



# 시험 성적서

## TEST REPORT

페이지(page) : (1) / 총(Total) (45)

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                           |                                                                                                                                                                                                                             |  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| 성적서 번호<br>Report No.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                           | ICRT-TR-E253890-0A                                                                                                                                                                                                          |  |
| 신청자<br>Client                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 기관명<br>Name                                               | USLAB Co.,Ltd.                                                                                                                                                                                                              |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 주 소<br>Address                                            | 201-ho, Business Incubator Center, 237, Sangidaehak-ro, Sijheung-si,<br>Gyeonggi-do, Republic of Korea                                                                                                                      |  |
| 시험대상품목<br>Sample description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                           | USLAB BLE Module                                                                                                                                                                                                            |  |
| 모델명<br>Type description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                           | USB-BLE-35M                                                                                                                                                                                                                 |  |
| 정 격<br>Ratings                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                           | DC 3.3 V                                                                                                                                                                                                                    |  |
| 시험장소<br>Place of test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                           | <input checked="" type="checkbox"/> 고정시험실(Permanent Testing Lab) <input type="checkbox"/> 현장시험(On Site Testing)<br>주소지(Address): 112, 113 Hwanggeum 3-ro 7beon-gil, Hagun-ri, Yangchon-eup, Gimpo-si,<br>Gyeonggi-do, Korea |  |
| 시험기간<br>Date of test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                           | 29. Sep. 2025 ~ 03. Dec. 2025                                                                                                                                                                                               |  |
| 시험방법/항목<br>Test Method/Item                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                           | FCC Part 15 Subpart C &<br>IC RSS-Gen & RSS-247                                                                                                                                                                             |  |
| 시험결과<br>Test Results                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                           | Refer to 3. Test Summary                                                                                                                                                                                                    |  |
| 확 인<br>Affirmation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 작성자<br>Tested by                                          | 기술책임자<br>Technical Manager                                                                                                                                                                                                  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 성명      Si-Yeon, Hwang      (서명)<br>Name      (Signature) | 성명      Yong-Min, Won      (서명)<br>Name      (Signature)                                                                                                                                                                    |  |
| <input type="checkbox"/> 위 성적서는 고객이 제공한 시료에 대한 시험결과 입니다.<br><input type="checkbox"/> The above test report is certified that the above mentioned products have been tested for the sample.<br><input type="checkbox"/> 위 성적서는 KS Q ISO/IEC 17025 및 한국인정기구(KOLAS)인정과 관련이 없습니다.<br><input type="checkbox"/> The above test report is not related to accreditation by KS Q ISO/IEC 17025 and Korea Laboratory Accreditation scheme.<br><input type="checkbox"/> 위 성적서는 주식회사 아이씨알의 승인 없이는 일부 복제에 대해 금지됩니다.<br><input type="checkbox"/> The test report is prohibited for some reproduction without the approval of the ICR. |                                                           |                                                                                                                                                                                                                             |  |
| <div style="text-align: center;"> <b>2025. 12. 03</b><br/> <b>주식회사 아이씨알 대표이사</b><br/>         The head of INTERNATIONAL CERTIFICATION REGISTRAR       </div>                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                           |                                                                                                                                                                                                                             |  |

본 성적서의 진위 확인은 G4B 혹은 ICR 홈페이지에서 가능합니다.

The authenticity of the test report can be checked on the G4B or ICR website.

경기도 김포시 양촌읍 황금3로7번길 112 / Tel: 02-6351-9001 ~ 6

112, Hwanggeum3-ro 7beon-gil, Yangchon-eup, Gimpo-si, Gyeonggi-do, Korea / Tel: 02-6351-9001 ~ 6



# 시험 성적서

## TEST REPORT

페이지(page) : (2) / 총(Total) (45)

### Contents

|                                                           |           |
|-----------------------------------------------------------|-----------|
| 1. Applicant & Manufacturer & Test Laboratory Information | <u>4</u>  |
| 2. Equipment under Test(EUT) Information                  | <u>5</u>  |
| 3. Test Summary                                           | <u>6</u>  |
| 4. Test Result                                            | <u>8</u>  |
| 5. Used equipment                                         | <u>40</u> |



# 시험 성적서

## TEST REPORT

페이지(page) : (3) / 총(Total) (45)

### Revision History

| Issued Report No.  | Issued Date  | Revisions     | Effect Section |
|--------------------|--------------|---------------|----------------|
| ICRT-TR-E253890-0A | 2025. 12. 03 | Initial Issue | All            |
|                    |              |               |                |
|                    |              |               |                |



# 시험 성적서

## TEST REPORT

페이지(page) : (4) / 총(Total) (45)

### 1. Applicant & Manufacturer & Test Laboratory Information

#### 1.1 Applicant information

|           |                                                                                                    |
|-----------|----------------------------------------------------------------------------------------------------|
| Applicant | USLAB Co.,Ltd.                                                                                     |
| Address   | 201-ho, Business Incubator Center, 237, Sangidaehak-ro, Siheung-si, Gyeonggi-do, Republic of Korea |

#### 1.2 Manufacturer Information

|           |                                                                                                    |
|-----------|----------------------------------------------------------------------------------------------------|
| Applicant | USLAB Co.,Ltd.                                                                                     |
| Address   | 201-ho, Business Incubator Center, 237, Sangidaehak-ro, Siheung-si, Gyeonggi-do, Republic of Korea |

#### 1.3 Test Laboratory Information

|               |                                                                                     |
|---------------|-------------------------------------------------------------------------------------|
| Laboratory    | ICR Co., Ltd.                                                                       |
| Address       | 112, Hwanggeum 3-ro 7beon-gil, Hagun-ri, Yangchon-eup, Gimpo-si, Gyeonggi-do, Korea |
| Telephone No. | +82-2-6351-9002                                                                     |
| Fax No.       | +82-2-6351-9007                                                                     |
| KOLAS No.     | KT652                                                                               |
| KC & FCC      | KR0165                                                                              |

#### 1.4 Measurement Uncertainty

| Parameter                                         | Uncertainty | Limit   |
|---------------------------------------------------|-------------|---------|
| Occupied Channel Bandwidth                        | 0.14%       | ±5 %    |
| RF output power, conducted                        | 0.85 dB     | ±1.5 dB |
| Power Spectral Density, conducted                 | 1.44 dB     | ±3 dB   |
| Unwanted Emissions, conducted                     | 1.35 dB     | ±3 dB   |
| Supply voltages                                   | 0.02%       | ±3 %    |
| Time                                              | 0.58%       | ±5 %    |
| All emissions, radiated (Under the 30 MHz)        | 2.10 dB     | ±6 dB   |
| All emissions, radiated (Range 30 MHz ~ 1 GHz)    | 1.95 dB     | ±6 dB   |
| All emissions, radiated (Range 1 GHz ~ 18 GHz)    | 2.47 dB     | ±6 dB   |
| All emissions, radiated (Range 18 GHz ~ 26.5 GHz) | 2.61 dB     | ±6 dB   |



# 시험 성적서

## TEST REPORT

페이지(page) : (5) / 총(Total) (45)

## 2. Equipment under Test(EUT) Information

### 2.1 General Information

|                           |                  |
|---------------------------|------------------|
| Product Name              | USLAB BLE Module |
| Model Name                | USB-BLE-35M      |
| Additional Model Name     | -                |
| FCC ID                    | 2BSZRUSB-BLE-35M |
| ISED certification number | 34657-USL35M01   |
| Power Supply              | DC 3.3 V         |

### 2.2 Additional Information

|                     |                                 |                       |
|---------------------|---------------------------------|-----------------------|
| Equipment Class     | DTS-Digital Transmission System |                       |
| Device Type         | Stand-alone                     |                       |
| Operating Frequency | Bluetooth LE 1M/LE 2M           | 2 402 MHz ~ 2 480 MHz |
| RF Output Power     | Bluetooth LE 1M                 | -29.66 dBm            |
|                     | Bluetooth LE 2M                 | -29.59 dBm            |
| Number of Channel   | Bluetooth LE 1M/LE 2M           | 40                    |
| Modulation Type     | GFSK                            |                       |
| Antenna Type        | Chip Antenna                    |                       |
| Antenna Gain        | 0.5 dBi                         |                       |

### 2.3 Modifications of EUT

- None.



# 시험 성적서

## TEST REPORT

페이지(page) : (6) / 총(Total) (45)

### 3. Test Summary

#### 3.1 Test standards and results

| FCC Part 15 Subpart C &<br>IC RSS-Gen & RSS-247 |                                                |                                         |         |         |
|-------------------------------------------------|------------------------------------------------|-----------------------------------------|---------|---------|
| FCC Part<br>Section                             | RSS<br>Section                                 | Test items                              | Applied | Results |
| §15.247 (a) (2)                                 | RSS-Gen 6.7 &<br>RSS-247 6.3.1(a)              | 6 dB Bandwidth                          | ■       | PASS    |
| N/A                                             | RSS-Gen 6.7                                    | 99 % Bandwidth                          | ■       | PASS    |
| §15.247 (b) (3)                                 | RSS-Gen 6.12 &<br>RSS-247 6.3.2                | Maximum Conducted Output Power          | ■       | PASS    |
| §15.247(e)                                      | RSS-247 6.3.1(b)                               | Power Spectral Density                  | ■       | PASS    |
| §15.247 (d)                                     | RSS-247 6.6                                    | Conducted Spurious Emission & Band edge | ■       | PASS    |
| §15.247 (d) &<br>§15.209 & §<br>15.205          | RSS-Gen 8.9 &<br>RSS-Gen 8.10 &<br>RSS-247 6.6 | Radiated Spurious Emission              | ■       | PASS    |
| §15.207                                         | RSS-Gen 8.8                                    | AC Line Conducted Emission              | ■       | PASS    |

##### 3.1.1 Purpose of the test

- To determine whether the equipment under test fulfills the requirements of the standards stated in FCC Part 15 Subpart C Section 15.247.
- To determine whether the equipment under test fulfills the requirements of the standards stated in RSS-Gen & RSS-247.

##### 3.1.2 Test Methodology

- Both conducted and radiated testing was performed according to the procedures in ANSI C63.10: 2020. Radiated testing was performed at a distance of 3 m from EUT to the antenna.
- Both conducted and radiated testing was performed according to the procedures in RSS-Gen & RSS-247. Radiated testing was performed at a distance of 3 m from EUT to the antenna.



# 시험 성적서

## TEST REPORT

페이지(page) : (7) / 총(Total) (45)

### 3.1.3 Configuration of Test System

#### Radiated emission test

- Preliminary radiated emissions test were conducted using the procedure in ANSI C63.10: 2020 to determine the worse operating conditions. Final radiated emission tests were conducted at 3 m Semi Anechoic Chamber.

The turntable was rotated through 360 degrees and the EUT was tested by positioned three orthogonal planes to obtain the highest reading on the field strength meter. Once maximum reading was determined, the search antenna was raised and lowered in both vertical and horizontal polarization.

- Preliminary radiated emissions test were conducted using the procedure in RSS-Gen & RSS-247 to determine the worse operating conditions. Final radiated emission tests were conducted at 3 m Semi Anechoic Chamber.

The turntable was rotated through 360 degrees and the EUT was tested by positioned three orthogonal planes to obtain the highest reading on the field strength meter. Once maximum reading was determined, the search antenna was raised and lowered in both vertical and horizontal polarization.

### 3.2 Antenna requirement

- According to §15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section.

The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

And according to §15.247(b)(4), the conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi.

Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

#### Result: Pass

The transmitter has a **Chip Antenna**. The directional gain of the antenna is **0.5 dBi**.



# 시험 성적서

## TEST REPORT

페이지(page) : (8) / 총(Total) (45)

### 4. Test Result

#### 4.1. 6 dB Bandwidth & 99 % Bandwidth

##### 4.1.1 Test procedure

ANSI C63.10-2020 Clause 11.8

RSS Gen 6.7

##### 4.1.2 Limit

§15.247 (a) (2)

Systems using digital modulation techniques may operate in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

RSS-247 6.3.1(a)

The minimum 6 dB bandwidth shall be 500 kHz.

##### 4.1.3 Test data

Result : Pass

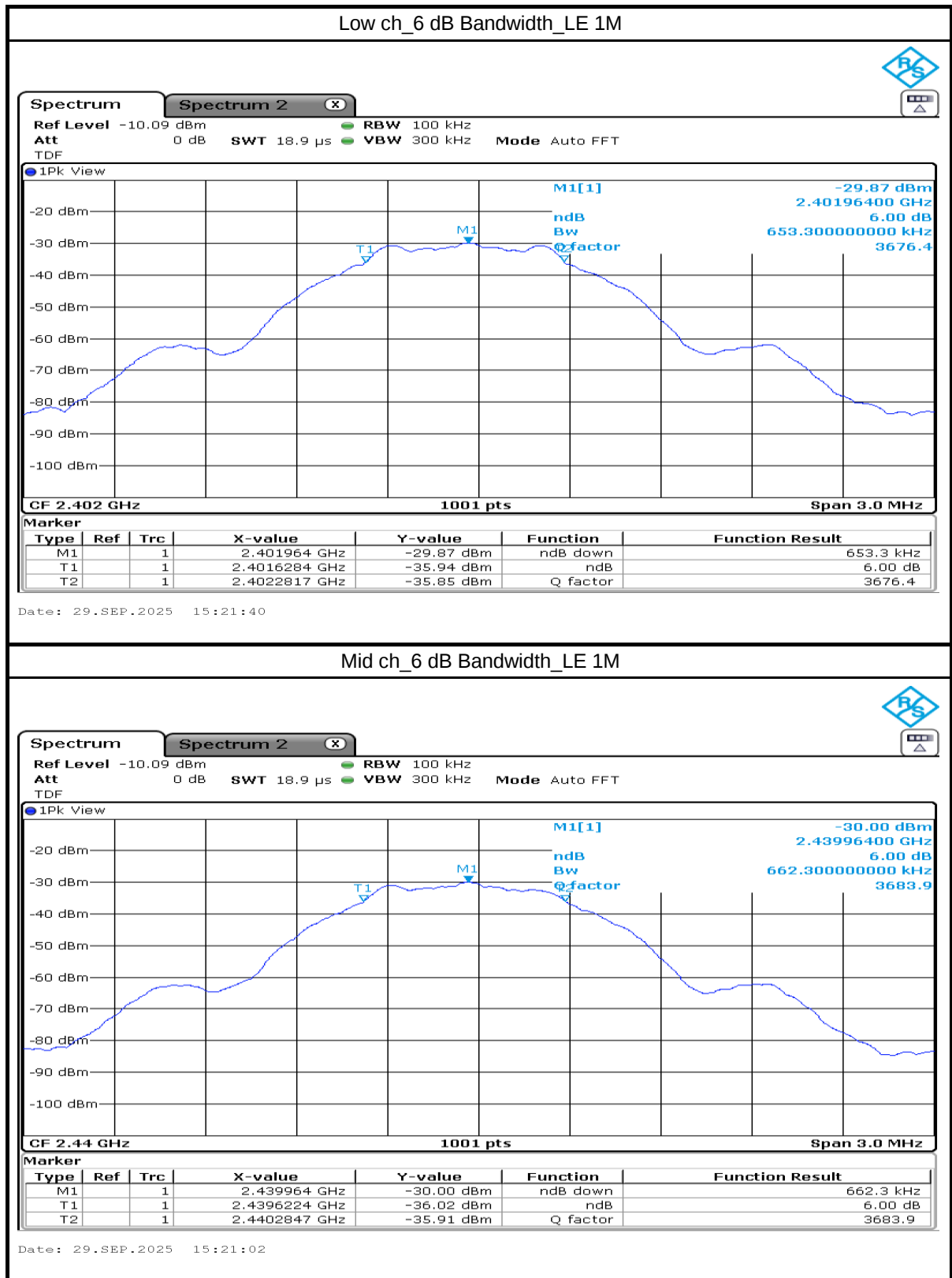
| Mode            | Frequency (MHz) | 6 dB Bandwidth Measured Value (kHz) | 99 % Bandwidth Measured Value (kHz) | Limit (kHz)  |
|-----------------|-----------------|-------------------------------------|-------------------------------------|--------------|
| Bluetooth LE 1M | 2 402           | 653.3                               | 998.002                             | at least 500 |
|                 | 2 440           | 662.3                               | 1 000.999                           |              |
|                 | 2 480           | 659.3                               | 998.002                             |              |
| Bluetooth LE 2M | 2 402           | 1 132.9                             | 2 013.986                           |              |
|                 | 2 440           | 1 132.9                             | 2 007.992                           |              |
|                 | 2 480           | 1 138.9                             | 2 019.980                           |              |



# 시험 성적서

## TEST REPORT

페이지(page) : (9) / 총(Total) (45)

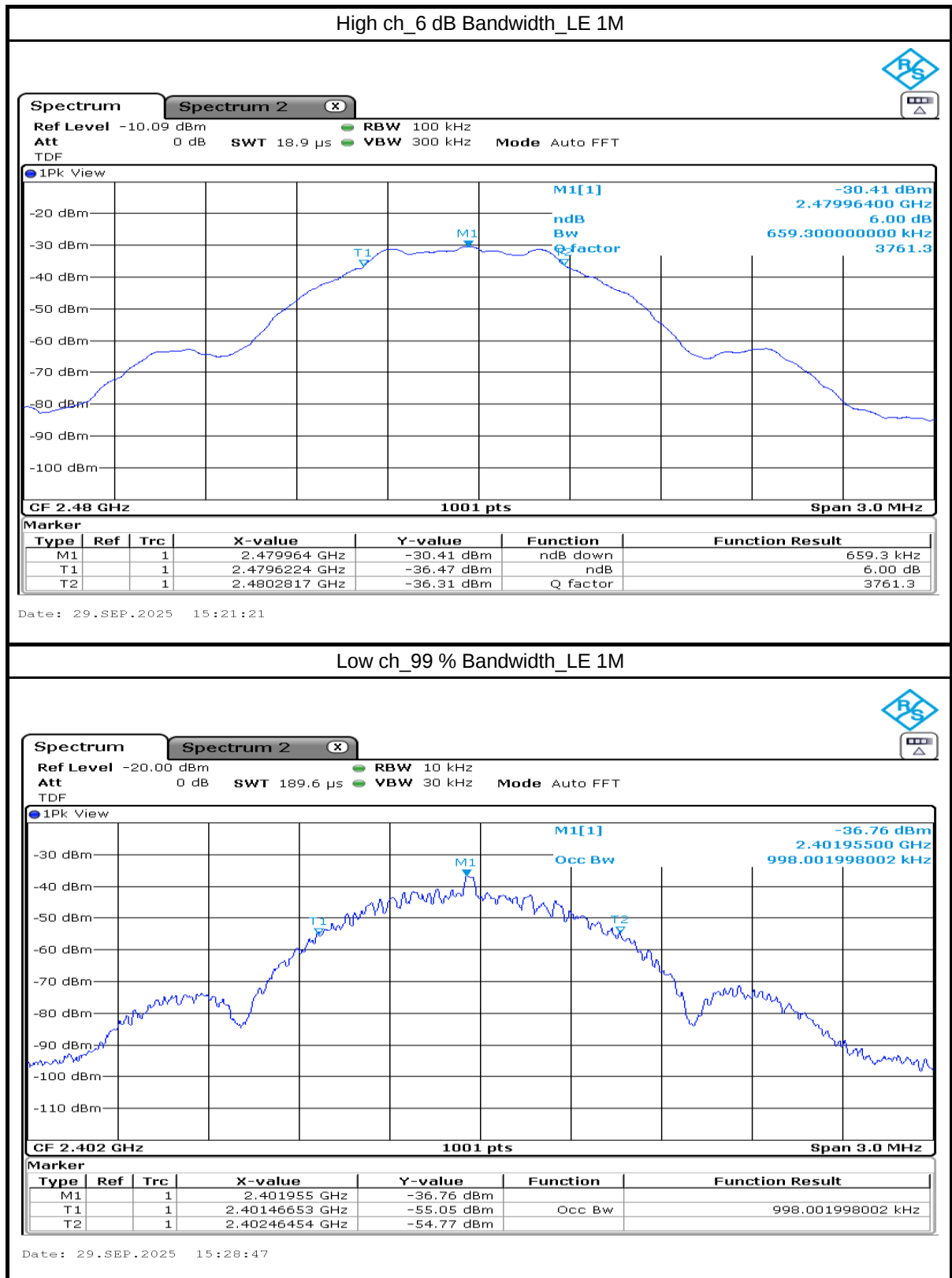




# 시험 성적서

## TEST REPORT

페이지(page) : (10) / 총(Total) (45)

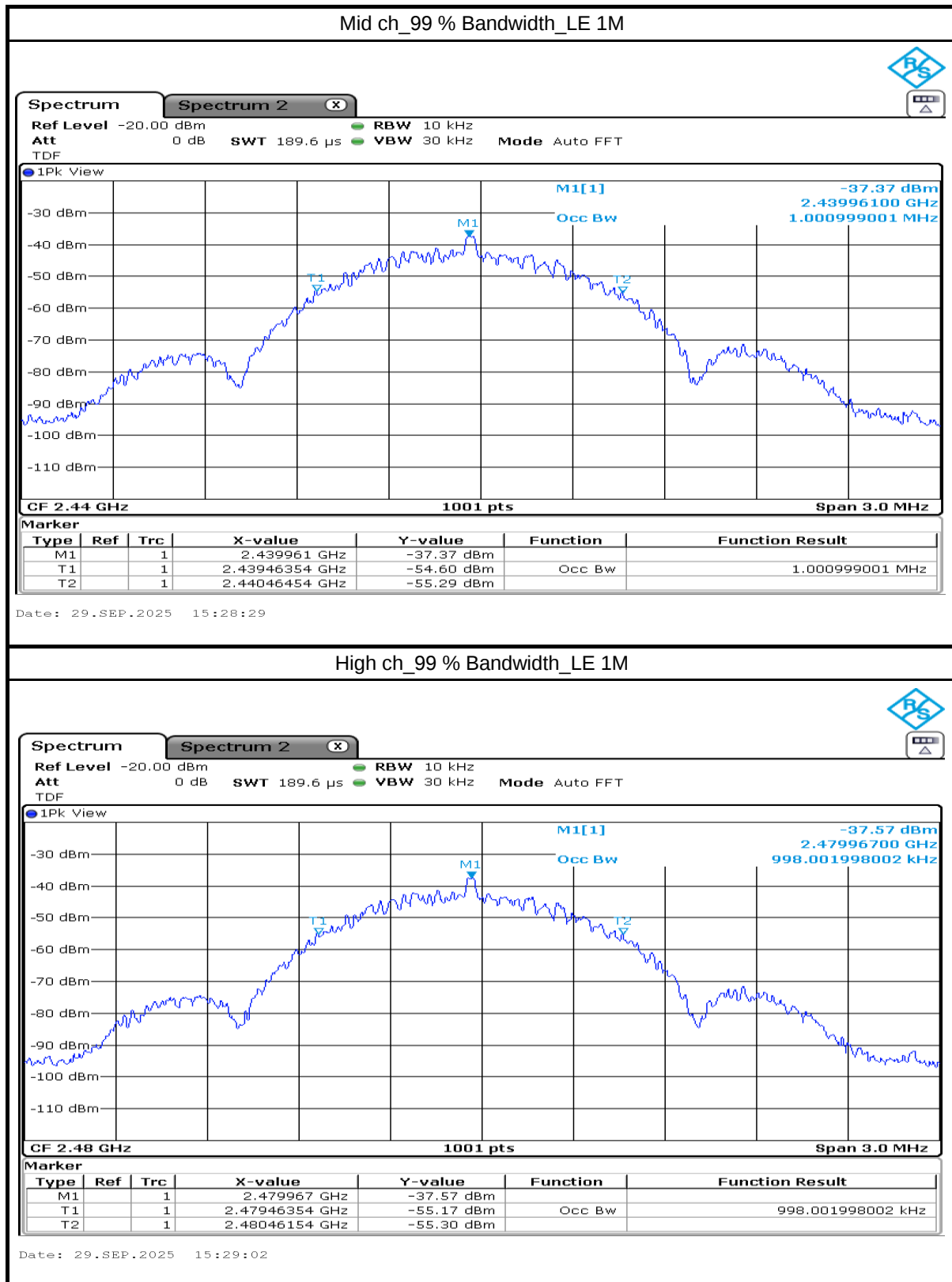




# 시험 성적서

## TEST REPORT

페이지(page) : (11) / 총(Total) (45)

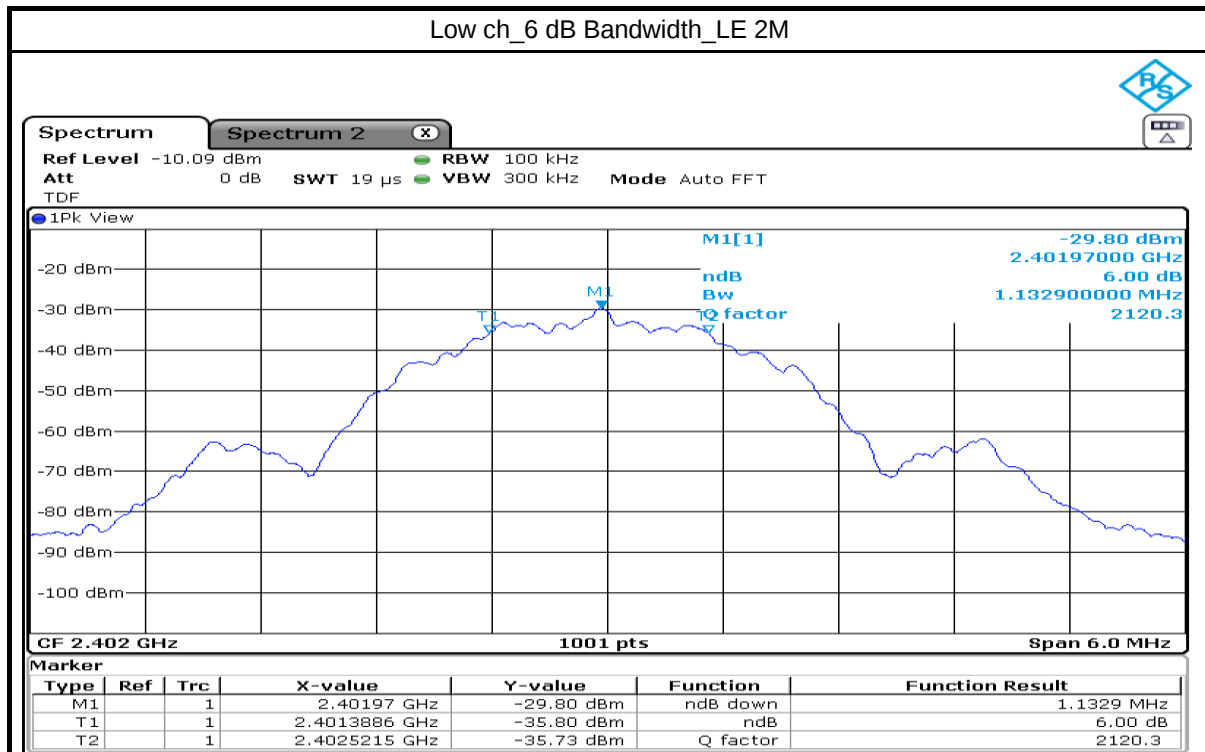




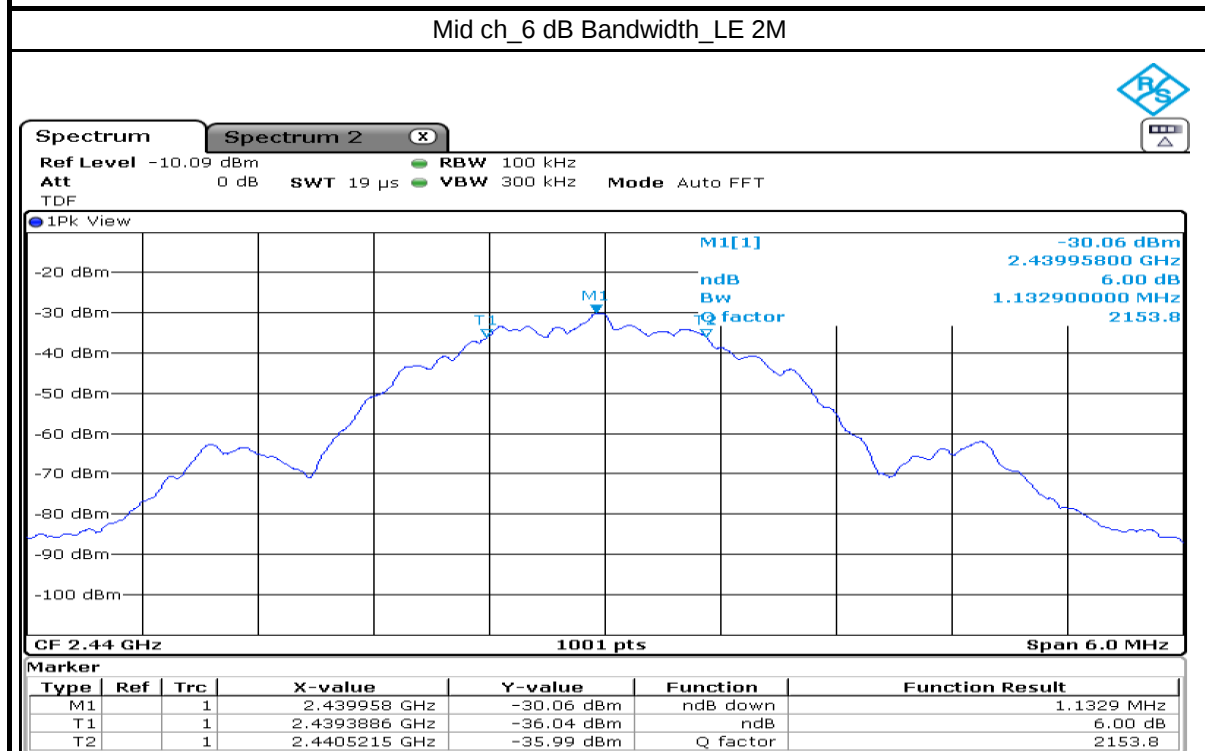
# 시험 성적서

## TEST REPORT

페이지(page) : (12) / 총(Total) (45)



Date: 29.SEP.2025 15:23:07



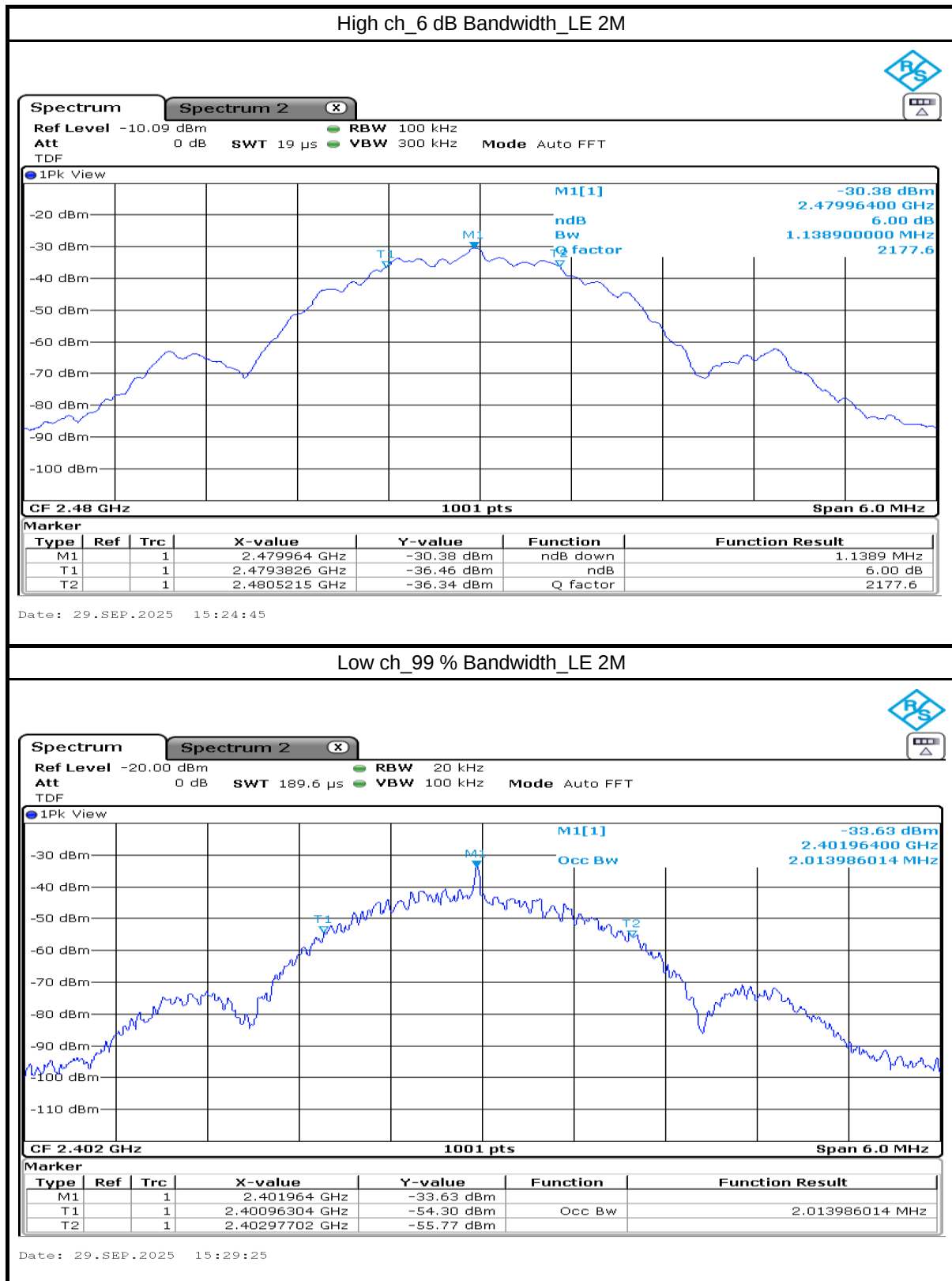
Date: 29.SEP.2025 15:24:12



# 시험 성적서

## TEST REPORT

페이지(page) : (13) / 총(Total) (45)

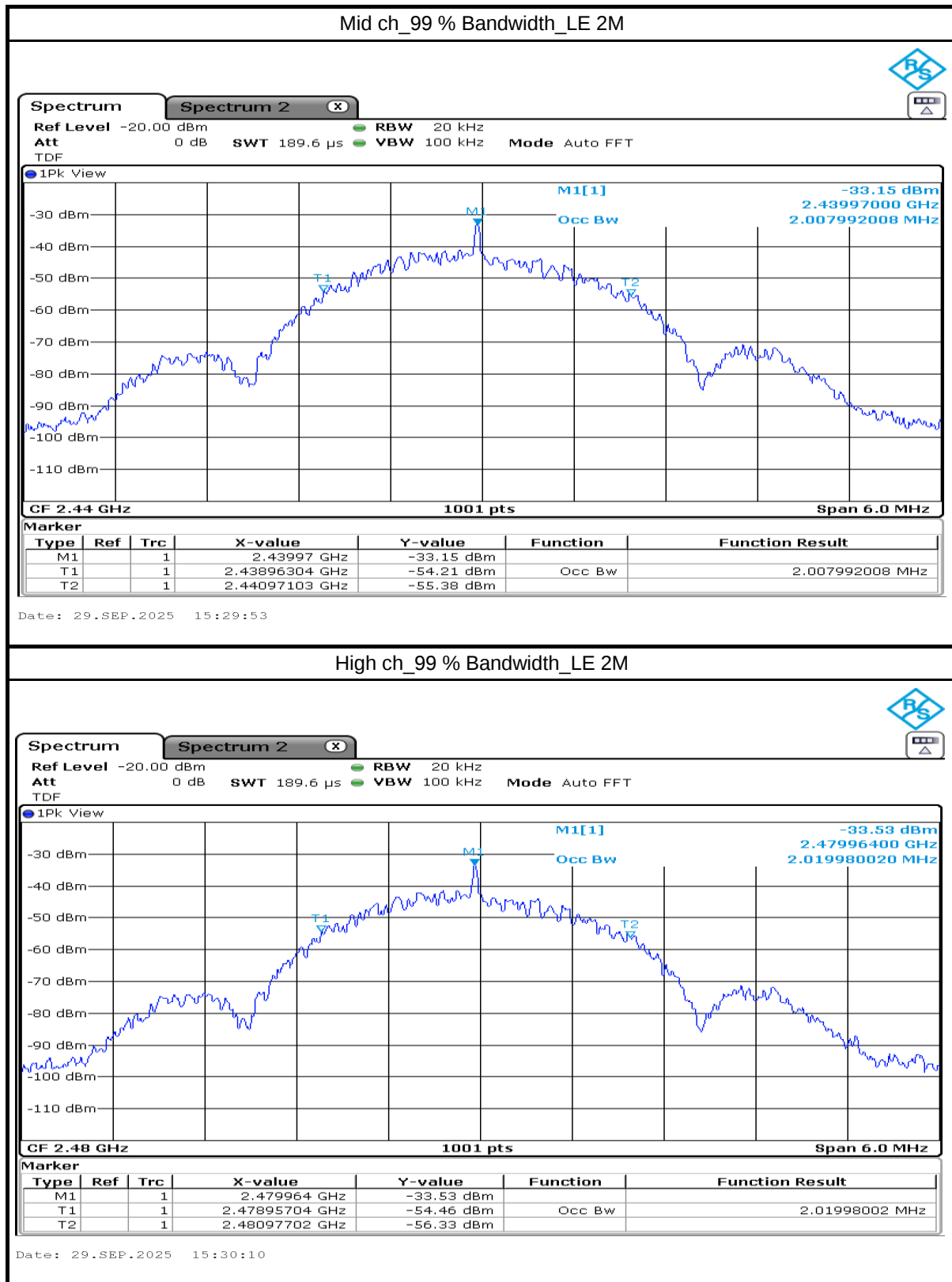




# 시험 성적서

## TEST REPORT

페이지(page) : (14) / 총(Total) (45)





# 시험 성적서

## TEST REPORT

페이지(page) : (15) / 총(Total) (45)

### 4.2 Maximum Conducted Output Power

#### 4.2.1 Test procedure

ANSI C63.10-2020 Clause 11.9

RSS-Gen 6.12

#### 4.2.2 Limit

§15.247 (b) (3)

For systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or is transmitting at a reduced power level. If multiple modes of operation are possible (e.g., alternative modulation methods), the maximum conducted output power is the highest total transmit power occurring in any mode.

RSS-247 6.3.2

For DTS operating in the band 902-928 MHz, the maximum peak conducted output power shall not exceed 1W, and the e.i.r.p. shall not exceed 4 W.

For DTS operating in the band 2400-2483.5 MHz, the maximum peak conducted output power shall not exceed 1W, and the e.i.r.p. shall not exceed 4 W, except as provided in section 6.5 a) and b).

As an alternative to a peak power measurement, compliance can be based on a measurement of the maximum conducted output power.

#### 4.2.3 Test data

Result : Pass

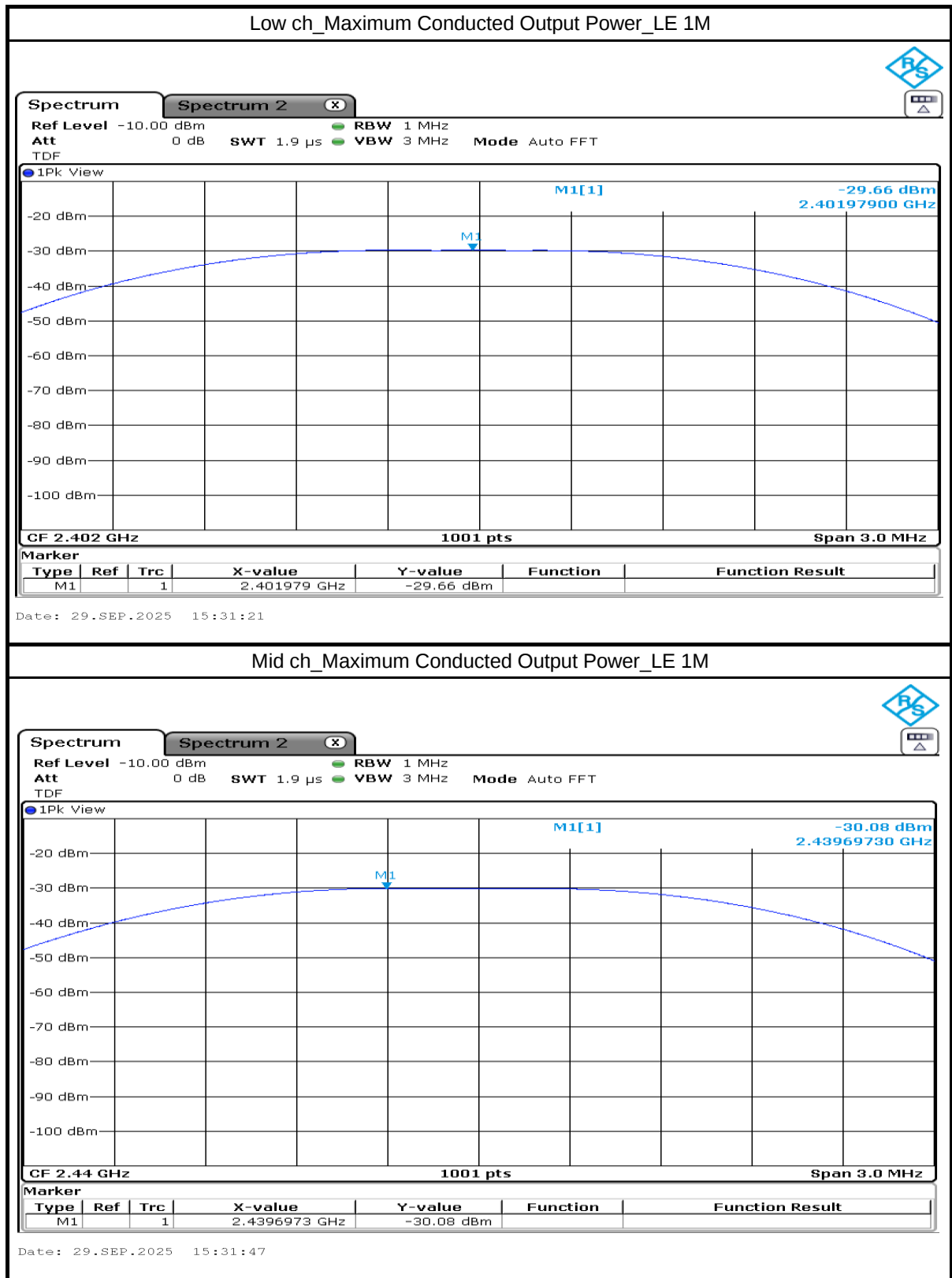
| Mode            | Frequency (MHz) | Measured Value (dBm) | Limit (dBm) |
|-----------------|-----------------|----------------------|-------------|
| Bluetooth LE 1M | 2 402           | -29.66               | 30          |
|                 | 2 440           | -30.08               |             |
|                 | 2 480           | -30.31               |             |
| Bluetooth LE 2M | 2 402           | -29.59               |             |
|                 | 2 440           | -29.74               |             |
|                 | 2 480           | -29.88               |             |



# 시험 성적서

## TEST REPORT

페이지(page) : (16) / 총(Total) (45)

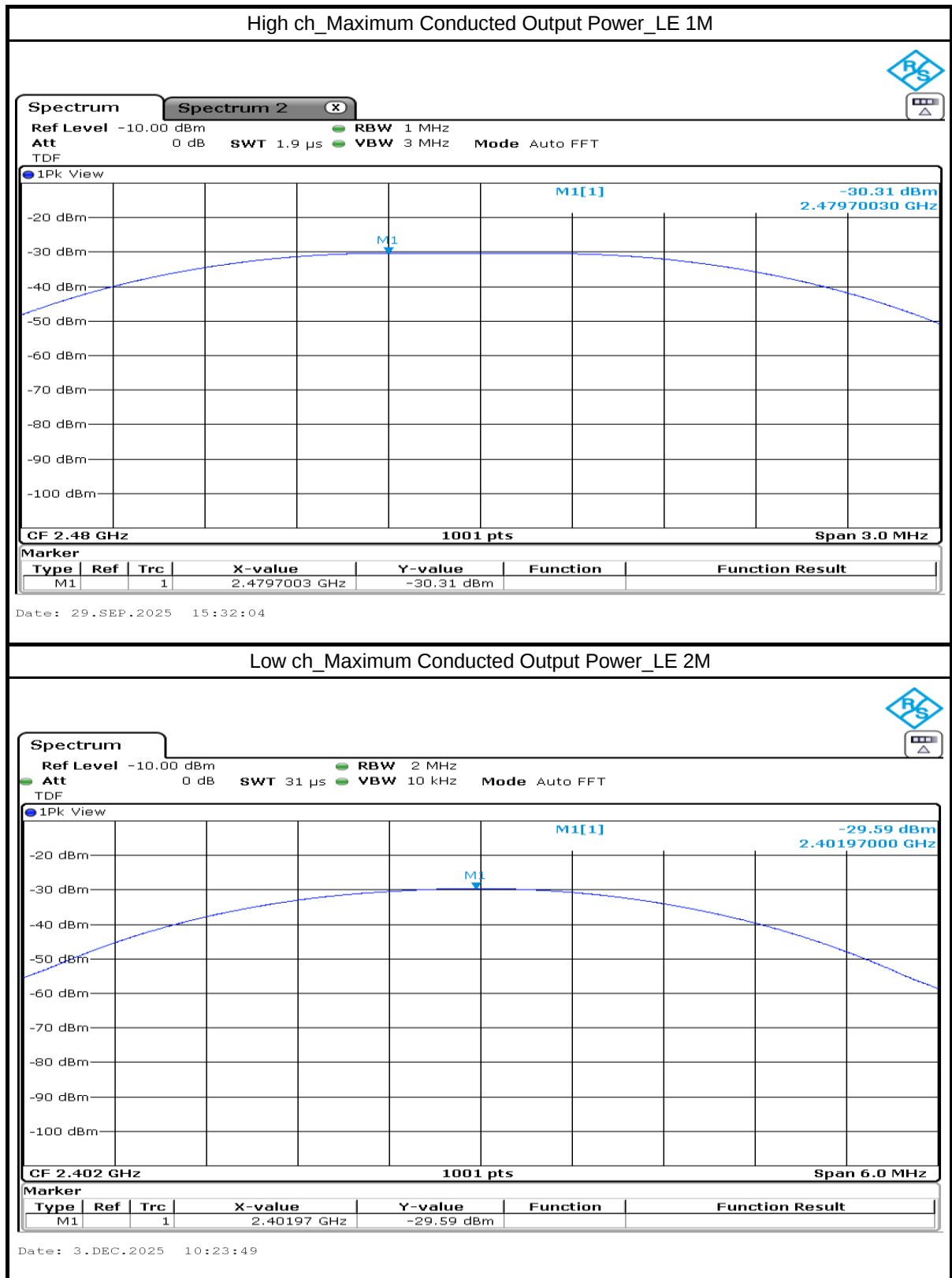




# 시험 성적서

## TEST REPORT

페이지(page) : (17) / 총(Total) (45)

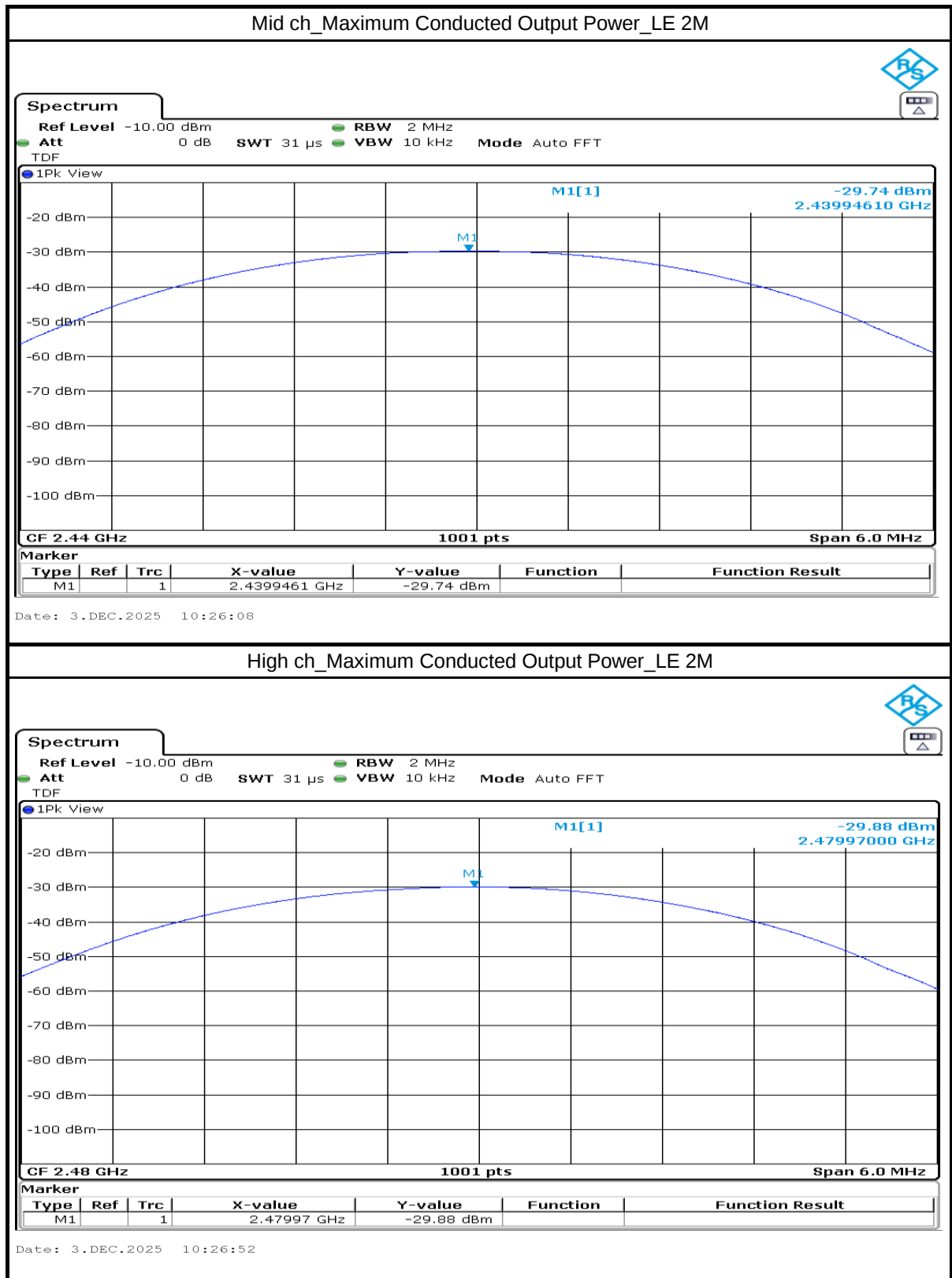




# 시험 성적서

## TEST REPORT

페이지(page) : (18) / 총(Total) (45)





# 시험 성적서

## TEST REPORT

페이지(page) : (19) / 총(Total) (45)

### 4.3 Power Spectral Density

#### 4.3.1 Test procedure

ANSI C63.10-2020 Clause 11.10

#### 4.3.2 Limit

§15.247 (e)

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.

RSS-247 6.3.1(b)

the transmitter power spectral density conducted from the transmitter to the antenna(s) shall not be greater than 8 dBm/3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of section 6.3.2 The power spectral density shall be determined using the same method as is used to determine the maximum conducted output power.

#### 4.3.3 Test data

Result : Pass

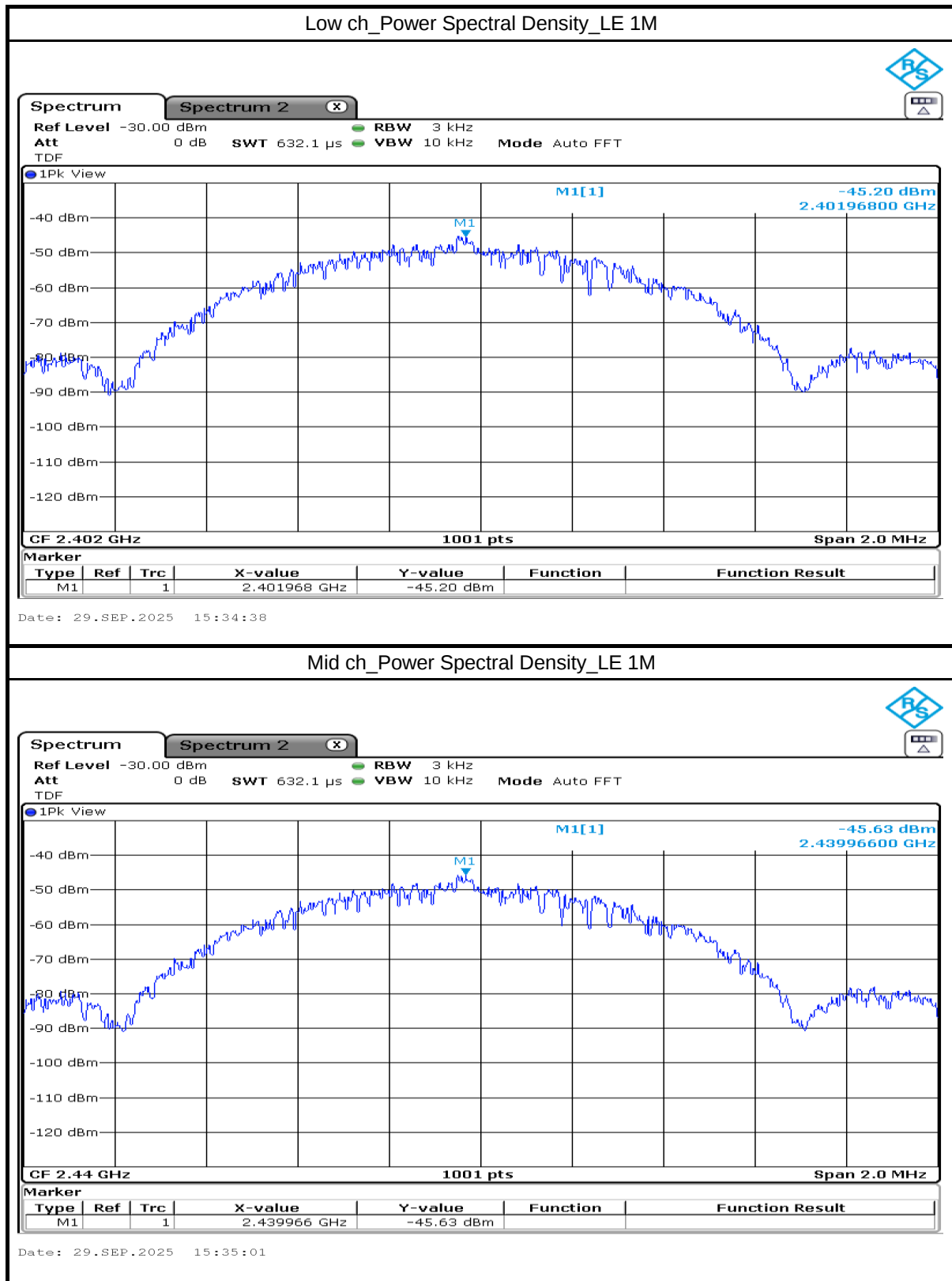
| Mode            | Frequency (MHz) | Measured Value (dBm/3 kHz) | Limit (dBm/3 kHz) |
|-----------------|-----------------|----------------------------|-------------------|
| Bluetooth LE 1M | 2 402           | -45.20                     | 8                 |
|                 | 2 440           | -45.63                     |                   |
|                 | 2 480           | -45.86                     |                   |
| Bluetooth LE 2M | 2 402           | -45.25                     |                   |
|                 | 2 440           | -45.21                     |                   |
|                 | 2 480           | -45.81                     |                   |



# 시험 성적서

## TEST REPORT

페이지(page) : (20) / 총(Total) (45)

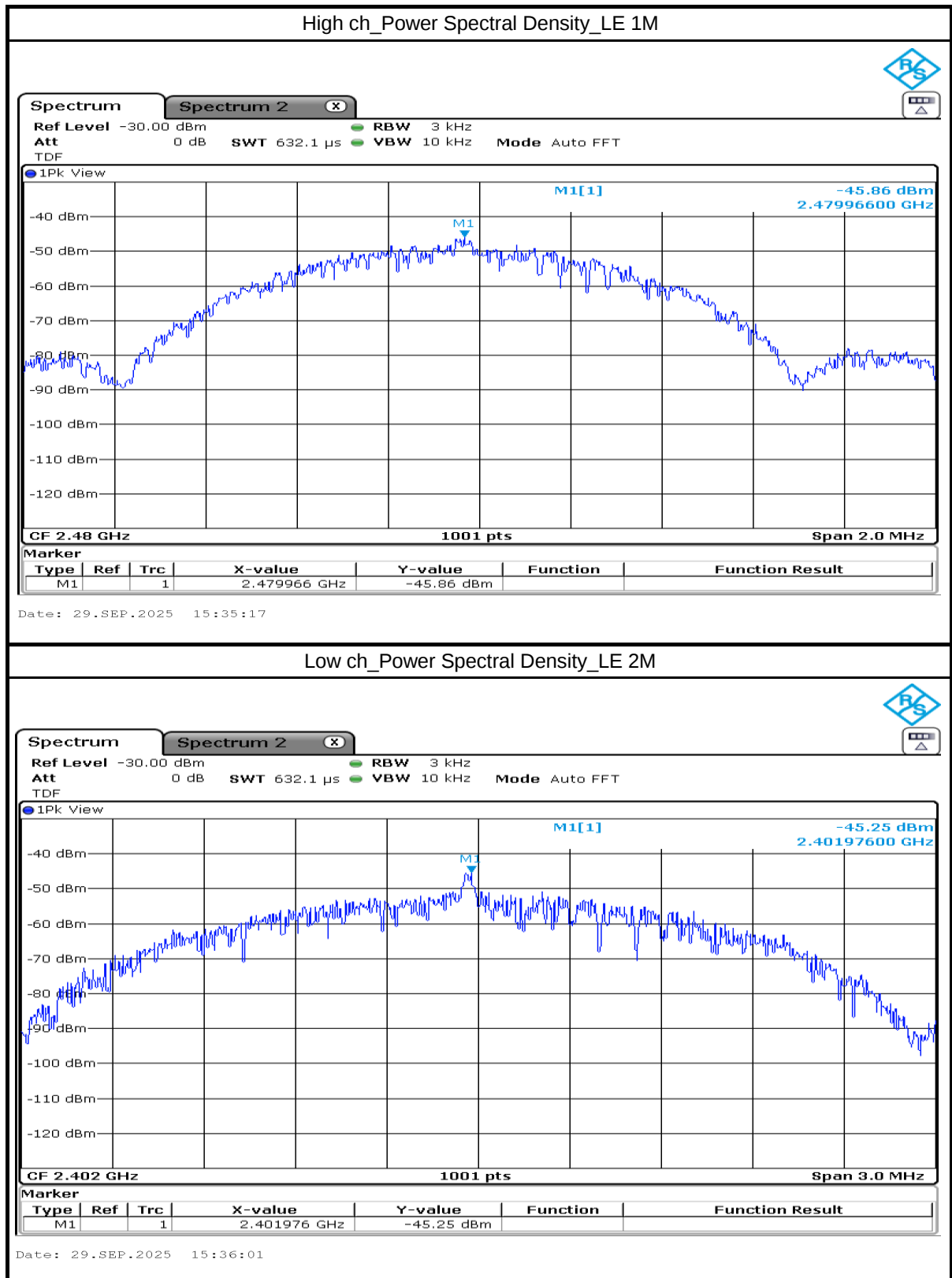




# 시험 성적서

## TEST REPORT

페이지(page) : (21) / 총(Total) (45)

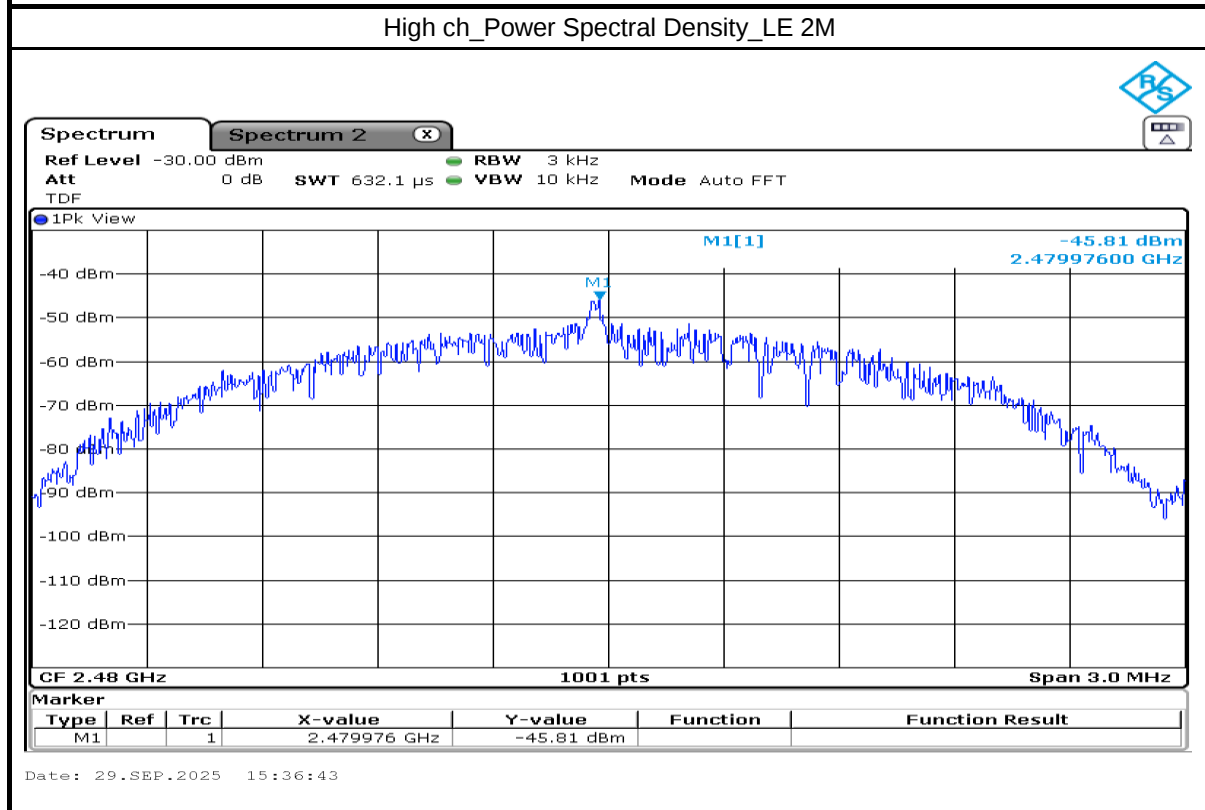
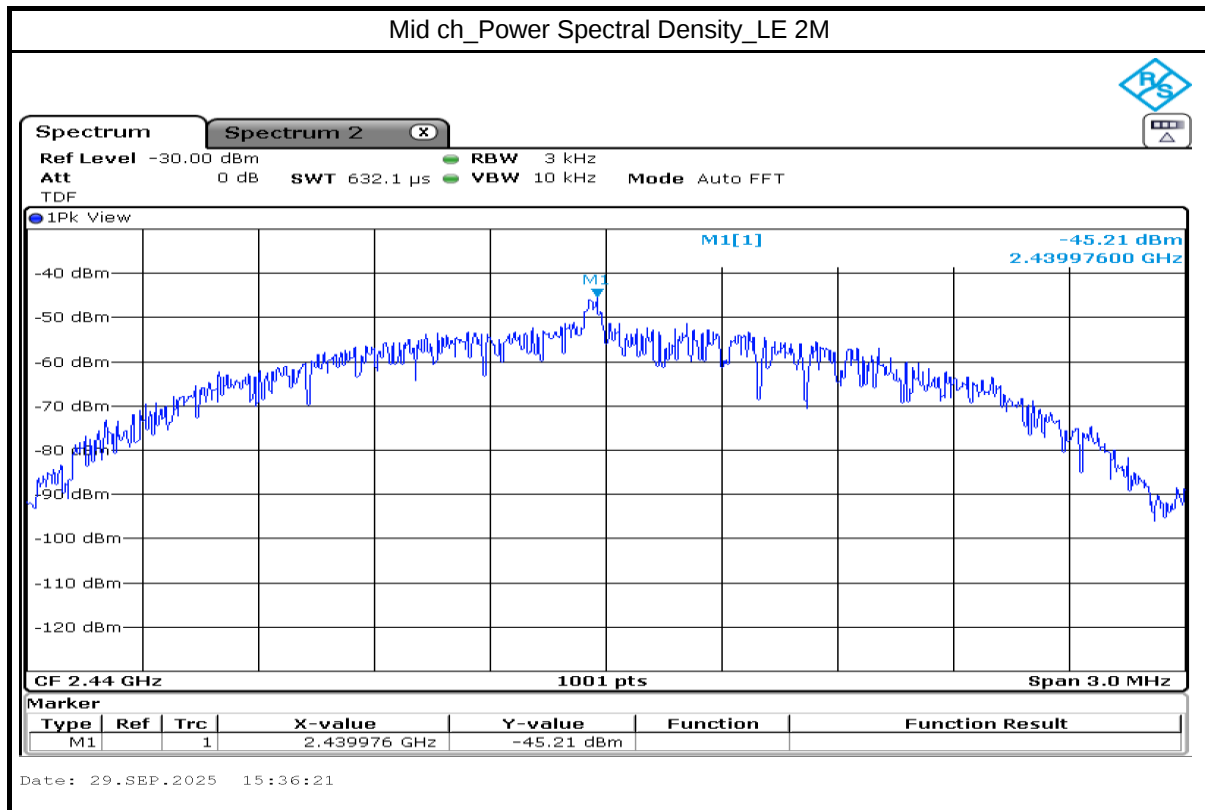




# 시험 성적서

## TEST REPORT

페이지(page) : (22) / 총(Total) (45)





# 시험 성적서

## TEST REPORT

페이지(page) : (23) / 총(Total) (45)

### 4.4 Conducted Spurious Emission & Band Edge

#### 4.4.1 Test procedure

ANSI C63.10-2020 Clause 11.11, 11.13

#### 4.4.2 Limit

§15.247 (d)

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in § 15.209(a) is not required. In addition, 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-247 6.6

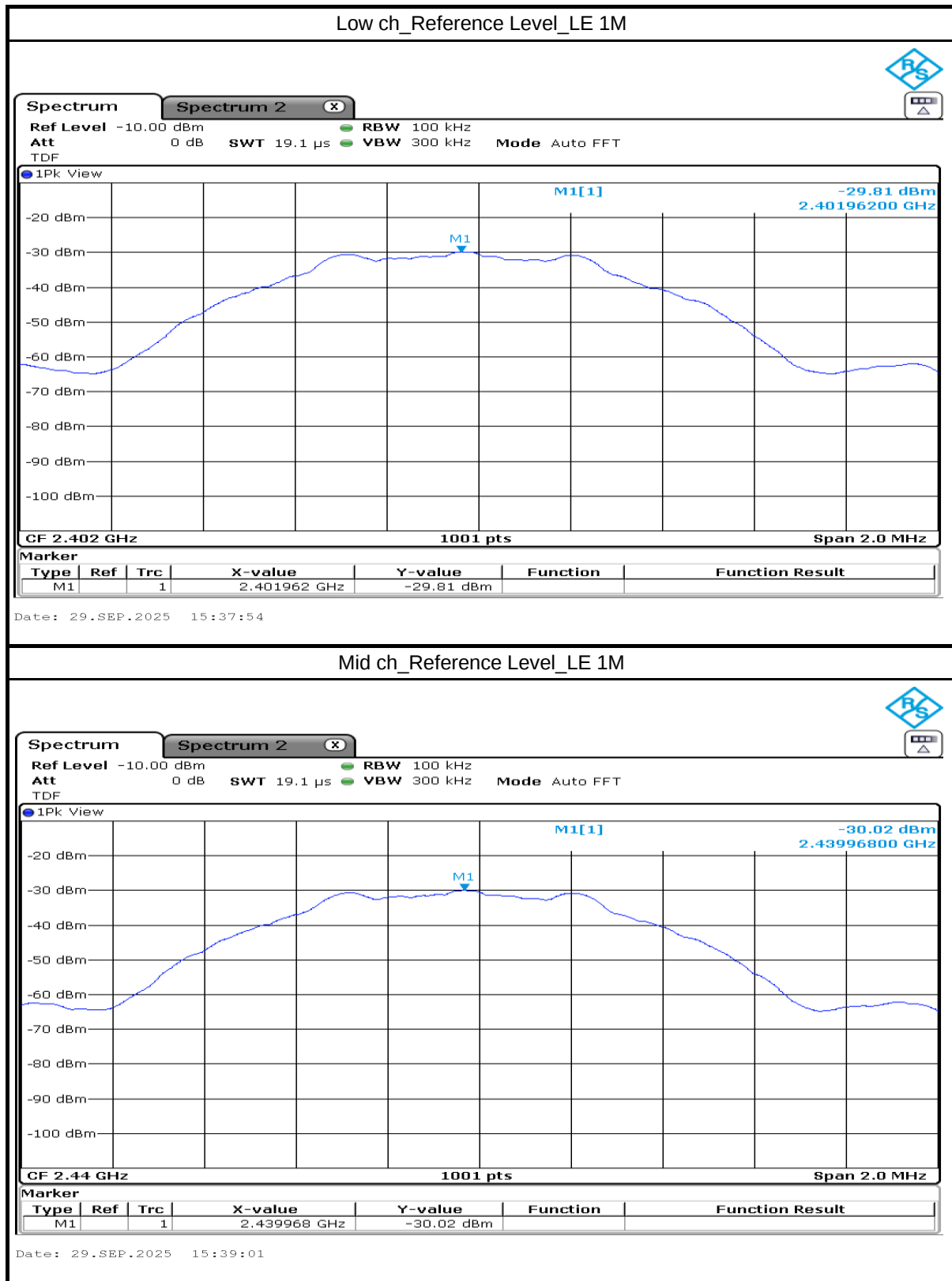
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum device, digitally modulated device, or hybrid system is operating, the RF power that is produced shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power – based on either an RF conducted or a radiated measurement – provided that the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of root-mean-square averaging over a time interval, as permitted under section 6.3.2, the attenuation required shall be 30 dB instead of 20 dB. Attenuation below the general field strength limits specified in RSS-Gen is not required.



# 시험성적서

## TEST REPORT

페이지(page) : (24) / 총(Total) (45)

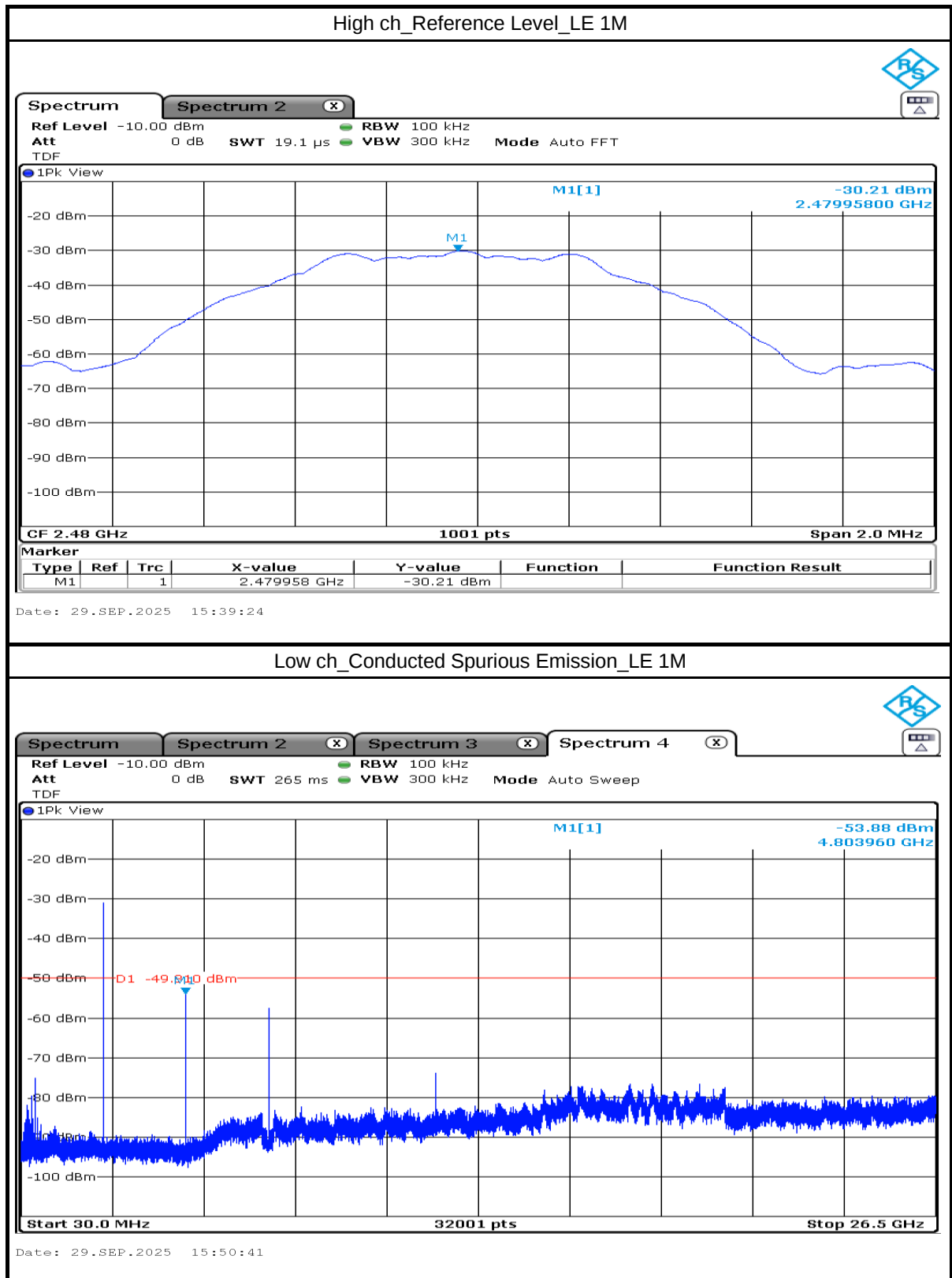




# 시험 성적서

## TEST REPORT

페이지(page) : (25) / 총(Total) (45)

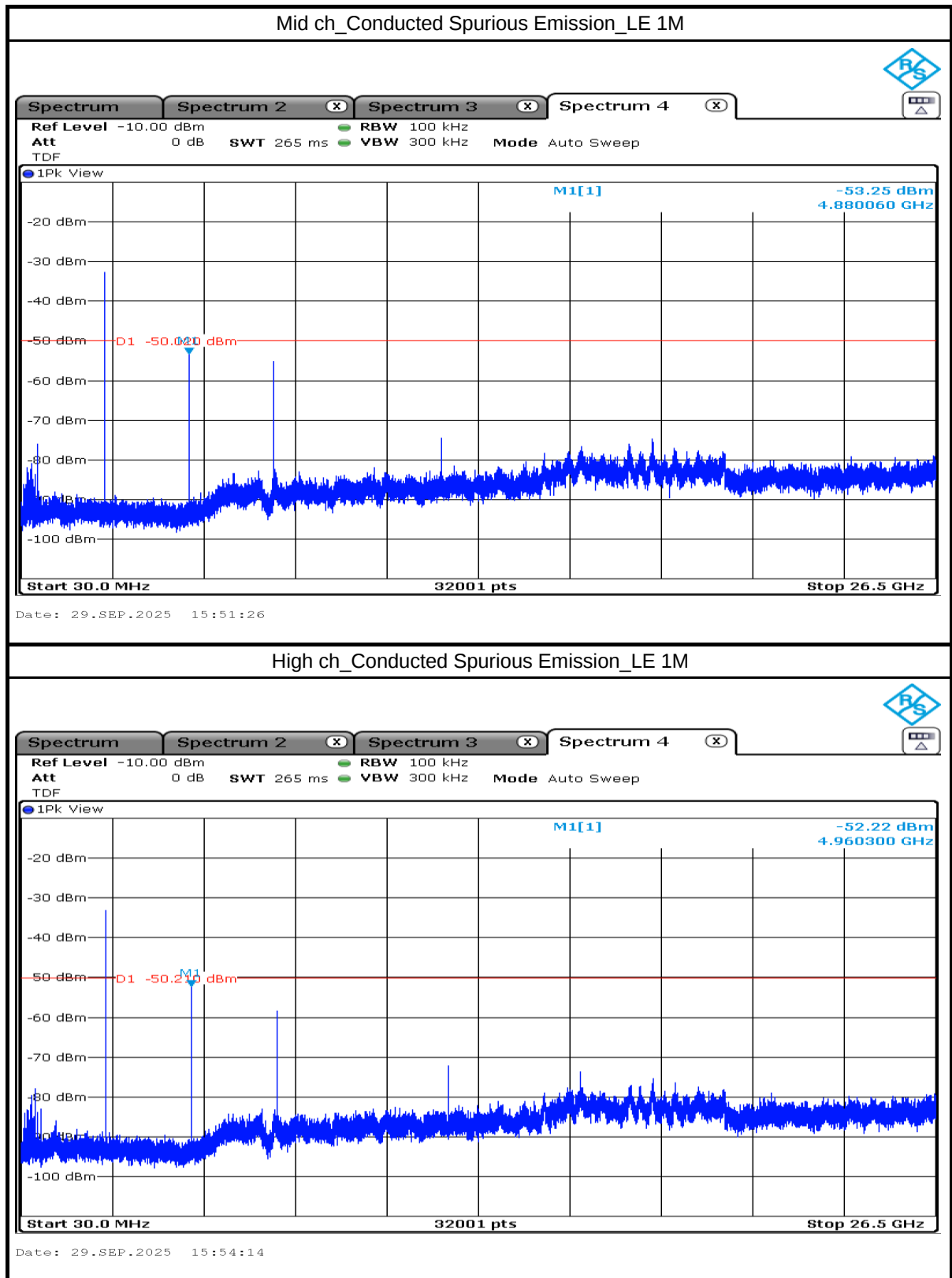




# 시험 성적서

## TEST REPORT

페이지(page) : (26) / 총(Total) (45)

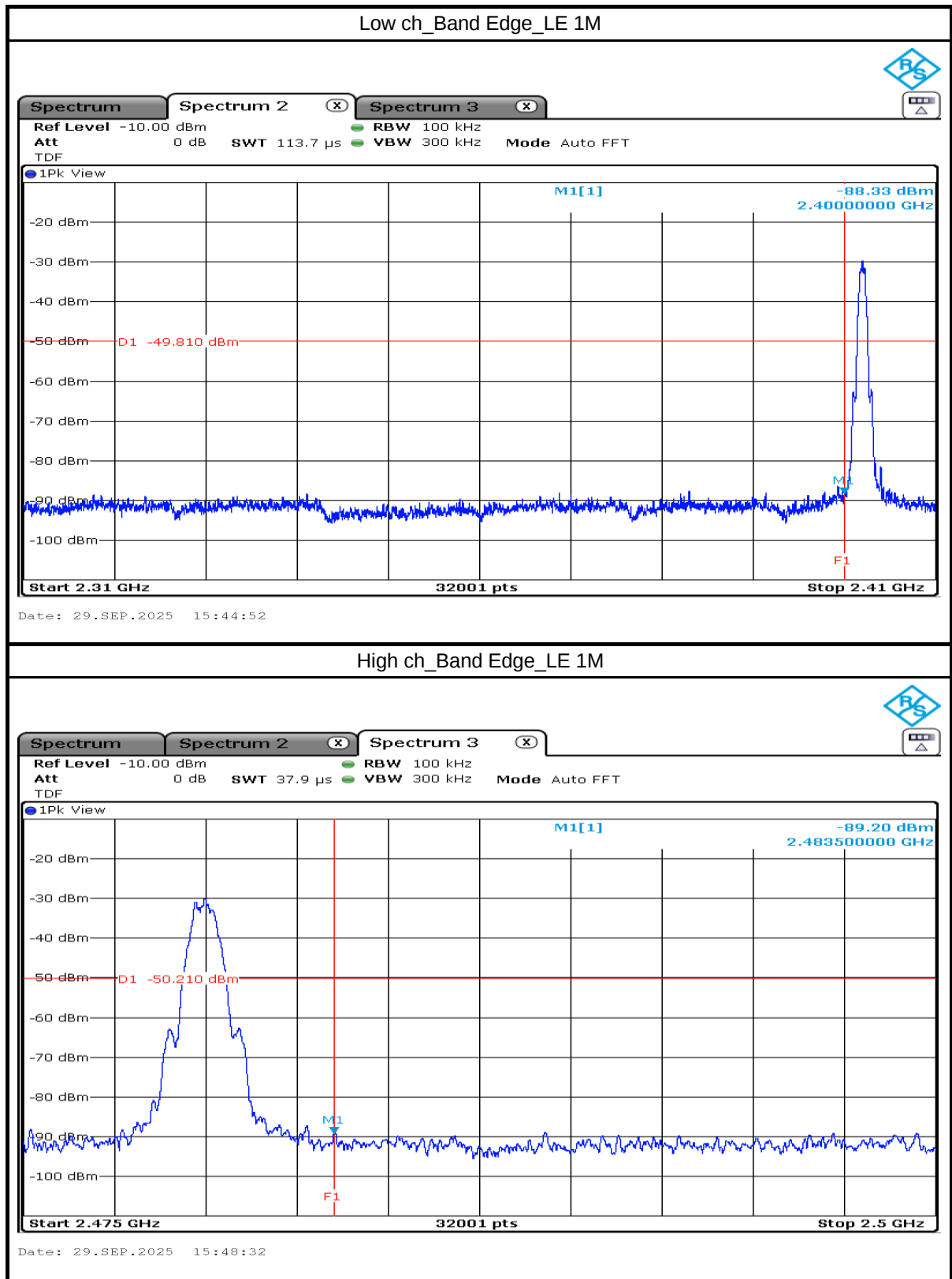




# 시험 성적서

## TEST REPORT

페이지(page) : (27) / 총(Total) (45)

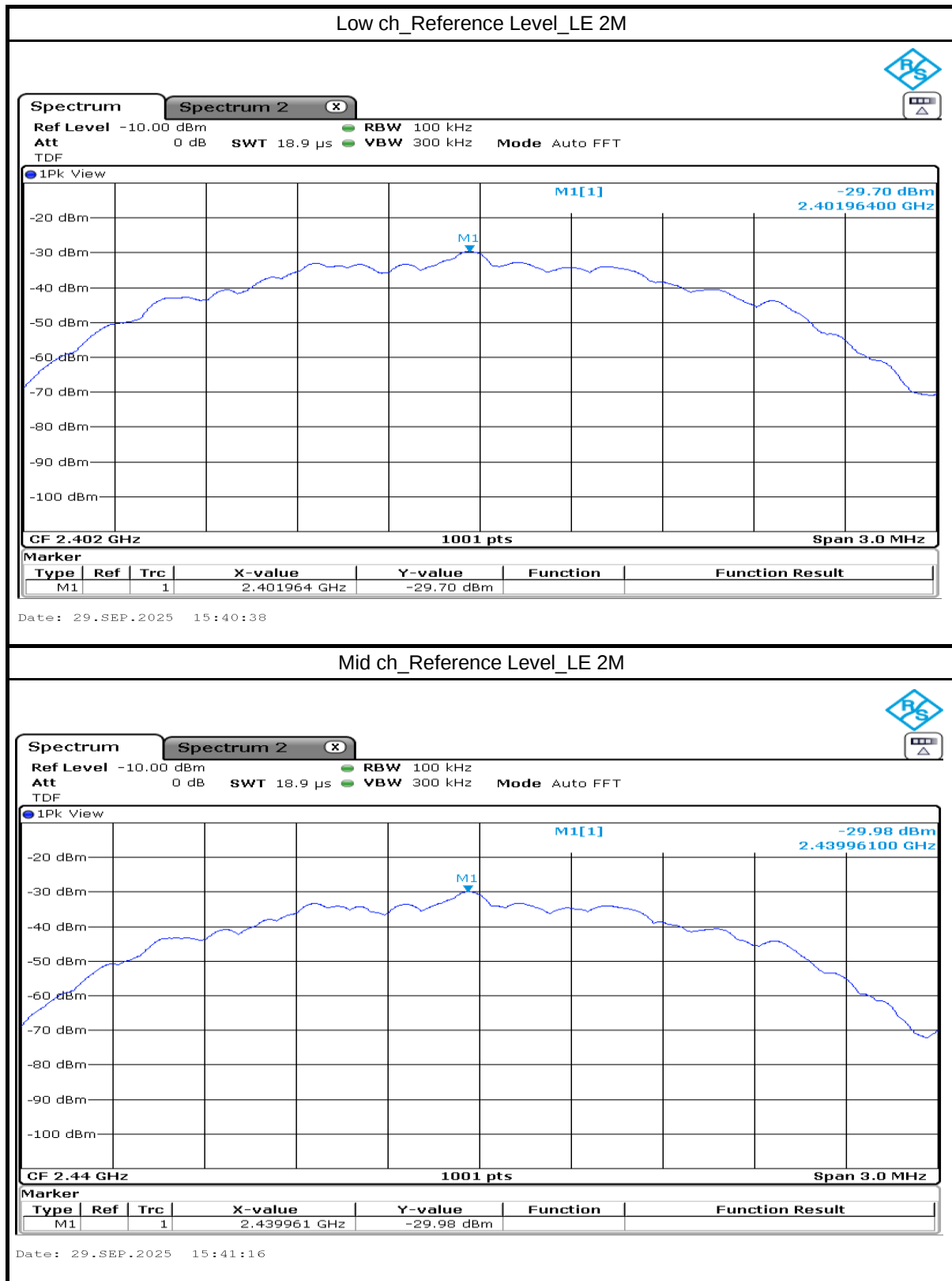




# 시험 성적서

## TEST REPORT

페이지(page) : (28) / 총(Total) (45)

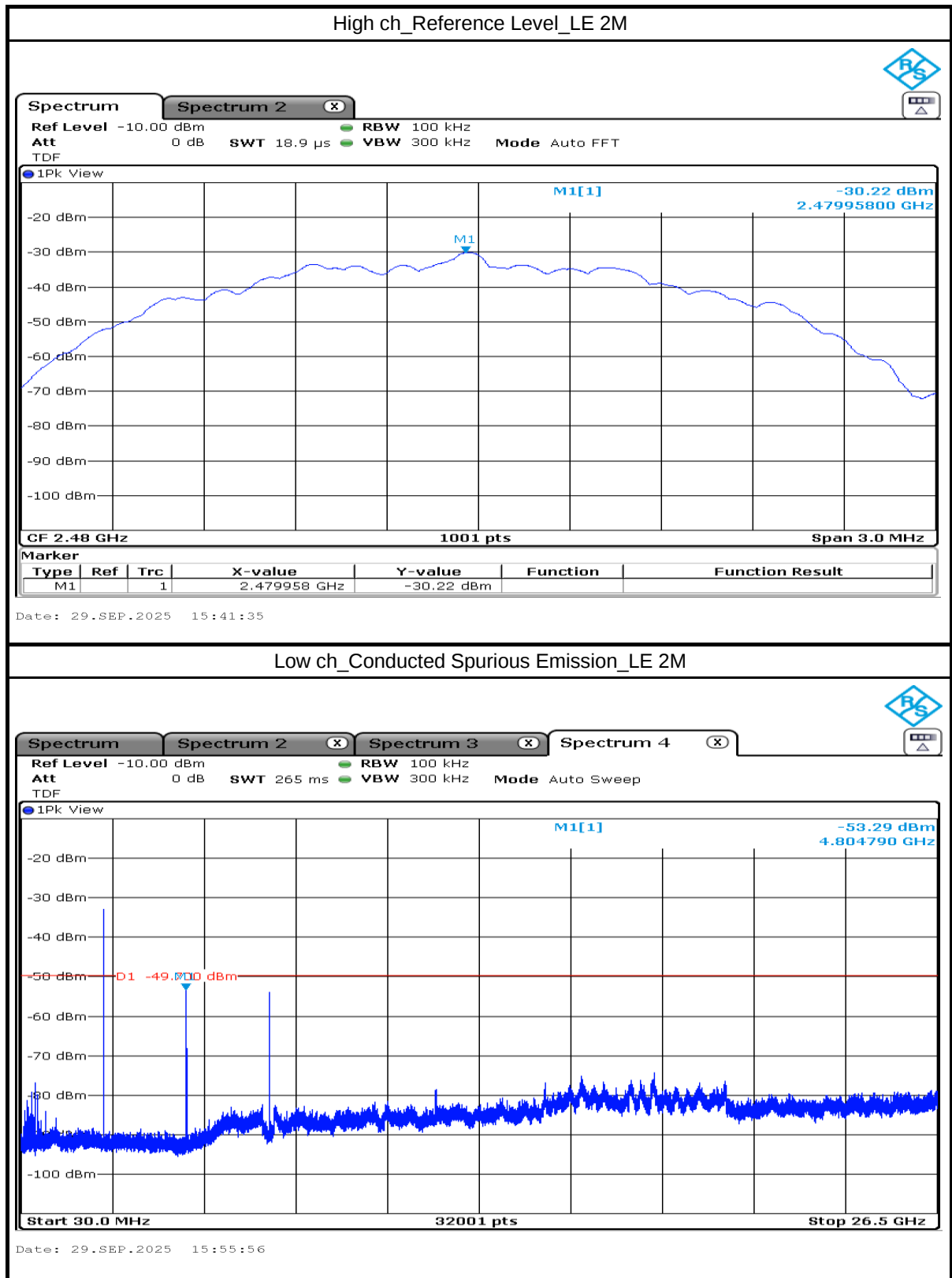




# 시험 성적서

## TEST REPORT

페이지(page) : (29) / 총(Total) (45)

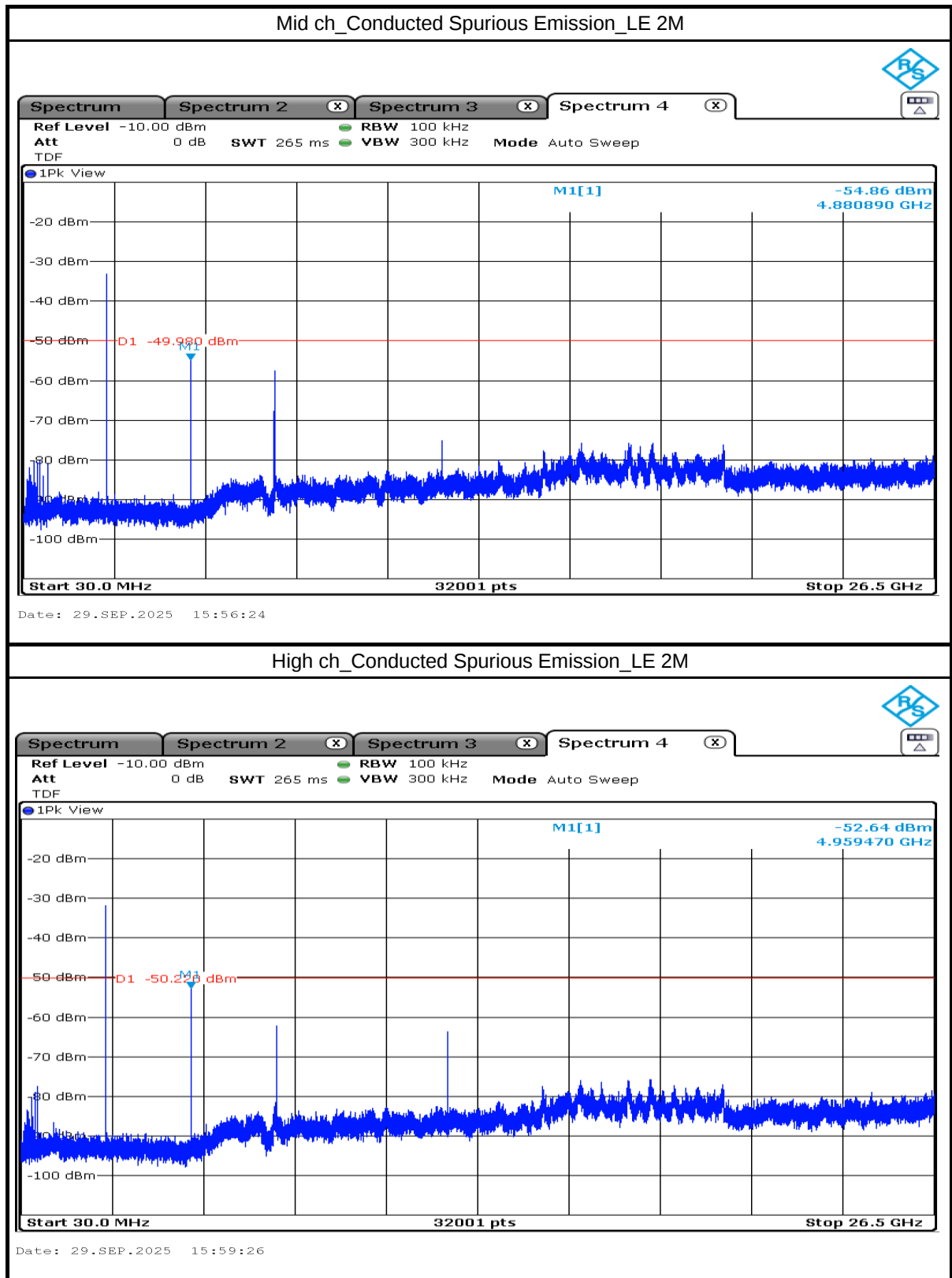




# 시험 성적서

## TEST REPORT

페이지(page) : (30) / 총(Total) (45)

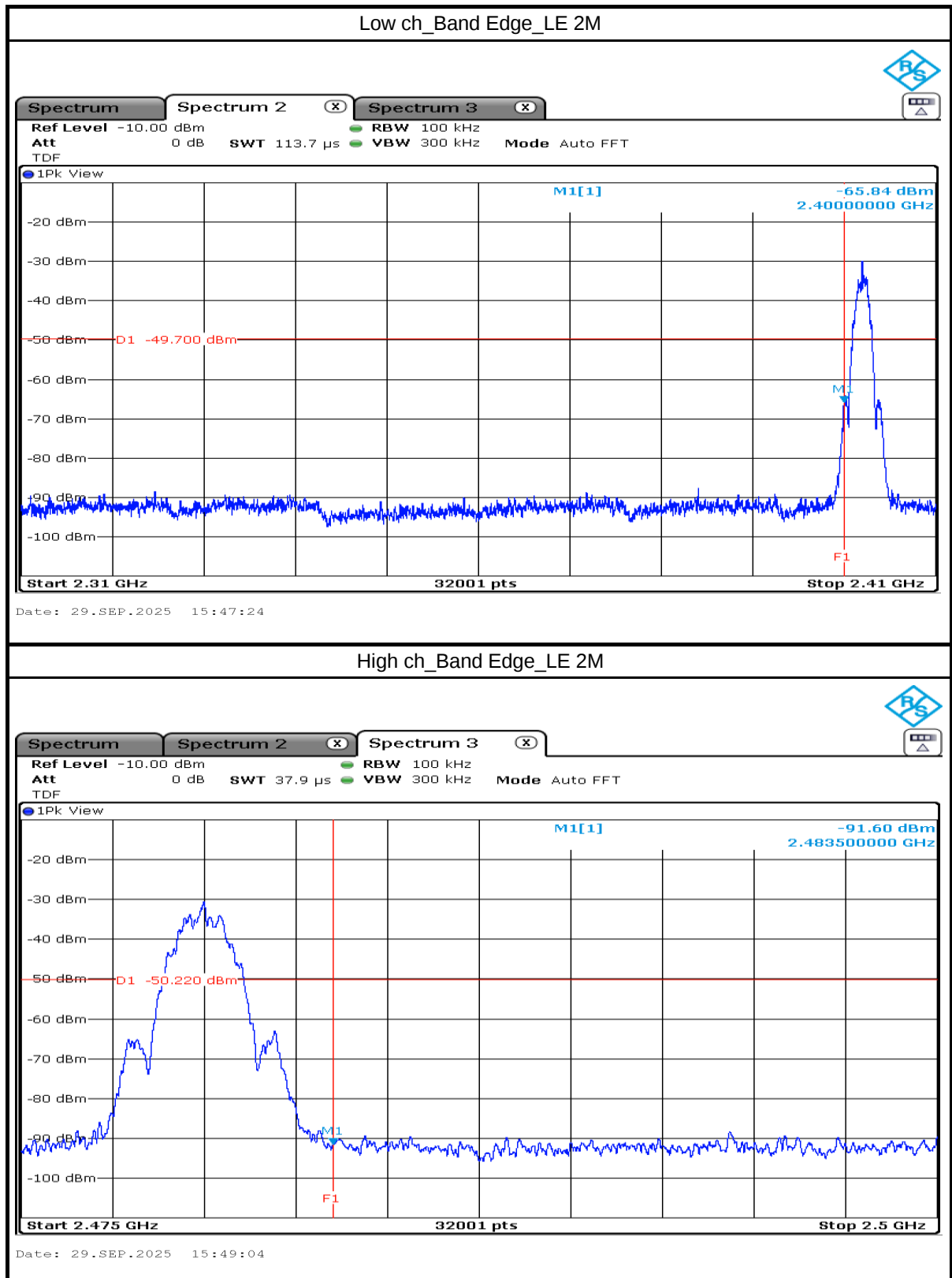




# 시험 성적서

## TEST REPORT

페이지(page) : (31) / 총(Total) (45)





# 시험 성적서

## TEST REPORT

페이지(page) : (32) / 총(Total) (45)

### 4.5 Radiated Spurious Emission

#### 4.5.1 Test procedure

ANSI C63.10-2020 Clause 11.11, 11.12

#### 4.5.2 Limit

§15.247 (d)

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in § 15.209(a) is not required. In addition, 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)).

§15.209 Radiated emission limits; general requirements.(a)

Except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

| Frequency (MHz) | Field strength (microvolts/meter) | 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                             |

\*\* Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54–72 MHz, 76–88 MHz, 174–216 MHz or 470–806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241.



# 시험 성적서

## TEST REPORT

페이지(page) : (33) / 총(Total) (45)

§15.205 Restricted bands of operation.(a),(b)

| MHz                      | MHz                 | MHz           | GHz              |
|--------------------------|---------------------|---------------|------------------|
| 0.090–0.110              | 16.42–16.423        | 399.9–410     | 4.5–5.15         |
| <sup>1</sup> 0.495–0.505 | 16.69475–16.69525   | 608–614       | 5.35–5.46        |
| 2.1735–2.1905            | 16.80425–16.80475   | 960–1240      | 7.25–7.75        |
| 4.125–4.128              | 25.5–25.67          | 1300–1427     | 8.025–8.5        |
| 4.17725–4.17775          | 37.5–38.25          | 1435–1626.5   | 9.0–9.2          |
| 4.20725–4.20775          | 73–74.6             | 1645.5–1646.5 | 9.3–9.5          |
| 6.215–6.218              | 74.8–75.2           | 1660–1710     | 10.6–12.7        |
| 6.26775–6.26825          | 108–121.94          | 1718.8–1722.2 | 13.25–13.4       |
| 6.31175–6.31225          | 123–138             | 2200–2300     | 14.47–14.5       |
| 8.291–8.294              | 149.9–150.05        | 2310–2390     | 15.35–16.2       |
| 8.362–8.366              | 156.52475–156.52525 | 2483.5–2500   | 17.7–21.4        |
| 8.37625–8.38675          | 156.7–156.9         | 2690–2900     | 22.01–23.12      |
| 8.41425–8.41475          | 162.0125–167.17     | 3260–3267     | 23.6–24.0        |
| 12.29–12.293             | 167.72–173.2        | 3332–3339     | 31.2–31.8        |
| 12.51975–12.52025        | 240–285             | 3345.8–3358   | 36.43–36.5       |
| 12.57675–12.57725        | 322–335.4           | 3600–4400     | ( <sup>2</sup> ) |
| 13.36–13.41              |                     |               |                  |

<sup>1</sup> Until February 1, 1999, this restricted band shall be 0.490–0.510 MHz.

<sup>2</sup> Above 38.6

Except as provided in paragraphs (d) and (e) of this section, the field strength of emissions appearing within these frequency bands shall not exceed the limits shown in § 15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in § 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in § 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in § 15.35 apply to these measurements.



# 시험 성적서

## TEST REPORT

페이지(page) : (34) / 총(Total) (45)

### 4.5.3 Test data

Result : Pass

- Below 30 MHz\_LE 1M\_Worst Case

| Frequency<br>(MHz)                                       | Reading<br>(dBuV/m) | Detector | Pol. | Factor<br>(dB) | Result<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dBuV/m) | note |
|----------------------------------------------------------|---------------------|----------|------|----------------|--------------------|-------------------|--------------------|------|
| It was not found any emissions peaks found from the EUT. |                     |          |      |                |                    |                   |                    |      |

- Below 30 MHz\_LE 2M\_Worst Case

| Frequency<br>(MHz)                                       | Reading<br>(dBuV/m) | Detector | Pol. | Factor<br>(dB) | Result<br>(dBuV/m) | Limit<br>(dBuV/m) | Margin<br>(dBuV/m) | note |
|----------------------------------------------------------|---------------------|----------|------|----------------|--------------------|-------------------|--------------------|------|
| It was not found any emissions peaks found from the EUT. |                     |          |      |                |                    |                   |                    |      |

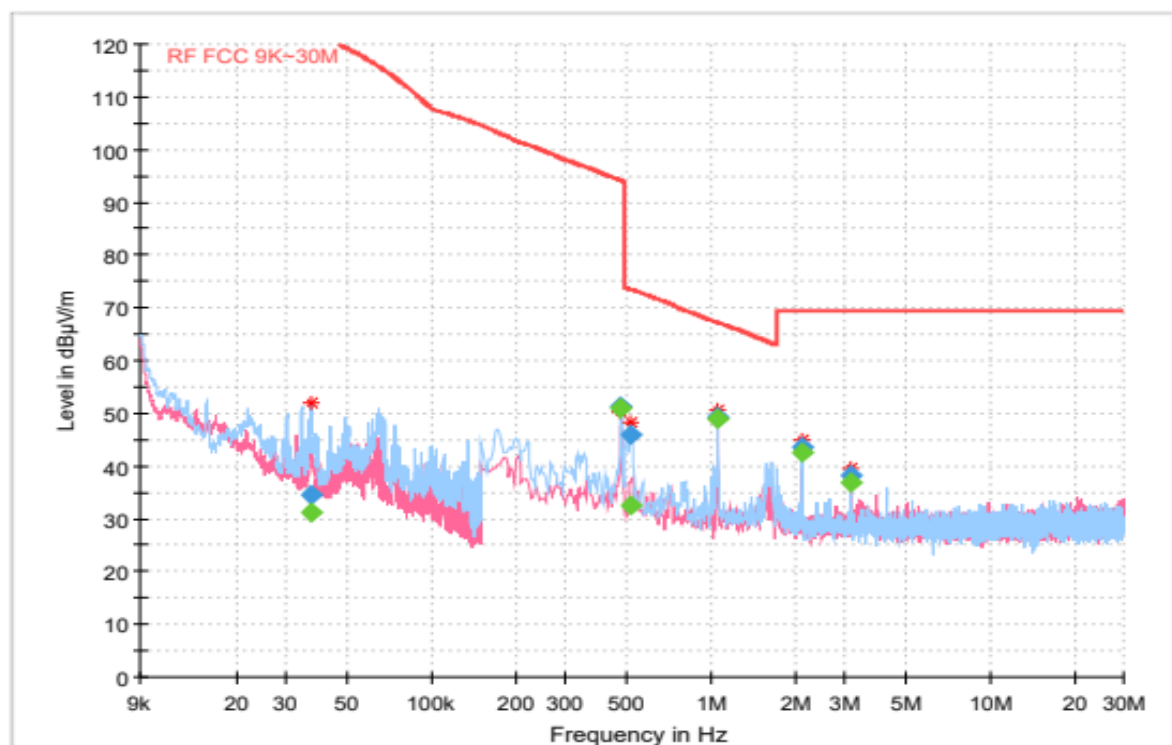


# 시험 성적서

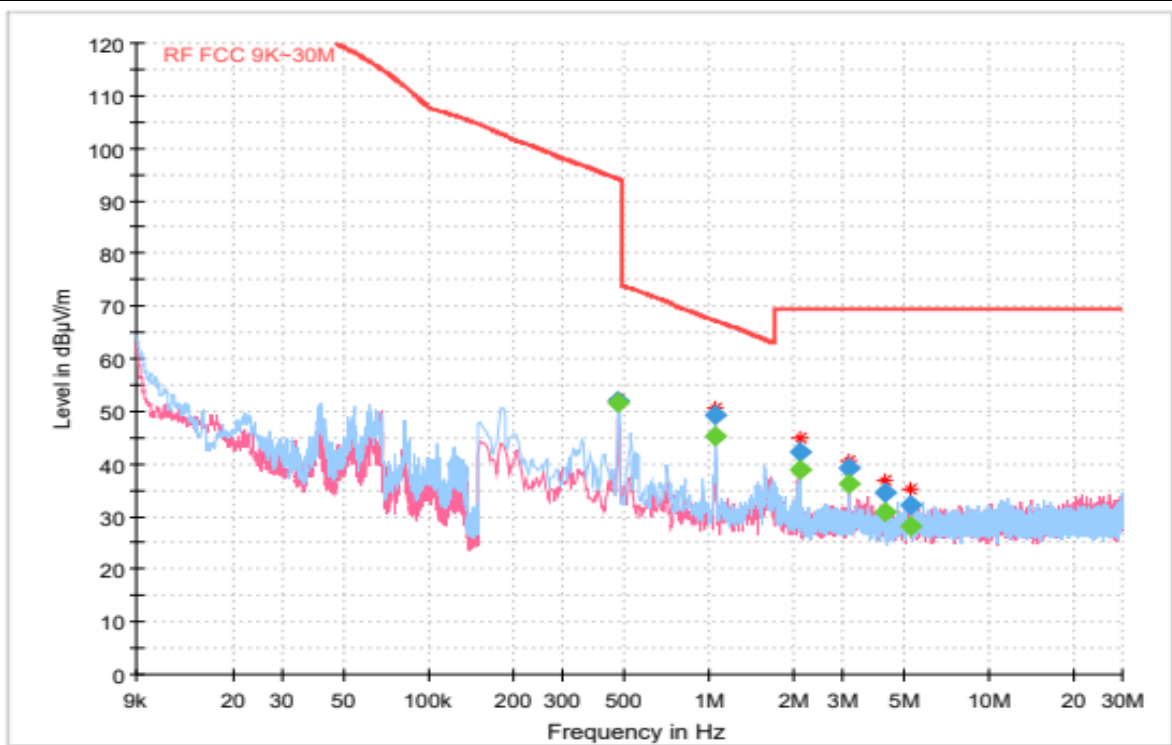
## TEST REPORT

페이지(page) : (35) / 총(Total) (45)

Below 30 MHz\_LE 1M\_Worst Case



Below 30 MHz\_LE 2M\_Worst Case





# 시험 성적서

## TEST REPORT

페이지(page) : (36) / 총(Total) (45)

- 30 MHz ~ 1 GHz\_LE 1M\_Worst Case

| Frequency (MHz) | Reading (dBuV/m) | Detector | Pol. | Factor (dB) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dBuV/m) | note |
|-----------------|------------------|----------|------|-------------|-----------------|----------------|-----------------|------|
| 131.947         | 58.22            | QP       | V    | -19.5       | 38.72           | 43.52          | 4.80            |      |
| 204.018         | 57.74            | QP       | V    | -16.7       | 41.04           | 43.52          | 2.48            |      |
| 227.977         | 57.24            | QP       | V    | -15.6       | 41.64           | 46.02          | 4.38            |      |
| 372.022         | 54.69            | QP       | V    | -11.3       | 43.39           | 46.02          | 2.63            |      |

- 30 MHz ~ 1 GHz\_LE 2M\_Worst Case

| Frequency (MHz) | Reading (dBuV/m) | Detector | Pol. | Factor (dB) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dBuV/m) | note |
|-----------------|------------------|----------|------|-------------|-----------------|----------------|-----------------|------|
| 46.975          | 50.50            | QP       | V    | -14.0       | 36.50           | 40.00          | 3.50            |      |
| 204.018         | 57.47            | QP       | V    | -16.7       | 40.77           | 43.52          | 2.75            |      |
| 275.992         | 56.16            | QP       | V    | -13.9       | 42.26           | 46.02          | 3.76            |      |
| 372.022         | 54.68            | QP       | V    | -11.3       | 43.38           | 46.02          | 2.64            |      |

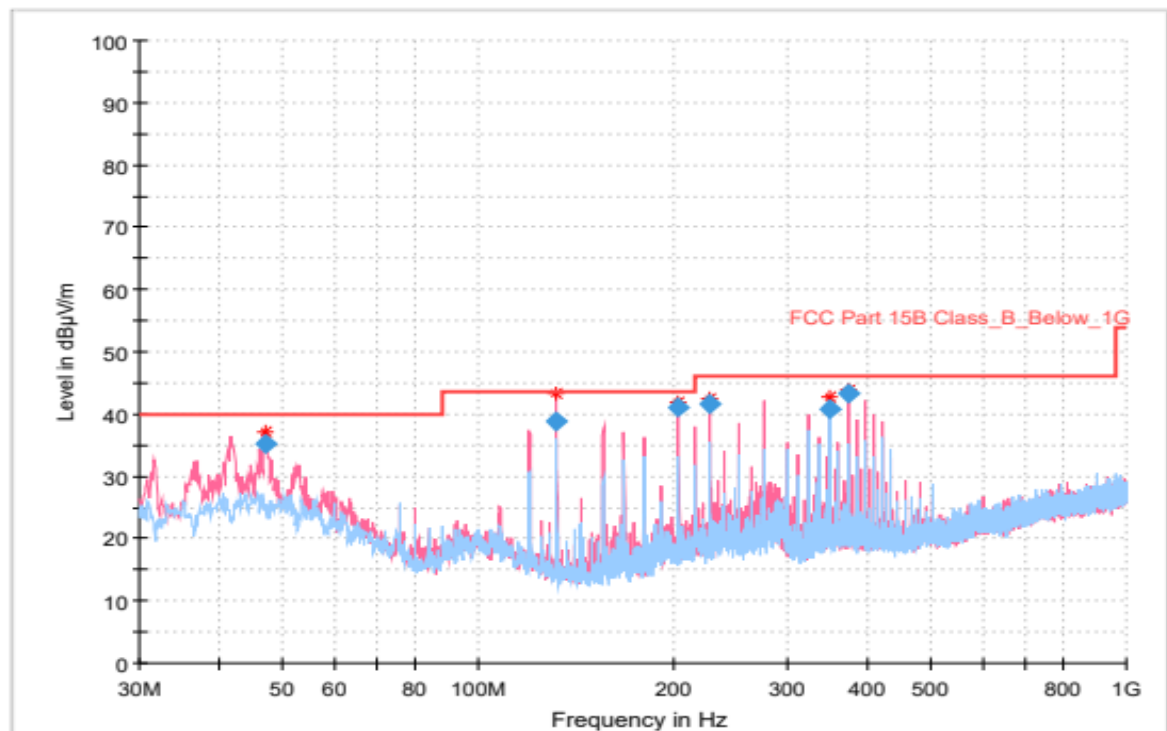


# 시험 성적서

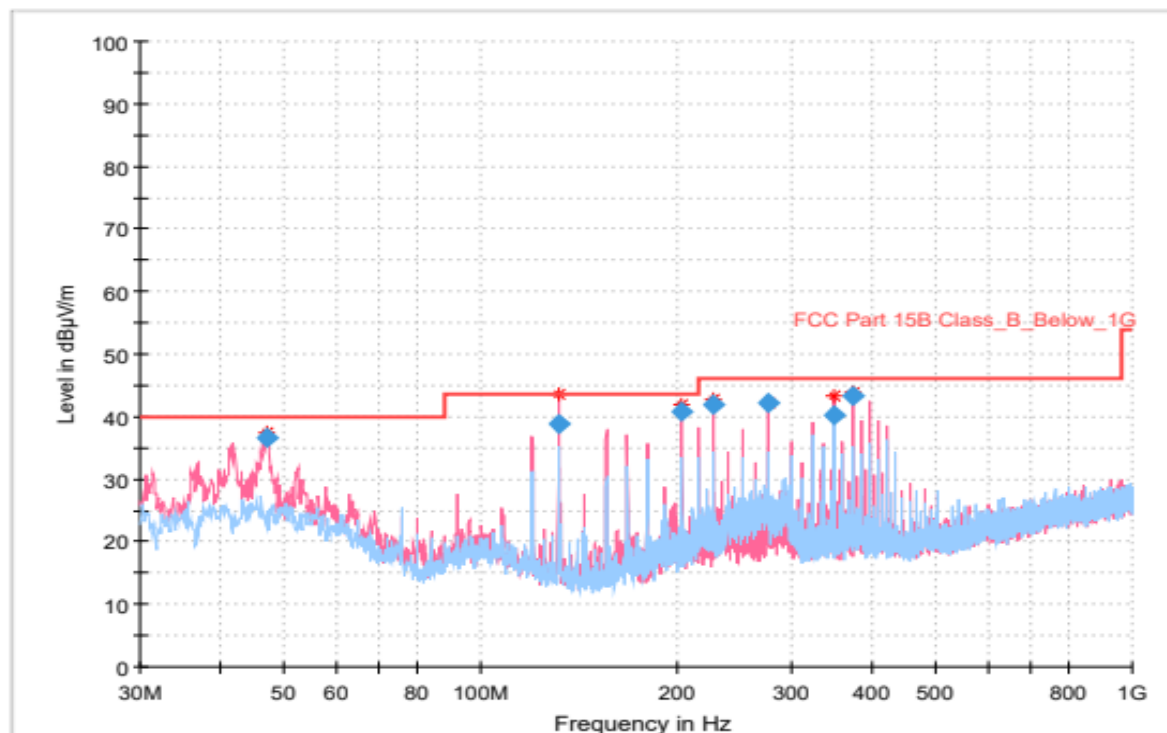
## TEST REPORT

페이지(page) : (37) / 총(Total) (45)

30 MHz ~ 1 GHz\_LE 1M\_Worst Case



30 MHz ~ 1 GHz\_LE 2M\_Worst Case





# 시험 성적서

## TEST REPORT

페이지(page) : (38) / 총(Total) (45)

- 1 GHz Above\_Low ch\_LE 1M

| Frequency (MHz) | Reading (dBuV/m) | Detector | Pol. | Factor (dB) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dBuV/m) | note              |
|-----------------|------------------|----------|------|-------------|-----------------|----------------|-----------------|-------------------|
| 2 196.75        | 62.56            | PK       | V    | -11.7       | 50.86           | 74.00          | 23.14           | Spurious Emission |
|                 | 34.56            | AVG      | V    |             | 22.86           | 54.00          | 31.14           |                   |
| 2 315.50        | 46.22            | PK       | V    | -11.2       | 35.02           | 74.00          | 38.98           | Restricted band   |
|                 | 33.45            | AVG      | V    |             | 22.25           | 54.00          | 31.75           |                   |
| 4 802.10        | 46.32            | PK       | H    | -2.9        | 43.42           | 74.00          | 30.58           | 2nd Harmonic      |
|                 | 31.63            | AVG      | H    |             | 28.73           | 54.00          | 25.27           |                   |
| 7 204.75        | 55.37            | PK       | H    | 1.0         | 56.37           | 74.00          | 17.63           | 3rd Harmonic      |
|                 | 40.67            | AVG      | H    |             | 41.67           | 54.00          | 12.33           |                   |
| 9 608.85        | 47.37            | PK       | V    | 3.5         | 50.87           | 74.00          | 23.13           | 4nd Harmonic      |
|                 | 34.59            | AVG      | V    |             | 38.09           | 54.00          | 15.91           |                   |

- 1 GHz Above\_Mid ch\_LE 1M

| Frequency (MHz) | Reading (dBuV/m) | Detector | Pol. | Factor (dB) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dBuV/m) | note         |
|-----------------|------------------|----------|------|-------------|-----------------|----------------|-----------------|--------------|
| 4 878.95        | 49.79            | PK       | V    | -2.4        | 47.39           | 74.00          | 26.61           | 2nd Harmonic |
|                 | 35.72            | AVG      | V    |             | 33.32           | 54.00          | 20.68           |              |
| 7 319.30        | 59.76            | PK       | H    | 0.9         | 60.66           | 74.00          | 13.34           | 3rd Harmonic |
|                 | 46.94            | AVG      | H    |             | 47.84           | 54.00          | 6.16            |              |
| 9 758.20        | 48.27            | PK       | V    | 3.7         | 51.97           | 74.00          | 22.03           | 4nd Harmonic |
|                 | 35.09            | AVG      | V    |             | 38.79           | 54.00          | 15.21           |              |

- 1 GHz Above\_High ch\_LE 1M

| Frequency (MHz) | Reading (dBuV/m) | Detector | Pol. | Factor (dB) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dBuV/m) | note              |
|-----------------|------------------|----------|------|-------------|-----------------|----------------|-----------------|-------------------|
| 2 196.50        | 46.35            | PK       | H    | -11.7       | 34.65           | 74.00          | 39.35           | Spurious Emission |
|                 | 33.48            | AVG      | H    |             | 21.78           | 54.00          | 32.22           |                   |
| 2 499.25        | 47.36            | PK       | V    | -10.0       | 37.36           | 74.00          | 36.64           | Restricted band   |
|                 | 34.27            | AVG      | V    |             | 24.27           | 54.00          | 29.73           |                   |
| 4 960.15        | 56.06            | PK       | H    | -2.3        | 53.76           | 74.00          | 20.24           | 2nd Harmonic      |
|                 | 44.99            | AVG      | H    |             | 42.69           | 54.00          | 11.31           |                   |
| 7 439.65        | 58.41            | PK       | H    | 1.0         | 59.41           | 74.00          | 14.59           | 3rd Harmonic      |
|                 | 45.75            | AVG      | H    |             | 46.75           | 54.00          | 7.25            |                   |
| 9 920.60        | 47.86            | PK       | V    | 4.0         | 51.86           | 74.00          | 22.14           | 4nd Harmonic      |
|                 | 35.01            | AVG      | V    |             | 39.01           | 54.00          | 14.99           |                   |



# 시험 성적서

## TEST REPORT

페이지(page) : (39) / 총(Total) (45)

### - 1 GHz Above\_Low ch\_LE 2M

| Frequency (MHz) | Reading (dBuV/m) | Detector | Pol. | Factor (dB) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dBuV/m) | note            |
|-----------------|------------------|----------|------|-------------|-----------------|----------------|-----------------|-----------------|
| 2 340.25        | 47.54            | PK       | V    | -11.1       | 36.44           | 74.00          | 37.56           | Restricted band |
|                 | 33.74            | AVG      | V    |             | 22.64           | 54.00          | 31.36           |                 |
| 4 805.00        | 46.14            | PK       | H    | -2.8        | 43.34           | 74.00          | 30.66           | 2nd Harmonic    |
|                 | 31.95            | AVG      | H    |             | 29.15           | 54.00          | 24.85           |                 |
| 7 204.75        | 56.05            | PK       | H    | 1.0         | 57.05           | 74.00          | 16.95           | 3rd Harmonic    |
|                 | 39.95            | AVG      | H    |             | 40.95           | 54.00          | 13.05           |                 |
| 9 610.30        | 47.56            | PK       | H    | 3.5         | 51.06           | 74.00          | 22.94           | 4nd Harmonic    |
|                 | 34.59            | AVG      | H    |             | 38.09           | 54.00          | 15.91           |                 |

### - 1 GHz Above\_Mid ch\_LE 2M

| Frequency (MHz) | Reading (dBuV/m) | Detector | Pol. | Factor (dB) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dBuV/m) | note              |
|-----------------|------------------|----------|------|-------------|-----------------|----------------|-----------------|-------------------|
| 2 090.50        | 47.96            | PK       | V    | -11.8       | 36.16           | 74.00          | 37.84           | Spurious Emission |
|                 | 34.12            | AVG      | V    |             | 22.32           | 54.00          | 31.68           |                   |
| 2 190.50        | 60.13            | PK       | H    | -11.7       | 48.43           | 74.00          | 25.57           | Spurious Emission |
|                 | 34.27            | AVG      | H    |             | 22.57           | 54.00          | 31.43           |                   |
| 4 880.40        | 49.29            | PK       | V    | -2.4        | 46.89           | 74.00          | 27.11           | 2nd Harmonic      |
|                 | 34.50            | AVG      | V    |             | 32.10           | 54.00          | 21.90           |                   |
| 7 320.75        | 57.76            | PK       | H    | 0.9         | 58.66           | 74.00          | 15.34           | 3rd Harmonic      |
|                 | 41.61            | AVG      | H    |             | 42.51           | 54.00          | 11.49           |                   |
| 9 764.00        | 48.12            | PK       | V    | 3.7         | 51.82           | 74.00          | 22.18           | 4nd Harmonic      |
|                 | 35.15            | AVG      | V    |             | 38.85           | 54.00          | 15.15           |                   |

### - 1 GHz Above\_High ch\_LE 2M

| Frequency (MHz) | Reading (dBuV/m) | Detector | Pol. | Factor (dB) | Result (dBuV/m) | Limit (dBuV/m) | Margin (dBuV/m) | note              |
|-----------------|------------------|----------|------|-------------|-----------------|----------------|-----------------|-------------------|
| 1 997.75        | 57.42            | PK       | V    | -12.0       | 45.42           | 74.00          | 28.58           | Spurious Emission |
|                 | 35.97            | AVG      | V    |             | 23.97           | 54.00          | 30.03           |                   |
| 2 196.50        | 63.10            | PK       | V    | -11.7       | 51.40           | 74.00          | 22.60           | Spurious Emission |
|                 | 35.70            | AVG      | V    |             | 24.00           | 54.00          | 30.00           |                   |
| 2 491.25        | 48.54            | PK       | H    | -10.1       | 38.44           | 74.00          | 35.56           | Restricted band   |
|                 | 34.36            | AVG      | H    |             | 24.26           | 54.00          | 29.74           |                   |
| 4 958.70        | 50.99            | PK       | V    | -2.3        | 48.69           | 74.00          | 25.31           | 2nd Harmonic      |
|                 | 34.24            | AVG      | V    |             | 31.94           | 54.00          | 22.06           |                   |
| 7 438.20        | 57.87            | PK       | H    | 1.0         | 58.87           | 74.00          | 15.13           | 3rd Harmonic      |
|                 | 39.69            | AVG      | H    |             | 40.69           | 54.00          | 13.31           |                   |
| 9 920.60        | 48.16            | PK       | V    | 4.0         | 52.16           | 74.00          | 21.84           | 4nd Harmonic      |
|                 | 35.00            | AVG      | V    |             | 39.00           | 54.00          | 15.00           |                   |

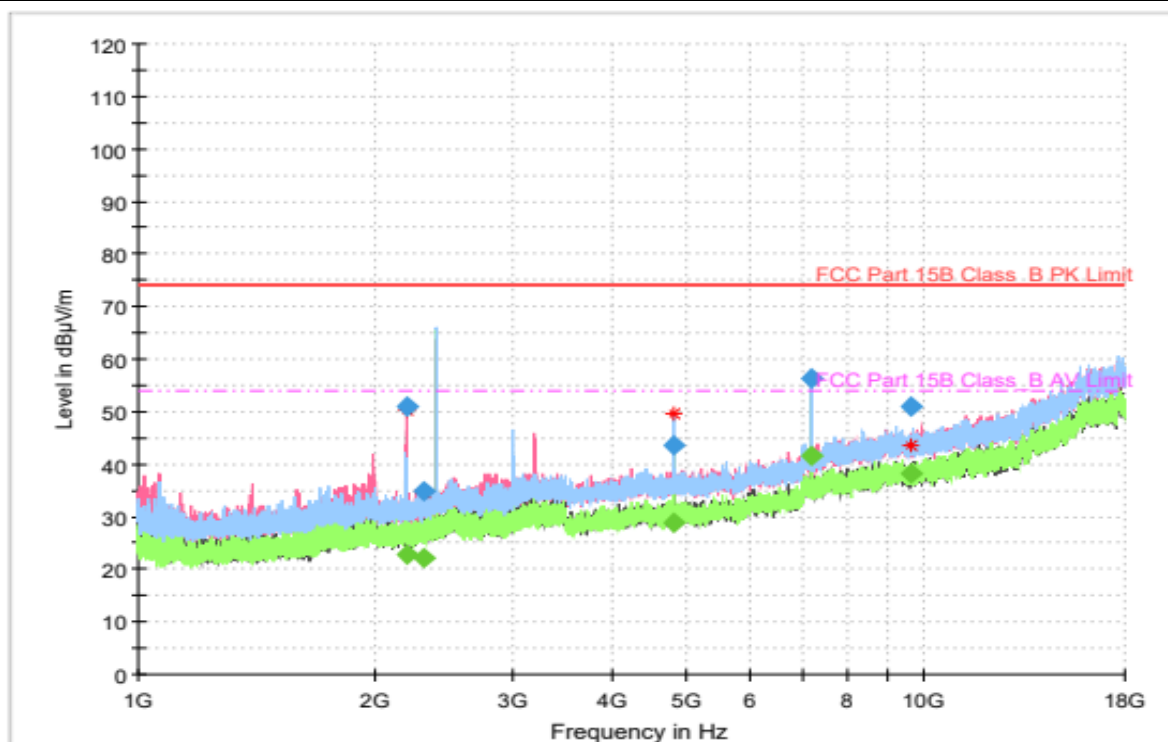


# 시험 성적서

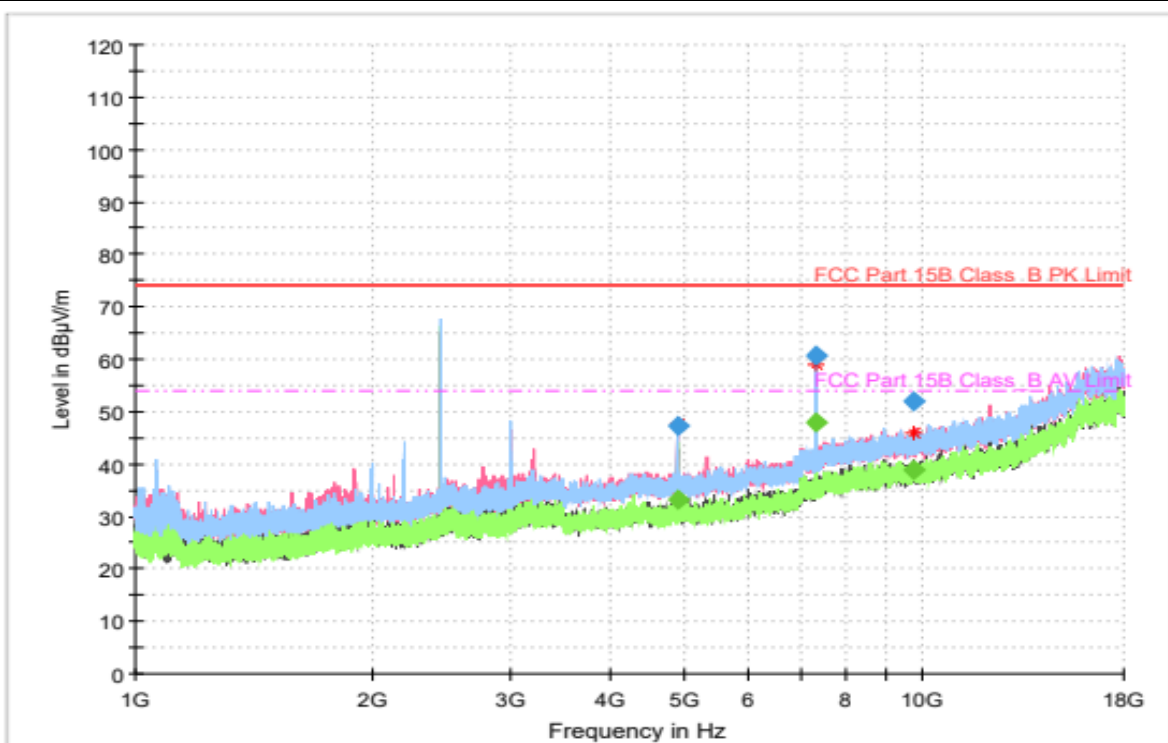
## TEST REPORT

페이지(page) : (40) / 총(Total) (45)

1 GHz Above\_Low ch\_LE 1M



1 GHz Above\_Mid ch\_LE 1M



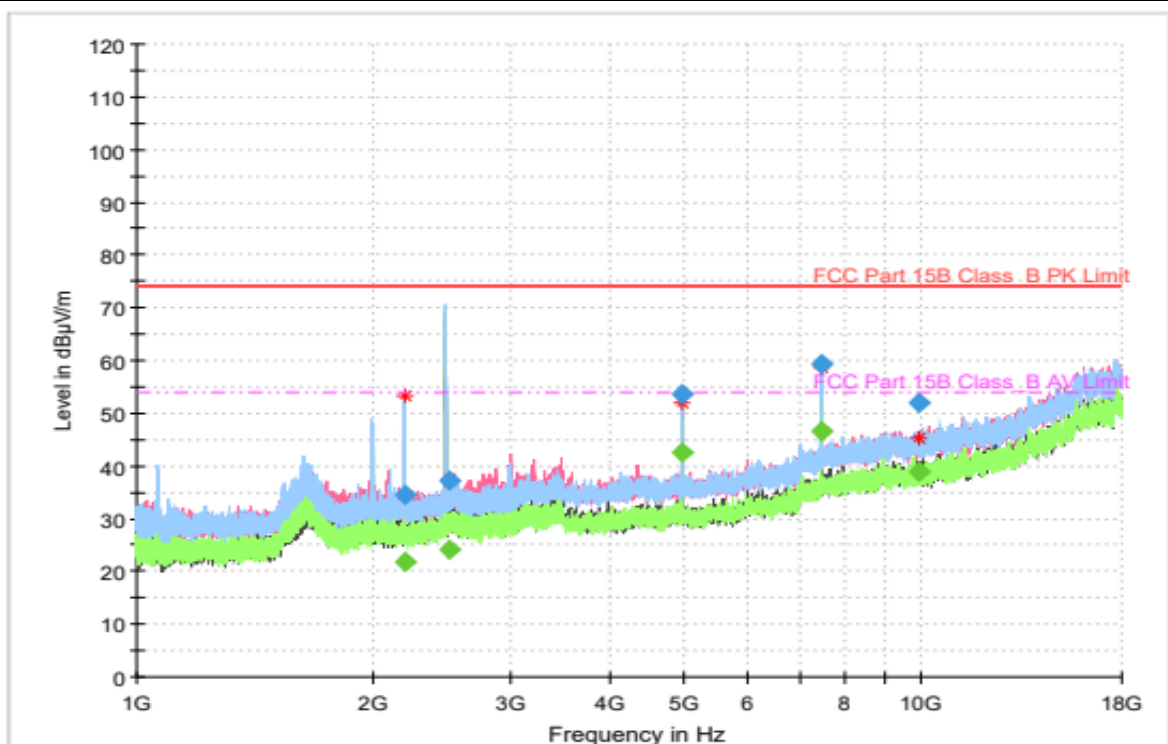


# 시험 성적서

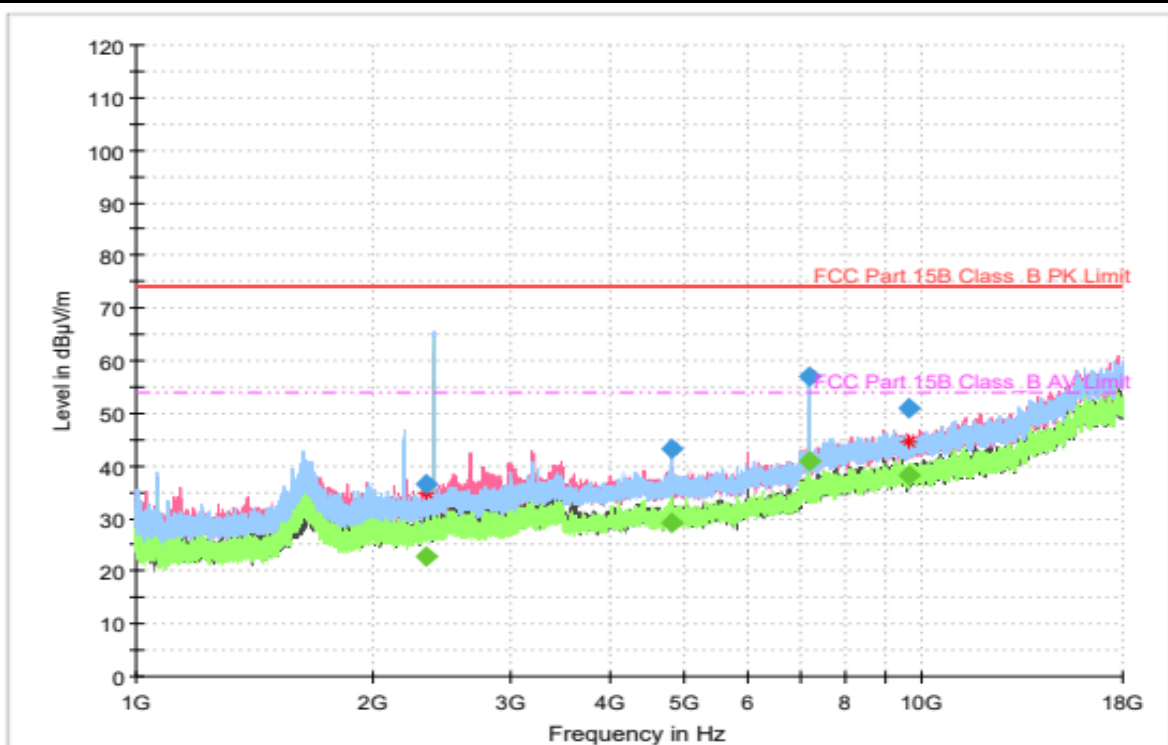
## TEST REPORT

페이지(page) : (41) / 총(Total) (45)

1 GHz Above\_High ch\_LE 1M



1 GHz Above\_Low ch\_LE 2M



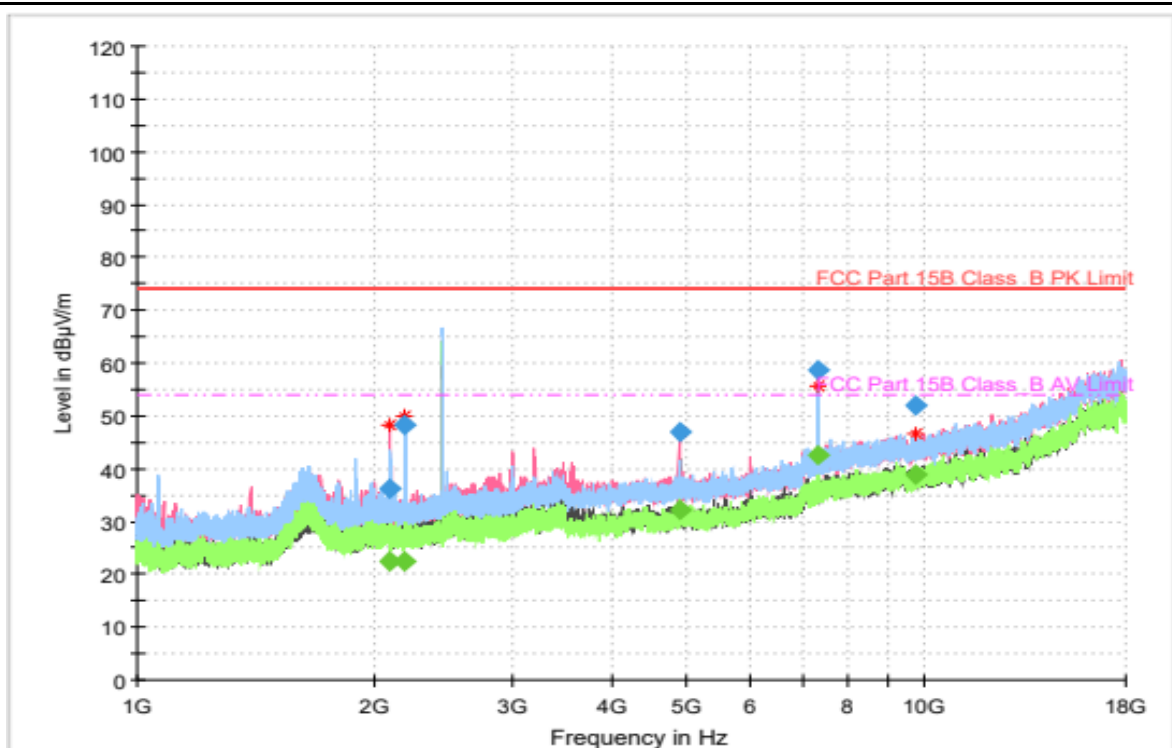


# 시험 성적서

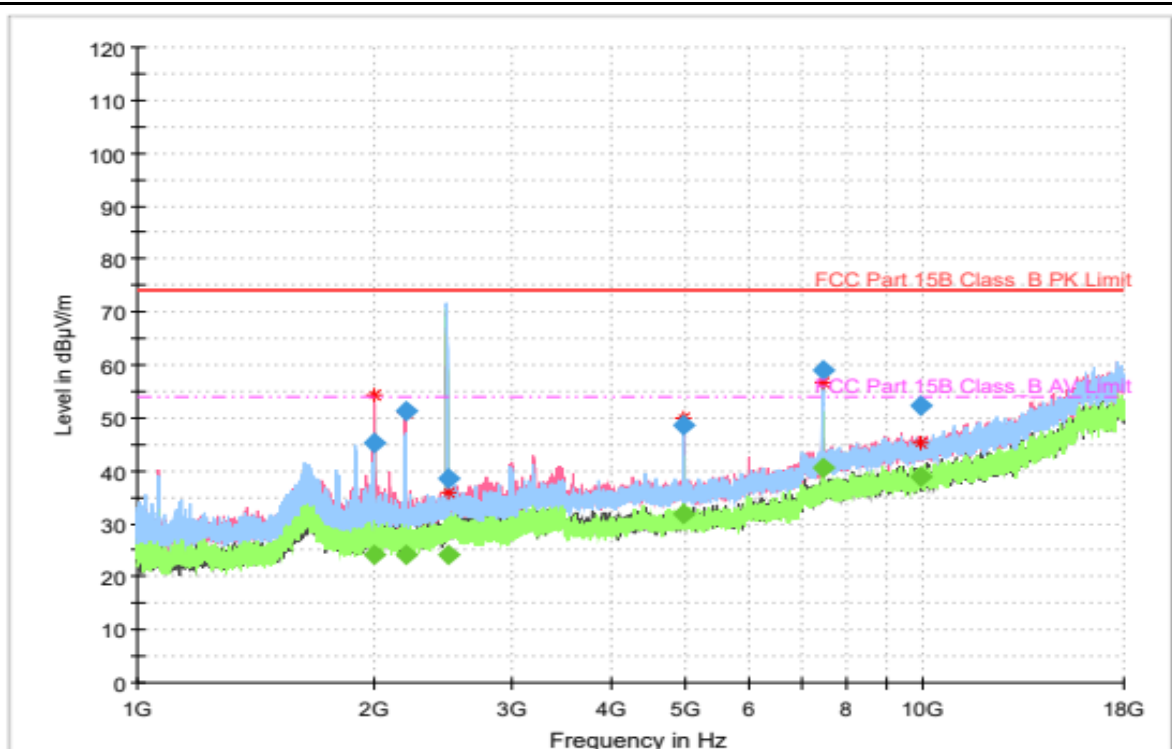
## TEST REPORT

페이지(page) : (42) / 총(Total) (45)

1 GHz Above\_Mid ch\_LE 2M



1 GHz Above\_High ch\_LE 2M





# 시험 성적서

## TEST REPORT

페이지(page) : (43) / 총(Total) (45)

### 4.6 Power Line Conducted Emission

#### 4.6.1 Test procedure

ANSI C63.10-2020 Clause 6.2

#### 4.6.2 Limit

§15.207 (a)

Except as shown in paragraphs (b) and (c) of this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50  $\mu$ H/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the boundary between the frequency ranges.

| Frequency of emission (MHz) | Conducted limit (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        |

\*Decreases with the logarithm of the frequency.



# 시험 성적서

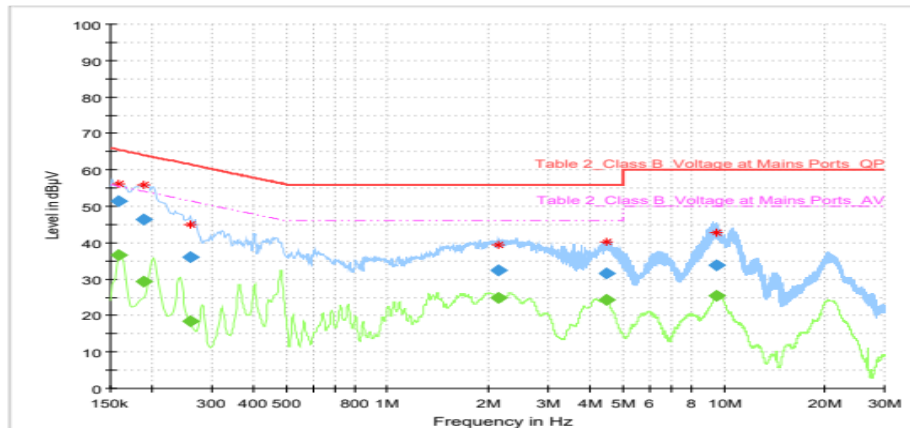
## TEST REPORT

페이지(page) : (44) / 총(Total) (45)

### 4.6.3 Test data

Result : Pass

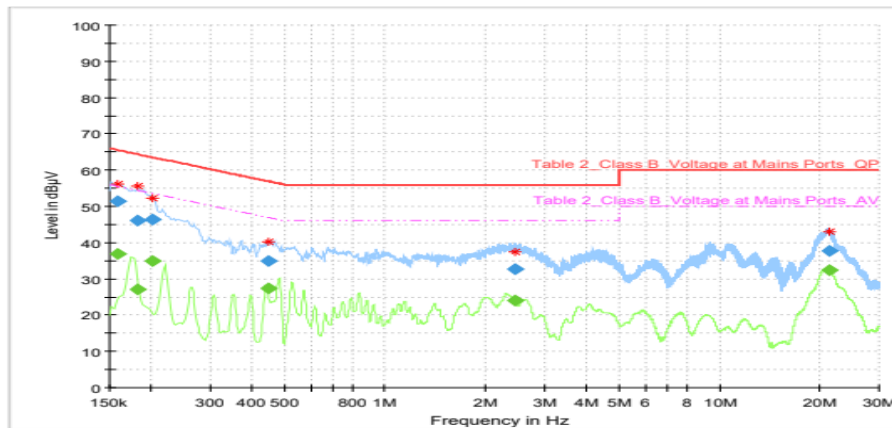
#### L-Line Conducted Emission



#### Final Result

| Frequency (MHz) | QuasiPeak (dBμV) | CAverage (dBμV) | Limit (dBμV) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Line | Corr. (dB) |
|-----------------|------------------|-----------------|--------------|-------------|-----------------|-----------------|------|------------|
| 0.159000        | ---              | 36.67           | 55.52        | 18.85       | 5000.0          | 9.000           | L1   | 9.9        |
| 0.159000        | 51.39            | ---             | 65.52        | 14.13       | 5000.0          | 9.000           | L1   | 9.9        |
| 0.188250        | ---              | 29.22           | 54.11        | 24.90       | 5000.0          | 9.000           | L1   | 9.9        |
| 0.188250        | 46.32            | ---             | 64.11        | 17.79       | 5000.0          | 9.000           | L1   | 9.9        |
| 0.260250        | ---              | 18.52           | 51.42        | 32.91       | 5000.0          | 9.000           | L1   | 9.7        |
| 0.260250        | 36.12            | ---             | 61.42        | 25.30       | 5000.0          | 9.000           | L1   | 9.7        |
| 2.143500        | ---              | 24.79           | 46.00        | 21.21       | 5000.0          | 9.000           | L1   | 9.7        |
| 2.143500        | 32.45            | ---             | 56.00        | 23.55       | 5000.0          | 9.000           | L1   | 9.7        |
| 4.488000        | ---              | 24.33           | 46.00        | 21.67       | 5000.0          | 9.000           | L1   | 9.8        |
| 4.488000        | 31.62            | ---             | 56.00        | 24.38       | 5000.0          | 9.000           | L1   | 9.8        |
| 9.453750        | ---              | 25.30           | 50.00        | 24.70       | 5000.0          | 9.000           | L1   | 9.8        |
| 9.453750        | 33.75            | ---             | 60.00        | 26.25       | 5000.0          | 9.000           | L1   | 9.8        |

#### N-Line Conducted Emission



#### Final Result

| Frequency (MHz) | QuasiPeak (dBμV) | CAverage (dBμV) | Limit (dBμV) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Line | Corr. (dB) |
|-----------------|------------------|-----------------|--------------|-------------|-----------------|-----------------|------|------------|
| 0.159000        | ---              | 36.79           | 55.52        | 18.73       | 5000.0          | 9.000           | N    | 9.9        |
| 0.159000        | 51.29            | ---             | 65.52        | 14.23       | 5000.0          | 9.000           | N    | 9.9        |
| 0.181500        | ---              | 27.13           | 54.42        | 27.29       | 5000.0          | 9.000           | N    | 10.0       |
| 0.181500        | 46.01            | ---             | 64.42        | 18.40       | 5000.0          | 9.000           | N    | 10.0       |
| 0.201750        | ---              | 34.91           | 53.54        | 18.63       | 5000.0          | 9.000           | N    | 9.9        |
| 0.201750        | 46.29            | ---             | 63.54        | 17.25       | 5000.0          | 9.000           | N    | 9.9        |
| 0.449250        | ---              | 27.29           | 46.89        | 19.60       | 5000.0          | 9.000           | N    | 10.0       |
| 0.449250        | 34.96            | ---             | 56.89        | 21.93       | 5000.0          | 9.000           | N    | 10.0       |
| 2.447250        | ---              | 24.00           | 46.00        | 22.00       | 5000.0          | 9.000           | N    | 9.8        |
| 2.447250        | 32.56            | ---             | 56.00        | 23.44       | 5000.0          | 9.000           | N    | 9.8        |
| 21.196500       | ---              | 32.27           | 50.00        | 17.73       | 5000.0          | 9.000           | N    | 10.1       |
| 21.196500       | 37.73            | ---             | 60.00        | 22.27       | 5000.0          | 9.000           | N    | 10.1       |



## 5. Used equipment

|   | Description              | Model Name           | Manufacturer    | Serial Number | Next Cal   |
|---|--------------------------|----------------------|-----------------|---------------|------------|
| ■ | SIGNAL GENERATOR         | SMB100A              | ROHDE & SCHWARZ | 180607        | 2026-02-24 |
| ■ | SPECTRUM ANALYZER        | FSV40-N              | ROHDE & SCHWARZ | 101936        | 2026-02-24 |
| ■ | DC BLOCK                 | PDCB-00012650-SMSF-3 | PSATEK INC.     | -             | 2026-03-04 |
| ■ | DC POWER SUPPLY          | E3632A               | AGILANT         | MY51300069    | 2026-02-24 |
| ■ | LOOP ANTENNA             | HFH2-Z2              | ROHDE & SCHWARZ | 100271        | 2027-03-04 |
| ■ | TRILOG BROADBAND ANTENNA | VULB 9162            | SCHWARZBECK     | 142           | 2027-03-01 |
| ■ | RF Pre Amplifier         | SCU08                | ROHDE&SCHWARZ   | 100744        | 2026-03-24 |
| ■ | EMI TEST RECEIVER        | ESR26                | ROHDE&SCHWARZ   | 101461        | 2026-03-24 |
| ■ | HORN ANTENNA             | HF907                | ROHDE & SCHWARZ | 102556        | 2025-07-25 |
| ■ | RF Pre Amplifier         | SCU18                | ROHDE & SCHWARZ | 102342        | 2026-03-24 |
| ■ | EMI Test Receiver        | ESR26                | ROHDE & SCHWARZ | 101462        | 2026-03-24 |
| ■ | HORN ANTENNA             | DRH0844              | RF SPIN         | KV2E08A0844   | 2026-03-07 |
| ■ | AMPLIFIER                | ELNA40-50            | EXYNOD          | 631300        | 2026-03-04 |

**- END OF REPORT.**