# JAPAN TESTREPORT

Report No:STS1903109W02

Issued for

Particle Industries,Inc

126 Post St,4th floor, San Francisco,CA 94108 USA

| | |
|---|---|
| **Product Name:** | Argon |
| **Brand Name:** | N/A |
| **Test Model Name:** | ARGN |
| **Series Model:** | N/A |
| **Test Standard:** | Article 2 Paragraph 1 of Item 19, annex 43 and annex 1 |



Shenzhen STS Test Services Co., Ltd.
1/F., Building B, Zhuoke Science Park, No.190, Chongqing Road,
Fuyong Street, Bao'an District, Shenzhen, Guangdong, China
TEL: +86-755 3688 6288 FAX: +86-755 3688 6277 E-mail:sts@stsapp.com

# TEST RESULT CERTIFICATION

**Applicant's name**.....: Particle Industries,Inc

Address .....: 126 Post St,4th floor, San Francisco,CA 94108 USA

**Manufacture's Name** .....: ABO Electronics (Shenzhen) Co., Ltd

Address .....: 2nd Floor, Building A, Block D, 99 Ind Zone, Minzhu, XiHuan Road, Shajing, Baoan, Shenzhen, PRC

**Test specification:**

Standard.....: Article 2 Paragraph 1 of Item 19, annex 43 and annex 1

**Product description**

Product name.....: Argon

Trade mark.....: N/A

Test model name.....: ARGN

Series model.....: N/A

This device described above has been tested by STS, the test results show that the equipment under test (EUT) is in compliance with Article 2 Paragraph 1 of Item 19, annex 43 and annex 1requirements. And it is applicable only to the tested sample identified in the report.
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**Date of Tests** .....:

Date of receipt of test item.....: 04 Mar. 2019

Date (s) of performance of tests.....: 04 Mar. 2019 ~ 21 Mar. 2019

Date of Issue.....: 22 Mar. 2019

Test Result.....: **Pass**

Testing Engineer : 

( Chris chen )

Technical Manager : 

( Sunday Hu )

Authorized Signatory : 

(Vita Li)

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## Revision History

| Rev. | Issue Date | Report NO. | Effect Page | Contents |
|---|---|---|---|---|
| 00 | 22 Mar. 2019 | STS1903109W02 | ALL | Initial Issue |
| | | | | |

## 1. SUMMARY OF THE TEST RESULTS

Test procedures according to the technical standards: STD-T66 V3.7

| Rule Section | Description of Test | Result | Judgement |
|---|---|---|---|
| 3.2 | Frequency Error | 2.280ppm | PASS |
| 3.2 | Occupied Bandwidth (99%)<br>Spread-spectrumBandwidth (90%) | 35.891MHz<br>31.620MHz | PASS |
| 3.2 | Unwanted Emission Intensity | -- | PASS |
| 3.2 | Power Error | -28.92% | PASS |
| 3.3 | Limitation of Collateral Emission of Receiver | -- | PASS |
| 3.6 | Transmission Radiation power | -- | PASS |
| 3.2 | Transmission Radiation Angle Width (3dB Beamwidth) | -- | PASS |
| 3.4 | Radio Interference Prevention Capability | -- | PASS |
| 3.2 | Spreading Factor | -- | PASS |
| Note(2) | Carrier Sense Capability | -- | PASS |
| 3.7 | Construction Protection Confirmation | -- | PASS |
| 3.2 | Number of carrier | -- | PASS |

NOTE:

(1)" N/A" denotes test is not applicable in this Test Report

(2) Article 2 Paragraph 1 of Item 19, annex 43 and annex 1

(3)This device has more than 1 subcarrier in 1MHz, complicances with the requirement.

## 1.1 TEST FACTORY

Shenzhen STS Test Services Co., Ltd.
Add. :1/F., Building B, Zhuoke Science Park, No.190, Chongqing Road,
Fuyong Street, Bao'an District, Shenzhen, Guangdong,China

FCC Registration No.: 625569

A2LA Certificate No.: 4338.01

## 1.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement **y** ±**U**, where expended uncertainty **U** is based on astandard uncertainty multiplied by a coverage factor of **k=2**, providing a level of confidence of approximately **95**%.

| No. | Item | Uncertainty |
|---|---|---|
| 1 | RF output power, conducted | ±0.71dB |
| 2 | Unwanted Emissions, conducted | ±0.63dB |

## 2. GENERAL INFORMATION

### 2.1 GENERAL DESCRIPTION OF THE EUT

| | |
|---|---|
| Equipment | Argon |
| Brand Name | N/A |
| Model Name | ARGN |
| Series Model | N/A |
| Model Difference | N/A |
| Product Description | The EUT is a Argon |

| | |
|---|---|
| Operation Frequency: | 802.11b/g/n 20: 2412~2472 MHz<br>802.11n(40MHz):2422~2462MHz |
| Modulation Type: | 802.11b(DSSS):CCK,DQPSK,DBPSK<br>802.11g(OFDM):BPSK,QPSK,16-QAM,64-QAM<br>802.11n(OFDM):BPSK,QPSK,16-QAM,64-QAM |
| Bit Rate of Transmitter: | 802.11b:11/5.5/2/1 Mbps<br>802.11g:54/48/36/24/18/12/9/6Mbps<br>802.11n(20MHz):<br>MCS7~MCS0:65/58.5/52/39/26/19.5/13/6.5Mbps<br>802.11n(40MHz):<br>MCS7~MCS0:135/121.5/108/81/54/40.5/27/13.5Mbps |
| Number of Channel: | 802.11b/g/n20: 13CH<br>802.11n 40: 9CH |
| Antenna Designation: | Please see Note 4. |
| AntennaGain (dBi): | 2dBi |
| Antenna Power: | 802.11b: 8.515mW/MHz<br>802.11g: 6.320 mW/MHz<br>802.11n(20MHz): 6.209 mW/MHz<br>802.11n(40MHz): 3.232 mW/MHz |
| Declare power: | 802.11b: 9.000mW/MHz<br>802.11g: 6.500 mW/MHz<br>802.11n(20MHz): 6.500 mW/MHz<br>802.11n(40MHz): 3.500 mW/MHz |
| Duty Cycle: | >98% |

Based on the application, features, or specification exhibited in User's Manual, the EUT is considered as an ITE/Computing Device. More details of EUT technical specification, please refer to the User's Manual.

| | |
|---|---|
| Channel List | Please refer to the Note 2. |
| Battery | Rated Voltage: 3.7V<br>Capacity: 1800mAh, 6.66Wh |
| Hardware version | N/A |
| Software version | N/A |

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.

2

| Operation Frequency of channel | | | |
|---|---|---|---|
| 802.11b/g/n(20MHz) | | Channel List for 802.11n(40MHz) | |
| Channel | Frequency | Channel | Frequency |
| 01 | 2412 | 03 | 2422 |
| 02 | 2417 | 04 | 2427 |
| 03 | 2422 | 05 | 2432 |
| 04 | 2427 | 06 | 2437 |
| 05 | 2432 | 07 | 2442 |
| 06 | 2437 | 08 | 2447 |
| 07 | 2442 | 09 | 2452 |
| 08 | 2447 | 10 | 2457 |
| 09 | 2452 | 11 | 2462 |
| 10 | 2457 | | |
| 11 | 2462 | | |
| 12 | 2467 | | |
| 13 | 2472 | | |

3 Note:
regards to the operating frequency range over 10 MHz, the Lowest frequency, themiddle frequency, and the highest frequency of channel were selected to perform the test, and the selectedchannel see below:
Carrier Frequency Channel

2.4GHz Test Frequency:

| For 802.11b/g/n (HT20) | | For 802.11n (HT40) | |
|---|---|---|---|
| Channel | Freq.(MHz) | Channel | Freq.(MHz) |
| 01 | 2412 | 03 | 2422 |
| 07 | 2442 | 07 | 2442 |
| 13 | 2472 | 11 | 2462 |

4

| Ant. | Antenna Brand | Antenna Model | Antenna Type | Connector | Gain (dBi) | NOTE |
|---|---|---|---|---|---|---|
| 1 | N/A | N/A | PIFA | N/A | 2 dBi | WIFI Antenna |

## 2.2 DESCRIPTION OF THE TEST MODES

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

| Worst Mode | Description | Data Rate |
|---|---|---|
| Mode 1 | TX IEEE 802.11b CH1 | 1 Mbps |
| Mode 2 | TX IEEE 802.11b CH7 | 1 Mbps |
| Mode 3 | TX IEEE 802.11 b CH13 | 1 Mbps |
| Mode 4 | TX IEEE 802.11g CH1 | 6 Mbps |
| Mode 5 | TX IEEE 802.11g CH7 | 6 Mbps |
| Mode 6 | TX IEEE 802.11g CH13 | 6 Mbps |
| Mode 7 | TX IEEE 802.11n HT20 CH1 | MCS 0 |
| Mode 8 | TX IEEE 802.11n HT20 CH7 | MCS 0 |
| Mode 9 | TX IEEE 802.11n HT20 CH13 | MCS 0 |
| Mode 10 | TX IEEE 802.11n HT40 CH3 | MCS 0 |
| Mode 11 | TX IEEE 802.11n HT40 CH7 | MCS 0 |
| Mode 12 | TX IEEE 802.11n HT40 CH11 | MCS 0 |

## 2.3 TABLE FOR PARAMETERS OF THE TEST SOFTWARE SETTING

During testing,channel &power controlling software provided by the customer was used to control the operating channel as well as the output power level.the RF output power selection is for the setting of RF output power expected by the customer and going to be fixed on the firmware of the final end product.

| Test Software Version | Ssh,Telnet And Rlogin Client Diagnostic program 0.63.10029.0 | | |
|---|---|---|---|
| Frequency | 2412MHz | 2442MHz | 2472MHz |
| IEEE 802.11b(20M) | DEF | DEF | DEF |
| IEEE 802.11g(20M) | DE6 | DE6 | DE6 |
| IEEE 802.11n(20M) | DE6 | DE6 | DE6 |
| Frequency | 2422MHz | 2442MHz | 2462MHz |
| IEEE 802.11n(40M) | DE6 | DE6 | DE6 |

## 2.4 TEST CONDITIONS

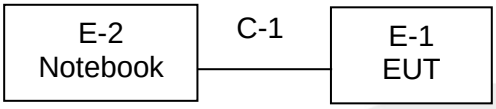
The WIFI module was tested while in a continuous transmitter/receiver mode.
The EUT was tuned to a low, middle, and high channel for all tests. For all test case pre/scans were completed in allModes to determine worst case levels.

Power Supply Voltage Fluctuation Test

| Voltage Fluctuation Test | Normal Voltage |
|---|---|
| Input DC Power | 3.7 |

## 2.5 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

Mode 1:




## 2.6 DESCRIPTION OF NECESSARY ACCESSORIES AND SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Necessary accessories

| Item | Equipment | Mfr/Brand | Model/Type No. | Serial No. | Note |
|---|---|---|---|---|---|
| N/A | N/A | N/A | N/A | N/A | N/A |
| | | | | | |
| | | | | | |

Support units

| Item | Equipment | Mfr/Brand | Model/Type No. | Serial No. | Note |
|---|---|---|---|---|---|
| E-2 | Notebook | HP | 500-320cx | N/A | N/A |
| C-1 | USB Cable | N/A | 100cm | N/A | N/A |
| | | | | | |

Note:

(1) The support equipment was authorized by Declaration of Confirmation.
(2) For detachable type I/O cable should be specified the length in cm in『Length』column.
(3) “YES” is means “shielded”“with core”; “NO” is means “unshielded”“without core”.

## 2.7 EQUIPMENTS LIST FOR ALL TEST ITEMS

**Test equipment**

| Kind of Equipment | Manufacturer | Type No. | Serial No. | Last calibration | Calibrated until |
|---|---|---|---|---|---|
| USB RF power sensor | DARE | RPR3006W | 15I00041SNO03 | 2018.10.13 | 2019.10.12 |
| Signal Generator | Agilent | N5182A | MY46240556 | 2018.10.16 | 2019.10.15 |
| Signal Analyzer | Agilent | N9020A | MY49100060 | 2018.10.13 | 2019.10.12 |
| Wireless Communications Test Set | R&S | CMW 500 | 133884 | 2019.03.02 | 2020.03.01 |
| Temperature & Humidity | HH660 | Mieo | N/A | 2018.10.11 | 2019.10.10 |
| Temperature& Humidity test chamber | Safety test | GDS-250 | 171200018 | 2019.03.02 | 2020.03.01 |
| programmable power supply | Agilent | E3642A | MY40002025 | 2018.10.13 | 2019.10.12 |
| Attenuator | HP | 8494B | DC-18G | 2018.05.07 | 2019.05.06 |

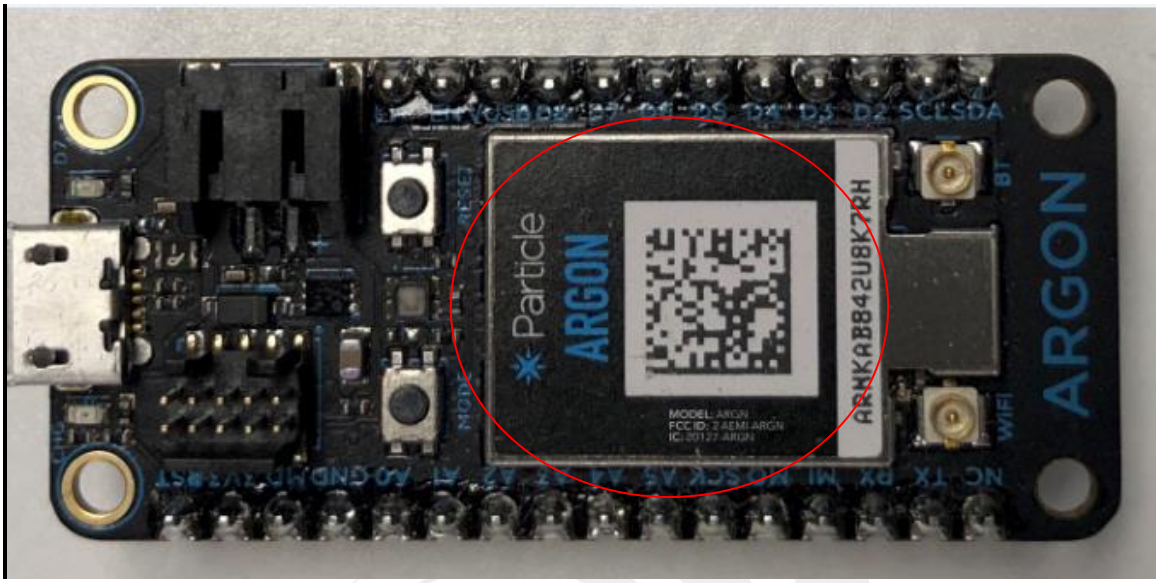
**Test Equipment Calibration**

All of the test equipment is effective use and calibration certification institution, GRGT, the address is 163 tianhe district in huangpu road xiping cloud road.Guangzhou, China

Note: All equipment is calibrated and traceable to ISO17025.

## 3. CONSTRUCTION PROTECTION CONFIRMATION

*Our products apply for Japanese radio frequency (rf) certification. The RF IC is sheided by the shieding cover which is welded on the PCB, it can't be removed easily.*



# 4. FREQUENCY ERROR

## 4.1 LIMIT

| Item | Limits |
|---|---|
| Frequency Error | ±50ppm |

## 4.2 TEST PROCEDURES

The following table is the setting of Spectrum Analyzer.

| Spectrum Parameter | Setting |
|---|---|
| Attenuation | Auto |
| RBW / VBW | 10KHz |
| Detector | Peak |
| Trace | Max Hold |
| Sweep Time | Auto |

(1)In the case of unmodulated signal (continuous or continuous burst), measure the frequency directly by a frequency meter.

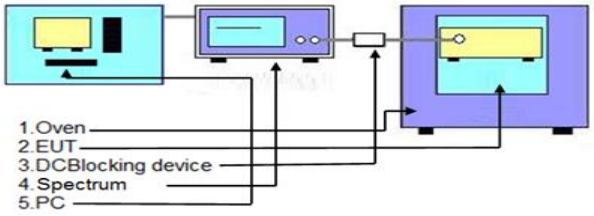
(2)In the case of burst waves, the measurement shall be done for enough time in order to obtain the enough measuring accuracy, and the average of the measured values becomes the final value.

(3)In the case of a test mode with a specific frequency spectrum, measure the frequency of the specific spectrum by a spectrum analyzer.

(4)In the cases above, if the frequency equivalent to the test frequency is not directly measured in principle, it shall be obtained by necessary calculation.

In the case of modulated signal, if there is no specific spectrum measurable by a spectrum analyzer but a specific dip is observed, it is allowed to measure the frequency with the signal generator (synthesized). That is, observe a signal of the signal generator concurrently (or alternately) with the tested signal using the spectrum analyzer while setting the frequency of the signal generator to the position of the dip on the screen of the spectrum analyzer, and determine the frequency of the signal generator at the time as a measured value.

## 4.3 TEST SETUP




## 4.4 EUT OPERATION DURING TEST

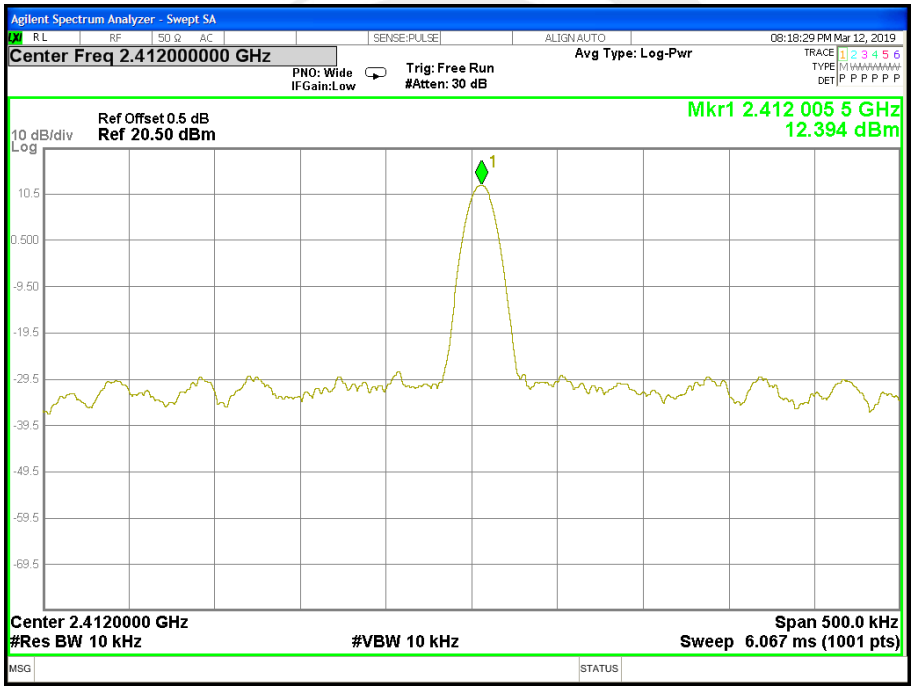
The EUT was placed on the test table and programmed in un-modulation function.

## 4.5 TEST RESULT

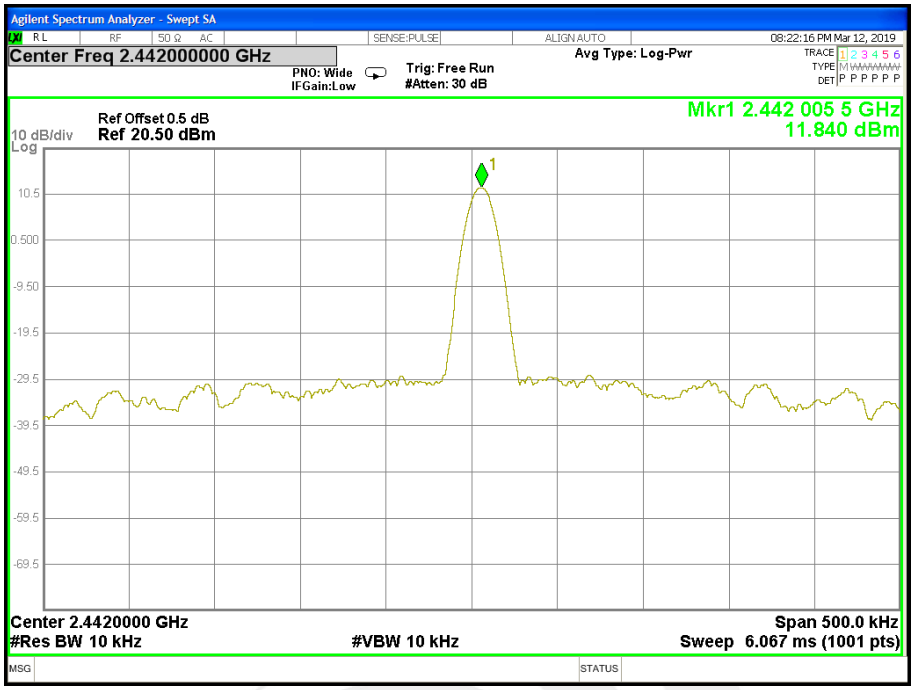
| Temperature: | 25°C | Humidity: | 55 % RH |
|---|---|---|---|
| Operation Mode: | Nor. Voltage | | |

| 11b mode | | | | | | | |
|---|---|---|---|---|---|---|---|
| TEST CONDITIONS | | Channel | Reading | Tolerance | Limit | frequency error | Limit |
| | | MHz | MHz | ppm | (ppm) | (kHz) | (KHz) |
| V nom (V) | 3.7 | 2412 | 2412.0055 | 2.280 | ±50 | 5.500 | ±120 |
| | | 2442 | 2442.0055 | 2.252 | ±50 | 5.500 | ±120 |
| | | 2472 | 2472.0055 | 2.225 | ±50 | 5.500 | ±120 |

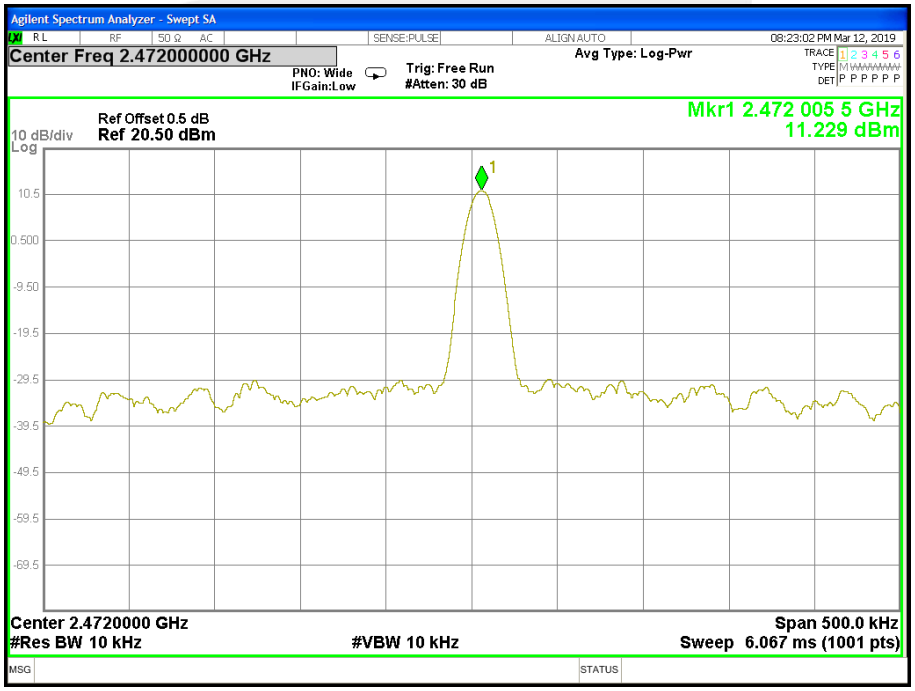
**CH01**



## CH07

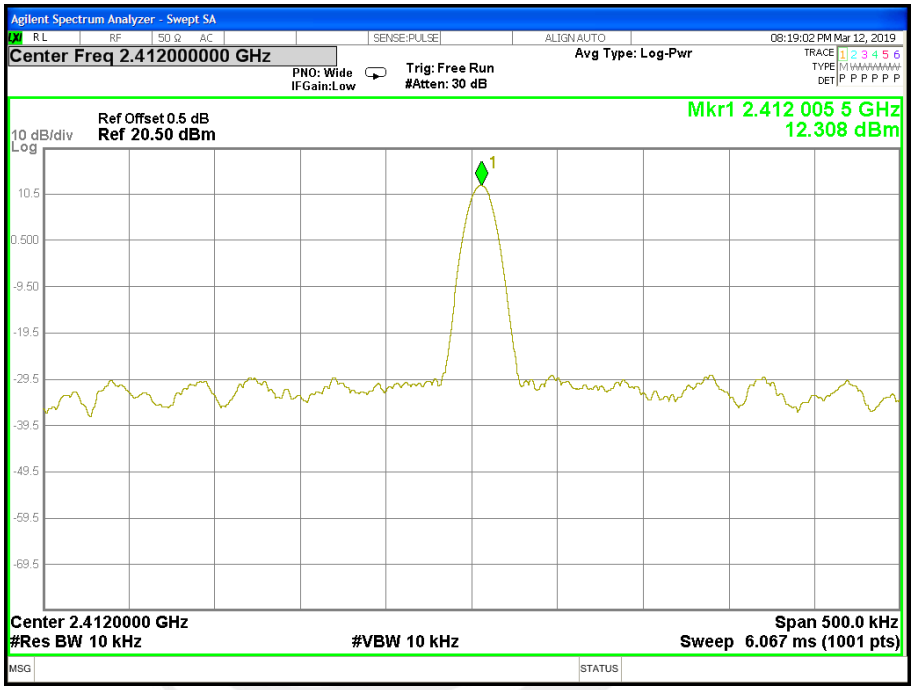

Agilent Spectrum Analyzer - Swept SA
Center Freq 2.442000000 GHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
08:22:16 PM Mar 12, 2019
Ref Offset 0.5 dB
10 dB/div
Ref 20.50 dBm
Log
Mkr1 2.442 005 5 GHz
11.840 dBm
Center 2.4420000 GHz
#Res BW 10 kHz
#VBW 10 kHz
Span 500.0 kHz
Sweep 6.067 ms (1001 pts)

## CH13

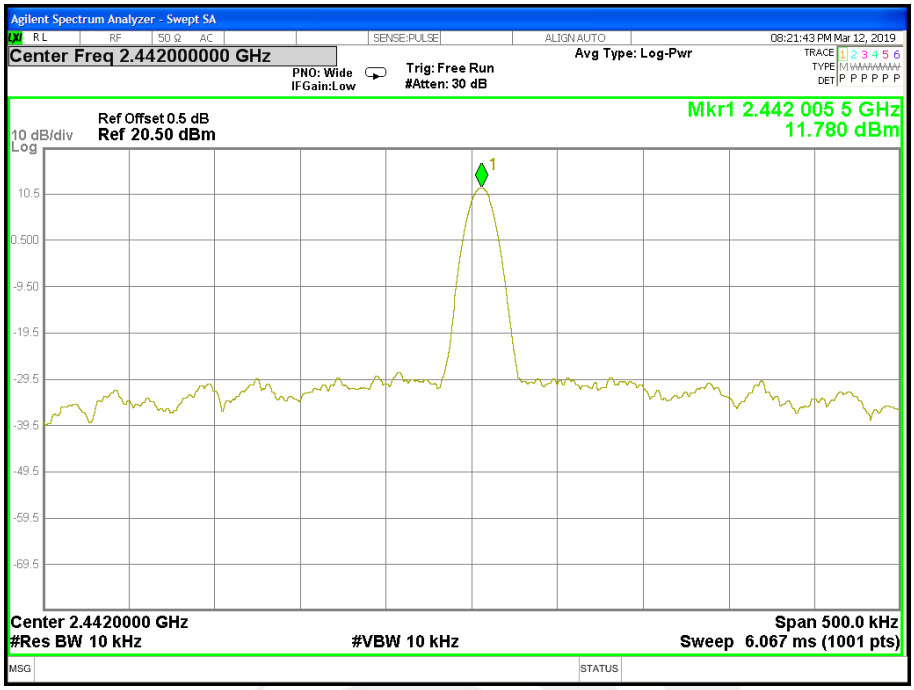

Agilent Spectrum Analyzer - Swept SA
Center Freq 2.472000000 GHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
08:23:02 PM Mar 12, 2019
Ref Offset 0.5 dB
10 dB/div
Ref 20.50 dBm
Log
Mkr1 2.472 005 5 GHz
11.229 dBm
Center 2.4720000 GHz
#Res BW 10 kHz
#VBW 10 kHz
Span 500.0 kHz
Sweep 6.067 ms (1001 pts)

| 11g mode | | | | | | | |
|---|---|---|---|---|---|---|---|
| TEST CONDITIONS | | Channel | Reading | Tolerance | Limit | frequency error | Limit |
| | | MHz | MHz | ppm | (ppm) | (kHz) | (KHz) |
| V nom (V) | 3.7 | 2412 | 2412.0055 | 2.280 | ±50 | 5.500 | ±120 |
| | | 2442 | 2442.0055 | 2.252 | ±50 | 5.500 | ±120 |
| | | 2472 | 2472.0055 | 2.225 | ±50 | 5.500 | ±120 |

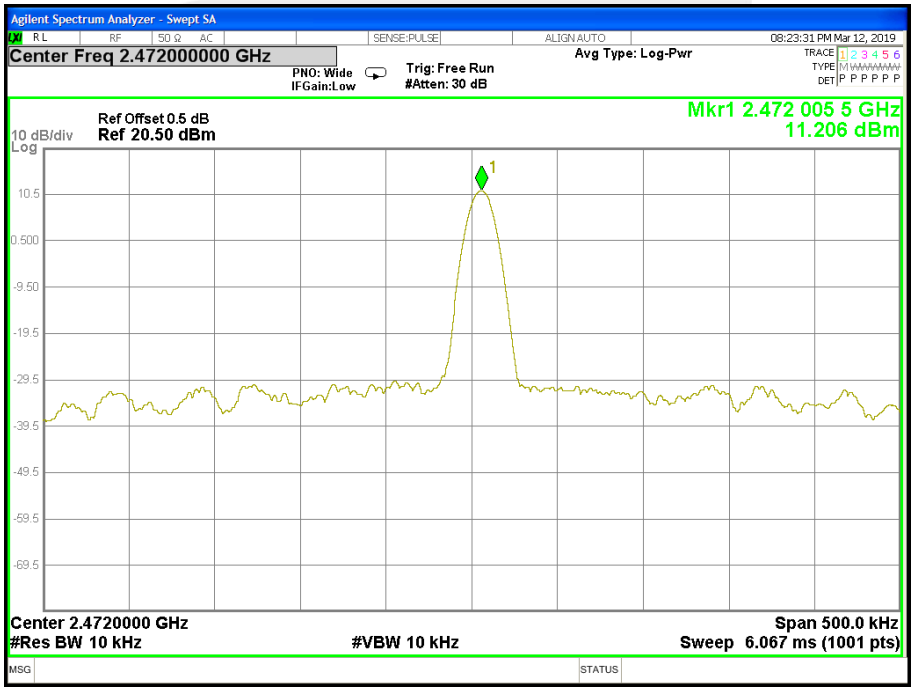
**CH01**



## CH07

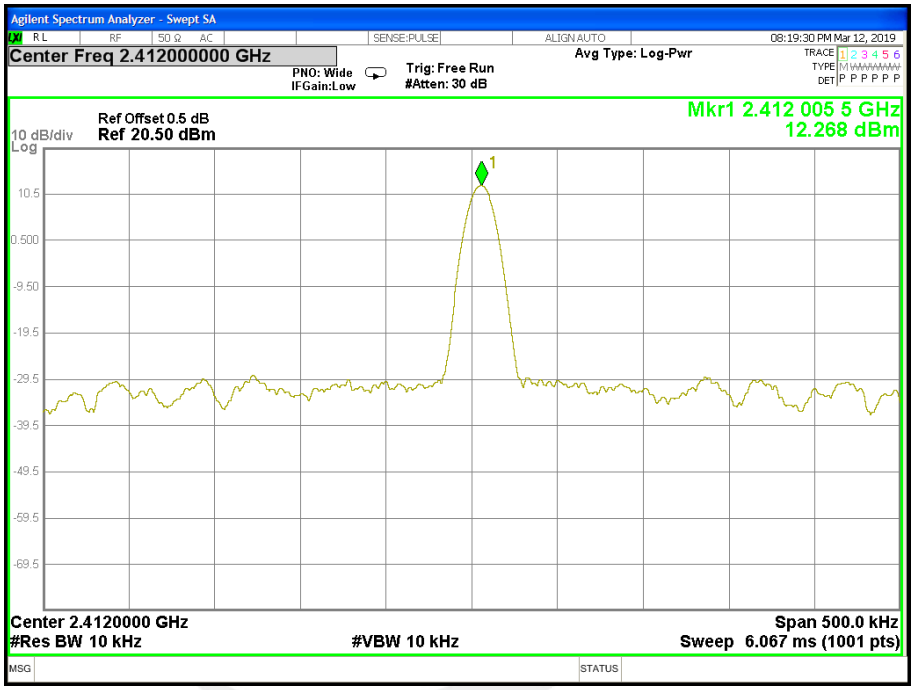

Agilent Spectrum Analyzer - Swept SA
Center Freq 2.442000000 GHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
08:21:43 PM Mar 12, 2019
Ref Offset 0.5 dB
10 dB/div
Ref 20.50 dBm
Log
Mkr1 2.442 005 5 GHz
11.780 dBm
Center 2.4420000 GHz
#Res BW 10 kHz
#VBW 10 kHz
Span 500.0 kHz
Sweep 6.067 ms (1001 pts)

## CH13

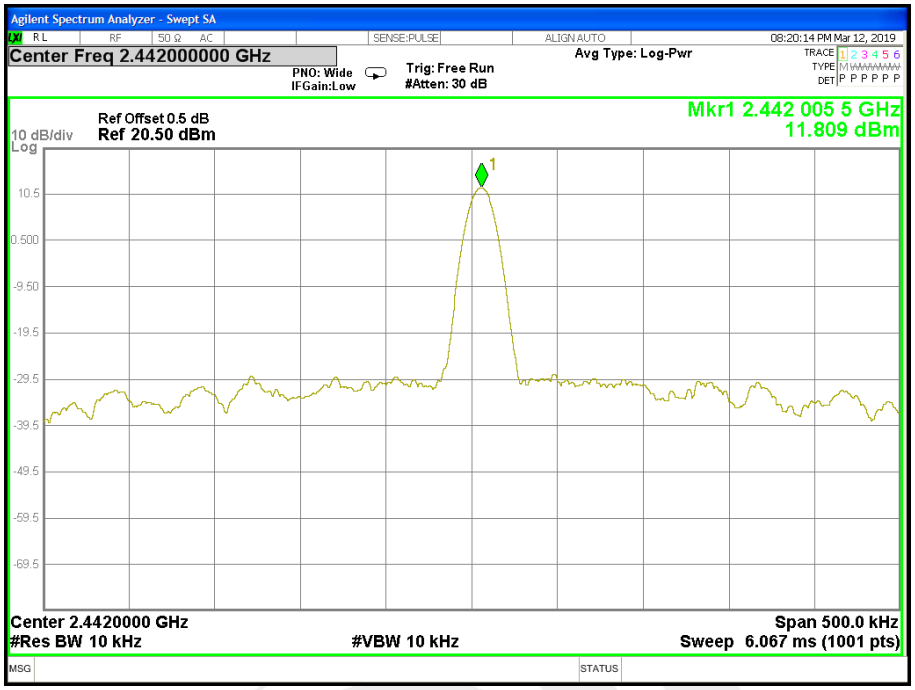

Agilent Spectrum Analyzer - Swept SA
Center Freq 2.472000000 GHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
08:23:31 PM Mar 12, 2019
Ref Offset 0.5 dB
10 dB/div
Ref 20.50 dBm
Log
Mkr1 2.472 005 5 GHz
11.206 dBm
Center 2.4720000 GHz
#Res BW 10 kHz
#VBW 10 kHz
Span 500.0 kHz
Sweep 6.067 ms (1001 pts)

| 11n20 mode | | | | | | | |
|---|---|---|---|---|---|---|---|
| TEST CONDITIONS | | Channel | Reading | Tolerance | Limit | frequency error | Limit |
| | | MHz | MHz | ppm | (ppm) | (kHz) | (KHz) |
| V nom (V) | 3.7 | 2412 | 2412.0055 | 2.280 | ±50 | 5.500 | ±120 |
| | | 2442 | 2442.0055 | 2.252 | ±50 | 5.500 | ±120 |
| | | 2472 | 2472.0055 | 2.225 | ±50 | 5.500 | ±120 |

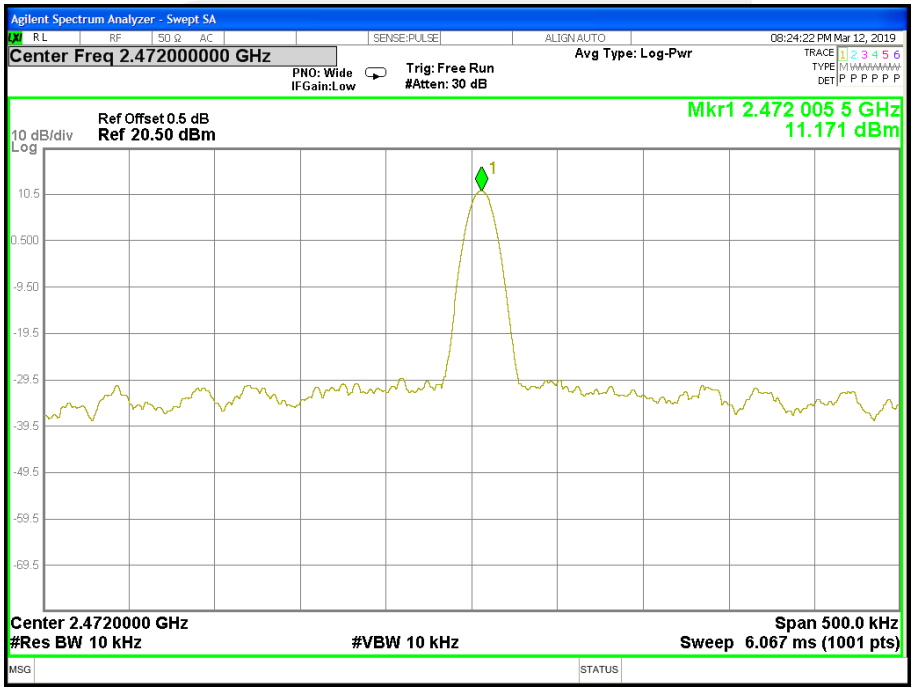
**CH01**



## CH07

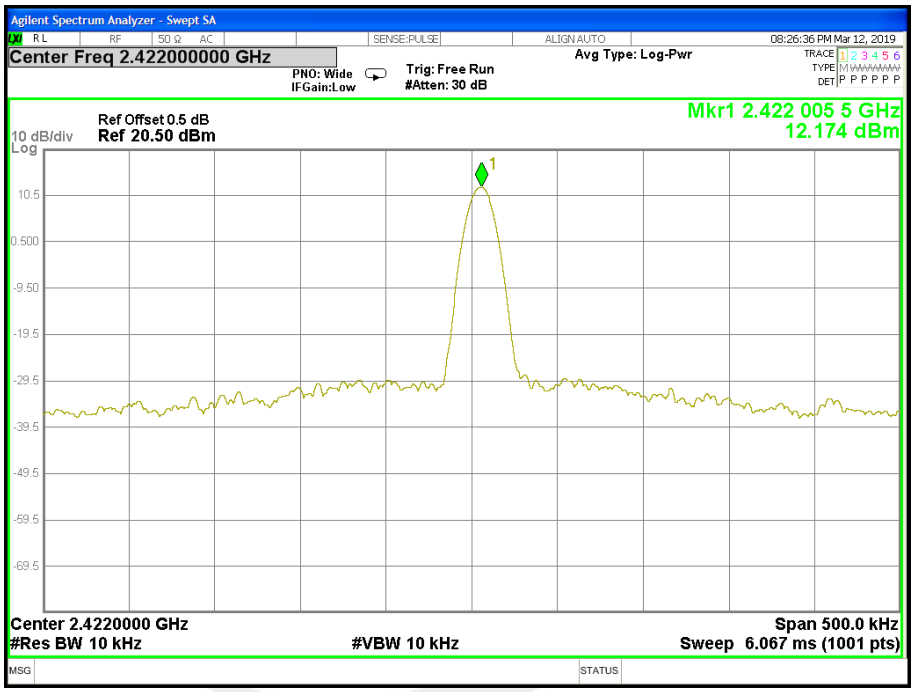

Agilent Spectrum Analyzer - Swept SA
Center Freq 2.442000000 GHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
08:20:14 PM Mar 12, 2019
Ref Offset 0.5 dB
10 dB/div
Ref 20.50 dBm
Log
Mkr1 2.442 005 5 GHz
11.809 dBm
10.5
0.500
-9.50
-19.5
-29.5
-39.5
-49.5
-59.5
-69.5
Center 2.4420000 GHz
#Res BW 10 kHz
#VBW 10 kHz
Span 500.0 kHz
Sweep 6.067 ms (1001 pts)
MSG
STATUS

## CH13

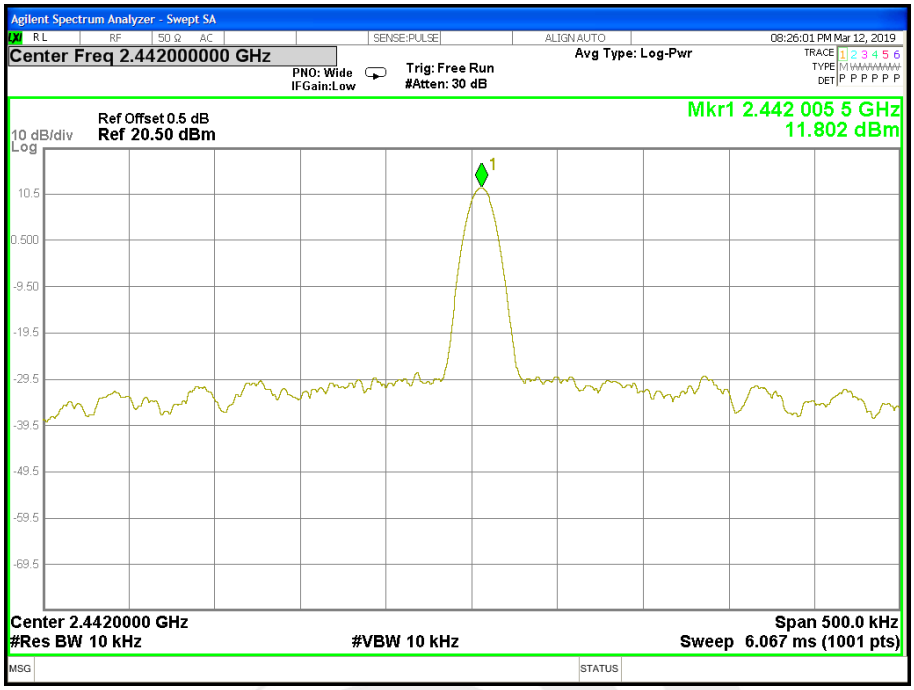

Agilent Spectrum Analyzer - Swept SA
Center Freq 2.472000000 GHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
08:24:22 PM Mar 12, 2019
Ref Offset 0.5 dB
10 dB/div
Ref 20.50 dBm
Log
Mkr1 2.472 005 5 GHz
11.171 dBm
10.5
0.500
-9.50
-19.5
-29.5
-39.5
-49.5
-59.5
-69.5
Center 2.4720000 GHz
#Res BW 10 kHz
#VBW 10 kHz
Span 500.0 kHz
Sweep 6.067 ms (1001 pts)
MSG
STATUS

| 11n40 mode | | | | | | | |
|---|---|---|---|---|---|---|---|
| TEST CONDITIONS | | Channel | Reading | Tolerance | Limit | frequency error | Limit |
| | | MHz | MHz | ppm | (ppm) | (kHz) | (KHz) |
| V nom (V) | 3.7 | 2422 | 2422.0055 | 2.271 | ±50 | 5.500 | ±120 |
| | | 2442 | 2442.0055 | 2.252 | ±50 | 5.500 | ±120 |
| | | 2462 | 2462.0055 | 2.234 | ±50 | 5.500 | ±120 |

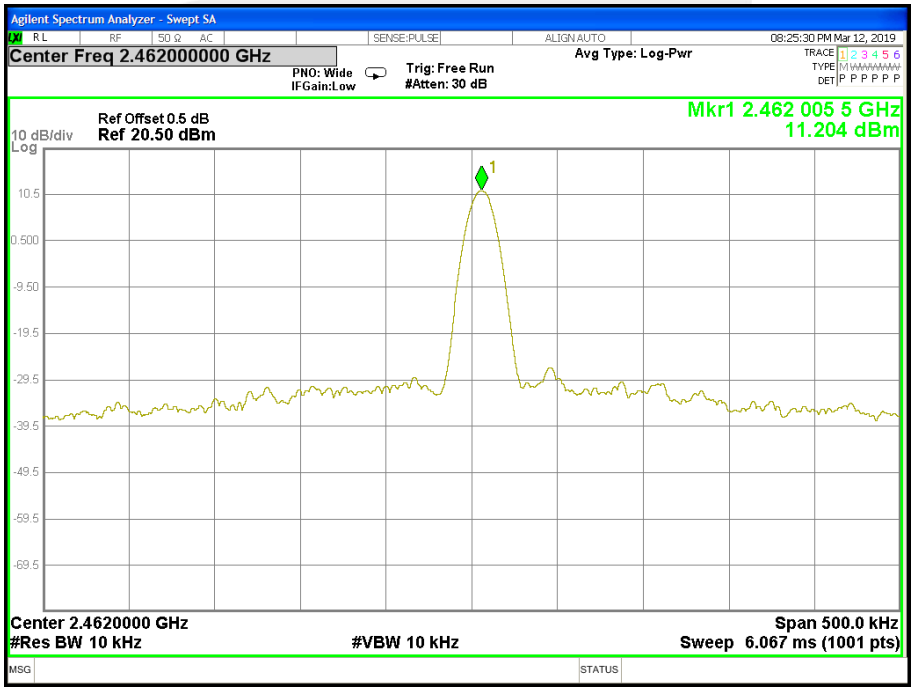
**CH03**



## CH07


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.442000000 GHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
08:26:01 PM Mar 12, 2019
Ref Offset 0.5 dB
10 dB/div
Ref 20.50 dBm
Log
Mkr1 2.442 005 5 GHz
11.802 dBm
10.5
0.500
-9.50
-19.5
-29.5
-39.5
-49.5
-59.5
-69.5
Center 2.4420000 GHz
#Res BW 10 kHz
#VBW 10 kHz
Span 500.0 kHz
Sweep 6.067 ms (1001 pts)
MSG
STATUS

## CH11


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.462000000 GHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
08:25:30 PM Mar 12, 2019
Ref Offset 0.5 dB
10 dB/div
Ref 20.50 dBm
Log
Mkr1 2.462 005 5 GHz
11.204 dBm
10.5
0.500
-9.50
-19.5
-29.5
-39.5
-49.5
-59.5
-69.5
Center 2.4620000 GHz
#Res BW 10 kHz
#VBW 10 kHz
Span 500.0 kHz
Sweep 6.067 ms (1001 pts)
MSG
STATUS

# 5. ANTENNAPOWER

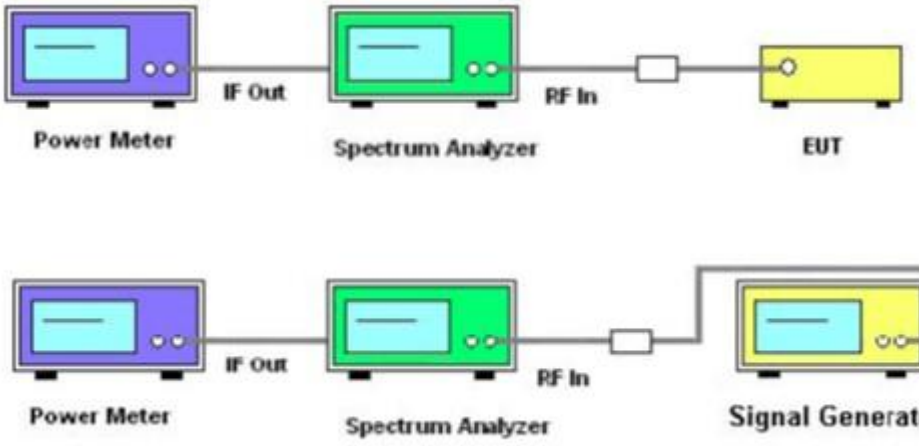
## 5.1 LIMIT

| Item | Limits |
|---|---|
| Antenna PowerDensity | ≦3mW/MHz (FH form 2400 – 2483.5 MHz)<br>≦10mW/MHz (OFDM,DS from2400~2483.5MHz,802.11b/g/n HT20)<br>≦5mW/MHz (OFDM,DS from2400~2483.5MHz,802.11n HT40)<br>≦10mW (Other from 2400~2483.5MHz) |
| Power Error | +20%, -80% (Base on manufacturer declare power) |

## 5.2 TEST PROCEDURE

1. A power meter is connected on the IF output port of the spectrum analyzer.
2. EUT turn to test frequency channel and keep continuous transmiting
3. Connected the equipment to be measured. Using the following settings of the spectrum analyzer in combination with "max hold" function, find the frequency of highest power output in the power envelope: center frequency equal to operation frequency; RBW & VBW: 1 MHz; detector mode: positive peak; averGaing: off; span: 3 times the spectrum width; amplitude: adjust for middle of the instrument' range.
4. Reading the output power from the Power meter as $P_{EUT}$
5. Turn the Signal generator to frequency channel the same as the EUT
6. Using the following settings of the spectrum analyzer in combination with "max hold" function, find the frequency of highest power output in the power envelope: center frequency equal to operation frequency; RBW & VBW: 1 MHz; detector mode: positive peak; averGaing: off; span: 3 times the spectrum width; amplitude: adjust for middle of the instrument' range.
7. Turn the level of Signal generator, scan with the power meter until the power equal to $P_{EUT}$, the level of Signal generator recorded as “P”
8. The antenna power of EUT is “P”.
9. EIRP power=“P”+antenna gain

## 5.3 TEST SETUP




## 5.4 TEST DEVIATION

There is no deviation with the original standard.

## 5.5 TEST RESULT

| Temperature: | 25°C | Humidity: | 55 % RH |
|---|---|---|---|
| Operation Mode: | Nor. Voltage-802.11b mode | | |

Antenna PowerDensity

| TEST CONDITIONS | | Channel (MHz) | Ant. output POWER (dBm/MHz) | Ant.output (mW/MHz) | Declared Power (mW/MHz) | Tolerance % |
|---|---|---|---|---|---|---|
| Vnom(V) | 3.7 | 2412 | 9.302 | 8.515 | 9.0000 | -5.39 |
| | | 2442 | 8.752 | 7.502 | 9.0000 | -16.64 |
| | | 2472 | 8.292 | 6.748 | 9.0000 | -25.02 |
| **Limit :**(1) Antenna PowerDensityLimit(10mW/MHz)<br>(2) Tolerance +20%, -80% (Base on manufacturer declare Antenna PowerDensity) | | | | | | |

| Temperature: | 25°C | Humidity: | 55 % RH |
|---|---|---|---|
| Operation Mode: | Nor. Voltage-802.11g mode | | |

Antenna PowerDensity

| TEST CONDITIONS | | Channel (MHz) | Ant. output POWER (dBm/MHz) | Ant. output (mW/MHz) | Declared Power (mW/MHz) | Tolerance % |
|---|---|---|---|---|---|---|
| Vnom(V) | 3.7 | 2412 | 8.007 | 6.320 | 6.5000 | -2.77 |
| | | 2442 | 7.530 | 5.662 | 6.5000 | -12.89 |
| | | 2472 | 6.914 | 4.914 | 6.5000 | -24.41 |
| **Limit :**(1) Antenna PowerDensityLimit(10mW/MHz)<br>(2) Tolerance +20%, -80% (Base on manufacturer declare Antenna PowerDensity) | | | | | | |

| | | | |
|---|---|---|---|
| Temperature: | 25°C | Humidity: | 55 % RH |
| Operation Mode: | Nor. Voltage-802.11n20 mode | | |

Antenna PowerDensity

| TEST CONDITIONS | | Channel (MHz) | Ant. output POWER (dBm/MHz) | Ant. output (mW/MHz) | Declared Power (mW/MHz) | Tolerance % |
|---|---|---|---|---|---|---|
| Vnom(V) | 3.7 | 2412 | 7.930 | 6.209 | 6.5000 | -4.48 |
| | | 2442 | 7.489 | 5.609 | 6.5000 | -13.70 |
| | | 2472 | 6.991 | 5.001 | 6.5000 | -23.05 |
| **Limit :**(1) Antenna PowerDensityLimit(10mW/MHz)<br>(2) Tolerance +20%, -80% (Base on manufacturer declare Antenna PowerDensity) | | | | | | |

| | | | |
|---|---|---|---|
| Temperature: | 25°C | Humidity: | 55 % RH |
| Operation Mode: | Nor. Voltage-802.11n40 mode | | |

Antenna PowerDensity

| TEST CONDITIONS | | Channel (MHz) | Ant. output POWER (dBm/MHz) | Ant. output (mW/MHz) | Declared Power (mW/MHz) | Tolerance % |
|---|---|---|---|---|---|---|
| Vnom(V) | 3.7 | 2422 | 5.095 | 3.232 | 3.5000 | -7.65 |
| | | 2442 | 4.688 | 2.943 | 3.5000 | -15.91 |
| | | 2462 | 3.958 | 2.488 | 3.5000 | -28.92 |
| **Limit :**(1) Antenna PowerDensityLimit(5mW/MHz)<br>(2) Tolerance +20%, -80% (Base on manufacturer declare Antenna PowerDensity) | | | | | | |

# 6. EIRP POWER

## 6.1 LIMIT

| Item | Limits |
|---|---|
| Radiation powerEIRP | FH form 2400 – 2483.5MHz,EIRP≦6.91dBm/MHz<br>CCK/OFDM/DBPSK (2400~2483.5MHz)<br>OFDM or DS other than (802.11b/g/n HT20) EIRP≦12.14 dBm/MHz<br>OFDM or DS other than (802.11n HT40) EIRP≦9.13dBm/MHz<br>Other from 2400~2483.5MHz: 12.14 dBm or less |
| Power Error | +20%, -80% (Base on manufacturer declare power) |

## 6.2 TEST RESULT

Note: The antenna gain is less than 2.14dBi, no requirement.

# 7. OCCUPIED BANDWITH AND SPREADING BANDWIDTH

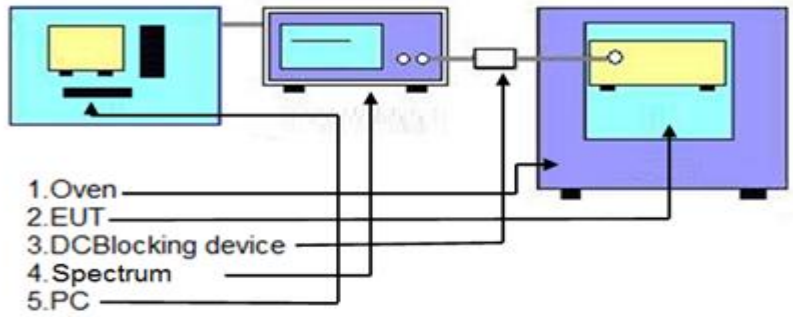
## 7.1 LIMIT

| Item | Limits |
|---|---|
| Occupied Band Width: | 83.5MHz for FHSS; 26MHz for DSSS and OFDM; 38MHz for OFDM(HT 40) |
| Spreading Bandwidth: | ≧500 kHz (FH, DS) |

## 7.2 TEST PROCEDURES

1. EUT have transmitted the maximum modulation signal and fixed channelize ( For DSSS or OFDM Device) or continuous maximum power of hopping mode(For FHSS Device). SA set to 99% of occupied bandwidth to measure occupied bandwidth. The limit is less than 26MHz(For DSSS or OFDM Device),83.5MHz(For FHSS Device) or 38MHz (For OFDM(HT 40)).
2. SA set to 90% of occupied bandwidth to measure Spread Spectrum Bandwidth and must greater than 500kHz.

## 7.3 TEST SETUP




## 7.4 TEST DEVIATION

There is no deviation with the original standard.

## 7.5 EUT OPERATION DURING TEST

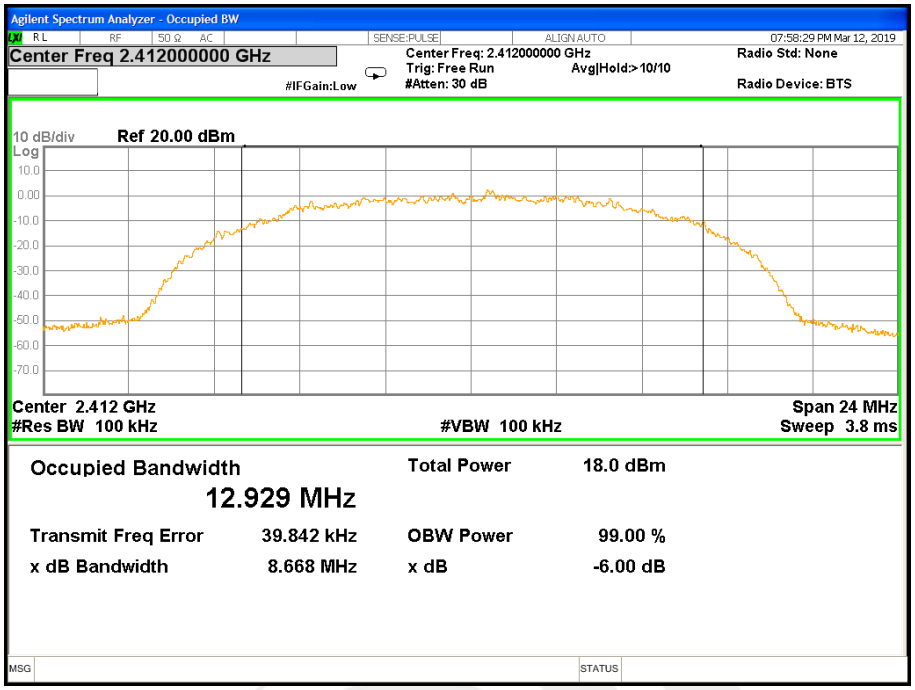
The EUT was programmed to be in continuously transmitting mode.

## 7.6 TEST RESULT

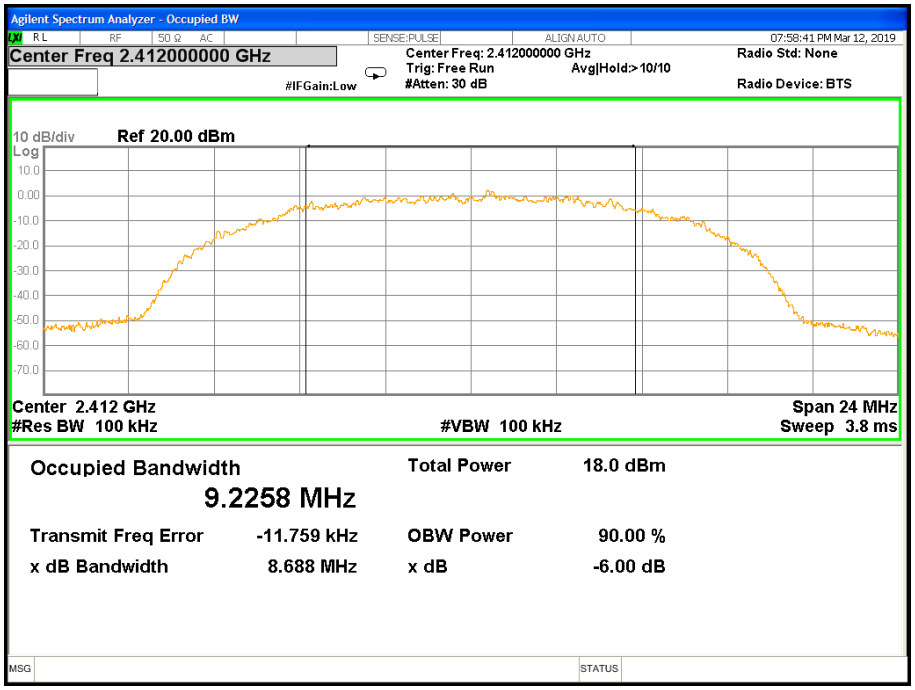
| Temperature: | 25$^0$C | Humidity: | 55 % RH |
|---|---|---|---|
| Operation Mode: | Nor.Voltage-802.11b mode | | |

| DC Voltage | | Channel (MHz) | Occupied Bandwidth(MHz) | Spreading Bandwidth(MHz) |
|---|---|---|---|---|
| Vnom(V) | 3.7 | 2412 | 12.929 | 9.226 |
| | | 2442 | 12.924 | 9.226 |
| | | 2472 | 12.940 | 9.216 |

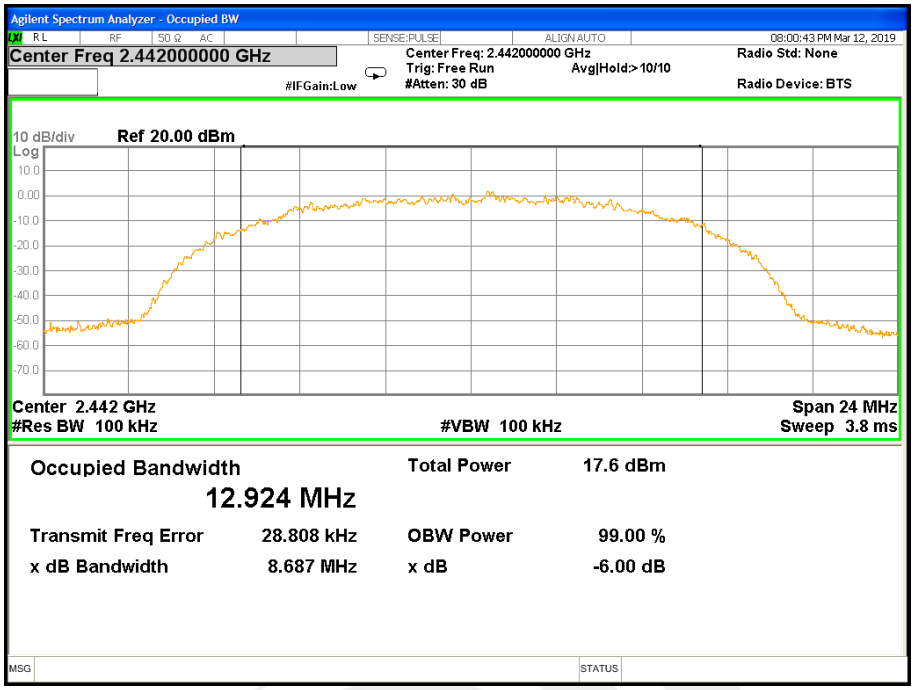
## CH1-Occupied Bandwidth (99%)-b Mode



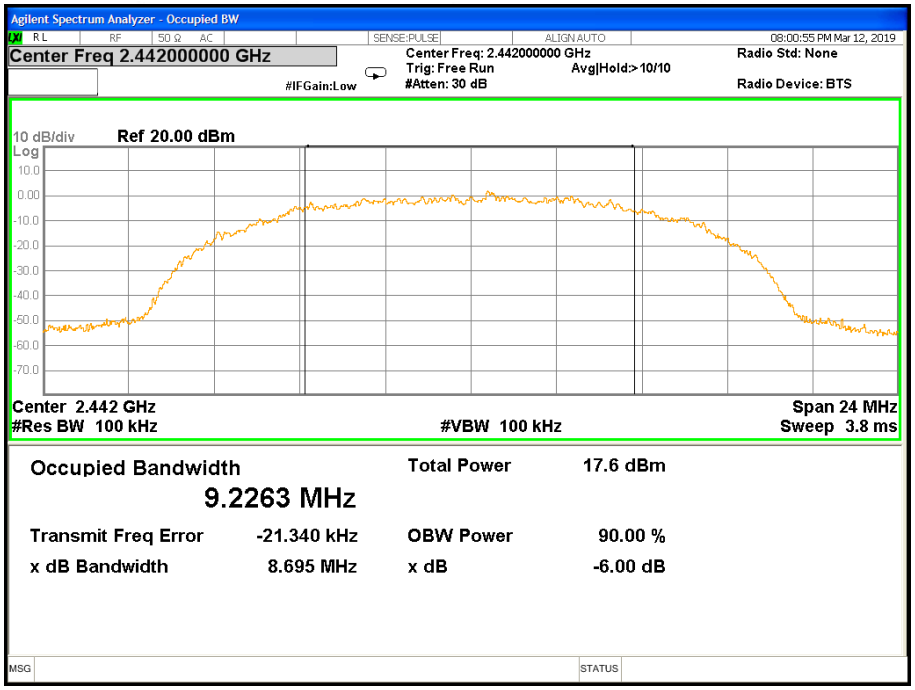

## CH1-Spread Bandwidth (90%)-b Mode



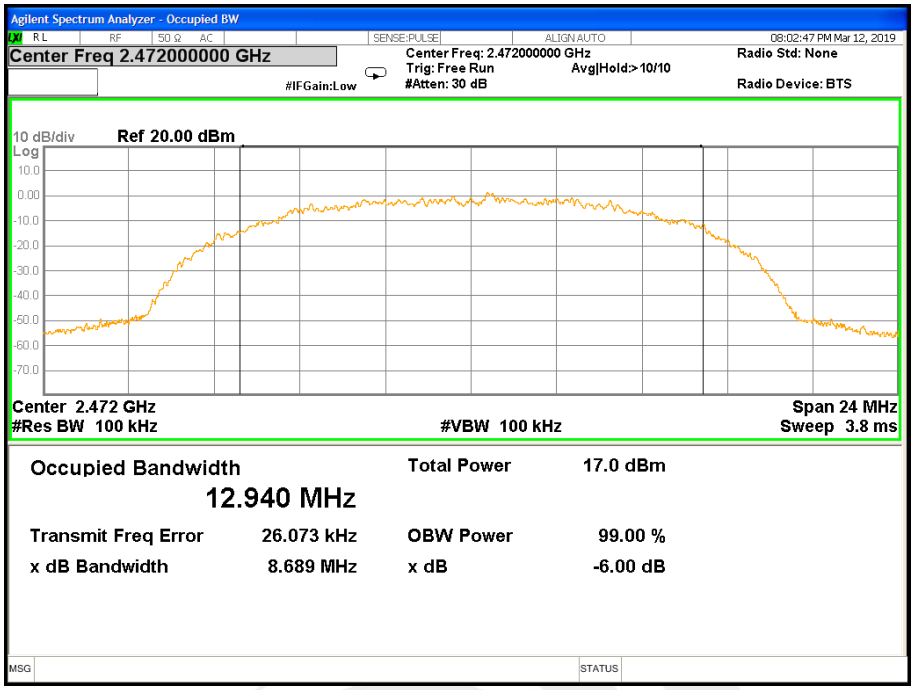
## CH7-Occupied Bandwidth (99%)-b Mode



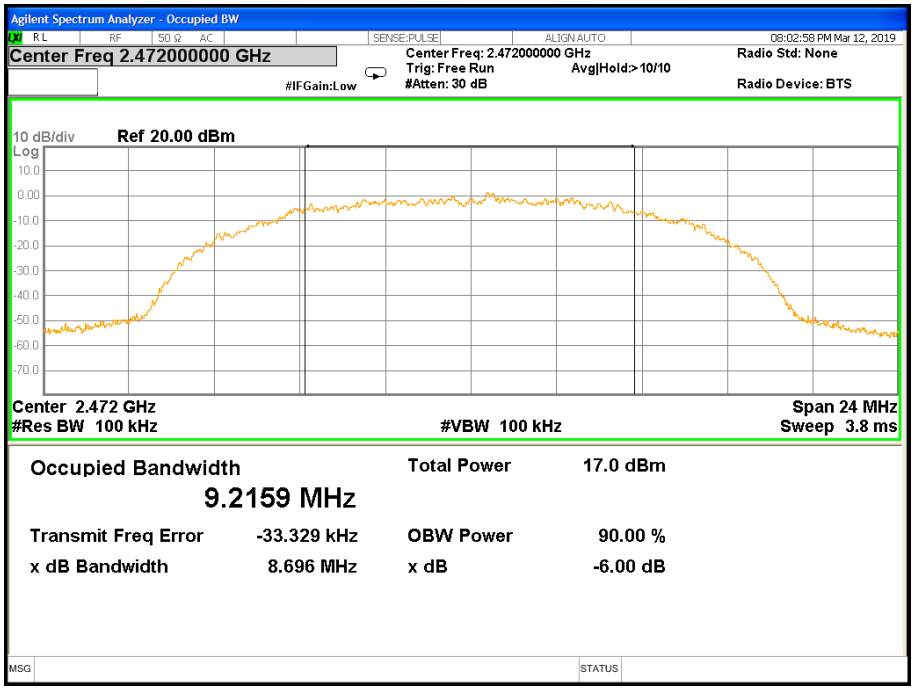

## CH7-Spread Bandwidth (90%)-b Mode



## CH13-Occupied Bandwidth (99%)-b Mode



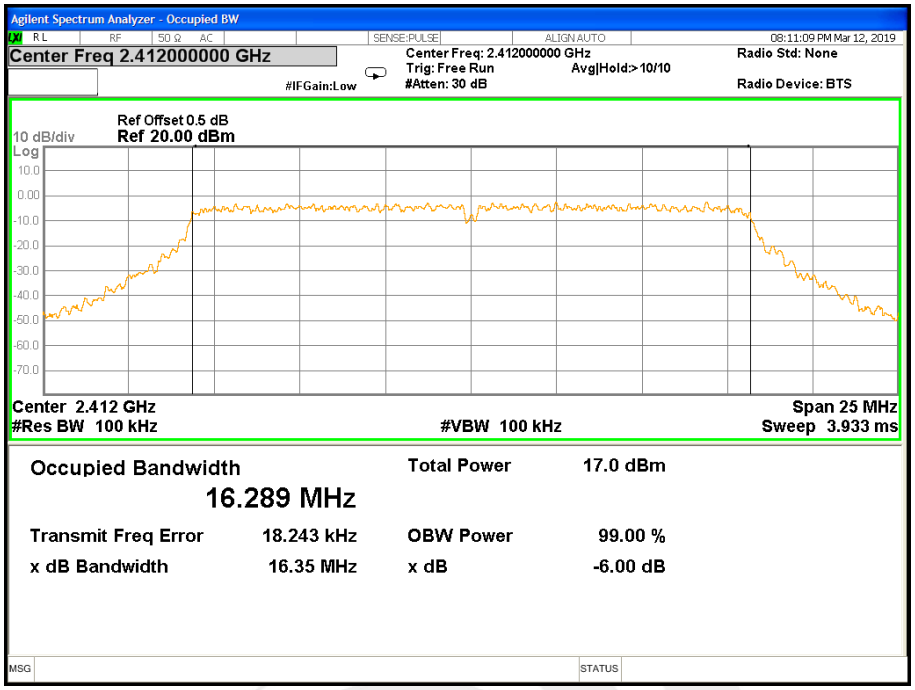

## CH13-Spread Bandwidth (90%)-b Mode



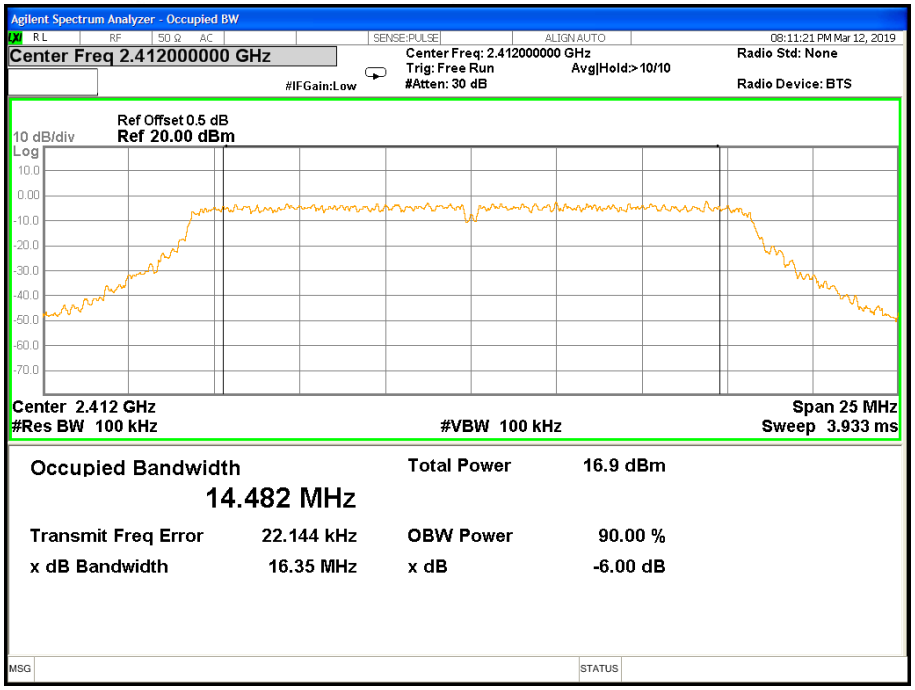
| | | | |
|---|---|---|---|
| Temperature: | 25°C | Humidity: | 55 % RH |
| Operation Mode: | Nor.Voltage-802.11g mode | | |

| DC Voltage | | Channel (MHz) | Occupied Bandwidth(MHz) | Spreading Bandwidth(MHz) |
|---|---|---|---|---|
| Vnom(V) | 3.7 | 2412 | 16.289 | 14.482 |
| | | 2442 | 16.288 | 14.477 |
| | | 2472 | 16.291 | 14.485 |

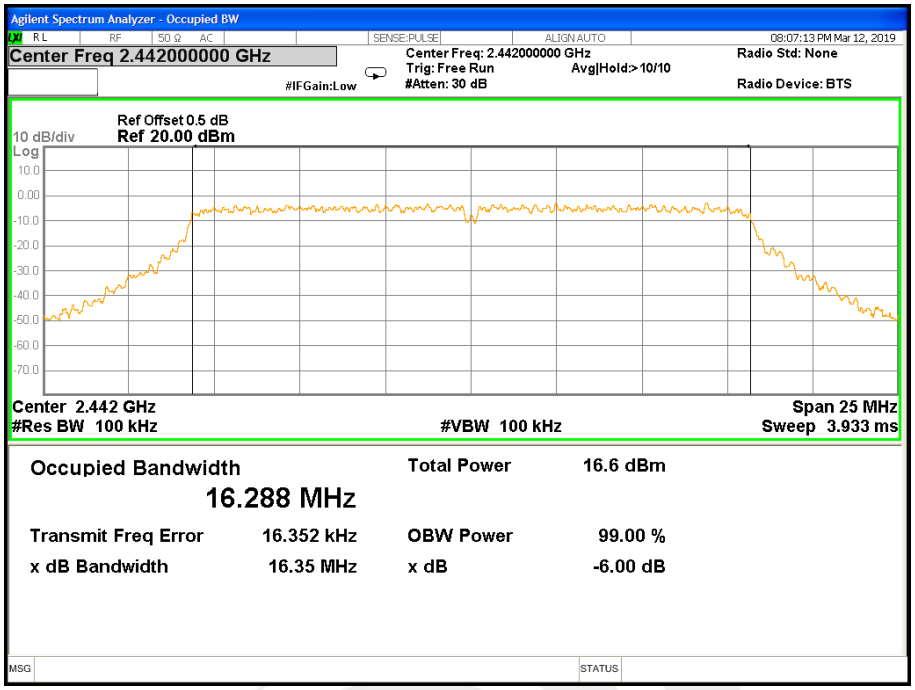
## CH1-Occupied Bandwidth (99%)-g Mode



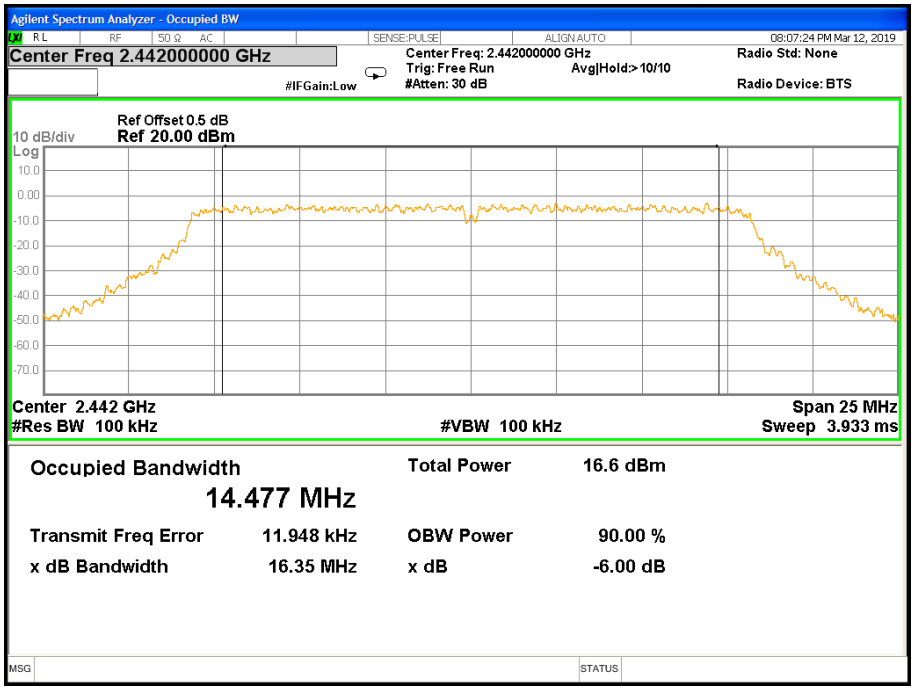

## CH1-Spread Bandwidth (90%)-g Mode



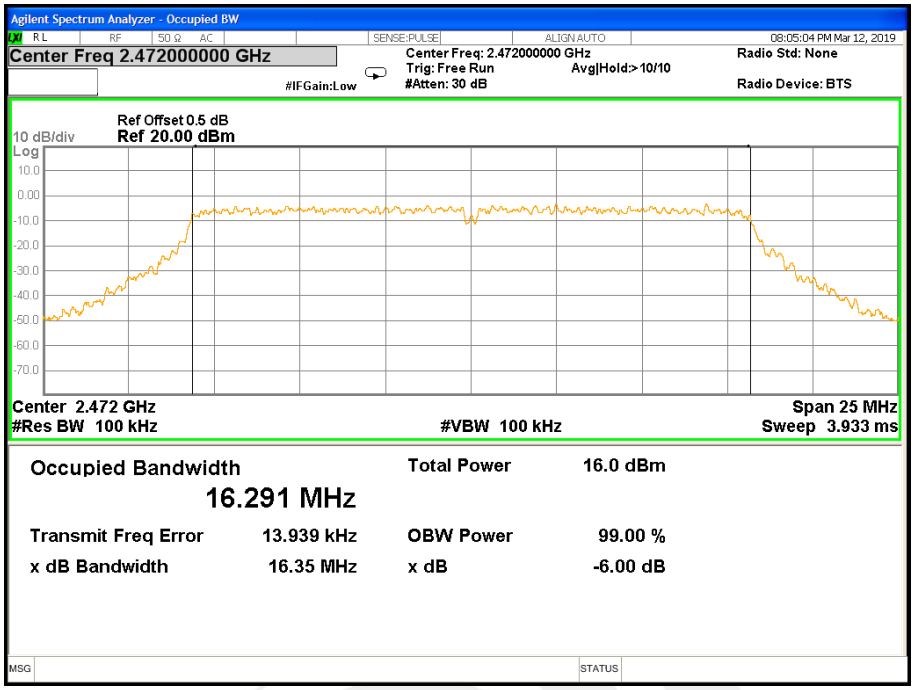
## CH7-Occupied Bandwidth (99%)-g Mode



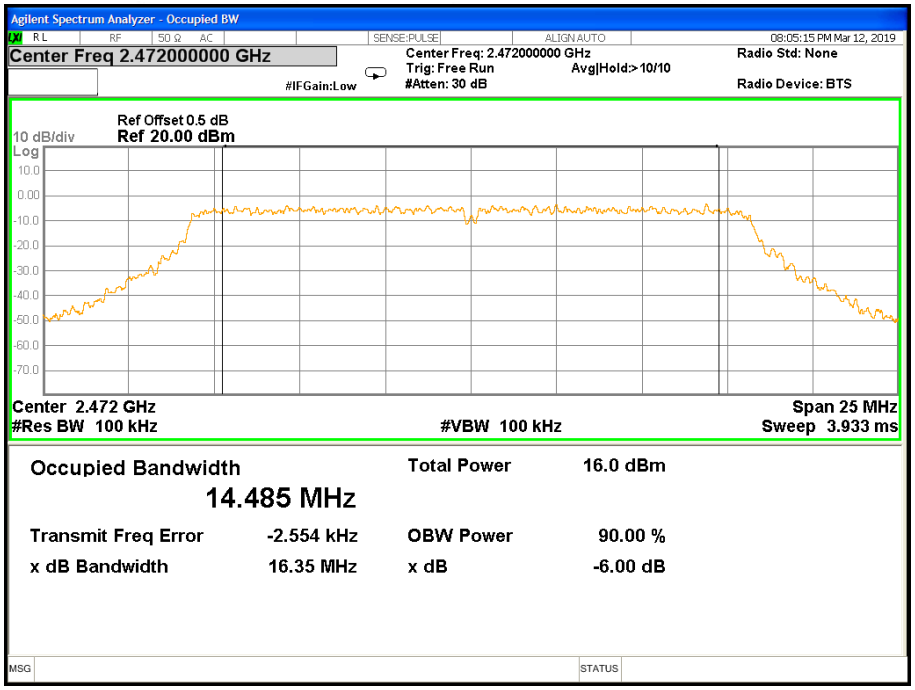

## CH7-Spread Bandwidth (90%)-g Mode



## CH13-Occupied Bandwidth (99%)-g Mode



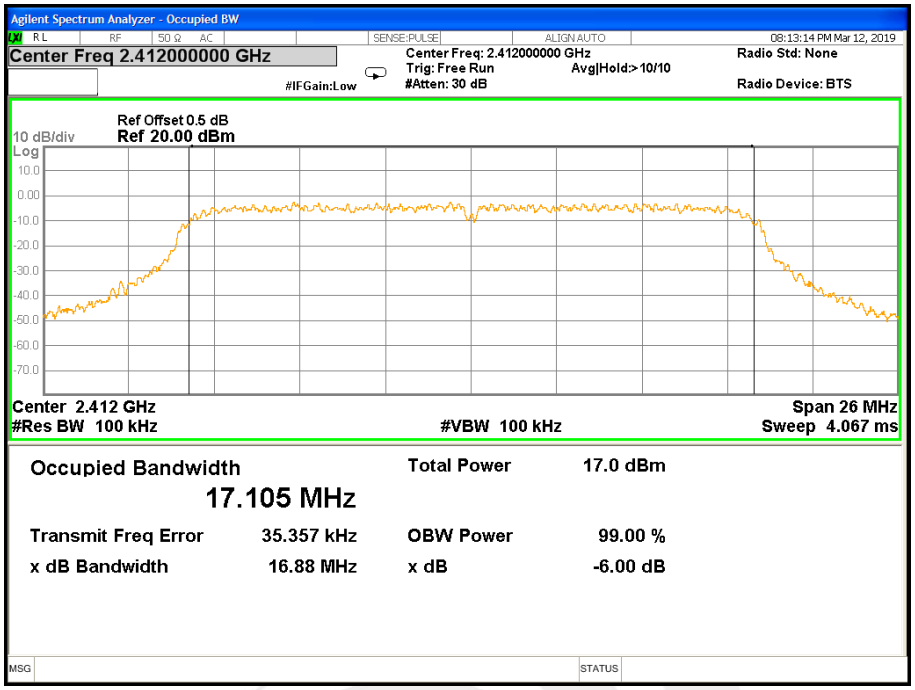

## CH13-Spread Bandwidth (90%)-g Mode



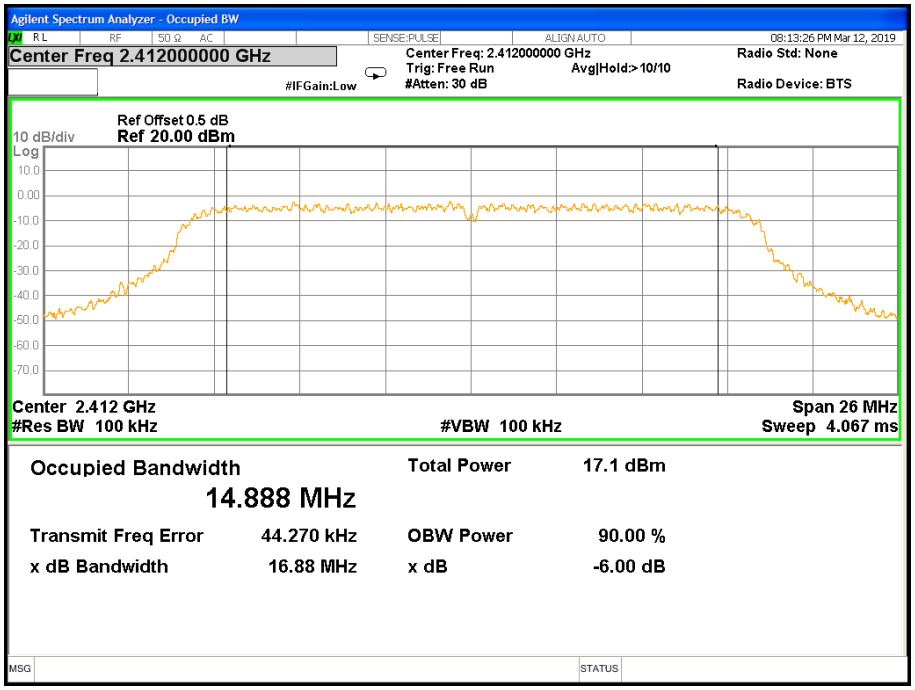
| | | | |
|---|---|---|---|
| Temperature: | 25$^0$C | Humidity: | 55 % RH |
| Operation Mode: | Nor.Voltage-802.11n(HT20) mode | | |

| DC Voltage | | Channel (MHz) | Occupied Bandwidth(MHz) | Spreading Bandwidth(MHz) |
|---|---|---|---|---|
| Vnom(V) | 3.7 | 2412 | 17.105 | 14.888 |
| | | 2442 | 17.093 | 14.903 |
| | | 2472 | 17.098 | 14.924 |

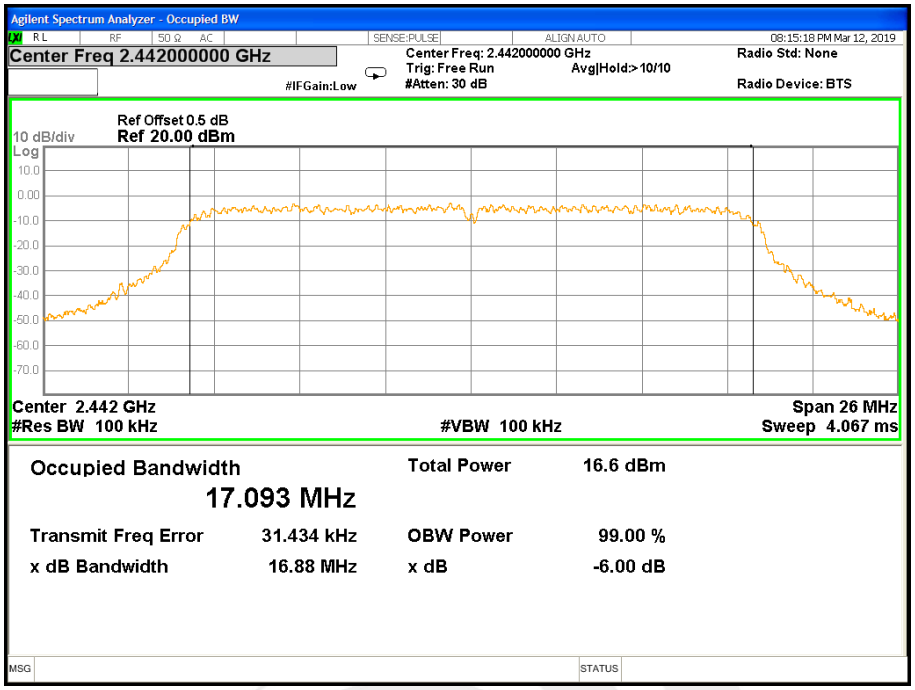
## CH1-Occupied Bandwidth (99%)-n(HT20)



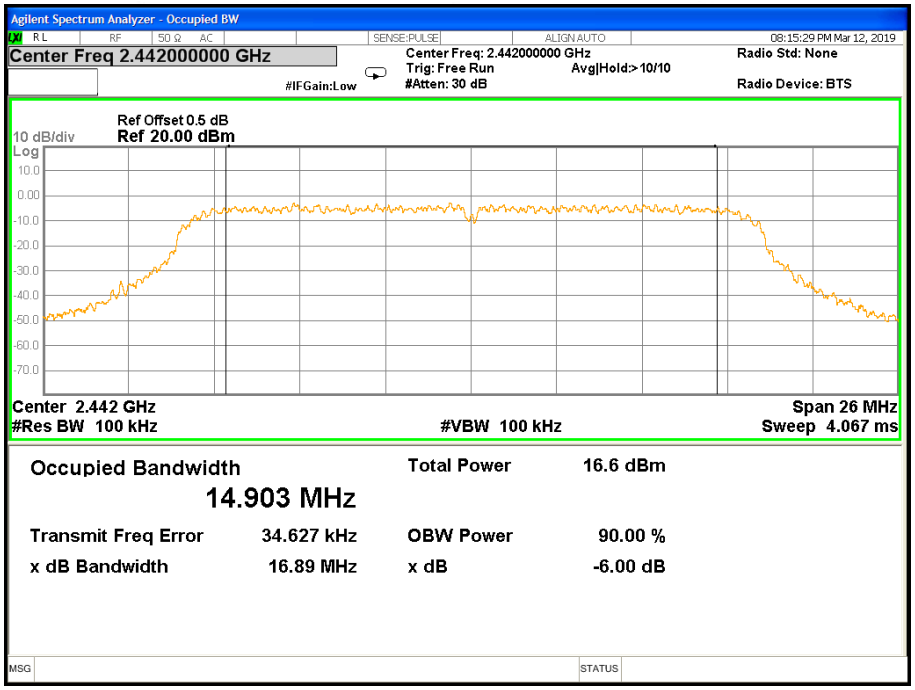

## CH1-Spread Bandwidth (90%)-n(HT20)



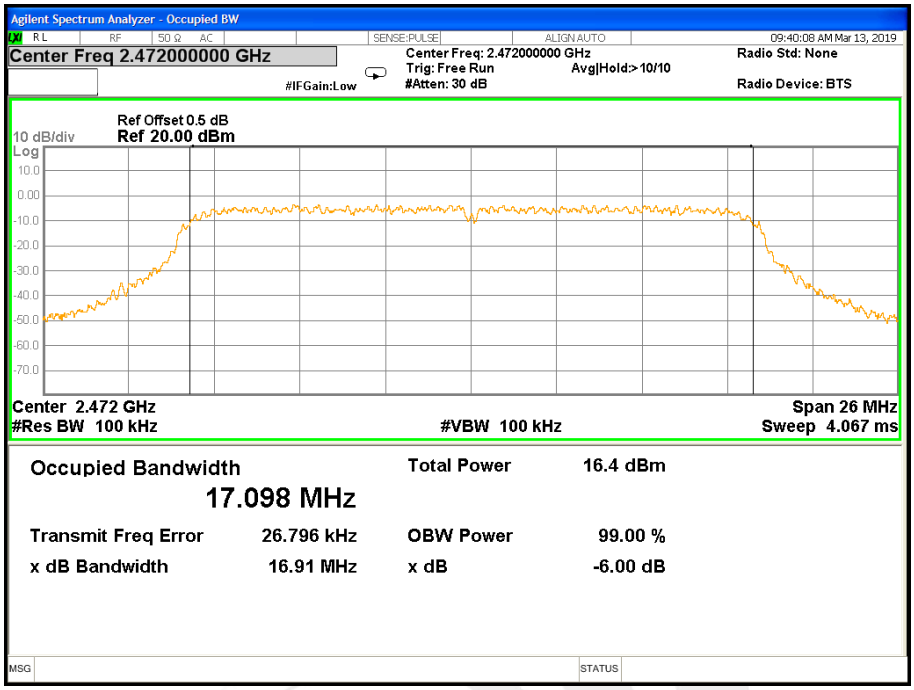
## CH7-Occupied Bandwidth (99%)-n(HT20)



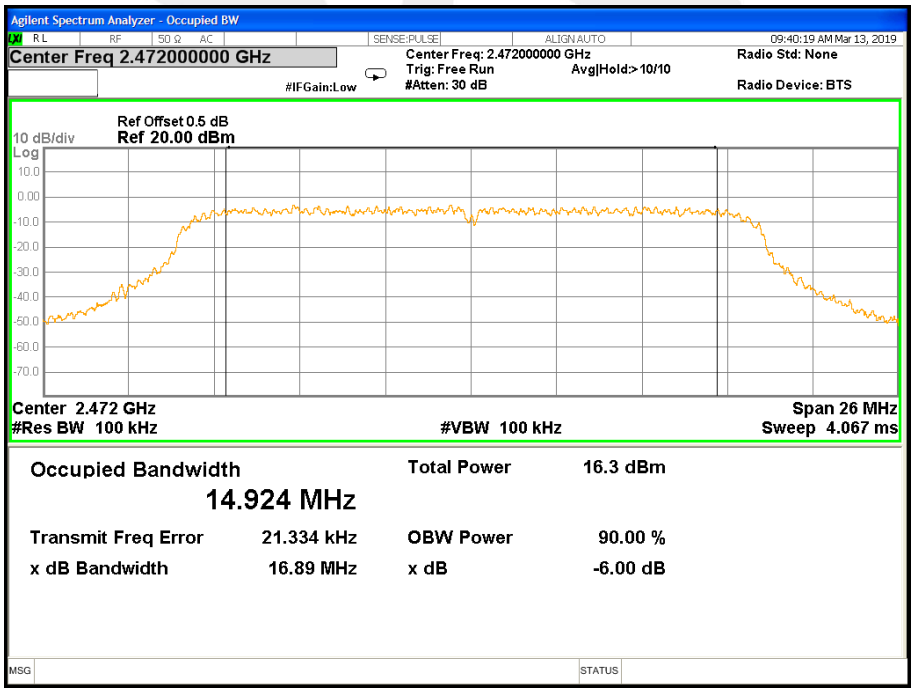

## CH7-Spread Bandwidth (90%)-N(HT20)



## CH13-Occupied Bandwidth (99%)-n(HT20)



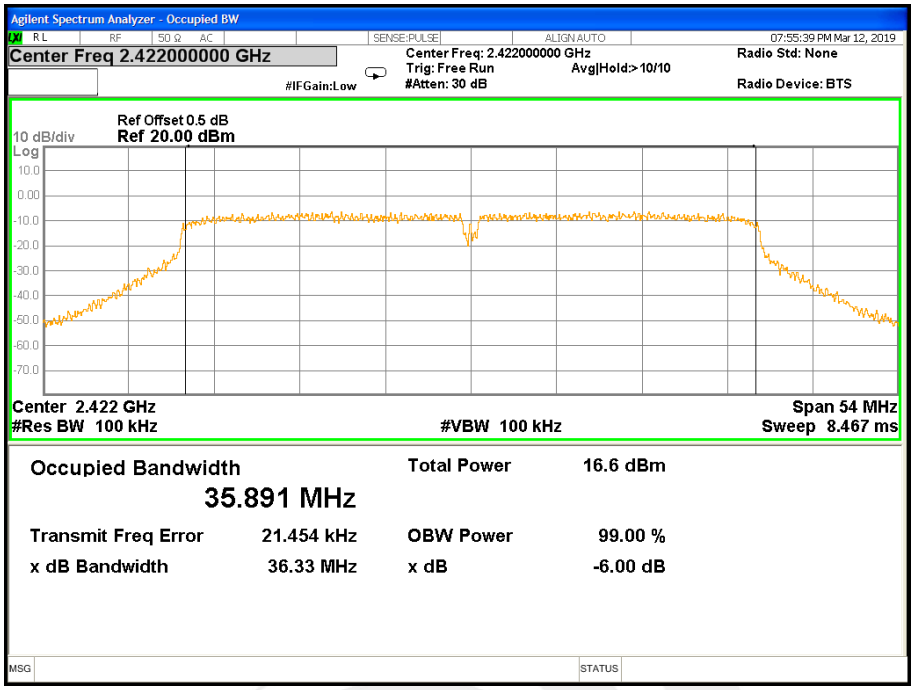

## CH13-Spread Bandwidth (90%)- n(HT20)



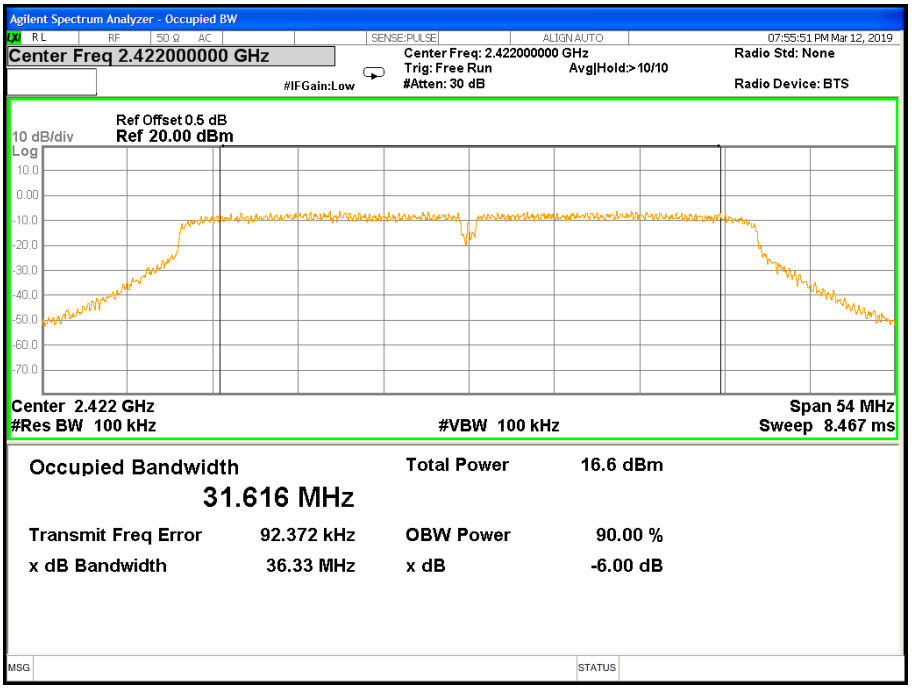
| | | | |
|---|---|---|---|
| Temperature: | 25°C | Humidity: | 55 % RH |
| Operation Mode: | Nor.Voltage-802.11n(HT40) mode | | |

| DC Voltage | | Channel (MHz) | Occupied Bandwidth(MHz) | Spreading Bandwidth(MHz) |
|---|---|---|---|---|
| Vnom(V) | 3.7 | 2422 | 35.891 | 31.616 |
| | | 2442 | 35.884 | 31.613 |
| | | 2462 | 35.888 | 31.620 |

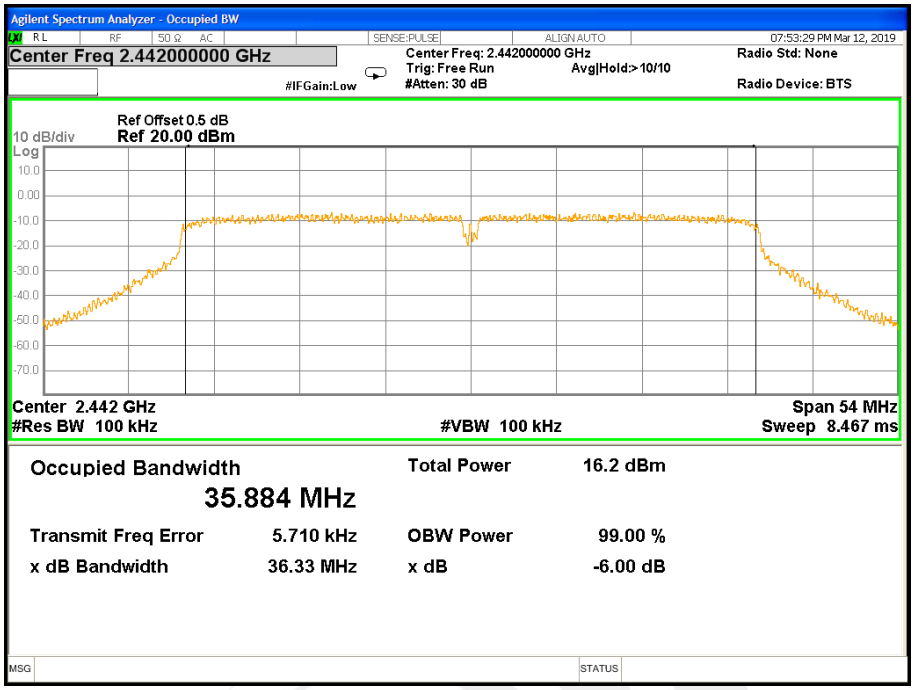
## CH3-Occupied Bandwidth (99%)-n(HT40)



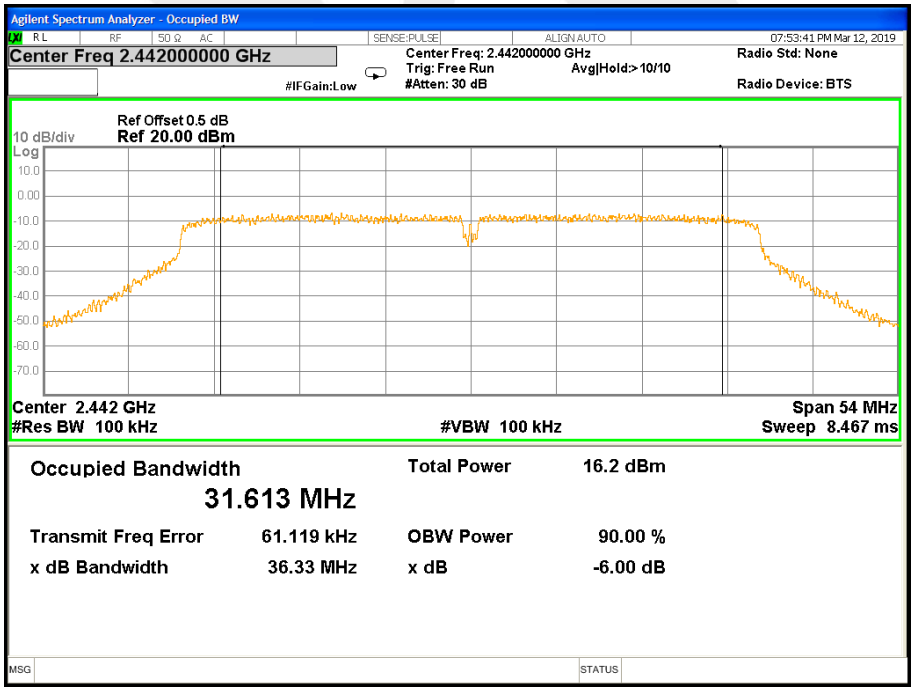

## CH3-Spread Bandwidth (90%)-n(HT40)



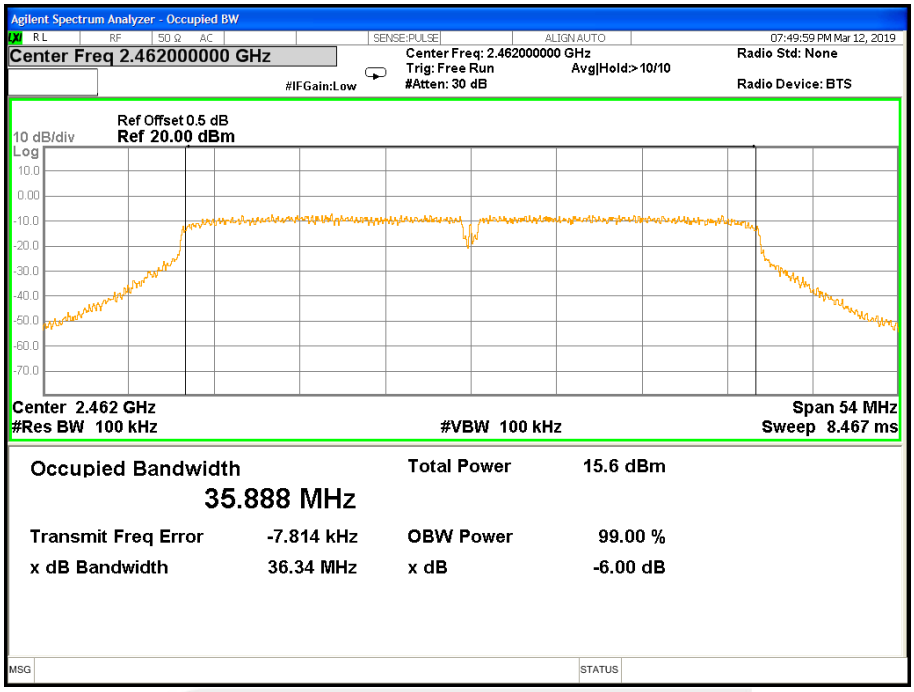
## CH7-Occupied Bandwidth (99%)-n(HT40)



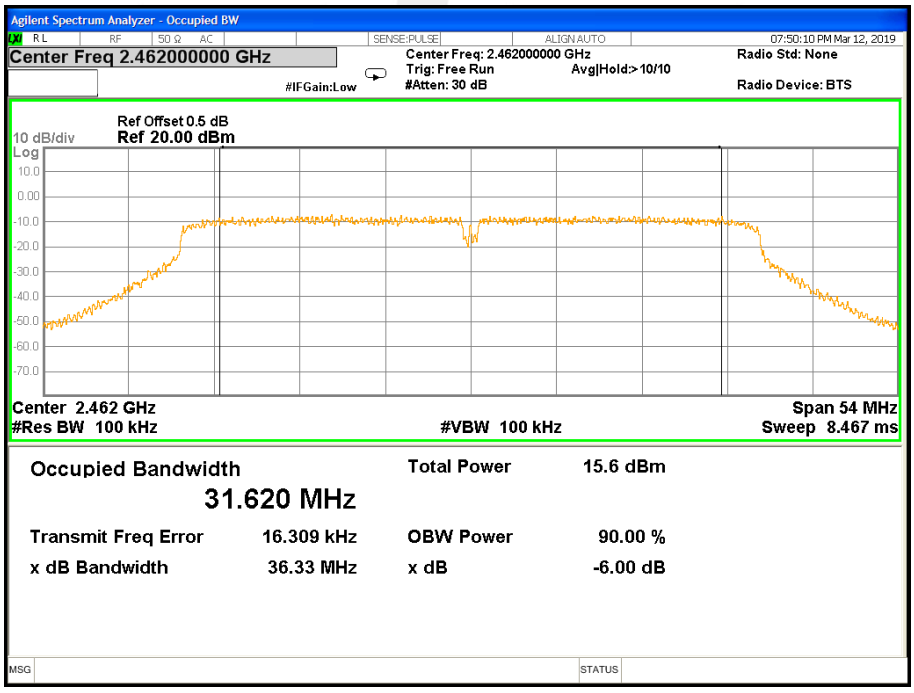

## CH7-Spread Bandwidth (90%)-n(HT40)



## CH11-Occupied Bandwidth (99%)-n(HT40)




## CH11-Spread Bandwidth (90%)-n(HT40)



## 7.7 TEST RESULT ( SPREADING FACTOR )

Spreading factor=(Spreading bandwidth) / (Frequency corresponding to transmission rate)

802.11b: Frequency corresponding to transmission rate=1.375

802.11b

| Channel (MHz) | Spread BW 90% (MHz) | Spread rate | Spreading factor | Limit |
|---|---|---|---|---|
| 2412 | 9.226 | 1.375 | 6.710 | ≧5 |
| 2442 | 9.226 | 1.375 | 6.710 | ≧5 |
| 2472 | 9.216 | 1.375 | 6.702 | ≧5 |

# 8. UNWANTED EMISSION INTENSITY MEASUREMENT

## 8.1 LIMIT

| Item | Limits |
|---|---|
| TX Spurious Emission | ≦2.5 μW (30MHz≦f≦1000MHz) |
| | ≦2.5 μW (1000MHz<f≦2387MHz) |
| | ≦25 μW (2387MHz<f≦2400MHz) |
| | ≦25 μW (2483.5MHz≦f<2496.5MHz) |
| | ≦2.5 μW (2496.5MHz≦f<12500MHz) |

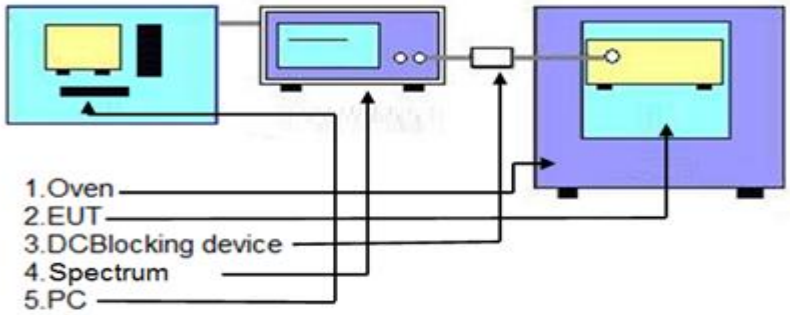
## 8.2 TEST PROCEDURES

The following table is the setting of Spectrum Analyzer.

| Spectrum Parameter | Setting |
|---|---|
| Attenuation | Auto |
| RBW / VBW | 100KHz /100KHz(Below 1GHz) |
| RBW / VBW | 1MHz /1MHz (Above 1GHz) |
| Detector | Peak |
| Trace | Max Hold |
| Sweep Time | Auto |

1. EUT have transmitted the maximum modulation signal and fixed channelize.
2. Setting of SA is following as: Below 1GHz RB:100KHz / VB:100KHz
   Above 1GHz RB:1MHz / VB:1MHz / AT: 10dB Ref: 0dBm / Sweep time: Auto
   Sweep Mode: Continuous sweep / Detect mode: Positive peak
   Trace mode: Max hold
3. Setting of SA is following as 30MHz and stop frequency 1000MHz Then to mark peak reading value + cable loss shall be less than 0.25μW.
4. Setting of SA is following as 1000MHz and stop frequency 2387MHz Then to mark peak reading value + cable loss shall be less than 2.5μW.
5. SA adjusted to start frequency 2387MHz and stop frequency 2400MHz. Then to mark peak reading value + cable loss shall be less than 25μW.
6. SA adjusted to start frequency 2483.5MHz and stop frequency 2496.5MHz Then to mark peak reading value + cable loss shall be less than 25μW
7. SA adjusted to start frequency 2496.5MHz and stop frequency 12750MHz Then to mark peak reading value + cable loss shall be less than 2.5μW
8. Measure side band spurious as follows: For 2.4GHz band: 2374MHz~2400MHz and 2483.5MHz~2509.5MHz RBW = VBW = 30kHz, Result_Value = Meaured_ Value + 15.2 [dBm]
9. If the Result_Value is over the requirement, take total sum of 1MHz band centered at the spur frequency like ACLP measurement as Result_Value.

## 8.3 TEST SETUP



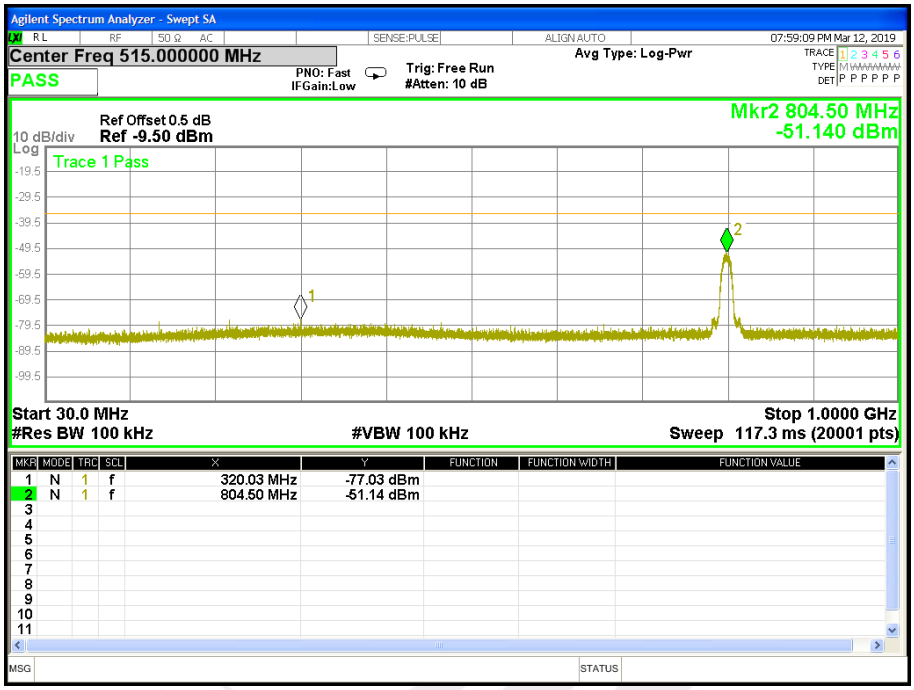

## 8.4 TEST DEVIATION

There is no deviation with the original standard.

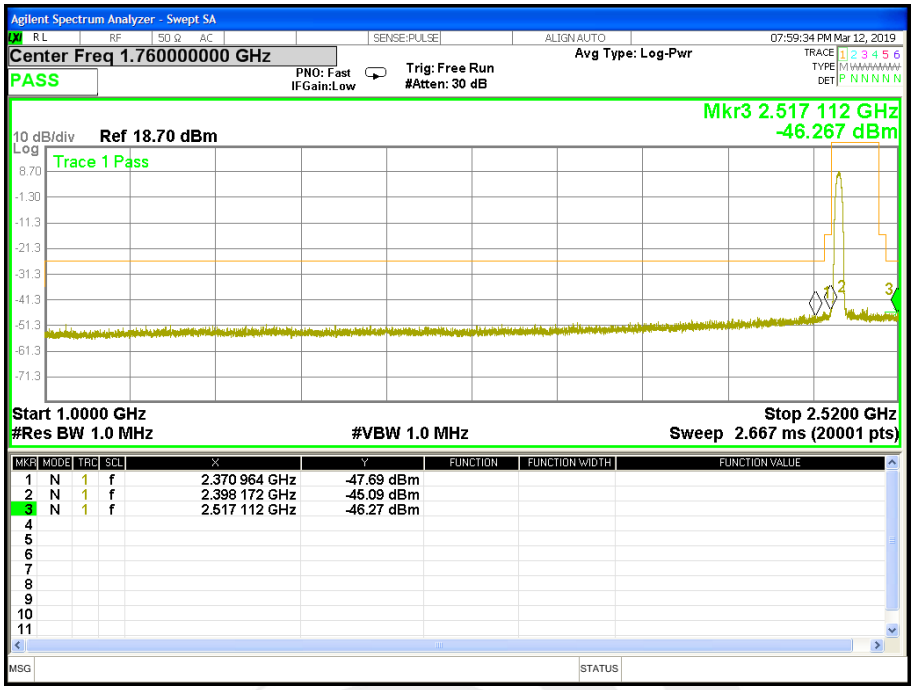
## 8.5 TEST RESULT

| Temperature: | 25°C | Humidity: | 55 % RH |
|---|---|---|---|
| Operation Mode: | Nor. Voltage-802.11b mode(CH1, CH7,CH13) | | |

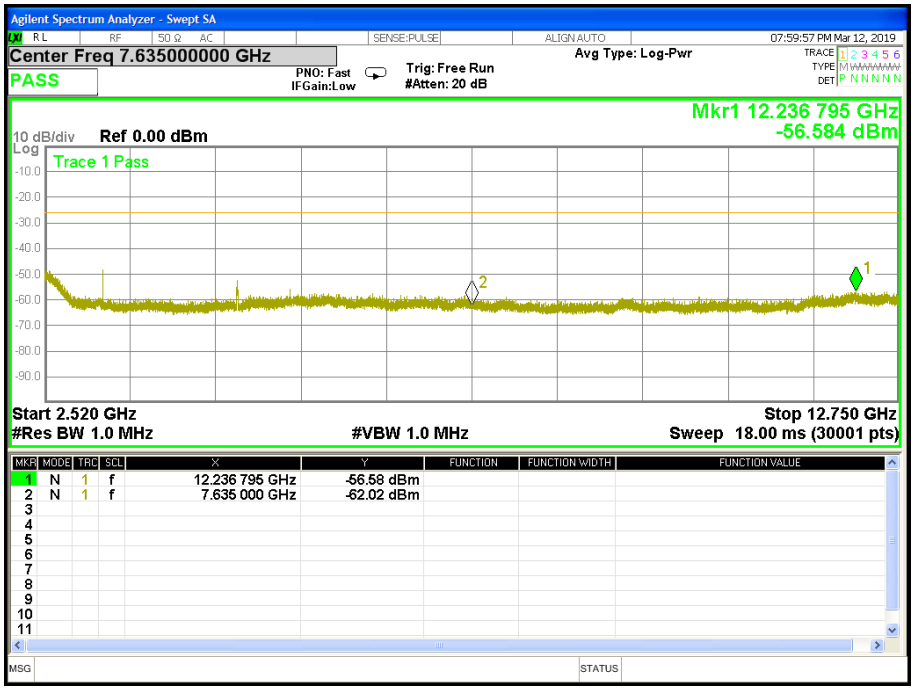
**CH 1 (11b) - Band 1 (30 MHz ≦f ≦1000 MHz)**



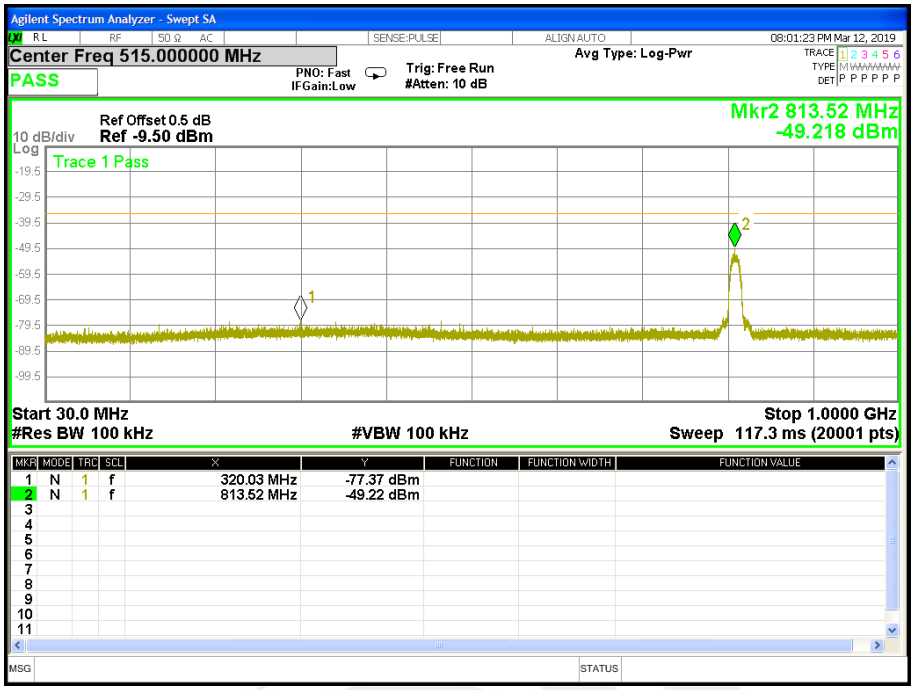
## CH 1 (11b) - Band 2 (1000 MHz < f ≦2520 MHz)



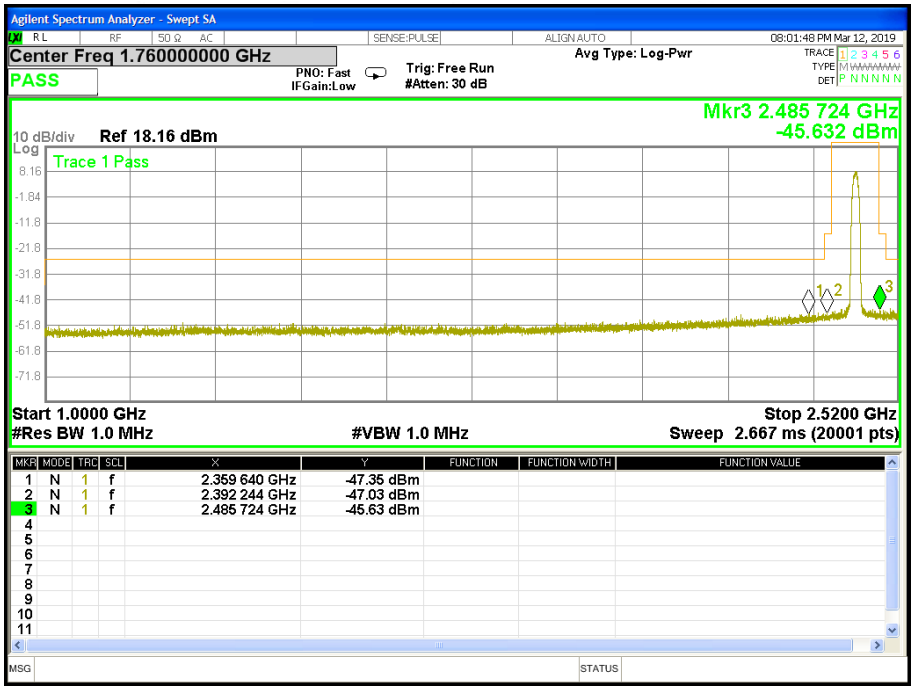

## CH 1 (11b) - Band 3 (2520 MHz ≦f < 12.75 GHz)



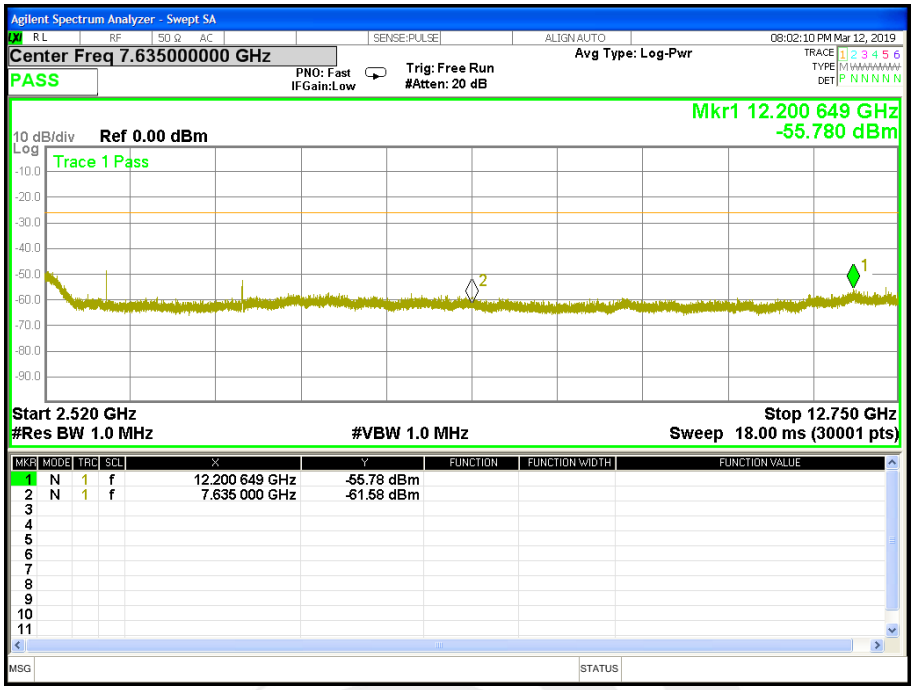
## CH 7(11b) - Band 1 (30 MHz ≦f ≦1000 MHz)



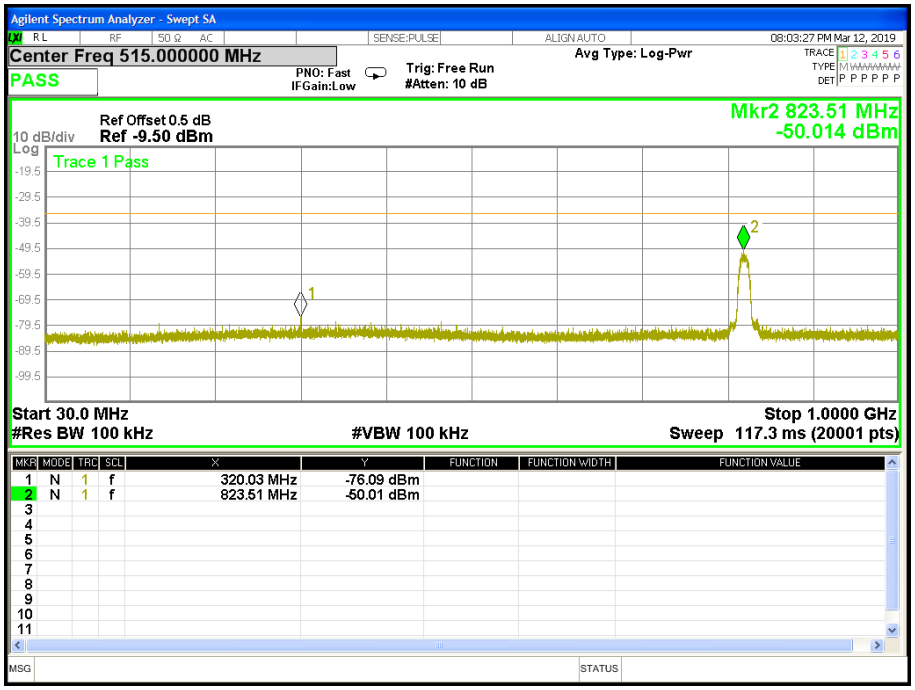

## CH 7(11b) - Band 2 (1000 MHz < f ≦2520 MHz)



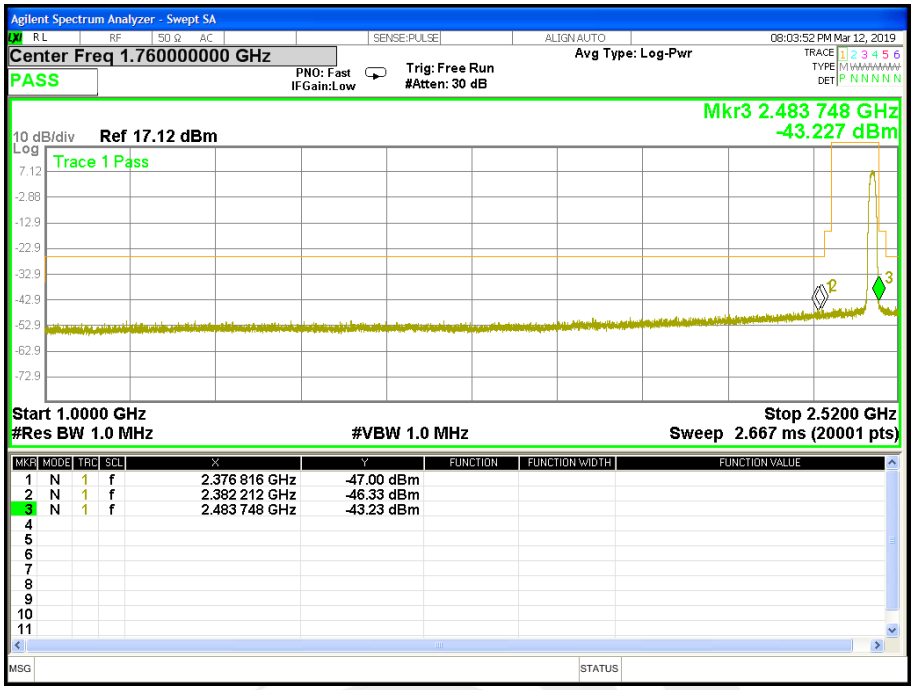
## CH 7(11b) - Band 3 (2520 MHz ≤f < 12.75 GHz)




## CH 13(11b) - Band 1 (30 MHz ≤f ≤1000 MHz)



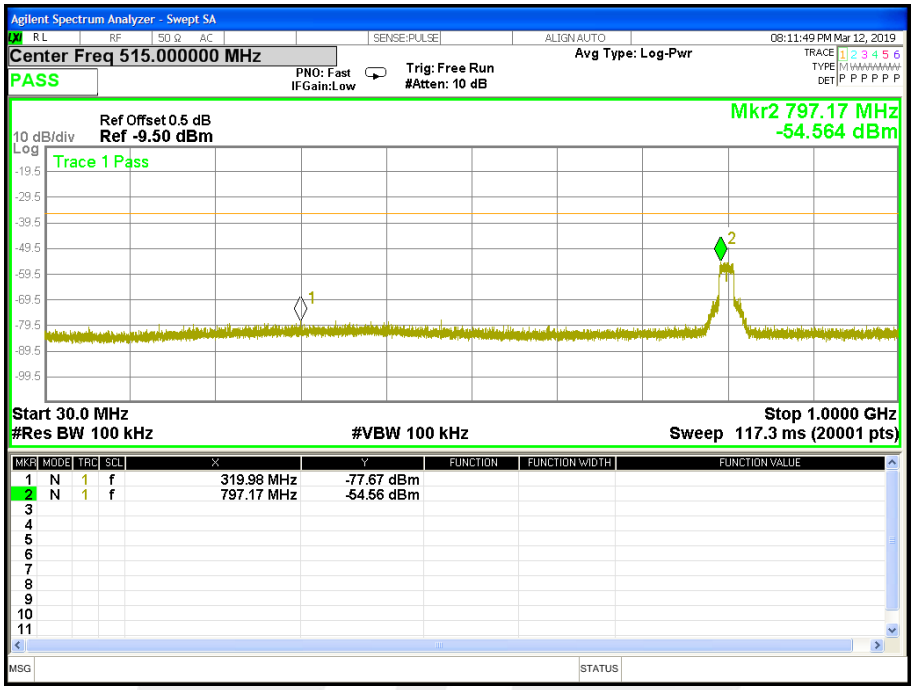
## CH 13(11b) - Band 2 (1000 MHz < f ≤2520 MHz)




## CH 13(11b) - Band 3 (2520 MHz ≤f < 12.75 GHz)

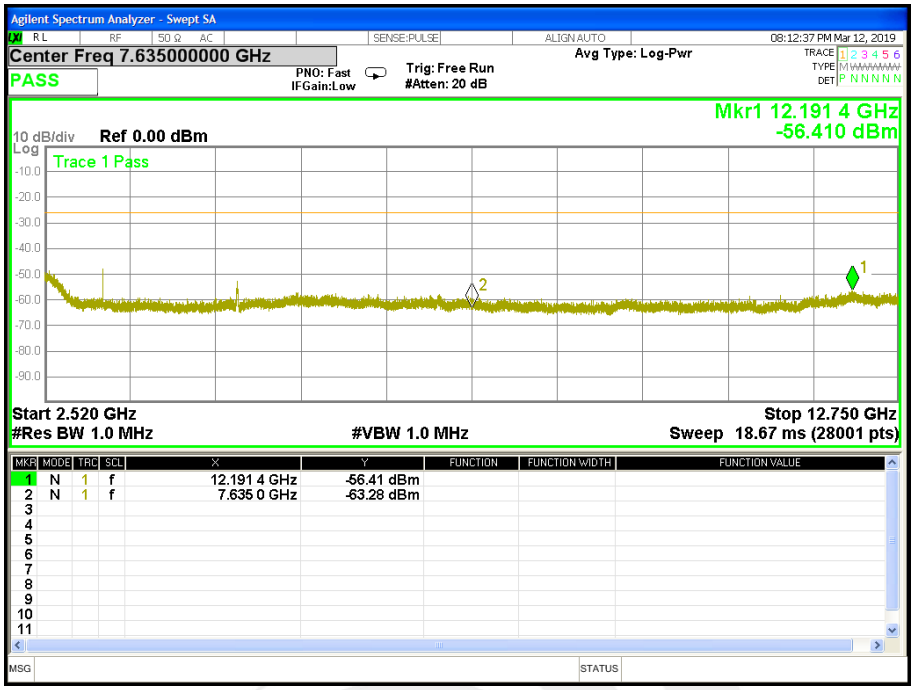
| Temperature: | 25°C | Humidity: | 55 % RH |
|---|---|---|---|
| Operation Mode: | Nor. Voltage-802.11g mode(CH1, CH7,CH13) | | |

**CH1(11g)- Band 1 (30 MHz ≦f ≦1000 MHz)**

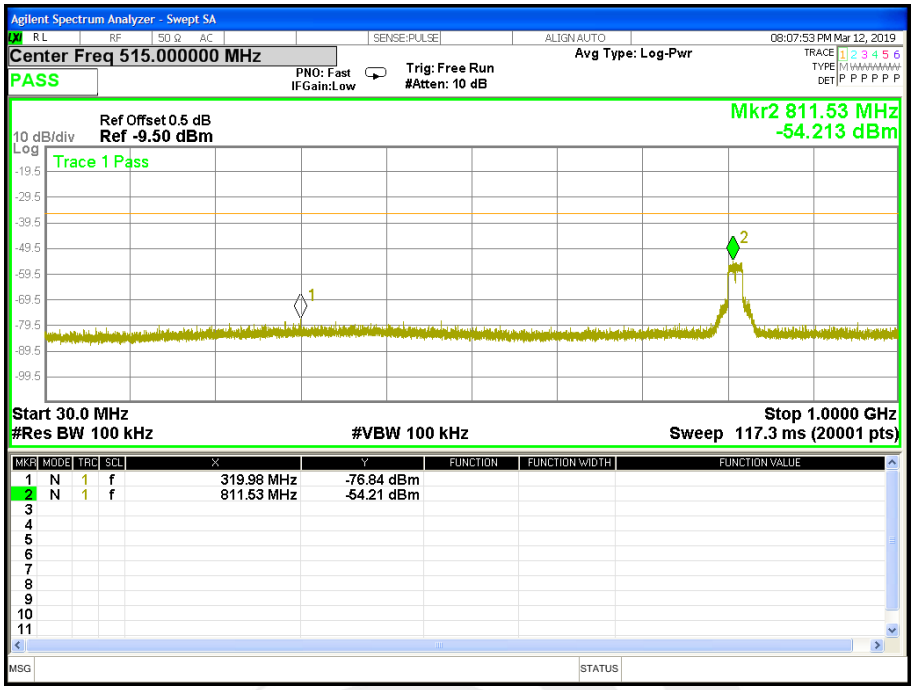



**CH1(11g)- Band 2 (1000 MHz < f ≦2520 MHz)**

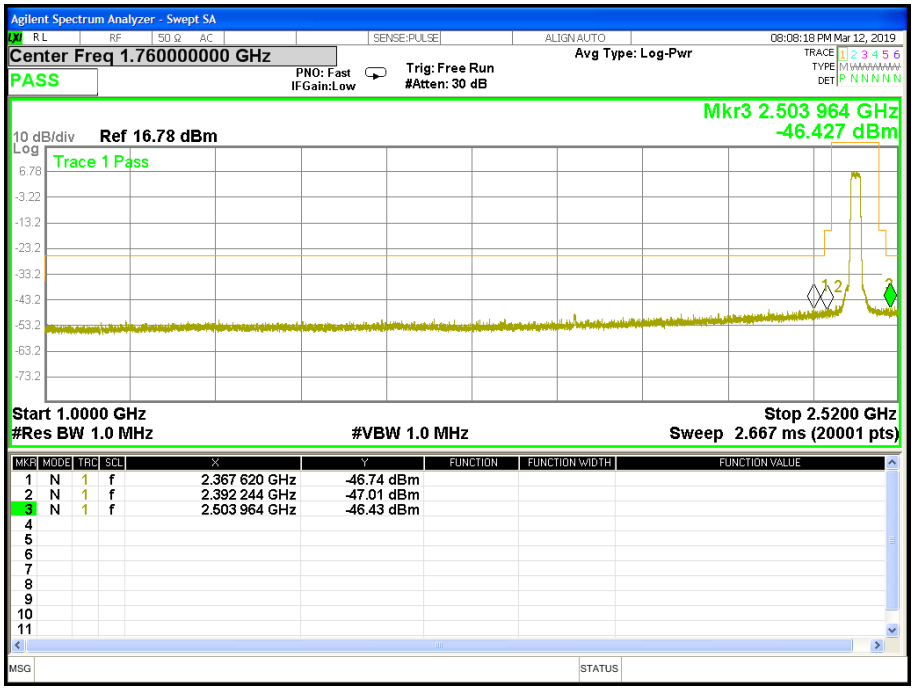
## CH 1(11g)- Band 3 (2520 MHz ≦f < 12.75 GHz)



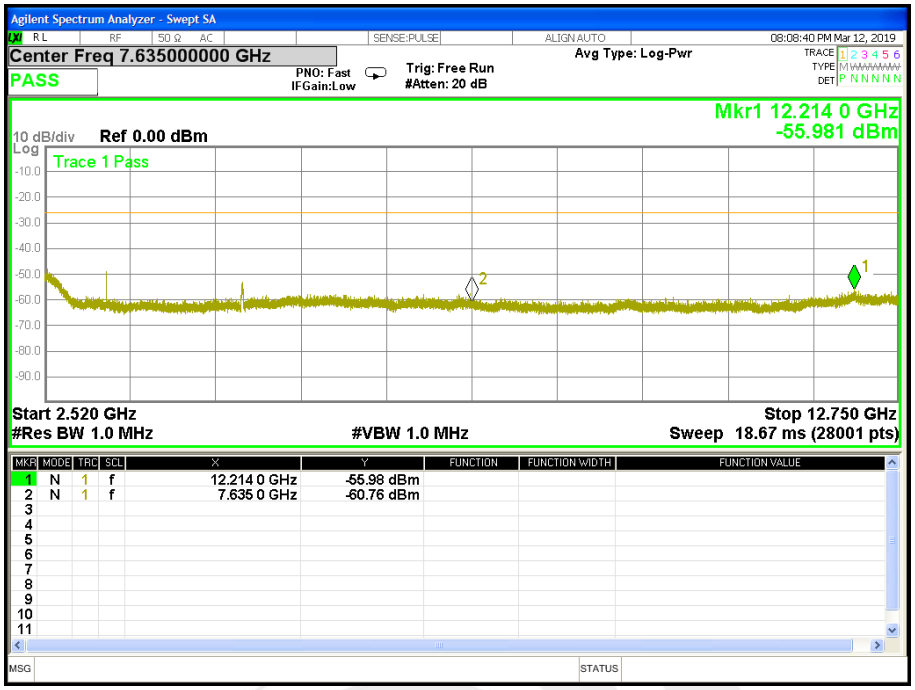
## CH 7(11g)- Band 1 (30 MHz ≤f ≤1000 MHz)



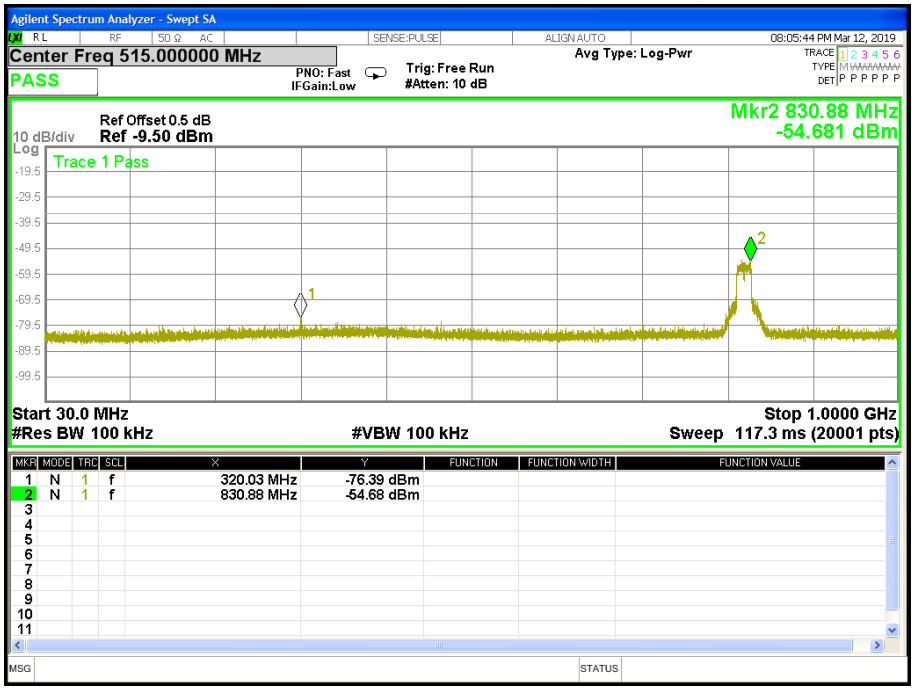

## CH 7(11g)- Band 2 (1000 MHz < f ≤2520 MHz)



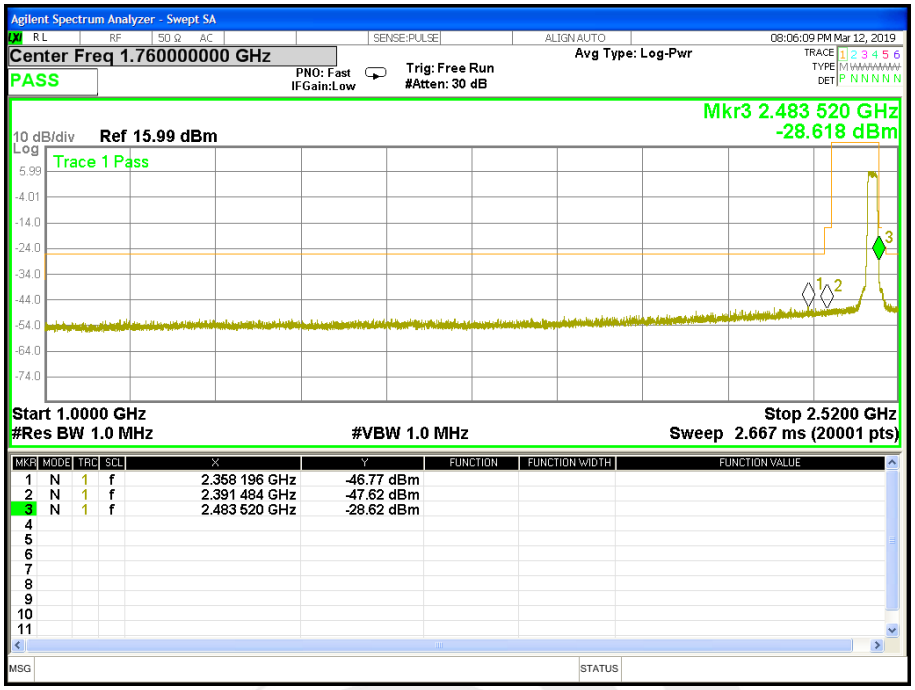
## CH 7(11g)- Band 3 (2520 MHz ≦f < 12.75 GHz)



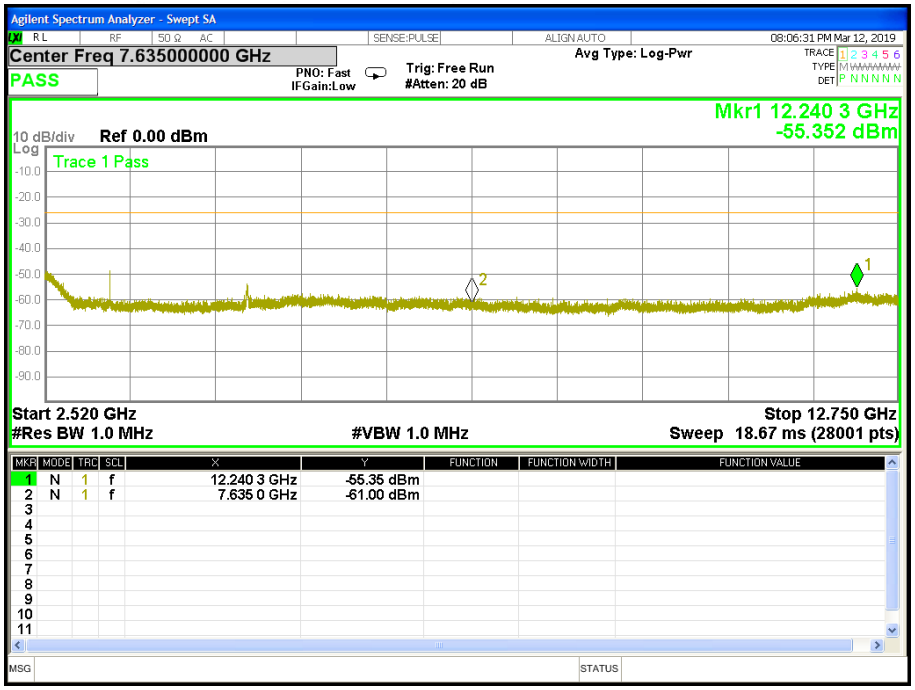

## CH 13(11g)- Band 1 (30 MHz ≦f ≦1000 MHz)



## CH 13(11g)- Band 2 (1000 MHz < f ≦2520 MHz)

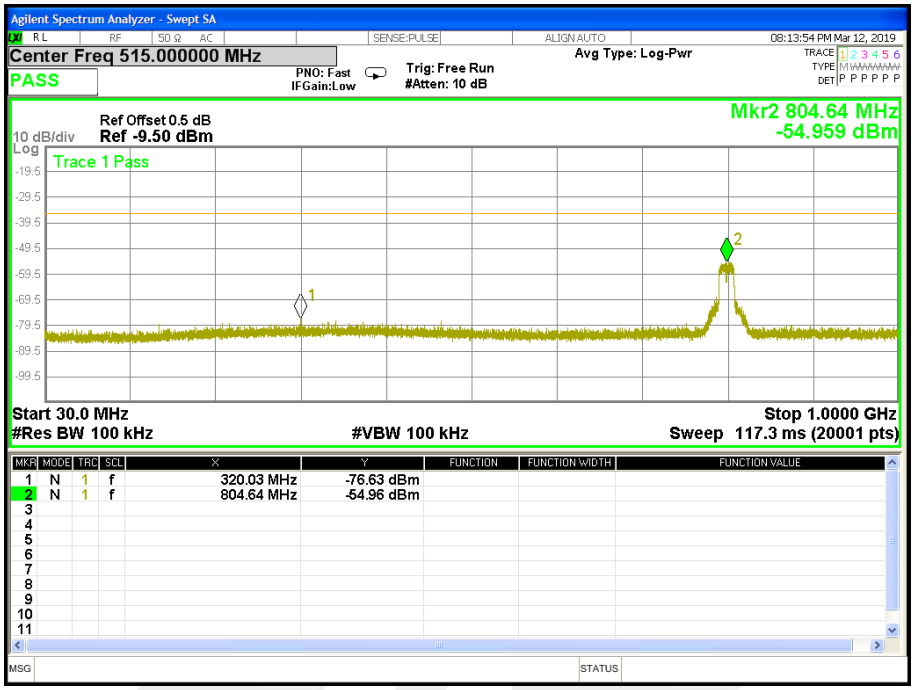



## CH 13(11g)- Band 3 (2520 MHz ≦f < 12.75 GHz)

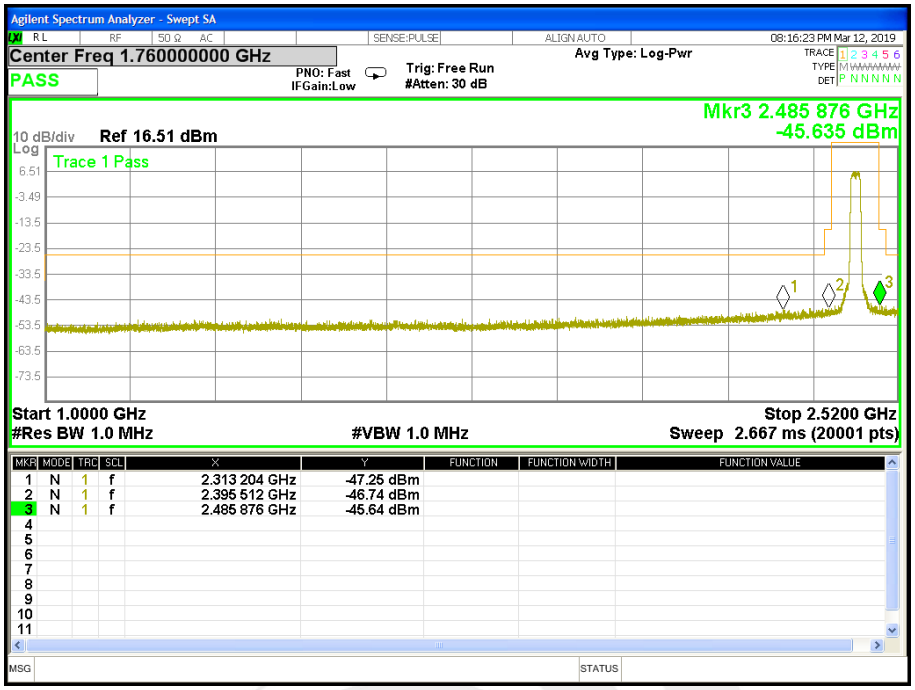


| | | | |
|---|---|---|---|
| Temperature: | 25°C | Humidity: | 55 % RH |
| Operation Mode: | Nor. Voltage-802.11n(HT20) mode(CH1, CH7,CH13) | | |

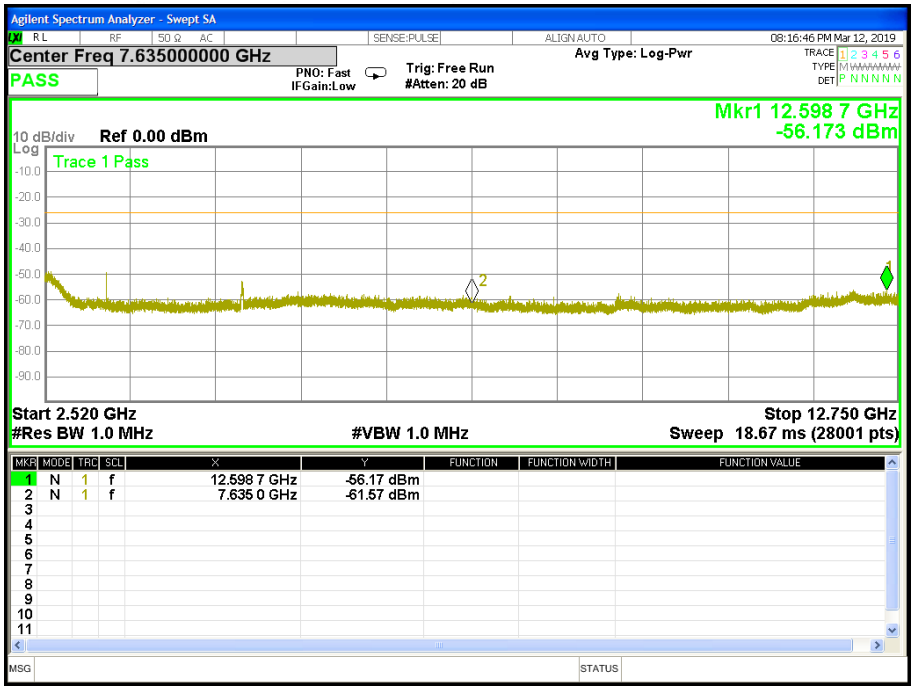
**CH1 11n(HT20)- Band 1 (30 MHz ≦f ≦1000 MHz)**



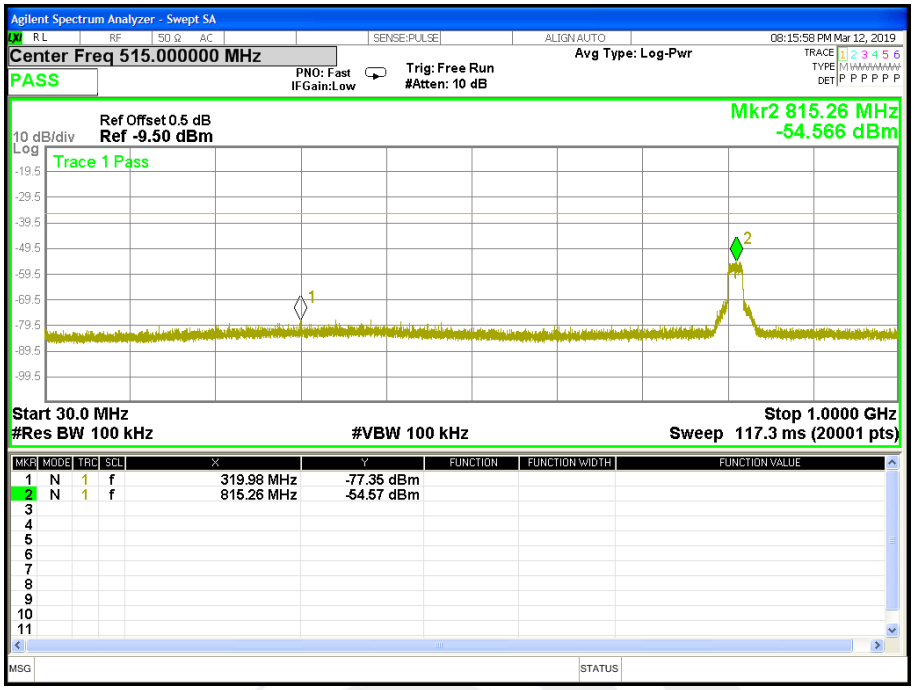
## CH1 11n(HT20)- Band 2 (1000 MHz < f ≦2520 MHz)



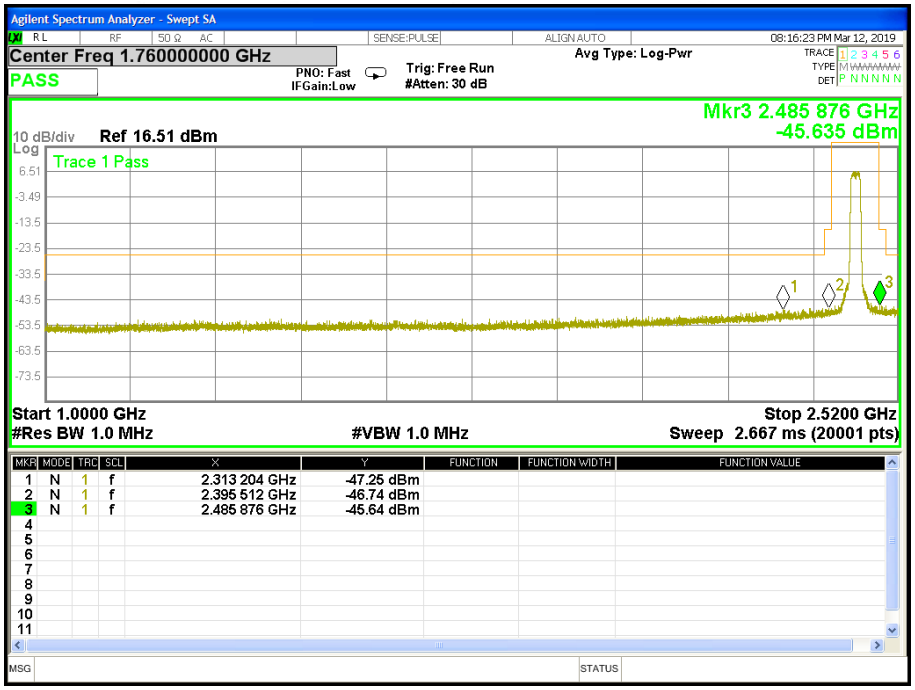

## CH1 11n(HT20)- Band 3 (2520 MHz ≦f < 12.75 GHz)



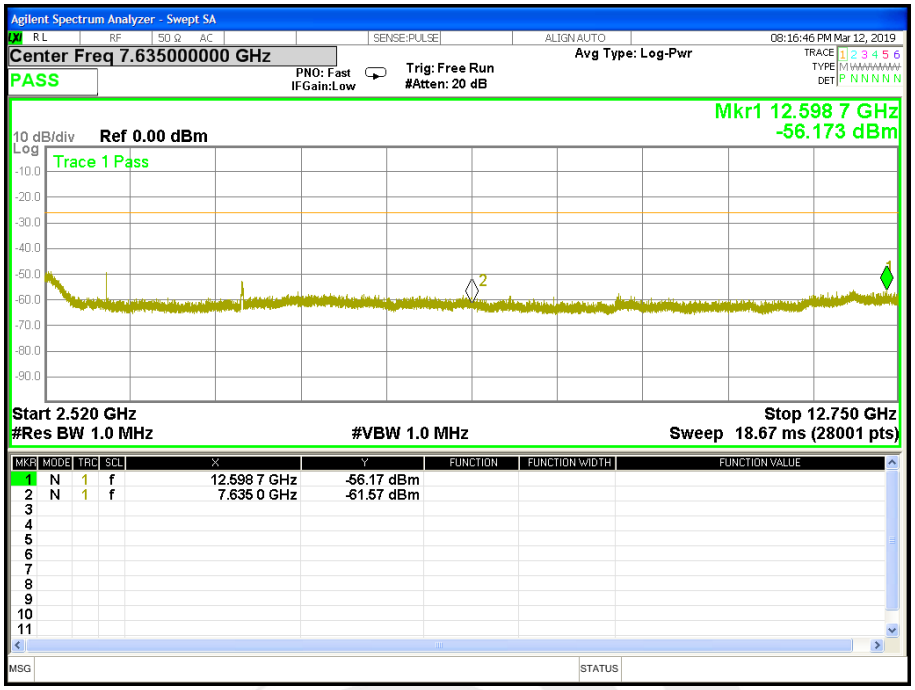
## CH 7 11n(HT20)- Band 1 (30 MHz ≦f ≦1000 MHz)



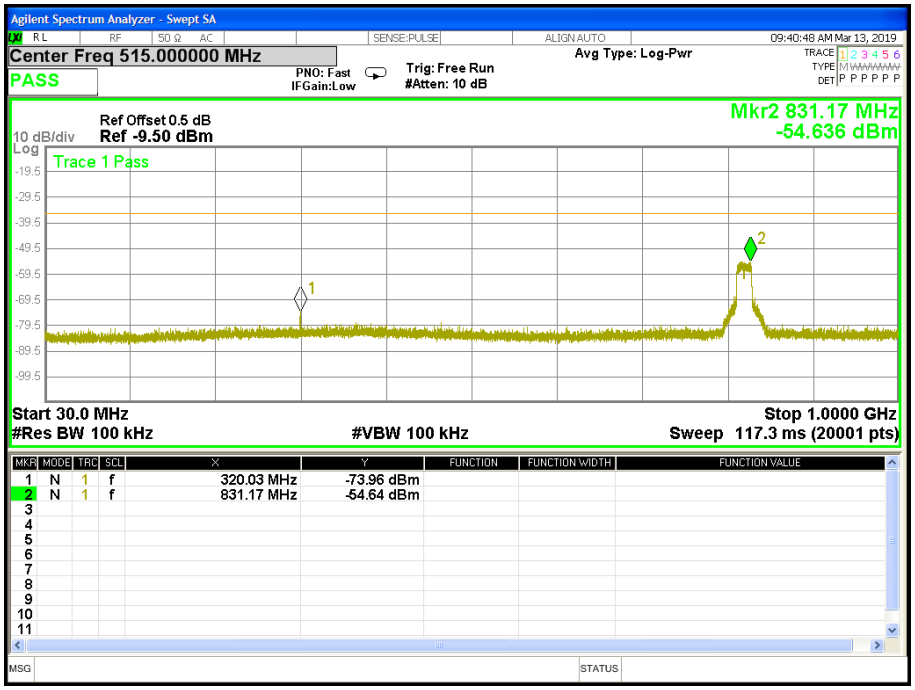

## CH 7 11n(HT20)- Band 2 (1000 MHz < f ≦2520 MHz)



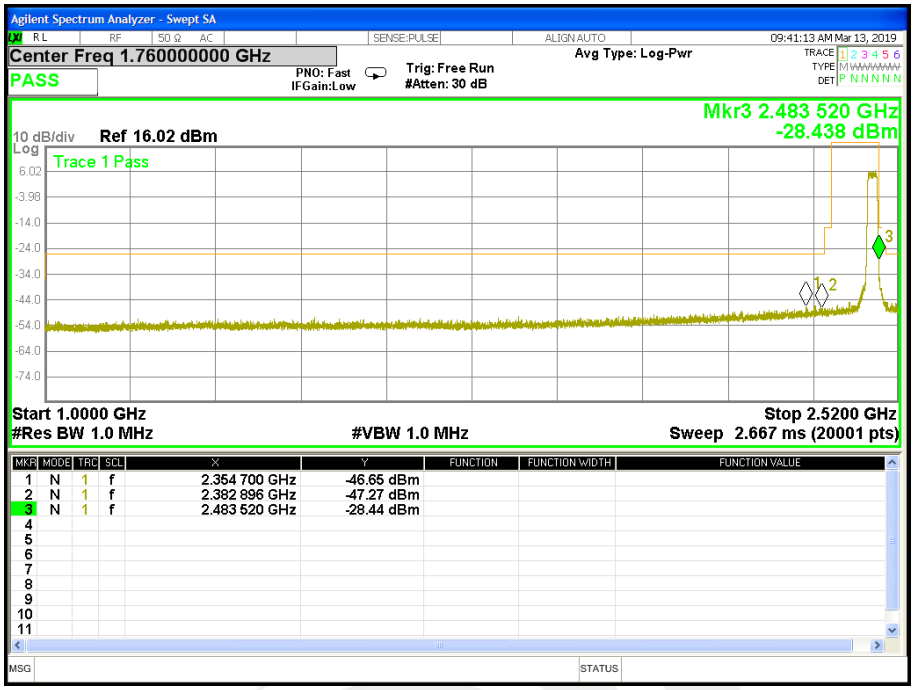
## CH 7 11n(HT20)- Band 3 (2520 MHz ≦f < 12.75 GHz)



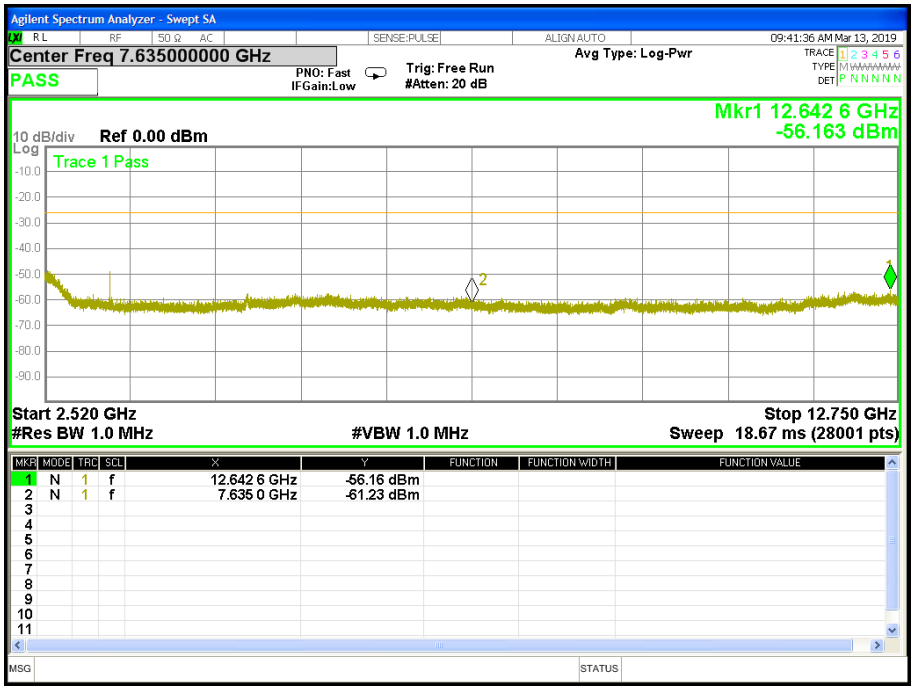

## CH 13 11n(HT20)- Band 1 (30 MHz ≦f ≦1000 MHz)



## CH 13 11n(HT20)- Band 2 (1000 MHz < f ≦2520 MHz)

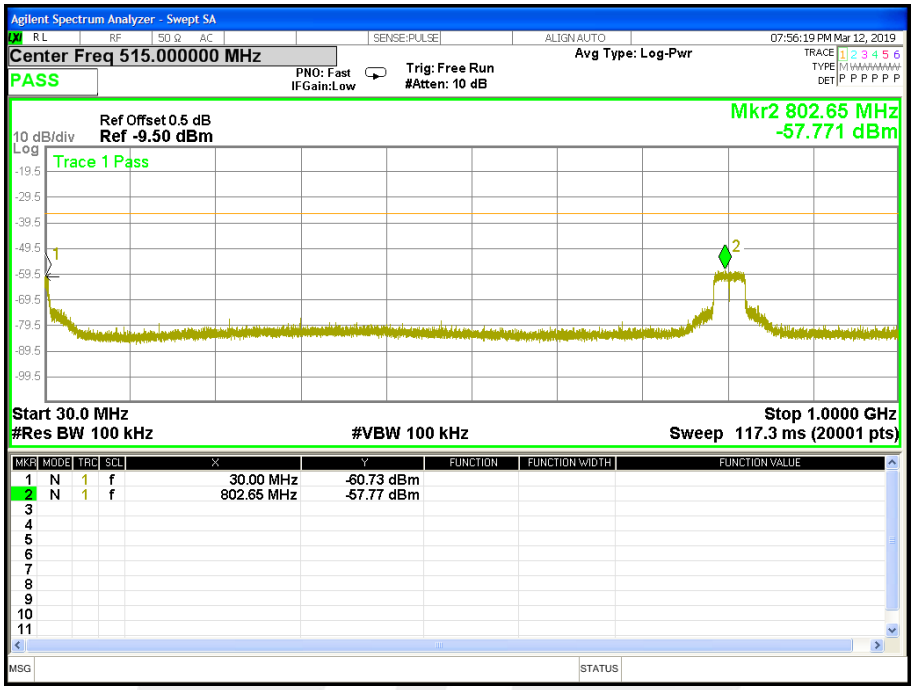



## CH 13 11n(HT20)- Band 3 (2520 MHz ≦f < 12.75 GHz)

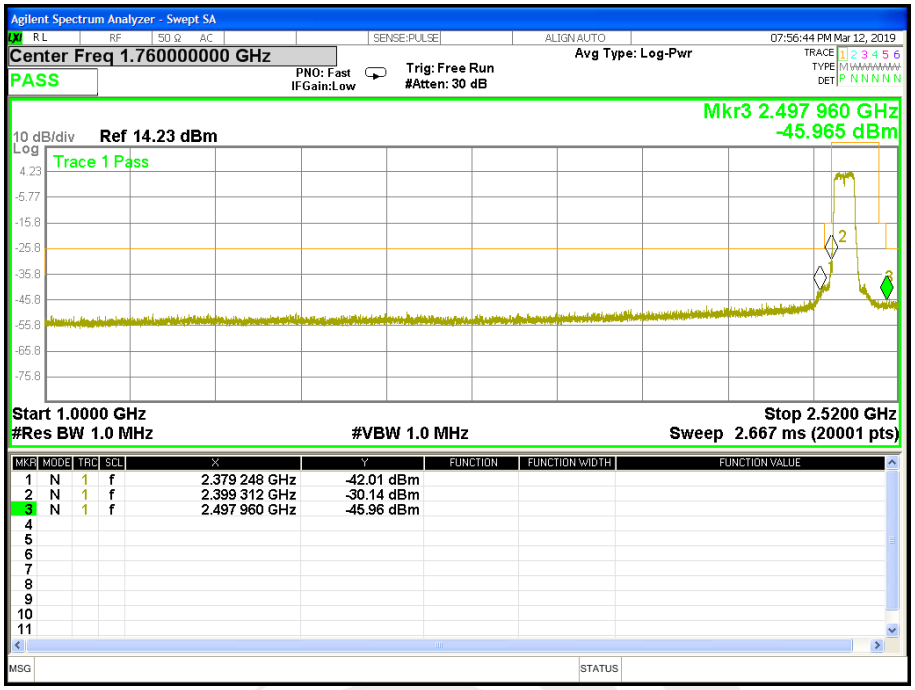


| | | | |
|---|---|---|---|
| Temperature: | 25°C | Humidity: | 55 % RH |
| Operation Mode: | Nor. Voltage-802.11n(HT40) mode(CH3, CH7,CH11) | | |

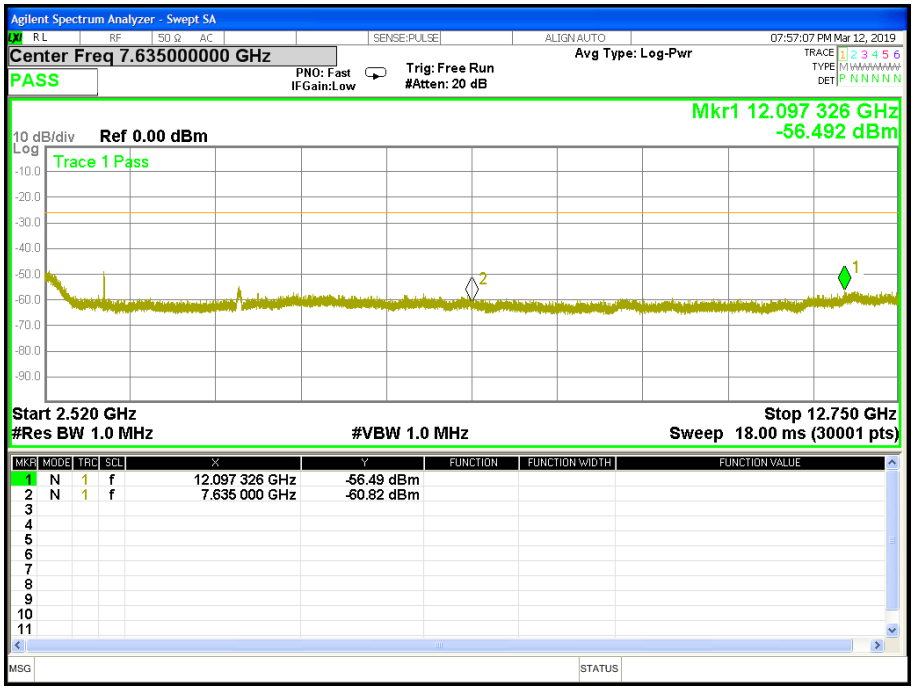
**CH3 11n(HT40)- Band 1 (30 MHz ≦f ≦1000 MHz)**



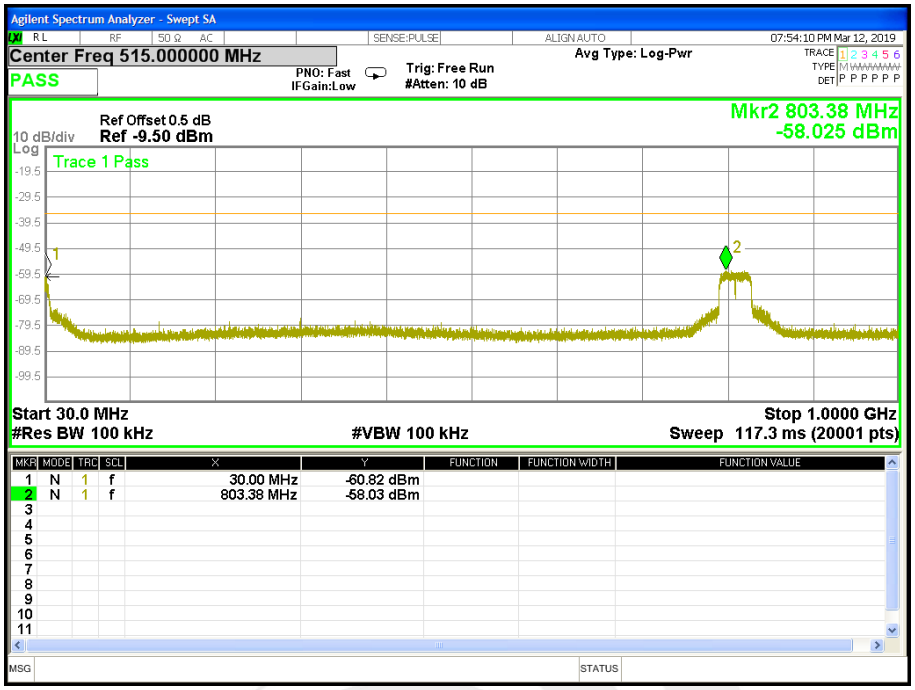
## CH3 11n(HT40)- Band 2 (1000 MHz < f ≦2520 MHz)



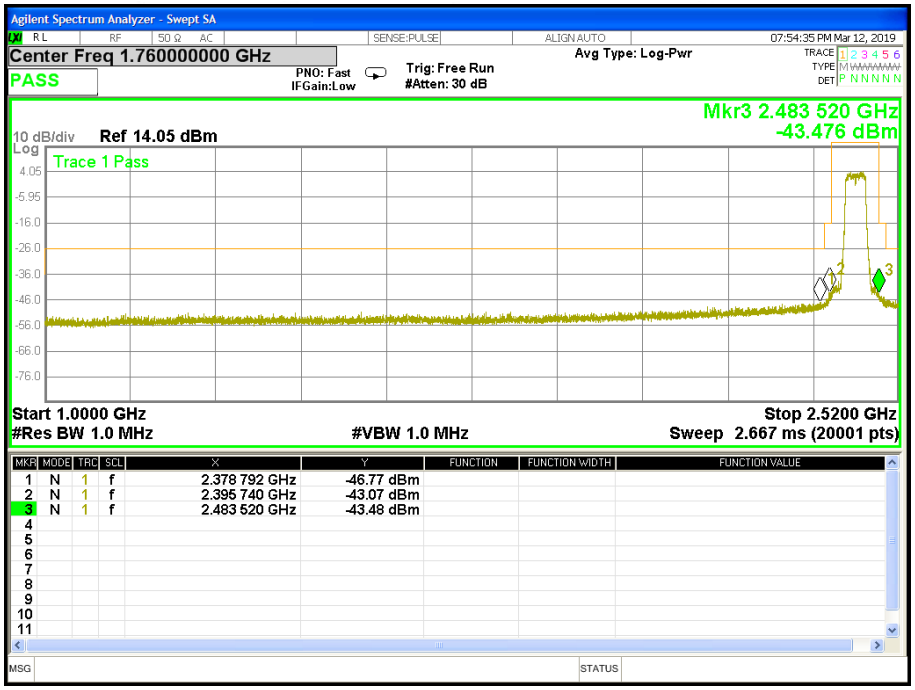

## CH3 11n(HT40)- Band 3 (2520 MHz ≦f < 12.75 GHz)



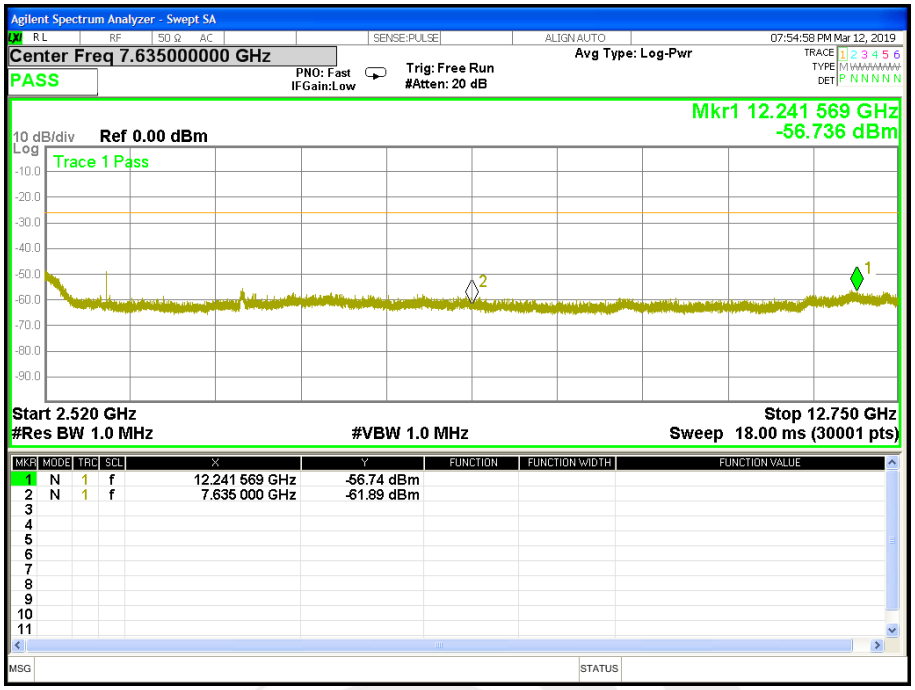
## CH 7 11n(HT40)- Band 1 (30 MHz ≦f ≦1000 MHz)



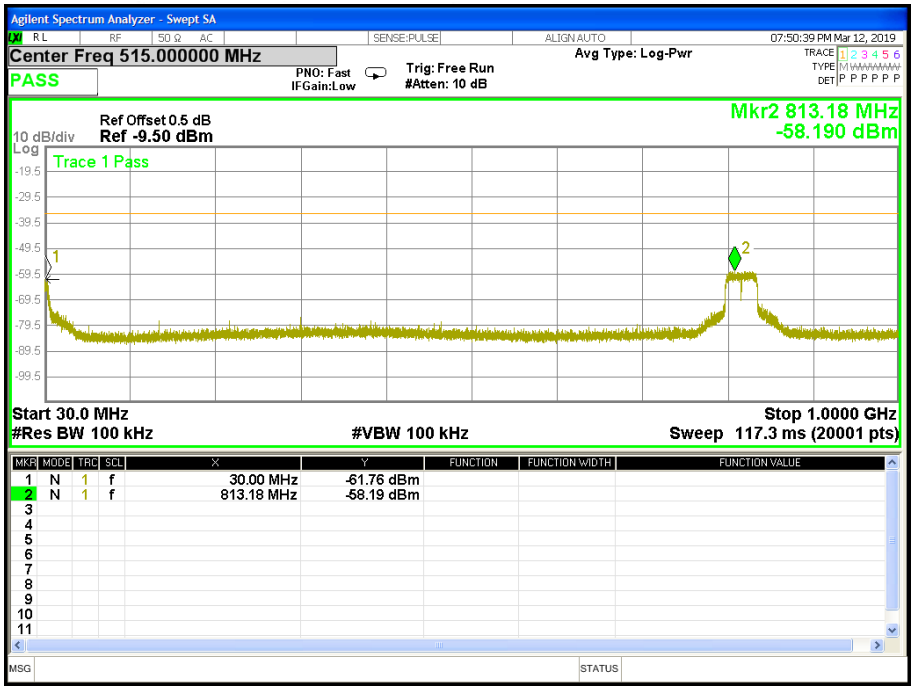

## CH 7 11n(HT40)- Band 2 (1000 MHz < f ≦2520 MHz)



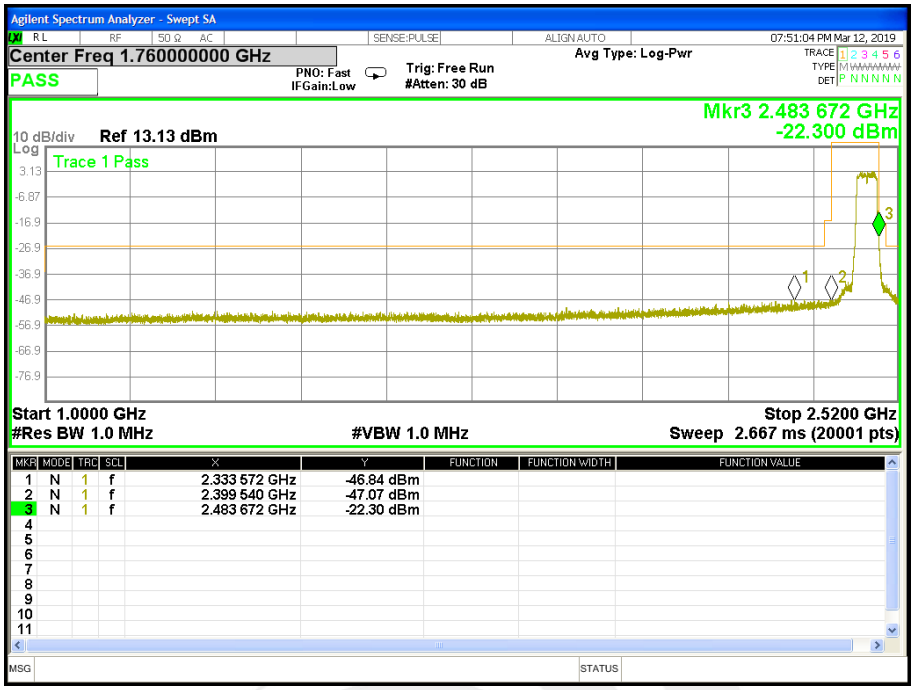
## CH 7 11n(HT40)- Band 3 (2520 MHz ≦f < 12.75 GHz)



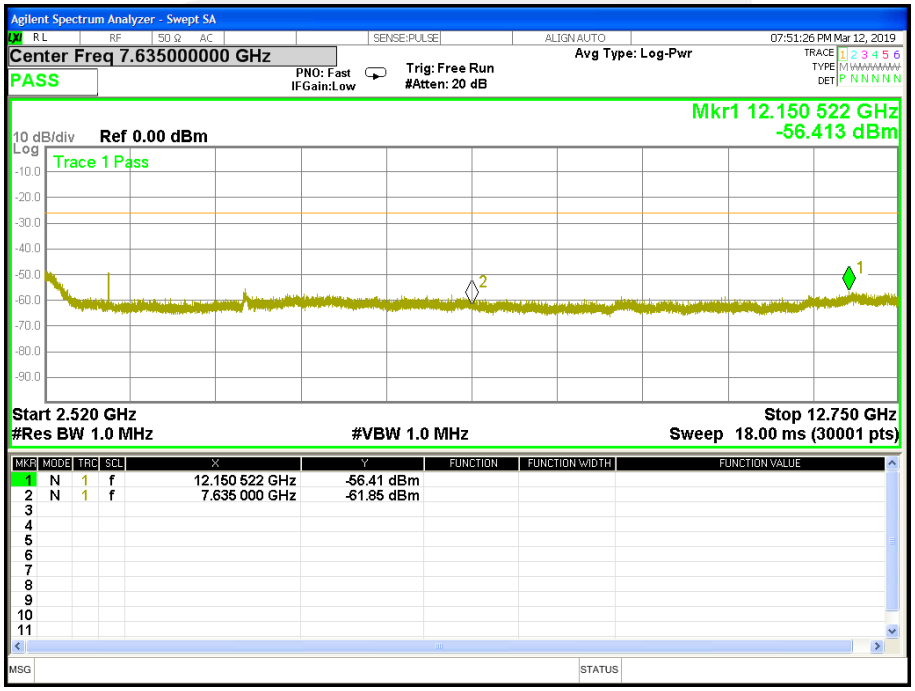

## CH 11 11n(HT40)- Band 1 (30 MHz ≦f ≦1000 MHz)



## CH 11 11n(HT40)- Band 2 (1000 MHz < f ≦2520 MHz)




## CH 11 11n(HT40)- Band 3 (2520 MHz ≦f < 12.75 GHz)



# 9. IMITATION OF COLLATERAL EMISSION OF RECEIVER MEASUREMENT

## 9.1 LIMIT

| Item | Limits |
|---|---|
| RX Spurious Emission: | ≦4nW (f<1GHz) |
| | ≦20nW (1GHz≦f) |

## 9.2 TEST PROCEDURES

The following table is the setting of Spectrum Analyzer.

| Spectrum Parameter | Setting |
|---|---|
| Attenuation | Auto |
| RBW | 100 kHz (below 1GHz emissions)<br>1 MHz (above 1GHz emissions) |
| VBW | 100 kHz (below 1GHz emissions)<br>1 MHz (above 1GHz emissions) |
| Detector | Peak |
| Trace | Max Hold |
| Sweep Time | Auto |

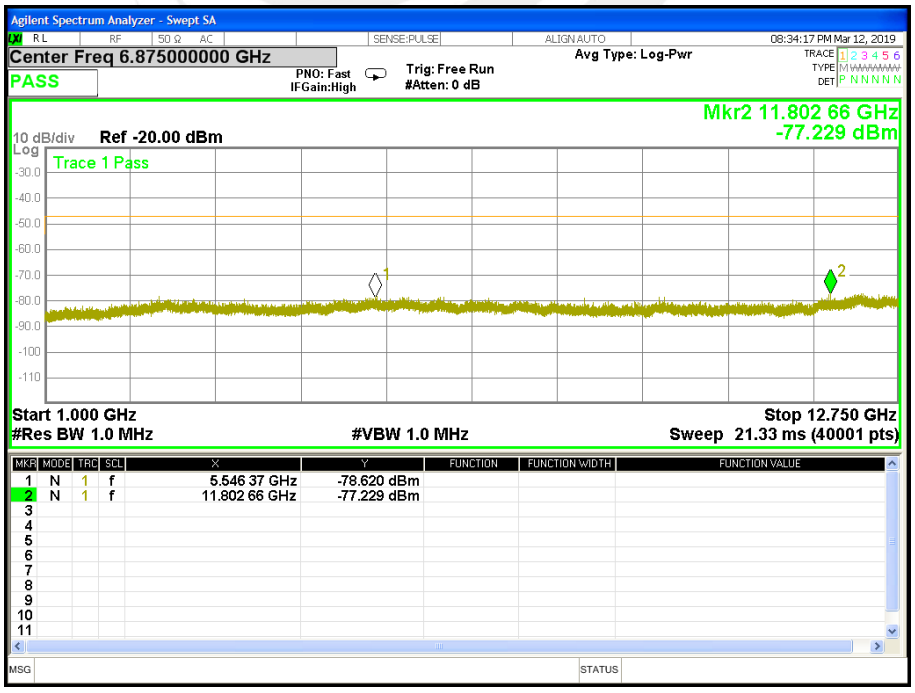
1. EUT have the continuous reception mode and fixed only one channelize.
2. Setting of SA is following as RB / VB: 100 kHz (below 1GHz emissions) / 1 MHz (above 1GHz emissions) /Sweep time: Auto / Sweep Mode: Continuous sweep / Detect mode: Positive peak / Trace mode: Max hold
3. SA set RB: 100kHz and VB: 100kHz. Then adjust to start frequency 30MHz and stop frequency 1000MHz. Search to mark peak reading value + cable loss shall be less than 4nW
4. SA set RB: 1MHz and VB: 1MHz. Then adjust to start frequency 1000MHz and stop frequency 12500MHz. Search to mark peak reading value + cable loss shall be less than 20nW
5. If power level of lower emissions are more than 1/10 of limit (.0.4nW for f < 1GHz, 2nW for f >= 1GHz), all those are to be indicated in the 2nd and 3rd lines. If others are 1/10 or less more of the limit, no necessary to be indicated.

## 9.3 TEST RESULT

| | | | |
|---|---|---|---|
| Temperature: | 25°C | Humidity: | 55 % RH |
| Operation Mode: | Nor. Voltage-11b RX Mode | | |

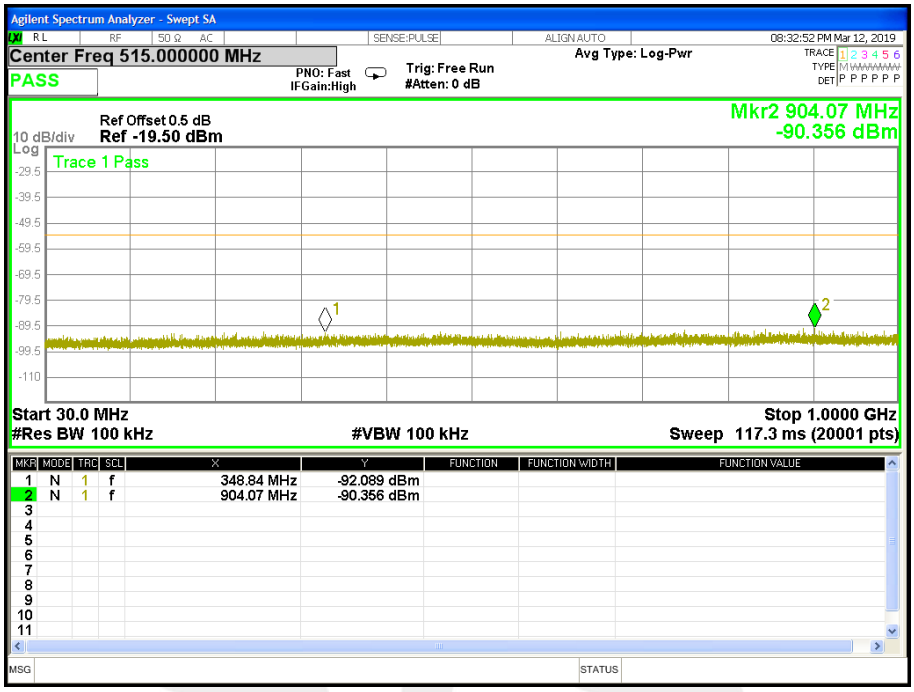
**RX- Band 1 (30 MHz ≦f < 1000 MHz)**


**RX- Band 2 (1000 MHz ≦f < 12750 MHz)**

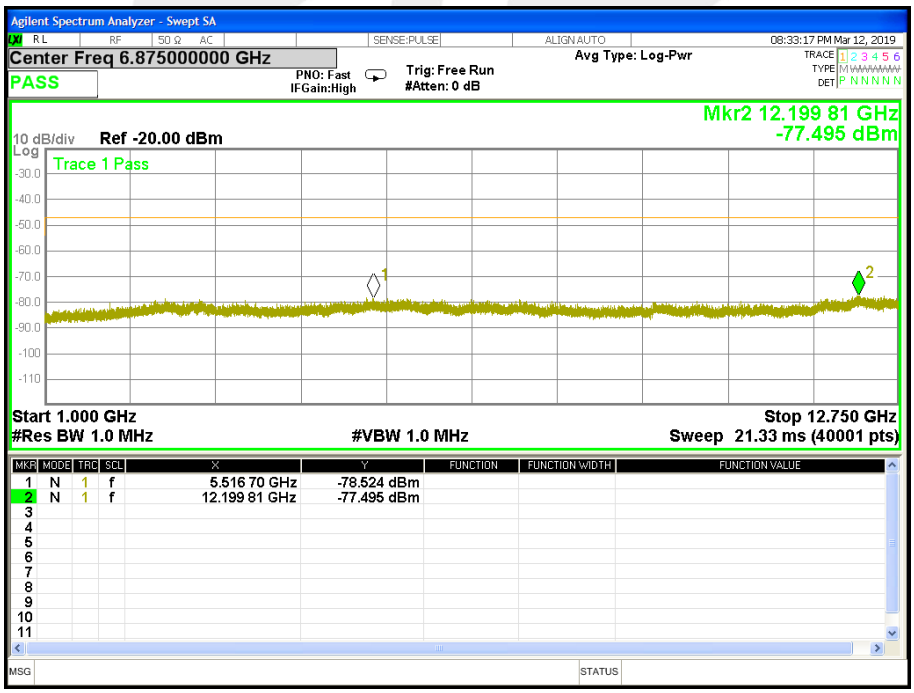


| | | | |
|---|---|---|---|
| Temperature: | 25°C | Humidity: | 55 % RH |
| Operation Mode: | Nor. Voltage-11g RX Mode | | |

**RX- Band 1 (30 MHz ≦f < 1000 MHz)**

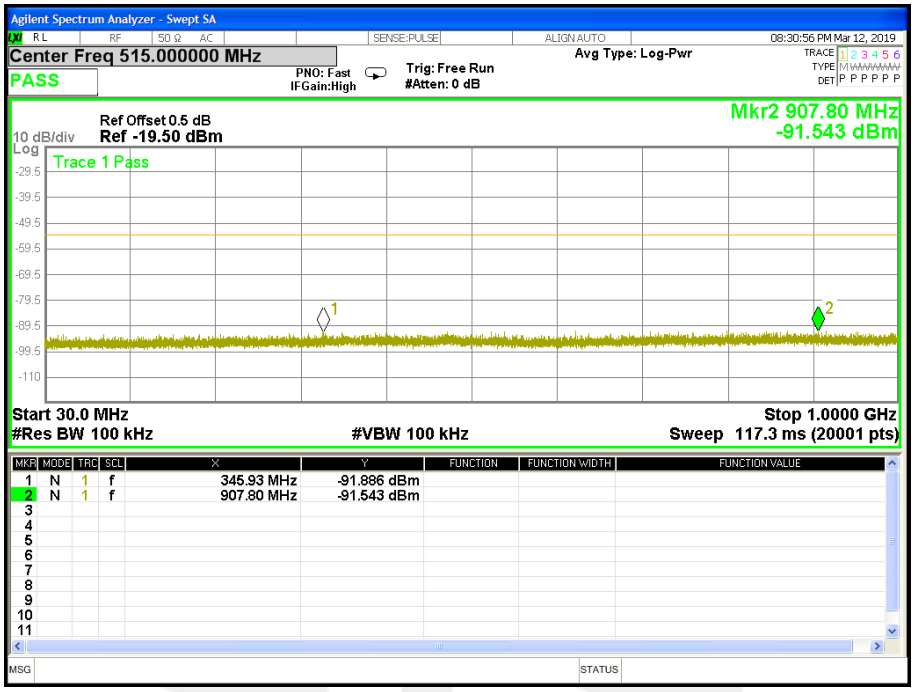



**RX- Band 2 (1000 MHz ≦f < 12750 MHz)**



| | | | |
|---|---|---|---|
| Temperature: | 25°C | Humidity: | 55 % RH |
| Operation Mode: | Nor.Voltage-11n20 RX Mode | | |

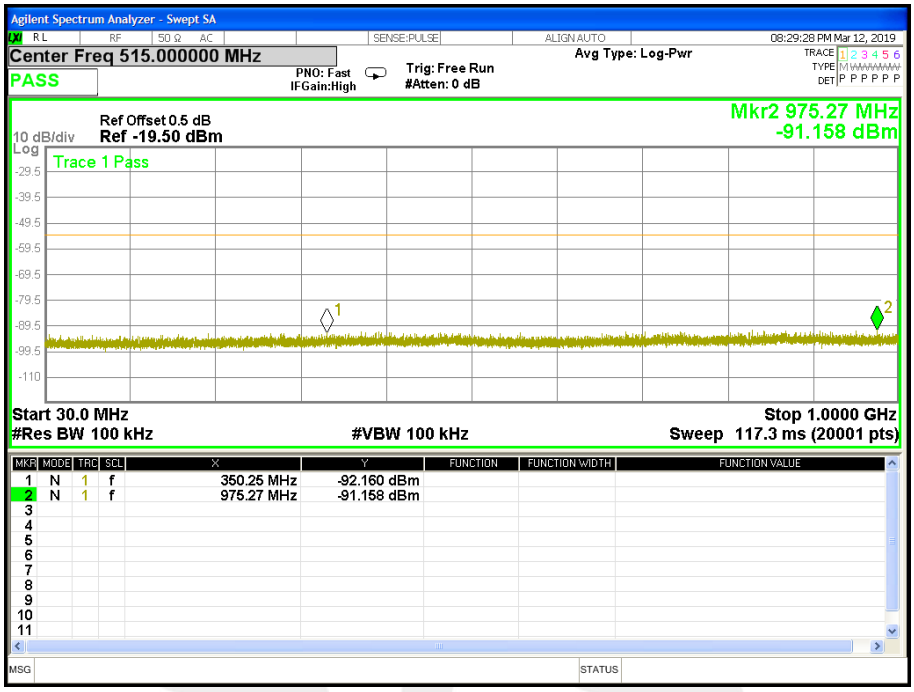
**RX- Band 1 (30 MHz ≦f < 1000 MHz)**



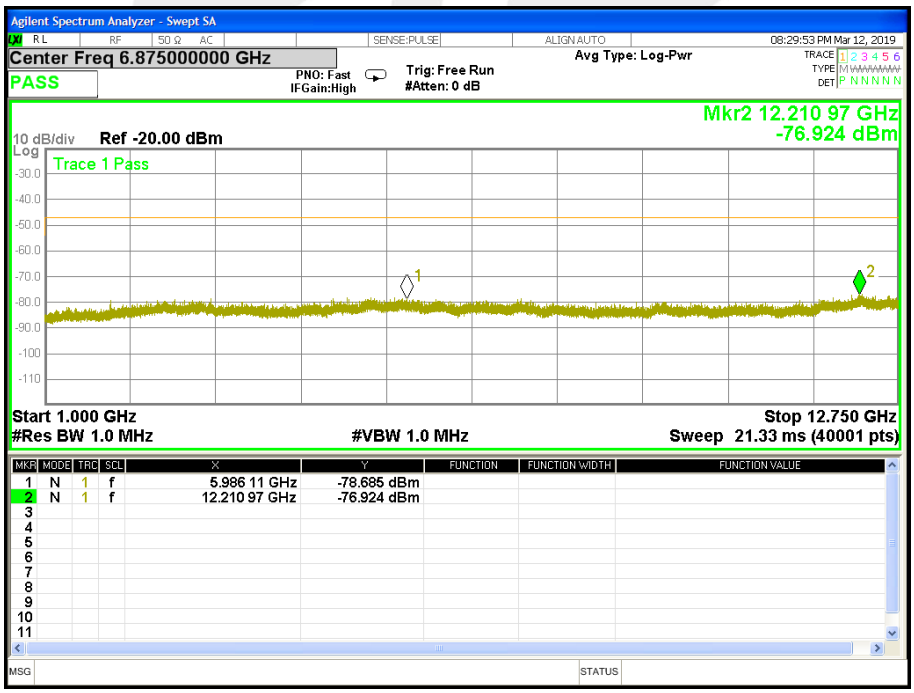

**RX- Band 2 (1000 MHz ≦f < 12750 MHz)**

| Temperature: | 25°C | Humidity: | 55 % RH |
|---|---|---|---|
| Operation Mode: | Nor.Voltage-11n40 RX Mode | | |

**RX- Band 1 (30 MHz ≦f < 1000 MHz)**




**RX- Band 2 (1000 MHz ≦f < 12750 MHz)**



# 10. TRANSMISSION RADIATION ANGLE WIDTH (3DB BEAMWIDTH) MEASUREMENT

## 10.1 LIMIT

| Item | Limits |
|---|---|
| 3dB antenna beam width | e ≦ 360/A (The A is 10 in maximum)<br>A = {EIRP Power [mW/MHz] /{2.14dBi+output power(10mW /MHz, 3mW/MHz)}<br>Shall be 1 when A is lower than 1 |

## 10.2 TEST PROCEDURES

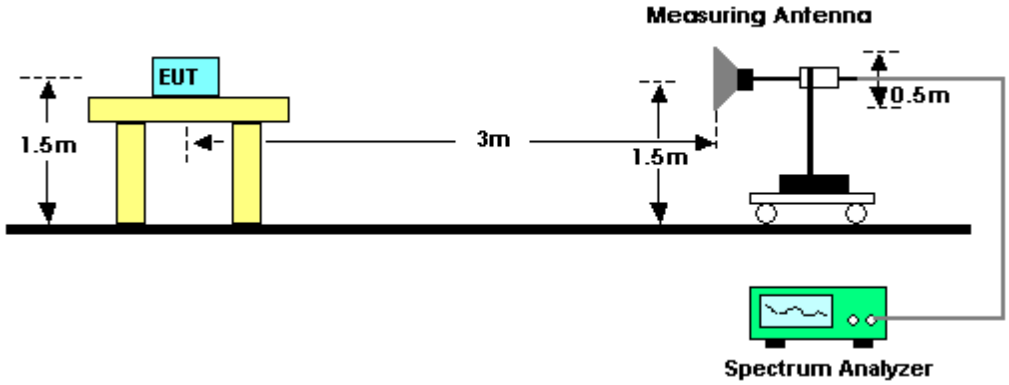
| Spectrum Parameter | Setting |
|---|---|
| Attenuation | Auto |
| Span Frequency | 0 MHz |
| RBW | 1 MHz |
| VBW | 1 kHz |
| Detector | Peak |
| Trace | Max Hold |
| Sweep Time | Auto |

1. Set EUT and measuring antenna at the same height and roughly facing each other.
2. Set spectrum analyzer with condition in section 4.7.2 and tune reference level to observe receving signal position.
3. Rotate directions of the EUT horizontally and ertically to find the maximum receiving power.
4. Move the measuring antenna height up and down within ± 50cm of EUT height and swing it to find the maximum output of measuing antenna. “E” is the half-power beam width (angle between two points at which radiated power becomes 1/2)
5. Caluate permitted radiation angle in horizontal and vertical using EIRP measured in another test method.
6. Calculate 3dB antenna beam width by the formula below 360/A The A is 10 in maximum).

   e ≦ 360/A (The A is 10 in maximum)

   A = {EIRP Power [mW/MHz] /{2.14dBi+output power(10mWMHz, 3mW/MHz)}
   Shall be 1 when A is lower than 1

## 10.3 TEST SETUP




## 10.4 TEST DEVIATION

There is no deviation with the original standard.

## 10.5 EUT OPERATION DURING TEST

The EUT was programmed to be in continuously transmitting mode.

## 10.6 TEST RESULT

Note: The antenna gain is less than 2.14dBi, no requirement.

# 11. RADIO INTERFERENCE PREVENTION CAPABILITY MEASUREMENT

## 11.1 LIMIT

| Item | Limits |
|---|---|
| Identification code | ≧48 bits |

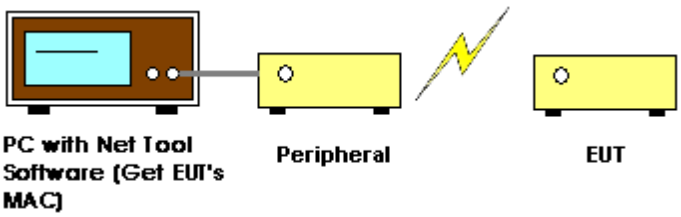
## 11.2 MEASURING ID CODE SOFTWARE

| Item | Limits |
|---|---|
| MAC IP List | MAC Scan |

## 11.3 TEST PROCEDURES

1. In the case that the EUT has the function of automatically transmitting the identification code: a. Transmit the predetermined identification codes form EUT. b. Check the transmitted identification codes with the demodulator.
2. In the case of receiving the identification ocde: a. Transmit the predetermined identification codes form the counterpart. b . Check if communication is normal. c. Transmit the signals other than predetermined ID codes form the counterpart. d. check if the EUT stops the transmission, or if it displays that idnetification codes are different from the predetermined ones.

## 11.4 TEST SETUP



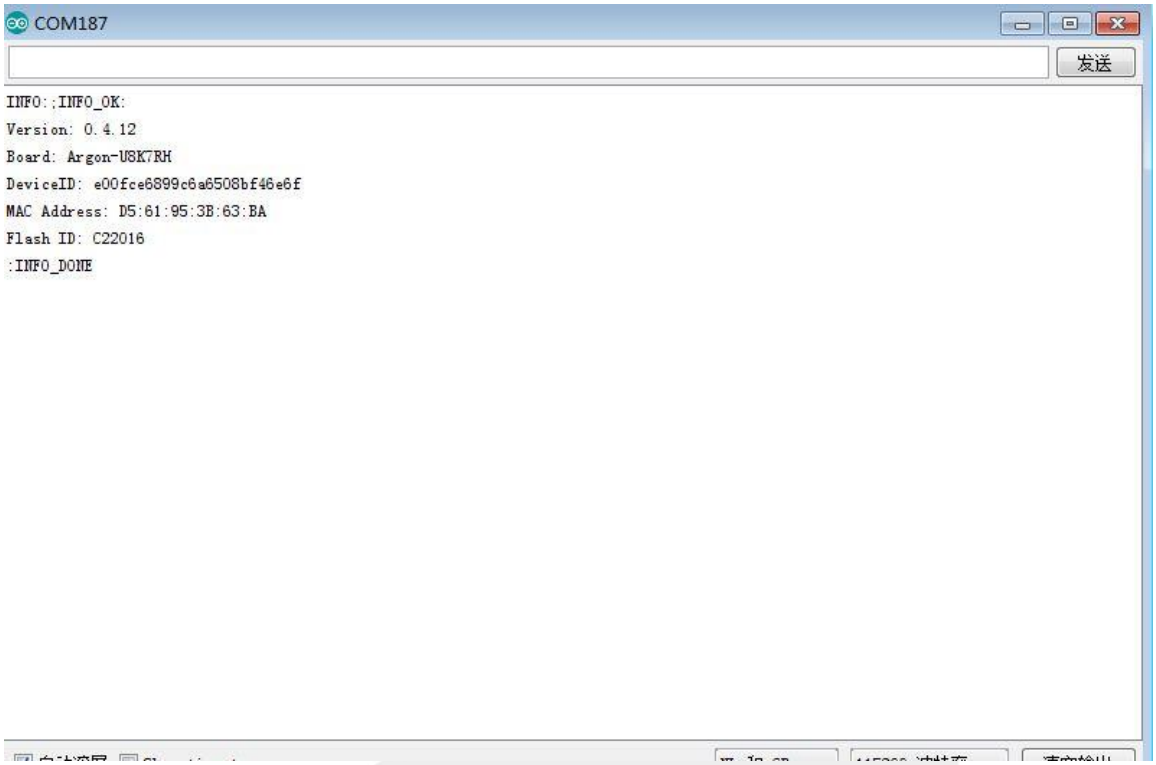

## 11.5 TEST DEVIATION

There is no deviation with the original standard.

## 11.6 EUT OPERATION DURING TEST

The EUT was programmed to be in normal transmitting mode.

## 11.7 TEST RESULT OF RADIO INTERFERENCE PREVENTION CAPABILIT




Note: The MAC Address is D5:61:95:3B:63:BA.

# 12. CARRIER SENSE CAPABILITY

## 12.1 INTERFERENCE PREVENTION FUNCTION

## 12.2 TEST REQUIREMENT

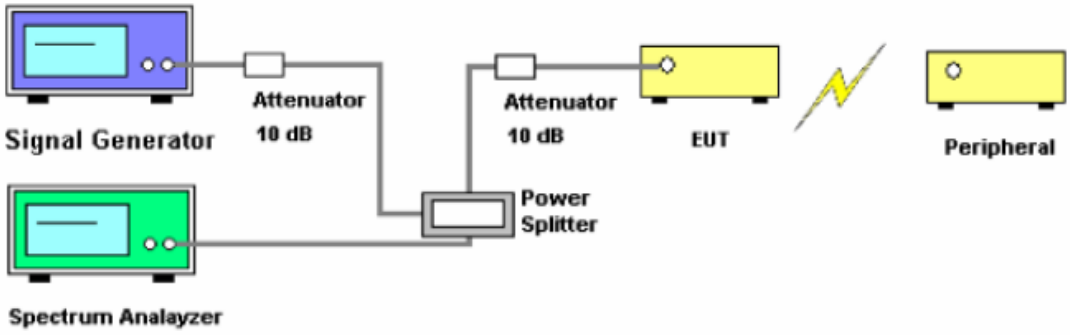
MIC Notice No.88 Appendix No.43

Article 2, Paragraph 1, Item 19 Rules Section 10

## 12.3 TEST PROCEDURE

1. SG adjusted the frequency as same as the EUT transmitted signal and emitted the absence of modulation from SG and power level is (on 22.79+G-20*log(f)dBm)(G is the antenna gain,f is the test frequency).
2. turn off the RF signal of the SG.
3. EUT have transmitted the maximum modulation signal and fixed channelize.
4. Setting of SA :RBW/VBW=1MHz/1MHz,Span=0MHz,Sweep time=auto,Sweep mode=continuous, Detect mode=positive peak
5. SG RF signal on.
6. EUT shall be stop the transmitted any signal and SG RF signal off, the EUT will be continuous

❖ Measurement System Diagram




❖ Conditions of Application Equipment (EUT)

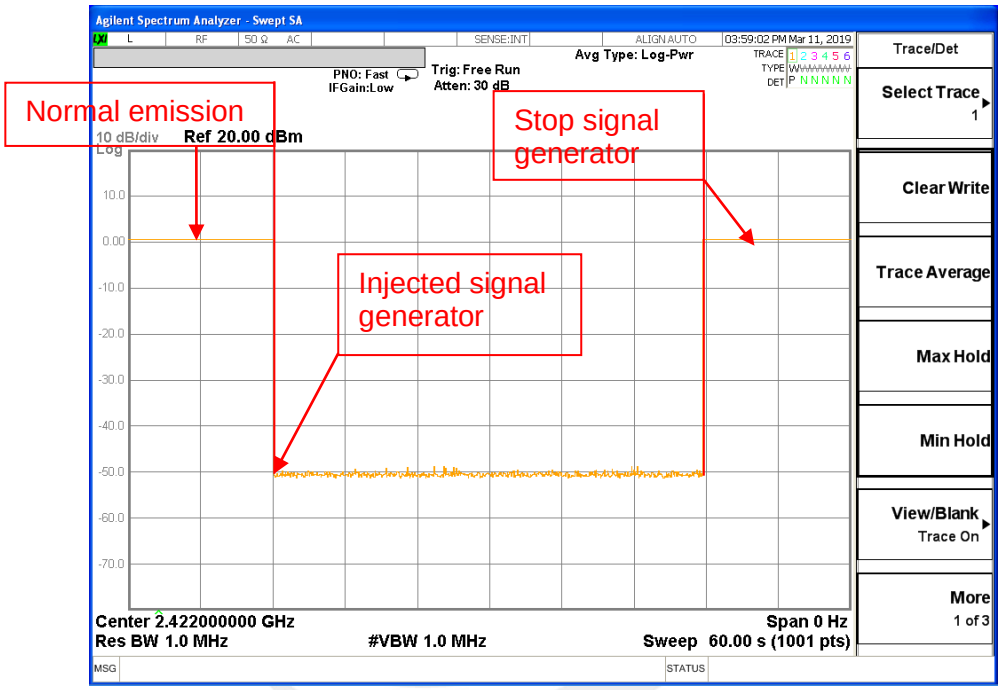
- The EUT state shall be "normal mode link with wireless router".

## 12.4 TEST RESULT

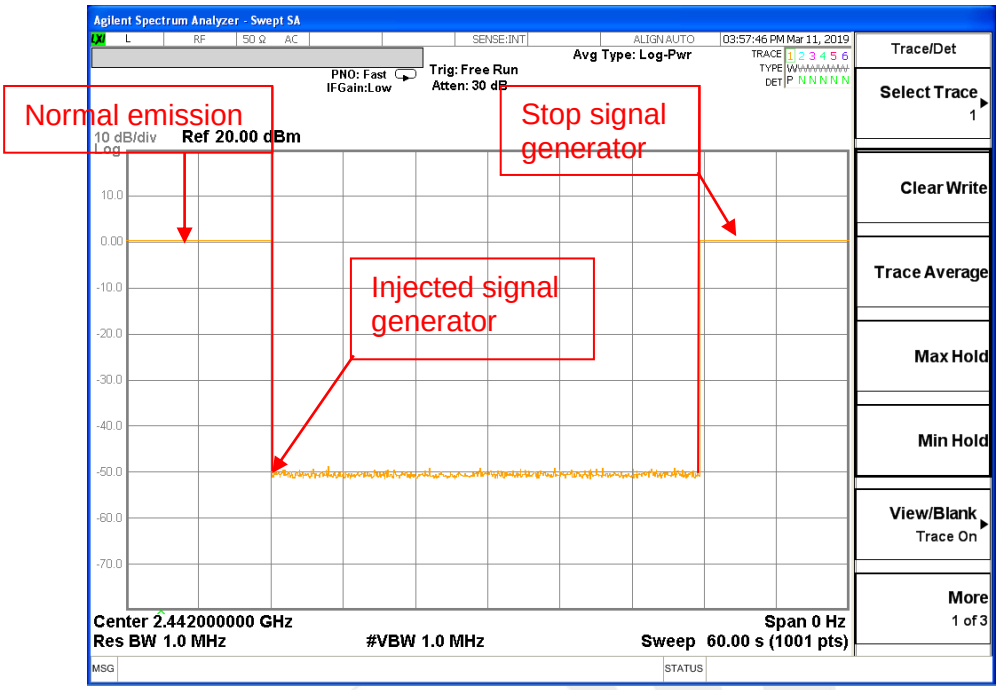
| Temperature: | 25°C | Humidity: | 55 % RH |
|---|---|---|---|
| Test result: | CONFORM | | |

### 802.11n(HT40) mode Test polt

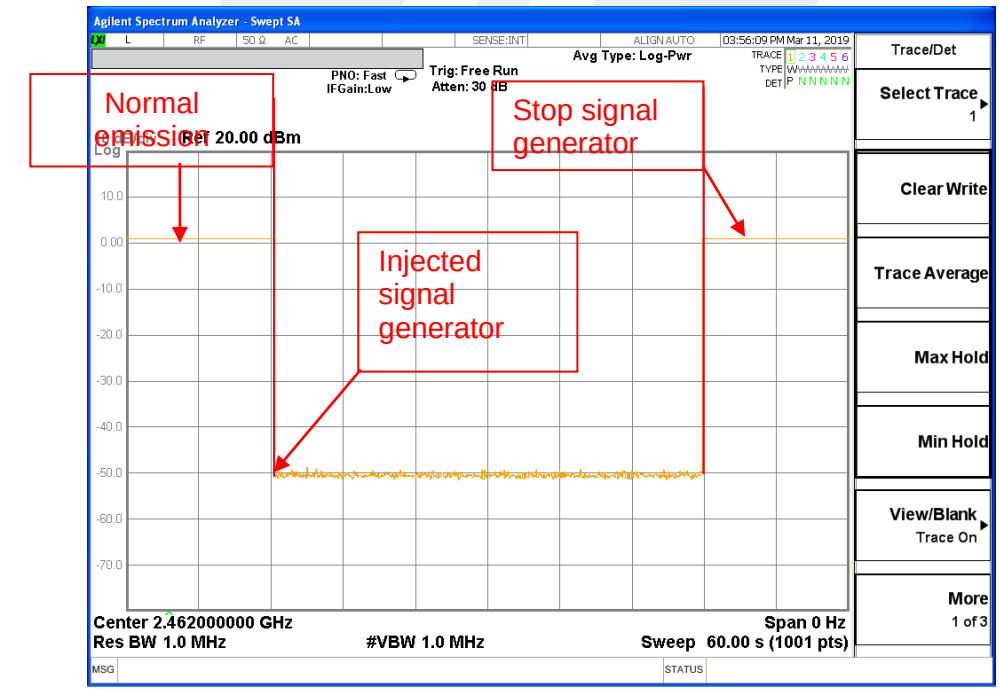
**Channel 3 TX-2422 Worst Mode**



## Channel 7 TX-2442 Worst Mode




## Channel 11 TX-2462Worst Mode



## 13. EUT TEST PHOTO

Note: See test photos in setup photo document for the actual connections between Product and support equipment.

※※※※※END OF THE REPORT※※※※※