |          |            |                    |                         |                                      |  |
| m                                |                                    |                                 |   |          |                                |                            |          |            |                    |                         |                                      |  |
|                                  |                                    |                                 |   |          |                                |                            |          |            |                    |                         |                                      |  |
|                                  |                                    |                                 |   |          |                                |                            |          |            |                    |                         |                                      |  |
|                                  |                                    |                                 |   |          |                                |                            |          |            |                    |                         |                                      |  |
| 8m                               |                                    |                                 |   |          |                                |                            |          | 1          |                    |                         |                                      |  |
|                                  |                                    |                                 | 1 1   |          |                                |                            |          | 1          |                    |                         |                                      |  |
| 9.00                             |                                    |                                 |   |          |                                |                            |          | 1.4        |                    |                         |                                      |  |
| pen de la colta d                | mar white the top                  | il wasanger where               | Parant  |          |                                |                            |          | A MARINE A | and a market water | متريدة والمعطالية والم  | tion and a second                    |  |
| Consequences and a second of the | Ardfielse information of the state |                                 |   |          |                                |                            |          |            |                    | and a substantion darks | when the second states in the second | when a way that was the second of the second |
| l8m                              |                                    |                                 |   |          |                                |                            |          |            |                    |                         |                                      |  |
|                                  |                                    |                                 |   |          |                                |                            |          |            |                    |                         |                                      |  |
| l8m-                             |                                    |                                 | -   |          |                                |                            |          |            |                    |                         |                                      |  |
| 81.6 MHz                         |                                    |                                 |   | 2001 pts |                                |                            | 1.5 MHz/ |            |                    |                         |                                      | Span 15.0 M  |
| arker Table                      |                                    |                                 |   |          |                                |                            |          |            |                    |                         |                                      |  |
| Type Ref                         | Trc                                | X-Value                         | -   |          | Y-Value                        |                            | Functio  | n          |                    |                         | Function Res                         | ult  |
| M1<br>T1                         | 1                                  | 880.400 6 MH<br>879 517.4 MH    | Z   |          | 37.88 dBm<br>29.67 dBm         | Occ Bw<br>Occ Bw Centroid  | 4        |            |                    | 4                       | 881 600 545                          | 183 MHz  |
| 1.4                              | *                                  | 079.0174 PM                     | 142   |          | 27.07 UDIII                    | OVE DM CELITOIO            |          |            |                    |                         | 001.000.040                          | 100 111 16   |

12:14:03 PM 02/20/2024



RI. Se 
 Date
 Reference

 2024-03-19
 P119088-F2

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11:00:13 AM 02/20/2024

## Diagram 1.4 WCDMA: TM1, T, Port A:

| Ref Level 55.00 dBr<br>Att 25 d  | × osw × osw<br>• RBV<br>• SWT 100 ms • VBV   | V 100 kHz<br>V 100 kHz<br>V 1 MHz Mode Auto: | Sweep    | 15-081 X 625        | × 85-881 ×                             | 66-16 X 85.35   | X 85.15 X 8                | S-BL1 × P503942<br>SGL<br>Count 100/     | •             |
|--|--|--|----------|---------------------|--|---|----------------------------|--|---------------|
| TDF "9k-20GHz 40db"  |  |  |          |                     |  |   |                            |  |               |
| 1 Frequency Sweep  | 1  |  |          |                     |  |   |                            |  | O 1Pk Max     |
| 60 dBm   |  |  |          |                     |  |   |                            |  |               |
| 30 GUIII   |  |  |          |                     |  |   |                            |  |               |
|  |  |  |          |                     | M1                                     |   |                            |  |               |
| 40 dBm   |  |  | A. 19    | the softward on the | provide the second stage of the second | h-  |                            |  |               |
|  |  |  | N        |                     |  | and the second se |                            |  |               |
| 20. dp.m.  |  |  |          |                     |  |   |                            |  |               |
| 30 00m   |  |  |          |                     |  |   |                            |  |               |
|  |  |  |          |                     |  |   |                            |  |               |
| 20 dBm   |  |  |          |                     |  | 12  |                            |  |               |
|  |  |  | 4        |                     |  | 7   |                            |  |               |
|  |  |  |          |                     |  |   |                            |  |               |
| 10 dBm   |  |  |          |                     |  |   |                            |  |               |
|  |  |  |          |                     |  |   |                            |  |               |
| 0 d8m  |  |  |          |                     |  |   |                            |  |               |
|  |  |  |          |                     |  |   |                            |  |               |
|  |  |  |          |                     |  |   |                            |  |               |
| -10 d8m-   |  |  |          |                     |  |   |                            |  |               |
|  |  |  |          |                     |  | he see al   |                            |  |               |
| -20 dBm  |  | A State all all and and and                  | -Dwo     |                     |  | - Aliveret  | man minute Assessment      | link and                                 |               |
| A CONTRACTOR OF A CONTRACTOR O | a chiam of a start of a subarraged   | Profile and the second second                |          |                     |  |   | American American American | and production to a hit a request to the | MarundelMader |
| and the second second second second second   | and a state of the |  |          |                     |  |   |                            |  |               |
| -30 dBm  |  |  |          |                     |  |   |                            |  |               |
|  |  |  |          |                     |  |   |                            |  |               |
| -40 dbm  |  |  |          |                     |  |   |                            |  |               |
| -40 dem  |  |  |          |                     |  |   |                            |  |               |
| CF 871.6 MHz   | 1  |  | 2001 pts |                     |  | 1.5 MHz/  |                            |  | Span 15.0 MHz |
| 2 Marker Table   |  |  |          |                     |  |   |                            |  |               |
| Type Ref   | Trc  | X-Value                                      |          | Y-Value             |  | Function  |                            | Function Result                          |               |
| M1   | 1  | 872.791 9 MHz                                |          | 41.80 dBm           | ndB                                    |   |                            | 26.0 dB                                  |               |
| T1   | 1  | 869.051 3 MHz                                |          | 15.55 dBm           | ndB down BW                            |   |                            | 4.69 MHz                                 |               |
| T2   | 1  | 873.7364 MHz                                 |          | 16.08 dBm           | Q Factor                               |   |                            | 186.3                                    |               |
|  |  |  |          |                     |  |   |                            | Ready                                    | 2024-02-20    |

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#### Diagram 1.5 WCDMA: TM5, B, Port B:



09:00:11 AM 02/20/2024

| Diagram   | 1.6 WCD  | MA: TM6                           | , B, Port   | A:          |                     |           |         |  |   |                                 |
|---|--|-----------------------------------|-------------|-------------|---------------------|-----------|---------|--|---|---------------------------------|
| NultiView         CCDF           Ref Level         55.00 dBn           • Att         25 dl           TDF         "00%+" 00%+" 40%+" | x 00w x cov<br>n • RBV<br>8 • SWT 100 ms • VBV | W 50 kHz<br>W 1 MHz Mode Auto Sw  | X PSBSH X B | 5-0H X 6.25 | X 85-881            | 66-36 X   | 05.15   | X 85.15  | B3-BL1 X P5B3-02<br>SGL<br>Count :                      | 100/100                         |
| 1 Occupied Bandwid  | th   |                                   |             |             |                     |           |         |  |   | o 1Pk Max                       |
|   |  |                                   |             |             |                     |           |         |  |   |                                 |
| 30 dBm-   |  |                                   |             |             |                     |           |         |  |   |                                 |
|   |  |                                   |             |             |                     |           |         |  |   |                                 |
| i0 dBm  |  |                                   |             | M1          |                     |           |         |  |   |                                 |
|   |  |                                   | Tabohan     | and reasons | was the the the the | MAL 12    |         |  |   |                                 |
| i0 dBm  |  |                                   | - 7         |             |                     | ~         |         |  |   |                                 |
|   |  |                                   |             |             |                     | L L       |         |  |   |                                 |
| 20 dBm-   |  |                                   |             |             |                     |           |         |  |   |                                 |
|   |  |                                   |             |             |                     |           |         |  |   |                                 |
|   |  |                                   |             |             |                     | 1         |         |  |   |                                 |
| 10 dBm  |  |                                   |             |             |                     |           |         |  |   |                                 |
|   |  |                                   |             |             |                     |           |         |  |   |                                 |
| n dBm   |  |                                   |             |             |                     |           |         |  |   |                                 |
| our   |  |                                   |             |             |                     |           |         |  |   |                                 |
|   |  |                                   |             |             |                     |           |         |  |   |                                 |
| 10 d8m  |  |                                   |             |             |                     |           |         |  |   |                                 |
|   |  |                                   |             |             |                     |           | 1 1     |  |   |                                 |
|   |  |                                   |             |             |                     |           | 1 1     |  |   |                                 |
| 20 dBm  |  | and a second free                 | New         |             |                     |           | Million | alb I. a .   |   |                                 |
| na statutio a distance Nati   | here the show my show                          | APRIL AND A COMPANY AND A COMPANY |             |             |                     |           |         | and the offer of the state of t | ward any the have been been been been been been been be | the proper to the week have and |
| -30 dBm   | and analyzing the date of a                    |                                   |             |             |                     |           |         |  |   | and an and the state of the     |
|   |  |                                   |             |             |                     |           |         |  |   |                                 |
|   |  |                                   |             |             |                     |           |         |  |   |                                 |
| -40 d8m   |  |                                   |             |             |                     |           |         |  |   |                                 |
| E 971 4 MH-   | 1  |                                   | 2001 ptr    |             | 1                   | 1.5 MHz/  |         |  | 1   | Spap 15.0 MHz                   |
| Marker Table  |  |                                   | 2001 pts    |             |                     | 1.0 MHZ/  |         |  |   | apan 15.0 Min                   |
| Z Marker Table  | Tee  | V-Value                           |             | V-Value     |                     | Euroction |         |  | Euroction P   | orult                           |
| M1 Ker  |  | 870.1631 MHz                      |             | 38.22 dBm   | Occ Bw              | runction  |         |  | 4.155184  | B65 MHz                         |
| T1  | 1  | 869.316.82 MHz                    |             | 28.44 dBm   | Occ Bw Centroid     | 1         |         |  | 871.3944  | 4851 MHz                        |
| T2  | ĩ  | 873.472 01 MHz                    |             | 29.90 dBm   | Occ Bw Freq Off     | set       |         |  | -5.5851   | 49 487 kHz                      |
| e.  |  |                                   |             |             |                     |           |         |  | <ul> <li>Ready</li> </ul>                               | 2024-02-21                      |

01:36:25 PM 02/21/2024

# Band edge measurements according to CFR 47 §22.917/ RSS-132 5.5

| Date       | Temperature                        | Humidity   |
|------------|------------------------------------|------------|
| 2024-02-22 | $22 \degree C \pm 3 \degree C$     | 22 % ± 5 % |
| 2024-02-23 | $23 \ ^{\circ}C \pm 3 \ ^{\circ}C$ | 24 % ± 5 % |
| 2024-02-26 | $22 \ ^{\circ}C \pm 3 \ ^{\circ}C$ | 25 % ± 5 % |

# Test set-up and procedure

The measurements were made per definition in ANSI C63.26, 5.7.2. The test object was connected to a spectrum analyzer with the RMS detector activated.

Band 5

A RBW of at least 1% of the OBW/EBW is to be used up to 1 MHz away from the band edges and for measurements more than 1 MHz from the band edges a RBW of 100 kHz is to be used.

An offset of 6 dB has been used to cover 4x4 MIMO according to ANSI C63.26 6.4.4.1 c "measure and add 10  $\log_{10}$  (N<sub>ANT</sub>)".

| Measurement equipment                     | RISE number |
|---|-------------|
| R&S FSW 43                                | 902 073     |
| RF attenuator                             | 902 282     |
| Coaxial cable Sucoflex 102EA              | BX50236     |
| Coaxial cable Sucoflex 102EA              | BX50237     |
| Testo 635, temperature and humidity meter | 504 203     |

Measurement uncertainty: 2.6 dB

# **Results WCDMA B5**

#### Single carrier WCDMA: TM1

| Diagram | Symbolic name | Tested Port |
|---------|---------------|-------------|
| 2.1 a-b | В             | RF A        |
| 2.2 a-b | Т             | RF D        |

#### Multi carrier WCDMA: TM1

| Diagram | Symbolic name | Tested Port |
|---------|---------------|-------------|
| 2.3 a-b | Bim           | RF B        |
| 2.4 a-b | Tim           | RF B        |
| 2.5 a-d | M4            | RF A        |

#### Limits

#### CFR 47 § 22.917 (a)

Out of band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43  $+ 10 \log(P) dB$ .

#### CFR 47 § 22.917 (b)

Measurement procedure. Compliance with these rules is based on the use of measurement instrumentation employing a reference bandwidth as follows:

- In the spectrum below 1 GHz, instrumentation should employ a reference bandwidth of 100 kHz or greater. In the 1 MHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy, provided that the measured power is integrated over the full required reference bandwidth (i.e., 100 kHz or 1 percent of emission bandwidth, as specified). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.
- In the spectrum above 1 GHz, instrumentation should employ a reference bandwidth of 1 MHz.

#### RSS-132 5.5

- i. In the first 1.0 MHz band immediately outside and adjacent to each of the subbands specified in Section 5.1, the power of emissions per any 1% of the occupied bandwidth shall be attenuated below the transmitter output power P (dBW) by at least  $43 + 10 \log(p) dB$ .
- After the first 1.0 MHz immediately outside and adjacent to each of the subbands, the power of emissions in any 100 kHz bandwidth shall be attenuated below the transmitter output power P (dBW) by at least 43 + 10 log(p) dB. If the measurement is performed using 1% of the occupied bandwidth, power integration over 100 kHz is required.

Complies?

Yes



| Diagram                                  | 2.1a WCI            | DMA: TM                | 41, B, P  | ort A:                 |          |         |          |         |           |              |                        |
|--|---------------------|------------------------|-----------|------------------------|----------|---------|----------|---------|-----------|--------------|------------------------|
| MultiView CCDF                           | × 08W × 18W         | V X P501N              | × PSDSM × | B5-DH X 625            | × 05-001 | × 66-16 | × 115.35 | × 85.15 | × 05-01.1 | × PSD1M2     |                        |
| Ref Level 55.00 dBr                      | Offset 6.00 dB • RE | 3W 100 kHz             |           |                        | _        | _       | _        | _       | _         | SGL          |                        |
| <ul> <li>Att 25 d</li> </ul>             | B 🖷 SWT 100 ms 🖷 VB | 3W 1 MHz Mode Au       | ito Sweep |                        |          |         |          |         |           | Count        | 100/100                |
| TDF "9k-20GHz 40db"<br>1 Frequency Sweep |                     |                        |           |                        |          |         |          |         |           |              | 01Rm AvgPwr            |
| F.S. 40                                  |                     |                        |           |                        |          |         |          |         |           |              |                        |
| SU dBm                                   |                     |                        |           |                        |          |         |          |         |           |              |                        |
| 40 d9m                                   |                     |                        |           |                        |          |         |          |         |           |              |                        |
| 10 0011                                  |                     |                        |           |                        |          |         |          |         |           |              |                        |
| 30 dBm                                   |                     |                        |           |                        |          |         |          |         |           |              |                        |
|  |                     |                        |           |                        |          |         |          |         |           |              |                        |
| 20 dBm-                                  |                     |                        |           |                        |          |         |          |         |           |              | /                      |
|  |                     |                        |           |                        |          |         |          |         |           |              |                        |
| 10 dBm                                   |                     |                        |           |                        |          |         |          |         |           |              |                        |
|  |                     |                        |           |                        |          |         |          |         |           |              | ML                     |
| 0 d8m                                    |                     |                        |           |                        |          |         |          |         |           |              |                        |
|  |                     |                        |           |                        |          |         |          |         |           |              |                        |
| -10 d8m-                                 | 111 - 12 000 d0m    |                        |           |                        |          |         |          |         |           |              |                        |
|  | H1 -13.000 08/1     |                        |           |                        |          |         |          |         |           |              |                        |
| -20 dBm-                                 |                     |                        |           |                        |          |         |          |         |           | 112          |                        |
|  |                     |                        |           |                        |          |         |          |         |           |              |                        |
| -30 d8m-                                 |                     |                        |           |                        |          |         |          |         |           |              |                        |
| 10 40-                                   |                     |                        |           |                        |          |         |          |         |           | ¥2           |                        |
| -40 05/1                                 |                     |                        |           |                        |          |         |          |         |           |              | V1                     |
| CF 862.0 MHz                             |                     |                        | 1001      | ots                    |          | 1.6 MH  | z/       |         |           |              | Span 16.0 MHz          |
| Type Ref                                 | Trc                 | X-Value                |           | Y-Value                |          | Fu      | nction   | _       | _         | Function Res | ult                    |
| M1<br>M2                                 | 1                   | 869.0 MHz<br>868.0 MHz |           | 3.42 dBm<br>-23.06 dBm |          |         |          |         |           |              |                        |
|  | •                   |                        |           | 22.50 000              |          |         |          |         | - Rea     | dy           | 2024-02-20<br>12:43:18 |

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#### Diagram 2.1b WCDMA: TM1, B, Port A:

| MultiView CCDF      | X ONW X        | ×            | PSD1H           | × PSDSM   | × 85-000 | × 6.25   | × 05-001      | × ***      | 16 × 85.15               | × 05.15 | × 154 | BL1 P501342  |                 |
|---------------------|----------------|--------------|-----------------|-----------|----------|----------|---------------|------------|--------------------------|---------|-------|--------------|-----------------|
| Ref Level 55.00 dBr | Offset 6.00 dB | • RBW 1 kH   |                 | —         | _        | _        | _             | _          | _                        |         | _     | SGL          |                 |
| • Att 25 d          | 3 • SWT 100 ms | • VBW 100 kH | Mode A          | uto Sweep |          |          |               |            |                          |         |       | Count        | 100/100         |
| TDF "9k-20GHz 40db" |                |              |                 |           |          |          |               |            |                          |         |       |              | • 10 m 1 m 0 m  |
| I ACLK              |                |              | -               | 1         |          |          | -             |            |                          | -       |       |              | 1Rm AvgPwr      |
| S0 dBm-             |                |              | -               |           |          |          |               |            |                          |         |       |              |                 |
| 40 dBm              |                |              | _               | -         |          |          | Tel           |            |                          | _       |       |              |                 |
| 30 dBm-             |                |              |                 |           |          |          |               |            |                          | _       |       |              |                 |
|                     |                |              |                 |           |          |          |               |            |                          |         |       |              |                 |
| 20 dBm              |                |              |                 |           |          |          |               |            |                          |         |       |              |                 |
| 10 dBm              |                |              |                 |           |          |          |               |            |                          |         |       |              |                 |
| 0 dBm               |                |              |                 |           |          |          |               |            |                          | _       |       |              |                 |
| -10 dBm             |                |              |                 |           |          |          |               |            |                          | _       |       |              |                 |
| -20 dbm             |                |              |                 |           |          |          |               |            |                          |         |       |              |                 |
| -20 0011            |                |              |                 |           |          |          |               |            |                          |         | 1     | ~~~          | ~~~~            |
| -30 dBm             |                |              |                 |           |          | ~ ~~     | $\rightarrow$ | $\sim\sim$ | $\sim$                   | $\psi$  |       | $\sim$       |                 |
| 40 dBm              | $\sim\sim\sim$ | $\sim$       | $\sim$          |           | ~~ ~     | $\sim$   |               |            |                          | _       |       |              |                 |
| -50 d8m-            |                |              |                 |           |          |          |               |            |                          | _       |       |              |                 |
| -60 d8m             |                |              |                 |           |          |          |               |            |                          | _       |       |              |                 |
| CE 868 975 MHz      |                |              |                 |           | 2001 pts |          |               | 10         | 1.2 kHz/                 |         |       |              | Spap 102.0 kHz  |
| 2 Result Summary    |                |              |                 |           | 2001 pta | 1        | lone          |            |                          |         |       |              | 59011 10210 KHZ |
| Channe              | 1              | Bar          | ndwidth         |           |          | Offset   |               |            | Power                    |         |       |              |                 |
| Tx1 (Rel<br>Tx Tota | )              | 50.0         | 000 kHz         |           |          |          |               |            | -16.46 dBm<br>-16.46 dBm |         |       |              |                 |
| 3 Marker Table      |                |              |                 |           |          |          |               |            |                          |         |       |              |                 |
| Type Ref            | 1 Trc          | 869          | Value<br>.0 MHz |           | -2       | 9.83 dBm |               |            | Function                 |         |       | Function Res | ult             |
|                     |                |              |                 |           |          |          |               |            |                          |         | e.    | Ready        | 2024-02-20      |

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| Diagram             | 2.2a WCI              | DMA: TM1,               | T, Port D:          |            |               |             |                 |                        |
|---------------------|-----------------------|-------------------------|---------------------|------------|---------------|-------------|-----------------|------------------------|
| MultiView CCDF      | ×                     | X PSDIN X PS            | 35M X 85-8M X 425   | X 85-881 X | 9k-16 X 05.15 | X 05.15 X 0 | 5-BL1 X P501942 | · ·                    |
| Ref Level 55.00 dB  | m Offset 6.00 dB = BP | W 100 kHz               |                     | _          | _             |             | SGL             |                        |
| • Att 25 d          | B . SWT 100 ms . VB   | W 1 MHz Mode Auto Sweep |                     |            |               |             | Count           | 100/100                |
| TDF "9k-20GHz 40db" |                       |                         |                     |            |               |             |                 |                        |
| 1 Frequency Sweep   |                       |                         |                     |            |               | 1           |                 | O1Rm AvgPwr            |
| 50 dBm              |                       |                         |                     |            |               |             |                 |                        |
|                     |                       |                         |                     |            |               |             |                 |                        |
| 40 d8m              |                       |                         |                     |            |               |             |                 |                        |
|                     |                       |                         |                     |            |               |             |                 |                        |
|                     |                       |                         |                     |            |               |             |                 |                        |
| 30 dBm              |                       |                         |                     |            |               |             |                 |                        |
| 20 dBm              |                       |                         |                     |            |               |             |                 |                        |
|                     |                       |                         |                     |            |               |             |                 |                        |
| 10 dBm              |                       |                         |                     |            |               |             |                 |                        |
| 0.49m               |                       |                         |                     |            |               |             |                 |                        |
| o dan               |                       |                         |                     |            |               |             |                 |                        |
| -10 d8m             |                       |                         |                     |            |               |             |                 |                        |
| 1                   | H1 -13.000 dBm        |                         |                     |            |               |             |                 |                        |
| -20 dBm             |                       |                         |                     |            |               |             |                 |                        |
|                     | 1                     |                         |                     |            |               |             |                 |                        |
| -30 dBm             |                       |                         |                     |            |               |             |                 |                        |
|                     |                       |                         |                     |            |               |             |                 |                        |
| 10.10               | 22                    |                         |                     |            |               |             |                 |                        |
| Y1                  |                       |                         |                     |            |               |             |                 |                        |
| CF 901.0 MHz        |                       |                         | 1001 pts            |            | 1.6 MHz/      |             |                 | Span 16.0 MHz          |
| 2 Marker Table      |                       |                         |                     |            |               |             |                 |                        |
| Type Re<br>M1       | 1 Irc                 | X-Value<br>894.0 MHz    | Y-Value<br>3.45 dBm |            | Function      |             | Function Res    | ult                    |
| M2                  | î                     | 895.0 MHz               | -24.23 dBm          |            |               |             |                 |                        |
|                     |                       |                         |                     |            |               |             | Ready           | 2024-02-20<br>13:19:08 |
| 01:19:08 PM 02/20/  | /2024                 |                         |                     |            |               |             |                 |                        |

Diagram 2.2h WCDMA, TM1 T. D

| Diagram 2.2b W                          | VCDMA: TM1,                       | T, Port D:            |                               |                          |
|---|-----------------------------------|-----------------------|-------------------------------|--------------------------|
| MaltaView CCDF X OBW                    | X IIIW X PEDIN X P                | 505M X 85-08 X 4.25 X | K 85-8H1 X 96-16 X 85.15 X 85 | .15 X 85-86.1 X P50142 4 |
| Ref Level 55.00 dBm Offset 6.00         | dB • RBW 1 kHz                    |                       |                               | SGL                      |
| <ul> <li>Att 25 dB = SWT 100</li> </ul> | ms 🖷 VBW 100 kHz 🛛 Mode Auto Swee | 2p                    |                               | Count 100/100            |
| TDF "9k-20GHz 40db"<br>1 ACLR           |                                   |                       |                               | ●1Rm AvgPwr              |
| S0 dBm                                  |                                   |                       |                               |                          |
| 40 dBm                                  |                                   | Tel                   |                               |                          |
| 30 dBm                                  |                                   |                       |                               |                          |
| 20 dBm                                  |                                   |                       |                               |                          |
| 10 dBm                                  |                                   |                       |                               |                          |
| 10 000                                  |                                   |                       |                               |                          |
| 0 dBm-                                  |                                   |                       |                               |                          |
| -10 dBm                                 |                                   |                       |                               |                          |
| -20.d8m                                 | M1                                |                       |                               |                          |
| -30 dBm                                 |                                   |                       |                               |                          |
| -40 d8m                                 |                                   |                       |                               |                          |
| -50 d8m                                 |                                   |                       |                               |                          |
| -60 dbm                                 |                                   |                       |                               |                          |
| CF 894.025 MHz                          |                                   | 2001 pts              | 10.2 kHz/                     | Span 102.0 kHz           |
| 2 Result Summary                        |                                   | None                  |                               |                          |
| Tx1 (Ref)                               | Bandwidth<br>50.000 kHz           | Offset                | Power<br>-16.54 dBm           |                          |
| 3 Marker Table                          |                                   |                       | -16.54 uBii                   |                          |
| Type Ref Trc                            | X-Value<br>894.0 MHz              | Y-Value<br>-28.16 dBm | Function                      | Function Result          |
|   |                                   | 20120 000             |                               | - Ready 13:20:12         |

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## Diagram 2.3a WCDMA: TM1, Bim, Port B:

| view scor<br>efLevel 55.00 d<br>tt 25 | X         PSDIM         X         PS           dBm         Offset         6.00 dB = RE         6.00 dB = RE           5 dB = SWT         100 ms = VE | BDSH X 1559-1610HBR<br>BW 100 kHz<br>BW 1 MHz Mode Auto | 1-95Rz<br>Sweep | X %-16 X   | k25kHz 85-8H1 | X B5-86.1 | X B5-BH1CP-SM X | BS-BLIEP-SH SGL<br>SGL<br>Coun | t 100/100    |
|---------------------------------------|--|---|-----------------|------------|---------------|-----------|-----------------|--------------------------------|--------------|
| "9k-20GHz 40d                         | b"   |   |                 |            |               |           |                 |                                | 0 1 Dep Avel |
| requericy swee                        | q:   |   |                 |            | 1             |           | 1               |                                | UTOT AVGP    |
| 18m-                                  |  |   |                 |            |               |           |                 |                                |              |
|                                       |  |   |                 |            |               |           |                 |                                |              |
| 3m                                    |  |   |                 |            |               |           |                 |                                |              |
|                                       |  |   |                 |            |               |           |                 |                                |              |
| am                                    |  |   |                 |            |               |           |                 |                                | +            |
|                                       |  |   |                 |            |               |           |                 |                                |              |
| am                                    |  |   |                 |            |               |           |                 |                                | +            |
|                                       |  |   |                 |            |               |           |                 |                                |              |
| 8m-                                   |  |   |                 |            |               |           |                 |                                |              |
|                                       |  |   |                 |            |               |           |                 |                                |              |
| m                                     |  |   |                 |            |               |           |                 |                                | <u></u>      |
|                                       |  |   |                 |            |               |           |                 |                                |              |
| dBm                                   |  |   |                 |            |               |           |                 |                                |              |
|                                       | H1 -13.000 dBm   |   |                 |            |               |           |                 |                                | + /          |
| d8m                                   |  |   |                 |            |               |           |                 |                                |              |
|                                       |  |   |                 |            |               |           |                 |                                |              |
| dim                                   |  |   |                 |            |               |           |                 |                                |              |
|                                       |  |   |                 |            |               |           |                 |                                |              |
| dBm                                   |  |   |                 |            |               |           |                 | ¥2                             |              |
|                                       |  |   |                 |            |               | I         |                 |                                | V1           |
| 362.0 MHz                             |  |   | 1001 pts        |            |               | 1.6 MHz/  |                 |                                | Span 16.0 M  |
| Type R                                | tef Trc  | X-Value   |                 | Y-Value    |               | Function  |                 | Function Re                    | sult         |
| M1                                    | 1  | 869.0 MHz   |                 | -2.11 dBm  |               |           |                 |                                |              |
| M2                                    | 1  | 868.0 MHz   |                 | -23.56 dBm |               |           |                 |                                | 0004.0       |
|                                       |  |   |                 |            |               |           |                 | Ready                          | 2024-0       |

#### Diagram 2.3b WCDMA: TM1, Bim, Port B:



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## Diagram 2.4a WCDMA: TM1, Tim, Port B:

| U           |                     |                   |                       | · · ·       |            |                |          |             |                           | ٨                      |
|-------------|---------------------|-------------------|-----------------------|-------------|------------|----------------|----------|-------------|---------------------------|------------------------|
| MultiView   | CCDF X              | PSDIM X           | PSD5H X 1559-16.10HBH | lz X 1-958z | X 96-16 X  | 6.25kHz B5-BH1 | × 85-8L1 | B5-BH1CP-SM | X B5-BLICP-5H X           | •                      |
| Ref Level   | 55.00 dBm 0         | Mfset 6.00 dB 🖷 P | ABW 100 kHz           |             |            |                |          |             | SGL                       |                        |
| • Att       | 25 dB 🖷 S           | WT 100 ms 🖷 V     | /BW 1 MHz Mode Aut    | to Sweep    |            |                |          |             | Count                     | 100/100                |
| 1 Frequence | Hz 40db"<br>v Sweep |                   |                       |             |            |                |          |             |                           | • 1Rm AvaPwr           |
|             |                     |                   |                       |             |            |                |          |             |                           |                        |
| 50 dBm-     |                     |                   |                       |             |            |                |          |             |                           |                        |
|             |                     |                   |                       |             |            |                |          |             |                           |                        |
| 40 d8m-     |                     |                   |                       |             |            |                |          |             |                           |                        |
|             |                     |                   |                       |             |            |                |          |             |                           |                        |
| 30 dBm      |                     |                   |                       |             |            |                |          |             |                           |                        |
|             |                     |                   |                       |             |            |                |          |             |                           |                        |
| 20 dBm-     |                     |                   |                       |             |            |                |          |             |                           |                        |
|             |                     |                   |                       |             |            |                |          |             |                           |                        |
| 10 dBm      |                     |                   |                       |             |            |                |          |             |                           |                        |
|             | 1.                  |                   |                       |             |            |                |          |             |                           |                        |
| 0 d8m       |                     |                   |                       |             |            |                |          |             |                           |                        |
|             |                     |                   |                       |             |            |                |          |             |                           |                        |
| -10 dBm-    |                     | H1 -13.000 dBm    |                       |             |            |                |          |             |                           |                        |
|             |                     |                   |                       |             |            |                |          |             |                           |                        |
| -20 dBm-    |                     | M2                |                       |             |            |                |          |             |                           |                        |
|             |                     | 1                 |                       |             |            |                |          |             |                           |                        |
| -30 d8m-    |                     |                   |                       |             |            |                |          |             |                           |                        |
|             |                     |                   |                       |             |            |                |          |             |                           |                        |
| -40 d8m-    | V1                  | 1                 |                       |             |            |                |          |             |                           |                        |
| CF 901.0 MH | Hz                  | 1                 |                       | 1001 pts    |            |                | 1.6 MHz/ |             |                           | Span 16.0 MHz          |
| 2 Marker Ta | able                |                   |                       |             |            |                |          |             |                           |                        |
| M1          | Két                 | 1                 | 894.0 MHz             |             | -2.04 dBm  |                | Function |             | Function Re               | suit                   |
| M2          |                     | ī                 | 895.0 MHz             |             | -26.06 dBm |                |          |             |                           |                        |
|             |                     |                   |                       |             |            |                |          |             | <ul> <li>Ready</li> </ul> | 2024-02-27<br>09:07:18 |
| 09:07:18 AM | 02/27/2024          |                   |                       |             |            |                |          |             |                           |                        |

#### Diagram 2.4b WCDMA: TM1, Tim, Port B:



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# Diagram 2.5a WCDMA: TM1, M4, Port B:

Date

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| t 25 dB '<br>'9k-20GHz 40db'' | SWT 100 ms • VB | W 1 MHz Mode Auto Swe | ep       |        |           | Count         | 100/100  |
|-------------------------------|-----------------|-----------------------|----------|--------|-----------|---------------|----------|
| quency Sweep                  |                 |                       |          |        |           |               | o1Rm A   |
| n                             |                 |                       |          |        |           |               |          |
|                               |                 |                       |          |        |           |               |          |
|                               |                 |                       |          |        |           | <br>          |          |
|                               |                 |                       |          |        |           |               |          |
|                               |                 |                       |          |        |           |               |          |
|                               |                 |                       |          |        |           |               |          |
|                               |                 |                       |          |        |           |               |          |
|                               |                 |                       |          |        |           |               |          |
|                               |                 |                       |          |        |           |               | <u> </u> |
|                               |                 |                       |          |        |           |               |          |
|                               |                 |                       |          |        |           | <br>          |          |
|                               |                 |                       |          |        |           |               |          |
|                               | M1 - 12 000 dBm |                       |          |        |           |               |          |
|                               | 112 10:000 0011 |                       |          |        |           |               |          |
|                               |                 |                       |          |        |           | 1/2           |          |
|                               |                 |                       |          |        |           | <br>          |          |
|                               |                 |                       |          |        |           |               |          |
|                               |                 |                       |          |        |           |               |          |
|                               |                 |                       |          |        |           | ¥.            | V1       |
| .0 MHz                        | 1               |                       | 1001 pts | -      | 1.6 MHz/  |               | Span 16  |
| er Table                      | Tee             | V_Value               |          | -Value | Euroction | Euroption Day | cult     |
| pc Kei                        | - ne            |                       | -3       | 02 dBm | runcuon   | Function Res  | , circ   |

Reference

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#### Diagram 2.5b WCDMA: TM1, M4, Port B:



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# Diagram 2.5c WCDMA: TM1, M4, Port B:

Date

2024-03-19

| •• • ccor<br>Level 55.00 dBn | Offset 6.00 dB • RB | 1594 X 1599-16104882 | × 3-9582 × 98-16 × | 6.25kHz 85-8H1 | X 85-8L1 | X 85-8H1CP-5M X | B5-BLICP-SH 🔆 🗙 | 100/100   |
|------------------------------|---------------------|----------------------|--------------------|----------------|----------|-----------------|-----------------|-----------|
| 9k-20GHz 40db"               | 100 m3 0 10         | THE MOLE AND ON      | ~₽                 |                |          |                 | count           | 01Pm At   |
| quency sweep                 |                     |                      |                    |                |          | 1               |                 | O TRUE MY |
| n                            |                     |                      |                    |                |          |                 |                 |           |
|                              |                     |                      |                    |                |          |                 |                 | 1         |
|                              |                     |                      |                    |                |          |                 |                 |           |
|                              |                     |                      |                    |                |          |                 |                 | 1         |
|                              |                     |                      |                    |                |          |                 |                 | -         |
|                              |                     |                      |                    |                |          |                 |                 | 1         |
|                              |                     |                      |                    |                |          |                 |                 |           |
|                              |                     |                      |                    |                |          |                 |                 | 1         |
|                              |                     |                      |                    |                |          |                 |                 | <u> </u>  |
|                              |                     |                      |                    |                |          |                 |                 | 1         |
|                              |                     |                      |                    |                |          |                 |                 |           |
|                              |                     |                      |                    |                |          |                 |                 | 1         |
| n                            |                     |                      |                    |                |          |                 |                 |           |
|                              | H1 -13.000 dBm      |                      |                    |                |          |                 |                 |           |
| ·                            |                     |                      |                    |                |          |                 |                 |           |
|                              | *                   |                      |                    |                |          |                 |                 | 1         |
|                              |                     |                      |                    |                |          |                 |                 |           |
|                              |                     |                      |                    |                |          |                 |                 | 1         |
|                              | v2                  |                      |                    |                |          |                 |                 |           |
| V1                           |                     |                      |                    |                | 1        |                 |                 |           |
| .0 MHz                       |                     |                      | 1001 pts           |                | 1.6 MHz/ |                 |                 | Span 10   |
| rer rable<br>Ref             | Trc                 | X-Value              | Y-Value            |                | Function |                 | Function Res    | ult       |
| 11                           | 1                   | 894.0 MHz            | -3.33 dBm          |                |          |                 |                 |           |
| 12                           | 1                   | 895.0 MHZ            | -26.38 dBm         |                |          |                 |                 |           |
|                              |                     |                      |                    |                |          |                 | Ready           | · 20.     |

Reference

P119088-F2

#### Diagram 2.5d WCDMA: TM1, M4, Port B:



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# Conducted spurious emission measurements according to CFR 47 §22.917/ RSS-132 5.5

| Date       | Temperature                        | Humidity   |
|------------|------------------------------------|------------|
| 2024-02-20 | $22 \degree C \pm 3 \degree C$     | 20 % ± 5 % |
| 2024-02-26 | $23 \ ^{\circ}C \pm 3 \ ^{\circ}C$ | 24 % ± 5 % |
| 2024-02-27 | $22 \ ^{\circ}C \pm 3 \ ^{\circ}C$ | 25 % ± 5 % |

# Test set-up and procedure

The measurements were made per definition in ANSI C63.26, 5.7.4. The output was connected to a spectrum analyzer with the RMS detector activated.

An offset of 6 dB has been used to cover 4x4 MIMO according to ANSI C63.26 6.4.4.1 c "measure and add 10  $\log_{10}$  (N<sub>ANT</sub>)" In the frequency range 1-9 GHz an additional 0,62 dB was added to compensate for the pathloss in the High Pass filter used, resulting in a total offset of 6,62 dB in this frequency range.

The vertical lines V1 and V2 in the plots 9k to 1 GHz represent the band edges of the operating band 13.

The vertical lines V3 and V4 in the plots 9k to 1 GHz represent the band edges of the operating band 5

| Measurement equipment                     | RISE number |
|---|-------------|
| R&S FSW 43                                | 902 073     |
| RF attenuator                             | 902 282     |
| High pass filter 1-20 GHz                 | 504 199     |
| Coaxial cable Sucoflex 102EA              | BX50236     |
| Coaxial cable Sucoflex 102EA              | BX50237     |
| Testo 635, temperature and humidity meter | 504 203     |

Measurement uncertainty: 2.6 dB

# **Results WCDMA B5**

#### Single carrier WCDMA: TM1

| Diagram | Symbolic name B5 | Tested Port |
|---------|------------------|-------------|
| 3.1 a-b | В                | RF A        |
| 3.2 a-b | М                | RF A        |
| 3.3 a-b | М                | RF B        |
| 3.4 a-b | М                | RF C        |
| 3.5 a-b | М                | RF D        |
| 3.6 a-b | Т                | RF A        |

Note: Measurements were mainly limited to port RF B due to the measurement result in single carrier mode that shows that the ports are electrical identical as declared by the client.

#### Multi carrier WCDMA: TM1

| Diagram | Symbolic name B5 | Tested Port |
|---------|------------------|-------------|
| 3.7 a-b | Bim              | RF B        |
| 3.8 a-b | Tim              | RF B        |
| 3.9 a-b | M4               | RF B        |

#### Multi RAT: WCDMA: TM1 NR and LTE: TM1.1

| Diagram  | Symbolic name B5 | Tested Port |
|----------|------------------|-------------|
| 3.10 a-b | W+N+L            | RF B        |

#### Remark

The emission at 9 kHz on the plots was not generated by the test object. A complementary measurement with a smaller RBW showed that it was related to the LO feed-through.

The highest fundamental frequency is 894 MHz. The measurements were made up to 9 GHz (10x894 MHz = 8.94 GHz).

# Limits

CFR 47 § 22.917 (a)

Out of band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43  $+ 10 \log(P) dB$ .

#### CFR 47 § 22.917 (b)

Measurement procedure. Compliance with these rules is based on the use of measurement instrumentation employing a reference bandwidth as follows:

- In the spectrum below 1 GHz, instrumentation should employ a reference bandwidth of 100 kHz or greater. In the 1 MHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy, provided that the measured power is integrated over the full required reference bandwidth (i.e., 100 kHz or 1 percent of emission bandwidth, as specified). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.
- In the spectrum above 1 GHz, instrumentation should employ a reference bandwidth of 1 MHz.

#### RSS-132 5.5

- iii. In the first 1.0 MHz band immediately outside and adjacent to each of the subbands specified in Section 5.1, the power of emissions per any 1% of the occupied bandwidth shall be attenuated below the transmitter output power P (dBW) by at least 43 + 10 log(p) dB.
- iv. After the first 1.0 MHz immediately outside and adjacent to each of the subbands, the power of emissions in any 100 kHz bandwidth shall be attenuated below the transmitter output power P (dBW) by at least 43 + 10 log(p) dB. If the measurement is performed using 1% of the occupied bandwidth, power integration over 100 kHz is required.

| Complies? Yes | Complies? | Yes |
|---------------|-----------|-----|
|---------------|-----------|-----|



| agrar                | n 3.1a WC  | DMA: TM1.  | $B_5$ , 9 kHz               | - 1 GHz. P   | ortA:           |          |        |   |   |
|----------------------|--|--|-----------------------------|--|-----------------|----------|--------|---|---|
|                      |  |  | P505M X 85-08               | X 6.25 X 05-001  | X 85.12 X 94-16 | × 115.15 | × 15.1 | 5 X 85-81.1   |   |
| Lavel 55 00          |  | DRW 100 LHz  |                             |  |                 |          |        |   |   |
| Level 55.00          | 20 dB = SWT 100 ms = 1   | VBW 1.00 KHz Mode Auto Swe   | en                          |  |                 |          |        | Col   | nt 100/100  |
| -<br>9k-20GHz 40     | db" DC   |  |                             |  |                 |          |        |   |   |
| quency Swe           | ep   |  |                             |  |                 |          | 1      |   | O1Rm Av   |
|                      |  | +  |                             |  |                 |          |        |   |   |
|                      |  |  |                             |  |                 |          |        |   |   |
|                      |  |  |                             |  |                 |          |        |   |   |
|                      |  |  |                             |  |                 |          |        |   |   |
|                      |  |  |                             |  |                 |          |        |   |   |
|                      |  |  |                             |  |                 |          |        |   |   |
|                      |  |  |                             |  |                 |          |        |   |   |
|                      |  |  |                             |  |                 |          |        |   |   |
|                      |  |  |                             |  |                 |          |        |   |   |
|                      |  | +  |                             |  |                 |          |        |   |   |
|                      |  |  |                             |  |                 |          |        |   |   |
|                      |  | +  |                             |  |                 |          |        |   |   |
|                      |  |  |                             |  |                 |          |        |   |   |
|                      |  |  |                             |  |                 |          |        |   |   |
|                      | H1 -13.000 dBm   |  |                             |  |                 |          |        |   |   |
|                      |  |  |                             |  |                 |          |        |   |   |
|                      |  |  |                             |  |                 |          |        | 11  |   |
|                      |  |  |                             | M1   |                 |          |        |   |   |
|                      | Λ  |  | A DESCRIPTION OF THE OWNER. | and the state of the second state of the secon |                 |          | -      | A MARTING AND AND A MARTING AND AND A MARTING AND AND AND A MARTING AND AND AND A MARTING AND | And the second se |
| and the state of the | All and a second s | and the second |                             |  |                 |          |        | V3  | V4  |
|                      |  | +  |                             |  |                 | V1       | V2     |   |   |
| z                    | I  |  | 45001 pts                   |  | 100.0 MHz/      |          | 1      |   | 1   |
| ker Table            |  |  |                             |  |                 |          |        |   |   |
| ре                   | Ref Trc  | X-Value  | Y-V.                        | alue<br>6 dBm  | Function        |          |        | Function F  | lesult  |
| 1                    | 1  | 349.092 MHZ  | -29.80                      | 9 u D III  |                 |          |        |   | - 202   |
|                      |  |  |                             |  |                 |          |        | Bondu   | 202   |

## Diagram 3.1b WCDMA: TM1, B<sub>5</sub>, 763 – 805 MHz, Port A:

| Ref Level 20.00 dBm | X         OBW         X         EBW           Offset         6.00 dB         R         R           •         SWT         200 ms         V  | v x psose<br>BW 6.25 kHz<br>BW 30 kHz Mode Sv   | кеер  | 5-081 X 6-25  | X 05-8H1 X 1                          | 15.12 ¥ 9k-16                                     | X 85.35 X 85.                              | IS X IS-BL1<br>SGL<br>Count 100  | /100   |
|---------------------|--|---|---|---|---------------------------------------|---|--|--|--|
| 1 Frequency Sweep   |  |   |   |   |                                       |   |  |  | O 1Rm AvgPwr                                       |
|                     |  |   |   |   |                                       |   |  |  |  |
|                     |  |   |   |   |                                       |   |  |  |  |
| 10 dBm              |  |   |   |   |                                       |   |  |  |  |
|                     |  |   |   |   |                                       |   |  |  |  |
| 0 dBm               |  |   |   |   |                                       |   |  |  |  |
|                     |  |   |   |   |                                       |   |  |  |  |
| -10 dBm-            |  |   |   |   |                                       |   |  |  |  |
|                     |  |   |   |   |                                       |   |  |  |  |
| -20 d8m-            |  |   |   |   |                                       |   |  |  |  |
|                     |  |   |   |   |                                       |   |  |  |  |
| - 20 d8m-           |  |   |   |   |                                       |   |  |  |  |
| 50 0011             |  |   |   |   |                                       |   |  |  |  |
|                     |  |   |   |   |                                       |   |  |  |  |
| -40 dBm             |  |   |   |   |                                       |   |  |  |  |
|                     | H1 -46.000 dBm   |   |   |   |                                       |   |  |  |  |
| -50 dBm             |  |   |   | 1   |                                       | I.  |  |  |  |
|                     | and the second sec | and the marked of the providence of the second s | and the second of the second se | and the state of the | an in the second second second second | and an and say that the second first and provided | and the second second second second second | a star and the second | Man Praise of the product of the Product of States |
| -60 dBm             |  |   |   |   |                                       |   |  |  |  |
|                     |  |   |   |   |                                       |   |  |  |  |
| -70 dBm-            |  |   |   |   |                                       |   |  |  |  |
|                     |  |   |   |   |                                       |   |  |  |  |
| 760.0141            |  |   | 00001   |   |                                       | 1010-1  |  |  | 005.0141-  |
| 763.0 MHz           |  |   | 30001 pts   |   |                                       | 4.2 MHz/  |  |  | 805.0 MHz  |
| Type Ref            | Trc  | X-Value   |   | Y-Value   |                                       | Function  |  | Function Res   | ult  |
| M1                  | 1  | 788.670 24 MHz  |   | -52.26 dBm  |                                       |   |  |  |  |
|                     |  |   |   |   |                                       |   |  | Ready  | 2024-02-20<br>09:21:44                             |

09:21:44 AM 02/20/2024



| Diagram                     | 3.1c WC   | DMA: TM1                  | , B <sub>5</sub> , 1 –   | 9 GHz, 1   | Port A:       |                         |                   |                            |              |
|-----------------------------|---|---------------------------|--|------------|---------------|-------------------------|-------------------|----------------------------|--------------|
| Ref Level 20.00 de<br>Att 0 | EBW PSDDH<br>Bm Offset 6.62 dB = R<br>dB = SWT 100 ms = V   | RBW 1 MHz<br>Mode Auto Sw | eep  | X 85-881 X | 96-16 X 85.13 | <b>X</b> 85.15 <b>X</b> | 85-86.1 × P503242 | X 1-9CR2 X<br>SGL<br>Count | 100/100      |
| Frequency Swee              | р   |                           |  |            |               |                         |                   |                            | O 1Rm AvgPwr |
|                             |   |                           |  |            |               |                         |                   |                            |              |
| 10 dBm                      |   |                           |  |            |               |                         |                   |                            |              |
|                             |   |                           |  |            |               |                         |                   |                            |              |
| d8m                         |   |                           |  |            |               |                         |                   |                            |              |
|                             |   |                           |  |            |               |                         |                   |                            |              |
| -10 dBm                     |   |                           |  |            |               |                         |                   |                            |              |
|                             | H1 -13.000 dBm  |                           |  |            |               |                         |                   |                            |              |
| -20 d8m                     |   |                           |  |            |               |                         |                   |                            |              |
|                             |   |                           |  |            |               |                         |                   |                            |              |
| -30 dBm                     |   |                           |  |            |               |                         |                   |                            | M            |
|                             |   |                           |  |            | •             |                         |                   |                            |              |
| 40 dBm                      | and the second se |                           | and the second design of the s |            |               |                         |                   |                            |              |
|                             |   |                           |  |            |               |                         |                   |                            |              |
| 50 dBm                      |   |                           |  |            |               |                         |                   |                            |              |
|                             |   |                           |  |            |               |                         |                   |                            |              |
| 60 dBm                      |   |                           |  |            |               |                         |                   |                            |              |
|                             |   |                           |  |            |               |                         |                   |                            |              |
| -70 dBm                     |   |                           |  |            |               |                         |                   |                            |              |
|                             |   |                           |  |            |               |                         |                   |                            |              |
| 1.0 GHz                     |   |                           | 35001 pts  |            |               | 800.0 MHz/              |                   |                            | 9.0 GHz      |
| Marker Table                | af Tue  | X Value                   |  | V Value    |               | Compliant               |                   | Cumption Day               | a da         |
| M1 Ri                       | 1   | 8.982 286 GHz             |  | -31.89 dBm |               | runction                |                   | Function Res               | uit          |
|                             |   |                           |  |            |               |                         |                   | Ready                      | 2024-02-20   |
|                             | 1/2024  |                           |  |            |               |                         |                   |                            |              |
| 20.47 7.4 02/20             | 1 2024  |                           |  |            |               |                         |                   |                            |              |

## Diagram 3.1d WCDMA: TM1, B<sub>5</sub>, 1559 - 1610 MHz, Port A:

| Ref Level 10.00 dBm<br>• Att 10 dB | Offset 6.62 dB = R | BW 10MHz Mode | Auto Sweep | <b>X</b> 96-16 | X 85.15 X 85.15 | X D5-0L1   | X P501142 X | 1-9GHz X 1.101 | SGL<br>Count 100/100 |
|------------------------------------|--------------------|---------------|------------|----------------|-----------------|------------|-------------|----------------|----------------------|
| 1 Frequency Sweep                  | ,<br>,             |               |            |                |                 |            |             |                | O1Rm AvgPwr          |
|                                    |                    |               |            |                |                 |            |             |                |                      |
|                                    |                    |               |            |                |                 |            |             |                |                      |
| 0 dBm                              |                    |               |            |                |                 |            |             |                |                      |
|                                    |                    |               |            |                |                 |            |             |                |                      |
| -10 dBm                            |                    |               |            |                |                 |            |             |                |                      |
|                                    |                    |               |            |                |                 |            |             |                |                      |
| -20 d8m                            |                    |               |            |                |                 |            |             |                |                      |
|                                    |                    |               |            |                |                 |            |             |                |                      |
|                                    |                    |               |            |                |                 |            |             |                |                      |
| -30 dBm                            |                    |               |            |                |                 |            |             |                |                      |
|                                    |                    |               |            |                |                 |            |             |                |                      |
| -40-dBm                            | H1 -40.000 dBm     |               |            |                |                 |            |             |                |                      |
|                                    |                    |               |            |                |                 |            |             |                | ML                   |
| -50 d8m-                           |                    |               |            |                |                 |            |             |                | •                    |
|                                    |                    |               |            |                |                 |            |             |                |                      |
| -60 d8m                            |                    |               |            |                |                 |            |             |                |                      |
| -00 dbm                            |                    |               |            |                |                 |            |             |                |                      |
|                                    |                    |               |            |                |                 |            |             |                |                      |
| -70 dBm                            |                    |               |            |                |                 |            |             |                |                      |
|                                    |                    |               |            |                |                 |            |             |                |                      |
| -80 dBm                            |                    |               |            |                |                 |            |             |                |                      |
|                                    |                    |               |            |                |                 |            |             |                |                      |
| 1.550.015                          |                    |               | 1001 -1    | _              |                 | E 1 Mile / |             |                | 1.61.00              |
| 2 Marker Table                     |                    |               | 1001 pt    | 8              |                 | 5.1 MHZ/   |             |                | 1.61 GHZ             |
| Type Ref                           | Trc                | X-Value       |            | Y-Value        |                 | Function   |             | Funct          | ion Result           |
| M1                                 | 1                  | 1.608 089 4 0 | GHz        | -48.20 dBm     |                 |            |             |                |                      |
| e.                                 |                    |               |            |                |                 |            |             | - Ready        | 2024-02-20 09:30:39  |

09:30:39 AM 02/20/2024

Date Reference 2024-03-19 P119088-F2

| Diagram 1                          | 3.2a WCI                     | DMA: TM           | [1, M <sub>5</sub> , 9] | kHz – 1 C   | GHz, Port  | A:   |                       |               |               |  |
|------------------------------------|------------------------------|-------------------|-------------------------|---|--|--|-----------------------|---------------|---------------|--|
| MultiView CCDF                     | X 08W X 88W                  | У РЕВЕН           | × PSDSM × B5            | i 011 🗙 6.25  | × 05-081 ×                                       | 96-16 🗙 85.15  | × 05.15               | × 85-80.      | 1 × P501042   |  |
| Ref Level 55.00 dBm                | Offset 6.00 dB • RE          | 3W 100 kHz        |                         | _   |  |  | _                     | _             | SGL           |  |
| Att 20 dB                          | • SWT 100 ms • VE            | W 1 MHz Mode Auto | o Sweep                 |   |  |  |                       |               | Count 1       | 00/100   |
| 1 Frequency Sweep                  |                              |                   |                         |   |  |  |                       |               |               | O1Rm AvgPwr  |
| 50. d0m                            |                              |                   |                         |   |  |  |                       |               |               |  |
| So dom                             |                              |                   |                         |   |  |  |                       |               |               |  |
| 40 dBm                             |                              |                   |                         |   |  |  |                       |               |               |  |
|                                    |                              |                   |                         |   |  |  | 1                     |               |               |  |
| 30 dBm                             |                              |                   |                         |   |  |  |                       |               |               |  |
|                                    |                              |                   |                         |   |  |  |                       |               |               |  |
| 20 dBm                             |                              |                   |                         |   |  |  |                       |               |               |  |
|                                    |                              |                   |                         |   |  |  |                       |               |               |  |
| 10 dBm-                            |                              |                   |                         |   |  |  |                       |               |               |  |
|                                    |                              |                   |                         |   |  |  |                       |               |               |  |
| 0 dam                              |                              |                   |                         |   |  |  |                       |               |               |  |
| -10 dBm-                           |                              |                   |                         |   |  |  |                       |               |               |  |
|                                    | H1 -13.000 d8m               |                   |                         |   |  |  |                       |               |               |  |
| -20 dBm-                           |                              |                   |                         |   |  |  |                       |               |               |  |
|                                    |                              |                   |                         |   | M1   |  | I 1                   |               | 1.            |  |
| NERONAL CONTRACT                   | M2                           |                   |                         |   | Y CARLES AND |  |                       |               |               |  |
| Harth Contracting Spectra instance | and the second second second |                   |                         | And the second se | and the second second                            | and the second | and the second second | In Section 2. | V4<br>V3      | and the second |
| -40 dBm-                           |                              |                   |                         |   |  |  | V1 V1                 | 2             | T t           |  |
| 9.0 kHz                            |                              |                   | 45001 pts               |   |  | 100.0 MHz/   |                       |               |               | 1.0 GHz  |
| 2 Marker Table                     | THO                          | V Value           |                         | V Volue   |  | Exection   |                       | _             | Function Door |  |
| M1 Ker                             | 1                            | 551.692 MHz       |                         | -29.89 dBm  |  | runction   |                       |               | Function Rest |  |
| M2                                 | 1                            | 131.06 MHz        |                         | -30.39 dBm  |  |  |                       |               |               | 2024-02-20   |
| <i>v</i>                           |                              |                   |                         |   |  |  |                       | e.            | Ready         | 12:53:04   |

12:53:04 PM 02/20/2024

### Diagram 3.2b WCDMA: TM1, M<sub>5</sub>, 763 – 805 MHz, Port A:

| MultiView CCDF   | × 00W × 00V  | Y PIBIN                                    | × PSDSH × I                          | n an 🗙 6.25   | × 15-000.                             | 96-16 X 05.15                         | X 85.15 X 8  | 5-8L1 × PSD1942  |  |
|--|--|--|--------------------------------------|---|---------------------------------------|---------------------------------------|--|--|--|
| Ref Level 20.00 dB   | m Offset 6.00 dB • RI  | BW 6.25 kHz                                |                                      |   |                                       |                                       |  | SGL  |  |
| • Att 10 c   | dB 🖷 SWT 200 ms 🖷 VI   | 3W 30 kHz Mode Sw                          | reep                                 |   |                                       |                                       |  | Count 100  | /100   |
| 1 Frequency Sween  |  |  |                                      |   |                                       |                                       |  |  | 0.1Rm AvgPwr   |
|  |  |  |                                      |   |                                       |                                       |  |  |  |
|  |  |  |                                      |   |                                       |                                       |  |  |  |
| 10 dBm   |  |  |                                      |   |                                       |                                       |  |  |  |
|  |  |  |                                      |   |                                       |                                       |  |  |  |
|  |  |  |                                      |   |                                       |                                       |  |  |  |
| 0 dBm  |  |  |                                      |   |                                       |                                       |  |  |  |
|  |  |  |                                      |   |                                       |                                       |  |  |  |
| -10 dBm  |  |  |                                      |   |                                       |                                       |  |  |  |
|  |  |  |                                      |   |                                       |                                       |  |  |  |
| -20 d8m-   |  |  |                                      |   |                                       |                                       |  |  |  |
|  |  |  |                                      |   |                                       |                                       |  |  |  |
|  |  |  |                                      |   |                                       |                                       |  |  |  |
| -30 dBm-   |  |  |                                      |   |                                       |                                       |  |  |  |
|  |  |  |                                      |   |                                       |                                       |  |  |  |
| -40 dBm  |  |  |                                      |   |                                       |                                       |  |  |  |
|  |  |  |                                      |   |                                       |                                       |  |  |  |
| 50 db  | H1 -46.000 d8m   |  |                                      |   |                                       |                                       | M1   |  |  |
| -su abm  |  |  | and the second second                | the second se   |                                       | 1-1-1                                 |  | in the second  | and the second |
| and the second | A CONTRACTOR OF A CONT | Color States and Alar States States States | All Manufactures and a second second | AND A CONTRACTOR OF | and the second second fill deputy and | A A A A A A A A A A A A A A A A A A A | and a straight and a | and the second | And the state of the second second second  |
| -60 dBm  |  |  |                                      |   |                                       |                                       |  |  |  |
|  |  |  |                                      |   |                                       |                                       |  |  |  |
| -70 dBm-   |  |  |                                      |   |                                       |                                       |  |  |  |
|  |  |  |                                      |   |                                       |                                       |  |  |  |
|  |  |  |                                      |   |                                       |                                       |  |  |  |
| CF 784.0 MHz   |  |  | 30001 pts                            | 1   |                                       | 4.2 MHz/                              |  |  | Span 42.0 MHz  |
| 2 Marker Table   |  |  |                                      |   |                                       |                                       |  |  |  |
| Type Re  | f Trc  | X-Value                                    |                                      | Y-Value   |                                       | Function                              |  | Function Res   | ult  |
| M1   | 1  | 793.994 27 MHz                             |                                      | -52.10 dBm  |                                       |                                       |  |  |  |
|  |  |  |                                      |   |                                       |                                       |  | Ready  | 2024-02-20<br>12:52:06   |

12:52:06 PM 02/20/2024



| Diagram                                  | 3.2c WCI  | DMA: TM  | I, M <sub>5</sub> , 1 - | - 9 GHz,   | Port A:       |                |                  |                            |                        |
|--|---|--|-------------------------|------------|---------------|----------------|------------------|----------------------------|------------------------|
| Ref Level 20.00 dBn<br>• Att 0 db        | PIDEM<br>Offset 6.62 dB • R<br>3 • SWT 100 ms • V | BW 1 MHz<br>BW 10 MHz Mode Auto Sv   | veep                    | X 15-001 X | 96-16 X 85.15 | <b>X</b> 85.15 | 15-01.1 X P501M2 | X 1-9GHz X<br>SGL<br>Count | 100/100                |
| TDF "9k-20GHz 40db"<br>1 Frequency Sweep |   |  |                         |            |               |                |                  |                            | 01Rm AvgPwr            |
|  |   |  |                         |            |               |                |                  |                            |                        |
| 10 dBm                                   |   |  |                         |            |               |                |                  |                            |                        |
|  |   |  |                         |            |               |                |                  |                            |                        |
| 0 dBm                                    |   |  |                         |            |               |                |                  |                            |                        |
|  |   |  |                         |            |               |                |                  |                            |                        |
| -10 d8m                                  | H1 -13.000 dBm                                    |  |                         |            |               |                |                  |                            |                        |
| -20 dam                                  |   |  |                         |            |               |                |                  |                            |                        |
| -20 0011                                 |   |  |                         |            |               |                |                  |                            |                        |
| -30 d8m                                  |   |  |                         |            |               |                |                  |                            | M1                     |
|  |   |  |                         |            | -             |                |                  |                            |                        |
| -40 d8m-                                 |   | and the second of the second |                         |            |               |                |                  |                            |                        |
|  |   |  |                         |            |               |                |                  |                            |                        |
| -50 dBm                                  |   |  |                         |            |               |                |                  |                            |                        |
| -60 dBm                                  |   |  |                         |            |               |                |                  |                            |                        |
| 0000                                     |   |  |                         |            |               |                |                  |                            |                        |
| -70 dBm                                  |   |  |                         |            |               |                |                  |                            |                        |
|  |   |  |                         |            |               |                |                  |                            |                        |
| CF 5.0 GHz                               |   |  | 35001 pts               |            |               | 800.0 MHz/     |                  |                            | Span 8.0 GHz           |
| 2 Marker Table                           | Tec   | V-Value  |                         | V-Value    |               | Euroction      |                  | Euroction Do               | a dt                   |
| M1 Kei                                   | 1   | 8.899 774 GHz  |                         | -31.96 dBm |               | Tunction       |                  | r uncuon Re                | Sur                    |
|  |   |  |                         |            |               |                |                  | Ready                      | 2024-02-20<br>12:49:32 |
| 12:49:32 PM 02/20/2                      | 2024  |  |                         |            |               |                |                  |                            |                        |

## Diagram 3.2d WCDMA: TM1, M5, 1559 - 1610 MHz, Port A:

| Ref Level 10.00 dBm<br>Att 10 dB        | Offset 6.62 dB • R<br>• SWT 100 ms • V | BW 1 MHz<br>BW 10 MHz Mode | Auto Sweep | <b>X</b> %-16 | B5.15 X B5.15 | X 05-01.1 X | P583342 X 1-9GHz | X 1.101 X<br>SGL<br>Count : | •                    |
|---|--|----------------------------|------------|---------------|---------------|-------------|------------------|-----------------------------|----------------------|
| A TDF "9k-20GHz 40dt<br>Frequency Sween | b"                                     |                            |            |               |               |             |                  |                             | A 1Rm AvaDwr         |
| rrequency sweep                         |  |                            |            |               |               |             |                  |                             | O INTERVIEW          |
|   |  |                            |            |               |               |             |                  |                             |                      |
| ) dBm                                   |  |                            |            |               |               |             |                  |                             |                      |
|   |  |                            |            |               |               |             |                  |                             |                      |
| 10 dBm                                  |  |                            |            |               |               |             |                  |                             |                      |
|   |  |                            |            |               |               |             |                  |                             |                      |
| 20 dBm                                  |  |                            |            |               |               |             |                  |                             |                      |
| 20 0011                                 |  |                            |            |               |               |             |                  |                             |                      |
|   |  |                            |            |               |               |             |                  |                             |                      |
| 30 GBW                                  |  |                            |            |               |               |             |                  |                             |                      |
|   |  |                            |            |               |               |             |                  |                             |                      |
| 40 dBm                                  | H1 -40.000 dBm                         |                            |            |               |               |             |                  |                             |                      |
|   |  |                            |            |               |               |             |                  |                             | M1                   |
| 50 dBm                                  |  |                            |            |               |               |             |                  |                             |                      |
|   |  |                            |            |               |               |             |                  |                             |                      |
| 60 d8m                                  |  |                            |            |               |               |             |                  |                             |                      |
|   |  |                            |            |               |               |             |                  |                             |                      |
|   |  |                            |            |               |               |             |                  |                             |                      |
| /U dBm                                  |  |                            |            |               |               |             |                  |                             |                      |
|   |  |                            |            |               |               |             |                  |                             |                      |
| -m8b 08                                 |  |                            |            |               |               |             |                  |                             |                      |
|   |  |                            |            |               |               |             |                  |                             |                      |
| °F 1 5845 GHz                           |  |                            | 1001 pl    |               |               | 5.1 MHz/    |                  |                             | Span 51.0 MH         |
| Marker Table                            |  |                            | 1001 p     |               |               | 012.118.12/ |                  |                             | opariono             |
| Type Ref                                | Trc                                    | X-Value                    |            | Y-Value       |               | Function    |                  | Function Res                | ult                  |
| M1                                      | 1                                      | 1.605 898 6                | GHZ        | -48.15 dBm    |               |             |                  |                             |                      |
| Ψ.                                      |  |                            |            |               |               |             |                  | Ready                       | 2024-02-2<br>12:50:1 |

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| Diagram             | 3.3a WCI                       | DMA: TM               | 1. M5. 9 k  | Hz - 1 C   | Hz. Port   | B:  |         |                |                |             |
|---------------------|--------------------------------|-----------------------|---|--|--|---|---------|----------------|----------------|-------------|
| MultiView CCDF      | × 08W × 18V                    | × P501N >             | < PSDSM × B54   | DH X 6.25  | × 15-001 ×   | 94-16 × 05.15   | × 15.15 | ×              | 5-BL1 × P5D142 |             |
| Ref Level 55.00 dBr | m Offset 6.00 dB = RB          | 3W 100 kHz            |   |  |  |   | _       | _              | SGL            |             |
| Att 20 d            | B • SWT 100 ms • VE            | W 1 MHz Mode Auto     | Sweep   |  |  |   |         |                | Cou            | nt 100/100  |
| 1 Frequency Sweep   | DC                             |                       |   |  |  |   |         |                |                | 01Rm AvgPwr |
| F0. d0m             |                                |                       |   |  |  |   |         |                |                |             |
| SU dBm-             |                                |                       |   |  |  |   |         |                |                |             |
| 40 d9m              |                                |                       |   |  |  |   |         |                |                |             |
| 40 000              |                                |                       |   |  |  |   |         | ٨              |                |             |
| 30 dBm              |                                |                       |   |  |  |   |         |                |                |             |
|                     |                                |                       |   |  |  |   |         |                |                |             |
| 20 d8m              |                                |                       |   |  |  |   |         |                |                |             |
|                     |                                |                       |   |  |  |   |         |                |                |             |
| 10 dBm              |                                |                       |   |  |  |   |         |                |                |             |
|                     |                                |                       |   |  |  |   |         |                |                |             |
| 0 d8m-              |                                |                       |   |  |  |   |         |                |                |             |
|                     |                                |                       |   |  |  |   |         |                |                |             |
| -10 d8m             |                                |                       |   |  |  |   |         |                |                |             |
|                     | H1 -13.000 dBm                 |                       |   |  |  |   |         |                |                |             |
| -20 d8m-            |                                |                       |   |  |  |   |         |                |                |             |
|                     | 142                            |                       |   |  |  |   |         | n –            |                |             |
| NAME AND ADDRESS    | 1                              |                       |   | and the second | The second secon |   |         | -              |                |             |
|                     | internet Antistic and a second |                       | A CONTRACTOR OF |  |  | and the second se |         | And the second | va             | V4          |
| -40 dBm-            |                                |                       |   |  |  |   |         | 1              | T T            |             |
| 9.0 kHz             |                                |                       | 45001 pts   |  |  | 100.0 MHz/  |         |                |                | 1.0 GHz     |
| 2 Marker Table      |                                |                       |   |  |  |   |         |                |                |             |
| Type Rel            | f Trc                          | X-Value<br>548.07 MHz |   | Y-Value<br>-30.07 dBm  |  | Function  |         |                | Function R     | esult       |
| M2                  | î                              | 130.949 MHz           |   | -30.16 dBm   |  |   |         |                |                |             |
|                     |                                |                       |   |  |  |   |         |                | Ready          | 2024-02-20  |
| 10:27:57 AM 02/20/  | 2024                           |                       |   |  |  |   |         |                |                |             |

#### Diagram 3.3b WCDMA: TM1, M5, 763 – 805 MHz, Port B:

| MultiView CCDF                           | × 000W × 000  | и Х РЕДан   | × PSDSM ×                        | as-on X 625                 | × 85-881  | 98-16 × 85.15                                   | X 85.15 X 8                 | 5-8L1 × P501%2   |   |
|--|---|---|----------------------------------|-----------------------------|---|---|-----------------------------|--|---|
| Ref Level 20.00 dB                       | m Offset 6.00 dB • RI   | BW 6.25 kHz   |                                  |                             |   |   |                             | SGL  |   |
| <ul> <li>Att 10 c</li> </ul>             | dB 🖷 SWT 200 ms 🖷 VI  | BW 30 kHz Mode Sv   | veep                             |                             |   |   |                             | Count 100  | /100  |
| 1 Erequency Sween                        |   |   |                                  |                             |   |   |                             |  | 0.1Rm AvoPwr  |
| Trequency officep                        |   |   |                                  |                             |   |   |                             |  | o risti kirgi tu  |
|  |   |   |                                  |                             |   |   |                             |  |   |
| 10 dBm                                   |   |   |                                  |                             |   |   |                             |  |   |
|  |   |   |                                  |                             |   |   |                             |  |   |
|  |   |   |                                  |                             |   |   |                             |  |   |
| o dem                                    |   |   |                                  |                             |   |   |                             |  |   |
|  |   |   |                                  |                             |   |   |                             |  |   |
| -10 dBm                                  |   |   |                                  |                             |   |   |                             |  |   |
|  |   |   |                                  |                             |   |   |                             |  |   |
| -20 d8m                                  |   |   |                                  |                             |   |   |                             |  |   |
|  |   |   |                                  |                             |   |   |                             |  |   |
|  |   |   |                                  |                             |   |   |                             |  |   |
| -30 dBm-                                 |   |   |                                  |                             |   |   |                             |  |   |
|  |   |   |                                  |                             |   |   |                             |  |   |
| -40 d8m                                  |   |   |                                  |                             |   |   |                             |  |   |
|  |   |   |                                  |                             |   |   |                             |  |   |
|  | H1 -46.000 d8m  |   |                                  |                             |   |   | M1                          |  |   |
| -50 d8m                                  |   | a second being | 1                                |                             |   |   |                             |  |   |
| an a | And the second se | Section Sector in Party in Party Alto   | Contraction of the second second | addimological sector of the | and the second secon | and a second in the second second second second | Aberta Belantication Aberta | And a second | and the state of the |
| -60 dBm                                  |   |   |                                  |                             |   |   |                             |  |   |
|  |   |   |                                  |                             |   |   |                             |  |   |
| -70 dBm                                  |   |   |                                  |                             |   |   |                             |  |   |
|  |   |   |                                  |                             |   |   |                             |  |   |
|  |   |   |                                  |                             |   |   |                             |  |   |
| 763.0 MHz                                |   | 1   | 30001 pts                        | 1                           |   | 4.2 MHz/  |                             |  | 805.0 MHz   |
| 2 Marker Table                           |   |   |                                  |                             |   |   |                             |  |   |
| Type Re                                  | f Trc   | X-Value   |                                  | Y-Value                     |   | Function  |                             | Function Res   | ult   |
| M1                                       | 1   | 794.004 07 MH2  |                                  | -21.97 dBm                  |   |   |                             |  |   |
|  |   |   |                                  |                             |   |   |                             | Ready  | 2024-02-20<br>10:24:41  |

10:24:41 AM 02/20/2024





| Diagram                               | 3.3c WCI                                    | DMA: TM1                             | $, M_5, 1-9$  | GHz, Po       | rt B:   |               |              |             |                 |
|---------------------------------------|---|--------------------------------------|---------------|---------------|---------|---------------|--------------|-------------|-----------------|
|                                       | W PSD14                                     | X P505N X 85-0H                      | X 6.25 X 15-1 | H1 × H-16     | × 85.15 | X 85.15 X 854 | BL1 ¥ P501M2 | X 1-968z    | ۰ ·             |
| Att 0 d                               | m Offset 6.62 dB • R<br>dB • SWT 100 ms • V | ABW 1 MHz<br>/BW 10 MHz Mode Auto Sw | eep           |               |         |               |              | Count       | 100/100         |
| DF "9k-20GHz 40db"<br>Erequency Sween |   |                                      |               |               |         |               |              |             | O 18m AvoDw     |
| in equality oweep                     |   |                                      |               |               |         |               |              |             | o rivin kirgi m |
|                                       |   |                                      |               |               |         |               |              |             |                 |
| 0 dBm                                 |   |                                      |               |               |         |               |              |             |                 |
|                                       |   |                                      |               |               |         |               |              |             |                 |
| asm-                                  |   |                                      |               |               |         |               |              |             |                 |
| 0.40m                                 |   |                                      |               |               |         |               |              |             |                 |
| to upin                               | H1 -13.000 dBm                              |                                      |               |               |         |               |              |             |                 |
| 20 d8m                                |   |                                      |               |               |         |               |              |             |                 |
|                                       |   |                                      |               |               |         |               |              |             |                 |
| 30 dBm                                |   |                                      |               |               |         |               |              |             | м               |
|                                       |   |                                      |               |               |         |               |              |             |                 |
| 40 d8m                                |   |                                      |               |               |         |               |              |             |                 |
|                                       |   |                                      |               |               |         |               |              |             |                 |
| i0 d8m                                |   |                                      |               |               |         |               |              |             |                 |
|                                       |   |                                      |               |               |         |               |              |             |                 |
| i0 dBm                                |   |                                      |               |               |         |               |              |             |                 |
|                                       |   |                                      |               |               |         |               |              |             |                 |
| 70 dBm                                |   |                                      |               |               |         |               |              |             |                 |
|                                       |   |                                      |               |               |         |               |              |             |                 |
| .0 GHz                                |   |                                      | 35001 pts     |               | 80      | 0.0 MHz/      |              |             | 9.0 GH          |
| Marker Table                          |   |                                      |               |               |         | ,             |              |             | 210 011         |
| Type Re<br>M1                         | f Trc                                       | X-Value<br>8.927 202 GHz             | -31.9         | alue<br>4 dBm |         | Function      |              | Function Re | sult            |
|                                       | •   |                                      | -5115         |               |         |               | 10           | Measuring   | 💶 📖 🛻 2024-02-2 |
|                                       |   |                                      |               |               |         |               |              |             | 10:22:1         |
| :22:17 AM 02/20/                      | /2024                                       |                                      |               |               |         |               |              |             |                 |

## Diagram 3.3d WCDMA: TM1, M5, 1559 - 1610 MHz, Port B:

| Ref Level 10.00 dBr<br>Att 10 d | N Offset 6.62 dB = R<br>B = SWT 100 ms = V | BW 1 MHz<br>BW 10 MHz M | ode Auto Sweep | <b>X</b> %r-16        | X 85.15 X 85.15 | X 85-86.1 X | P501%2 X 1-9GHz | X 1.101 X<br>SGL<br>Count | 100/100                               |
|---------------------------------|--|-------------------------|----------------|-----------------------|-----------------|-------------|-----------------|---------------------------|---------------------------------------|
| Frequency Sweep                 | 10   |                         |                |                       |                 |             |                 |                           | 01Rm AvaPw                            |
|                                 |  |                         |                |                       |                 |             |                 |                           |                                       |
|                                 |  |                         |                |                       |                 |             |                 |                           |                                       |
| dBm                             |  |                         |                |                       |                 |             |                 |                           |                                       |
|                                 |  |                         |                |                       |                 |             |                 |                           |                                       |
| 0 dBm                           |  |                         |                |                       |                 |             |                 |                           |                                       |
|                                 |  |                         |                |                       |                 |             |                 |                           |                                       |
| 0 dBm                           |  |                         |                |                       |                 |             |                 |                           |                                       |
|                                 |  |                         |                |                       |                 |             |                 |                           |                                       |
| 0 dBm                           |  |                         |                |                       |                 |             |                 |                           |                                       |
|                                 |  |                         |                |                       |                 |             |                 |                           |                                       |
| i0-d8m                          | H1 -40.000 dBm                             |                         |                |                       |                 |             |                 |                           |                                       |
|                                 |  |                         |                |                       |                 |             |                 |                           | M1                                    |
| 0 dBm                           |  |                         |                |                       |                 |             |                 |                           | · · · · · · · · · · · · · · · · · · · |
|                                 |  |                         |                |                       |                 |             |                 |                           |                                       |
| 0. d8m                          |  |                         |                |                       |                 |             |                 |                           |                                       |
|                                 |  |                         |                |                       |                 |             |                 |                           |                                       |
|                                 |  |                         |                |                       |                 |             |                 |                           |                                       |
| U UBm                           |  |                         |                |                       |                 |             |                 |                           |                                       |
|                                 |  |                         |                |                       |                 |             |                 |                           |                                       |
| io diam                         |  |                         |                |                       |                 |             |                 |                           |                                       |
|                                 |  |                         |                |                       |                 |             |                 |                           |                                       |
| .559 GHz                        | 1  | 1                       | 1001 p         | ts                    |                 | 5.1 MHz/    | 1               |                           | 1.61 GH                               |
| Marker Table                    |  |                         |                |                       |                 |             |                 |                           |                                       |
| Type Ref                        | Trc  | X-Val<br>1.608 446      | IE GHZ         | Y-Value<br>-48.23 dBm |                 | Function    |                 | Function Res              | uit                                   |
| 1114                            | •  | 2.230 440               |                |                       |                 |             |                 | Boadu                     | 2024-02-2                             |
|                                 |  |                         |                |                       |                 |             |                 | Reduy                     | 10:23:0                               |

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| Diagram                                  | 3.4a WCI   | DMA: TM           | 1. M <sub>5</sub> . 9 kHz – 1 | GHz. Port  | C:            |                       |             |                 |             |
|--|--|-------------------|-------------------------------|--|---------------|-----------------------|-------------|-----------------|-------------|
| MultiView CCDF                           | X OBW X EBW  | X P501N           | X PSDSM X 85-000 X 4.25       | X 05-001 X   | 98-16 X 85.15 | × 05.15               | X 85-8      | L1 X P501542 4  |             |
| Ref Level 55.00 dBm                      | Offset 6.00 dB = RE  | 3W 100 kHz        |                               |  |               |                       |             | SGL             |             |
| • Att 20 dE                              | 8 • SWT 100 ms • VE  | W 1 MHz Mode Auto | Sweep                         |  |               |                       |             | Count 100/1     | 00          |
| TDF "9k-20GHz 40db"<br>1 Frequency Sweep | DC   |                   |                               |  |               |                       |             |                 | •1Rm AvgPwr |
|  |  |                   |                               |  |               |                       |             |                 |             |
| S0 dBm-                                  |  |                   |                               |  |               |                       |             |                 |             |
| 10.40                                    |  |                   |                               |  |               |                       |             |                 |             |
| 40 GBM                                   |  |                   |                               |  |               | 1                     |             |                 |             |
| 30 dBm-                                  |  |                   |                               |  |               |                       |             |                 |             |
|  |  |                   |                               |  |               |                       |             |                 |             |
| 20 d8m                                   |  |                   |                               |  |               |                       |             |                 |             |
|  |  |                   |                               |  |               |                       |             |                 |             |
| 10 dBm                                   |  |                   |                               |  |               |                       |             |                 |             |
|  |  |                   |                               |  |               |                       |             |                 |             |
| 0 d8m                                    |  |                   |                               |  |               |                       |             |                 |             |
|  |  |                   |                               |  |               |                       |             |                 |             |
| -10 dBm-                                 |  |                   |                               |  |               |                       |             |                 |             |
|  | H1 -13.000 dBm   |                   |                               |  |               |                       |             |                 |             |
| -20 d8m                                  |  |                   |                               |  |               |                       |             |                 |             |
|  | M2   |                   |                               | М1   |               | 1 1                   |             | $\Lambda$       |             |
| 4804d8p                                  | Å  |                   |                               | March and an and a state of the |               | and the second second | Language de |                 |             |
|  | And the second s |                   |                               |  |               |                       |             | V4<br>V3        |             |
| -40 dBm-                                 |  |                   |                               |  |               | V1                    | 2           |                 |             |
| 9.0 kHz                                  |  |                   | 45001 pts                     |  | 100.0 MHz/    |                       |             | 1 11            | 1.0 GHz     |
| 2 Marker Table                           | Tee  | V-Value           | V-Value                       |  | Euroction     |                       | _           | Eunction Decult | _           |
| M1 Kei                                   | 1  | 549.625 MHz       | -30.08 dBm                    |  | runcdon       |                       |             | r uncaon result |             |
| M2                                       | 1  | 130.594 MHz       | -30.15 dBm                    |  |               |                       |             |                 | 2024 02 20  |
|  |  |                   |                               |  |               |                       | e.          | Ready           | 12:16:25    |
| 2:16:25 PM 02/20/2                       | 2024   |                   |                               |  |               |                       |             |                 |             |

#### Diagram 3.4b LTE: TM1.1, M<sub>5</sub>, 763 – 805 MHz, Port C:

| Madaview CCDF<br>Ref Level 20.00 dBm<br>Att 10 dB | X 00W X 00W<br>Offset 6.00 dB • R<br>• SWT 200 ms • VB | W 6.25 kHz<br>3W 30 kHz Mode Sv        | X PS05M X                       | 5-001 X 625  | × 85-881 ×   | 66-16 X 85.15  | X 85.15 X 85                 | SGL<br>Count 100                                    | /100   |
|---|--|--|---------------------------------|--|--|--|------------------------------|---|--|
| TDF "9k-20GHz 40db"                               |  |  |                                 |  |  |  |                              |   | 0.1Dex AuxDure   |
| 1 Frequency Sweep                                 |  |  |                                 |  |  |  |                              |   | O IRM AVGPW  |
|   |  |  |                                 |  |  |  |                              |   |  |
| 10 dBm  |  |  |                                 |  |  |  |                              |   |  |
| 20 0011   |  |  |                                 |  |  |  |                              |   |  |
|   |  |  |                                 |  |  |  |                              |   |  |
| 0 dBm   |  |  |                                 |  |  |  |                              |   |  |
|   |  |  |                                 |  |  |  |                              |   |  |
| -10 d8m   |  |  |                                 |  |  |  |                              |   |  |
|   |  |  |                                 |  |  |  |                              |   |  |
|   |  |  |                                 |  |  |  |                              |   |  |
| -20 d8m   |  |  |                                 |  |  |  |                              |   |  |
|   |  |  |                                 |  |  |  |                              |   |  |
| -30 d8m   |  |  |                                 |  |  |  |                              |   |  |
|   |  |  |                                 |  |  |  |                              |   |  |
| 10 -10  |  |  |                                 |  |  |  |                              |   |  |
| -+U d8m   |  |  |                                 |  |  |  |                              |   |  |
|   | H1 -46.000 d8m   |  |                                 |  |  |  |                              |   |  |
| -50 dBm-  |  |  |                                 | M1   |  |  |                              |   |  |
| tin property and the second second second         | and the second in the second second second             | Assention and the second second second | and a substantion of the second | A Designation of the property of the property of the | and a special state of the second state of the | and the second s | and the second second second | ويذاو والقنياب الج الجانب المحالية مرومها والمتقيدة | and the second state of th |
| -60 d8m   |  |  |                                 |  |  |  |                              |   |  |
| 00 000  |  |  |                                 |  |  |  |                              |   |  |
|   |  |  |                                 |  |  |  |                              |   |  |
| -70 dBm-  |  |  |                                 |  |  |  |                              |   |  |
|   |  |  |                                 |  |  |  |                              |   |  |
| 05 704 0 181                                      |  |  | 000001                          |  |  | 1018-1   |                              |   | 0 40 0 10  |
| CF 784.0 MHz                                      |  |  | 30001 pts                       |  |  | 4.2 MHZ/   |                              |   | span 42.0 MHz  |
| Type Ref  | Trc  | X-Value                                |                                 | V-Value  |  | Eunction   |                              | Function Res  | ault   |
| M1  | 1  | 783.525 42 MHz                         | :                               | -52.07 dBm   |  |  |                              | . anotori i koa                                     |  |
| e   |  |  |                                 |  |  |  | e.                           | Ready   | 2024-02-20   |

12:18:04 PM 02/20/2024



| Diagram             | 3.4c WCI   | DMA: TM                           | 1, M <sub>5</sub> , 1 - | - 9 GHz,    | Port C:       |                |                  |                            |   |
|---------------------|--|-----------------------------------|-------------------------|-------------|---------------|----------------|------------------|----------------------------|---|
| Ref Level 20.00 dB  | w Уравня<br>m Offset 6.62 dB • RI<br>B • SWT 100 ms • VB | BW 1 MHz<br>BW 10 MHz Mode Auto S | weep                    | X 85-6811 X | 5k-16 X 85.15 | <b>X</b> 85.15 | 85-81.1 ¥ P501N2 | X 1-9GRe X<br>SGL<br>Count | 100/100   |
| TDF "9k-20GHz 40db" |  |                                   |                         |             |               |                |                  |                            | 0.1Pm AucDwr  |
| I frequency sweep   |  |                                   |                         |             |               |                |                  |                            | O INTERNIE  |
| 10 dBm              |  |                                   |                         |             |               |                |                  |                            |   |
|                     |  |                                   |                         |             |               |                |                  |                            |   |
| 0 dBm               |  |                                   |                         |             |               |                |                  |                            |   |
| -10 dBm             |  |                                   |                         |             |               |                |                  |                            |   |
|                     | H1 -13.000 dBm   |                                   |                         |             |               |                |                  |                            |   |
| -20 d8m-            |  |                                   |                         |             |               |                |                  |                            |   |
| -30 d8m             |  |                                   |                         |             |               |                |                  |                            | м   |
|                     |  |                                   |                         |             |               |                |                  |                            |   |
| -40 d8m             |  |                                   |                         |             |               |                |                  |                            |   |
| ro. do              |  |                                   |                         |             |               |                |                  |                            |   |
| -30 ubii            |  |                                   |                         |             |               |                |                  |                            |   |
| -60 dBm             |  |                                   |                         |             |               |                |                  |                            |   |
| -70 dbm             |  |                                   |                         |             |               |                |                  |                            |   |
| TO GUT              |  |                                   |                         |             |               |                |                  |                            |   |
| CF 5.0 GHz          |  |                                   | 35001 pts               |             |               | 800.0 MHz/     |                  | 1                          | Span 8.0 GHz  |
| 2 Marker Table      | f Tro  | X-Value                           |                         | V-Value     |               | Function       |                  | Function Re                | ault  |
| M1                  | 1  | 8.989 6 GHz                       |                         | -31.78 dBm  |               | T GASCION      |                  | - uncourves                | Carlo |
|                     |  |                                   |                         |             |               |                |                  | Ready                      | 2024-02-20<br>12:19:41  |
| 2:19:42 PM 02/20    | 2024   |                                   |                         |             |               |                |                  |                            |   |

## Diagram 3.4d WCDMA: TM1, M5, 1559 - 1610 MHz, Port C:

| Ref Level 10.00 dBr<br>Att 10 d | N Offset 6.62 dB = F<br>B = SWT 100 ms = V | BW 1 MHz<br>BW 10 MHz M | tode Auto Sweep | X %-16  | <b>X</b> 85.15 <b>X</b> | B5.15 X B5-BL1 | × P581M2 | X 1-9GHz | X 1.101 X<br>SGL<br>Count | 100/100      |
|---------------------------------|--|-------------------------|-----------------|---------|-------------------------|----------------|----------|----------|---------------------------|--------------|
| Frequency Sweep                 | 10   |                         |                 |         |                         |                |          |          |                           | O1Rm AvgPwr  |
|                                 |  |                         |                 |         |                         |                |          |          |                           |              |
|                                 |  |                         |                 |         |                         |                |          |          |                           |              |
| GBM                             |  |                         |                 |         |                         |                |          |          |                           |              |
| 10 d8m                          |  |                         |                 |         |                         |                |          |          |                           |              |
| 20 0011                         |  |                         |                 |         |                         |                |          |          |                           |              |
| 20 d8m                          |  |                         |                 |         |                         |                |          |          |                           |              |
|                                 |  |                         |                 |         |                         |                |          |          |                           |              |
| 30 d8m                          |  |                         |                 |         |                         |                |          |          |                           |              |
|                                 |  |                         |                 |         |                         |                |          |          |                           |              |
| 40-d8m                          | H1 -40.000 d8m                             |                         |                 |         |                         |                |          |          |                           |              |
|                                 |  |                         |                 |         |                         |                |          |          |                           | M1           |
| 50 dBm                          |  |                         |                 |         |                         |                |          |          |                           | •            |
|                                 |  |                         |                 |         |                         |                |          |          |                           |              |
| 60 dBm                          |  |                         |                 |         |                         |                |          |          |                           |              |
|                                 |  |                         |                 |         |                         |                |          |          |                           |              |
| 70 dBm-                         |  |                         |                 |         |                         |                |          |          |                           |              |
|                                 |  |                         |                 |         |                         |                |          |          |                           |              |
| 80 d8m                          |  |                         |                 |         |                         |                |          |          |                           |              |
|                                 |  |                         |                 |         |                         |                |          |          |                           |              |
| F 1.5845 GHz                    | 1  |                         | 100             | 1 pts   |                         | 5.1 MHz/       |          |          |                           | Span 51.0 MH |
| Marker Table                    |  |                         |                 |         |                         |                |          |          |                           |              |
| Type Ref                        | Trc  | X-Val<br>1.609.057      | ue<br>7 4 GHz   | Y-Value | 3m                      | Funct          | ion      |          | Function Res              | ult          |
|                                 | •  | 2.2.2.2.2.0.0.2.7       |                 |         |                         |                |          |          | Ready                     | 2024-02-2    |
|                                 |  |                         |                 |         |                         |                |          |          |                           | 12:20:2      |

12:20:28 PM 02/20/2024

| CCDF          | X OBW X EP             | W X P5D1H                       | X PSDSM X  | 85-0H × 6.25                     | × 05-001   | X 38-10  | × 85.15 | × 85.15            | ×  | 5-01.1 X                      | PSD142         | 4                        |
|---------------|------------------------|---------------------------------|------------|----------------------------------|--|--|---------|--------------------|--|-------------------------------|----------------|--------------------------|
| 1 55.00 (     | dBm Offset 6.00 dB = R | BW 100 kHz                      | ute Course |                                  |  |  |         |                    |  |                               | SGL            | + 100/100                |
| ∠u<br>GHz 40d | b" DC                  | DW IMP2 Mode /                  | Auto Sweep |                                  |  |  |         |                    |  |                               | Coun           | 100/100                  |
| cy Swee       | ep                     |                                 |            | T                                |  |  |         |                    | -  |                               |                | O 1F                     |
|               |                        |                                 |            |                                  |  |  |         |                    |  |                               |                |                          |
|               |                        |                                 |            |                                  |  |  |         |                    |  |                               |                |                          |
|               |                        |                                 |            |                                  |  |  |         |                    |  |                               |                |                          |
|               |                        |                                 |            |                                  |  |  |         |                    |  |                               |                |                          |
|               |                        |                                 |            |                                  |  |  |         |                    | ĩ  |                               | 11             |                          |
|               |                        |                                 |            |                                  |  |  |         |                    |  |                               |                |                          |
|               |                        |                                 |            |                                  |  |  |         |                    |  |                               |                |                          |
|               |                        |                                 |            |                                  |  |  |         |                    |  |                               |                |                          |
|               |                        |                                 |            |                                  |  |  |         |                    |  |                               |                |                          |
|               |                        |                                 |            |                                  |  |  |         |                    |  |                               |                |                          |
|               |                        |                                 |            |                                  |  |  |         |                    |  |                               |                |                          |
|               |                        |                                 |            |                                  |  |  |         |                    |  |                               |                |                          |
|               |                        |                                 |            |                                  |  |  |         |                    |  |                               |                |                          |
|               |                        |                                 |            |                                  |  |  |         |                    |  |                               |                |                          |
|               |                        |                                 |            |                                  |  |  |         |                    |  |                               |                |                          |
|               | H1 -13.000 d8m         |                                 |            |                                  |  |  |         |                    |  |                               | +++-           |                          |
|               |                        |                                 |            |                                  |  |  |         |                    |  |                               |                |                          |
|               |                        |                                 |            |                                  |  |  |         |                    |  |                               |                |                          |
|               |                        |                                 |            |                                  | MI   |  |         |                    | 1  |                               | $\Lambda$      |                          |
|               | M2                     |                                 |            |                                  |  | the second s |         |                    |  | a la contra la trata          | <u>y v</u>     |                          |
| anti-         |                        | a hand an internal state of the |            | Contraction of the second second | the second s | and the second second  |         | des a la constante | and the second s | a second a second bit was the | 1              | ter and plant of a state |
|               |                        |                                 |            |                                  |  |  |         |                    |  |                               | va Y           | 1                        |
|               |                        |                                 |            |                                  |  |  |         | Y                  | Ϋ́   |                               |                |                          |
|               |                        |                                 | 45001 pt   | IS                               |  | 100.0  | MHz/    |                    |  |                               | _              |                          |
|               |                        |                                 |            |                                  |  |  |         |                    |  | Ready                         | and the second | ill 🐪 🔶 🔥                |

#### Diagram 3.5b WCDMA: TM1, M<sub>5</sub>, 763 – 805 MHz, Port D:

| Ref Level 20.00 dBm                | Offset 6.00 dB = R                | У рядан<br>ЗW 6.25 kHz  | X PSDSN X                      | 5-0H X 6-25  | X 05-001  | 96-16 B5.15  | <b>X</b> 85.15 <b>X</b> 8  | S-BL1 PSD1342<br>SGL  | •                                    |
|------------------------------------|-----------------------------------|---|--------------------------------|--|---|--|--|---|--------------------------------------|
| Att 10 dB     TDE "ok-poorke doub" | 8 • SWT 200 ms • Vi               | 3W 30 kHz Mode Sw   | reep                           |  |   |  |  | Count 100   | /100                                 |
| 1 Frequency Sweep                  |                                   |   |                                |  |   |  |  |   | 01Rm AvdPwr                          |
|                                    |                                   |   |                                |  |   |  |  |   |                                      |
|                                    |                                   |   |                                |  |   |  |  |   |                                      |
| 10 dBm                             |                                   |   |                                |  |   |  |  |   |                                      |
|                                    |                                   |   |                                |  |   |  |  |   |                                      |
|                                    |                                   |   |                                |  |   |  |  |   |                                      |
| 0 dBm                              |                                   |   |                                |  |   |  |  |   |                                      |
|                                    |                                   |   |                                |  |   |  |  |   |                                      |
| -10 dBm-                           |                                   |   |                                |  |   |  |  |   |                                      |
|                                    |                                   |   |                                |  |   |  |  |   |                                      |
| -20 d8m                            |                                   |   |                                |  |   |  |  |   |                                      |
|                                    |                                   |   |                                |  |   |  |  |   |                                      |
|                                    |                                   |   |                                |  |   |  |  |   |                                      |
| -30 dBm-                           |                                   |   |                                |  |   |  |  |   |                                      |
|                                    |                                   |   |                                |  |   |  |  |   |                                      |
| -40 dBm-                           |                                   |   |                                |  |   |  |  |   |                                      |
|                                    | 111 - 46,000 - 40m                |   |                                |  |   |  |  |   |                                      |
| -50 d8m                            | H1 -40.000 08m                    |   |                                | M1   |   |  |  |   |                                      |
| - 30 dom                           | - Aller                           | a ferral second s |                                | in the second second   |   |  | and the second s |   |                                      |
| and full and desire the same       | and and a stand the second stands | And the second  | Marine Marine and Ministration | Second delay in the second | A REAL PROPERTY OF THE OWNER OF T | and a statistically the survey of the state of the | and the second second  | And the second | A STATISTICS AND A STATISTICS . MANA |
| -60 dBm                            |                                   |   |                                |  |   |  |  |   |                                      |
|                                    |                                   |   |                                |  |   |  |  |   |                                      |
| -70 dBm-                           |                                   |   |                                |  |   |  |  |   |                                      |
|                                    |                                   |   |                                |  |   |  |  |   |                                      |
|                                    |                                   |   |                                |  |   |  |  |   |                                      |
| CF 784.0 MHz                       |                                   |   | 30001 pts                      |  |   | 4.2 MHz/   |  |   | Span 42.0 MHz                        |
| 2 Marker Table                     |                                   |   |                                |  |   |  |  |   |                                      |
| Type Ref                           | Trc                               | X-Value<br>783.550.61 MHz   |                                | -52.20 dBm   |   | Function   |  | Function Res  | uit                                  |
|                                    | *                                 | 7001000 01 PH12   |                                |  |   |  |  |   | 2024-02-20                           |
|                                    |                                   |   |                                |  |   |  |  | Ready   | 13:42:31                             |

01:42:31 PM 02/20/2024





| Diagram                        | 3.5c WCI   | DMA: TM  | $1, M_5, 1$ | – 9 GHz,   | Port D:       |                         |                  |              |              |
|--------------------------------|--|--|-------------|------------|---------------|-------------------------|------------------|--------------|--------------|
| Ref Level 20.00 dB             | ани <b>Х</b> Раван<br>Эт <b>Offset</b> 6.62 dB <b>• R</b>  | X P505M X 85-00  | H X 6-25    | X 85-8H1 X | 96-16 X 85.15 | <b>X</b> 85.15 <b>X</b> | 85-81.1 × P501%2 | X 1-9GHz X   | •            |
| Att 0     TDF "9k-20GHz 40.db" | dB 🖶 SWT 100 ms 🖶 VI   | BW 10 MHz Mode Auto S  | Sweep       |            |               |                         |                  | Count        | 100/100      |
| 1 Frequency Sweep              | )  |  |             |            |               |                         |                  |              | 01Rm AvgPwr  |
|                                |  |  |             |            |               |                         |                  |              |              |
|                                |  |  |             |            |               |                         |                  |              |              |
| 10 dBm                         |  |  |             |            |               |                         |                  |              |              |
|                                |  |  |             |            |               |                         |                  |              |              |
| 0 dBm                          |  |  |             |            |               |                         |                  |              |              |
|                                |  |  |             |            |               |                         |                  |              |              |
| -10 d8m                        |  |  |             |            |               |                         |                  |              |              |
|                                | H1 -13.000 dBm   |  |             |            |               |                         |                  |              |              |
| -20 d8m                        |  |  |             |            |               |                         |                  |              |              |
| -20 0011                       |  |  |             |            |               |                         |                  |              |              |
|                                |  |  |             |            |               |                         |                  |              |              |
| -30 dBm-                       |  |  |             |            |               |                         |                  |              |              |
|                                |  |  |             |            | -             |                         |                  |              |              |
| -40 d8m                        | And and a state of the state of | and the second design of the |             |            |               |                         |                  |              |              |
|                                |  |  |             |            |               |                         |                  |              |              |
| -E0 dBm                        |  |  |             |            |               |                         |                  |              |              |
| 00 0011                        |  |  |             |            |               |                         |                  |              |              |
|                                |  |  |             |            |               |                         |                  |              |              |
| -60 dBm                        |  |  |             |            |               |                         |                  |              |              |
|                                |  |  |             |            |               |                         |                  |              |              |
| -70 dBm                        |  |  |             |            |               |                         |                  |              |              |
|                                |  |  |             |            |               |                         |                  |              |              |
|                                |  |  |             |            |               |                         |                  |              |              |
| CF 5.0 GHz                     |  |  | 35001 pts   |            |               | 800.0 MHz/              |                  |              | Span 8.0 GHz |
| 2 Marker Table                 | of Tex   | Y-Value  |             | V-Value    |               | Euroction               |                  | Eurotion Do  | adt          |
| M1 Kt                          | 1  | 8.988 686 GHz  |             | -31.77 dBm |               | runction                |                  | - unction Re | suit         |
|                                |  |  |             |            |               |                         |                  | Ready        | 2024-02-20   |
|                                |  |  |             |            |               |                         |                  |              | 13:46:03     |
| 01:46:03 PM 02/20              | /2024  |  |             |            |               |                         |                  |              |              |

| Diagram             | 3.5d WC              | DMA: TN                   | $M_1, M_5, 1$ | 559 – 161             | 0 MHz,      | Port D:   |          |          |              |                        |
|---------------------|----------------------|---------------------------|---------------|-----------------------|-------------|-----------|----------|----------|--------------|------------------------|
| K EBW X PSD         | IM 🗙 PSIDSM          | X 85-011 X 6.             | 25 🗙 05-001   | × %-16 × 85           | .15 🗙 05.15 | × 85-88.1 | × P503H2 | × 1-9GHz | × 1.101 ×    |                        |
| Ref Level 10.00 dB  | m Offset 6.62 dB • R | BW 1 MHz                  |               |                       |             |           |          |          | SGL          | 100/100                |
| PA TDF "9k-20GHz 40 | db" 5₩1 100 ms ● V   | BW 10 MHZ MODE AU         | o sweep       |                       |             |           |          |          | Count        | 100/100                |
| 1 Frequency Sweep   |                      |                           |               |                       | 1           |           |          |          | 1            | O1Rm AvgPwr            |
|                     |                      |                           |               |                       |             |           |          |          |              |                        |
| 0 dBm               |                      |                           |               |                       |             |           |          |          |              |                        |
|                     |                      |                           |               |                       |             |           |          |          |              |                        |
| -10 dBm             |                      |                           |               |                       |             |           |          |          |              |                        |
| 00.40               |                      |                           |               |                       |             |           |          |          |              |                        |
| -20 dBm-            |                      |                           |               |                       |             |           |          |          |              |                        |
| -30 d8m             |                      |                           |               |                       |             |           |          |          |              |                        |
|                     |                      |                           |               |                       |             |           |          |          |              |                        |
| -40-d8m             | H1 -40.000 d8m       |                           |               |                       |             |           |          |          |              |                        |
|                     |                      |                           |               |                       |             |           |          |          |              | M1                     |
| -50 dBm             |                      |                           |               |                       |             |           |          |          |              |                        |
|                     |                      |                           |               |                       |             |           |          |          |              |                        |
| -60 dBm             |                      |                           |               |                       |             |           |          |          |              |                        |
| -70 d8m             |                      |                           |               |                       |             |           |          |          |              |                        |
|                     |                      |                           |               |                       |             |           |          |          |              |                        |
| -80 d8m             |                      |                           |               |                       |             |           |          |          |              |                        |
|                     |                      |                           |               |                       |             |           |          |          |              |                        |
| CF 1.584 5 GHz      |                      |                           | 1001 pts      | •                     |             | 5.1 MHz/  |          |          |              | Span 51.0 MHz          |
| 2 Marker Table      |                      |                           |               |                       |             | · · · ·   |          |          |              |                        |
| M1 Re               | 1 Trc                | X-Value<br>1.609 566 9 GH | Z             | V-Value<br>-48.19 dBm |             | Function  |          |          | Function Res | ult                    |
|                     |                      |                           |               |                       |             |           |          | e        | Ready        | 2024-02-20<br>13:45:13 |
|                     |                      |                           |               |                       |             |           |          |          |              | 13:43:13               |

01:45:13 PM 02/20/2024



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| Diagram                        | 3.6a WCI                        | DMA: TM            | 1, T <sub>5</sub> , 9 kHz $- 1$ | GHz, Port  | A:            |                         |                           |  |
|--------------------------------|---------------------------------|--------------------|---------------------------------|--|---------------|-------------------------|---------------------------|--|
| AultiView CCDF                 | × 08W × 88V                     | у 🗙 рады.          | X PSDSM X 85-081 X 4            | 25 🗙 05-001. 🗙   | 94-16 🗙 85.15 | <b>X</b> 85.15 <b>X</b> | 85-81.1 × P501942         |  |
| Ref Level 55.00 dBr            | o Offset 6.00 dB • R            | BW 100 kHz         |                                 |  |               |                         | SGL                       |  |
| Att 20 d<br>DF "9k-20GHz 40db" | B      SWT 100 ms     VI     DC | 3W 1 MHz Mode Auto | Sweep                           |  |               |                         | Count 10                  | 10/100   |
| Frequency Sweep                | 1                               |                    |                                 |  |               |                         |                           | O1Rm AvgPwr  |
| 0 dBm                          |                                 |                    |                                 |  |               |                         |                           |  |
|                                |                                 |                    |                                 |  |               |                         |                           |  |
| 0 dBm                          |                                 |                    |                                 |  |               |                         |                           |  |
|                                |                                 |                    |                                 |  |               | 1 1                     |                           |  |
| 0 dBm                          |                                 |                    |                                 |  |               |                         |                           |  |
|                                |                                 |                    |                                 |  |               |                         |                           |  |
| 0 dBm                          |                                 |                    |                                 |  |               |                         |                           |  |
|                                |                                 |                    |                                 |  |               |                         |                           |  |
| ) dBm                          |                                 |                    |                                 |  |               |                         |                           |  |
|                                |                                 |                    |                                 |  |               |                         |                           |  |
| dem                            |                                 |                    |                                 |  |               |                         |                           |  |
| 10 dBm                         |                                 |                    |                                 |  |               |                         |                           |  |
|                                | H1 -13.000 dBm                  |                    |                                 |  |               |                         |                           |  |
| 20 d8m-                        |                                 |                    |                                 |  |               |                         |                           |  |
|                                |                                 |                    |                                 |  |               | $  \Lambda  $           |                           |  |
| Bullacioup                     | X                               |                    |                                 |  |               |                         |                           | Antonio, Nucl. alteriting during   |
| all the supplication of the    | and the second second second    |                    |                                 | and a second |               |                         | V4                        | and a state of the |
| 40 d8m-                        |                                 |                    |                                 |  |               | V2<br>V1                | Ť                         |  |
| 0.0 kHz                        | 1                               |                    | 45001 pts                       |  | 100.0 MHz/    |                         |                           | 1.0 GH   |
| Marker Table                   | Terr                            | V Heles            | N. M. K.                        |  | From a block  |                         | E-mailen Danid            |  |
| M1 Ref                         | 1                               | 549.581 MHz        | -30.16 dBn                      | 1  | Function      |                         | Function Resul            |  |
| M2                             | 1                               | 140.927 MHz        | -30.08 dBn                      | 1  |               |                         |                           | 2024 02 20   |
|                                |                                 |                    |                                 |  |               |                         | <ul> <li>Ready</li> </ul> | 2024-02-20<br>13:03:51   |
| :03:51 PM 02/20/               | 2024                            |                    |                                 |  |               |                         |                           |  |

### Diagram 3.6b WCDMA: TM1, T<sub>5</sub>, 763 – 805 MHz, Port A:

| NultiView CODF<br>Ref Level 20.00 dBm | Offset 6.00 dB • RI               | W 6.25 kHz   | × PSD3M × 1  | 15-0H X 6-25  | × 85-881                            | 96-16 X 85.15  | <b>X</b> 85.35 <b>X</b> 8             | S-BL1 PSDIMZ<br>SGL<br>Count 100   | (100  |
|---------------------------------------|-----------------------------------|--|--|---|-------------------------------------|--|---------------------------------------|--|---|
| TDF "9k-20GHz 40db"                   | 200111 2001113 0 12               | Str Donne mode of  | reep   |   |                                     |  |                                       | count roo  | , 100   |
| 1 Frequency Sweep                     |                                   |  |  |   |                                     |  |                                       |  | O1Rm AvgPwr   |
|                                       |                                   |  |  |   |                                     |  |                                       |  |   |
|                                       |                                   |  |  |   |                                     |  |                                       |  |   |
| 10 dBm                                |                                   |  |  |   |                                     |  |                                       |  |   |
| 10 000                                |                                   |  |  |   |                                     |  |                                       |  |   |
|                                       |                                   |  |  |   |                                     |  |                                       |  |   |
| 0 dBm                                 |                                   |  |  |   |                                     |  |                                       |  |   |
|                                       |                                   |  |  |   |                                     |  |                                       |  |   |
|                                       |                                   |  |  |   |                                     |  |                                       |  |   |
| -10 dBm-                              |                                   |  |  |   |                                     |  |                                       |  |   |
|                                       |                                   |  |  |   |                                     |  |                                       |  |   |
| -20 dBm                               |                                   |  |  |   |                                     |  |                                       |  |   |
|                                       |                                   |  |  |   |                                     |  |                                       |  |   |
|                                       |                                   |  |  |   |                                     |  |                                       |  |   |
| -30 dBm                               |                                   |  |  |   |                                     |  |                                       |  |   |
|                                       |                                   |  |  |   |                                     |  |                                       |  |   |
|                                       |                                   |  |  |   |                                     |  |                                       |  |   |
| -40 d8m-                              |                                   |  |  |   |                                     |  |                                       |  |   |
|                                       | H1 -46.000 dBm                    |  |  |   |                                     |  |                                       |  |   |
| -50 dBm                               |                                   |  |  |   |                                     |  | M1                                    |  |   |
|                                       | - Marine                          | and the second sec | A STREET, STRE   | and the second se |                                     | and the second s |                                       | and the second | in the second |
| and defendently of the second of the  | And a second second second second | and the second  | and the state of t | A Street of the local division of the   | annas in the standard in the second | and a state of the second  | and a constraint of the second stands | Section of the section of  | A DESCRIPTION OF THE OWNER OF THE |
| -60 dBm                               |                                   |  |  |   |                                     |  |                                       |  |   |
|                                       |                                   |  |  |   |                                     |  |                                       |  |   |
| -70 dbm                               |                                   |  |  |   |                                     |  |                                       |  |   |
| - 70 dBm                              |                                   |  |  |   |                                     |  |                                       |  |   |
|                                       |                                   |  |  |   |                                     |  |                                       |  |   |
| 05 70 4 0 1 8 1                       |                                   |  | 000001-1-  |   |                                     | 10181-1  |                                       | 1  | 0   |
| CF 784.0 MHz                          |                                   |  | 30001 pts  |   |                                     | 4.2 MHZ/   |                                       |  | span 42.0 MHz   |
| 2 Marker Table                        | Tue                               | V Value  |  | M Malua   |                                     | C. mation  |                                       | Europhian Day  |   |
| M1 Ket                                | 1 Inc                             | 793.92567 MHz  |  | -51.77 dBm  |                                     | runction   |                                       | Function Res   | uit   |
|                                       | •                                 |  | ,  |   |                                     |  |                                       |  | - 2024-02-20  |
| 17 C                                  |                                   |  |  |   |                                     |  |                                       | Ready  | 13:05:46  |

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|                           | Ø.0€ ₩ €1                                  | × P505M × 85-0H                       | x          | 6-16 X 85.15 | X 85.15 X 85-8 | L1 X P50142 | X 1-968z X           |
|---------------------------|--|---------------------------------------|------------|--------------|----------------|-------------|----------------------|
| t 0 di<br>"9k-20GHz 40db" | n Offset 6.62 dB • R<br>B • SWT 100 ms • V | BW 1 MHz<br>BW 10 MHz Mode Auto Sweep |            |              |                |             | SGL<br>Count 100/100 |
| equency Sweep             |  |                                       |            |              |                |             | O 1Rm A              |
|                           |  |                                       |            |              |                |             |                      |
| 3m                        |  |                                       |            |              |                |             |                      |
|                           |  |                                       |            |              |                |             |                      |
| n                         |  |                                       |            |              |                |             |                      |
|                           |  |                                       |            |              |                |             |                      |
| 39m                       |  |                                       |            |              |                |             |                      |
|                           | H1 -13.000 dBm                             |                                       |            |              |                |             |                      |
| lans-                     |  |                                       |            |              |                |             |                      |
|                           |  |                                       |            |              |                |             |                      |
| 45                        |  |                                       |            |              |                |             |                      |
| 38m                       |  |                                       |            |              |                |             |                      |
|                           |  |                                       |            |              |                |             |                      |
| 18m                       |  |                                       |            |              |                |             |                      |
|                           |  |                                       |            |              |                |             |                      |
| m-m8k                     |  |                                       |            |              |                |             |                      |
|                           |  |                                       |            |              |                |             |                      |
| met                       |  |                                       |            |              |                |             |                      |
|                           |  |                                       |            |              |                |             |                      |
| dBm                       |  |                                       |            |              |                |             |                      |
|                           |  |                                       |            |              |                |             |                      |
| 0.047                     |  |                                       | 25001 ptr  |              | 800.0 MHz/     |             | C                    |
| arker Table               |  |                                       | 55001 pts  |              | 000.0 MHZ/     |             | Span 8               |
| Type Ref                  | Trc  | X-Value                               | Y-Value    |              | Function       |             | Function Result      |
| M1                        | 1  | 8.984 572 GHz                         | -31.85 dBm |              |                |             |                      |
|                           |  |                                       |            |              |                |             | Ready 202            |

| BW         X         PSB1H         X         PSB3H           of Level         10.00 dB         Offset         6.62 dB           tt         10 dB         SWT         100 ms           TDF "Gk-20GHz d0db"         SWT         100 ms | RBW 1 MHz     VBW 10 MHz Mode Aut | n X 85-881 | <b>X</b> %-16 | X 85.15 X 85.15 | X 85-86.1 | K P503M2 X | 1-96Hz | SGL<br>Count | 100/100                      |
|--|-----------------------------------|------------|---------------|-----------------|-----------|------------|--------|--------------|------------------------------|
| requency Sweep   |                                   |            |               |                 |           |            |        |              | <ul> <li>1Rm AvgR</li> </ul> |
|  |                                   |            |               |                 |           |            |        |              |                              |
| n  |                                   |            |               |                 |           |            |        |              |                              |
|  |                                   |            |               |                 |           |            |        |              |                              |
| 80   |                                   |            |               |                 |           |            |        |              |                              |
|  |                                   |            |               |                 |           |            |        |              |                              |
| 3m   |                                   |            |               |                 |           |            |        |              |                              |
|  |                                   |            |               |                 |           |            |        |              |                              |
| im   |                                   |            |               |                 |           |            |        |              |                              |
|  |                                   |            |               |                 |           |            |        |              |                              |
| m 111 -40 000 dBr  | m                                 |            |               |                 |           |            |        |              |                              |
|  |                                   |            |               |                 |           |            |        |              | M1                           |
| 2  |                                   |            |               |                 |           |            |        |              | · · · · ·                    |
|  |                                   |            |               |                 |           |            |        |              |                              |
| un   |                                   |            |               |                 |           |            |        |              |                              |
|  |                                   |            |               |                 |           |            |        |              |                              |
| 4m   |                                   |            |               |                 |           |            |        |              |                              |
|  |                                   |            |               |                 |           |            |        |              |                              |
| im   |                                   |            |               |                 |           |            |        |              |                              |
|  |                                   |            |               |                 |           |            |        |              |                              |
|  |                                   |            |               |                 |           |            |        |              |                              |
| 99 GHZ<br>urker Table  |                                   | 1001 pt    | 5             |                 | 5.1 MHz/  |            |        |              | 1.61                         |
| Type Ref Trc   | X-Value                           |            | Y-Value       |                 | Function  |            |        | Function Ren | sult                         |
| M1 1   | 1.607 223 3 GHz                   |            | -48.18 dBm    |                 |           |            |        |              |                              |

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# Diagram 3.7a WCDMA: TM1, Bim, 9 kHz – 1 GHz, Port B:

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| Miew = CCDF<br>efLevel 55.00 dBr | × PSDIM     × PS     × P       | авы X 1559-1610ник<br>ВW 100 kHz | X 1-9688z | <b>X</b> %-16 <b>X</b>                         | 6.25kHz X 85-8H1  | X 85-8L1   | B5-BH1CP-5M           | ×  | B5-BL1CP-5H  | ×       |           |
|----------------------------------|--|----------------------------------|-----------|--|---|------------|-----------------------|----|--|---------|-----------|
| tt 20 d                          | B = SWT 100 ms = VE  | 3W 1 MHz Mode Auto               | Sweep     |  |   |            |                       |    |  | Count   | 100/100   |
| requency Sweep                   | 00   |                                  |           |  |   |            |                       |    |  |         | O1Rm AvgP |
| 10                               |  |                                  |           |  |   |            |                       |    |  |         |           |
| 10111                            |  |                                  |           |  |   |            |                       |    |  |         |           |
|                                  |  |                                  |           |  |   |            |                       |    |  |         |           |
| im-                              |  |                                  |           |  |   |            | )                     | N  |  |         |           |
|                                  |  |                                  |           |  |   |            |                       |    |  |         |           |
| m                                |  |                                  |           |  |   |            |                       |    |  | 11 1    |           |
|                                  |  |                                  |           |  |   |            |                       |    |  |         |           |
| 3m-                              |  |                                  |           |  |   |            |                       |    |  |         |           |
|                                  |  |                                  |           |  |   |            |                       |    |  |         |           |
| sm                               |  |                                  |           |  |   |            |                       |    |  |         |           |
|                                  |  |                                  |           |  |   |            |                       |    |  |         |           |
| n                                |  |                                  |           |  |   |            |                       | +  |  |         | -         |
|                                  |  |                                  |           |  |   |            |                       |    |  |         |           |
| m-met                            |  |                                  |           |  |   |            |                       |    |  |         |           |
|                                  | H1 -13.000 d8m   |                                  |           |  |   |            |                       |    |  |         |           |
| l8m                              |  |                                  |           |  |   |            |                       | -  |  |         |           |
|                                  |  |                                  |           |  |   |            |                       |    |  |         |           |
| 18m                              | <u>M2</u>  |                                  |           |  | 7   |            | 1                     | A  |  |         |           |
| and the later based              | and the second s |                                  |           | and the second particular second second second | The second se |            | and the second second |    | and the second s | 1       | 4         |
| m8tr                             |  |                                  |           |  |   |            |                       | ve |  | V3      |           |
|                                  |  |                                  |           |  |   |            | ¥1                    |    |  |         |           |
| KHZ<br>arker Table               |  |                                  | 45001 pts | i  |   | 100.0 MHZ/ |                       |    |  |         | 1.0 0     |
| Type Ref                         | Trc  | X-Value                          |           | Y-Value  |   | Function   | _                     |    | Func   | tion Re | sult      |
| M1                               | 1  | 550.07 MHz                       |           | -29.76 dBm                                     |   |            |                       |    |  |         |           |
| MZ                               | 1  | 140.216 MHZ                      |           | -32.05 aBm                                     |   |            |                       |    |  |         | - 2024-0  |
|                                  |  |                                  |           |  |   |            |                       |    | Ready  |         | 08:5      |

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Diagram 3.7b WCDMA: TM1, Bim, 763 – 805 MHz, Port B:

| 0   |  |   | , ,  |                        | ,                                  |          |                 |   |  |
|---|--|---|--|------------------------|------------------------------------|----------|-----------------|---|--|
| MultiView CCDF<br>Ref Level 20.00<br>Att 1<br>TDF "9k-20GHz 40c | K PS01M     X P      dBm Offset 6.00 dB ● R      0 dB ● SWT 200 ms ● V      b"                                 | 8054 X 1559-1610488<br>BW 6.25 kHz<br>BW 30 kHz Mode Sw | eep  | <b>X</b> %-16 <b>X</b> | 6.256Hz X 85-8H1                   | X 05-8L1 | X BS-BHLCP-SM X | BS-BLICP-SH<br>SGL<br>Count 100   | /100                                     |
| 1 Frequency Swe   | ер   |   |  |                        |                                    |          |                 |   | O1Rm AvgPwr                              |
| 10 d8m  |  |   |  |                        |                                    |          |                 |   |  |
| 0 d8m-  |  |   |  |                        |                                    |          |                 |   |  |
| -10 d8m-  |  |   |  |                        |                                    |          |                 |   |  |
| -20 dBm   |  |   |  |                        |                                    |          |                 |   |  |
| -30 d8m   |  |   |  |                        |                                    |          |                 |   |  |
| -40 dBm   |  |   |  |                        |                                    |          |                 |   |  |
| -50 dBm   | H1 -46.000 d8m   |   |  |                        |                                    |          |                 |   |  |
| -60 dBm   | Subara a surface a s |   | and and a second s |                        | en else en general se server anend |          |                 | and the second secon | an a |
| -70 dBm   |  |   |  |                        |                                    |          |                 |   |  |
| CF 784.0 MHz  |  |   | 30001 pts  |                        |                                    | 4.2 MHz/ |                 |   | Span 42.0 MHz                            |
| 2 Marker Table  |  |   | 00001 pto  |                        |                                    |          |                 |   |  |
| Type F<br>M1  | Ref Trc 1  | X-Value<br>768.064 33 MHz                               |  | Y-Value<br>-51.69 dBm  |                                    | Function |                 | Function Res  | ult                                      |
|   |  |   |  |                        |                                    |          |                 | Ready   | 2024-02-27<br>08:52:46                   |

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## Diagram 3.7c WCDMA: TM1, Bim, 1 – 9 GHz, Port B:

Date

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| View CCDF        | X PSDEM X             | PSD5M X 1559-1618M  | Rz X 14684 | × 54-16    | 6.25682  | X 85-8H1 | × 85-81.1  | 85-8H1(0-5H | 85-8L10P-5H               | ×              |
|------------------|-----------------------|---------------------|------------|------------|----------|----------|------------|-------------|---------------------------|----------------|
| of Lovel 20.00 / |                       | DRW 1 Mile          |            |            | <b>`</b> |          |            | ~           |                           | 801            |
| tt (             | 0 dB • SWT 100 ms • 1 | VBW 10 MHz Mode Aut | to Sweep   |            |          |          |            |             |                           | Count 100/100  |
| "9k-20GHz 40d    | b"                    |                     |            |            |          |          |            |             |                           |                |
| equency Swee     | ep                    |                     |            |            |          |          |            |             |                           | OlRm Avg       |
|                  |                       |                     |            |            |          |          |            |             |                           |                |
| 3m               |                       |                     |            |            |          |          |            |             |                           |                |
|                  |                       |                     |            |            |          |          |            |             |                           |                |
| m                |                       |                     |            |            |          |          |            |             |                           |                |
|                  |                       |                     |            |            |          |          |            |             |                           |                |
| alth an          |                       |                     |            |            |          |          |            |             |                           |                |
| ubrii            | H1 -13.000 dBm        |                     |            |            |          |          |            |             |                           |                |
|                  |                       |                     |            |            |          |          |            |             |                           |                |
| dBm              |                       |                     |            |            |          |          |            |             |                           |                |
|                  |                       |                     |            |            |          |          |            |             |                           |                |
| d8m              |                       |                     |            |            | -        |          |            |             |                           |                |
|                  |                       |                     |            |            |          |          |            |             |                           |                |
| dBm              |                       |                     |            |            |          |          |            |             |                           |                |
|                  |                       |                     |            |            |          |          |            |             |                           |                |
| d8m              |                       |                     |            |            |          |          |            |             |                           |                |
|                  |                       |                     |            |            |          |          |            |             |                           |                |
| dam              |                       |                     |            |            |          |          |            |             |                           |                |
| CIDITI           |                       |                     |            |            |          |          |            |             |                           |                |
|                  |                       |                     |            |            |          |          |            |             |                           |                |
| d8m              |                       |                     |            |            |          |          |            |             |                           |                |
|                  |                       |                     |            |            |          |          |            |             |                           |                |
| 5.0 GHz          |                       |                     | 35001 pt   | s          |          |          | 800.0 MHz/ |             |                           | Span 8.0       |
| arker Table      |                       |                     |            |            |          |          |            |             |                           |                |
| Туре Б           | Ref Trc               | X-Value             |            | Y-Value    |          |          | Function   |             | Fu                        | inction Result |
| MI               | 1                     | 0.920 745 GHZ       |            | -31.64 dBm |          |          |            |             |                           | - 2024         |
|                  |                       |                     |            |            |          |          |            |             | <ul> <li>Ready</li> </ul> | 2024-          |

Reference

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## Diagram 3.7d WCDMA: TM1,Bim, 1559 – 1610 MHz, Port B:

| U                  |   |                                   | <i>, ,</i>   |                         | ,              |           |               |             | \$                 |
|--------------------|---|-----------------------------------|--------------|-------------------------|----------------|-----------|---------------|-------------|--------------------|
| MultiView CCDF     | <b>X</b> P503M                                  | PSD5H X 1559-1610H                | fer 🗙 1-9GHz | <b>X</b> 98-16 <b>X</b> | 6.25kHz 85-0H1 | × 05-01.1 | × BS-BH10P-SH | B5-BL1CP-SH | × •                |
| Ref Level 10.00 a  | dBm Offset 6.62 dB = F<br>D dB = SWT 100 ms = V | RBW 1 MHz<br>NBW 10 MHz Mode Auto | Sweep        |                         |                |           |               | s           | GL<br>ount 100/100 |
| PA TDF "9k-20GHz 4 | 40db"   |                                   |              |                         |                |           |               |             |                    |
| 1 Frequency Swee   | ep  |                                   |              |                         |                |           |               |             | O 1Rm AvgPwr       |
|                    |   |                                   |              |                         |                |           |               |             |                    |
| 0 d9m              |   |                                   |              |                         |                |           |               |             |                    |
|                    |   |                                   |              |                         |                |           |               |             |                    |
| -10 dBm            |   |                                   |              |                         |                |           |               |             |                    |
|                    |   |                                   |              |                         |                |           |               |             |                    |
| -20 dBm            |   |                                   |              |                         |                |           |               |             |                    |
|                    |   |                                   |              |                         |                |           |               |             |                    |
| -30 dBm            |   |                                   |              |                         |                |           |               |             |                    |
|                    |   |                                   |              |                         |                |           |               |             |                    |
| -40 dBm            | H1 -40.000 d8m                                  |                                   |              |                         |                |           |               |             |                    |
|                    |   |                                   |              |                         |                |           |               |             | M1                 |
| -50 dBm            |   |                                   |              |                         |                |           |               |             |                    |
|                    |   |                                   |              |                         |                |           |               |             |                    |
| -60 dBm            |   |                                   |              |                         |                |           |               |             |                    |
|                    |   |                                   |              |                         |                |           |               |             |                    |
| -70 d8m-           |   |                                   |              |                         |                |           |               |             |                    |
|                    |   |                                   |              |                         |                |           |               |             |                    |
| -80 d8m-           |   |                                   |              |                         |                |           |               |             |                    |
|                    |   |                                   |              |                         |                |           |               |             |                    |
| CF 1.5845 GHz      |   |                                   | 1001 pts     | •                       |                | 5.1 MHz/  |               |             | Span 51.0 MHz      |
| 2 Marker Table     |   |                                   |              |                         |                |           |               |             |                    |
| Type F             | Ref Trc   | X-Value<br>1.607.579.9 GHz        |              | Y-Value                 |                | Function  |               | Functio     | n Result           |
| 1912               | *   | 2.007 379 9 012                   |              | 40.25 abiii             |                |           |               | - Ready     | . 2024-02-27       |
|                    |   |                                   |              |                         |                |           |               | Xeady       | 09:00:30           |

09:00:30 AM 02/27/2024

| REPORT |
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|--------|

# Diagram 3.8a WCDMA: TM1, Tim, 9 kHz – 1 GHz, Port B:

Date

2024-03-19

| ef Level 55.00 dB<br>tt 20 ( | Im Offset 6.00 dB = RI<br>dB = SWT 100 ms = VI   | BW 100 kHz<br>BW 1 MHz Mode Auto | Sweep     |                                       |   |   |     |    |       | SGL<br>Count | 100/100 |
|------------------------------|--|----------------------------------|-----------|---------------------------------------|---|---|-----|----|-------|--------------|---------|
| "9k-20GHz 40db"              | DC   |                                  |           |                                       |   |   |     |    |       | -            | 0 1Rm A |
| oquonoy on oop               |  |                                  |           |                                       |   |   |     |    |       |              |         |
| i8m-                         |  |                                  |           |                                       |   |   |     |    |       |              |         |
|                              |  |                                  |           |                                       |   |   |     |    |       |              |         |
| m                            |  |                                  |           |                                       |   |   |     |    |       |              |         |
|                              |  |                                  |           |                                       |   |   | 1 1 |    |       |              |         |
| im                           |  |                                  |           |                                       |   |   |     |    |       | A 14         |         |
|                              |  |                                  |           |                                       |   |   |     |    |       |              |         |
| am                           |  |                                  |           |                                       |   |   | _   |    |       |              |         |
|                              |  |                                  |           |                                       |   |   |     |    |       |              |         |
| n                            |  |                                  |           |                                       |   |   |     |    |       |              |         |
|                              |  |                                  |           |                                       |   |   |     |    |       |              |         |
|                              |  |                                  |           |                                       |   |   |     |    |       |              |         |
|                              |  |                                  |           |                                       |   |   |     |    |       |              |         |
|                              |  |                                  |           |                                       |   |   |     |    |       |              |         |
| im-                          | H1 -13.000 dBm   |                                  |           |                                       |   |   |     |    |       |              |         |
|                              |  |                                  |           |                                       |   |   |     |    |       |              |         |
| m                            |  |                                  |           |                                       |   |   |     |    |       |              |         |
|                              |  |                                  |           |                                       | MI                                      |   | 1 1 |    |       |              |         |
| »                            | <u>M2</u>  |                                  |           | a station of the station of the state |   |   | 1   |    |       | $\vdash$     |         |
|                              | and the second sec |                                  |           |                                       | the second state of the second state of | a bet an other descent and a particular sector was a be |     |    |       | V            | +       |
| m                            |  |                                  |           |                                       |   |   |     | v2 |       | 13           |         |
|                              |  |                                  |           |                                       |   |   | V1  |    |       |              | L       |
| HZ<br>key Table              |  |                                  | 45001 pts | ;                                     |   | 100.0 MHz/  |     |    |       |              | 1       |
| vpe Re                       | f Trc  | X-Value                          |           | Y-Value                               |   | Function  | _   |    | Funct | on Re        | sult    |
| M1                           | 1  | 549.625 MHz                      |           | -30.16 dBm                            |   |   |     |    |       |              |         |

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## Diagram 3.8b WCDMA: TM1, Tim, 763 – 805 MHz, Port B:

| U  |  |                                  | , ,   |  | ,                                     |   |  |                  |               |
|--|--|----------------------------------|---|--|---------------------------------------|---|--|------------------|---------------|
| MultiView CCDF   | X PSD1M X PS   | D5M X 1559-1610MB                | 1-9GMz  | × 96-16  | L25MHz X 05-0H1                       | × 85-81.1   | K 85-8H1CP-5M X  | BS-BLIKP-SH      |               |
| Ref Level 20.00 dBm<br>Att 10 dB   | Offset 6.00 dB = RB  | 3W 6.25 kHz<br>3W 30 kHz Mode Sv | veep  |  |                                       |   |  | SGL<br>Count 100 | /100          |
| TDF "9k-20GHz 40db"  |  |                                  |   |  |                                       |   |  |                  |               |
| 1 Frequency Sweep  |  |                                  |   |  |                                       | 1   |  | 1                | O 1Rm AvgPwr  |
|  |  |                                  |   |  |                                       |   |  |                  |               |
| 10 dBm   |  |                                  |   |  |                                       |   |  |                  |               |
|  |  |                                  |   |  |                                       |   |  |                  |               |
| 0 d8m  |  |                                  |   |  |                                       |   |  |                  |               |
|  |  |                                  |   |  |                                       |   |  |                  |               |
| -10 dBm  |  |                                  |   |  |                                       |   |  |                  |               |
| 20 000   |  |                                  |   |  |                                       |   |  |                  |               |
| - 00 dom   |  |                                  |   |  |                                       |   |  |                  |               |
| -20 0bm  |  |                                  |   |  |                                       |   |  |                  |               |
|  |  |                                  |   |  |                                       |   |  |                  |               |
| -30 dBm-   |  |                                  |   |  |                                       |   |  |                  |               |
|  |  |                                  |   |  |                                       |   |  |                  |               |
| -40 d8m-   |  |                                  |   |  |                                       |   |  |                  |               |
|  | H1 -46.000 d8m   |                                  |   |  |                                       |   |  |                  |               |
| -50 dBm-   |  | M1                               |   |  |                                       |   |  |                  |               |
| a de a friedrik general de la de | and the second |                                  | and the state of the | and the second state of th | a sugar and a sugar part of the sugar | and service and | and the second |                  |               |
| -60 dBm  |  |                                  |   |  |                                       |   |  |                  |               |
|  |  |                                  |   |  |                                       |   |  |                  |               |
| -70 dBm  |  |                                  |   |  |                                       |   |  |                  |               |
|  |  |                                  |   |  |                                       |   |  |                  |               |
|  |  |                                  |   |  |                                       |   |  |                  |               |
| CF 784.0 MHz   |  |                                  | 30001 pts   |  |                                       | 4.2 MHz/  |  |                  | Span 42.0 MHz |
| 2 Marker Table   | Trc  | X-Value                          |   | V-Value  | _                                     | Function  |  | Function Res     | ult           |
| M1   | 1  | 773.329 56 MHz                   | !   | -51.57 dBm   |                                       | 1 4110 2011   |  |                  |               |
|  |  |                                  |   |  |                                       |   |  | Ready            | 2024-02-27    |

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## Diagram 3.8c WCDMA: TM1, Tim, 1 – 9 GHz, Port B:

Date

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|                             |                      | _                   | _            | _          | _         | _        | _          | _             | _             |                               |
|-----------------------------|----------------------|---------------------|--------------|------------|-----------|----------|------------|---------------|---------------|-------------------------------|
| ultiView CCDF               | × PSD1M ×            | PSD5M × 1559-161048 | R2 X 1-96342 | ¥ 98-16    | K 6.25hHz | Х 85-ВН1 | × 85-8L1   | × B5-BH1CP-5H | × B5-BL1CP-5H | ×                             |
| Ref Level 20.00 dB          | m Offset 6.62 dB • F | RBW 1 MHz           |              |            |           |          |            |               |               | SGL                           |
| Att U<br>DF "9k-20GHz 40db" | 35 • SWI 100 ms • 1  | VBW 10 MHZ Mode Aut | o Sweep      |            |           |          |            |               |               | Count 100/100                 |
| Frequency Sweep             |                      |                     |              |            |           |          | 1          |               |               | <ul> <li>1Rm AvgPw</li> </ul> |
|                             |                      |                     |              |            |           |          |            |               |               |                               |
| 0 dBm                       |                      |                     |              |            |           |          |            |               |               |                               |
|                             |                      |                     |              |            |           |          |            |               |               |                               |
| -0                          |                      |                     |              |            |           |          |            |               |               |                               |
| uom                         |                      |                     |              |            |           |          |            |               |               |                               |
|                             |                      |                     |              |            |           |          |            |               |               |                               |
| 10 dBm-                     | H1 -13.000 dBm       |                     |              |            |           |          |            |               |               |                               |
|                             |                      |                     |              |            |           |          |            |               |               |                               |
| 20 dBm                      |                      |                     |              |            |           |          |            |               |               |                               |
|                             |                      |                     |              |            |           |          |            |               |               |                               |
| 30 dBm                      |                      |                     |              |            |           |          |            |               |               |                               |
|                             |                      |                     |              |            |           |          |            |               |               |                               |
| 40 dBm                      |                      |                     |              |            |           |          |            |               |               |                               |
|                             |                      |                     |              |            |           |          |            |               |               |                               |
| 50 dBm                      |                      |                     |              |            |           |          |            |               |               |                               |
|                             |                      |                     |              |            |           |          |            |               |               |                               |
| 60 dBm                      |                      |                     |              |            |           |          |            |               |               |                               |
|                             |                      |                     |              |            |           |          |            |               |               |                               |
| 70 d8m                      |                      |                     |              |            |           |          |            |               |               |                               |
|                             |                      |                     |              |            |           |          |            |               |               |                               |
|                             |                      |                     |              |            |           |          |            |               |               |                               |
| F 5.0 GHz                   |                      |                     | 35001 pt     | \$         |           | 8        | 300.0 MHz/ |               |               | Span 8.0 G                    |
| Marker Table                | f Tec                | X-Value             |              | V-Value    |           |          | Eurotion   |               | Eu            | nction Docult                 |
| M1 Ke                       | 1                    | 8.999 886 GHz       |              | -31.90 dBm |           |          | runction   |               | - Fu          | ncuonnesuit                   |
|                             |                      |                     |              |            |           |          |            |               | Ready         | 2024-02-2                     |
|                             |                      |                     |              |            |           |          |            |               |               | 09:04:0                       |

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## Diagram 3.8d WCDMA: TM1, Tim, 1559 – 1610 MHz, Port B:

|                              |  | NON X 1559-161000               | 7 X 1400 | X 96-16 X  | 6.255402 X 85-884 | × 15-011  | X BS-BHICP-SH | X 8581 (02-59)            |              |
|------------------------------|--|---------------------------------|----------|------------|-------------------|-----------|---------------|---------------------------|--------------|
| Ref Level 10.00 dt<br>Att 10 | Bm Offset 6.62 dB • R<br>dB • SWT 100 ms • V | BW 1 MHz<br>BW 10 MHz Mode Auto | ) Sweep  |            |                   |           |               | SGL<br>Cou                | nt 100/100   |
| Frequency Swee               | p  |                                 |          |            |                   |           |               |                           | O1Rm AvgPwr  |
|                              |  |                                 |          |            |                   |           |               |                           |              |
|                              |  |                                 |          |            |                   |           |               |                           |              |
| d9m                          |  |                                 |          |            |                   |           |               |                           |              |
|                              |  |                                 |          |            |                   |           |               |                           |              |
| 0 d8m                        |  |                                 |          |            |                   |           |               |                           |              |
|                              |  |                                 |          |            |                   |           |               |                           |              |
| m8b 0                        |  |                                 |          |            |                   |           | -             |                           |              |
|                              |  |                                 |          |            |                   |           |               |                           |              |
| I dBm                        |  |                                 |          |            |                   |           |               |                           |              |
|                              |  |                                 |          |            |                   |           |               |                           |              |
| dBm                          | H1 -40.000 dBm                               |                                 |          |            | -                 |           |               |                           |              |
|                              |  |                                 |          |            |                   |           |               |                           | M1           |
| d8m                          |  |                                 |          |            |                   |           |               |                           |              |
|                              |  |                                 |          |            |                   |           |               |                           |              |
| dBm                          |  |                                 |          |            |                   |           |               |                           |              |
|                              |  |                                 |          |            |                   |           |               |                           |              |
| d8m                          |  |                                 |          |            |                   |           |               |                           |              |
|                              |  |                                 |          |            |                   |           |               |                           |              |
| d8m                          |  |                                 |          |            |                   |           |               |                           |              |
|                              |  |                                 |          |            |                   |           |               |                           |              |
| 1.5015.011-                  |  |                                 | 1001 sta |            |                   | E 1141-1  |               |                           | Cross El OM  |
| 1.3043 GHZ                   |  |                                 | 1001 pts |            |                   | 5.1 WINZ/ |               |                           | apan 51.0 Mi |
| Type Re                      | ef Trc                                       | X-Value                         |          | Y-Value    |                   | Function  |               | Function F                | Result       |
| M1                           | 1  | 1.607 987 5 GHz                 |          | -48.22 dBm |                   |           |               |                           |              |
|                              |  |                                 |          |            |                   |           |               | <ul> <li>Ready</li> </ul> | 2024-02-     |

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## Diagram 3.9a WCDMA: TM1, M4, 9 kHz – 1 GHz, Port B:

| U                   |                      |  |           |            | ,  |            |             |                       |             |         | ٨           |
|---------------------|----------------------|--|-----------|------------|--|------------|-------------|-----------------------|-------------|---------|-------------|
| MultiView CCDF      | X PSDIM X PS         | ID5H X 1559-1610HB                         | 1-9GHz    | X %-16 X 0 | .25kHz 85-8H1  | X 85-8L1   | B5-BH1CP-5M | ×                     | B5-BL1CP-SN | ×       | •           |
| Ref Level 55.00 dB  | m Offset 6.00 dB = R | BW 100 kHz<br>BW 1 MHz Mode (ut            | o Sween   |            |  |            |             |                       |             | SGL     | 100/100     |
| TDF "9k-20GHz 40db" | DC                   | THE MORE AN                                | o oweep   |            |  |            |             |                       |             | count   | 100/100     |
| 1 Frequency Sweep   | )                    |  |           |            |  |            |             |                       |             |         | O1Rm AvgPwr |
| 50 dBm-             |                      |  |           |            |  |            |             |                       |             |         |             |
|                     |                      |  |           |            |  |            |             |                       |             |         |             |
| 40 d8m-             |                      |  |           |            |  |            |             |                       |             |         |             |
|                     |                      |  |           |            |  |            |             |                       |             |         |             |
| 30 dBm-             |                      |  |           |            |  |            |             |                       |             |         |             |
|                     |                      |  |           |            |  |            |             |                       |             |         |             |
| 20 dBm              |                      |  |           |            |  |            |             |                       |             |         |             |
|                     |                      |  |           |            |  |            |             |                       |             |         |             |
| 10 d0m              |                      |  |           |            |  |            |             |                       |             |         |             |
| 10 000              |                      |  |           |            |  |            |             |                       |             |         |             |
|                     |                      |  |           |            |  |            |             |                       |             |         |             |
| U GBM               |                      |  |           |            |  |            |             |                       |             |         |             |
|                     |                      |  |           |            |  |            |             |                       |             |         |             |
| -10 dBm-            | H1 -13.000 dBm       |  |           |            |  |            |             |                       |             |         |             |
|                     |                      |  |           |            |  |            |             |                       |             |         |             |
| -20 d8m-            |                      |  |           |            |  |            |             |                       |             | 111     |             |
|                     |                      |  |           |            | M1   |            |             |                       |             |         |             |
| -30 dBm             |                      |  |           |            | and second state of the state o |            | -           | and an and started at |             |         |             |
|                     |                      | and the second second second second second |           |            |  |            |             |                       |             | /3 1    |             |
| -40 d8m-            |                      |  |           |            |  |            | V1          | 2                     |             |         |             |
| 9.0 kHz             |                      |  | 45001 pts |            |  | 100.0 MHz/ |             |                       |             |         | 1.0 GHz     |
| 2 Marker Table      |                      |  |           |            |  |            |             |                       |             |         |             |
| Type Re             | t Trc                | X-Value<br>552.314 MHz                     |           | -29.82 dBm |  | Function   |             |                       | Funct       | ion Res | ult         |
| M2                  | î                    | 140.571 MHz                                |           | -32.32 dBm |  |            |             |                       |             |         |             |
| 7                   |                      |  |           |            |  |            |             |                       | Ready       |         | 2024-02-26  |
|                     | 1000.1               |  |           |            |  |            |             |                       |             |         | 12.20.00    |
| 12:28:00 PM 02/26   | /2024                |  |           |            |  |            |             |                       |             |         |             |

Diagram 3.9b WCDMA: TM1, M4, 763-805 MHz, Port B:

| U                  |                   |                |                              | · ·       |                      |                       | ,        |  |  |  | ~  |
|--------------------|-------------------|----------------|------------------------------|-----------|----------------------|-----------------------|----------|--|--|--|--|
| MultiView CCDF     | × PSDIM ×         | PSD5H ×        | 1559-1610+042                | × 1-9582  | × 56-16              | × 6.25kHz             | × 85-8H1 | × 85-81.1  | × 85-88102-59  | 🗙 85-81.102-5H 💥 🗙   |  |
| Ref Level 20.00 d  | Bm Offset 6.00 dB | RBW 6.25 kHz   | Mada Course                  |           |                      |                       |          |  |  | SGL  | 100/100  |
| TDF "9k-20GHz 40db | " 200 ms          | VBW JUKHZ      | mode sweep                   |           |                      |                       |          |  |  | Count  | 100/100  |
| l Frequency Swee   | p                 |                |                              |           |                      |                       |          | 1  |  |  | ●1Rm AvgPwr  |
|                    |                   |                |                              |           |                      |                       |          |  |  |  |  |
| 10 dBm             |                   |                |                              |           |                      |                       |          |  |  |  |  |
|                    |                   |                |                              |           |                      |                       |          |  |  |  |  |
| 0 d8m              |                   |                |                              |           |                      |                       |          |  |  |  |  |
|                    |                   |                |                              |           |                      |                       |          |  |  |  |  |
| -10 dBm            | -                 |                |                              |           |                      |                       |          |  |  |  |  |
|                    |                   |                |                              |           |                      |                       |          |  |  |  |  |
| -20 dBm            |                   |                |                              |           |                      |                       |          |  |  |  |  |
|                    |                   |                |                              |           |                      |                       |          |  |  |  |  |
| -30 dBm-           |                   |                |                              |           |                      |                       |          |  |  |  |  |
| 40 dam-            |                   |                |                              |           |                      |                       |          |  |  |  |  |
| 40 0011            |                   |                |                              |           |                      |                       |          |  |  |  |  |
| -50 dBm            | H1 -46.000 d8m-   | ML             |                              |           |                      |                       |          |  |  |  |  |
|                    |                   |                | and the second second second |           | and the street       | and the second second |          | and the second | and the second data and the se | and the second | And a survey of the second |
| -60 dBm            |                   |                |                              |           |                      |                       |          |  |  |  |  |
|                    |                   |                |                              |           |                      |                       |          |  |  |  |  |
| -70 dBm            |                   |                |                              |           |                      |                       |          |  |  |  |  |
|                    |                   |                |                              |           |                      |                       |          |  |  |  |  |
| F 784.0 MHz        |                   |                |                              | 30001 pts |                      |                       |          | 4.2 MHz/   |  |  | Span 42.0 MH   |
| 2 Marker Table     |                   |                |                              |           |                      |                       |          |  |  |  |  |
| Type R<br>M1       | ef Trc            | X-V<br>773.251 | alue<br>16 MHz               |           | Y-Value<br>-52.20 dl | 3m                    |          | Function   |  | Function   | Result   |
|                    |                   |                |                              |           |                      |                       |          |  |  | e Ready  | 2024-02-2  |

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#### Diagram 3.9c WCDMA: TM1, M4, 1 – 9 GHz, Port B:

Date

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| U                   |                      |                     |           |            |                |            |                 |                           | ~                      |
|---------------------|----------------------|---------------------|-----------|------------|----------------|------------|-----------------|---------------------------|------------------------|
| MultiView CCDF      | X PSDIM X PS         | SD5H X 1559-1610HBz | × 1-96362 | X 96-16 X  | 6.25kHz 85-8H1 | × 85-8L1   | X 85-8H1CP-5M X | BS-BLICP-SH X             | •                      |
| Ref Level 20.00 dBr | m Offset 6.62 dB = R | BW 1 MHz            |           |            |                |            |                 | SGL                       |                        |
| Att 0 d             | 18 • SWT 100 ms • VI | BW 10 MHz Mode Auto | Sweep     |            |                |            |                 | Count                     | 100/100                |
| 1 Frequency Sweep   |                      |                     |           |            |                |            |                 |                           | 01Rm AvgPwr            |
|                     |                      |                     |           |            |                |            |                 |                           |                        |
| 10 d9m              |                      |                     |           |            |                |            |                 |                           |                        |
| to dem              |                      |                     |           |            |                |            |                 |                           |                        |
| 0 d8m               |                      |                     |           |            |                |            |                 |                           |                        |
| 2 6011              |                      |                     |           |            |                |            |                 |                           |                        |
| -10 dBm             |                      |                     |           |            |                |            |                 |                           |                        |
| 10 0011             | H1 -13.000 dBm       |                     |           |            |                |            |                 |                           |                        |
| -20 dBm             |                      |                     |           |            |                |            |                 |                           |                        |
| 20 0011             |                      |                     |           |            |                |            |                 |                           |                        |
| -20 d8m-            |                      |                     |           |            |                |            |                 |                           |                        |
| 30 0011             |                      |                     |           |            |                |            |                 |                           |                        |
| -40 dBm             |                      |                     |           |            |                |            |                 |                           |                        |
| 10 0011             |                      |                     |           |            |                |            |                 |                           |                        |
| -50 dBm             |                      |                     |           |            |                |            |                 |                           |                        |
| 00 0011             |                      |                     |           |            |                |            |                 |                           |                        |
| -60 d8m             |                      |                     |           |            |                |            |                 |                           |                        |
|                     |                      |                     |           |            |                |            |                 |                           |                        |
| -70 d8m             |                      |                     |           |            |                |            |                 |                           |                        |
|                     |                      |                     |           |            |                |            |                 |                           |                        |
|                     |                      |                     |           |            |                |            |                 |                           |                        |
| CF 5.0 GHz          |                      |                     | 35001 pts | }          |                | 800.0 MHz/ |                 |                           | Span 8.0 GH            |
| Type Rel            | f Trc                | X-Value             |           | Y-Value    |                | Function   |                 | Function Res              | ult                    |
| M1                  | 1                    | 8.987 772 GHz       |           | -31.91 dBm |                | _          |                 | _                         |                        |
|                     |                      |                     |           |            |                |            |                 | <ul> <li>Ready</li> </ul> | 2024-02-20<br>12:35:43 |
| 2:35:47 PM 02/26/   | 2024                 |                     |           |            |                |            |                 |                           |                        |

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Diagram 3.9d WCDMA: TM1, M4, 1559 – 1610 MHz, Port B:

| U               |  |                                 |            |            | ,            |           |                 |              | ~            |
|-----------------|--|---------------------------------|------------|------------|--------------|-----------|-----------------|--------------|--------------|
| ultiView CCDF   | X PSDIM X P                                | SD5H X 1559-161040              | a 🗙 1-958a | X %-1G X   | 25kHz 85-0H1 | × 85-81.1 | × BS-BHICP-SM × | B5-BLICP-SH  | •            |
| Att 10 d        | n Offset 6.62 dB = R<br>B = SWT 100 ms = V | BW 1 MHz<br>BW 10 MHz Mode Auto | Sweep      |            |              |           |                 | SGL<br>Count | 100/100      |
| Frequency Sweep | 10   |                                 |            |            |              |           |                 |              | •1Rm AvgPwr  |
|                 |  |                                 |            |            |              |           |                 |              |              |
|                 |  |                                 |            |            |              |           |                 |              |              |
| dBm             |  |                                 |            |            |              |           |                 |              |              |
|                 |  |                                 |            |            |              |           |                 |              |              |
| 0 dBm           |  |                                 |            |            |              |           |                 |              |              |
|                 |  |                                 |            |            |              |           |                 |              |              |
| 0 d8m           |  |                                 |            |            |              |           |                 |              |              |
|                 |  |                                 |            |            |              |           |                 |              |              |
| 0 d8m           |  |                                 |            |            |              |           |                 |              |              |
|                 |  |                                 |            |            |              |           |                 |              |              |
| 0.40m           | 111 - 10 000 dom                           |                                 |            |            |              |           |                 |              |              |
| o abril         | H1 -40.000 00M                             |                                 |            |            |              |           |                 |              |              |
|                 |  |                                 |            |            |              |           |                 |              | ¥.           |
| 0 dBm           |  |                                 |            |            |              |           |                 |              |              |
|                 |  |                                 |            |            |              |           |                 |              |              |
| 0 dBm           |  |                                 |            |            |              |           |                 |              |              |
|                 |  |                                 |            |            |              |           |                 |              |              |
| 0 dBm           |  |                                 |            |            |              |           |                 |              |              |
|                 |  |                                 |            |            |              |           |                 |              |              |
| 0 dBm-          |  |                                 |            |            |              |           |                 |              |              |
|                 |  |                                 |            |            |              |           |                 |              |              |
|                 |  |                                 |            |            |              |           |                 |              |              |
| 1.5845 GHz      |  |                                 | 1001 pts   |            |              | 5.1 MHz/  |                 |              | Span 51.0 Mł |
| Type Ref        | Trc  | X-Value                         |            | V-Value    |              | Function  |                 | Function Rev | ault         |
| M1              | 1  | 1.605 287 2 GHz                 |            | -48.17 dBm |              | T GROUNT  |                 | T GRADUIT KC |              |
| e               |  |                                 |            |            |              |           |                 | Ready        | 2024-02-2    |

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Diagram 3.10a WCDMA: TM1, NR: FR1-TM1.1 and LTE: E-TM1.1 W+N+L, 9 kHz – 1 GHz, Port B:

Date

| MultiView CCDF   | Х Р501М Х Р5                                   | 59.18 × 59.18                  | X 1468a X | 96-16 🗙 6.25 | × 85-6811 ×  | B5-86.1 B5.15  | × 85.35 × | I                         |   |
|--|--|--------------------------------|-----------|--------------|--|--|-----------|---------------------------|---|
| Ref Level 55.00 d8<br>Att 30   | 3m Offset 6.00 dB = RI<br>dB = SWT 100 ms = VB | BW 100 kHz<br>BW 1 MHz Mode Au | ito Sweep |              |  |  |           | SGL<br>Count              | 100/100   |
| TDF "9k-20GHz 40db<br>1 Erequepcy Sweet  | DC   |                                |           |              |  |  |           |                           | 01Rm AvoDwr   |
| a mequency office  |  |                                |           |              |  |  |           |                           | o train range in  |
| 50 dBm   |  |                                |           |              |  |  |           |                           |   |
|  |  |                                |           |              |  |  |           |                           |   |
| 40 dBm   |  |                                |           |              |  |  |           |                           |   |
|  |  |                                |           |              |  |  | 1 1       |                           |   |
| 30 dBm   |  |                                |           |              |  |  |           | N11                       |   |
|  |  |                                |           |              |  |  |           |                           |   |
| 20 dBm   |  |                                |           |              |  |  |           |                           |   |
|  |  |                                |           |              |  |  |           |                           |   |
| 10 dBm   |  |                                |           |              |  |  |           |                           |   |
| 20 000   |  |                                |           |              |  |  |           |                           |   |
|  |  |                                |           |              |  |  |           |                           |   |
| U d8m  |  |                                |           |              |  |  |           |                           |   |
|  |  |                                |           |              |  |  |           |                           |   |
| -10 d8m-   | H1 -13 000 dBm                                 |                                |           |              |  |  |           |                           |   |
|  |  |                                |           |              | M1   |  |           |                           |   |
| naivian  | M2   |                                |           |              | A REAL PROPERTY AND A REAL | and the second |           | North Statement           | a second seco |
| the state of the s |  |                                |           |              |  | Contraction of the Advancements of the second se  |           |                           |   |
| -30 dBm  |  |                                |           |              |  |  |           |                           |   |
|  |  |                                |           |              |  |  |           | V                         | •   |
| -40 d8m-   |  |                                |           |              |  |  | V2        | V3                        |   |
|  |  |                                | 15001     |              |  | 100.0141.0   | i ii      |                           | 0.000.001.101   |
| CF 500.0045 MHz  |  |                                | 45001 pt  | (5           |  | 100.0 MH2/   |           |                           | Span 999.991 MHz  |
| Z Marker' Lable  | ef Trc   | X-Value                        |           | Y-Value      |  | Eunction   |           | Function Rev              | sult  |
| M1   | 1  | 551.047 MHz                    |           | -20.63 dBm   |  |  |           |                           |   |
| M2   | 1  | 140.505 MHz                    |           | -23.22 dBm   |  |  |           |                           |   |
|  |  |                                |           |              |  |  |           | <ul> <li>Ready</li> </ul> | 2024-02-27<br>13:39:34  |
| 01:39:34 PM 02/27  | /2024  |                                |           |              |  |  |           |                           |   |

Diagram 3.10b WCDMA: TM1, NR: FR1-TM1.1 and LTE: E-TM1.1 W+N+L, 763 – 805 MHz, Port B:

|   | ,,   |  |           |   |                |   |  |   | <b></b>       |
|---|--|--|-----------|---|----------------|---|--|---|---------------|
| MultiView CCDF                              | X PSDIN X PS   | ID5M × 1559-1610MB   | 1-958g    | X 96-16 X   | 1.25kHz 85-8H1 | X 85-8L1  | K 85-8H1CP-5M X  | B5-BL1CP-SH   |               |
| Ref Level 20.00 dBm                         | Offset 6.00 dB = RE  | 3W 6.25 kHz  | _         |   |                |   |  | SGL   |               |
| <ul> <li>Att 10 dB</li> </ul>               | 8 • SWT 200 ms • VE  | 3W 30 kHz Mode Sv  | veep      |   |                |   |  | Count 100   | /100          |
| TDF "9k-20GHz 40db"                         |  |  |           |   |                |   |  |   | 1Pm AugPur    |
| Thequency offeep                            |  |  |           |   |                |   |  |   | CTUTI CIG IN  |
|   |  |  |           |   |                |   |  |   |               |
| 10 dBm                                      |  |  |           |   |                |   |  |   |               |
|   |  |  |           |   |                |   |  |   |               |
| 0 dBm                                       |  |  |           |   |                |   |  |   |               |
|   |  |  |           |   |                |   |  |   |               |
| -10 d8m-                                    |  |  |           |   |                |   |  |   |               |
|   |  |  |           |   |                |   |  |   |               |
| -20 dBm                                     |  |  |           |   |                |   |  |   |               |
|   |  |  |           |   |                |   |  |   |               |
|   |  |  |           |   |                |   |  |   |               |
| -30 dBm                                     |  |  |           |   |                |   |  |   |               |
|   |  |  |           |   |                |   |  |   |               |
| -40 d8m-                                    |  |  |           |   |                |   |  |   |               |
|   | H1 -46.000 d8m   |  |           |   |                |   |  |   |               |
| -50 dBm                                     |  |  |           |   |                |   |  |   |               |
| heringen gehangen auf der der eine Kandelle | and the second | a the second |           | a a sur a |                | All a state of the second | and a second | and the second se |               |
| -60 dBm                                     |  |  |           |   |                |   |  |   |               |
|   |  |  |           |   |                |   |  |   |               |
| -70 dBm                                     |  |  |           |   |                |   |  |   |               |
|   |  |  |           |   |                |   |  |   |               |
|   |  |  |           |   |                |   |  |   |               |
| CF 784.0 MHz                                |  |  | 30001 pts |   |                | 4.2 MHZ/  |  |   | span 42.0 MHz |
| Type Ref                                    | Trc  | X-Value  |           | Y-Value   |                | Function  |  | Function Res  | ult           |
| M1  | 1  | 793.900 47 MHz   | !         | -52.16 dBm  |                |   |  |   |               |
|   |  |  |           |   |                |   |  | Ready   | 2024-02-27    |

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Diagram 3.10c WCDMA: TM1, NR: FR1-TM1.1 and LTE: E-TM1.1 W+N+L, 1 – 9 GHz, Port B:

| MultiView CC                             | DF × PSD14            | ×             | х эрен      | 59.10       | 1-96Hz | × sk-    | 16 × 625   | × | 05-DH1 | × | 05-0L1   | × 85.15 | × 85.15 | × |         |          |              |
|--|-----------------------|---------------|-------------|-------------|--------|----------|------------|---|--------|---|----------|---------|---------|---|---------|----------|--------------|
| Ref Level 2                              | 0.00 dBm Offse        | t 6.62 dB 🖷 R | BW 1 MHz    |             |        |          |            |   |        |   |          |         |         |   | s       | GL       |              |
| <ul> <li>Att<br/>TDF "9k-20GH</li> </ul> | 0 d8 🖷 SWT<br>z 40dh" | 100 ms 🖷 V    | BW 10 MHz N | Adde Auto S | weep   |          |            |   |        |   |          |         |         |   | С       | ount 100 | 0/100        |
| 1 Frequency                              | Sweep                 |               |             |             |        |          |            |   |        |   |          |         |         |   |         |          | O1Rm AvgPwr  |
|  |                       |               |             |             |        |          |            |   |        |   |          |         |         |   |         |          |              |
|  |                       |               |             |             |        |          |            |   |        |   |          |         |         |   |         |          |              |
| 10 dBm                                   |                       |               |             |             |        |          |            |   |        |   |          |         |         |   |         |          |              |
|  |                       |               |             |             |        |          |            |   |        |   |          |         |         |   |         |          |              |
| 0 dBm                                    |                       |               |             |             |        |          |            |   |        |   |          |         |         |   |         |          |              |
|  |                       |               |             |             |        |          |            |   |        |   |          |         |         |   |         |          |              |
| -10 dBm-                                 |                       |               |             |             |        |          |            |   |        |   |          |         |         |   |         |          |              |
|  | H1                    | 13.000 dBm    |             |             |        |          |            |   |        |   |          |         |         |   |         |          |              |
| -20 d8m                                  |                       |               |             |             |        |          |            |   |        |   |          |         |         |   |         |          |              |
|  |                       |               |             |             |        |          |            |   |        |   |          |         |         |   |         |          |              |
|  |                       |               |             |             |        |          |            |   |        |   |          |         |         |   |         |          | M            |
| -30 dBm-                                 |                       |               |             |             |        |          |            |   |        |   |          |         |         |   |         |          |              |
|  |                       |               |             |             |        | -        |            | _ |        |   |          |         |         |   |         |          |              |
| -40 d8m-                                 |                       |               |             |             |        |          |            |   |        |   |          |         |         |   |         | -        |              |
|  |                       |               |             |             |        |          |            |   |        |   |          |         |         |   |         |          |              |
| -50 dBm                                  |                       |               |             |             |        |          |            |   |        |   |          |         |         |   |         |          |              |
|  |                       |               |             |             |        |          |            |   |        |   |          |         |         |   |         |          |              |
| -60 dBm                                  |                       |               |             |             |        |          |            |   |        |   |          |         |         |   |         |          |              |
|  |                       |               |             |             |        |          |            |   |        |   |          |         |         |   |         |          |              |
| -70 d8m                                  |                       |               |             |             |        |          |            |   |        |   |          |         |         |   |         |          |              |
| 10 0011                                  |                       |               |             |             |        |          |            |   |        |   |          |         |         |   |         |          |              |
|  |                       |               |             |             |        |          |            |   |        |   |          |         |         |   |         |          |              |
| CF 5.0 GHz                               |                       |               | 1           |             | 35     | 6001 pts |            |   |        | 8 | 300.0 MH | z/      |         |   | 1       |          | Span 8.0 GHz |
| 2 Marker Tab                             | ble                   |               |             |             |        |          |            |   | _      |   | _        |         |         |   |         | -        |              |
| Mi                                       | Ref Tr                | C I           | X-Val       | 1 GHz       |        |          | -31.82 dBm |   |        |   | Fund     | tion    |         |   | Functio | n Result |              |
|  |                       |               | 2           |             |        |          |            |   |        | _ |          |         |         |   | Roady   |          | . 2024-02-27 |
|  |                       |               |             |             |        |          |            |   |        |   |          |         |         |   | κυσυγ   |          | 12:39:04     |
| 12:39:04 PM                              | 02/27/2024            |               |             |             |        |          |            |   |        |   |          |         |         |   |         |          |              |

Diagram 3.10d WCDMA: TM1, NR: FR1-TM1.1 and LTE: E-TM1.1 W+N+L, 1559 – 1610 MHz, Port B:

| SGL         SGL         Count 100/100           At         10.06 e SW1 100 ms e VBW 10 MHz         Mode Auto Sweep         Count 100/100           A TDF "Sk-200Hz 40.86"         Count 100         Count 100         Count 100           Bm-         Count 100         Count 100         Count 100         Count 100           Bm-         Count 100         Count 100         Count 100         Count 100           10 dm-         Count 100         Count 100         Count 100         Count 100  | /gPwr |
|---|-------|
| Att         10 db * SWT         10 ms * VBW 10 MHz         Mode Auto Sweep         Count 100/100           Thr Ws-2014: dab*         Image: State | vgPwr |
| Frequency Sweep         016m           dm         Image: Sweep         Image: Sw   | vgPwr |
|   |       |
| dan   |       |
|   |       |
| 10 dan-   |       |
| 10 dBm-   |       |
|   |       |
|   |       |
| 20 dBm  |       |
|   |       |
| 10 dbs  |       |
|   |       |
|   |       |
| 40 d8m + 11 - 40.000 d8m + 11 - 40.0000 d8m + 11 - 40.00000 d8m + 11 - 40.00000 d8m + 11 - 40.000000 d8m + 11 - 40.0000000000000000000000000000000000  |       |
|   | M1    |
| 50 dtm  |       |
|   |       |
| 60 dBm  |       |
|   |       |
| 70 dim  |       |
|   |       |
| 60 dbr  |       |
|   |       |
|   |       |
| F 1.5845 GHz 5.1 MHz/ Span 5  | 0 MHz |
| Marker Table  |       |
| Type Ref Trc X-Value V-Value Function Function Result   |       |
|   |       |

12:38:22 PM 02/27/2024

# Field strength of spurious radiation measurements according to CFR 47 §27.53 and 22.917/RSS-130 4.7 and RSS132 5.5

| Date       | Temperature                        | Humidity   |
|------------|------------------------------------|------------|
| 2024-03-11 | $21 \ ^{\circ}C \pm 3 \ ^{\circ}C$ | 19 % ± 5 % |
| 2024-03-12 | $22 \ ^{\circ}C \pm 3 \ ^{\circ}C$ | 22 % ± 5 % |

The test site conforms to the site validation criterion specified in ANSI C63.4.

The measurements were performed with both horizontal and vertical polarization of the antenna.

The antenna distance was 3 m in the frequency range 30 MHz - 9 GHz.

The EUT was placed 0.8 m above reference ground plane in frequency range 30 MHz - 1 GHz and 1.5 m above reference ground plane in frequency range 1 GHz - 9 GHz.

The measurement was performed with an RBW of 1 MHz.

A propagation loss in free space was calculated. The used formula was

 $\gamma = 20 \log \left(\frac{4\pi D}{\lambda}\right), \ \gamma$  is the propagation loss and D is the antenna distance.

The measurement procedure was as the following:

- 1. A pre-measurement is performed with peak detector. For measurement < 1 GHz the test object was measured in eight directions with the antenna at three heights, 1.0 m, 1.5 m and 2.0 m. For measurements > 1 GHz the test object was measured in seventeen directions with the antenna height 1.5 m, 2.0 m and 2.5 m with elevation angle.
- Spurious radiation on frequencies closer than 20 dB to the limit in the premeasurement is scanned 0-360 degrees and the antenna is scanned 1-4 m for maximum response. The emission is then measured with the RMS detector and the RMS value is reported. Frequencies closer than 10 dB to the limit when measured with the RMS detector were measured with the substitution method according to ANSI 63.26.

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The test set-up during the spurious radiation measurements is shown in the pictures below:

Test setup 30-1000 MHz:



Test setup 1-9 GHz:

# Measurement equipment

| Item                  | Name                        | Inv.no  |
|-----------------------|-----------------------------|---------|
|                       | Tesla                       | 503881  |
| Semi Anechoic Chamber | NSA                         | BX90699 |
|                       | SVSWR                       | BX90702 |
| Spectrum Analyzer     | Rohde & Schwarz ESU40       | 901385  |
| Software              | Rohde & Schwarz Electra     | -       |
| RF cable              | Huber & Suhner Eacon 4C     | BX91490 |
| RF Cable              | Rosenberger UFB311A         | 503508  |
| RF Cable              | Rosenberger UFB311A         | 503509  |
| Antenna, Bilog        | Teseq CBL6143A              | BX92331 |
| Preamplifier          | MicroComp Nordic MCN-JS42-  | 901545  |
|                       | 00101800-28-10P             |         |
| HP filter             | Wainwright WHKX1.0/18G-10SS | 901373  |
| Antenna, Horn         | Emco 3115                   | 502175  |
| Thermohygrometer      | Testo 625                   | 504188  |

# **Tested frequencies**

| Symbolic name: B5 |  |  |
|-------------------|--|--|
| В                 |  |  |
| М                 |  |  |
| Т                 |  |  |
| Bim               |  |  |
| Tim               |  |  |
| W+N+L             |  |  |

# Results

Representing worst case: WCDMA: Symbolic name: Bim Diagram 4.1a-b

Multi RAT: Symbolic name: W+N+L, Diagram 4.2a-b

|                    | Spurious emission level (dBm)    |                                  |
|--------------------|----------------------------------|----------------------------------|
| Frequency<br>(MHz) | Vertical                         | Horizontal                       |
| 30-9000            | All emission > 20 dB below limit | All emission > 20 dB below limit |

Measurement uncertainty: 3.1 dB

## Limits

CFR 47 § 22.917 (a)

Out of band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43  $+ 10 \log(P) dB$ .

#### CFR 47 § 22.917 (b)

Measurement procedure. Compliance with these rules is based on the use of measurement instrumentation employing a reference bandwidth as follows:

- In the spectrum below 1 GHz, instrumentation should employ a reference bandwidth of 100 kHz or greater. In the 1 MHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy, provided that the measured power is integrated over the full required reference bandwidth (i.e., 100 kHz or 1 percent of emission bandwidth, as specified). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.
- In the spectrum above 1 GHz, instrumentation should employ a reference bandwidth of 1 MHz.

#### RSS-132 5.5

- v. In the first 1.0 MHz band immediately outside and adjacent to each of the subbands specified in Section 5.1, the power of emissions per any 1% of the occupied bandwidth shall be attenuated below the transmitter output power P (dBW) by at least  $43 + 10 \log(p) dB$ .
- vi. After the first 1.0 MHz immediately outside and adjacent to each of the subbands, the power of emissions in any 100 kHz bandwidth shall be attenuated below the transmitter output power P (dBW) by at least 43 + 10 log(p) dB. If the measurement is performed using 1% of the occupied bandwidth, power integration over 100 kHz is required.

| Complies? | Yes |
|-----------|-----|



Date

2024-03-19



Reference

P119088-F2

Note: The emissions in frequency range 746-756 MHz and 869-894 MHz are the carrier frequencies and shall be ignored in the context.



Diagram 4.1b: WCDMA Bim, 1 - 9 GHz

| REPORT |
|--------|
|--------|



Date

2024-03-19



Reference

P119088-F2

Note: The emissions in frequency range 746-756 MHz and 869-894 MHz are the carrier frequencies and shall be ignored in the context.



Diagram 4.2b: Multi W+N+L, 1 - 9 GHz

KS

I. F

# Frequency stability measurements according to CFR 47 § 2.1055, §22.335/RSS-Gen+RSS-132 5.3

| Date       | Temperature (test equipment)       | Humidity (test equipment) |
|------------|------------------------------------|---------------------------|
| 2024-02-27 | $23 \ ^{\circ}C \pm 3 \ ^{\circ}C$ | 21 % ± 5 %                |
| 2024-02-28 | $23 \ ^{\circ}C \pm 3 \ ^{\circ}C$ | 20 % ± 5 %                |
| 2024-02-29 | $25 \ ^{\circ}C \pm 3 \ ^{\circ}C$ | 17 % ± 5 %                |

# Test set-up and procedure

The option *WCDMA downlink* measurements *K72* in the spectrum analyser was used to demodulate the signal and report the frequency error result. The spectrum analyser was connected to an external 10 MHz reference standard during the measurements.

| Measurement equipment                     | RISE number |
|---|-------------|
| R&S FSQ40                                 | 504 143     |
| RF attenuator                             | 902 282     |
| Coaxial cable Sucoflex 102EA              | BX 50236    |
| Coaxial cable Sucoflex 102EA              | BX 50237    |
| Temperature Chamber                       | 503 360     |
| Testo 635, temperature and humidity meter | 504 203     |
| Multimeter Fluke 87                       | 502 190     |

# **Results WCDMA B5**

Nominal transmitter frequency was 871.4 MHz (B) with a bandwidth of 5 MHz. Rated output power level at connector RF B (maximum): 46.0 dBm.

| Test conditions          |               |                             |
|--------------------------|---------------|-----------------------------|
| Supply voltage<br>DC (V) | Temp.<br>(°C) | Frequency error (HZ)        |
| 40.8                     | +20           | -3                          |
| 55.2                     | +20           | -6                          |
| 48                       | +20           | 5                           |
| 48                       | +30           | 2                           |
| 48                       | +40           | -5                          |
| 48                       | +50           | 5                           |
| 48                       | +10           | 3                           |
| 48                       | 0             | 6                           |
| 48                       | -10           | 6                           |
| 48                       | -20           | -5                          |
| 48                       | -30           | 3                           |
| Maximum freq. error (Hz) |               | 6                           |
| Measurement uncertainty  |               | $<\pm 1 \text{ x } 10^{-7}$ |

The frequency error results clearly shows that the frequency stability is good enough to ensure that the transmitted carrier stays within the operating band.

# Remark

It was deemed sufficient to test one combination of TX frequency, channel bandwidth configuration and test model (modulation), as all combinations share a common internal reference to derive the TX frequency from.

# Limits

§22.335

Except as otherwise provided in this part, the carrier frequency of each transmitter in the Public Mobile Services must be maintained within the tolerances given in Table C–1 of this section.

1.5 ppm (±1.307 kHz @871.4 MHz)

#### RSS-132 5.3

The frequency stability shall be sufficient to ensure that the occupied bandwidth stays within each of the sub-bands when tested at the temperature and supply voltage variations specified in RSS-Gen.

| Complies? | Yes |
|-----------|-----|

# Photos of test object

Front side



Rear side

Reference P119088-F2







Right side





Date 2024-03-19

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SË



Top side



Test object label:



End of report.