

TEST REPORT

of

FCC Part 2 Subpart J, Part 22 Subpart H, Part 24 Subpart E and
Part 27 Subpart C/L/H

FCC ID: XHG-R717

Equipment Under Test : Mobile Hotspot
Model Name : T9
Applicant : Franklin Technology Inc.
Manufacturer : Franklin Technology Inc.
Date of Receipt : 2019.05.07
Date of Test(s) : 2019.05.08 ~ 2019.07.10
Date of Issue : 2019.07.22

In the configuration tested, the EUT complied with the standards specified above.

Tested By:



Nancy Park

Date:

2019.07.22

Technical
Manager:



Jungmin Yang

Date:

2019.07.22

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SGS Korea Co., Ltd. (Gunpo Laboratory) 4, LS-ro 182beon-gil, Gunpo-si, Gyeonggi-do, Korea, 15807

<http://www.sgsgroup.kr>

RTT5041-19(2019.04.24)(1)

Tel. +82 31 428 5700 / Fax. +82 31 427 2370

A4(210 mmx 297 mm)

TABLE OF CONTENTS

| | Page |
|--|------|
| 1. General Information ----- | 3 |
| 2. RF Radiated Output Power & Spurious Radiated Emission ----- | 8 |
| 3. Occupied Bandwidth ----- | 56 |
| 4. Peak-Average Ratio ----- | 146 |
| 5. Spurious Emissions at Antenna Terminal ----- | 193 |
| 6. Band Edge ----- | 262 |
| 7. Frequency Stability ----- | 322 |

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1. General Information

1.1. Testing Laboratory

SGS Korea Co., Ltd. (Gunpo Laboratory)

- 10-2, LS-ro 182beon-gil, Gunpo-si, Gyeonggi-do, Korea, 15807
- 4, LS-ro 182beon-gil, Gunpo-si, Gyeonggi-do, Korea, 15807
- Designation number: KR0150

All SGS services are rendered in accordance with the applicable SGS conditions of service available on request and accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx>.

Phone No. : +82 31 688 0901

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1.2. Details of Applicant

Applicant : Franklin Technology Inc.

Address : 906 JEI Platz, 186, Gasan digital 1-ro, Gumcheon-Gu, Seoul, South Korea, 08502

Contact Person : Lee, James

Phone No. : +82 70 8228 6445

1.3. Details of Manufacturer

Company : Same as applicant

Address : Same as applicant

1.4. Description of EUT

| | |
|-----------------|---|
| Kind of Product | Mobile Hotspot |
| Model Name | T9 |
| Power Supply | DC 3.8 V |
| Rated Power | LTE Band 2, 25: 22.7 dBm LTE Band 4, 66: 22.5 dBm LTE Band 5, 71: 23 dBm LTE Band 12: 23.3 dBm LTE Band 26: 22.8 dBm LTE Band 41: 24.8 dBm |
| Frequency Range | LTE Band 2: 1 850 MHz ~ 1 910 MHz LTE Band 4: 1 710 MHz ~ 1 755 MHz LTE Band 5: 824 MHz ~ 849 MHz LTE Band 12: 699 MHz ~ 716 MHz LTE Band 25: 1 850 MHz ~ 1 915 MHz LTE Band 26: 824 MHz ~ 849 MHz LTE Band 41: 2 496 MHz ~ 2 690 MHz LTE Band 66: 1 710 MHz ~ 1 780 MHz LTE Band 71: 663 MHz ~ 698 MHz |

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| | |
|-----------------------------|--|
| Emission Designator | LTE Band 12 (1.4 MHz): 1M11G7D (QPSK) / 1M10W7D (16QAM) LTE Band 12 (3 MHz): 2M69G7D (QPSK) / 2M69W7D (16QAM) LTE Band 12 (5 MHz): 4M53G7D (QPSK) / 4M54W7D (16QAM) LTE Band 12 (10 MHz): 8M94G7D (QPSK) / 8M94W7D (16QAM) LTE Band 25/2 (1.4 MHz): 1M11G7D (QPSK) / 1M11W7D (16QAM) LTE Band 25/2 (3 MHz): 2M69G7D (QPSK) / 2M69W7D (16QAM) LTE Band 25/2 (5 MHz): 4M53G7D (QPSK) / 4M53W7D (16QAM) LTE Band 25/2 (10 MHz): 8M94G7D (QPSK) / 8M94W7D (16QAM) LTE Band 25/2 (15 MHz): 13M5G7D (QPSK) / 13M5W7D (16QAM) LTE Band 25/2 (20 MHz): 17M9G7D (QPSK) / 17M9W7D (16QAM) LTE Band 26/5 (1.4 MHz): 1M11G7D (QPSK) / 1M11W7D (16QAM) LTE Band 26/5 (3 MHz): 2M69G7D (QPSK) / 2M69W7D (16QAM) LTE Band 26/5 (5 MHz): 4M52G7D (QPSK) / 4M53W7D (16QAM) LTE Band 26/5 (10 MHz): 8M94G7D (QPSK) / 8M94W7D (16QAM) LTE Band 26 (15 MHz): 13M5G7D (QPSK) / 13M5W7D (16QAM) LTE Band 41 (5 MHz): 4M54G7D (QPSK) / 4M54W7D (16QAM) LTE Band 41 (10 MHz): 8M94G7D (QPSK) / 8M94W7D (16QAM) LTE Band 41 (15 MHz): 13M5G7D (QPSK) / 13M5W7D (16QAM) LTE Band 41 (20 MHz): 17M9G7D (QPSK) / 17M9W7D (16QAM) LTE Band 66/4 (1.4 MHz): 1M11G7D (QPSK) / 1M11W7D (16QAM) LTE Band 66/4 (3 MHz): 2M70G7D (QPSK) / 2M69W7D (16QAM) LTE Band 66/4 (5 MHz): 4M53G7D (QPSK) / 4M54W7D (16QAM) LTE Band 66/4 (10 MHz): 8M97G7D (QPSK) / 8M94W7D (16QAM) LTE Band 66/4 (15 MHz): 13M5G7D (QPSK) / 13M5W7D (16QAM) LTE Band 66/4 (20 MHz): 17M9G7D (QPSK) / 18M0W7D (16QAM) LTE Band 71 (5 MHz): 4M53G7D (QPSK) / 4M53W7D (16QAM) LTE Band 71 (10 MHz): 8M94G7D (QPSK) / 8M94W7D (16QAM) LTE Band 71 (15 MHz): 13M5G7D (QPSK) / 13M5W7D (16QAM) LTE Band 71 (20 MHz): 17M9G7D (QPSK) / 17M9W7D (16QAM) |
| Modulation Technique | QPSK, 16QAM |
| Antenna Type | FPCB antenna |
| Antenna Gain | 699 MHz ~ 716 MHz: 0.52 dB i 1 850 MHz ~ 1 915 MHz: 3.69 dB i 824 MHz ~ 849 MHz: -0.65 dB i 2 496 MHz ~ 2 690 MHz: 2.56 dB i 1 710 MHz ~ 1 780 MHz: 3.68 dB i 663 MHz ~ 698 MHz: 0.32 dB i |

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1.5. Test Equipment List

| Equipment | Manufacturer | Model | S/N | Cal. Date | Cal. Interval | Cal. Due |
|---------------------|----------------------------|--------------------------------------|------------------------|---------------|---------------|---------------|
| Signal Generator | Agilent | E8257D | MY51501169 | Jul. 03, 2019 | Annual | Jul. 03, 2020 |
| Spectrum Analyzer | R&S | FSV30 | 103102 | Jun. 05, 2019 | Annual | Jun. 05, 2020 |
| Mobile Test Unit | R&S | CMW500 | 144035 | Feb. 19, 2019 | Annual | Feb. 19, 2020 |
| Mobile Test Unit | R&S | CMW500 | 144029 | May 14, 2019 | Annual | May 14, 2020 |
| Power Meter | Anritsu | ML2495A | 1223004 | Jun. 05, 2019 | Annual | Jun. 05, 2020 |
| Power Sensor | Anritsu | MA2411B | 1207272 | Jun. 05, 2019 | Annual | Jun. 05, 2020 |
| Directional Coupler | KRYTAR | 152613 | 140972 | Jun. 12, 2019 | Annual | Jun. 12, 2020 |
| Temperature Chamber | ESPEC CORP. | PL-1J | 15000793 | Jun. 10, 2019 | Annual | Jun. 10, 2020 |
| High Pass Filter | Wainwright Instrument GmbH | WHKX10-900-1000-1800-40SS | 7 | Mar. 12, 2019 | Annual | Mar. 12, 2020 |
| High Pass Filter | Wainwright Instrument GmbH | WHKX1.5/15G-6SS | 4 | Jun. 12, 2019 | Annual | Jun. 12, 2020 |
| High Pass Filter | Wainwright Instrument GmbH | WHKX2.2/12.75G-10SS | 8 | Mar. 12, 2019 | Annual | Mar. 12, 2020 |
| High Pass Filter | Wainwright Instrument GmbH | WHK3.0/18G-10SS | 344 | May 21, 2019 | Annual | May 21, 2020 |
| High Pass Filter | Wainwright Instrument GmbH | WHK7.5/26.5G-6SS | 15 | Jun. 05, 2019 | Annual | Jun. 05, 2020 |
| DC Power Supply | R&S | HMP2020 | 019258024 | Nov. 06, 2018 | Annual | Nov. 06, 2019 |
| Preamplifier | H.P. | 8447F | 2944A03909 | Aug. 07, 2018 | Annual | Aug. 07, 2019 |
| Preamplifier | Agilent | 8449B | 3008A01932 | Feb. 22, 2019 | Annual | Feb. 22, 2020 |
| Preamplifier | MITEQ Inc. | JS44-18004000-35-8P | 1546891 | May 13, 2019 | Annual | May 13, 2020 |
| Test Receiver | R&S | ESU26 | 100109 | Jan. 31, 2019 | Annual | Jan. 31, 2020 |
| Loop Antenna | SCHWARZBECK MESSELEKTRONIK | FMZB 1519 | 1519-039 | Aug. 23, 2017 | Biennial | Aug. 23, 2019 |
| Bilog Antenna | SCHWARZBECK MESSELEKTRONIK | VULB9163 | 01126 | Apr. 23, 2019 | Biennial | Apr. 23, 2021 |
| Horn Antenna | R&S | HF906 | 100326 | Feb. 14, 2018 | Biennial | Feb. 14, 2020 |
| Horn Antenna | R&S | HF907 | 100145 | Feb. 14, 2018 | Biennial | Feb. 14, 2020 |
| Horn Antenna | SCHWARZBECK MESSELEKTRONIK | BBHA9170 | BBHA9170223 | Sep. 10, 2018 | Biennial | Sep. 10, 2020 |
| Antenna Master | Innco systems GmbH | MM4000 | N/A | N.C.R. | N/A | N.C.R. |
| Turn Table | Innco systems GmbH | DS 1200S | N/A | N.C.R. | N/A | N.C.R. |
| Controller | Innco systems GmbH | CONTROLLER CO3000-4P | CO3000/963/383 30516/L | N.C.R. | N/A | N.C.R. |
| Anechoic Chamber | SY Corporation | L x W x H (9.6 m x 6.4 m x 6.4 m) | N/A | N.C.R. | N/A | N.C.R. |
| Coaxial Cable | SUCOFLEX | 104 (3 m) | MY3258414 | Jul. 04, 2019 | Semi-annual | Jan. 04, 2020 |
| Coaxial Cable | SUCOFLEX | 104 (10 m) | MY3145814 | Jul. 04, 2019 | Semi-annual | Jan. 04, 2020 |
| Coaxial Cable | Rosenberger | LA1-C006-1500 | 131014 04/20 | Feb. 28, 2019 | Semi-annual | Aug. 28, 2019 |
| Coaxial Cable | Rosenberger | LA1-C006-1500 | 131014 05/20 | Feb. 28, 2019 | Semi-annual | Aug. 28, 2019 |
| Coaxial Cable | Rosenberger | LA1-C006-1500 | 131014 11/20 | Feb. 28, 2019 | Semi-annual | Aug. 28, 2019 |

► Support Equipment

| Description | Manufacturer | Model | Serial Number |
|-------------|--------------|-------|---------------|
| N/A | - | - | - |

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A4(210 mm x 297 mm)

1.6. Summary of Test Results

The EUT has been tested according to the following specifications:

| APPLIED STANDARD: FCC Part 2, 22, 24 and 27 | | |
|---|---------------------------------------|-------------------|
| Section | Test Item(s) | Result |
| §2.1046 §22.913(a)(5) §24.232(c) §27.50(c)(10) §27.50(d)(4) §27.50(h)(2) | RF Radiated Output Power | Complied |
| §22.917(a) §24.238(a) §27.53(g) §27.53(h)(1) §27.53(m)(4) | Spurious Radiated Emission | Complied |
| §2.1046 | Conducted Output Power | N/A ¹⁾ |
| §2.1049 | Occupied Bandwidth | Complied |
| §22.913(d) §24.232(d) §27.50(d)(5) | Peak-Average Ratio | Complied |
| §22.917(a) §24.238(a) §27.53(g) §27.53(h)(1) §27.53(m)(4) | Spurious Emission at Antenna Terminal | Complied |
| §22.917(a) §24.238(a) §27.53(g) §27.53(h)(1) §27.53(m)(4) | Band Edge | Complied |
| §2.1055 §22.355 §24.235 §27.54 | Frequency Stability | Complied |

Note;

1) See SAR Report

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1.7. Sample Calculation for Offset

Where relevant, the following sample calculation is provided:

1.7.1. Conducted Test

Offset value (dB) = Directional Coupler (dB) + Cable loss (dB)

1.7.2. Radiation Test

E.R.P. & E.I.R.P. = [S.G level + Amp.] (dB m) - Cable loss (dB) + Ant. gain (dB d/dB i)

1.8. Device Capabilities

This device contains the following capabilities;

LTE Band 25 (1 850 MHz ~ 1 915 MHz) overlaps the entire frequency range of LTE Band 2 (1 850 MHz ~ 1 910 MHz). Therefore, test data provided in this report covers LTE Band 2 as well as Band 25.
 LTE Band 66 (1 710 MHz ~ 1 780 MHz) overlaps the entire frequency range of LTE Band 4 (1 710 MHz ~ 1 755 MHz). Therefore, test data provided in this report covers LTE Band 4 as well as Band 66.
 LTE Band 26 (814 MHz ~ 849 MHz) overlaps the entire frequency range of LTE Band 5 (824 MHz ~ 849 MHz). Therefore, test data provided in this report covers LTE Band 5 as well as Band 26.

1.9. Test Report Revision

| Revision | Report Number | Date of Issue | Description |
|----------|------------------------|---------------|---|
| 0 | F690501/RF-RTL014054 | 2019.07.11 | Initial |
| 1 | F690501/RF-RTL014054-1 | 2019.07.22 | Added the coaxial cable in the equipment list and Deleted inappropriate standard. |

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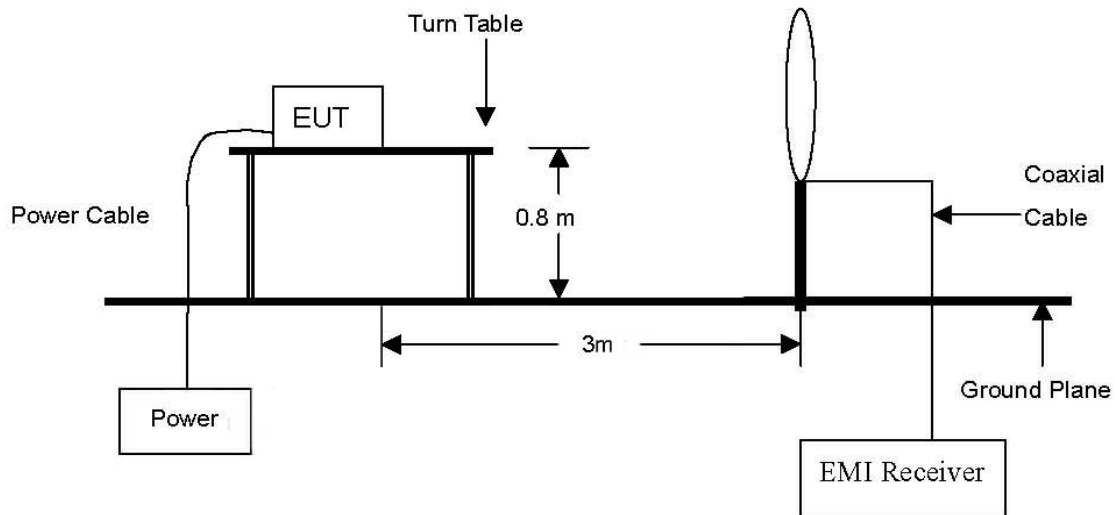
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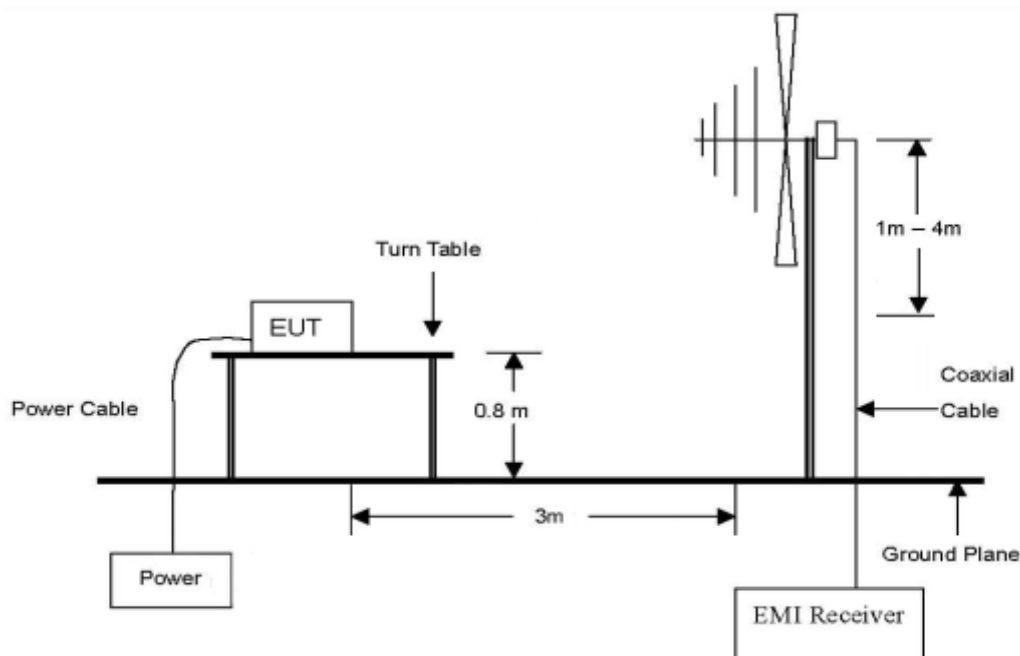
2. RF Radiated Output Power & Spurious Radiated Emission

2.1. Test Setup

The diagram below shows the test setup that is utilized to make the measurements for emission from 9 kHz to 30 MHz.



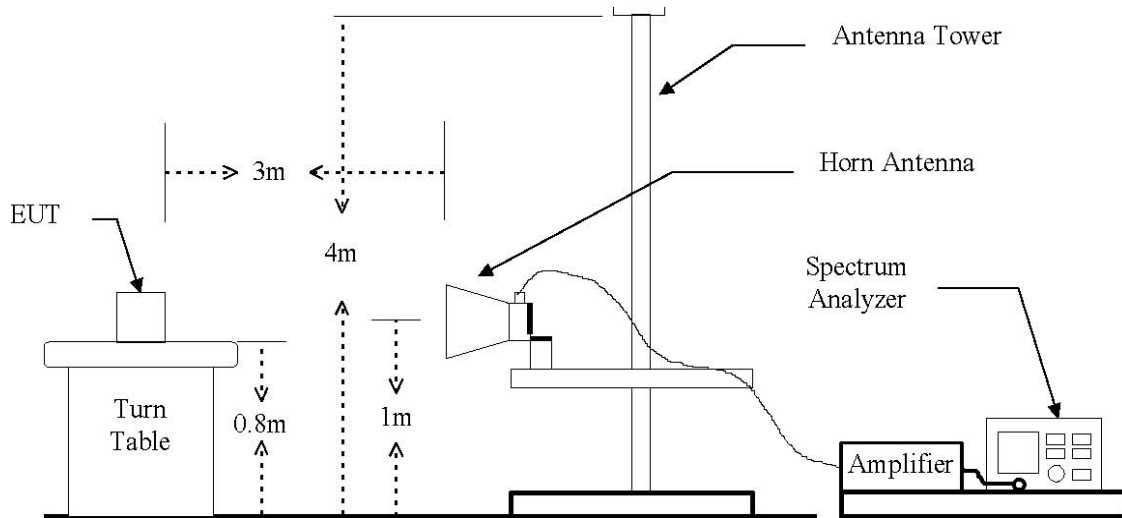
The diagram below shows the test setup that is utilized to make the measurements for emission from 30 MHz to 1 GHz.



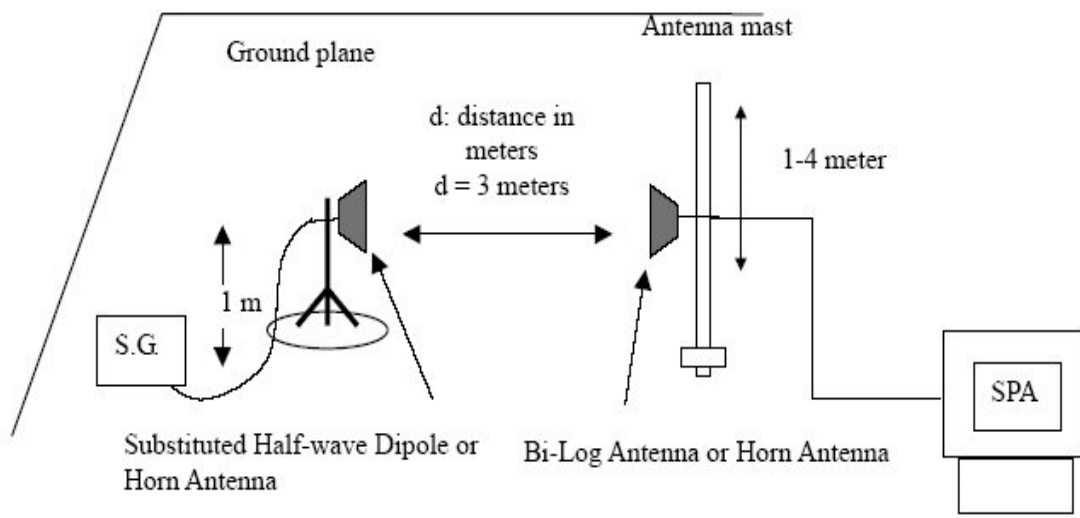
The diagram below shows the test setup that is utilized to make the measurements for emission from 1 GHz

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to 27 GHz.



The diagram below shows the test setup for substituted method.



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2.2. Limit

2.2.1. Limit of Radiated Output Power

- §22.913(a)(5), the ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 watts.
- §24.232(c), mobile and portable stations are limited to 2 watts EIRP and the equipment must employ a means to limiting power to the minimum necessary for successful communications.
- §27.50(c)(10), Portable stations (hand-held devices) in the 600 MHz uplink band and the 698-746 MHz band, and fixed and mobile stations in the 600 MHz uplink band are limited to 3 watts ERP.
- §27.50(d)(4), fixed, mobile, and portable (hand-held) stations operating in the 1 710-1 755 MHz band and mobile and portable stations operating in the 1 695-1 710 MHz and 1 755-1 780 MHz bands are limited to 1 watt EIRP.
- §27.50(h)(2), Mobile and other user stations. Mobile stations are limited to 2.0 watts EIRP. All user stations are limited to 2.0 watts transmitter output power.

2.2.2. Limit of Spurious Radiated Emission

- §22.917(a), 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.
- §24.238(a), 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.
- §27.53(g), the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least $43 + 10 \log(P)$ dB.
- §27.53(h)(1), for operations in the 1 695-1 710 MHz, 1 710-1 755 MHz, 1 755-1 780 MHz, 1 915-1 920 MHz, 1 995-2 000 MHz, 2 000-2 020 MHz, 2 110-2 155 MHz, 2 155-2 180 MHz, and 2 180-2 200 bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log_{10}(P)$ dB.
- §27.53(m)(4), for mobile digital stations, the attenuation factor shall be not less than $40 + 10 \log_{10}(P)$ dB on all frequencies between the channel edge and 5 megahertz from the channel edge, $43 + 10 \log_{10}(P)$ dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and $55 + 10 \log_{10}(P)$ dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less than $43 + 10 \log_{10}(P)$ dB on all frequencies between 2490.5 MHz and 2496 MHz and $55 + 10 \log_{10}(P)$ dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

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2.3. Test Procedure: Based on ANSI/TIA 603E: 2016 and ANSI C63.26-2015

1. On a test site, the EUT shall be placed at 80 cm height on a turn table, and in the position close to normal use as declared by the applicant.
2. The test antenna shall be oriented initially for vertical polarization located 3 m from EUT to correspond to the fundamental frequency of the transmitter.
3. The output of the test antenna shall be connected to the measuring receiver and the peak detector is used for the measurement.
4. The maximized power level is recorded using the spectrum analyzer "Channel Power" function with the integration band set to the emissions occupied bandwidth, RBW = 1-5 % of the OBW (not to exceed 1 MHz), VBW ≥ 3 x RBW, Detector = power averaging (rms), sweep time = auto, trace average at least 100 traces in power averaging (rms) mode, per the guidelines of KDB 971168 D01 Power Meas License Digital Systems v03r01.
5. Radiated spurious emissions measurement method was set as follows:
RBW = 100 kHz for emissions below 1 GHz and 1 MHz for emissions above 1 GHz, VBW ≥ 3 x RBW, Detector = Peak, trace mode = max hold, per the guidelines of KDB 971168 D01 Power Meas License Digital Systems v03r01.
6. The transmitter shall be switched on, the measuring receiver shall be tuned to the frequency of the transmitter under test.
7. The test antenna shall be raised and lowered through the specified range of height until the maximum signal level is detected by the measuring receiver.
8. The transmitter shall be rotated through 360° in the horizontal plane, until the maximum signal level is detected by the measuring receiver.
9. The test antenna shall be raised and lowered again through the specified range of height until the maximum signal level is detected by the measuring receiver.
10. The maximum signal level detected by the measuring receiver shall be noted.
11. The EUT was replaced by half-wave dipole (1 GHz below) or horn antenna (1 GHz above) connected to a signal generator.
12. In necessary, the input attenuator setting on the measuring receiver shall be adjusted in order to increase the sensitivity of the measuring receiver.
13. The test antenna shall be raised and lowered through the specified range of height to ensure that the maximum signal is received.
14. The input signal to the substitution antenna shall be adjusted to the level that produces a level detected by the measuring receiver, which is equal to the level noted while the transmitter radiated power was measured, corrected for the change of input attenuator setting of the measuring receiver.
15. The input level to the substitution antenna shall be recorded as power level in dB m, corrected for any change of input attenuator setting of the measuring receiver.
16. The measurement shall be repeated with the test antenna and the substitution antenna orientated for horizontal polarization.

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2.4. Test Result for RF Radiated Output Power

Ambient temperature : (23 ± 1) °C

Relative humidity : 47 % R.H.

LTE band 12 (1.4 MHz – QPSK)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB d) | E.R.P. | |
|--------------------|--------------------|-------------------------------|--------------------|---------------------|--------|-------|
| | | | | | (dB m) | (mW) |
| 699.7 | H | 17.20 | 2.86 | -4.00 | 10.34 | 10.81 |
| 699.7 | V | 21.70 | 2.86 | -4.00 | 14.84 | 30.48 |
| 707.5 | H | 22.26 | 3.06 | -4.53 | 14.67 | 29.31 |
| 707.5 | V | 22.26 | 3.06 | -4.53 | 14.67 | 29.31 |
| 715.3 | H | 21.84 | 3.04 | -4.31 | 14.49 | 28.12 |
| 715.3 | V | 21.60 | 3.04 | -4.31 | 14.25 | 26.61 |

* 1.4 BW 1 RB size / 0 Offset for B12

LTE band 12 (1.4 MHz – 16QAM)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB d) | E.R.P. | |
|--------------------|--------------------|-------------------------------|--------------------|---------------------|--------|-------|
| | | | | | (dB m) | (mW) |
| 699.7 | H | 16.79 | 2.86 | -4.00 | 9.93 | 9.84 |
| 699.7 | V | 21.12 | 2.86 | -4.00 | 14.26 | 26.67 |
| 707.5 | H | 21.34 | 3.06 | -4.53 | 13.75 | 23.71 |
| 707.5 | V | 20.34 | 3.06 | -4.53 | 12.75 | 18.84 |
| 715.3 | H | 20.91 | 3.04 | -4.31 | 13.56 | 22.70 |
| 715.3 | V | 20.49 | 3.04 | -4.31 | 13.14 | 20.61 |

* 1.4 BW 1 RB size / 0 Offset for B12

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RTT5041-19(2019.04.24)(1)

Tel. +82 31 428 5700 / Fax. +82 31 427 2370

A4(210 mm x 297 mm)

LTE band 12 (3 MHz – QPSK)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB d) | E.R.P. | |
|--------------------|--------------------|-------------------------------|--------------------|---------------------|--------|-------|
| | | | | | (dB m) | (mW) |
| 700.5 | H | 17.65 | 2.87 | -4.05 | 10.73 | 11.83 |
| 700.5 | V | 21.41 | 2.87 | -4.05 | 14.49 | 28.12 |
| 707.5 | H | 21.41 | 3.06 | -4.53 | 13.82 | 24.10 |
| 707.5 | V | 21.44 | 3.06 | -4.53 | 13.85 | 24.27 |
| 714.5 | H | 22.31 | 3.05 | -4.37 | 14.89 | 30.83 |
| 714.5 | V | 21.22 | 3.05 | -4.37 | 13.80 | 23.99 |

* 3 BW 1 RB size / 0 Offset for B12

LTE band 12 (3 MHz – 16QAM)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB d) | E.R.P. | |
|--------------------|--------------------|-------------------------------|--------------------|---------------------|--------|-------|
| | | | | | (dB m) | (mW) |
| 700.5 | H | 16.62 | 2.87 | -4.05 | 9.70 | 9.33 |
| 700.5 | V | 20.81 | 2.87 | -4.05 | 13.89 | 24.49 |
| 707.5 | H | 21.15 | 3.06 | -4.53 | 13.56 | 22.70 |
| 707.5 | V | 20.57 | 3.06 | -4.53 | 12.98 | 19.86 |
| 714.5 | H | 21.29 | 3.05 | -4.37 | 13.87 | 24.38 |
| 714.5 | V | 20.28 | 3.05 | -4.37 | 12.86 | 19.32 |

* 3 BW 1 RB size / 0 Offset for B12

LTE band 12 (5 MHz – QPSK)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB d) | E.R.P. | |
|--------------------|--------------------|-------------------------------|--------------------|---------------------|--------|-------|
| | | | | | (dB m) | (mW) |
| 701.5 | H | 18.51 | 2.90 | -4.12 | 11.49 | 14.09 |
| 701.5 | V | 20.94 | 2.90 | -4.12 | 13.92 | 24.66 |
| 707.5 | H | 21.98 | 3.06 | -4.53 | 14.39 | 27.48 |
| 707.5 | V | 21.41 | 3.06 | -4.53 | 13.82 | 24.10 |
| 713.5 | H | 22.89 | 3.06 | -4.44 | 15.39 | 34.59 |
| 713.5 | V | 21.47 | 3.06 | -4.44 | 13.97 | 24.95 |

* 5 BW 1 RB size / 0 Offset for B12

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RTT5041-19(2019.04.24)(1)

Tel. +82 31 428 5700 / Fax. +82 31 427 2370

A4(210 mm x 297 mm)

LTE band 12 (5 MHz – 16QAM)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB d) | E.R.P. | |
|--------------------|--------------------|-------------------------------|--------------------|---------------------|--------|-------|
| | | | | | (dB m) | (mW) |
| 701.5 | H | 17.64 | 2.90 | -4.12 | 10.62 | 11.53 |
| 701.5 | V | 20.39 | 2.90 | -4.12 | 13.37 | 21.73 |
| 707.5 | H | 21.15 | 3.06 | -4.53 | 13.56 | 22.70 |
| 707.5 | V | 20.84 | 3.06 | -4.53 | 13.25 | 21.13 |
| 713.5 | H | 21.59 | 3.06 | -4.44 | 14.09 | 25.64 |
| 713.5 | V | 20.67 | 3.06 | -4.44 | 13.17 | 20.75 |

* 5 BW 1 RB size / 0 Offset for B12

LTE band 12 (10 MHz – QPSK)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB d) | E.R.P. | |
|--------------------|--------------------|-------------------------------|--------------------|---------------------|--------|-------|
| | | | | | (dB m) | (mW) |
| 704.0 | H | 19.63 | 2.96 | -4.29 | 12.38 | 17.30 |
| 704.0 | V | 21.35 | 2.96 | -4.29 | 14.10 | 25.70 |
| 707.5 | H | 21.96 | 3.06 | -4.53 | 14.37 | 27.35 |
| 707.5 | V | 21.80 | 3.06 | -4.53 | 14.21 | 26.36 |
| 711.0 | H | 22.66 | 3.10 | -4.63 | 14.93 | 31.12 |
| 711.0 | V | 21.29 | 3.10 | -4.63 | 13.56 | 22.70 |

* 10 BW 1 RB size / 0 Offset for B12

LTE band 12 (10 MHz – 16QAM)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB d) | E.R.P. | |
|--------------------|--------------------|-------------------------------|--------------------|---------------------|--------|-------|
| | | | | | (dB m) | (mW) |
| 704.0 | H | 19.01 | 2.96 | -4.29 | 11.76 | 15.00 |
| 704.0 | V | 20.80 | 2.96 | -4.29 | 13.55 | 22.65 |
| 707.5 | H | 21.44 | 3.06 | -4.53 | 13.85 | 24.27 |
| 707.5 | V | 21.27 | 3.06 | -4.53 | 13.68 | 23.33 |
| 711.0 | H | 21.85 | 3.10 | -4.63 | 14.12 | 25.82 |
| 711.0 | V | 20.13 | 3.10 | -4.63 | 12.40 | 17.38 |

* 10 BW 1 RB size / 0 Offset for B12

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RTT5041-19(2019.04.24)(1)

Tel. +82 31 428 5700 / Fax. +82 31 427 2370

A4(210 mm x 297 mm)

LTE band 25/2 (1.4 MHz – QPSK)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB i) | E.I.R.P. | |
|--------------------|--------------------|-------------------------------|--------------------|---------------------|----------|--------|
| | | | | | (dB m) | (mW) |
| 1 850.7 | H | 12.24 | 4.33 | 8.53 | 16.44 | 44.06 |
| 1 850.7 | V | 23.51 | 4.33 | 8.53 | 27.71 | 590.20 |
| 1 882.5 | H | 17.36 | 4.34 | 8.64 | 21.66 | 146.55 |
| 1 882.5 | V | 22.18 | 4.34 | 8.64 | 26.48 | 444.63 |
| 1 914.3 | H | 14.33 | 4.37 | 8.55 | 18.51 | 70.96 |
| 1 914.3 | V | 21.08 | 4.37 | 8.55 | 25.26 | 335.74 |

* 1.4 BW 1 RB size / 0 Offset for B25/2

LTE band 25/2 (1.4 MHz – 16QAM)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB i) | E.I.R.P. | |
|--------------------|--------------------|-------------------------------|--------------------|---------------------|----------|--------|
| | | | | | (dB m) | (mW) |
| 1 850.7 | H | 11.69 | 4.33 | 8.53 | 15.89 | 38.82 |
| 1 850.7 | V | 22.86 | 4.33 | 8.53 | 27.06 | 508.16 |
| 1 882.5 | H | 16.72 | 4.34 | 8.64 | 21.02 | 126.47 |
| 1 882.5 | V | 21.28 | 4.34 | 8.64 | 25.58 | 361.41 |
| 1 914.3 | H | 12.52 | 4.37 | 8.55 | 16.70 | 46.77 |
| 1 914.3 | V | 20.11 | 4.37 | 8.55 | 24.29 | 268.53 |

* 1.4 BW 1 RB size / 0 Offset for B25/2

LTE band 25/2 (3 MHz – QPSK)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB i) | E.I.R.P. | |
|--------------------|--------------------|-------------------------------|--------------------|---------------------|----------|--------|
| | | | | | (dB m) | (mW) |
| 1 851.5 | H | 12.91 | 4.33 | 8.54 | 17.12 | 51.52 |
| 1 851.5 | V | 23.52 | 4.33 | 8.54 | 27.73 | 592.93 |
| 1 882.5 | H | 17.87 | 4.34 | 8.64 | 22.17 | 164.82 |
| 1 882.5 | V | 22.21 | 4.34 | 8.64 | 26.51 | 447.71 |
| 1 913.5 | H | 13.87 | 4.37 | 8.56 | 18.06 | 63.97 |
| 1 913.5 | V | 21.50 | 4.37 | 8.56 | 25.69 | 370.68 |

* 3 BW 1 RB size / 0 Offset for B25/2

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RTT5041-19(2019.04.24)(1)

Tel. +82 31 428 5700 / Fax. +82 31 427 2370

A4(210 mm x 297 mm)

LTE band 25/2 (3 MHz – 16QAM)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB i) | E.I.R.P. | |
|--------------------|--------------------|-------------------------------|--------------------|---------------------|----------|--------|
| | | | | | (dB m) | (mW) |
| 1 851.5 | H | 12.31 | 4.33 | 8.54 | 16.52 | 44.87 |
| 1 851.5 | V | 22.95 | 4.33 | 8.54 | 27.16 | 520.00 |
| 1 882.5 | H | 17.17 | 4.34 | 8.64 | 21.47 | 140.28 |
| 1 882.5 | V | 21.35 | 4.34 | 8.64 | 25.65 | 367.28 |
| 1 913.5 | H | 13.12 | 4.37 | 8.56 | 17.31 | 53.83 |
| 1 913.5 | V | 20.22 | 4.37 | 8.56 | 24.41 | 276.06 |

* 3 BW 1 RB size / 0 Offset for B25/2

LTE band 25/2 (5 MHz – QPSK)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB i) | E.I.R.P. | |
|--------------------|--------------------|-------------------------------|--------------------|---------------------|----------|--------|
| | | | | | (dB m) | (mW) |
| 1 852.5 | H | 12.86 | 4.33 | 8.54 | 17.07 | 50.93 |
| 1 852.5 | V | 23.52 | 4.33 | 8.54 | 27.73 | 592.93 |
| 1 882.5 | H | 17.79 | 4.34 | 8.64 | 22.09 | 161.81 |
| 1 882.5 | V | 22.08 | 4.34 | 8.64 | 26.38 | 434.51 |
| 1 912.5 | H | 13.10 | 4.37 | 8.57 | 17.30 | 53.70 |
| 1 912.5 | V | 21.12 | 4.37 | 8.57 | 25.32 | 340.41 |

* 5 BW 1 RB size / 0 Offset for B25/2

LTE band 25/2 (5 MHz – 16QAM)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB i) | E.I.R.P. | |
|--------------------|--------------------|-------------------------------|--------------------|---------------------|----------|--------|
| | | | | | (dB m) | (mW) |
| 1 852.5 | H | 11.45 | 4.33 | 8.54 | 15.66 | 36.81 |
| 1 852.5 | V | 22.81 | 4.33 | 8.54 | 27.02 | 503.50 |
| 1 882.5 | H | 16.74 | 4.34 | 8.64 | 21.04 | 127.06 |
| 1 882.5 | V | 21.19 | 4.34 | 8.64 | 25.49 | 354.00 |
| 1 912.5 | H | 12.27 | 4.37 | 8.57 | 16.47 | 44.36 |
| 1 912.5 | V | 20.42 | 4.37 | 8.57 | 24.62 | 289.73 |

* 5 BW 1 RB size / 0 Offset for B25/2

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RTT5041-19(2019.04.24)(1)

Tel. +82 31 428 5700 / Fax. +82 31 427 2370

A4(210 mm x 297 mm)

LTE band 25/2 (10 MHz – QPSK)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB i) | E.I.R.P. | |
|--------------------|--------------------|-------------------------------|--------------------|---------------------|----------|--------|
| | | | | | (dB m) | (mW) |
| 1 855.0 | H | 12.92 | 4.33 | 8.55 | 17.14 | 51.76 |
| 1 855.0 | V | 23.60 | 4.33 | 8.55 | 27.82 | 605.34 |
| 1 882.5 | H | 17.92 | 4.34 | 8.64 | 22.22 | 166.72 |
| 1 882.5 | V | 22.22 | 4.34 | 8.64 | 26.52 | 448.75 |
| 1 910.0 | H | 11.64 | 4.36 | 8.59 | 15.87 | 38.64 |
| 1 910.0 | V | 21.52 | 4.36 | 8.59 | 25.75 | 375.84 |

* 10 BW 1 RB size / 0 Offset for B25/2

LTE band 25/2 (10 MHz – 16QAM)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB i) | E.I.R.P. | |
|--------------------|--------------------|-------------------------------|--------------------|---------------------|----------|--------|
| | | | | | (dB m) | (mW) |
| 1 855.0 | H | 11.68 | 4.33 | 8.55 | 15.90 | 38.90 |
| 1 855.0 | V | 22.06 | 4.33 | 8.55 | 26.28 | 424.62 |
| 1 882.5 | H | 16.83 | 4.34 | 8.64 | 21.13 | 129.72 |
| 1 882.5 | V | 21.70 | 4.34 | 8.64 | 26.00 | 398.11 |
| 1 910.0 | H | 10.50 | 4.36 | 8.59 | 14.73 | 29.72 |
| 1 910.0 | V | 20.59 | 4.36 | 8.59 | 24.82 | 303.39 |

* 10 BW 1 RB size / 0 Offset for B25/2

LTE band 25/2 (15 MHz – QPSK)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB i) | E.I.R.P. | |
|--------------------|--------------------|-------------------------------|--------------------|---------------------|----------|--------|
| | | | | | (dB m) | (mW) |
| 1 857.5 | H | 13.31 | 4.33 | 8.55 | 17.53 | 56.62 |
| 1 857.5 | V | 23.38 | 4.33 | 8.55 | 27.60 | 575.44 |
| 1 882.5 | H | 18.02 | 4.34 | 8.64 | 22.32 | 170.61 |
| 1 882.5 | V | 22.29 | 4.34 | 8.64 | 26.59 | 456.04 |
| 1 907.5 | H | 12.24 | 4.36 | 8.62 | 16.50 | 44.67 |
| 1 907.5 | V | 21.79 | 4.36 | 8.62 | 26.05 | 402.72 |

* 15 BW 1 RB size / 0 Offset for B25/2

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RTT5041-19(2019.04.24)(1)

Tel. +82 31 428 5700 / Fax. +82 31 427 2370

A4(210 mm x 297 mm)

LTE band 25/2 (15 MHz – 16QAM)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB i) | E.I.R.P. | |
|--------------------|--------------------|-------------------------------|--------------------|---------------------|----------|--------|
| | | | | | (dB m) | (mW) |
| 1 857.5 | H | 11.46 | 4.33 | 8.55 | 15.68 | 36.98 |
| 1 857.5 | V | 22.23 | 4.33 | 8.55 | 26.45 | 441.57 |
| 1 882.5 | H | 17.04 | 4.34 | 8.64 | 21.34 | 136.14 |
| 1 882.5 | V | 22.08 | 4.34 | 8.64 | 26.38 | 434.51 |
| 1 907.5 | H | 11.43 | 4.36 | 8.62 | 15.69 | 37.07 |
| 1 907.5 | V | 20.74 | 4.36 | 8.62 | 25.00 | 316.23 |

* 15 BW 1 RB size / 0 Offset for B25/2

LTE band 25/2 (20 MHz – QPSK)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB i) | E.I.R.P. | |
|--------------------|--------------------|-------------------------------|--------------------|---------------------|----------|--------|
| | | | | | (dB m) | (mW) |
| 1 860.0 | H | 13.32 | 4.33 | 8.56 | 17.55 | 56.89 |
| 1 860.0 | V | 23.21 | 4.33 | 8.56 | 27.44 | 554.63 |
| 1 882.5 | H | 17.97 | 4.34 | 8.64 | 22.27 | 168.66 |
| 1 882.5 | V | 22.40 | 4.34 | 8.64 | 26.70 | 467.74 |
| 1 905.0 | H | 14.32 | 4.36 | 8.64 | 18.60 | 72.44 |
| 1 905.5 | V | 21.66 | 4.36 | 8.64 | 25.94 | 392.64 |

* 20 BW 1 RB size / 0 Offset for B25/2

LTE band 25/2 (20 MHz – 16QAM)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB i) | E.I.R.P. | |
|--------------------|--------------------|-------------------------------|--------------------|---------------------|----------|--------|
| | | | | | (dB m) | (mW) |
| 1 860.0 | H | 12.53 | 4.33 | 8.56 | 16.76 | 47.42 |
| 1 860.0 | V | 22.71 | 4.33 | 8.56 | 26.94 | 494.31 |
| 1 882.5 | H | 17.44 | 4.34 | 8.64 | 21.74 | 149.28 |
| 1 882.5 | V | 21.71 | 4.34 | 8.64 | 26.01 | 399.02 |
| 1 905.0 | H | 13.28 | 4.36 | 8.64 | 17.56 | 57.02 |
| 1 905.5 | V | 20.94 | 4.36 | 8.64 | 25.22 | 332.66 |

* 20 BW 1 RB size / 0 Offset for B25/2

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RTT5041-19(2019.04.24)(1)

Tel. +82 31 428 5700 / Fax. +82 31 427 2370

A4(210 mm x 297 mm)

LTE band 26/5 (1.4 MHz – QPSK)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB d) | E.R.P. | |
|--------------------|--------------------|-------------------------------|--------------------|---------------------|--------|-------|
| | | | | | (dB m) | (mW) |
| 824.70 | H | 21.54 | 3.26 | -4.93 | 13.35 | 21.63 |
| 824.70 | V | 22.50 | 3.26 | -4.93 | 14.31 | 26.98 |
| 836.50 | H | 21.51 | 3.45 | -5.15 | 12.91 | 19.54 |
| 836.50 | V | 21.35 | 3.45 | -5.15 | 12.75 | 18.84 |
| 848.30 | H | 21.77 | 3.52 | -4.09 | 14.16 | 26.06 |
| 848.30 | V | 20.99 | 3.52 | -4.09 | 13.38 | 21.78 |

* 1.4 BW 1 RB size / 0 Offset for B26/5

LTE band 26/5 (1.4 MHz – 16QAM)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB d) | E.R.P. | |
|--------------------|--------------------|-------------------------------|--------------------|---------------------|--------|-------|
| | | | | | (dB m) | (mW) |
| 824.70 | H | 21.07 | 3.26 | -4.93 | 12.88 | 19.41 |
| 824.70 | V | 21.22 | 3.26 | -4.93 | 13.03 | 20.09 |
| 836.50 | H | 20.52 | 3.45 | -5.15 | 11.92 | 15.56 |
| 836.50 | V | 21.12 | 3.45 | -5.15 | 12.52 | 17.86 |
| 848.30 | H | 20.42 | 3.52 | -4.09 | 12.81 | 19.10 |
| 848.30 | V | 20.08 | 3.52 | -4.09 | 12.47 | 17.66 |

* 1.4 BW 1 RB size / 0 Offset for B26/5

LTE band 26/5 (3 MHz – QPSK)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB d) | E.R.P. | |
|--------------------|--------------------|-------------------------------|--------------------|---------------------|--------|-------|
| | | | | | (dB m) | (mW) |
| 825.50 | H | 21.75 | 3.28 | -5.05 | 13.42 | 21.98 |
| 825.50 | V | 22.59 | 3.28 | -5.05 | 14.26 | 26.67 |
| 836.50 | H | 21.35 | 3.45 | -5.15 | 12.75 | 18.84 |
| 836.50 | V | 21.18 | 3.45 | -5.15 | 12.58 | 18.11 |
| 847.50 | H | 21.93 | 3.52 | -4.16 | 14.25 | 26.61 |
| 847.50 | V | 20.88 | 3.52 | -4.16 | 13.20 | 20.89 |

* 3 BW 1 RB size / 0 Offset for B26/5

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RTT5041-19(2019.04.24)(1)

Tel. +82 31 428 5700 / Fax. +82 31 427 2370

A4(210 mm x 297 mm)

LTE band 26/5 (3 MHz – 16QAM)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB d) | E.R.P. | |
|--------------------|--------------------|-------------------------------|--------------------|---------------------|--------|-------|
| | | | | | (dB m) | (mW) |
| 825.50 | H | 20.55 | 3.28 | -5.05 | 12.22 | 16.67 |
| 825.50 | V | 21.92 | 3.28 | -5.05 | 13.59 | 22.86 |
| 836.50 | H | 20.12 | 3.45 | -5.15 | 11.52 | 14.19 |
| 836.50 | V | 20.62 | 3.45 | -5.15 | 12.02 | 15.92 |
| 847.50 | H | 21.02 | 3.52 | -4.16 | 13.34 | 21.58 |
| 847.50 | V | 19.71 | 3.52 | -4.16 | 12.03 | 15.96 |

* 3 BW 1 RB size / 0 Offset for B26/5

LTE band 26/5 (5 MHz – QPSK)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB d) | E.R.P. | |
|--------------------|--------------------|-------------------------------|--------------------|---------------------|--------|-------|
| | | | | | (dB m) | (mW) |
| 826.50 | H | 21.68 | 3.31 | -5.20 | 13.17 | 20.75 |
| 826.50 | V | 22.71 | 3.31 | -5.20 | 14.20 | 26.30 |
| 836.50 | H | 21.31 | 3.45 | -5.15 | 12.71 | 18.66 |
| 836.50 | V | 21.39 | 3.45 | -5.15 | 12.79 | 19.01 |
| 846.50 | H | 21.30 | 3.51 | -4.25 | 13.54 | 22.59 |
| 846.50 | V | 20.61 | 3.51 | -4.25 | 12.85 | 19.28 |

* 5 BW 1 RB size / 0 Offset for B26/5

LTE band 26/5 (5 MHz – 16QAM)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB d) | E.R.P. | |
|--------------------|--------------------|-------------------------------|--------------------|---------------------|--------|-------|
| | | | | | (dB m) | (mW) |
| 826.50 | H | 20.59 | 3.31 | -5.20 | 12.08 | 16.14 |
| 826.50 | V | 21.48 | 3.31 | -5.20 | 12.97 | 19.82 |
| 836.50 | H | 20.56 | 3.45 | -5.15 | 11.96 | 15.70 |
| 836.50 | V | 20.72 | 3.45 | -5.15 | 12.12 | 16.29 |
| 846.50 | H | 20.91 | 3.51 | -4.25 | 13.15 | 20.65 |
| 846.50 | V | 20.01 | 3.51 | -4.25 | 12.25 | 16.79 |

* 5 BW 1 RB size / 0 Offset for B26/5

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RTT5041-19(2019.04.24)(1)

Tel. +82 31 428 5700 / Fax. +82 31 427 2370

A4(210 mm x 297 mm)

LTE band 26/5 (10 MHz – QPSK)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB d) | E.R.P. | |
|--------------------|--------------------|-------------------------------|--------------------|---------------------|--------|-------|
| | | | | | (dB m) | (mW) |
| 829.00 | H | 22.76 | 3.38 | -5.58 | 13.80 | 23.99 |
| 829.00 | V | 24.20 | 3.38 | -5.58 | 15.24 | 33.42 |
| 836.50 | H | 21.35 | 3.45 | -5.15 | 12.75 | 18.84 |
| 836.50 | V | 21.59 | 3.45 | -5.15 | 12.99 | 19.91 |
| 844.00 | H | 21.17 | 3.49 | -4.48 | 13.20 | 20.89 |
| 844.00 | V | 20.78 | 3.49 | -4.48 | 12.81 | 19.10 |

* 10 BW 1 RB size / 0 Offset for B26/5

LTE band 26/5 (10 MHz – 16QAM)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB d) | E.R.P. | |
|--------------------|--------------------|-------------------------------|--------------------|---------------------|--------|-------|
| | | | | | (dB m) | (mW) |
| 829.00 | H | 21.98 | 3.38 | -5.58 | 13.02 | 20.04 |
| 829.00 | V | 23.08 | 3.38 | -5.58 | 14.12 | 25.82 |
| 836.50 | H | 20.47 | 3.45 | -5.15 | 11.87 | 15.38 |
| 836.50 | V | 21.31 | 3.45 | -5.15 | 12.71 | 18.66 |
| 844.00 | H | 20.42 | 3.49 | -4.48 | 12.45 | 17.58 |
| 844.00 | V | 19.68 | 3.49 | -4.48 | 11.71 | 14.83 |

* 10 BW 1 RB size / 0 Offset for B26/5

LTE band 26 (15 MHz – QPSK)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB d) | E.R.P. | |
|--------------------|--------------------|-------------------------------|--------------------|---------------------|--------|-------|
| | | | | | (dB m) | (mW) |
| 831.50 | H | 22.91 | 3.42 | -5.59 | 13.90 | 24.55 |
| 831.50 | V | 24.03 | 3.42 | -5.59 | 15.02 | 31.77 |
| 841.50 | H | 20.62 | 3.48 | -4.70 | 12.44 | 17.54 |
| 841.50 | V | 20.43 | 3.48 | -4.70 | 12.25 | 16.79 |

* 15 BW 1 RB size / 0 Offset for B26

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RTT5041-19(2019.04.24)(1)

Tel. +82 31 428 5700 / Fax. +82 31 427 2370

A4(210 mm x 297 mm)

LTE band 26 (15 MHz – 16QAM)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB d) | E.R.P. | |
|--------------------|--------------------|-------------------------------|--------------------|---------------------|--------|-------|
| | | | | | (dB m) | (mW) |
| 831.50 | H | 22.27 | 3.42 | -5.59 | 13.26 | 21.18 |
| 831.50 | V | 23.52 | 3.42 | -5.59 | 14.51 | 28.25 |
| 841.50 | H | 19.28 | 3.48 | -4.70 | 11.10 | 12.88 |
| 841.50 | V | 19.45 | 3.48 | -4.70 | 11.27 | 13.40 |

* 15 BW 1 RB size / 0 Offset for B26

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RTT5041-19(2019.04.24)(1)

Tel. +82 31 428 5700 / Fax. +82 31 427 2370

A4(210 mm x 297 mm)

LTE band 41 (5 MHz – QPSK)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB i) | E.I.R.P. | |
|--------------------|--------------------|-------------------------------|--------------------|---------------------|----------|--------|
| | | | | | (dB m) | (mW) |
| 2 498.5 | H | 16.12 | 4.81 | 9.14 | 20.45 | 110.92 |
| 2 498.5 | V | 8.65 | 4.81 | 9.14 | 12.98 | 19.86 |
| 2 593.0 | H | 18.14 | 4.94 | 8.93 | 22.13 | 163.31 |
| 2 593.0 | V | 11.02 | 4.94 | 8.93 | 15.01 | 31.70 |
| 2 687.5 | H | 10.67 | 5.02 | 9.07 | 14.72 | 29.65 |
| 2 687.5 | V | 8.98 | 5.02 | 9.07 | 13.03 | 20.09 |

* 5 BW 1 RB size / 0 Offset for B41

LTE band 41 (5 MHz – 16QAM)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB i) | E.I.R.P. | |
|--------------------|--------------------|-------------------------------|--------------------|---------------------|----------|--------|
| | | | | | (dB m) | (mW) |
| 2 498.5 | H | 12.88 | 4.81 | 9.14 | 17.21 | 52.60 |
| 2 498.5 | V | 5.87 | 4.81 | 9.14 | 10.20 | 10.47 |
| 2 593.0 | H | 17.82 | 4.94 | 8.93 | 21.81 | 151.71 |
| 2 593.0 | V | 10.73 | 4.94 | 8.93 | 14.72 | 29.65 |
| 2 687.5 | H | 10.41 | 5.02 | 9.07 | 14.46 | 27.93 |
| 2 687.5 | V | 9.09 | 5.02 | 9.07 | 13.14 | 20.61 |

* 5 BW 1 RB size / 0 Offset for B41

LTE band 41 (10 MHz – QPSK)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB i) | E.I.R.P. | |
|--------------------|--------------------|-------------------------------|--------------------|---------------------|----------|--------|
| | | | | | (dB m) | (mW) |
| 2 501.0 | H | 12.52 | 4.81 | 9.14 | 16.85 | 48.42 |
| 2 501.0 | V | 5.70 | 4.81 | 9.14 | 10.03 | 10.07 |
| 2 593.0 | H | 16.41 | 4.94 | 8.93 | 20.40 | 109.65 |
| 2 593.0 | V | 9.68 | 4.94 | 8.93 | 13.67 | 23.28 |
| 2 685.0 | H | 11.93 | 5.02 | 9.06 | 15.97 | 39.54 |
| 2 685.0 | V | 10.13 | 5.02 | 9.06 | 14.17 | 26.12 |

* 10 BW 1 RB size / 0 Offset for B41

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RTT5041-19(2019.04.24)(1)

Tel. +82 31 428 5700 / Fax. +82 31 427 2370

A4(210 mm x 297 mm)

LTE band 41 (10 MHz – 16QAM)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB i) | E.I.R.P. | |
|--------------------|--------------------|-------------------------------|--------------------|---------------------|----------|-------|
| | | | | | (dB m) | (mW) |
| 2 501.0 | H | 11.74 | 4.81 | 9.14 | 16.07 | 40.46 |
| 2 501.0 | V | 4.51 | 4.81 | 9.14 | 8.84 | 7.66 |
| 2 593.0 | H | 15.99 | 4.94 | 8.93 | 19.98 | 99.54 |
| 2 593.0 | V | 9.09 | 4.94 | 8.93 | 13.08 | 20.32 |
| 2 685.0 | H | 10.83 | 5.02 | 9.06 | 14.87 | 30.69 |
| 2 685.0 | V | 8.80 | 5.02 | 9.06 | 12.84 | 19.23 |

* 10 BW 1 RB size / 0 Offset for B41

LTE band 41 (15 MHz – QPSK)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB i) | E.I.R.P. | |
|--------------------|--------------------|-------------------------------|--------------------|---------------------|----------|-------|
| | | | | | (dB m) | (mW) |
| 2 503.5 | H | 12.97 | 4.81 | 9.13 | 17.29 | 53.58 |
| 2 503.5 | V | 5.88 | 4.81 | 9.13 | 10.20 | 10.47 |
| 2 593.0 | H | 15.54 | 4.94 | 8.93 | 19.53 | 89.74 |
| 2 593.0 | V | 8.78 | 4.94 | 8.93 | 12.77 | 18.92 |
| 2 682.5 | H | 11.39 | 5.02 | 9.06 | 15.43 | 34.91 |
| 2 682.5 | V | 9.49 | 5.02 | 9.06 | 13.53 | 22.54 |

* 15 BW 1 RB size / 0 Offset for B41

LTE band 41 (15 MHz – 16QAM)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB i) | E.I.R.P. | |
|--------------------|--------------------|-------------------------------|--------------------|---------------------|----------|-------|
| | | | | | (dB m) | (mW) |
| 2 503.5 | H | 11.74 | 4.81 | 9.13 | 16.06 | 40.36 |
| 2 503.5 | V | 5.68 | 4.81 | 9.13 | 10.00 | 10.00 |
| 2 593.0 | H | 14.82 | 4.94 | 8.93 | 18.81 | 76.03 |
| 2 593.0 | V | 8.48 | 4.94 | 8.93 | 12.47 | 17.66 |
| 2 682.5 | H | 10.46 | 5.02 | 9.06 | 14.50 | 28.18 |
| 2 682.5 | V | 8.39 | 5.02 | 9.06 | 12.43 | 17.50 |

* 15 BW 1 RB size / 0 Offset for B41

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RTT5041-19(2019.04.24)(1)

Tel. +82 31 428 5700 / Fax. +82 31 427 2370

A4(210 mm x 297 mm)

LTE band 41 (20 MHz – QPSK)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB i) | E.I.R.P. | |
|--------------------|--------------------|-------------------------------|--------------------|---------------------|----------|-------|
| | | | | | (dB m) | (mW) |
| 2 506.0 | H | 13.11 | 4.82 | 9.13 | 17.42 | 55.21 |
| 2 506.0 | V | 6.24 | 4.82 | 9.13 | 10.55 | 11.35 |
| 2 593.0 | H | 15.22 | 4.94 | 8.93 | 19.21 | 83.37 |
| 2 593.0 | V | 8.47 | 4.94 | 8.93 | 12.46 | 17.62 |
| 2 680.0 | H | 11.69 | 5.01 | 9.05 | 15.73 | 37.41 |
| 2 680.0 | V | 9.66 | 5.01 | 9.05 | 13.70 | 23.44 |

* 20 BW 1 RB size / 0 Offset for B41

LTE band 41 (20 MHz – 16QAM)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB i) | E.I.R.P. | |
|--------------------|--------------------|-------------------------------|--------------------|---------------------|----------|-------|
| | | | | | (dB m) | (mW) |
| 2 506.0 | H | 11.86 | 4.82 | 9.13 | 16.17 | 41.40 |
| 2 506.0 | V | 5.55 | 4.82 | 9.13 | 9.86 | 9.68 |
| 2 593.0 | H | 14.74 | 4.94 | 8.93 | 18.73 | 74.64 |
| 2 593.0 | V | 8.21 | 4.94 | 8.93 | 12.20 | 16.60 |
| 2 680.0 | H | 11.17 | 5.01 | 9.05 | 15.21 | 33.19 |
| 2 680.0 | V | 9.21 | 5.01 | 9.05 | 13.25 | 21.13 |

* 20 BW 1 RB size / 0 Offset for B41

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RTT5041-19(2019.04.24)(1)

Tel. +82 31 428 5700 / Fax. +82 31 427 2370

A4(210 mm x 297 mm)

LTE band 66/4 (1.4 MHz – QPSK)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB i) | E.I.R.P. | |
|--------------------|--------------------|-------------------------------|--------------------|---------------------|----------|--------|
| | | | | | (dB m) | (mW) |
| 1 710.7 | H | 19.09 | 4.14 | 8.51 | 23.46 | 221.82 |
| 1 710.7 | V | 20.35 | 4.14 | 8.51 | 24.72 | 296.48 |
| 1 745.0 | H | 20.98 | 4.20 | 8.46 | 25.24 | 334.20 |
| 1 745.0 | V | 22.48 | 4.20 | 8.46 | 26.74 | 472.06 |
| 1 779.3 | H | 20.44 | 4.26 | 8.40 | 24.58 | 287.08 |
| 1 779.3 | V | 23.42 | 4.26 | 8.40 | 27.56 | 570.16 |

* 1.4 BW 1 RB size / 0 Offset for B66/4

LTE band 66/4 (1.4 MHz – 16QAM)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB i) | E.I.R.P. | |
|--------------------|--------------------|-------------------------------|--------------------|---------------------|----------|--------|
| | | | | | (dB m) | (mW) |
| 1 710.7 | H | 18.92 | 4.14 | 8.51 | 23.29 | 213.30 |
| 1 710.7 | V | 19.42 | 4.14 | 8.51 | 23.79 | 239.33 |
| 1 745.0 | H | 20.00 | 4.20 | 8.46 | 24.26 | 266.69 |
| 1 745.0 | V | 21.91 | 4.20 | 8.46 | 26.17 | 414.00 |
| 1 779.3 | H | 19.97 | 4.26 | 8.40 | 24.11 | 257.63 |
| 1 779.3 | V | 22.29 | 4.26 | 8.40 | 26.43 | 439.54 |

* 1.4 BW 1 RB size / 0 Offset for B66/4

LTE band 66/4 (3 MHz – QPSK)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB i) | E.I.R.P. | |
|--------------------|--------------------|-------------------------------|--------------------|---------------------|----------|--------|
| | | | | | (dB m) | (mW) |
| 1 711.5 | H | 19.48 | 4.14 | 8.51 | 23.85 | 242.66 |
| 1 711.5 | V | 20.45 | 4.14 | 8.51 | 24.82 | 303.39 |
| 1 745.0 | H | 22.08 | 4.20 | 8.46 | 26.34 | 430.53 |
| 1 745.0 | V | 22.69 | 4.20 | 8.46 | 26.95 | 495.45 |
| 1 778.5 | H | 20.18 | 4.26 | 8.40 | 24.32 | 270.40 |
| 1 778.5 | V | 23.31 | 4.26 | 8.40 | 27.45 | 555.90 |

* 3 BW 1 RB size / 0 Offset for B66/4

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RTT5041-19(2019.04.24)(1)

Tel. +82 31 428 5700 / Fax. +82 31 427 2370

A4(210 mm x 297 mm)

LTE band 66/4 (3 MHz – 16QAM)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB i) | E.I.R.P. | |
|--------------------|--------------------|-------------------------------|--------------------|---------------------|----------|--------|
| | | | | | (dB m) | (mW) |
| 1 711.5 | H | 17.76 | 4.14 | 8.51 | 22.13 | 163.31 |
| 1 711.5 | V | 19.64 | 4.14 | 8.51 | 24.01 | 251.77 |
| 1 745.0 | H | 20.83 | 4.20 | 8.46 | 25.09 | 322.85 |
| 1 745.0 | V | 21.69 | 4.20 | 8.46 | 25.95 | 393.55 |
| 1 778.5 | H | 19.85 | 4.26 | 8.40 | 23.99 | 250.61 |
| 1 778.5 | V | 22.12 | 4.26 | 8.40 | 26.26 | 422.67 |

* 3 BW 1 RB size / 0 Offset for B66/4

LTE band 66/4 (5 MHz – QPSK)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB i) | E.I.R.P. | |
|--------------------|--------------------|-------------------------------|--------------------|---------------------|----------|--------|
| | | | | | (dB m) | (mW) |
| 1 712.5 | H | 19.25 | 4.14 | 8.51 | 23.62 | 230.14 |
| 1 712.5 | V | 20.67 | 4.14 | 8.51 | 25.04 | 319.15 |
| 1 745.0 | H | 21.26 | 4.20 | 8.46 | 25.52 | 356.45 |
| 1 745.0 | V | 22.48 | 4.20 | 8.46 | 26.74 | 472.06 |
| 1 777.5 | H | 20.06 | 4.26 | 8.40 | 24.20 | 263.03 |
| 1 777.5 | V | 22.88 | 4.26 | 8.40 | 27.02 | 503.50 |

* 5 BW 1 RB size / 0 Offset for B66/4

LTE band 66/4 (5 MHz – 16QAM)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB i) | E.I.R.P. | |
|--------------------|--------------------|-------------------------------|--------------------|---------------------|----------|--------|
| | | | | | (dB m) | (mW) |
| 1 712.5 | H | 18.67 | 4.14 | 8.51 | 23.04 | 201.37 |
| 1 712.5 | V | 19.27 | 4.14 | 8.51 | 23.64 | 231.21 |
| 1 745.0 | H | 19.14 | 4.20 | 8.46 | 23.40 | 218.78 |
| 1 745.0 | V | 21.02 | 4.20 | 8.46 | 25.28 | 337.29 |
| 1 777.5 | H | 19.49 | 4.26 | 8.40 | 23.63 | 230.67 |
| 1 777.5 | V | 22.00 | 4.26 | 8.40 | 26.14 | 411.15 |

* 5 BW 1 RB size / 0 Offset for B66/4

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RTT5041-19(2019.04.24)(1)

Tel. +82 31 428 5700 / Fax. +82 31 427 2370

A4(210 mm x 297 mm)

LTE band 66/4 (10 MHz – QPSK)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB i) | E.I.R.P. | |
|--------------------|--------------------|-------------------------------|--------------------|---------------------|----------|--------|
| | | | | | (dB m) | (mW) |
| 1 715.0 | H | 19.47 | 4.15 | 8.50 | 23.82 | 240.99 |
| 1 715.0 | V | 20.73 | 4.15 | 8.50 | 25.08 | 322.11 |
| 1 745.0 | H | 21.44 | 4.20 | 8.46 | 25.70 | 371.54 |
| 1 745.0 | V | 22.76 | 4.20 | 8.46 | 27.02 | 503.50 |
| 1 775.0 | H | 20.53 | 4.26 | 8.41 | 24.68 | 293.76 |
| 1 775.0 | V | 23.18 | 4.26 | 8.41 | 27.33 | 540.75 |

* 10 BW 1 RB size / 0 Offset for B66/4

LTE band 66/4 (10 MHz – 16QAM)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB i) | E.I.R.P. | |
|--------------------|--------------------|-------------------------------|--------------------|---------------------|----------|--------|
| | | | | | (dB m) | (mW) |
| 1 715.0 | H | 18.59 | 4.15 | 8.50 | 22.94 | 196.79 |
| 1 715.0 | V | 19.95 | 4.15 | 8.50 | 24.30 | 269.15 |
| 1 745.0 | H | 21.13 | 4.20 | 8.46 | 25.39 | 345.94 |
| 1 745.0 | V | 22.08 | 4.20 | 8.46 | 26.34 | 430.53 |
| 1 775.0 | H | 20.07 | 4.26 | 8.41 | 24.22 | 264.24 |
| 1 775.0 | V | 22.44 | 4.26 | 8.41 | 26.59 | 456.04 |

* 10 BW 1 RB size / 0 Offset for B66/4

LTE band 66/4 (15 MHz – QPSK)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB i) | E.I.R.P. | |
|--------------------|--------------------|-------------------------------|--------------------|---------------------|----------|--------|
| | | | | | (dB m) | (mW) |
| 1 717.5 | H | 19.59 | 4.15 | 8.50 | 23.94 | 247.74 |
| 1 717.5 | V | 20.94 | 4.15 | 8.50 | 25.29 | 338.06 |
| 1 745.0 | H | 21.21 | 4.20 | 8.46 | 25.47 | 352.37 |
| 1 745.0 | V | 22.39 | 4.20 | 8.46 | 26.65 | 462.38 |
| 1 772.5 | H | 20.95 | 4.25 | 8.41 | 25.11 | 324.34 |
| 1 772.5 | V | 23.32 | 4.25 | 8.41 | 27.48 | 559.76 |

* 15 BW 1 RB size / 0 Offset for B66/4

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RTT5041-19(2019.04.24)(1)

Tel. +82 31 428 5700 / Fax. +82 31 427 2370

A4(210 mm x 297 mm)

LTE band 66/4 (15 MHz – 16QAM)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB i) | E.I.R.P. | |
|--------------------|--------------------|-------------------------------|--------------------|---------------------|----------|--------|
| | | | | | (dB m) | (mW) |
| 1 717.5 | H | 19.20 | 4.15 | 8.50 | 23.55 | 226.46 |
| 1 717.5 | V | 19.61 | 4.15 | 8.50 | 23.96 | 248.89 |
| 1 745.0 | H | 21.08 | 4.20 | 8.46 | 25.34 | 341.98 |
| 1 745.0 | V | 22.30 | 4.20 | 8.46 | 26.56 | 452.90 |
| 1 772.5 | H | 20.01 | 4.25 | 8.41 | 24.17 | 261.22 |
| 1 772.5 | V | 22.36 | 4.25 | 8.41 | 26.52 | 448.75 |

* 15 BW 1 RB size / 0 Offset for B66/4

LTE band 66/4 (20 MHz – QPSK)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB i) | E.I.R.P. | |
|--------------------|--------------------|-------------------------------|--------------------|---------------------|----------|--------|
| | | | | | (dB m) | (mW) |
| 1 720.0 | H | 19.88 | 4.16 | 8.50 | 24.22 | 264.24 |
| 1 720.0 | V | 21.42 | 4.16 | 8.50 | 25.76 | 376.70 |
| 1 745.0 | H | 21.25 | 4.20 | 8.46 | 25.51 | 355.63 |
| 1 745.0 | V | 22.09 | 4.20 | 8.46 | 26.35 | 431.52 |
| 1 770.0 | H | 20.89 | 4.25 | 8.41 | 25.05 | 319.89 |
| 1 770.0 | V | 23.22 | 4.25 | 8.41 | 27.38 | 547.02 |

* 20 BW 1 RB size / 0 Offset for B66/4

LTE band 66/4 (20 MHz – 16QAM)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB i) | E.I.R.P. | |
|--------------------|--------------------|-------------------------------|--------------------|---------------------|----------|--------|
| | | | | | (dB m) | (mW) |
| 1 720.0 | H | 19.02 | 4.16 | 8.50 | 23.36 | 216.77 |
| 1 720.0 | V | 19.90 | 4.16 | 8.50 | 24.24 | 265.46 |
| 1 745.0 | H | 19.40 | 4.20 | 8.46 | 23.66 | 232.27 |
| 1 745.0 | V | 20.99 | 4.20 | 8.46 | 25.25 | 334.97 |
| 1 770.0 | H | 20.30 | 4.25 | 8.41 | 24.46 | 279.25 |
| 1 770.0 | V | 22.14 | 4.25 | 8.41 | 26.30 | 426.58 |

* 20 BW 1 RB size / 0 Offset for B66/4

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RTT5041-19(2019.04.24)(1)

Tel. +82 31 428 5700 / Fax. +82 31 427 2370

A4(210 mm x 297 mm)

LTE band 71 (5 MHz – QPSK)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB d) | E.R.P. | |
|--------------------|--------------------|-------------------------------|--------------------|---------------------|--------|-------|
| | | | | | (dB m) | (mW) |
| 665.5 | H | 17.68 | 2.97 | -3.95 | 10.76 | 11.91 |
| 665.5 | V | 19.08 | 2.97 | -3.95 | 12.16 | 16.44 |
| 680.5 | H | 17.17 | 2.87 | -3.49 | 10.81 | 12.05 |
| 680.5 | V | 20.43 | 2.87 | -3.49 | 14.07 | 25.53 |
| 695.5 | H | 15.79 | 2.90 | -3.71 | 9.18 | 8.28 |
| 695.5 | V | 16.99 | 2.90 | -3.71 | 10.38 | 10.91 |

* 5 BW 1 RB size / 0 Offset for B71

LTE band 71 (5 MHz – 16QAM)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB d) | E.R.P. | |
|--------------------|--------------------|-------------------------------|--------------------|---------------------|--------|-------|
| | | | | | (dB m) | (mW) |
| 665.5 | H | 16.00 | 2.97 | -3.95 | 9.08 | 8.09 |
| 665.5 | V | 17.87 | 2.97 | -3.95 | 10.95 | 12.45 |
| 680.5 | H | 16.34 | 2.87 | -3.49 | 9.98 | 9.95 |
| 680.5 | V | 19.33 | 2.87 | -3.49 | 12.97 | 19.82 |
| 695.5 | H | 14.23 | 2.90 | -3.71 | 7.62 | 5.78 |
| 695.5 | V | 16.04 | 2.90 | -3.71 | 9.43 | 8.77 |

* 5 BW 1 RB size / 0 Offset for B71

LTE band 71 (10 MHz – QPSK)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB d) | E.R.P. | |
|--------------------|--------------------|-------------------------------|--------------------|---------------------|--------|-------|
| | | | | | (dB m) | (mW) |
| 668.0 | H | 17.40 | 2.93 | -3.79 | 10.68 | 11.69 |
| 668.0 | V | 19.72 | 2.93 | -3.79 | 13.00 | 19.95 |
| 680.5 | H | 17.38 | 2.87 | -3.49 | 11.02 | 12.65 |
| 680.5 | V | 20.47 | 2.87 | -3.49 | 14.11 | 25.76 |
| 693.0 | H | 16.47 | 2.92 | -3.53 | 10.02 | 10.05 |
| 693.0 | V | 17.76 | 2.92 | -3.53 | 11.31 | 13.52 |

* 10 BW 1 RB size / 0 Offset for B71

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RTT5041-19(2019.04.24)(1)

Tel. +82 31 428 5700 / Fax. +82 31 427 2370

A4(210 mm x 297 mm)

LTE band 71 (10 MHz – 16QAM)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB d) | E.R.P. | |
|--------------------|--------------------|-------------------------------|--------------------|---------------------|--------|-------|
| | | | | | (dB m) | (mW) |
| 668.0 | H | 16.74 | 2.93 | -3.79 | 10.02 | 10.05 |
| 668.0 | V | 18.80 | 2.93 | -3.79 | 12.08 | 16.14 |
| 680.5 | H | 16.67 | 2.87 | -3.49 | 10.31 | 10.74 |
| 680.5 | V | 19.47 | 2.87 | -3.49 | 13.11 | 20.46 |
| 693.0 | H | 15.51 | 2.92 | -3.53 | 9.06 | 8.05 |
| 693.0 | V | 17.06 | 2.92 | -3.53 | 10.61 | 11.51 |

* 10 BW 1 RB size / 0 Offset for B71

LTE band 71 (15 MHz – QPSK)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB d) | E.R.P. | |
|--------------------|--------------------|-------------------------------|--------------------|---------------------|--------|-------|
| | | | | | (dB m) | (mW) |
| 670.5 | H | 17.13 | 2.90 | -3.66 | 10.57 | 11.40 |
| 670.5 | V | 19.73 | 2.90 | -3.66 | 13.17 | 20.75 |
| 680.5 | H | 17.32 | 2.87 | -3.49 | 10.96 | 12.47 |
| 680.5 | V | 20.28 | 2.87 | -3.49 | 13.92 | 24.66 |
| 690.5 | H | 16.32 | 2.94 | -3.36 | 10.02 | 10.05 |
| 690.5 | V | 17.89 | 2.94 | -3.36 | 11.59 | 14.42 |

* 15 BW 1 RB size / 0 Offset for B71

LTE band 71 (15 MHz – 16QAM)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB d) | E.R.P. | |
|--------------------|--------------------|-------------------------------|--------------------|---------------------|--------|-------|
| | | | | | (dB m) | (mW) |
| 670.5 | H | 16.27 | 2.90 | -3.66 | 9.71 | 9.35 |
| 670.5 | V | 17.96 | 2.90 | -3.66 | 11.40 | 13.80 |
| 680.5 | H | 17.01 | 2.87 | -3.49 | 10.65 | 11.61 |
| 680.5 | V | 19.65 | 2.87 | -3.49 | 13.29 | 21.33 |
| 690.5 | H | 15.61 | 2.94 | -3.36 | 9.31 | 8.53 |
| 690.5 | V | 16.61 | 2.94 | -3.36 | 10.31 | 10.74 |

* 15 BW 1 RB size / 0 Offset for B71

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RTT5041-19(2019.04.24)(1)

Tel. +82 31 428 5700 / Fax. +82 31 427 2370

A4(210 mm x 297 mm)

LTE band 71 (20 MHz – QPSK)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB d) | E.R.P. | |
|--------------------|--------------------|-------------------------------|--------------------|---------------------|--------|-------|
| | | | | | (dB m) | (mW) |
| 673.0 | H | 16.88 | 2.89 | -3.62 | 10.37 | 10.89 |
| 673.0 | V | 19.82 | 2.89 | -3.62 | 13.31 | 21.43 |
| 680.5 | H | 17.19 | 2.87 | -3.49 | 10.83 | 12.11 |
| 680.5 | V | 20.29 | 2.87 | -3.49 | 13.93 | 24.72 |
| 688.0 | H | 16.49 | 2.93 | -3.36 | 10.20 | 10.47 |
| 688.0 | V | 18.79 | 2.93 | -3.36 | 12.50 | 17.78 |

* 20 BW 1 RB size / 0 Offset for B71

LTE band 71 (20 MHz – 16QAM)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB d) | E.R.P. | |
|--------------------|--------------------|-------------------------------|--------------------|---------------------|--------|-------|
| | | | | | (dB m) | (mW) |
| 673.0 | H | 15.79 | 2.89 | -3.62 | 9.28 | 8.47 |
| 673.0 | V | 19.15 | 2.89 | -3.62 | 12.64 | 18.37 |
| 680.5 | H | 16.90 | 2.87 | -3.49 | 10.54 | 11.32 |
| 680.5 | V | 19.67 | 2.87 | -3.49 | 13.31 | 21.43 |
| 688.0 | H | 15.46 | 2.93 | -3.36 | 9.17 | 8.26 |
| 688.0 | V | 17.92 | 2.93 | -3.36 | 11.63 | 14.55 |

* 20 BW 1 RB size / 0 Offset for B71

Remark;

1. E.R.P. & E.I.R.P. = [S.G level + Amp.] (dB m) - Cable loss (dB) + Ant. gain (dB d/dB i)
2. This device was tested under all bandwidths, RB configurations and modulations.
3. The data reported in the table above was measured in worst case.

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Tel. +82 31 428 5700 / Fax. +82 31 427 2370

A4(210 mm x 297 mm)

2.5. Spurious Radiated Emission

LTE band 12 (1.4 MHz – QPSK)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB d) | E.R.P. (dB m) | Limit (dB m) | Margin (dB) |
|----------------------------|-----------------|-------------------------|-----------------|------------------|---------------|--------------|-------------|
| Low Channel (699.7 MHz) | | | | | | | |
| 1 398.38 | H | -52.12 | 3.57 | 6.13 | -49.56 | -13 | 36.56 |
| 1 398.51 | V | -57.17 | 3.57 | 6.13 | -54.61 | -13 | 41.61 |
| Middle Channel (707.5 MHz) | | | | | | | |
| 1 414.13 | H | -44.65 | 3.58 | 6.08 | -42.15 | -13 | 29.15 |
| 1 414.12 | V | -51.02 | 3.58 | 6.08 | -48.52 | -13 | 35.52 |
| High Channel (715.3 MHz) | | | | | | | |
| 1 429.68 | H | -50.79 | 3.60 | 6.02 | -48.37 | -13 | 35.37 |
| 1 429.65 | V | -55.94 | 3.60 | 6.02 | -53.52 | -13 | 40.52 |

* 1.4 BW 1 RB size / 0 Offset for B12

LTE band 12 (3 MHz – QPSK)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB d) | E.R.P. (dB m) | Limit (dB m) | Margin (dB) |
|----------------------------|-----------------|-------------------------|-----------------|------------------|---------------|--------------|-------------|
| Low Channel (700.5 MHz) | | | | | | | |
| 1 398.65 | H | -50.02 | 3.57 | 6.13 | -47.46 | -13 | 34.46 |
| 1 398.52 | V | -55.12 | 3.57 | 6.13 | -52.56 | -13 | 39.56 |
| Middle Channel (707.5 MHz) | | | | | | | |
| 1 412.53 | H | -45.97 | 3.58 | 6.08 | -43.47 | -13 | 30.47 |
| 1 412.46 | V | -52.19 | 3.58 | 6.09 | -49.68 | -13 | 36.68 |
| High Channel (714.5 MHz) | | | | | | | |
| 1 426.42 | H | -45.97 | 3.60 | 6.03 | -43.54 | -13 | 30.54 |
| 1 426.51 | V | -51.41 | 3.60 | 6.03 | -48.98 | -13 | 35.98 |

* 3 BW 1 RB size / 0 Offset for B12

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RTT5041-19(2019.04.24)(1)

Tel. +82 31 428 5700 / Fax. +82 31 427 2370

A4(210 mm x 297 mm)

LTE band 12 (5 MHz – QPSK)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB d) | E.R.P. (dB m) | Limit (dB m) | Margin (dB) |
|----------------------------|-----------------|-------------------------|-----------------|------------------|---------------|--------------|-------------|
| Low Channel (701.5 MHz) | | | | | | | |
| 1 398.71 | H | -50.00 | 3.57 | 6.13 | -47.44 | -13 | 34.44 |
| 1 398.61 | V | -54.70 | 3.57 | 6.13 | -52.14 | -13 | 39.14 |
| Middle Channel (707.5 MHz) | | | | | | | |
| 1 410.71 | H | -46.30 | 3.58 | 6.09 | -43.79 | -13 | 30.79 |
| 1 410.82 | V | -51.94 | 3.58 | 6.09 | -49.43 | -13 | 36.43 |
| High Channel (713.5 MHz) | | | | | | | |
| 1 422.74 | H | -44.64 | 3.59 | 6.05 | -42.18 | -13 | 29.18 |
| 1 422.77 | V | -50.07 | 3.59 | 6.05 | -47.61 | -13 | 34.61 |

* 5 BW 1 RB size / 0 Offset for B12

LTE band 12 (10 MHz – QPSK)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB d) | E.R.P. (dB m) | Limit (dB m) | Margin (dB) |
|----------------------------|-----------------|-------------------------|-----------------|------------------|---------------|--------------|-------------|
| Low Channel (704.0 MHz) | | | | | | | |
| 1 398.99 | H | -49.77 | 3.57 | 6.13 | -47.21 | -13 | 34.21 |
| 1 399.38 | V | -55.07 | 3.57 | 6.13 | -52.51 | -13 | 39.51 |
| Middle Channel (707.5 MHz) | | | | | | | |
| 1 406.13 | H | -48.70 | 3.58 | 6.11 | -46.17 | -13 | 33.17 |
| 1 406.26 | V | -54.68 | 3.58 | 6.11 | -52.15 | -13 | 39.15 |
| High Channel (711.0 MHz) | | | | | | | |
| 1 413.25 | H | -45.68 | 3.58 | 6.08 | -43.18 | -13 | 30.18 |
| 1 413.08 | V | -51.84 | 3.58 | 6.08 | -49.34 | -13 | 36.34 |

* 10 BW 1 RB size / 0 Offset for B12

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RTT5041-19(2019.04.24)(1)

Tel. +82 31 428 5700 / Fax. +82 31 427 2370

A4(210 mm x 297 mm)

LTE band 25/2 (1.4 MHz – QPSK)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB i) | E.I.R.P. (dB m) | Limit (dB m) | Margin (dB) |
|------------------------------|--------------------|-------------------------------|--------------------|---------------------|--------------------|-----------------|----------------|
| Low Channel (1 850.7 MHz) | | | | | | | |
| 5 550.72 | H | -42.01 | 7.53 | 10.63 | -38.91 | -13 | 25.91 |
| 5 550.66 | V | -45.64 | 7.53 | 10.63 | -42.54 | -13 | 29.54 |
| 7 401.20 | H | -49.64 | 9.29 | 12.03 | -46.90 | -13 | 33.90 |
| 7 400.08 | V | -51.82 | 9.29 | 12.03 | -49.08 | -13 | 36.08 |
| Middle Channel (1 882.5 MHz) | | | | | | | |
| 5 646.44 | H | -37.36 | 7.66 | 10.94 | -34.08 | -13 | 21.08 |
| 5 646.08 | V | -36.35 | 7.66 | 10.94 | -33.07 | -13 | 20.07 |
| 7 528.14 | H | -47.97 | 9.06 | 11.83 | -45.20 | -13 | 32.20 |
| 7 528.18 | V | -42.64 | 9.06 | 11.83 | -39.87 | -13 | 26.87 |
| High Channel (1 914.3 MHz) | | | | | | | |
| 5 741.52 | H | -39.22 | 7.87 | 11.28 | -35.81 | -13 | 22.81 |
| 5 741.60 | V | -32.66 | 7.87 | 11.28 | -29.25 | -13 | 16.25 |
| 7 655.30 | H | -46.34 | 8.97 | 11.70 | -43.61 | -13 | 30.61 |
| 7 655.28 | V | -43.34 | 8.97 | 11.70 | -40.61 | -13 | 27.61 |

* 1.4 BW 1 RB size / 0 Offset for B25/2

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RTT5041-19(2019.04.24)(1)

Tel. +82 31 428 5700 / Fax. +82 31 427 2370

A4(210 mm x 297 mm)

LTE band 25/2 (3 MHz – QPSK)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB i) | E.I.R.P. (dB m) | Limit (dB m) | Margin (dB) |
|------------------------------|--------------------|-------------------------------|--------------------|---------------------|--------------------|-----------------|----------------|
| Low Channel (1 851.5 MHz) | | | | | | | |
| 5 550.62 | H | -41.86 | 7.53 | 10.63 | -38.76 | -13 | 25.76 |
| 5 550.72 | V | -45.30 | 7.53 | 10.63 | -42.20 | -13 | 29.20 |
| 7 400.98 | H | -49.13 | 9.29 | 12.03 | -46.39 | -13 | 33.39 |
| 7 401.08 | V | -51.10 | 9.29 | 12.03 | -48.36 | -13 | 35.36 |
| Middle Channel (1 882.5 MHz) | | | | | | | |
| 5 643.80 | H | -37.64 | 7.66 | 10.93 | -34.37 | -13 | 21.37 |
| 5 643.74 | V | -36.19 | 7.66 | 10.93 | -32.92 | -13 | 19.92 |
| 7 524.96 | H | -48.12 | 9.06 | 11.83 | -45.35 | -13 | 32.35 |
| 7 524.82 | V | -42.82 | 9.06 | 11.83 | -40.05 | -13 | 27.05 |
| High Channel (1 913.5 MHz) | | | | | | | |
| 5 736.70 | H | -38.62 | 7.87 | 11.28 | -35.21 | -13 | 22.21 |
| 5 736.84 | V | -33.73 | 7.87 | 11.28 | -30.32 | -13 | 17.32 |
| 7 649.02 | H | -46.90 | 8.98 | 11.71 | -44.17 | -13 | 31.17 |
| 7 648.92 | V | -43.17 | 8.98 | 11.71 | -40.44 | -13 | 27.44 |

* 3 BW 1 RB size / 0 Offset for B25/2

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RTT5041-19(2019.04.24)(1)

Tel. +82 31 428 5700 / Fax. +82 31 427 2370

A4(210 mm x 297 mm)

LTE band 25/2 (5 MHz – QPSK)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB i) | E.I.R.P. (dB m) | Limit (dB m) | Margin (dB) |
|------------------------------|--------------------|-------------------------------|--------------------|---------------------|--------------------|-----------------|----------------|
| Low Channel (1 852.5 MHz) | | | | | | | |
| 5 551.12 | H | -42.18 | 7.53 | 10.63 | -39.08 | -13 | 26.08 |
| 5 550.94 | V | -45.88 | 7.53 | 10.63 | -42.78 | -13 | 29.78 |
| 7 401.40 | H | -48.58 | 9.29 | 12.03 | -45.84 | -13 | 32.84 |
| 7 401.70 | V | -52.16 | 9.29 | 12.03 | -49.42 | -13 | 36.42 |
| Middle Channel (1 882.5 MHz) | | | | | | | |
| 5 641.04 | H | -37.72 | 7.65 | 10.91 | -34.46 | -13 | 21.46 |
| 5 640.72 | V | -36.47 | 7.65 | 10.91 | -33.21 | -13 | 20.21 |
| 7 521.28 | H | -48.23 | 9.06 | 11.83 | -45.46 | -13 | 32.46 |
| 7 521.30 | V | -42.22 | 9.06 | 11.83 | -39.45 | -13 | 26.45 |
| High Channel (1 912.5 MHz) | | | | | | | |
| 5 731.08 | H | -38.32 | 7.86 | 11.27 | -34.91 | -13 | 21.91 |
| 5 731.14 | V | -33.94 | 7.86 | 11.27 | -30.53 | -13 | 17.53 |
| 7 641.40 | H | -46.35 | 9.00 | 11.73 | -43.62 | -13 | 30.62 |
| 7 641.40 | V | -42.33 | 9.00 | 11.73 | -39.60 | -13 | 26.60 |

* 5 BW 1 RB size / 0 Offset for B25/2

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RTT5041-19(2019.04.24)(1)

Tel. +82 31 428 5700 / Fax. +82 31 427 2370

A4(210 mm x 297 mm)

LTE band 25/2 (10 MHz – QPSK)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB i) | E.I.R.P. (dB m) | Limit (dB m) | Margin (dB) |
|------------------------------|--------------------|-------------------------------|--------------------|---------------------|--------------------|-----------------|----------------|
| Low Channel (1 855.0 MHz) | | | | | | | |
| 5 551.94 | H | -42.06 | 7.53 | 10.63 | -38.96 | -13 | 25.96 |
| 5 551.68 | V | -45.68 | 7.53 | 10.63 | -42.58 | -13 | 29.58 |
| 7 402.46 | H | -49.09 | 9.28 | 12.03 | -46.34 | -13 | 33.34 |
| 7 402.50 | V | -52.03 | 9.28 | 12.03 | -49.28 | -13 | 36.28 |
| Middle Channel (1 882.5 MHz) | | | | | | | |
| 5 634.34 | H | -39.06 | 7.63 | 10.87 | -35.82 | -13 | 22.82 |
| 5 634.22 | V | -37.76 | 7.63 | 10.87 | -34.52 | -13 | 21.52 |
| 7 512.22 | H | -47.95 | 9.05 | 11.84 | -45.16 | -13 | 32.16 |
| 7 512.36 | V | -43.13 | 9.05 | 11.84 | -40.34 | -13 | 27.34 |
| High Channel (1 910.0 MHz) | | | | | | | |
| 5 716.92 | H | -35.96 | 7.85 | 11.27 | -32.54 | -13 | 19.54 |
| 5 716.06 | V | -33.01 | 7.85 | 11.27 | -29.59 | -13 | 16.59 |
| 7 622.46 | H | -46.80 | 9.06 | 11.76 | -44.10 | -13 | 31.10 |
| 7 622.34 | V | -43.90 | 9.06 | 11.76 | -41.20 | -13 | 28.20 |

* 10 BW 1 RB size / 0 Offset for B25/2

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RTT5041-19(2019.04.24)(1)

Tel. +82 31 428 5700 / Fax. +82 31 427 2370

A4(210 mm x 297 mm)

LTE band 25/2 (15 MHz – QPSK)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB i) | E.I.R.P. (dB m) | Limit (dB m) | Margin (dB) |
|------------------------------|--------------------|-------------------------------|--------------------|---------------------|--------------------|-----------------|----------------|
| Low Channel (1 857.5 MHz) | | | | | | | |
| 5 552.55 | H | -42.17 | 7.53 | 10.63 | -39.07 | -13 | 26.07 |
| 5 552.86 | V | -45.64 | 7.53 | 10.63 | -42.54 | -13 | 29.54 |
| 7 403.16 | H | -49.46 | 9.28 | 12.03 | -46.71 | -13 | 33.71 |
| 7 403.36 | V | -51.70 | 9.28 | 12.03 | -48.95 | -13 | 35.95 |
| Middle Channel (1 882.5 MHz) | | | | | | | |
| 5 627.58 | H | -40.07 | 7.61 | 10.83 | -36.85 | -13 | 23.85 |
| 5 627.56 | V | -37.55 | 7.61 | 10.83 | -34.33 | -13 | 21.33 |
| 7 503.42 | H | -49.21 | 9.04 | 11.84 | -46.41 | -13 | 33.41 |
| 7 503.24 | V | -43.67 | 9.04 | 11.84 | -40.87 | -13 | 27.87 |
| High Channel (1 907.5 MHz) | | | | | | | |
| 5 702.58 | H | -37.33 | 7.83 | 11.27 | -33.89 | -13 | 20.89 |
| 5 702.40 | V | -34.18 | 7.83 | 11.27 | -30.74 | -13 | 17.74 |
| 7 603.12 | H | -47.42 | 9.11 | 11.79 | -44.74 | -13 | 31.74 |
| 7 603.44 | V | -44.97 | 9.11 | 11.79 | -42.29 | -13 | 29.29 |

* 15 BW 1 RB size / 0 Offset for B25/2

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RTT5041-19(2019.04.24)(1)

Tel. +82 31 428 5700 / Fax. +82 31 427 2370

A4(210 mm x 297 mm)

LTE band 25/2 (20 MHz – QPSK)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB i) | E.I.R.P. (dB m) | Limit (dB m) | Margin (dB) |
|------------------------------|--------------------|-------------------------------|--------------------|---------------------|--------------------|-----------------|----------------|
| Low Channel (1 860.0 MHz) | | | | | | | |
| 5 553.42 | H | -42.35 | 7.53 | 10.63 | -39.25 | -13 | 26.25 |
| 5 553.42 | V | -44.83 | 7.53 | 10.63 | -41.73 | -13 | 28.73 |
| 7 404.38 | H | -49.52 | 9.28 | 12.03 | -46.77 | -13 | 33.77 |
| 7 404.20 | V | -51.59 | 9.28 | 12.03 | -48.84 | -13 | 35.84 |
| Middle Channel (1 882.5 MHz) | | | | | | | |
| 5 620.80 | H | -40.33 | 7.58 | 10.79 | -37.12 | -13 | 24.12 |
| 5 620.82 | V | -38.14 | 7.58 | 10.79 | -34.93 | -13 | 21.93 |
| 7 494.48 | H | -48.57 | 9.05 | 11.85 | -45.77 | -13 | 32.77 |
| 7 494.18 | V | -43.90 | 9.05 | 11.85 | -41.10 | -13 | 28.10 |
| High Channel (1 905.0 MHz) | | | | | | | |
| 5 688.20 | H | -38.85 | 7.79 | 11.20 | -35.44 | -13 | 22.44 |
| 5 688.30 | V | -34.63 | 7.79 | 11.20 | -31.22 | -13 | 18.22 |
| 7 584.40 | H | -48.62 | 9.11 | 11.80 | -45.93 | -13 | 32.93 |
| 7 584.26 | V | -44.58 | 9.11 | 11.80 | -41.89 | -13 | 28.89 |

* 20 BW 1 RB size / 0 Offset for B25/2

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RTT5041-19(2019.04.24)(1)

Tel. +82 31 428 5700 / Fax. +82 31 427 2370

A4(210 mm x 297 mm)

LTE band 26/5 (1.4 MHz – QPSK)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB d) | E.R.P. (dB m) | Limit (dB m) | Margin (dB) |
|----------------------------|--------------------|-------------------------------|--------------------|---------------------|------------------|-----------------|----------------|
| Low Channel (824.7 MHz) | | | | | | | |
| 2 472.84 | H | -46.17 | 4.80 | 7.01 | -43.96 | -13 | 30.96 |
| 2 472.78 | V | -50.60 | 4.80 | 7.01 | -48.39 | -13 | 35.39 |
| Middle Channel (836.5 MHz) | | | | | | | |
| 2 508.06 | H | -49.34 | 4.82 | 6.97 | -47.19 | -13 | 34.19 |
| 2 509.16 | V | -52.30 | 4.82 | 6.97 | -50.15 | -13 | 37.15 |
| High Channel (848.3 MHz) | | | | | | | |
| 2 543.38 | H | -48.84 | 4.87 | 6.89 | -46.82 | -13 | 33.82 |
| 2 543.54 | V | -51.95 | 4.87 | 6.89 | -49.93 | -13 | 36.93 |

* 1.4 BW 1 RB size / 0 Offset for B26/5

LTE band 26/5 (3 MHz – QPSK)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB d) | E.R.P. (dB m) | Limit (dB m) | Margin (dB) |
|----------------------------|--------------------|-------------------------------|--------------------|---------------------|------------------|-----------------|----------------|
| Low Channel (825.5 MHz) | | | | | | | |
| 2 472.68 | H | -46.00 | 4.80 | 7.01 | -43.79 | -13 | 30.79 |
| 2 472.62 | V | -50.43 | 4.80 | 7.01 | -48.22 | -13 | 35.22 |
| Middle Channel (836.5 MHz) | | | | | | | |
| 2 505.74 | H | -50.07 | 4.82 | 6.98 | -47.91 | -13 | 34.91 |
| 2 505.70 | V | -52.83 | 4.82 | 6.98 | -50.67 | -13 | 37.67 |
| High Channel (847.5 MHz) | | | | | | | |
| 2 538.74 | H | -49.39 | 4.86 | 6.90 | -47.35 | -13 | 34.35 |
| 2 538.74 | V | -53.09 | 4.86 | 6.90 | -51.05 | -13 | 38.05 |

* 3 BW 1 RB size / 0 Offset for B26/5

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RTT5041-19(2019.04.24)(1)

Tel. +82 31 428 5700 / Fax. +82 31 427 2370

A4(210 mm x 297 mm)

LTE band 26/5 (5 MHz – QPSK)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB d) | E.R.P. (dB m) | Limit (dB m) | Margin (dB) |
|----------------------------|--------------------|-------------------------------|--------------------|---------------------|------------------|-----------------|----------------|
| Low Channel (826.5 MHz) | | | | | | | |
| 2 473.18 | H | -46.23 | 4.80 | 7.01 | -44.02 | -13 | 31.02 |
| 2 473.14 | V | -50.32 | 4.80 | 7.01 | -48.11 | -13 | 35.11 |
| Middle Channel (836.5 MHz) | | | | | | | |
| 2 503.00 | H | -50.18 | 4.81 | 6.98 | -48.01 | -13 | 35.01 |
| 2 502.98 | V | -54.05 | 4.81 | 6.98 | -51.88 | -13 | 38.88 |
| High Channel (846.5 MHz) | | | | | | | |
| 2 533.08 | H | -50.19 | 4.86 | 6.91 | -48.14 | -13 | 35.14 |
| 2 533.12 | V | -53.66 | 4.86 | 6.91 | -51.61 | -13 | 38.61 |

* 5 BW 1 RB size / 0 Offset for B26/5

LTE band 26/5 (10 MHz – QPSK)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB d) | E.R.P. (dB m) | Limit (dB m) | Margin (dB) |
|----------------------------|--------------------|-------------------------------|--------------------|---------------------|------------------|-----------------|----------------|
| Low Channel (829.0 MHz) | | | | | | | |
| 2 473.78 | H | -45.50 | 4.80 | 7.01 | -43.29 | -13 | 30.29 |
| 2 473.84 | V | -50.45 | 4.80 | 7.01 | -48.24 | -13 | 35.24 |
| Middle Channel (836.5 MHz) | | | | | | | |
| 2 496.40 | H | -52.22 | 4.81 | 6.99 | -50.04 | -13 | 37.04 |
| 2 496.12 | V | -55.49 | 4.81 | 6.99 | -53.31 | -13 | 40.31 |
| High Channel (844.0 MHz) | | | | | | | |
| 2 518.66 | H | -48.17 | 4.84 | 6.95 | -46.06 | -13 | 33.06 |
| 2 518.68 | V | -51.02 | 4.84 | 6.95 | -48.91 | -13 | 35.91 |

* 10 BW 1 RB size / 0 Offset for B26/5

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RTT5041-19(2019.04.24)(1)

Tel. +82 31 428 5700 / Fax. +82 31 427 2370

A4(210 mm x 297 mm)

LTE band 26 (15 MHz – QPSK)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB d) | E.R.P. (dB m) | Limit (dB m) | Margin (dB) |
|--------------------------|--------------------|-------------------------------|--------------------|---------------------|------------------|-----------------|----------------|
| Low Channel (831.5 MHz) | | | | | | | |
| 2 474.45 | H | -46.42 | 4.80 | 7.01 | -44.21 | -13 | 31.21 |
| 2 472.30 | V | -50.76 | 4.80 | 7.02 | -48.54 | -13 | 35.54 |
| High Channel (841.5 MHz) | | | | | | | |
| 2 504.41 | H | -50.52 | 4.82 | 6.98 | -48.36 | -13 | 35.36 |
| 2 504.33 | V | -54.16 | 4.82 | 6.98 | -52.00 | -13 | 39.00 |

* 15 BW 1 RB size / 0 Offset for B26

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RTT5041-19(2019.04.24)(1)

Tel. +82 31 428 5700 / Fax. +82 31 427 2370

A4(210 mm x 297 mm)

LTE band 41 (5 MHz – QPSK)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB i) | E.I.R.P. (dB m) | Limit (dB m) | Margin (dB) |
|------------------------------|--------------------|-------------------------------|--------------------|---------------------|--------------------|-----------------|----------------|
| Low Channel (2 498.5 MHz) | | | | | | | |
| 4 992.78 | H | -48.50 | 7.42 | 9.85 | -46.07 | -25 | 21.07 |
| 4 992.68 | V | -49.03 | 7.42 | 9.85 | -46.60 | -25 | 21.60 |
| 7 489.01 | H | -29.79 | 9.07 | 11.86 | -27.00 | -25 | 2.00 |
| 7 489.12 | V | -31.41 | 9.07 | 11.86 | -28.62 | -25 | 3.62 |
| Middle Channel (2 593.0 MHz) | | | | | | | |
| 5 181.61 | H | -48.31 | 7.72 | 10.57 | -45.46 | -25 | 20.46 |
| 5 181.51 | V | -47.28 | 7.72 | 10.57 | -44.43 | -25 | 19.43 |
| 7 772.52 | H | -38.07 | 9.09 | 11.81 | -35.35 | -25 | 10.35 |
| 7 772.47 | V | -37.07 | 9.09 | 11.81 | -34.35 | -25 | 9.35 |
| High Channel (2 687.5 MHz) | | | | | | | |
| 5 370.64 | H | -44.15 | 7.76 | 10.57 | -41.34 | -25 | 16.34 |
| 5 370.82 | V | -45.03 | 7.76 | 10.56 | -42.23 | -25 | 17.23 |
| 8 055.99 | H | -28.36 | 9.99 | 12.11 | -26.24 | -25 | 1.24 |
| 8 055.90 | V | -36.08 | 9.98 | 12.11 | -33.95 | -25 | 8.95 |

* 5 BW 1 RB size / 0 Offset for B41

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A4(210 mm x 297 mm)

LTE band 41 (10 MHz – QPSK)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB i) | E.I.R.P. (dB m) | Limit (dB m) | Margin (dB) |
|------------------------------|--------------------|-------------------------------|--------------------|---------------------|--------------------|-----------------|----------------|
| Low Channel (2 501.0 MHz) | | | | | | | |
| 4 993.15 | H | -50.02 | 7.43 | 9.85 | -47.60 | -25 | 22.60 |
| 4 993.24 | V | -49.62 | 7.43 | 9.85 | -47.20 | -25 | 22.20 |
| 7 489.80 | H | -30.68 | 9.07 | 11.86 | -27.89 | -25 | 2.89 |
| 7 489.87 | V | -32.18 | 9.07 | 11.86 | -29.39 | -25 | 4.39 |
| Middle Channel (2 593.0 MHz) | | | | | | | |
| 5 177.24 | H | -44.62 | 7.71 | 10.56 | -41.77 | -25 | 16.77 |
| 5 177.03 | V | -47.61 | 7.71 | 10.56 | -44.76 | -25 | 19.76 |
| 7 765.94 | H | -36.63 | 9.06 | 11.79 | -33.90 | -25 | 8.90 |
| 7 765.81 | V | -32.62 | 9.06 | 11.79 | -29.89 | -25 | 4.89 |
| High Channel (2 685.0 MHz) | | | | | | | |
| 5 361.46 | H | -48.53 | 7.74 | 10.59 | -45.68 | -25 | 20.68 |
| 5 360.95 | V | -47.81 | 7.74 | 10.59 | -44.96 | -25 | 19.96 |
| 8 041.93 | H | -29.01 | 9.93 | 12.13 | -26.81 | -25 | 1.81 |
| 8 041.77 | V | -34.43 | 9.93 | 12.13 | -32.23 | -25 | 7.23 |

* 10 BW 1 RB size / 0 Offset for B41

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A4(210 mm x 297 mm)

LTE band 41 (15 MHz – QPSK)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB i) | E.I.R.P. (dB m) | Limit (dB m) | Margin (dB) |
|------------------------------|--------------------|-------------------------------|--------------------|---------------------|--------------------|-----------------|----------------|
| Low Channel (2 503.5 MHz) | | | | | | | |
| 4 993.55 | H | -47.84 | 7.43 | 9.85 | -45.42 | -25 | 20.42 |
| 4 993.52 | V | -46.62 | 7.43 | 9.85 | -44.20 | -25 | 19.20 |
| 7 490.62 | H | -30.64 | 9.06 | 11.86 | -27.84 | -25 | 2.84 |
| 7 490.57 | V | -33.19 | 9.06 | 11.86 | -30.39 | -25 | 5.39 |
| Middle Channel (2 593.0 MHz) | | | | | | | |
| 5 172.81 | H | -43.37 | 7.70 | 10.55 | -40.52 | -25 | 15.52 |
| 5 172.63 | V | -47.01 | 7.70 | 10.54 | -44.17 | -25 | 19.17 |
| 7 759.28 | H | -38.77 | 9.04 | 11.77 | -36.04 | -25 | 11.04 |
| 7 759.02 | V | -37.06 | 9.04 | 11.77 | -34.33 | -25 | 9.33 |
| High Channel (2 685.0 MHz) | | | | | | | |
| 5 351.67 | H | -43.83 | 7.72 | 10.62 | -40.93 | -25 | 15.93 |
| 5 351.78 | V | -37.32 | 7.72 | 10.62 | -34.42 | -25 | 9.42 |
| 8 027.62 | H | -28.80 | 9.87 | 12.15 | -26.52 | -25 | 1.52 |
| 8 027.36 | V | -33.43 | 9.86 | 12.15 | -31.14 | -25 | 6.14 |

* 15 BW 1 RB size / 0 Offset for B41

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A4(210 mm x 297 mm)

LTE band 41 (20 MHz – QPSK)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB i) | E.I.R.P. (dB m) | Limit (dB m) | Margin (dB) |
|------------------------------|--------------------|-------------------------------|--------------------|---------------------|--------------------|-----------------|----------------|
| Low Channel (2 506.0 MHz) | | | | | | | |
| 4 994.00 | H | -48.32 | 7.43 | 9.85 | -45.90 | -25 | 20.90 |
| 4 994.40 | V | -47.23 | 7.43 | 9.85 | -44.81 | -25 | 19.81 |
| 7 491.30 | H | -30.52 | 9.06 | 11.86 | -27.72 | -25 | 2.72 |
| 7 491.34 | V | -34.45 | 9.06 | 11.86 | -31.65 | -25 | 6.65 |
| Middle Channel (2 593.0 MHz) | | | | | | | |
| 5 168.34 | H | -44.16 | 7.69 | 10.53 | -41.32 | -25 | 16.32 |
| 5 168.11 | V | -46.54 | 7.69 | 10.53 | -43.70 | -25 | 18.70 |
| 7 752.30 | H | -35.93 | 9.02 | 11.76 | -33.19 | -25 | 8.19 |
| 7 752.23 | V | -36.97 | 9.02 | 11.76 | -34.23 | -25 | 9.23 |
| High Channel (2 682.5 MHz) | | | | | | | |
| 5 342.24 | H | -45.18 | 7.71 | 10.65 | -42.24 | -25 | 17.24 |
| 5 342.19 | V | -39.15 | 7.71 | 10.65 | -36.21 | -25 | 11.21 |
| 8 013.19 | H | -28.44 | 9.81 | 12.16 | -26.09 | -25 | 1.09 |
| 8 013.07 | V | -30.43 | 9.80 | 12.16 | -28.07 | -25 | 3.07 |

* 20 BW 1 RB size / 0 Offset for B41

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RTT5041-19(2019.04.24)(1)

Tel. +82 31 428 5700 / Fax. +82 31 427 2370

A4(210 mm x 297 mm)

LTE band 66/4 (1.4 MHz – QPSK)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB i) | E.I.R.P. (dB m) | Limit (dB m) | Margin (dB) |
|------------------------------|--------------------|-------------------------------|--------------------|---------------------|--------------------|-----------------|----------------|
| Low Channel (1 710.7 MHz) | | | | | | | |
| 5 130.75 | H | -49.18 | 7.61 | 10.44 | -46.35 | -13 | 33.35 |
| 5 132.16 | V | -52.06 | 7.61 | 10.45 | -49.22 | -13 | 36.22 |
| 6 841.32 | H | -50.03 | 8.70 | 11.70 | -47.03 | -13 | 34.03 |
| 6 841.40 | V | -54.66 | 8.70 | 11.70 | -51.66 | -13 | 38.66 |
| Middle Channel (1 745.0 MHz) | | | | | | | |
| 5 233.21 | H | -46.26 | 7.72 | 10.67 | -43.31 | -13 | 30.31 |
| 5 233.63 | V | -45.96 | 7.72 | 10.67 | -43.01 | -13 | 30.01 |
| 6 978.19 | H | -46.44 | 8.98 | 11.70 | -43.72 | -13 | 30.72 |
| 6 977.80 | V | -49.23 | 8.98 | 11.70 | -46.51 | -13 | 33.51 |
| High Channel (1 779.3 MHz) | | | | | | | |
| 5 336.77 | H | -45.72 | 7.70 | 10.67 | -42.75 | -13 | 29.75 |
| 5 335.50 | V | -40.20 | 7.69 | 10.67 | -37.22 | -13 | 24.22 |
| 7 115.56 | H | -50.63 | 8.83 | 11.48 | -47.98 | -13 | 34.98 |
| 7 116.40 | V | -53.11 | 8.83 | 11.48 | -50.46 | -13 | 37.46 |

* 1.4 BW 1 RB size / 0 Offset for B66/4

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RTT5041-19(2019.04.24)(1)

Tel. +82 31 428 5700 / Fax. +82 31 427 2370

A4(210 mm x 297 mm)

LTE band 66/4 (3 MHz – QPSK)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB i) | E.I.R.P. (dB m) | Limit (dB m) | Margin (dB) |
|------------------------------|--------------------|-------------------------------|--------------------|---------------------|--------------------|-----------------|----------------|
| Low Channel (1 711.5 MHz) | | | | | | | |
| 5 130.80 | H | -47.68 | 7.61 | 10.44 | -44.85 | -13 | 31.85 |
| 5 129.81 | V | -52.42 | 7.61 | 10.44 | -49.59 | -13 | 36.59 |
| 6 840.94 | H | -51.22 | 8.69 | 11.70 | -48.21 | -13 | 35.21 |
| 6 841.44 | V | -54.47 | 8.70 | 11.70 | -51.47 | -13 | 38.47 |
| Middle Channel (1 745.0 MHz) | | | | | | | |
| 5 231.43 | H | -47.35 | 7.72 | 10.66 | -44.41 | -13 | 31.41 |
| 5 231.29 | V | -46.25 | 7.72 | 10.66 | -43.31 | -13 | 30.31 |
| 6 975.12 | H | -47.59 | 8.97 | 11.70 | -44.86 | -13 | 31.86 |
| 6 975.63 | V | -48.67 | 8.97 | 11.70 | -45.94 | -13 | 32.94 |
| High Channel (1 778.5 MHz) | | | | | | | |
| 5 331.96 | H | -45.28 | 7.69 | 10.68 | -42.29 | -13 | 29.29 |
| 5 332.21 | V | -39.67 | 7.69 | 10.68 | -36.68 | -13 | 23.68 |
| 7 108.88 | H | -50.26 | 8.82 | 11.46 | -47.62 | -13 | 34.62 |
| 7 109.82 | V | -51.94 | 8.82 | 11.46 | -49.30 | -13 | 36.30 |

* 3 BW 1 RB size / 0 Offset for B66/4

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RTT5041-19(2019.04.24)(1)

Tel. +82 31 428 5700 / Fax. +82 31 427 2370

A4(210 mm x 297 mm)

LTE band 66/4 (5 MHz – QPSK)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB i) | E.I.R.P. (dB m) | Limit (dB m) | Margin (dB) |
|------------------------------|--------------------|-------------------------------|--------------------|---------------------|--------------------|-----------------|----------------|
| Low Channel (1 712.5 MHz) | | | | | | | |
| 5 131.32 | H | -48.37 | 7.61 | 10.45 | -45.53 | -13 | 32.53 |
| 5 132.04 | V | -52.52 | 7.61 | 10.45 | -49.68 | -13 | 36.68 |
| 6 841.57 | H | -51.66 | 8.70 | 11.70 | -48.66 | -13 | 35.66 |
| 6 841.42 | V | -54.63 | 8.70 | 11.70 | -51.63 | -13 | 38.63 |
| Middle Channel (1 745.0 MHz) | | | | | | | |
| 5 228.71 | H | -47.45 | 7.72 | 10.66 | -44.51 | -13 | 31.51 |
| 5 228.84 | V | -46.55 | 7.72 | 10.66 | -43.61 | -13 | 30.61 |
| 6 971.56 | H | -47.20 | 8.97 | 11.69 | -44.48 | -13 | 31.48 |
| 6 971.23 | V | -48.01 | 8.97 | 11.69 | -45.29 | -13 | 32.29 |
| High Channel (1 777.5 MHz) | | | | | | | |
| 5 326.32 | H | -45.38 | 7.68 | 10.70 | -42.36 | -13 | 29.36 |
| 5 325.61 | V | -39.06 | 7.68 | 10.70 | -36.04 | -13 | 23.04 |
| 7 101.35 | H | -51.68 | 8.81 | 11.44 | -49.05 | -13 | 36.05 |
| 7 101.03 | V | -53.86 | 8.81 | 11.44 | -51.23 | -13 | 38.23 |

* 5 BW 1 RB size / 0 Offset for B66/4

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RTT5041-19(2019.04.24)(1)

Tel. +82 31 428 5700 / Fax. +82 31 427 2370

A4(210 mm x 297 mm)

LTE band 66/4 (10 MHz – QPSK)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB i) | E.I.R.P. (dB m) | Limit (dB m) | Margin (dB) |
|------------------------------|--------------------|-------------------------------|--------------------|---------------------|--------------------|-----------------|----------------|
| Low Channel (1 715.0 MHz) | | | | | | | |
| 5 131.95 | H | -48.81 | 7.61 | 10.45 | -45.97 | -13 | 32.97 |
| 5 132.18 | V | -52.98 | 7.61 | 10.45 | -50.14 | -13 | 37.14 |
| 6 842.40 | H | -51.27 | 8.70 | 11.69 | -48.28 | -13 | 35.28 |
| 6 841.40 | V | -53.86 | 8.70 | 11.70 | -50.86 | -13 | 37.86 |
| Middle Channel (1 745.0 MHz) | | | | | | | |
| 5 222.02 | H | -47.50 | 7.73 | 10.65 | -44.58 | -13 | 31.58 |
| 5 222.23 | V | -47.08 | 7.73 | 10.65 | -44.16 | -13 | 31.16 |
| 6 962.37 | H | -47.97 | 8.95 | 11.69 | -45.23 | -13 | 32.23 |
| 6 962.44 | V | -49.94 | 8.95 | 11.69 | -47.20 | -13 | 34.20 |
| High Channel (1 775.0 MHz) | | | | | | | |
| 5 312.10 | H | -46.44 | 7.65 | 10.74 | -43.35 | -13 | 30.35 |
| 5 312.41 | V | -40.68 | 7.65 | 10.74 | -37.59 | -13 | 24.59 |
| 7 081.92 | H | -54.09 | 8.85 | 11.49 | -51.45 | -13 | 38.45 |
| 7 083.39 | V | -55.11 | 8.84 | 11.48 | -52.47 | -13 | 39.47 |

* 10 BW 1 RB size / 0 Offset for B66/4

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RTT5041-19(2019.04.24)(1)

Tel. +82 31 428 5700 / Fax. +82 31 427 2370

A4(210 mm x 297 mm)

LTE band 66/4 (15 MHz – QPSK)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB i) | E.I.R.P. (dB m) | Limit (dB m) | Margin (dB) |
|------------------------------|--------------------|-------------------------------|--------------------|---------------------|--------------------|-----------------|----------------|
| Low Channel (1 717.5 MHz) | | | | | | | |
| 5 132.78 | H | -49.01 | 7.61 | 10.45 | -46.17 | -13 | 33.17 |
| 5 132.03 | V | -52.75 | 7.61 | 10.45 | -49.91 | -13 | 36.91 |
| 6 843.24 | H | -51.62 | 8.70 | 11.69 | -48.63 | -13 | 35.63 |
| 6 843.62 | V | -53.53 | 8.70 | 11.69 | -50.54 | -13 | 37.54 |
| Middle Channel (1 745.0 MHz) | | | | | | | |
| 5 215.13 | H | -47.52 | 7.74 | 10.64 | -44.62 | -13 | 31.62 |
| 5 215.58 | V | -47.68 | 7.74 | 10.64 | -44.78 | -13 | 31.78 |
| 6 953.59 | H | -49.49 | 8.94 | 11.68 | -46.75 | -13 | 33.75 |
| 6 953.55 | V | -51.09 | 8.94 | 11.68 | -48.35 | -13 | 35.35 |
| High Channel (1 772.5 MHz) | | | | | | | |
| 5 297.68 | H | -47.27 | 7.63 | 10.77 | -44.13 | -13 | 31.13 |
| 5 297.11 | V | -43.38 | 7.63 | 10.77 | -40.24 | -13 | 27.24 |
| 7 063.73 | H | -51.11 | 8.88 | 11.54 | -48.45 | -13 | 35.45 |
| 7 063.59 | V | -52.45 | 8.88 | 11.54 | -49.79 | -13 | 36.79 |

* 15 BW 1 RB size / 0 Offset for B66/4

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RTT5041-19(2019.04.24)(1)

Tel. +82 31 428 5700 / Fax. +82 31 427 2370

A4(210 mm x 297 mm)

LTE band 66/4 (20 MHz – QPSK)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB i) | E.I.R.P. (dB m) | Limit (dB m) | Margin (dB) |
|------------------------------|--------------------|-------------------------------|--------------------|---------------------|--------------------|-----------------|----------------|
| Low Channel (1 720.0 MHz) | | | | | | | |
| 5 133.62 | H | -48.94 | 7.61 | 10.45 | -46.10 | -13 | 33.10 |
| 5 134.22 | V | -52.17 | 7.62 | 10.45 | -49.34 | -13 | 36.34 |
| 6 844.07 | H | -50.79 | 8.70 | 11.69 | -47.80 | -13 | 34.80 |
| 6 843.61 | V | -53.83 | 8.70 | 11.69 | -50.84 | -13 | 37.84 |
| Middle Channel (1 745.0 MHz) | | | | | | | |
| 5 208.44 | H | -48.28 | 7.75 | 10.62 | -45.41 | -13 | 32.41 |
| 5 209.14 | V | -48.70 | 7.75 | 10.63 | -45.82 | -13 | 32.82 |
| 6 944.39 | H | -49.06 | 8.93 | 11.68 | -46.31 | -13 | 33.31 |
| 6 944.82 | V | -51.54 | 8.93 | 11.68 | -48.79 | -13 | 35.79 |
| High Channel (1 770.0 MHz) | | | | | | | |
| 5 283.47 | H | -49.41 | 7.65 | 10.75 | -46.31 | -13 | 33.31 |
| 5 283.77 | V | -45.73 | 7.65 | 10.75 | -42.63 | -13 | 29.63 |
| 7 044.50 | H | -50.87 | 8.92 | 11.59 | -48.20 | -13 | 35.20 |
| 7 043.81 | V | -51.90 | 8.92 | 11.59 | -49.23 | -13 | 36.23 |

* 20 BW 1 RB size / 0 Offset for B66/4

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RTT5041-19(2019.04.24)(1)

Tel. +82 31 428 5700 / Fax. +82 31 427 2370

A4(210 mm x 297 mm)

LTE band 71 (5 MHz – QPSK)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB d) | E.R.P. (dB m) | Limit (dB m) | Margin (dB) |
|----------------------------|-----------------|-------------------------|-----------------|------------------|---------------|--------------|-------------|
| Low Channel (665.5 MHz) | | | | | | | |
| 1 326.58 | H | -60.68 | 3.52 | 5.89 | -58.31 | -13 | 45.31 |
| 1 326.58 | V | -62.09 | 3.52 | 5.89 | -59.72 | -13 | 46.72 |
| Middle Channel (680.5 MHz) | | | | | | | |
| 1 356.72 | H | -59.37 | 3.54 | 5.99 | -56.92 | -13 | 43.92 |
| 1 356.05 | V | -63.11 | 3.54 | 5.99 | -60.66 | -13 | 47.66 |
| High Channel (695.5 MHz) | | | | | | | |
| 1 386.70 | H | -60.40 | 3.56 | 6.09 | -57.87 | -13 | 44.87 |
| 1 388.42 | V | -65.88 | 3.56 | 6.10 | -63.34 | -13 | 50.34 |

* 5 BW 1 RB size / 0 Offset for B71

LTE band 71 (10 MHz – QPSK)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB d) | E.R.P. (dB m) | Limit (dB m) | Margin (dB) |
|----------------------------|-----------------|-------------------------|-----------------|------------------|---------------|--------------|-------------|
| Low Channel (668.0 MHz) | | | | | | | |
| 1 327.34 | H | -57.81 | 3.52 | 5.90 | -55.43 | -13 | 42.43 |
| 1 327.30 | V | -60.19 | 3.52 | 5.90 | -57.81 | -13 | 44.81 |
| Middle Channel (680.5 MHz) | | | | | | | |
| 1 352.44 | H | -61.01 | 3.54 | 5.98 | -58.57 | -13 | 45.57 |
| 1 352.16 | V | -62.95 | 3.54 | 5.98 | -60.51 | -13 | 47.51 |
| High Channel (693.0 MHz) | | | | | | | |
| 1 376.70 | H | -63.65 | 3.55 | 6.06 | -61.14 | -13 | 48.14 |
| 1 377.86 | V | -65.88 | 3.55 | 6.06 | -63.37 | -13 | 50.37 |

* 10 BW 1 RB size / 0 Offset for B71

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RTT5041-19(2019.04.24)(1)

Tel. +82 31 428 5700 / Fax. +82 31 427 2370

A4(210 mm x 297 mm)

LTE band 71 (15 MHz – QPSK)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB d) | E.R.P. (dB m) | Limit (dB m) | Margin (dB) |
|----------------------------|-----------------|-------------------------|-----------------|------------------|---------------|--------------|-------------|
| Low Channel (670.5 MHz) | | | | | | | |
| 1 327.65 | H | -58.56 | 3.52 | 5.90 | -56.18 | -13 | 43.18 |
| 1 327.64 | V | -60.50 | 3.52 | 5.90 | -58.12 | -13 | 45.12 |
| Middle Channel (680.5 MHz) | | | | | | | |
| 1 347.86 | H | -63.70 | 3.53 | 5.96 | -61.27 | -13 | 48.27 |
| 1 347.24 | V | -64.01 | 3.53 | 5.96 | -61.58 | -13 | 48.58 |
| High Channel (690.5 MHz) | | | | | | | |
| 1 367.65 | H | -63.16 | 3.55 | 6.03 | -60.68 | -13 | 47.68 |
| 1 367.32 | V | -64.58 | 3.55 | 6.03 | -62.10 | -13 | 49.10 |

* 15 BW 1 RB size / 0 Offset for B71

LTE band 71 (20 MHz – QPSK)

| Frequency (MHz) | Ant. Pol. (H/V) | S.G level + Amp. (dB m) | Cable loss (dB) | Ant. gain (dB d) | E.R.P. (dB m) | Limit (dB m) | Margin (dB) |
|----------------------------|-----------------|-------------------------|-----------------|------------------|---------------|--------------|-------------|
| Low Channel (673.0 MHz) | | | | | | | |
| 1 328.29 | H | -58.50 | 3.52 | 5.90 | -56.12 | -13 | 43.12 |
| 1 328.36 | V | -61.01 | 3.52 | 5.90 | -58.63 | -13 | 45.63 |
| Middle Channel (680.5 MHz) | | | | | | | |
| 1 343.19 | H | -62.96 | 3.53 | 5.95 | -60.54 | -13 | 47.54 |
| 1 343.25 | V | -63.28 | 3.53 | 5.95 | -60.86 | -13 | 47.86 |
| High Channel (688.0 MHz) | | | | | | | |
| 1 357.93 | H | -60.12 | 3.54 | 6.00 | -57.66 | -13 | 44.66 |
| 1 357.78 | V | -64.23 | 3.54 | 6.00 | -61.77 | -13 | 48.77 |

* 20 BW 1 RB size / 0 Offset for B71

Remark;

1. E.R.P. & E.I.R.P. = S.G level (dB m) - Cable loss (dB) + Ant. gain (dB d/dB i)
2. This device was tested under all bandwidths, RB configurations, and modulations.
3. The data reported in the table above was measured in worst case.

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A4(210 mm x 297 mm)

3. Occupied Bandwidth

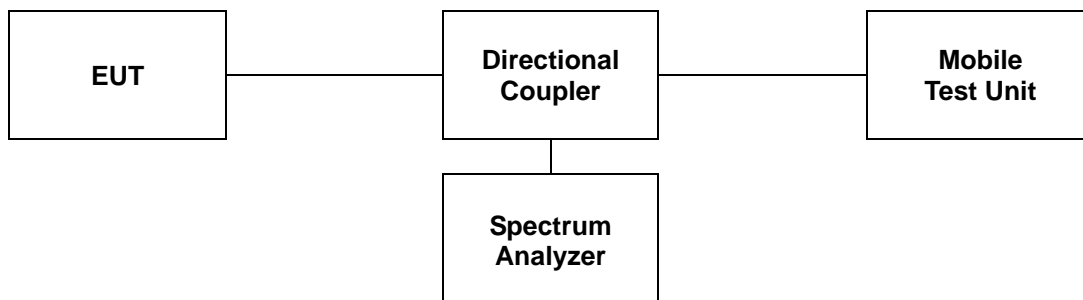
3.1. Limit

CFR 47, Section FCC §2.1049.

3.2. Test Procedure

The test follows section 4.2 of KDB 971168 D01 Power Meas License Digital Systems v03r01.

- a. The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The frequency span for the spectrum analyzer shall be set wide enough to capture all modulation. products including the emission skirts (typically a span of $1.5 \times \text{OBW}$ is sufficient).
- b. The nominal IF filter 3 dB bandwidth (RBW) shall be in the range of 1 % to 5 % of the anticipated OBW, and the VBW shall be set $\geq 3 \times \text{RBW}$.
- c. Set the reference level of the instrument as required to prevent the signal amplitude from exceeding the maximum spectrum analyzer input mixer level for linear operation. See guidance provided in 4.2.3.
- d. Set the detection mode to peak, and the trace mode to max-hold.
- e. If the instrument does not have a 99 % OBW function, recover the trace data points and sum directly in linear power terms. Place the recovered amplitude data points, beginning at the lowest frequency, in a running sum until 0.5 % of the total is reached. Record that frequency as the lower OBW frequency. Repeat the process until 99.5 % of the total is reached and record that frequency as the upper OBW frequency. The 99 % power OBW can be determined by computing the difference these two frequencies.
- f. The OBW shall be reported and plot(s) of the measuring instrument display shall be provided with the test report. The frequency and amplitude axis and scale shall be clearly labeled. Tabular data can be reported in addition to the plot(s).



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Tel. +82 31 428 5700 / Fax. +82 31 427 2370

A4(210 mm x 297 mm)

3.3 Test Results

Ambient temperature : (23 ± 1) °C

Relative humidity : 47 % R.H.

| Band | Bandwidth (MHz) | Frequency (MHz) | Occupied Bandwidth (MHz) | |
|------|-----------------|-----------------|--------------------------|-------|
| | | | QPSK | 16QAM |
| 12 | 1.4 | 699.7 | 1.107 | 1.098 |
| | | 707.5 | 1.103 | 1.103 |
| | | 715.3 | 1.111 | 1.103 |
| | 3 | 700.5 | 2.692 | 2.692 |
| | | 707.5 | 2.692 | 2.683 |
| | | 714.5 | 2.692 | 2.692 |
| | 5 | 701.5 | 4.515 | 4.530 |
| | | 707.5 | 4.530 | 4.501 |
| | | 713.5 | 4.501 | 4.544 |
| | 10 | 704.0 | 8.944 | 8.944 |
| | | 707.5 | 8.944 | 8.944 |
| | | 711.0 | 8.944 | 8.944 |

| Band | Bandwidth (MHz) | Frequency (MHz) | Occupied Bandwidth (MHz) | |
|------|-----------------|-----------------|--------------------------|--------|
| | | | QPSK | 16QAM |
| 25/2 | 1.4 | 1 850.7 | 1.111 | 1.103 |
| | | 1 882.5 | 1.103 | 1.107 |
| | | 1 914.3 | 1.107 | 1.103 |
| | 3 | 1 851.5 | 2.692 | 2.692 |
| | | 1 882.5 | 2.692 | 2.692 |
| | | 1 913.5 | 2.692 | 2.692 |
| | 5 | 1 852.5 | 4.515 | 4.530 |
| | | 1 882.5 | 4.501 | 4.530 |
| | | 1 912.5 | 4.530 | 4.501 |
| | 10 | 1 855.0 | 8.915 | 8.915 |
| | | 1 882.5 | 8.944 | 8.944 |
| | | 1 910.0 | 8.944 | 8.944 |
| | 15 | 1 857.5 | 13.415 | 13.459 |
| | | 1 882.5 | 13.459 | 13.459 |
| | | 1 907.5 | 13.415 | 13.459 |
| | 20 | 1 860.0 | 17.829 | 17.887 |
| | | 1 882.5 | 17.945 | 17.887 |
| | | 1 905.0 | 17.887 | 17.887 |

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| Band | Bandwidth (MHz) | Frequency (MHz) | Occupied Bandwidth (MHz) | |
|------|-----------------|-----------------|--------------------------|--------|
| | | | QPSK | 16QAM |
| 26/5 | 1.4 | 824.7 | 1.107 | 1.098 |
| | | 836.5 | 1.111 | 1.103 |
| | | 848.3 | 1.107 | 1.107 |
| | 3 | 825.5 | 2.692 | 2.683 |
| | | 836.5 | 2.692 | 2.692 |
| | | 847.5 | 2.692 | 2.692 |
| | 5 | 826.5 | 4.515 | 4.530 |
| | | 836.5 | 4.501 | 4.530 |
| | | 846.5 | 4.515 | 4.501 |
| | 10 | 829.0 | 8.944 | 8.944 |
| | | 836.5 | 8.915 | 8.944 |
| | | 844.0 | 8.915 | 8.915 |
| 26 | 15 | 831.5 | 13.502 | 13.502 |
| | | 841.5 | 13.459 | 13.459 |

| Band | Bandwidth (MHz) | Frequency (MHz) | Occupied Bandwidth (MHz) | |
|------|-----------------|-----------------|--------------------------|--------|
| | | | QPSK | 16QAM |
| 41 | 5 | 2 498.5 | 4.544 | 4.515 |
| | | 2 593.0 | 4.530 | 4.544 |
| | | 2 687.5 | 4.530 | 4.515 |
| | 10 | 2 501.0 | 8.944 | 8.915 |
| | | 2 593.0 | 8.944 | 8.944 |
| | | 2 685.0 | 8.944 | 8.915 |
| | 15 | 2 503.5 | 13.459 | 13.546 |
| | | 2 593.0 | 13.546 | 13.546 |
| | | 2 682.5 | 13.459 | 13.546 |
| | 20 | 2 506.0 | 17.887 | 17.945 |
| | | 2 593.0 | 17.945 | 17.887 |
| | | 2 680.0 | 17.887 | 17.887 |

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A4(210 mm x 297 mm)

| Band | Bandwidth (MHz) | Frequency (MHz) | Occupied Bandwidth (MHz) | |
|------|-----------------|-----------------|--------------------------|--------|
| | | | QPSK | 16QAM |
| 66/4 | 1.4 | 1 710.7 | 1.103 | 1.107 |
| | | 1 745.0 | 1.107 | 1.098 |
| | | 1 779.3 | 1.111 | 1.107 |
| | 3 | 1 711.5 | 2.700 | 2.692 |
| | | 1 745.0 | 2.692 | 2.692 |
| | | 1 778.5 | 2.692 | 2.692 |
| | 5 | 1 712.5 | 4.515 | 4.530 |
| | | 1 745.0 | 4.501 | 4.544 |
| | | 1 777.5 | 4.530 | 4.515 |
| | 10 | 1 715.0 | 8.944 | 8.944 |
| | | 1 745.0 | 8.944 | 8.915 |
| | | 1 775.0 | 8.973 | 8.944 |
| | 15 | 1 717.5 | 13.415 | 13.459 |
| | | 1 745.0 | 13.502 | 13.502 |
| | | 1 772.5 | 13.502 | 13.502 |
| | 20 | 1 720.0 | 17.829 | 17.887 |
| | | 1 745.0 | 17.887 | 17.887 |
| | | 1 770.0 | 17.945 | 18.003 |

| Band | Bandwidth (MHz) | Frequency (MHz) | Occupied Bandwidth (MHz) | |
|------|-----------------|-----------------|--------------------------|--------|
| | | | QPSK | 16QAM |
| 71 | 5 | 665.5 | 4.515 | 4.530 |
| | | 680.5 | 4.501 | 4.530 |
| | | 695.5 | 4.530 | 4.515 |
| | 10 | 668.0 | 8.915 | 8.944 |
| | | 680.5 | 8.944 | 8.944 |
| | | 693.0 | 8.944 | 8.944 |
| | 15 | 670.5 | 13.415 | 13.415 |
| | | 680.5 | 13.502 | 13.459 |
| | | 690.5 | 13.502 | 13.502 |
| | 20 | 673.0 | 17.829 | 17.829 |
| | | 680.5 | 17.887 | 17.887 |
| | | 688.0 | 17.887 | 17.887 |

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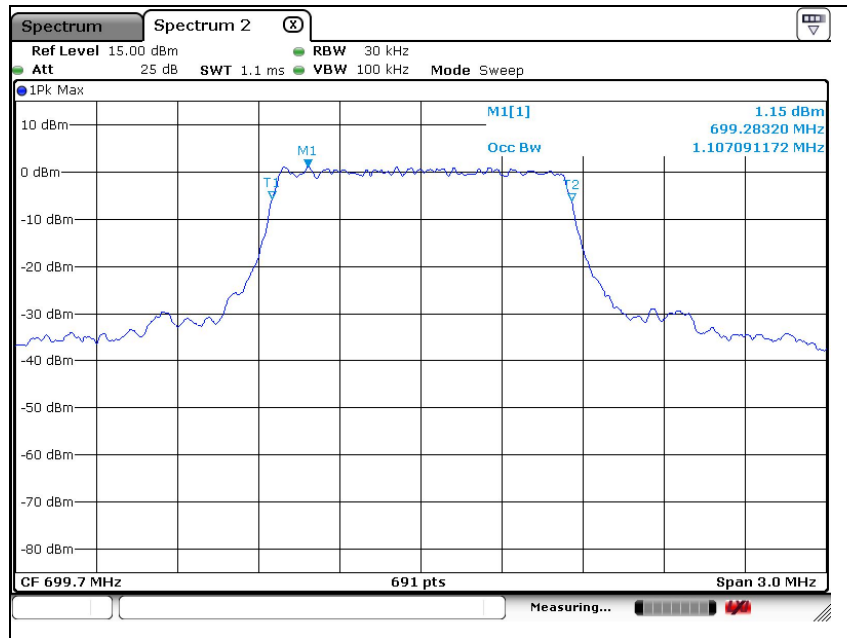
Tel. +82 31 428 5700 / Fax. +82 31 427 2370

A4(210 mm x 297 mm)

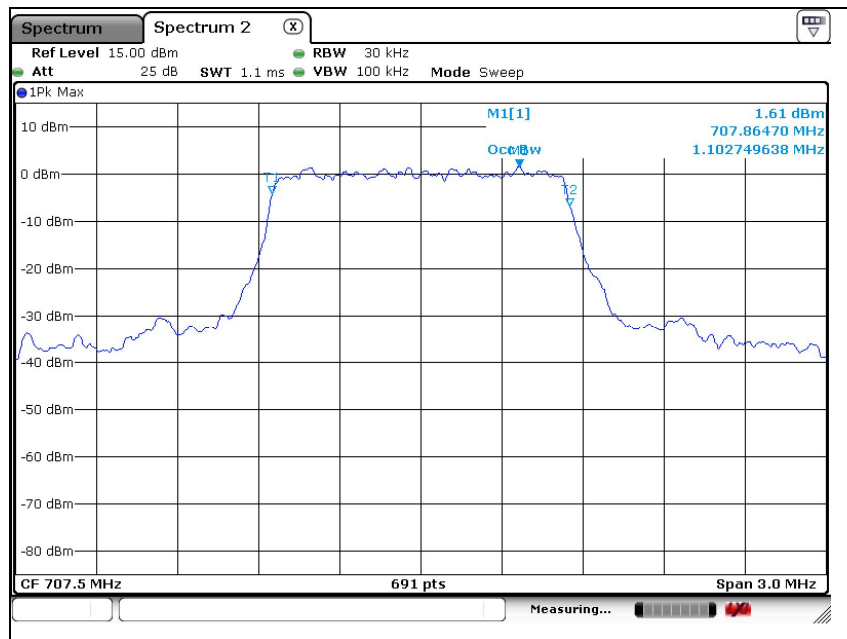
- Test plots

LTE band 12 (1.4 MHz – QPSK)

Low Channel



Middle Channel



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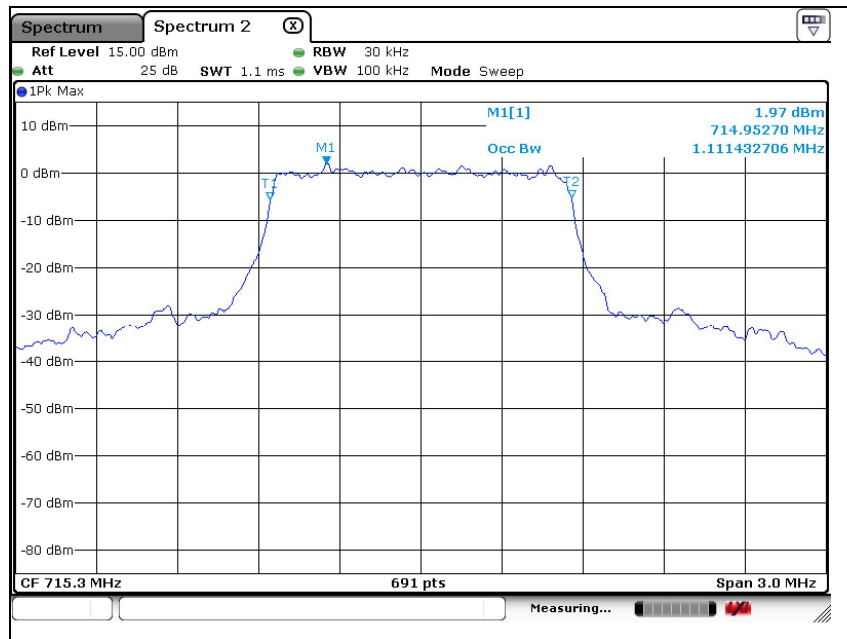
SGS Korea Co., Ltd. (Gunpo Laboratory) 4, LS-ro 182beon-gil, Gunpo-si, Gyeonggi-do, Korea, 15807 <http://www.sgsgroup.kr>

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Tel. +82 31 428 5700 / Fax. +82 31 427 2370

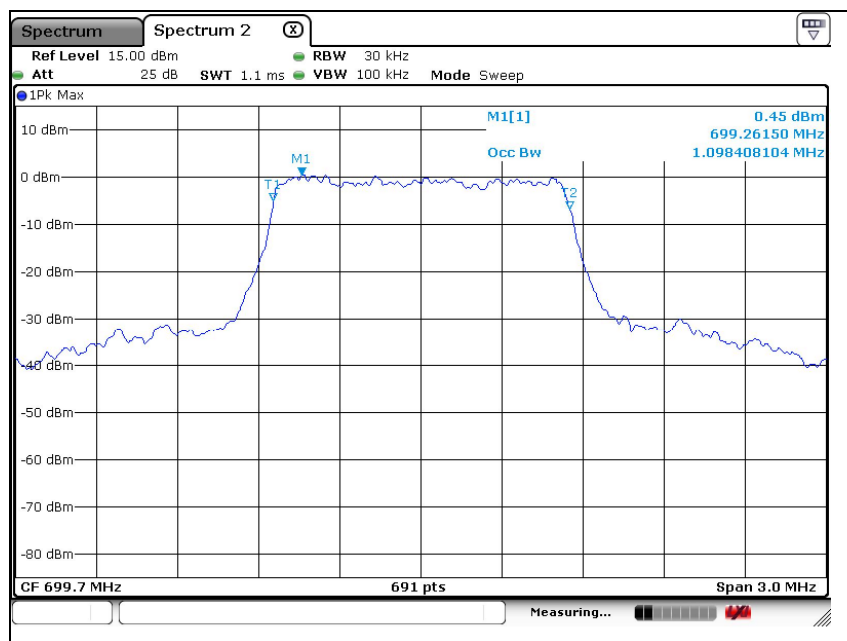
A4(210 mm x 297 mm)

High Channel



LTE band 12 (1.4 MHz – 16QAM)

Low Channel



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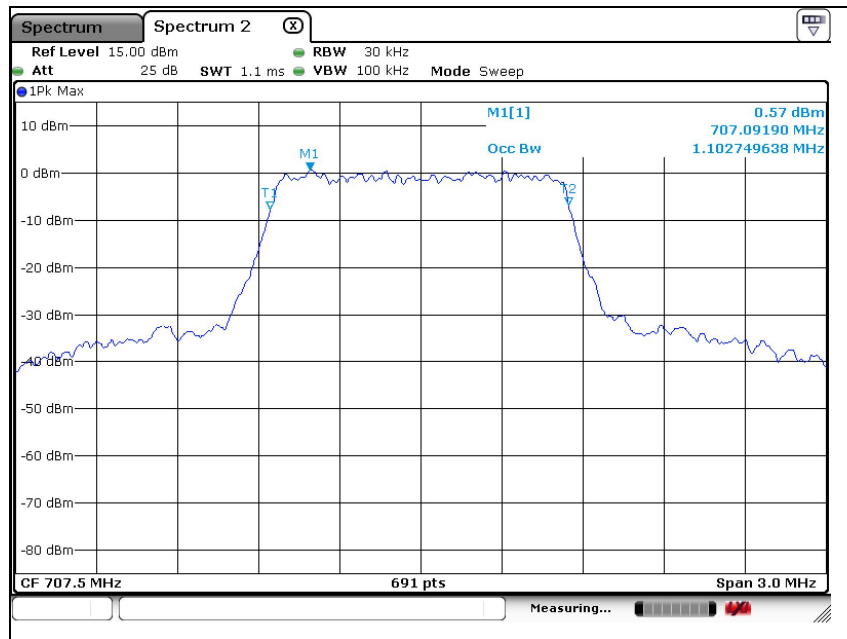
SGS Korea Co., Ltd. (Gunpo Laboratory) 4, LS-ro 182beon-gil, Gunpo-si, Gyeonggi-do, Korea, 15807 <http://www.sgsgroup.kr>

RTT5041-19(2019.04.24)(1)

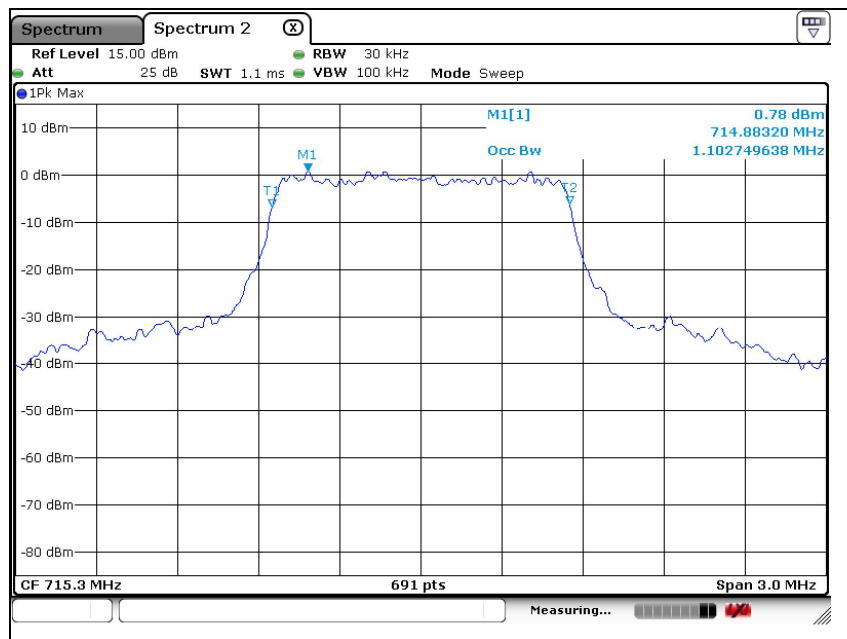
Tel. +82 31 428 5700 / Fax. +82 31 427 2370

A4(210 mm x 297 mm)

Middle Channel



High Channel



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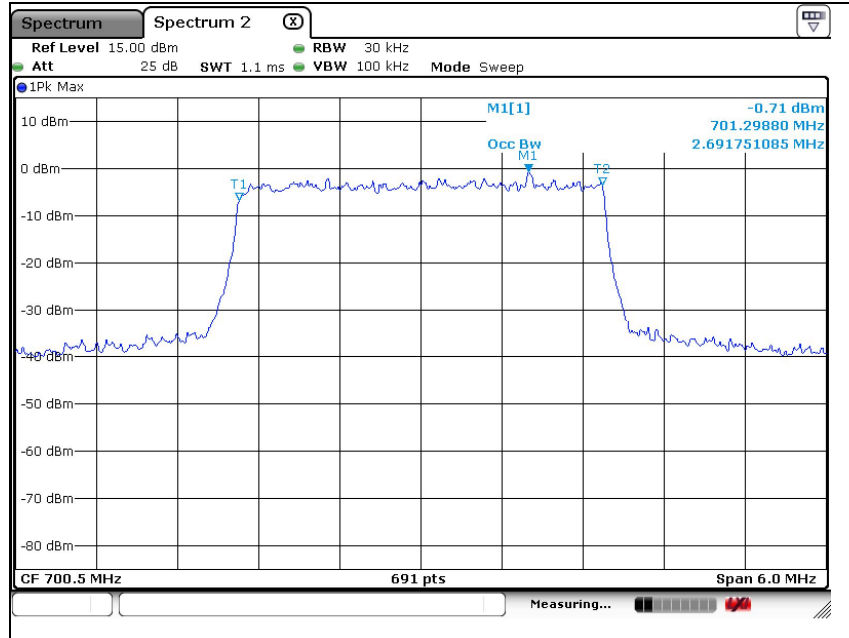
RTT5041-19(2019.04.24)(1)

Tel. +82 31 428 5700 / Fax. +82 31 427 2370

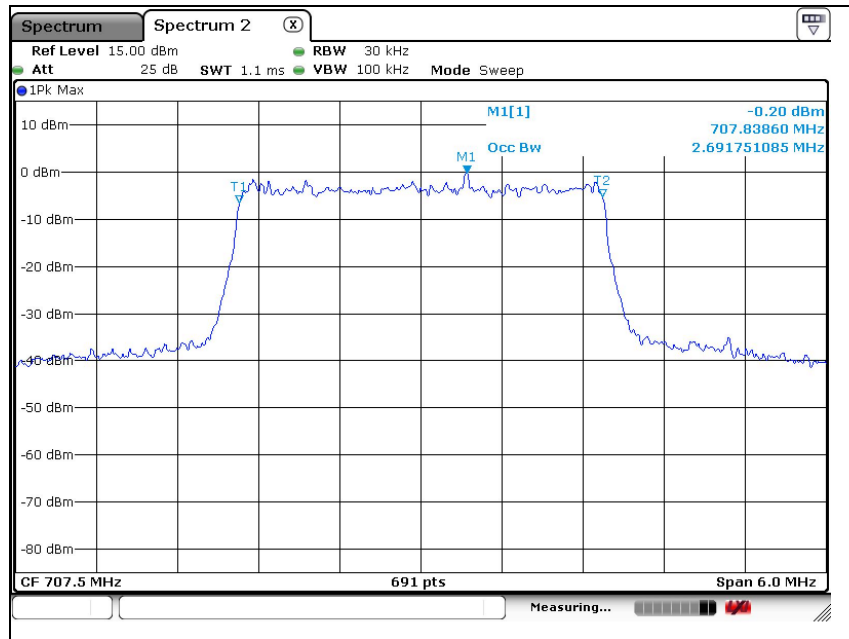
A4(210 mm x 297 mm)

LTE band 12 (3 MHz – QPSK)

Low Channel



Middle Channel



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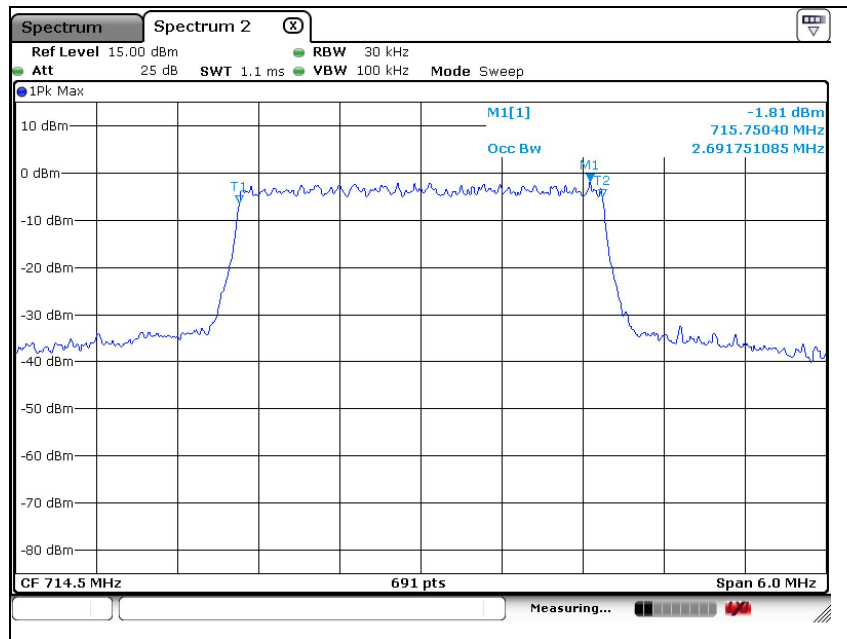
SGS Korea Co., Ltd. (Gunpo Laboratory) 4, LS-ro 182beon-gil, Gunpo-si, Gyeonggi-do, Korea, 15807 <http://www.sgsgroup.kr>

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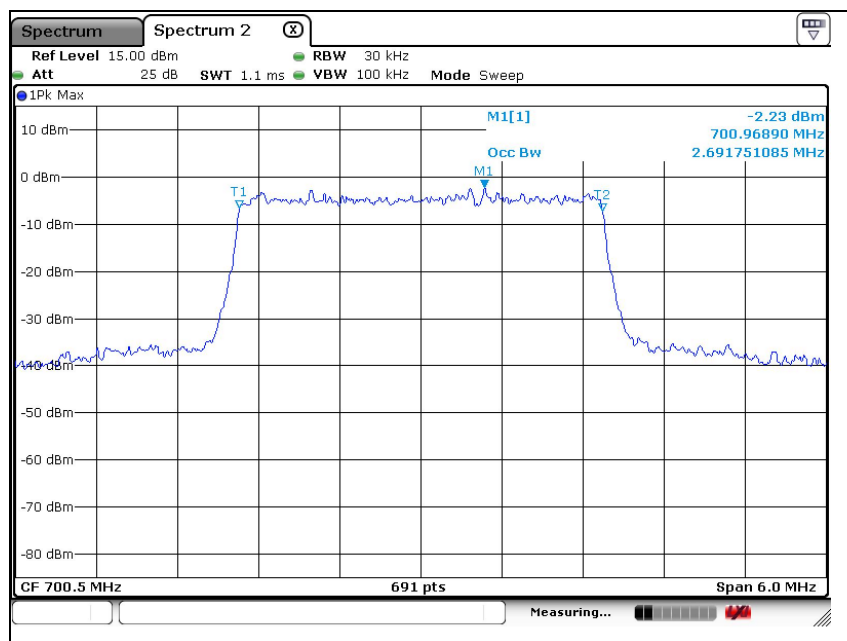
A4(210 mm x 297 mm)

High Channel



LTE band 12 (3 MHz – 16QAM)

Low Channel



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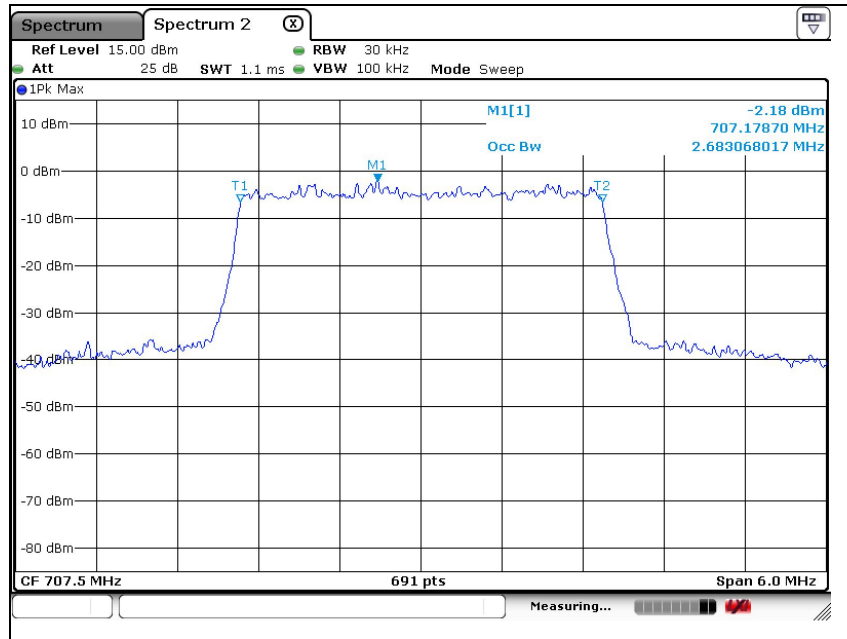
SGS Korea Co., Ltd. (Gunpo Laboratory) 4, LS-ro 182beon-gil, Gunpo-si, Gyeonggi-do, Korea, 15807 <http://www.sgsgroup.kr>

RTT5041-19(2019.04.24)(1)

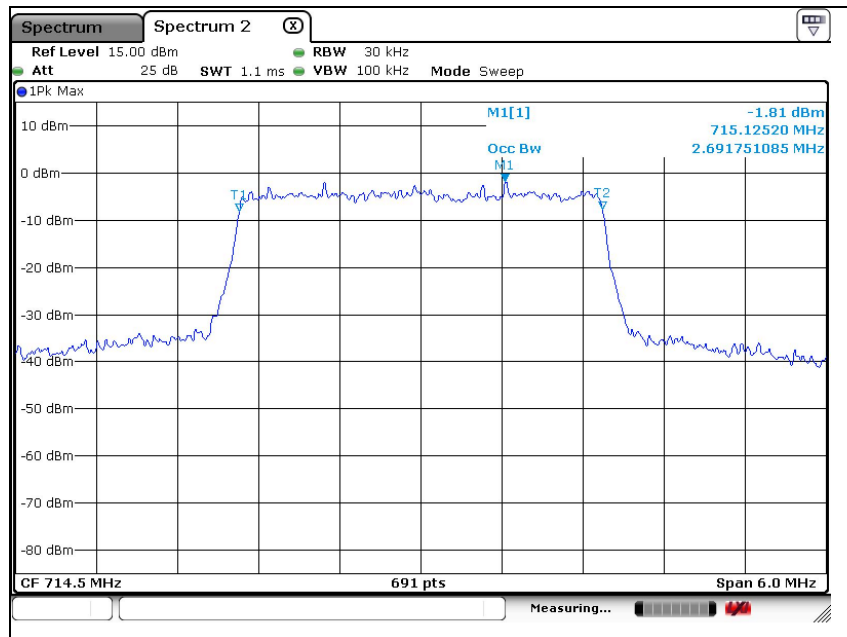
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A4(210 mm x 297 mm)

Middle Channel



High Channel



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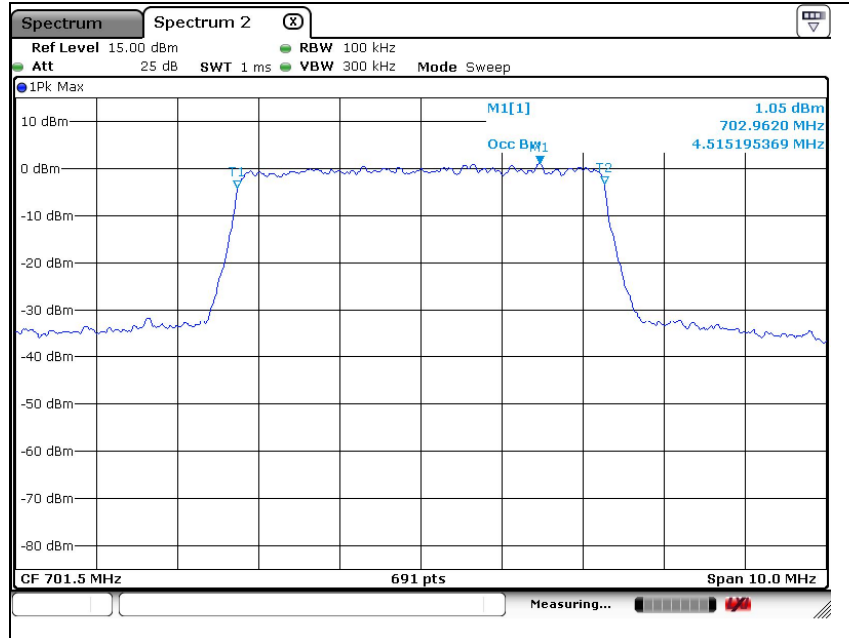
RTT5041-19(2019.04.24)(1)

Tel. +82 31 428 5700 / Fax. +82 31 427 2370

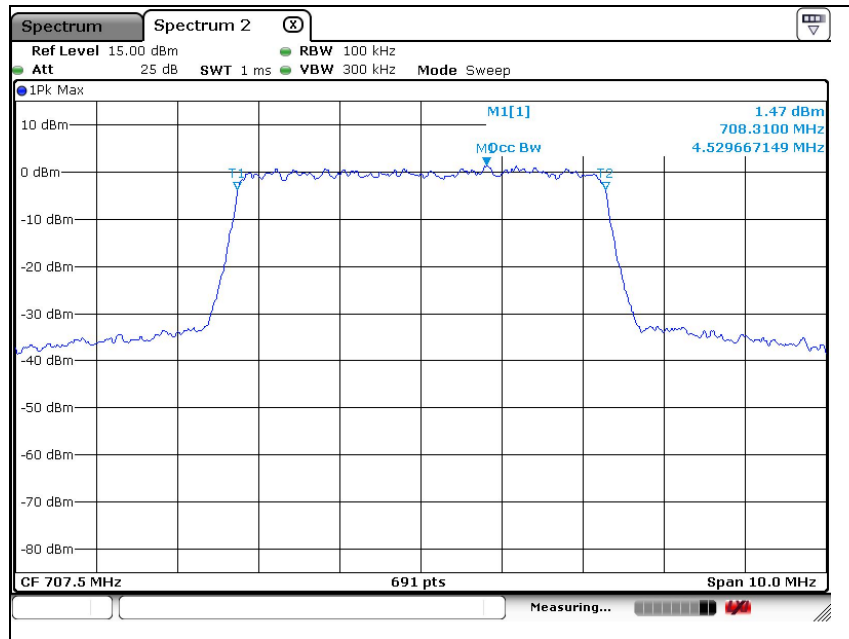
A4(210 mm x 297 mm)

LTE band 12 (5 MHz – QPSK)

Low Channel

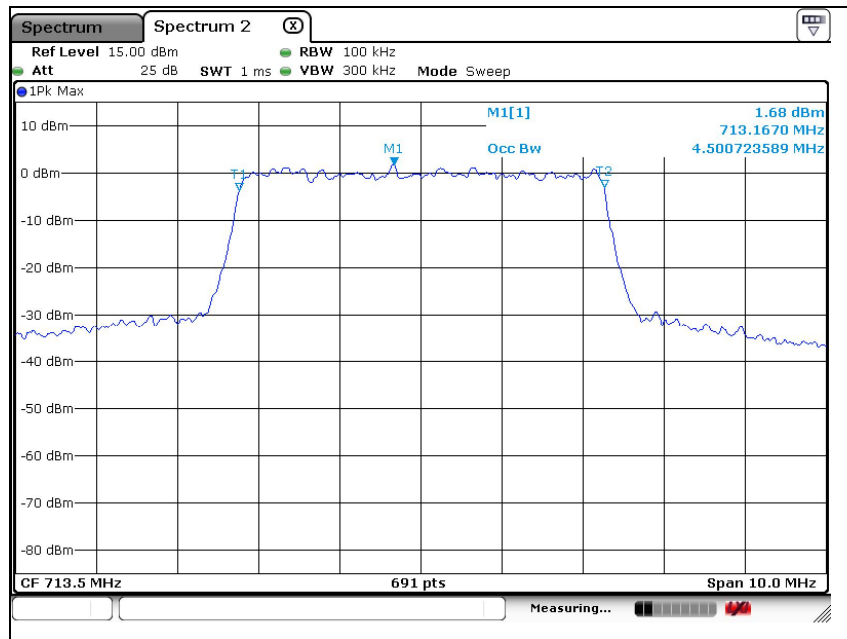


Middle Channel



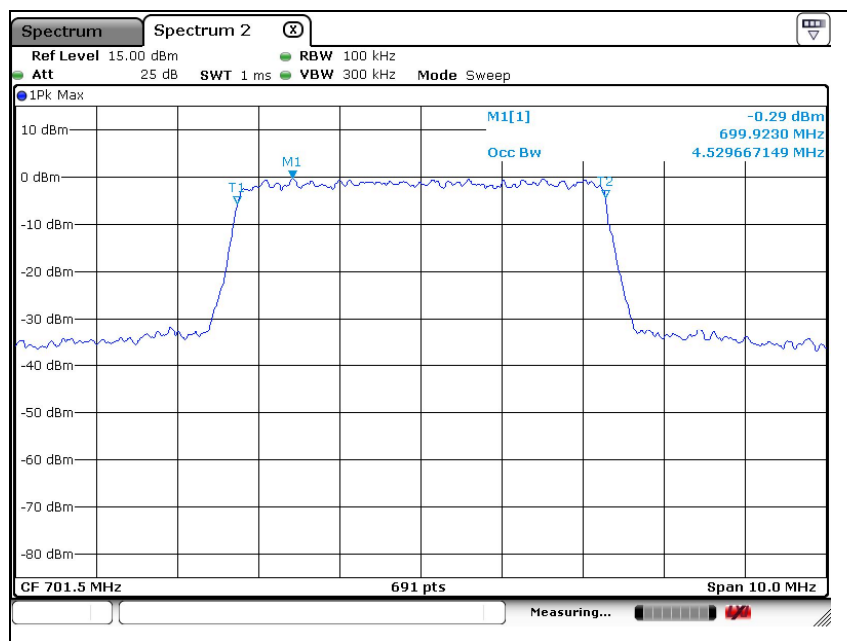
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High Channel



LTE band 12 (5 MHz – 16QAM)

Low Channel



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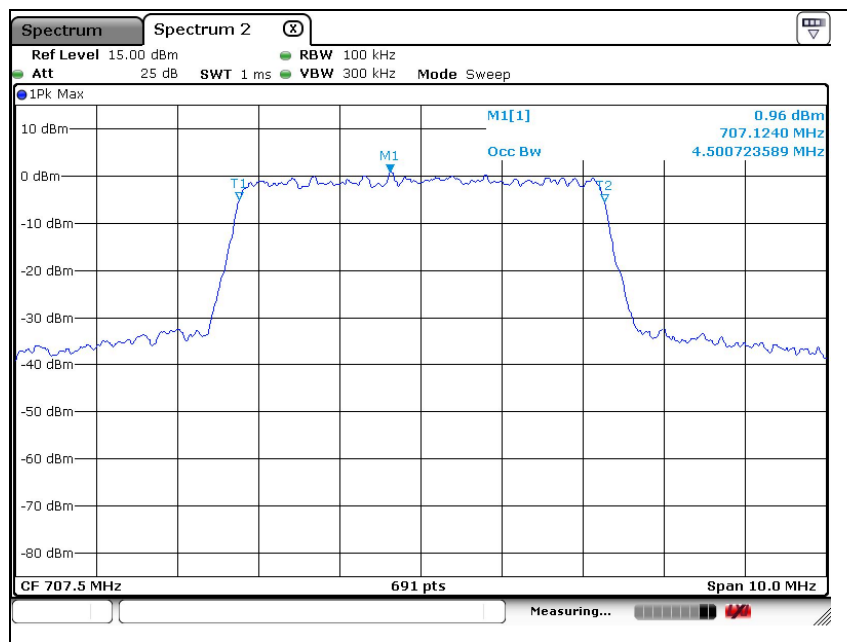
SGS Korea Co., Ltd. (Gunpo Laboratory) 4, LS-ro 182beon-gil, Gunpo-si, Gyeonggi-do, Korea, 15807 <http://www.sgsgroup.kr>

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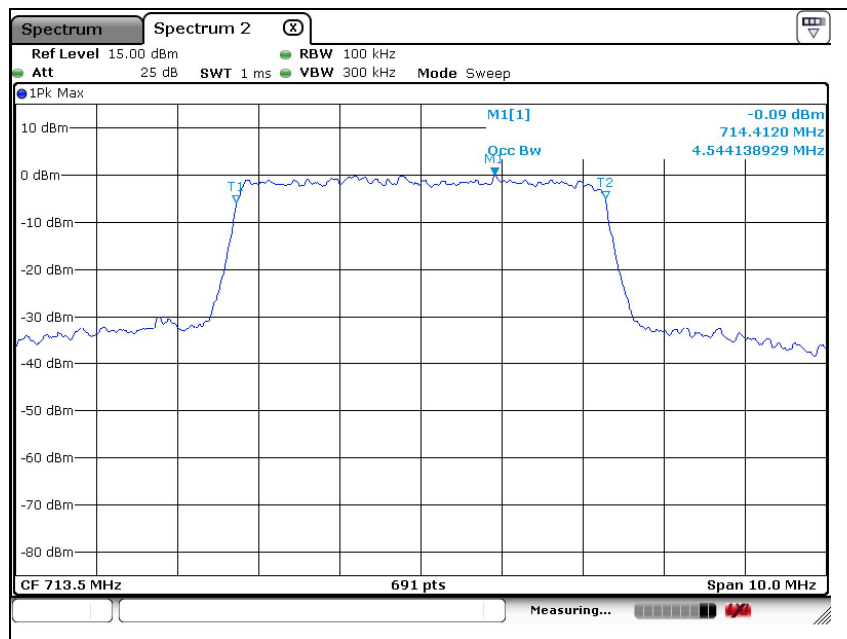
Tel. +82 31 428 5700 / Fax. +82 31 427 2370

A4(210 mm x 297 mm)

Middle Channel



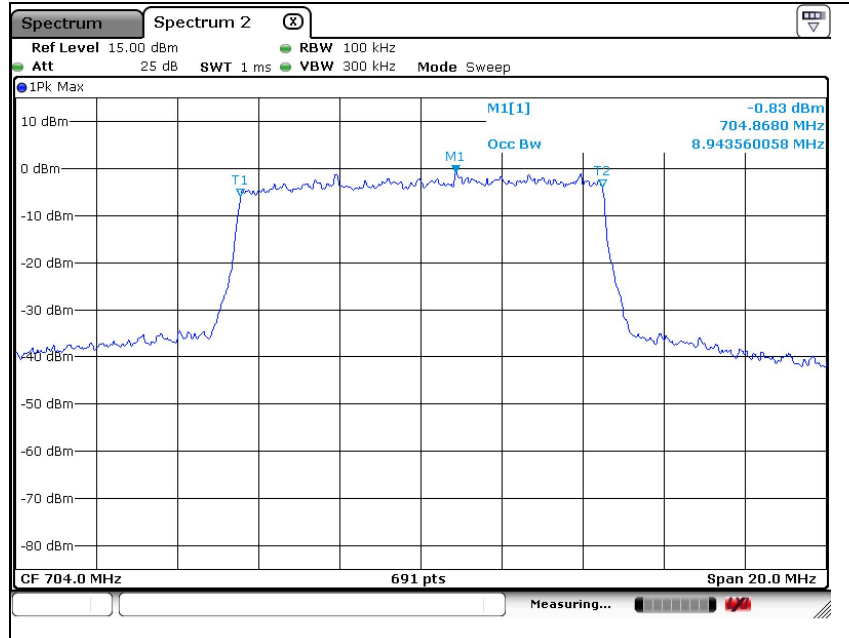
High Channel



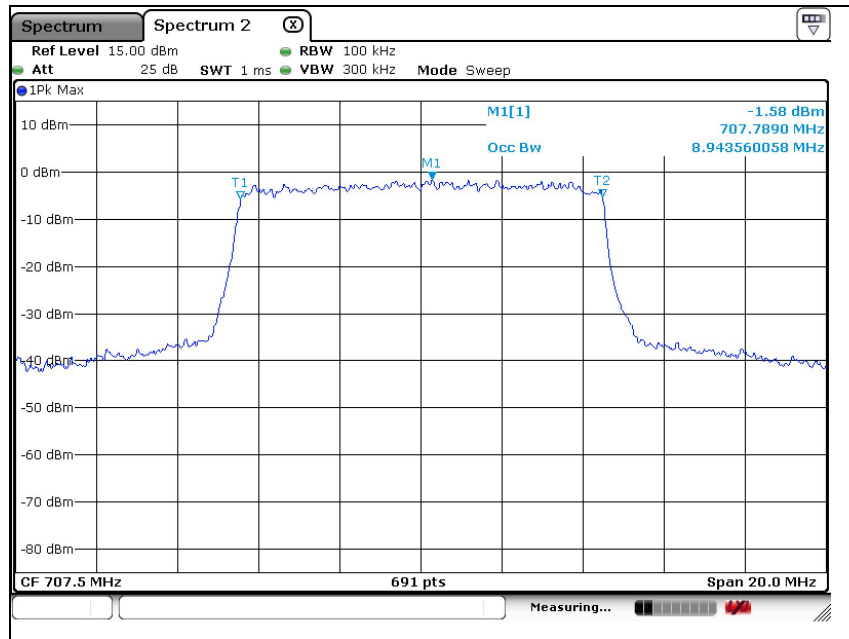
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LTE band 12 (10 MHz – QPSK)

Low Channel



Middle Channel



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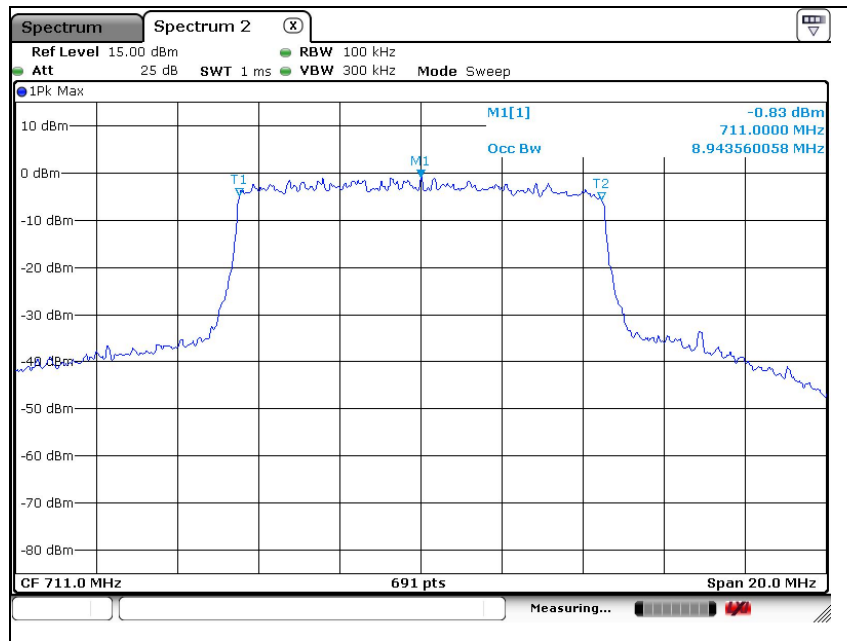
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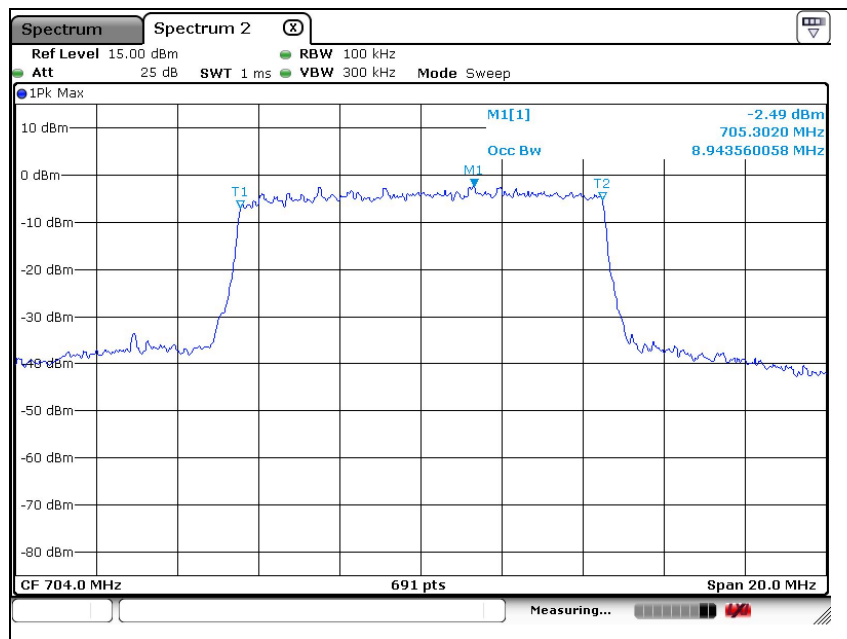
A4(210 mm x 297 mm)

High Channel



LTE band 12 (10 MHz - 16QAM)

Low Channel



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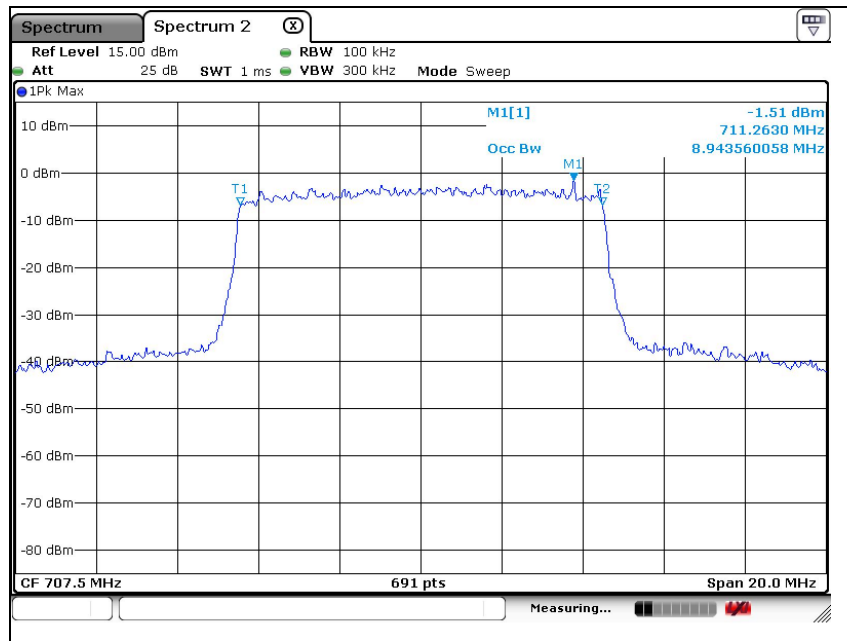
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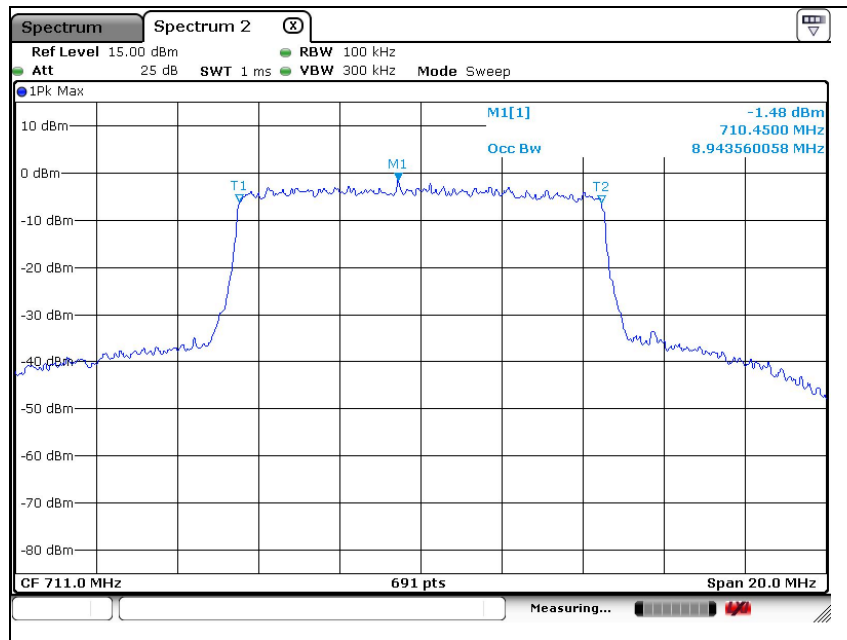
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A4(210 mm x 297 mm)

Middle Channel



High Channel



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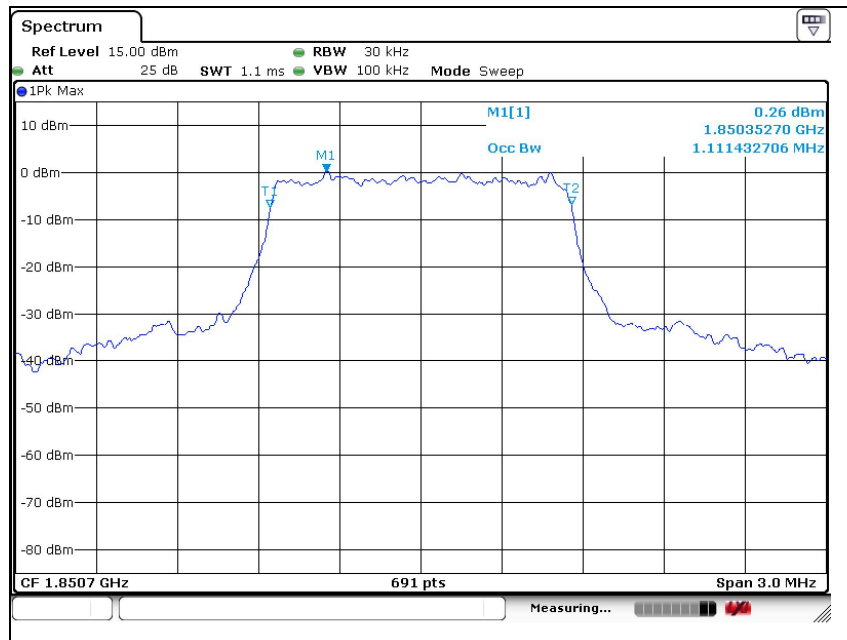
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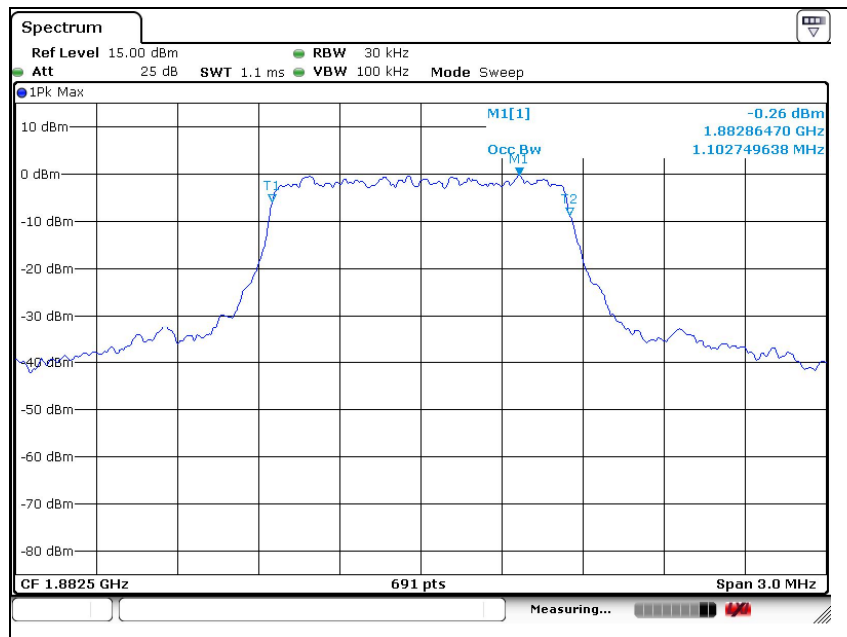
A4(210 mm x 297 mm)

LTE band 25/2 (1.4 MHz – QPSK)

Low Channel



Middle Channel



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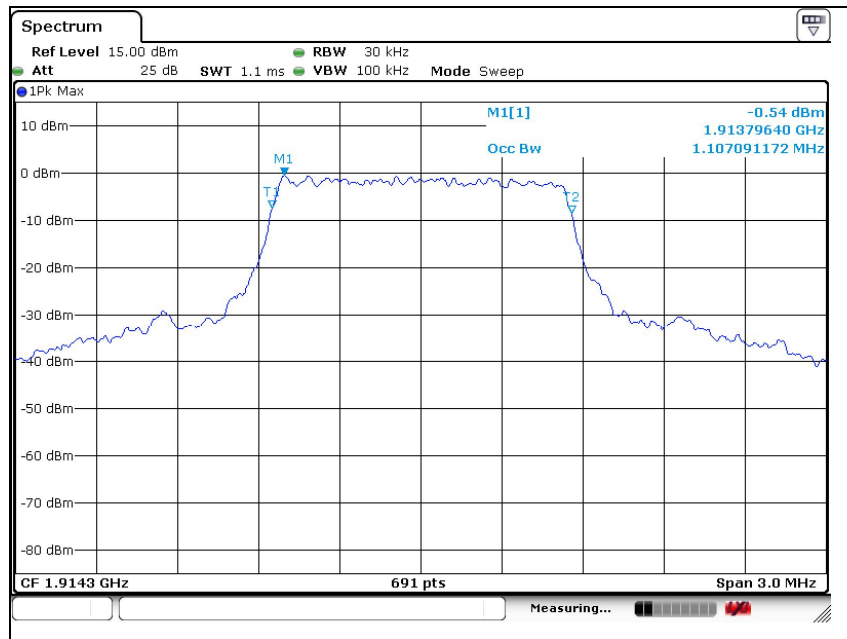
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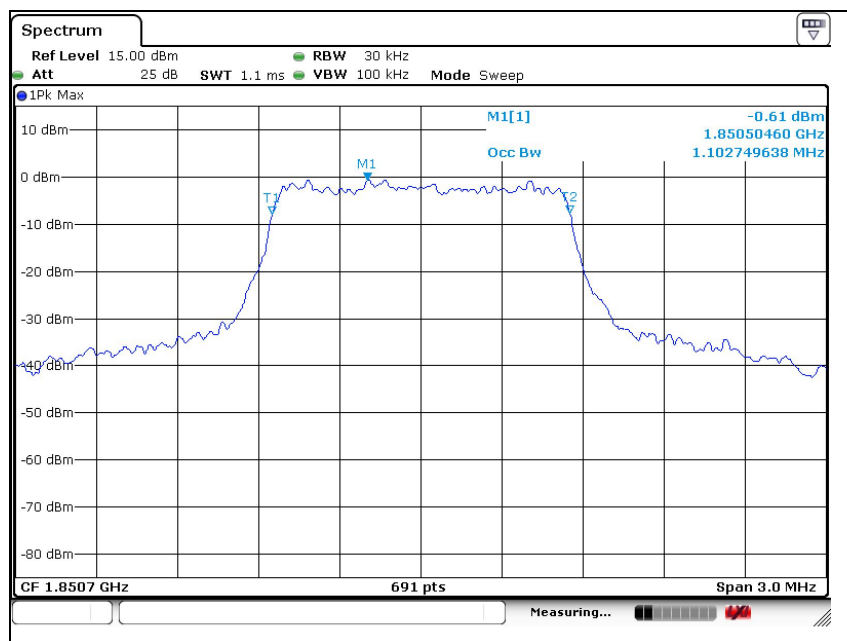
A4(210 mm x 297 mm)

High Channel



LTE band 25/2 (1.4 MHz – 16QAM)

Low Channel



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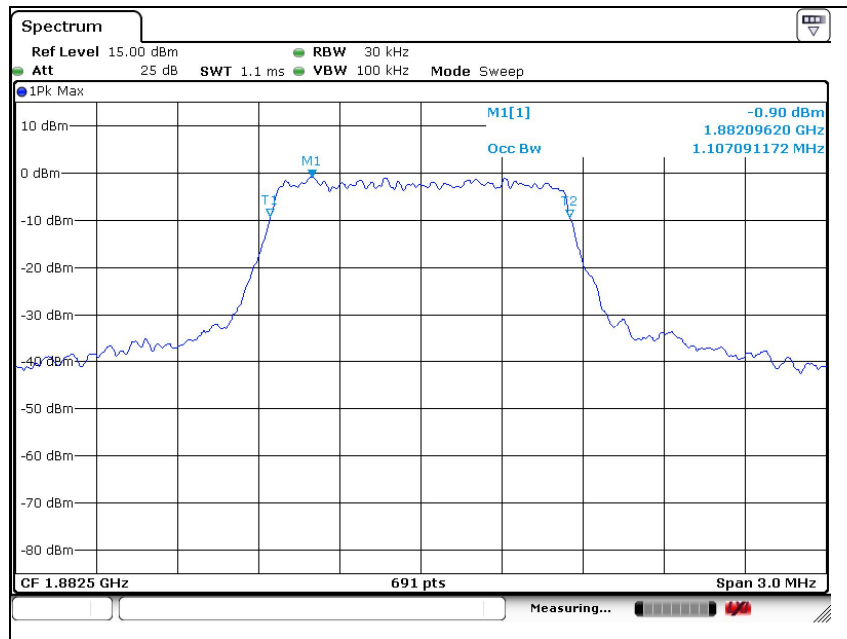
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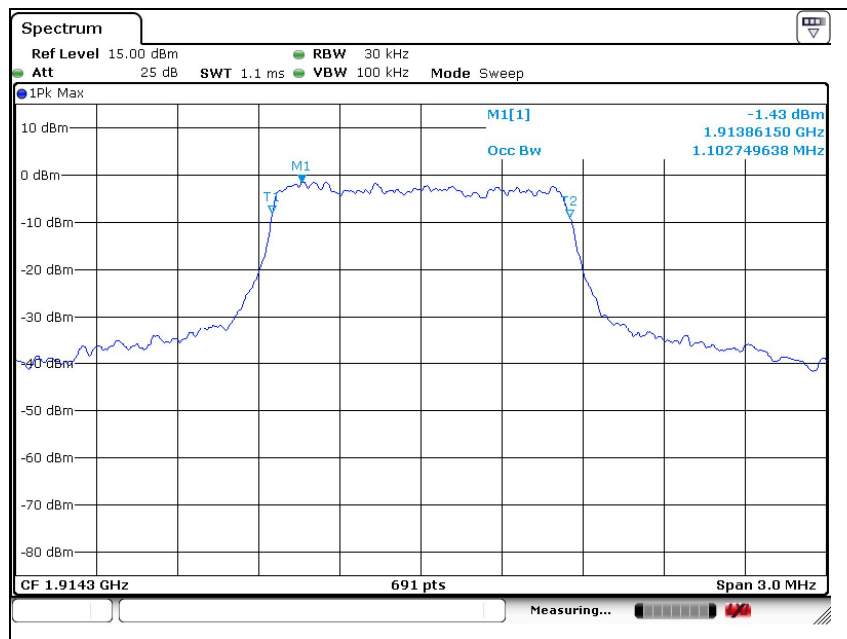
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A4(210 mm x 297 mm)

Middle Channel



High Channel



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