

# TEST REPORT

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Report No.: SRTC2022-9003(F)-0093  
Model Name: PGT-N19  
Applicant: Honor Device Co., Ltd.  
Manufacturer: Honor Device Co., Ltd.  
Specification: FCC Part15C (Certification)  
(2021 edition)  
FCC ID: 2AYGCPGT-N19

The State Radio\_monitoring\_center Testing Center (SRTC)  
15th Building, No.30 Shixing Street, Shijingshan District,  
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## 1. General information

### 1.1 Notes of the test report

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The test results relate only to individual items of the samples which have been tested.

### 1.2 Information about the testing laboratory

Company: The State Radio\_monitoring\_center Testing Center (SRTC)  
Test Site 1: 15th Building, No.30 Shixing Street, Shijingshan District  
Test Site 2: No.80, Zhaojiachang, Beizang, Daxing District  
City: Beijing  
Country or Region: P.R.China  
Contacted person: Liu Jia  
Tel: +86 10 57996183  
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Email: liujiaf@srtc.org.cn  
Designation Number: CN1267  
Registration number: 239125

### 1.3 Applicant's details

Company: Honor Device Co., Ltd.  
Address: Shum Yip Sky Park, No. 8089, Hongli West Road, Shenzhen, China

### 1.4 Manufacturer's details

Company: Honor Device Co., Ltd.  
Address: Shum Yip Sky Park, No. 8089, Hongli West Road, Shenzhen, China

### 1.5 Application details

Date of reception of test sample: 22<sup>th</sup> December 2022

Date of test: 22<sup>th</sup> December to 13<sup>th</sup> January 2023

### 1.6 Reference specification

FCC Part 15C 2021 (Certification)

## 1.7 Information of EUT

### 1.7.1 General information

|                               |   |
|-------------------------------|---|
| Model Name of EUT             | PGT-N19   |
| FCC ID                        | 2AYGCPGT-N19  |
| Operating Frequency range     | Charging stand: 110-148kHz  |
| Test condition of declaration | Normal  |
| Telecommunication center      | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| S/N                           | /   |
| HW Version                    | HN2PGETM  |
| SW Version                    | 7.1.0.107(C900E100R1P2)   |

### 1.7.2 EUT details

| Internal Control Number | Model   | WPT Manufacture                                | WPT Model | IMEI            |
|-------------------------|---------|--|-----------|-----------------|
| EUT1                    | PGT-N19 | Chengdu Convenient Power semiconductor CO.,LTD | CPS4057   | 866456060029029 |
| EUT2                    | PGT-N19 | STMicroelectronics                             | STWLC88JR | 866456060042139 |

Note1: The WPT of EUT has two supplier. Both of them are tested in this report except conducted emissions .

### 1.7.3 Auxiliary equipment details

AE (Auxiliary Equipment) 1#: Charging base

|              |                        |
|--------------|------------------------|
| Equipment    | Charging base          |
| Manufacturer | Honor Device Co., Ltd. |
| Model Number | Power-W06              |

AE (Auxiliary Equipment) 2#: Battery

|                                 |                        |
|---------------------------------|------------------------|
| Manufacturer                    | Honor Device Co., Ltd. |
| Model Number                    | HB536880EHW            |
| Li-ion Polymer Battery Capacity | 5000mAh                |

AE (Auxiliary Equipment) 3#:Charger1

|                |                              |
|----------------|------------------------------|
| Manufacturer   | Honor Device Co., Ltd.       |
| Model Number   | HN-110600U00                 |
| Input Voltage  | 100V-240V AC                 |
| Output Voltage | 5Vdc2A OR 10Vdc4A OR 11Vdc6A |

AE (Auxiliary Equipment) 4#:Charger2

|                |                              |
|----------------|------------------------------|
| Manufacturer   | Honor Device Co., Ltd.       |
| Model Number   | HN-110600E00                 |
| Input Voltage  | 100V-240V AC                 |
| Output Voltage | 5Vdc2A OR 10Vdc4A OR 11Vdc6A |

AE (Auxiliary Equipment) 5#:Charger3

|                |                              |
|----------------|------------------------------|
| Manufacturer   | Honor Device Co., Ltd.       |
| Model Number   | HN-110600B00                 |
| Input Voltage  | 100V-240V AC                 |
| Output Voltage | 5Vdc2A OR 10Vdc4A OR 11Vdc6A |

Note: All the tests shown in this test report are performed when the EUT exercised by the Charging base AE1, the Battery AE2 and the Charger1 AE3.

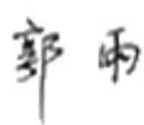


### 1.7.4 Operation Mode

Test has performed with the Charging base combined with the EUT under its battery power more than 90% energy. So all the test performed when the EUT working with battery power is more than 90%.

## 2. Test information

### 2.1 Summary of the test results

| No. | Test case                        | Verdict |
|-----|----------------------------------|---------|
| 1   | Conducted emissions              | Pass    |
| 2   | Radiated emissions               | Pass    |
| 3   | 20dB Bandwidth and 99% Bandwidth | Pass    |

|   |   |
|---|---|
| Approved By: Mr. Guo Yu<br>Vice director of the test department<br><br> | Checked By:<br>Mr. Liu Jian<br><br> |
| Tested By:<br>Mr. Lv Youyou<br><br>                                    | Issued date:<br><br>2023.01.13  |

## 2.2 Test result

### 2.2.1 Conducted Emissions-FCC Part15.207

Ambient condition:

| Temperature | Relative humidity | Pressure |
|-------------|-------------------|----------|
| 23.9°C      | 39.5 %            | 100.8kPa |

Test Setup with charger:

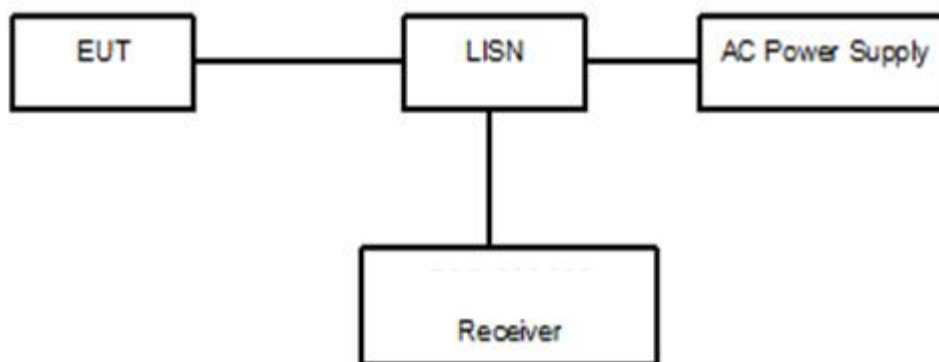


Figure 1

Test Procedure:

The EUT is placed on a non-metallic table 0.8m above the horizontal metal reference ground plane. The EUT is connected with LISN via the charger and Charging base. The LISN is connected to the reference ground. Open the following functions of EUT: Alarm clock.

The test set-up and the test methods are performed according to ANSI C63.10:2013.

Then start the test software EMC32. Sweep the whole frequency band through the range from 150 KHz to 30 MHz with RBW 9kHz, VBW 30kHz. The measurement should be done for both L line and N line. During pre-test, the receiver uses both peak detector and average detector. And the final test, the receiver uses both average detector and Quasi-peak detector.

A "reference path loss" Corr.(dB) is established and the  $L_{cable}+ATT+VDF$  is the attenuation of "reference path loss", and including the cable loss, the attenuation of the attenuator, the voltage division factor of AMN.

The measurement results are obtained as described below:

$$P_{result}=P_{mea}+Corr.(dB)$$

Sample calculation:  $(39.39 \text{ dB}\mu\text{V}) = (9.69 \text{ dB}\mu\text{V}) + (29.7 \text{ dB})$ , the corresponding frequency is 0.171322MHz.

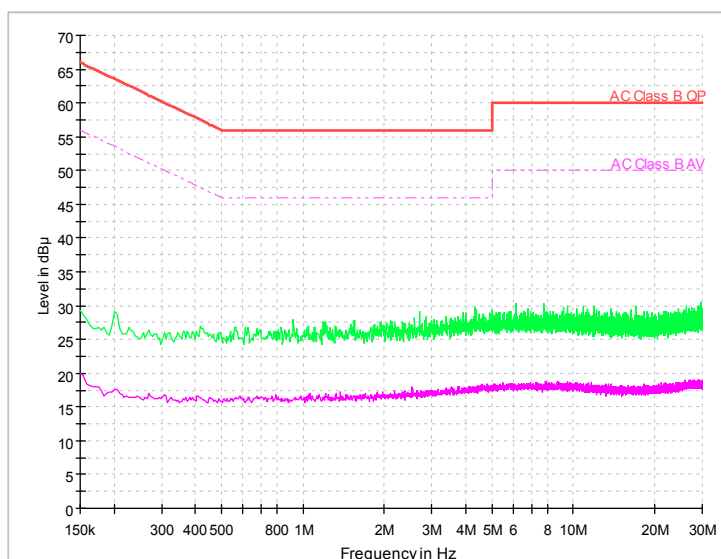
Limit:

| Frequency of Emission(MHz) | Limits(dB $\mu$ V) |           |
|----------------------------|--------------------|-----------|
|                            | Quasi-peak         | Average   |
| 0.15~0.5                   | 66 to 56*          | 56 to 46* |
| 0.5~5                      | 56                 | 46        |
| 5~30                       | 60                 | 50        |

Note: \* Decreases with the logarithm of the frequency

Test result:

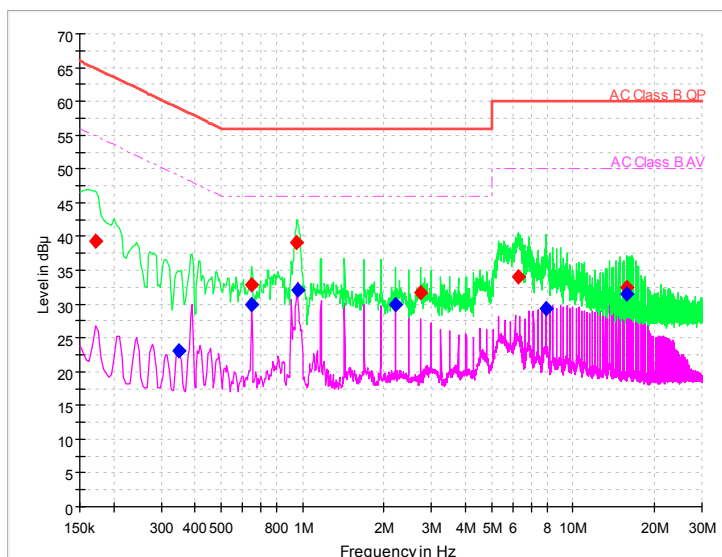
Noise Level of the Measuring Instrument



Pic1. Conducted emission L and N Line



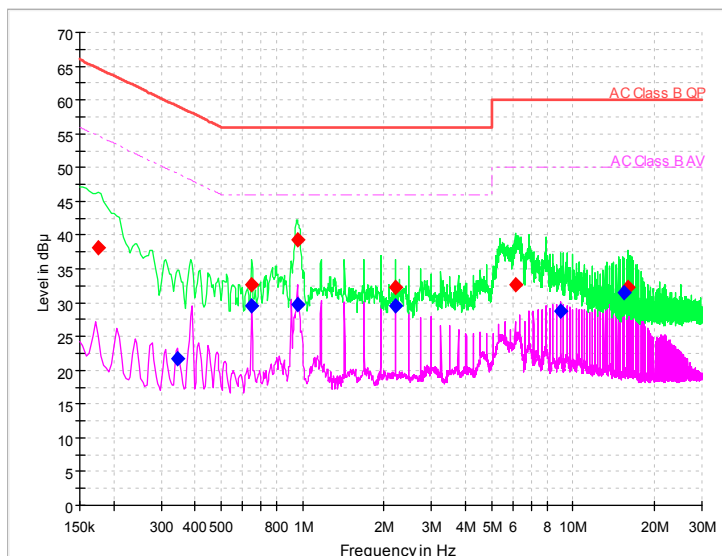
EUT + AE#1: Charging base +AE #2: Battery +AE #3: Charger:



Pic2. Conducted emission L&N Line Voltage: 120VAC

| Frequency (MHz) | QuasiPeak (dBµV) | Average (dBµV) | Limit (dBµV) | Margin (dB) | Line | Corr. (dB) | P <sub>mea</sub> QuasiPeak | P <sub>mea</sub> Average |
|-----------------|------------------|----------------|--------------|-------------|------|------------|----------------------------|--------------------------|
| 0.171322        | 39.39            | ---            | 64.90        | 25.51       | N    | 29.7       | 9.69                       | ---                      |
| 0.350422        | ---              | 23.00          | 48.95        | 25.95       | L1   | 29.8       | ---                        | -6.8                     |
| 0.648922        | ---              | 29.93          | 46.00        | 16.07       | N    | 29.8       | ---                        | 0.13                     |
| 0.648922        | 32.82            | ---            | 56.00        | 23.18       | L1   | 29.8       | 3.02                       | ---                      |
| 0.951686        | 39.11            | ---            | 56.00        | 16.89       | L1   | 29.8       | 9.31                       | ---                      |
| 0.955950        | ---              | 32.01          | 46.00        | 13.99       | L1   | 29.8       | ---                        | 2.21                     |
| 2.209650        | ---              | 29.89          | 46.00        | 16.11       | N    | 29.8       | ---                        | 0.09                     |
| 2.729893        | 31.72            | ---            | 56.00        | 24.28       | L1   | 29.9       | 1.82                       | ---                      |
| 6.286307        | 33.94            | ---            | 60.00        | 26.06       | N    | 29.9       | 4.04                       | ---                      |
| 7.928057        | ---              | 29.27          | 50.00        | 20.73       | L1   | 29.9       | ---                        | -0.63                    |
| 15.73170        | 32.42            | ---            | 60.00        | 27.58       | L1   | 30.0       | 2.42                       | ---                      |
| 15.73170        | ---              | 31.49          | 50.00        | 18.51       | L1   | 30.0       | ---                        | 1.49                     |

EUT + AE#1: Charging base +AE #2: Battery +AE #3: Charger:



Pic3. Conducted emission L&N Line Voltage: 240VAC

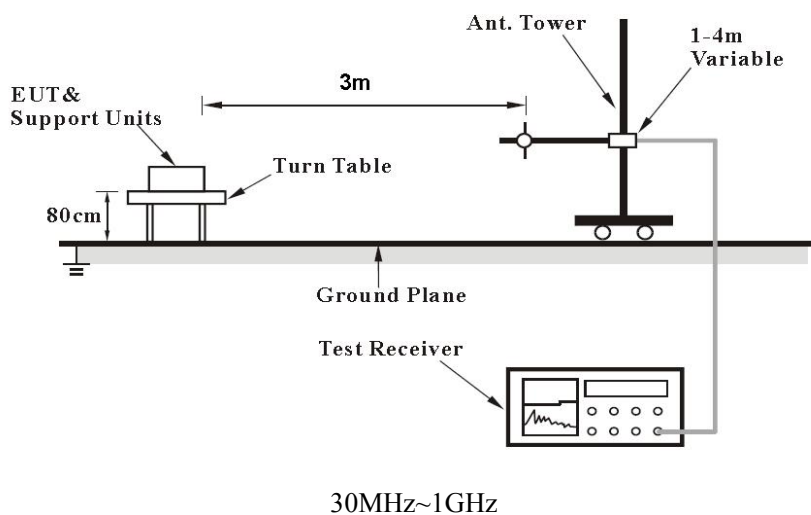
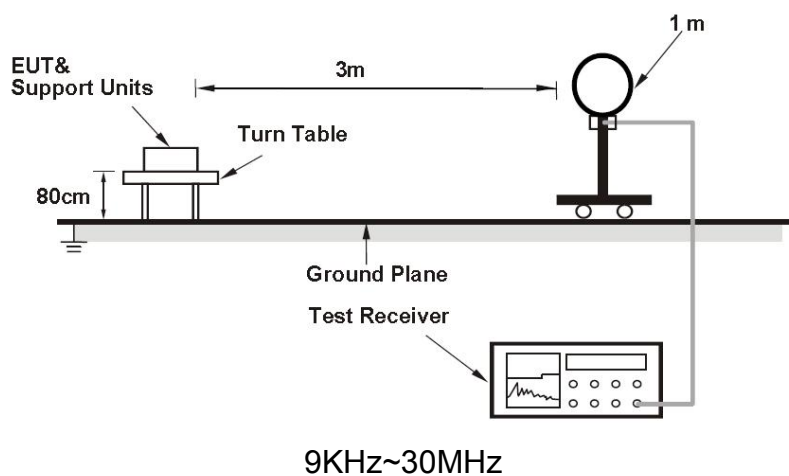
| Frequency (MHz) | QuasiPeak (dBµV) | Average (dBµV) | Limit (dBµV) | Margin (dB) | Line | Corr (dB) | P <sub>mea</sub> QuasiPeak (dBµV) | P <sub>mea</sub> Average (dBµV) |
|-----------------|------------------|----------------|--------------|-------------|------|-----------|-----------------------------------|---------------------------------|
| 0.175586        | 38.18            | ---            | 64.69        | 26.51       | N    | 29.7      | 8.48                              | ---                             |
| 0.346157        | ---              | 21.80          | 49.05        | 27.25       | L1   | 29.8      | ---                               | -8                              |
| 0.648922        | ---              | 29.53          | 46.00        | 16.47       | N    | 29.8      | ---                               | -0.27                           |
| 0.648922        | 32.63            | ---            | 56.00        | 23.37       | L1   | 29.8      | 2.83                              | ---                             |
| 0.955950        | ---              | 29.73          | 46.00        | 16.27       | L1   | 29.8      | ---                               | -0.07                           |
| 0.955950        | 39.37            | ---            | 56.00        | 16.63       | N    | 29.8      | 9.57                              | ---                             |
| 2.209650        | 32.22            | ---            | 56.00        | 23.78       | N    | 29.8      | 2.42                              | ---                             |
| 2.209650        | ---              | 29.44          | 46.00        | 16.56       | N    | 29.8      | ---                               | -0.36                           |
| 6.107207        | 32.64            | ---            | 60.00        | 27.36       | N    | 29.9      | 2.74                              | ---                             |
| 8.968543        | ---              | 28.74          | 50.00        | 21.26       | L1   | 30.0      | ---                               | -1.26                           |
| 15.47157        | ---              | 31.48          | 50.00        | 18.52       | L1   | 30.0      | ---                               | 1.48                            |
| 15.99182        | 32.32            | ---            | 60.00        | 27.68       | N    | 30.0      | 2.32                              | ---                             |

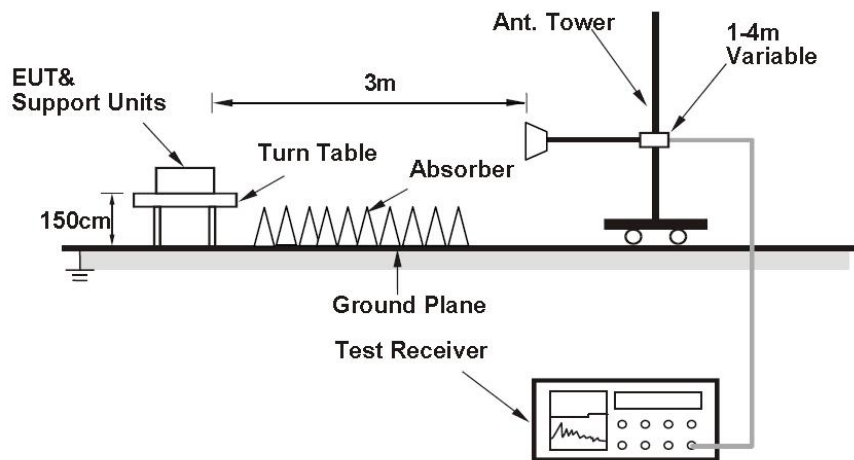
## 2.2.2 Radiated Emissions-FCC Part15.209

Ambient condition:

| Temperature | Relative humidity | Pressure |
|-------------|-------------------|----------|
| 23.9°C      | 39.5 %            | 100.8kPa |

Test Setup:





Above 1GHz

Figure 2

#### Test Procedure:

The EUT should be placed on a non-metallic table 80cm above the ground plane. The receive antennas shall be moved from 1 to 4 meters above 30MHz. The distance between EUT and receive antenna should be 3 meters.

The EUT should work in charging mode. The test set-up and the test methods are performed according to ANSI C63.10:2013..

Then start the test software EMC32. Sweep the whole frequency band through the range from 9KHz to 30MHz, using receive log period antenna HFH2-Z2. The lowest height of the magnetic antenna shall be 1 m above the ground. Measurement is made aligning the loop antenna along the site axis, orthogonal to the axis (x,y,z), when perpendicular to the ground plane. Sweep the whole frequency band through the range from 30MHz to 1GHz, using receive log period antenna VULB 9163.

During the test, the height of receive antenna shall be moved from 1 to 4 meters, and the antenna shall be performed under horizontal and vertical polarization. The turn table shall be rotated from 0 to 360 degrees for detecting the maximum of radiated spurious signal level. The measurements shall be repeated with orthogonal polarization of the test antenna. The EUT is laid in two modes as follow:  
1. put the EUT in horizontal direction; 2. put the EUT in vertical direction.

The data of cable loss and antenna factor have been calibrated in full testing frequency range before the testing. All test results are performed with max hold at the horizontal and vertical polarity.

RBW=120kHz, VBW=300kHz, when the test frequency: 30MHz<f<1GHz

RBW=1MHz, VBW=3MHz, when the test frequency: f>1GHz

A “reference path loss” is established and the  $A_{Rpl}$  is the attenuation of “reference path loss”, and including the gain of receive antenna, the gain of the preamplifier, the cable loss.

The measurement results are obtained as described below:

$$\text{Result} = P_{\text{mea}} + A_{\text{Rpl}}$$

Sample calculation: (28.68 dB $\mu$ V/m) = (46.68 dB $\mu$ V) + (-18.0dB/m), the corresponding frequency is 47.702500MHz.

Limit:

| Frequency (MHz) | Field strength (uV/m) | Measurement distance (meters) |
|-----------------|-----------------------|-------------------------------|
| 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                   | 3                             |
| 88-216          | 150                   | 3                             |
| 216-960         | 200                   | 3                             |
| Above 960       | 500                   | 3                             |

The Detector and RBW/VBW Setting:

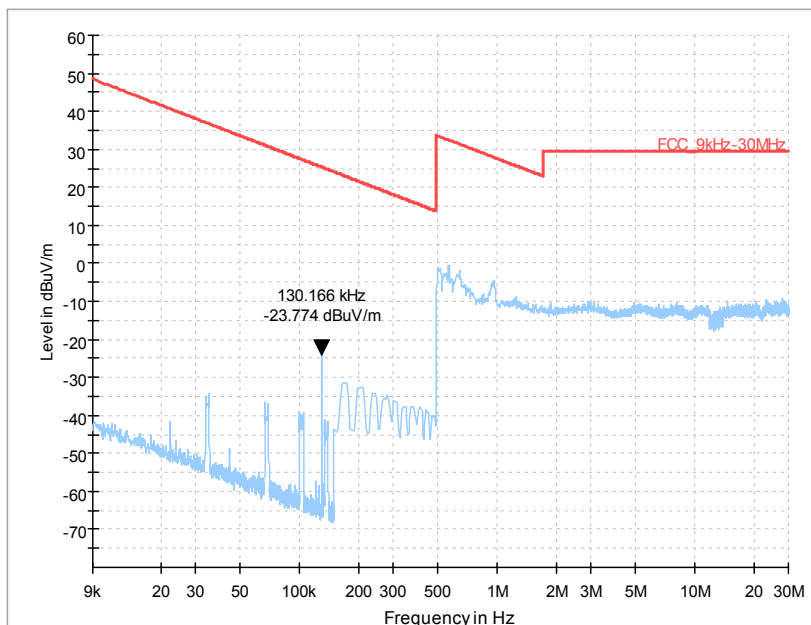
| Frequency(MHz) | Detector         | RBW    | VBW    |
|----------------|------------------|--------|--------|
| 0.009-0.15     | Average          | 200Hz  | 1KHz   |
| 0.15-0.49      | Average          | 9KHz   | 30KHz  |
| 0.49-30        | Quasi-peak       | 9KHz   | 30KHz  |
| 30-1000        | Quasi-peak       | 100KHz | 300KHz |
| 1000-6000      | Peak and Average | 1MHz   | 3MHz   |

EUT1 30-1000MHz

| Frequency (MHz) | Result (dB $\mu$ V/m) | Limit (dB $\mu$ V/m) | Margin (dB) | ARpl (dB/m) | Pmea (dB $\mu$ V) | Polarity |
|-----------------|-----------------------|----------------------|-------------|-------------|-------------------|----------|
| 47.702500       | 28.68                 | 40.00                | 11.32       | -18.0       | 46.68             | V        |
| 85.775000       | 23.64                 | 40.00                | 16.36       | -22.8       | 46.44             | V        |
| 163.326500      | 29.04                 | 43.50                | 14.46       | -21.8       | 50.84             | V        |
| 193.784500      | 25.94                 | 43.50                | 17.56       | -19.3       | 45.24             | V        |
| 389.870000      | 22.62                 | 46.00                | 23.38       | -13.1       | 35.72             | V        |
| 769.625000      | 18.78                 | 46.00                | 27.22       | -5.2        | 23.98             | V        |

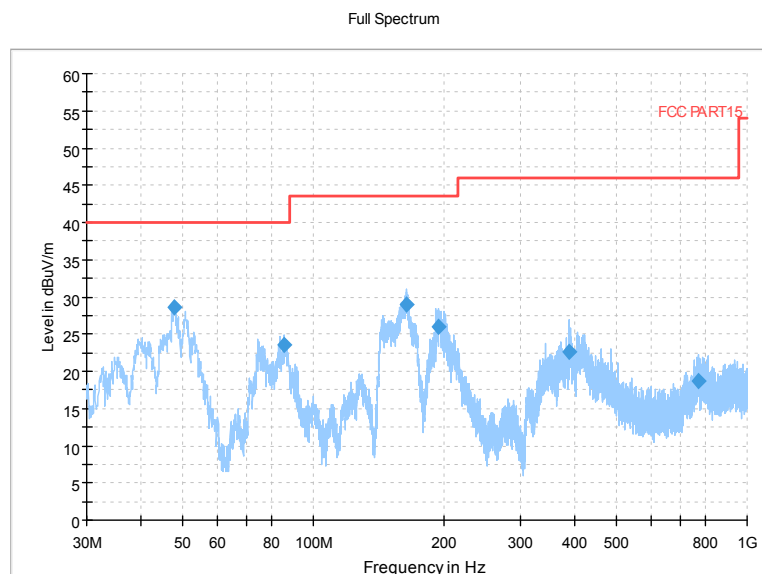
EUT2 30-1000MHz

| Frequency (MHz) | Result (dB $\mu$ V/m) | Limit (dB $\mu$ V/m) | Margin (dB) | ARpl (dB/m) | Pmea (dB $\mu$ V) | Polarity |
|-----------------|-----------------------|----------------------|-------------|-------------|-------------------|----------|
| 48.284500       | 27.90                 | 40.00                | 12.10       | -17.9       | 45.80             | V        |
| 85.969000       | 23.93                 | 40.00                | 16.07       | -22.7       | 46.63             | V        |
| 162.453500      | 28.72                 | 43.50                | 14.78       | -21.8       | 50.52             | V        |
| 194.706000      | 27.13                 | 43.50                | 16.37       | -19.2       | 46.33             | V        |
| 391.082500      | 22.85                 | 46.00                | 23.15       | -13.1       | 35.95             | V        |
| 862.211500      | 17.85                 | 46.00                | 28.15       | -4.0        | 21.85             | V        |



Pic4. Radiated emission(9KHz – 30MHz) EUT1

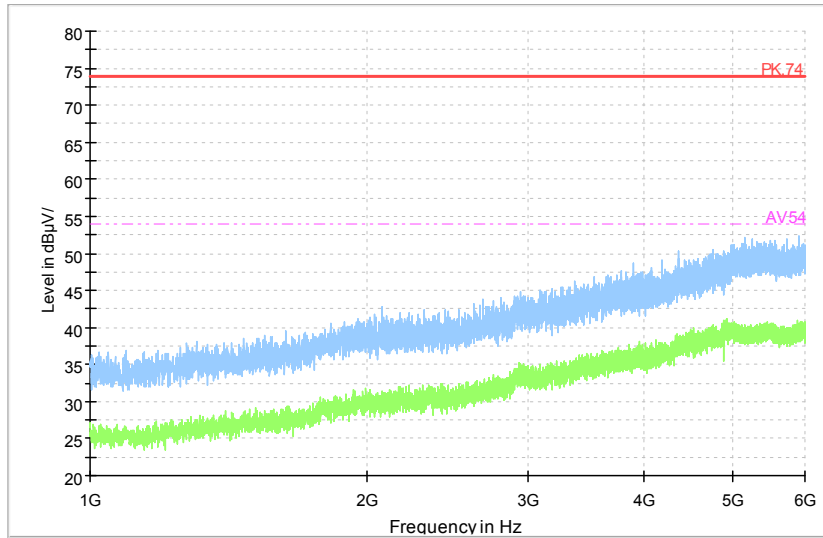
Note: Loop antenna at 3M, the test result has extrapolated to the specified distance which standard required.



Pic5. Radiated emission(30MHz – 1GHz) EUT1

Note: The test data in the graph includes two polarizations: horizontal and vertical

Full Spectrum

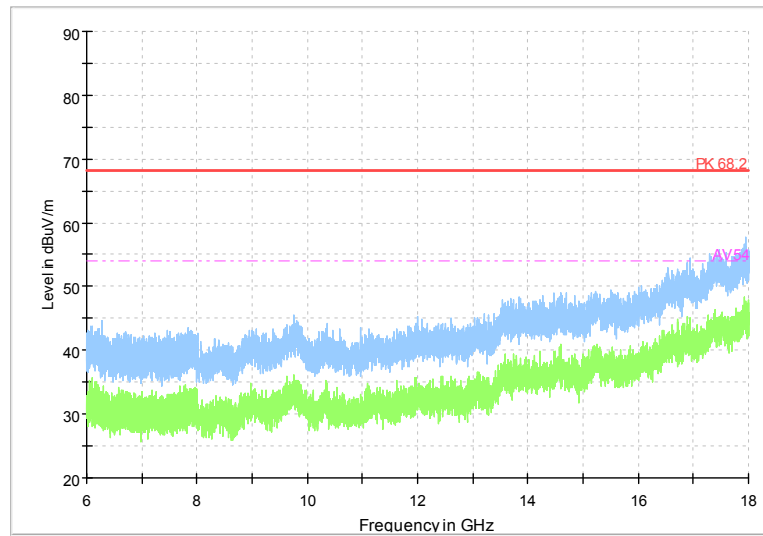


Comment

Pic6. Radiated emission (1GHz – 6GHz) EUT1

Note: The test data in the graph includes two polarizations: horizontal and vertical

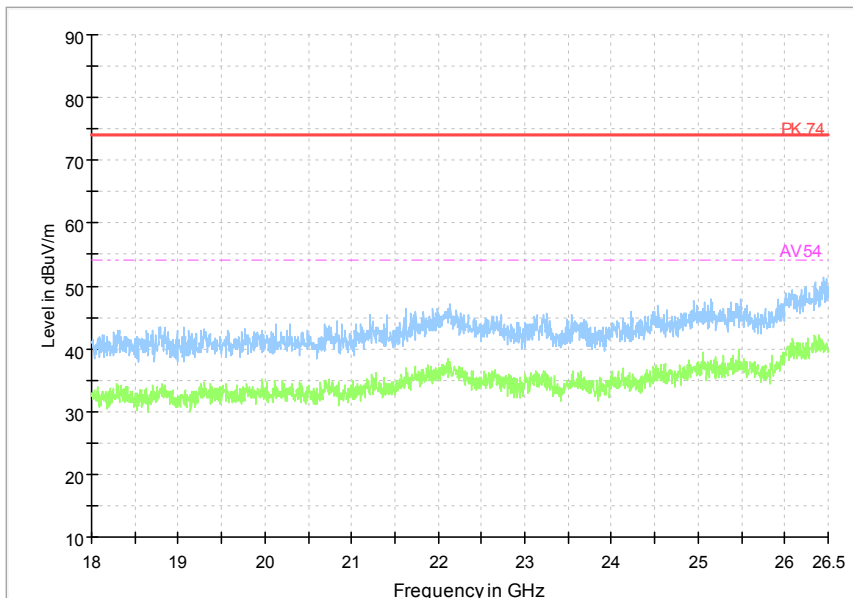
Full Spectrum



Pic7. Radiated emission (6GHz – 18GHz) EUT1

Note: The test data in the graph includes two polarizations: horizontal and vertical

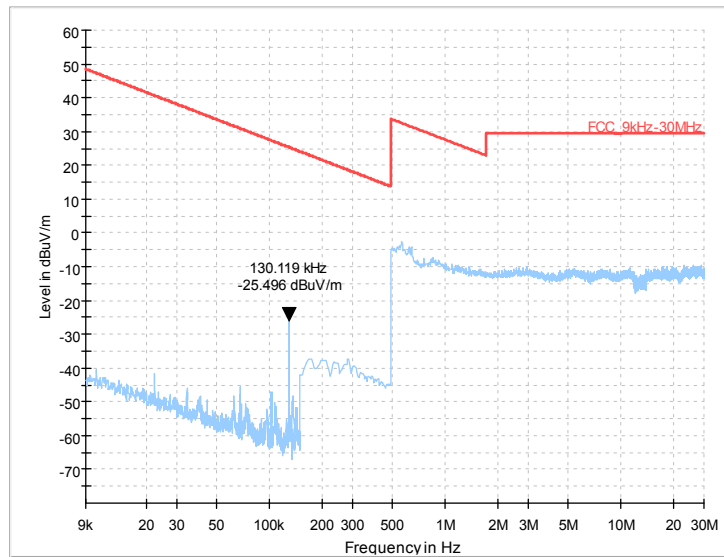
Full Spectrum



Pic8. Radiated emission (18GHz – 26GHz) EUT1

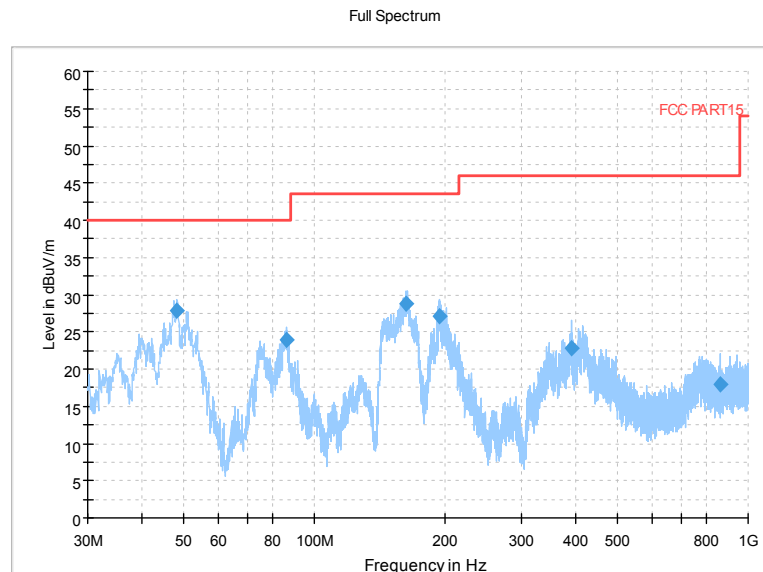
Note: The test data in the graph includes two polarizations: horizontal and vertical





Pic9. Radiated emission(9KHz – 30MHz) EUT2

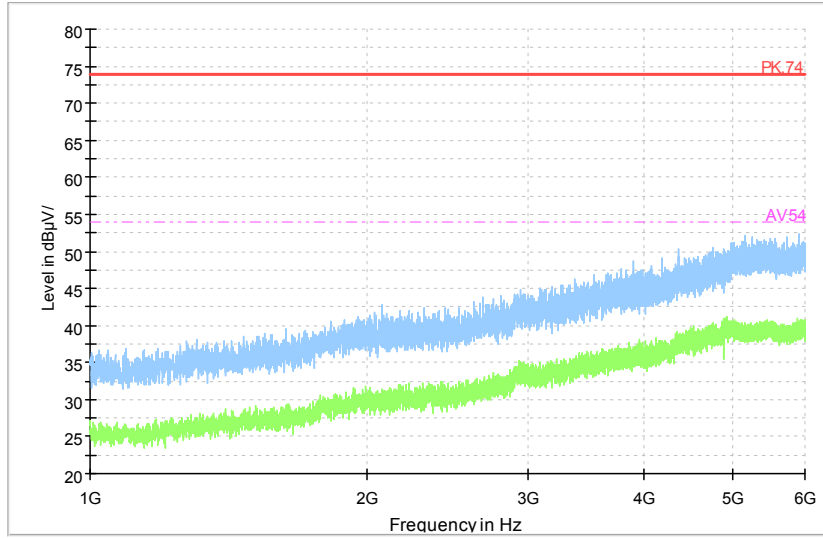
Note: Loop antenna at 3M, the test result has extrapolated to the specified distance which standard required.



Pic10. Radiated emission(30MHz – 1GHz) EUT2

Note: The test data in the graph includes two polarizations: horizontal and vertical

Full Spectrum

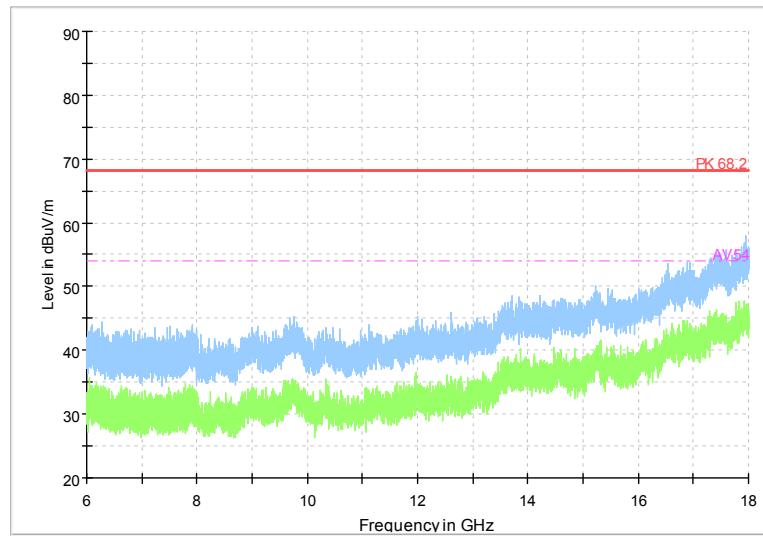


Comment

Pic11. Radiated emission (1GHz – 6GHz) EUT2

Note: The test data in the graph includes two polarizations: horizontal and vertical

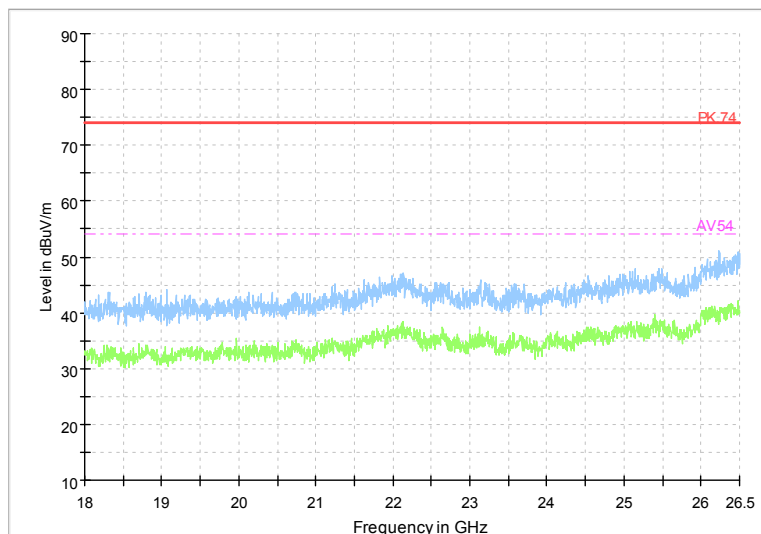
Full Spectrum



Pic12. Radiated emission (6GHz – 18GHz) EUT2

Note: The test data in the graph includes two polarizations: horizontal and vertical

Full Spectrum



Pic13. Radiated emission (18GHz – 26GHz) EUT2

Note: The test data in the graph includes two polarizations: horizontal and vertical

### **2.2.3 20dB Bandwidth and 99% Bandwidth**

#### **Test Procedure:**

The bandwidth is measured at an amplitude level reduced from the reference level by a specified ratio. The reference level is the level of the highest amplitude signal observed from the transmitter at either the fundamental frequency or first-order modulation in all typical modes of operation, including the unmodulated carrier, even if at typical . Once the reference level is established, the equipment is conditioned with typical modulating signals to produce worst –case (i.e.,the widest) bandwidth. In order to measure the modulated signal properly, a resolution bandwidth that is small compared to the bandwidth required by the procuring or regulatory agency shall be used on the measuring instrument. However, the 6 dB resolution bandwidth of the measuring instrument shall be set to a value greater than 5% of the bandwidth requirements.

#### **Limit:**

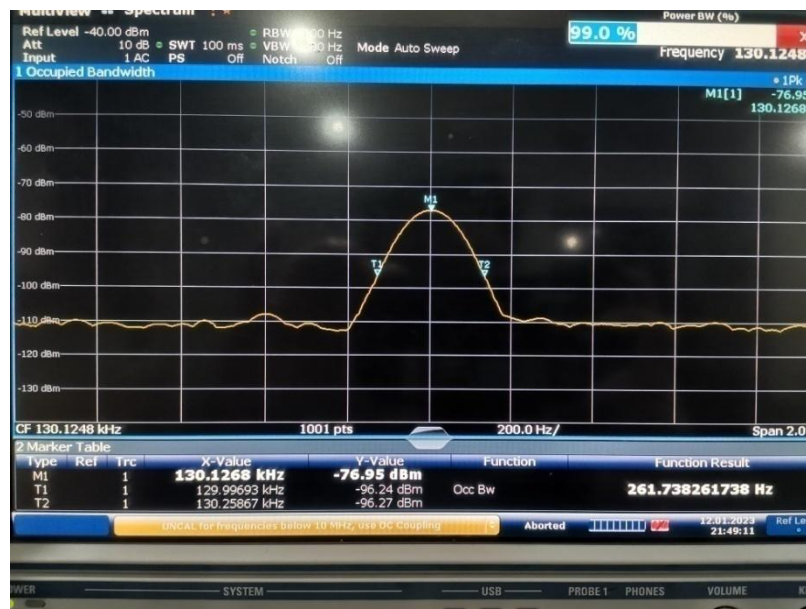
Within the specified band!

EUT1 Test result:  
20 dB bandwidth is:



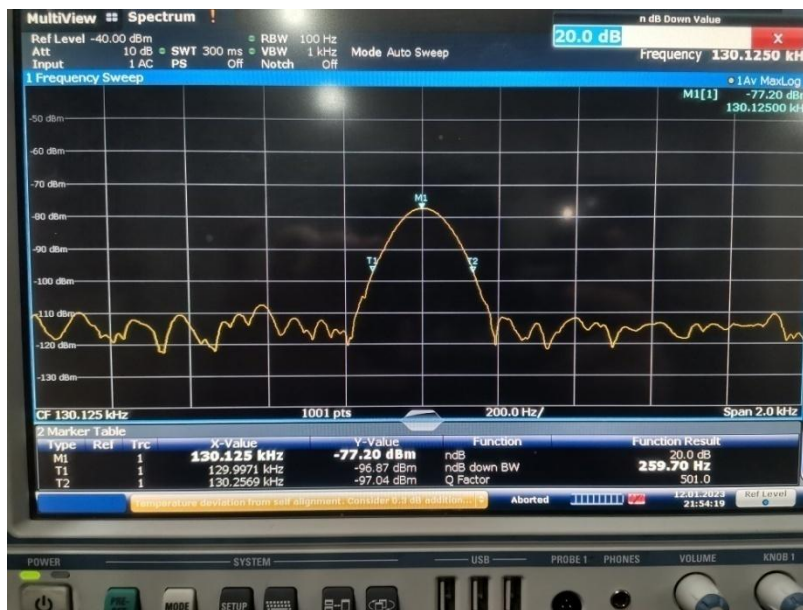
Bandwidth: 266.70 Hz

99% Bandwidth:



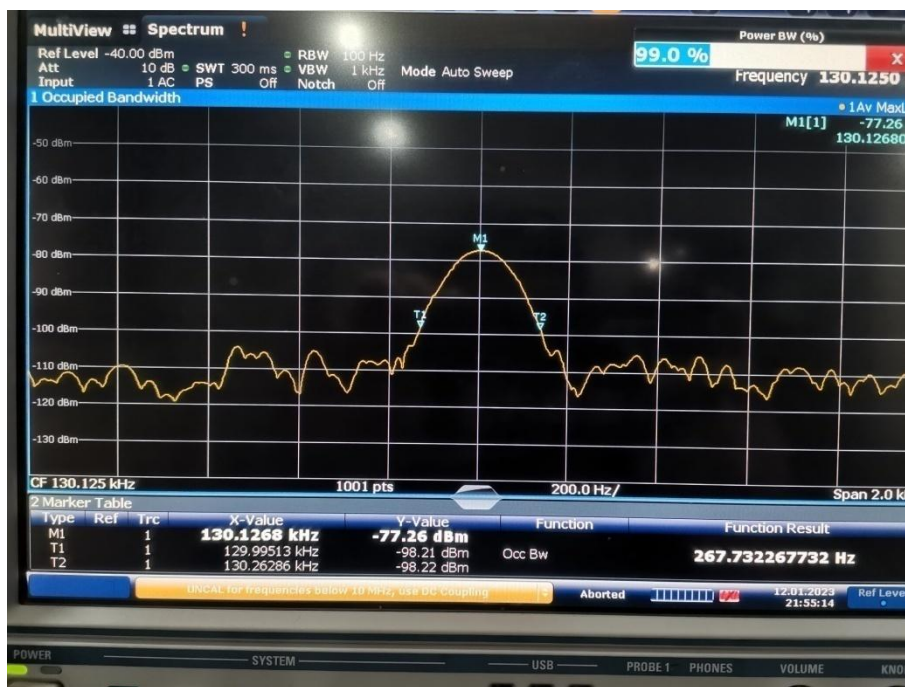
Bandwidth: 261.73 Hz

EUT2 Test result:  
20 dB bandwidth is:



Bandwidth: 259.70 Hz

99% Bandwidth:



Bandwidth: 267.73 Hz

### 2.3. List of test equipments

| No. | Name/Model                                     | Manufacturer | S/N              | Calibration Due Date | Calibration Date |
|-----|--|--------------|------------------|----------------------|------------------|
| 1   | 23.18m×16.88m×9.60mS<br>emi-AnechoicChamber    | FRANKONIA    | -----            | 2023.09.05           | 2018.09.06       |
| 2   | ESW EMI test receiver                          | R&S          | 101574           | 2023.06.19           | 2022.06.20       |
| 3   | ESR3 EMI test receiver                         | R&S          | 102361           | 2023.04.11           | 2022.04.12       |
| 4   | 9.080m×5.255m×3.525m<br>Shielding room         | FRANKONIA    | -----            | 2023.09.05           | 2018.09.06       |
| 5   | VULB 9163 Ultra log test<br>antenna            | schwarzbeck  | 867              | 2023.05.28           | 2021.05.29       |
| 6   | HF 907 Double-Ridged<br>Waveguide Horn Antenna | R&S          | 100512           | 2023.05.12           | 2021.05.13       |
| 7   | SAS-574 Horn Antenna                           | schwarzbeck  | 535              | 2023.06.19           | 2021.06.20       |
| 8   | ENV216 AMN                                     | R&S          | 3560.6550.<br>12 | 2023.06.19           | 2022.06.20       |
| 9   | EMC32EMI test software                         | R&S          | V10.20.10        | -----                | -----            |
| 10  | HFH2-Z2 LOOP Antenna                           | R&S          | 100340           | 2024.08.21           | 2022.08.20       |

## Appendix

### Appendix1 Test Setup