



FCC RF TEST REPORT

Report No.: R201907011
Model No.: CB64
Grant No.: JOY
FCC ID: JOYCB64
Date of Receipt: June 17,2019
Date of Test: June 17,2019~ July 26,2019
Date of Issue: July 26,2019
Test Result: PASS

Applicant: Kyocera Corporation
Manufacturer: Kyocera Corporation
Factory: Kyocera Corporation
Product Name GSM/WCDMA/LTE Mobile Telephone
Trade Mark KYOCERA
Address: 2-1-1 Kagahara, Tsuzuki-ku,
Yokohama-shi,Kanagawa, Japan, 224-8502
Issued By: BYD Precise Manufacture Co., Ltd.
Lab Location: No. 3001, Baohe Road, Baolong
Longgang, Shenzhen, 518116, People's
Republic of China

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1 REPORT ISSUED HISTORY

| Version | Description | Issued Data |
|---------|----------------|--------------|
| Rev. 01 | Original issue | July 26,2019 |
| | | |



3 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

| FCC RULE | Description | RESULT | REMARK |
|------------|--------------------------------|--------|----------------------------|
| §15.403(i) | 26dB and 99% BandWidth | Pass | - |
| §15.407(a) | Maximum Conducted Output Power | Pass | ≤ 24,30dBm(depend on band) |
| §15.407(a) | Power Spectral Density | Pass | ≤ 11 (depend on band) |
| §15.407(g) | Frequency Stability | Pass | Within Operation Band |

3.1 Measurement Uncertainty

| Parameter | Measurement Uncertainty |
|-----------------------------------|-------------------------|
| Occupied Channel Bandwidth | ±5% |
| RF output power, Conducted | ±0.59dB |
| Power Spectral Density, Conducted | ±0.59dB |
| Unwanted Emissions, Radiated | ±1.6dB |
| Temperature | ±1°C |
| Humidity | ±5% |
| DC and low frequency voltages | ±0.4% |
| Duty Cycle | ±1% |



4 GENERAL INFORMATION

4.1 Test Equipments List

| Description & Manufacturer | MODEL NO. | SERIAL NO. | Next Calibration date |
|------------------------------------|-----------------------------------|-----------------|-----------------------|
| SIGNAL ANALYZER ROHDE & SCHWARZ | FSQ26 | 200393 | 2020/4/1 |
| DC Power Supply Agilent | E3632A | MY40021860 | 2019/10/18 |
| RADIO COMMUNICATION TESTER | CMW500 | 148345 | 2019/10/16 |
| USB RF power sensor | RPR3006W | 15I00041SNO63 | 2019/11/3 |
| Temperature Chamber WEISS | Temperature Chamber | '58226074850010 | 2020/7/2 |
| Power Divider r | - | C279810-01 | - |
| RF cable | Huber Suhner SUCOFLEX 104PE | - | - |
| PC | - | 30009611 | - |

NOTE: Calibration cycle 12 months.



4.2 Description of Test Modes

| Test Items | Mode | Data Rate | Test Channel | Power level |
|---|----------------|-----------|--------------|-------------|
| 26dB and 99% BW Power Spectral Density Output Power | 802.11a | 6Mbps | L/M/H | 13 |
| | 802.11n HT20 | MCS0 | L/M/H | 13 |
| | 802.11n HT40 | MCS0 | L/M/H | 11.5 |
| | 802.11ac VHT20 | MCS0 | L/M/H | 13 |
| | 802.11ac VHT40 | MCS0 | L/M/H | 11.5 |
| | 802.11ac VHT80 | MCS0 | M | 12.5 |
| Frequency Stability | 802.11a | 6Mbps | L/M/H | 13 |
| | 802.11n HT20 | MCS0 | L/M/H | 13 |
| | 802.11n HT40 | MCS0 | L/M/H | 11.5 |
| | 802.11ac VHT20 | MCS0 | L/M/H | 13 |
| | 802.11ac VHT40 | MCS0 | L/M/H | 11.5 |
| | 802.11ac VHT80 | MCS0 | M | 12.5 |

4.3 Testing Location

| | |
|---------------------------|---|
| Test Site | BYD Precise Manufacture Co., Ltd. |
| Test Site Location | No. 3001, Baohe Road, Baolong Longgang, Shenzhen, 518116, People' s Republic of China |
| Post Code | 518116 |
| Telephone | +86-755 8489 8888 55501 |
| Fax | +86-755 8964 3771 |

4.4 Test Facility

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

• **A2LA (Certificate No. 4886.01)**

BYD Precise Manufacture Co., Ltd., Baolong Shenzhen Laboratory is accredited by the American Association for Laboratory Accreditation (A2LA). Certificate No. 4886.01.

• **FCC –Designation Number: CN1232**

BYD Precise Manufacture Co., Ltd., Baolong Shenzhen Laboratory has been recognized as an accredited testing laboratory.

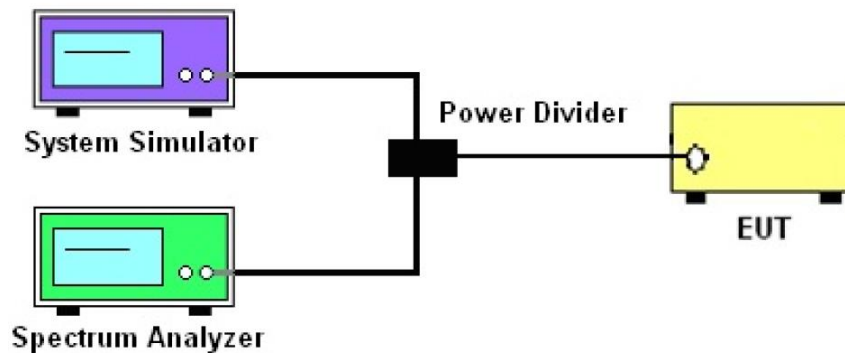
Designation Number: CN1232.



4.5 Test Environment and List of Software and Parts

| Test Items | Software | Parts | Environment |
|------------------------|-----------------|-------------------------|--|
| 26dB BandWidth | QRCT Version3.0 | USB Cable, Fake battery | Temp.:25°C±3 Humi:30%~60% Volt.:3.85V |
| 99% BandWidth | QRCT Version3.0 | USB Cable, Fake battery | Temp.:25°C±3 Humi:30%~60% Volt.:3.85V |
| Output Power | QRCT Version3.0 | USB Cable, Fake battery | Temp.:25°C±3 Humi:30%~60% Volt.:3.85V |
| Power Spectral Density | QRCT Version3.0 | USB Cable, Fake battery | Temp.:25°C±3 Humi:30%~60% Volt.:3.85V |
| Frequency Stability | QRCT Version3.0 | USB Cable, Fake battery | Temp.: -20°C~60°C Humi:30%~60% Volt.:3.85, 3.465, 4.235V |

4.6 CONFIGURATION of System Under Test



4.7 General Description of Applied Standards

The EUT is a RF Product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

FCC 47 CFR Part15 Subpart E

FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r02

ANSI C63.10-2013

All test items have been performed and recorded as per the above standards.



5 TEST TYPES AND RESULTS

5.1 26dB and 99% Bandwidth

5.1.1 Description

This section is for reporting purpose only.

There is no restriction limits for bandwidth.

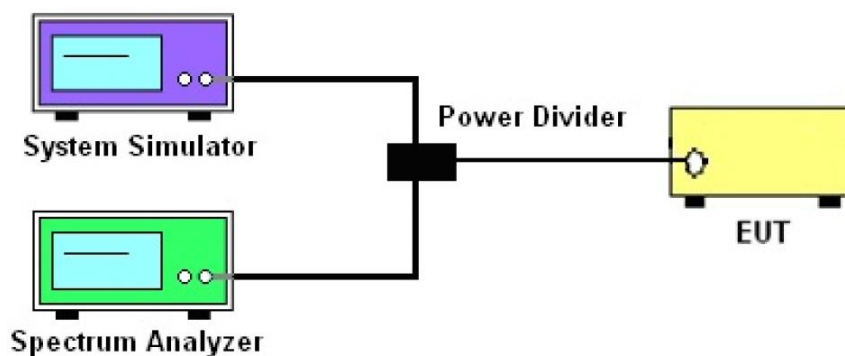
5.1.2 Test Instruments

The measuring equipment is listed in the section 4.1 of this test report.

5.1.3 Test Procedure

- a. Set RBW = approximately 1% of the emission bandwidth.
- b. Set the VBW > RBW
- c. Detector = Peak
- d. Trace mode = max hold.
- e. Measure the maximum width of the emission that is 26 dB down from the peak of the emission.
Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.
- f. For 99% Bandwidth Measurement, the spectrum analyzers resolution bandwidth (RBW) is set 1MHz and set the Video bandwidth(VBW) $\geq 3 * RBW$.
- g. Measure and record the results in the test report.

5.1.4 Test Setup





5.1.5 Test Results

| 5G U-NII-1 | | | | | |
|-------------|-----------|---------|----------------|-------------|--------------|
| Mode | Data Rate | Channel | Frequency(MHz) | 99% BW(MHz) | 26dB BW(MHz) |
| 11A | 6Mbps | 36 | 5180 | 18.13 | 21.86 |
| 11A | 6Mbps | 44 | 5220 | 18.27 | 21.86 |
| 11A | 6Mbps | 48 | 5240 | 18.13 | 21.79 |
| 11N 5G HT20 | MCS0 | 36 | 5180 | 18.94 | 22.31 |
| 11N 5G HT20 | MCS0 | 44 | 5220 | 19.09 | 22.31 |
| 11N 5G HT20 | MCS0 | 48 | 5240 | 18.94 | 22.18 |
| 11N 5G HT40 | MCS0 | 38 | 5190 | 36.54 | 43.85 |
| 11N 5G HT40 | MCS0 | 46 | 5230 | 36.63 | 43.97 |
| 11AC HT20 | MCS0 | 36 | 5180 | 19.13 | 21.92 |
| 11AC HT20 | MCS0 | 44 | 5220 | 19.09 | 22.18 |
| 11AC HT20 | MCS0 | 48 | 5240 | 18.99 | 21.92 |
| 11AC HT40 | MCS0 | 38 | 5190 | 36.54 | 43.85 |
| 11AC HT40 | MCS0 | 46 | 5230 | 36.44 | 43.97 |
| 11AC HT80 | MCS0 | 42 | 5210 | 75.0 | 85.64 |

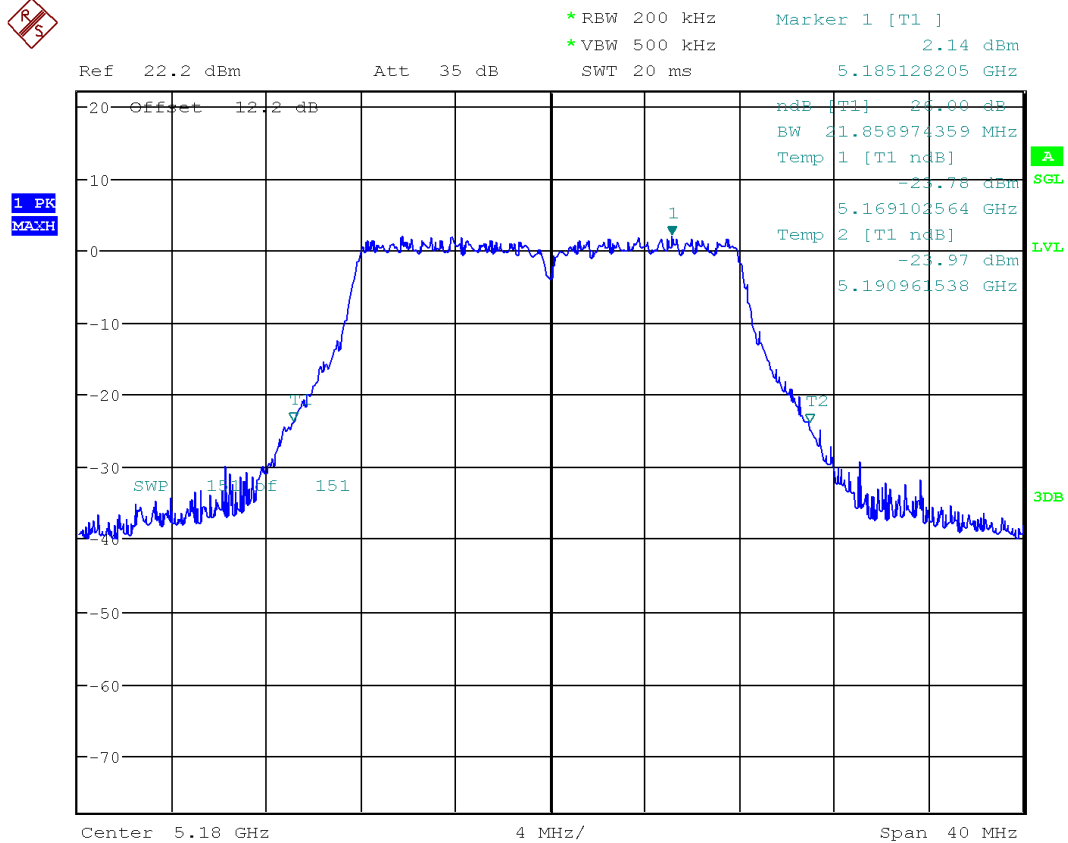
| 5G U-NII-2A | | | | | |
|-------------|-----------|---------|----------------|-------------|--------------|
| Mode | Data Rate | Channel | Frequency(MHz) | 99% BW(MHz) | 26dB BW(MHz) |
| 11A | 6Mbps | 52 | 5260 | 18.22 | 21.92 |
| 11A | 6Mbps | 60 | 5300 | 18.27 | 21.67 |
| 11A | 6Mbps | 64 | 5320 | 18.13 | 21.79 |
| 11N 5G HT20 | MCS0 | 52 | 5260 | 18.89 | 22.37 |
| 11N 5G HT20 | MCS0 | 60 | 5300 | 19.09 | 22.12 |
| 11N 5G HT20 | MCS0 | 64 | 5320 | 19.09 | 22.05 |
| 11N 5G HT40 | MCS0 | 54 | 5270 | 36.54 | 43.97 |
| 11N 5G HT40 | MCS0 | 62 | 5310 | 36.54 | 45.0 |
| 11AC HT20 | MCS0 | 52 | 5260 | 18.99 | 21.92 |
| 11AC HT20 | MCS0 | 60 | 5300 | 19.09 | 21.99 |
| 11AC HT20 | MCS0 | 64 | 5320 | 19.09 | 21.92 |
| 11AC HT40 | MCS0 | 54 | 5270 | 36.54 | 43.85 |
| 11AC HT40 | MCS0 | 62 | 5310 | 36.54 | 43.72 |
| 11AC HT80 | MCS0 | 58 | 5290 | 74.81 | 85.9 |

| 5G U-NII-2C | | | | | |
|-------------|-----------|---------|----------------|-------------|--------------|
| Mode | Data Rate | Channel | Frequency(MHz) | 99% BW(MHz) | 26dB BW(MHz) |
| 11A | 6Mbps | 100 | 5500 | 18.08 | 22.12 |
| 11A | 6Mbps | 116 | 5580 | 18.03 | 21.73 |



| | | | | | |
|-------------|-------|-----|------|-------|-------|
| 11A | 6Mbps | 140 | 5700 | 18.17 | 21.67 |
| 11N 5G HT20 | MCS0 | 100 | 5500 | 18.89 | 22.05 |
| 11N 5G HT20 | MCS0 | 116 | 5580 | 19.09 | 22.12 |
| 11N 5G HT20 | MCS0 | 140 | 5700 | 18.99 | 22.05 |
| 11N 5G HT40 | MCS0 | 102 | 5510 | 36.44 | 43.85 |
| 11N 5G HT40 | MCS0 | 110 | 5550 | 36.54 | 43.59 |
| 11N 5G HT40 | MCS0 | 134 | 5670 | 36.54 | 43.59 |
| 11AC HT20 | MCS0 | 100 | 5500 | 19.04 | 21.99 |
| 11AC HT20 | MCS0 | 116 | 5580 | 19.13 | 21.99 |
| 11AC HT20 | MCS0 | 140 | 5700 | 19.13 | 21.92 |
| 11AC HT40 | MCS0 | 102 | 5510 | 36.63 | 43.85 |
| 11AC HT40 | MCS0 | 110 | 5550 | 36.63 | 43.85 |
| 11AC HT40 | MCS0 | 134 | 5670 | 36.54 | 43.46 |
| 11AC HT80 | MCS0 | 106 | 5530 | 74.81 | 86.15 |

26dB bandwidth(U-NII-1):



Date: 18.APR.6302 20:28:46

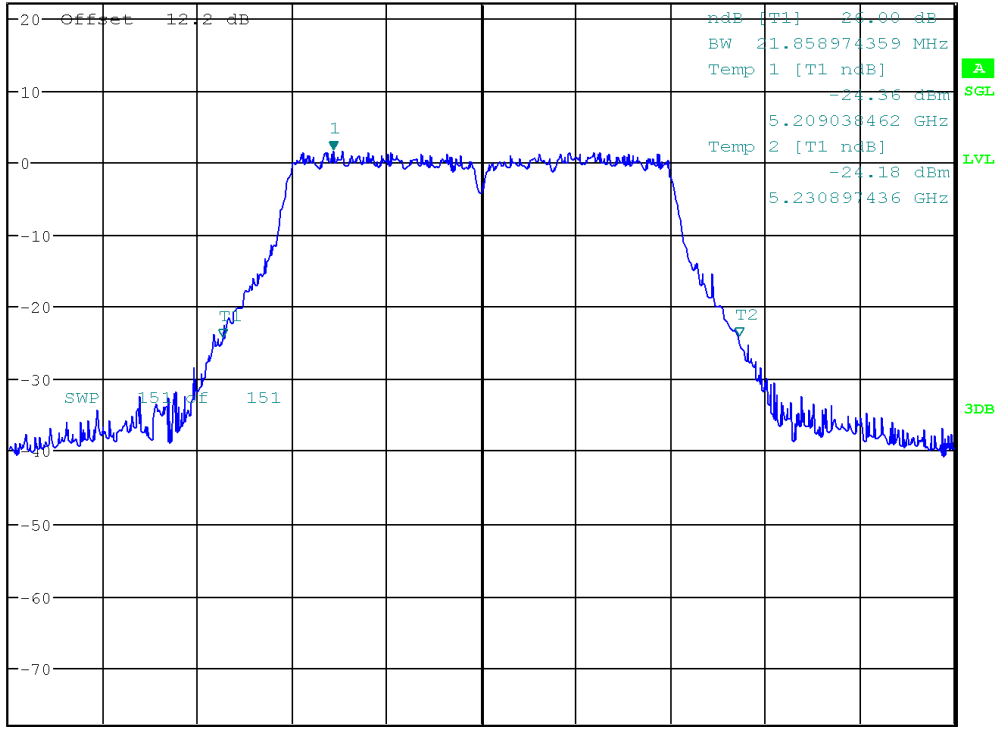


11A 6Mbps CH36 5180MHZ



*RBW 200 kHz Marker 1 [T1] 1.77 dBm
 *VBW 500 kHz 5.213717949 GHz
 Ref 22.2 dBm Att 35 dB SWT 20 ms

1 PK
MACH



Date: 18.APR.6302 20:30:22

11A 6Mbps CH44 5220MHZ



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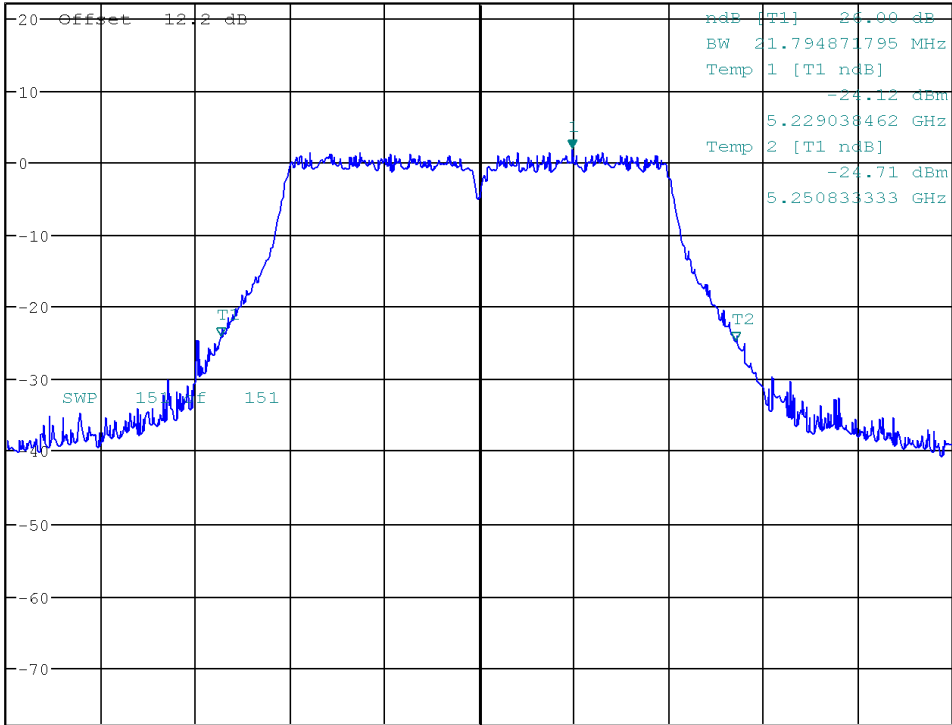
FCC RF TEST REPORT



*RBW 200 kHz Marker 1 [T1] 1.84 dBm
 *VBW 500 kHz 5.243910256 GHz

Ref 22.2 dBm Att 35 dB SWT 20 ms

1 PK
MAGN



Center 5.24 GHz 4 MHz/ Span 40 MHz

Date: 18.APR.6302 20:31:52

11A 6Mbps CH48 5240MHZ

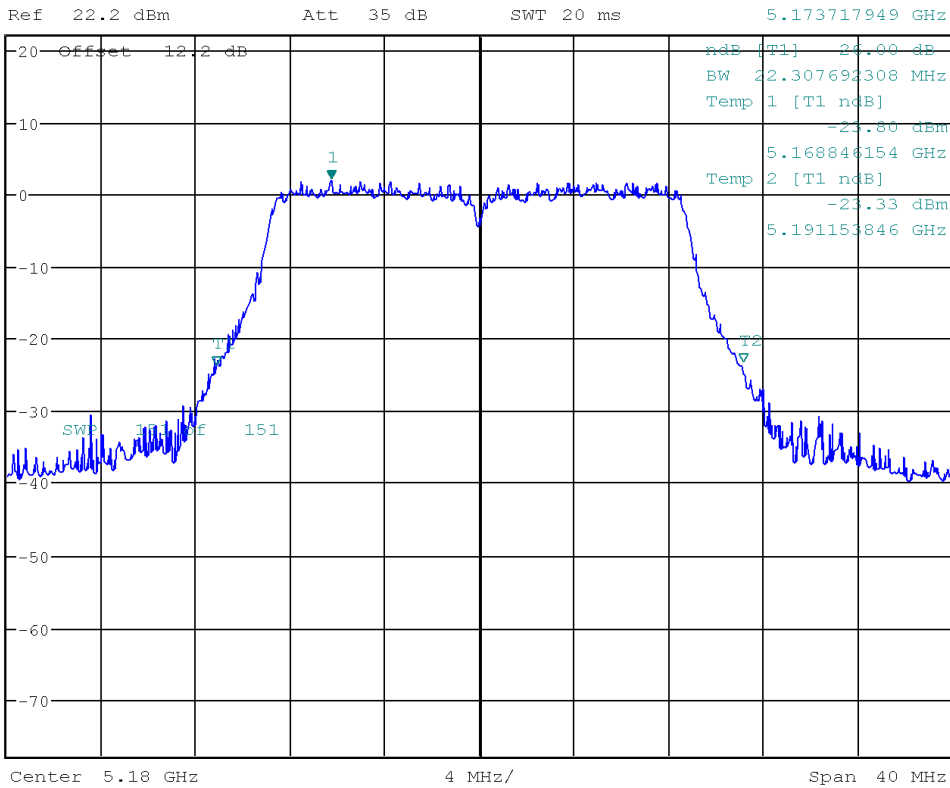


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FCC RF TEST REPORT



*RBW 200 kHz Marker 1 [T1] 2.21 dBm
 *VBW 500 kHz 5.173717949 GHz
 SWT 20 ms



Date: 18.APR.6302 19:50:00

11N 5G HT20 MCS0 CH36 5180MHZ

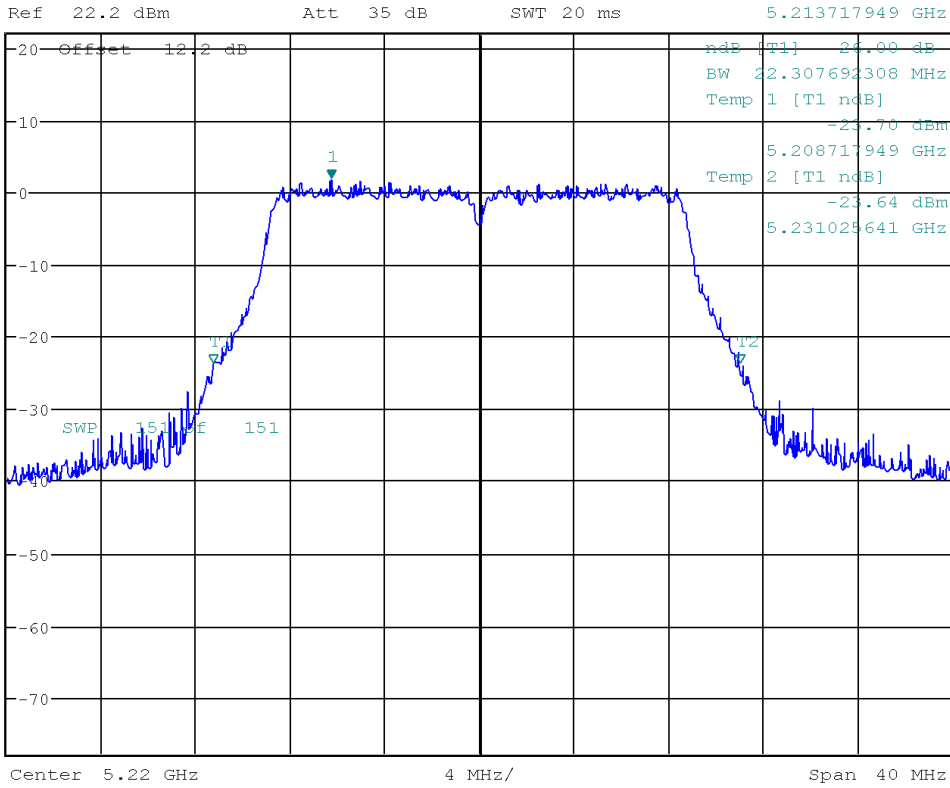


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FCC RF TEST REPORT



*RBW 200 kHz Marker 1 [T1] 1.84 dBm
 *VBW 500 kHz 5.213717949 GHz



Date: 18.APR.6302 19:51:37

11N 5G HT20 MCS0 CH44 5220MHZ

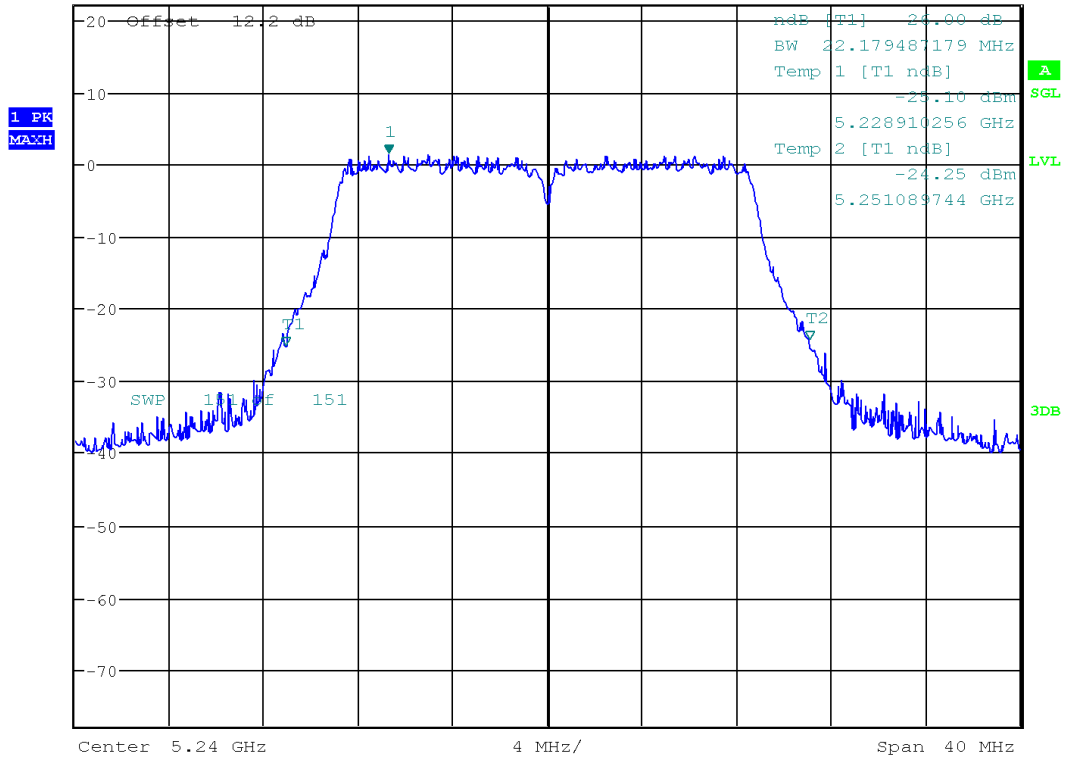


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FCC RF TEST REPORT



*RBW 200 kHz Marker 1 [T1]
 *VBW 500 kHz 1.52 dBm
 Ref 22.2 dBm Att 35 dB SWT 20 ms 5.233269231 GHz



Date: 18.APR.6302 19:53:05

11N 5G HT20 MCS0 CH48 5240MHZ

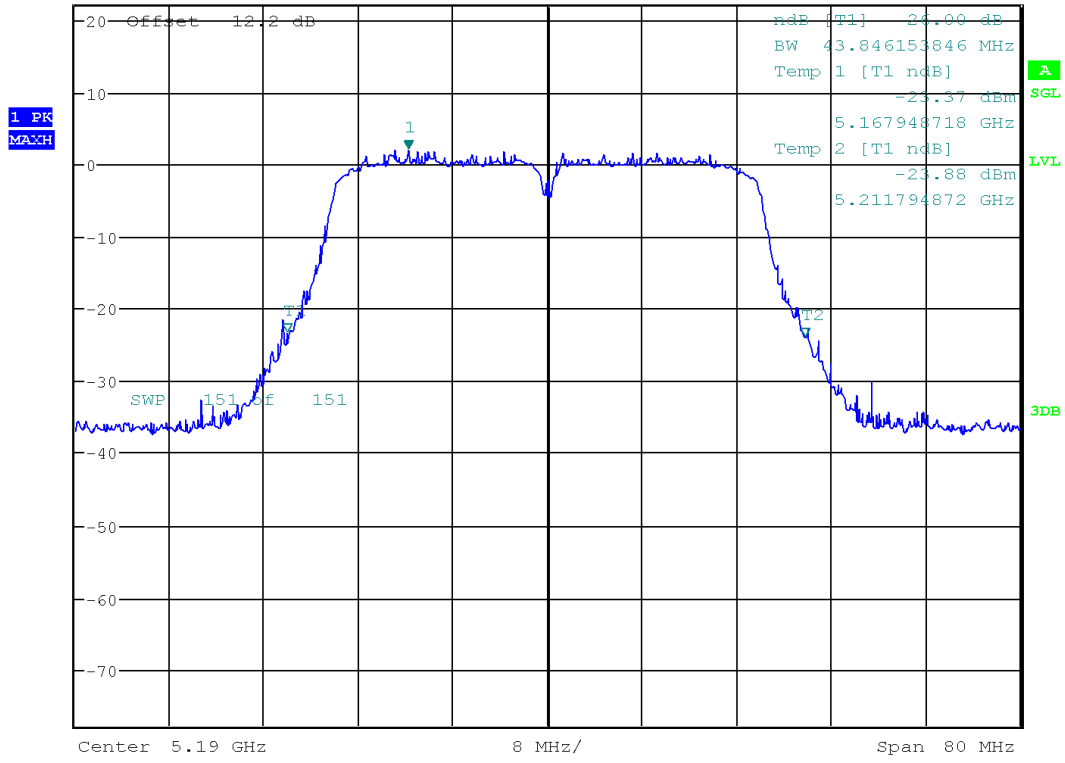


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FCC RF TEST REPORT



*RBW 500 kHz Marker 1 [T1]
 *VBW 2 MHz 2.18 dBm
 Ref 22.2 dBm Att 35 dB SWT 20 ms 5.178205128 GHz

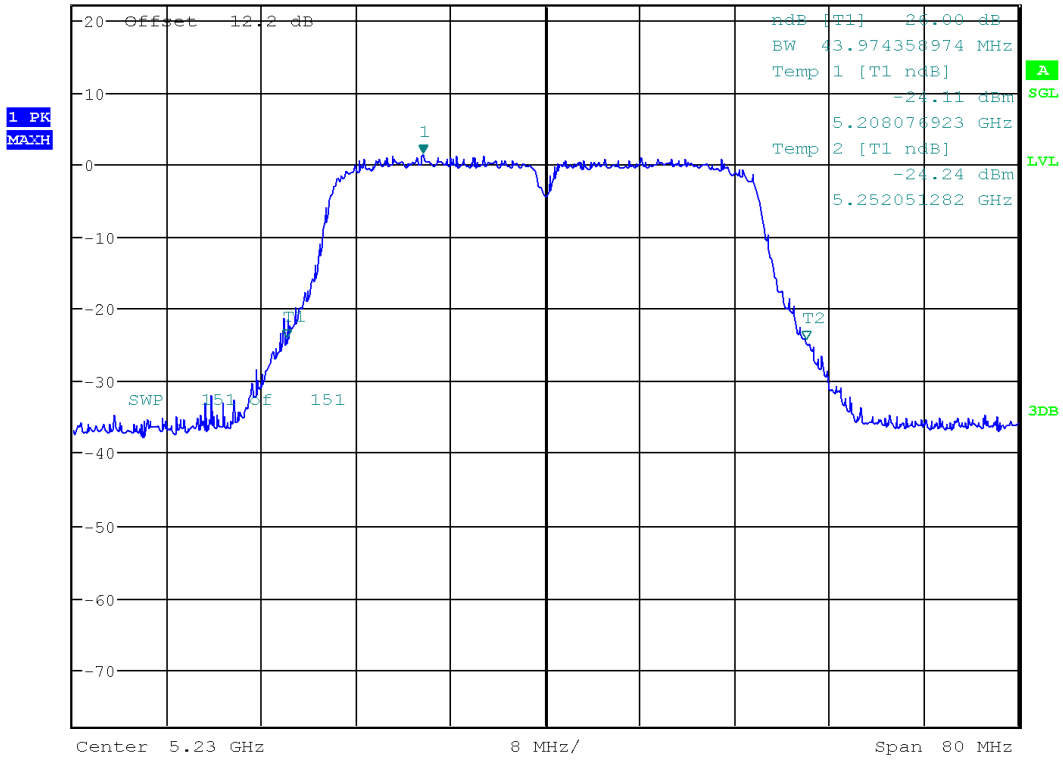


Date: 18.APR.6302 20:10:57

11N 5G HT40 MCS0 CH38 5190MHZ



Ref 22.2 dBm Att 35 dB *RBW 500 kHz Marker 1 [T1] 1.52 dBm
 *VBW 2 MHz 5.219615385 GHz
 SWT 20 ms



Date: 18.APR.6302 20:12:43

11N 5G HT40 MCS0 CH46 5230MHZ

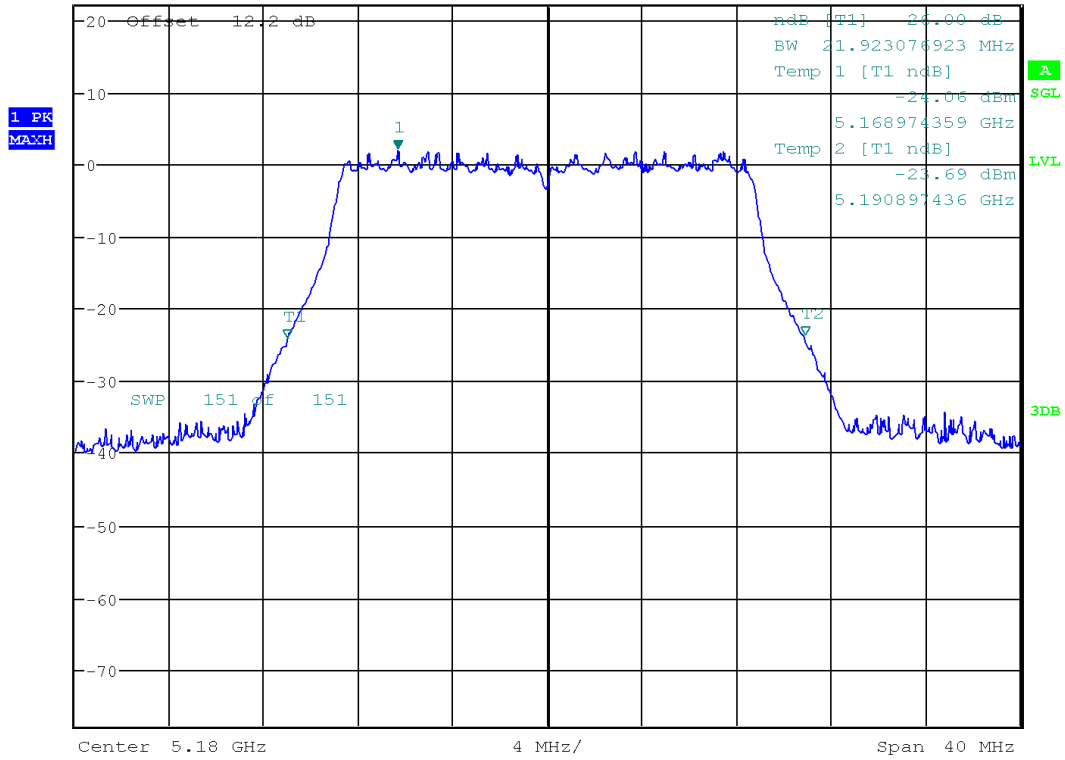


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FCC RF TEST REPORT



*RBW 200 kHz Marker 1 [T1]
 *VBW 500 kHz 2.14 dBm
 Ref 22.2 dBm Att 35 dB SWT 20 ms 5.173653846 GHz



Date: 18.APR.6302 20:49:57

11AC HT20 MCS0 CH36 5180MHZ

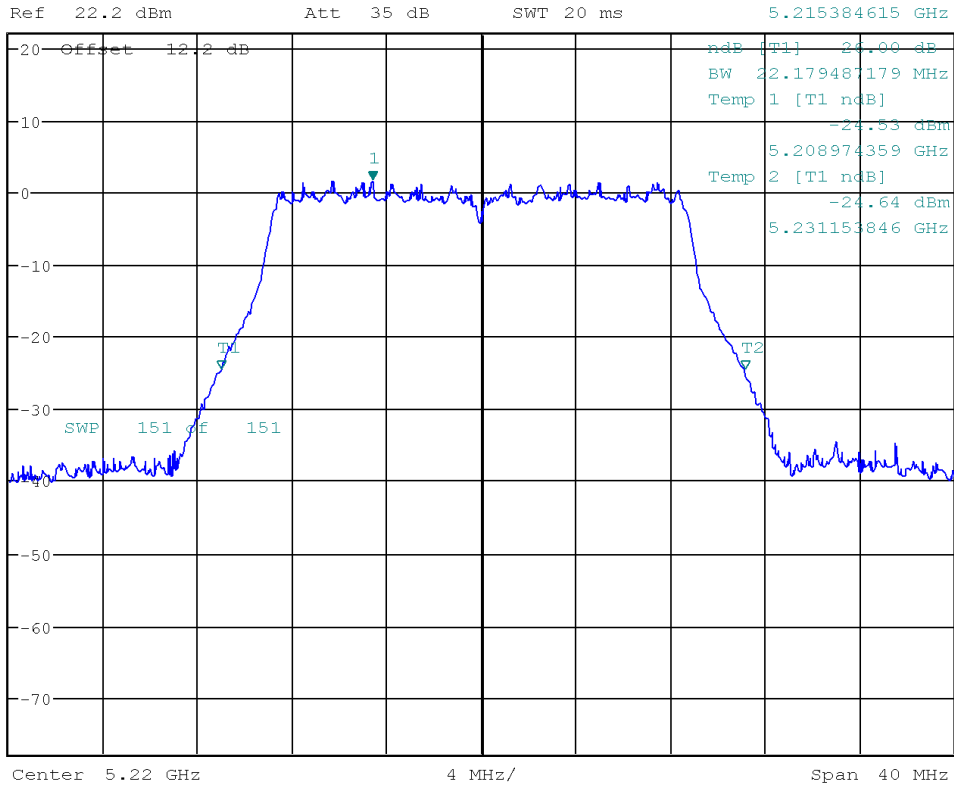


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FCC RF TEST REPORT



*RBW 200 kHz Marker 1 [T1] 1.73 dBm
 *VBW 500 kHz 5.215384615 GHz



Date: 18.APR.6302 20:51:32

11AC HT20 MCS0 CH44 5220MHZ

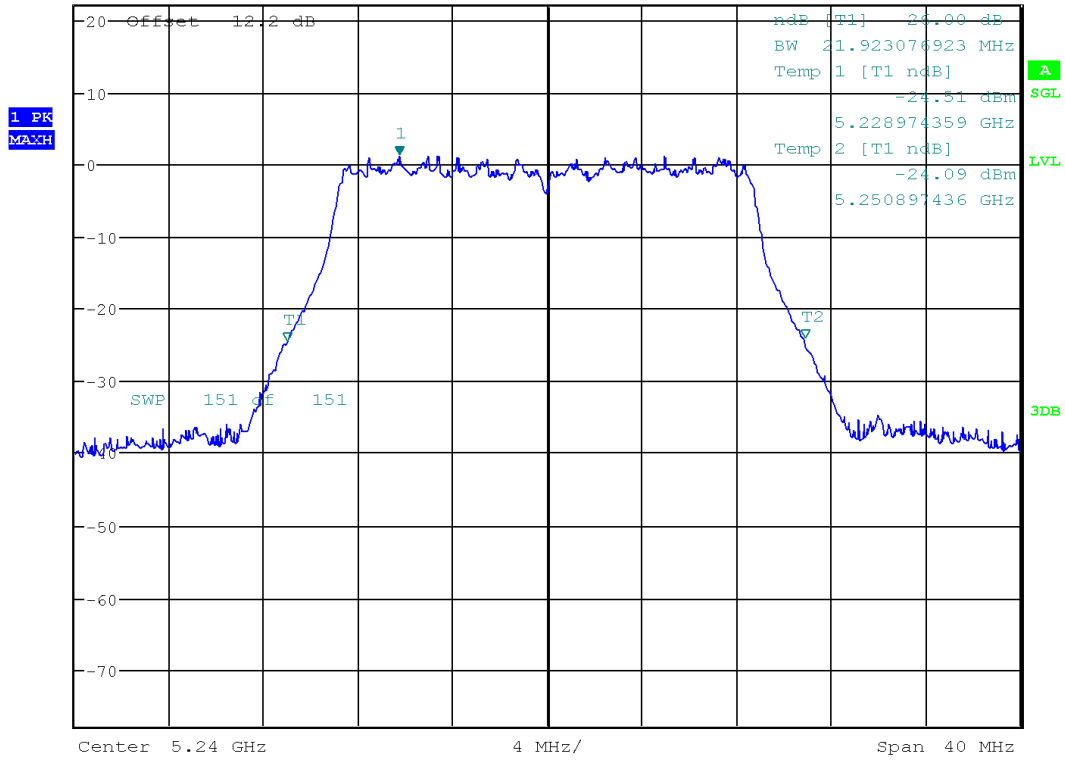


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FCC RF TEST REPORT



*RBW 200 kHz Marker 1 [T1]
 *VBW 500 kHz 1.35 dBm
 Ref 22.2 dBm Att 35 dB SWT 20 ms 5.233717949 GHz



Date: 18.APR.6302 20:52:59

11AC HT20 MCS0 CH48 5240MHZ



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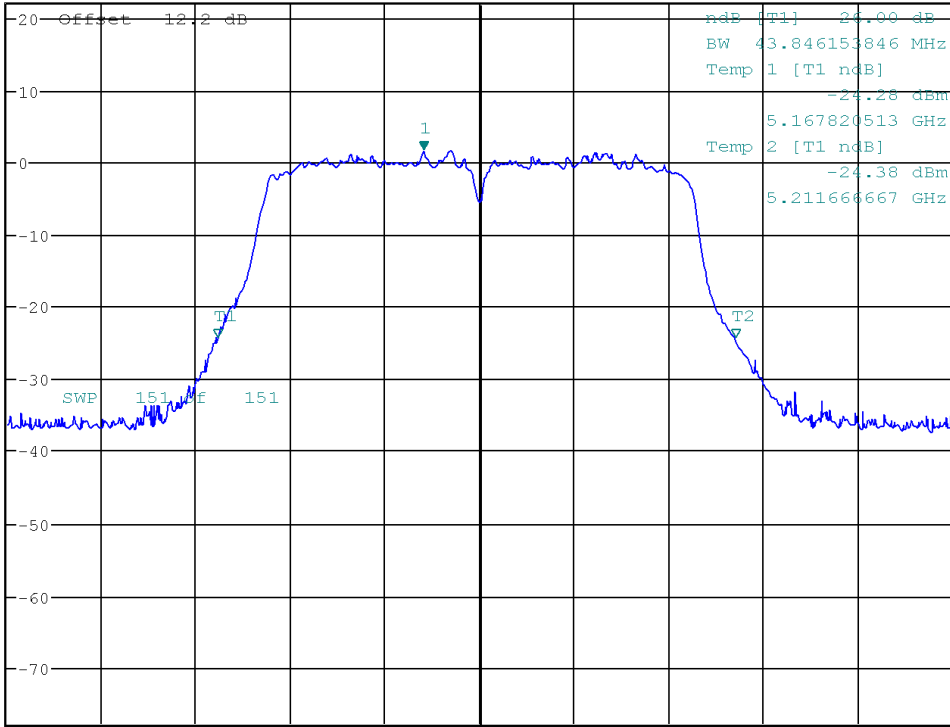
FCC RF TEST REPORT



*RBW 500 kHz Marker 1 [T1] 1.78 dBm
 *VBW 2 MHz 5.185256410 GHz

Ref 22.2 dBm Att 35 dB SWT 20 ms

1 PK
MAG



Center 5.19 GHz 8 MHz/ Span 80 MHz

Date: 18.APR.6302 21:10:41

11AC HT40 MCS0 CH38 5190MHZ

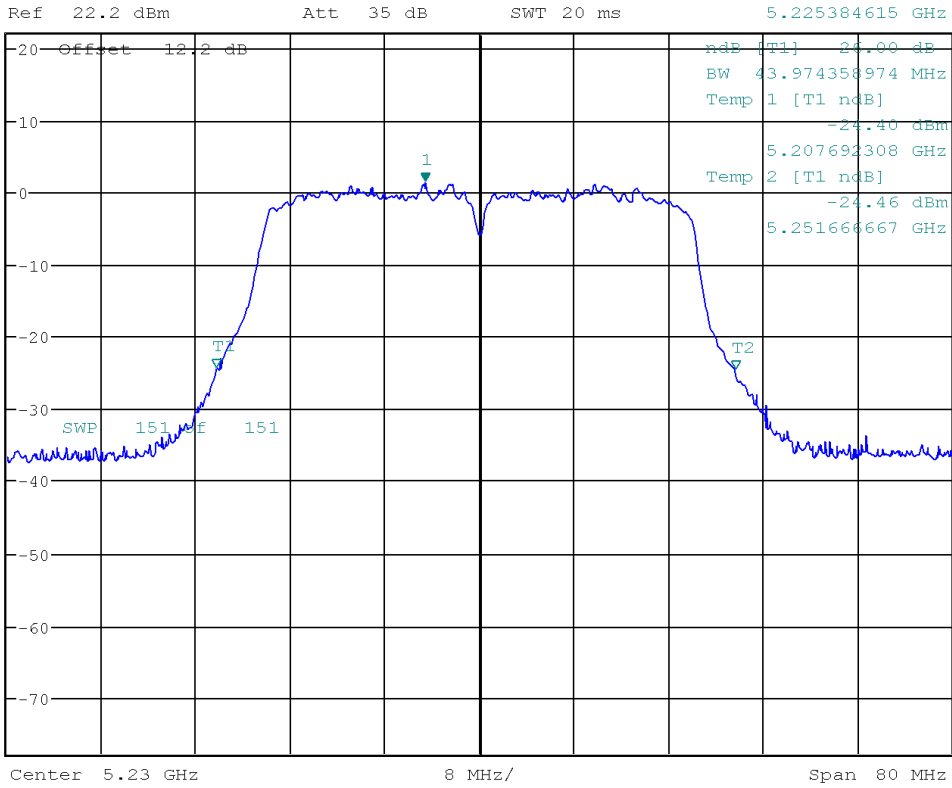


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FCC RF TEST REPORT



*RBW 500 kHz Marker 1 [T1] 1.46 dBm
 *VBW 2 MHz 5.225384615 GHz



Date: 18.APR.6302 21:12:21

11AC HT40 MCS0 CH46 5230MHZ



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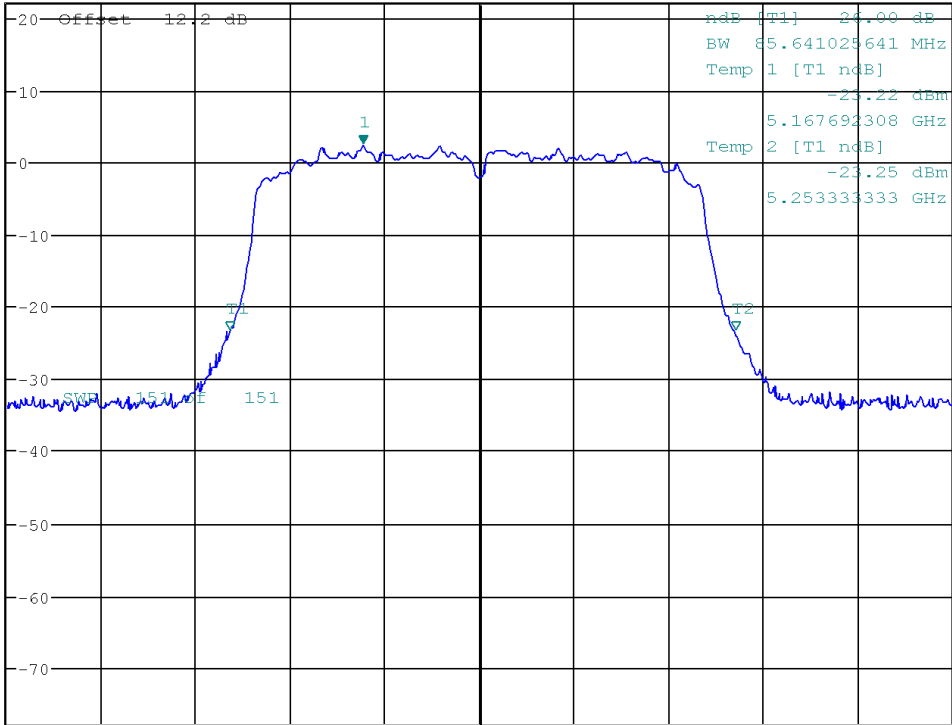
FCC RF TEST REPORT



*RBW 1 MHz Marker 1 [T1] 2.53 dBm
 *VBW 3 MHz 5.190256410 GHz

Ref 22.2 dBm Att 35 dB SWT 20 ms

1 PK
MAG



Center 5.21 GHz 16 MHz/ Span 160 MHz

Date: 18.APR.6302 21:28:13

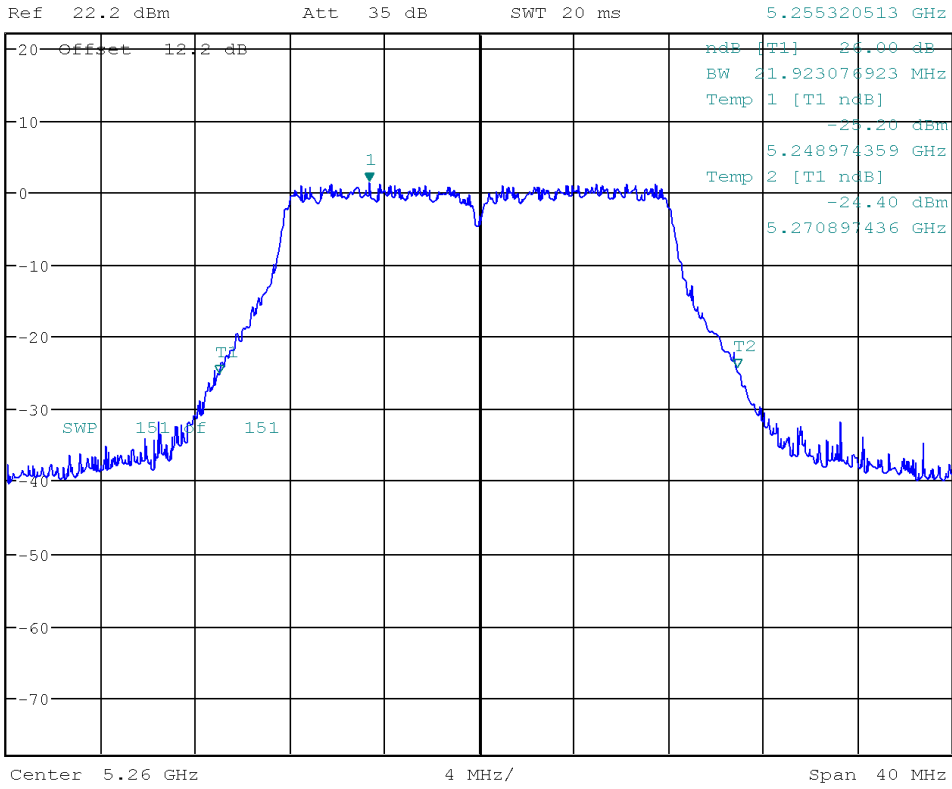
11AC HT80 MCS0 CH42 5210MHZ



26dB bandwidth(U-NII-2A):



*RBW 200 kHz Marker 1 [T1] 1.45 dBm
 *VBW 500 kHz 5.255320513 GHz
 SWT 20 ms



Date: 18.APR.6302 20:33:21

11A 6Mbps CH52 5260MHZ

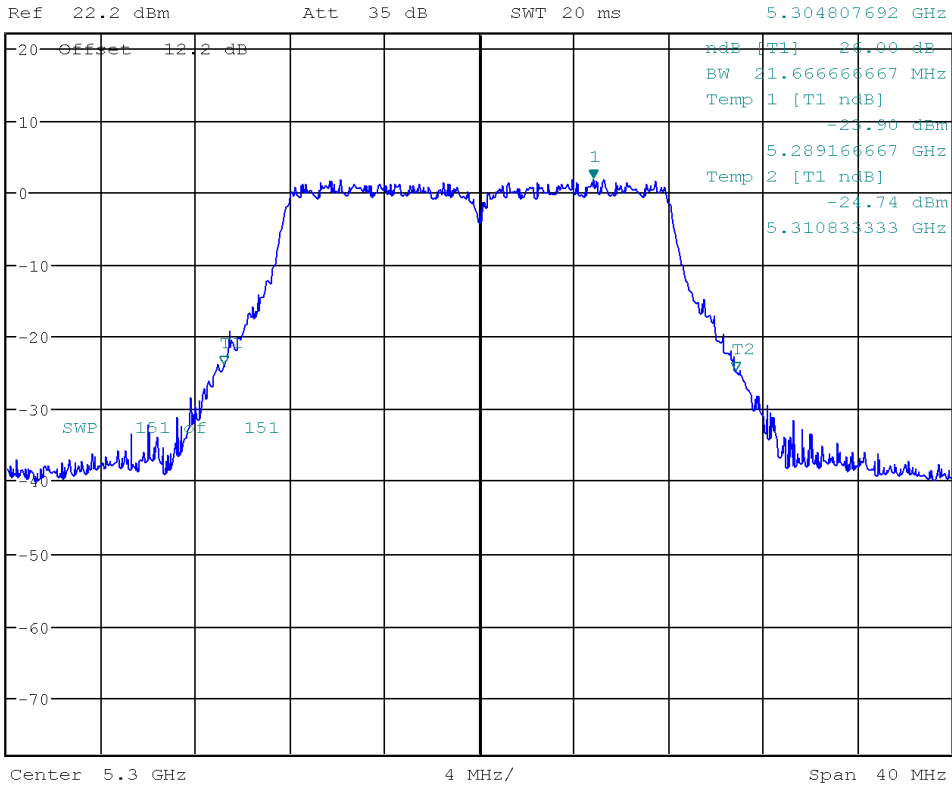


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FCC RF TEST REPORT



*RBW 200 kHz Marker 1 [T1] 2.00 dBm
 *VBW 500 kHz 5.304807692 GHz



Date: 18.APR.6302 20:34:57

11A 6Mbps CH60 5300MHZ

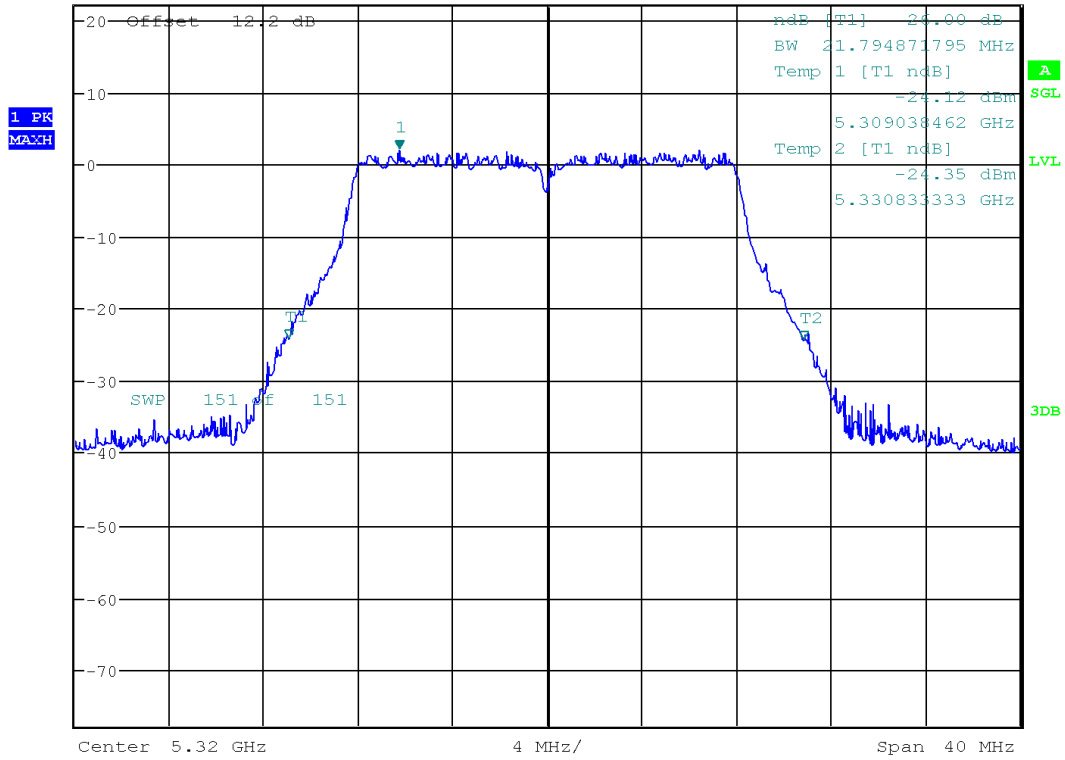


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FCC RF TEST REPORT



*RBW 200 kHz Marker 1 [T1] 2.06 dBm
 *VBW 500 kHz 5.313717949 GHz
 Ref 22.2 dBm Att 35 dB SWT 20 ms



Date: 18.APR.6302 20:36:24

11A 6Mbps CH64 5320MHZ

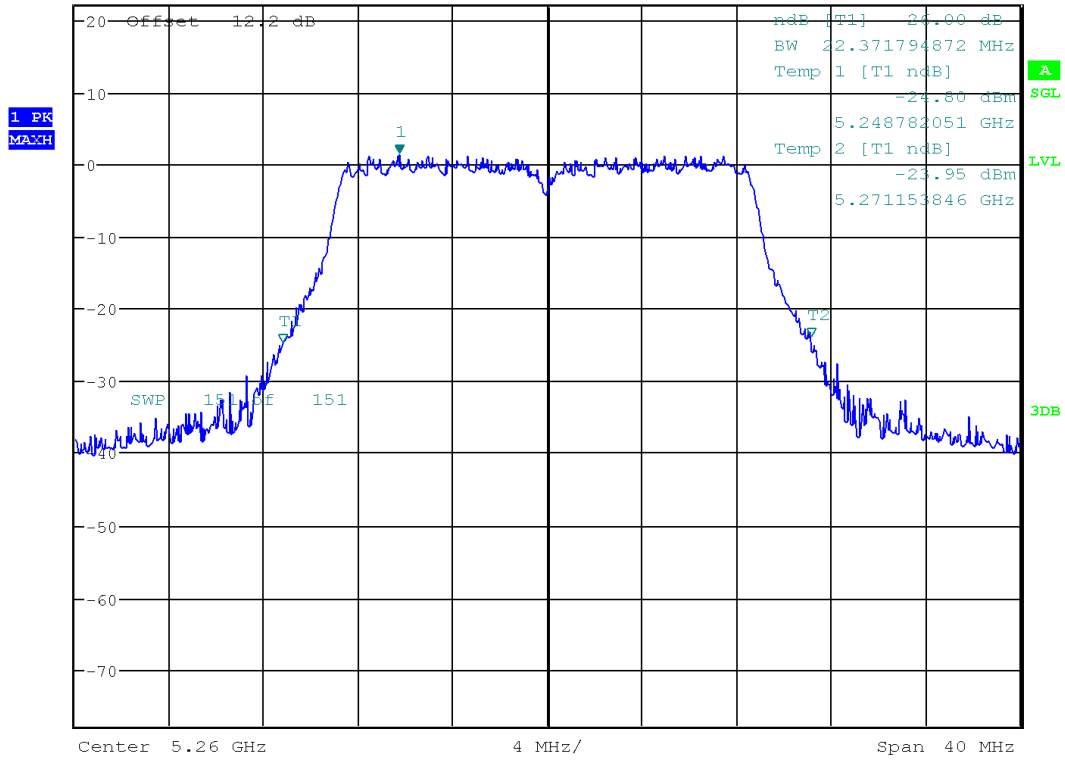


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FCC RF TEST REPORT



*RBW 200 kHz Marker 1 [T1] 1.41 dBm
 *VBW 500 kHz 5.253717949 GHz
 Ref 22.2 dBm Att 35 dB SWT 20 ms



Date: 18.APR.6302 19:54:33

11N 5G HT20 MCS0 CH52 5260MHZ

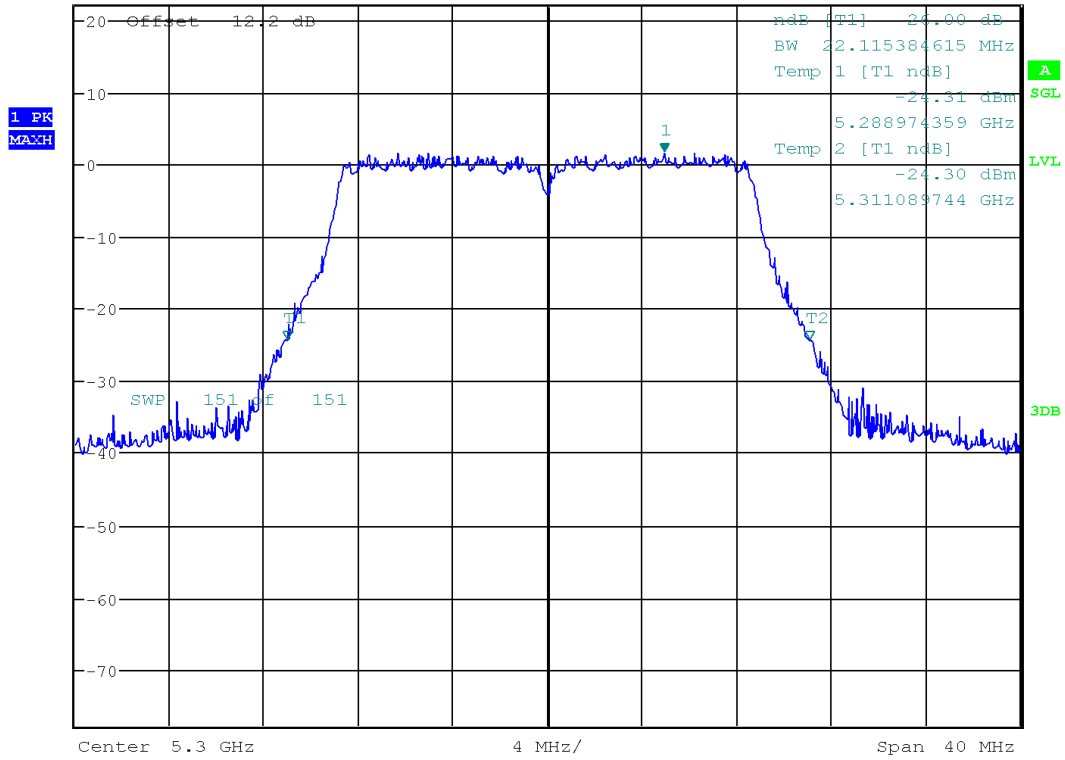


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*RBW 200 kHz Marker 1 [T1]
 *VBW 500 kHz 1.73 dBm
 Ref 22.2 dBm Att 35 dB SWT 20 ms 5.304935897 GHz



Date: 18.APR.6302 19:56:07

11N 5G HT20 MCS0 CH60 5300MHZ



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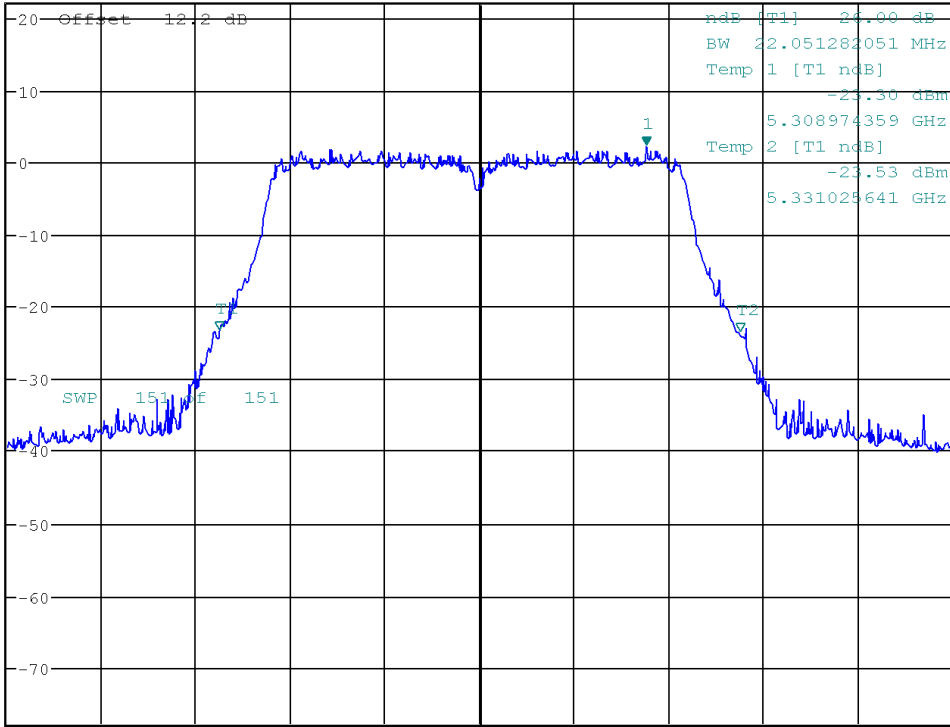
FCC RF TEST REPORT



*RBW 200 kHz Marker 1 [T1] 2.32 dBm
 *VBW 500 kHz 5.327051282 GHz

Ref 22.2 dBm Att 35 dB SWT 20 ms

1 PK
MAGN



Center 5.32 GHz 4 MHz/ Span 40 MHz

Date: 18.APR.6302 19:57:35

11N 5G HT20 MCS0 CH64 5320MHZ

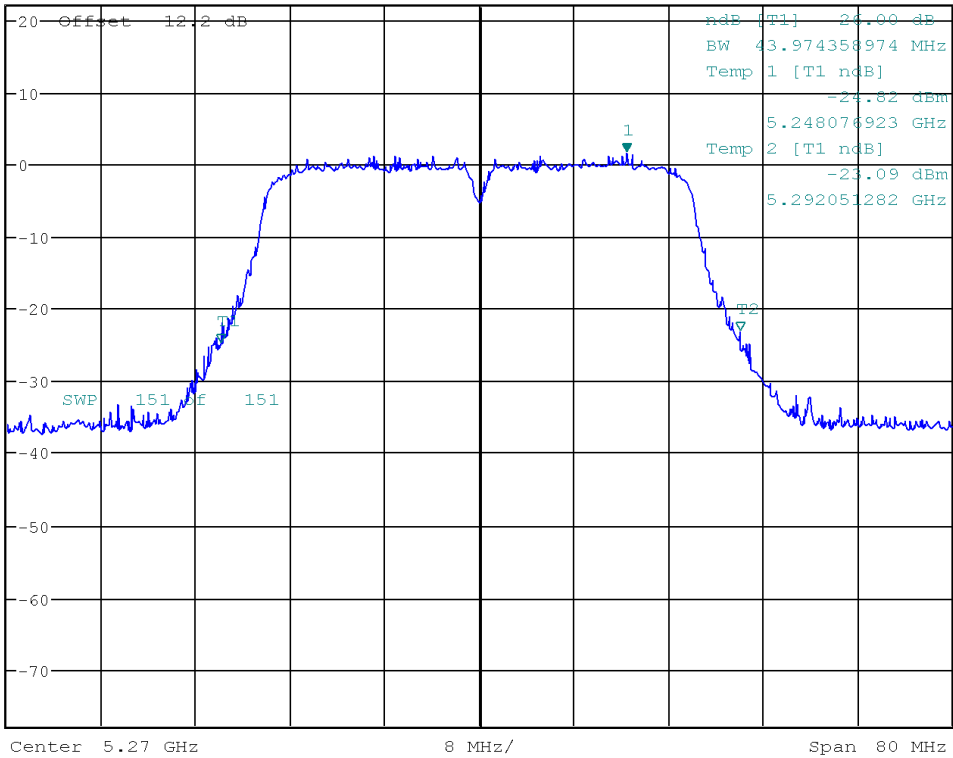


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Ref 22.2 dBm Att 35 dB *RBW 500 kHz Marker 1 [T1]
*VBW 2 MHz 1.68 dBm
SWT 20 ms 5.282435897 GHz



Date: 18.APR.6302 20:14:18

11N 5G HT40 MCS0 CH54 5270MHZ

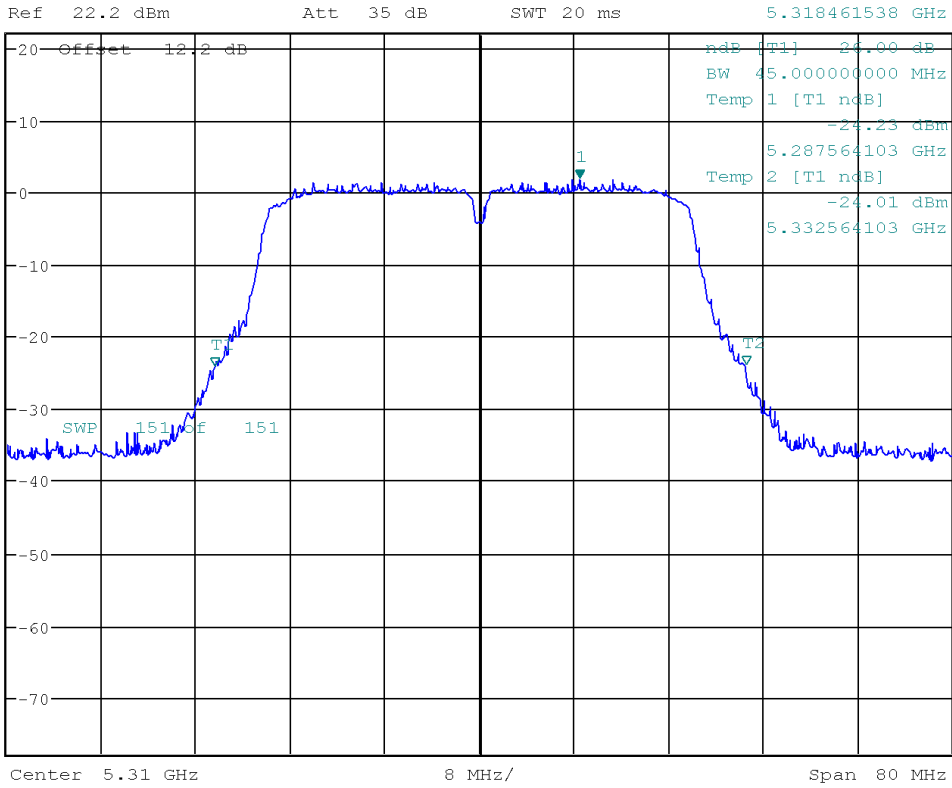


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FCC RF TEST REPORT



*RBW 500 kHz Marker 1 [T1] 2.02 dBm
 *VBW 2 MHz 5.318461538 GHz
 SWT 20 ms



Date: 18.APR.6302 20:16:00

11N 5G HT40 MCS0 CH62 5310MHZ

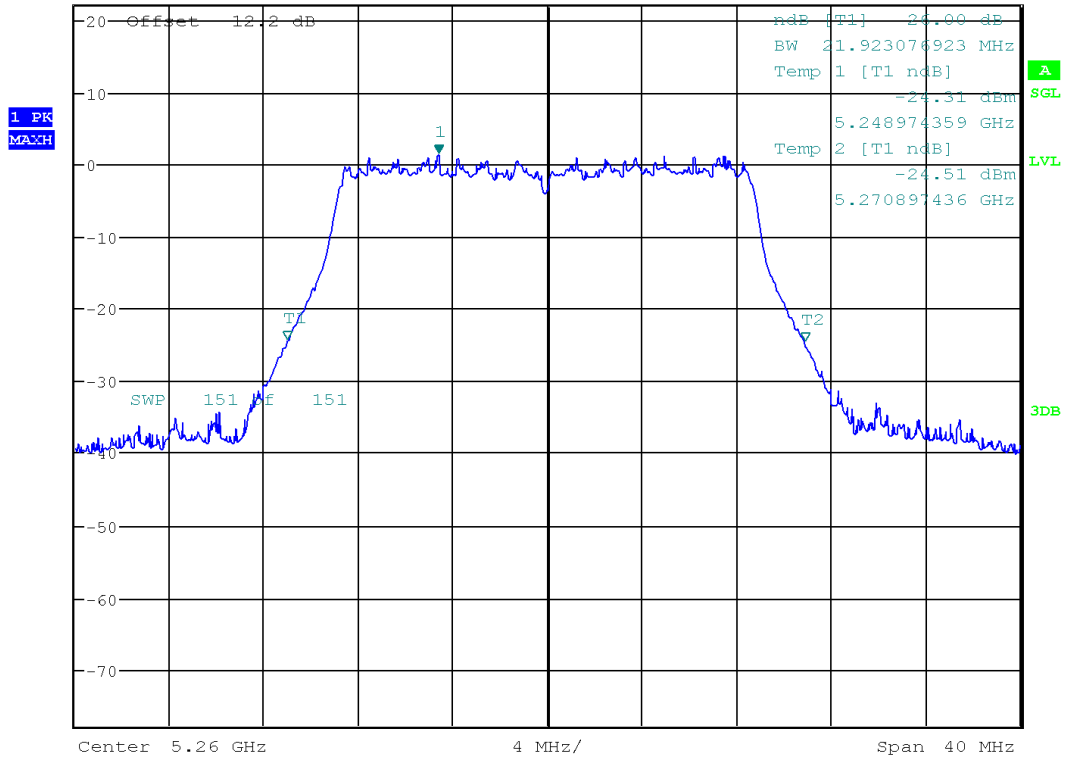


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FCC RF TEST REPORT



*RBW 200 kHz Marker 1 [T1] 1.42 dBm
 *VBW 500 kHz 5.255384615 GHz
 Ref 22.2 dBm Att 35 dB SWT 20 ms



Date: 18.APR.6302 20:54:26

11AC HT20 MCS0 CH52 5260MHZ



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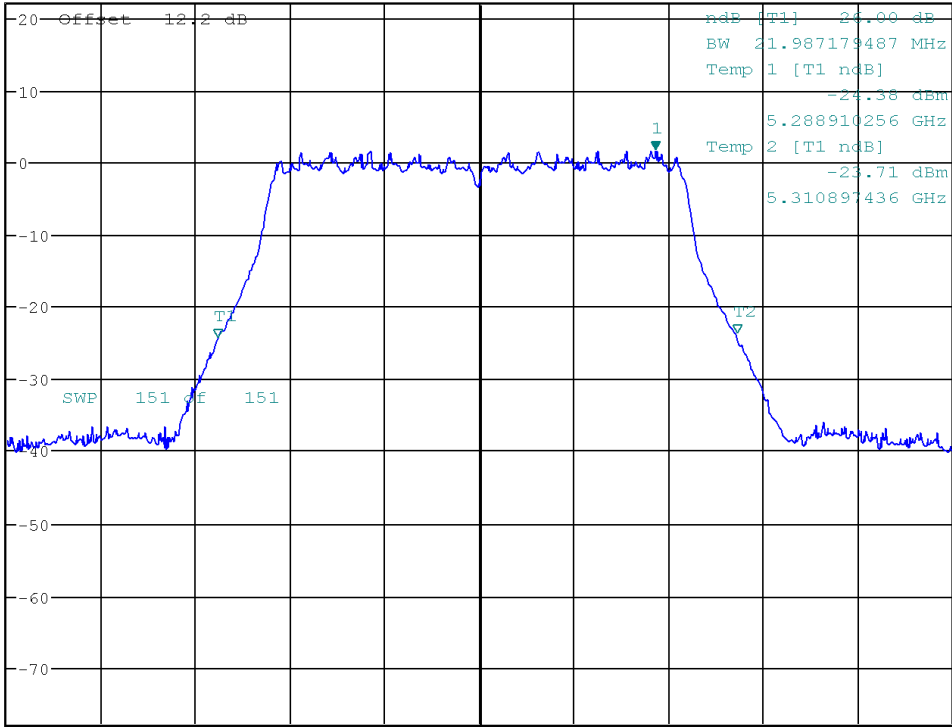
FCC RF TEST REPORT



*RBW 200 kHz Marker 1 [T1] 1.79 dBm
 *VBW 500 kHz 5.307435897 GHz

Ref 22.2 dBm Att 35 dB SWT 20 ms

1 PK
MAGN



Center 5.3 GHz 4 MHz/ Span 40 MHz

Date: 18.APR.6302 20:55:59

11AC HT20 MCS0 CH60 5300MHZ

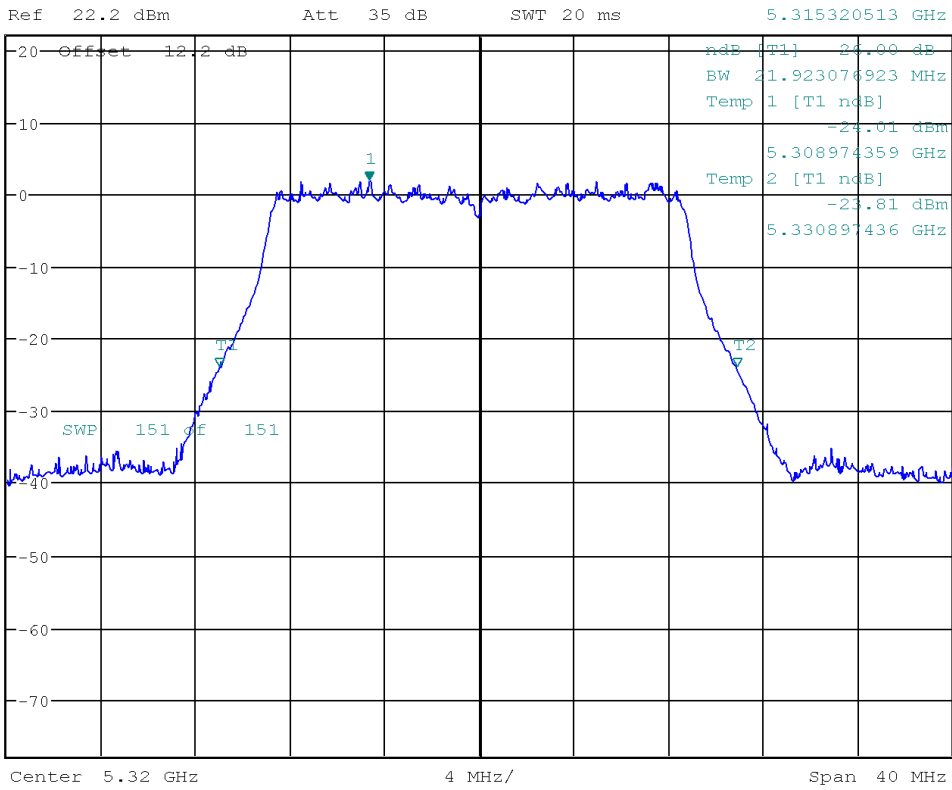


Build Your Dreams!

FCC RF TEST REPORT



*RBW 200 kHz Marker 1 [T1] 2.01 dBm
 *VBW 500 kHz 5.315320513 GHz
 SWT 20 ms



Date: 18.APR.6302 20:57:25

11AC HT20 MCS0 CH64 5320MHZ

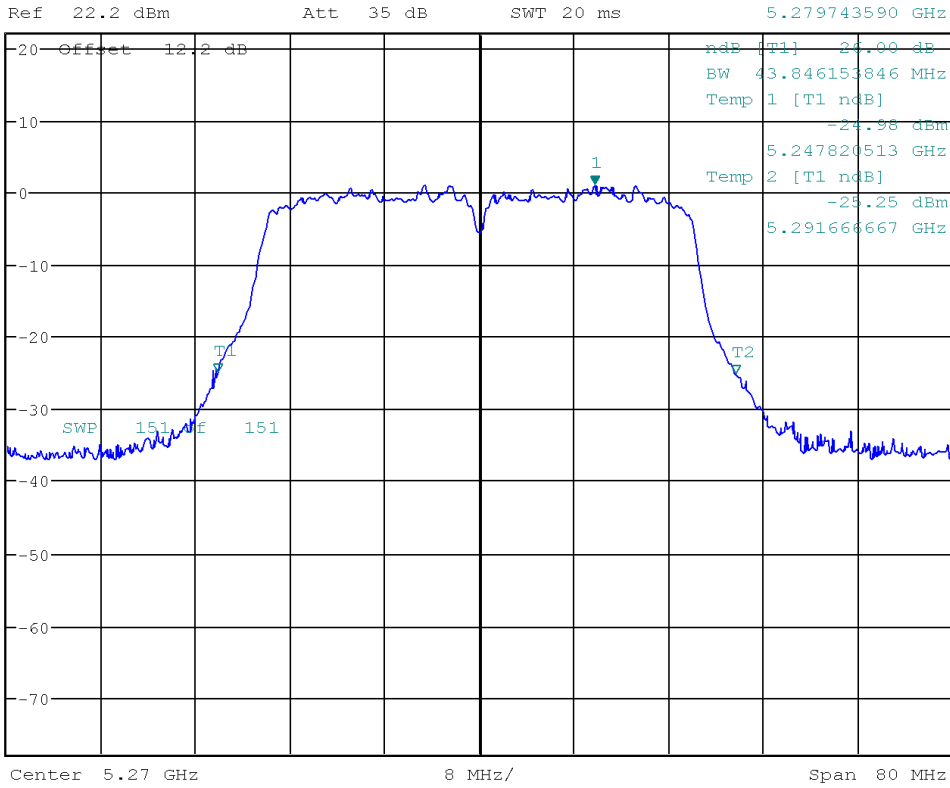


Build Your Dreams!

FCC RF TEST REPORT



*RBW 500 kHz Marker 1 [T1] 1.17 dBm
 *VBW 2 MHz
 SWT 20 ms 5.279743590 GHz



Date: 18.APR.6302 21:13:53

11AC HT40 MCS0 CH54 5270MHZ

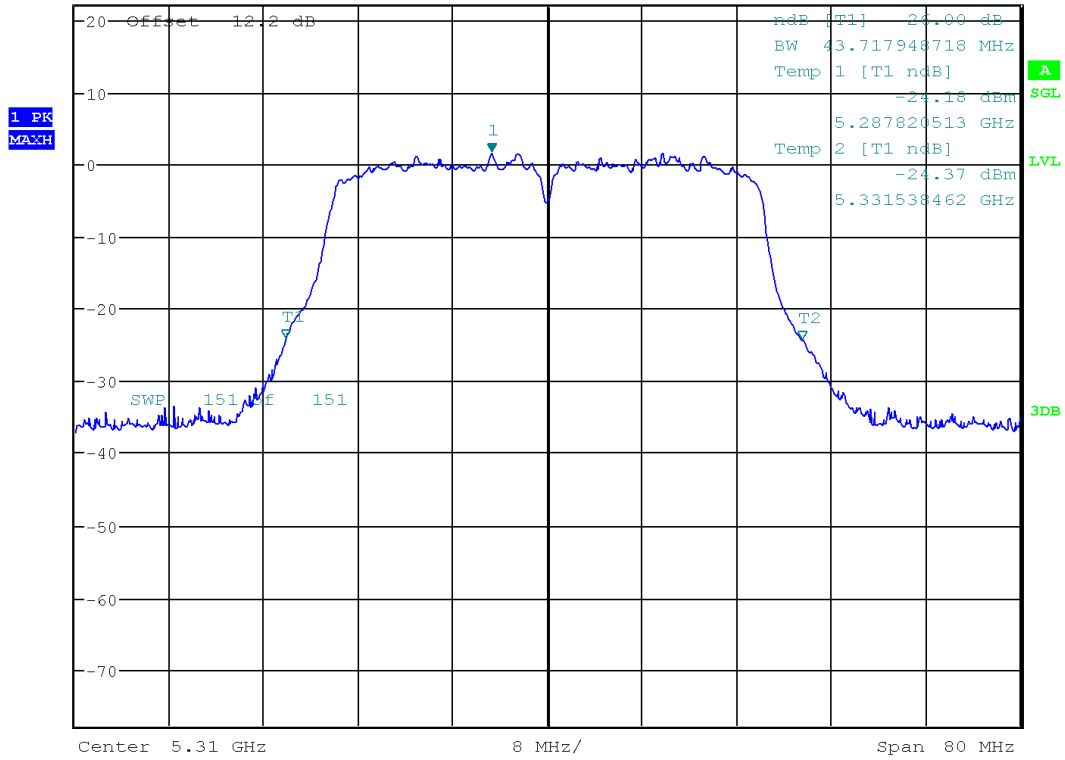


Build Your Dreams!

FCC RF TEST REPORT



*RBW 500 kHz Marker 1 [T1]
 *VBW 2 MHz 1.68 dBm
 Ref 22.2 dBm Att 35 dB SWT 20 ms 5.305256410 GHz



Date: 18.APR.6302 21:15:33

11AC HT40 MCS0 CH62 5310MHZ

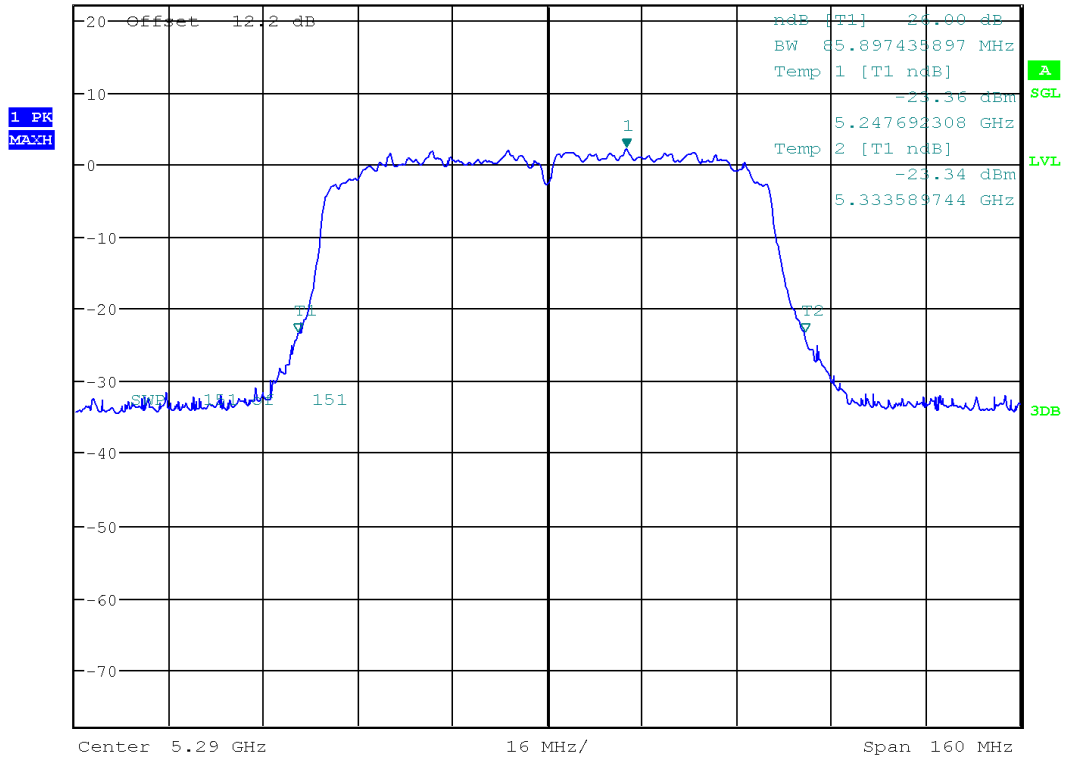


Build Your Dreams!

FCC RF TEST REPORT



*RBW 1 MHz Marker 1 [T1] 2.28 dBm
 *VBW 3 MHz 5.303333333 GHz
 Ref 22.2 dBm Att 35 dB SWT 20 ms



Date: 18.APR.6302 21:30:22

11AC HT80 MCS0 CH58 5290MHZ

26dB bandwidth(U-NII-2C):

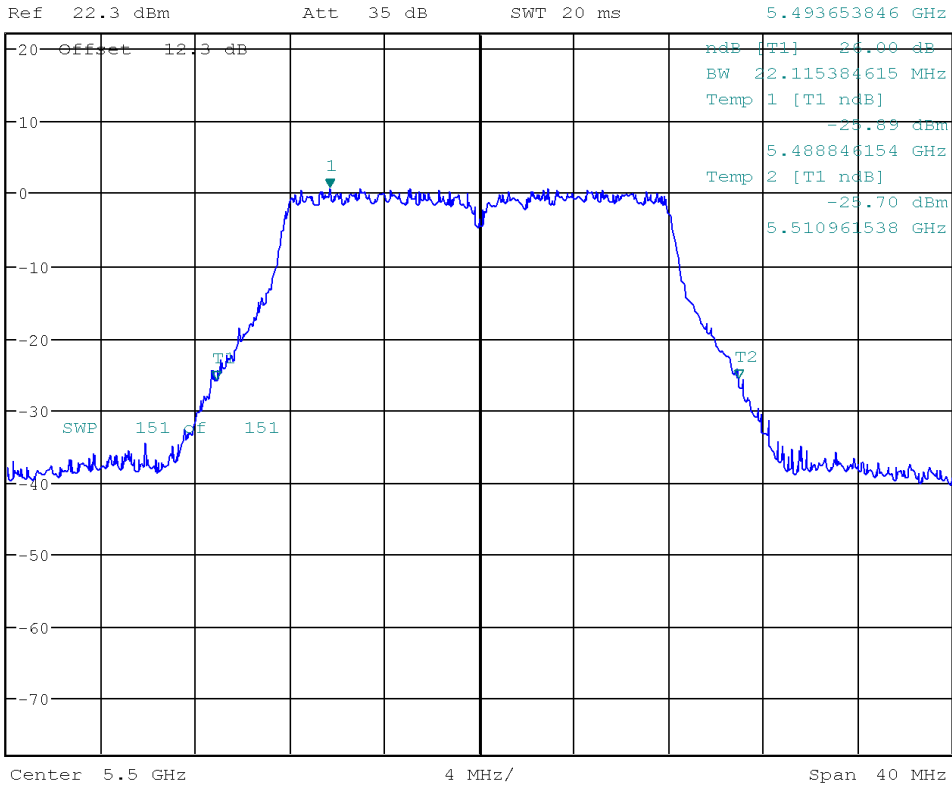


Build Your Dreams!

FCC RF TEST REPORT



*RBW 200 kHz Marker 1 [T1] 0.77 dBm
 *VBW 500 kHz 5.493653846 GHz
 SWT 20 ms



Date: 18.APR.6302 20:37:49

11A 6Mbps CH100 5500MHZ



Build Your Dreams!

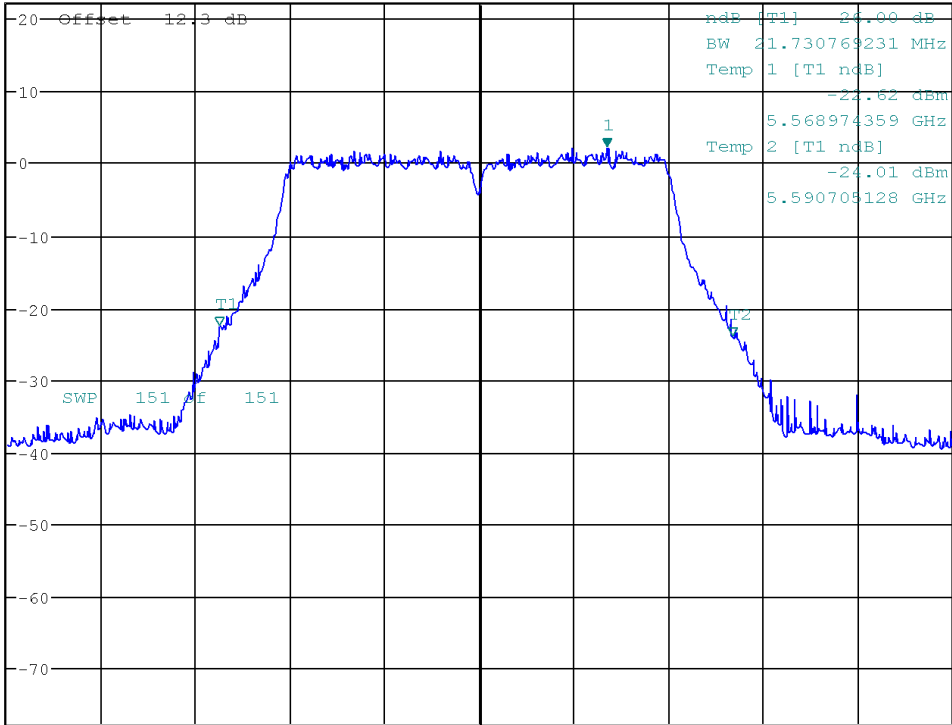
FCC RF TEST REPORT



*RBW 200 kHz Marker 1 [T1] 2.24 dBm
 *VBW 500 kHz 5.585384615 GHz

Ref 22.3 dBm Att 35 dB SWT 20 ms

1 PK
MAGN



Center 5.58 GHz 4 MHz/ Span 40 MHz

Date: 18.APR.6302 20:39:24

11A 6Mbps CH116 5580MHZ



Build Your Dreams!

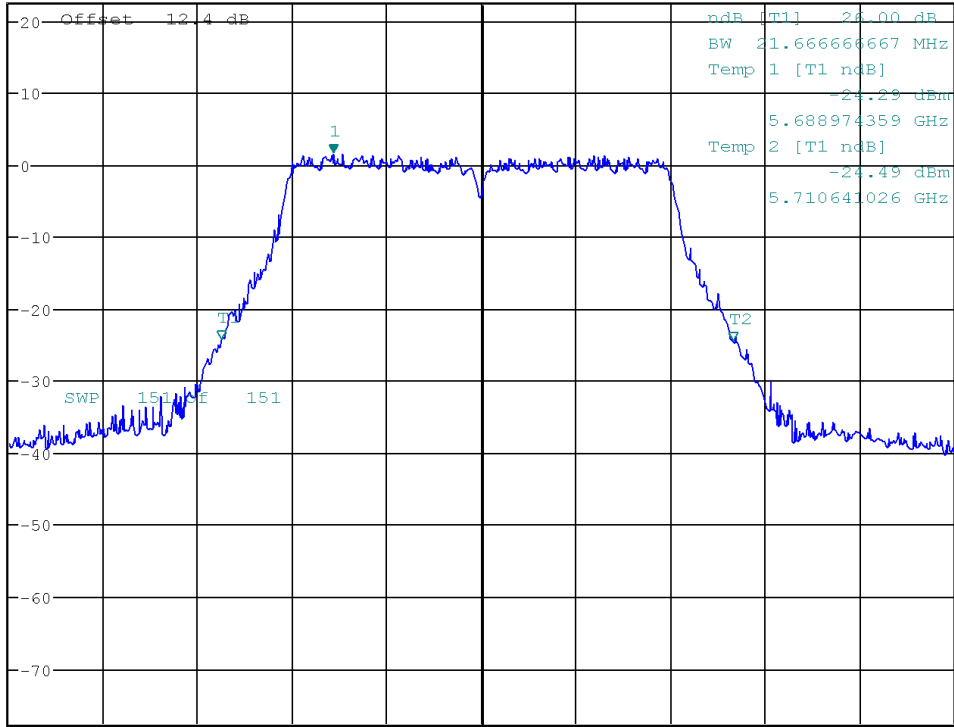
FCC RF TEST REPORT



*RBW 200 kHz Marker 1 [T1] 1.58 dBm
 *VBW 500 kHz 5.693717949 GHz

Ref 22.4 dBm Att 35 dB SWT 20 ms

1 PK
MAGN



Center 5.7 GHz 4 MHz/ Span 40 MHz

Date: 18.APR.6302 20:40:49

11A 6Mbps CH140 5700MHZ



Build Your Dreams!

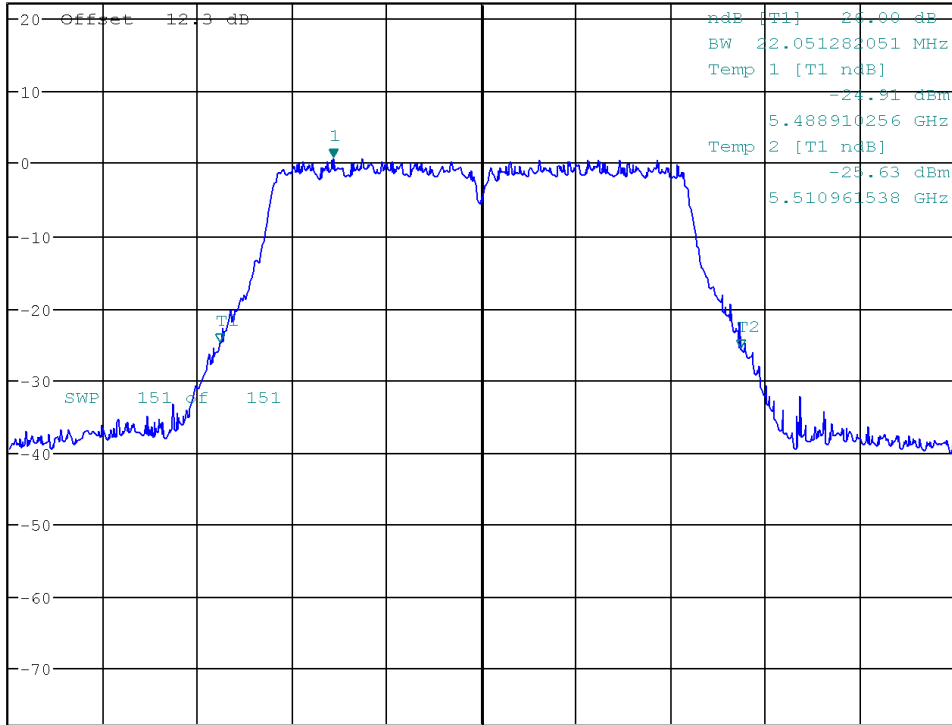
FCC RF TEST REPORT



*RBW 200 kHz Marker 1 [T1] 0.76 dBm
 *VBW 500 kHz 5.493717949 GHz

Ref 22.3 dBm Att 35 dB SWT 20 ms

1 PK
MAGN



Center 5.5 GHz 4 MHz/ Span 40 MHz

Date: 18.APR.6302 19:58:58

11N 5G HT20 MCS0 CH100 5500MHZ

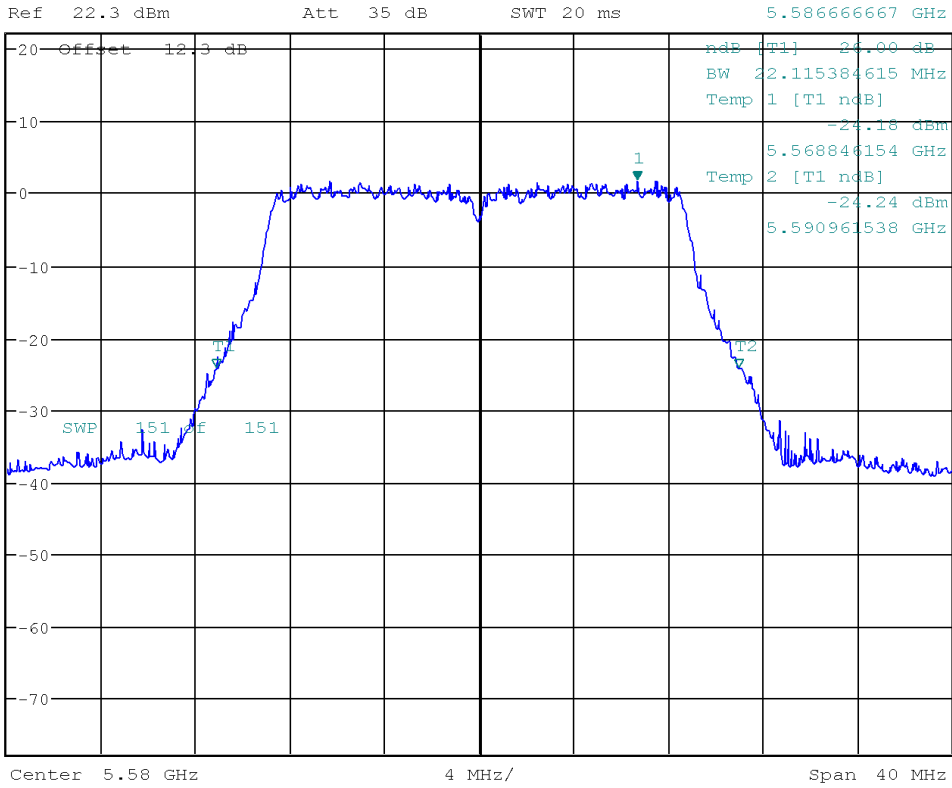


Build Your Dreams!

FCC RF TEST REPORT



*RBW 200 kHz Marker 1 [T1] 1.88 dBm
 *VBW 500 kHz 5.586666667 GHz



Date: 18.APR.6302 20:00:31

11N 5G HT20 MCS0 CH116 5580MHZ

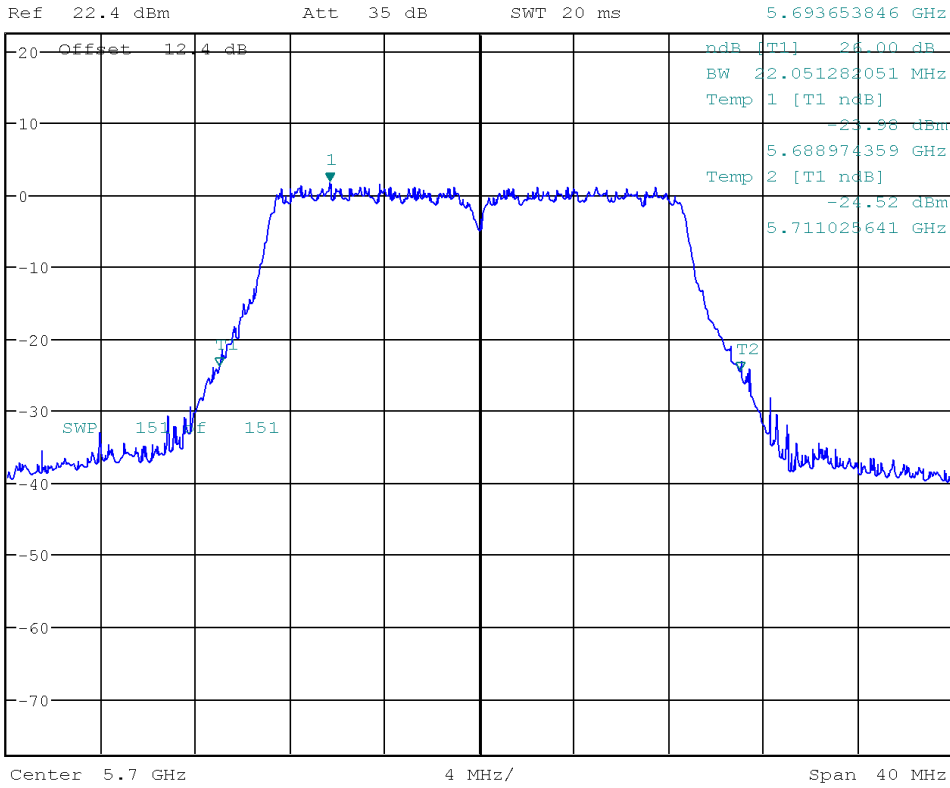


Build Your Dreams!

FCC RF TEST REPORT



*RBW 200 kHz Marker 1 [T1]
 *VBW 500 kHz 1.62 dBm
 SWT 20 ms 5.693653846 GHz



Date: 18.APR.6302 20:01:54

11N 5G HT20 MCS0 CH140 5700MHZ

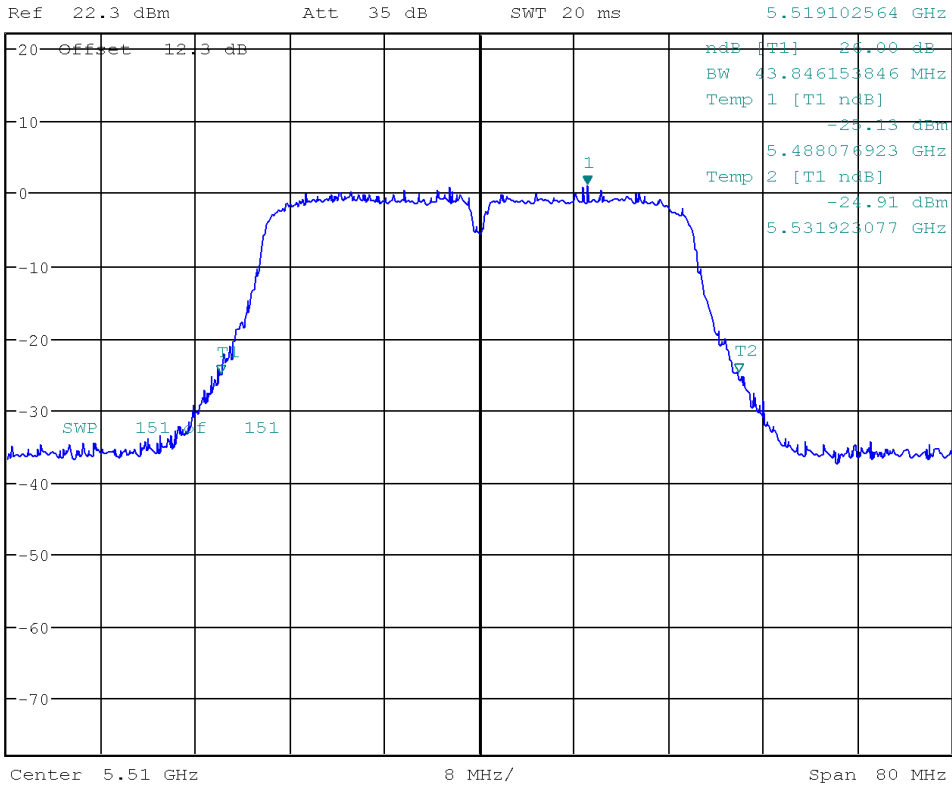


Build Your Dreams!

FCC RF TEST REPORT



*RBW 500 kHz Marker 1 [T1]
 *VBW 2 MHz 1.12 dBm
 SWT 20 ms 5.519102564 GHz



Date: 18.APR.6302 20:17:33

11N 5G HT40 MCS0 CH102 5510MHZ

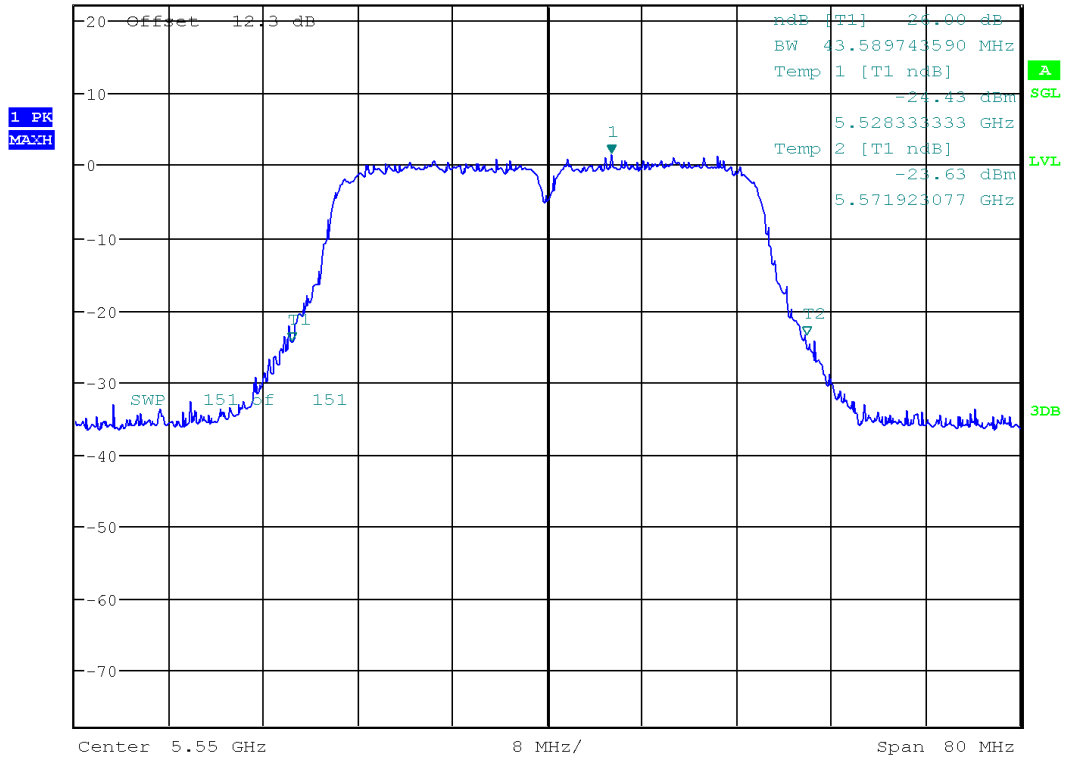


Build Your Dreams!

FCC RF TEST REPORT



*RBW 500 kHz Marker 1 [T1] 1.59 dBm
 *VBW 2 MHz 5.555384615 GHz
 Ref 22.3 dBm Att 35 dB SWT 20 ms



Date: 18.APR.6302 20:19:13

11N 5G HT40 MCS0 CH110 5550MHZ

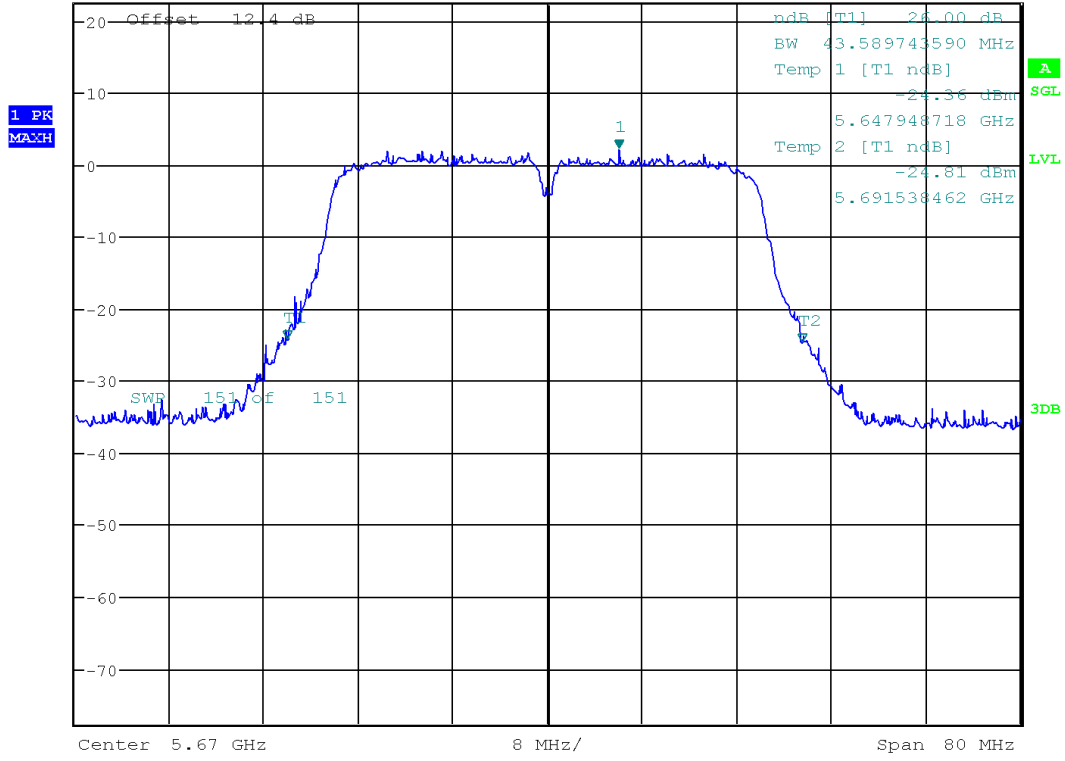


Build Your Dreams!

FCC RF TEST REPORT



*RBW 500 kHz Marker 1 [T1] 2.09 dBm
 *VBW 2 MHz 5.676025641 GHz
 Ref 22.4 dBm Att 35 dB SWT 20 ms



Date: 18.APR.6302 20:20:47

11N 5G HT40 MCS0 CH134 5670MHZ

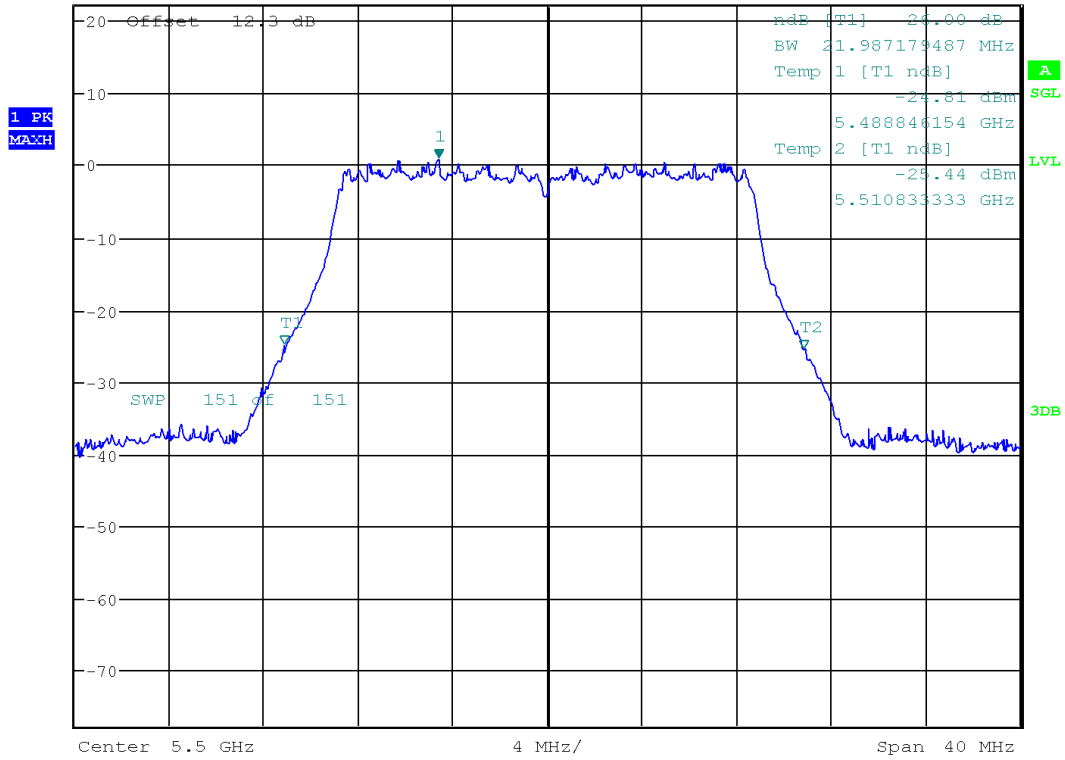


Build Your Dreams!

FCC RF TEST REPORT



*RBW 200 kHz Marker 1 [T1] 0.90 dBm
 *VBW 500 kHz 5.495384615 GHz
 Ref 22.3 dBm Att 35 dB SWT 20 ms



Date: 18.APR.6302 20:58:48

11AC HT20 MCS0 CH100 5500MHZ

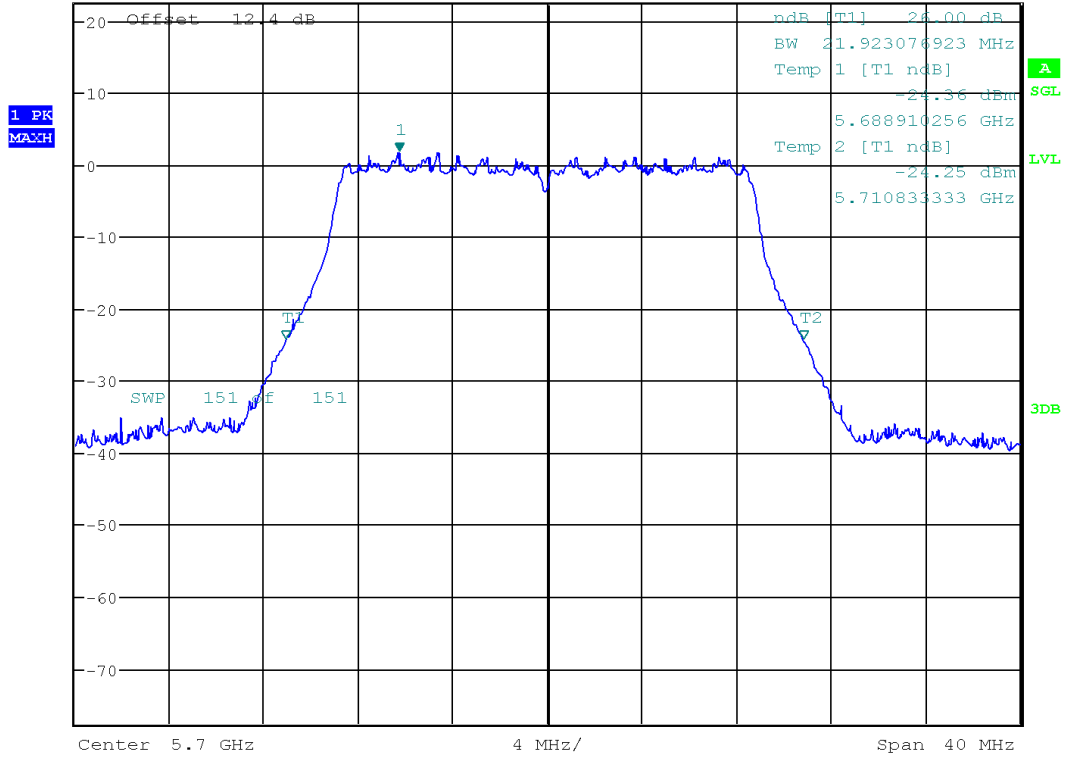


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FCC RF TEST REPORT



*RBW 200 kHz Marker 1 [T1] 1.71 dBm
 *VBW 500 kHz 5.693717949 GHz
 Ref 22.4 dBm Att 35 dB SWT 20 ms



Date: 18.APR.6302 21:01:44

11AC HT20 MCS0 CH140 5700MHZ

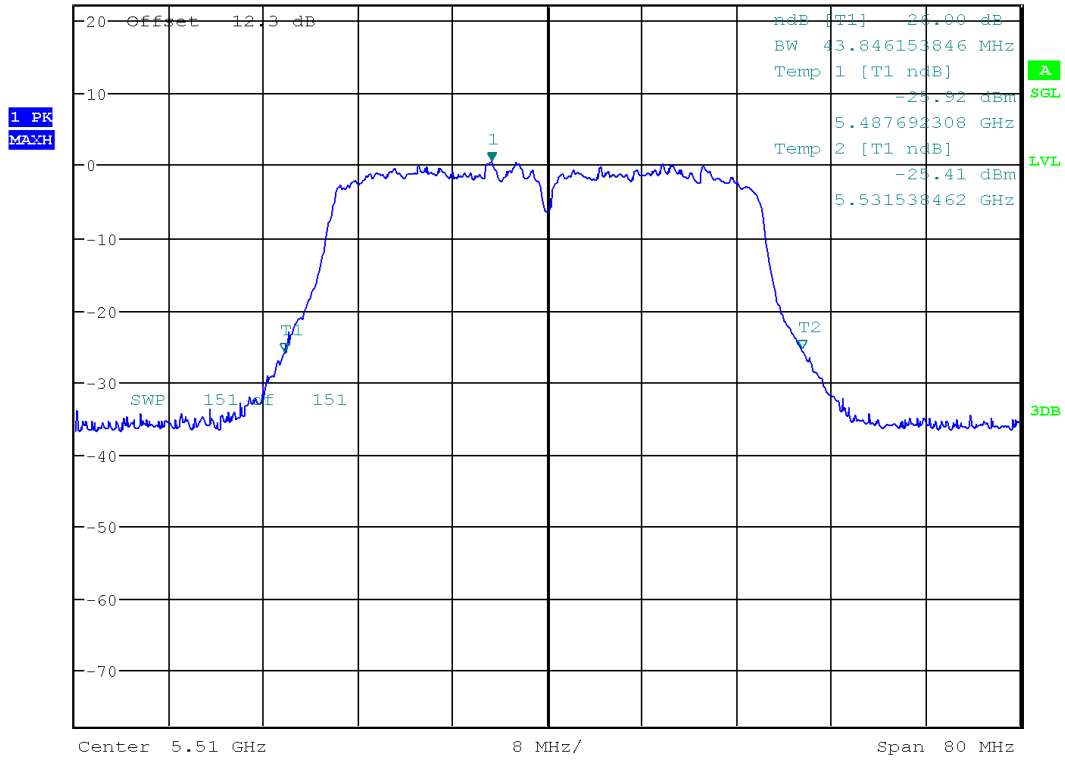


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FCC RF TEST REPORT



*RBW 500 kHz Marker 1 [T1] 0.61 dBm
 *VBW 2 MHz
 Ref 22.3 dBm Att 35 dB SWT 20 ms 5.505256410 GHz



Date: 18.APR.6302 21:17:05

11AC HT40 MCS0 CH102 5510MHZ

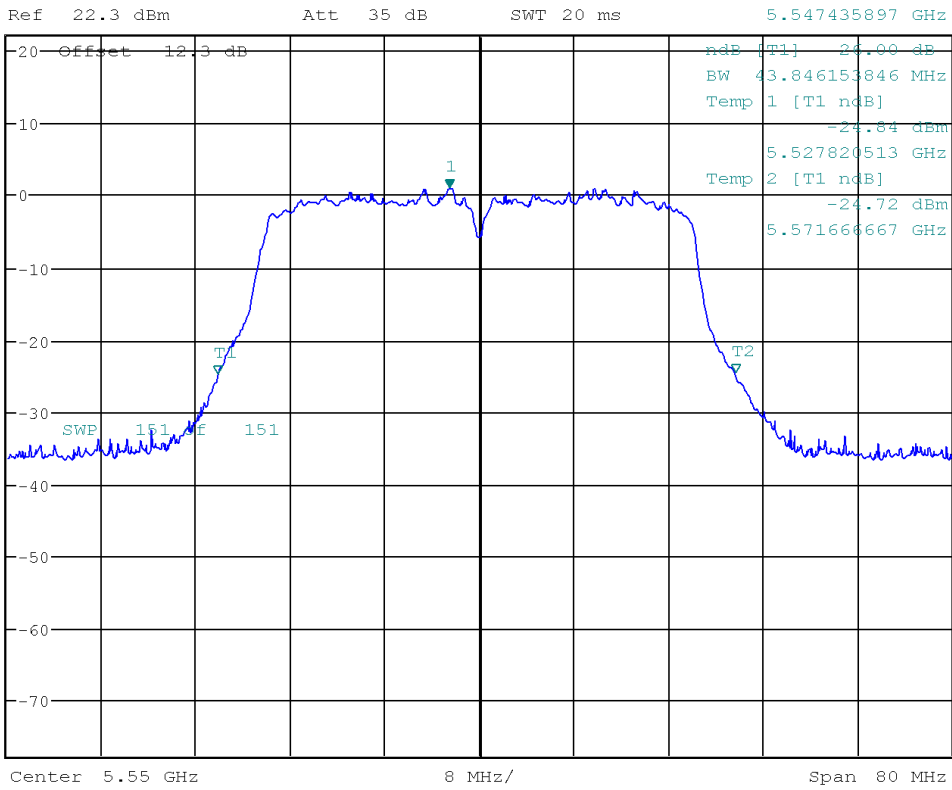


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FCC RF TEST REPORT



*RBW 500 kHz Marker 1 [T1] 1.04 dBm
 *VBW 2 MHz 5.547435897 GHz
 SWT 20 ms



Date: 18.APR.6302 21:18:43

11AC HT40 MCS0 CH110 5550MHZ



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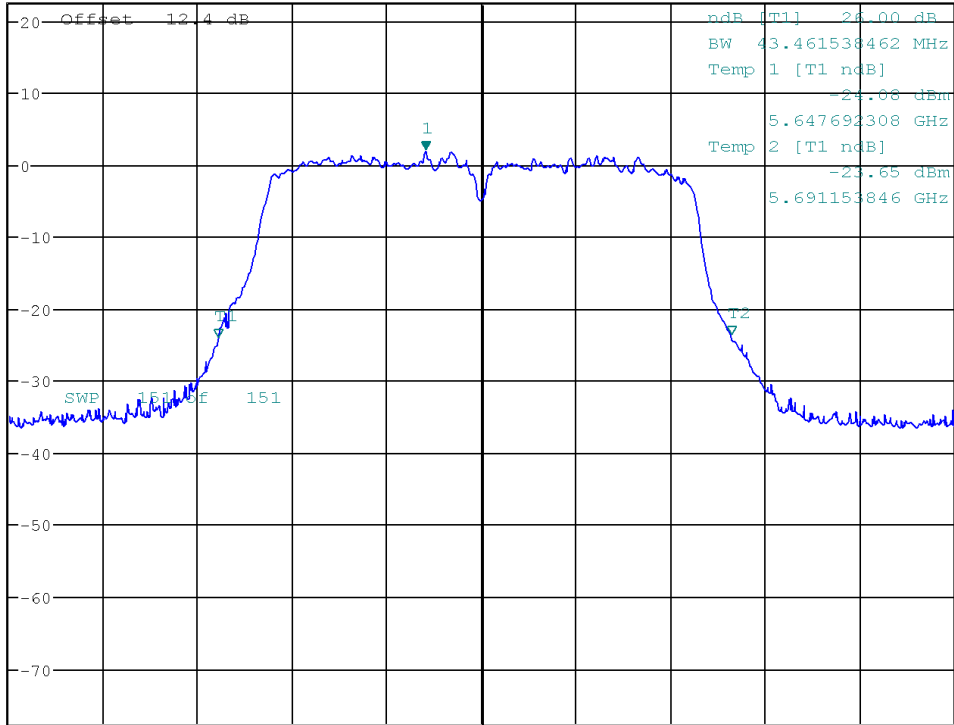
FCC RF TEST REPORT



*RBW 500 kHz Marker 1 [T1] 1.88 dBm
 *VBW 2 MHz 5.665256410 GHz

Ref 22.4 dBm Att 35 dB SWT 20 ms

1 PK
MAGN



Center 5.67 GHz 8 MHz/ Span 80 MHz

Date: 18.APR.6302 21:20:15

11AC HT40 MCS0 CH134 5670MHZ

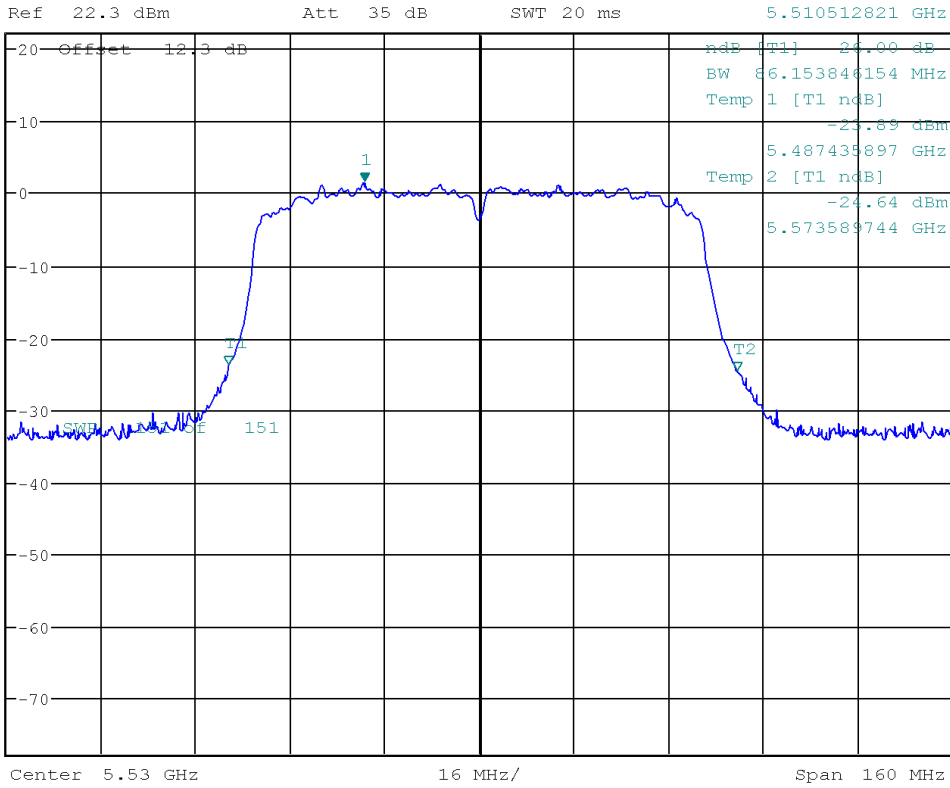


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FCC RF TEST REPORT



*RBW 1 MHz Marker 1 [T1] 1.57 dBm
 *VBW 3 MHz 5.510512821 GHz
 SWT 20 ms

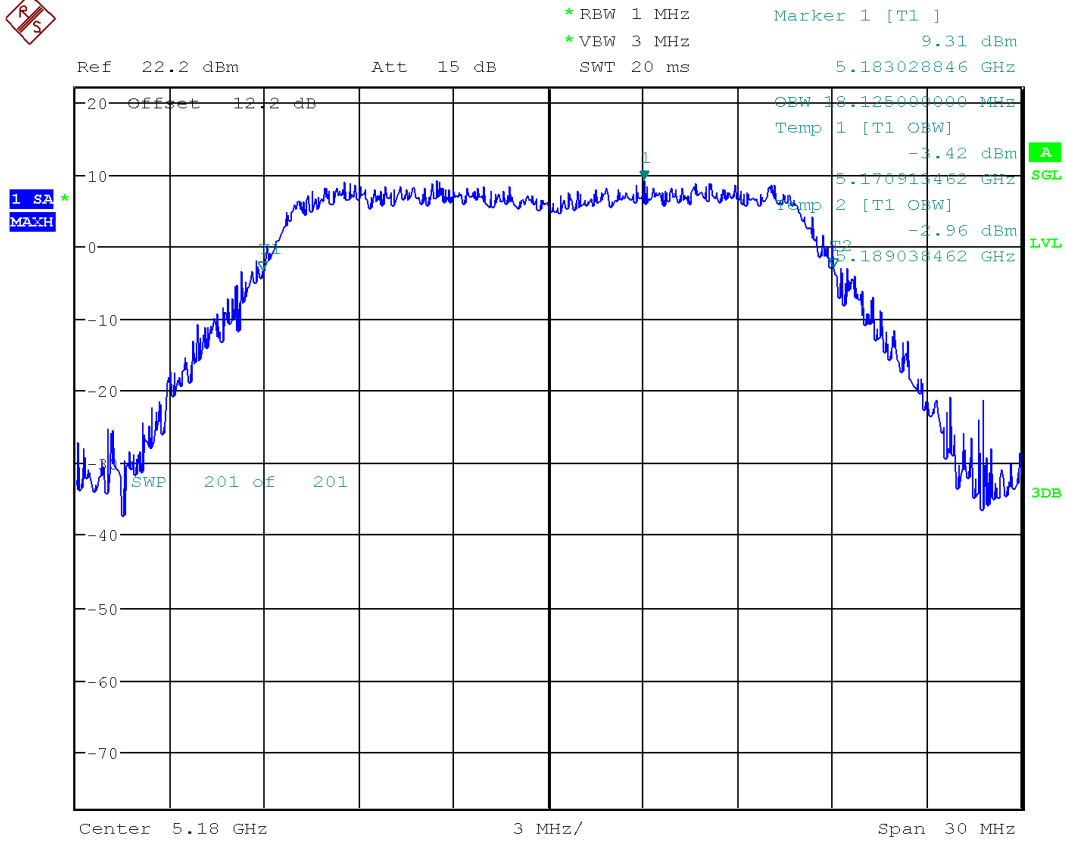


Date: 18.APR.6302 21:32:30

11AC HT80 MCS0 CH106 5530MHZ



99% bandwidth(U-NII-1):



Date: 18.APR.6302 20:29:06

11A 6Mbps CH36 5180MHZ

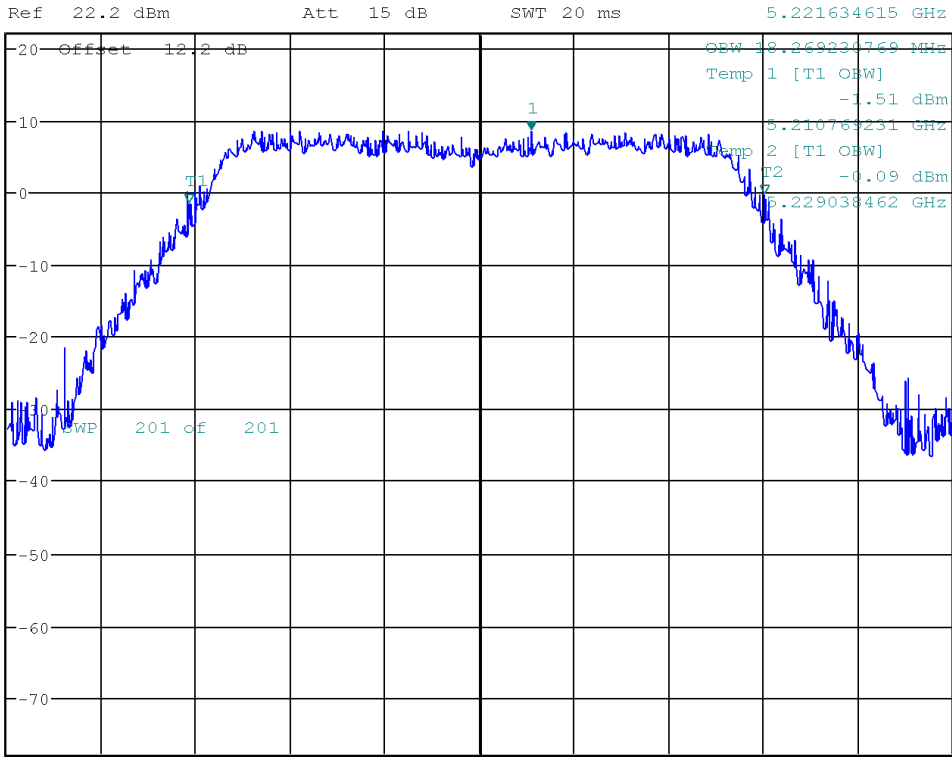


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FCC RF TEST REPORT



*RBW 1 MHz Marker 1 [T1]
 *VBW 3 MHz 8.75 dBm
 SWT 20 ms 5.221634615 GHz



Center 5.22 GHz 3 MHz/ Span 30 MHz

Date: 18.APR.6302 20:30:41

11A 6Mbps CH44 5220MHZ

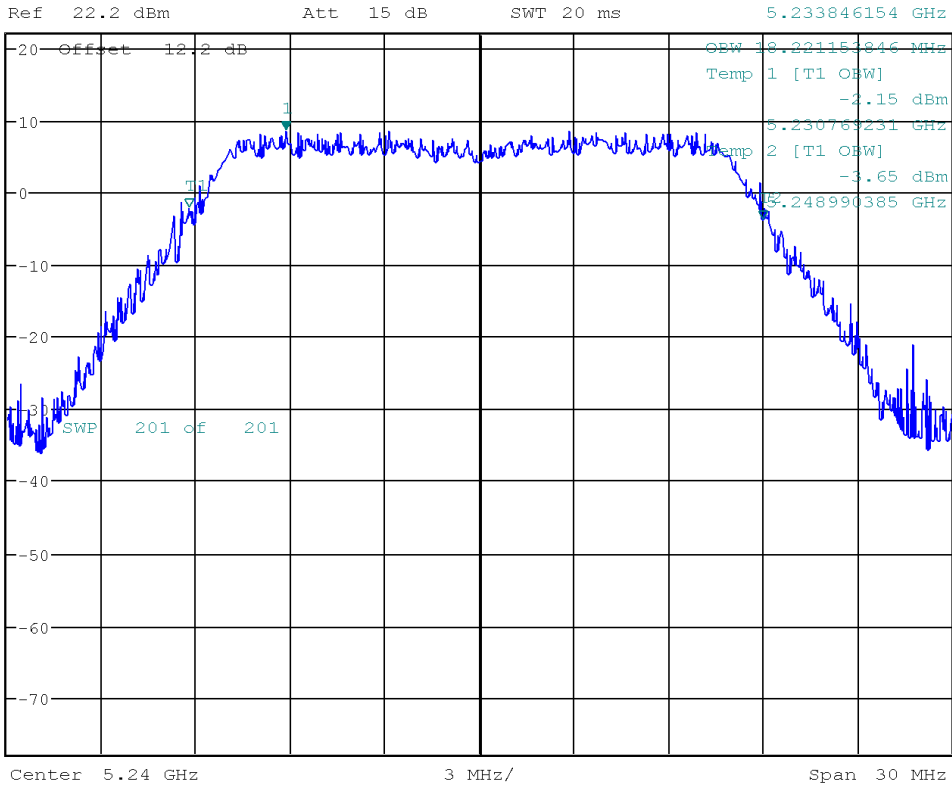


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FCC RF TEST REPORT



*RBW 1 MHz Marker 1 [T1] 8.71 dBm
 *VBW 3 MHz 5.233846154 GHz
 SWT 20 ms



Date: 18.APR.6302 20:32:12

11A 6Mbps CH48 5240MHZ

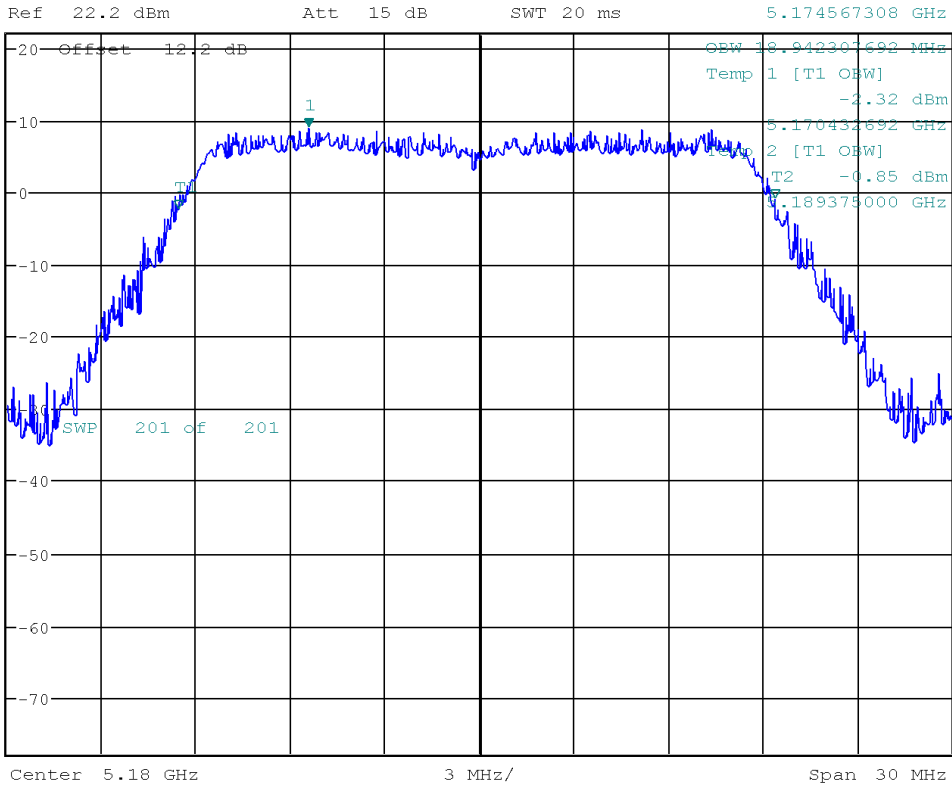


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FCC RF TEST REPORT



*RBW 1 MHz Marker 1 [T1] 8.99 dBm
 *VBW 3 MHz 5.174567308 GHz
 SWT 20 ms



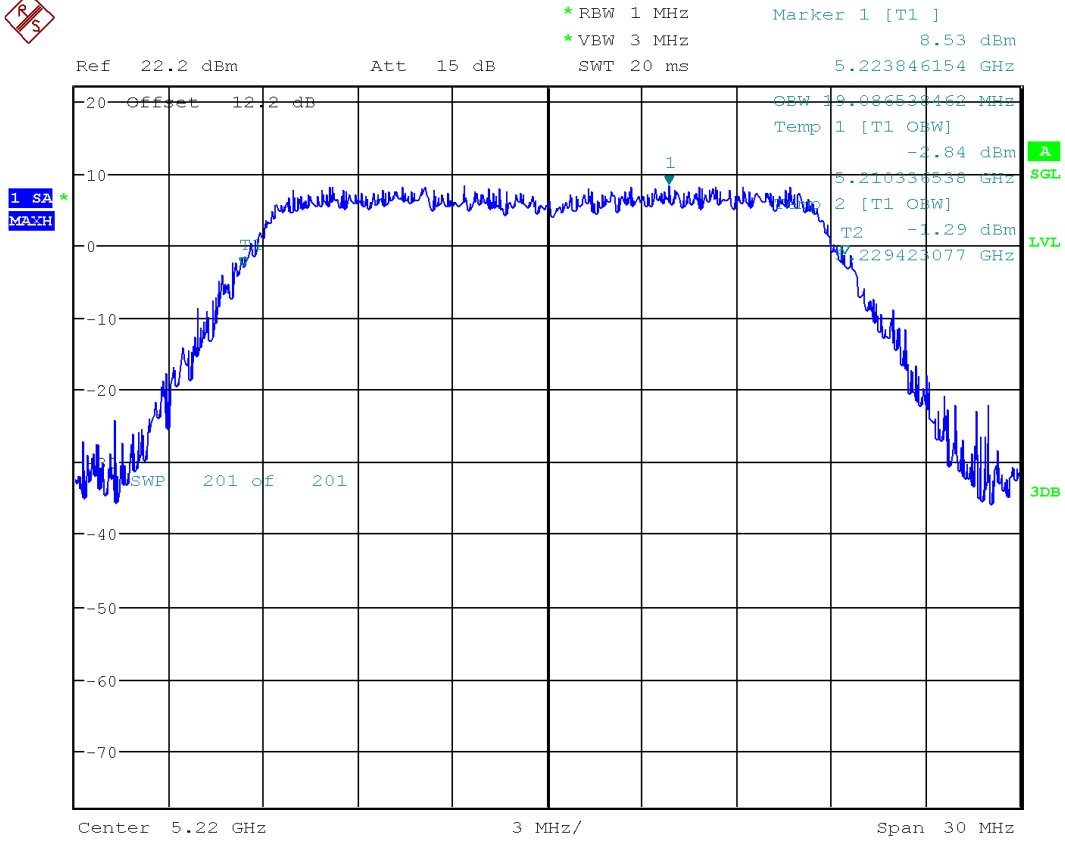
Date: 18.APR.6302 19:50:21

11N 5G HT20 MCS0 CH36 5180MHZ



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FCC RF TEST REPORT



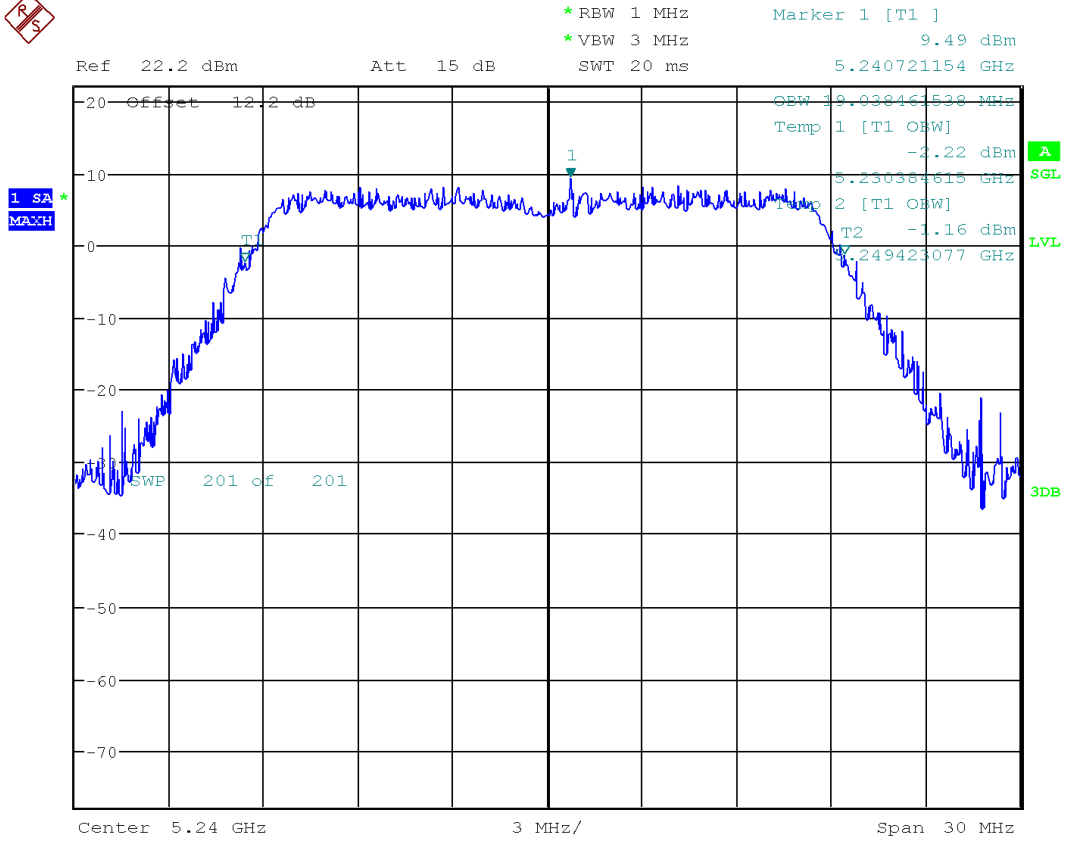
Date: 18.APR.6302 19:51:56

11N 5G HT20 MCS0 CH44 5220MHZ



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FCC RF TEST REPORT



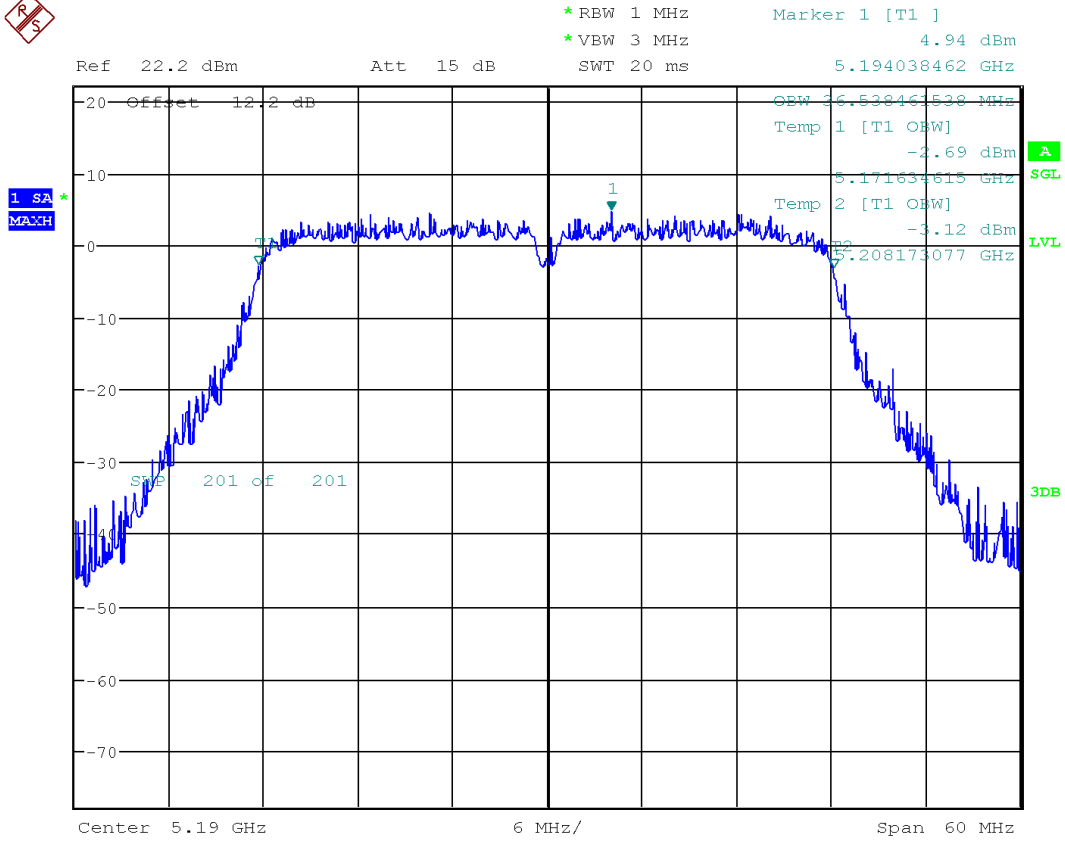
Date: 18.APR.6302 19:53:25

11N 5G HT20 MCS0 CH48 5240MHZ



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FCC RF TEST REPORT



Date: 18.APR.6302 20:11:15

11N 5G HT40 MCS0 CH38 5190MHZ

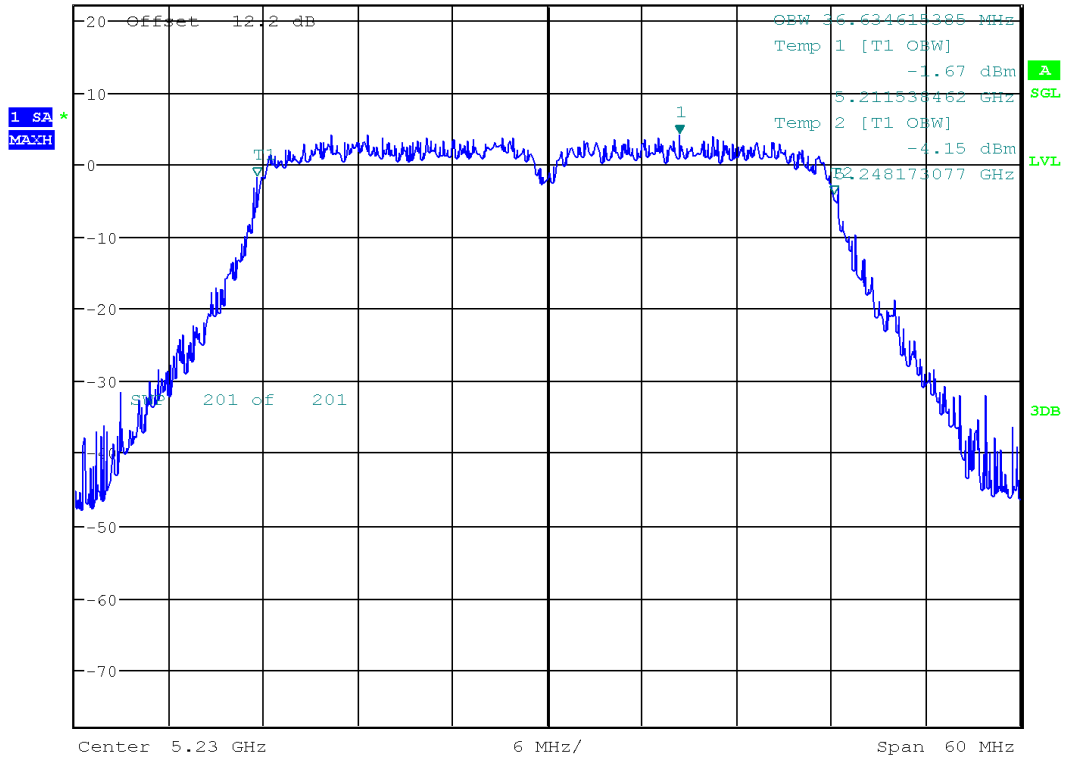


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FCC RF TEST REPORT



*RBW 1 MHz Marker 1 [T1]
 *VBW 3 MHz 4.30 dBm
 Ref 22.2 dBm Att 15 dB 5.238365385 GHz
 SWT 20 ms



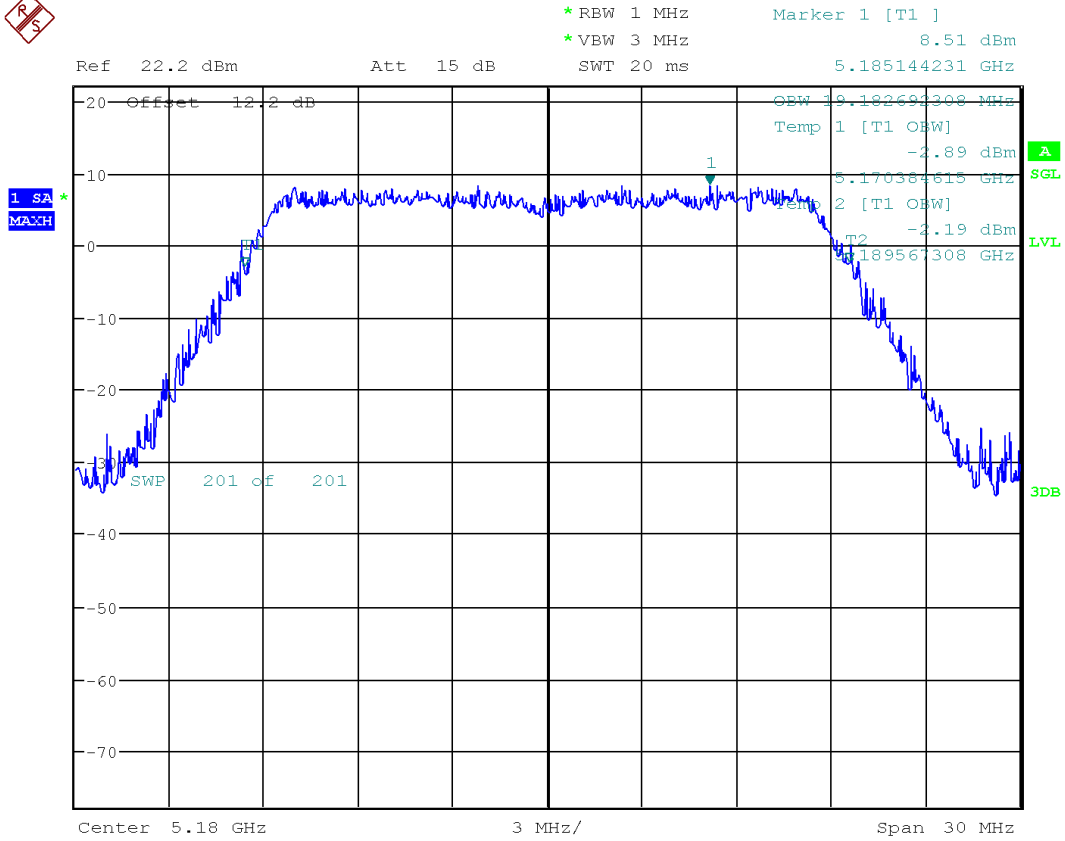
Date: 18.APR.6302 20:13:01

11N 5G HT40 MCS0 CH46 5230MHZ



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FCC RF TEST REPORT



Date: 18.APR.6302 20:50:17

11AC HT20 MCS0 CH36 5180MHZ

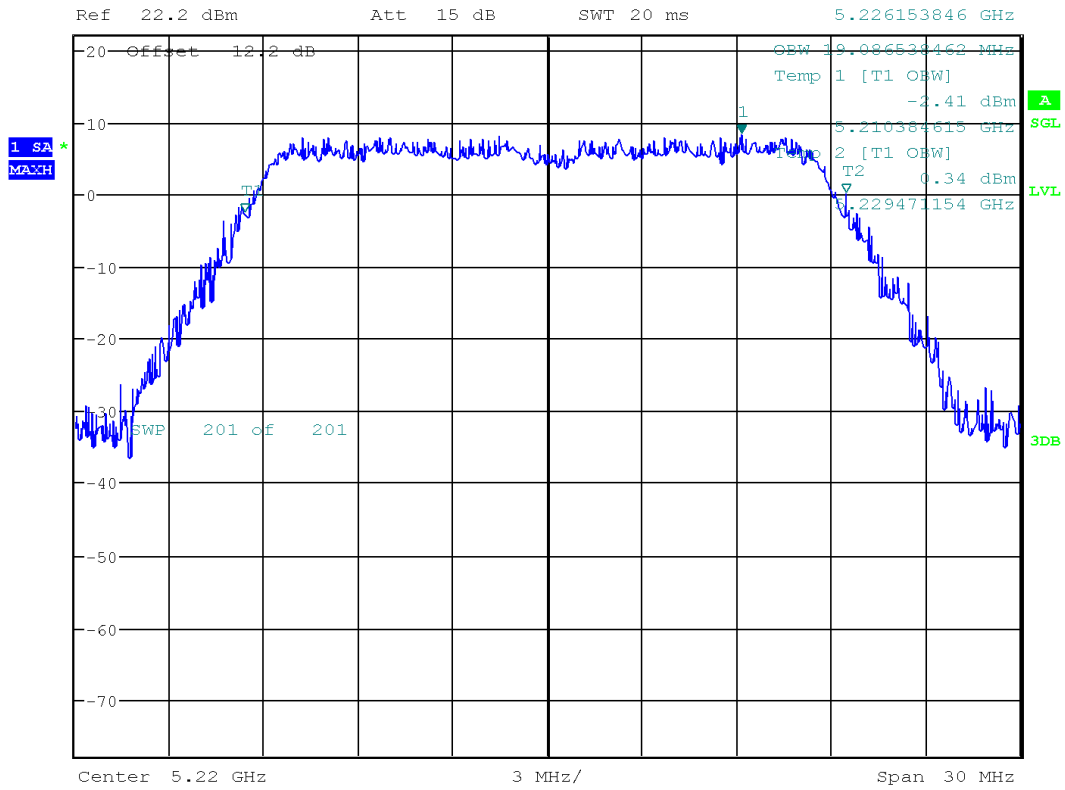


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FCC RF TEST REPORT



*RBW 1 MHz Marker 1 [T1]
 *VBW 3 MHz 8.37 dBm
 SWT 20 ms 5.226153846 GHz



Date: 18.APR.6302 20:51:51

11AC HT20 MCS0 CH44 5220MHZ

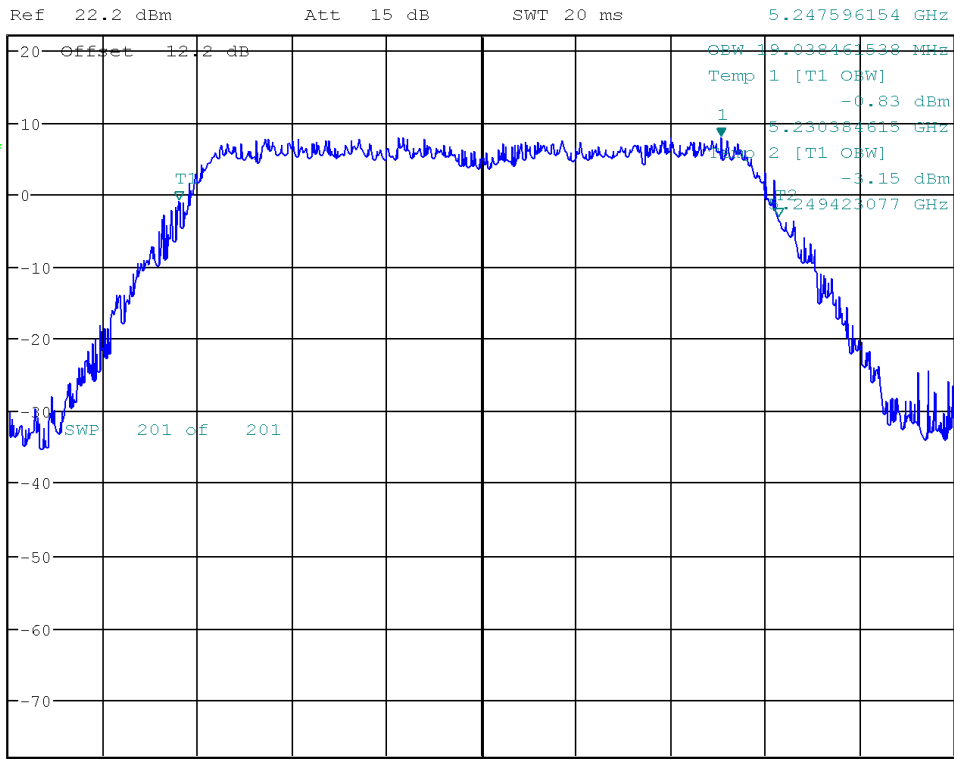


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FCC RF TEST REPORT



*RBW 1 MHz Marker 1 [T1] 8.06 dBm
 *VBW 3 MHz 5.247596154 GHz
 SWT 20 ms



Center 5.24 GHz 3 MHz/ Span 30 MHz

Date: 18.APR.6302 20:53:19

11AC HT20 MCS0 CH48 5240MHZ

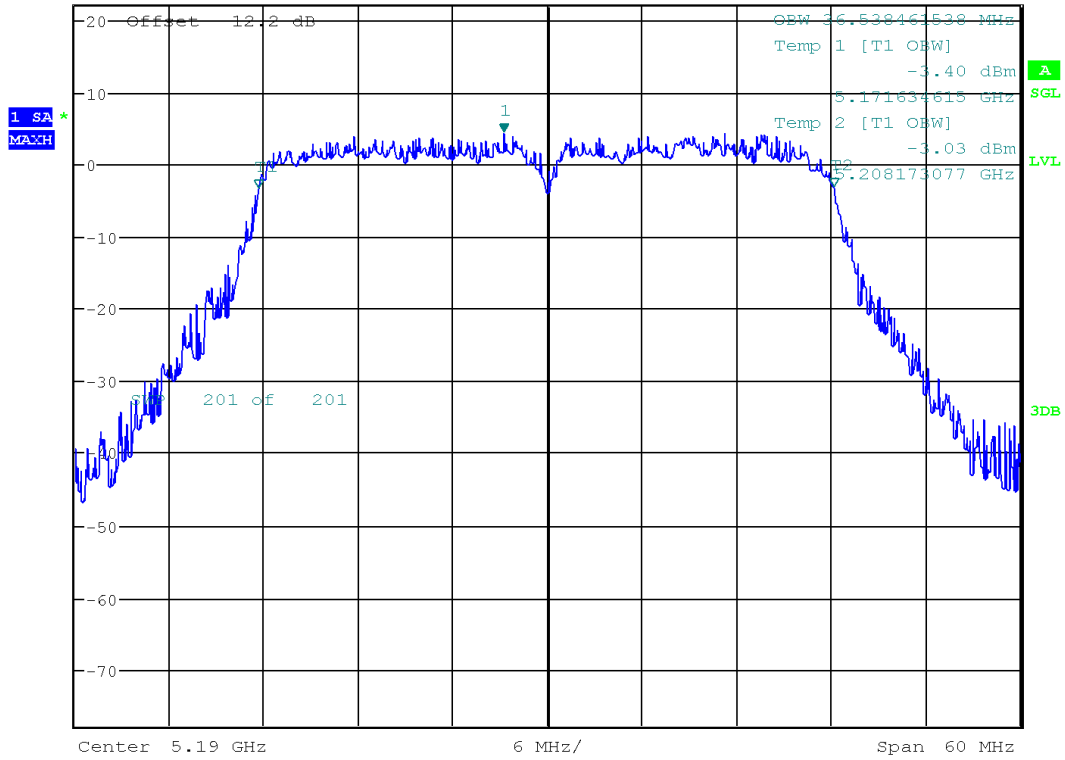


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FCC RF TEST REPORT



*RBW 1 MHz Marker 1 [T1]
 *VBW 3 MHz 4.49 dBm
 Ref 22.2 dBm Att 15 dB SWT 20 ms 5.187211538 GHz



Date: 18.APR.6302 21:10:59

11AC HT40 MCS0 CH38 5190MHZ

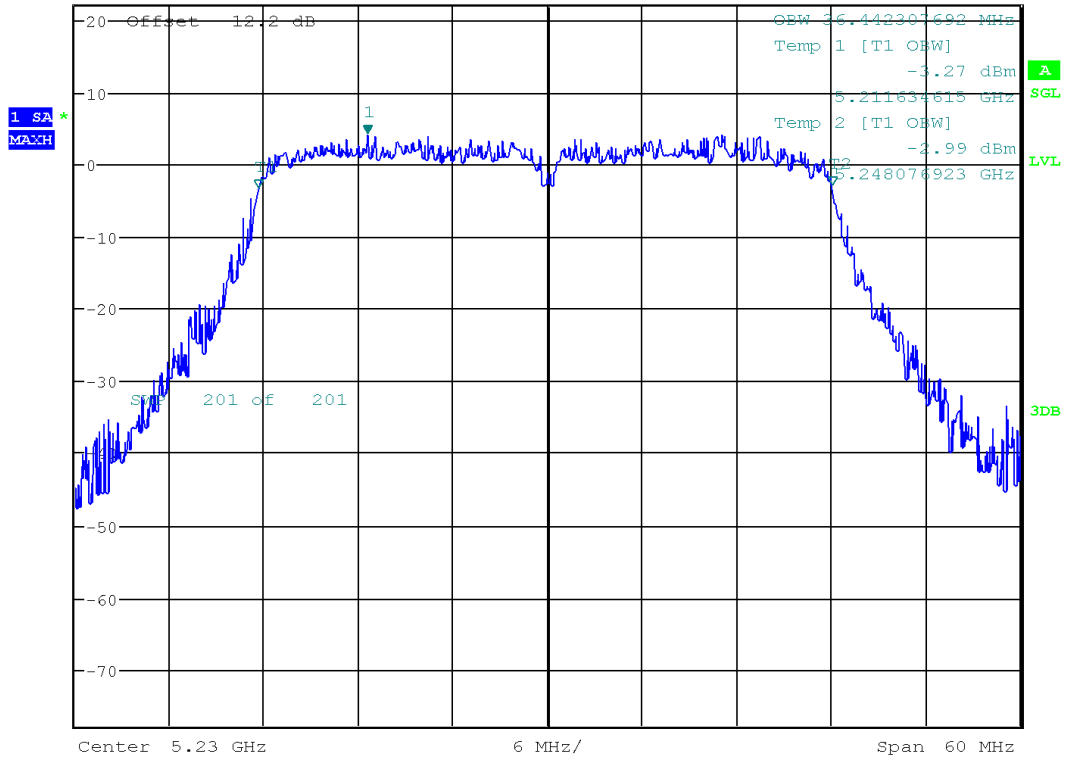


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FCC RF TEST REPORT



*RBW 1 MHz Marker 1 [T1]
 *VBW 3 MHz 4.25 dBm
 Ref 22.2 dBm Att 15 dB 5.218557692 GHz
 SWT 20 ms



Date: 18.APR.6302 21:12:39

11AC HT40 MCS0 CH46 5230MHZ

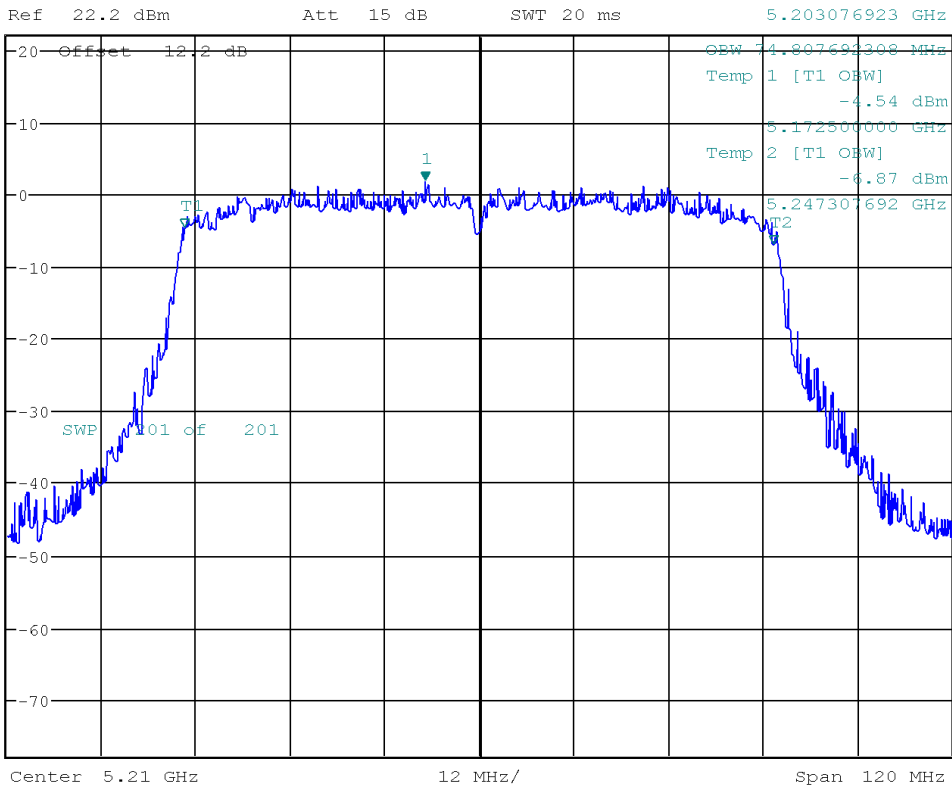


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FCC RF TEST REPORT



*RBW 1 MHz Marker 1 [T1]
 *VBW 3 MHz 2.02 dBm
 SWT 20 ms 5.203076923 GHz



Date: 18.APR.6302 21:28:37

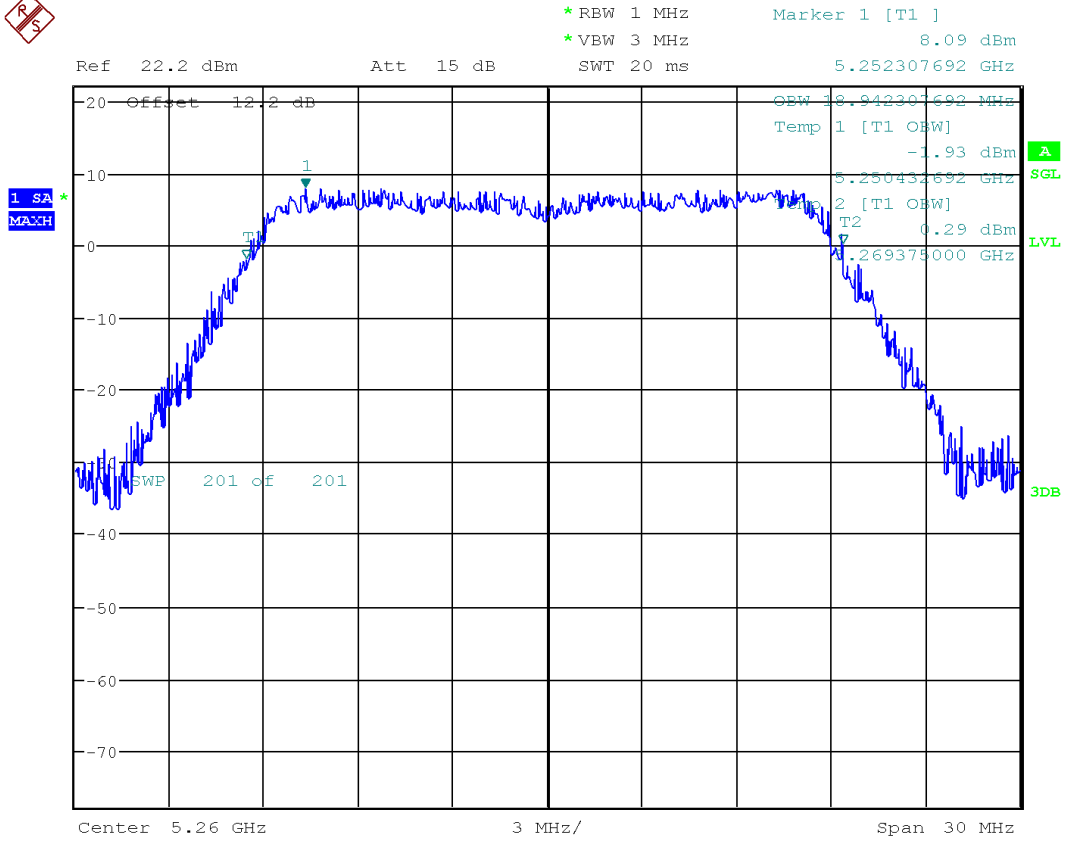
11AC HT80 MCS0 CH42 5210MHZ

99% bandwidth(U-NII-2A):



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FCC RF TEST REPORT



Date: 18.APR.6302 20:54:46

11A 6Mbps CH52 5260MHZ

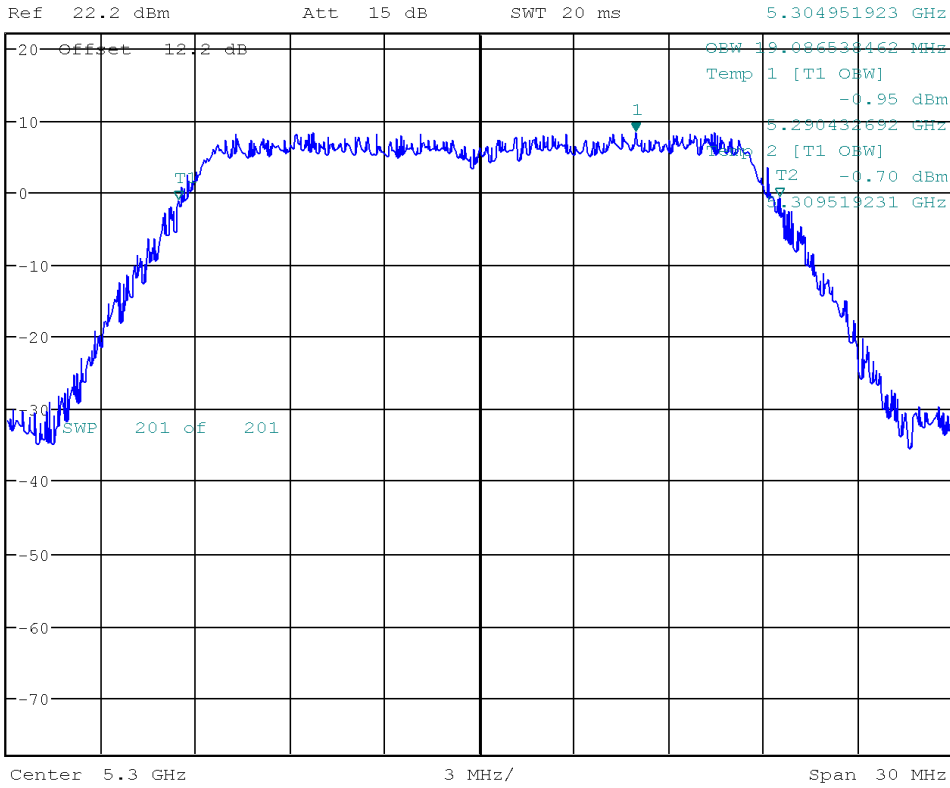


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FCC RF TEST REPORT



*RBW 1 MHz Marker 1 [T1] 8.44 dBm
 *VBW 3 MHz 5.304951923 GHz



Date: 18.APR.6302 20:56:19

11A 6Mbps CH60 5300MHZ

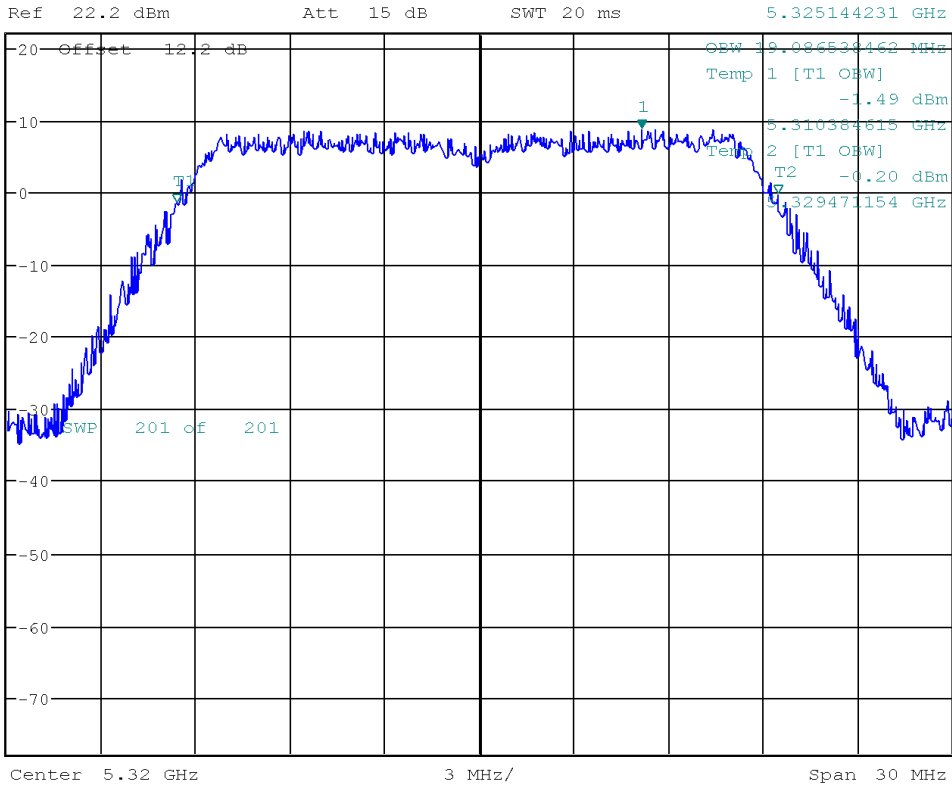


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FCC RF TEST REPORT



*RBW 1 MHz Marker 1 [T1]
 *VBW 3 MHz 8.94 dBm
 SWT 20 ms 5.325144231 GHz



Date: 18.APR.6302 20:57:43

11A 6Mbps CH64 5320MHZ

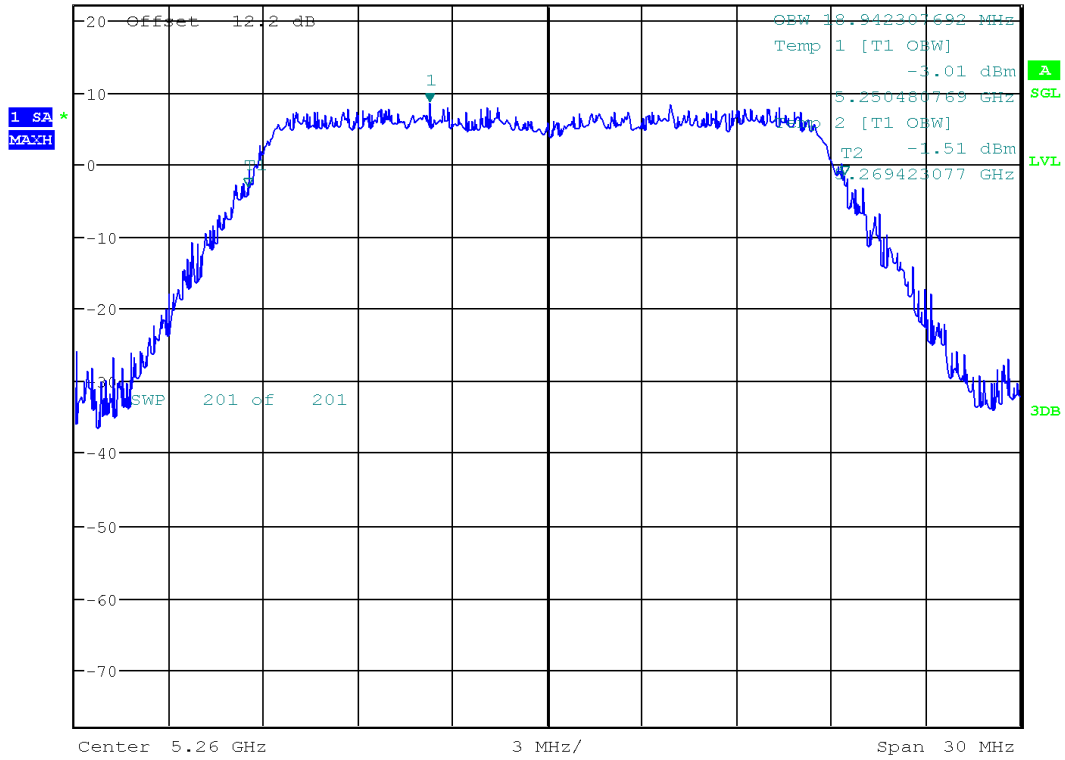


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FCC RF TEST REPORT



*RBW 1 MHz Marker 1 [T1] 8.65 dBm
 *VBW 3 MHz 5.256250000 GHz
 Ref 22.2 dBm Att 15 dB SWT 20 ms



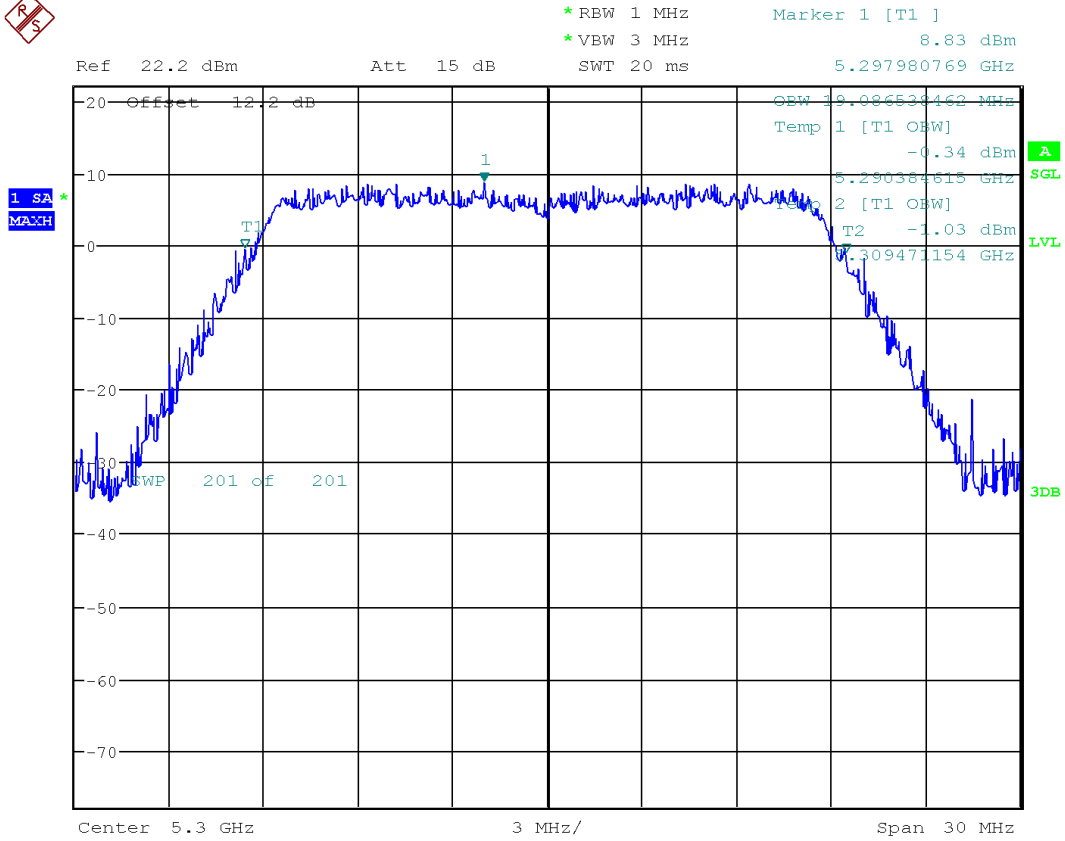
Date: 18.APR.6302 19:54:53

11N 5G HT20 MCS0 CH52 5260MHZ



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FCC RF TEST REPORT



Date: 18.APR.6302 19:56:27

11N 5G HT20 MCS0 CH60 5300MHZ

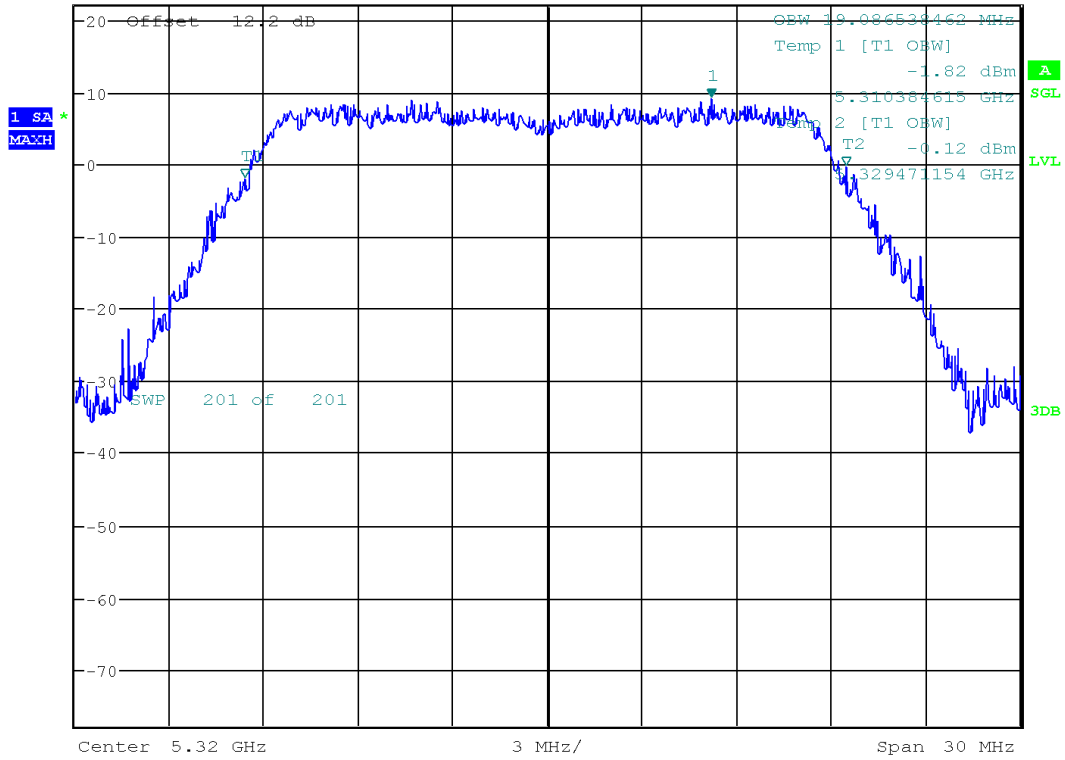


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FCC RF TEST REPORT



*RBW 1 MHz Marker 1 [T1]
 *VBW 3 MHz 9.23 dBm
 Ref 22.2 dBm Att 15 dB 5.325192308 GHz
 SWT 20 ms



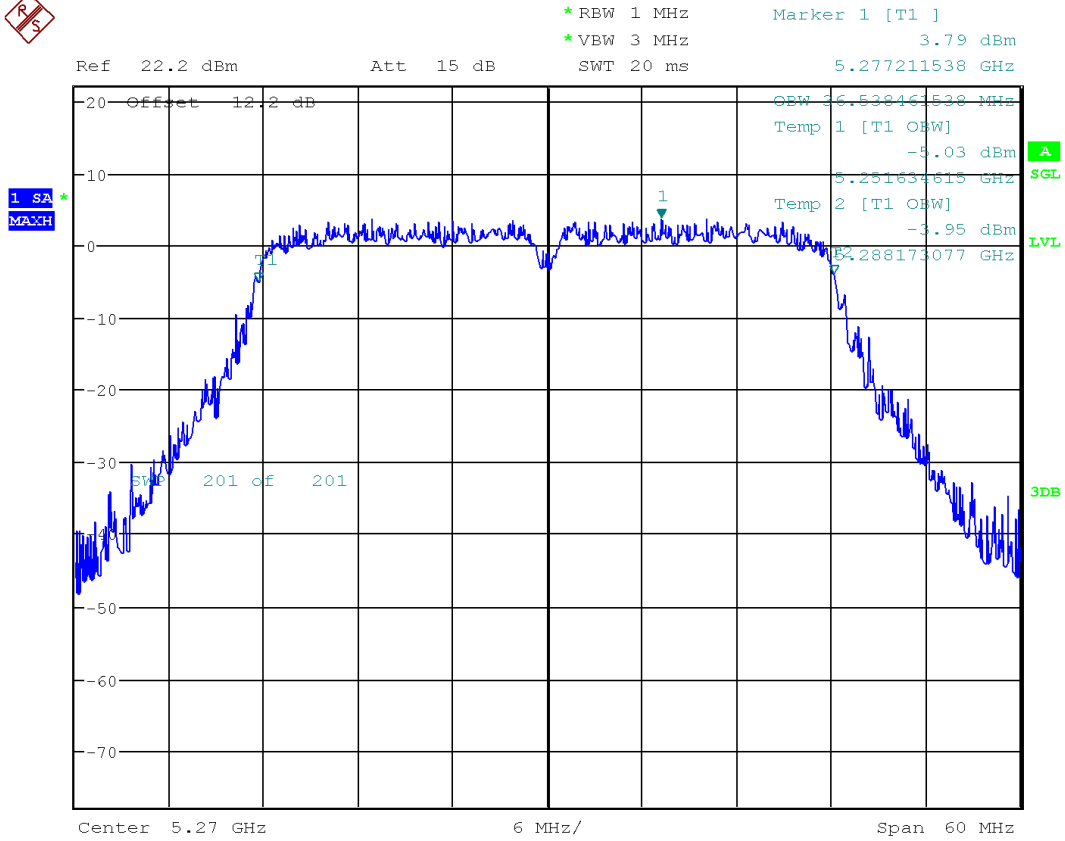
Date: 18.APR.6302 19:57:53

11N 5G HT20 MCS0 CH64 5320MHZ



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FCC RF TEST REPORT



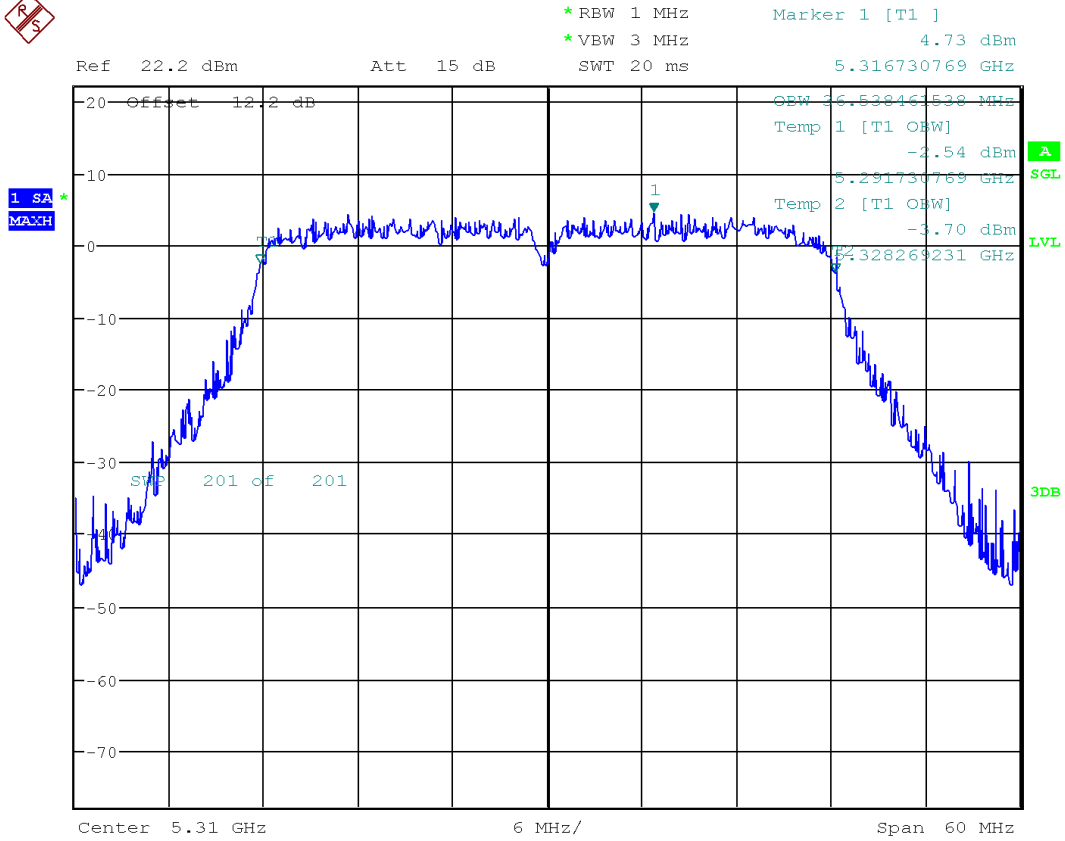
Date: 18.APR.6302 20:14:37

11N 5G HT40 MCS0 CH54 5270MHZ



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FCC RF TEST REPORT



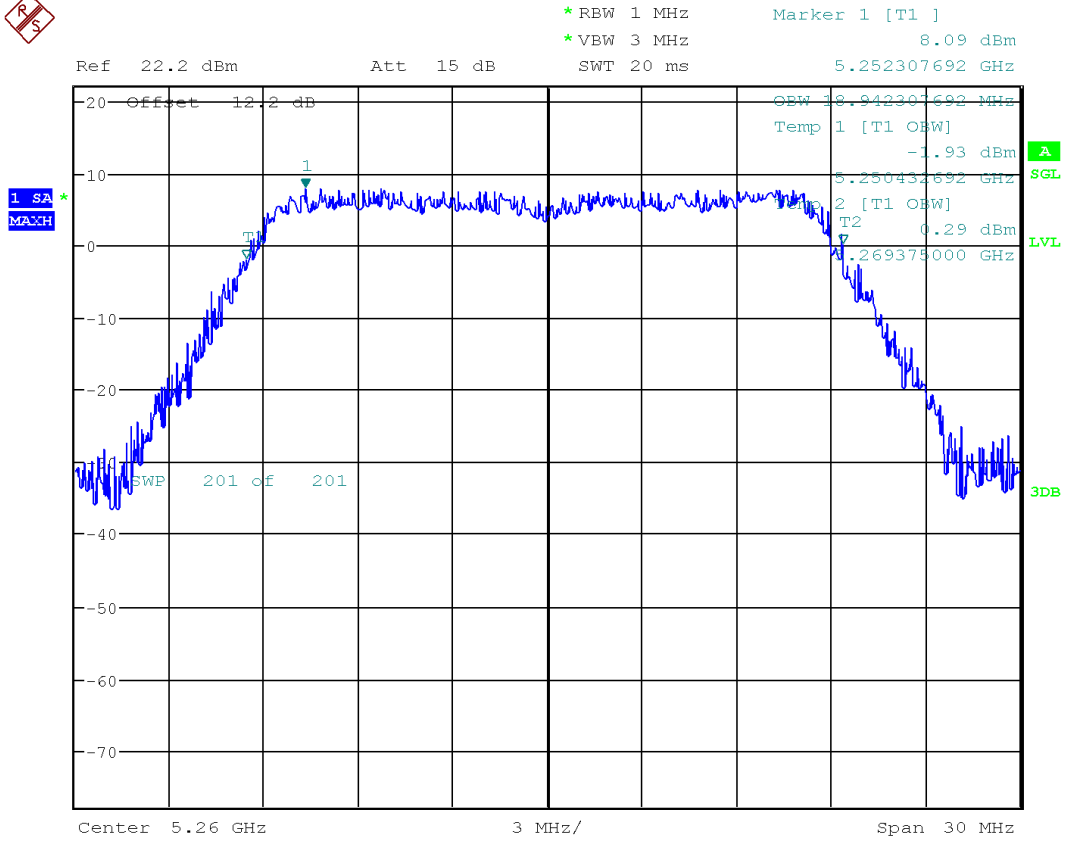
Date: 18.APR.6302 20:16:18

11N 5G HT40 MCS0 CH62 5310MHZ



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FCC RF TEST REPORT



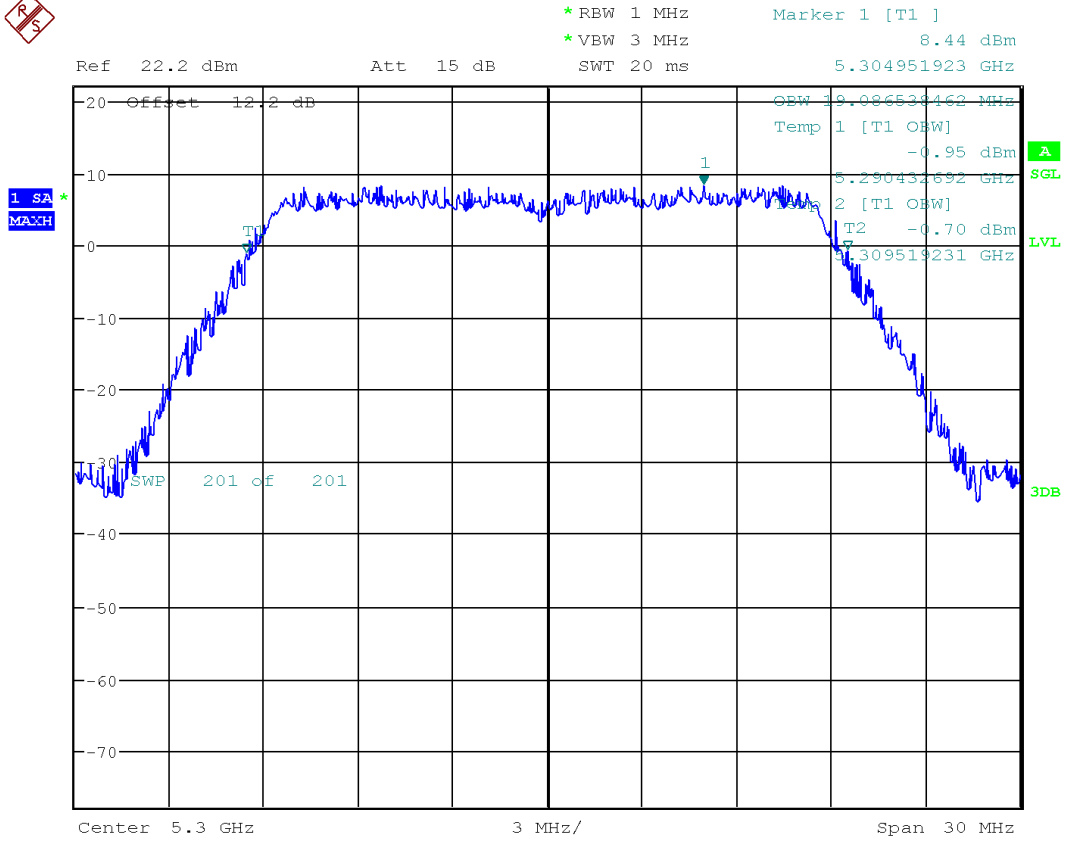
Date: 18.APR.6302 20:54:46

11AC HT20 MCS0 CH52 5260MHZ



Build Your Dreams!

FCC RF TEST REPORT



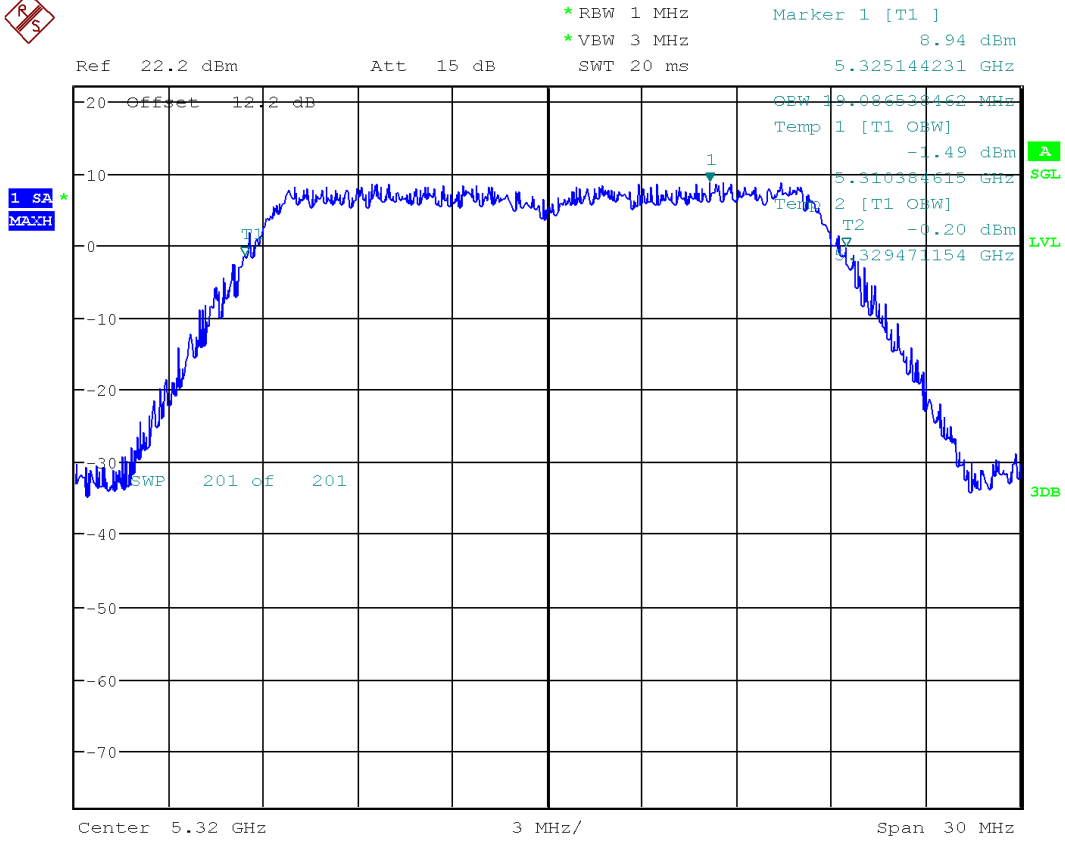
Date: 18.APR.6302 20:56:19

11AC HT20 MCS0 CH60 5300MHZ



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FCC RF TEST REPORT



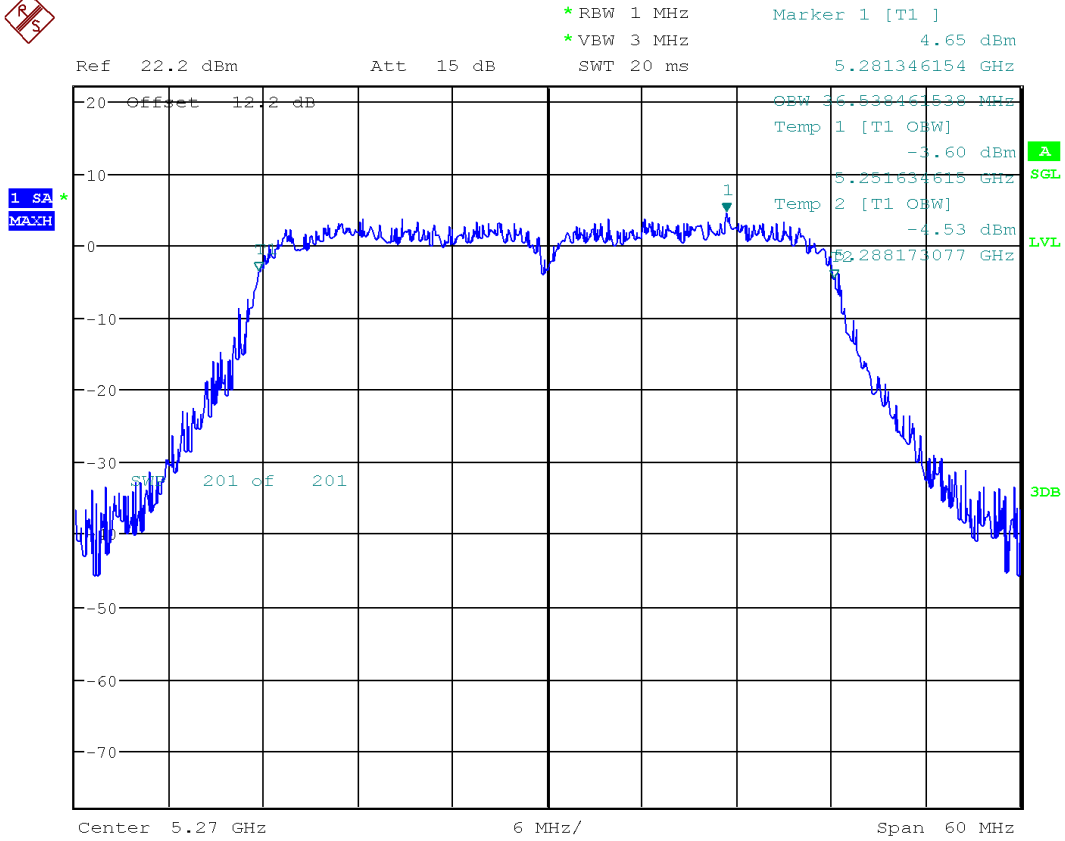
Date: 18.APR.6302 20:57:43

11AC HT20 MCS0 CH64 5320MHZ



Build Your Dreams!

FCC RF TEST REPORT



Date: 18.APR.6302 21:14:11

11AC HT40 MCS0 CH54 5270MHZ

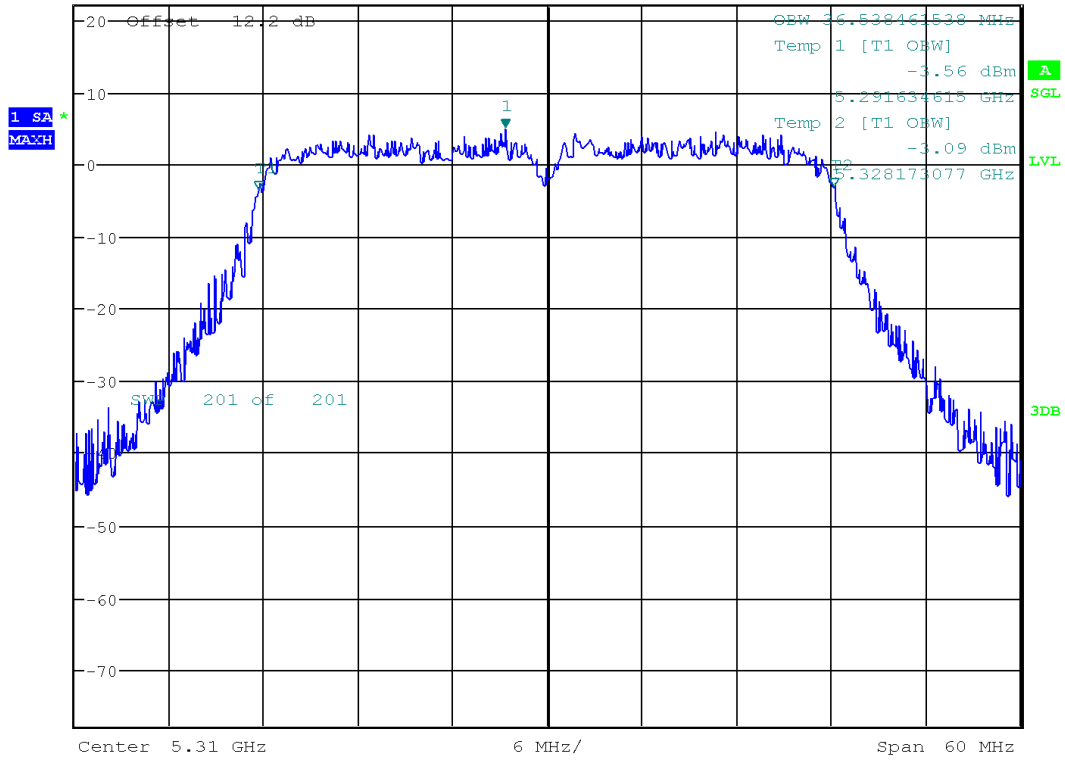


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FCC RF TEST REPORT



*RBW 1 MHz Marker 1 [T1]
 *VBW 3 MHz 5.04 dBm
 Ref 22.2 dBm Att 15 dB SWT 20 ms 5.307307692 GHz



Date: 18.APR.6302 21:15:51

11AC HT40 MCS0 CH62 5310MHZ

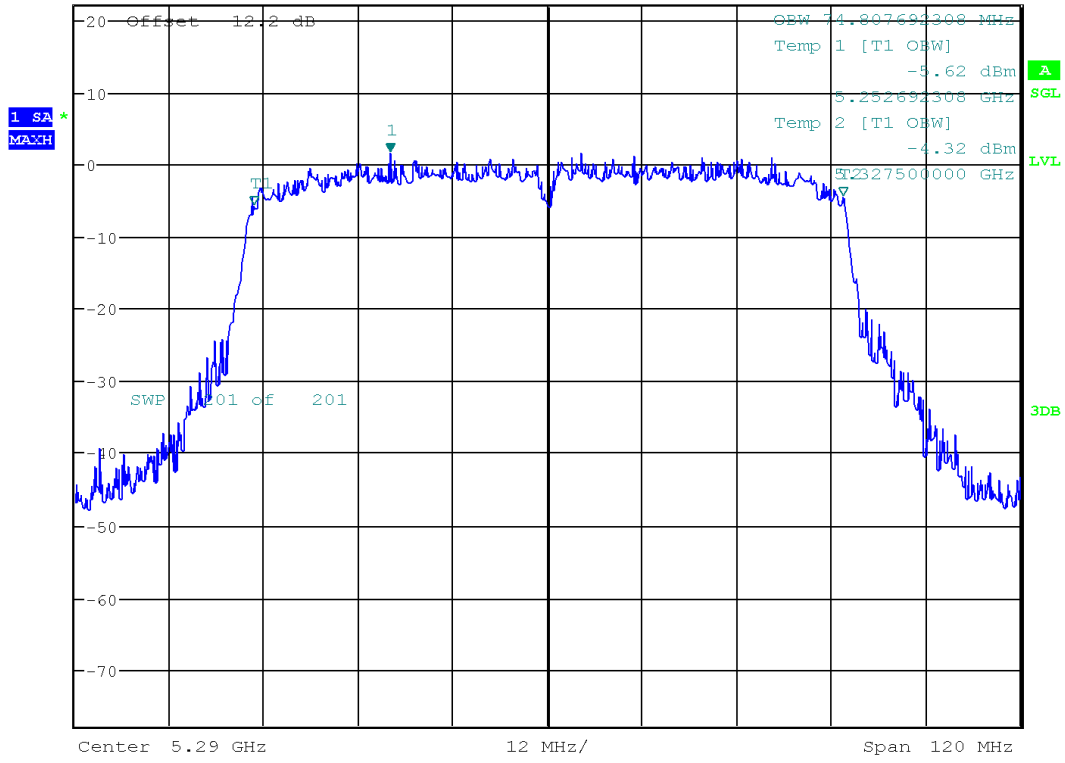


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FCC RF TEST REPORT



*RBW 1 MHz Marker 1 [T1]
 *VBW 3 MHz 1.73 dBm
 Ref 22.2 dBm Att 15 dB 5.27000000 GHz
 SWT 20 ms



Date: 18.APR.6302 21:30:45

11AC HT80 MCS0 CH58 5290MHZ



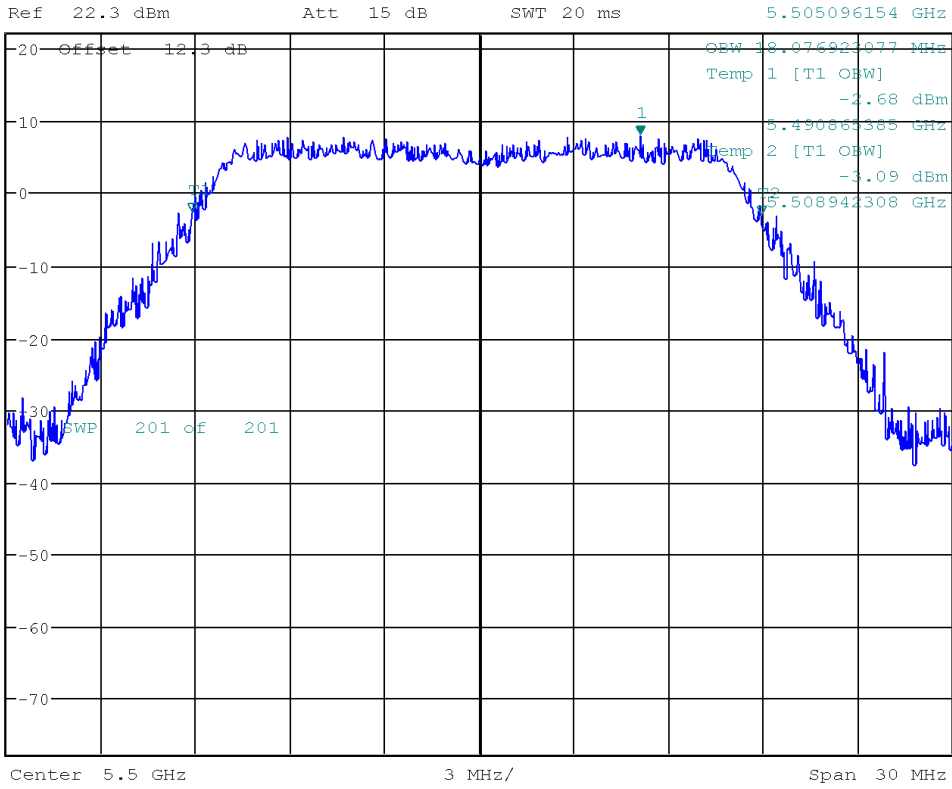
Build Your Dreams!

FCC RF TEST REPORT

99% bandwidth(U-NII-2C):



*RBW 1 MHz Marker 1 [T1] 8.10 dBm
 *VBW 3 MHz 5.505096154 GHz



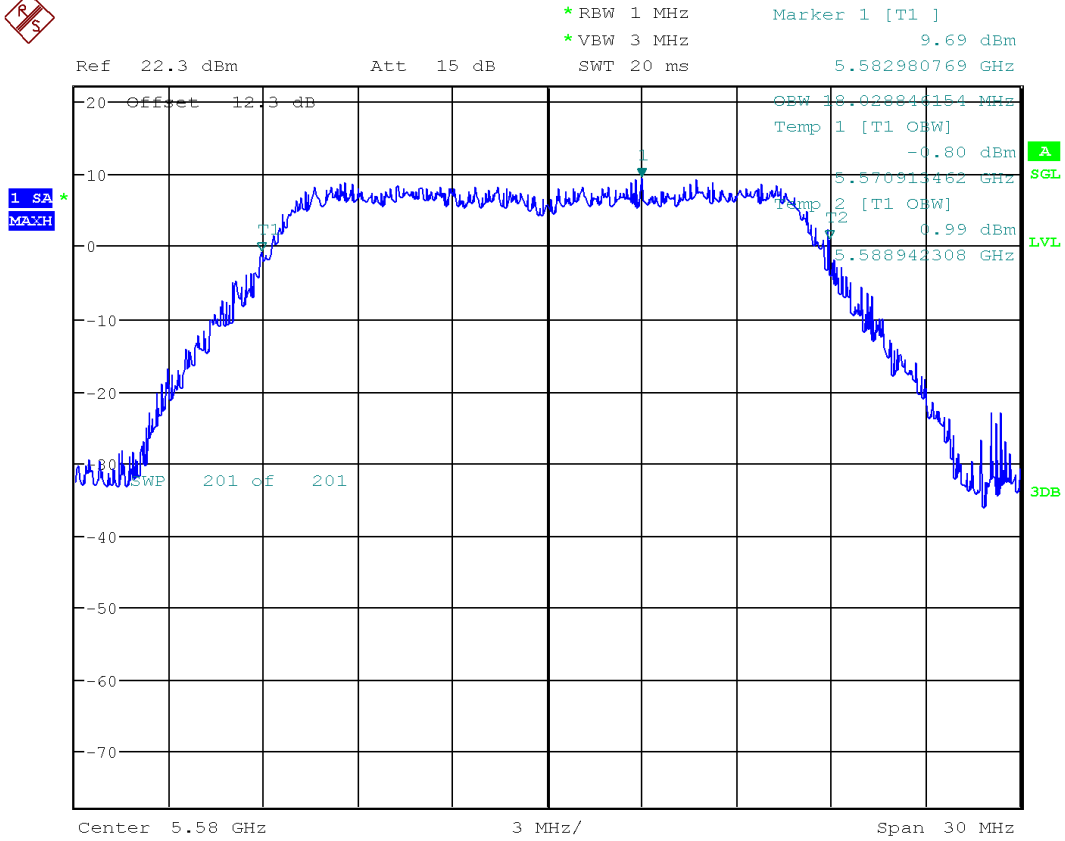
Date: 18.APR.6302 20:38:09

11A 6Mbps CH100 5500MHZ



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FCC RF TEST REPORT



Date: 18.APR.6302 20:39:42

11A 6Mbps CH116 5580MHZ

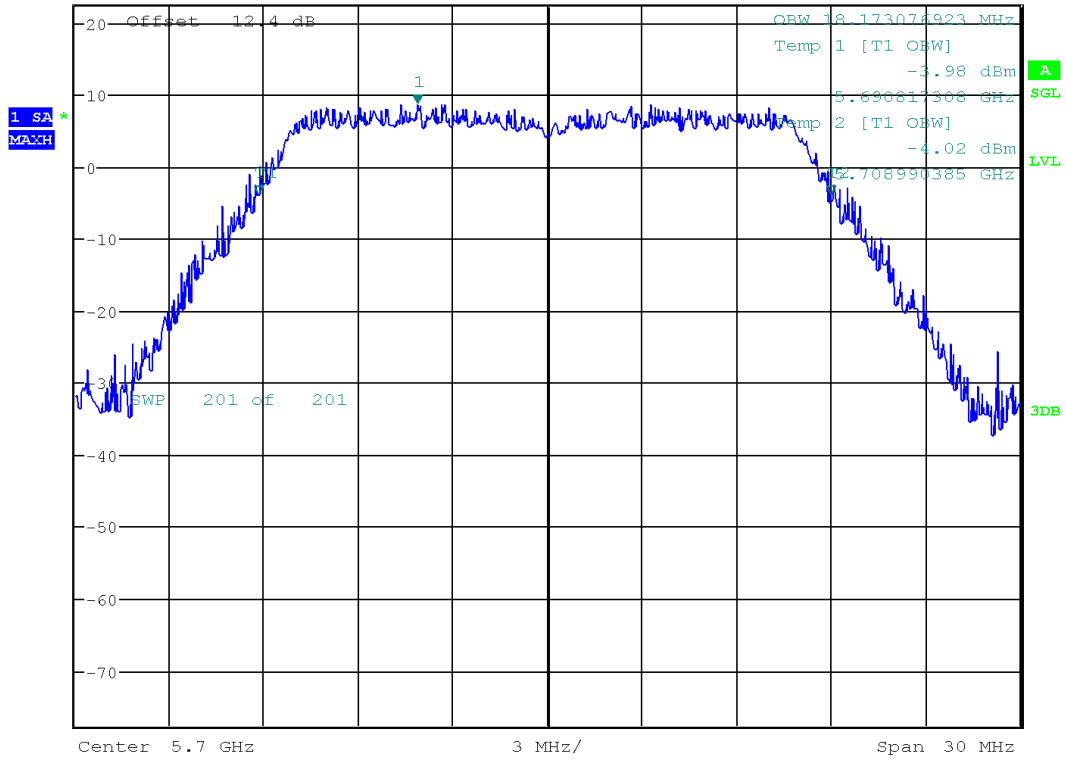


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*RBW 1 MHz Marker 1 [T1]
 *VBW 3 MHz 8.69 dBm
 Ref 22.4 dBm Att 15 dB SWT 20 ms 5.695865385 GHz



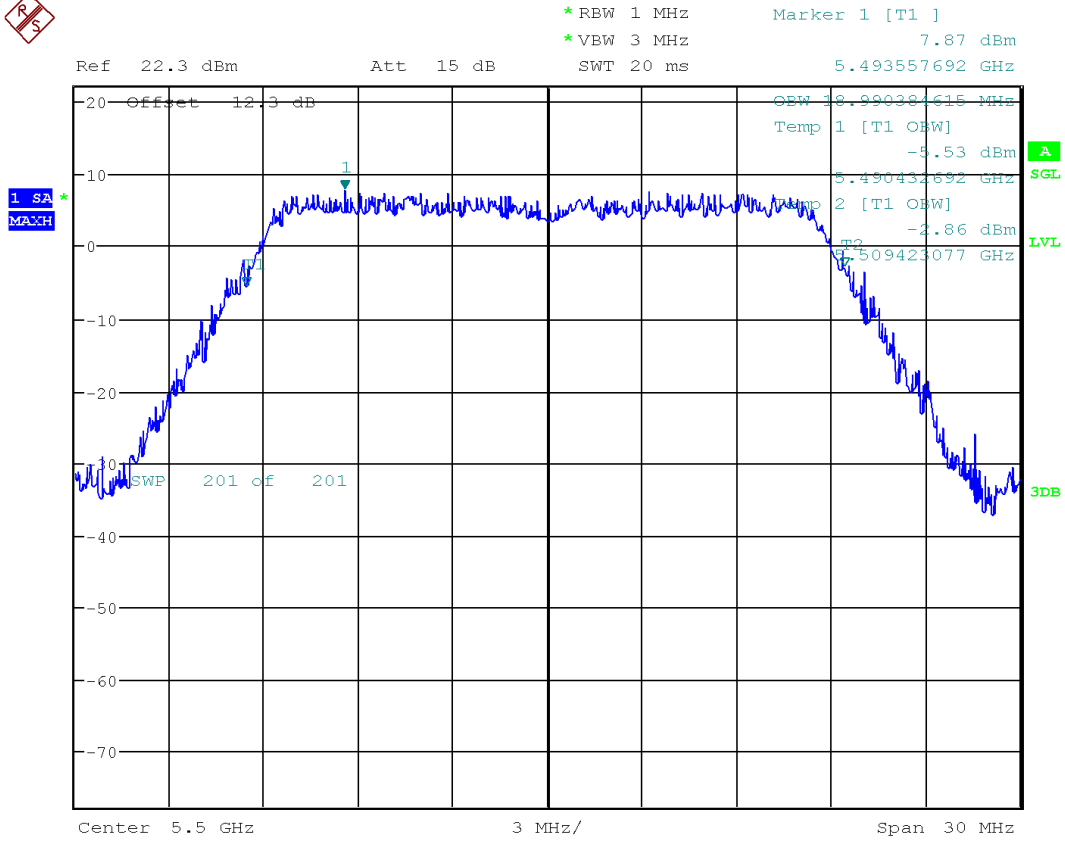
Date: 18.APR.6302 20:41:07

11A 6Mbps CH140 5700MHZ



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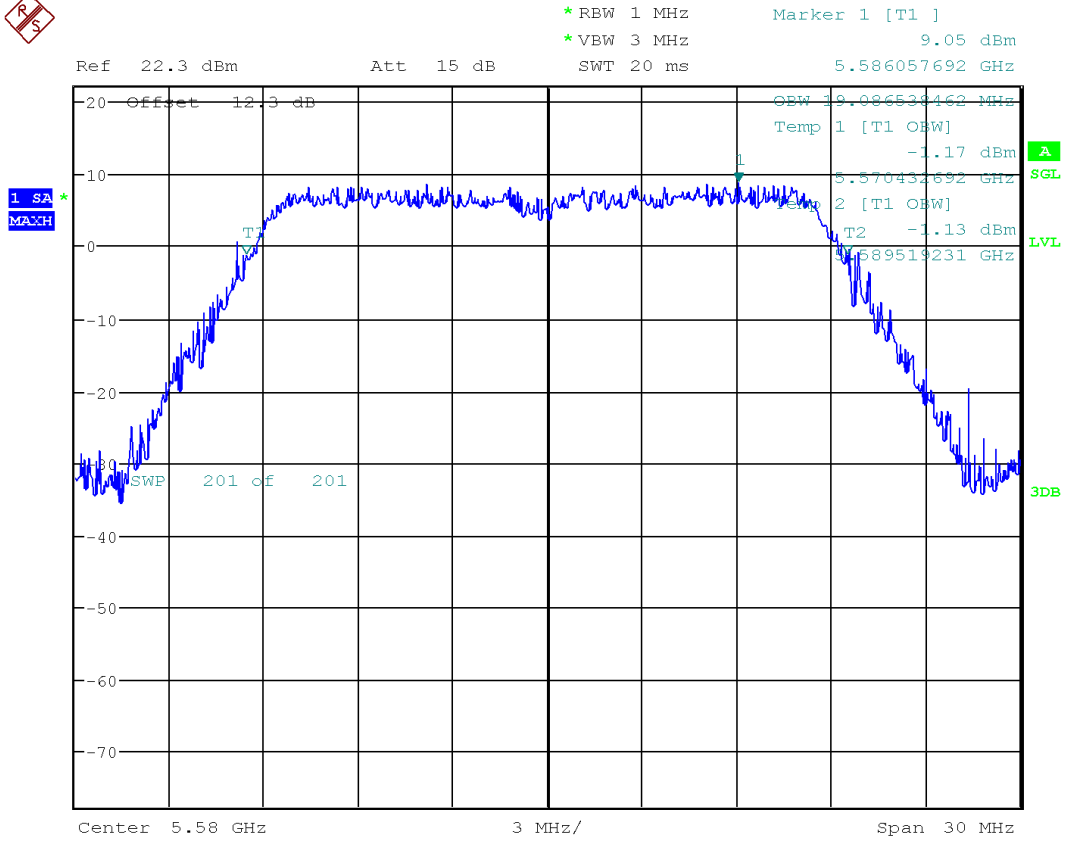
Date: 18.APR.6302 19:59:18

11N 5G HT20 MCS0 CH100 5500MHZ



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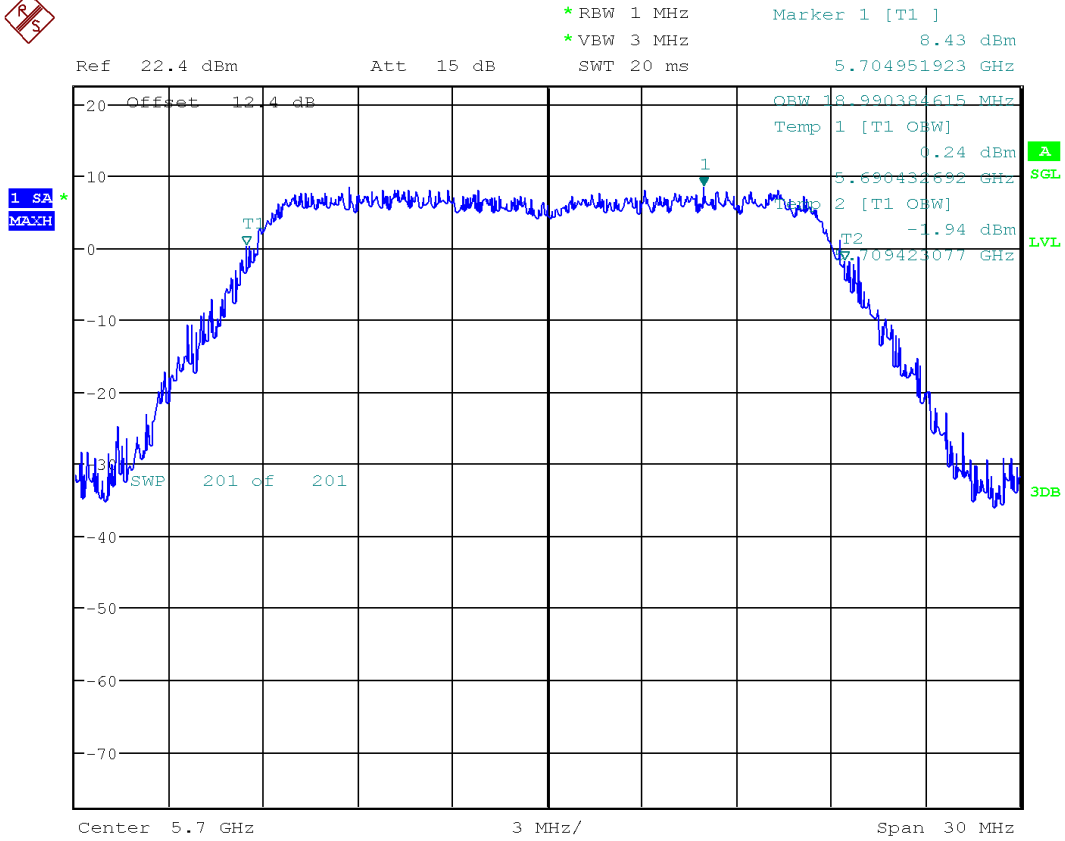
Date: 18.APR.6302 20:00:49

11N 5G HT20 MCS0 CH116 5580MHZ



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Date: 18.APR.6302 20:02:12

11N 5G HT20 MCS0 CH140 5700MHZ

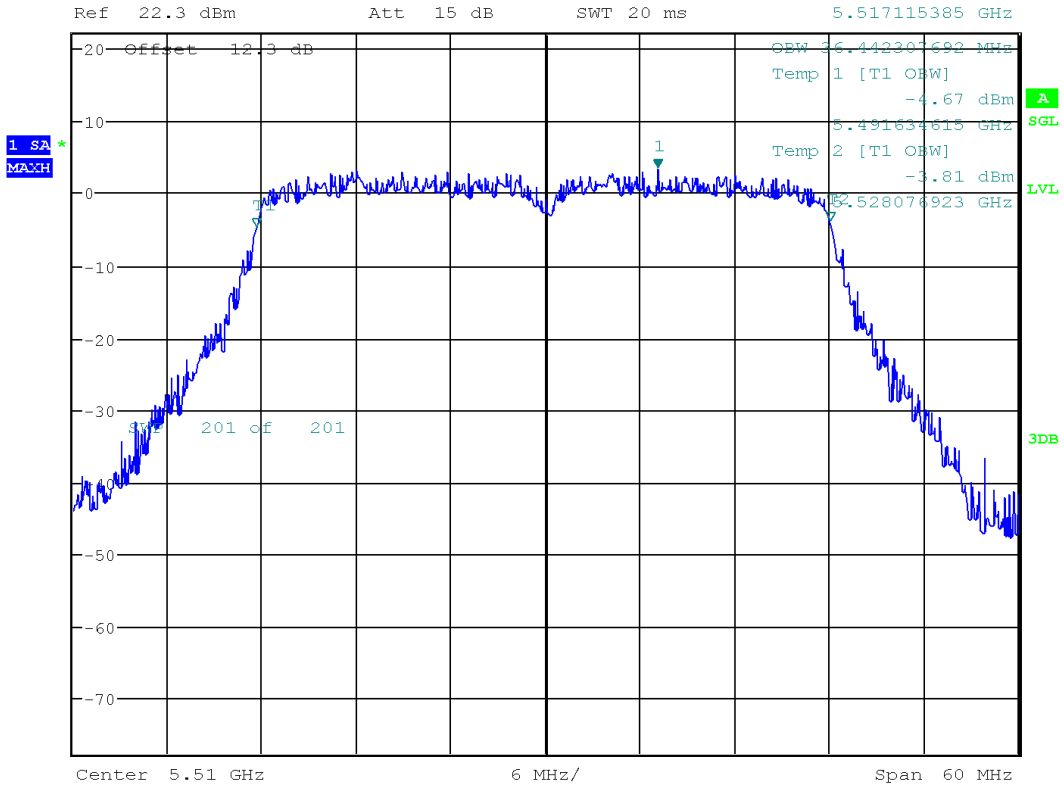


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FCC RF TEST REPORT



*RBW 1 MHz Marker 1 [T1]
 *VBW 3 MHz 3.59 dBm
 SWT 20 ms 5.517115385 GHz



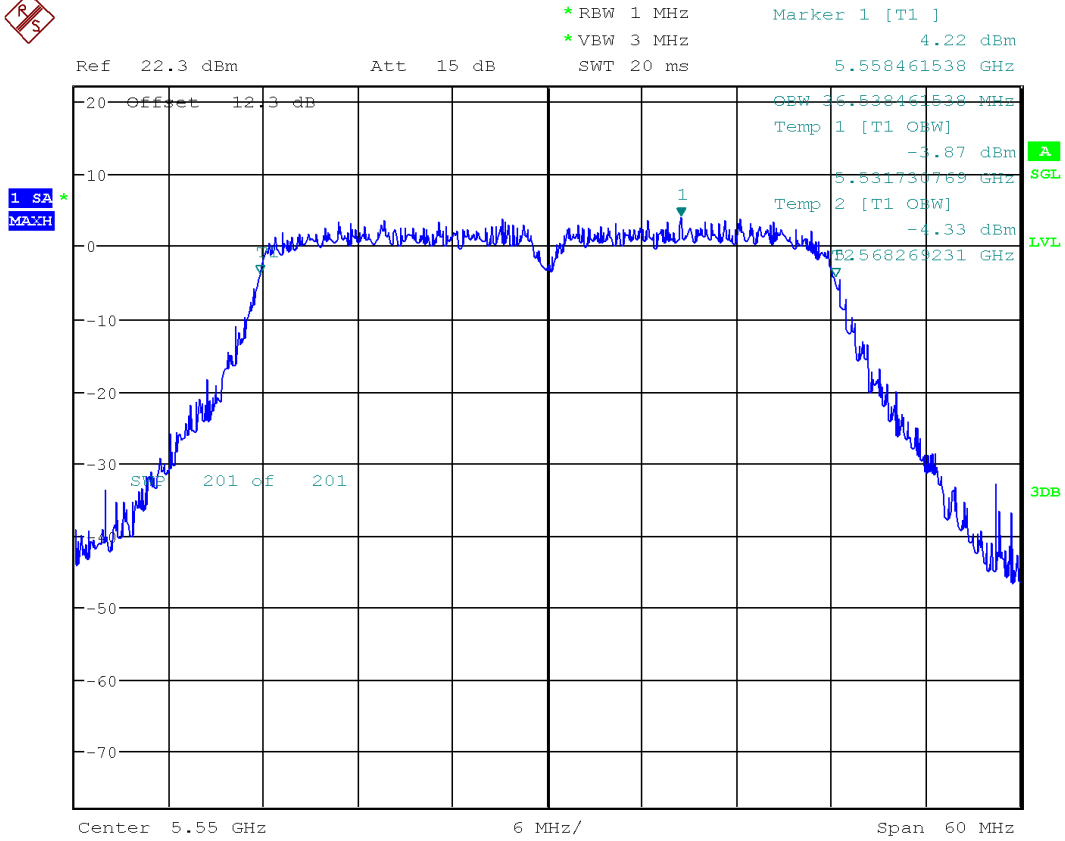
Date: 18.APR.6302 20:17:51

11N 5G HT40 MCS0 CH102 5510MHZ



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Date: 18.APR.6302 20:19:31

11N 5G HT40 MCS0 CH110 5550MHZ

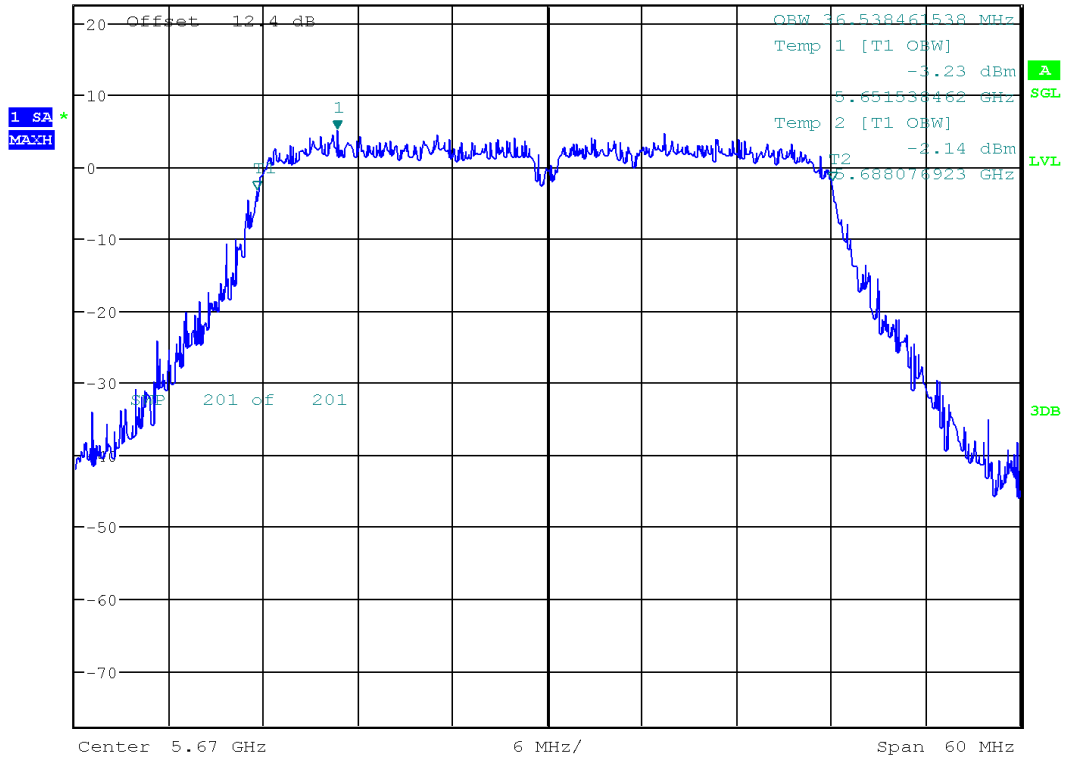


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*RBW 1 MHz Marker 1 [T1] 5.10 dBm
 *VBW 3 MHz 5.656634615 GHz
 Ref 22.4 dBm Att 15 dB SWT 20 ms



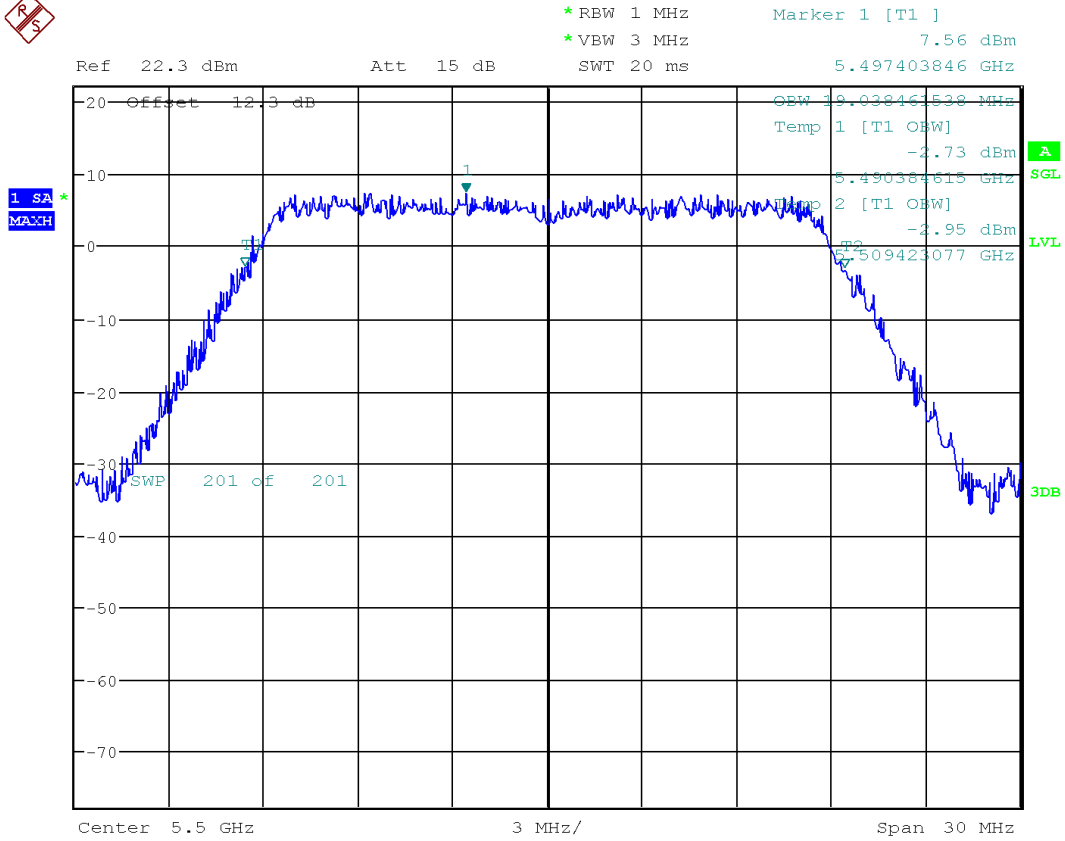
Date: 18.APR.6302 20:21:05

11N 5G HT40 MCS0 CH134 5670MHZ



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Date: 18.APR.6302 20:59:07

11AC HT20 MCS0 CH100 5500MHZ

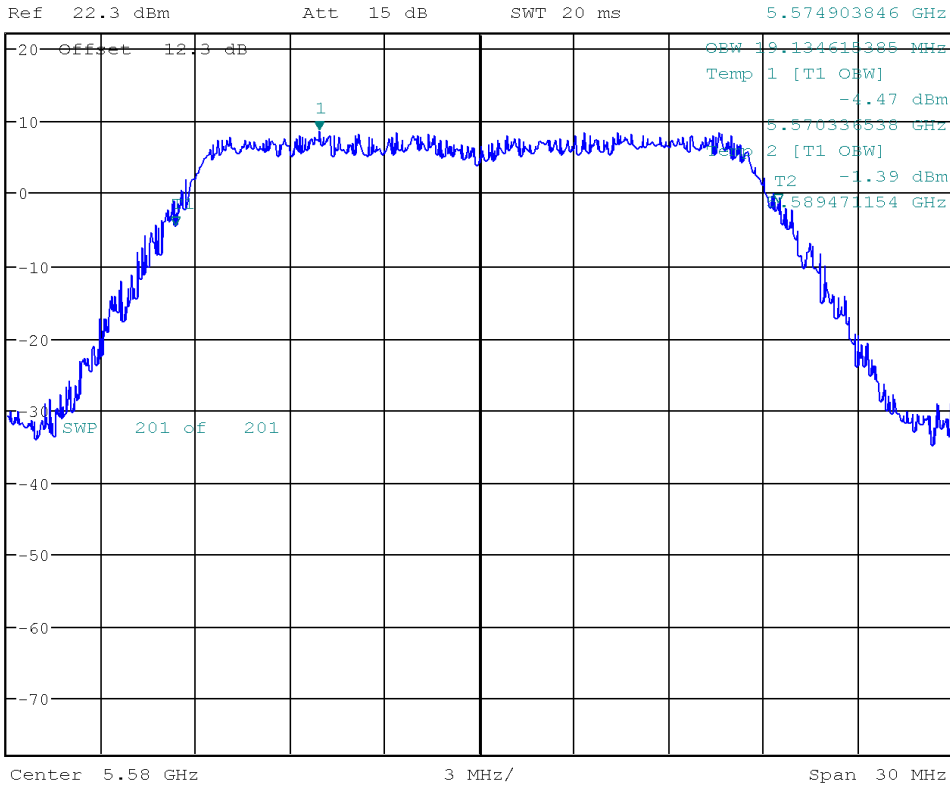


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FCC RF TEST REPORT



*RBW 1 MHz Marker 1 [T1]
 *VBW 3 MHz 8.71 dBm
 SWT 20 ms 5.574903846 GHz



Date: 18.APR.6302 21:00:39

11AC HT20 MCS0 CH116 5580MHZ

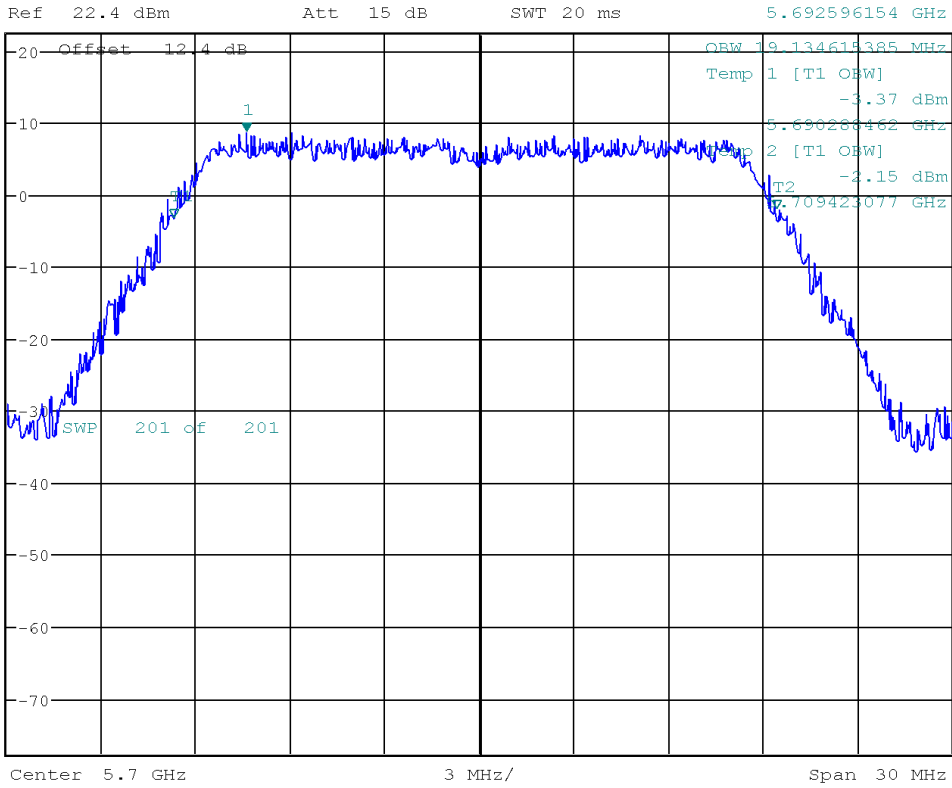


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FCC RF TEST REPORT



*RBW 1 MHz Marker 1 [T1]
 *VBW 3 MHz 8.73 dBm
 SWT 20 ms 5.692596154 GHz



Date: 18.APR.6302 21:02:02

11AC HT20 MCS0 CH140 5700MHZ

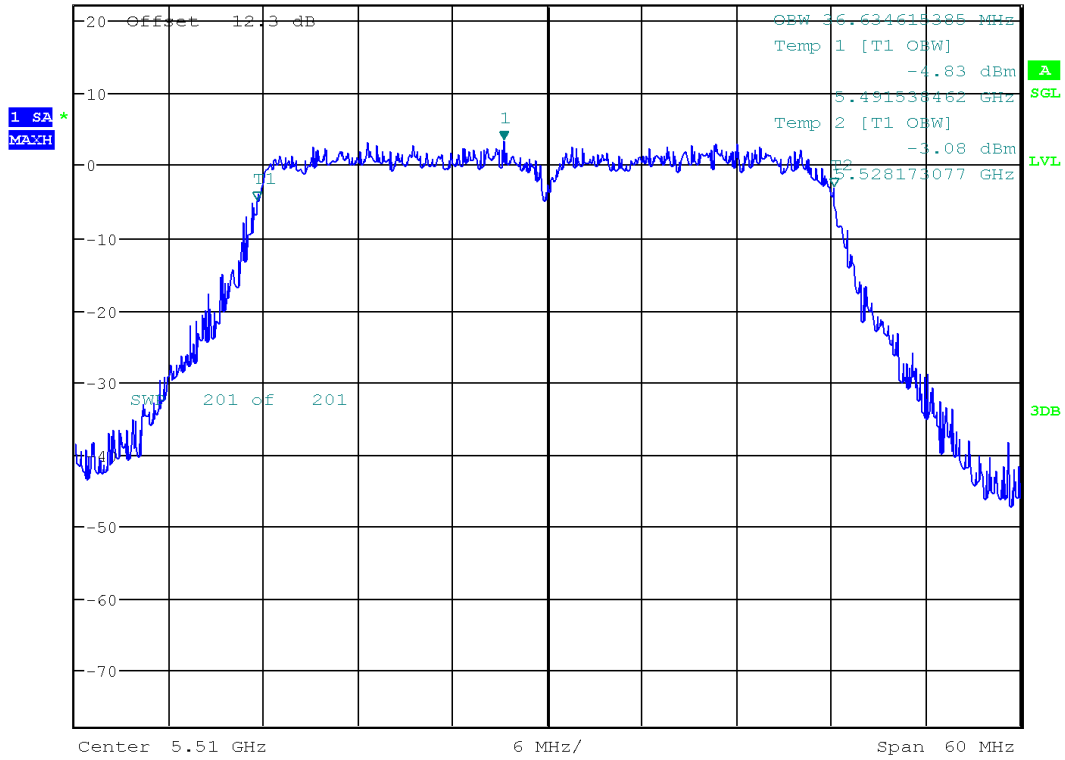


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FCC RF TEST REPORT

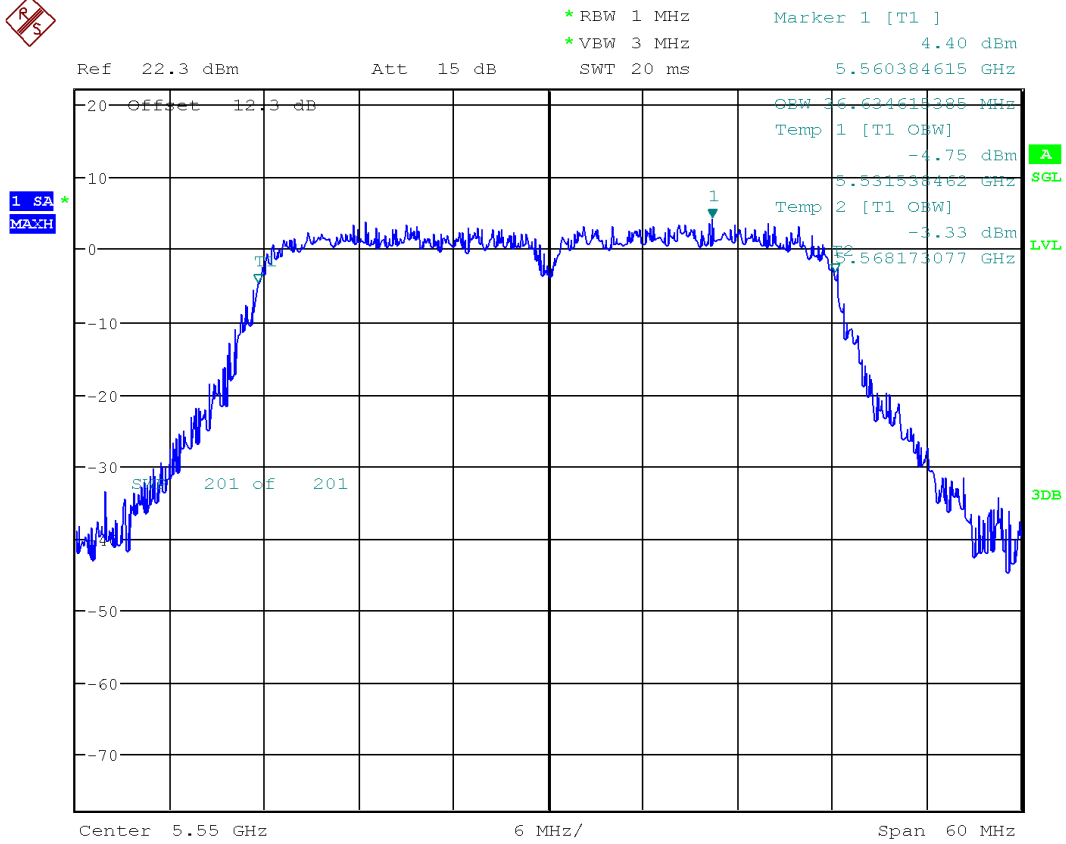


*RBW 1 MHz Marker 1 [T1]
 *VBW 3 MHz 3.59 dBm
 Ref 22.3 dBm Att 15 dB 5.507211538 GHz
 SWT 20 ms



Date: 18.APR.6302 21:17:23

11AC HT40 MCS0 CH102 5510MHZ



Date: 18.APR.6302 21:19:01

11AC HT40 MCS0 CH110 5550MHZ

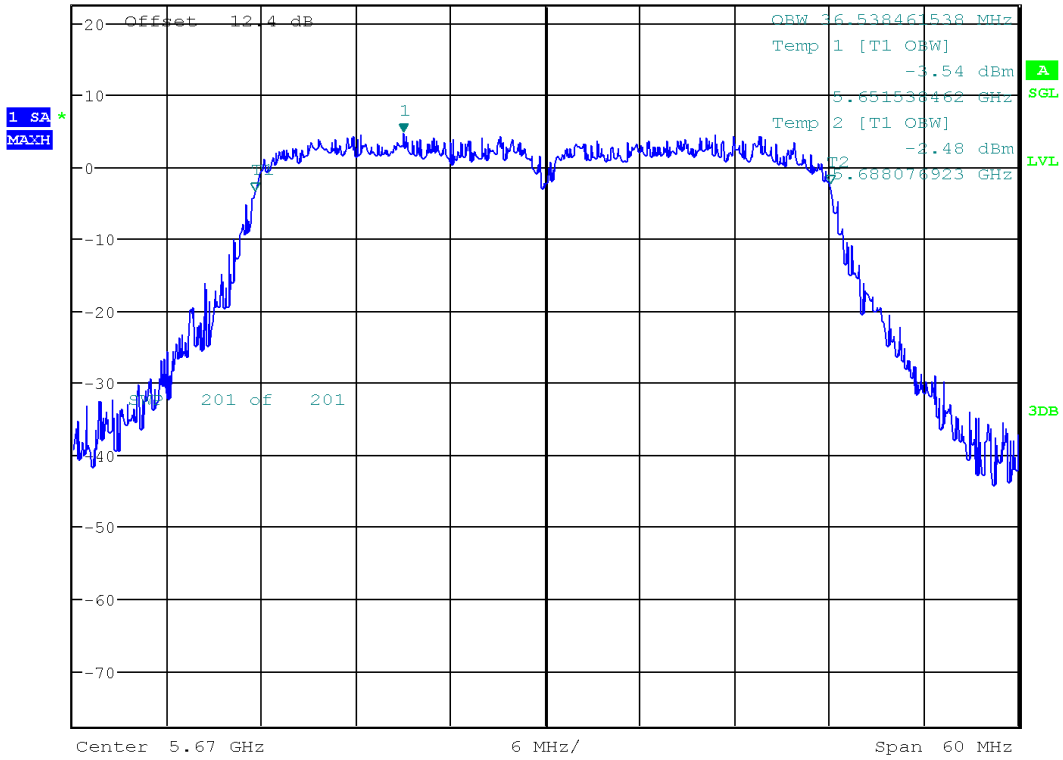


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FCC RF TEST REPORT



Ref 22.4 dBm Att 15 dB *RBW 1 MHz Marker 1 [T1] 4.74 dBm
 *VBW 3 MHz SWT 20 ms 5.660961538 GHz



Date: 18.APR.6302 21:20:33

11AC HT40 MCS0 CH134 5670MHZ

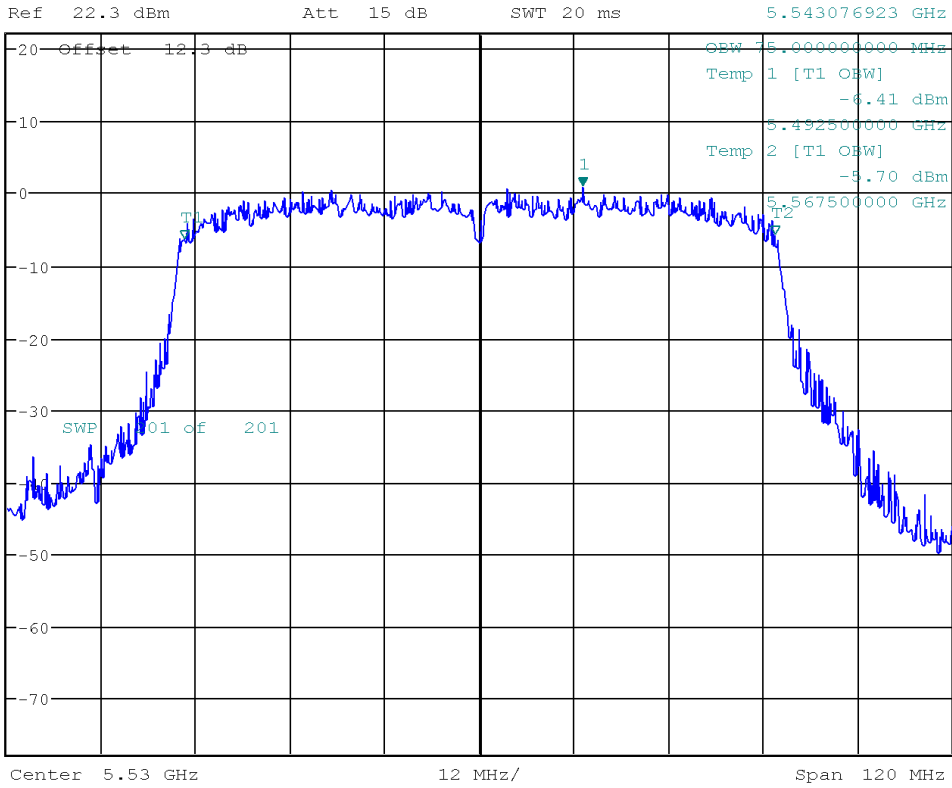


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FCC RF TEST REPORT



*RBW 1 MHz Marker 1 [T1] 0.99 dBm
 *VBW 3 MHz 5.543076923 GHz
 SWT 20 ms



Date: 18.APR.6302 21:32:53

11AC HT80 MCS0 CH106 5530MHZ

5.2 Output Power

5.2.1 Description

For the band 5150-5250 MHz, the maximum conducted output power shall not exceed 250mW.

For the bands 5250-5350 MHz and 5470-5600 MHz and 5650-5725 MHz bands, the maximum conducted output power shall not exceed the lesser of 250mW(24dBm) or 11 dBm + 10log B, where B is the 26 dB emissions bandwidth in 1-MHz.

If transmitting antenna directional gain is greater than 6 dBi, the peak output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Note that U-NII-2 band, devices with a maximum e.i.r.p greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p of 1W.

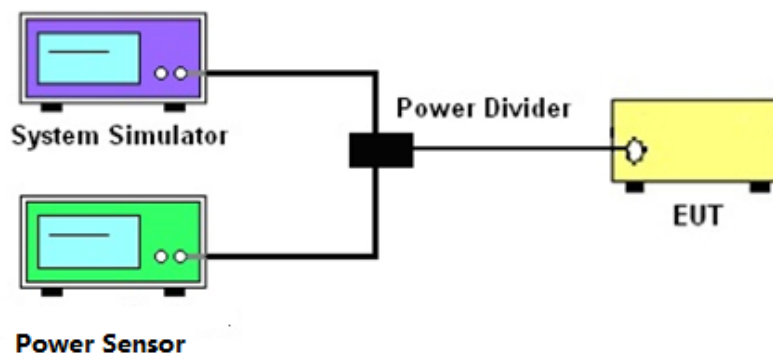
5.2.2 Test Instruments

The measuring equipment is listed in the section 4.1 of this test report.

5.2.3 Test Procedure

- a. The RF output of EUT was connected to the Power Sensor by RF cable and attenuator. The path loss was compensated to the results for each measurement.
- b. The EUT is configured to transmit continuously with a consistent duty cycle at its maximum power control level.

5.2.4 Test Setup





5.2.5 Test Result

| Test Band: | | 5GHz U-NII-1 | | | | | |
|------------|-----------|--------------|-----------|------------------------------|------------|------------|-----------|
| Mod. | Data Rata | Channel | Fre.(MHz) | Average Conducted Power(dBm) | Gain [dBi] | Limit(dBm) | Pass/Fail |
| 11a | 6Mbps | 36 | 5180 | 12.78 | 2.17 | 24 | PASS |
| 11a | 6Mbps | 44 | 5220 | 12.47 | 2.17 | 24 | PASS |
| 11a | 6Mbps | 48 | 5240 | 12.29 | 2.17 | 24 | PASS |
| 11n HT20 | MCS0 | 36 | 5180 | 12.89 | 2.17 | 24 | PASS |
| 11n HT20 | MCS0 | 44 | 5220 | 12.55 | 2.17 | 24 | PASS |
| 11n HT20 | MCS0 | 48 | 5240 | 12.38 | 2.17 | 24 | PASS |
| 11n HT40 | MCS0 | 38 | 5190 | 11.48 | 2.17 | 24 | PASS |
| 11n HT40 | MCS0 | 46 | 5230 | 11.1 | 2.17 | 24 | PASS |
| 11ac VHT20 | MCS0 | 36 | 5180 | 12.85 | 2.17 | 24 | PASS |
| 11ac VHT20 | MCS0 | 44 | 5220 | 12.51 | 2.17 | 24 | PASS |
| 11ac VHT20 | MCS0 | 48 | 5240 | 12.18 | 2.17 | 24 | PASS |
| 11ac VHT40 | MCS0 | 38 | 5190 | 11.47 | 2.17 | 24 | PASS |
| 11ac VHT40 | MCS0 | 46 | 5230 | 11.16 | 2.17 | 24 | PASS |
| 11ac VHT80 | MCS0 | 42 | 5210 | 11.5 | 2.17 | 24 | PASS |

| Test Band: | | 5GHz U-NII-2A | | | | | |
|------------|-----------|---------------|-----------|------------------------------|------------|------------|-----------|
| Mod. | Data Rata | Channel | Fre.(MHz) | Average Conducted Power(dBm) | Gain [dBi] | Limit(dBm) | Pass/Fail |
| 11a | 6Mbps | 52 | 5260 | 12.19 | 2.05 | 24 | PASS |
| 11a | 6Mbps | 60 | 5300 | 12.63 | 2.05 | 24 | PASS |
| 11a | 6Mbps | 64 | 5320 | 12.8 | 2.05 | 24 | PASS |
| 11n HT20 | MCS0 | 52 | 5260 | 12.28 | 2.05 | 24 | PASS |
| 11n HT20 | MCS0 | 60 | 5300 | 12.79 | 2.05 | 24 | PASS |
| 11n HT20 | MCS0 | 64 | 5320 | 12.82 | 2.05 | 24 | PASS |
| 11n HT40 | MCS0 | 54 | 5270 | 10.9 | 2.05 | 24 | PASS |
| 11n HT40 | MCS0 | 62 | 5310 | 11.48 | 2.05 | 24 | PASS |
| 11ac VHT20 | MCS0 | 52 | 5260 | 12.24 | 2.05 | 24 | PASS |
| 11ac VHT20 | MCS0 | 60 | 5300 | 12.69 | 2.05 | 24 | PASS |
| 11ac VHT20 | MCS0 | 64 | 5320 | 12.89 | 2.05 | 24 | PASS |
| 11ac VHT40 | MCS0 | 54 | 5270 | 10.88 | 2.05 | 24 | PASS |
| 11ac VHT40 | MCS0 | 62 | 5310 | 11.31 | 2.05 | 24 | PASS |
| 11ac VHT80 | MCS0 | 58 | 5290 | 11.33 | 2.05 | 24 | PASS |



| Test Band: | | 5GHz U-NII-2C | | | | | |
|------------|-----------|---------------|-----------|------------------------------|------------|------------|-----------|
| Mod. | Data Rata | Channel | Fre.(MHz) | Average Conducted Power(dBm) | Gain [dBi] | Limit(dBm) | Pass/Fail |
| 11a | 6Mbps | 100 | 5500 | 11.69 | 1.83 | 24 | PASS |
| 11a | 6Mbps | 116 | 5580 | 12.75 | 1.83 | 24 | PASS |
| 11a | 6Mbps | 140 | 5700 | 12.27 | 1.83 | 24 | PASS |
| 11n HT20 | MCS0 | 100 | 5500 | 11.72 | 1.83 | 24 | PASS |
| 11n HT20 | MCS0 | 116 | 5580 | 12.8 | 1.83 | 24 | PASS |
| 11n HT20 | MCS0 | 140 | 5700 | 12.33 | 1.83 | 24 | PASS |
| 11n HT40 | MCS0 | 102 | 5510 | 10.12 | 1.83 | 24 | PASS |
| 11n HT40 | MCS0 | 110 | 5550 | 10.73 | 1.83 | 24 | PASS |
| 11n HT40 | MCS0 | 134 | 5670 | 11.47 | 1.83 | 24 | PASS |
| 11ac VHT20 | MCS0 | 100 | 5500 | 11.61 | 1.83 | 24 | PASS |
| 11ac VHT20 | MCS0 | 116 | 5580 | 12.66 | 1.83 | 24 | PASS |
| 11ac VHT20 | MCS0 | 140 | 5700 | 12.36 | 1.83 | 24 | PASS |
| 11ac VHT40 | MCS0 | 102 | 5510 | 10.13 | 1.83 | 24 | PASS |
| 11ac VHT40 | MCS0 | 110 | 5550 | 10.76 | 1.83 | 24 | PASS |
| 11ac VHT40 | MCS0 | 134 | 5670 | 11.42 | 1.83 | 24 | PASS |
| 11ac VHT80 | MCS0 | 106 | 5530 | 10.59 | 1.83 | 24 | PASS |



5.3 Power Spectral Density

5.3.1 Description

For the band 5150-5250 MHz, the peak power spectral density shall not exceed 11dBm in any 1-MHz band.

For the bands 5250-5350 MHz and 5470-5600 and 5650-5725 MHz, the peak power spectral density shall not exceed 11 dBm in any 1-MHz band.

If transmitting antenna directional gain is greater than 6 dBi, both the maximum conducted output power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

5.3.2 Test Instruments

The measuring equipment is listed in the section 4.1 of this test report.

5.3.3 Test Procedure

- a. The testing follows FCC KDB 789033 D01 General UNII Test Procedures v01r03.

Section F) Peak power spectral density (PPSD).

Note: Though the rule refers to “ peak power spectral density” , the intent is to measure the maximum value of the time average of the power spectral density measured during a period of continuous transmission.

#Method SA-2#

(Trace averaging across on and off times of the EUT transmissions, followed by duty cycle correction).

- b. The testing follows Method SA-2 of FCC KDB 789033 D01 General UNII Test Procedures v01r03.

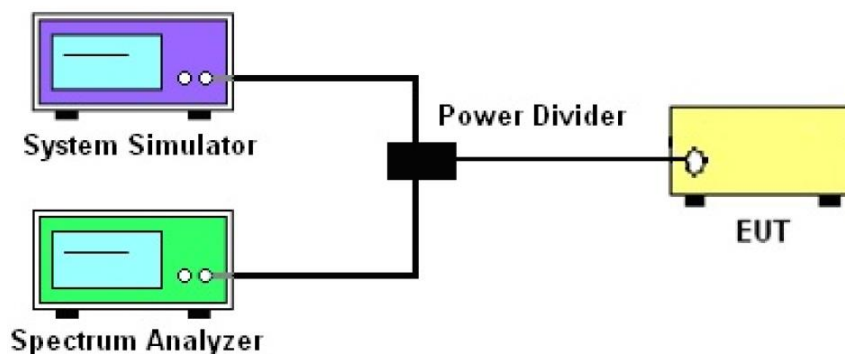
(1) Measure the duty cycle.

- (2) Set span to encompass the entire emission bandwidth (EBW) of the signal.
- (3) Set RBW = 1 MHz.
- (4) Set VBW \geq 3 MHz.
- (5) Number of points in sweep \geq 2 Span / RBW.
- (6) Sweep time = auto.
- (7) Detector = RMS.
- (8) Trace average at least 100 traces in power averaging mode.

Add $10\log(1/x)$, where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times. For example, add $10\log(1/0.25)=6$ dB if the duty cycle is 25 percent.

- c. The RF output of EUT was connected to the spectrum analyzer by a low loss cable.
- d. Each plot has already offset with cable loss, and attenuator loss. Measure the PPSD and record it.

5.3.4 Test Setup





5.3.5 Test Result

| 5G U-NII-1 | | | | | | | | |
|-------------|-----------|---------|----------------|-----------------|----------------------------------|------------|-----------------|------|
| Mode | Data Rate | Channel | Frequency(MHz) | Duty Factor(dB) | Power Spectral Density(dBm/1MHz) | Gain [dBi] | Limit(dBm/1MHz) | P/F |
| 11A | 6Mbps | 36 | 5180 | 0.58 | -1.98 | 2.17 | 11 | PASS |
| 11A | 6Mbps | 44 | 5220 | 0.58 | -0.24 | 2.17 | 11 | PASS |
| 11A | 6Mbps | 48 | 5240 | 0.58 | -3.02 | 2.17 | 11 | PASS |
| 11N 5G HT20 | MCS0 | 36 | 5180 | 0.58 | -2.08 | 2.17 | 11 | PASS |
| 11N 5G HT20 | MCS0 | 44 | 5220 | 0.58 | -1.46 | 2.17 | 11 | PASS |
| 11N 5G HT20 | MCS0 | 48 | 5240 | 0.58 | -2.78 | 2.17 | 11 | PASS |
| 11N 5G HT40 | MCS0 | 38 | 5190 | 1.25 | -7.3 | 2.17 | 11 | PASS |
| 11N 5G HT40 | MCS0 | 46 | 5230 | 1.25 | -6.94 | 2.17 | 11 | PASS |
| 11AC HT20 | MCS0 | 36 | 5180 | 1.25 | -3.52 | 2.17 | 11 | PASS |
| 11AC HT20 | MCS0 | 44 | 5220 | 0.79 | -1.01 | 2.17 | 11 | PASS |
| 11AC HT20 | MCS0 | 48 | 5240 | 0.79 | -4.25 | 2.17 | 11 | PASS |
| 11AC HT40 | MCS0 | 38 | 5190 | 1.76 | -8.94 | 2.17 | 11 | PASS |
| 11AC HT40 | MCS0 | 46 | 5230 | 1.76 | -8.52 | 2.17 | 11 | PASS |
| 11AC HT80 | MCS0 | 42 | 5210 | 3.01 | -13.2 | 2.17 | 11 | PASS |

| 5G U-NII-2A | | | | | | | | |
|-------------|-----------|---------|----------------|-----------------|----------------------------------|------------|-----------------|------|
| Mode | Data Rate | Channel | Frequency(MHz) | Duty Factor(dB) | Power Spectral Density(dBm/1MHz) | Gain [dBi] | Limit(dBm/1MHz) | P/F |
| 11A | 6Mbps | 52 | 5260 | 0.58 | -2.19 | 2.05 | 11 | PASS |
| 11A | 6Mbps | 60 | 5300 | 0.58 | -1.58 | 2.05 | 11 | PASS |
| 11A | 6Mbps | 64 | 5320 | 0.58 | -1.93 | 2.05 | 11 | PASS |
| 11N 5G HT20 | MCS0 | 52 | 5260 | 0.58 | -3.32 | 2.05 | 11 | PASS |
| 11N 5G HT20 | MCS0 | 60 | 5300 | 0.58 | -2.14 | 2.05 | 11 | PASS |
| 11N 5G HT20 | MCS0 | 64 | 5320 | 0.58 | -2.05 | 2.05 | 11 | PASS |
| 11N 5G HT40 | MCS0 | 54 | 5270 | 1.25 | -10.06 | 2.05 | 11 | PASS |
| 11N 5G HT40 | MCS0 | 62 | 5310 | 1.25 | -8.32 | 2.05 | 11 | PASS |
| 11AC HT20 | MCS0 | 52 | 5260 | 0.79 | -4.55 | 2.05 | 11 | PASS |
| 11AC HT20 | MCS0 | 60 | 5300 | 0.79 | -2.77 | 2.05 | 11 | PASS |
| 11AC HT20 | MCS0 | 64 | 5320 | 0.79 | -4.0 | 2.05 | 11 | PASS |
| 11AC HT40 | MCS0 | 54 | 5270 | 1.76 | -9.52 | 2.05 | 11 | PASS |
| 11AC HT40 | MCS0 | 62 | 5310 | 1.76 | -10.46 | 2.05 | 11 | PASS |
| 11AC HT80 | MCS0 | 58 | 5290 | 3.01 | -16.18 | 2.05 | 11 | PASS |



| 5G U-NII-2C | | | | | | | | |
|-------------|-----------|---------|----------------|-----------------|----------------------------------|------------|-----------------|------|
| Mode | Data Rate | Channel | Frequency(MHz) | Duty Factor(dB) | Power Spectral Density(dBm/1MHz) | Gain [dBi] | Limit(dBm/1MHz) | P/F |
| 11A | 6Mbps | 100 | 5500 | 0.58 | -2.42 | 1.83 | 11 | PASS |
| 11A | 6Mbps | 116 | 5580 | 0.58 | -1.71 | 1.83 | 11 | PASS |
| 11A | 6Mbps | 140 | 5700 | 0.58 | -1.05 | 1.83 | 11 | PASS |
| 11N 5G HT20 | MCS0 | 100 | 5500 | 0.58 | -3.61 | 1.83 | 11 | PASS |
| 11N 5G HT20 | MCS0 | 116 | 5580 | 0.58 | -2.59 | 1.83 | 11 | PASS |
| 11N 5G HT20 | MCS0 | 140 | 5700 | 0.58 | -1.05 | 1.83 | 11 | PASS |
| 11N 5G HT40 | MCS0 | 102 | 5510 | 1.25 | -10.48 | 1.83 | 11 | PASS |
| 11N 5G HT40 | MCS0 | 110 | 5550 | 1.25 | -10.01 | 1.83 | 11 | PASS |
| 11N 5G HT40 | MCS0 | 134 | 5670 | 1.25 | -9.37 | 1.83 | 11 | PASS |
| 11AC HT20 | MCS0 | 100 | 5500 | 0.79 | -4.32 | 1.83 | 11 | PASS |
| 11AC HT20 | MCS0 | 116 | 5580 | 0.79 | -3.56 | 1.83 | 11 | PASS |
| 11AC HT20 | MCS0 | 140 | 5700 | 0.79 | -3.7 | 1.83 | 11 | PASS |
| 11AC HT40 | MCS0 | 102 | 5510 | 1.76 | -11.78 | 1.83 | 11 | PASS |
| 11AC HT40 | MCS0 | 110 | 5550 | 1.76 | -11.12 | 1.83 | 11 | PASS |
| 11AC HT40 | MCS0 | 134 | 5670 | 1.76 | -8.94 | 1.83 | 11 | PASS |
| 11AC HT80 | MCS0 | 106 | 5530 | 3.01 | -17.48 | 1.83 | 11 | PASS |



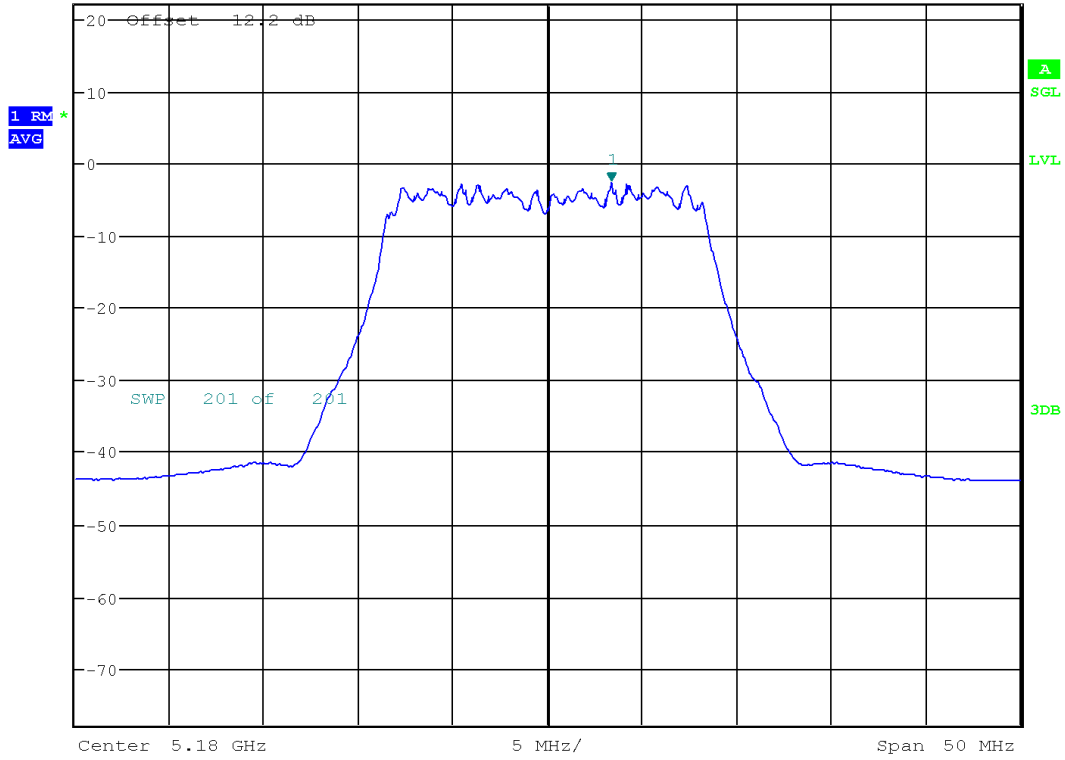
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FCC RF TEST REPORT

5G U-NII-1



*RBW 1 MHz Marker 1 [T1]
 *VBW 3 MHz -2.56 dBm
 SWT 20 ms 5.183365385 GHz



Date: 18.APR.6302 20:29:45

11A 6Mbps CH36 5180MHZ

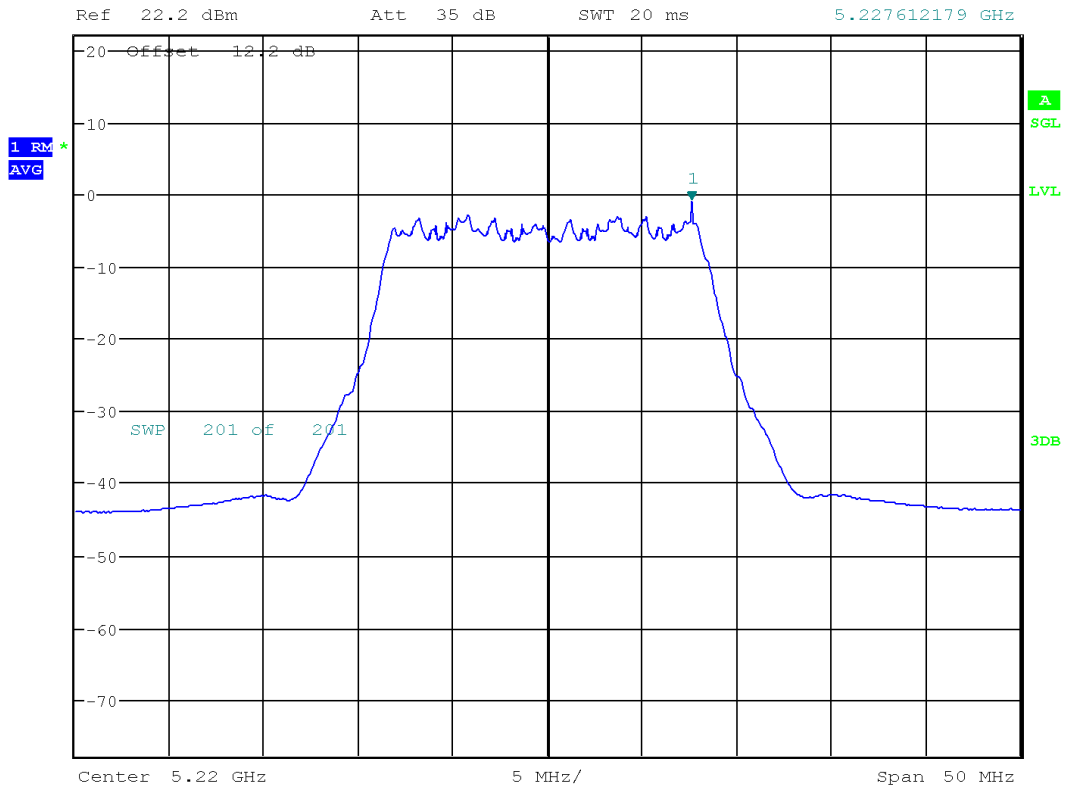


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FCC RF TEST REPORT



*RBW 1 MHz Marker 1 [T1]
 *VBW 3 MHz -0.82 dBm
 SWT 20 ms 5.227612179 GHz



Date: 18.APR.6302 20:31:15

11A 6Mbps CH44 5220MHZ

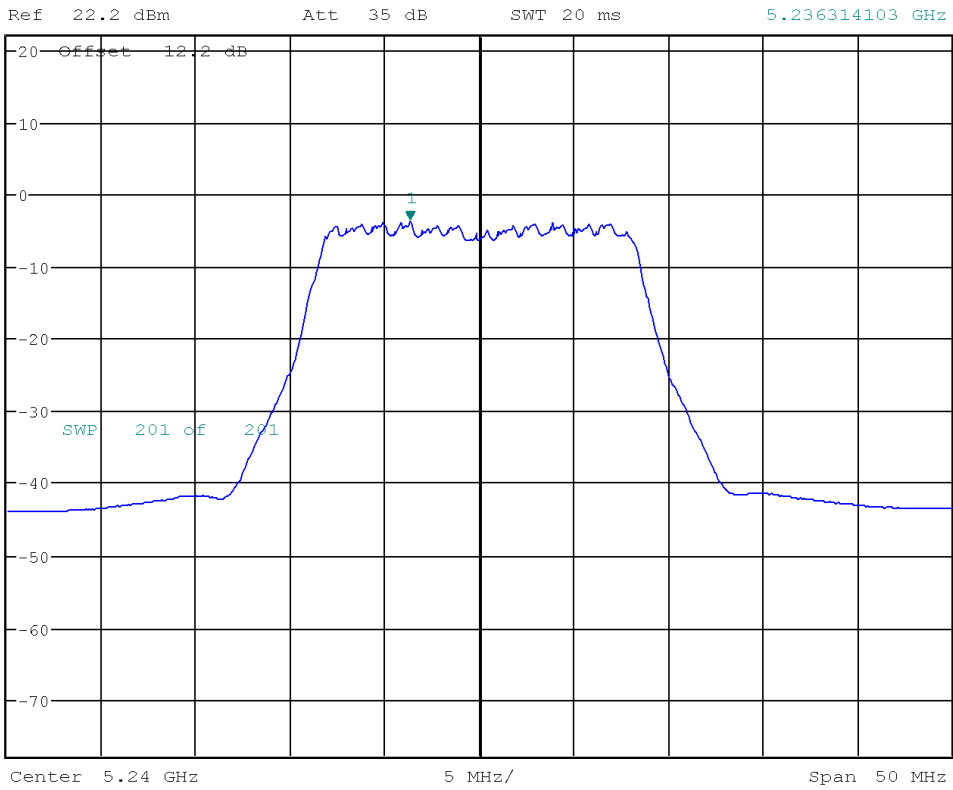


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FCC RF TEST REPORT



*RBW 1 MHz Marker 1 [T1]
 *VBW 3 MHz -3.60 dBm
 SWT 20 ms 5.236314103 GHz



Date: 18.APR.6302 20:32:45

11A 6Mbps CH48 5240MHZ

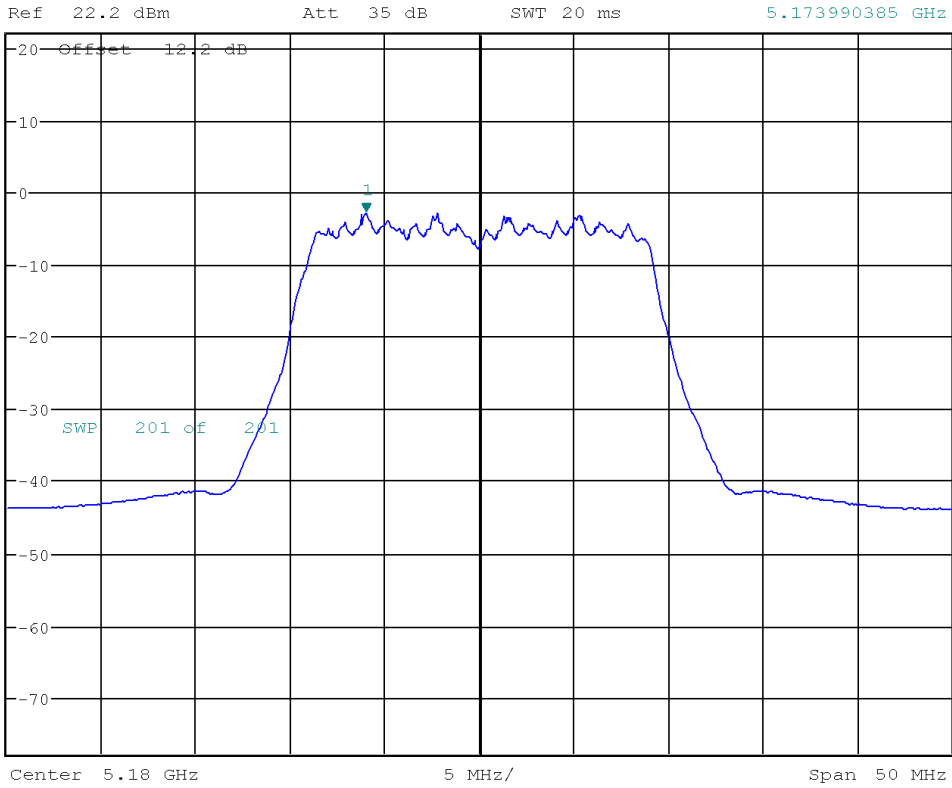


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FCC RF TEST REPORT



*RBW 1 MHz Marker 1 [T1]
 *VBW 3 MHz -2.66 dBm
 SWT 20 ms 5.173990385 GHz



Date: 18.APR.6302 19:51:01

11N 5G HT20 MCS0 CH36 5180MHZ

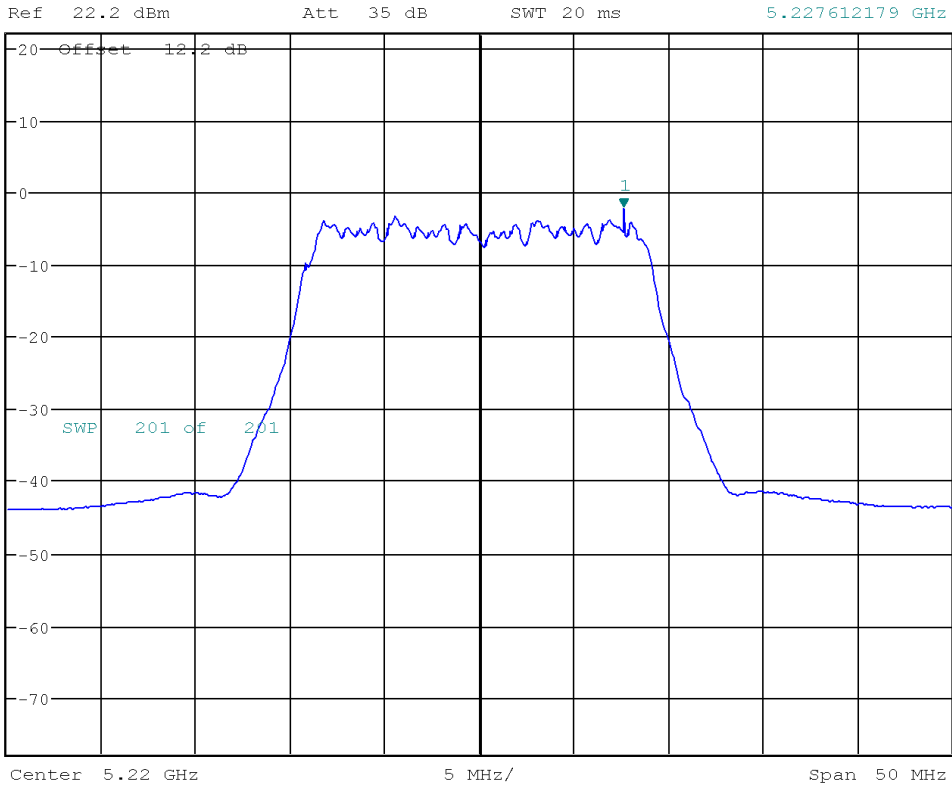


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FCC RF TEST REPORT



*RBW 1 MHz Marker 1 [T1]
 *VBW 3 MHz -2.04 dBm
 SWT 20 ms 5.227612179 GHz



Date: 18.APR.6302 19:52:30

11N 5G HT20 MCS0 CH44 5220MHZ

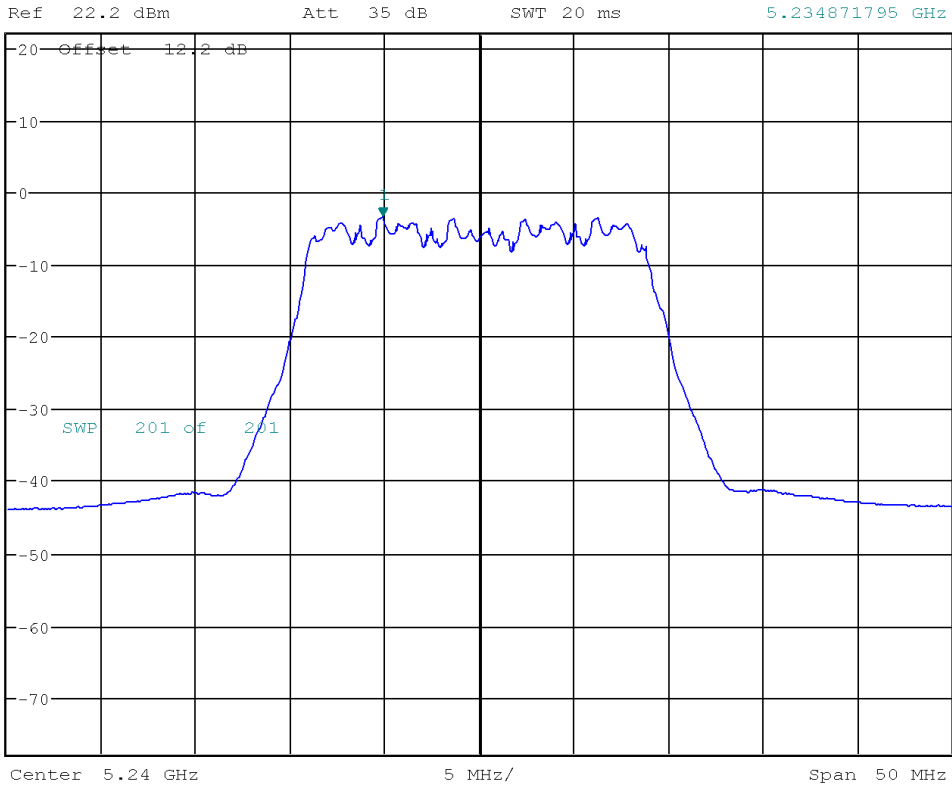


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FCC RF TEST REPORT



*RBW 1 MHz Marker 1 [T1]
 *VBW 3 MHz -3.36 dBm
 SWT 20 ms 5.234871795 GHz



Date: 18.APR.6302 19:53:58

11N 5G HT20 MCS0 CH48 5240MHZ

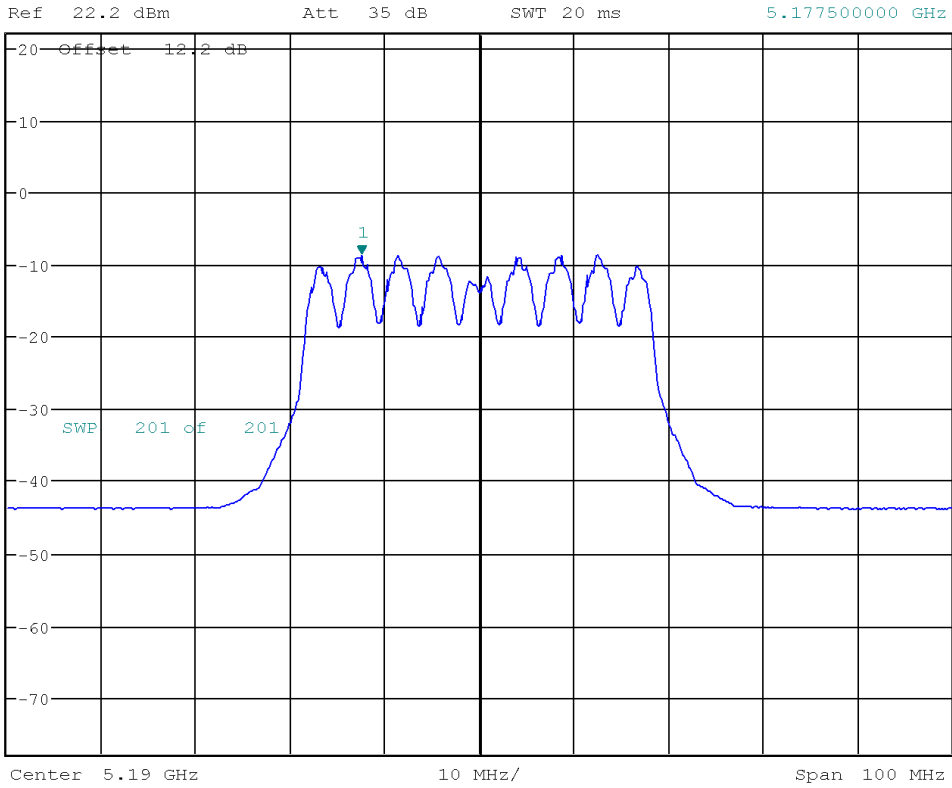


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FCC RF TEST REPORT



*RBW 1 MHz Marker 1 [T1]
 *VBW 3 MHz -8.55 dBm
 SWT 20 ms 5.177500000 GHz



Date: 18.APR.6302 20:12:02

11N 5G HT40 MCS0 CH38 5190MHZ

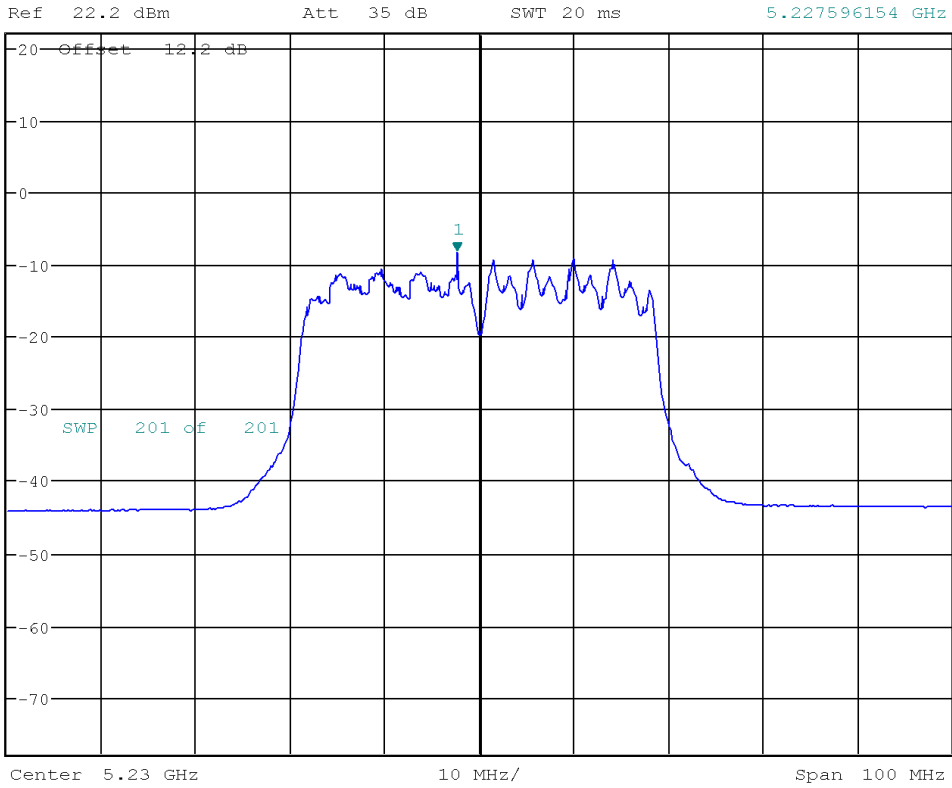


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FCC RF TEST REPORT



*RBW 1 MHz Marker 1 [T1]
 *VBW 3 MHz -8.19 dBm
 SWT 20 ms 5.227596154 GHz



Date: 18.APR.6302 20:13:42

11N 5G HT40 MCS0 CH46 5230MHZ

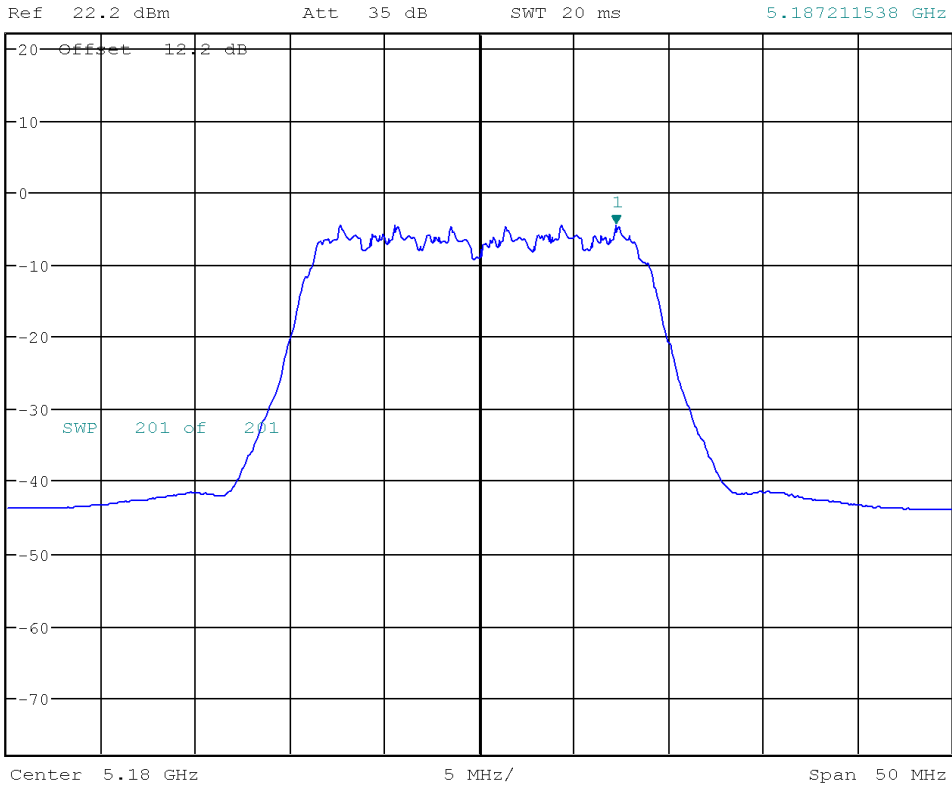


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FCC RF TEST REPORT



*RBW 1 MHz Marker 1 [T1]
 *VBW 3 MHz -4.31 dBm
 SWT 20 ms 5.187211538 GHz



Date: 18.APR.6302 20:50:56

11AC HT20 MCS0 CH36 5180MHZ

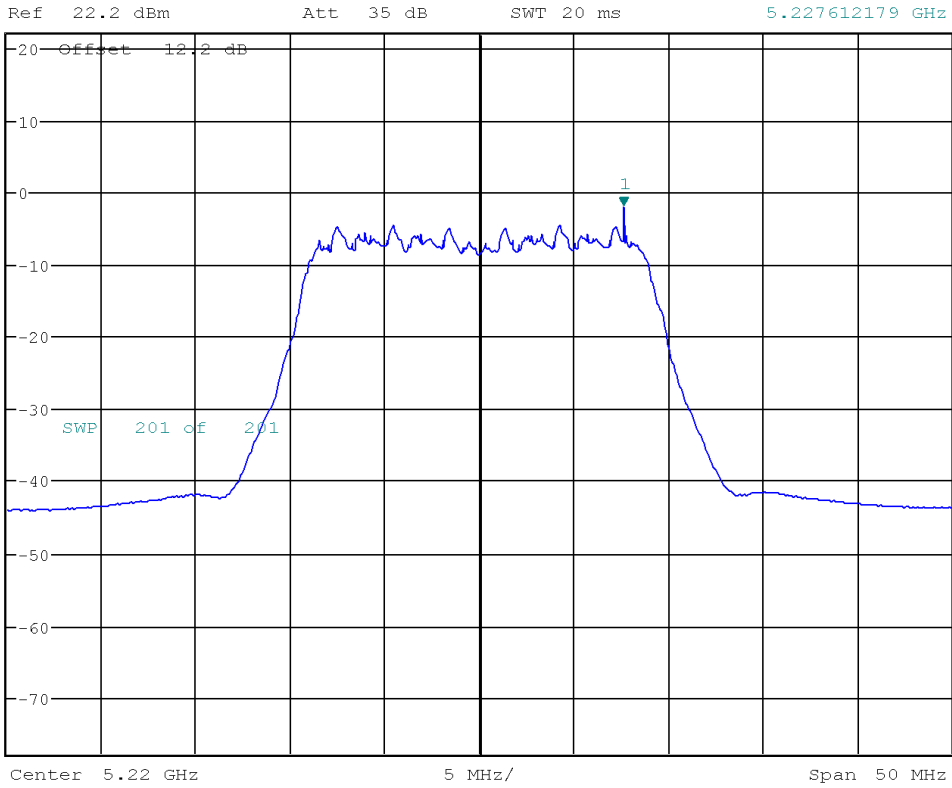


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FCC RF TEST REPORT



*RBW 1 MHz Marker 1 [T1]
 *VBW 3 MHz -1.80 dBm
 SWT 20 ms 5.227612179 GHz



Date: 18.APR.6302 20:52:24

11AC HT20 MCS0 CH44 5220MHZ

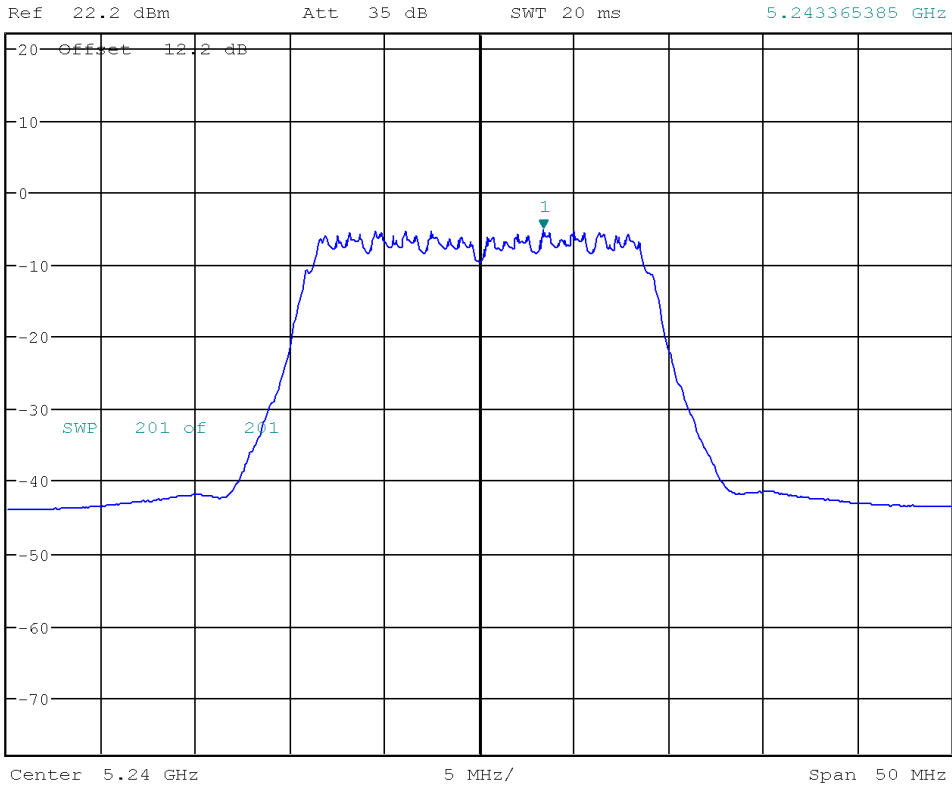


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FCC RF TEST REPORT



*RBW 1 MHz Marker 1 [T1]
 *VBW 3 MHz -5.04 dBm
 SWT 20 ms 5.243365385 GHz



Date: 18.APR.6302 20:53:51

11AC HT20 MCS0 CH48 5240MHZ

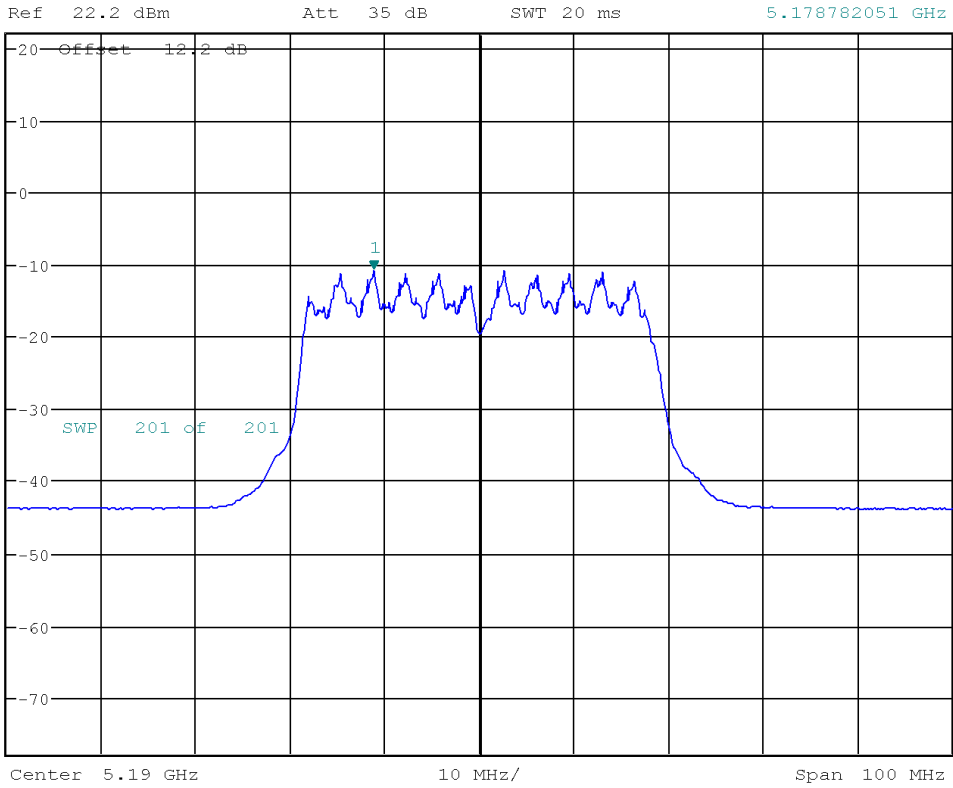


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FCC RF TEST REPORT



*RBW 1 MHz Marker 1 [T1]
 *VBW 3 MHz -10.70 dBm
 SWT 20 ms 5.178782051 GHz



Date: 18.APR.6302 21:11:45

11AC HT40 MCS0 CH38 5190MHZ

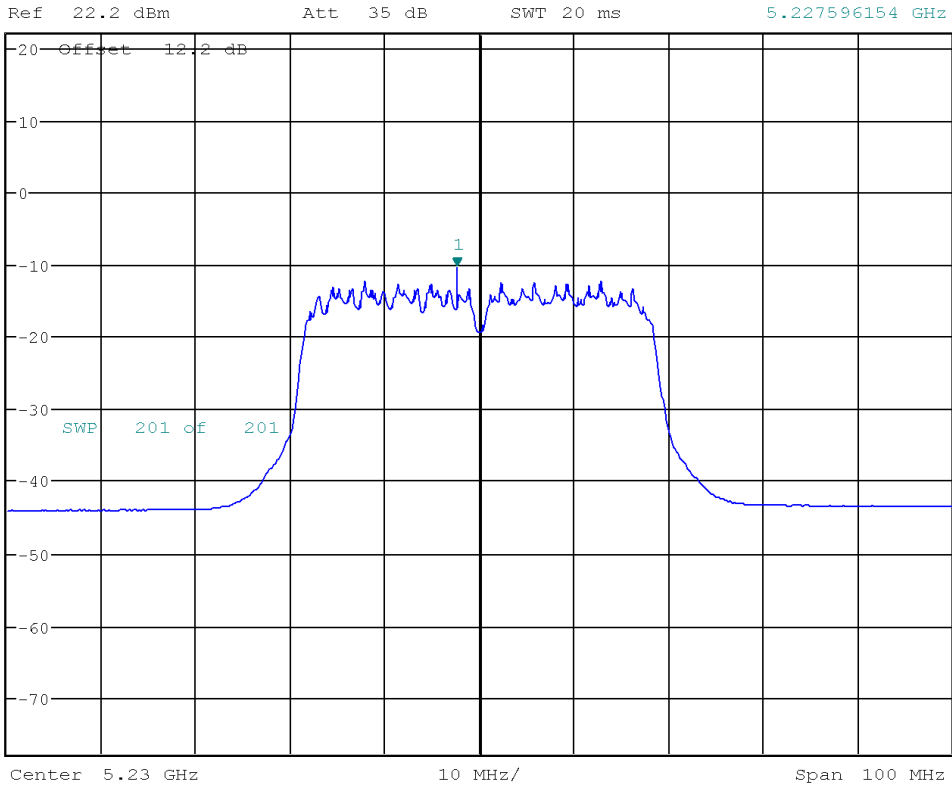


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FCC RF TEST REPORT



*RBW 1 MHz Marker 1 [T1]
 *VBW 3 MHz -10.28 dBm
 SWT 20 ms 5.227596154 GHz



Date: 18.APR.6302 21:13:19

11AC HT40 MCS0 CH46 5230MHZ

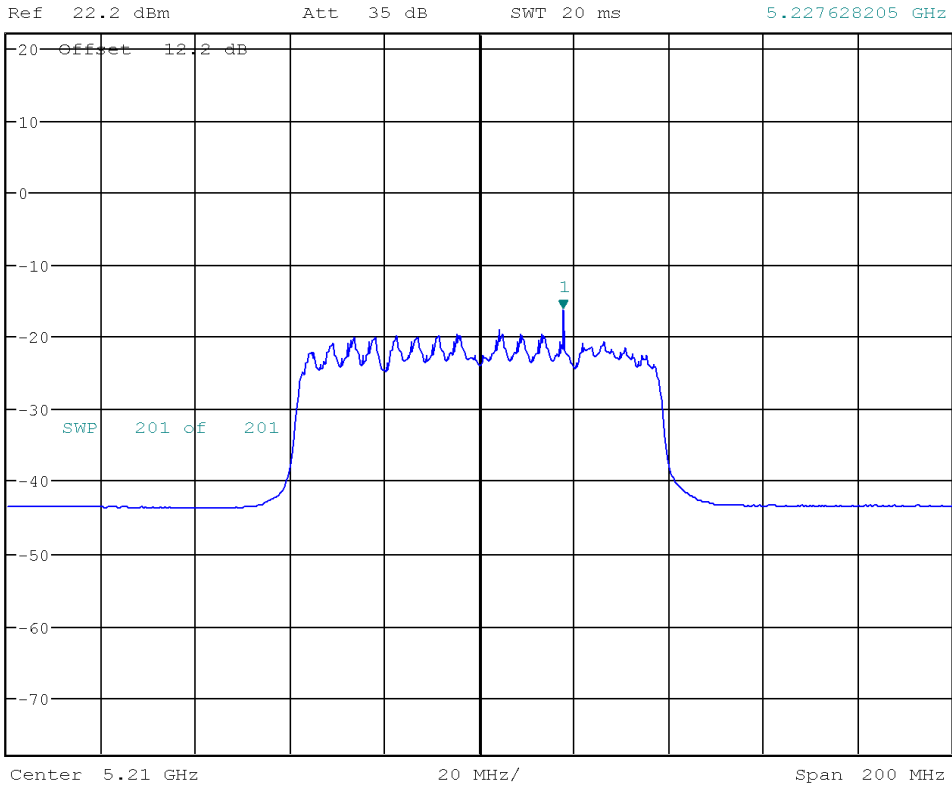


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FCC RF TEST REPORT



*RBW 1 MHz Marker 1 [T1]
*VBW 3 MHz -16.21 dBm
SWT 20 ms 5.227628205 GHz



Date: 18.APR.6302 21:29:36

11AC HT80 MCS0 CH42 5210MHZ

5G U-NII-2A

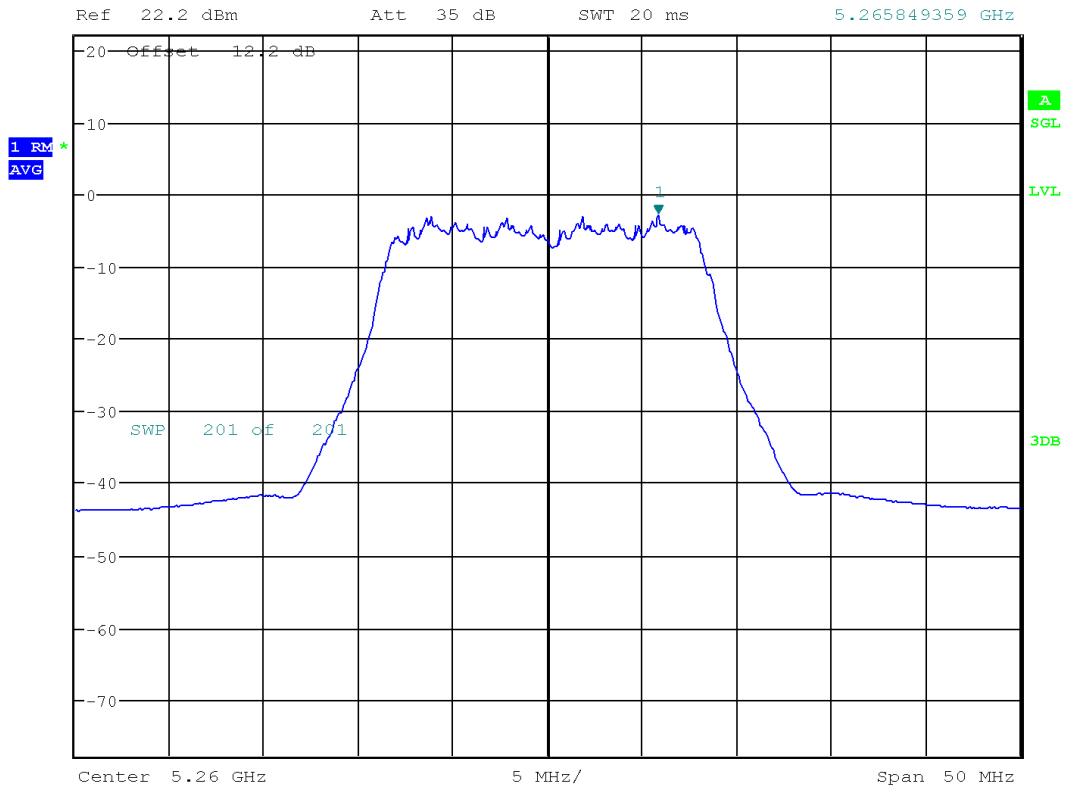


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FCC RF TEST REPORT



*RBW 1 MHz Marker 1 [T1]
 *VBW 3 MHz -2.77 dBm
 SWT 20 ms 5.265849359 GHz



Date: 18.APR.6302 20:34:20

11A 6Mbps CH52 5260MHZ

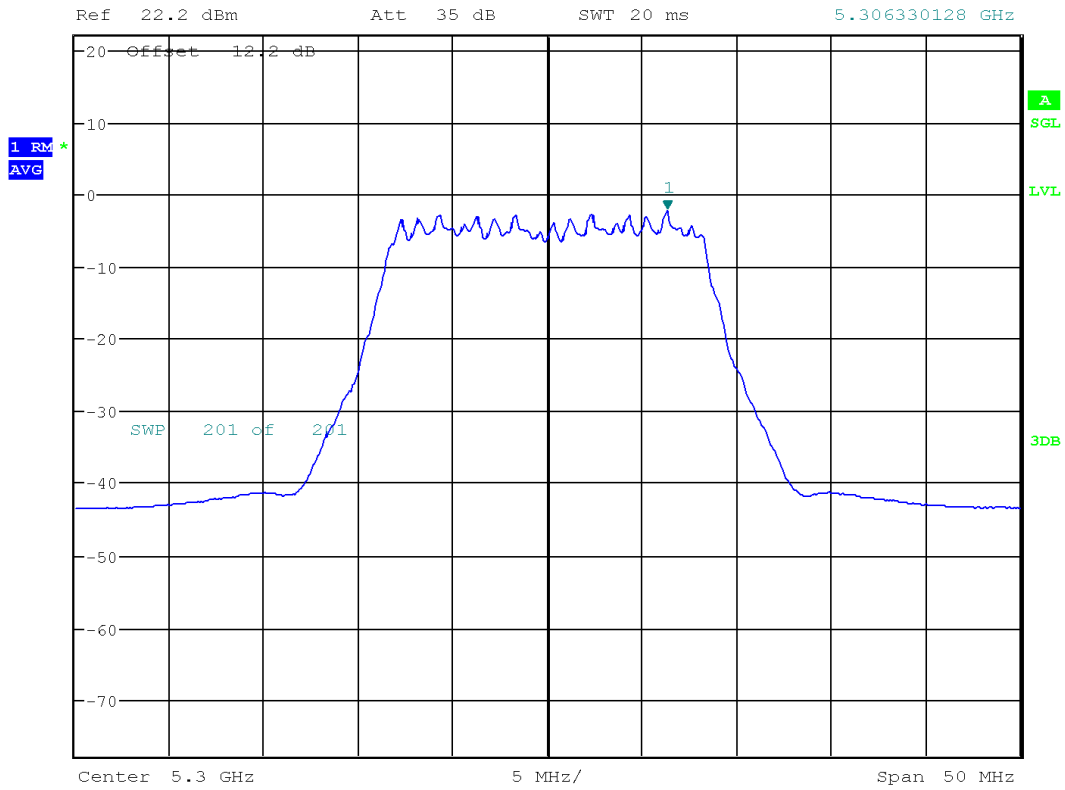


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FCC RF TEST REPORT



*RBW 1 MHz Marker 1 [T1]
 *VBW 3 MHz -2.16 dBm
 SWT 20 ms 5.306330128 GHz



Date: 18.APR.6302 20:35:48

11A 6Mbps CH60 5300MHZ

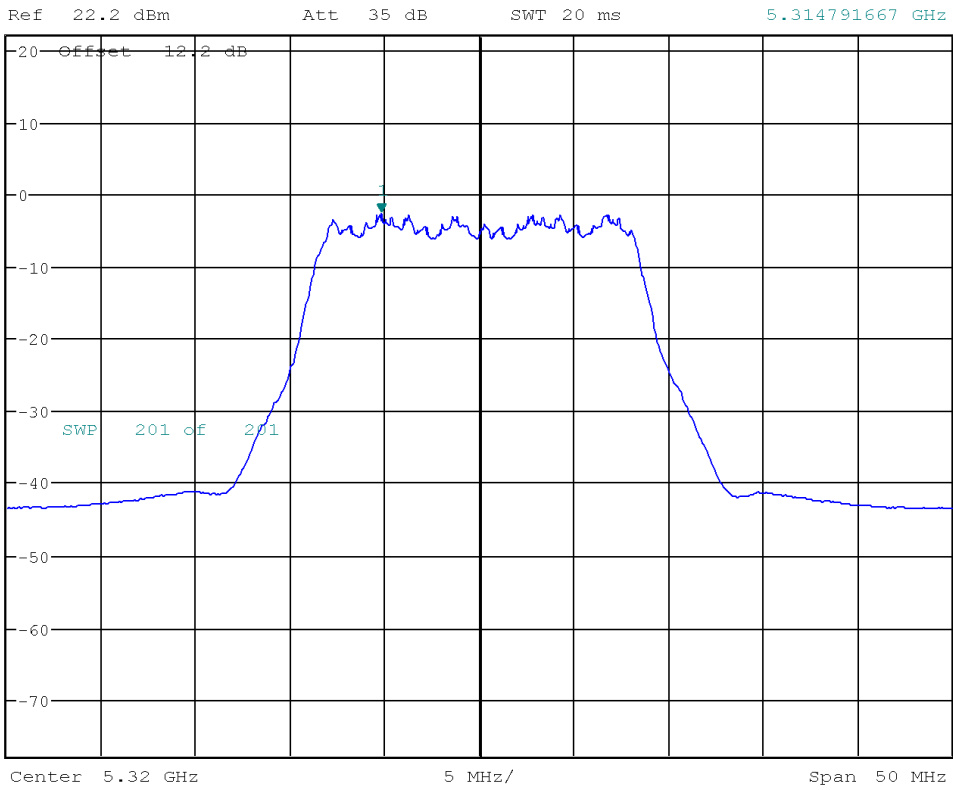


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FCC RF TEST REPORT



*RBW 1 MHz Marker 1 [T1]
 *VBW 3 MHz -2.51 dBm
 SWT 20 ms 5.314791667 GHz



Date: 18.APR.6302 20:37:13

11A 6Mbps CH64 5320MHZ

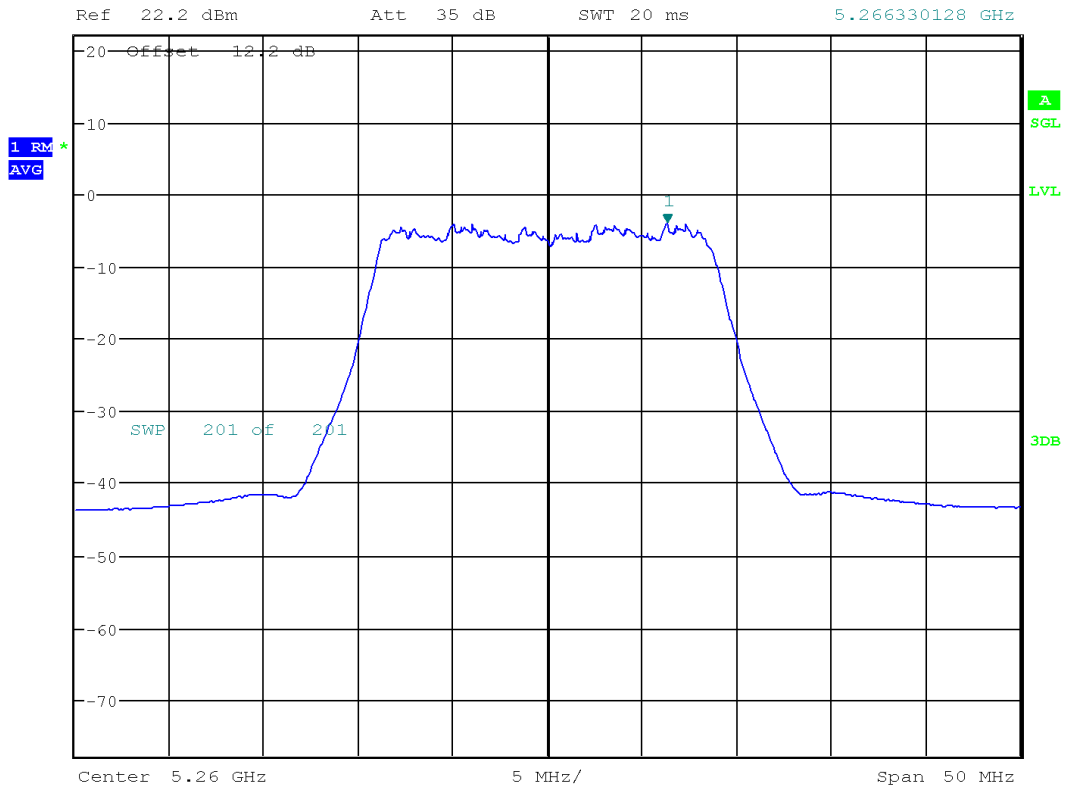


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FCC RF TEST REPORT



*RBW 1 MHz Marker 1 [T1]
 *VBW 3 MHz -3.90 dBm
 SWT 20 ms 5.266330128 GHz



Date: 18.APR.6302 19:55:32

11N 5G HT20 MCS0 CH52 5260MHZ

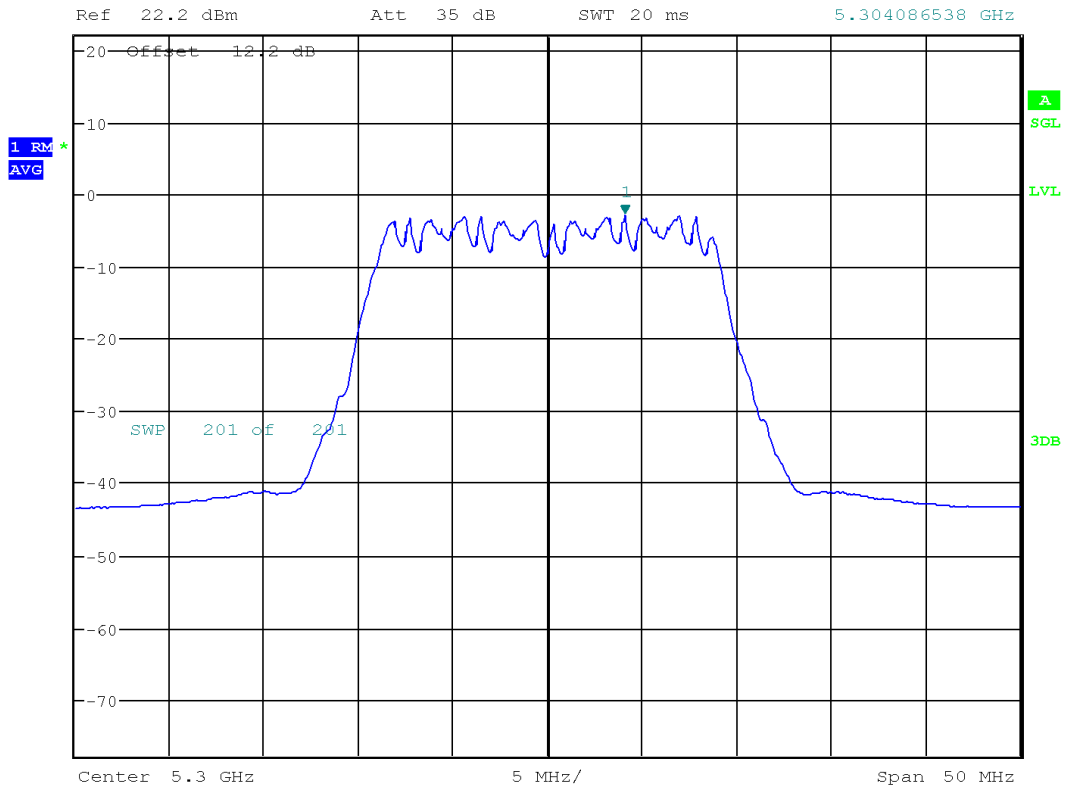


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FCC RF TEST REPORT



*RBW 1 MHz Marker 1 [T1]
 *VBW 3 MHz -2.72 dBm
 SWT 20 ms 5.304086538 GHz



Date: 18.APR.6302 19:56:58

11N 5G HT20 MCS0 CH60 5300MHZ

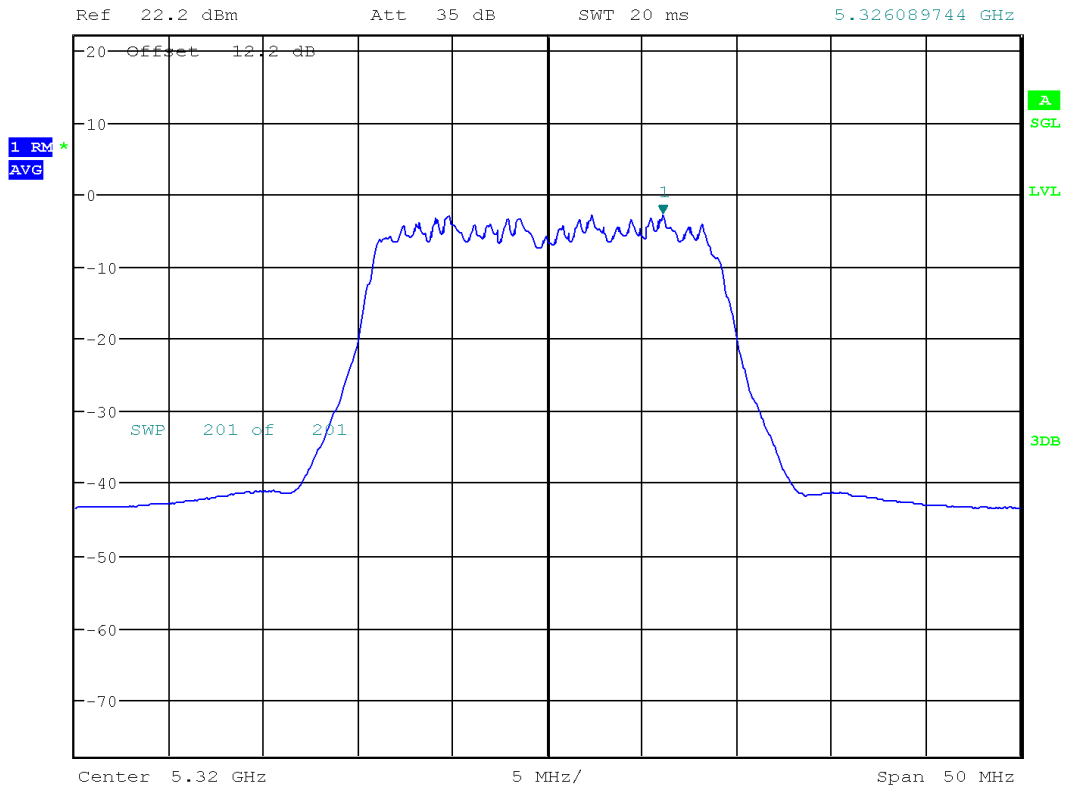


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FCC RF TEST REPORT



*RBW 1 MHz Marker 1 [T1]
 *VBW 3 MHz -2.63 dBm
 SWT 20 ms 5.326089744 GHz



Date: 18.APR.6302 19:58:24

11N 5G HT20 MCS0 CH64 5320MHZ

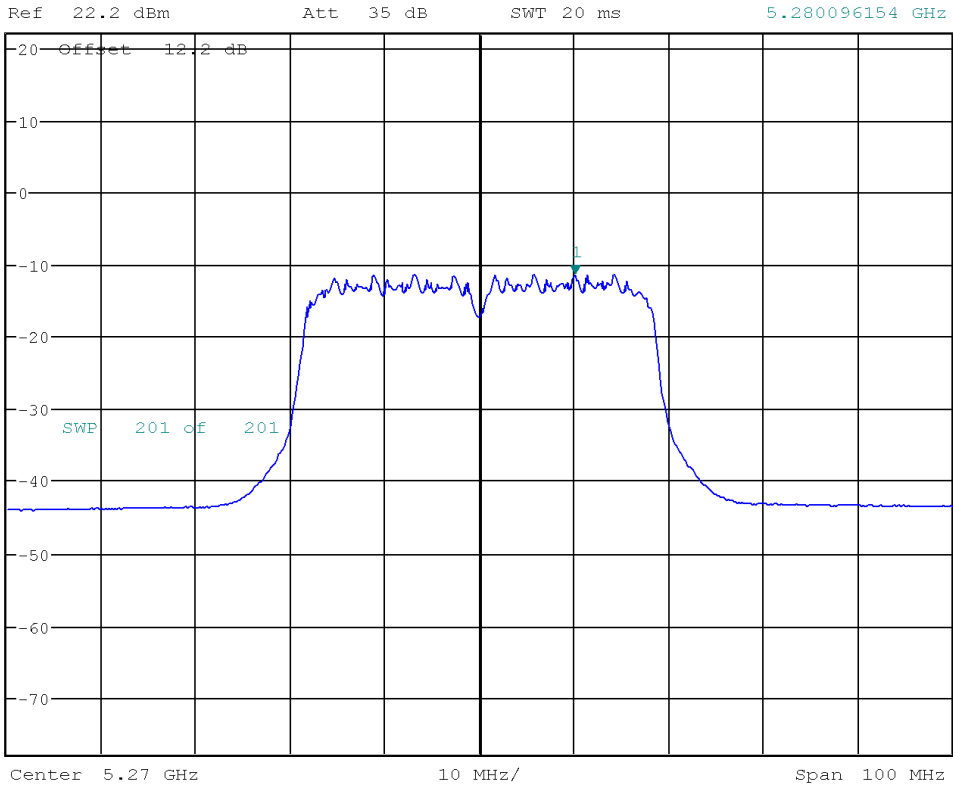


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FCC RF TEST REPORT



*RBW 1 MHz Marker 1 [T1]
 *VBW 3 MHz -11.31 dBm
 SWT 20 ms 5.280096154 GHz



Date: 18.APR.6302 20:15:24

11N 5G HT40 MCS0 CH54 5270MHZ

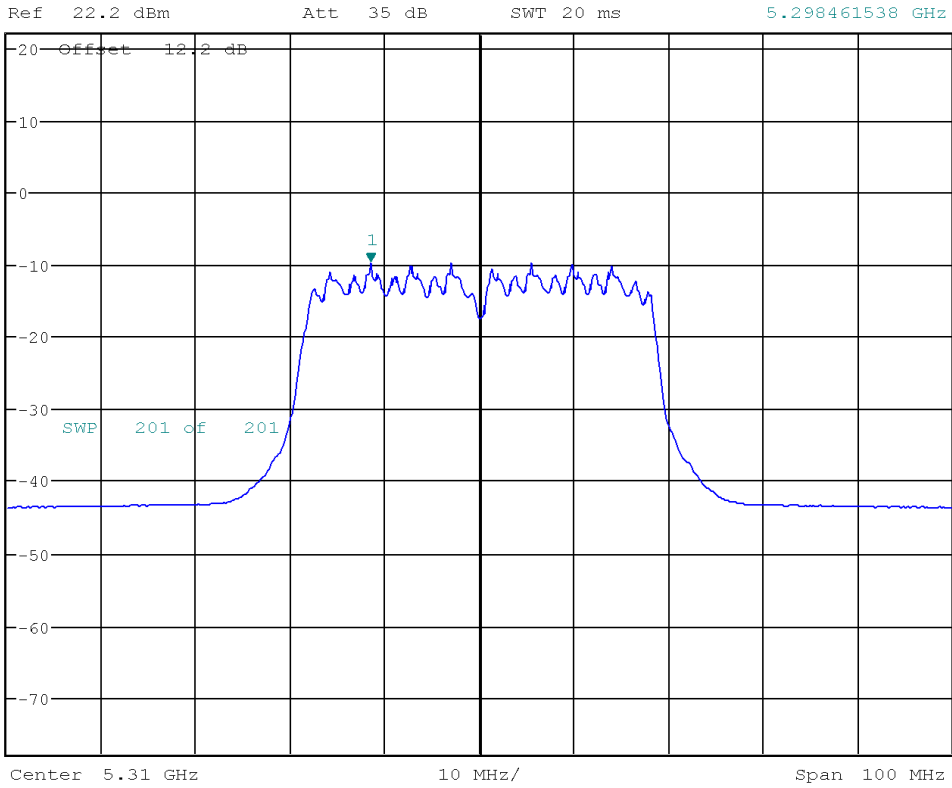


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FCC RF TEST REPORT



*RBW 1 MHz Marker 1 [T1]
 *VBW 3 MHz -9.57 dBm
 SWT 20 ms 5.298461538 GHz



Date: 18.APR.6302 20:16:56

11N 5G HT40 MCS0 CH62 5310MHZ

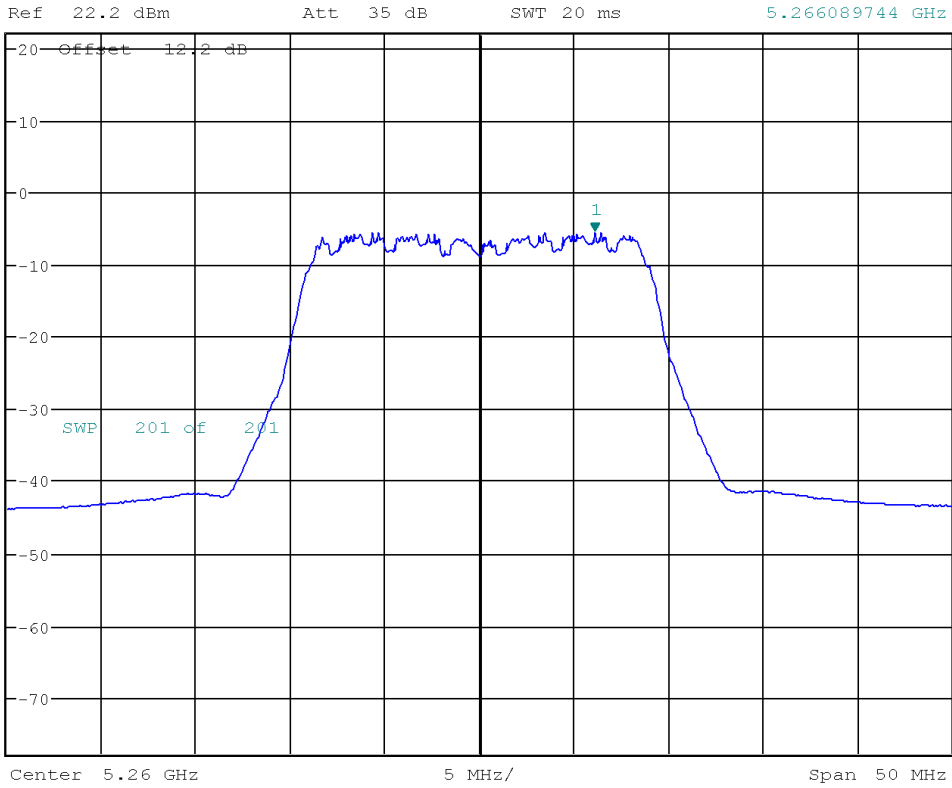


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FCC RF TEST REPORT



*RBW 1 MHz Marker 1 [T1]
 *VBW 3 MHz -5.34 dBm
 SWT 20 ms 5.266089744 GHz



Date: 18.APR.6302 20:55:25

11AC HT20 MCS0 CH52 5260MHZ

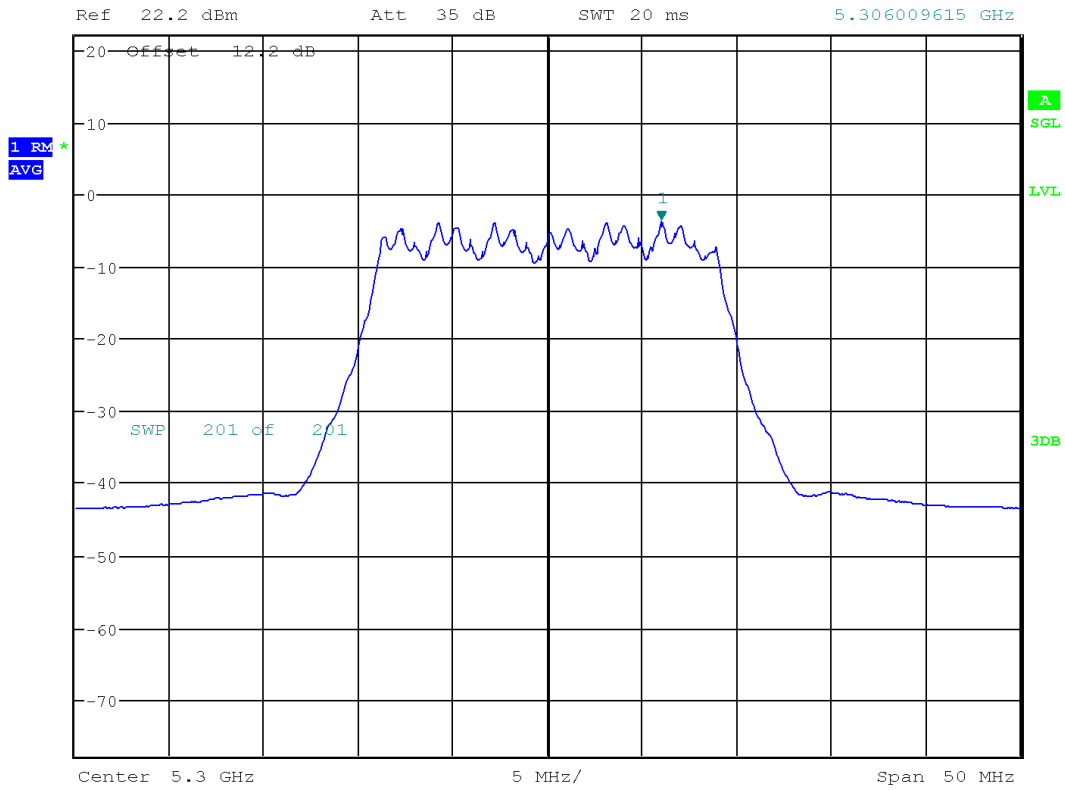


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FCC RF TEST REPORT



*RBW 1 MHz Marker 1 [T1]
 *VBW 3 MHz -3.56 dBm
 SWT 20 ms 5.306009615 GHz



Date: 18.APR.6302 20:56:50

11AC HT20 MCS0 CH60 5300MHZ

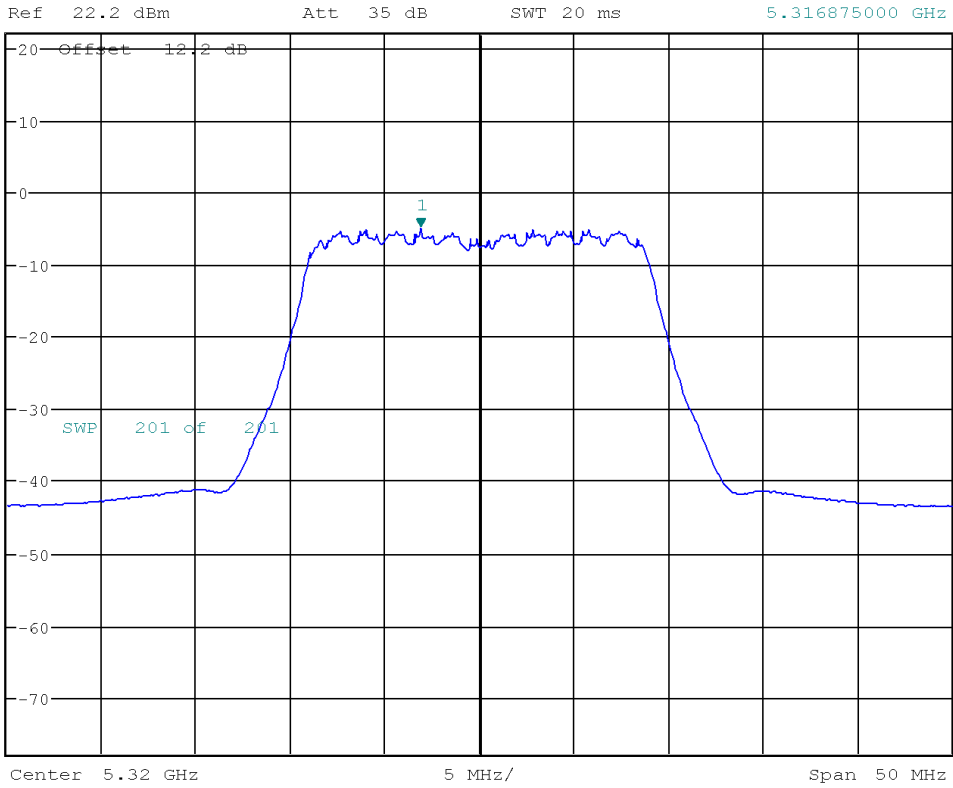


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FCC RF TEST REPORT



*RBW 1 MHz Marker 1 [T1]
 *VBW 3 MHz -4.79 dBm
 SWT 20 ms 5.316875000 GHz



Date: 18.APR.6302 20:58:14

11AC HT20 MCS0 CH64 5320MHZ

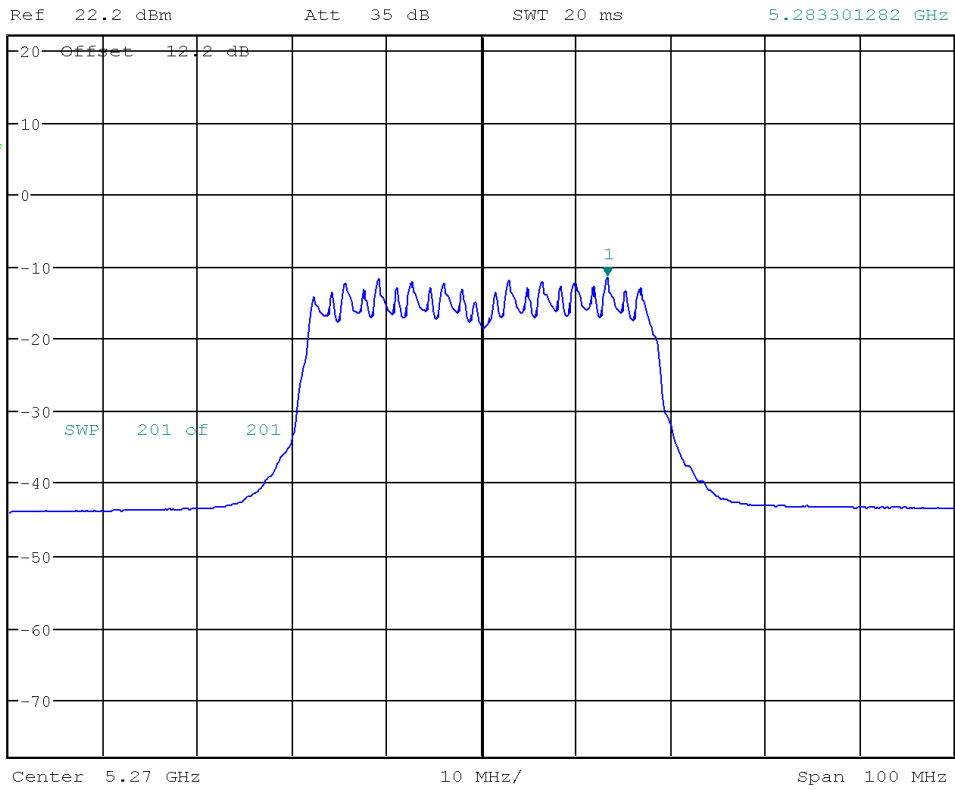


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FCC RF TEST REPORT



*RBW 1 MHz Marker 1 [T1]
 *VBW 3 MHz -11.28 dBm
 SWT 20 ms 5.283301282 GHz



Date: 18.APR.6302 21:14:58

11AC HT40 MCS0 CH54 5270MHZ

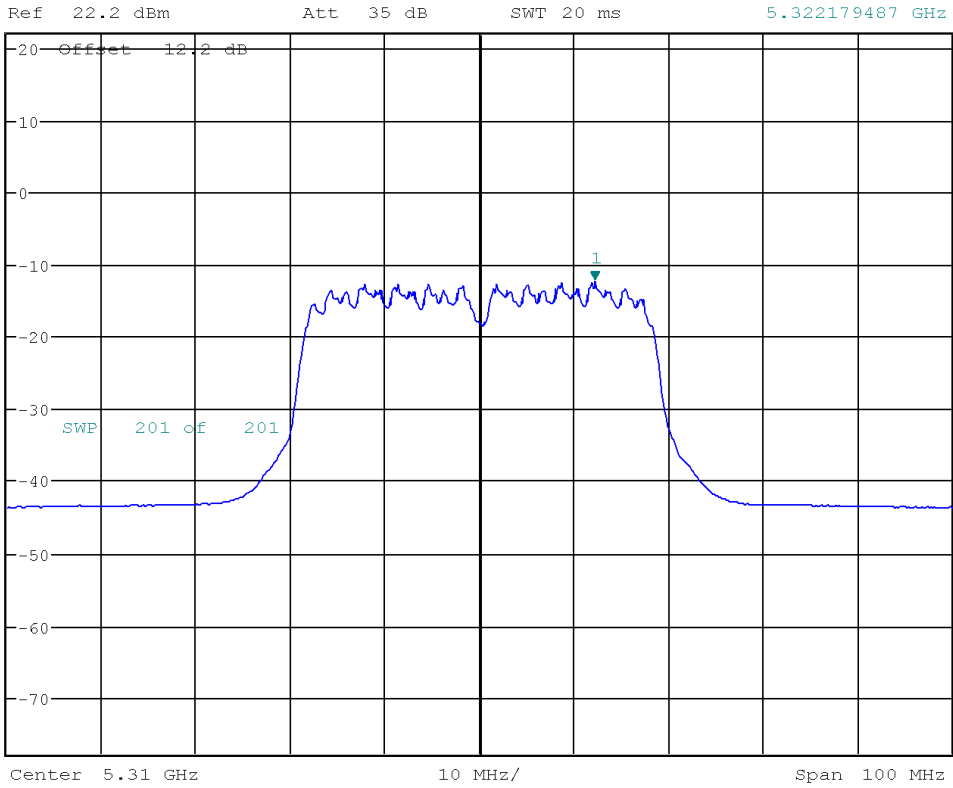


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FCC RF TEST REPORT



*RBW 1 MHz Marker 1 [T1]
 *VBW 3 MHz -12.22 dBm
 SWT 20 ms 5.322179487 GHz



Date: 18.APR.6302 21:16:30

11AC HT40 MCS0 CH62 5310MHZ

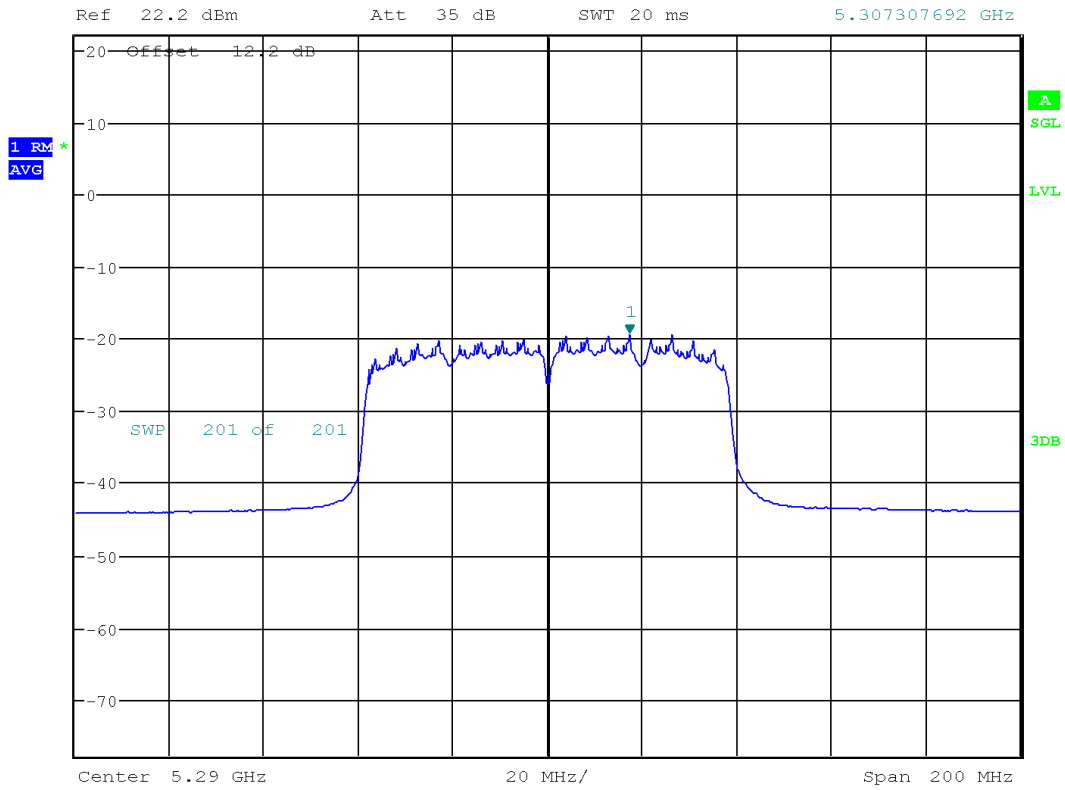


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FCC RF TEST REPORT



*RBW 1 MHz Marker 1 [T1]
 *VBW 3 MHz -19.19 dBm
 SWT 20 ms 5.307307692 GHz



Date: 18.APR.6302 21:31:44

11AC HT80 MCS0 CH58 5290MHZ



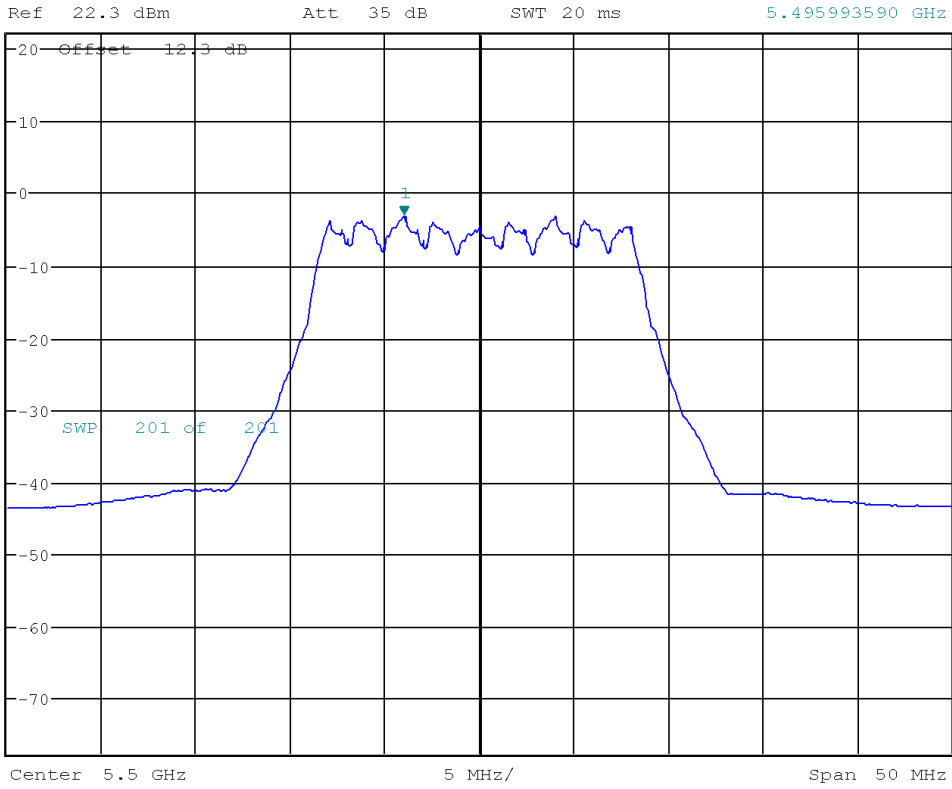
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FCC RF TEST REPORT

5G U-NII-2C



*RBW 1 MHz Marker 1 [T1]
 *VBW 3 MHz -3.00 dBm
 SWT 20 ms 5.495993590 GHz



Date: 18.APR.6302 20:38:48

11A 6Mbps CH100 5500MHZ

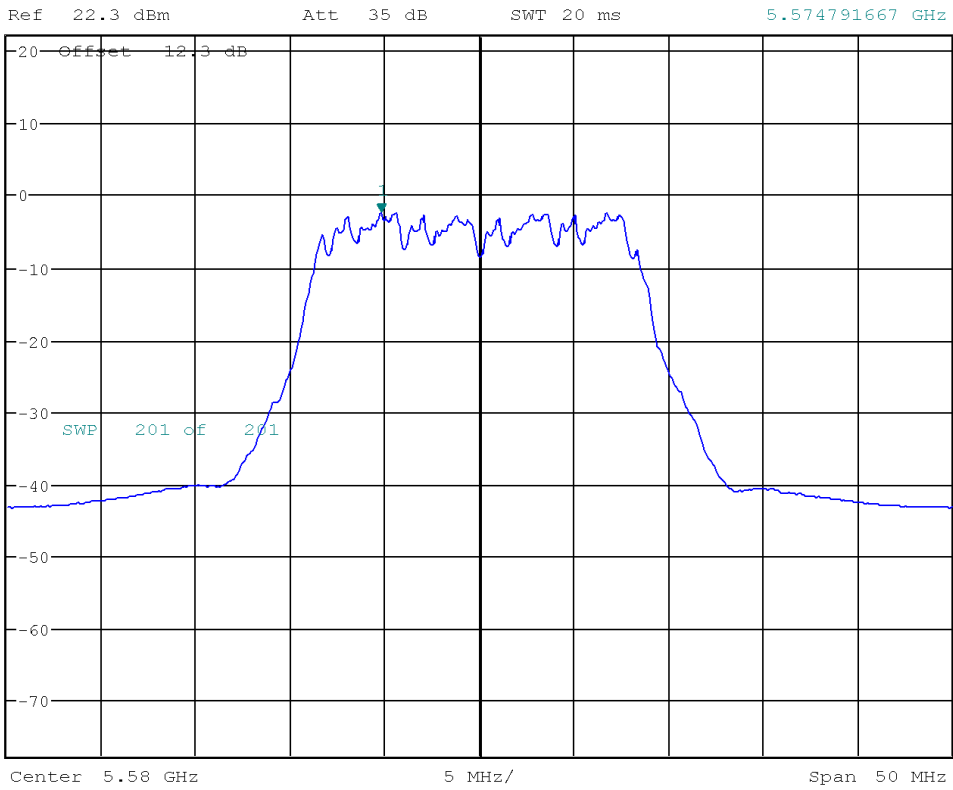


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FCC RF TEST REPORT



*RBW 1 MHz Marker 1 [T1]
 *VBW 3 MHz -2.29 dBm
 SWT 20 ms 5.574791667 GHz



Date: 18.APR.6302 20:40:13

11A 6Mbps CH116 5580MHZ

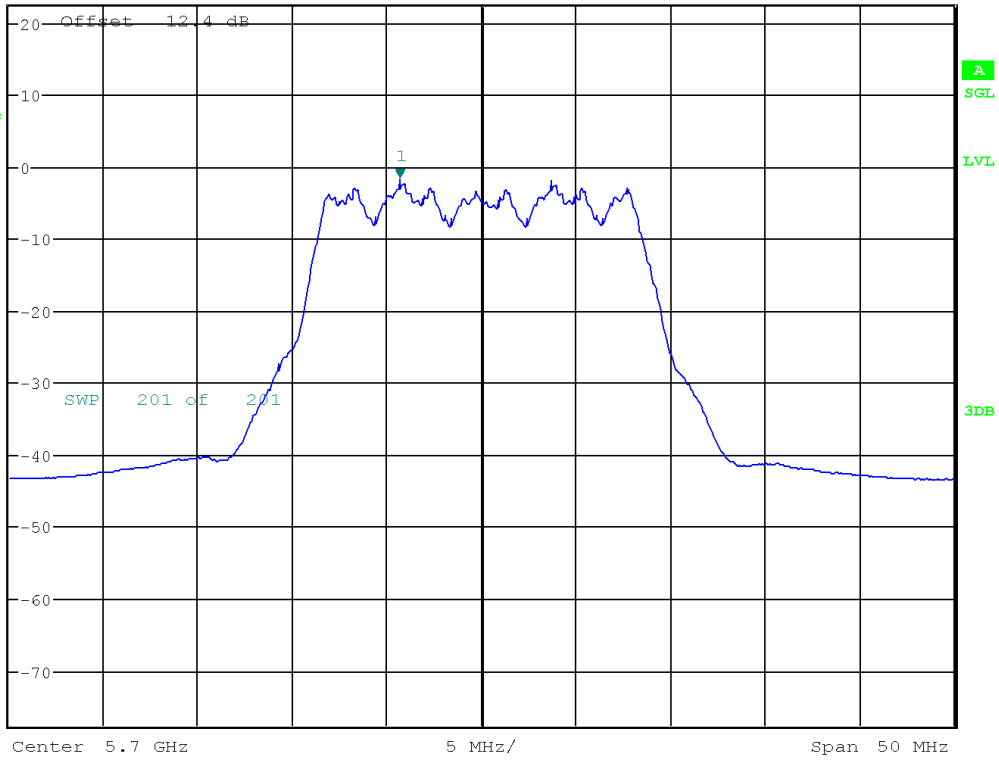


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FCC RF TEST REPORT



Ref 22.4 dBm Att 35 dB *RBW 1 MHz Marker 1 [T1] -1.63 dBm
 *VBW 3 MHz SWT 20 ms 5.695673077 GHz



Date: 18.APR.6302 20:41:38

11A 6Mbps CH140 5700MHZ

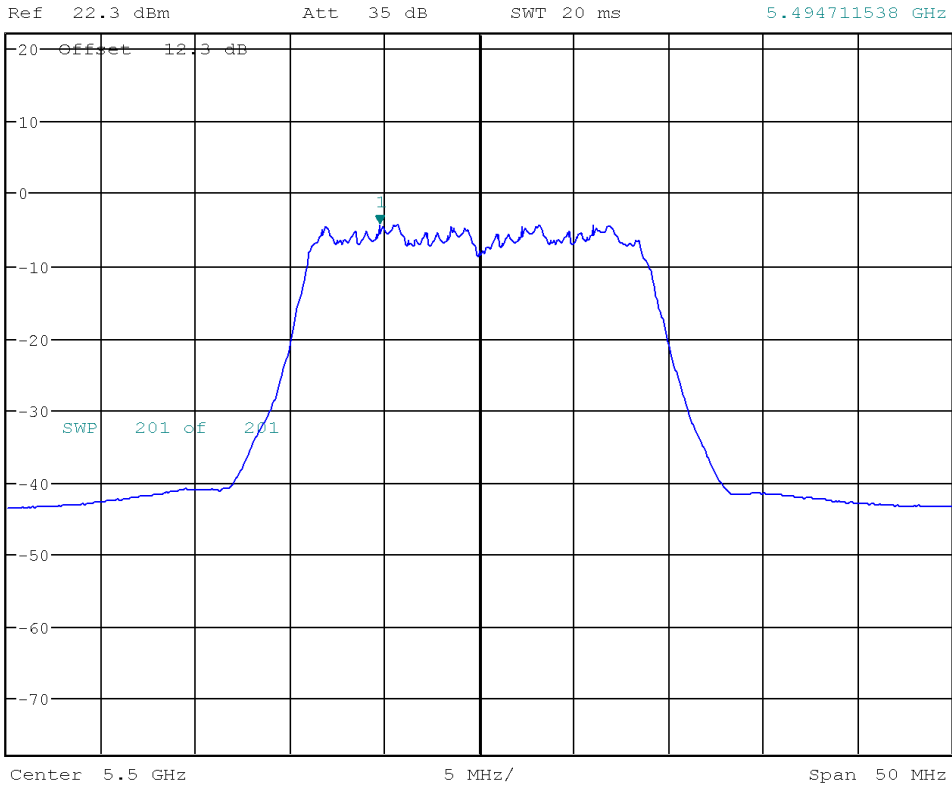


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FCC RF TEST REPORT



*RBW 1 MHz Marker 1 [T1]
 *VBW 3 MHz -4.19 dBm
 SWT 20 ms 5.494711538 GHz



Date: 18.APR.6302 19:59:57

11N 5G HT20 MCS0 CH100 5500MHZ

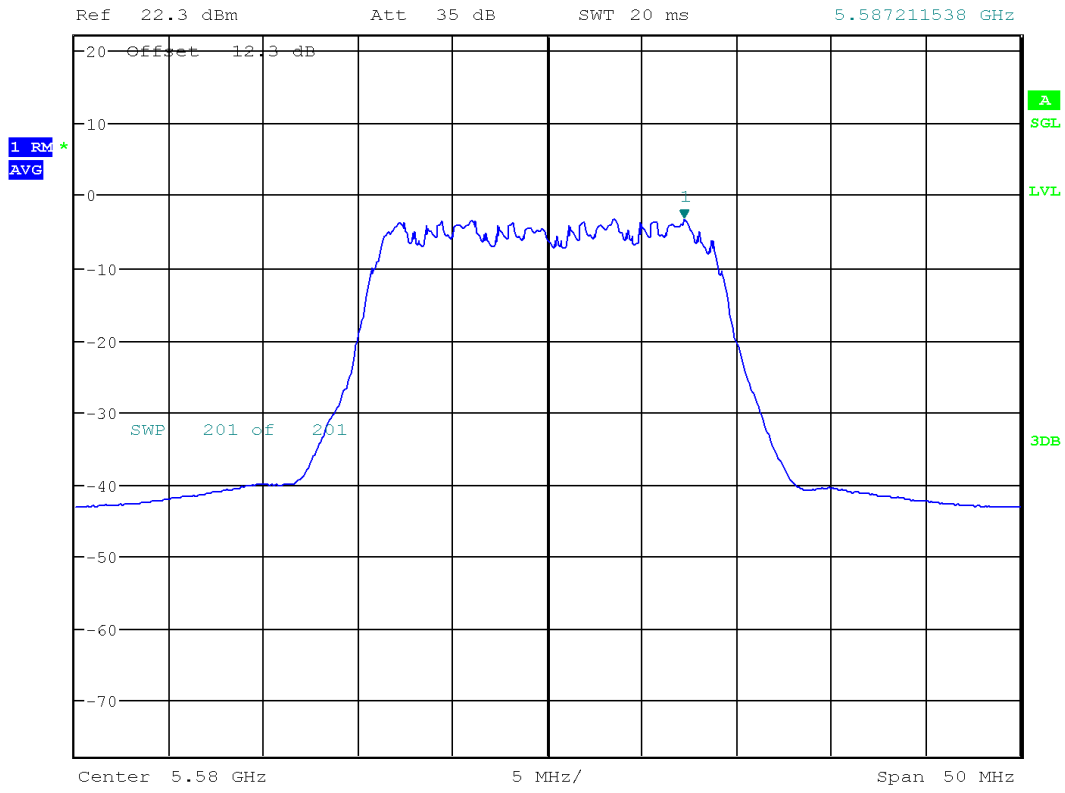


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FCC RF TEST REPORT



*RBW 1 MHz Marker 1 [T1]
 *VBW 3 MHz -3.17 dBm
 SWT 20 ms 5.587211538 GHz



Date: 18.APR.6302 20:01:19

11N 5G HT20 MCS0 CH116 5580MHZ

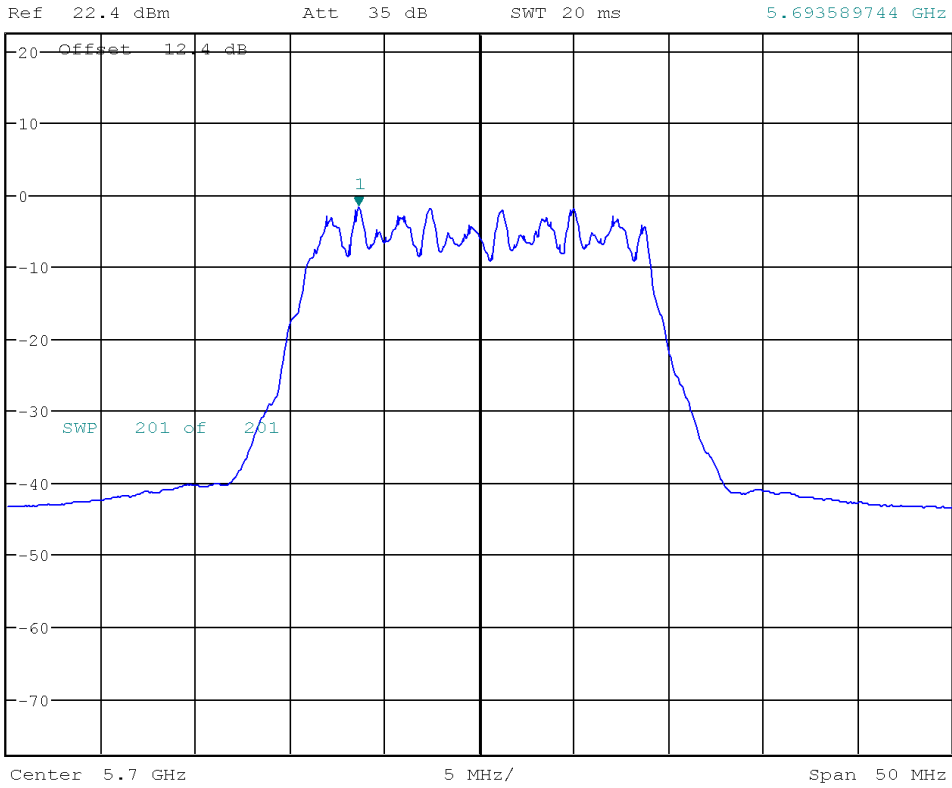


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FCC RF TEST REPORT



*RBW 1 MHz Marker 1 [T1]
 *VBW 3 MHz -1.63 dBm
 SWT 20 ms 5.693589744 GHz



Date: 18.APR.6302 20:02:43

11N 5G HT20 MCS0 CH140 5700MHZ

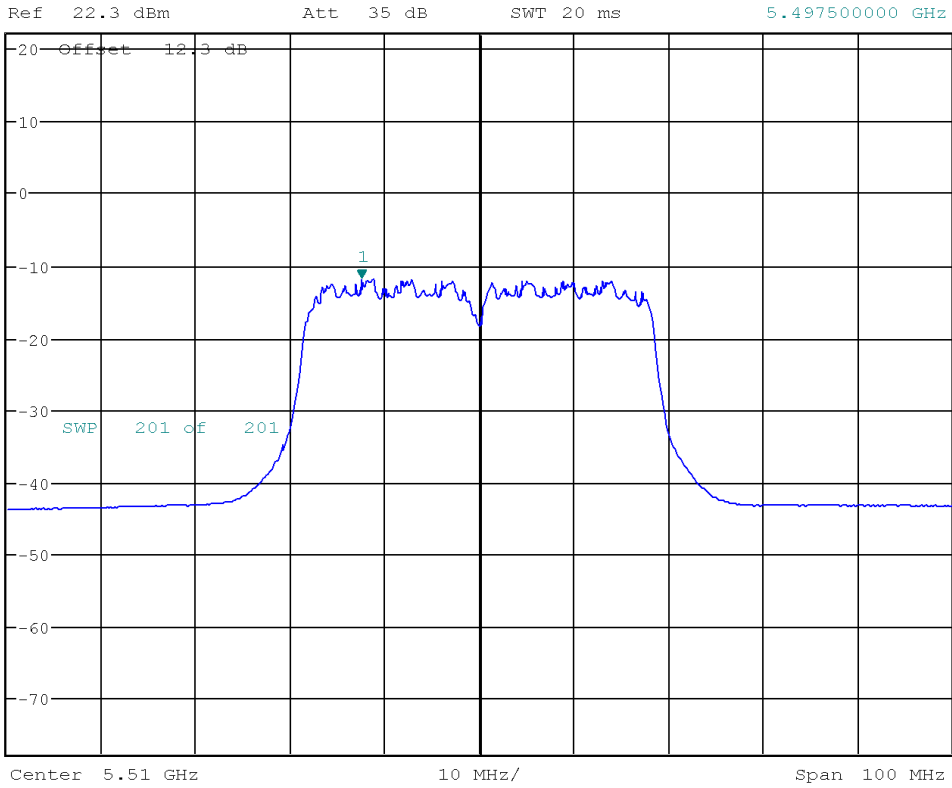


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FCC RF TEST REPORT



*RBW 1 MHz Marker 1 [T1]
 *VBW 3 MHz -11.73 dBm
 SWT 20 ms 5.497500000 GHz



Date: 18.APR.6302 20:18:37

11N 5G HT40 MCS0 CH102 5510MHZ

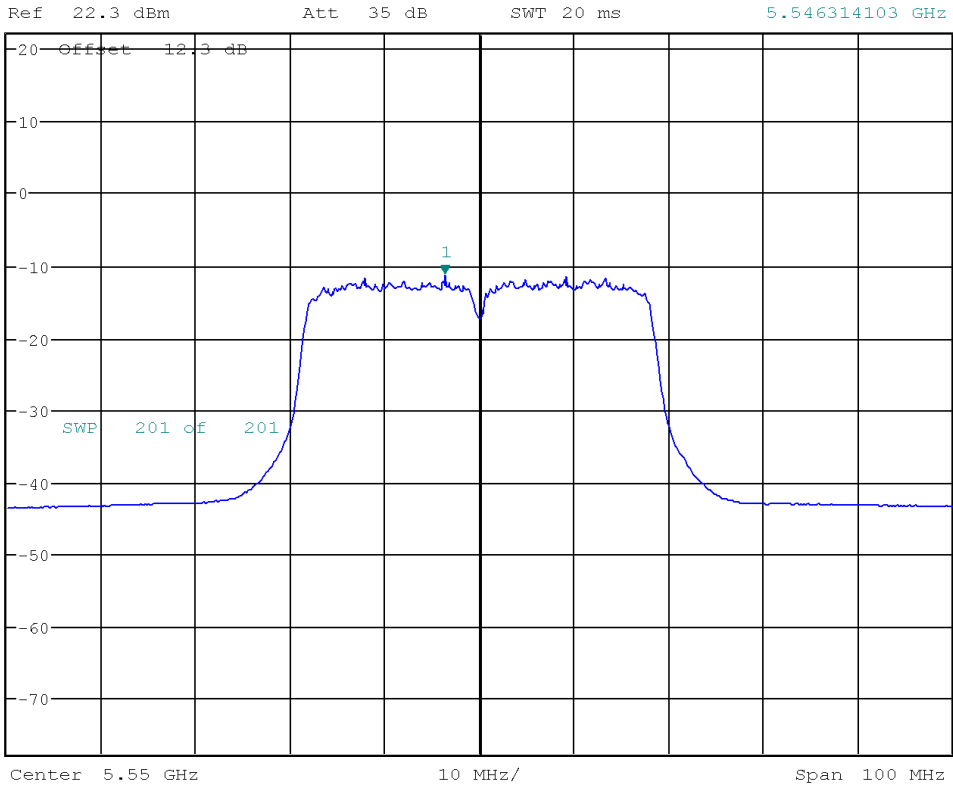


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FCC RF TEST REPORT



*RBW 1 MHz Marker 1 [T1]
 *VBW 3 MHz -11.26 dBm
 SWT 20 ms 5.546314103 GHz



Date: 18.APR.6302 20:20:10

11N 5G HT40 MCS0 CH110 5550MHZ

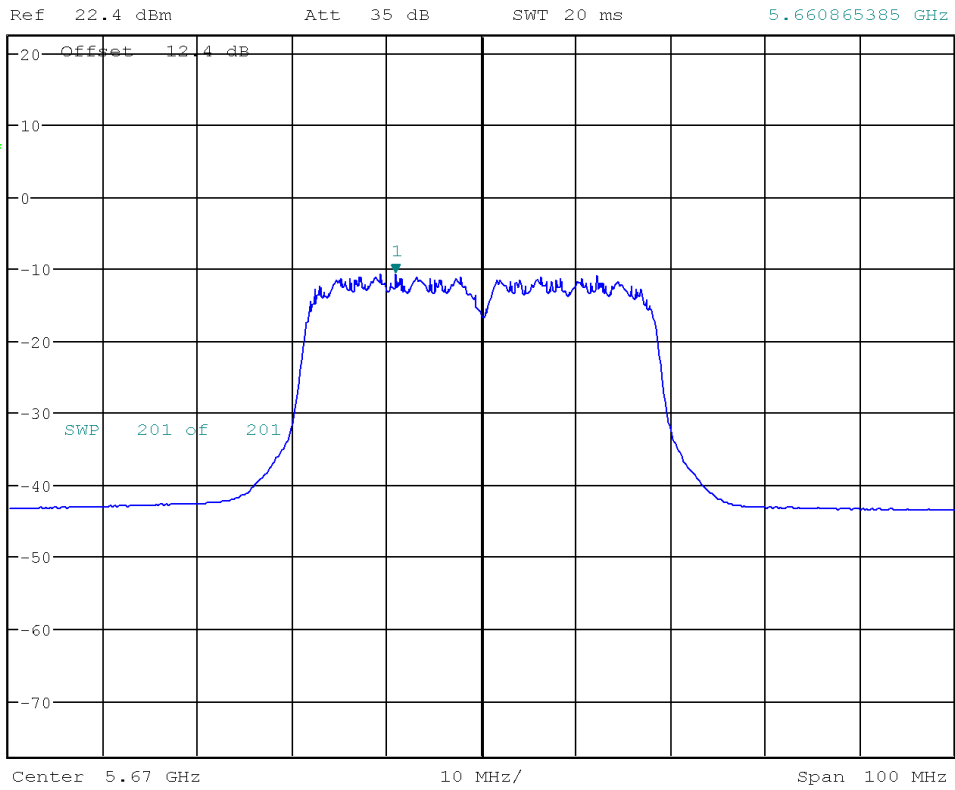


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FCC RF TEST REPORT



*RBW 1 MHz Marker 1 [T1]
 *VBW 3 MHz -10.62 dBm
 SWT 20 ms 5.660865385 GHz



Date: 18.APR.6302 20:21:44

11N 5G HT40 MCS0 CH134 5670MHZ

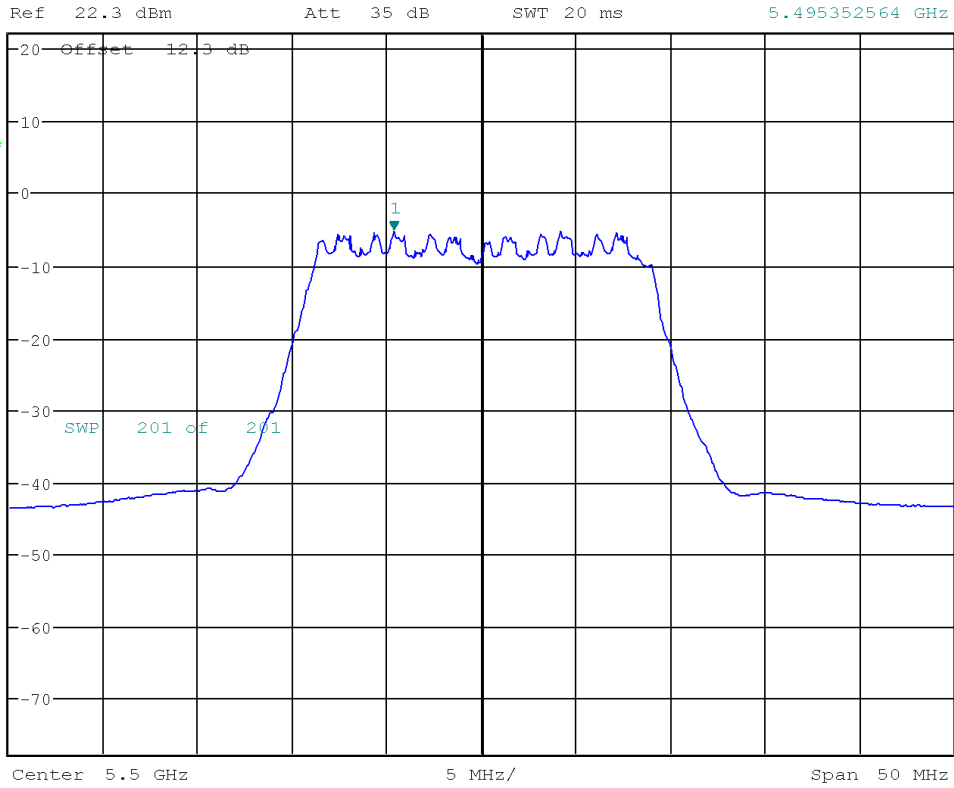


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FCC RF TEST REPORT



*RBW 1 MHz Marker 1 [T1]
 *VBW 3 MHz -5.11 dBm
 SWT 20 ms 5.495352564 GHz



Date: 18.APR.6302 20:59:46

11AC HT20 MCS0 CH100 5500MHZ

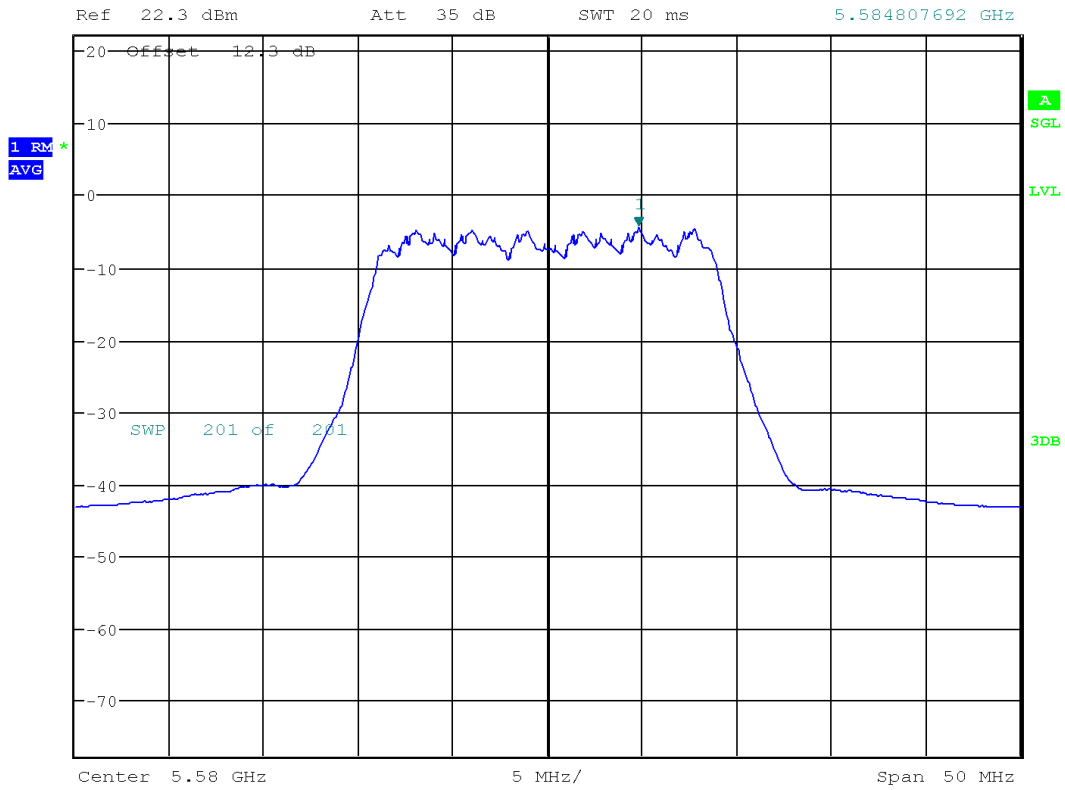


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FCC RF TEST REPORT



*RBW 1 MHz Marker 1 [T1]
 *VBW 3 MHz -4.35 dBm
 SWT 20 ms 5.584807692 GHz



Date: 18.APR.6302 21:01:11

11AC HT20 MCS0 CH116 5580MHZ

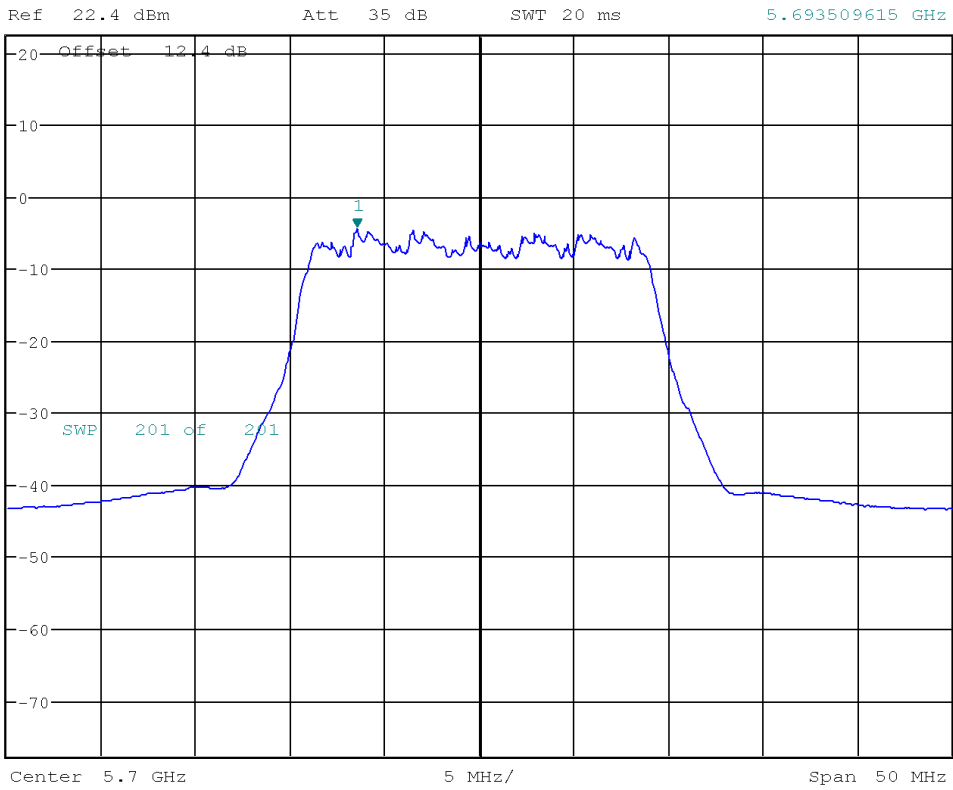


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FCC RF TEST REPORT



*RBW 1 MHz Marker 1 [T1]
 *VBW 3 MHz -4.49 dBm
 SWT 20 ms 5.693509615 GHz



Date: 18.APR.6302 21:02:33

11AC HT20 MCS0 CH140 5700MHZ

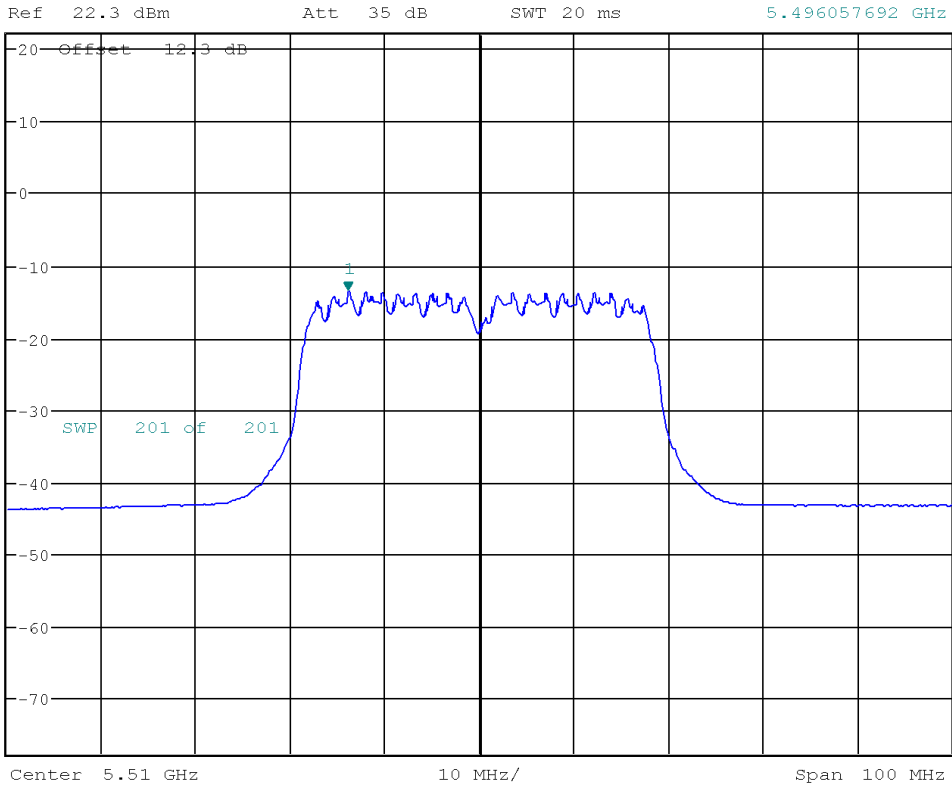


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FCC RF TEST REPORT



*RBW 1 MHz Marker 1 [T1]
 *VBW 3 MHz -13.54 dBm
 SWT 20 ms 5.496057692 GHz



Date: 18.APR.6302 21:18:09

11AC HT40 MCS0 CH102 5510MHZ

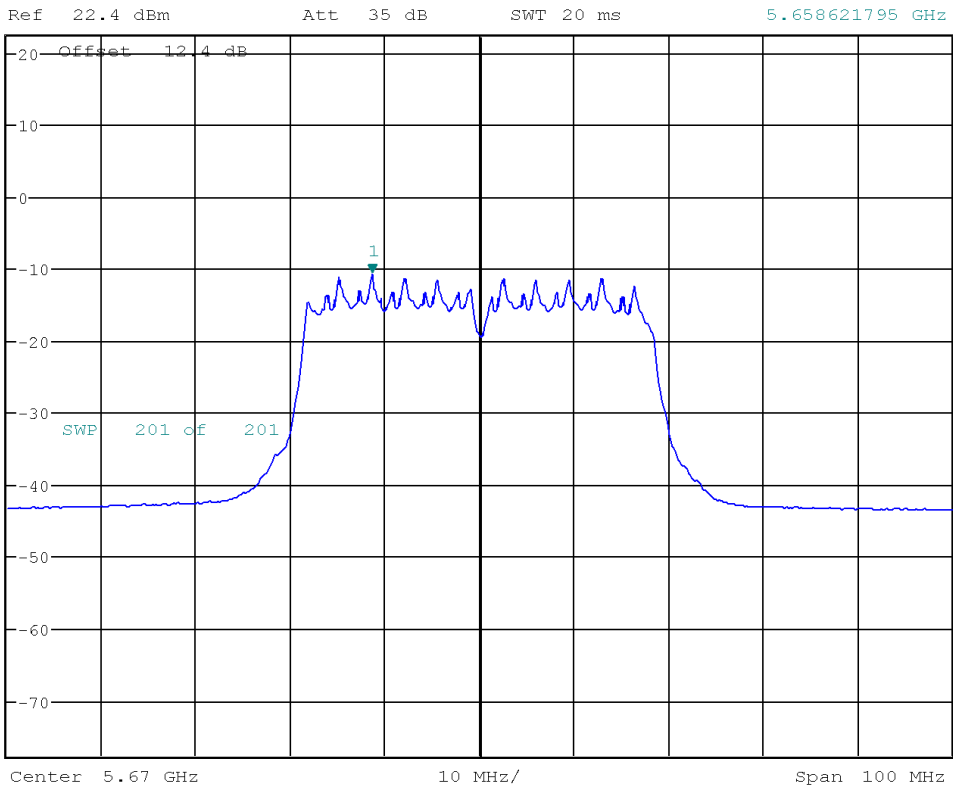


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FCC RF TEST REPORT



*RBW 1 MHz Marker 1 [T1]
 *VBW 3 MHz -10.70 dBm
 SWT 20 ms 5.658621795 GHz



Date: 18.APR.6302 21:21:12

11AC HT40 MCS0 CH134 5670MHZ

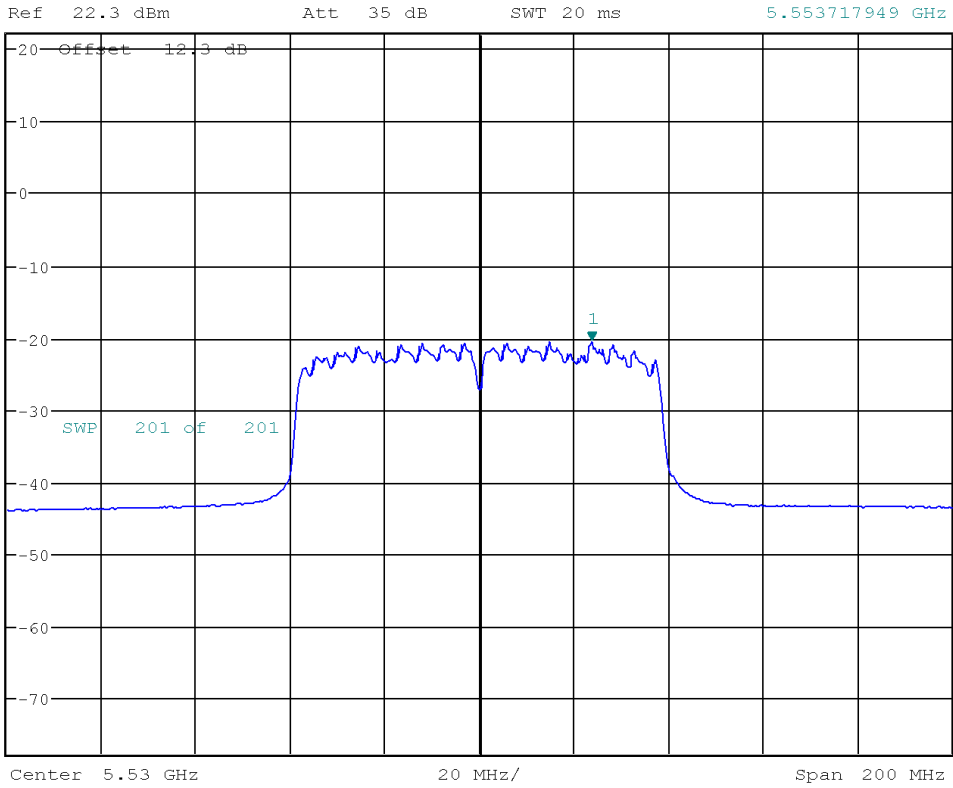


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FCC RF TEST REPORT



*RBW 1 MHz Marker 1 [T1]
 *VBW 3 MHz -20.49 dBm
 SWT 20 ms 5.553717949 GHz



Date: 18.APR.6302 21:33:51

11AC HT80 MCS0 CH106 5530MHZ

5.4 Frequency Stability

5.4.1 Description

Manufactures of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.

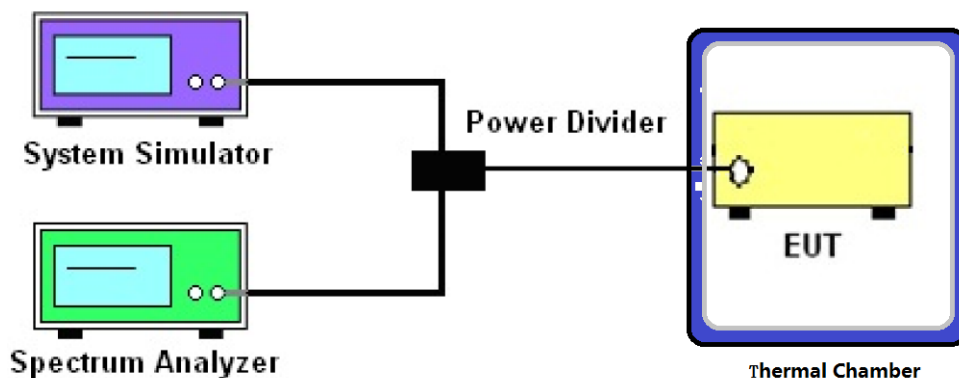
5.4.2 Test Instruments

The measuring equipment is listed in the section 4.1 of this test report.

5.4.3 Test Procedure

- a. To ensure emission at the band edge is maintained within the authorized band, those values shall be measured by radiation emissions at upper and lower frequency points, and finally compensated by frequency deviation as procedures below.
- b. The EUT was operated at the maximum output power, and connected to the spectrum analyzer, which is set to maximum hold function and peak detector. The peak value of the power envelope was measured and noted. The upper and lower frequency points were respectively measured relatively 10dB lower than the measured peak value.
- c. The frequency deviation was calculated by adding the upper frequency point and the lower frequency point divided by two. Those detailed values of frequency deviation are provided in table below.

5.4.4 Test Setup





5.4.5 Test Result

| 5G U-NII-1 | | | | | | | |
|-------------|-----------|---------|----------------|--------------------------|--------|--------|------|
| Mode | Data Rate | Channel | Frequency(MHz) | Frequency Stability(PPM) | | | P/F |
| | | | | 25°C | | | |
| | | | | 3.85V | 3.465V | 4.235V | |
| 11A | 6Mbps | 36 | 5180 | -3.41 | -3.76 | -3.75 | PASS |
| 11A | 6Mbps | 44 | 5220 | -3.81 | -4.08 | -4.14 | PASS |
| 11A | 6Mbps | 48 | 5240 | -4.09 | -4.3 | -4.4 | PASS |
| 11N 5G HT20 | MCS0 | 36 | 5180 | -5.24 | -5.13 | -5.38 | PASS |
| 11N 5G HT20 | MCS0 | 44 | 5220 | -5.25 | -5.13 | -5.38 | PASS |
| 11N 5G HT20 | MCS0 | 48 | 5240 | -5.27 | -5.14 | -5.38 | PASS |
| 11N 5G HT40 | MCS0 | 38 | 5190 | -5.54 | -5.29 | -5.55 | PASS |
| 11N 5G HT40 | MCS0 | 46 | 5230 | -5.53 | -5.27 | -5.52 | PASS |
| 11AC HT20 | MCS0 | 36 | 5180 | -5.59 | -5.3 | -5.54 | PASS |
| 11AC HT20 | MCS0 | 44 | 5220 | -5.58 | -5.29 | -5.54 | PASS |
| 11AC HT20 | MCS0 | 48 | 5240 | -5.57 | -5.29 | -5.53 | PASS |
| 11AC HT40 | MCS0 | 38 | 5190 | -5.54 | -5.3 | -5.56 | PASS |
| 11AC HT40 | MCS0 | 46 | 5230 | -5.5 | -5.27 | -5.51 | PASS |
| 11AC HT80 | MCS0 | 42 | 5210 | -5.32 | -5.15 | -5.38 | PASS |

| 5G U-NII-2A | | | | | | | |
|-------------|-----------|---------|----------------|--------------------------|--------|--------|------|
| Mode | Data Rate | Channel | Frequency(MHz) | Frequency Stability(PPM) | | | P/F |
| | | | | 25°C | | | |
| | | | | 3.85V | 3.465V | 4.235V | |
| 11A | 6Mbps | 52 | 5260 | -4.28 | -4.45 | -4.58 | PASS |
| 11A | 6Mbps | 60 | 5300 | -4.45 | -4.57 | -4.73 | PASS |
| 11A | 6Mbps | 64 | 5320 | -4.58 | -4.68 | -4.84 | PASS |
| 11N 5G HT20 | MCS0 | 52 | 5260 | -5.29 | -5.15 | -5.39 | PASS |
| 11N 5G HT20 | MCS0 | 60 | 5300 | -5.32 | -5.16 | -5.4 | PASS |
| 11N 5G HT20 | MCS0 | 64 | 5320 | -5.34 | -5.17 | -5.41 | PASS |
| 11N 5G HT40 | MCS0 | 54 | 5270 | -5.52 | -5.26 | -5.51 | PASS |
| 11N 5G HT40 | MCS0 | 62 | 5310 | -5.52 | -5.26 | -5.5 | PASS |
| 11AC HT20 | MCS0 | 52 | 5260 | -5.57 | -5.29 | -5.53 | PASS |
| 11AC HT20 | MCS0 | 60 | 5300 | -5.57 | -5.29 | -5.53 | PASS |
| 11AC HT20 | MCS0 | 64 | 5320 | -5.57 | -5.29 | -5.54 | PASS |
| 11AC HT40 | MCS0 | 54 | 5270 | -5.46 | -5.24 | -5.48 | PASS |
| 11AC HT40 | MCS0 | 62 | 5310 | -5.43 | -5.23 | -5.46 | PASS |
| 11AC HT80 | MCS0 | 58 | 5290 | -5.25 | -5.1 | -5.31 | PASS |



| 5G U-NII-2C | | | | | | | |
|-------------|-----------|---------|----------------|--------------------------|--------|--------|------|
| Mode | Data Rate | Channel | Frequency(MHz) | Frequency Stability(PPM) | | | P/F |
| | | | | 25°C | | | |
| | | | | 3.85V | 3.465V | 4.235V | |
| 11A | 6Mbps | 100 | 5500 | -4.71 | -4.76 | -4.96 | PASS |
| 11A | 6Mbps | 116 | 5580 | -4.83 | -4.85 | -5.06 | PASS |
| 11A | 6Mbps | 140 | 5700 | -4.92 | -4.92 | -5.15 | PASS |
| 11N 5G HT20 | MCS0 | 100 | 5500 | -5.38 | -5.19 | -5.44 | PASS |
| 11N 5G HT20 | MCS0 | 116 | 5580 | -5.43 | -5.22 | -5.48 | PASS |
| 11N 5G HT20 | MCS0 | 140 | 5700 | -5.47 | -5.26 | -5.51 | PASS |
| 11N 5G HT40 | MCS0 | 102 | 5510 | -5.54 | -5.27 | -5.51 | PASS |
| 11N 5G HT40 | MCS0 | 110 | 5550 | -5.55 | -5.28 | -5.52 | PASS |
| 11N 5G HT40 | MCS0 | 134 | 5670 | -5.57 | -5.29 | -5.54 | PASS |
| 11AC HT20 | MCS0 | 100 | 5500 | -5.58 | -5.3 | -5.55 | PASS |
| 11AC HT20 | MCS0 | 116 | 5580 | -5.59 | -5.31 | -5.57 | PASS |
| 11AC HT20 | MCS0 | 140 | 5700 | -5.6 | -5.33 | -5.59 | PASS |
| 11AC HT40 | MCS0 | 102 | 5510 | -5.43 | -5.22 | -5.46 | PASS |
| 11AC HT40 | MCS0 | 110 | 5550 | -5.42 | -5.22 | -5.45 | PASS |
| 11AC HT40 | MCS0 | 134 | 5670 | -5.41 | -5.22 | -5.46 | PASS |
| 11AC HT80 | MCS0 | 106 | 5530 | -5.21 | -5.08 | -5.28 | PASS |

| 5G U-NII-1 | | | | | | | | | | | | | |
|-------------|-----------|---------|----------------|--------------------------|-------|------|-------|-------|-------|-------|--------|-------|------|
| Mode | Data Rate | Channel | Frequency(MHz) | Frequency Stability(PPM) | | | | | | | | | P/F |
| | | | | 3.85V | | | | | | | | | |
| | | | | -20°C | -10°C | 0°C | 10°C | 20°C | 30°C | 40°C | 50°C | 60°C | |
| 11A | 6Mbps | 36 | 5180 | 2.76 | 4.04 | 3.08 | 0.72 | -2.5 | -4.51 | -7.76 | -9.89 | -9.21 | PASS |
| 11A | 6Mbps | 44 | 5220 | 3.07 | 4.01 | 2.81 | 0.31 | -2.86 | -4.94 | -8.1 | -10.05 | -9.14 | PASS |
| 11A | 6Mbps | 48 | 5240 | 3.25 | 3.98 | 2.61 | 0.03 | -3.1 | -5.22 | -8.32 | -10.15 | -9.1 | PASS |
| 11N 5G HT20 | MCS0 | 36 | 5180 | 3.77 | 3.72 | 1.98 | -1.56 | -4.03 | -6.36 | -9.13 | -10.43 | -8.66 | PASS |
| 11N 5G HT20 | MCS0 | 44 | 5220 | 3.77 | 3.72 | 1.99 | -1.52 | -4.03 | -6.38 | -9.13 | -10.43 | -8.64 | PASS |
| 11N 5G HT20 | MCS0 | 48 | 5240 | 3.77 | 3.71 | 1.99 | -1.5 | -4.04 | -6.4 | -9.14 | -10.43 | -8.62 | PASS |
| 11N 5G HT40 | MCS0 | 38 | 5190 | 3.84 | 3.64 | 1.91 | -1.45 | -4.21 | -6.67 | -9.29 | -10.42 | -8.45 | PASS |
| 11N 5G HT40 | MCS0 | 46 | 5230 | 3.83 | 3.64 | 1.93 | -1.41 | -4.18 | -6.66 | -9.28 | -10.44 | -8.47 | PASS |
| 11AC HT20 | MCS0 | 36 | 5180 | 3.86 | 3.63 | 1.94 | -1.34 | -4.18 | -6.72 | -9.3 | -10.39 | -8.39 | PASS |
| 11AC HT20 | MCS0 | 44 | 5220 | 3.86 | 3.63 | 1.94 | -1.32 | -4.17 | -6.72 | -9.29 | -10.39 | -8.39 | PASS |



| | | | | | | | | | | | | | |
|-----------|------|----|------|------|------|------|-------|-------|-------|-------|--------|-------|------|
| 11AC HT20 | MCS0 | 48 | 5240 | 3.86 | 3.63 | 1.94 | -1.3 | -4.16 | -6.72 | -9.3 | -10.4 | -8.39 | PASS |
| 11AC HT40 | MCS0 | 38 | 5190 | 3.86 | 3.61 | 1.93 | -1.27 | -4.09 | -6.78 | -9.31 | -10.39 | -8.38 | PASS |
| 11AC HT40 | MCS0 | 46 | 5230 | 3.83 | 3.63 | 1.96 | -1.2 | -4.04 | -6.75 | -9.3 | -10.44 | -8.45 | PASS |
| 11AC HT80 | MCS0 | 42 | 5210 | 3.75 | 3.67 | 2.02 | -1.02 | -3.86 | -6.64 | -9.25 | -10.52 | -8.62 | PASS |

| 5G U-NII-2A | | | | | | | | | | | | | | |
|-------------|-----------|---------|----------------|--------------------------|-------|------|-------|-------|-------|-------|--------|-------|------|-----|
| Mode | Data Rate | Channel | Frequency(MHz) | Frequency Stability(PPM) | | | | | | | | | | P/F |
| | | | | 3.85V | | | | | | | | | | |
| | | | | -20°C | -10°C | 0°C | 10°C | 20°C | 30°C | 40°C | 50°C | 60°C | | |
| 11A | 6Mbps | 52 | 5260 | 3.38 | 3.95 | 2.47 | -0.17 | -3.26 | -5.44 | -8.47 | -10.22 | -9.06 | PASS | |
| 11A | 6Mbps | 60 | 5300 | 3.47 | 3.91 | 2.36 | -0.34 | -3.4 | -5.61 | -8.6 | -10.27 | -9.01 | PASS | |
| 11A | 6Mbps | 64 | 5320 | 3.54 | 3.88 | 2.28 | -0.46 | -3.52 | -5.75 | -8.69 | -10.31 | -8.96 | PASS | |
| 11N 5G HT20 | MCS0 | 52 | 5260 | 3.78 | 3.71 | 1.99 | -1.49 | -4.05 | -6.42 | -9.14 | -10.42 | -8.6 | PASS | |
| 11N 5G HT20 | MCS0 | 60 | 5300 | 3.8 | 3.71 | 1.98 | -1.47 | -4.07 | -6.44 | -9.16 | -10.42 | -8.58 | PASS | |
| 11N 5G HT20 | MCS0 | 64 | 5320 | 3.81 | 3.7 | 1.98 | -1.46 | -4.09 | -6.47 | -9.17 | -10.41 | -8.56 | PASS | |
| 11N 5G HT40 | MCS0 | 54 | 5270 | 3.83 | 3.64 | 1.94 | -1.39 | -4.17 | -6.65 | -9.28 | -10.44 | -8.49 | PASS | |
| 11N 5G HT40 | MCS0 | 62 | 5310 | 3.84 | 3.65 | 1.94 | -1.36 | -4.16 | -6.65 | -9.28 | -10.44 | -8.48 | PASS | |
| 11AC HT20 | MCS0 | 52 | 5260 | 3.86 | 3.63 | 1.95 | -1.3 | -4.14 | -6.72 | -9.29 | -10.4 | -8.39 | PASS | |
| 11AC HT20 | MCS0 | 60 | 5300 | 3.87 | 3.63 | 1.95 | -1.29 | -4.14 | -6.72 | -9.3 | -10.39 | -8.38 | PASS | |
| 11AC HT20 | MCS0 | 64 | 5320 | 3.86 | 3.63 | 1.94 | -1.3 | -4.14 | -6.73 | -9.29 | -10.39 | -8.38 | PASS | |
| 11AC HT40 | MCS0 | 54 | 5270 | 3.81 | 3.64 | 1.98 | -1.15 | -4.0 | -6.72 | -9.29 | -10.46 | -8.5 | PASS | |
| 11AC HT40 | MCS0 | 62 | 5310 | 3.8 | 3.65 | 1.99 | -1.12 | -3.97 | -6.71 | -9.29 | -10.47 | -8.52 | PASS | |
| 11AC HT80 | MCS0 | 58 | 5290 | 3.73 | 3.69 | 2.06 | -0.94 | -3.78 | -6.6 | -9.22 | -10.52 | -8.66 | PASS | |

| 5G U-NII-2C | | | | | | | | | | | | | | |
|-------------|-----------|---------|----------------|--------------------------|-------|------|-------|-------|-------|-------|--------|-------|------|-----|
| Mode | Data Rate | Channel | Frequency(MHz) | Frequency Stability(PPM) | | | | | | | | | | P/F |
| | | | | 3.85V | | | | | | | | | | |
| | | | | -20°C | -10°C | 0°C | 10°C | 20°C | 30°C | 40°C | 50°C | 60°C | | |
| 11A | 6Mbps | 100 | 5500 | 3.6 | 3.85 | 2.21 | -0.59 | -3.63 | -5.88 | -8.79 | -10.34 | -8.91 | PASS | |
| 11A | 6Mbps | 116 | 5580 | 3.64 | 3.82 | 2.15 | -0.68 | -3.72 | -5.99 | -8.87 | -10.36 | -8.86 | PASS | |
| 11A | 6Mbps | 140 | 5700 | 3.67 | 3.79 | 2.1 | -0.78 | -3.81 | -6.09 | -8.93 | -10.38 | -8.81 | PASS | |
| 11N 5G HT20 | MCS0 | 100 | 5500 | 3.82 | 3.69 | 1.96 | -1.47 | -4.12 | -6.51 | -9.19 | -10.41 | -8.53 | PASS | |
| 11N 5G HT20 | MCS0 | 116 | 5580 | 3.84 | 3.68 | 1.94 | -1.47 | -4.15 | -6.55 | -9.21 | -10.41 | -8.5 | PASS | |
| 11N 5G HT20 | MCS0 | 140 | 5700 | 3.85 | 3.66 | 1.92 | -1.49 | -4.18 | -6.58 | -9.24 | -10.4 | -8.48 | PASS | |
| 11N 5G HT40 | MCS0 | 102 | 5510 | 3.84 | 3.64 | 1.94 | -1.36 | -4.17 | -6.67 | -9.29 | -10.43 | -8.46 | PASS | |



| | | | | | | | | | | | | | |
|-------------------|------|-----|------|------|------|------|-------|-------|-------|-------|--------|-------|------|
| 11N 5G HT40 | MCS0 | 110 | 5550 | 3.85 | 3.64 | 1.94 | -1.36 | -4.17 | -6.68 | -9.28 | -10.42 | -8.44 | PASS |
| 11N 5G HT40 | MCS0 | 134 | 5670 | 3.87 | 3.63 | 1.94 | -1.36 | -4.18 | -6.69 | -9.29 | -10.41 | -8.41 | PASS |
| 11AC HT20 | MCS0 | 100 | 5500 | 3.87 | 3.62 | 1.94 | -1.3 | -4.15 | -6.74 | -9.3 | -10.37 | -8.35 | PASS |
| 11AC HT20 | MCS0 | 116 | 5580 | 3.88 | 3.62 | 1.93 | -1.31 | -4.16 | -6.76 | -9.3 | -10.36 | -8.33 | PASS |
| 11AC HT20 | MCS0 | 140 | 5700 | 3.89 | 3.61 | 1.92 | -1.32 | -4.17 | -6.78 | -9.3 | -10.35 | -8.32 | PASS |
| 11AC HT40 | MCS0 | 102 | 5510 | 3.8 | 3.65 | 1.99 | -1.11 | -3.97 | -6.7 | -9.28 | -10.48 | -8.53 | PASS |
| 11AC HT40 | MCS0 | 110 | 5550 | 3.81 | 3.65 | 2.0 | -1.1 | -3.95 | -6.7 | -9.28 | -10.48 | -8.54 | PASS |
| 11AC HT40 | MCS0 | 134 | 5670 | 3.81 | 3.65 | 1.99 | -1.1 | -3.94 | -6.7 | -9.28 | -10.48 | -8.54 | PASS |
| 11AC HT80 | MCS0 | 106 | 5530 | 3.73 | 3.7 | 2.08 | -0.9 | -3.74 | -6.57 | -9.2 | -10.53 | -8.68 | PASS |



6 SAMPLE PICTURE

Refer to the EUT and Test setup Potographs.



7 APPENDIX - INFORMATION ON THE TESTING LABORATORIES

We, BYD Precise Manufacture Co., Ltd., were founded in 2007 to provide our best service in RF, Radio consultation. Our laboratories are accredited by the following accreditation bodies according to ISO/IEC 17025 (2005) .

USA

A2LA

Certificate No.: 4886.01

Copies of accreditation certificates could be inquired from our office. If you have any comments, please feel free to contact us at the following:

EMC / RF / Lab:

Tel: +86-755 8489 8888 55501

Fax: +86-755 8964 3771

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