

Report No.: SEWA2309000114RG04

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TEST REPORT

Application No.: SEWA2309000114RG

Applicant: Quectel Wireless Solutions Co., Ltd.

Address of Applicant: Building 5, Shanghai Business Park Phase III (Area B), No.1016 Tianlin

Road, Minhang District, Shanghai, China 200233

Manufacturer: Quectel Wireless Solutions Co., Ltd.

Address of Manufacturer: Building 5, Shanghai Business Park Phase III (Area B), No.1016 Tianlin

Road, Minhang District, Shanghai, China 200233

EUT Description: 5G Sub-6 GHz M.2 Module

Model No.: RM520N-GL Trade Mark: Quectel

FCC ID: XMR2023RM520NGL Standards: 47 CFR Part 2.1091

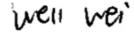
FCC KDB 447498 D01 v06

Date of Receipt: 2023/09/26 (for report SEWA2309000114RG04)

Date of Issue: 2023/10/31

Test Result: PASS*

Authorized Signature:



Well Wei Wireless Laboratory Manager



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



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Version

| Revision Record | | | | | | | |
|-----------------|------------------------------------|------------|--|----------|--|--|--|
| Version | rsion Chapter Date Modifier Remark | | | | | | |
| 01 | | 2023/10/31 | | Original | | | |

| Prepared By | Nick VIII |
|-------------|---------------------------|
| | (Nick Hu) / Test Engineer |
| Checked By | Stone Ju |
| | (Stone Gu) / Reviewer |



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2 **General Information**

2.1 Client Information

| Applicant: | Quectel Wireless Solutions Co., Ltd. | | | |
|--|---|--|--|--|
| Address of Applicant: Building 5, Shanghai Business Park Phase III (Area B), No.1016 Tia Minhang District, Shanghai, China 200233 | | | | |
| Manufacturer: | Quectel Wireless Solutions Co., Ltd. | | | |
| Address of Manufacturer: | Building 5, Shanghai Business Park Phase III (Area B), No.1016 Tianlin Road, Minhang District, Shanghai, China 200233 | | | |

2.2 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

A2LA (Certificate No. 6336.01)

SGS-CSTC STANDARDS TECHNICAL SERVICES (SUZHOU) CO., LTD. is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 6336.01.

Innovation, Science and Economic Development Canada

SGS-CSTC STANDARDS TECHNICAL SERVICES (SUZHOU) CO., LTD. has been recognized by ISED as an accredited testing laboratory.

CAB identifier: CN0120.

IC#: 27594.

FCC –Designation Number: CN1312

SGS-CSTC STANDARDS TECHNICAL SERVICES (SUZHOU) CO., LTD. has been recognized as an

accredited testing laboratory. Designation Number: CN1312.

Test Firm Registration Number: 717327





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2.3 General Description of EUT

| EUT Description: | 5G Sub-6 GHz M.2 Module | | | | | | | | | |
|-------------------|-------------------------|---------------------------------|----------------|---------------------------------|--|--|--|--|--|--|
| Model No.: | RM520N-GL | RM520N-GL | | | | | | | | |
| Trade Mark: | Quectel | Quectel | | | | | | | | |
| Hardware Version: | R1.0 | | | | | | | | | |
| Software Version: | RM520NGLAAR03 | RM520NGLAAR03A01M4G | | | | | | | | |
| Power Supply: | DC 3.7V | DC 3.7V | | | | | | | | |
| Antonno Tyno: | External Antenna | | | | | | | | | |
| Antenna Type: | PIFA Antenna | PIFA Antenna | | | | | | | | |
| | WCDMA Band II: | 0.25dBi | WCDMA Band IV: | 1.47dBi | | | | | | |
| | WCDMA Band V: | 2.68dBi | | | | | | | | |
| | LTE Band 2: | 0.25dBi(Ant0) | LTE Band 4: | 1.47dBi(Ant0) | | | | | | |
| | LTE Band 5: | 2.68dBi(Ant0) | LTE Band 7: | 0.55dBi(Ant0) | | | | | | |
| | LTE Band 12: | -0.2dBi(Ant0) | LTE Band 13: | 1.54dBi(Ant0) | | | | | | |
| | LTE Band 14: | 2.42dBi(Ant0) | LTE Band 17: | -0.2dBi(Ant0) | | | | | | |
| | LTE Band 25: | 0.25dBi(Ant0) | LTE Band 26: | 2.87dBi(Ant0) | | | | | | |
| | LTE Band 30: | -3dBi(Ant0) | LTE Band 38: | 2.4dBi(Ant0) | | | | | | |
| | LTE Band 41: | 2.4dBi(Ant0) | LTE Band 42: | 1dBi(Ant2) | | | | | | |
| | LTE Band 43: | 1dBi(Ant2) | LTE Band 66: | 1.47dBi(Ant0) | | | | | | |
| | LTE Band 71: | 1.22dBi(Ant0) | LTE CA_2C: | 0.25dBi(Ant0) | | | | | | |
| | LTE CA_5B: | 2.68dBi(Ant0) | LTE CA_7C: | 0.55dBi(Ant0) | | | | | | |
| Antenna Gain: | LTE CA_38C: | 2.4dBi(Ant0) | LTE CA_41C: | 2.4dBi(Ant0) | | | | | | |
| | LTE CA_42C: | 1dBi(Ant2) | LTE CA_43C: | 1dBi(Ant2) | | | | | | |
| | LTE CA_66B: | 1.47dBi(Ant0) | LTE CA_66C: | 1.47dBi(Ant0) | | | | | | |
| | LTE Band 48: | 1dBi(Ant2) | LTE CA_48C: | 1dBi(Ant2) | | | | | | |
| | NR Band n2: | 0.25dBi (Ant0) | NR Band n5: | 2.68dBi (Ant0) | | | | | | |
| | NR Band n7: | 0.55dBi (Ant0) | NR Band n12: | -0.2dBi (Ant0) | | | | | | |
| | NR Band n13: | 1.54dBi (Ant0) | NR Band n14: | 2.42dBi (Ant0) | | | | | | |
| | NR Band n25: | 0.25dBi (Ant0) | NR Band n26: | 2.87dBi (Ant0) | | | | | | |
| | NR Band n30: | NR Band n30: -3dBi (Ant0) | | 2.4dBi (Ant0); 2.4dBi (Ant2) | | | | | | |
| | NR Band n41 MIMO: | 2.4dBi (Ant0); 2.4dBi (Ant2) | NR Band n66: | 1.47dBi (Ant0) | | | | | | |
| | NR Band n48 MIMO: | 1dBi (Ant0); 1dBi (Ant2) | NR Band n70: | 1.3dBi (Ant2) | | | | | | |



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| NR Band n71: | 1.22dBi (Ant0) | NR Band n77 MIMO: | 1dBi (Ant0); 1dBi (Ant2) |
|----------------------|-----------------------------|----------------------|-----------------------------|
| NR Band n78 MIMO: | 1dBi (Ant0); 1dBi (Ant2) | | |

CA:

UL CA_2C; UL CA_5B; UL CA_7C; UL CA_38C; UL CA_41C; UL CA_43C;

UL CA 66C; UL CA 66B; UL CA 48C; UL CA 42C;

UL CA_2A-4A; UL CA_2A-5A; UL CA_2A-7A; UL CA_2A-12A; UL CA_2A-13A;

UL CA 2A-30A; UL CA 2A-66A;

UL CA 4A-5A; UL CA 4A-7A; UL CA 4A-12A; UL CA 4A-13A;

UL CA_4A-30A;

UL CA 5A-7A; UL CA 5A-30A; UL CA 5A-66A;

UL CA_12A-30A; UL CA_12A-66A; UL CA_13A-66A; UL CA_14A-30A;

ENDC:

DC_13A_n66A;DC_5A_n2A;DC_14A_n2A;DC_30A_n2A;DC_2A_n5A;

DC_30A_n5A;DC_66A_n5A;DC_2A_n12A;DC_66A_n12A;DC_2A_n66A;

DC_5A_n66A;DC_12A_n66A;DC_14A_n66A;DC_30A_n66A;DC_12A_n2A;

DC 66A n2A;DC 71A n2A;DC 12A n41A;DC 71A n66A;DC 2A n71A

DC_66A_n71A;DC_66A_n25A;DC_25A_n41A;DC_12A_n78A;DC_13A_n78A

DC_25A_n78A;DC_12A_n77A;DC_13A_n77A;DC_14A_n77A;DC_26A_n78A

DC_2A_n78A;DC_26A_n41A;DC_2A_n41A;DC_7A_n5A;DC_38A_n78A

DC 7A n71A;DC 41A n78A;DC 5A n7A;DC 12A n7A;DC 66A n7A

DC_13A_n2A;DC_48A_n5A;DC_48A_n66A;DC_7A_n66A;DC_2A_n48A

DC 5A n48A;DC 13A n48A;DC 66A n48A;DC 4A n78A;DC 20A n77A

DC_5A_n78A;DC_4A_n41A;DC_66A_n38A;DC_2A_n38A;DC_12A_n38A

DC 4A n38A;DC 5A n38A;DC 66A n78A;DC 12A n25A;DC 25A n77A

DC_2A_n77A;DC_71A_n78A;DC_71A_n38A;DC_13A_n7A;DC_5A_n41A

DC_66A_n41A;DC_2A_n7A;DC_7A_n2A;DC_5A_n40A;DC_30A_n77A

DC 41A n77A;DC 7A n78A;DC 48A n25A;DC 66A n28A;DC 71A n41A

DC 28A n66A;DC 30A n12A;DC 2A n14A;DC 30A n14A;DC 66A n14A

DC_2A_n30A;DC_5A_n30A;DC_12A_n30A;DC_14A_n30A;DC_66A_n30A

DC 71A n7A;DC 7A n12A;DC 5A n77A;DC 66A n77A;DC 71A n77A

DC_4A_n2A;DC_7A_n25A;DC_71A_n25A;DC_5A_n25A;DC_26A_n25A



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| | rage. ronz |
|---------|---|
| | DC_4A_n7A;DC_13A_n25A;DC_7A_n77A;DC_48A_n71A;DC_48A_n12A |
| | NR UL CA: |
| | n25A-n41A;n41A-n66A;n41A-n71A;n7A-n78A;n5A-n78A |
| | n66A-n78A;n7A-n77A;n2A-n77A;n5A-n77A;n66A-n77A |
| | n30A-n77A;n48A-n66A;n2A-n48A;n5A-n48A;n48A-n70A |
| | n48A-n71A;n71A-n77A;n71A-n78A;n25A-n78A;n38A-n66A |
| | n25A-n48A;n25A-n77A;n25A-n38A;n13A-n77A; n2A-n41A |
| | Note: |
| | The antenna gain are derived from the gain information report provided by the manufacturer. |
| Domorki | |

Remark:

As above information is provided and confirmed by the applicant. SGS is not liable to the accuracy, suitability, reliability or/and integrity of the information.

Directional Gain Calculations

a) Basic methodology with NANT transmit antennas, each with the same directional gain GANT dBi, being driven by NANT transmitter outputs of equal power. Directional gain is to be computed as follows (ii) all transmit signals are completely uncorrelated with each other, Directional gain = GANT

| Band | ANT Gain0 (dBi) | ANT Gain2 (dBi) | Directional gain (dBi) |
|--------------|--------------------|--------------------|---------------------------|
| NR Band n38: | 2.4 | 2.4 | 2.4 |
| NR Band n41: | 2.4 | 2.4 | 2.4 |
| NR Band n48: | 1 | 1 | 1 |
| NR Band n77: | 1 | 1 | 1 |
| NR Band n78: | 1 | 1 | 1 |



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3 RF Exposure Evaluation

3.1 RF Exposure Compliance Requirement

3.1.1 Limits

| Frequency range (MHz) | Electric field strength (V/m) | Power density (mW/cm2) | Averaging time (minutes) | | | | | | |
|--|-------------------------------|---------------------------|--------------------------|----|--|--|--|--|--|
| (A) Limits for Occupational/Controlled Exposures | | | | | | | | | |
| 0.3-3.0 | 614 | 1.63 | *(100) | 6 | | | | | |
| 3.0-30 | 1842/f | 4.89/f | *(900/f2) | 6 | | | | | |
| 30-300 | 61.4 | 0.163 | 1.0 | 6 | | | | | |
| 300-1500 | 1 | 1 | f/300 | 6 | | | | | |
| 1500-100,000 | 1 | 1 | 5 | 6 | | | | | |
| (| B) Limits for General P | opulation/Uncontrolled | Exposure | | | | | | |
| 0.3-1.34 | 614 | 1.63 | *(100) | 30 | | | | | |
| 1.34-30 | 824/f | 2.19/f | *(180/f2) | 30 | | | | | |
| 30-300 | 27.5 | 0.073 | 0.2 | 30 | | | | | |
| 300-1500 | / | 1 | f/1500 | 30 | | | | | |
| 1500-100,000 | 1 | 1 | 1.0 | 30 | | | | | |

F=frequency in MHz

RF exposure compliance will need to be determined with respect to 1.1307(c) and (d) of the FCC rules. The emissions should be within the limits at 300kHz in Table 1 of 1.1310(use the 300kHz limits for 150kHz:614V/m,1.63A/m).

Friis Formula

Friis transmission formula: Pd = (Pout*G)/(4* Pi * R2)

Where

Pd = power density in mW/cm2

Pout = output power to antenna in mW

G = gain of antenna in linear scale

Pi = 3.1416

R = distance between observation point and center of the radiator in cm

Pd id the limit of MPE, 1 mW/cm2. If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance r where the MPE limit is reached.



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^{*=}Plane-wave equivalent power density



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3.1.2 Test Procedure

Software provided by client enabled the EUT to transmit data at lowest, middle and highest channel individually

3.1.3 EUT RF Exposure Evaluation

Output Power Into Antenna & RF Exposure Evaluation Distance:

This confirmed that the device comply with MPE limit.

| Operating Band | Frequency (MHz) | Antenna Gain (dBi) | Max Conducted Power (dBm) | EIRP(ERP) (dBm) | EIRP(ERP) Limit (dBm) | Power Density at R = 20 cm (mW/cm2) | Limit (mW/cm2) | Gain according to EIRP(ERP) (dBi) | according | Max Gain Allowed (dBi) | conclusion |
|---|--------------------|--------------------------|------------------------------------|--------------------|-----------------------------|-------------------------------------|-------------------|--|-----------|------------------------------|------------|
| WCDMA Band II | 1852.4 | 0.25 | 25.00 | 25.25 | 33.00 | 0.0666 | 1.0000 | 8.00 | 12.01 | 8.00 | Pass |
| WCDMA Band IV | 1712.4 | 1.47 | 25.00 | 26.47 | 30.00 | 0.0883 | 1.0000 | 5.00 | 12.01 | 5.00 | Pass |
| WCDMA Band V | 826.4 | 2.68 | 25.00 | 25.53 | 38.45 | 0.1166 | 0.5509 | 15.60 | 9.42 | 9.42 | Pass |
| LTE Band 2/LTE CA_2C | 1850.7 | 0.25 | 25.00 | 25.25 | 33.00 | 0.0666 | 1.0000 | 8.00 | 12.01 | 8.00 | Pass |
| LTE Band 4 | 1710.7 | 1.47 | 25.00 | 26.47 | 30.00 | 0.0883 | 1.0000 | 5.00 | 12.01 | 5.00 | Pass |
| LTE Band 5/LTE CA_5B | 824.7 | 2.68 | 25.00 | 25.53 | 38.45 | 0.1166 | 0.5498 | 15.60 | 9.41 | 9.41 | Pass |
| LTE Band 7/LTE CA_7C | 2502.5 | 0.55 | 25.00 | 25.55 | 33.00 | 0.0714 | 1.0000 | 8.00 | 12.01 | 8.00 | Pass |
| LTE Band 12 | 699.7 | -0.20 | 25.00 | 22.65 | 34.77 | 0.0601 | 0.4665 | 11.92 | 8.70 | 8.70 | Pass |
| LTE Band 13 | 779.5 | 1.54 | 25.00 | 24.39 | 34.77 | 0.0897 | 0.5197 | 11.92 | 9.16 | 9.16 | Pass |
| LTE Band 14 | 790.5 | 2.42 | 25.00 | 25.27 | 34.77 | 0.1098 | 0.5270 | 11.92 | 9.23 | 9.23 | Pass |
| LTE Band 17 | 706.5 | -0.20 | 25.00 | 22.65 | 34.77 | 0.0601 | 0.4710 | 11.92 | 8.74 | 8.74 | Pass |
| LTE Band 25 | 1850.7 | 0.25 | 25.00 | 25.25 | 33.00 | 0.0666 | 1.0000 | 8.00 | 12.01 | 8.00 | Pass |
| LTE Band 26(814- 824) | 814.7 | 2.87 | 25.00 | NA | NA | 0.1218 | 0.5431 | NA | 9.36 | 9.36 | Pass |
| LTE Band 26(824- 849) | 824.7 | 2.87 | 25.00 | 25.72 | 38.45 | 0.1218 | 0.5498 | 15.60 | 9.41 | 9.41 | Pass |
| LTE Band 30 | 2307.5 | -3.00 | 23.00 | 20.00 | 23.98 | 0.0199 | 1.0000 | 0.98 | 14.01 | 0.98 | Pass |
| LTE Band 38/LTE CA_38C | 2572.5 | 2.40 | 25.00 | 27.40 | 33.00 | 0.1093 | 1.0000 | 8.00 | 12.01 | 8.00 | Pass |
| LTE Band 41/LTE CA_41C | 2498.5 | 2.40 | 27.00 | 29.40 | 33.00 | 0.1733 | 1.0000 | 6.00 | 10.01 | 6.00 | Pass |
| LTE Band 42(3450- 3550) /LTE CA_42C | 3452.5 | 1.00 | 22.00 | 23.00 | 30.00 | 0.0397 | 1.0000 | 8.00 | 15.01 | 8.00 | Pass |
| LTE Band 43(3700- 3800)/LTE CA_43C | 3702.5 | 1.00 | 22.00 | 23.00 | 30.00 | 0.0397 | 1.0000 | 8.00 | 15.01 | 8.00 | Pass |
| LTE Band 48/LTE CA_48C | 3552.5 | 1.00 | 22.00 | 23.00 | 23.00 | 0.0397 | 1.0000 | 1.00 | 15.01 | 1.00 | Pass |
| LTE Band 66/LTE CA_66B/LTE CA_66C | 1710.7 | 1.47 | 25.00 | 26.47 | 30.00 | 0.0883 | 1.0000 | 5.00 | 12.01 | 5.00 | Pass |
| LTE Band 71 | 665.5 | 1.22 | 25.00 | 24.07 | 34.77 | 0.0833 | 0.4437 | 11.92 | 8.48 | 8.48 | Pass |



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| Operating Band | Frequency (MHz) | Antenna Gain (dBi) | MIMO Directional gain | Max Conducted Power (dBm) | EIRP(ERP) (dBm) | EIRP(ERP) Limit (dBm) | Power Density at R = 20 cm (mW/cm2) | Limit (mW/cm2) | Gain according to EIRP(ERP) (dBi) | Gain according to Pd (dBi) | Max Gain Allowed (dBi) | conclusion |
|----------------------------------|--------------------|--------------------------|-----------------------------|------------------------------------|--------------------|-----------------------------|-------------------------------------|-------------------|--|----------------------------------|------------------------------|------------|
| NR Band n2 | 1852.5 | 0.25 | NA | 25.00 | 25.25 | 33.00 | 0.0666 | 1.0000 | 8.00 | 12.01 | 8.00 | Pass |
| NR Band n5 | 826.5 | 2.68 | NA | 25.00 | 25.53 | 38.45 | 0.1166 | 0.5510 | 15.60 | 9.42 | 9.42 | Pass |
| NR Band n7 | 2502.5 | 0.55 | NA | 25.00 | 25.55 | 33.00 | 0.0714 | 1.0000 | 8.00 | 12.01 | 8.00 | Pass |
| NR Band n12 | 701.5 | -0.20 | NA | 25.00 | 22.65 | 34.77 | 0.0601 | 0.4677 | 11.92 | 8.71 | 8.71 | Pass |
| NR Band n13 | 779.5 | 1.54 | NA | 25.00 | 24.39 | 34.77 | 0.0897 | 0.5197 | 11.92 | 9.16 | 9.16 | Pass |
| NR Band n14 | 790.5 | 2.42 | NA | 25.00 | 25.27 | 34.77 | 0.1098 | 0.5270 | 11.92 | 9.23 | 9.23 | Pass |
| NR Band n25 | 1852.5 | 0.25 | NA | 25.00 | 25.25 | 33.00 | 0.0666 | 1.0000 | 8.00 | 12.01 | 8.00 | Pass |
| NR Band n26(814- 824) | 816.5 | 2.87 | NA | 25.00 | NA | NA | 0.1218 | 0.5443 | NA | 9.37 | 9.37 | Pass |
| NR Band n26(824- 849) | 826.5 | 2.87 | NA | 25.00 | 25.72 | 38.45 | 0.1218 | 0.5510 | 15.60 | 9.42 | 9.42 | Pass |
| NR Band n30 | 2307.5 | -3.00 | NA | 23.00 | 20.00 | 23.98 | 0.0199 | 1.0000 | 0.98 | 14.01 | 0.98 | Pass |
| NR Band n38 | 2575.0 | 2.40 | NA | 25.00 | 27.40 | 33.00 | 0.1093 | 1.0000 | 8.00 | 12.01 | 8.00 | Pass |
| NR Band n38(MIMO) | 2575.0 | 2.40 | 2.40 | 25.00 | 27.40 | 33.00 | 0.1093 | 1.0000 | 8.00 | 12.01 | 8.00 | Pass |
| NR Band n41 | 2506.0 | 2.40 | NA | 27.50 | 29.90 | 33.00 | 0.1944 | 1.0000 | 5.50 | 9.51 | 5.50 | Pass |
| NR Band n41(MIMO) | 2506.0 | 2.40 | 2.40 | 27.50 | 29.90 | 33.00 | 0.1944 | 1.0000 | 5.50 | 9.51 | 5.50 | Pass |
| NR Band n48 | 3555.0 | 1.00 | NA | 22.00 | 23.00 | 23.00 | 0.0397 | 1.0000 | 1.00 | 15.01 | 1.00 | Pass |
| NR Band n48(MIMO) | 3555.0 | 1.00 | 1.00 | 22.00 | 23.00 | 23.00 | 0.0397 | 1.0000 | 1.00 | 15.01 | 1.00 | Pass |
| NR Band n66 | 1712.5 | 1.47 | NA | 25.00 | 26.47 | 30.00 | 0.0883 | 1.0000 | 5.00 | 12.01 | 5.00 | Pass |
| NR Band n70 | 1697.5 | 1.30 | NA | 24.00 | 25.30 | 30.00 | 0.0674 | 1.0000 | 6.00 | 13.01 | 6.00 | Pass |
| NR Band n71 | 665.5 | 1.22 | NA | 25.00 | 24.07 | 34.77 | 0.0833 | 0.4437 | 11.92 | 8.48 | 8.48 | Pass |
| NR Band n77 (3450-3550) | 3455.0 | 1.00 | NA | 27.50 | 28.50 | 30.00 | 0.1408 | 1.0000 | 2.50 | 9.51 | 2.50 | Pass |
| NR Band n77 (3450-3550)(MIMO) | 3455.0 | 1.00 | 1.00 | 27.50 | 28.50 | 30.00 | 0.1408 | 1.0000 | 2.50 | 9.51 | 2.50 | Pass |
| NR Band n77 (3700-3980) | 3707.5 | 1.00 | NA | 27.50 | 28.50 | 30.00 | 0.1408 | 1.0000 | 2.50 | 9.51 | 2.50 | Pass |
| NR Band n77 (3700-3980)(MIMO) | 3707.5 | 1.00 | 1.00 | 27.50 | 28.50 | 30.00 | 0.1408 | 1.0000 | 2.50 | 9.51 | 2.50 | Pass |
| NR Band n78 (3450-3550) | 3455.0 | 1.00 | NA | 27.50 | 28.50 | 30.00 | 0.1408 | 1.0000 | 2.50 | 9.51 | 2.50 | Pass |
| NR Band n78 (3450-3550)(MIMO) | 3455.0 | 1.00 | 1.00 | 27.50 | 28.50 | 30.00 | 0.1408 | 1.0000 | 2.50 | 9.51 | 2.50 | Pass |
| NR Band n78 (3700-3800) | 3705.0 | 1.00 | NA | 27.50 | 28.50 | 30.00 | 0.1408 | 1.0000 | 2.50 | 9.51 | 2.50 | Pass |
| NR Band n78 (3700-3800)(MIMO) | 3705.0 | 1.00 | 1.00 | 27.50 | 28.50 | 30.00 | 0.1408 | 1.0000 | 2.50 | 9.51 | 2.50 | Pass |
| Bluetooth | 2402.0 | 5.00 | NA | 23.00 | 28.00 | NA | 0.1255 | 1.0000 | NA | NA | NA | NA |
| WLAN2.4GHz | 2412.0 | 5.00 | NA | 23.00 | 28.00 | NA | 0.1255 | 1.0000 | NA | NA | NA | NA |
| WLAN5GHz | 5180.0 | 5.00 | NA | 23.00 | 28.00 | NA | 0.1255 | 1.0000 | NA | NA | NA | NA |

Note:

- 1. This MPE analysis is applicable to any collocated transmitters with transmit power for WLAN is less than or equal to 28dBm and for Bluetooth is less than or equal to 28dBm.
- 2. A maximum antenna gain of 5dBi for WLAN/BT has been assumed for all collocated antennas.



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Due to the EUT support NR ENDC and CA

Both LTE and NR/LTE band can transmit simultaneously, the formula of the calculated the MPE is:

$$\sum_{i=1}^{n} \frac{S_{E_{i}}(dutyfactor)}{MPE_{E_{i}}} < 1$$

NOTE The corresponding MEs must be expressed in terms of power density in the above summation Therefore, the worst-case(DC 26A n41A) situation is 0.2243+0.1944=0.4187, which is less than "1", this confirmed that the device comply with MPE limit.



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3.1.4 Exposure calculations for multiple sources

When a number of sources at different frequencies, and/or broadband sources, contribute to the total exposure, it becomes necessary to weigh each contribution relative to the MPE in accordance with the provisions of Table(A) and Table(B). To comply with the MPE, the fraction of the MPE in terms of E2, H2 (or power density) incurred within each frequency interval should be determined and the sum of all such fractions should not exceed unity.

In order to ensure compliance with the MPE for a controlled environment, the sum of the ratios of the power density to the corresponding MPE should not exceed unity. That is

$$\sum_{i=1}^{n} \frac{S_i}{MPE_i} \le 1$$

The product also has multiple transmitters The Simultaneous Transmission Possibilities are as below:

| Simultaneous Tx Combination | Configuration |
|--------------------------------|--|
| 1 | WWAN + WiFi 2.4G + WiFi 5G + Bluetooth |

| No. | Mode | Power Density (mW/cm²) | MPE Limit (mW/cm ²) | Result Ratio | Total Ratio | Limit | Result |
|-----|-------------|---------------------------|------------------------------------|--------------|----------------|-------|--------|
| 1 | NR Band n71 | 0.0833 | 0.4437 | 0.1877 | 0.5642 | 1.00 | Pass |
| | Bluetooth | 0.1255 | 1.0000 | 0.1255 | | | |
| | WiFi 2.4G | 0.1255 | 1.0000 | 0.1255 | | | |
| | WiFi 5G | 0.1255 | 1.0000 | 0.1255 | | | |

Note: Considering the WWAN module collocation with the WLAN and Bluetooth transmitter of the EIRP performance listed in the table above, the aggregated (power density /limit) is smaller than 1, and MPE of 3 collocated transmitters is compliant.

---End of Report---



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