



FCC LISTED, REGISTRATION  
NUMBER: 2764.01

ISED LISTED REGISTRATION  
NUMBER: 23595-1

Test report No:  
**5849ERM.007**

## Partial Test report

**USA FCC 15.31(h), 15.209, 15.247, 15.407, 22, 24, 27 CANADA RSS-132, RSS-133, RSS-199, RSS-247, RSS-Gen**

|                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| (*) Identification of item tested         | Telematic system with wireless technologies                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| (*) Trademark                             | Mercedes-Benz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| (*) Model and /or type reference tested   | HERMES 4.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Other identification of the product       | FCC ID: T8GHERMES40<br>IC ID: 6434A-HERMES40                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| (*) Features                              | WLAN, GNSS, 5G-NAD-Module                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Manufacturer                              | HARMAN BECKER AUTOMOTIVE SYSTEMS GMBH<br>BECKER-GOERING-STR. 16;<br>76307 KARLSBAD<br>GERMANY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Test method requested, standard           | USA FCC Part 15.31(h) (10-1-2025 Edition): Measurement standards<br>USA FCC Part 15.205 (10-1-2025 Edition): Restricted bands of operation.<br>USA FCC Part 15.209 (10-1-2025 Edition): Radiated emission limits; general requirements.<br>USA FCC Part 15.247 (10-1-2025 Edition): Operation within the bands 902 - 928 MHz, 2400 - 2483.5 MHz, and 5725 - 5850 MHz<br>USA FCC Part 15.407 (10-1-2025) Edition: Unlicensed National Information Infrastructure (U-NII) Devices. General technical requirements.<br>USA FCC Part 22 (10-1-2025) Edition: Public Mobile Services.<br>USA FCC Part 24 (10-1-2025) Edition: Personal Communications Services.<br>USA FCC Part 27 (10-1-2025) Edition: Miscellaneous Wireless Communications Services.<br>CANADA RSS-132 Issue 4 (Jan. 2023)<br>CANADA RSS-133 Issue 7 (July 2024)<br>CANADA RSS-199 Issue 4 (July 2023)<br>CANADA RSS-Gen Issue 5 (April 2018)/A1 (March 2019)/A2 (Feb 2021)<br>ANSI C63.10-2020/Cor1-2023+C63.10a-2024+Errata to C63.10a-2024: American National Standard for Testing Unlicensed Wireless Devices.<br>ANSI C63.26-2015 IEEE/ANSI Standard for Testing of Transmitters Used in Licensed Radio Services. |
| Summary                                   | See Appendix A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Approved by (name / position & signature) | Domingo Galvez<br>EMC&RF Lab Manager<br>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Date of issue                             | 2026-10-12                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Report template No                        | FDT08_25<br>(*) "Data provided by the client"                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

Digitally signed by Domingo Galvez  
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# Index

Competences and guarantees ..... 3

General conditions ..... 3

Uncertainty ..... 3

Data provided by the client ..... 4

Usage of samples ..... 4

Test sample description ..... 5

Identification of the client ..... 6

Testing period and place ..... 6

Document history ..... 6

Environmental conditions ..... 7

Remarks and comments ..... 7

Testing verdicts ..... 8

Summary ..... 8

List of equipment used during the test ..... 12

Appendix A: Test results (Multi-transmitter) ..... 13

## Competences and guarantees

DEKRA Certification Inc. is a testing laboratory accredited by A2LA (The American Association for Laboratory Accreditation), to perform the tests indicated in the Certificate 2764.01 and CAB ID US0215.

DEKRA Certification Inc. is a testing laboratory competent to carry out the tests described in this report.

In order to assure the traceability to other national and international laboratories, DEKRA Certification Inc. has a calibration and maintenance program for its measurement equipment.

DEKRA Certification Inc. guarantees the reliability of the data presented in this report, which is the result of the measurements and the tests performed to the item under test on the date and under the conditions stated on the report and, it is based on the knowledge and technical facilities available at DEKRA Certification Inc. at the time of performance of the test.

DEKRA Certification Inc. is liable to the client for the maintenance of the confidentiality of all information related to the item under test and the results of the test.

The results presented in this Test Report apply only to the particular item under test established in this document.

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## General conditions

1. This report is only referred to the item that has undergone the test.
2. This report does not constitute or imply on its own an approval of the product by the Certification Bodies or competent Authorities.
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4. This test report cannot be used partially or in full for publicity and/or promotional purposes without previous written permission of DEKRA Certification Inc. and the Accreditation Bodies.

## Uncertainty

Uncertainty (factor  $k=2$ ) was calculated according to the DEKRA Certification internal document PODT000.

| Test case                  | Frequency (MHz) | U ( $k=2$ ) | Units |
|----------------------------|-----------------|-------------|-------|
| Radiated Spurious Emission | 30-180          | 4.27        | dB    |
|                            | 180-1000        | 3.14        | dB    |
|                            | 1000-18000      | 3.30        | dB    |
|                            | 18000-40000     | 3.49        | dB    |

## Data provided by the client

The following data has been provided by the client:

1. Information relating to the description of the sample ("Identification of the item tested", "Trademark", "Model and/or type reference tested").
2. The sample consists of Hardware for Enhanced Remote, Mobility & Emergency Services.

DEKRA declines any responsibility with respect to the information provided by the client and that may affect the validity of results.

## Usage of samples

Samples undergoing test have been selected by: The client.

The sample(s) is composed of the following elements, accessories and auxiliary equipment:

| Id   | Control Number | Description            | Manufacturer/ Model | Serial N°  | Date of Reception | Application        |
|------|----------------|------------------------|---------------------|------------|-------------------|--------------------|
| S/01 | 05849_19       | Harness                | HERMES 4.0          | ---        | 2026-03-16        | Element Under Test |
| S/01 | 05849_6        | Telematic system       | HERMES 4.0          | TA0UC9GR   | 2026-03-16        | Element Under Test |
| S/01 | 05849_17       | ZB ANTENNE TEL 5G      | HERMES 4.0          | ---        | 2026-03-17        | Accessory          |
| S/01 | 05849_18       | ZB ANTENNE TEL 5G      | HERMES 4.0          | ---        | 2026-03-17        | Accessory          |
| S/01 | 05849_8        | ZB ANTENNE GNSS MODULE | HERMES 4.0          | 00225      | 2026-03-17        | Accessory          |
| S/01 | 1525           | ---                    | HP EliteBook 845 G8 | 5CG151001K | ---               | Auxiliary Element  |

Notes referenced to samples during the project:

| Id   | Note                                                                                   |
|------|----------------------------------------------------------------------------------------|
| S/01 | Sample S/01, was used for the following test(s): All the tests indicated in appendix A |

## Test sample description

Test Sample description (compulsory information for EMC and RF testing services)

|                                               |                                     |                                        |                          |                      |              |                                   |     |
|-----------------------------------------------|-------------------------------------|----------------------------------------|--------------------------|----------------------|--------------|-----------------------------------|-----|
| Ports..... :                                  | Port name and description           |                                        | Cable                    |                      |              |                                   |     |
|                                               |                                     |                                        | Specified max length [m] | Attached during test | Shielded     | Coupled to patient <sup>(3)</sup> |     |
|                                               | Main Connector                      |                                        | 2m                       | [X]                  | [ ]          | [ ]                               |     |
|                                               | GNSS in/out                         |                                        | 2m                       | [X]                  | [X]          | [ ]                               |     |
|                                               | NAD antenna                         |                                        | 2m                       | [X]                  | [X]          | [ ]                               |     |
|                                               | .....                               |                                        | .....                    | [ ]                  | [ ]          | [ ]                               |     |
| .....                                         |                                     | .....                                  | [ ]                      | [ ]                  | [ ]          |                                   |     |
| Supplementary information to the ports..... : | .....                               |                                        |                          |                      |              |                                   |     |
| Rated power supply .....                      | Voltage and Frequency               |                                        | Reference poles          |                      |              |                                   |     |
|                                               |                                     |                                        | L1                       | L2                   | L3           | N                                 | PE  |
|                                               | [ ]                                 | AC: .....                              | [ ]                      | [ ]                  | [ ]          | [ ]                               | [ ] |
|                                               | [ ]                                 | AC: .....                              | [ ]                      | [ ]                  | [ ]          | [ ]                               | [ ] |
|                                               | [ ]                                 | DC: .....                              |                          |                      |              |                                   |     |
| [X]                                           | DC: 12V car battery                 |                                        |                          |                      |              |                                   |     |
| Rated Power .....                             | 12V                                 |                                        |                          |                      |              |                                   |     |
| Clock frequencies .....                       | .....                               |                                        |                          |                      |              |                                   |     |
| Other parameters.....                         | .....                               |                                        |                          |                      |              |                                   |     |
| Software version .....                        | E900                                |                                        |                          |                      |              |                                   |     |
| Hardware version.....                         | D1                                  |                                        |                          |                      |              |                                   |     |
| Dimensions in cm (W x H x D) .....            | 135mm x 102mm x 25mm                |                                        |                          |                      |              |                                   |     |
| Mounting position..... :                      | [ ]                                 | Table top equipment                    |                          |                      |              |                                   |     |
|                                               | [ ]                                 | Wall/Ceiling mounted equipment         |                          |                      |              |                                   |     |
|                                               | [ ]                                 | Floor standing equipment               |                          |                      |              |                                   |     |
|                                               | [ ]                                 | Hand-held equipment                    |                          |                      |              |                                   |     |
|                                               | [X]                                 | Other: OEM installation inside the car |                          |                      |              |                                   |     |
| Modules/parts .....                           | Module/parts of test item           |                                        | Type                     |                      | Manufacturer |                                   |     |
|                                               | .....                               |                                        | .....                    |                      | .....        |                                   |     |
|                                               | .....                               |                                        | .....                    |                      | .....        |                                   |     |
|                                               | .....                               |                                        | .....                    |                      | .....        |                                   |     |
|                                               | .....                               |                                        | .....                    |                      | .....        |                                   |     |
| Accessories (not part of the test item) ..... | Description                         |                                        | Type                     |                      | Manufacturer |                                   |     |
|                                               | CAN-Box for weakup                  |                                        | CAN-Box                  |                      | HARMAN       |                                   |     |
|                                               | .....                               |                                        | .....                    |                      | .....        |                                   |     |
|                                               | .....                               |                                        | .....                    |                      | .....        |                                   |     |
|                                               | .....                               |                                        | .....                    |                      | .....        |                                   |     |
| Documents as provided by the applicant .....  | Description                         |                                        | File name                |                      | Issue date   |                                   |     |
|                                               | Technical Description               |                                        | .....                    |                      | 2026-05-06   |                                   |     |
|                                               | TCF incl. Layout, Schematic, BOM... |                                        | .....                    |                      | 2026-05-06   |                                   |     |
|                                               | Declaration Equipment Data          |                                        | .....                    |                      | 2026-02-18   |                                   |     |
|                                               | .....                               |                                        | .....                    |                      | .....        |                                   |     |

<sup>(3)</sup> Only for Medical Equipment

## Identification of the client

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HARMAN BECKER AUTOMOTIVE SYSTEMS GMBH  
BECKER-GOERING-STR. 16;  
76307 KARLSBAD  
GERMANY

## Testing period and place

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|               |                                                                                                       |
|---------------|-------------------------------------------------------------------------------------------------------|
| Test Location | DEKRA Certification Inc.<br>405 Glenn Dr. Suite 12,<br>Sterling, VA 20164<br>United States of America |
| Date (start)  | 2026-09-21                                                                                            |
| Date (finish) | 2026-09-24                                                                                            |

## Document history

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| Report number | Date       | Description    |
|---------------|------------|----------------|
| 5849ERM.007   | 2026-10-12 | First release. |

## Environmental conditions

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In the control chamber, the following limits were not exceeded during the test:

|                   |                                   |
|-------------------|-----------------------------------|
| Temperature       | Min. = 15 °C<br>Max. = 35 °C      |
| Relative humidity | Min. = 20 %<br>Max. = 60 %        |
| Air pressure      | Min. = 860mbar<br>Max. = 1060mbar |

In the semi anechoic chamber, the following limits were not exceeded during the test.

|                   |                                   |
|-------------------|-----------------------------------|
| Temperature       | Min. = 15 °C<br>Max. = 35 °C      |
| Relative humidity | Min. = 20 %<br>Max. = 60 %        |
| Air pressure      | Min. = 860mbar<br>Max. = 1060mbar |

In the chamber for conducted measurements, the following limits were not exceeded during the test:

|                   |                                   |
|-------------------|-----------------------------------|
| Temperature       | Min. = 15 °C<br>Max. = 35 °C      |
| Relative humidity | Min. = 20 %<br>Max. = 60 %        |
| Air pressure      | Min. = 860mbar<br>Max. = 1060mbar |

## Remarks and comments

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The tests have been performed by the technical personnel: Abrehalye Gebremichael, Nicoleta Plesko, Victor Albrecht, and Yuri Barone.

## Testing verdicts

|                |     |
|----------------|-----|
| Fail           | F   |
| Inconclusive   | I   |
| Not applicable | N/A |
| Not measured   | N/M |
| Pass           | P   |

## Summary

| Requirement – Test case                                                                                                                                                                                                                                                                                                                                                                                                               | FCC PART 15 PARAGRAPH (15.247) | Verdict | Remark     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|---------|------------|
| FCC 15.207 - Continuous conducted emission on Power leads                                                                                                                                                                                                                                                                                                                                                                             |                                | N/M     | Refer 1    |
| FCC 15.247 - [20dBW] 20 dB Bandwidth                                                                                                                                                                                                                                                                                                                                                                                                  |                                | N/M     | Refer 1    |
| FCC 15.247 - [CFS] Carrier Frequency Separation                                                                                                                                                                                                                                                                                                                                                                                       |                                | N/M     | Refer 1    |
| FCC 15.247 - [DwT] Time of Occupancy (Dwell Time)                                                                                                                                                                                                                                                                                                                                                                                     |                                | N/M     | Refer 1    |
| FCC 15.247 - [NHC] Number of hopping channels                                                                                                                                                                                                                                                                                                                                                                                         |                                | N/M     | Refer 1    |
| FCC 15.247 - [6dBw] 6 dB Bandwidth                                                                                                                                                                                                                                                                                                                                                                                                    |                                | N/M     | Refer 1    |
| FCC 15.247 - [Avcp] Maximum Average Conducted Output Power                                                                                                                                                                                                                                                                                                                                                                            |                                | N/M     | Refer 1    |
| FCC 15.247 - [Pkcp] Maximum Average Conducted Output Power                                                                                                                                                                                                                                                                                                                                                                            |                                | N/M     | Refer 1    |
| FCC 15.247 - [Bndedge] Band-edge emissions compliance (Transmitter)                                                                                                                                                                                                                                                                                                                                                                   |                                | N/M     | Refer 1    |
| FCC 15.247 - [RSE] Emission limitations radiated (Transmitter)                                                                                                                                                                                                                                                                                                                                                                        |                                | P       | Refer 2, 3 |
| FCC 15.247 - [Psd] Power spectral density                                                                                                                                                                                                                                                                                                                                                                                             |                                | N/M     | Refer 1    |
| <b>Supplementary information and remarks:</b> <ol style="list-style-type: none"> <li>Partial testing was performed based on the applicable test requirements, test case: RSE.</li> <li>Equipment can transmit simultaneously Cellular &amp; WLAN 2.4 GHz, Cellular &amp; WLAN 5 GHz radios</li> <li>Radiated measurements were performed in the worst-case of combination between different capabilities of the equipment.</li> </ol> |                                |         |            |

| FCC PART 15 PARAGRAPH (15.407)                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                    |         |            |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|---------|------------|
| Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                    | Test case                                                                          | Verdict | Remark     |
| FCC 15.407                                                                                                                                                                                                                                                                                                                                                                                                                                     | [AvCP] Maximum Conducted output power                                              | N/M     | Refer 1    |
| FCC 15.407                                                                                                                                                                                                                                                                                                                                                                                                                                     | [PSD] Transmitter Maximum Power Spectral Density                                   | N/M     | Refer 1    |
| FCC 15.407                                                                                                                                                                                                                                                                                                                                                                                                                                     | [6dBW] 6 dB Emission Bandwidth                                                     | N/M     | Refer 1    |
| FCC 15.407                                                                                                                                                                                                                                                                                                                                                                                                                                     | [RSE] Transmitter Out of Band Radiated Emissions For transmitters operating solely | P       | Refer 2, 3 |
| FCC 15.407                                                                                                                                                                                                                                                                                                                                                                                                                                     | [BndEdge] Transmitter Band Edge Radiated Emissions                                 | N/M     | Refer 1    |
| FCC 15.35                                                                                                                                                                                                                                                                                                                                                                                                                                      | [DC] Duty Cycle                                                                    | N/M     | Refer 1    |
| FCC 15.403                                                                                                                                                                                                                                                                                                                                                                                                                                     | [EBW] Transmitter 26 dB Emission Bandwidth                                         | N/M     | Refer 1    |
| FCC 15.207                                                                                                                                                                                                                                                                                                                                                                                                                                     | Continuous conducted emission on Power leads                                       | N/M     | Refer 1    |
| <b>Supplementary information and remarks:</b> <ol style="list-style-type: none"> <li>1. Partial testing was performed based on the applicable test requirements, test case: RSE.</li> <li>2. Equipment can transmit simultaneously Cellular &amp; WLAN 2.4 GHz, Cellular &amp; WLAN 5 GHz radios</li> <li>3. Radiated measurements were performed in the worst-case of combination between different capabilities of the equipment.</li> </ol> |                                                                                    |         |            |

| FCC PART 22 PARAGRAPH                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                        |         |            |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|---------|------------|
| Requirement                                                                                                                                                                                                                                                                                                                                                                                                                                    | Test case                                              | Verdict | Remark     |
| FCC 22.913<br>FCC 2.1046                                                                                                                                                                                                                                                                                                                                                                                                                       | RF Output power                                        | N/M     | Refer 1    |
| FCC 2.1047                                                                                                                                                                                                                                                                                                                                                                                                                                     | Modulation characteristics                             | N/M     | Refer 1    |
| FCC 22.355<br>FCC 2.1055                                                                                                                                                                                                                                                                                                                                                                                                                       | Frequency stability                                    | N/M     | Refer 1    |
| FCC 2.1049                                                                                                                                                                                                                                                                                                                                                                                                                                     | Occupied Bandwidth                                     | N/M     | Refer 1    |
| FCC 22.917<br>FCC 2.1051                                                                                                                                                                                                                                                                                                                                                                                                                       | Spurious emissions at antenna terminals                | N/M     | Refer 1    |
| FCC 22.917                                                                                                                                                                                                                                                                                                                                                                                                                                     | Spurious emissions at antenna terminals at Block edges | N/M     | Refer 1    |
| FCC 22.917<br>FCC 2.1053                                                                                                                                                                                                                                                                                                                                                                                                                       | Radiated emissions                                     | P       | Refer 2, 3 |
| <b>Supplementary information and remarks:</b> <ol style="list-style-type: none"> <li>4. Partial testing was performed based on the applicable test requirements, test case: RSE.</li> <li>5. Equipment can transmit simultaneously Cellular &amp; WLAN 2.4 GHz, Cellular &amp; WLAN 5 GHz radios</li> <li>6. Radiated measurements were performed in the worst-case of combination between different capabilities of the equipment.</li> </ol> |                                                        |         |            |

| FCC PART 24 PARAGRAPH                                                                                                                                                                                                                                                                                                                                                       |                                                        |         |            |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|---------|------------|
| Requirement                                                                                                                                                                                                                                                                                                                                                                 | Test case                                              | Verdict | Remark     |
| FCC 24.232<br>FCC 2.1046                                                                                                                                                                                                                                                                                                                                                    | RF Output power                                        | N/M     | Refer 1    |
| FCC 2.1047                                                                                                                                                                                                                                                                                                                                                                  | Modulation characteristics                             | N/M     | Refer 1    |
| FCC 24.235<br>FCC 2.1055                                                                                                                                                                                                                                                                                                                                                    | Frequency stability                                    | N/M     | Refer 1    |
| FCC 2.1049                                                                                                                                                                                                                                                                                                                                                                  | Occupied Bandwidth                                     | N/M     | Refer 1    |
| FCC 24.238<br>FCC 2.1051                                                                                                                                                                                                                                                                                                                                                    | Spurious emissions at antenna terminals                | N/M     | Refer 1    |
| FCC 24.238                                                                                                                                                                                                                                                                                                                                                                  | Spurious emissions at antenna terminals at Block edges | N/M     | Refer 1    |
| FCC 24.238<br>FCC 2.1053                                                                                                                                                                                                                                                                                                                                                    | Radiated emissions                                     | P       | Refer 2, 3 |
| <b>Supplementary information and remarks:</b><br>7. Partial testing was performed based on the applicable test requirements, test case: RSE.<br>8. Equipment can transmit simultaneously Cellular & WLAN 2.4 GHz, Cellular & WLAN 5 GHz radios<br>9. Radiated measurements were performed in the worst-case of combination between different capabilities of the equipment. |                                                        |         |            |

| FCC PART 27 PARAGRAPH                                                                                                                                                                                                                                                                                                                                                          |                                                        |         |            |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|---------|------------|
| Requirement                                                                                                                                                                                                                                                                                                                                                                    | Test case                                              | Verdict | Remark     |
| FCC 27.50<br>FCC 2.1046                                                                                                                                                                                                                                                                                                                                                        | RF Output power                                        | N/M     | Refer 1    |
| FCC 27.50<br>FCC 2.1047                                                                                                                                                                                                                                                                                                                                                        | Modulation characteristics                             | N/M     | Refer 1    |
| FCC 27.54<br>FCC 2.1055                                                                                                                                                                                                                                                                                                                                                        | Frequency stability                                    | N/M     | Refer 1    |
| FCC 2.1049                                                                                                                                                                                                                                                                                                                                                                     | Occupied Bandwidth                                     | N/M     | Refer 1    |
| FCC 27.53<br>FCC 2.1051                                                                                                                                                                                                                                                                                                                                                        | Spurious emissions at antenna terminals                | N/M     | Refer 1    |
| FCC 27.53                                                                                                                                                                                                                                                                                                                                                                      | Spurious emissions at antenna terminals at Block edges | N/M     | Refer 1    |
| FCC 27.53<br>FCC 2.1053                                                                                                                                                                                                                                                                                                                                                        | Radiated emissions                                     | P       | Refer 2, 3 |
| <b>Supplementary information and remarks:</b><br>10. Partial testing was performed based on the applicable test requirements, test case: RSE.<br>11. Equipment can transmit simultaneously Cellular & WLAN 2.4 GHz, Cellular & WLAN 5 GHz radios<br>12. Radiated measurements were performed in the worst-case of combination between different capabilities of the equipment. |                                                        |         |            |

| FCC PART 96 PARAGRAPH                                                                                                                                                                                                                                                                                                                                                                                                                 |                                |         |            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|---------|------------|
| Requirement                                                                                                                                                                                                                                                                                                                                                                                                                           | Test case                      | Verdict | Remark     |
| FCC 96.41 (b)<br>FCC 2.1046                                                                                                                                                                                                                                                                                                                                                                                                           | Maximum Peak Output Power      | N/M     | Refer 1    |
| FCC 96.41 (b)<br>FCC 2.1046                                                                                                                                                                                                                                                                                                                                                                                                           | Maximum Power Spectral Density | N/M     | Refer 1    |
| FCC 96.41(g)                                                                                                                                                                                                                                                                                                                                                                                                                          | Peak to Average Ration         | N/M     | Refer 1    |
| FCC 2.1049                                                                                                                                                                                                                                                                                                                                                                                                                            | Emission Bandwidth             | N/M     | Refer 1    |
| FCC 2.1055                                                                                                                                                                                                                                                                                                                                                                                                                            | Frequency Stability            | N/M     | Refer 1    |
| FCC 96.41 (e)<br>FCC 2.1051                                                                                                                                                                                                                                                                                                                                                                                                           | Conducted Spurious Emissions   | N/M     | Refer 1    |
| FCC 96.41 (e)<br>FCC 2.1053                                                                                                                                                                                                                                                                                                                                                                                                           | Radiated Spurious Emissions    | P       | Refer 2, 3 |
| <b>Supplementary information and remarks:</b> <ol style="list-style-type: none"> <li>Partial testing was performed based on the applicable test requirements, test case: RSE.</li> <li>Equipment can transmit simultaneously Cellular &amp; WLAN 2.4 GHz, Cellular &amp; WLAN 5 GHz radios</li> <li>Radiated measurements were performed in the worst-case of combination between different capabilities of the equipment.</li> </ol> |                                |         |            |

## List of equipment used during the test

### Test Equipment for Radiated emission (RSE) testing

| Control Num | Equipment                                             | Manufacturer    | Serial        | Model          | Next calibration |
|-------------|-------------------------------------------------------|-----------------|---------------|----------------|------------------|
| 00981       | Low noise preamplifier (1-18GHz)                      | Bonn Elektronik | 1711156B      | BLMA0118-2A    | 2028-04-14       |
| 01010       | EMI test receiver                                     | Rohde & Schwarz | 101790        | ESR7           | 2027-04-11       |
| 01014       | Signal Analyzer 40GHz                                 | Rohde & Schwarz | 101626        | FSV40          | 2026-11-18       |
| 01058       | Double-ridged Waveguide Horn Antenna (750 MHz-18 GHz) | ETS Lindgren    | 00211387      | 3115           | 2029-07-13       |
| 01066       | Biconilog Antenna                                     | ETS Lindgren    | 00208586      | 3142E          | 2028-02-03       |
| 01108       | Ethernet SNMP Thermometer                             | HW Group        | 60038026954   | HWg-STE Plain  | 2028-11-18       |
| 01110       | Ethernet SNMP Thermometer                             | HW Group        | 60038026956   | HWg-STE Plain  | 2028-11-18       |
| 01111       | Ethernet SNMP Thermometer                             | HW Group        | 60038026577   | HWg-STE Plain  | 2028-11-18       |
| 01149       | Wideband Radio Communication Tester                   | RHODE & SCHWARZ | 101976        | CMW500         | 2026-10-03       |
| 01179       | Semi-Anechoic Chamber                                 | Frankonia       | F169021       | SAC 3plus 'L'  | ---              |
| 01213       | Control Room                                          | Frankonia       | F169021-1     | CR             | ---              |
| 01314       | Wireless Measurement Software R&S EMC32               | Rohde & Schwarz | 1040-OT102236 | ---            | ---              |
| 01474       | Ethernet SNMP Thermometer                             | HW Group        | 60038038766   | HWg-STE Plain  | 2029-05-20       |
| 01481       | Semi-Anechoic Chamber                                 | Frankonia       | -             | SAC-3 Square L | ---              |
| 01491       | SMB 100B SIGNAL GENERATOR                             | ROHDE & SCHWARZ | 103471        | SMB100B        | 2028-03-20       |
| 01498       | WIDEBAND RADIO COMMUNICATION TESTER                   | ROHDE & SCHWARZ | 101050        | CMX500         | 2027-12-05       |
| 01564       | Control Room 2                                        | Frankonia       | F219025-1     | CR             | ---              |
| 01566       | Frankonia Transparent RF Square Test Table            | Frankonia       | RFSqtab01     | RF Sq table    | ---              |
| 01567       | Frankonia Transparent RF Square Test Table            | Frankonia       | RFSqtab02     | RF Sq table    | ---              |

## Appendix A: Test results (Multi-transmitter)

# Appendix A Content

PRODUCT INFORMATION ..... 15

DESCRIPTION OF TEST CONDITIONS ..... 16

TEST A.1: EMISSION LIMITATIONS RADIATED (TRANSMITTER) ..... 18

## Product Information

| Information                              | Description                                                                                                                                                                                                                                                                                                                                                                                                                 |
|------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Modulation                               | <b>Wi-Fi 2.4 GHz:</b> BPSK, DBPSK, QPSK, DQPSK, 8PSK, 16QAM, 64QAM<br><b>Wi-Fi 5 GHz:</b> BPSK, QPSK, 8PSK, 16QAM, 64QAM<br><b>Cellular:</b> GMSK, Pi/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM                                                                                                                                                                                                                                    |
| Operating Frequency Range <sup>(1)</sup> | <b>Wi-Fi:</b><br><b>Wi-Fi 2.4 GHz:</b> 2.402 - 2.483.5 GHz<br><b>Wi-Fi 5 GHz:</b> 4.9 - 5.845 GHz<br><br><b>Cellular bands:</b><br><b>2G:</b> 2, 3, 5, 8<br><b>3G:</b> 1, 2, 4, 5, 8, 19<br><b>LTE:</b> 1, 2, 25, 3, 4, 66, 5, 18, 19, 26, 7, 8, 20, 28, 28A, 28B, 32Rx, 34, 38, 39, 40, 41, 28FB<br><b>5G:</b> n1, n2, n25, n3, n66, n5, n18, n26, n7, n8, n20, n28, n28A, n28B, n38, n40, n41, n75Rx, n77, n78, n79, 28FB |
| Nominal Channel Bandwidth                | <b>Wi-Fi 2.4 GHz:</b> 20MHz<br><b>Wi-Fi 5 GHz:</b> 20MHz, 40MHz, 80MHz<br><b>Cellular:</b> 1.4, 3, 5, 10, 15, 20, 100 MHz                                                                                                                                                                                                                                                                                                   |
| RF Output Power                          | <b>Wi-Fi 2.4 GHz:</b> <10 dBm E.I.R.P<br><b>Wi-Fi 5 GHz:</b> <14 dBm E.I.R.P                                                                                                                                                                                                                                                                                                                                                |
| Antenna type                             | <b>Wi-Fi 2.4 GHz:</b> Internal PCB antenna<br><b>Wi-Fi 5 GHz:</b> Internal PCB antenna<br><b>Cellular:</b> External OEM-antennas                                                                                                                                                                                                                                                                                            |
| Antenna gain                             | <b>Wi-Fi 2.4 GHz:</b> 5.63 dBi<br><b>Wi-Fi 5 GHz:</b> 4.01 dBi<br><b>Cellular:</b><br>617 – 960 MHz: 4.2 dBi<br>1427 – 1517 MHz: 7.0 dBi<br>1710 – 2690 MHz: 8.6 dBi<br>3300 – 5000 MHz: 8.9 dBi                                                                                                                                                                                                                            |
| Nominal Voltage                          |                                                                                                                                                                                                                                                                                                                                                                                                                             |
| - Supply Voltage                         | 12 Vdc                                                                                                                                                                                                                                                                                                                                                                                                                      |
| - Type of power source                   | DC voltage                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Equipment type                           | WLAN according to IEEE 802.11 a/b/g/n/ac<br>Cellular                                                                                                                                                                                                                                                                                                                                                                        |

(\*): Data provided by the client.

## Description of test conditions

| Test Conditions         | Description                                                                                                                                                                                                                                                                                                              |                        |                        |            |            |      |                        |       |     |      |    |                         |      |    |             |        |
|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|------------------------|------------|------------|------|------------------------|-------|-----|------|----|-------------------------|------|----|-------------|--------|
| TC/01 <sup>(1)</sup>    | <u>Power supply (V):</u><br>DC 12 V<br><u>Test Frequencies for Radiated tests:</u>                                                                                                                                                                                                                                       |                        |                        |            |            |      |                        |       |     |      |    |                         |      |    |             |        |
|                         | <table><tr><th>Technology</th><th>Tested Frequency (MHz)</th><th>BW (MHz)</th><th>Modulation</th><th>Mode</th></tr><tr><td>Cellular 2G (850 MHz)</td><td>836.5</td><td>0.2</td><td>GMSK</td><td>--</td></tr><tr><td>Wi-Fi 2.4 GHz SISO (MC)</td><td>2442</td><td>20</td><td>OFDM (MCS0)</td><td>g mode</td></tr></table> | Technology             | Tested Frequency (MHz) | BW (MHz)   | Modulation | Mode | Cellular 2G (850 MHz)  | 836.5 | 0.2 | GMSK | -- | Wi-Fi 2.4 GHz SISO (MC) | 2442 | 20 | OFDM (MCS0) | g mode |
|                         | Technology                                                                                                                                                                                                                                                                                                               | Tested Frequency (MHz) | BW (MHz)               | Modulation | Mode       |      |                        |       |     |      |    |                         |      |    |             |        |
|                         | Cellular 2G (850 MHz)                                                                                                                                                                                                                                                                                                    | 836.5                  | 0.2                    | GMSK       | --         |      |                        |       |     |      |    |                         |      |    |             |        |
| Wi-Fi 2.4 GHz SISO (MC) | 2442                                                                                                                                                                                                                                                                                                                     | 20                     | OFDM (MCS0)            | g mode     |            |      |                        |       |     |      |    |                         |      |    |             |        |
|                         |                                                                                                                                                                                                                                                                                                                          |                        |                        |            |            |      |                        |       |     |      |    |                         |      |    |             |        |
| TC/02 <sup>(1)</sup>    | <u>Power supply (V):</u><br>DC 12 V<br><u>Test Frequencies for Radiated tests:</u>                                                                                                                                                                                                                                       |                        |                        |            |            |      |                        |       |     |      |    |                         |      |    |             |        |
|                         | <table><tr><th>Technology</th><th>Tested Frequency (MHz)</th><th>BW (MHz)</th><th>Modulation</th><th>Mode</th></tr><tr><td>Cellular 2G (1900 MHz)</td><td>1880</td><td>0.2</td><td>GMSK</td><td>--</td></tr><tr><td>Wi-Fi 2.4 GHz SISO (MC)</td><td>2442</td><td>20</td><td>OFDM (MCS0)</td><td>g mode</td></tr></table> | Technology             | Tested Frequency (MHz) | BW (MHz)   | Modulation | Mode | Cellular 2G (1900 MHz) | 1880  | 0.2 | GMSK | -- | Wi-Fi 2.4 GHz SISO (MC) | 2442 | 20 | OFDM (MCS0) | g mode |
|                         | Technology                                                                                                                                                                                                                                                                                                               | Tested Frequency (MHz) | BW (MHz)               | Modulation | Mode       |      |                        |       |     |      |    |                         |      |    |             |        |
|                         | Cellular 2G (1900 MHz)                                                                                                                                                                                                                                                                                                   | 1880                   | 0.2                    | GMSK       | --         |      |                        |       |     |      |    |                         |      |    |             |        |
| Wi-Fi 2.4 GHz SISO (MC) | 2442                                                                                                                                                                                                                                                                                                                     | 20                     | OFDM (MCS0)            | g mode     |            |      |                        |       |     |      |    |                         |      |    |             |        |
|                         |                                                                                                                                                                                                                                                                                                                          |                        |                        |            |            |      |                        |       |     |      |    |                         |      |    |             |        |
| TC/03 <sup>(1)</sup>    | <u>Power supply (V):</u><br>DC 12 V<br><u>Test Frequencies for Radiated tests:</u>                                                                                                                                                                                                                                       |                        |                        |            |            |      |                        |       |     |      |    |                         |      |    |             |        |
|                         | <table><tr><th>Technology</th><th>Tested Frequency (MHz)</th><th>BW (MHz)</th><th>Modulation</th><th>Mode</th></tr><tr><td>Cellular LTE Band 7</td><td>2535</td><td>10</td><td>QPSK</td><td>--</td></tr><tr><td>Wi-Fi 2.4 GHz SISO (MC)</td><td>2442</td><td>20</td><td>OFDM (MCS0)</td><td>g mode</td></tr></table>     | Technology             | Tested Frequency (MHz) | BW (MHz)   | Modulation | Mode | Cellular LTE Band 7    | 2535  | 10  | QPSK | -- | Wi-Fi 2.4 GHz SISO (MC) | 2442 | 20 | OFDM (MCS0) | g mode |
|                         | Technology                                                                                                                                                                                                                                                                                                               | Tested Frequency (MHz) | BW (MHz)               | Modulation | Mode       |      |                        |       |     |      |    |                         |      |    |             |        |
|                         | Cellular LTE Band 7                                                                                                                                                                                                                                                                                                      | 2535                   | 10                     | QPSK       | --         |      |                        |       |     |      |    |                         |      |    |             |        |
| Wi-Fi 2.4 GHz SISO (MC) | 2442                                                                                                                                                                                                                                                                                                                     | 20                     | OFDM (MCS0)            | g mode     |            |      |                        |       |     |      |    |                         |      |    |             |        |
|                         |                                                                                                                                                                                                                                                                                                                          |                        |                        |            |            |      |                        |       |     |      |    |                         |      |    |             |        |
| TC/04 <sup>(1)</sup>    | <u>Power supply (V):</u><br>DC 12 V<br><u>Test Frequencies for Radiated tests:</u>                                                                                                                                                                                                                                       |                        |                        |            |            |      |                        |       |     |      |    |                         |      |    |             |        |
|                         | <table><tr><th>Technology</th><th>Tested Frequency (MHz)</th><th>BW (MHz)</th><th>Modulation</th><th>Mode</th></tr><tr><td>Cellular 5G Band n77</td><td>3750</td><td>100</td><td>QPSK</td><td>--</td></tr><tr><td>Wi-Fi 2.4 GHz SISO (MC)</td><td>2442</td><td>20</td><td>OFDM (MCS0)</td><td>g mode</td></tr></table>   | Technology             | Tested Frequency (MHz) | BW (MHz)   | Modulation | Mode | Cellular 5G Band n77   | 3750  | 100 | QPSK | -- | Wi-Fi 2.4 GHz SISO (MC) | 2442 | 20 | OFDM (MCS0) | g mode |
|                         | Technology                                                                                                                                                                                                                                                                                                               | Tested Frequency (MHz) | BW (MHz)               | Modulation | Mode       |      |                        |       |     |      |    |                         |      |    |             |        |
|                         | Cellular 5G Band n77                                                                                                                                                                                                                                                                                                     | 3750                   | 100                    | QPSK       | --         |      |                        |       |     |      |    |                         |      |    |             |        |
| Wi-Fi 2.4 GHz SISO (MC) | 2442                                                                                                                                                                                                                                                                                                                     | 20                     | OFDM (MCS0)            | g mode     |            |      |                        |       |     |      |    |                         |      |    |             |        |
|                         |                                                                                                                                                                                                                                                                                                                          |                        |                        |            |            |      |                        |       |     |      |    |                         |      |    |             |        |

| Test Conditions      | Description                                                                        |                        |          |             |        |
|----------------------|------------------------------------------------------------------------------------|------------------------|----------|-------------|--------|
| TC/05 <sup>(1)</sup> | <u>Power supply (V):</u><br>DC 12 V<br><u>Test Frequencies for Radiated tests:</u> |                        |          |             |        |
|                      | Technology                                                                         | Tested Frequency (MHz) | BW (MHz) | Modulation  | Mode   |
|                      | Cellular 2G (850 MHz)                                                              | 836.5                  | 0.2      | GMSK        | --     |
|                      | Wi-Fi 5 GHz MIMO (HC)                                                              | 5230                   | 40       | OFDM (MCS0) | n mode |
| TC/06 <sup>(1)</sup> | <u>Power supply (V):</u><br>DC 12 V<br><u>Test Frequencies for Radiated tests:</u> |                        |          |             |        |
|                      | Technology                                                                         | Tested Frequency (MHz) | BW (MHz) | Modulation  | Mode   |
|                      | Cellular 2G (1900 MHz)                                                             | 1880                   | 0.2      | GMSK        | --     |
|                      | Wi-Fi 5 GHz MIMO (HC)                                                              | 5230                   | 40       | OFDM (MCS0) | n mode |
| TC/07 <sup>(1)</sup> | <u>Power supply (V):</u><br>DC 12 V<br><u>Test Frequencies for Radiated tests:</u> |                        |          |             |        |
|                      | Technology                                                                         | Tested Frequency (MHz) | BW (MHz) | Modulation  | Mode   |
|                      | Cellular LTE Band 7                                                                | 2535                   | 10       | QPSK        | --     |
|                      | Wi-Fi 5 GHz MIMO (HC)                                                              | 5230                   | 40       | OFDM (MCS0) | n mode |
| TC/08 <sup>(1)</sup> | <u>Power supply (V):</u><br>DC 12 V<br><u>Test Frequencies for Radiated tests:</u> |                        |          |             |        |
|                      | Technology                                                                         | Tested Frequency (MHz) | BW (MHz) | Modulation  | Mode   |
|                      | Cellular 5G Band n77                                                               | 3750                   | 100      | QPSK        | --     |
|                      | Wi-Fi 5 GHz MIMO (HC)                                                              | 5230                   | 40       | OFDM (MCS0) | n mode |

Note (1): Preliminary scan was performed to determine the worst case. The following tables and plots show the results for the worst case in SISO 2.4GHz, MIMO 5 GHz, and Cellular.

The test was performed with the equipment transmitting with Wi-Fi 2.4GHz & Cellular radios simultaneously, and Wi-Fi 5GHz & Cellular radios simultaneously. These measures have been performed in order to check the impact of the multi-transmitter of all radio interfaces that can be transmitted simultaneously.

LC= Low Channel, MC = Mid Channel, HC = High Channel

## TEST: EMISSION LIMITATIONS RADIATED (TRANSMITTER)

|                |                   |                                                                                                                                                          |
|----------------|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>LIMITS:</b> | Product standard: | Part 15: 15.31(h), FCC 15.247, 15.407, & FCC Part 22, 24, 27, 96                                                                                         |
|                | Test standard:    | FCC §2.1053<br>FCC §2.1046<br>Part 15: §15.247 (d), 15.407 (b),<br>Part 22: §22.917,<br>Part 24: §24.232,<br>Part 27: §27.50, and<br>Part 96: §96.41 (e) |

### LIMITS

Radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c) / RSS-Gen):

| Frequency Range (MHz) | Field strength ( $\mu\text{V/m}$ ) | Field strength (dB $\mu\text{V/m}$ ) | Measurement distance (m) |
|-----------------------|------------------------------------|--------------------------------------|--------------------------|
| 0.009-0.490           | 2400/F(kHz)                        | -                                    | 300                      |
| 0.490-1.705           | 24000/F(kHz)                       | -                                    | 30                       |
| 1.705 - 30.0          | 30                                 | -                                    | 30                       |
| 30 - 88               | 100                                | 40                                   | 3                        |
| 88 - 216              | 150                                | 43.5                                 | 3                        |
| 216 - 960             | 200                                | 46                                   | 3                        |
| 960 - 25000           | 500                                | 54                                   | 3                        |

The emission limits shown in the above table are based on measurements employing CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.

For average radiated emission measurements above 1000 MHz, there is also a limit corresponding to 20 dB above the indicated values in the table is specified when measuring with peak detector function.

The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts. The peak-to-average ratio (PAR) of the transmission shall not exceed 13 dB.

Fixed, mobile, and portable (hand-held) stations are limited to 2-watt EIRP (30 dBm). Fixed stations are limited to a maximum antenna height of 10 meters above ground. Mobile and portable stations operating in these bands must employ a means for limiting power to the minimum necessary for successful communications. The peak-to-average ratio (PAR) of the transmission shall not exceed 13 dB.

Control stations and mobile stations transmitting in the 746-757 MHz, 776-788 MHz, and 805-806 MHz bands and fixed stations transmitting in the 787-788 MHz and 805-806 MHz bands are limited to 30 watts ERP (44.77 dBm).

## TEST SETUP

All radiated tests were performed in a semi-anechoic chamber. The measurement antenna is situated at 3 m for the frequency range 30-1000 MHz (Bi-log antenna) and 1-18 GHz (Double ridge horn antenna), and 1m for the frequency range 18 GHz- 40 GHz (Double ridge horn antenna).

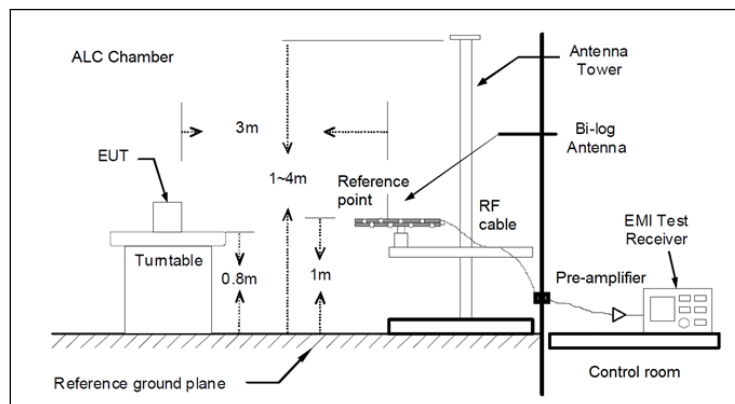
For radiated emissions in the range 18 -40 GHz that is performed at a distance closer than the specified distance, an inverse proportionality factor of 20 dB per decade is used to normalize the measured data for determining compliance.

The equipment under test was set up on a non-conductive platform above the ground plane and the situation and orientation was varied to find the maximum radiated emission. It was also rotated 360° and the antenna height was varied from 1 to 4 meters to find the maximum radiated emission.

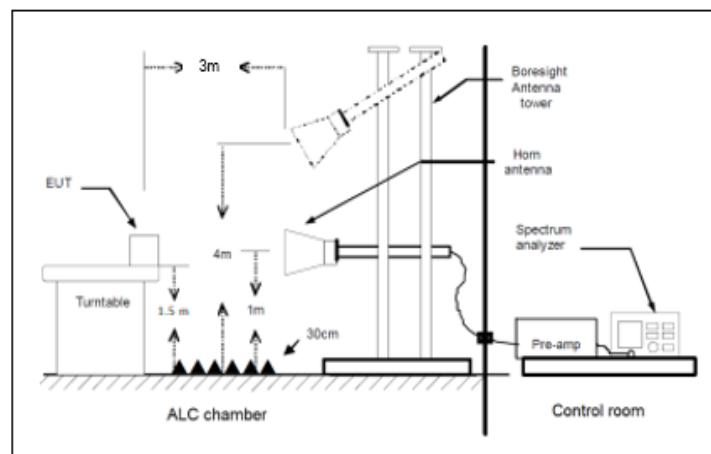
Measurements were made in both horizontal and vertical planes of polarization.

The field strength is calculated by adding correction factor to the measured level from the spectrum analyzer. This correction factor includes antenna factor, cable loss and pre-amplifiers gain.

### Radiated measurements Setup $f < 1$ GHz

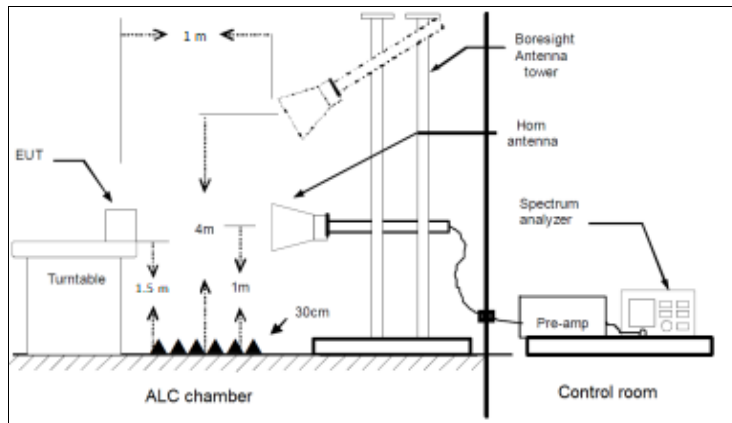


### Radiated measurements setup $1 < f < 18$ GHz

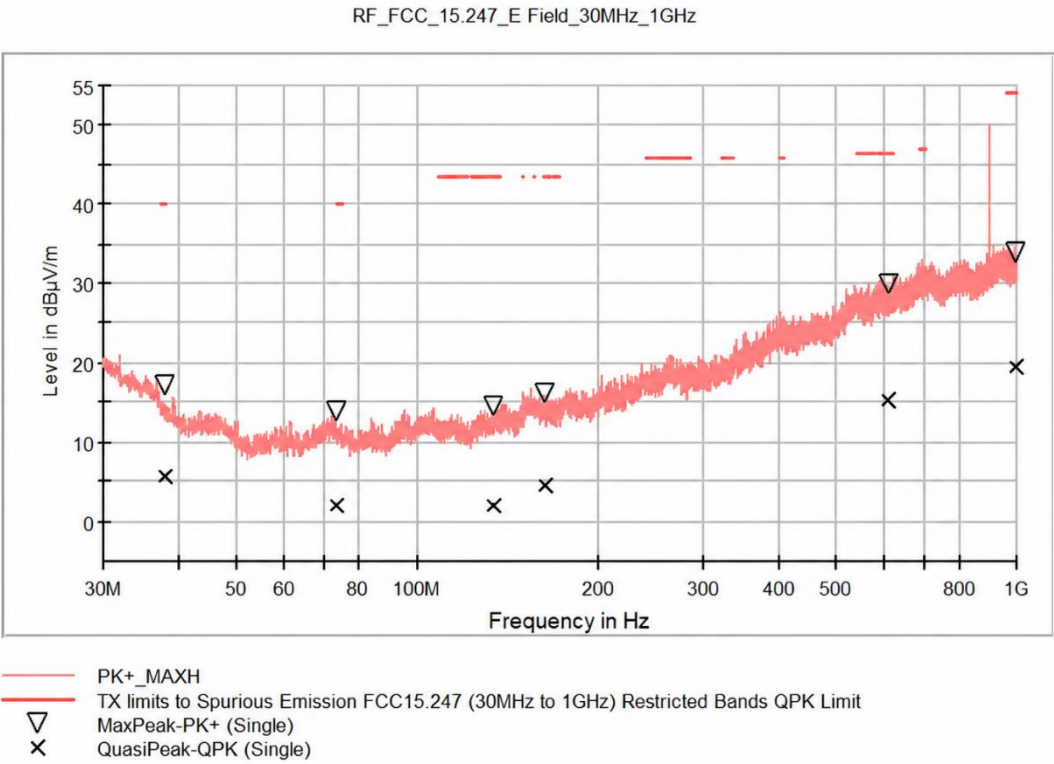


## TEST SETUP (CONT.)

Radiated measurements setup  $f > 18$  GHz



|                          |             |
|--------------------------|-------------|
| TESTED SAMPLES:          | S/01        |
| TESTED CONDITIONS MODES: | TC/01       |
| TEST RESULTS:            | 30-1000 MHz |



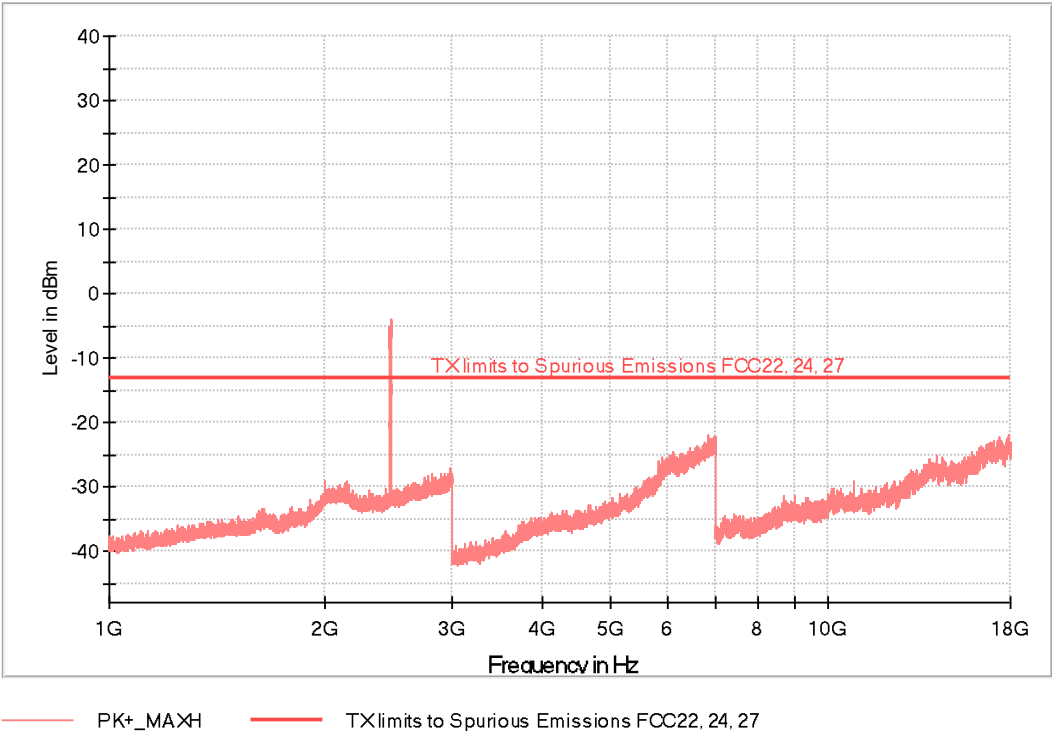
### Limit and Margin

| Frequency (MHz) | MaxPeak (dBµV/m) | QuasiPeak (dBµV/m) | Pol | Margin - QPK (dB) | Limit - QPK (dBµV/m) |
|-----------------|------------------|--------------------|-----|-------------------|----------------------|
| 37.905500       | 17.1             | 5.7                | V   | 34.3              | 40.0                 |
| 73.213500       | 14.0             | 2.0                | V   | 38.0              | 40.0                 |
| 134.032500      | 14.6             | 1.9                | H   | 41.6              | 43.5                 |
| 162.550500      | 16.3             | 4.6                | H   | 39.0              | 43.5                 |
| 610.399500      | 29.9             | 15.3               | V   | 30.7              | 46.0                 |
| 989.863500      | 33.9             | 19.6               | H   | 34.4              | 54.0                 |

TEST RESULTS (Cont.):

1-18 MHz

Test Results : 1-18 MHz



Limit and Margin

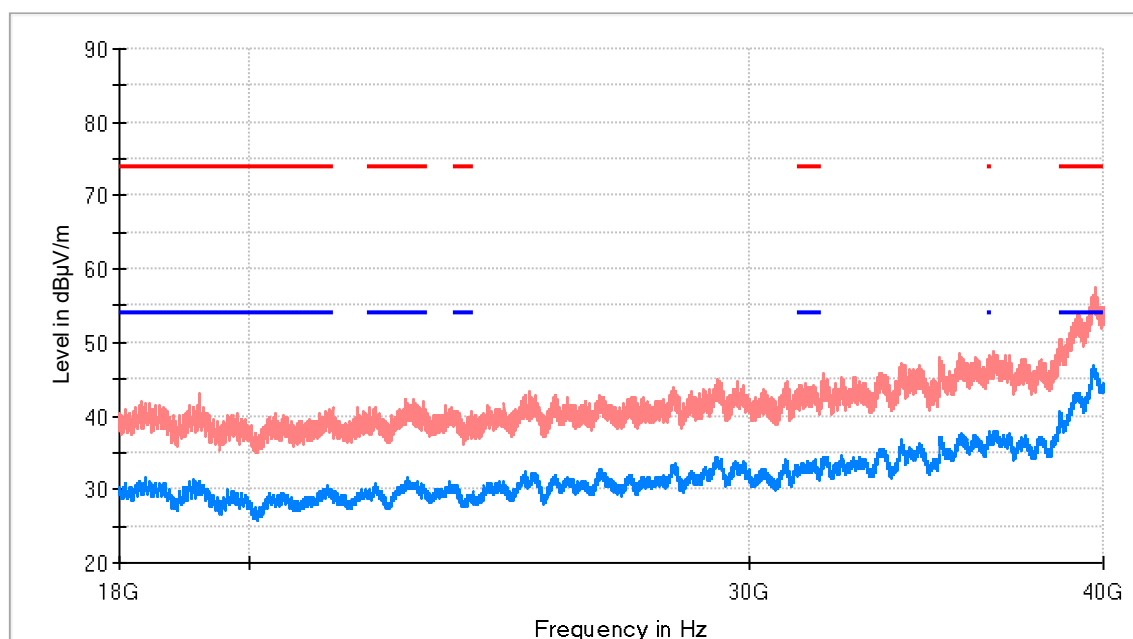
| Frequency (MHz) | PK+_MAXH (dBm) | Pol | Margin - PK+ (dB) | Limit - PK+ (dBm) | Comment                  |
|-----------------|----------------|-----|-------------------|-------------------|--------------------------|
| 1996.400000     | -29.9          | H   | 16.9              | -13.0             |                          |
| 2465.800000     | -4.1           | H   | ---               | ---               | Wi-Fi 2.4GHz_Fundamental |
| 6025.500000     | -25.2          | V   | 12.2              | -13.0             |                          |

## TEST RESULTS (Cont.):

18 – 40 MHz

Test Results : 18 – 40 MHz

RF\_FCC\_15.407\_E Field\_18GHz\_40GHz

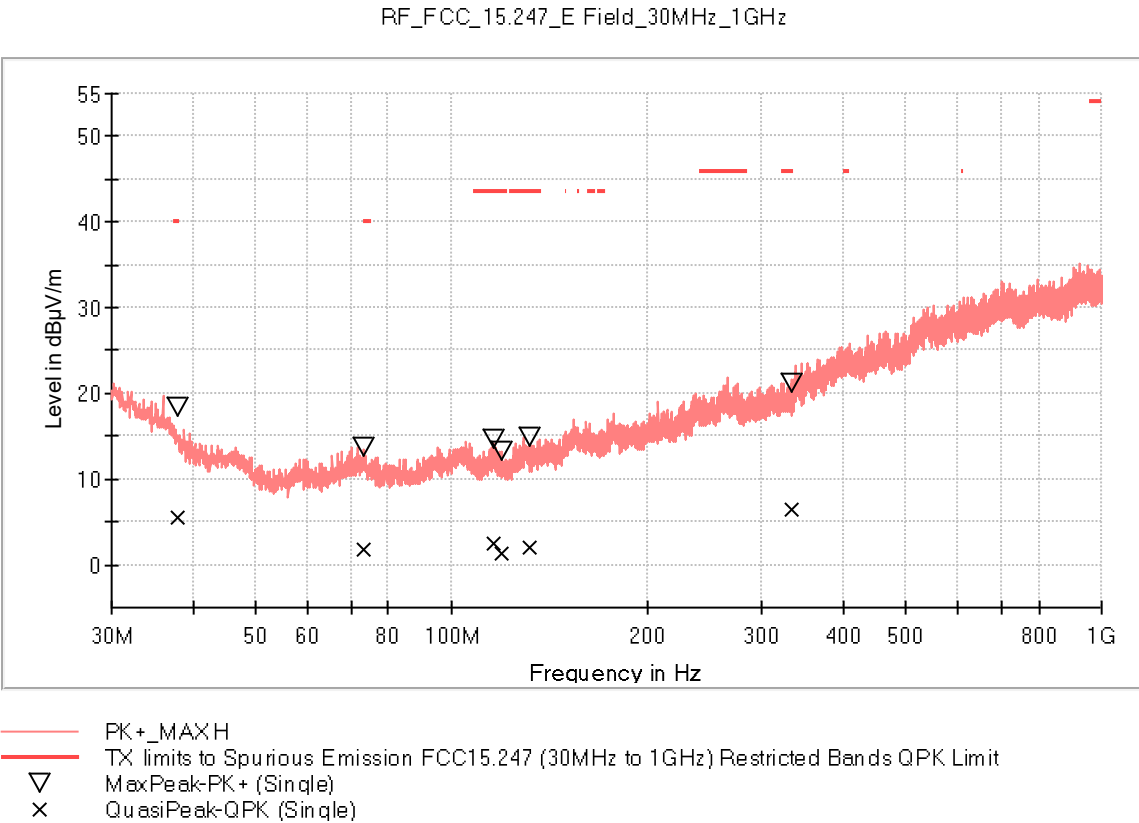


- AVG\_MAXH
- PK+\_MAXH
- TX limits to Spurious Emission FCC15.407 (1GHz to 40 GHz) Restricted Bands PK Limit
- TX limits to Spurious Emission FCC15.407 (1GHz to 40 GHz) Restricted Bands AVG Limit

## Limit and Margin

| Frequency (MHz) | PK+_MAXH (dBµV/m) | AVG_MAXH (dBµV/m) | Pol | Margin - AVG (dB) | Limit - AVG (dBµV/m) |
|-----------------|-------------------|-------------------|-----|-------------------|----------------------|
| 18382.066667    | 40.1              | 31.8              | V   | 22.2              | 54.0                 |
| 22736.600000    | 39.8              | 31.7              | V   | 22.3              | 54.0                 |
| 31670.800000    | 42.8              | 34.0              | V   | 20.0              | 54.0                 |

|                          |             |
|--------------------------|-------------|
| TESTED SAMPLES:          | S/01        |
| TESTED CONDITIONS MODES: | TC#02       |
| TEST RESULTS :           | 30-1000 MHz |



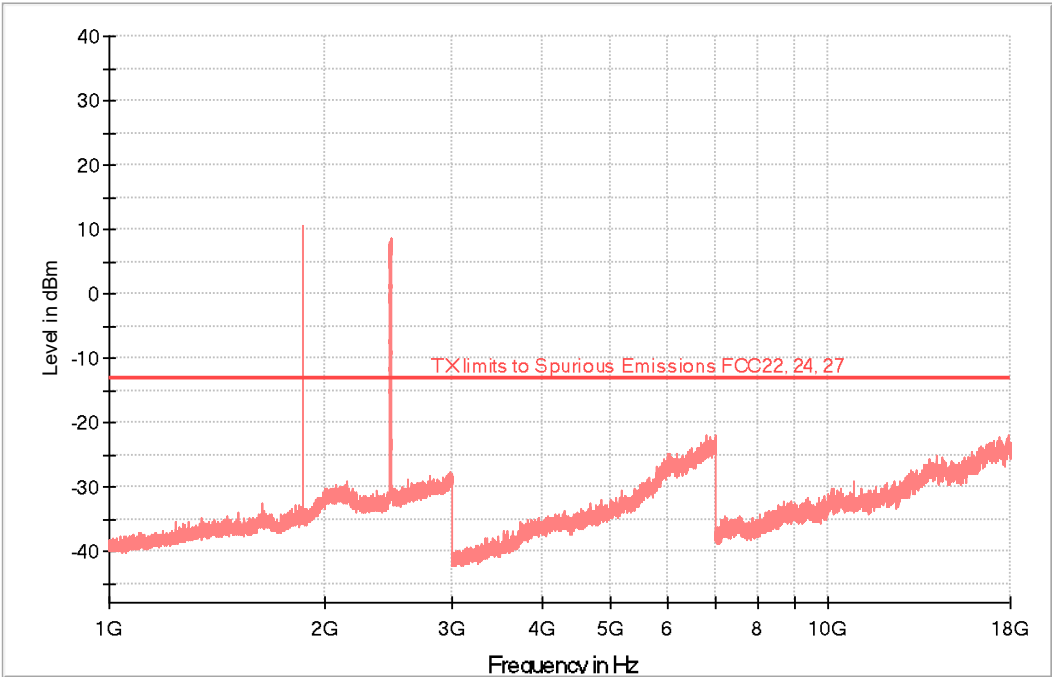
Limit and Margin

| Frequency (MHz) | MaxPeak (dBµV/m) | QuasiPeak (dBµV/m) | Pol | Margin - PK+ (dB) | Limit - PK+ (dBµV/m) |
|-----------------|------------------|--------------------|-----|-------------------|----------------------|
| 37.905500       | 18.3             | 5.6                | V   | 21.7              | 40.0                 |
| 73.359000       | 13.8             | 1.8                | H   | 26.3              | 40.0                 |
| 115.748000      | 14.7             | 2.5                | V   | 28.9              | 43.5                 |
| 119.482500      | 13.2             | 1.3                | V   | 30.3              | 43.5                 |
| 132.044000      | 14.9             | 2.1                | H   | 28.7              | 43.5                 |
| 333.367500      | 21.2             | 6.4                | V   | 24.8              | 46.0                 |

TEST RESULTS (Cont.):

1-18 GHz

Test Results : 1-18 GHz



PK+\_MAXH TX limits to Spurious Emissions FCC22, 24, 27

Limit and Margin

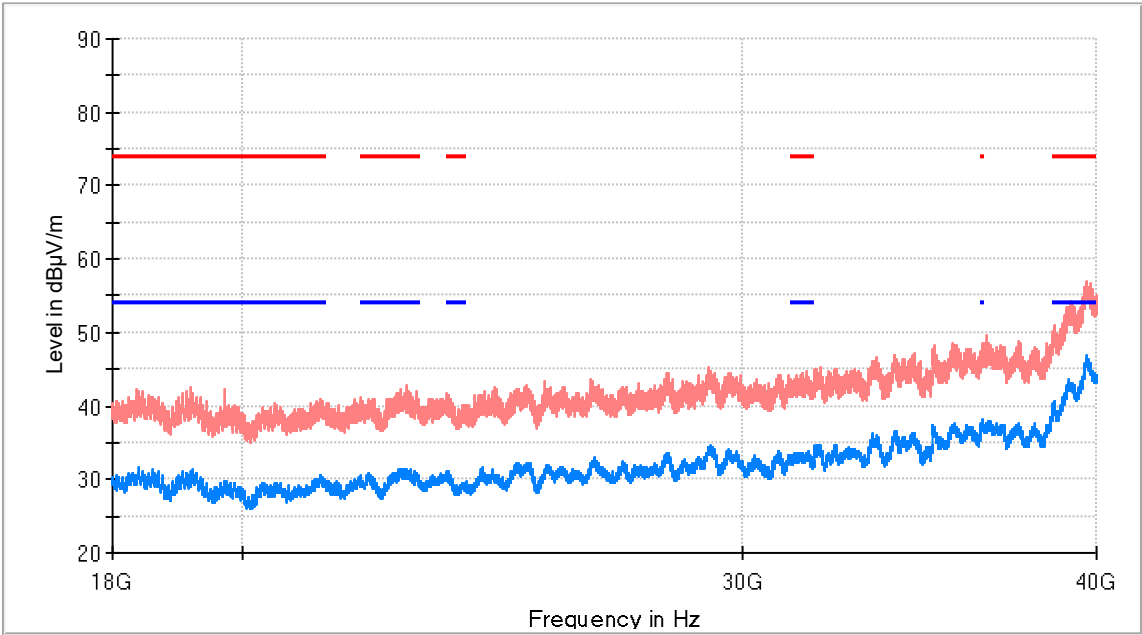
| Frequency (MHz) | PK+_MAXH (dBm) | Pol | Margin - PK+ (dB) | Limit - PK+ (dBm) | Comment          |
|-----------------|----------------|-----|-------------------|-------------------|------------------|
| 1860.000000     | 10.4           | H   | ---               | ---               | GSM_FUNDAMENTAL  |
| 2467.000000     | 8.7            | H   | ---               | ---               | WiFi_FUNDAMENTAL |
| 5977.500000     | -26.8          | V   | 13.8              | -13.0             |                  |

TEST RESULTS (Cont.):

18 – 40 GHz

Test Results : 18-40 GHz

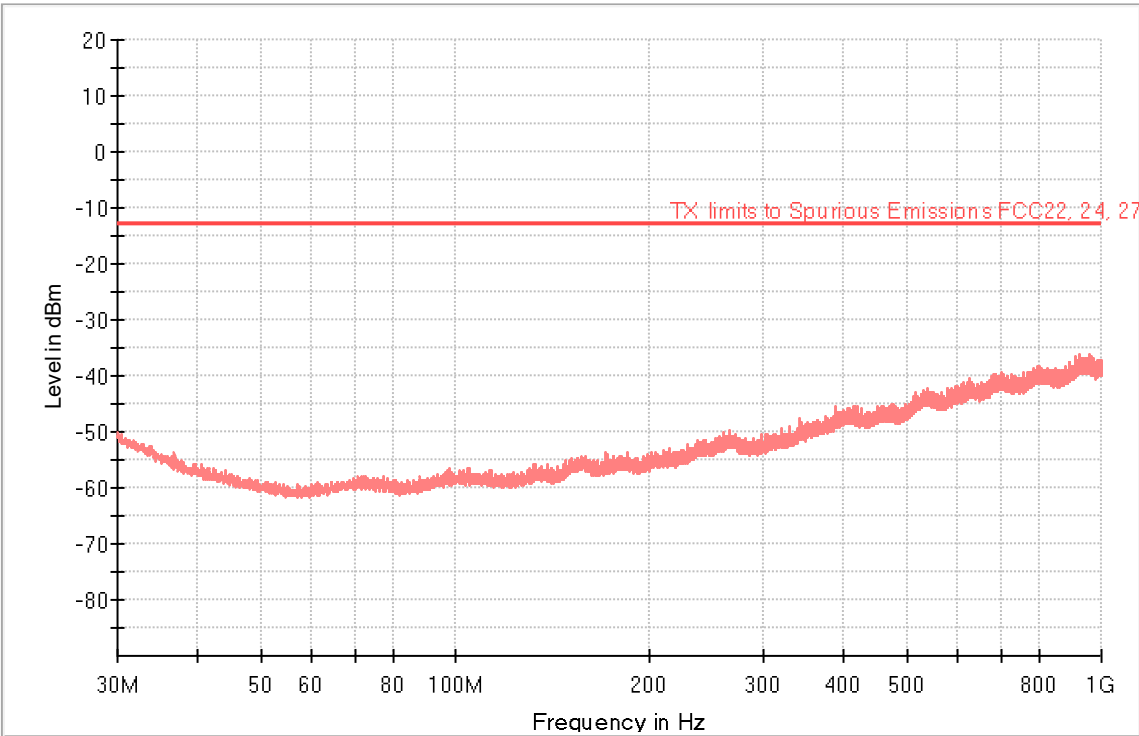
RF\_FCC\_15.407\_E Field\_18GHz\_40GHz



- AVG\_MAXH
- PK+\_MAXH
- TX limits to Spurious Emission FCC15.407 (1GHz to 40 GHz) Restricted Bands PK Limit
- TX limits to Spurious Emission FCC15.407 (1GHz to 40 GHz) Restricted Bands AVG Limit

| Frequency (MHz) | PK+_MAXH (dBµV/m) | AVG_MAXH (dBµV/m) | Pol | Margin - AVG (dB) | Limit - AVG (dBµV/m) |
|-----------------|-------------------|-------------------|-----|-------------------|----------------------|
| 18376.200000    | 40.3              | 31.6              | V   | 22.4              | 54.0                 |
| 22760.800000    | 40.0              | 31.4              | V   | 22.6              | 54.0                 |
| 31681.800000    | 43.8              | 33.9              | V   | 20.1              | 54.0                 |

|                          |            |
|--------------------------|------------|
| TESTED SAMPLES:          | S/01       |
| TESTED CONDITIONS MODES: | TC#03      |
| TEST RESULTS:            | 30 – 1 GHz |



PK+\_MAXH TX limits to Spurious Emissions FCC22, 24, 27

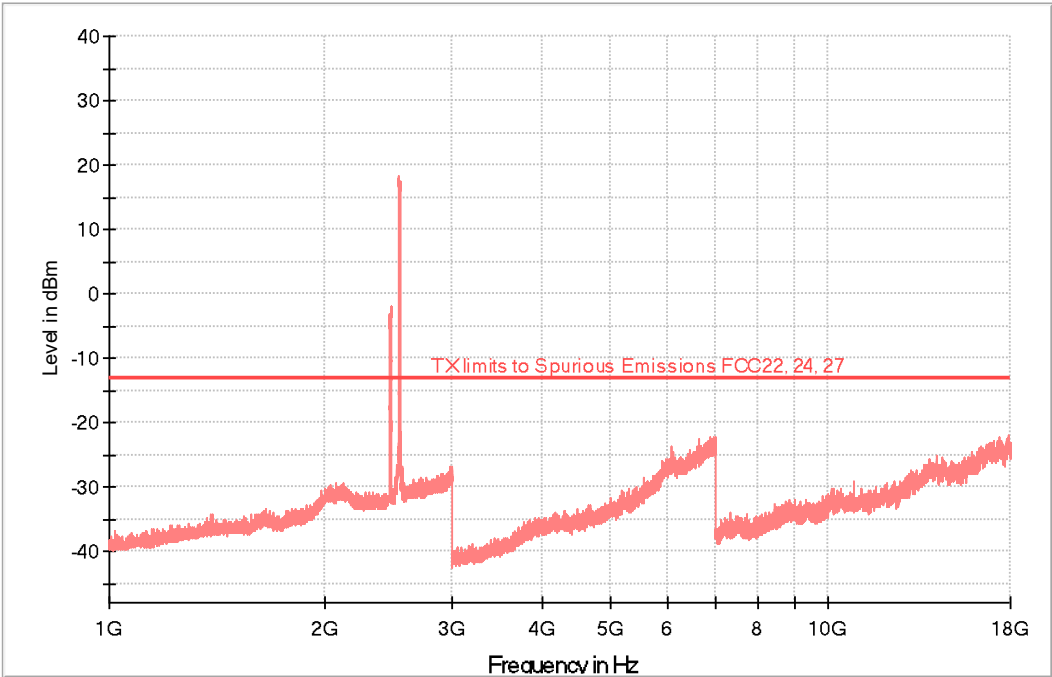
Limit and Margin

| Frequency (MHz) | PK+_MAXH (dBm) | Pol | Margin - PK+ (dB) | Limit - PK+ (dBm) |
|-----------------|----------------|-----|-------------------|-------------------|
| 171.620000      | -53.8          | V   | 40.8              | -13.0             |
| 792.387667      | -38.8          | H   | 25.8              | -13.0             |
| 1000.000000     | -38.0          | V   | 25.0              | -13.0             |

TEST RESULTS (Cont.):

1-18 GHz

Test Results : 1-18 GHz



PK+\_MAXH TX limits to Spurious Emissions FCC22, 24, 27

Limit and Margin

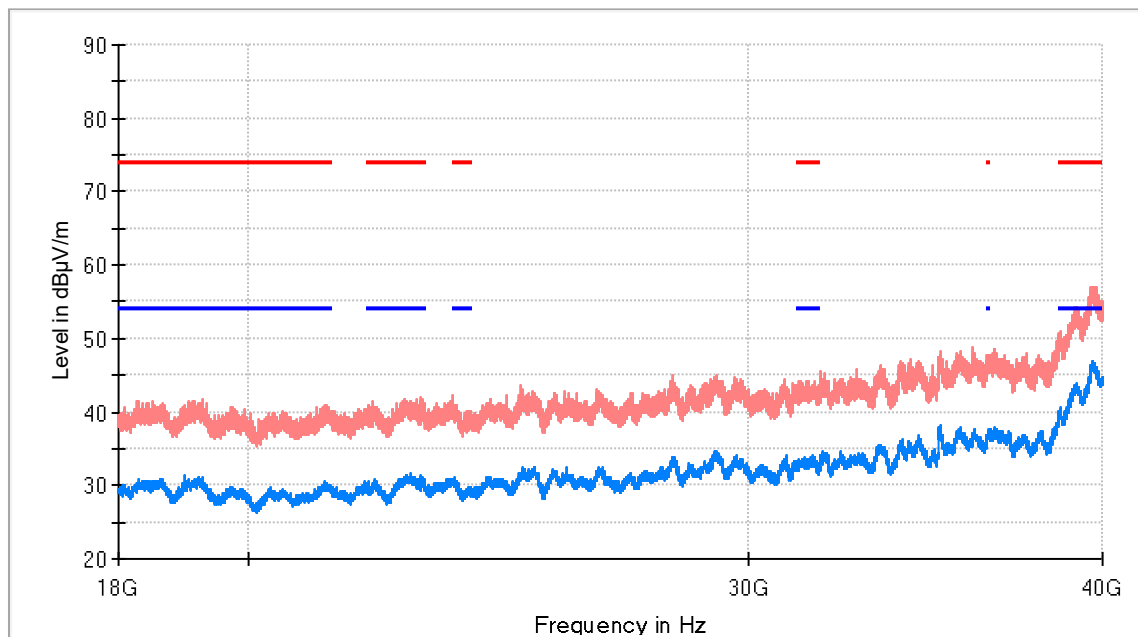
| Frequency (MHz) | PK+_MAXH (dBm) | Pol | Margin - PK+ (dB) | Limit - PK+ (dBm) | Comment          |
|-----------------|----------------|-----|-------------------|-------------------|------------------|
| 1388.000000     | -34.2          | V   | 21.2              | -13.0             |                  |
| 2466.800000     | -1.9           | V   | ---               | -13.0             | WIFI Fundamental |
| 2533.000000     | 18.2           | V   | ---               | -13.0             | LTE_Fundamental  |

**TEST RESULTS (Cont.):**

18 – 40 GHz

Test Results : 18-40 GHz

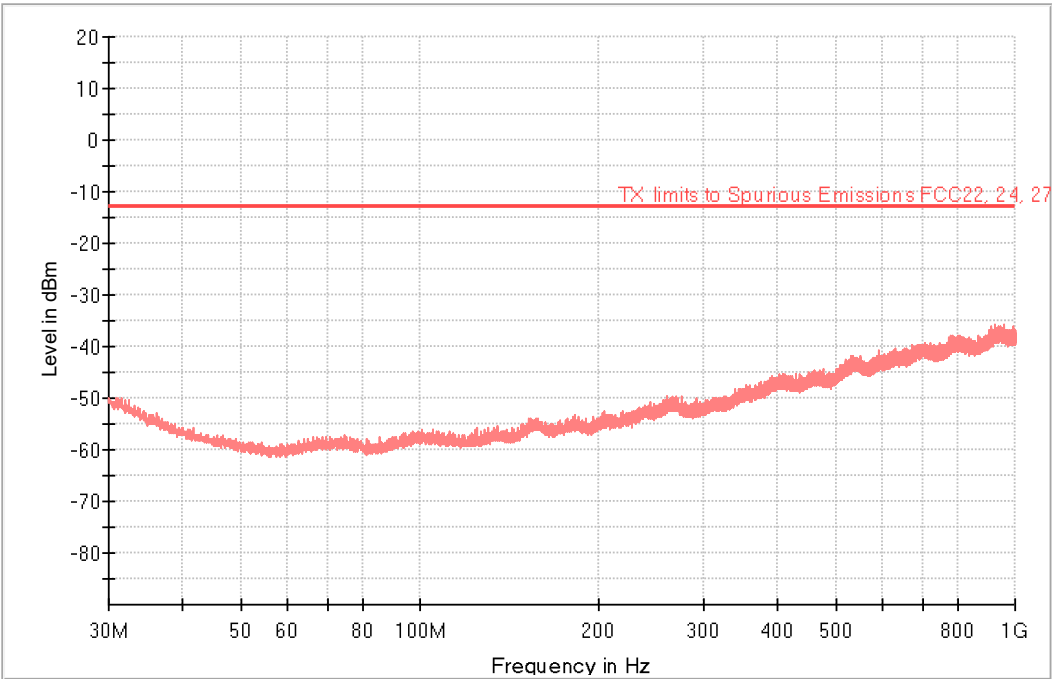
RF\_FCC\_15.407\_E Field\_18GHz\_40GHz



- AVG\_MAXH
- PK+\_MAXH
- TX limits to Spurious Emission FCC15.407 (1GHz to 40 GHz) Restricted Bands PK Limit
- TX limits to Spurious Emission FCC15.407 (1GHz to 40 GHz) Restricted Bands AVG Limit

| Frequency (MHz) | PK+_MAXH (dBµV/m) | AVG_MAXH (dBµV/m) | Pol | Margin - AVG (dB) | Limit - AVG (dBµV/m) |
|-----------------|-------------------|-------------------|-----|-------------------|----------------------|
| 18989.266667    | 39.9              | 31.4              | H   | 22.6              | 54.0                 |
| 22796.000000    | 39.9              | 31.7              | H   | 22.3              | 54.0                 |
| 31613.600000    | 42.1              | 34.1              | V   | 19.9              | 54.0                 |

|                          |            |
|--------------------------|------------|
| TESTED SAMPLES:          | S/01       |
| TESTED CONDITIONS MODES: | TC#04      |
| TEST RESULTS:            | 30 – 1 GHz |



PK+\_MAXH TX limits to Spurious Emissions FCC22, 24, 27

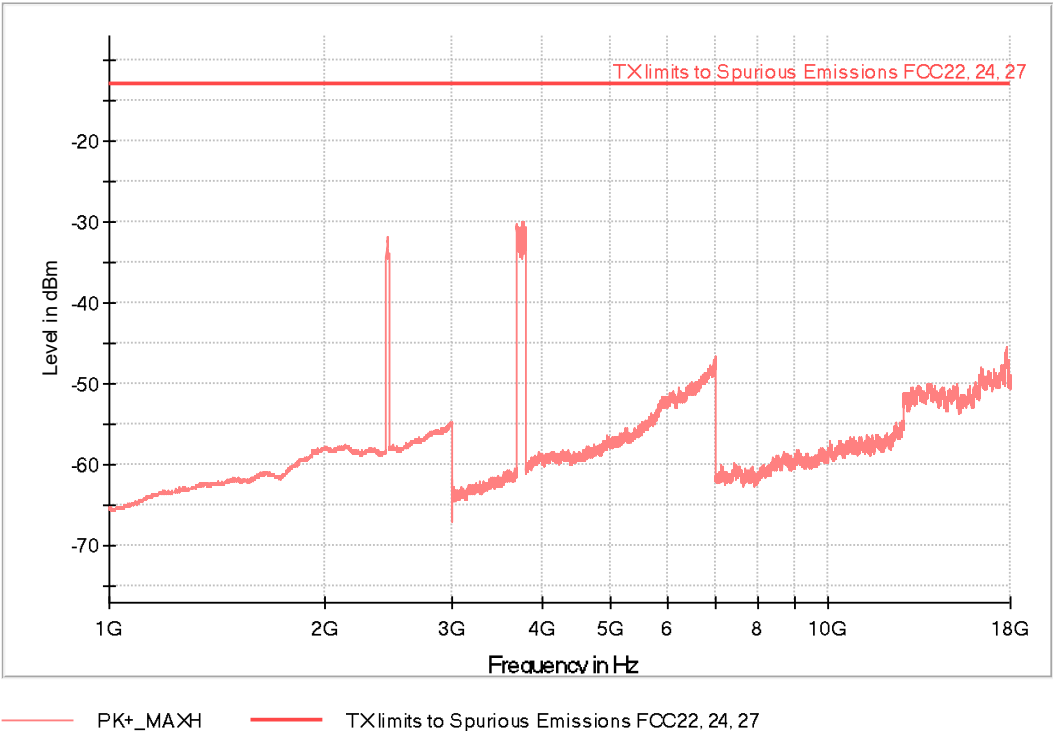
### Limit and Margin

| Frequency (MHz) | PK+_MAXH (dBm) | Pol | Margin - PK+ (dB) | Limit - PK+ (dBm) |
|-----------------|----------------|-----|-------------------|-------------------|
| 134.275000      | -56.3          | H   | 43.3              | -13.0             |
| 153.157667      | -54.2          | V   | 41.2              | -13.0             |
| 591.468333      | -40.5          | H   | 27.5              | -13.0             |

TEST RESULTS (Cont.):

1-18 GHz

Test Results : 1-18 GHz



Limit and Margin

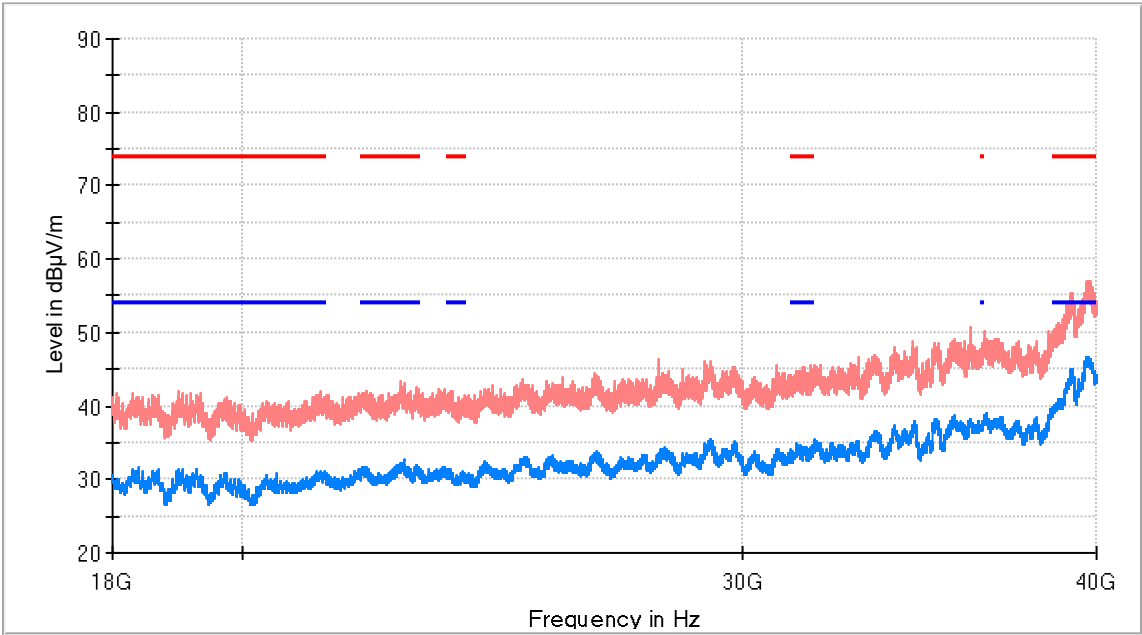
| Frequency (MHz) | RMS_MAXH (dBm) | Pol | Margin - RMS (dB) | Limit - RMS (dBm) | Comment              |
|-----------------|----------------|-----|-------------------|-------------------|----------------------|
| 2439.000000     | -31.7          | H   | ---               | ---               | WIFI 2.4 FUNDAMENTAL |
| 3779.675000     | -29.9          | H   | ---               | ---               | 5G BAND 77           |
| 6997.175000     | -46.6          | V   | 16.6              | -30.0             |                      |

TEST RESULTS (Cont.):

18 – 40 GHz

Test Results : 18-40 GHz

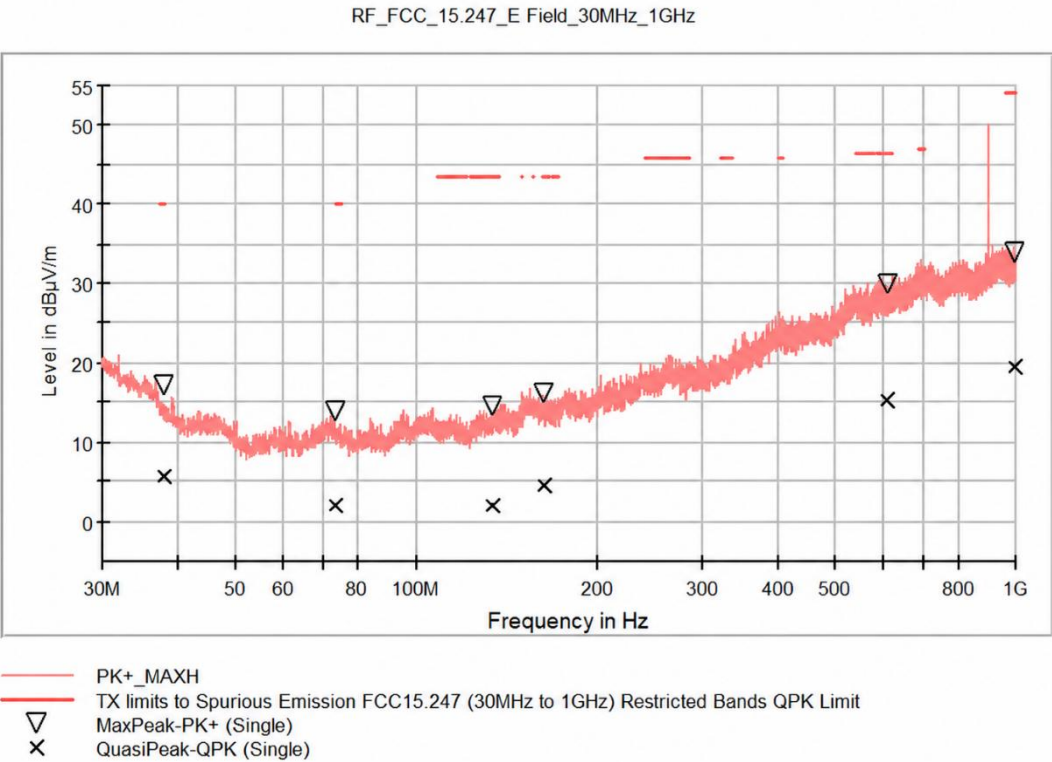
RF\_FCC\_15.407\_E Field\_18GHz\_40GHz



- AVG\_MAXH
- PK+\_MAXH
- TX limits to Spurious Emission FCC15.407 (1GHz to 40 GHz) Restricted Bands PK Limit
- TX limits to Spurious Emission FCC15.407 (1GHz to 40 GHz) Restricted Bands AVG Limit

| Frequency (MHz) | PK+_MAXH (dBµV/m) | AVG_MAXH (dBµV/m) | Pol | Margin - AVG (dB) | Limit - AVG (dBµV/m) |
|-----------------|-------------------|-------------------|-----|-------------------|----------------------|
| 19151.200000    | 38.6              | 31.0              | H   | 23.0              | 54.0                 |

|                          |            |
|--------------------------|------------|
| TESTED SAMPLES:          | S/01       |
| TESTED CONDITIONS MODES: | TC#05      |
| TEST RESULTS:            | 30 – 1 GHz |



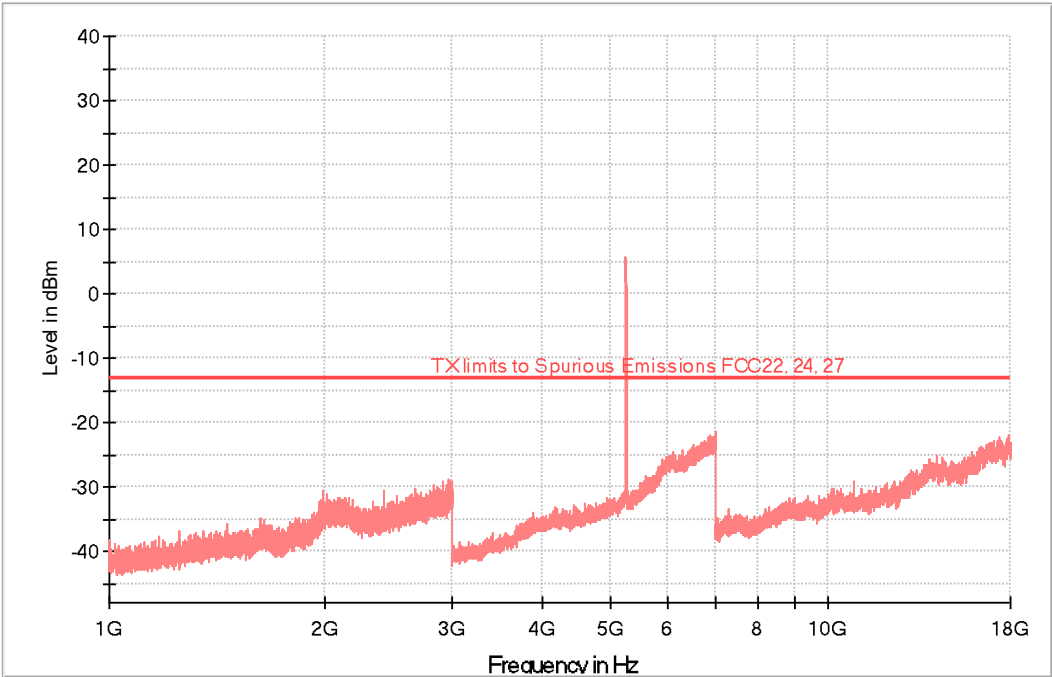
### Limit and Margin

| Frequency (MHz) | MaxPeak (dBµV/m) | QuasiPeak (dBµV/m) | Pol | Margin - PK+ (dB) | Limit - PK+ (dBµV/m) |
|-----------------|------------------|--------------------|-----|-------------------|----------------------|
| 74.959500       | 13.2             | 1.1                | H   | 26.9              | 40.0                 |
| 121.131500      | 13.2             | 0.9                | V   | 30.3              | 43.5                 |
| 128.649000      | 15.0             | 3.1                | H   | 28.5              | 43.5                 |
| 259.259500      | 21.3             | 9.1                | H   | 24.7              | 46.0                 |
| 406.505500      | 26.0             | 12.1               | H   | 20.0              | 46.0                 |
| 612.048500      | 29.8             | 14.9               | H   | 16.2              | 46.0                 |

TEST RESULTS (Cont.):

1-18 GHz

Test Results : 1-18 GHz



PK+\_MAXH TX limits to Spurious Emissions FCC22, 24, 27

Limit and Margin

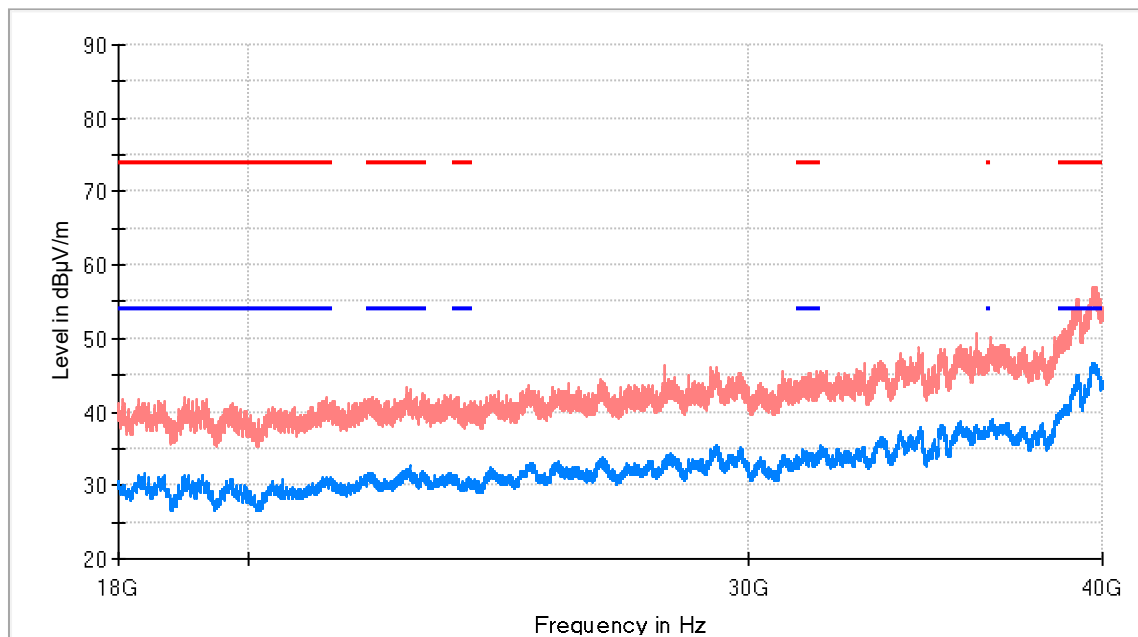
| Frequency (MHz) | PK+_MAXH (dBm) | Pol | Margin - PK+ (dB) | Limit - PK+ (dBm) | Comment           |
|-----------------|----------------|-----|-------------------|-------------------|-------------------|
| 2409.200000     | -30.9          | V   | 17.9              | -13.0             |                   |
| 5247.000000     | 5.7            | H   | ---               | ---               | Wi-Fi FUNDAMENTAL |
| 6650.000000     | -23.1          | V   | 10.1              | -13.0             |                   |

**TEST RESULTS (Cont.):**

18 – 40 GHz

Test Results : 18-40 GHz

RF\_FCC\_15.407\_E Field\_18GHz\_40GHz

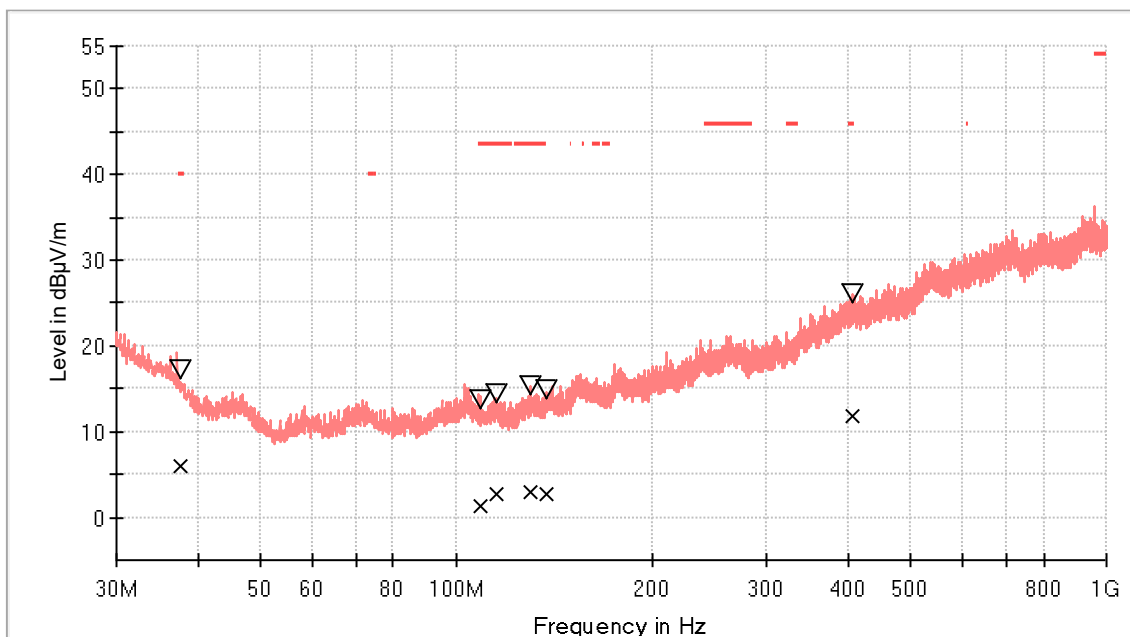


- AVG\_MAXH
- PK+\_MAXH
- TX limits to Spurious Emission FCC15.407 (1GHz to 40 GHz) Restricted Bands PK Limit
- TX limits to Spurious Emission FCC15.407 (1GHz to 40 GHz) Restricted Bands AVG Limit

| Frequency (MHz) | PK+_MAXH (dBµV/m) | AVG_MAXH (dBµV/m) | Pol | Margin - AVG (dB) | Limit - AVG (dBµV/m) |
|-----------------|-------------------|-------------------|-----|-------------------|----------------------|
| 18453.200000    | 38.6              | 31.0              | H   | 23.0              | 54.0                 |
| 22794.533333    | 40.8              | 32.7              | V   | 21.3              | 54.0                 |
| 31359.133333    | 43.4              | 35.0              | H   | 19.0              | 54.0                 |

|                          |            |
|--------------------------|------------|
| TESTED SAMPLES:          | S/01       |
| TESTED CONDITIONS MODES: | TC#06      |
| TEST RESULTS:            | 30 – 1 GHz |

RF\_FCC\_15.247\_E Field\_30MHz\_1GHz



- PK+\_MAXH
- - - TX limits to Spurious Emission FCC15.247 (30MHz to 1GHz) Restricted Bands QPK Limit
- ▽ MaxPeak-PK+ (Single)
- x QuasiPeak-QPK (Single)

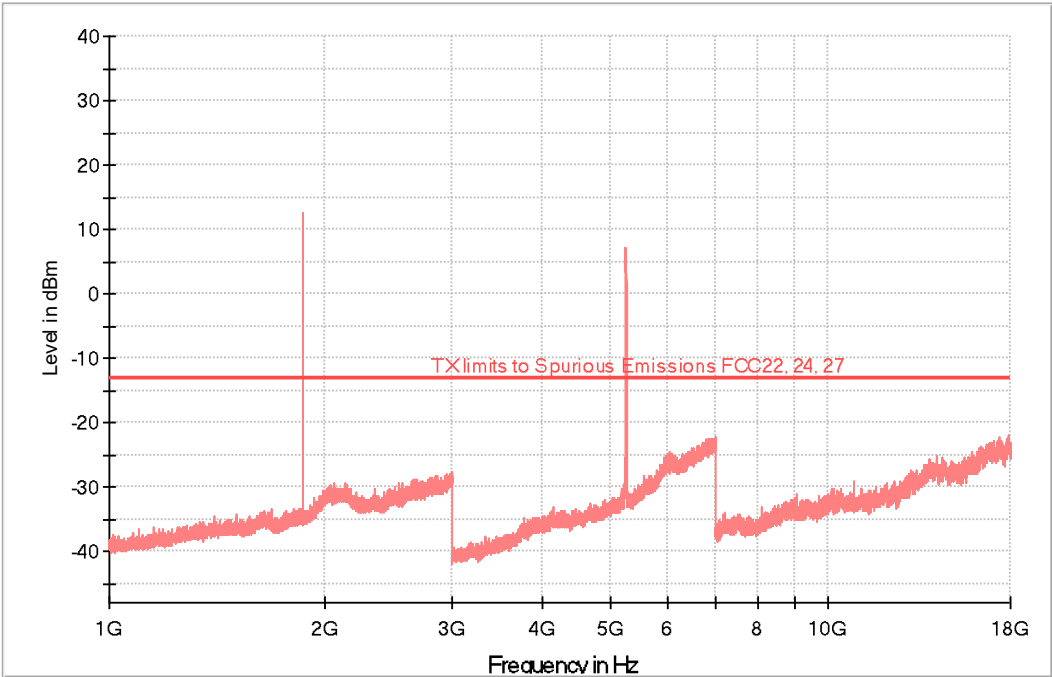
### Limit and Margin

| Frequency (MHz) | MaxPeak (dBµV/m) | QuasiPeak (dBµV/m) | Pol | Margin - PK+ (dB) | Limit - PK+ (dBµV/m) |
|-----------------|------------------|--------------------|-----|-------------------|----------------------|
| 37.711500       | 17.2             | 6.0                | V   | 22.8              | 40.0                 |
| 108.909500      | 13.8             | 1.2                | H   | 29.8              | 43.5                 |
| 115.602500      | 14.5             | 2.6                | H   | 29.0              | 43.5                 |
| 130.055500      | 15.3             | 2.8                | V   | 28.3              | 43.5                 |
| 137.573000      | 14.8             | 2.6                | H   | 28.8              | 43.5                 |
| 405.584000      | 26.0             | 11.8               | H   | 20.0              | 46.0                 |

TEST RESULTS (Cont.):

1-18 GHz

Test Results : 1-18 GHz



PK+\_MAXH TX limits to Spurious Emissions FCC22, 24, 27

Limit and Margin

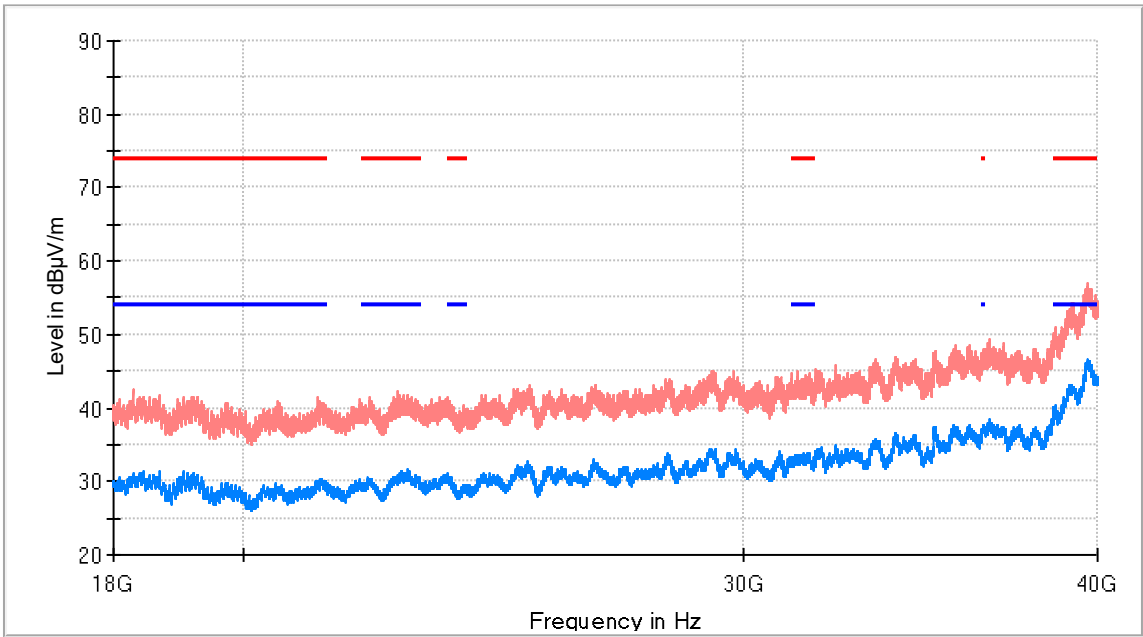
| Frequency (MHz) | PK+_MAXH (dBm) | Pol | Margin - PK+ (dB) | Limit - PK+ (dBm) | Comment          |
|-----------------|----------------|-----|-------------------|-------------------|------------------|
| 1860.000000     | 12.6           | H   | ---               | ---               | GSM_FUNDAMENTAL  |
| 5232.500000     | 7.1            | H   | ---               | ---               | WiFi_FUNDAMENTAL |
| 6695.500000     | -23.6          | H   | 10.6              | -13.0             |                  |

TEST RESULTS (Cont.):

18 – 40 GHz

Test Results : 18-40 GHz

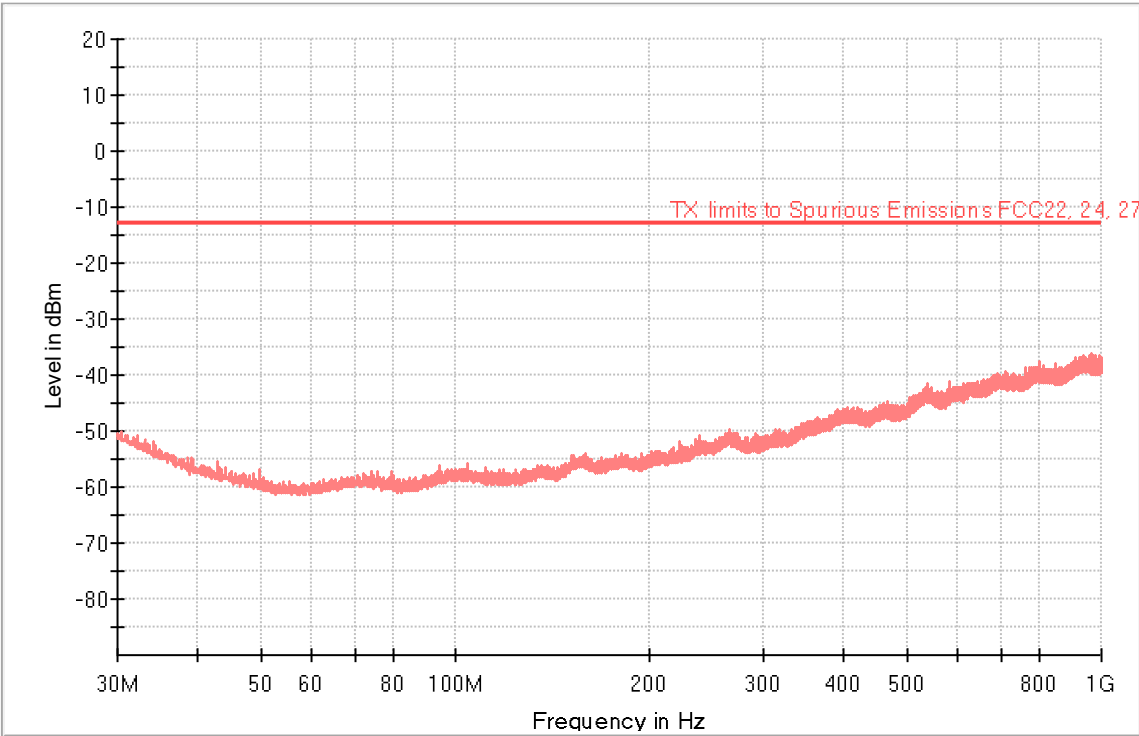
RF\_FCC\_15.407\_E Field\_18GHz\_40GHz



- AVG\_MAXH
- PK+\_MAXH
- TX limits to Spurious Emission FCC15.407 (1GHz to 40 GHz) Restricted Bands PK Limit
- TX limits to Spurious Emission FCC15.407 (1GHz to 40 GHz) Restricted Bands AVG Limit

| Frequency (MHz) | PK+_MAXH (dBµV/m) | AVG_MAXH (dBµV/m) | Pol | Margin - AVG (dB) | Limit - AVG (dBµV/m) |
|-----------------|-------------------|-------------------|-----|-------------------|----------------------|
| 19045.000000    | 39.8              | 31.5              | H   | 22.5              | 54.0                 |
| 22842.200000    | 41.1              | 31.7              | H   | 22.3              | 54.0                 |
| 31744.866667    | 41.9              | 33.2              | H   | 20.8              | 54.0                 |

|                          |            |
|--------------------------|------------|
| TESTED SAMPLES:          | S/01       |
| TESTED CONDITIONS MODES: | TC#07      |
| TEST RESULTS:            | 30 – 1 GHz |



PK+\_MAXH TX limits to Spurious Emissions FCC22, 24, 27

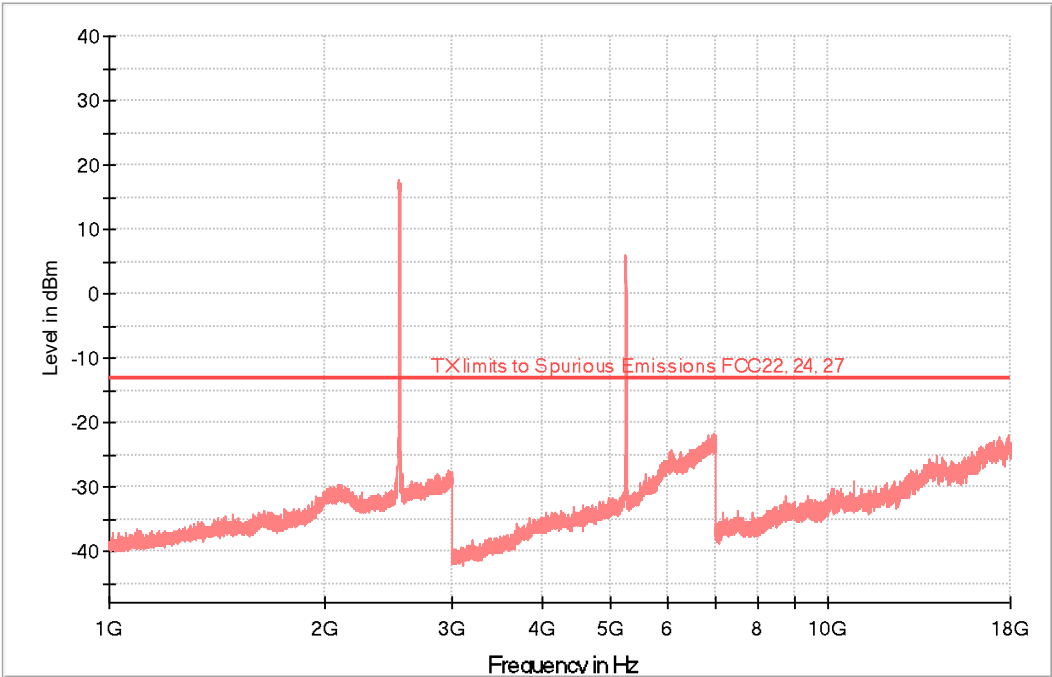
Limit and Margin

| Frequency (MHz) | PK+_MAXH (dBm) | Pol | Margin - PK+ (dB) | Limit - PK+ (dBm) |
|-----------------|----------------|-----|-------------------|-------------------|
| 49.626333       | -56.9          | H   | 43.9              | -13.0             |
| 266.292000      | -50.5          | H   | 37.5              | -13.0             |
| 1000.000000     | -39.1          | H   | 26.1              | -13.0             |

TEST RESULTS (Cont.):

1-18 GHz

Test Results : 1-18 GHz



PK+\_MAXH TX limits to Spurious Emissions FCC22, 24, 27

Limit and Margin

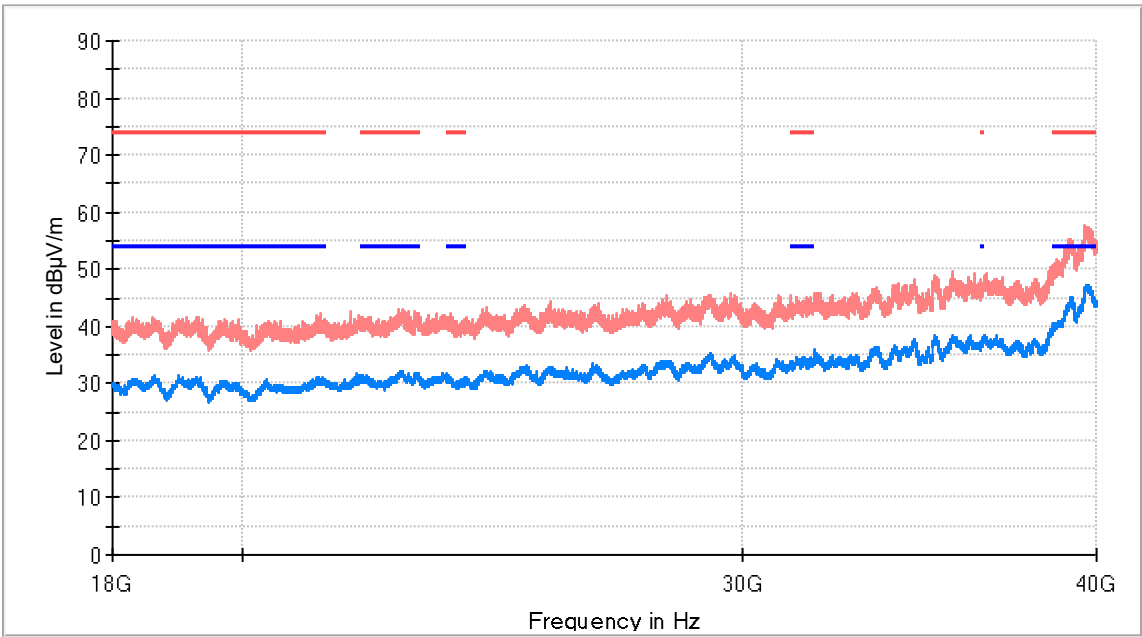
| Frequency (MHz) | PK+_MAXH (dBm) | Pol | Margin - PK+ (dB) | Limit - PK+ (dBm) | Comment          |
|-----------------|----------------|-----|-------------------|-------------------|------------------|
| 2532.200000     | 17.6           | V   | ---               | ---               | LTE_FUNDAMENTAL  |
| 5247.000000     | 5.8            | H   | ---               | ---               | WiFi_FUNDAMENTAL |
| 6702.000000     | -23.5          | H   | 10.5              | -13.0             |                  |

TEST RESULTS (Cont.):

18 – 40 GHz

Test Results : 18-40 GHz

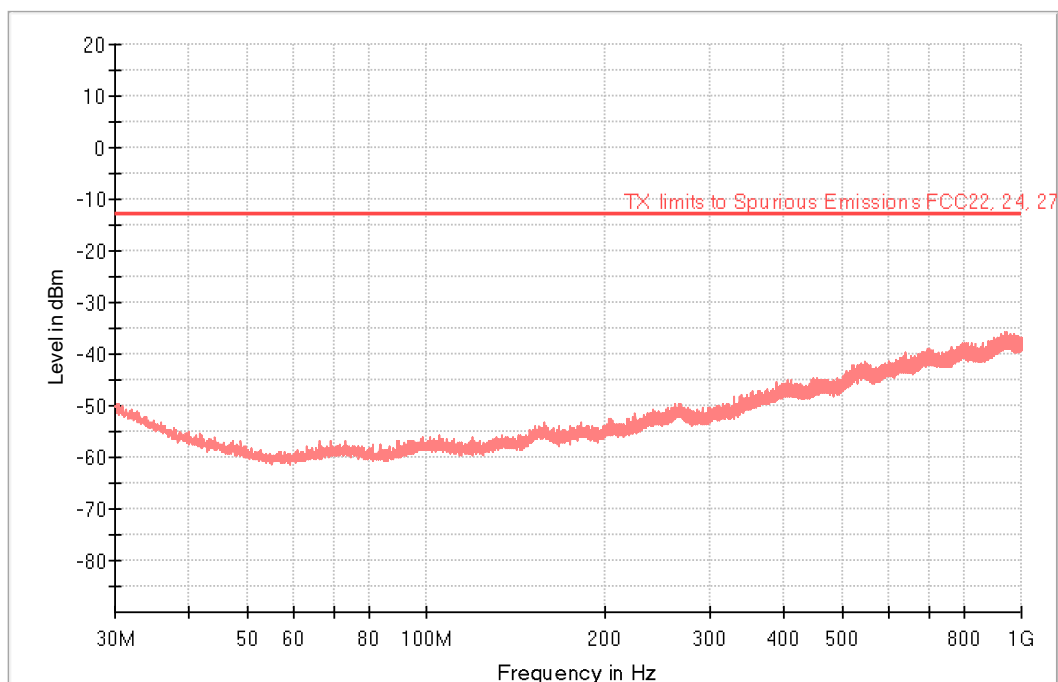
RF\_FCC\_15.407\_E Field\_18GHz\_40GHz



- AVG\_MAXH
- PK+\_MAXH
- TX limits to Spurious Emission FCC15.407 (1GHz to 40 GHz) Restricted Bands PK Limit
- TX limits to Spurious Emission FCC15.407 (1GHz to 40 GHz) Restricted Bands AVG Limit

| Frequency (MHz) | PK+_MAXH (dBµV/m) | AVG_MAXH (dBµV/m) | Pol | Margin - AVG (dB) | Limit - AVG (dBµV/m) |
|-----------------|-------------------|-------------------|-----|-------------------|----------------------|
| 18992.933333    | 39.6              | 31.4              | H   | 22.6              | 54.0                 |
| 22687.466667    | 40.9              | 32.0              | H   | 22.0              | 54.0                 |
| 31523.400000    | 43.3              | 34.8              | H   | 19.2              | 54.0                 |

|                          |            |
|--------------------------|------------|
| TESTED SAMPLES:          | S/01       |
| TESTED CONDITIONS MODES: | TC#08      |
| TEST RESULTS:            | 30 – 1 GHz |



— PK+\_MAXH — TX limits to Spurious Emissions FCC22, 24, 27

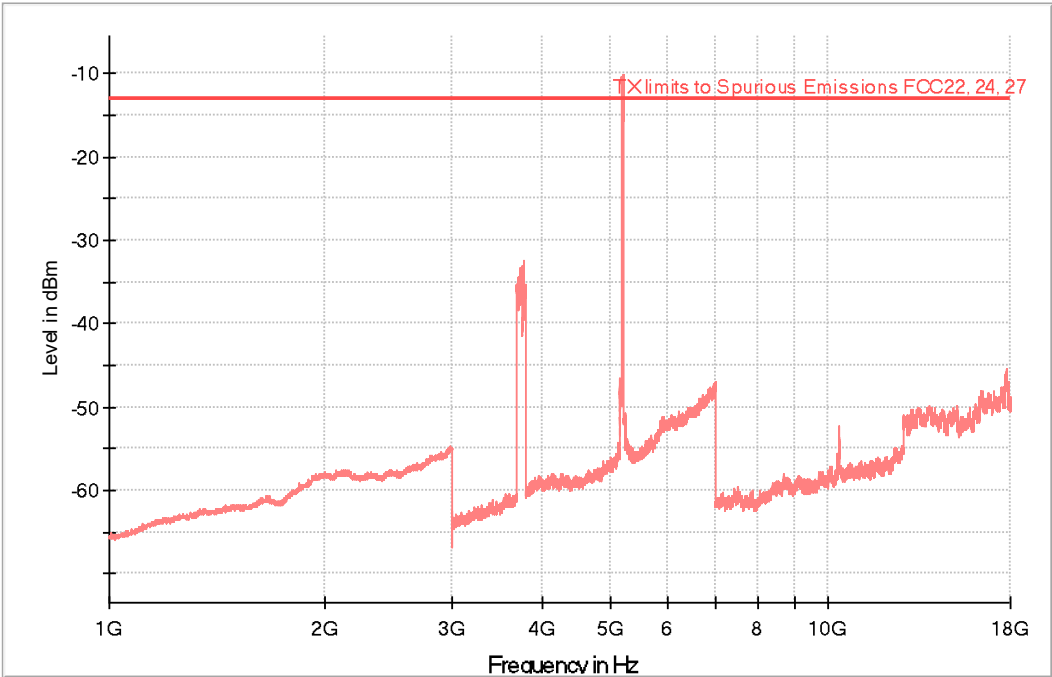
### Limit and Margin

| Frequency (MHz) | PK+_MAXH (dBm) | Pol | Margin - PK+ (dB) | Limit - PK+ (dBm) |
|-----------------|----------------|-----|-------------------|-------------------|
| 33.007000       | -51.7          | V   | 38.7              | -13.0             |
| 328.436667      | -48.2          | H   | 35.2              | -13.0             |
| 943.093333      | -35.6          | V   | 22.6              | -13.0             |

TEST RESULTS (Cont.):

1-18 GHz

Test Results : 1-18 GHz



PK+\_MAXH TX limits to Spurious Emissions FCC22, 24, 27

Limit and Margin

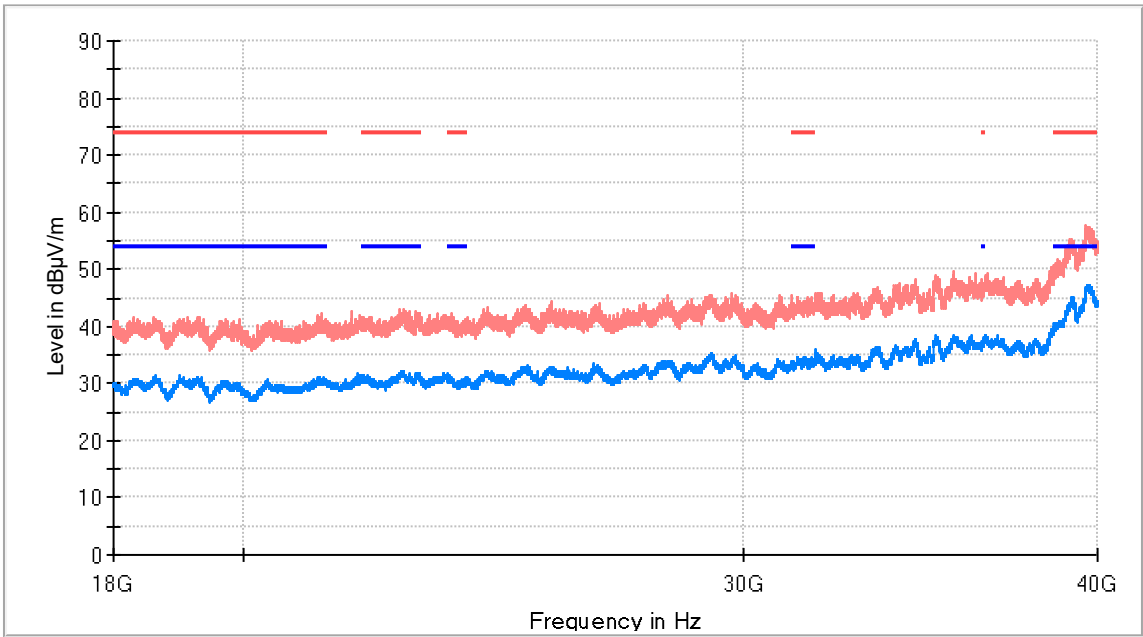
| Frequency (MHz) | RMS_MAXH (dBm) | Pol | Margin - RMS (dB) | Limit - RMS (dBm) | Comment    |
|-----------------|----------------|-----|-------------------|-------------------|------------|
| 3776.750000     | -32.5          | V   | ---               | ---               | 5G BAND 77 |
| 5200.900000     | -10.1          | V   | ---               | ---               | WIFI 5 GHZ |
| 10378.800000    | -52.3          | V   | 22.3              | -30.0             |            |

TEST RESULTS (Cont.):

18 – 40 GHz

Test Results : 18-40 GHz

RF\_FCC\_15.407\_E Field\_18GHz\_40GHz



- AVG\_MAXH
- PK+\_MAXH
- TX limits to Spurious Emission FCC15.407 (1GHz to 40 GHz) Restricted Bands PK Limit
- TX limits to Spurious Emission FCC15.407 (1GHz to 40 GHz) Restricted Bands AVG Limit

| Frequency (MHz) | PK+_MAXH (dBµV/m) | AVG_MAXH (dBµV/m) | Pol | Margin - AVG (dB) | Limit - AVG (dBµV/m) |
|-----------------|-------------------|-------------------|-----|-------------------|----------------------|
| 34483.400000    | 43.3              | 34.8              | H   | 19.2              | 54.0                 |