

# TECHNICAL REPORT



Report No.: FCC 1903224-04  
File reference No.: 2019-04-16

Applicant: Shenzhen Geniatech Inc., Ltd.

Product: Developer Board

Model No.: DB8,DB8WL,DB9,DB7,DB5,DB4,XPI,XPI-S905X,GTW390R,  
GTW350,GTW410,GTW389,GTW360

Trademark: N/A

Test Standards: FCC Part 15 Subpart E, Paragraph 15.407 and RSS-247 Issue 2

Test result: It is herewith confirmed and found to comply with the requirements set up by ANSI C63.10,FCC Part 15 Subpart C, Paragraph 15.247 and RSS-247 regulations for the evaluation of electromagnetic compatibility

Approved By

*Jack Chung*

Jack Chung

Manager

Dated: April 16, 2019

**Results appearing herein relate only to the sample tested**

**The technical reports is issued errors and omissions exempt and is subject to withdrawal at**

**SHENZHEN TIMEWAY TESTING LABORATORIES**

Room 512-519, 5/F., East Tower, Building 4, Anhua Industrial Zone, Futian District, Shenzhen, Guangdong, China

Tel (755) 83448688, Fax (755) 83442996, E-Mail:info@timeway-lab.com



### **Special Statement:**

The testing quality ability of our laboratory meet with “Quality Law of People’s Republic of China” Clause 19.

The testing quality system of our laboratory meet with ISO/IEC-17025 requirements, which is approved by CNAL. This approval result is accepted by MRA of APLAC.

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

#### **CNAL-LAB Code: L2292**

The EMC Laboratory has been assessed and in compliance with CNAL/AC01:2002 accreditation criteria for testing Laboratories (identical to ISO/IEC 17025:2005 General Requirements) for the Competence of testing Laboratories.

#### **FCC-Registration No.: 744189**

The EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications commission. The acceptance letter from the FCC is maintained in our files. Registration No.: 744189.

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Test Report Conclusion

Content

<b>1.0</b>	<b>General Details</b> .....	4
1.1	Test Lab Details.....	4
1.2	Applicant Details.....	4
1.3	Description of EUT .....	4
1.4	Submitted Sample.....	6
1.5	Test Duration.....	6
1.6	Test Uncertainty.....	6
1.7	Test By.....	6
<b>2.0</b>	<b>List of Measurement Equipment</b> .....	7
<b>3.0</b>	<b>Technical Details</b> .....	8
3.1	Summary of Test Results.....	8
3.2	Test Standards.....	8
<b>4.0</b>	<b>EUT Modification</b> .....	8
<b>5.0</b>	<b>Power Line Conducted Emission Test</b> .....	9
5.1	Schematics of the Test.....	9
5.2	Test Method and Test Procedure.....	9
5.3	Configuration of the EUT.....	9
<b>5.4</b>	<b>EUT Operating Condition</b> .....	10
<b>5.5</b>	<b>Conducted Emission Limit</b> .....	10
<b>5.6</b>	<b>Test Result</b> .....	10
<b>6.0</b>	<b>Undesirable Emission and Restrict band</b> .....	13
<b>7.0</b>	<b>Bandwidth Measurement</b> .....	51
<b>8.0</b>	<b>Peak Transmit Power Measurement</b> .....	134
<b>9.0</b>	<b>Peak Power Spectral Density Measurement</b> .....	140
<b>10.0</b>	<b>Frequency Stability</b> .....	175
<b>11.0</b>	<b>Antenna Requirement</b> .....	178
<b>12.0</b>	<b>FC Label</b> .....	179
<b>13.0</b>	<b>Photo of Test Setup and EUT View</b> .....	180

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## 1.0 General Details

### 1.1 Test Lab Details

Name : SHENZHEN TIMEWAY TESTING LABORATORIES.  
Address: Zone C, 1st Floor, Block B, Jun Xiang Da Building, Zhongshan Park Road West, Tong Le Village, Nanshan District, Shenzhen, China  
Telephone: (755) 83448688  
Fax: (755) 83442996  
Site Listed with Federal Communications commission (FCC)  
Registration Number:744189  
For 3m Anechoic Chamber  
Site Listed with Industry Canada of Ottawa, Canada  
Registration Number: IC: 5205A-02  
For 3m Anechoic Chamber

### 1.2 Applicant Details

Applicant: Shenzhen Geniatech Inc., Ltd.  
Address: 18F, GDC Building, No 9th, Gaoxin Middle 3rd Road, Nanshan, Shenzhen, China  
Telephone: --  
Fax: --

### 1.3 Description of EUT

Product: Developer Board  
Manufacturer: Shenzhen Geniatech Inc., Ltd.  
Address: 18F, GDC Building, No 9th, Gaoxin Middle 3rd Road, Nanshan, Shenzhen, China  
Brand Name: N/A  
Additional Brand Name: N/A  
Model Number: DB8  
Additional Model Number: DB8WL,DB9,DB7,DB5,DB4,XPI,XPI-905X,GTW390R,GTW350,GTW410,GTW389, GTW360  
Type of Modulation IEEE 802.11a/n (HT20/HT40) : OFDM(64QAM, 16QAM, QPSK, BPSK);  
IEEE 802.11ac: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM  
Frequency Band 1: 5180MHz-5240MHz;  
Band 4: 5745MHz-5805MHz  
Channel Separation 802.11a/802.11n20:20MHz, 802.11n40:40MHz, 802.11ac : 80MHz  
Air Data Rate IEEE 802.11a : 54, 48,36, 24, 18, 12, 9, 6 Mbps  
IEEE 802.11n/HT20: mcs0: 6.5Mbps,mcs1:13Mbps,mcs2:19.5Mbps,mcs3:26Mbps,  
mcs4:39Mbps,mcs5:52Mbps,mcs6:58.5Mbps,mcs7:65Mbps  
IEEE 802.11n/HT40: mcs0:15Mbps,mcs1:30Mbps,mcs2:45Mbps,mcs3:60Mbps,  
mcs4:90Mbps,mcs5:120Mbps,mcs6:135Mbps,mcs7:150Mbps

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IEEE 802.11ac: Up to 433.3Mbps

Antenna: Antenna: 2pcs External antenna with reversed polarity non standard unique antenna port.

Antenna Gain: Antenna Gain: Maximum 3.2dBi for each antenna, Directional gain =  $3.2 + 10 \log 2 = 6.2 \text{dBi}$

Test Mode: During testing, EUT was set to MIMO mode 100% duty cycle. 6Mbps air data rate was the worst case for 802.11a mode; mcs0 air data rate was the worst case for 802.11n mode; 23.9Mbps air data rate was the worst case for 802.11ac mode.

Frequency Selection By software

Input Voltage: DC12V

Power Adapter Model: FJ-SW1201500E; Input: 100-240V,50/60HZ,0.6A Max;  
Output: 12V $\overline{\text{---}}$ , 1500mA

Each Channel Operation Frequency

Band 1					
802.11a / 11n HT20 / 802.11ac VHT20		802.11n HT40 / 802.11acVHT40		802.11ac VHT80	
Channel	Frequency	Channel	Frequency	Channel	Frequency
36	5180MHz	38	5190 MHz	42	5210 MHz
40	5200 MHz	46	5230 MHz		
44	5220 MHz				
48	5240 MHz				
Band 4					
802.11a / 11n HT20 / 802.11ac VHT20		802.11n HT40 / 802.11acVHT40		802.11ac VHT80	
Channel	Frequency	Channel	Frequency	Channel	Frequency
149	5745 MHz	151	5755 MHz	155	5775 MHz
153	5765 MHz	159	5795 MHz		
157	5785 MHz				
161	5805 MHz				

The selected test channels as follows:

Band 1					
802.11a / 11n HT20		802.11n HT40		802.11ac VHT80	
Channel	Frequency	Channel	Frequency	Channel	Frequency
36	5180MHz	38	5190 MHz	42	5210 MHz
40	5200 MHz	46	5230 MHz		
48	5240 MHz				
Band 4					
802.11a / 11n HT20		802.11n HT40		802.11ac VHT80	
Channel	Frequency	Channel	Frequency	Channel	Frequency
149	5745 MHz	151	5755 MHz	155	5775 MHz
153	5765 MHz	159	5795 MHz		

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161	5805 MHz				
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Note: 802.11ac VHT20/VHT40 is similar with 802.11n HT20/HT40.

- 1.4 Submitted Sample: 2 Samples
- 1.5 Test Duration: 2019-03-25 to 2019-04-09
- 1.6 Test Uncertainty  
 Conducted Emissions Uncertainty =3.6dB  
 Radiated Emissions below 1GHz Uncertainty =4.7dB  
 Radiated Emissions above 1GHz Uncertainty =6.0dB  
 Conducted Power Uncertainty =6.0dB  
 Occupied Channel Bandwidth Uncertainty =5%
- 1.7 Test Engineer *Terry Tang*  
 The sample tested by \_\_\_\_\_  
 Print Name: Terry Tang

2.0 Test Equipment					
Instrument Type	Manufacturer	Model	Serial No.	Date of Cal.	Due Date
ESPI Test Receiver	R&S	ESPI 3	100379	2018-06-22	2019-06-21
TWO Line-V-NETW	R&S	EZH3-Z5	100294	2018-06-22	2019-06-21
TWO Line-V-NETW	R&S	EZH3-Z5	100253	2018-06-22	2019-06-21
Ultra Broadband ANT	R&S	HL562	100157	2018-06-18	2019-06-17
Impuls-Begrenzer	R&S	ESH3-Z2	100281	2018-06-22	2019-06-21
Loop Antenna	EMCO	6507	00078608	2018-06-25	2019-06-24
Spectrum	R&S	FSIQ26	100292	2018-06-22	2019-06-21
Horn Antenna	A-INFO	LB-180400-KF	J211060660	2018-06-25	2019-06-24
Horn Antenna	R&S	BBHA 9120D	9120D-631	2018-08-24	2019-08-23
Power meter	Anritsu	ML2487A	6K00003613	2018-08-22	2019-08-21
Power sensor	Anritsu	MA2491A	32263	2018-08-22	2019-08-21
Bilog Antenna	Schwarebeck	VULB9163	9163/340	2018-07-04	2019-07-03
9*6*6 Anechoic	--	--	N/A	2018-02-07	2021-02-06

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EMI Test Receiver	RS	ESVB	826156/011	2018-06-22	2019-06-21
EMI Test Receiver	RS	ESH3	860904/006	2018-06-22	2019-06-21
Spectrum	HP/Agilent	ESA-L1500A	US37451154	2018-06-22	2019-06-21
Spectrum	HP/Agilent	E4407B	MY50441392	2018-03-27	2019-03-26
Spectrum	RS	FSP	1164.4391.38	2019-01-20	2020-01-19
RF Cable	Zhengdi	ZT26-NJ-NJ-8M/FA	--	2018-05-24	2019-05-23
RF Cable	Zhengdi	7m	--	2018-03-17	2019-03-16
RF Switch	EM	EMSW18	060391	2018-06-22	2019-06-21
Pre-Amplifier	Schwarebeck	BBV9743	#218	2018-06-22	2019-06-21
Pre-Amplifier	HP/Agilent	8449B	3008A00160	2018-08-05	2019-08-04
LISN	SCHAFFNER	NNB42	00012	2019-01-08	2020-01-07

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**3.0 Technical Details**

**3.1 Summary of test results**

<b>The EUT has been tested according to the following specifications:</b>			
<b>Standard</b>	<b>Test Type</b>	<b>Result</b>	<b>Notes</b>
<b>FCC Part 15, Paragraph 15.207 &amp; 15.407</b>	<b>Conducted Emission Test</b>	<b>PASS</b>	<b>Complies</b>
<b>FCC Part 15 Subpart E Paragraph 15.407 (b:1/4/5/6/7), Part 15.205 and Part 15.209</b>	<b>Undesirable Emission and Restrict band</b>	<b>PASS</b>	<b>Complies</b>
<b>FCC Part 15, Paragraph 15.407 (a)(1)(iv) (a)(3)</b>	<b>Output Power</b>	<b>PASS</b>	<b>Complies</b>
<b>FCC Part 15, Paragraph 15.407(e)</b>	<b>Bandwidth</b>	<b>PASS</b>	<b>Complies</b>
<b>FCC Part 15, Paragraph 15.407 (a)(1)(iv) (a)(3)</b>	<b>Peak Power Spectral Density</b>	<b>PASS</b>	<b>Complies</b>
<b>FCC Part 15, Paragraph 15.407(g)</b>	<b>Frequency Stability</b>	<b>PASS</b>	<b>Complies</b>

**3.2 Test Standards**

**FCC Part 15 Subpart & Subpart C, Paragraph 15.247, ANSI C63.10 :2013, ANSI C63.4 :2014 789033 D02 General UNII Test Procedures New Rules v01r04 and RSS-247 Issue 2**

**4.0 EUT Modification**

**No modification by SHENZHEN TIMEWAY TESTING LABORATORIES.**

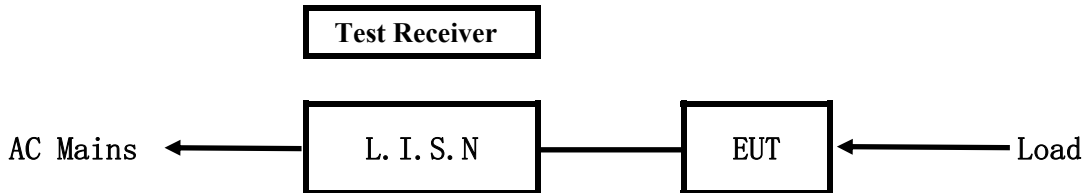
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**5. Power Line Conducted Emission Test**

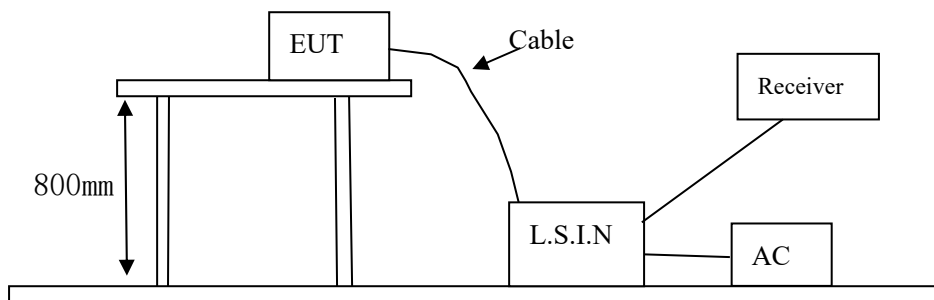
5.1 Schematics of the test



EUT: Equipment Under Test

5.2 Test Method and test Procedure

The EUT was tested according to ANSI C63.10-2013. The Frequency spectrum From 0.15MHz to 30MHz was investigated. The LISN used was 50ohm/50uH as specified by section 5.1 of ANSI C63.10-2013.  
 Test Voltage: 120V~, 60Hz  
 Block diagram of Test setup



5.3 Configuration of The EUT

The EUT was configured according to ANSI C63.10-2013. All interface ports were connected to the appropriate peripherals. All peripherals and cables are listed below.

A. EUT			
Device	Manufacturer	Model	FCC ID
Developer Board	Shenzhen Geniatech Inc., Ltd.	DB8, ,DB8WL, DB9,DB7,DB5,DB4,XPI, XPI-S905X,GTW390R,GTW350, GTW410,GTW389,GTW360	ZJU-D19EC5

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B. Internal Device

Device	Manufacturer	Model	Rating

C. Peripherals

Device	Manufacturer	Model	Rating

5.4 EUT Operating Condition

Operating condition is according to ANSI C63.10 -2013.

A Setup the EUT and simulators as shown on follow

B Enable AF signal and confirm EUT active to normal condition

5.5 Power line conducted Emission Limit according to Paragraph 15.207 and 15.107

Frequency (MHz)	Class A Limits (dB $\mu$ V)		Class B Limits (dB $\mu$ V)	
	Quasi-peak Level	Average Level	Quasi-peak Level	Average Level
0.15 ~ 0.50	79.0	66.0	66.0~56.0	56.0~46.0*
0.50 ~ 5.00	73.0	60.0	56.0	46.0
5.00 ~ 30.00	73.0	60.0	60.0	50.0

- Notes:
- \*Decreasing linearly with logarithm of frequency.
  - The tighter limit shall apply at the transition frequencies

5.6 Test Results

The frequency spectrum from 0.15MHz to 30MHz was investigated. All reading are quasi-peak values with a resolution bandwidth of 9kHz.

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**A: Conducted Emission on Live Terminal (150kHz to 30MHz)**

**EUT Operating Environment**

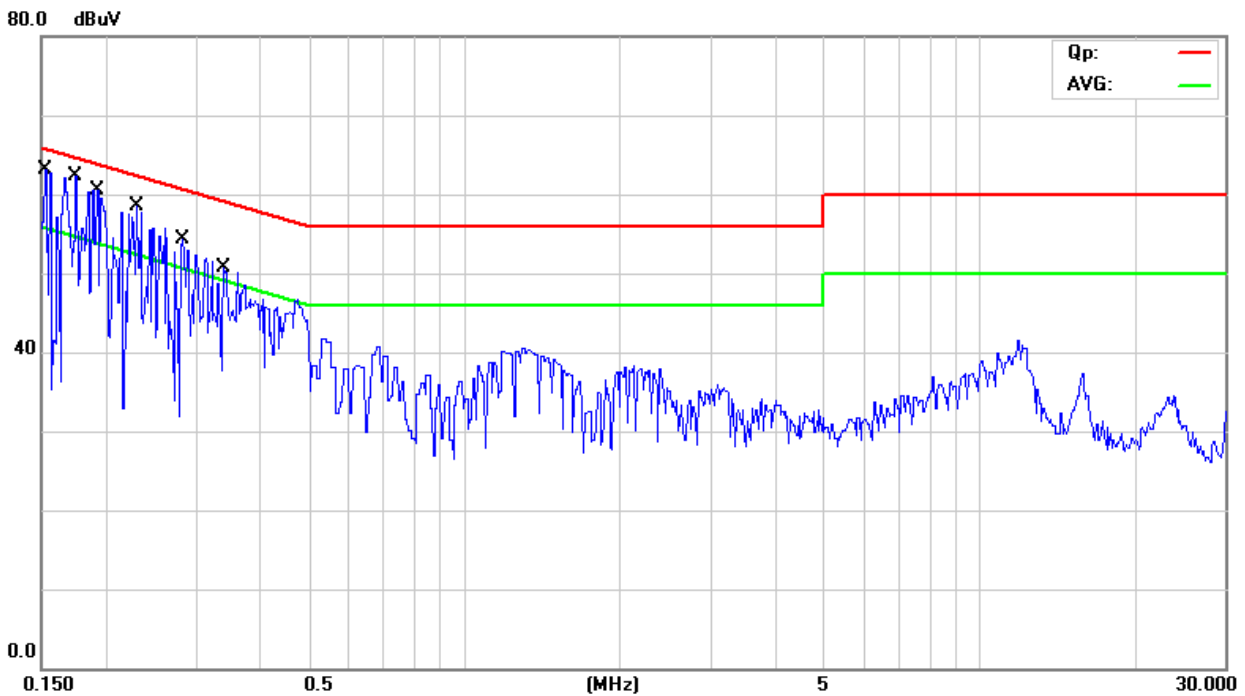
Temperature: 26°C Humidity: 65%RH Atmospheric Pressure: 101 KPa

**EUT set Condition: Keeping WIFI Transmitting**

**Equipment Level: Class B**

**Results: PASS**

Please refer to following diagram for individual



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.1526	50.26	9.78	60.04	65.86	-5.82	QP	
2		0.1526	23.46	9.78	33.24	55.86	-22.62	AVG	
3		0.1753	50.46	9.77	60.23	64.71	-4.48	QP	
4		0.1753	21.34	9.77	31.11	54.71	-23.60	AVG	
5		0.1928	50.68	9.76	60.44	63.92	-3.48	QP	
6		0.1928	29.65	9.76	39.41	53.92	-14.51	AVG	
7		0.2296	48.84	9.75	58.59	62.46	-3.87	QP	
8		0.2296	18.94	9.75	28.69	52.46	-23.77	AVG	

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**B: Conducted Emission on Neutral Terminal (150kHz to 30MHz)**

**EUT Operating Environment**

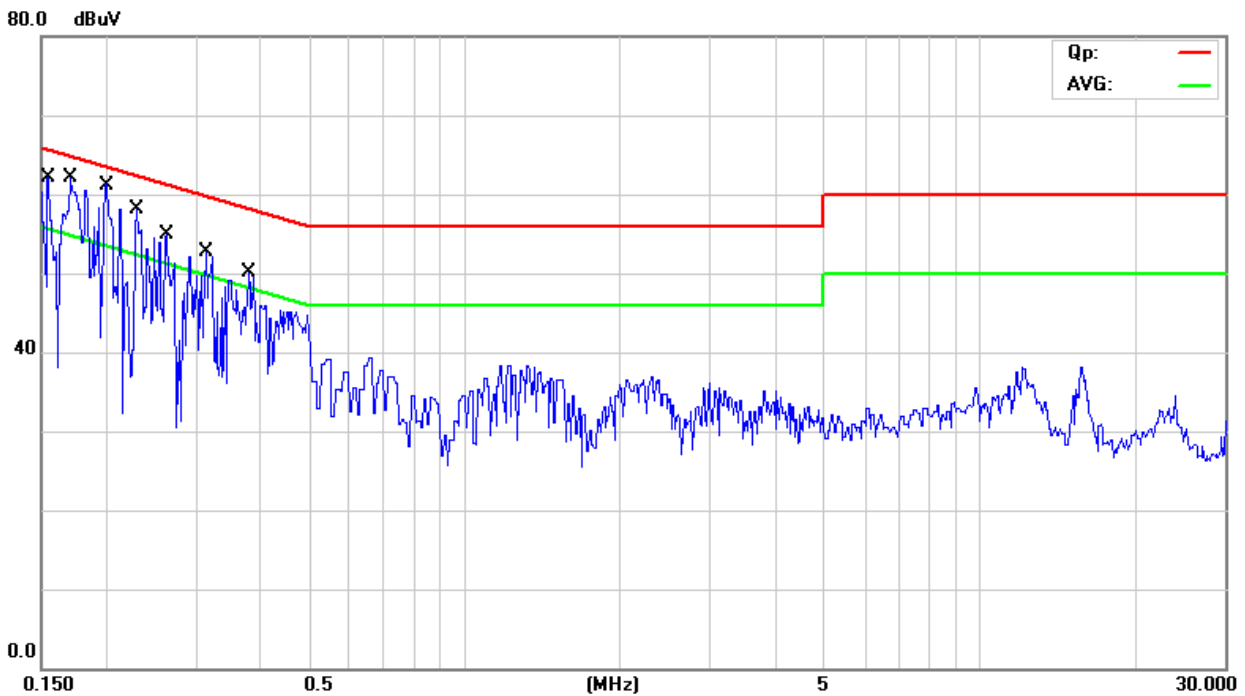
Temperature: 26°C Humidity: 65%RH Atmospheric Pressure: 101 KPa

**EUT set Condition: Keeping WIFI Transmitting**

**Equipment Level: Class B**

**Results: Pass**

Please refer to following diagram for individual



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1	*	0.1544	39.38	9.78	49.16	65.76	-16.60	QP	
2		0.1544	15.72	9.78	25.50	55.76	-30.26	AVG	
3		0.1710	37.36	9.77	47.13	64.91	-17.78	QP	
4		0.1710	14.34	9.77	24.11	54.91	-30.80	AVG	
5		0.2000	35.45	9.75	45.20	63.61	-18.41	QP	
6		0.2000	12.33	9.75	22.08	53.61	-31.53	AVG	
7		0.2296	30.44	9.75	40.19	62.46	-22.27	QP	
8		0.2296	8.21	9.75	17.96	52.46	-34.50	AVG	
9		0.2630	28.19	9.75	37.94	61.34	-23.40	QP	
10		0.2630	6.79	9.75	16.54	51.34	-34.80	AVG	
11		0.3127	24.98	9.76	34.74	59.90	-25.16	QP	
12		0.3127	3.27	9.76	13.03	49.90	-36.87	AVG	
13		0.3784	22.27	9.76	32.03	58.31	-26.28	QP	

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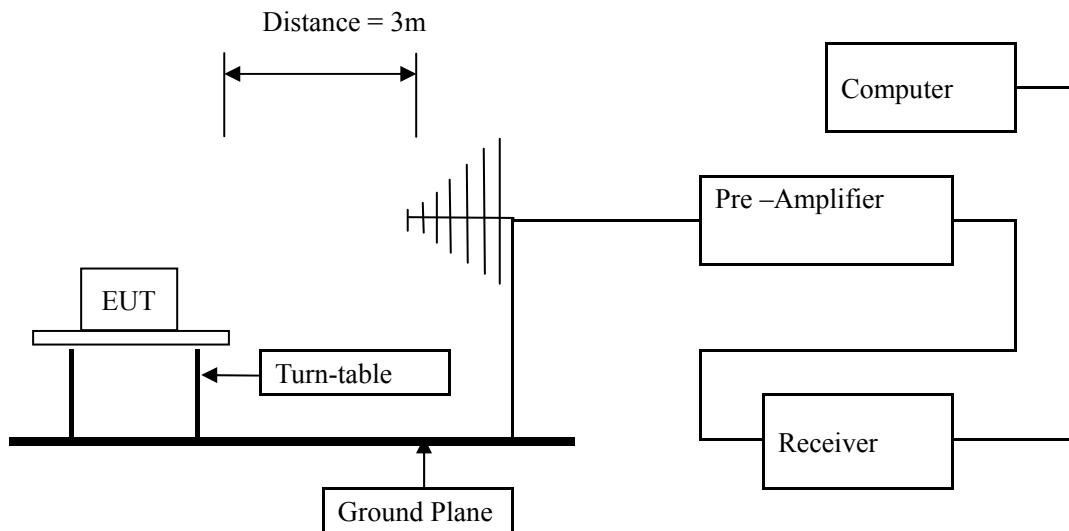


## 6 Undesirable Emission and Restrict band

### 6.1 Test Method and test Procedure:

- (1) The EUT was tested according to ANSI C63.10-2013. The radiated test was performed at Timeway EMC Laboratory. This site is on file with the FCC laboratory division, Registration No.744189
- (2) The EUT, peripherals were put on the turntable which table size is 1m x 1.5 m, table high 0.8 m. All set up is according to ANSI C63.10-2013.
- (3) The frequency spectrum from 30 MHz to 40 GHz was investigated. All readings from 30 MHz to 1 GHz are Quasi-peak values with a resolution bandwidth of 120 kHz. For measurement above 1GHz, peak values with RBW=1MHz, VBW=3MHz and PK detector. Measurements were made at 3 meters.
- (4) The antenna high is varied from 1 m to 4 m high to find the maximum emission for each frequency.
- (5) Maximizing procedure was performed on the six (6) highest emissions to ensure EUT compliance is with all installation combinations. All data was recorded in the peak detection mode. Quasi-peak readings was performed only when an emission was found to be marginal (within -4 dB of specification limit), and are distinguished with a “QP” in the data table.
- (6) The antenna polarization : Vertical polarization and Horizontal polarization.

### Block diagram of Test setup



- 6.2 Configuration of The EUT  
Same as section 5.3 of this report

- 6.3 EUT Operating Condition  
Same as section 5.4 of this report.

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6.4 Radiated Emission Limit

All emission from a digital device, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strength specified below:

**Frequencies in restricted band are complied to limit on Paragraph 15.209 and 15.109**

Frequency Range (MHz)	Distance (m)	Field strength (dB $\mu$ V/m)
30-88	3	40.0
88-216	3	43.5
216-960	3	46.0
Above 960	3	54.0

- (1) For transmitters operating in the 5.15-5.25 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27dBm/MHz
- (2) For transmitters operating in the 5.725-5.825 GHz band: all emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an EIRP of -17dBm/MHz; for frequencies 10 MHz or greater above or below the band edge, emissions shall not exceed an EIRP of -27dBm/MHz.

- Note:
1. RF Voltage (dBuV) = 20 log RF Voltage (uV)
  2. In the Above Table, the higher limit applies at the band edges.
  3. Distance refers to the distance in meters between the measuring instrument antenna and the EUT

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**Test result**

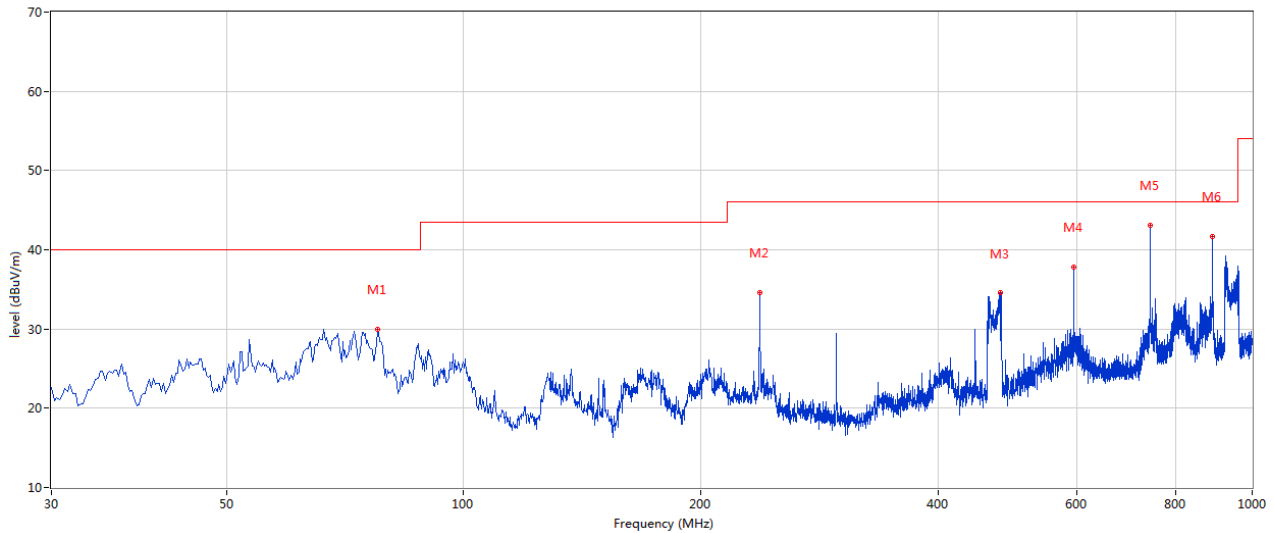
**General Radiated Emission Data and Harmonics Radiated Emission Data**

**Radiated Emission In Horizontal (30MHz----1000MHz)**

**EUT set Condition: Keeping WIFI Transmitting**

**Results: Pass**

FCC\_FCC Part 15B Class B 30MHz-1GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	77.761	29.96	-17.54	40.0	-10.04	Peak	7.00	100	V	Pass
2	237.528	34.62	-12.41	46.0	-11.38	Peak	41.00	100	V	Pass
3	479.483	34.54	-7.43	46.0	-11.46	Peak	156.00	100	V	Pass
4	593.914	37.84	-5.25	46.0	-8.16	Peak	114.00	100	V	Pass
5	742.529	42.11	-3.47	46.0	-3.89	Peak	200.00	100	V	Pass
6	890.902	42.72	-1.91	46.0	-3.28	Peak	1.00	100	V	Pass

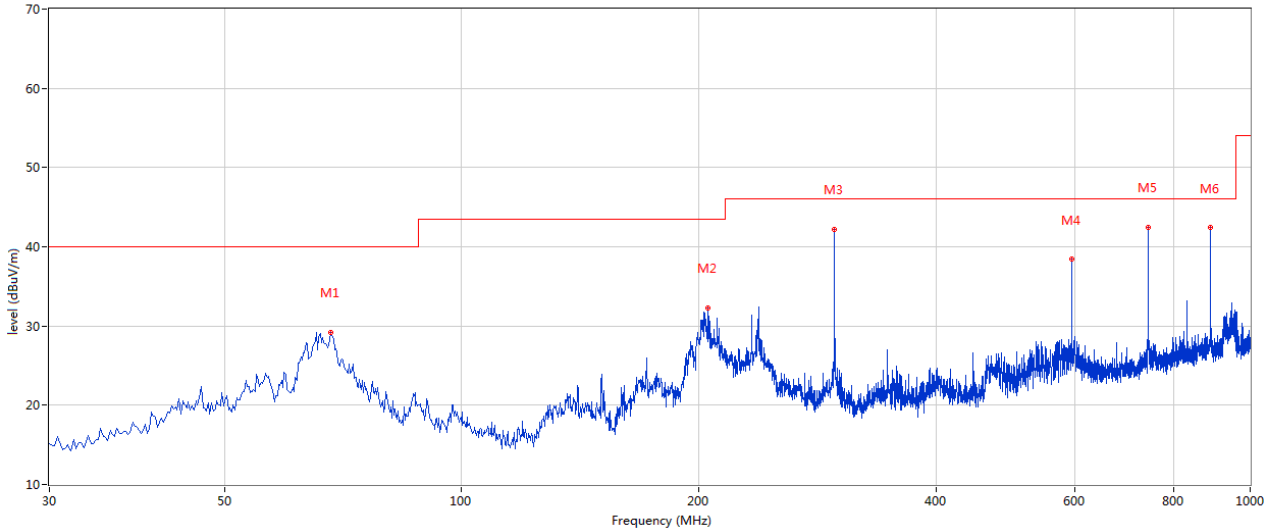
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FCC\_FCC Part 15B Class B 30MHz-1GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	68.305	29.16	-14.82	40.0	-10.84	Peak	66.00	100	H	Pass
2	205.284	32.33	-13.61	43.5	-11.17	Peak	0.00	100	H	Pass
3	296.926	42.17	-11.07	46.0	-3.83	Peak	127.00	100	H	Pass
4	593.914	38.40	-5.25	46.0	-7.60	Peak	140.00	100	H	Pass
5	742.529	42.50	-3.47	46.0	-3.50	Peak	0.00	100	H	Pass
6	890.902	42.41	-1.91	46.0	-3.59	Peak	0.00	100	H	Pass

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**Operation Mode: Keeping Transmitting under CH36 for 802.11a**

Frequency (MHz)	Level@3m (dB $\mu$ V/m)	Antenna Polarity	Limit@3m (dB $\mu$ V/m)
5180.00	--	H	Fundamental Frequency
5180.00	--	V	
10360	--	H	74(Peak)/ 54(AV)
15540	--	V	74(Peak)/ 54(AV)
20720	--	H/V	74(Peak)/ 54(AV)
25900	--	H/V	74(Peak)/ 54(AV)
31080	--	H/V	74(Peak)/ 54(AV)
36260	--	H/V	74(Peak)/ 54(AV)

- Note: 1. Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit  
 2. Remark "---" means that the emissions level is too low to be measured  
 3. For 802.11a 6Mbps is worse case mode

**Operation Mode: Keeping Transmitting under CH40 for 802.11a**

Frequency (MHz)	Level@3m (dB $\mu$ V/m)	Antenna Polarity	Limit@3m (dB $\mu$ V/m)
5200.00	-	H	Fundamental Frequency
5200.00	--	V	
10400	--	H	74(Peak)/ 54(AV)
15600	--	V	74(Peak)/ 54(AV)
20800	--	H/V	74(Peak)/ 54(AV)
26000	--	H/V	74(Peak)/ 54(AV)
31200	--	H/V	74(Peak)/ 54(AV)
36400	--	H/V	74(Peak)/ 54(AV)

- Note: 1. Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit  
 2. Remark "---" means that the emissions level is too low to be measured  
 3. For 802.11a 6Mbps is worse case mode

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**Operation Mode: Keeping Transmitting under CH48 for 802.11a**

Frequency (MHz)	Level@3m (dB $\mu$ V/m)	Antenna Polarity	Limit@3m (dB $\mu$ V/m)
5240.00	--	H	Fundamental Frequency
5240.00	--	V	
10480	--	H	74(Peak)/ 54(AV)
15720	--	V	74(Peak)/ 54(AV)
20960	--	H/V	74(Peak)/ 54(AV)
26200	--	H/V	74(Peak)/ 54(AV)
31440	--	H/V	74(Peak)/ 54(AV)
36680	--	H/V	74(Peak)/ 54(AV)

- Note: 1. Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit  
 2. Remark “---” means that the emissions level is too low to be measured  
 3. For 802.11a 6Mbps is worse case mode

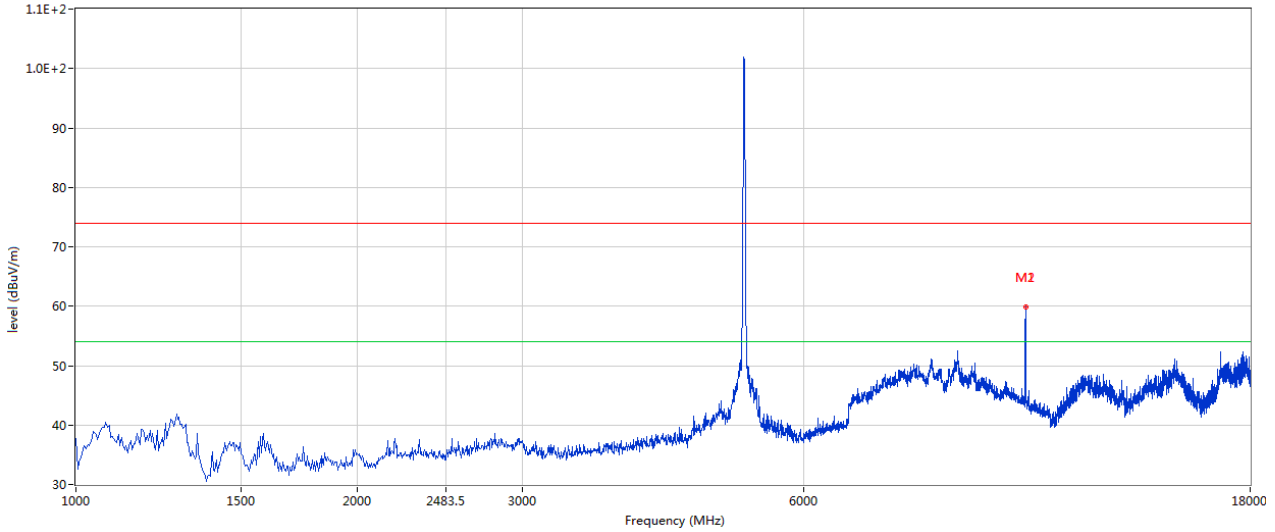
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Please refer to the following test plots for details:

**CH36 for 11a at 6Mbps: Horizontal**

FCC Part 15B Class B 1GHz-18GHz - 2



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	10356.161	59.91	6.25	74.0	-14.09	Peak	268.00	100	H	Pass
2	10356.161	40.66	6.25	54.0	-13.34	AV	268.00	100	H	Pass

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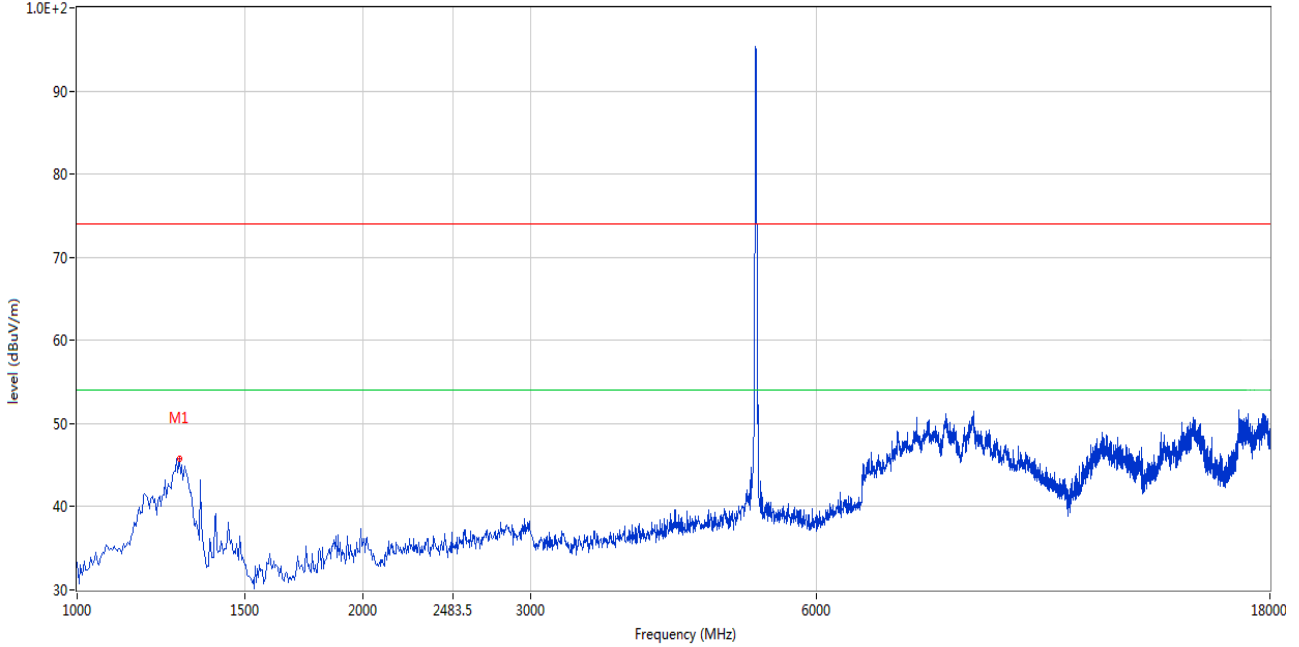
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**CH36 for 11a at 6Mbps: Vertical**

FCC Part 15B Class B 1GHz-18GHz - 2



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	1280.430	45.76	-8.37	74.0	-28.24	Peak	320.00	100	V	Pass

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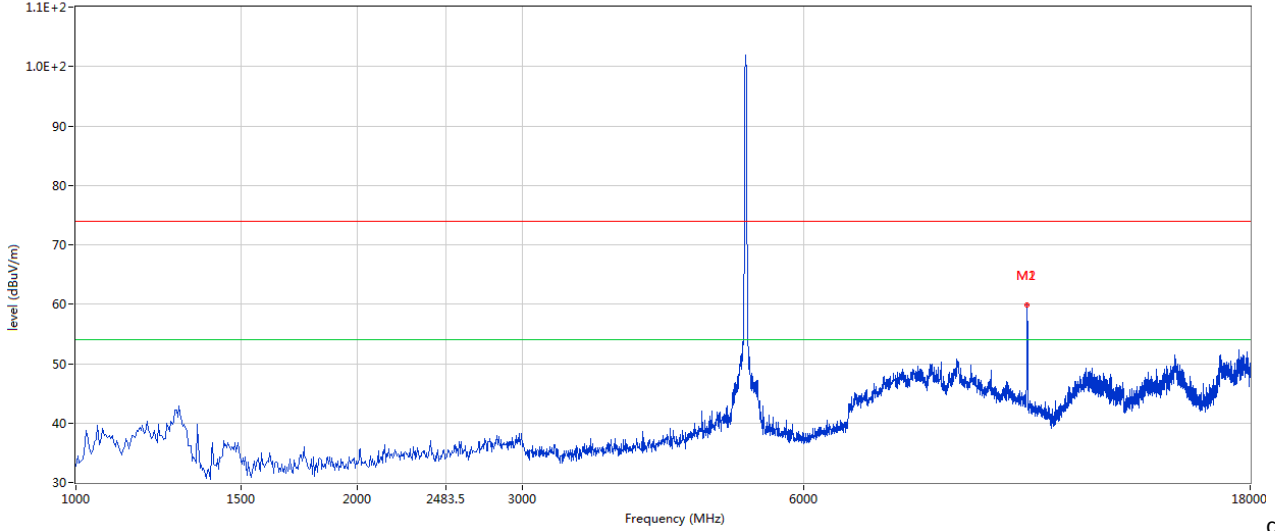
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**CH40 for 11a at 6Mbps: Horizontal**

FCC Part 15B Class B 1GHz-18GHz - 2



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	10402.899	59.91	6.16	74.0	-14.09	Peak	269.00	100	H	Pass
2	10402.899	40.73	6.16	54.0	-13.27	AV	269.00	100	H	Pass

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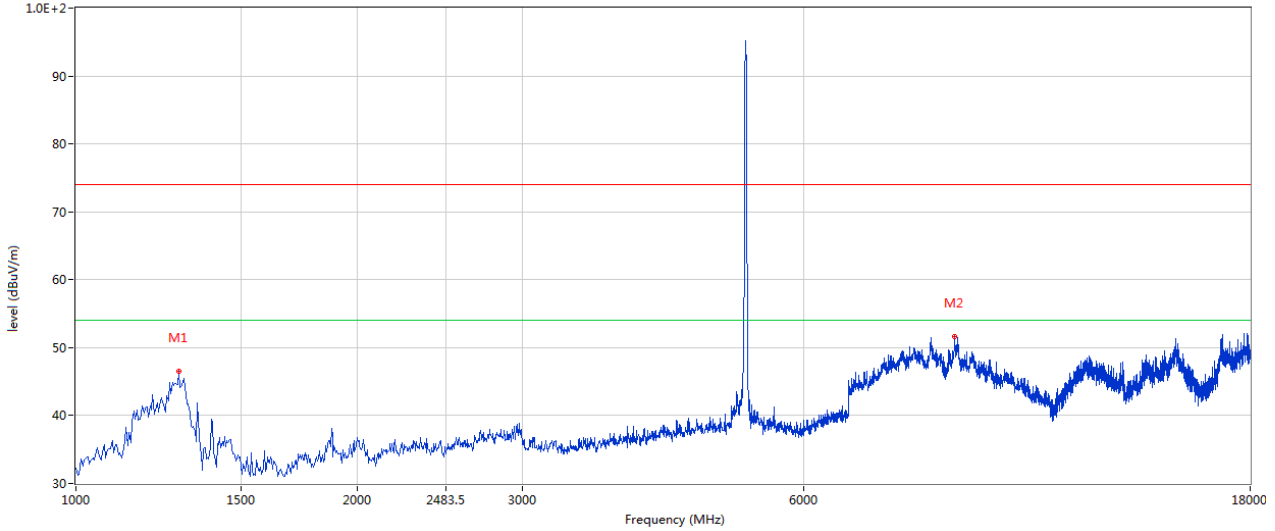
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**CH40 for 11a at 6Mbps: Vertical**

FCC Part 15B Class B 1GHz-18GHz - 2



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	1288.928	46.48	-8.31	74.0	-27.52	Peak	338.00	100	V	Pass
2	8690.577	51.58	8.00	74.0	-22.42	Peak	201.00	100	V	Pass

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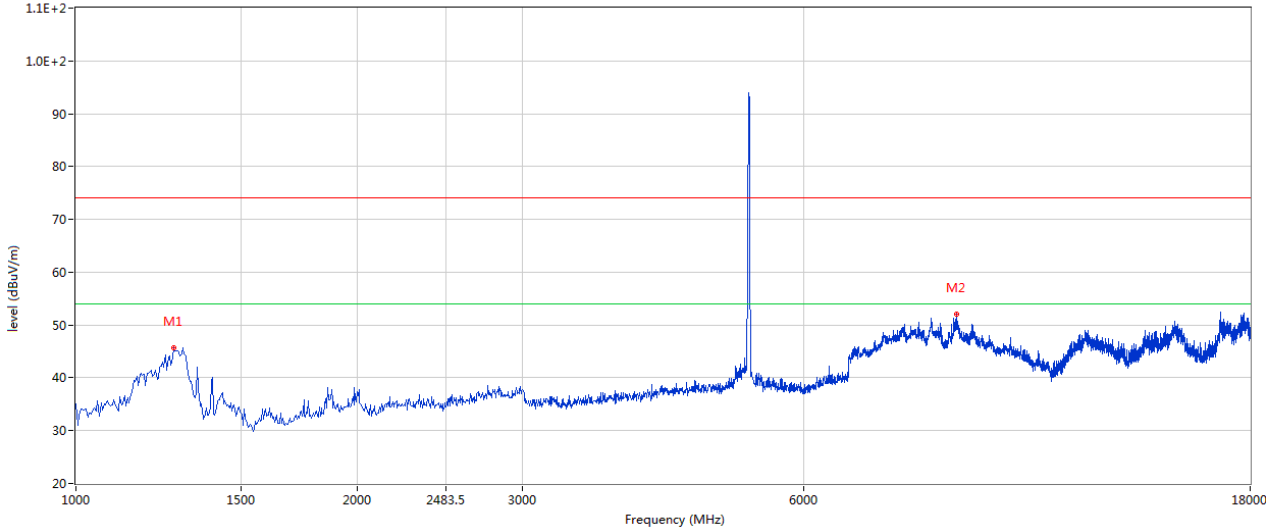
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**CH48 for 11a at 6Mbps: Vertical**

FCC Part 15B Class B 1GHz-18GHz - 2



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	1271.932	45.64	-8.43	74.0	-28.36	Peak	319.00	100	V	Pass
2	8745.814	52.04	7.97	74.0	-21.96	Peak	118.00	100	V	Pass

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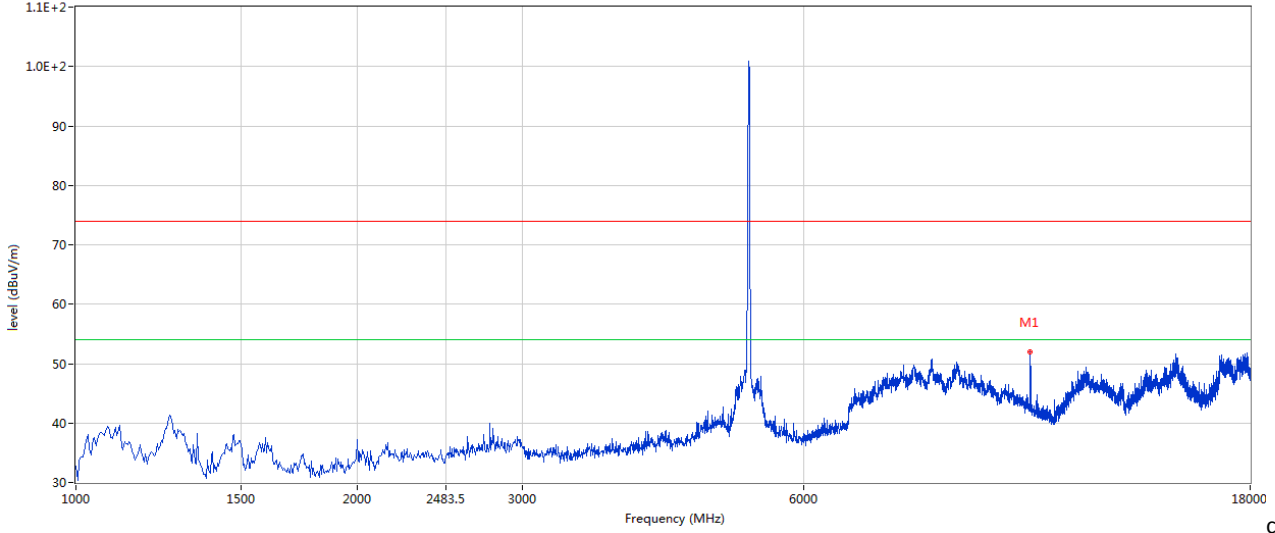
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**CH48 for 11g at 6Mbps: Horizontal**

FCC Part 15B Class B 1GHz-18GHz - 2



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	10475.131	52.02	6.01	74.0	-21.98	Peak	41.00	100	H	Pass

Note: 1.For radiated Emissions from 18-40GHz, it is only the floor noise.  
 2. 802.11a is the worst case.

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**Operation Mode: Keeping Transmitting under CH149 for 802.11a**

Frequency (MHz)	Level@3m (dB $\mu$ V/m)	Antenna Polarity	Limit@3m (dB $\mu$ V/m)
5745.00	--	H	Fundamental Frequency
5745.00	--	V	
11490	--	H	74(Peak)/ 54(AV)
17235	--	V	74(Peak)/ 54(AV)
22980	--	H/V	74(Peak)/ 54(AV)
28725	--	H/V	74(Peak)/ 54(AV)
34470	--	H/V	74(Peak)/ 54(AV)

- Note: 1. Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit  
 2. Remark "---" means that the emissions level is too low to be measured  
 3. For 802.11a 6Mbps is worse case mode

**Operation Mode: Keeping Transmitting under CH153 for 802.11a**

Frequency (MHz)	Level@3m (dB $\mu$ V/m)	Antenna Polarity	Limit@3m (dB $\mu$ V/m)
5765.00	--	H	Fundamental Frequency
5765.00	--	V	
11530	--	H	74(Peak)/ 54(AV)
17295	--	V	74(Peak)/ 54(AV)
23060	--	H/V	74(Peak)/ 54(AV)
28825	--	H/V	74(Peak)/ 54(AV)
34590	--	H/V	74(Peak)/ 54(AV)

- Note: 1. Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit  
 2. Remark "---" means that the emissions level is too low to be measured  
 3. For 802.11a 6Mbps is worse case mode

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**Operation Mode: Keeping Transmitting under CH161 for 802.11a**

Frequency (MHz)	Level@3m (dB $\mu$ V/m)	Antenna Polarity	Limit@3m (dB $\mu$ V/m)
5805.00	--	H	Fundamental Frequency
5805.00	--	V	
11610	--	H	74(Peak)/ 54(AV)
17415	--	V	74(Peak)/ 54(AV)
23220	--	H/V	74(Peak)/ 54(AV)
29025	--	H/V	74(Peak)/ 54(AV)
34830	--	H/V	74(Peak)/ 54(AV)

- Note: 1. Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit  
 2. Remark “---” means that the emissions level is too low to be measured  
 3. For 802.11a 6Mbps is worse case mode

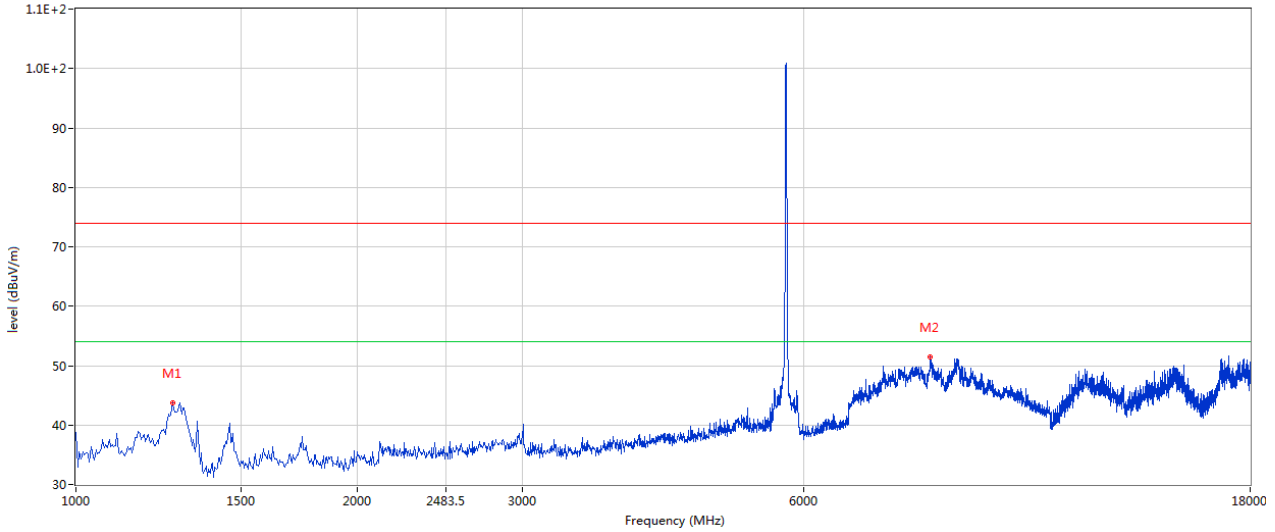
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Please refer to the following test plots for details:

**CH149 for 11a at 6Mbps: Horizontal**

FCC Part 15B Class B 1GHz-18GHz - 2



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	1267.683	43.73	-8.46	74.0	-30.27	Peak	42.00	100	H	Pass
2	8184.954	51.51	8.34	74.0	-22.49	Peak	5.00	100	H	Pass

The report refers only to the sample tested and does not apply to the bulk.

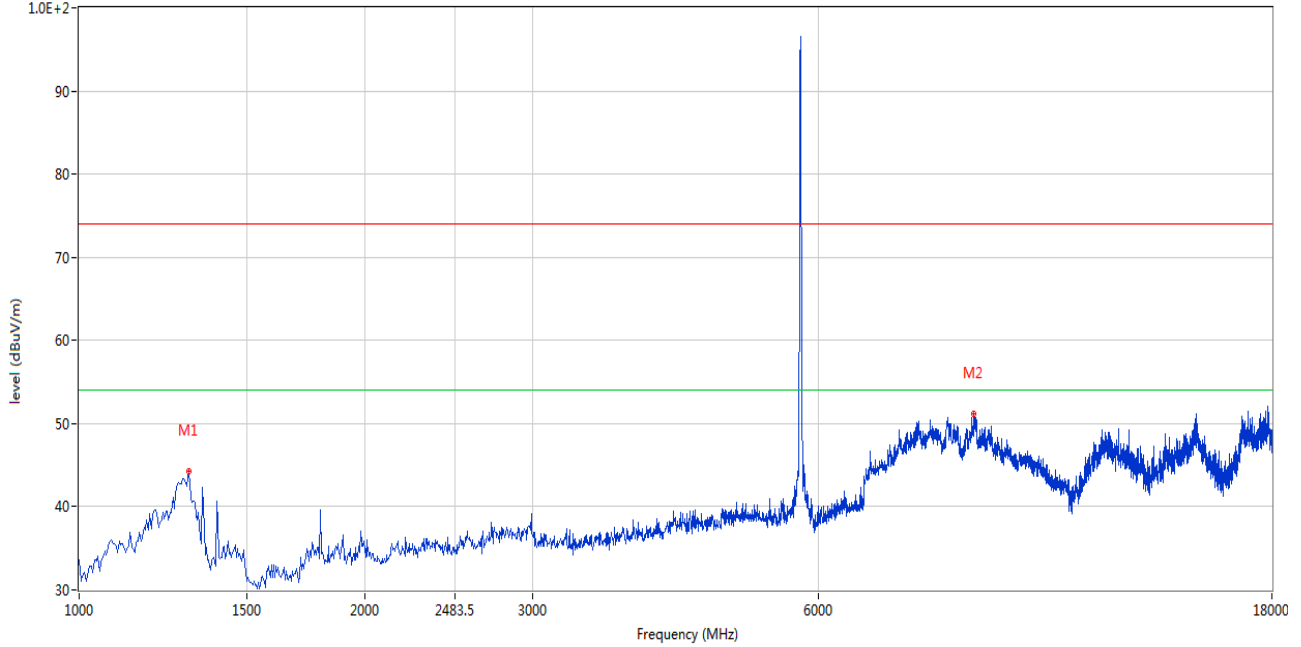
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**CH149 for 11a at 6Mbps: Vertical**

FCC Part 15B Class B 1GHz-18GHz - 2



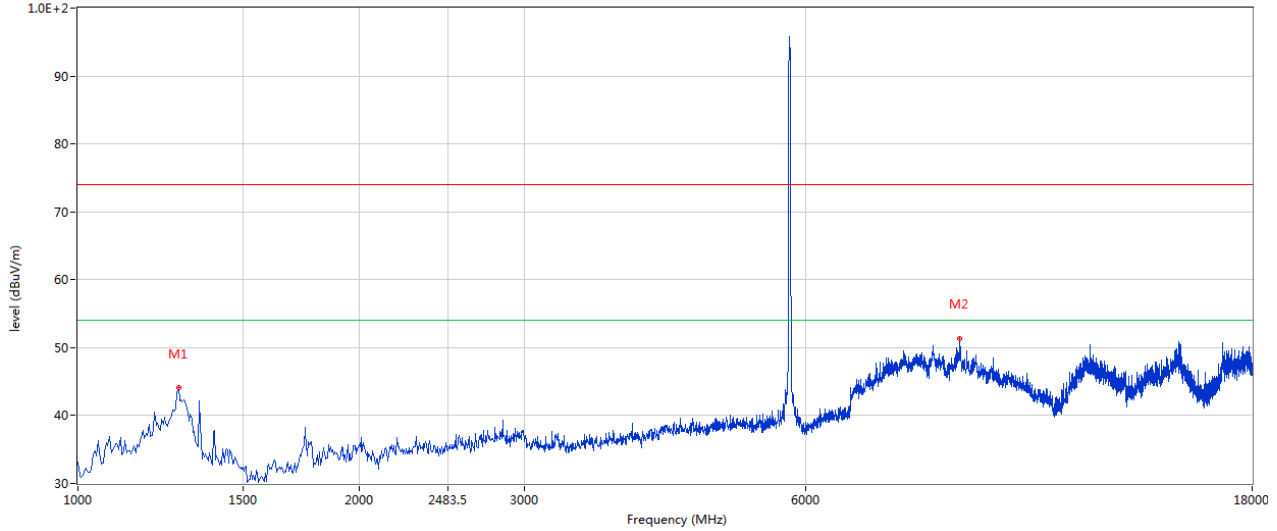
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	1305.924	44.30	-8.23	74.0	-29.70	Peak	314.00	100	V	Pass
2	8745.814	51.12	7.97	74.0	-22.88	Peak	26.00	100	V	Pass

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**CH153 for 11a at 6Mbps: Vertical**

FCC Part 15B Class B 1GHz-18GHz - 2



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	1280.430	44.09	-8.37	74.0	-29.91	Peak	319.00	100	V	Pass
2	8762.809	51.39	7.96	74.0	-22.61	Peak	328.00	100	V	Pass

The report refers only to the sample tested and does not apply to the bulk.

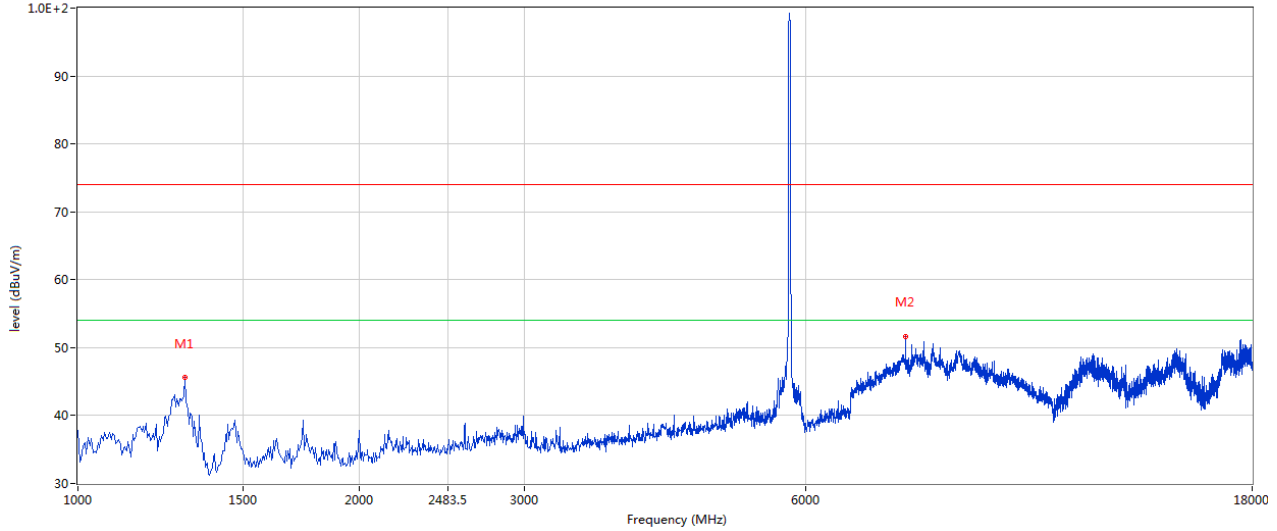
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**CH153 for 11a at 6Mbps: Horizontal**

FCC Part 15B Class B 1GHz-18GHz - 2



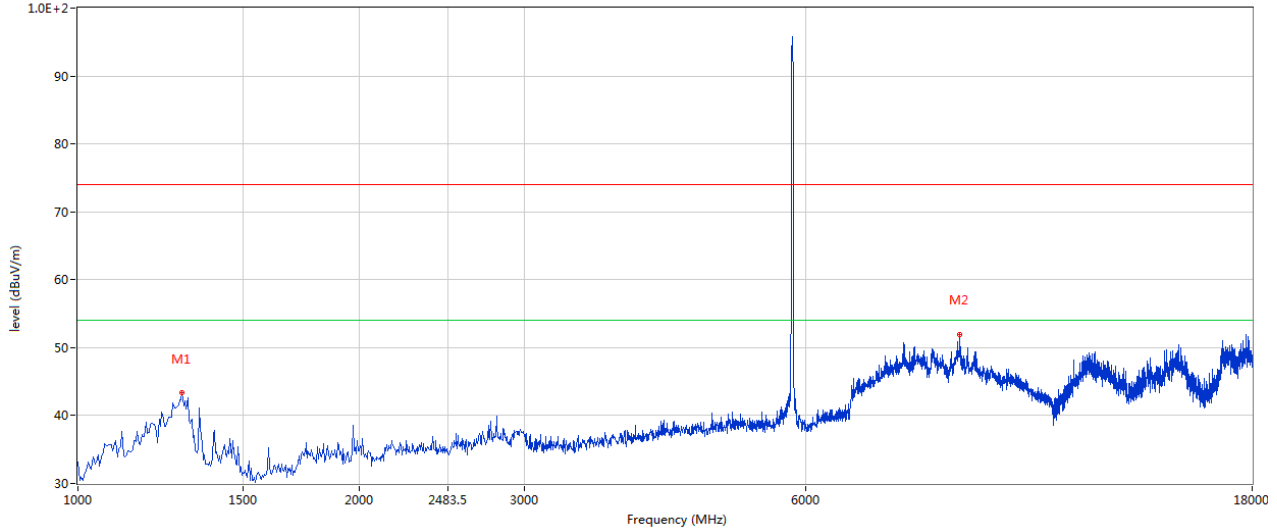
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	1250.687	39.89	-8.58	74.0	-34.11	Peak	37.00	100	H	Pass
2	7666.583	51.69	8.29	74.0	-22.31	Peak	288.00	100	H	Pass

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**CH161 for 11a at 6Mbps: Vertical**

FCC Part 15B Class B 1GHz-18GHz - 2



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	1293.177	43.33	-8.28	74.0	-30.67	Peak	325.00	100	V	Pass
2	8762.809	51.98	7.96	74.0	-22.02	Peak	32.00	100	V	Pass

The report refers only to the sample tested and does not apply to the bulk.

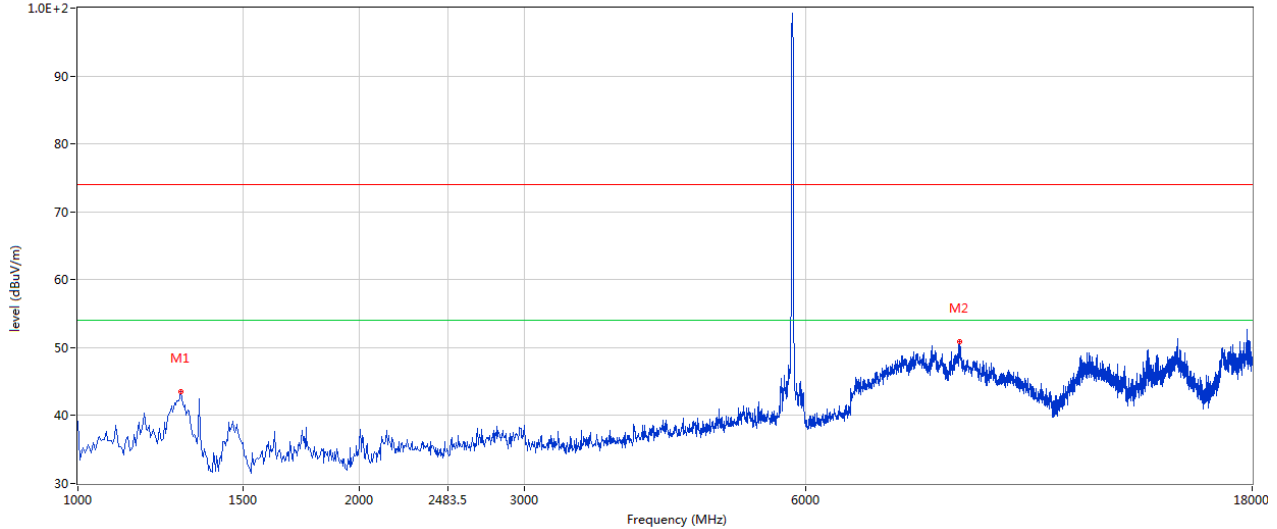
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**CH161 for 11a at 6Mbps: Horizontal**

FCC Part 15B Class B 1GHz-18GHz - 2



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	1288.928	43.48	-8.31	74.0	-30.52	Peak	240.00	100	H	Pass
2	8750.062	50.84	7.97	74.0	-23.16	Peak	304.00	100	H	Pass

Note: 1. For radiated Emissions from 18-40GHz, it is only the floor noise.  
 3. 802.11a is the worst case.

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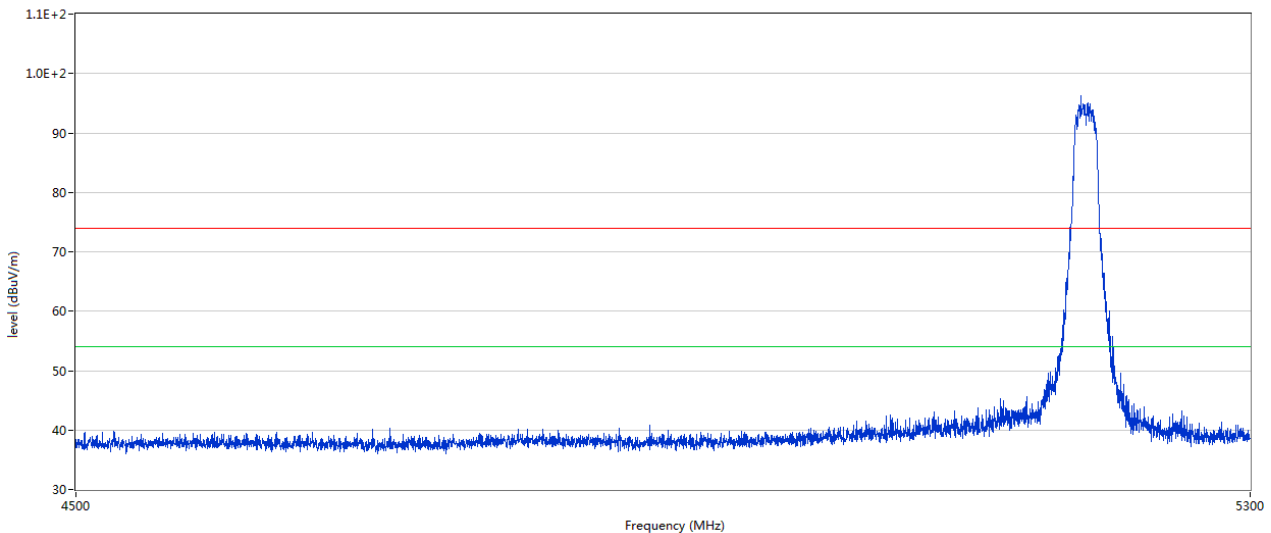
Undesirable emission test

All modes 802.11a / 11n HT20 / 802.11ac VHT20; 802.11n HT40 / 802.11acVHT40; 802.11ac VHT80 have been tested ,only worse case is reported

Restricted band Measurement			
EUT	Developer Board		Test Mode: Channel 36 (5180MHz)-11a
Mode	Keeping Transmitting		Input Voltage 120V~
Temperature	24 deg. C,		Humidity 56% RH
Test Result:	Pass		Detector PK
5150	PK (dBμV/m)	46.12 (PK)	Limit -27dBm/MHz
	EIRP (dBm)	-49.08	
Polarity	Vertical		--

Test Figure

FCC Part 15B Class B 1GHz-18GHz - 2



No.	Frequen cy (MHz)	Results (dBuV/m )	Factor (dB)	Limit (dBuV/m )	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	5150	46.12	3.73	74.0	-27.88	Peak	325.00	100	V	Pass

Remark: 1. According to KDB 789033 v01r03 section H) d) (iii), for measurement above 1000MHz@3m distance, the limit of EIRP is calculated as follows:

$$EIRP[dBm] = E[dB\mu V/m] - 95.2$$

For Example, if  $E[dB\mu V/m]=46.12 dB\mu V/m$ ,

$$EIRP[dBm] = E[dB\mu V/m] - 95.2=46.12-95.2= -49.08dBm$$

2. RBW=1MHz, VBW=3MHz

The report refers only to the sample tested and does not apply to the bulk.

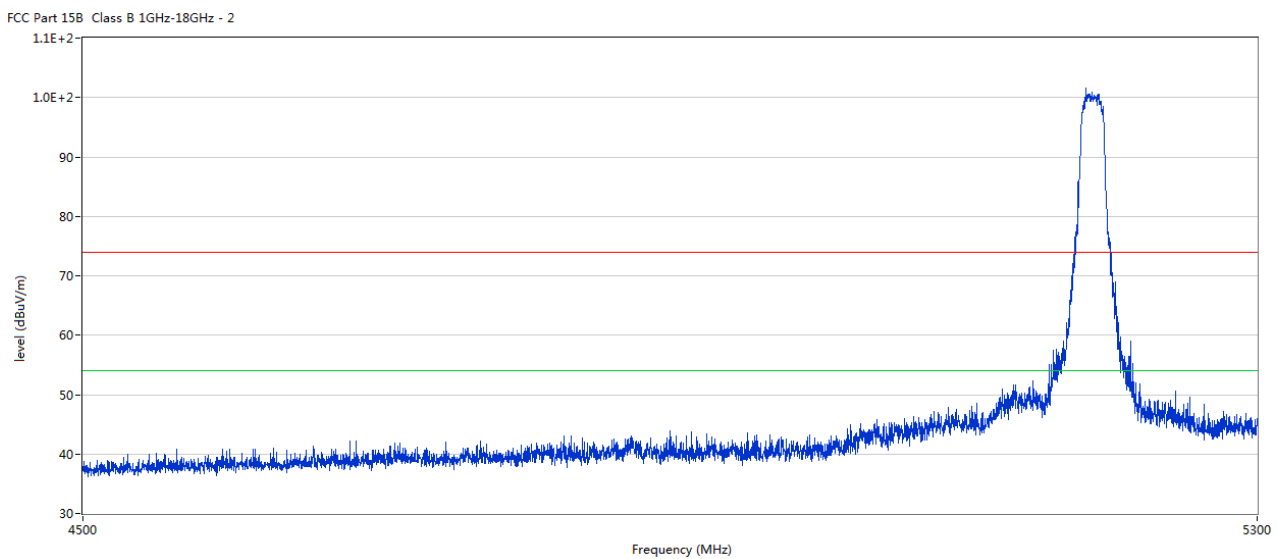
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Restricted band Measurement			
EUT	Developer Board		Test Mode: Channel 36 (5180MHz)-11a
Mode	Keeping Transmitting		Input Voltage 120V~
Temperature	24 deg. C,		Humidity 56% RH
Test Result:	Pass		Detector PK
5150	PK (dBμV/m)	51.54 (PK)	Limit -27dBm/MHz
	EIRP (dBm)	-43.66	
Polarity	Horizontal		--

Test Figure



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	5150	51.54	3.73	74.0	-22.46	Peak	40.00	100	H	Pass

Remark: 1. According to KDB 789033 D02 General UNII Test Procedures New Rules v01 section G) d) (ii), for measurement above 1000MHz@3m distance, the limit of EIRP is calculated as follows:

$$EIRP[dBm] = E[dB\mu V/m] - 95.2$$

For Example, if  $E[dB\mu V/m]=51.54 dB\mu V/m$ ,

$$EIRP[dBm] = E[dB\mu V/m] - 95.2=51.54-95.2= -43.66dBm$$

2. RBW=1MHz, VBW=3MHz

The report refers only to the sample tested and does not apply to the bulk.

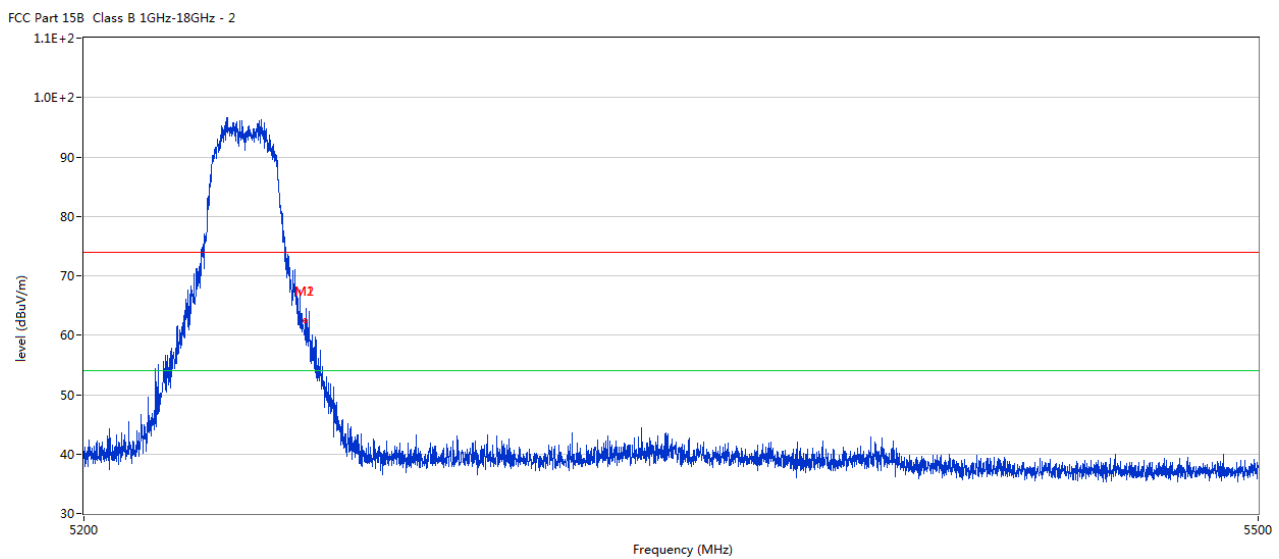
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Restricted band Measurement			
EUT	Developer Board		Test Mode: Channel 48 (5240MHz)-11a
Mode	Keeping Transmitting		Input Voltage 120V~
Temperature	24 deg. C,		Humidity 56% RH
Test Result:	Pass		Detector PK
5250	PK (dBμV/m)	61.44 (PK)	Limit -27dBm/MHz
	EIRP (dBm)	-33.76	
Polarity	Horizontal		

Test Figure



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	5250.000	61.44	3.55	74.0	-12.56	Peak	325.00	100	H	Pass
2	5250.000	42.25	3.55	54.0	-11.75	AV	325.00	100	H	Pass

Remark: 1. According to KDB 789033 D02 General UNII Test Procedures New Rules v01 section G) d) (ii), for measurement above 1000MHz@3m distance, the limit of EIRP is calculated as follows:

$$EIRP[dBm] = E[dB\mu V/m] - 95.2$$

For Example, if  $E[dB\mu V/m]=61.44 dB\mu V/m$ ,

$$EIRP[dBm] = E[dB\mu V/m] - 95.2=61.44-95.2= -33.76dBm$$

2. RBW=1MHz, VBW=3MHz

The report refers only to the sample tested and does not apply to the bulk.

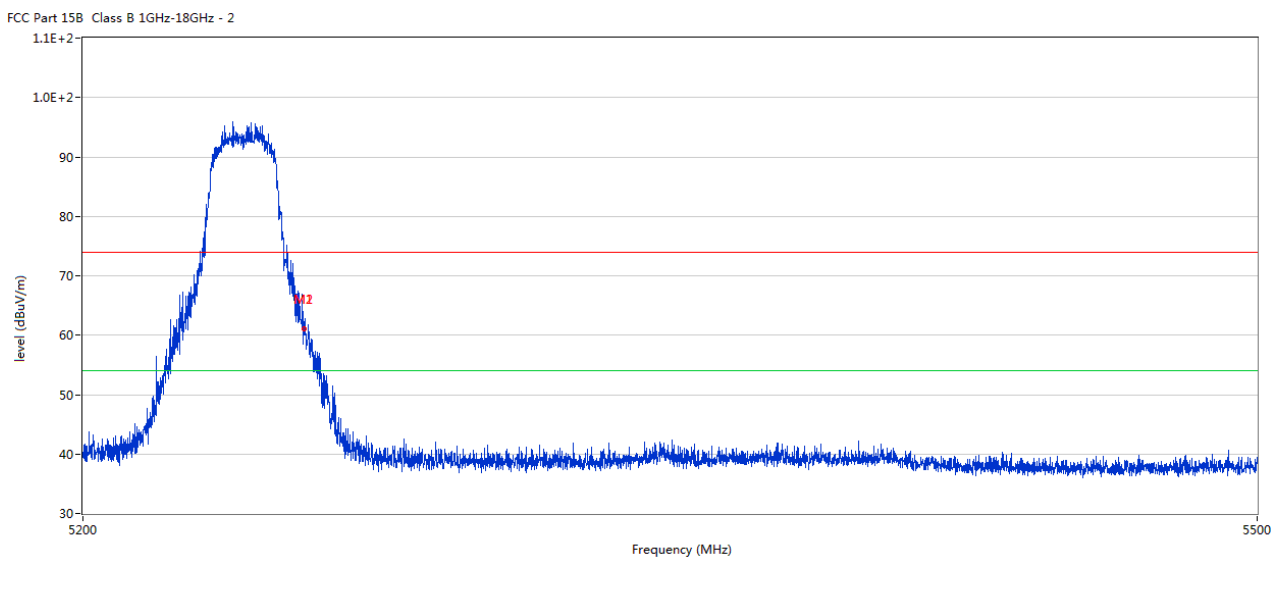
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Restricted band Measurement			
EUT	Developer Board		Test Mode: Channel 48 (5240MHz)-11a
Mode	Keeping Transmitting		Input Voltage 120V~
Temperature	24 deg. C,		Humidity 56% RH
Test Result:	Pass		Detector PK
5250	PK (dBμV/m)	61.06 (PK)	Limit -27dBm/MHz
	EIRP (dBm)	-34.14	
Polarity	Vertical		--

Test Figure



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	5250.000	61.06	3.55	74.0	-12.94	Peak	325.00	100	V	Pass
2	5250.000	41.55	3.55	54.0	-12.45	AV	325.00	100	V	Pass

Remark: 1. According to KDB 789033 D02 General UNII Test Procedures New Rules v01 section G) d) (ii), for measurement above 1000MHz@3m distance, the limit of EIRP is calculated as follows:

$$EIRP[dBm] = E[dB\mu V/m] - 95.2$$

For Example, if  $E[dB\mu V/m]=61.06$  dBμV/m,

$$EIRP[dBm] = E[dB\mu V/m] - 95.2=61.06-95.2=-34.14dBm$$

2. RBW=1MHz, VBW=3MHz

The report refers only to the sample tested and does not apply to the bulk.

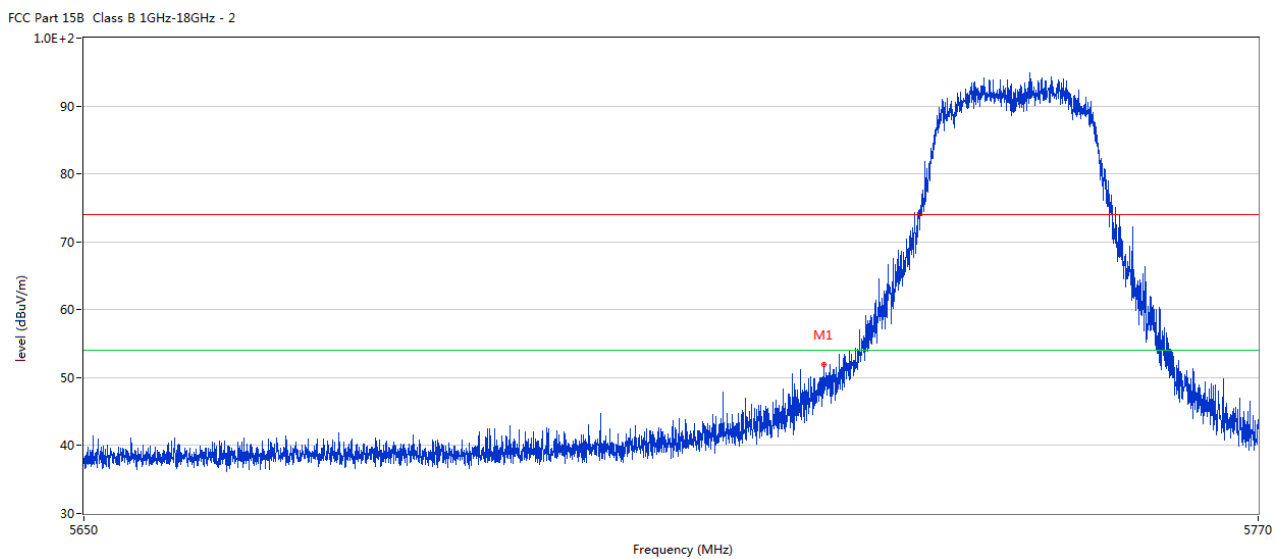
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Restricted band Measurement			
EUT	Developer Board		Test Mode: Channel 149 (5745MHz)-11a
Mode	Keeping Transmitting		Input Voltage 120V~
Temperature	24 deg. C,		Humidity 56% RH
Test Result:	Pass		Detector PK
5725	PK (dBμV/m)	51.91 (PK)	Limit -17dBm/MHz
	EIRP (dBm)	-43.29	
Polarity	Horizontal		--

Test Figure



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	5725.000	51.91	3.83	74.0	-22.09	Peak	51.00	100	H	Pass

Remark: 1. According to KDB 789033 D02 General UNII Test Procedures New Rules v01 section G) d) (ii), for measurement above 1000MHz@3m distance, the limit of EIRP is calculated as follows:

$$EIRP[dBm] = E[dB\mu V/m] - 95.2$$

For Example, if  $E[dB\mu V/m] = 51.91 \text{ dB}\mu V/m$ ,

$$EIRP[dBm] = E[dB\mu V/m] - 95.2 = 51.91 - 95.2 = -43.29 \text{ dBm}$$

2. RBW=1MHz, VBW=3MHz

The report refers only to the sample tested and does not apply to the bulk.

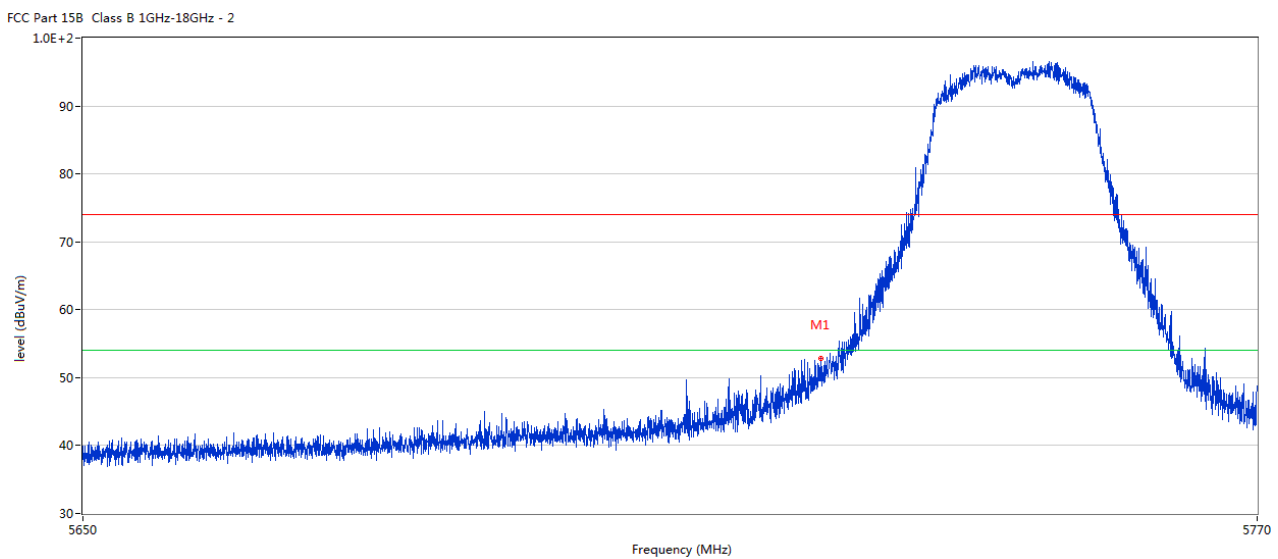
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Restricted band Measurement			
EUT	Developer Board		Test Mode: Channel 149 (5745MHz)-11a
Mode	Keeping Transmitting		Input Voltage 120V~
Temperature	24 deg. C,		Humidity 56% RH
Test Result:	Pass		Detector PK
5725	PK (dBμV/m)	52.82 (PK)	Limit -17dBm/MHz
	EIRP (dBm)	-42.38	
Polarity	Vertical		--

Test Figure



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	5725.000	52.82	3.83	74.0	-21.18	Peak	0.00	100	V	Pass

Remark: 1. According to KDB 789033 D02 General UNII Test Procedures New Rules v01 section G) d) (ii), for measurement above 1000MHz@3m distance, the limit of EIRP is calculated as follows:

$$EIRP[dBm] = E[dB\mu V/m] - 95.2$$

For Example, if  $E[dB\mu V/m] = 52.82 \text{ dB}\mu V/m$ ,

$$EIRP[dBm] = E[dB\mu V/m] - 95.2 = 52.82 - 95.2 = -42.38 \text{ dBm}$$

2. RBW=1MHz, VBW=3MHz

The report refers only to the sample tested and does not apply to the bulk.

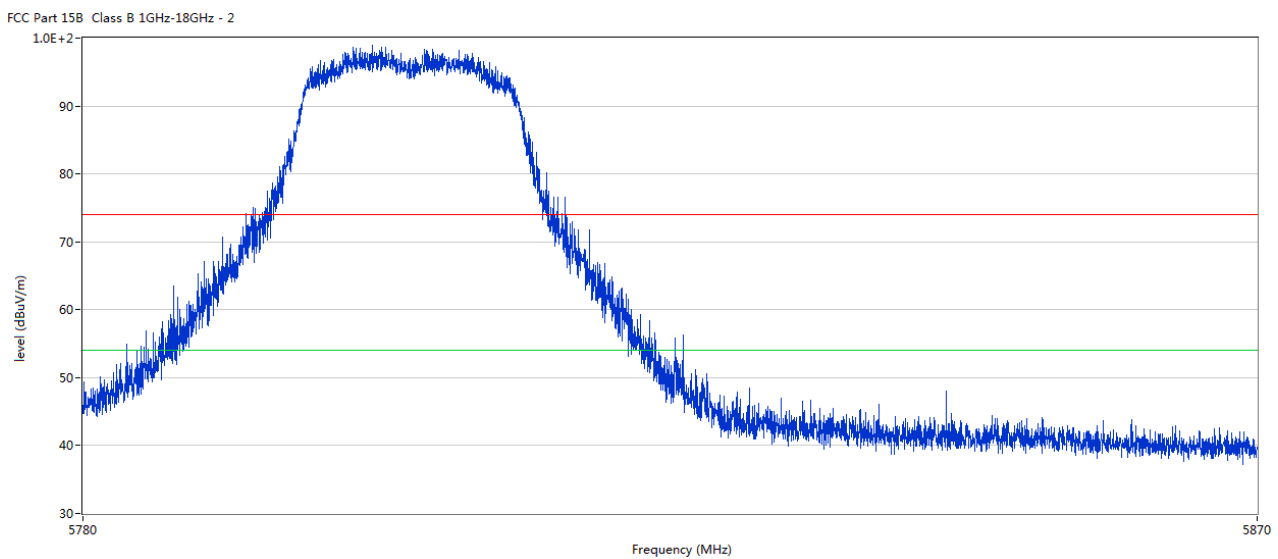
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Restricted band Measurement			
EUT	Developer Board		Test Mode: Channel 161 (5805MHz)-11a
Mode	Keeping Transmitting		Input Voltage 120V~
Temperature	24 deg. C,		Humidity 56% RH
Test Result:	Pass		Detector PK
5850	PK (dBμV/m)	43.32 (PK)	Limit -17dBm/MHz
	EIRP (dBm)	-51.88	
Polarity	Horizontal		--

Test Figure



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	5850.000	43.32	3.83	74.0	-30.68	Peak	87.00	100	H	Pass

Remark: 1. According to KDB 789033 D02 General UNII Test Procedures New Rules v01 section G) d) (ii), for measurement above 1000MHz@3m distance, the limit of EIRP is calculated as follows:

$$EIRP[dBm] = E[dB\mu V/m] - 95.2$$

For Example, if  $E[dB\mu V/m]=43.32$  dBμV/m,

$$EIRP[dBm] = E[dB\mu V/m] - 95.2=43.32-95.2= -51.88dBm$$

2. RBW=1MHz, VBW=3MHz

The report refers only to the sample tested and does not apply to the bulk.

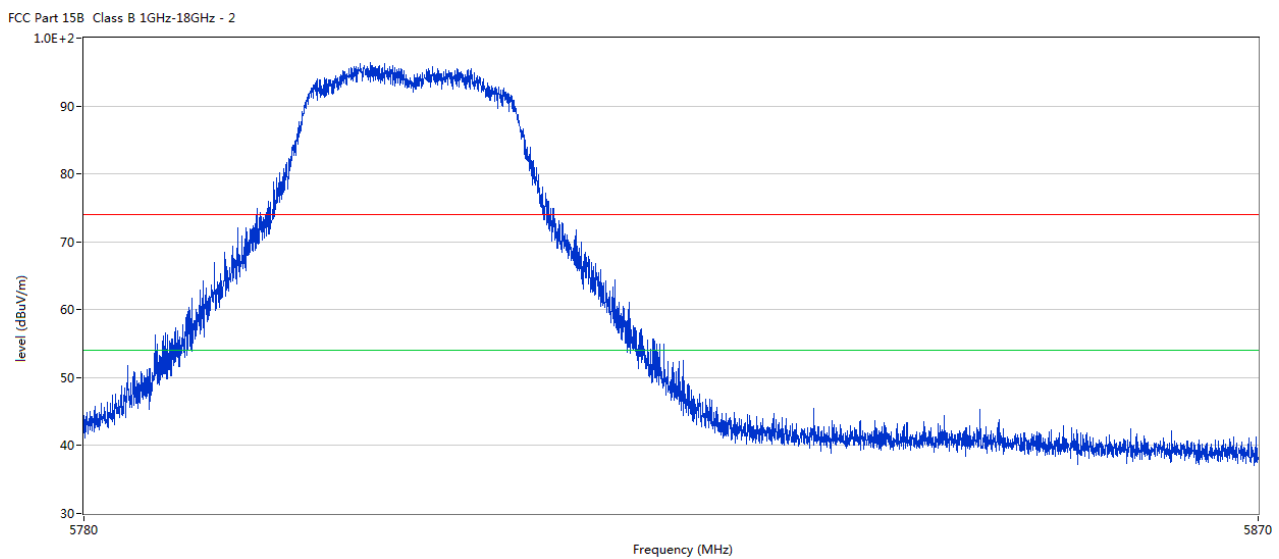
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Restricted band Measurement			
EUT	Developer Board		Test Mode: Channel 161 (5805MHz)-11a
Mode	Keeping Transmitting		Input Voltage 120V~
Temperature	24 deg. C,		Humidity 56% RH
Test Result:	Pass		Detector PK
5850	PK (dBμV/m)	42.50 (PK)	Limit -17dBm/MHz
	EIRP (dBm)	-52.70	
Polarity	Vertical		-- --

Test Figure



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	5850.000	42.50	3.83	74.0	-31.50	Peak	360.00	100	V	Pass

Remark: 1. According to KDB 789033 D02 General UNII Test Procedures New Rules v01 section G) d) (ii), for measurement above 1000MHz@3m distance, the limit of EIRP is calculated as follows:

$$EIRP[dBm] = E[dB\mu V/m] - 95.2$$

For Example, if  $E[dB\mu V/m] = 42.50 \text{ dB}\mu V/m$ ,

$$EIRP[dBm] = E[dB\mu V/m] - 95.2 = 42.50 - 95.2 = -52.70 \text{ dBm}$$

2. RBW=1MHz, VBW=3MHz

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Restricted band Measurement			
EUT	Developer Board		Test Mode: Channel 36 (5180MHz)-11n/HT20
Mode	Keeping Transmitting		Input Voltage 120V~
Temperature	24 deg. C,		Humidity 56% RH
Test Result:	Pass		Detector PK
5150	PK (dBμV/m)	50.21 (PK)	Limit -27dBm/MHz
	EIRP (dBm)	-44.99	
Polarity	Horizontal		--

Remark: 1. According to KDB 789033 D02 General UNII Test Procedures New Rules v01 section G) d) (ii), for measurement above 1000MHz@3m distance, the limit of EIRP is calculated as follows:

$$EIRP[dBm] = E[dB\mu V/m] - 95.2$$

For Example, if  $E[dB\mu V/m] = 50.21 dB\mu V/m$ ,

$$EIRP[dBm] = E[dB\mu V/m] - 95.2 = 50.21 - 95.2 = -44.99dBm$$

2. RBW=1MHz, VBW=3MHz

Restricted band Measurement			
EUT	Developer Board		Test Mode: Channel 36 (5180MHz)-11n/HT20
Mode	Keeping Transmitting		Input Voltage 120V~
Temperature	24 deg. C,		Humidity 56% RH
Test Result:	Pass		Detector PK
5150	PK (dBμV/m)	45.89 (PK)	Limit -27dBm/MHz
	EIRP (dBm)	-49.31	
Polarity	Vertical		--

Remark: 1. According to KDB 789033 D02 General UNII Test Procedures New Rules v01 section G) d) (ii), for measurement above 1000MHz@3m distance, the limit of EIRP is calculated as follows:

$$EIRP[dBm] = E[dB\mu V/m] - 95.2$$

For Example, if  $E[dB\mu V/m] = 45.89 dB\mu V/m$ ,

$$EIRP[dBm] = E[dB\mu V/m] - 95.2 = 45.89 - 95.2 = -49.31dBm$$

2. RBW=1MHz, VBW=3MHz

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Restricted band Measurement			
EUT	Developer Board		Test Mode: Channel 48 (5240MHz)-11n/HT20
Mode	Keeping Transmitting		Input Voltage 120V~
Temperature	24 deg. C,		Humidity 56% RH
Test Result:	Pass		Detector PK
5250	PK (dBμV/m)	60.79 (PK)	Limit -27dBm/MHz
	AV (dBμV/m)	42.05 (AV)	
	EIRP (dBm)	-34.41	
Polarity	Horizontal		

Remark: 1. According to KDB 789033 D02 General UNII Test Procedures New Rules v01 section G) d) (ii), for measurement above 1000MHz@3m distance, the limit of EIRP is calculated as follows:

$$EIRP[dBm] = E[dB\mu V/m] - 95.2$$

For Example, if  $E[dB\mu V/m] = 60.79 \text{ dB}\mu V/m$ ,

$$EIRP[dBm] = E[dB\mu V/m] - 95.2 = 60.79 - 95.2 = -34.41 \text{ dBm}$$

2. RBW=1MHz, VBW=3MHz

Restricted band Measurement			
EUT	Developer Board		Test Mode: Channel 48 (5240MHz)-11n/HT20
Mode	Keeping Transmitting		Input Voltage 120V~
Temperature	24 deg. C,		Humidity 56% RH
Test Result:	Pass		Detector PK
5250	PK (dBμV/m)	59.28 (PK)	Limit -27dBm/MHz
	AV (dBμV/m)	41.33 (AV)	
	EIRP (dBm)	-35.92	
Polarity	Vertical		--

Remark: 1. According to KDB 789033 D02 General UNII Test Procedures New Rules v01 section G) d) (ii), for measurement above 1000MHz@3m distance, the limit of EIRP is calculated as follows:

$$EIRP[dBm] = E[dB\mu V/m] - 95.2$$

For Example, if  $E[dB\mu V/m] = 59.28 \text{ dB}\mu V/m$ ,

$$EIRP[dBm] = E[dB\mu V/m] - 95.2 = 59.28 - 95.2 = -35.92 \text{ dBm}$$

2. RBW=1MHz, VBW=3MHz

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Restricted band Measurement			
EUT	Developer Board		Test Mode: Channel 149 (5745MHz)-11n/HT20
Mode	Keeping Transmitting		Input Voltage 120V~
Temperature	24 deg. C,		Humidity 56% RH
Test Result:	Pass		Detector PK
5725	PK (dBμV/m)	48.67 (PK)	Limit -17dBm/MHz
	EIRP (dBm)	-46.53	
Polarity	Horizontal		--

Remark: 1. According to KDB 789033 D02 General UNII Test Procedures New Rules v01 section G) d) (ii), for measurement above 1000MHz@3m distance, the limit of EIRP is calculated as follows:

$$EIRP[dBm] = E[dB\mu V/m] - 95.2$$

For Example, if  $E[dB\mu V/m]= 48.67 dB\mu V/m$ ,

$$EIRP[dBm] = E[dB\mu V/m] - 95.2=48.67-95.2= -46.53 dBm$$

2. RBW=1MHz, VBW=3MHz

Restricted band Measurement			
EUT	Developer Board		Test Mode: Channel 149 (5745MHz)-11n/HT20
Mode	Keeping Transmitting		Input Voltage 120V~
Temperature	24 deg. C,		Humidity 56% RH
Test Result:	Pass		Detector PK
5725	PK (dBμV/m)	47.91 (PK)	Limit -17dBm/MHz
	EIRP (dBm)	-47.29	
Polarity	Vertical		--

Remark: 1. According to KDB 789033 D02 General UNII Test Procedures New Rules v01 section G) d) (ii), for measurement above 1000MHz@3m distance, the limit of EIRP is calculated as follows:

$$EIRP[dBm] = E[dB\mu V/m] - 95.2$$

For Example, if  $E[dB\mu V/m]= 47.91 dB\mu V/m$ ,

$$EIRP[dBm] = E[dB\mu V/m] - 95.2=47.91-95.2= -47.29 dBm$$

2. RBW=1MHz, VBW=3MHz

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Restricted band Measurement			
EUT	Developer Board		Test Mode: Channel 161 (5805MHz)-11n/HT20
Mode	Keeping Transmitting		Input Voltage 120V~
Temperature	24 deg. C,		Humidity 56% RH
Test Result:	Pass		Detector PK
5850	PK (dBμV/m)	42.57 (PK)	Limit -17dBm/MHz
	EIRP (dBm)	-52.63	
Polarity	Horizontal		--

Remark: 1. According to KDB 789033 D02 General UNII Test Procedures New Rules v01 section G) d) (ii), for measurement above 1000MHz@3m distance, the limit of EIRP is calculated as follows:

$$EIRP[dBm] = E[dB\mu V/m] - 95.2$$

For Example, if  $E[dB\mu V/m]=42.57 dB\mu V/m$ ,

$$EIRP[dBm] = E[dB\mu V/m] - 95.2=42.57-95.2= -52.63 dBm$$

2. RBW=1MHz, VBW=3MHz

Restricted band Measurement			
EUT	Developer Board		Test Mode: Channel 161 (5805MHz)-11n/HT20
Mode	Keeping Transmitting		Input Voltage 120V~
Temperature	24 deg. C,		Humidity 56% RH
Test Result:	Pass		Detector PK
5850	PK (dBμV/m)	41.83 (PK)	Limit -17dBm/MHz
	EIRP (dBm)	-53.37	
Polarity	Vertical		--

Remark: 1. According to KDB 789033 D02 General UNII Test Procedures New Rules v01 section G) d) (ii), for measurement above 1000MHz@3m distance, the limit of EIRP is calculated as follows:

$$EIRP[dBm] = E[dB\mu V/m] - 95.2$$

For Example, if  $E[dB\mu V/m]=41.83 dB\mu V/m$ ,

$$EIRP[dBm] = E[dB\mu V/m] - 95.2=41.83-95.2= -53.37 dBm$$

2. RBW=1MHz, VBW=3MHz

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Restricted band Measurement			
EUT	Developer Board		Test Mode: Channel 38 (5190MHz)-11n/HT40
Mode	Keeping Transmitting		Input Voltage 120V~
Temperature	24 deg. C,		Humidity 56% RH
Test Result:	Pass		Detector PK
5150	PK (dBμV/m)	48.70 (PK)	Limit -27dBm/MHz
	EIRP (dBm)	-46.50	
Polarity	Horizontal		--

Remark: 1. According to KDB 789033 D02 General UNII Test Procedures New Rules v01 section G) d) (ii), for measurement above 1000MHz@3m distance, the limit of EIRP is calculated as follows:

$$EIRP[dBm] = E[dB\mu V/m] - 95.2$$

For Example, if  $E[dB\mu V/m]= 48.70 dB\mu V/m$ ,

$$EIRP[dBm] = E[dB\mu V/m] - 95.2=48.70-95.2= -46.50 dBm$$

2. RBW=1MHz, VBW=3MHz

Restricted band Measurement			
EUT	Developer Board		Test Mode: Channel 38 (5190MHz)-11n/HT40
Mode	Keeping Transmitting		Input Voltage 120V~
Temperature	24 deg. C,		Humidity 56% RH
Test Result:	Pass		Detector PK
5150	PK (dBμV/m)	44.56 (PK)	Limit -27dBm/MHz
	EIRP (dBm)	-50.64	
Polarity	Vertical		--

Remark: 1. According to KDB 789033 D02 General UNII Test Procedures New Rules v01 section G) d) (ii), for measurement above 1000MHz@3m distance, the limit of EIRP is calculated as follows:

$$EIRP[dBm] = E[dB\mu V/m] - 95.2$$

For Example, if  $E[dB\mu V/m]= 44.56 dB\mu V/m$ ,

$$EIRP[dBm] = E[dB\mu V/m] - 95.2=44.56-95.2= -50.64dBm$$

2. RBW=1MHz, VBW=3MHz

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Restricted band Measurement			
EUT	Developer Board		Test Mode: Channel 46 (5230MHz)-11n/HT40
Mode	Keeping Transmitting		Input Voltage 120V~
Temperature	24 deg. C,		Humidity 56% RH
Test Result:	Pass		Detector PK
5250	PK (dBμV/m)	59.87(PK)	Limit -27dBm/MHz
	AV (dBμV/m)	41.05(AV)	
	EIRP (dBm)	-35.33	
Polarity	Horizontal		

Remark: 1. According to KDB 789033 D02 General UNII Test Procedures New Rules v01 section G) d) (ii), for measurement above 1000MHz@3m distance, the limit of EIRP is calculated as follows:

$$EIRP[dBm] = E[dB\mu V/m] - 95.2$$

For Example, if  $E[dB\mu V/m] = 59.87 \text{ dB}\mu V/m$ ,

$$EIRP[dBm] = E[dB\mu V/m] - 95.2 = 59.87 - 95.2 = -35.33 \text{ dBm}$$

2. RBW=1MHz, VBW=3MHz

Restricted band Measurement			
EUT	Developer Board		Test Mode: Channel 46 (5230MHz)-11n/HT40
Mode	Keeping Transmitting		Input Voltage 120V~
Temperature	24 deg. C,		Humidity 56% RH
Test Result:	Pass		Detector PK
5250	PK (dBμV/m)	59.17 (PK)	Limit -27dBm/MHz
	AV (dBμV/m)	40.83 (AV)	
	EIRP (dBm)	-36.03	
Polarity	Vertical		--

Remark: 1. According to KDB 789033 D02 General UNII Test Procedures New Rules v01 section G) d) (ii), for measurement above 1000MHz@3m distance, the limit of EIRP is calculated as follows:

$$EIRP[dBm] = E[dB\mu V/m] - 95.2$$

For Example, if  $E[dB\mu V/m] = 59.17 \text{ dB}\mu V/m$ ,

$$EIRP[dBm] = E[dB\mu V/m] - 95.2 = 59.17 - 95.2 = -36.03 \text{ dBm}$$

2. RBW=1MHz, VBW=3MHz

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Restricted band Measurement			
EUT	Developer Board		Test Mode: Channel 151 (5755MHz)-11n/HT40
Mode	Keeping Transmitting		Input Voltage 120V~
Temperature	24 deg. C,		Humidity 56% RH
Test Result:	Pass		Detector PK
5725	PK (dBμV/m)	46.92 (PK)	Limit -17dBm/MHz
	EIRP (dBm)	-48.28	
Polarity	Horizontal		--

Remark: 1. According to KDB 789033 D02 General UNII Test Procedures New Rules v01 section G) d) (ii), for measurement above 1000MHz@3m distance, the limit of EIRP is calculated as follows:

$$EIRP[dBm] = E[dB\mu V/m] - 95.2$$

For Example, if  $E[dB\mu V/m]= 46.92 \text{ dB}\mu V/m$ ,

$$EIRP[dBm] = E[dB\mu V/m] - 95.2=46.92 -95.2= -48.28 \text{ dBm}$$

2. RBW=1MHz, VBW=3MHz

Restricted band Measurement			
EUT	Developer Board		Test Mode: Channel 151 (5755MHz)-11n/HT40
Mode	Keeping Transmitting		Input Voltage 120V~
Temperature	24 deg. C,		Humidity 56% RH
Test Result:	Pass		Detector PK
5725	PK (dBμV/m)	47.25 (PK)	Limit -17dBm/MHz
	EIRP (dBm)	-47.95	
Polarity	Vertical		--

Remark: 1. According to KDB 789033 D02 General UNII Test Procedures New Rules v01 section G) d) (ii), for measurement above 1000MHz@3m distance, the limit of EIRP is calculated as follows:

$$EIRP[dBm] = E[dB\mu V/m] - 95.2$$

For Example, if  $E[dB\mu V/m]= 47.25 \text{ dB}\mu V/m$ ,

$$EIRP[dBm] = E[dB\mu V/m] - 95.2=47.25-95.2= -47.95\text{dBm}$$

2. RBW=1MHz, VBW=3MHz

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Restricted band Measurement			
EUT	Developer Board		Test Mode: Channel 159 (5795MHz)-11n/HT40
Mode	Keeping Transmitting		Input Voltage 120V~
Temperature	24 deg. C,		Humidity 56% RH
Test Result:	Pass		Detector PK
5850	PK (dBμV/m)	40.57 (PK)	Limit -17dBm/MHz
	EIRP (dBm)	-54.63	
Polarity	Horizontal		--

Remark: 1. According to KDB 789033 D02 General UNII Test Procedures New Rules v01 section G) d) (ii), for measurement above 1000MHz@3m distance, the limit of EIRP is calculated as follows:

$$EIRP[dBm] = E[dB\mu V/m] - 95.2$$

For Example, if  $E[dB\mu V/m] = 40.57 dB\mu V/m$ ,

$$EIRP[dBm] = E[dB\mu V/m] - 95.2 = 40.57 - 95.2 = -54.63 dBm$$

2. RBW=1MHz, VBW=3MHz

Restricted band Measurement			
EUT	Developer Board		Test Mode: Channel 159 (5795MHz)-11n/HT40
Mode	Keeping Transmitting		Input Voltage 120V~
Temperature	24 deg. C,		Humidity 56% RH
Test Result:	Pass		Detector PK
5850	PK (dBμV/m)	40.17 (PK)	Limit -17dBm/MHz
	EIRP (dBm)	-55.03	
Polarity	Vertical		--

Remark: 1. According to KDB 789033 D02 General UNII Test Procedures New Rules v01 section G) d) (ii), for measurement above 1000MHz@3m distance, the limit of EIRP is calculated as follows:

$$EIRP[dBm] = E[dB\mu V/m] - 95.2$$

For Example, if  $E[dB\mu V/m] = 40.17 dB\mu V/m$ ,

$$EIRP[dBm] = E[dB\mu V/m] - 95.2 = 40.17 - 95.2 = -55.03 dBm$$

2. RBW=1MHz, VBW=3MHz

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Restricted band Measurement			
EUT	Developer Board		Test Mode: Channel 42 (5210MHz)-11ac/VHT80
Mode	Keeping Transmitting		Input Voltage 120V~
Temperature	24 deg. C,		Humidity 56% RH
Test Result:	Pass		Detector PK
5150	PK (dBμV/m)	49.75 (PK)	Limit -27dBm/MHz
	EIRP (dBm)	-45.45	
Polarity	Horizontal		--

Remark: 1. According to KDB 789033 D02 General UNII Test Procedures New Rules v01 section G) d) (ii), for measurement above 1000MHz@3m distance, the limit of EIRP is calculated as follows:

$$EIRP[dBm] = E[dB\mu V/m] - 95.2$$

For Example, if  $E[dB\mu V/m] = 49.75 dB\mu V/m$ ,

$$EIRP[dBm] = E[dB\mu V/m] - 95.2 = 49.75 - 95.2 = -45.45 dBm$$

2. RBW=1MHz, VBW=3MHz

Restricted band Measurement			
EUT	Developer Board		Test Mode: Channel 42 (5210MHz)- 11ac/VHT80
Mode	Keeping Transmitting		Input Voltage 120V~
Temperature	24 deg. C,		Humidity 56% RH
Test Result:	Pass		Detector PK
5150	PK (dBμV/m)	50.32 (PK)	Limit -27dBm/MHz
	EIRP (dBm)	-44.88	
Polarity	Vertical		--

Remark: 1. According to KDB 789033 D02 General UNII Test Procedures New Rules v01 section G) d) (ii), for measurement above 1000MHz@3m distance, the limit of EIRP is calculated as follows:

$$EIRP[dBm] = E[dB\mu V/m] - 95.2$$

For Example, if  $E[dB\mu V/m] = 50.32 dB\mu V/m$ ,

$$EIRP[dBm] = E[dB\mu V/m] - 95.2 = 50.32 - 95.2 = -44.88 dBm$$

2. RBW=1MHz, VBW=3MHz

3. 5150MHz and 5250MHz all have been test ,only worse case is reported.

The report refers only to the sample tested and does not apply to the bulk.

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Restricted band Measurement			
EUT	Developer Board		Test Mode: Channel 155 (5775MHz)-11ac/VHT80
Mode	Keeping Transmitting		Input Voltage 120V~
Temperature	24 deg. C,		Humidity 56% RH
Test Result:	Pass		Detector PK
5850	PK (dBμV/m)	42.39 (PK)	Limit -17dBm/MHz
	EIRP (dBm)	-52.81	
Polarity	Horizontal		--

Remark: 1. According to KDB 789033 D02 General UNII Test Procedures New Rules v01 section G) d) (ii), for measurement above 1000MHz@3m distance, the limit of EIRP is calculated as follows:

$$EIRP[dBm] = E[dB\mu V/m] - 95.2$$

For Example, if  $E[dB\mu V/m]=42.39 dB\mu V/m$ ,

$$EIRP[dBm] = E[dB\mu V/m] - 95.2=42.39-95.2= -52.81 dBm$$

2. RBW=1MHz, VBW=3MHz

Restricted band Measurement			
EUT	Developer Board		Test Mode: Channel 157 (5775MHz)-11ac/VHT80
Mode	Keeping Transmitting		Input Voltage 120V~
Temperature	24 deg. C,		Humidity 56% RH
Test Result:	Pass		Detector PK
5850	PK (dBμV/m)	40.98 (PK)	Limit -17dBm/MHz
	EIRP (dBm)	-54.22	
Polarity	Vertical		--

Remark: 1. According to KDB 789033 D02 General UNII Test Procedures New Rules v01 section G) d) (ii), for measurement above 1000MHz@3m distance, the limit of EIRP is calculated as follows:

$$EIRP[dBm] = E[dB\mu V/m] - 95.2$$

For Example, if  $E[dB\mu V/m]=40.98 dB\mu V/m$ ,

$$EIRP[dBm] = E[dB\mu V/m] - 95.2=40.98-95.2= -54.22 dBm$$

2. RBW=1MHz, VBW=3MHz

3.5725MHz and 5850MHz all have been test ,only worse case is reported.

The report refers only to the sample tested and does not apply to the bulk.

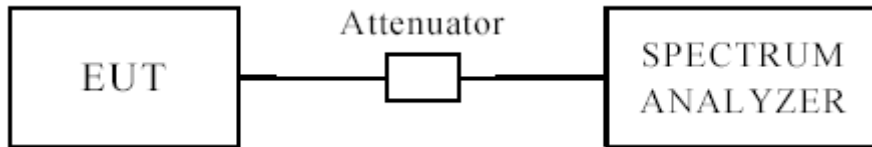
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## 7.0 Emission Bandwidth

### 7.1 Test Setup



### 7.3 Test Procedure for Emission Bandwidth

1. Set RBW = approximately 1% of the emission bandwidth.
2. Set VBW > RBW
3. Detector = Peak.
4. Trace mode = max hold.
5. Sweep = auto couple.
6. Allow the trace to stabilize.
7. Measure the maximum width of the emission that is 26 dB down from the maximum 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%.

### 7.4 Test Procedure for Minimum Bandwidth for the Band 5725-5850MHz

1. Set RBW = 100 kHz.
2. Set  $VBW \geq 3 \times RBW$ .
3. Detector = Peak.
4. Trace mode = max hold.
5. Sweep = auto couple.
6. Allow the trace to stabilize.
7. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

### 7.5 Test Procedure for 99% Bandwidth

1. Set center frequency to the nominal EUT channel center frequency
2. Set span = 1.5 times to 5.0 times OBW
3. Set RBW = 1% TO 5% of the OBW
4. Set  $VBW \geq 3 \times RBW$
5. Video averaging is not permitted. Where practical, a sample detection and single sweep mode shall be used. Other, peak detection and max mode (until trace stabilizes) shall be used.
6. Use the 99% power bandwidth function of the instrument

The report refers only to the sample tested and does not apply to the bulk.

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**7.6 Test Result**

EUT		Developer Board		Model	DB8
Mode		802.11a		Input Voltage	120V~
Temperature		24 deg. C,		Humidity	56% RH
Channel	Channel Frequency (MHz)	Data Transfer Rate (Mbps)	Bandwidth (MHz)	Minimum Limit (MHz)	Pass/ Fail
<b>26dB Bandwidth</b>					
36	5180	6	22.12	--	Pass
40	5200	6	22.12	--	Pass
48	5240	6	22.20	--	Pass
<b>99% Bandwidth</b>					
36	5180	6	17.07	--	Pass
40	5200	6	17.15	--	Pass
48	5240	6	17.15	--	Pass

Note: Ant1 and Ant 2 were tested and only the worst case was recorded in the test report. Ant 1 was the worst case.

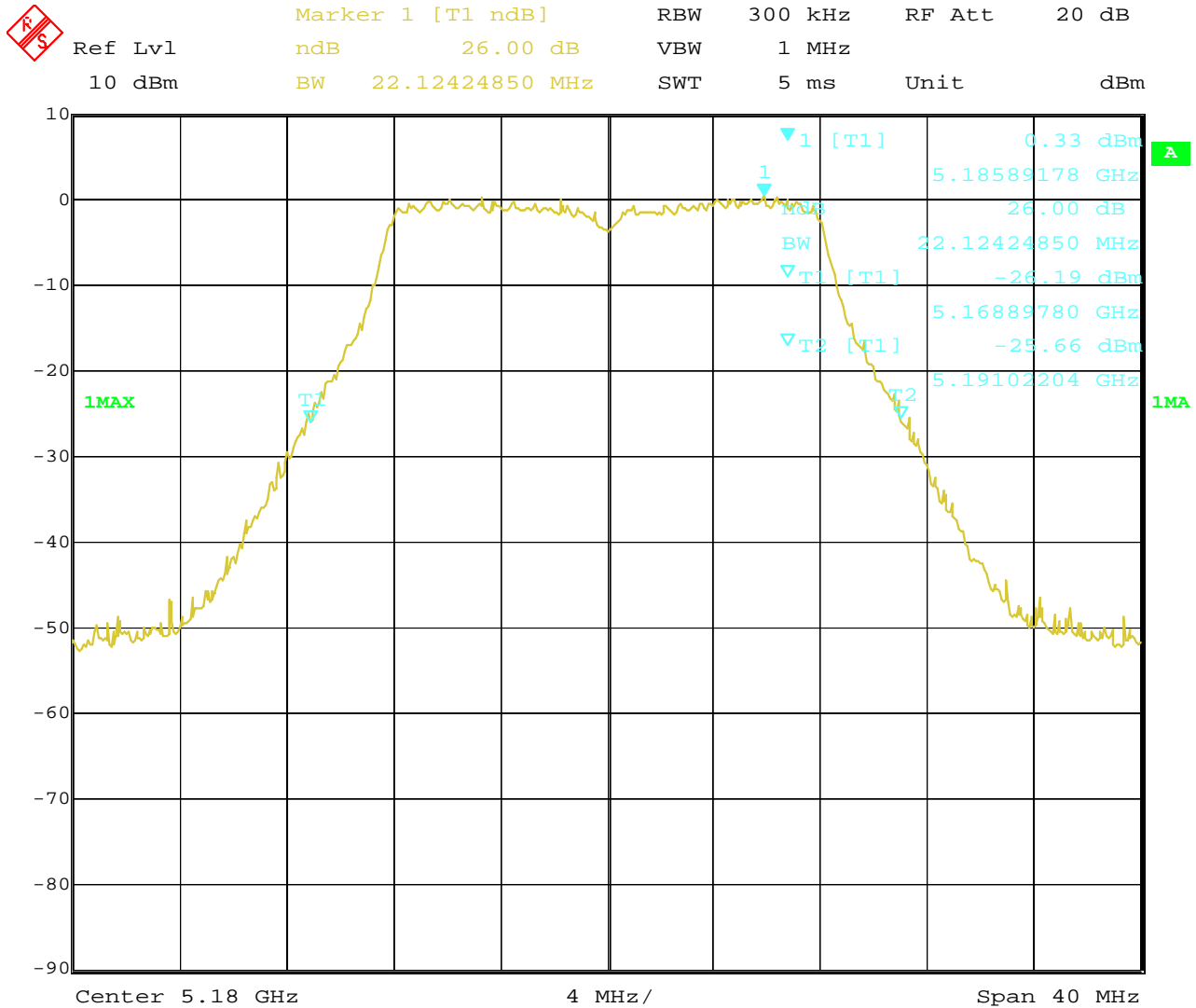
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Test Figure:

**26dB Bandwidth**

Channel 36



Date: 25.MAR.2019 11:02:59

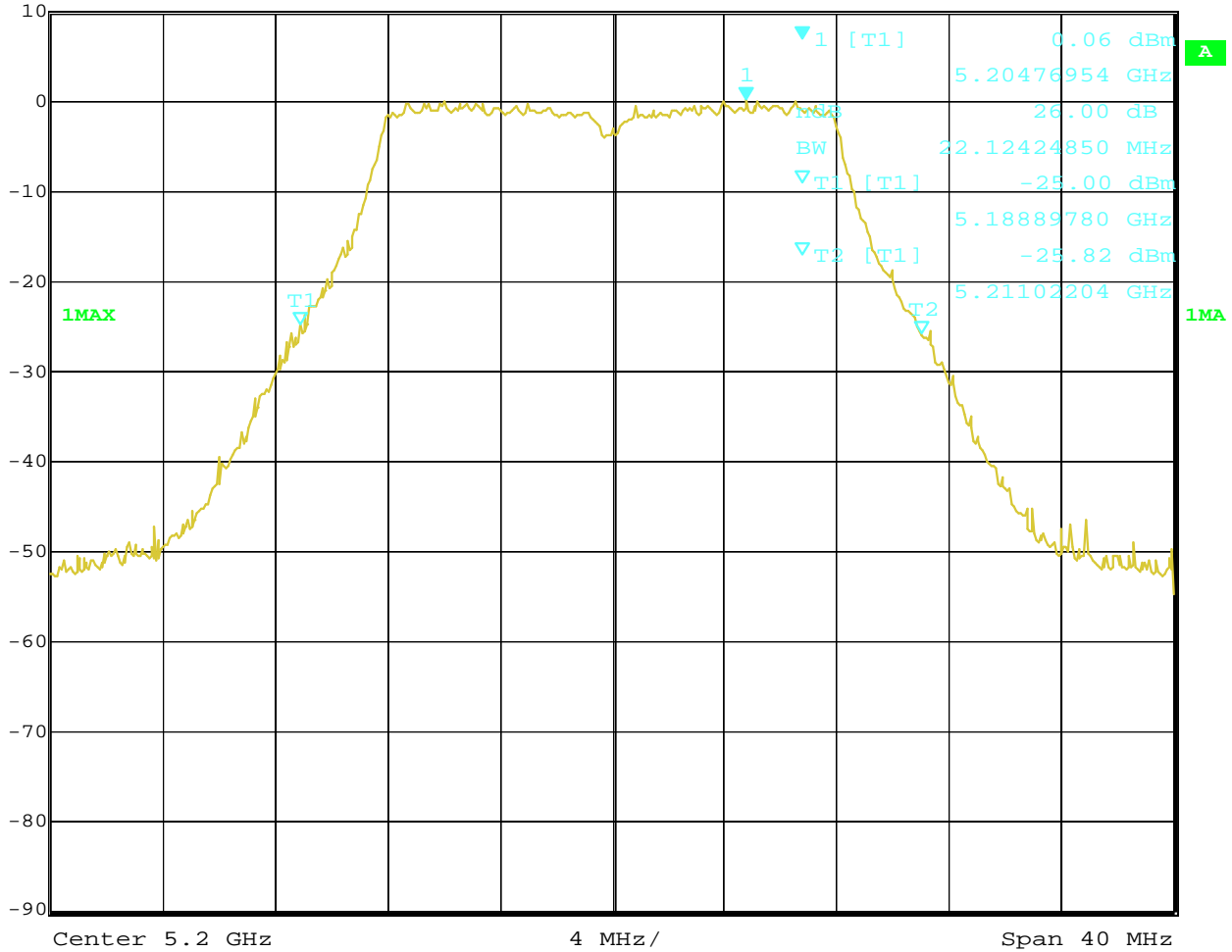
The report refers only to the sample tested and does not apply to the bulk.  
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Channel 40



Ref Lvl	10 dBm	Marker 1 [T1 ndB]	ndB	26.00 dB	RBW	300 kHz	RF Att	20 dB
		BW	22.12424850 MHz		VBW	1 MHz	Unit	dBm
		SWT	5 ms					



Date: 25.MAR.2019 11:05:37

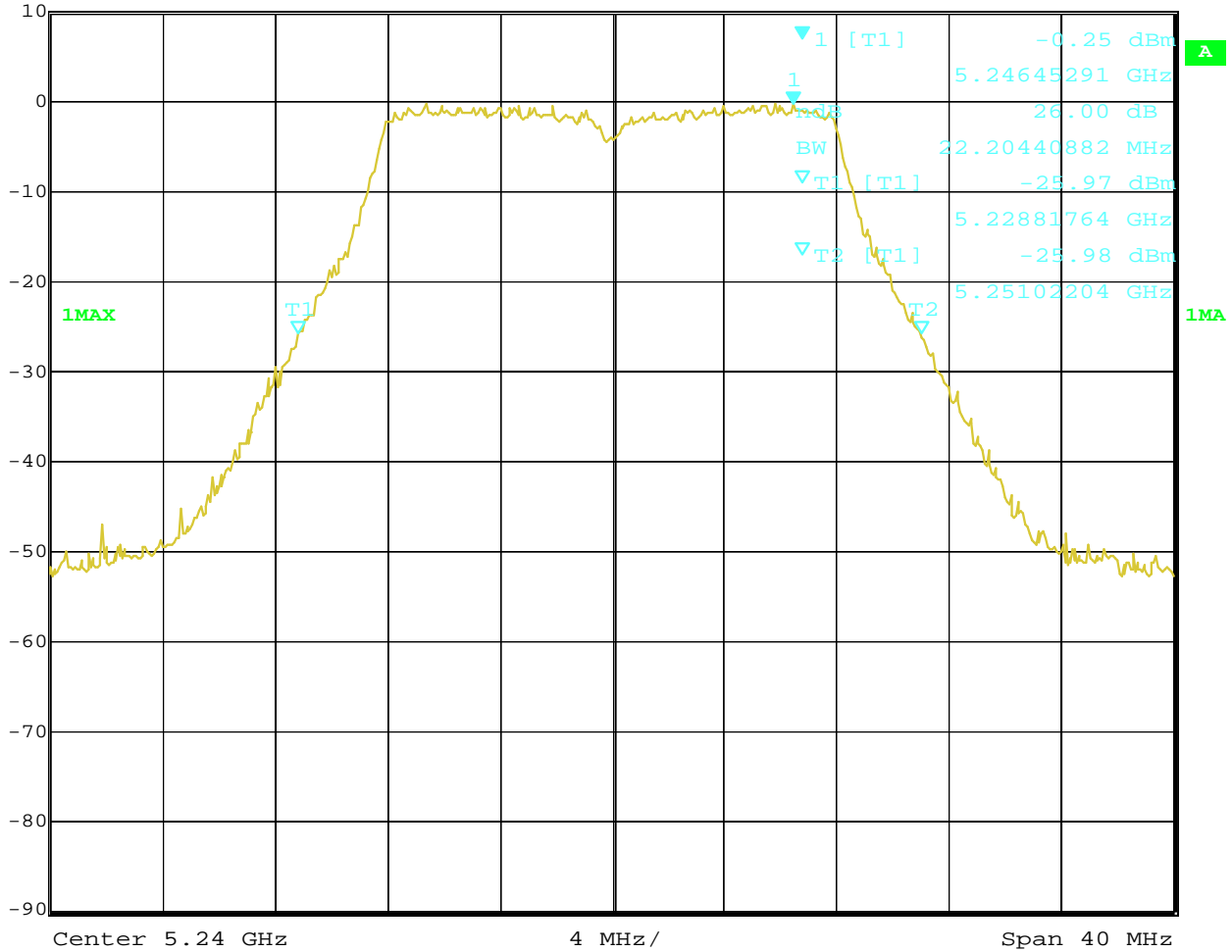
The report refers only to the sample tested and does not apply to the bulk.  
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Channel 48



Ref Lvl	10 dBm	Marker 1 [T1 ndB]	ndB	26.00 dB	RBW	300 kHz	RF Att	20 dB
		BW	22.20440882 MHz		VBW	1 MHz	Unit	dBm
		SWT			5 ms			



Date: 25.MAR.2019 11:06:57

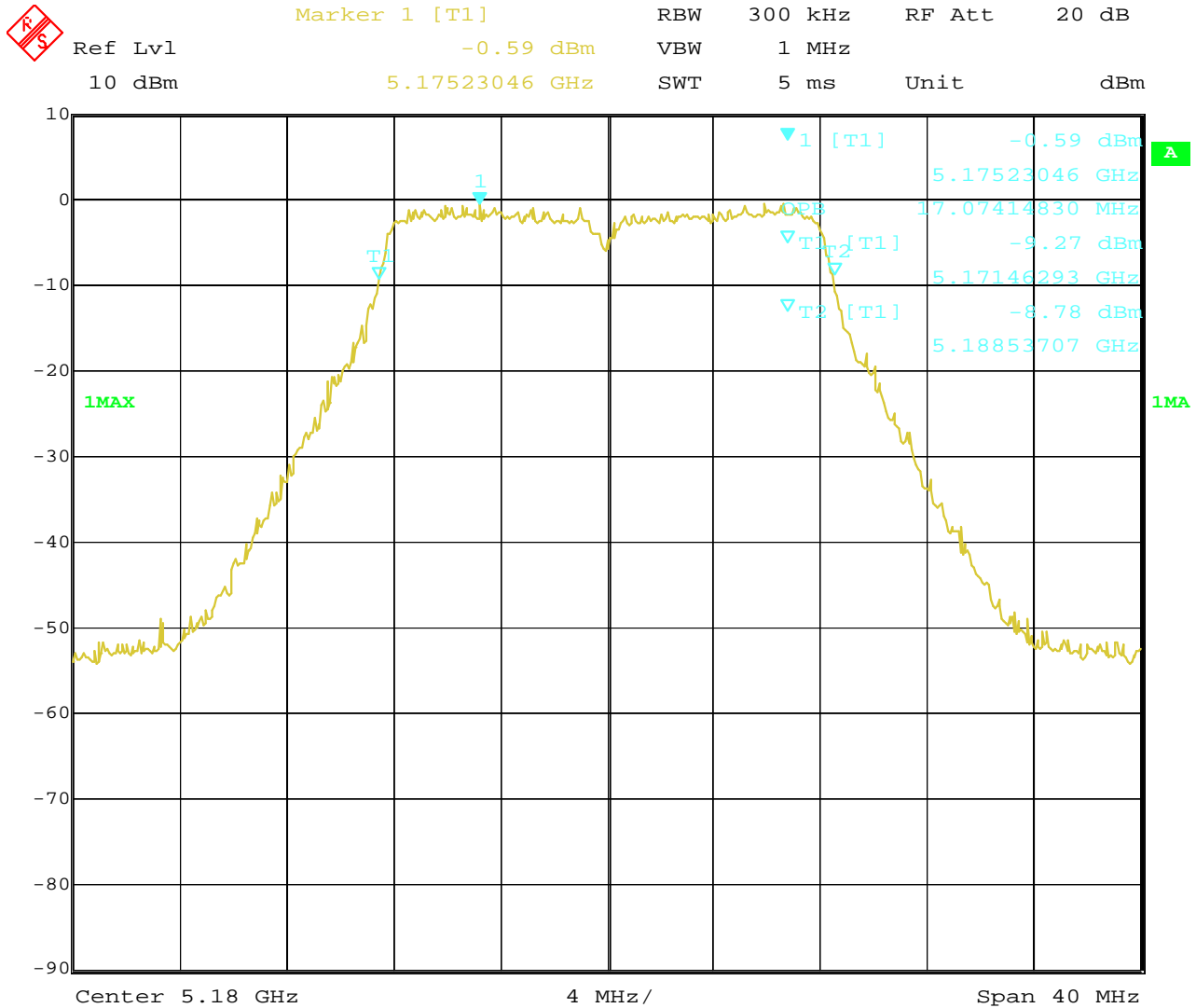
The report refers only to the sample tested and does not apply to the bulk.  
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Test Figure:

**99% Bandwidth**

Channel 36



Date: 25.MAR.2019 11:22:55

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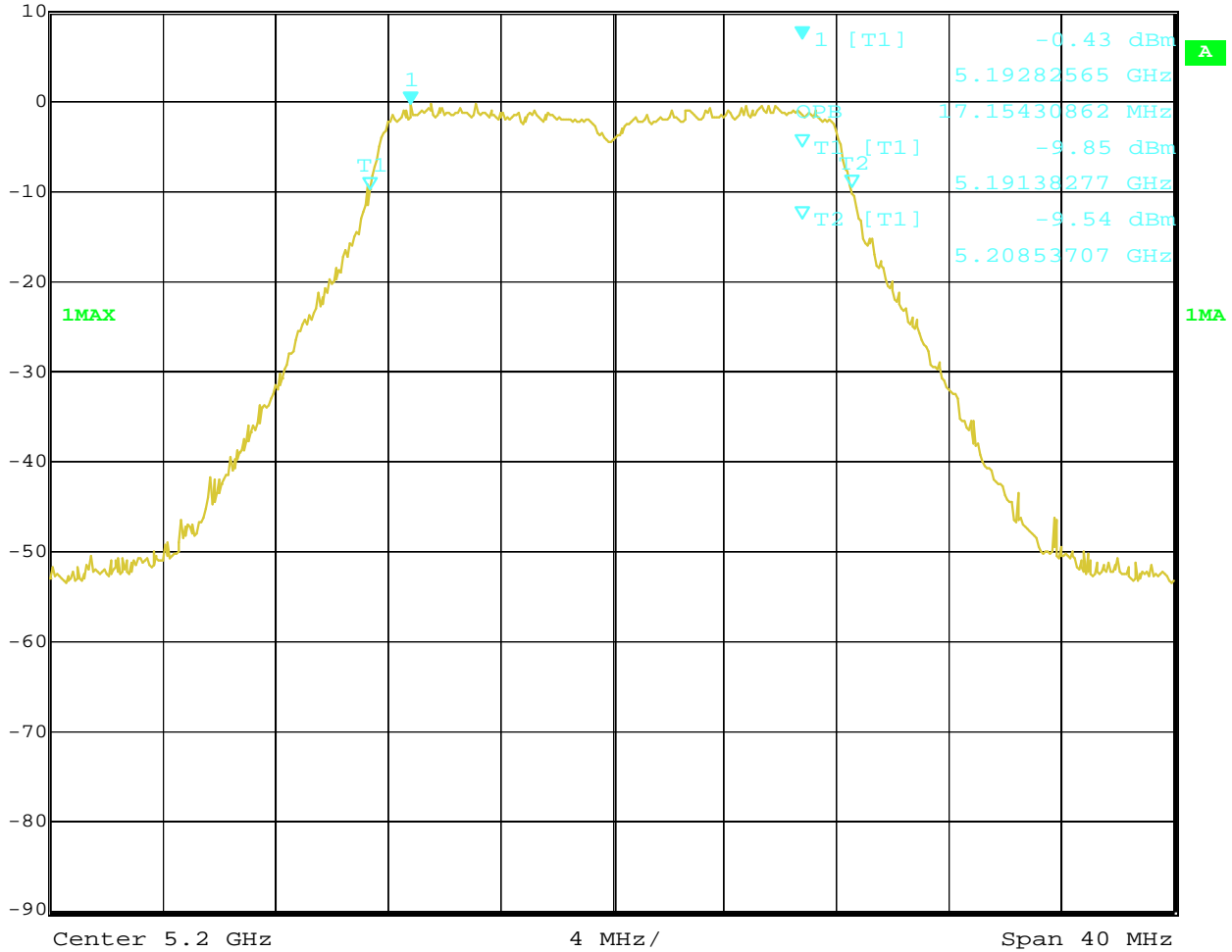




Channel 40



Ref Lvl	10 dBm	Marker 1 [T1]	-0.43 dBm	RBW	300 kHz	RF Att	20 dB
			5.19282565 GHz	VBW	1 MHz	Unit	dBm
				SWT	5 ms		



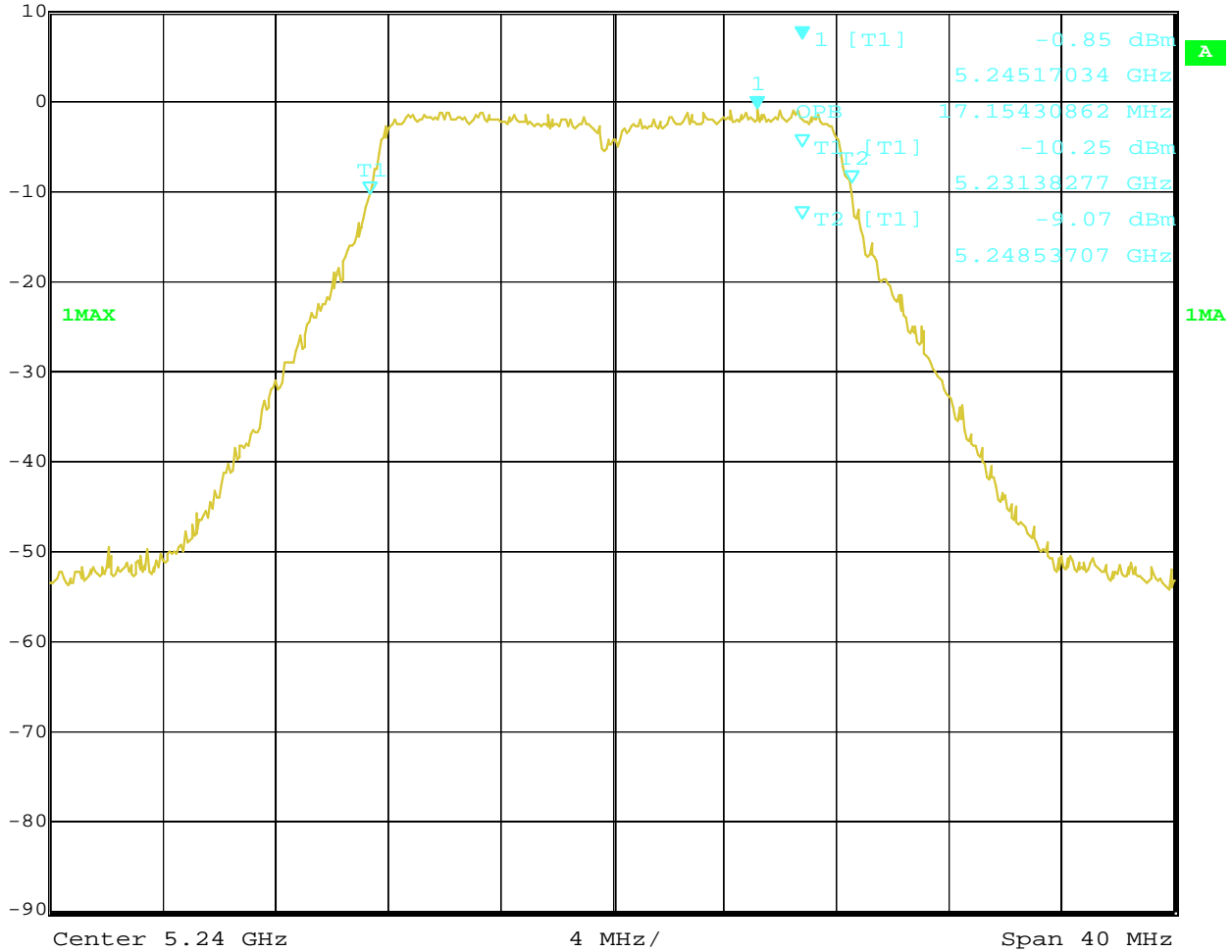
Date: 25.MAR.2019 11:24:26

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Channel 48

	Marker 1 [T1]	RBW	300 kHz	RF Att	20 dB
	Ref Lvl	-0.85 dBm	VBW	1 MHz	
	10 dBm	5.24517034 GHz	SWT	5 ms	Unit dBm



Date: 25.MAR.2019 11:25:16

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EUT		Developer Board		Model		DB8	
Mode		802.11a		Input Voltage		120V~	
Temperature		24 deg. C,		Humidity		56% RH	
Channel	Channel Frequency (MHz)	Data Transfer Rate (Mbps)	Bandwidth (MHz)	Minimum Limit (MHz)	Pass/ Fail		
<b>26dB Bandwidth</b>							
149	5745	6	21.72	--	Pass		
153	5765	6	22.04	--	Pass		
161	5805	6	21.88	--	Pass		
<b>6dB Bandwidth</b>							
149	5745	6	16.33	0.5	Pass		
153	5765	6	16.39	0.5	Pass		
161	5805	6	16.35	0.5	Pass		
<b>99% Bandwidth</b>							
149	5745	6	17.07	--	Pass		
153	5765	6	17.07	--	Pass		
161	5805	6	17.15	--	Pass		

Note: Ant1 and Ant 2 were tested and only the worst case was recorded in the test report. Ant 1 was the worst case.

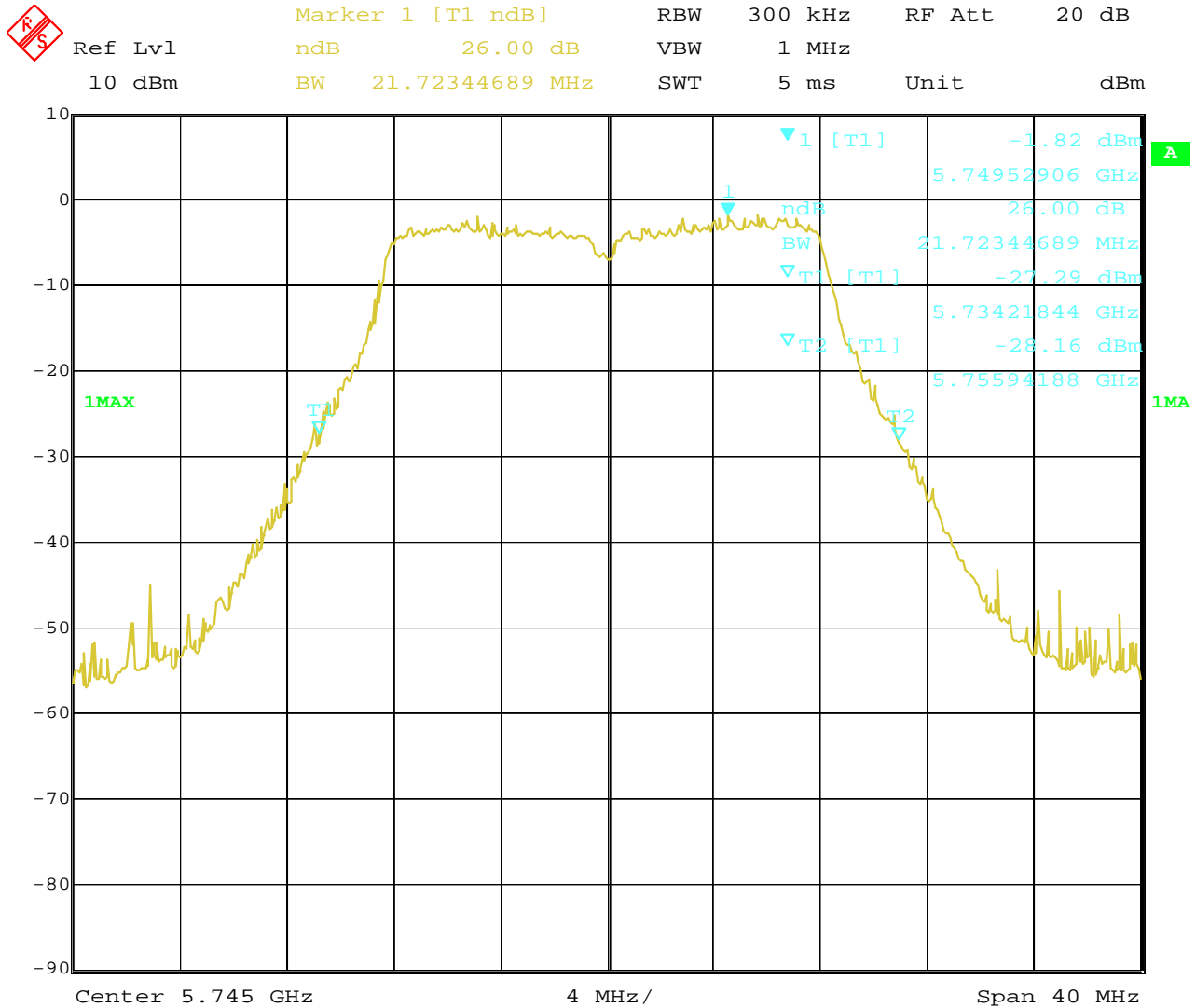
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Test Figure:

**26dB Bandwidth**

Channel 149



Date: 11.APR.2019 16:38:40

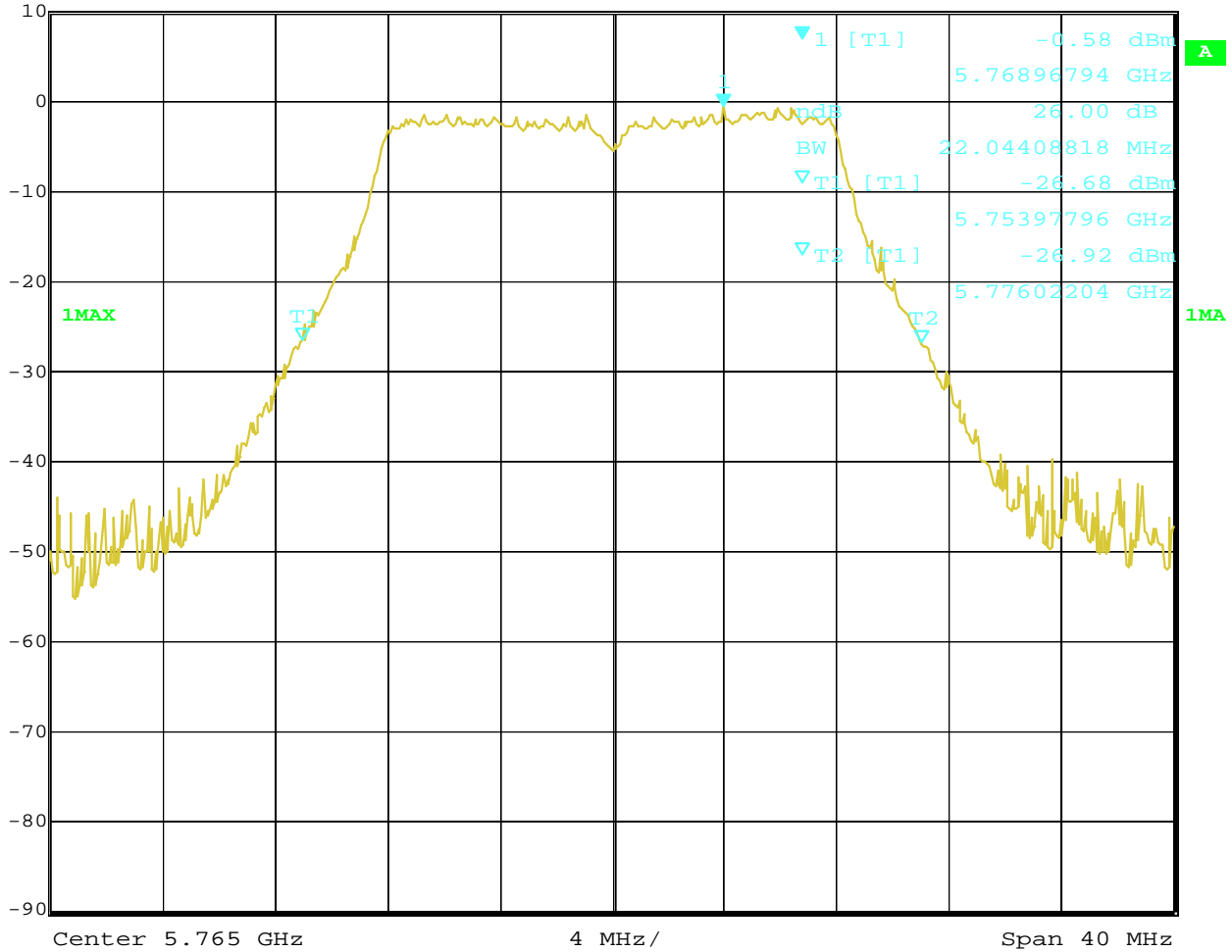
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Channel 153



Ref Lvl	10 dBm	Marker 1 [T1 ndB]	ndB	26.00 dB	RBW	300 kHz	RF Att	20 dB
		BW	22.04408818 MHz		VBW	1 MHz	Unit	dBm
					SWT	5 ms		



Date: 11.APR.2019 16:38:02

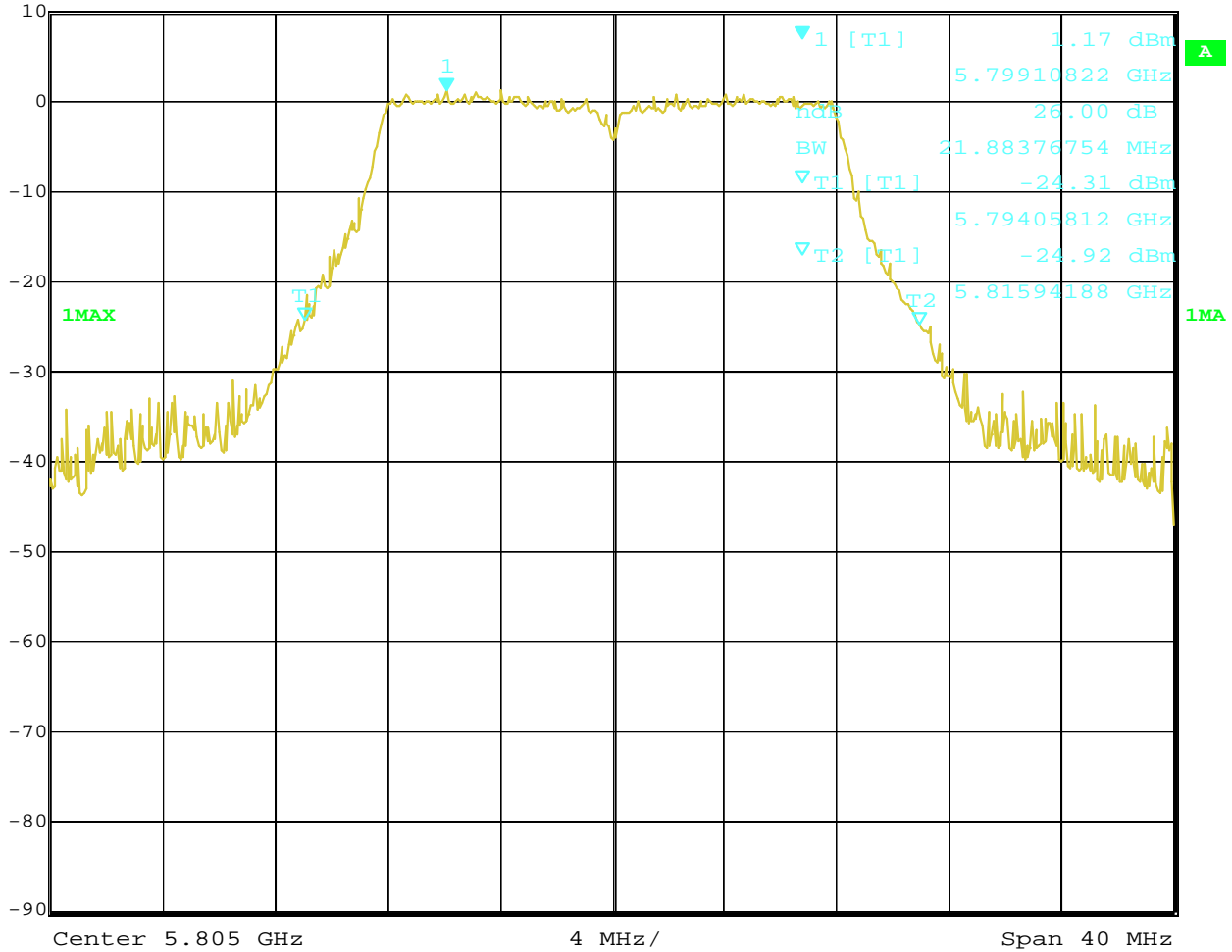
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Channel 161



Ref Lvl	10 dBm	Marker 1 [T1 ndB]	ndB	26.00 dB	RBW	300 kHz	RF Att	20 dB
		BW	21.88376754 MHz		VBW	1 MHz	Unit	dBm
					SWT	5 ms		



Date: 11.APR.2019 16:35:26

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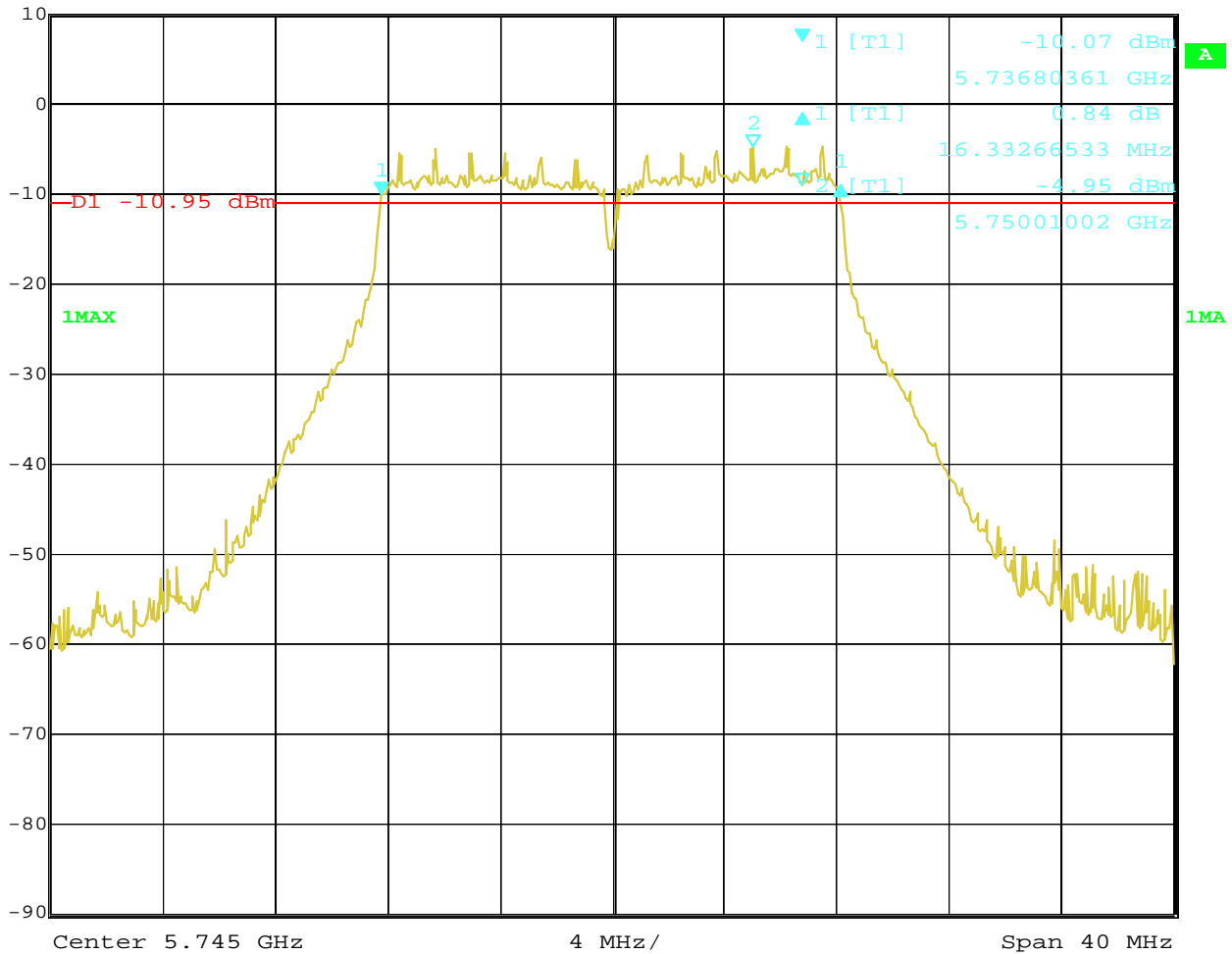


Test Figure:

**6dB Bandwidth**

Channel 149

	Delta 1 [T1]	RBW	100 kHz	RF Att	20 dB
	Ref Lvl	0.84 dB	VBW	300 kHz	
	10 dBm	16.33266533 MHz	SWT	10 ms	Unit dBm



Date: 11.APR.2019 16:09:36

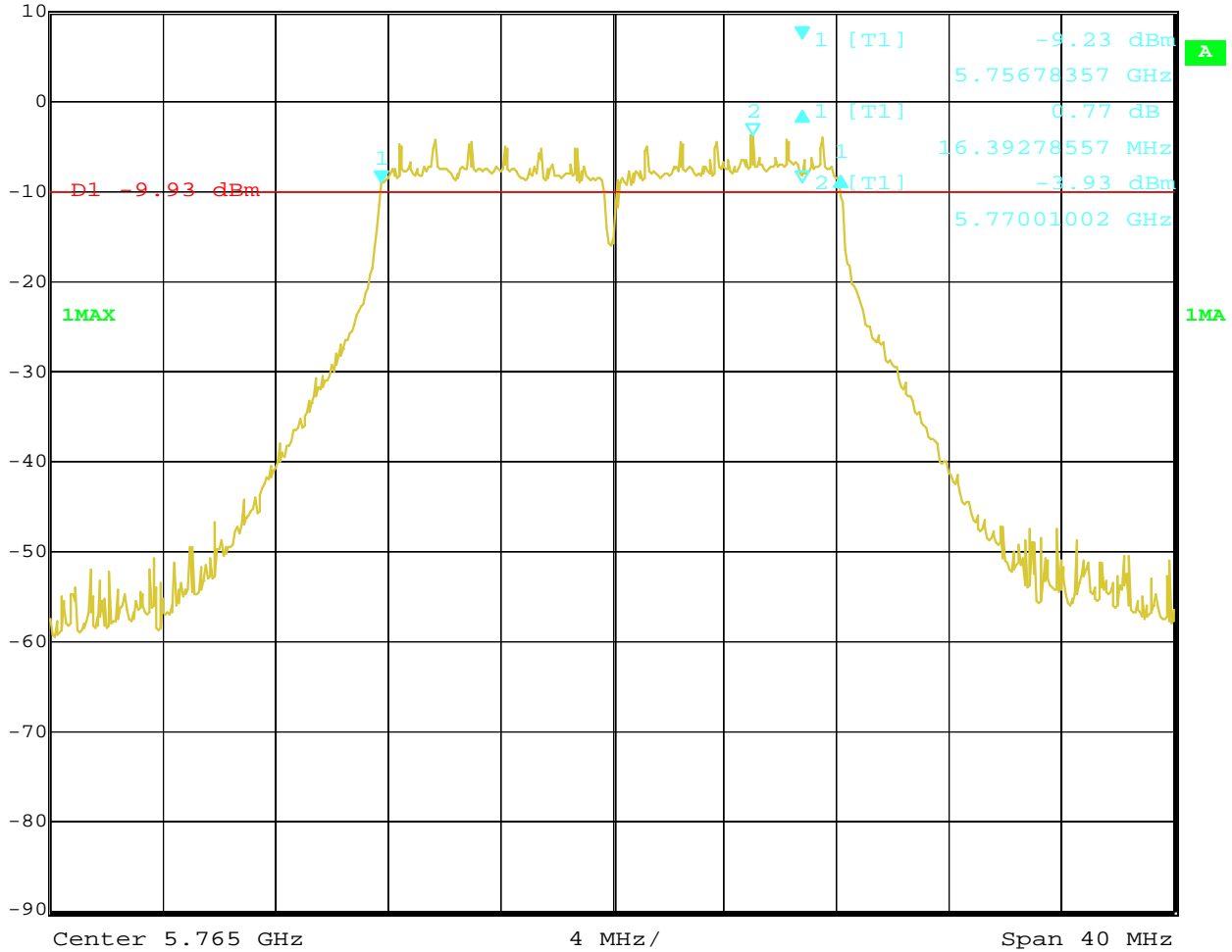
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Channel 153



	Delta 1 [T1]	RBW	100 kHz	RF Att	20 dB
Ref Lvl	0.77 dB	VBW	300 kHz		
10 dBm	16.39278557 MHz	SWT	10 ms	Unit	dBm




Date: 11.APR.2019 16:15:37

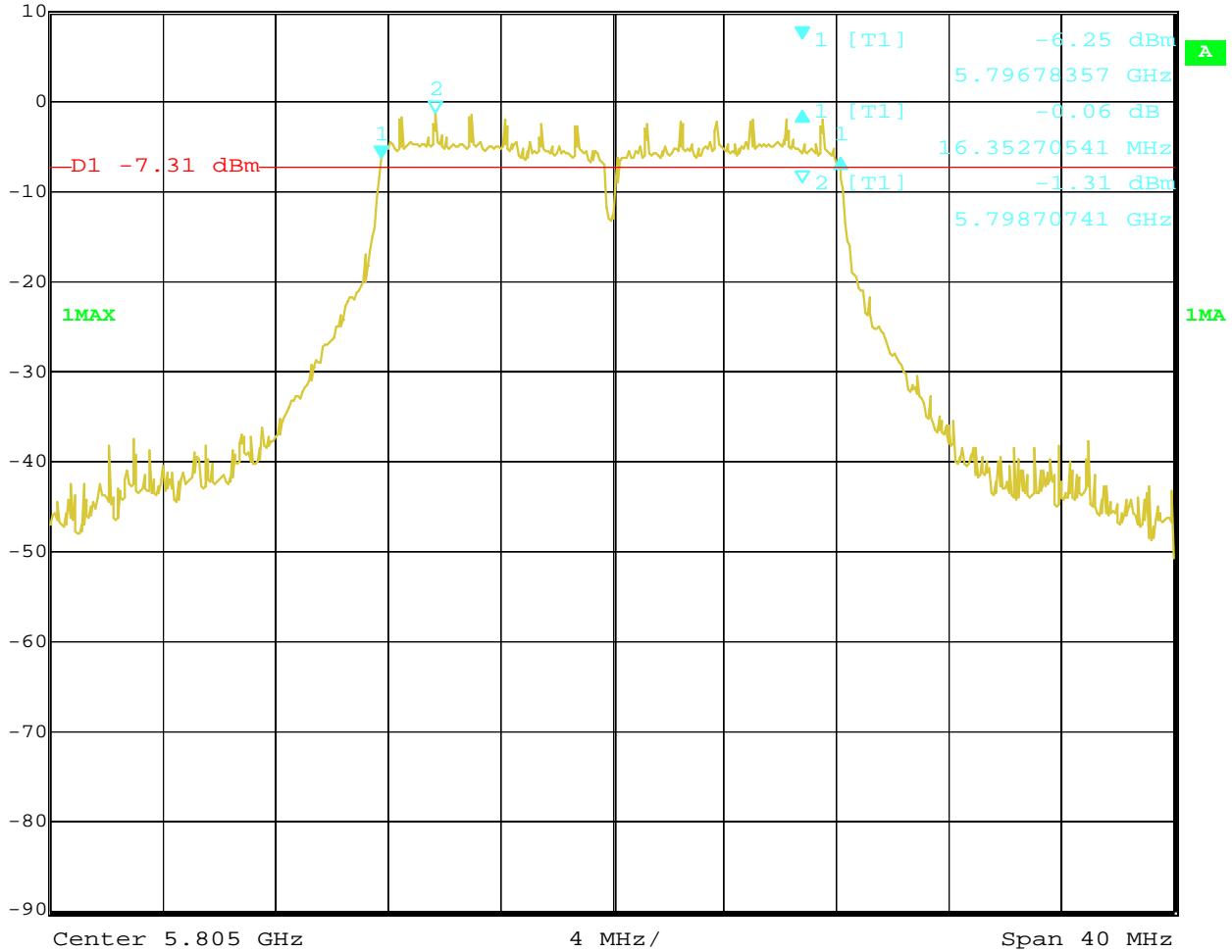
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Channel 161


Delta 1 [T1]
RBW 100 kHz
RF Att 20 dB  
Ref Lvl -0.06 dB
VBW 300 kHz  
10 dBm
16.35270541 MHz
SWT 10 ms
Unit dBm



Date: 11.APR.2019 16:16:29

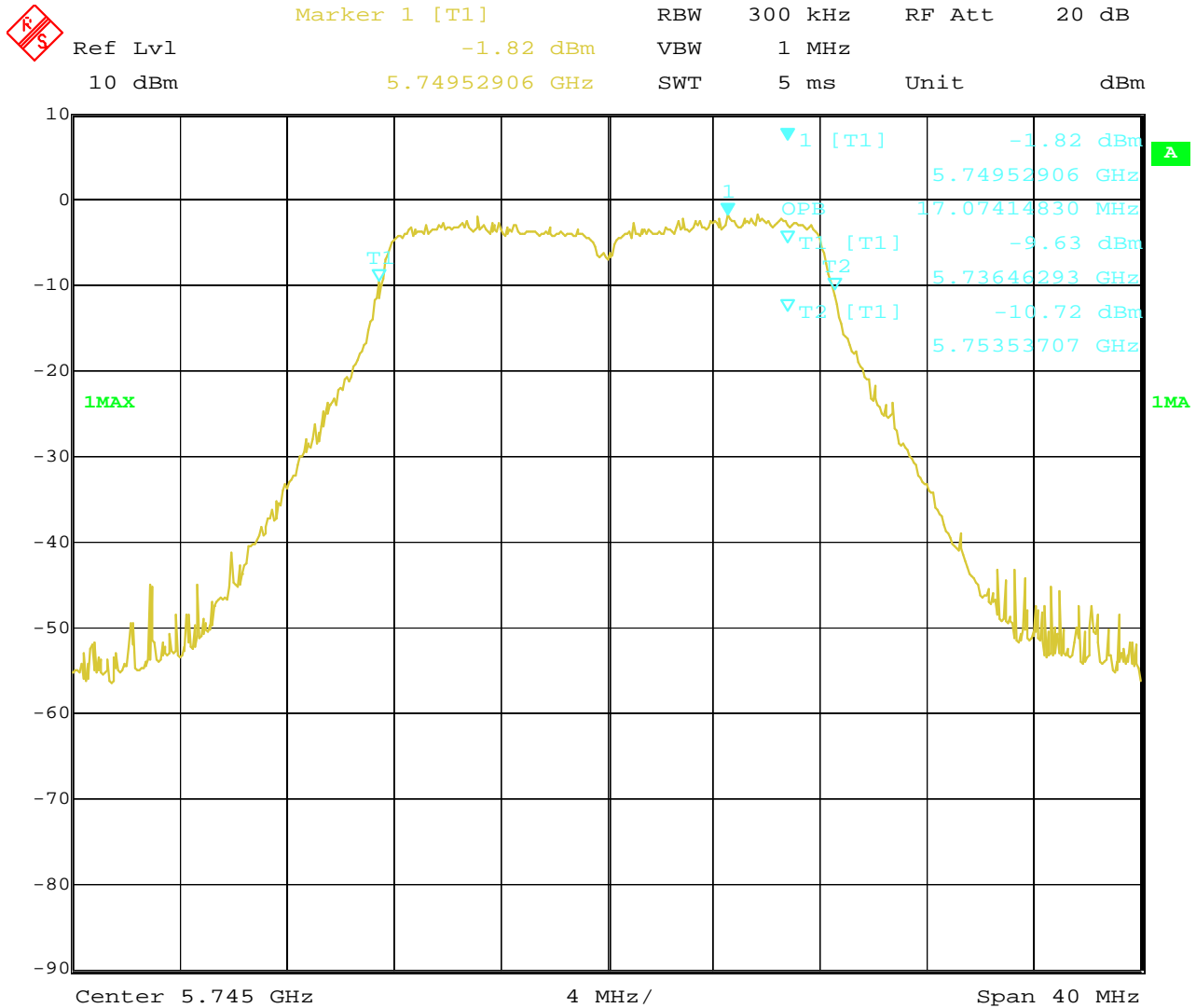
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Test Figure:

**99% Bandwidth**

Channel 149



Date: 11.APR.2019 16:38:53

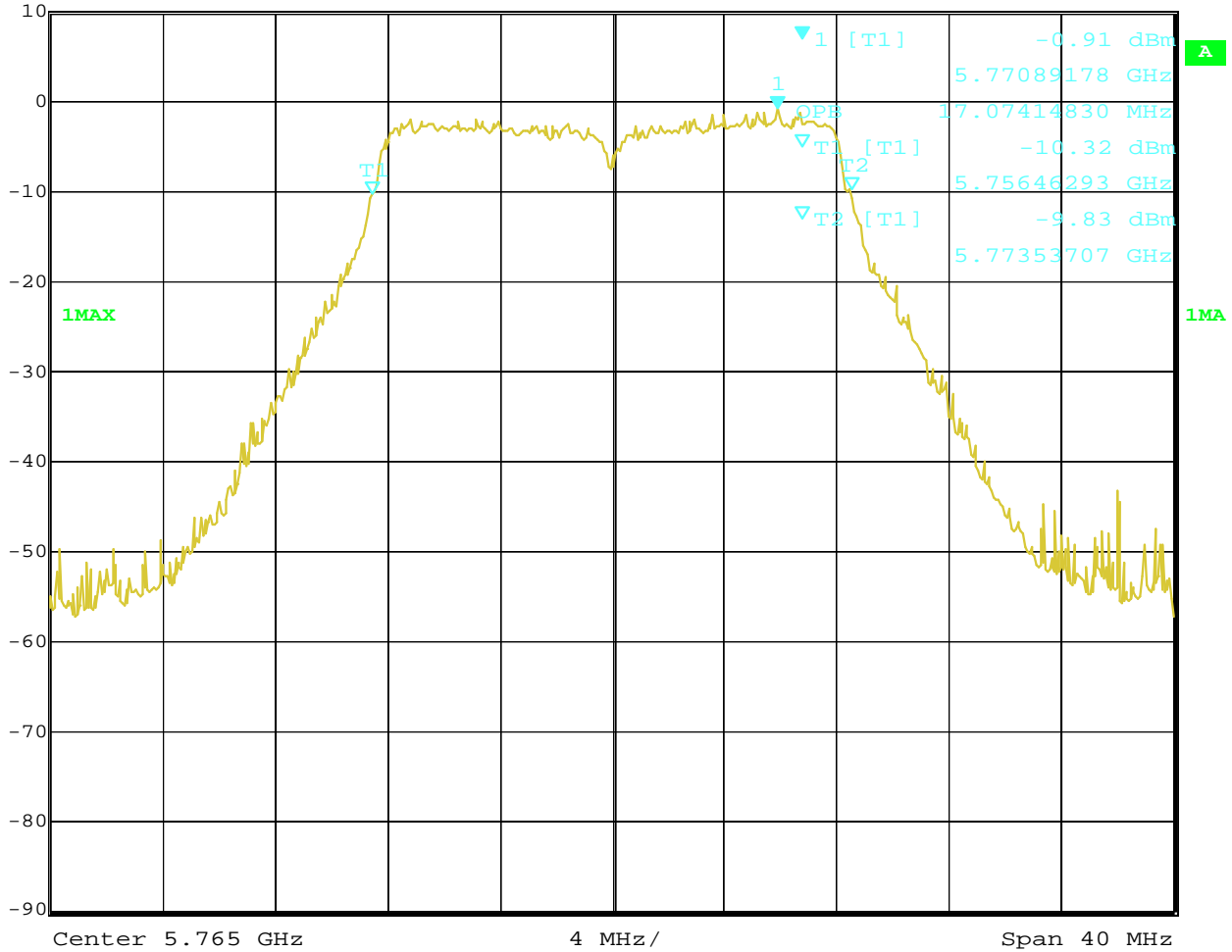
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Channel 153



Ref Lvl	10 dBm	Marker 1 [T1]	-0.91 dBm	RBW	300 kHz	RF Att	20 dB
			5.77089178 GHz	VBW	1 MHz	Unit	dBm
				SWT	5 ms		




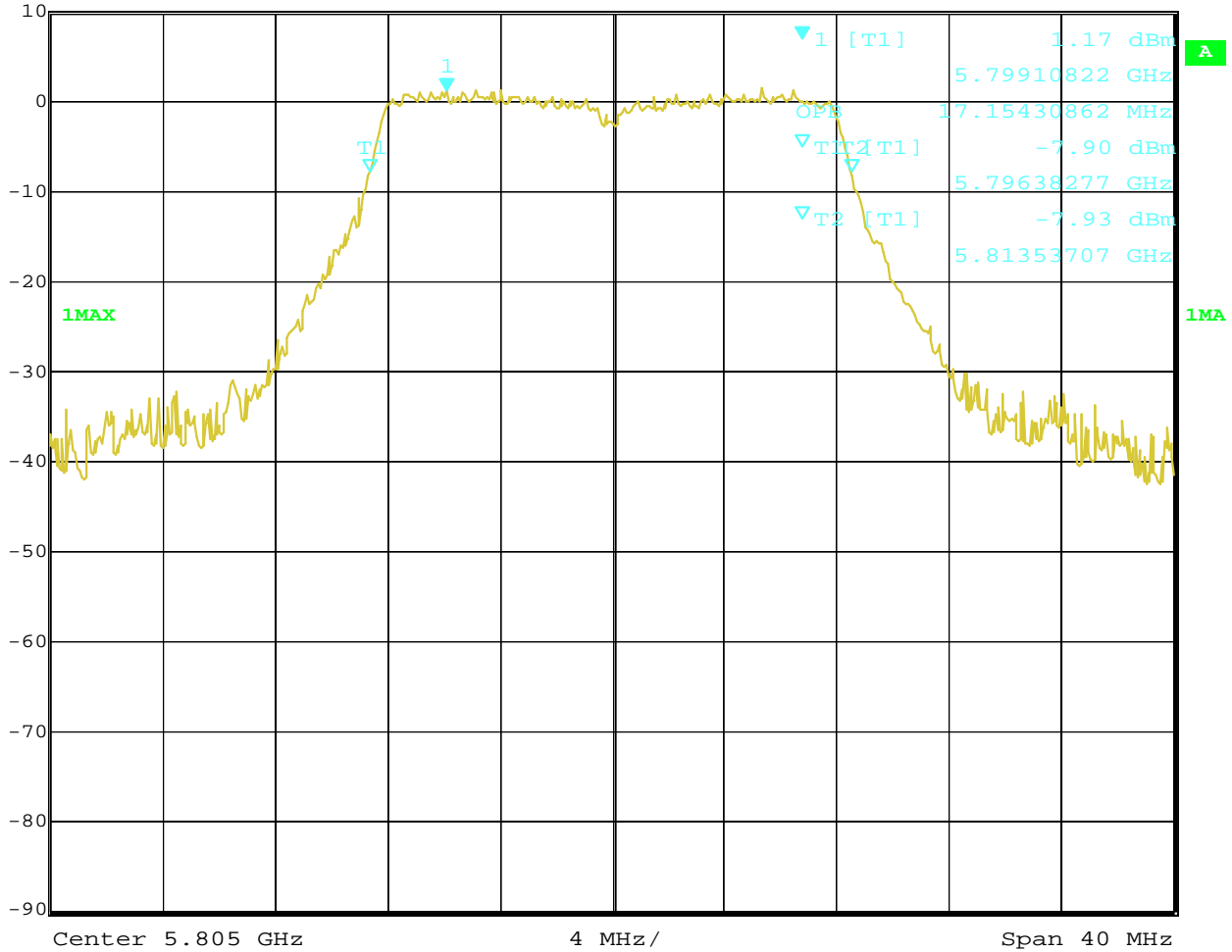
Date: 11.APR.2019 16:36:14

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Channel 161


Marker 1 [T1]
RBW 300 kHz
RF Att 20 dB  
Ref Lvl 1.17 dBm
VBW 1 MHz  
10 dBm
5.79910822 GHz
SWT 5 ms
Unit dBm



Date: 11.APR.2019 16:35:42

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EUT		Developer Board		Model	DB8
Mode		802.11n HT20		Input Voltage	120V~
Temperature		24 deg. C,		Humidity	56% RH
Channel	Channel Frequency (MHz)	Data Transfer Rate (Mbps)	Bandwidth (MHz)	Minimum Limit (MHz)	Pass/ Fail
<b>26dB Bandwidth</b>					
36	5180	mcs0	22.69	--	Pass
40	5200	mcs0	22.53	--	Pass
48	5240	mcs0	22.61	--	Pass
<b>99% Bandwidth</b>					
36	5180	mcs0	18.12	--	Pass
40	5200	mcs0	18.12	--	Pass
48	5240	mcs0	18.12	--	Pass

Note: Ant1 and Ant 2 were tested and only the worst case was recorded in the test report. Ant 1 was the worst case.

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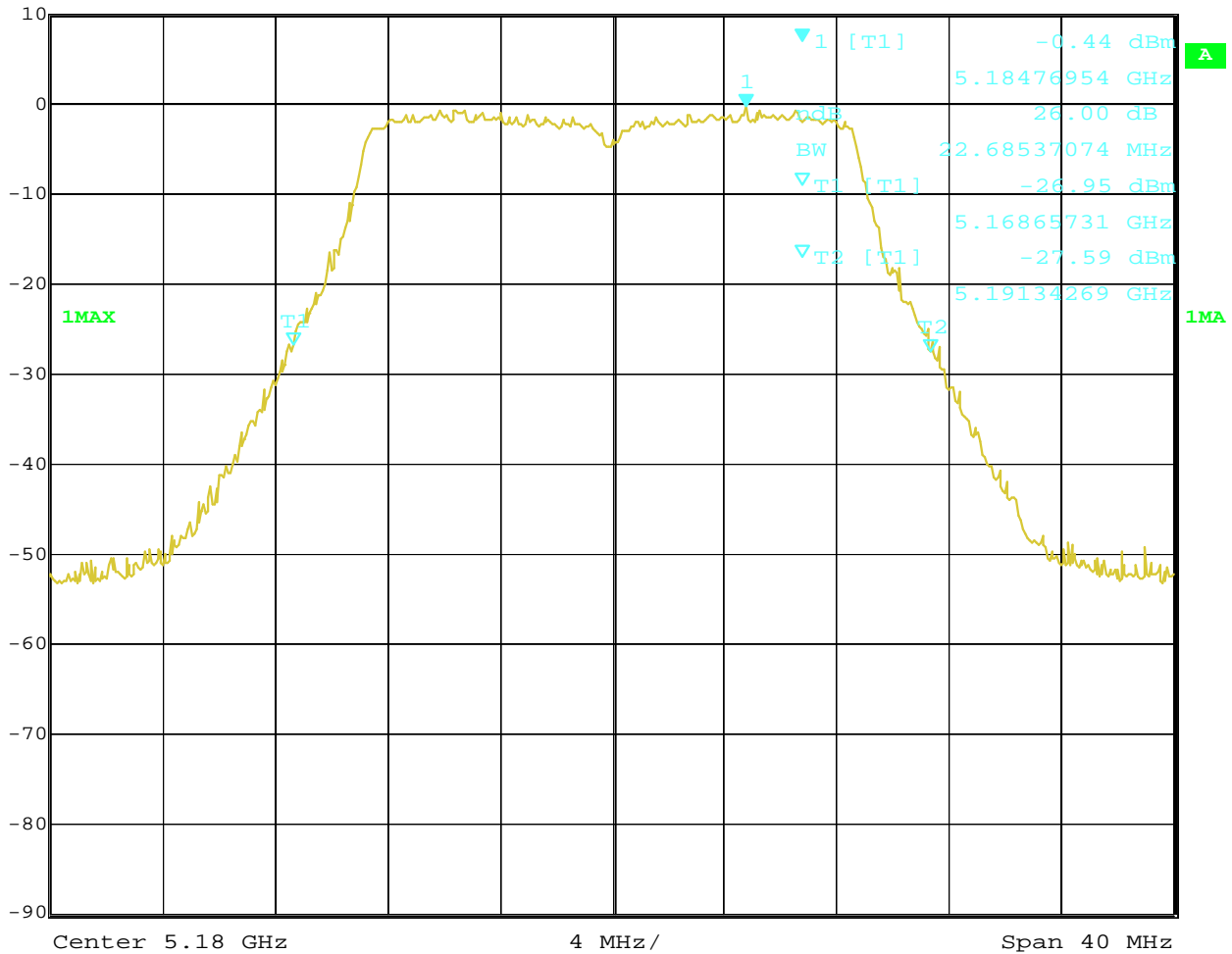


Test Configure

26dB Bandwidth

Channel 36

	Ref Lvl	Marker 1 [T1 ndB]	RBW	300 kHz	RF Att	20 dB
	10 dBm	ndB 26.00 dB	VBW	1 MHz		
		BW 22.68537074 MHz	SWT	5 ms	Unit	dBm



Date: 25.MAR.2019 11:10:00

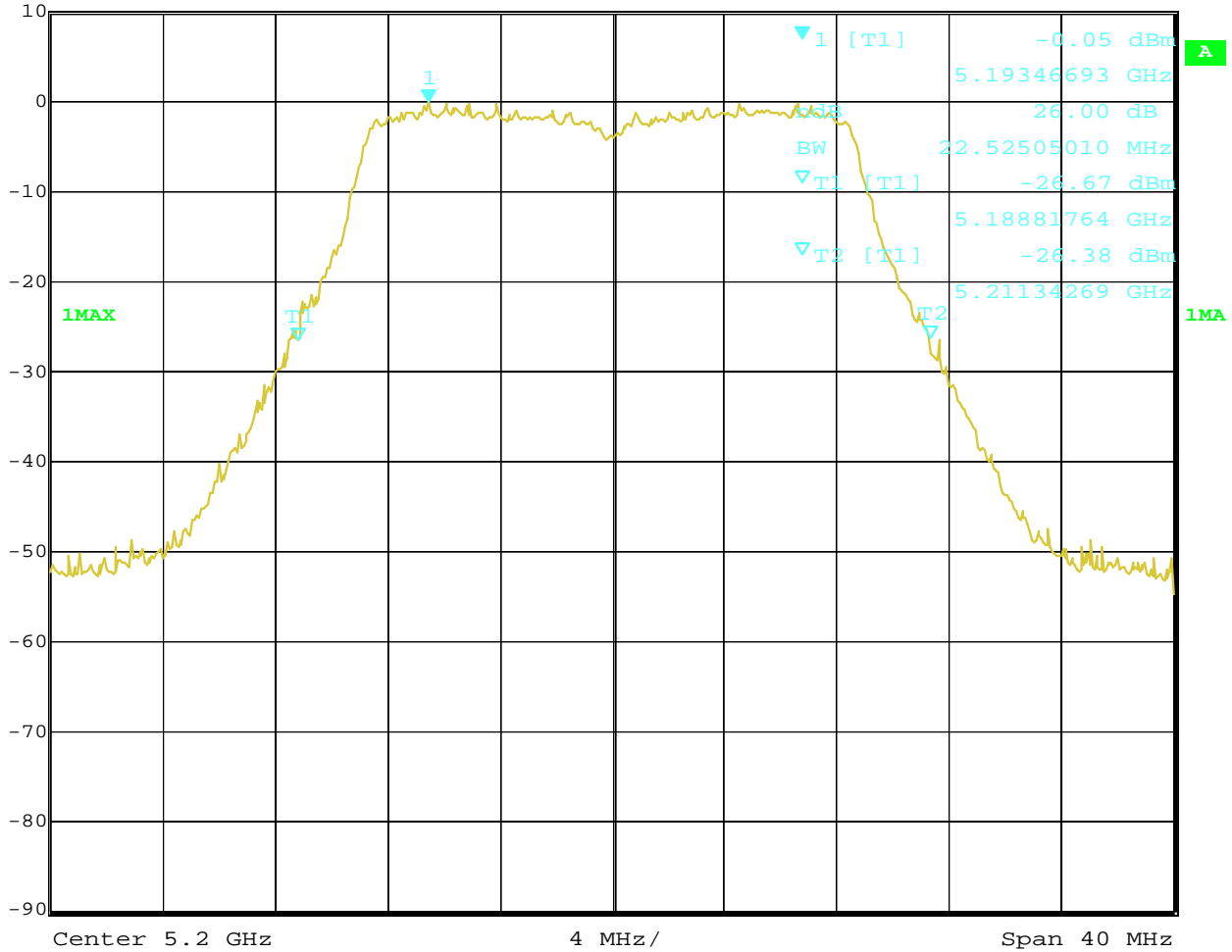
The report refers only to the sample tested and does not apply to the bulk.  
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Channel 40



Ref Lvl	10 dBm	Marker 1 [T1 ndB]	ndB	26.00 dB	RBW	300 kHz	RF Att	20 dB
		BW	22.52505010 MHz		VBW	1 MHz	Unit	dBm
					SWT	5 ms		



Date: 25.MAR.2019 11:08:56

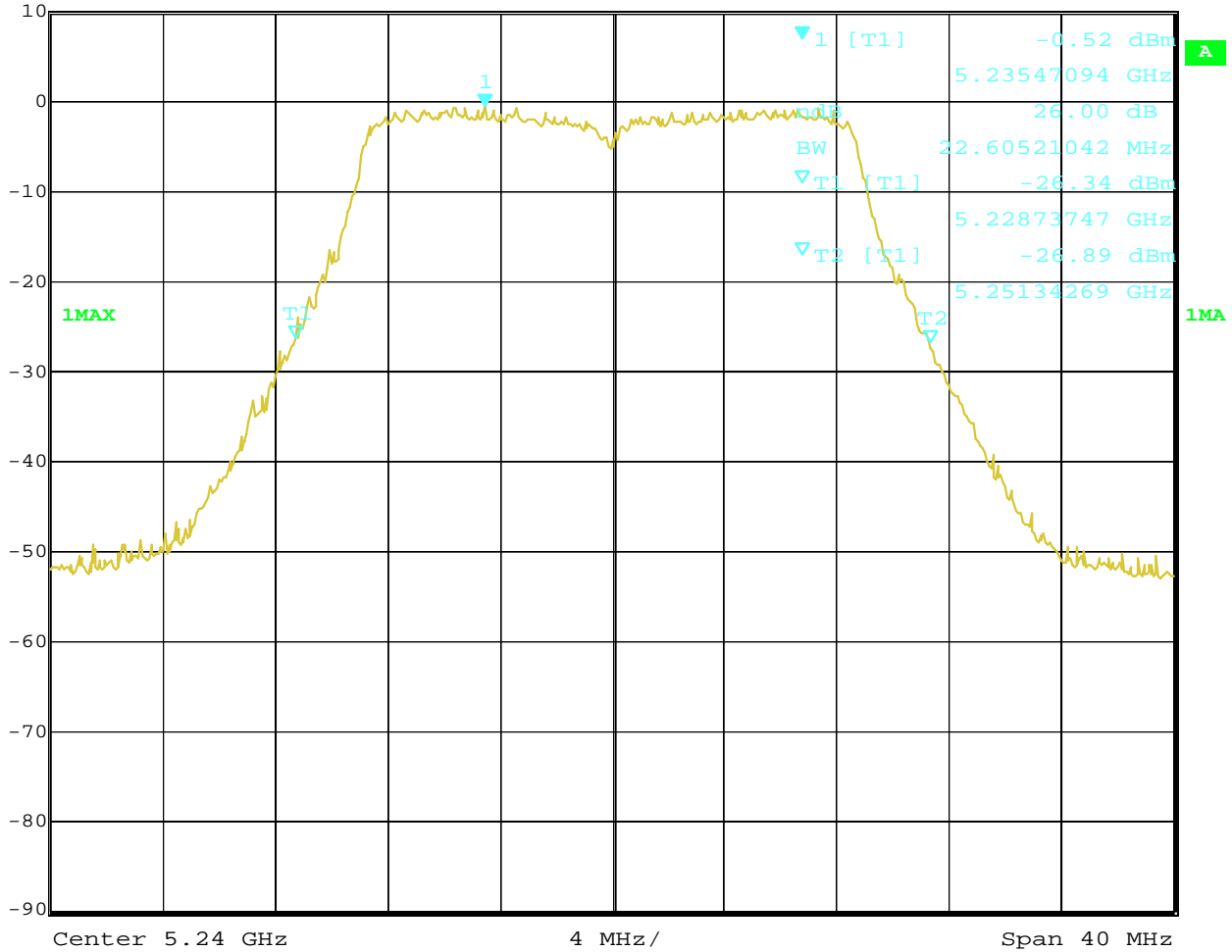
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Channel 48



Ref Lvl	10 dBm	Marker 1 [T1 ndB]	ndB	26.00 dB	RBW	300 kHz	RF Att	20 dB
		BW	22.60521042 MHz		VBW	1 MHz	Unit	dBm
					SWT	5 ms		



Date: 25.MAR.2019 11:07:56

The report refers only to the sample tested and does not apply to the bulk.  
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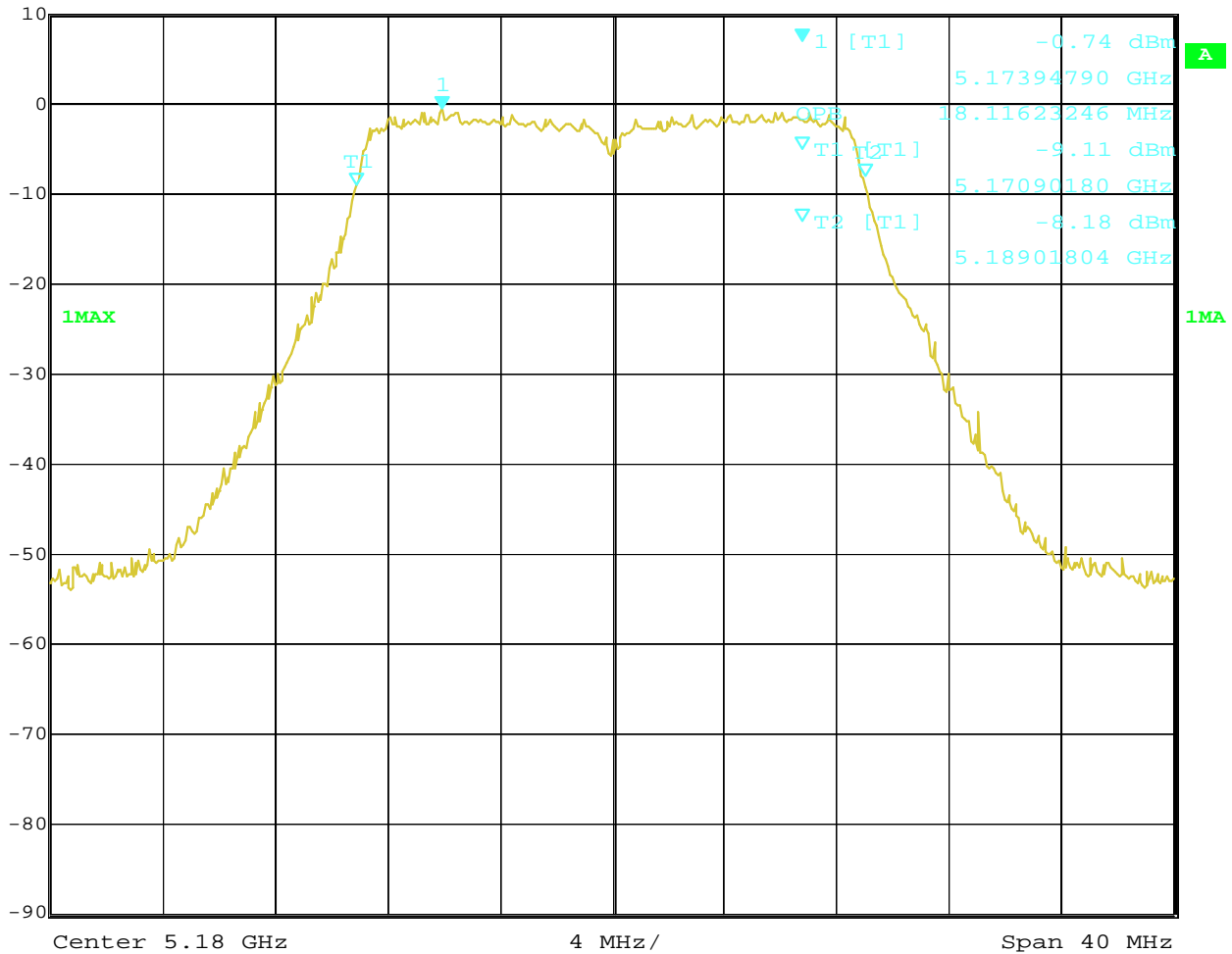


Test Configure

99% Bandwidth

Channel 36

	Ref Lvl	Marker 1 [T1]	RBW	300 kHz	RF Att	20 dB
	10 dBm	-0.74 dBm	VBW	1 MHz		
		5.17394790 GHz	SWT	5 ms	Unit	dBm



Date: 25.MAR.2019 11:29:43

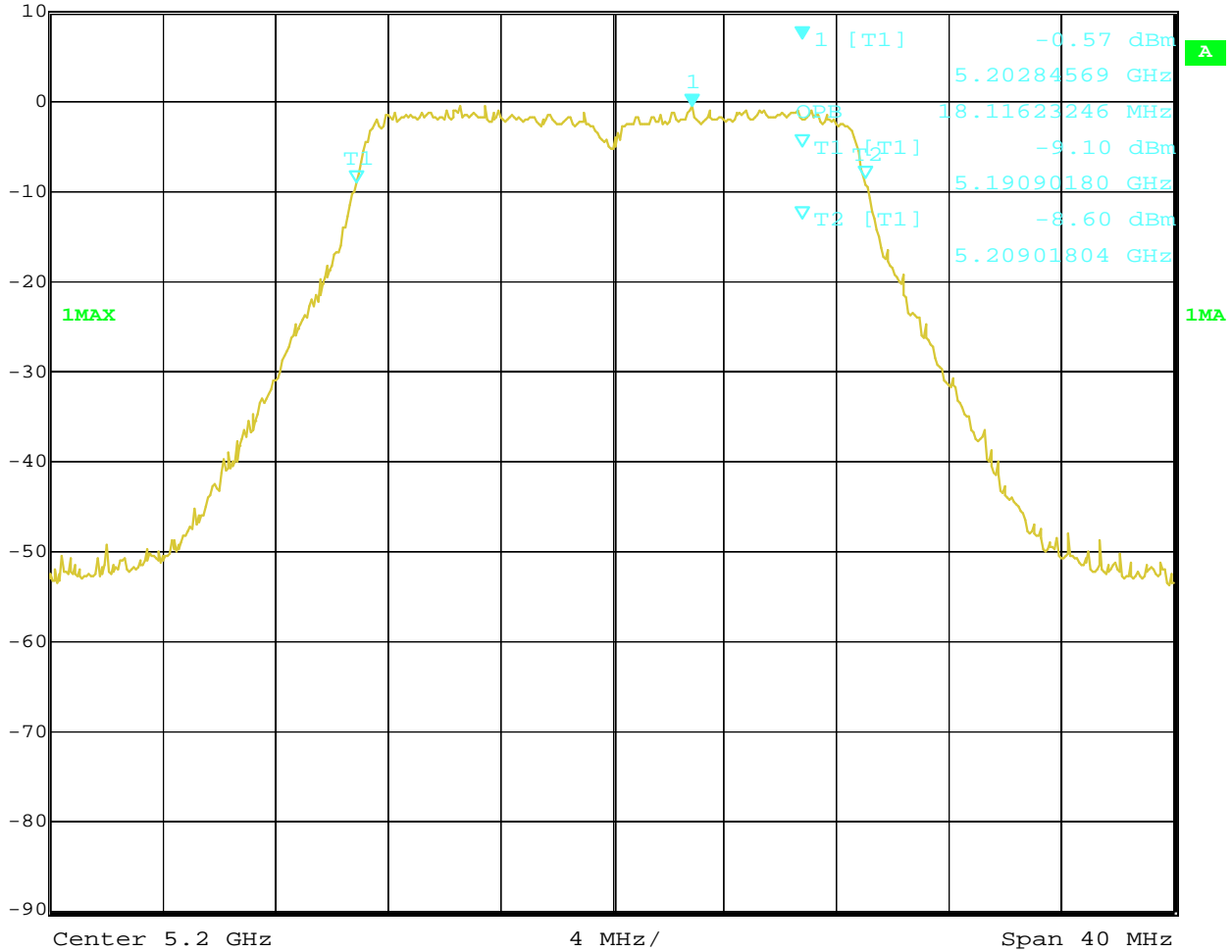
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Channel 40



Ref Lvl	10 dBm	Marker 1 [T1]	-0.57 dBm	RBW	300 kHz	RF Att	20 dB
			5.20284569 GHz	VBW	1 MHz	Unit	dBm
				SWT	5 ms		



Date: 25.MAR.2019 11:28:10

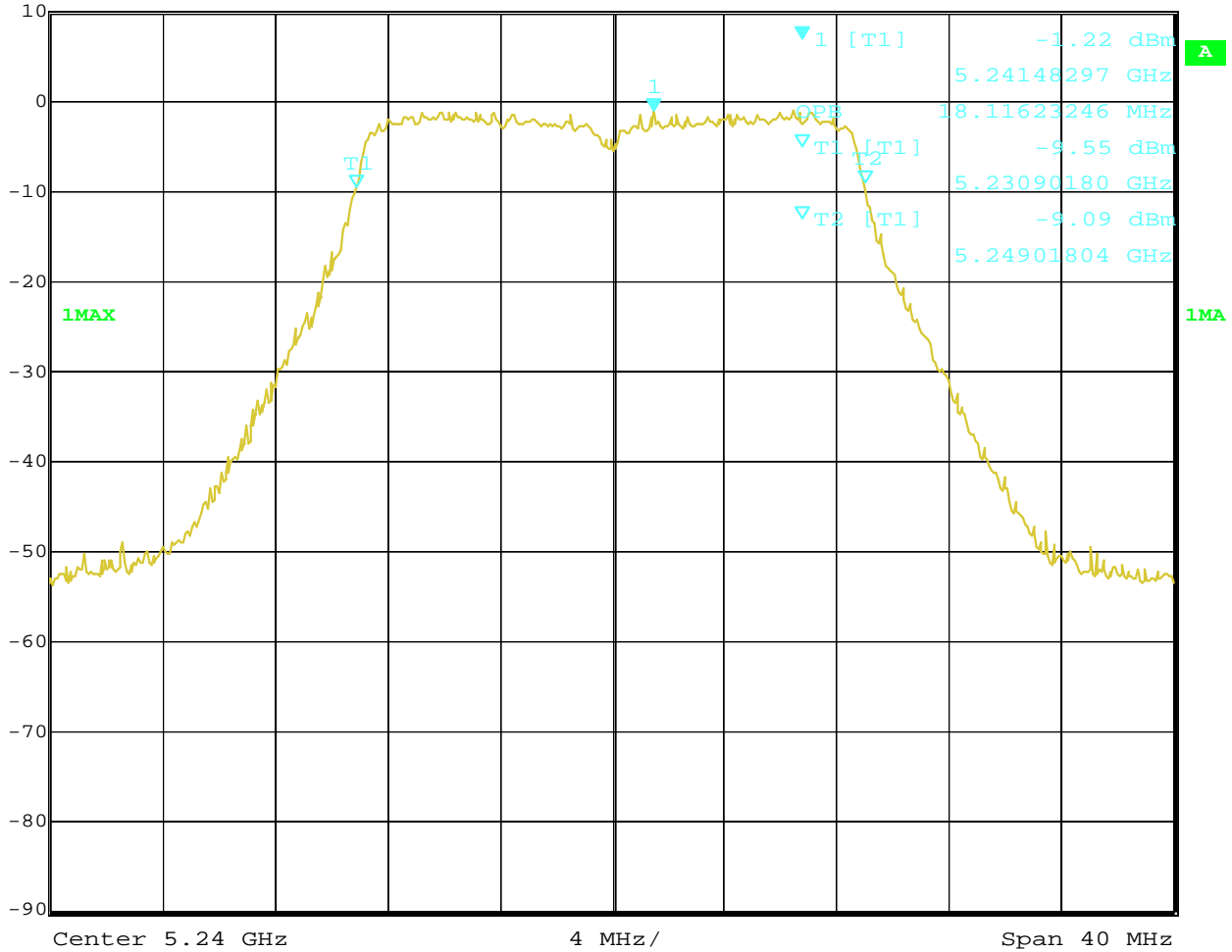
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Channel 48



Ref Lvl	10 dBm	Marker 1 [T1]	-1.22 dBm	RBW	300 kHz	RF Att	20 dB
			5.24148297 GHz	VBW	1 MHz	Unit	dBm
				SWT	5 ms		



Date: 25.MAR.2019 11:26:23

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EUT		Developer Board		Model	DB8
Mode		802.11n HT20		Input Voltage	120V~
Temperature		24 deg. C,		Humidity	56% RH
Channel	Channel Frequency (MHz)	Data Transfer Rate (Mbps)	Bandwidth (MHz)	Minimum Limit (MHz)	Pass/ Fail
<b>26dB Bandwidth</b>					
149	5745	6	22.44	--	Pass
153	5765	6	22.04	--	Pass
161	5805	6	22.36	--	Pass
<b>6dB Bandwidth</b>					
149	5745	6	17.54	0.5	Pass
153	5765	6	17.60	0.5	Pass
161	5805	6	17.31	0.5	Pass
<b>99% Bandwidth</b>					
149	5745	6	18.04	--	Pass
153	5765	6	18.04	--	Pass
161	5805	6	17.96	--	Pass

Note: Ant1 and Ant 2 were tested and only the worst case was recorded in the test report. Ant 1 was the worst case.

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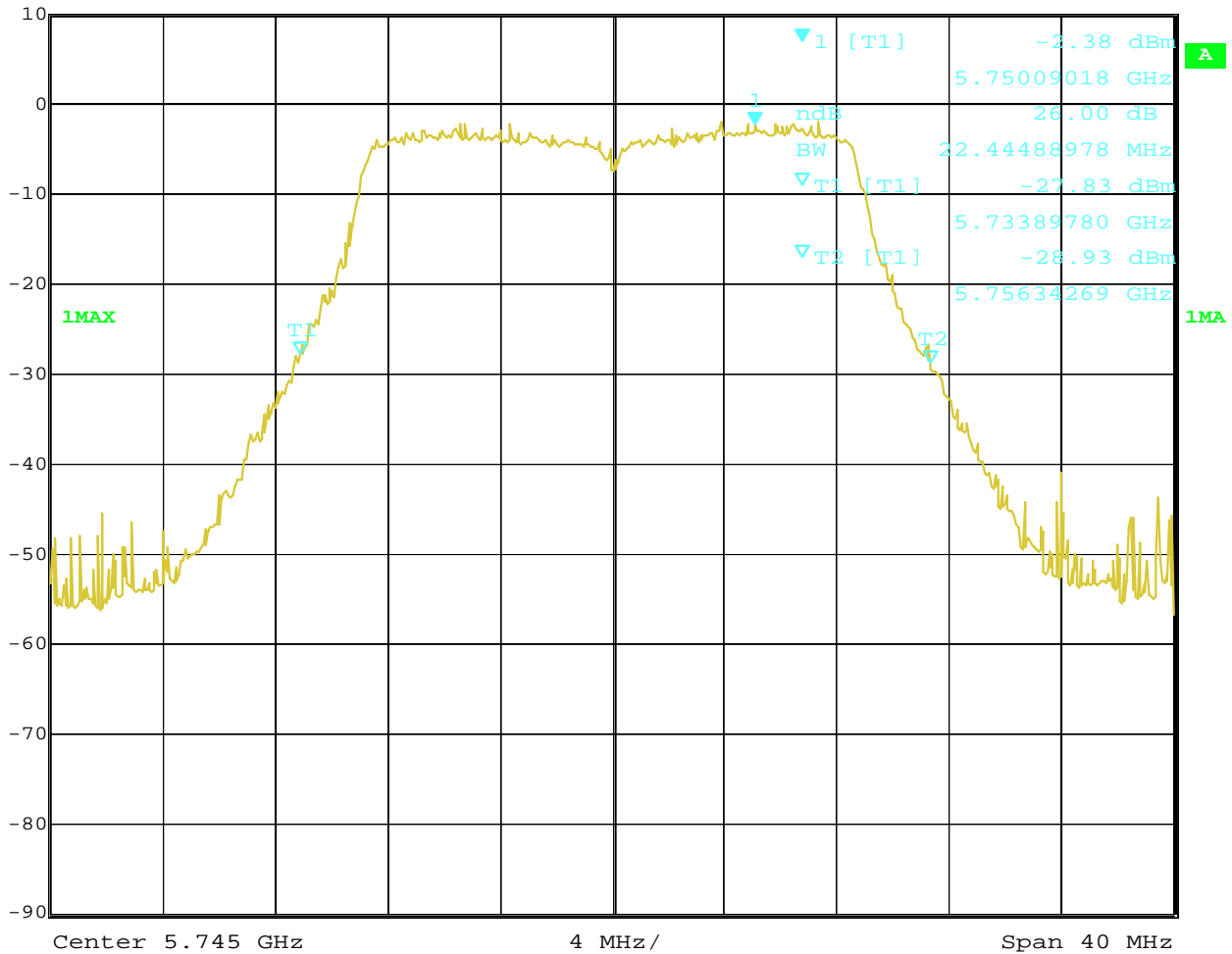


Test Configure

26dB Bandwidth

Channel 149

	Ref Lvl	10 dBm	Marker 1 [T1 ndB]	26.00 dB	RBW	300 kHz	RF Att	20 dB
			BW	22.44488978 MHz	VBW	1 MHz	Unit	dBm
			SWT	5 ms				



Date: 11.APR.2019 16:33:25

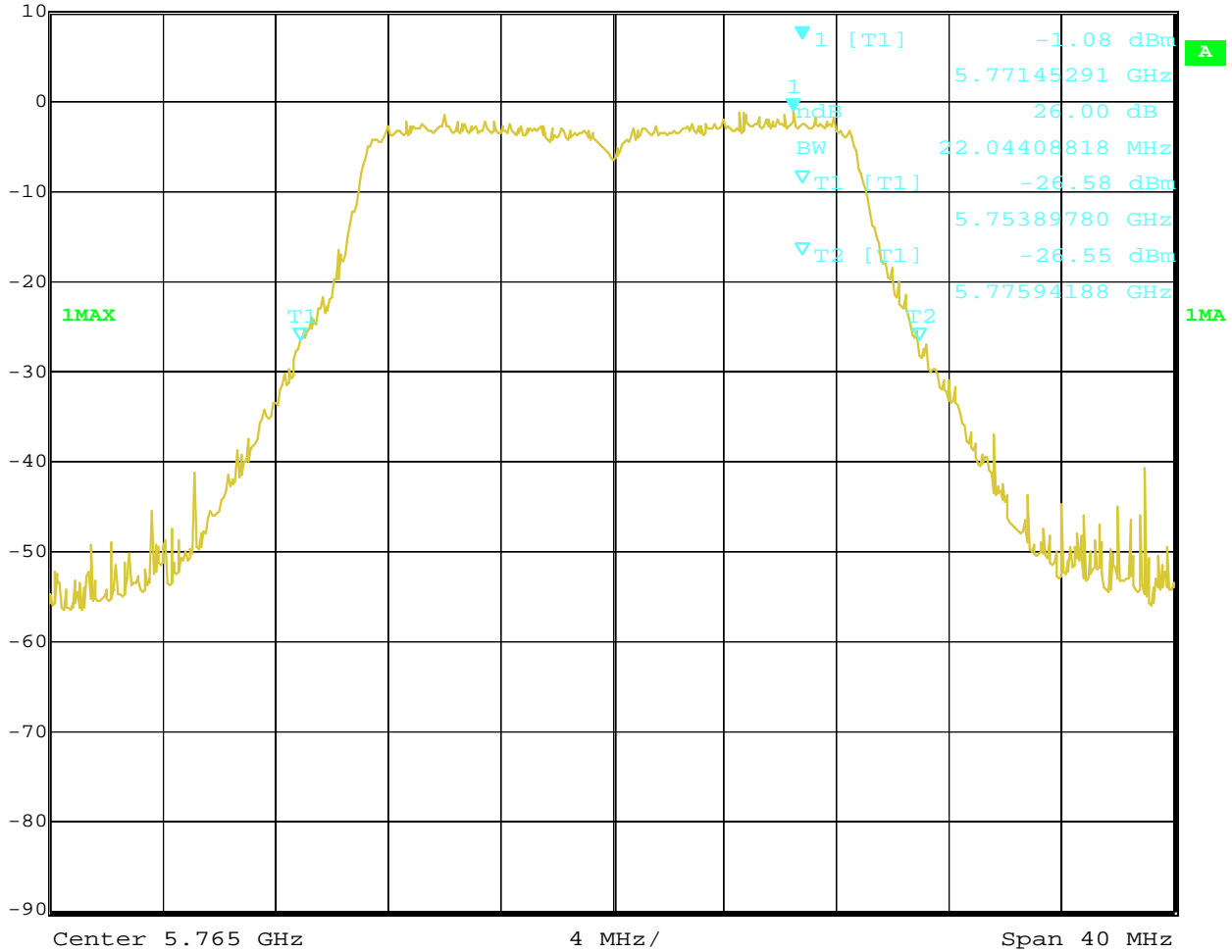
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Channel 153



Ref Lvl	10 dBm	Marker 1 [T1 ndB]	ndB	26.00 dB	RBW	300 kHz	RF Att	20 dB
		BW	22.04408818 MHz		VBW	1 MHz	Unit	dBm
					SWT	5 ms		



Date: 11.APR.2019 16:33:51

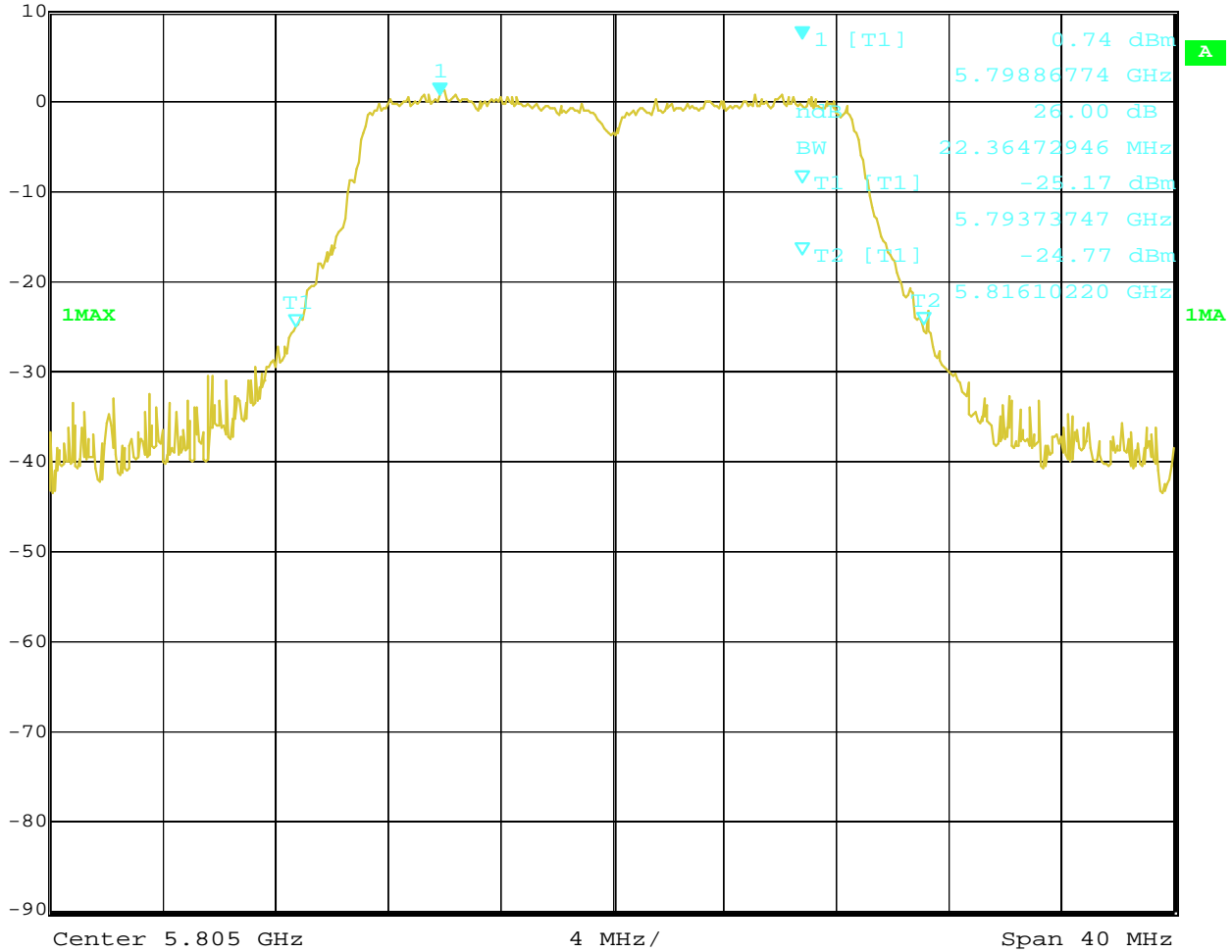
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Channel 161



Ref Lvl	10 dBm	Marker 1 [T1 ndB]	ndB	26.00 dB	RBW	300 kHz	RF Att	20 dB
		BW	22.36472946 MHz		VBW	1 MHz	Unit	dBm
					SWT	5 ms		



Date: 11.APR.2019 16:34:52

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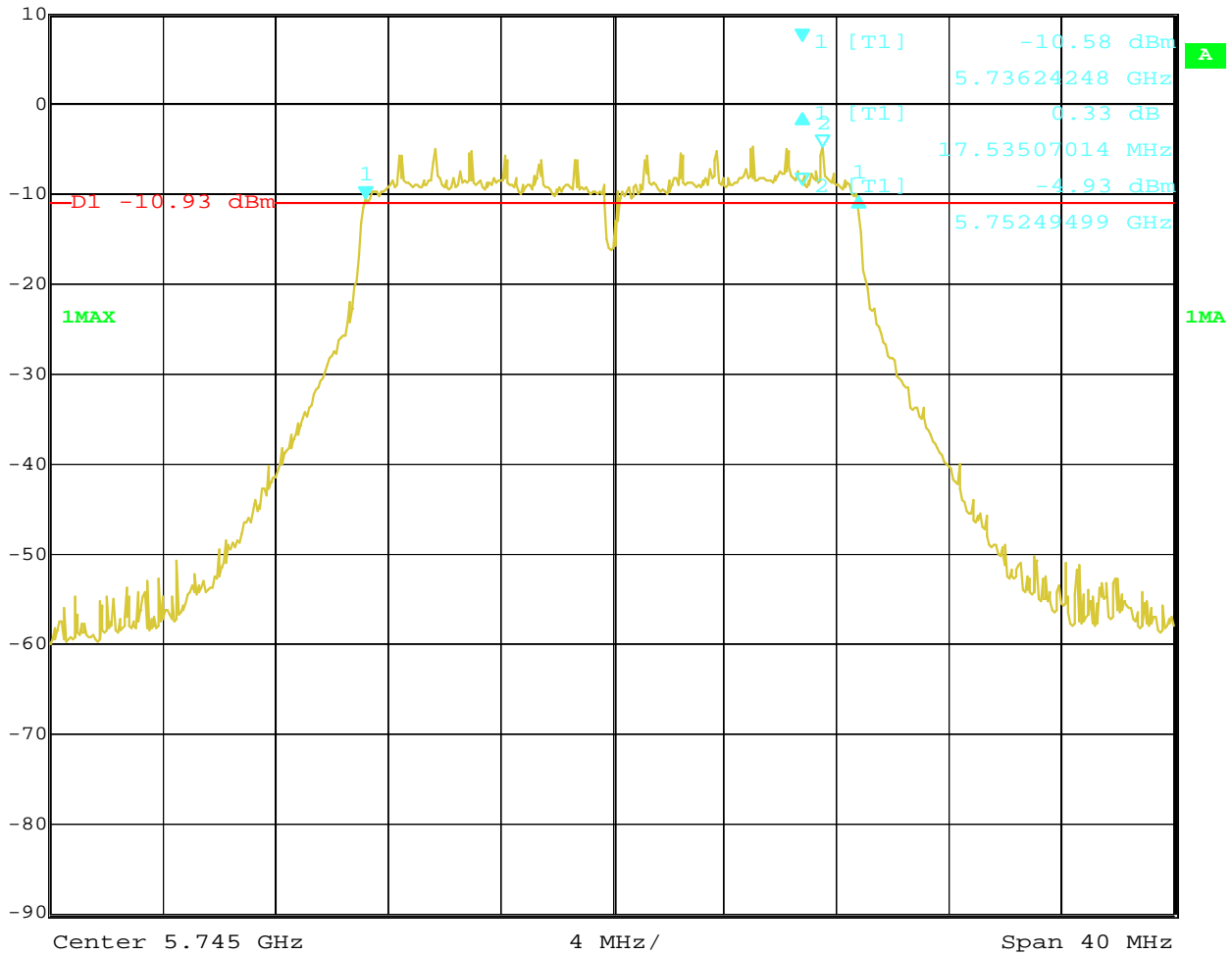


Test Configure

6dB Bandwidth

Channel 149

	Ref Lvl	Delta 1 [T1]	RBW	100 kHz	RF Att	20 dB
	10 dBm	0.33 dB	VBW	300 kHz		
		17.53507014 MHz	SWT	10 ms	Unit	dBm



Date: 11.APR.2019 16:11:19

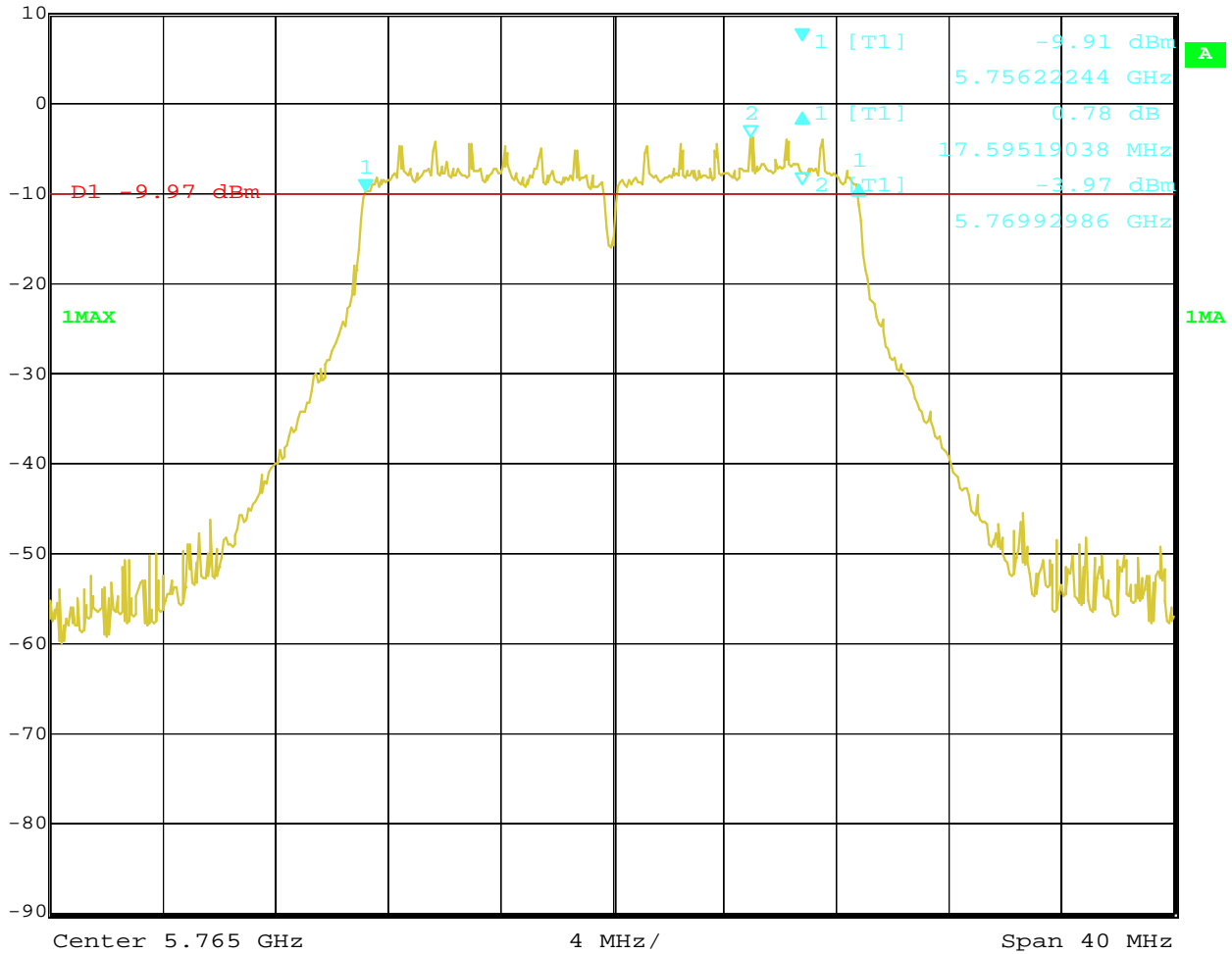
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Channel 153

	Delta 1 [T1]	RBW	100 kHz	RF Att	20 dB
	Ref Lvl	0.78 dB	VBW	300 kHz	
	10 dBm	17.59519038 MHz	SWT	10 ms	Unit dBm



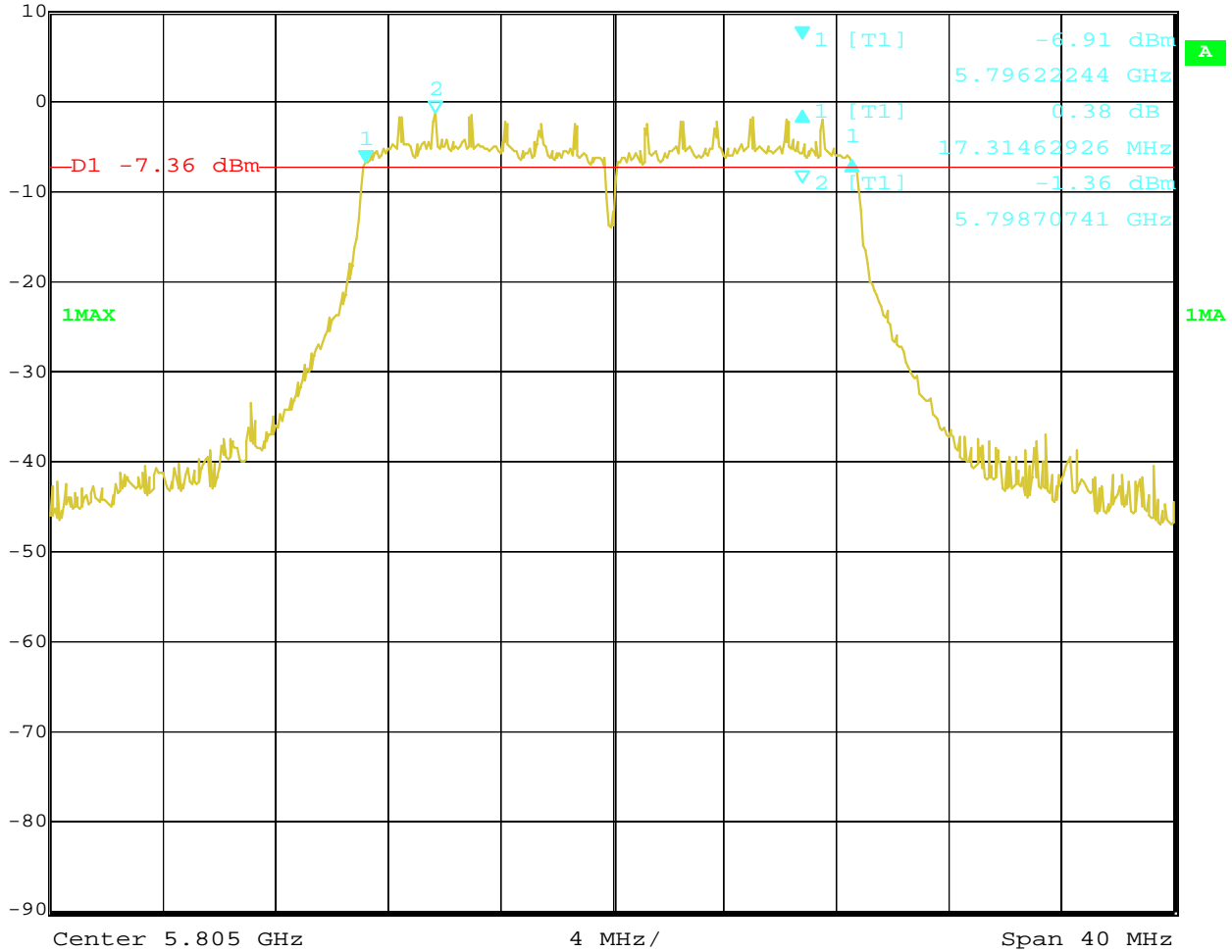
Date: 11.APR.2019 16:14:40

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Channel 161

◆ Delta 1 [T1] RBW 100 kHz RF Att 20 dB  
 Ref Lvl 0.38 dB VBW 300 kHz  
 10 dBm 17.31462926 MHz SWT 10 ms Unit dBm



Date: 11.APR.2019 16:17:35

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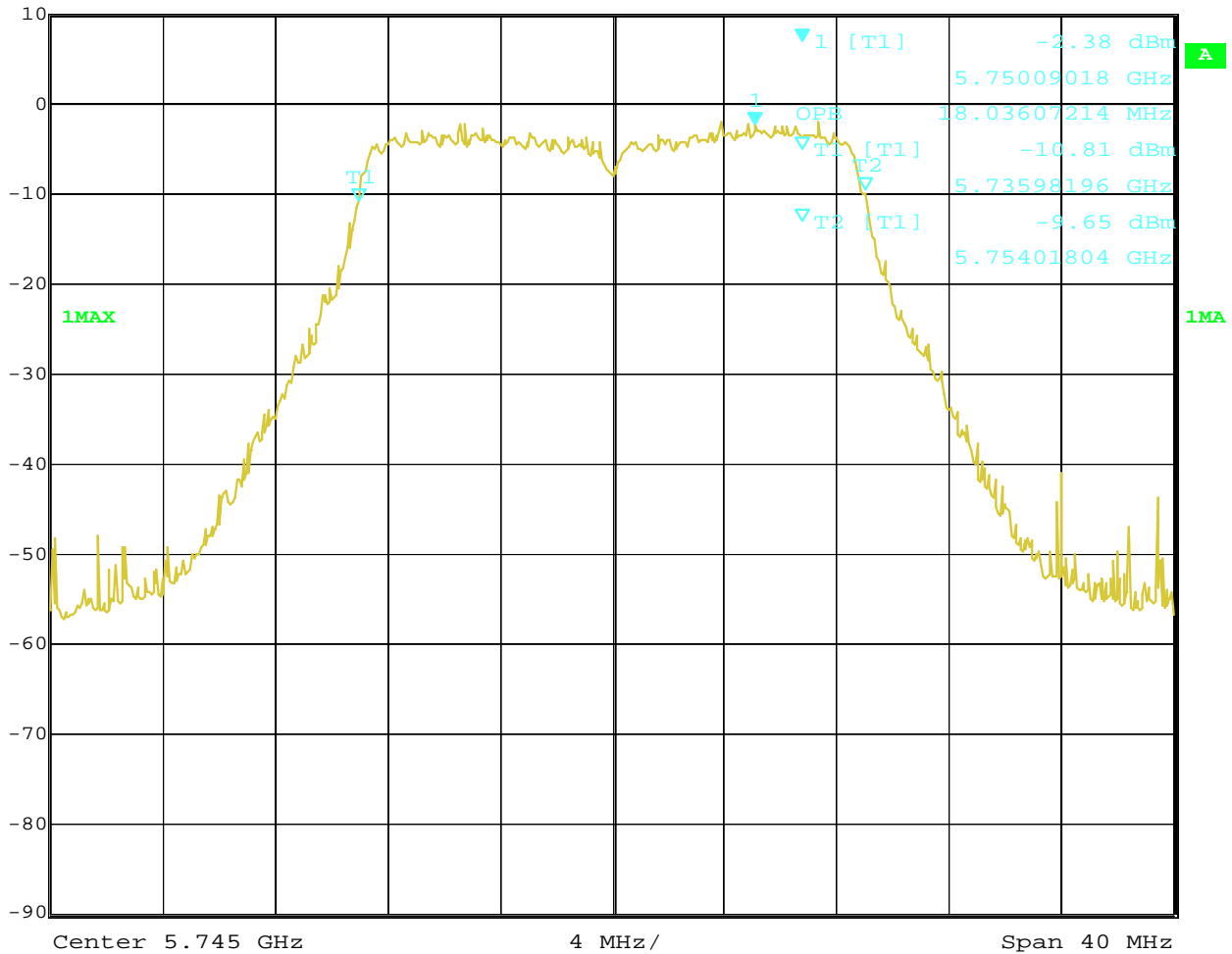


Test Configure

99% Bandwidth

Channel 149

	Ref Lvl	Marker 1 [T1]	RBW	300 kHz	RF Att	20 dB
	10 dBm	-2.38 dBm	VBW	1 MHz		
		5.75009018 GHz	SWT	5 ms	Unit	dBm



Date: 11.APR.2019 16:33:10

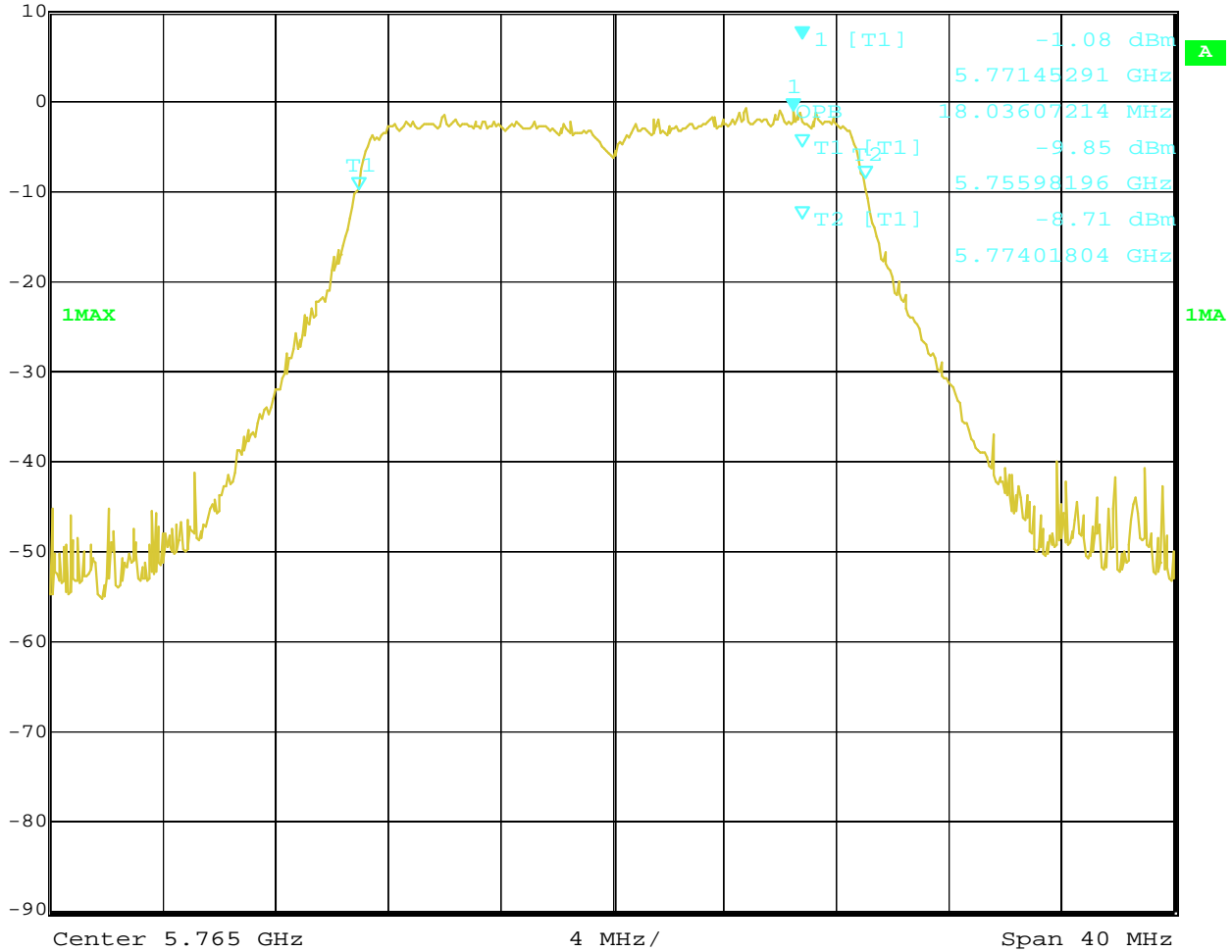
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Channel 153



Ref Lvl	Marker 1 [T1]	RBW	300 kHz	RF Att	20 dB
10 dBm	-1.08 dBm	VBW	1 MHz		
	5.77145291 GHz	SWT	5 ms	Unit	dBm




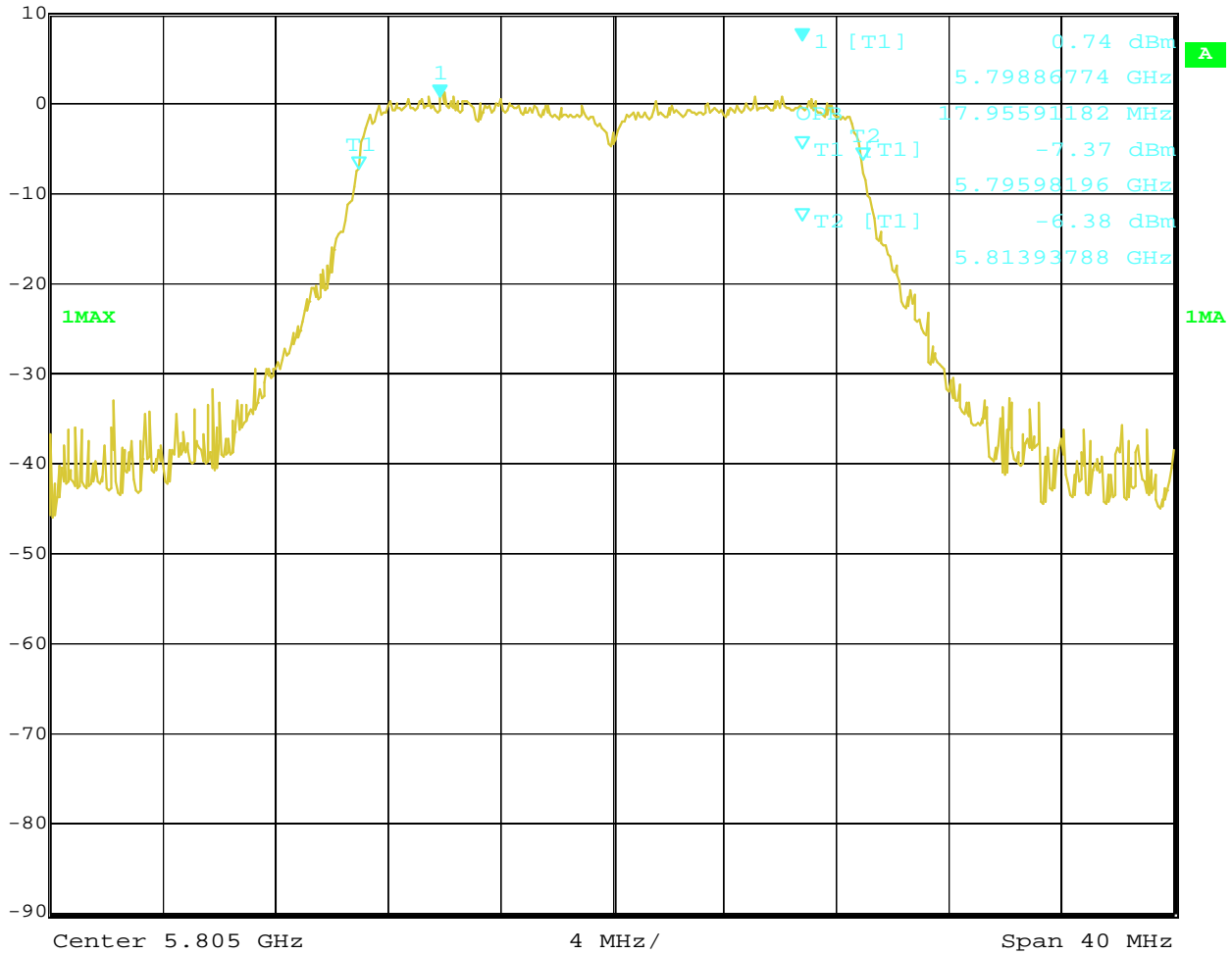
Date: 11.APR.2019 16:34:12

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Channel 161


Marker 1 [T1]
RBW 300 kHz
RF Att 20 dB  
Ref Lvl 0.74 dBm
VBW 1 MHz  
10 dBm
5.79886774 GHz
SWT 5 ms
Unit dBm



Date: 11.APR.2019 16:34:38

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EUT		Developer Board		Model	DB8
Mode		802.11n HT40		Input Voltage	120V~
Temperature		24 deg. C,		Humidity	56% RH
Channel	Channel Frequency (MHz)	Data Transfer Rate (Mbps)	Bandwidth (MHz)	Minimum Limit (MHz)	Pass/ Fail
<b>26dB Bandwidth</b>					
38	5190	mcs0	42.97	--	Pass
46	5230	mcs0	43.29	--	Pass
<b>99% Bandwidth</b>					
38	5190	mcs0	36.39	--	Pass
46	5230	mcs0	36.39	--	Pass

Note: Ant1 and Ant 2 were tested and only the worst case was recorded in the test report. Ant 1 was the worst case.

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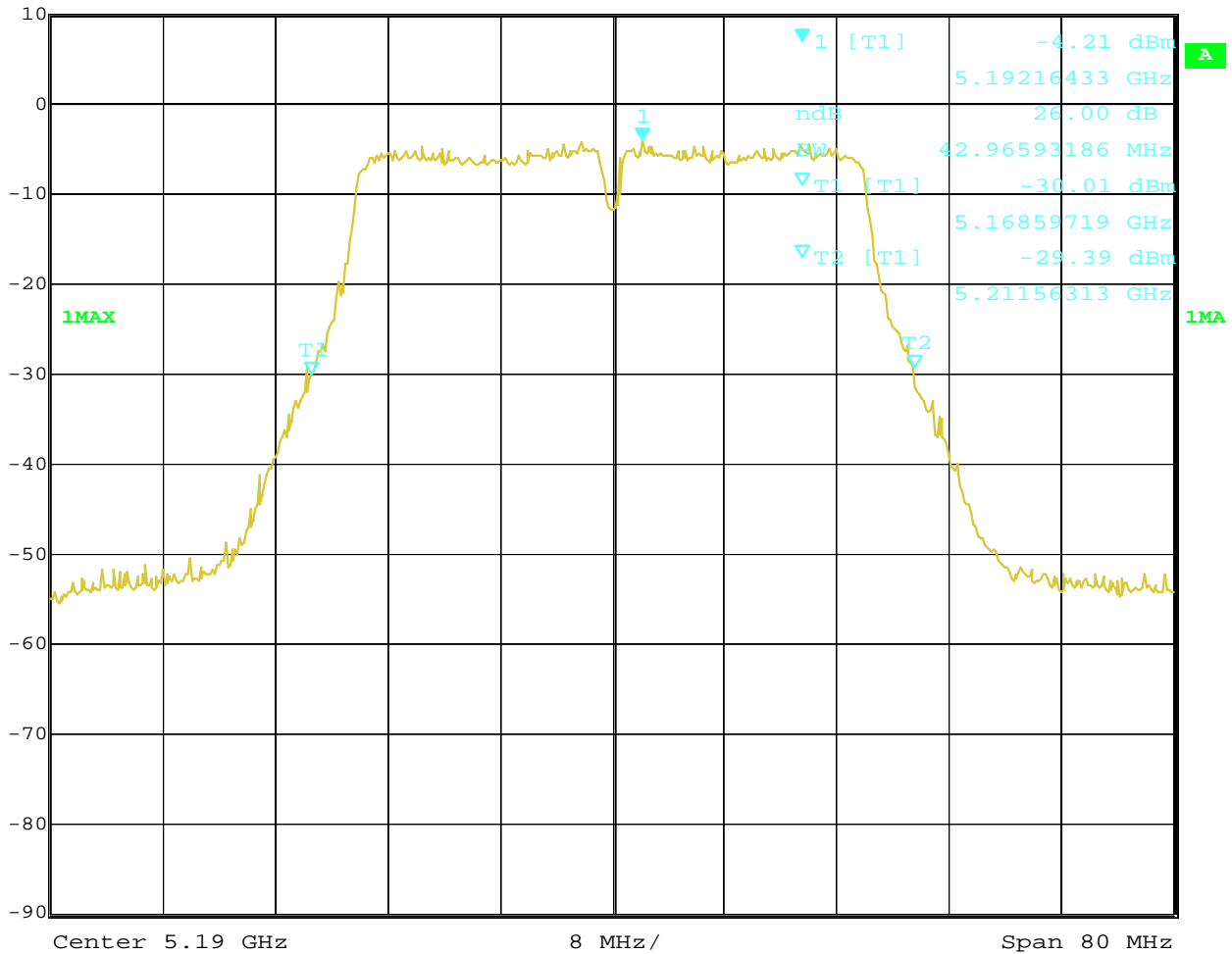


Test Configure

26dB Bandwidth

Channel 38

	Ref Lvl	Marker 1 [T1 ndB]	RBW	300 kHz	RF Att	20 dB
	10 dBm	ndB 26.00 dB	VBW	1 MHz		
		BW 42.96593186 MHz	SWT	5 ms	Unit	dBm



Date: 25.MAR.2019 11:18:27

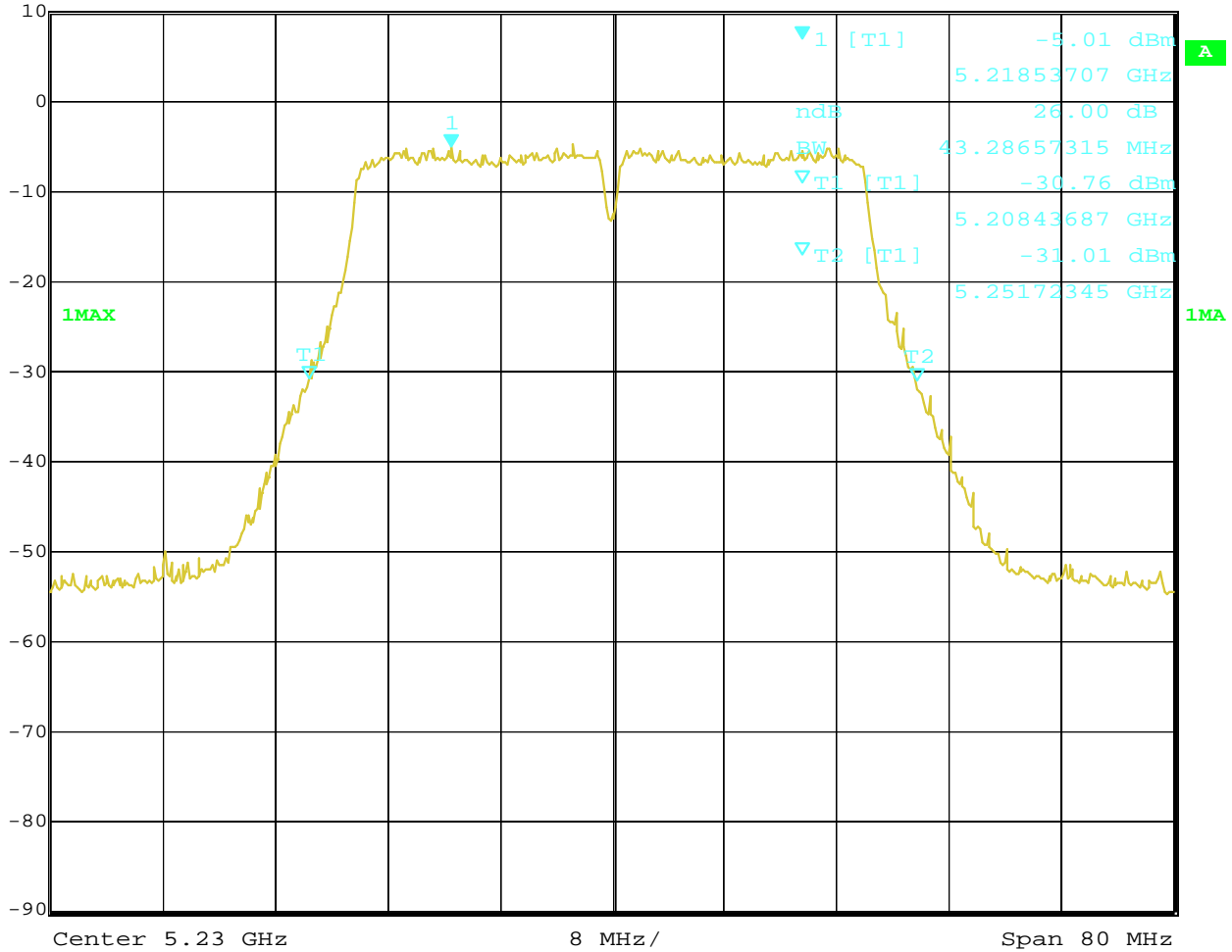
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Channel 46



Ref Lvl	10 dBm	Marker 1 [T1 ndB]	ndB	26.00 dB	RBW	300 kHz	RF Att	20 dB
		BW	43.28657315 MHz		VBW	1 MHz	Unit	dBm
					SWT	5 ms		



Date: 25.MAR.2019 11:19:42

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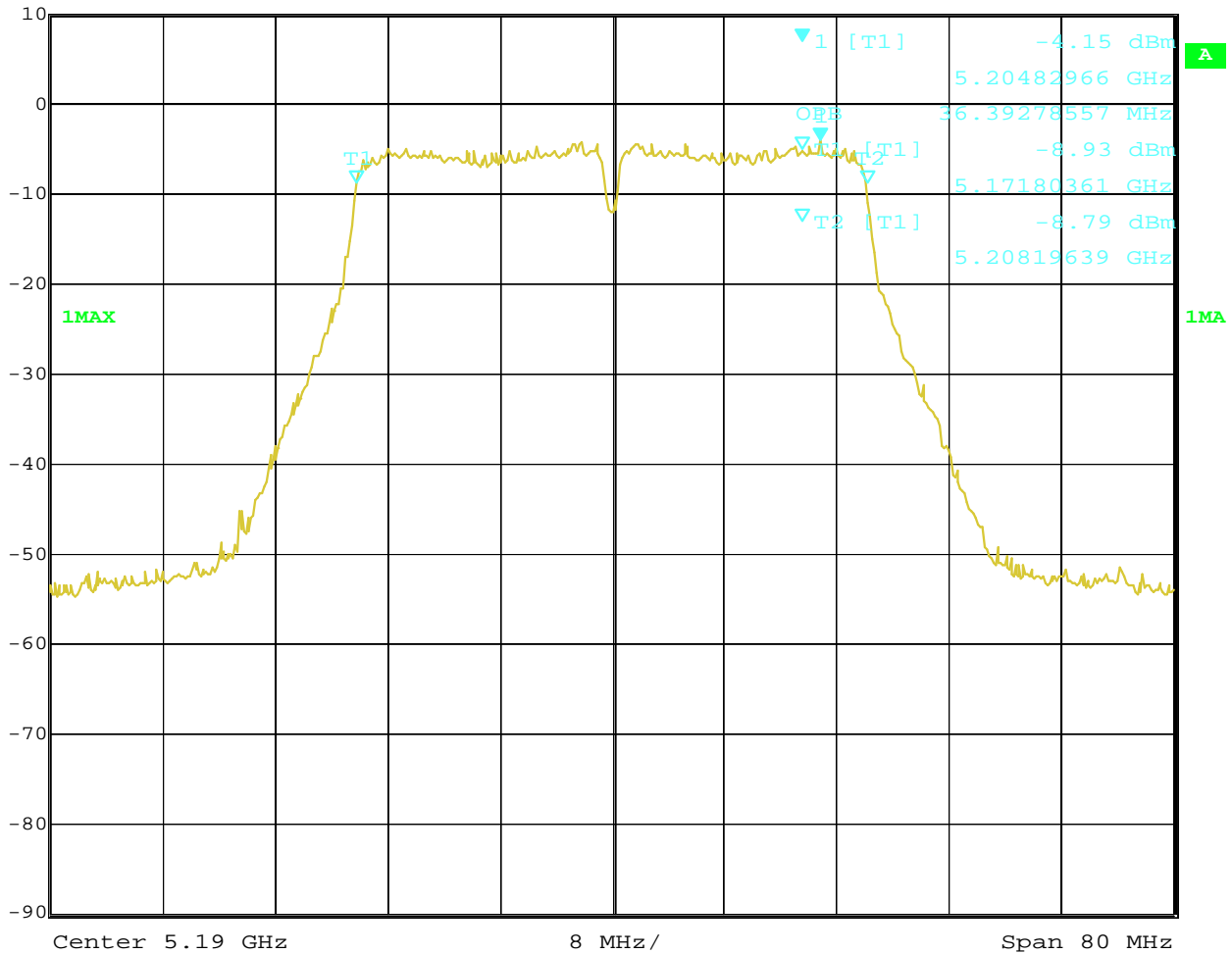


Test Configure

99% Bandwidth

Channel 38

	Ref Lvl	Marker 1 [T1]	RBW	300 kHz	RF Att	20 dB
	10 dBm	-4.15 dBm	VBW	1 MHz		
		5.20482966 GHz	SWT	5 ms	Unit	dBm



Date: 25.MAR.2019 11:22:09

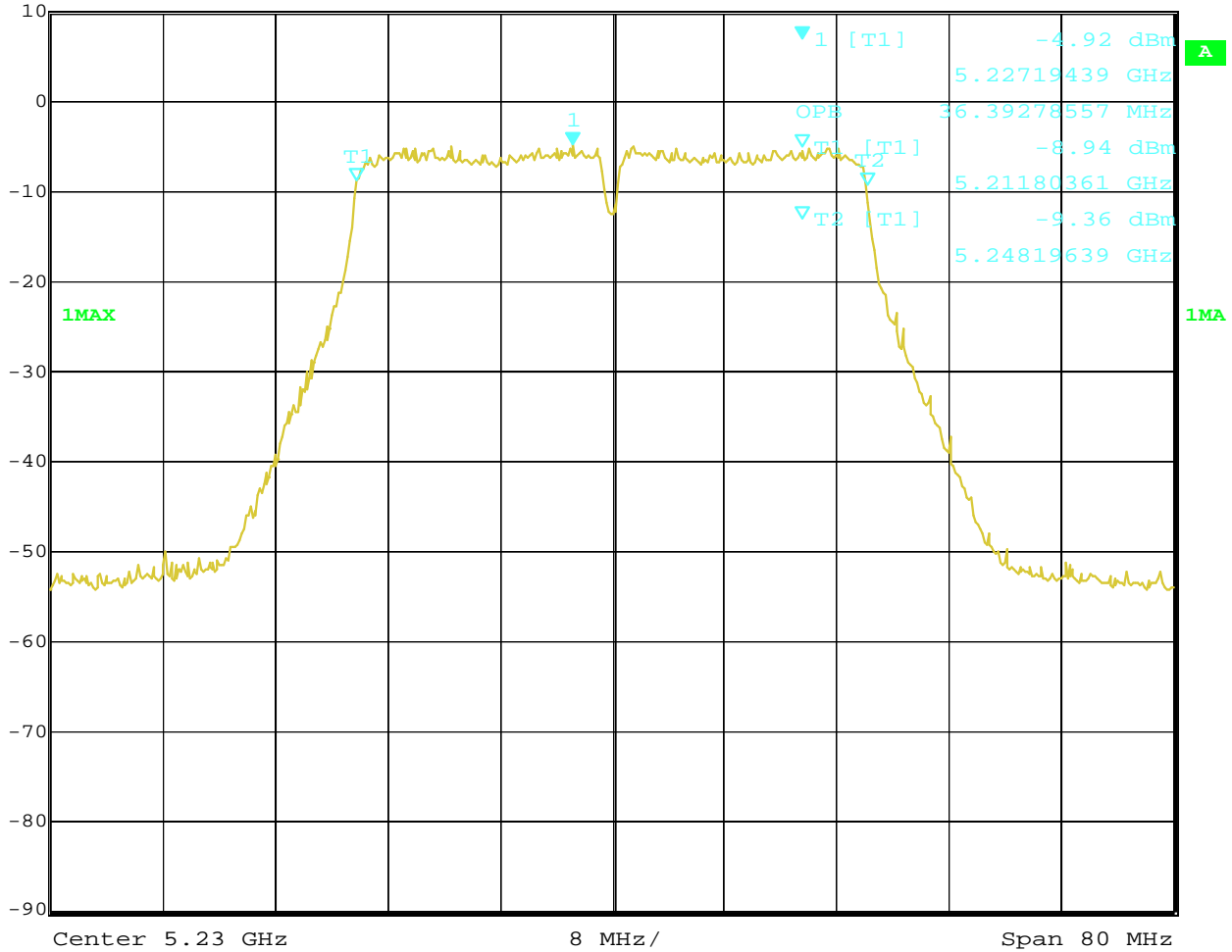
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Channel 46



Ref Lvl	10 dBm	Marker 1 [T1]	-4.92 dBm	RBW	300 kHz	RF Att	20 dB
			5.22719439 GHz	VBW	1 MHz	Unit	dBm
				SWT	5 ms		



Date: 25.MAR.2019 11:20:00

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EUT		Developer Board		Model	DB8
Mode		802.11n HT40		Input Voltage	120V~
Temperature		24 deg. C,		Humidity	56% RH
Channel	Channel Frequency (MHz)	Data Transfer Rate (Mbps)	Bandwidth (MHz)	Minimum Limit (MHz)	Pass/ Fail
<b>26dB Bandwidth</b>					
151	5755	mcs0	42.65	--	Pass
159	5795	mcs0	43.29	--	Pass
<b>6dB Bandwidth</b>					
151	5755	mcs0	35.91	0.5	Pass
159	5795	mcs0	35.99	0.5	Pass
<b>99% Bandwidth</b>					
151	5755	mcs0	36.55	--	Pass
159	5795	mcs0	36.39	--	Pass

Note: Ant1 and Ant 2 were tested and only the worst case was recorded in the test report. Ant 1 was the worst case.

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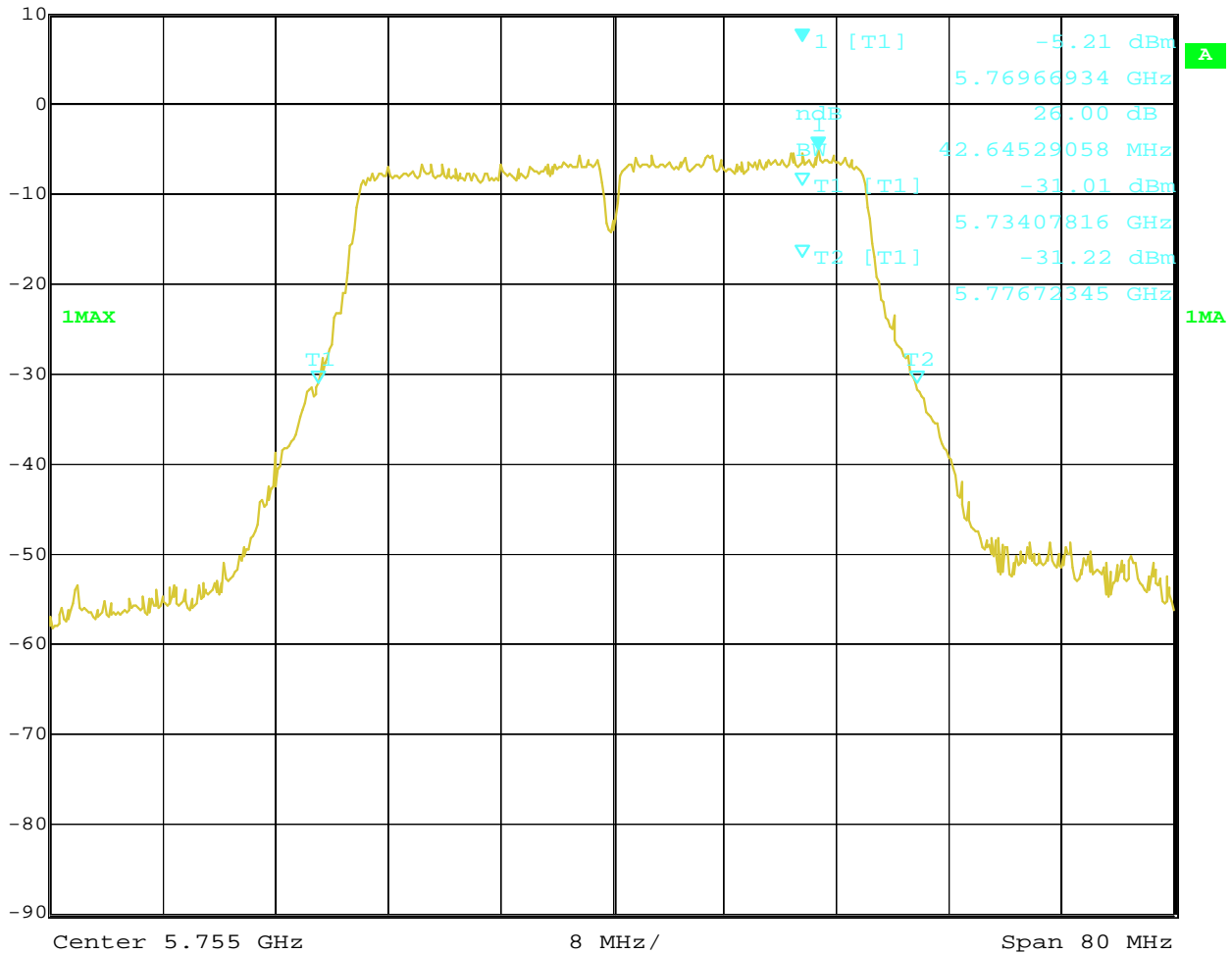


Test Configure

26dB Bandwidth

Channel 151

	Ref Lvl	Marker 1 [T1 ndB]	RBW	300 kHz	RF Att	20 dB
	10 dBm	ndB 26.00 dB	VBW	1 MHz		
		BW 42.64529058 MHz	SWT	5 ms	Unit	dBm



Date: 11.APR.2019 16:40:05

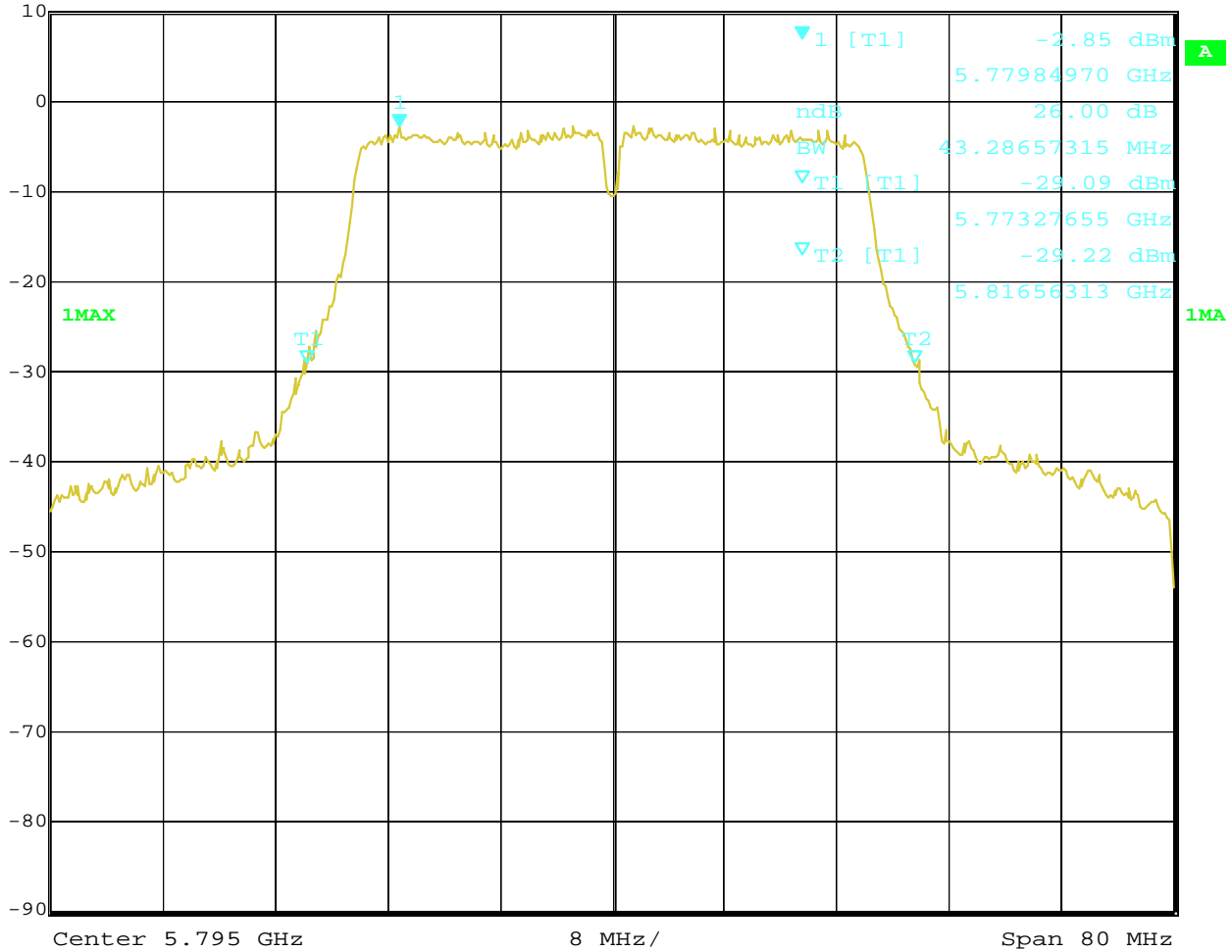
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Channel 159



Ref Lvl	10 dBm	Marker 1 [T1 ndB]	ndB	26.00 dB	RBW	300 kHz	RF Att	20 dB
		BW	43.28657315 MHz		VBW	1 MHz	Unit	dBm
					SWT	5 ms		



Date: 11.APR.2019 16:40:50

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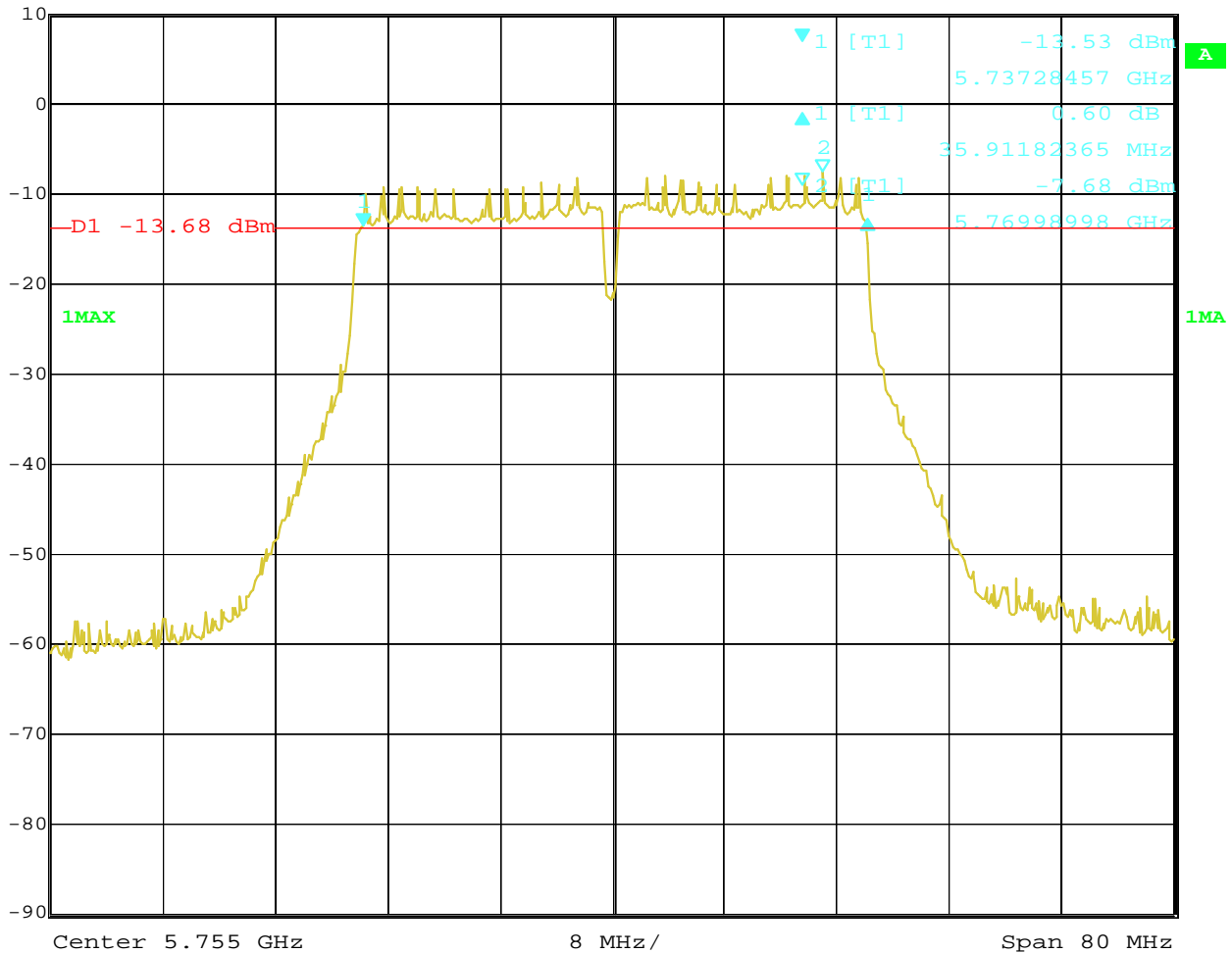


Test Configure

6dB Bandwidth

Channel 151

RS	Delta 1 [T1]	RBW	100 kHz	RF Att	20 dB
	Ref Lvl	0.60 dB	VBW	300 kHz	
	10 dBm	35.91182365 MHz	SWT	20 ms	Unit dBm



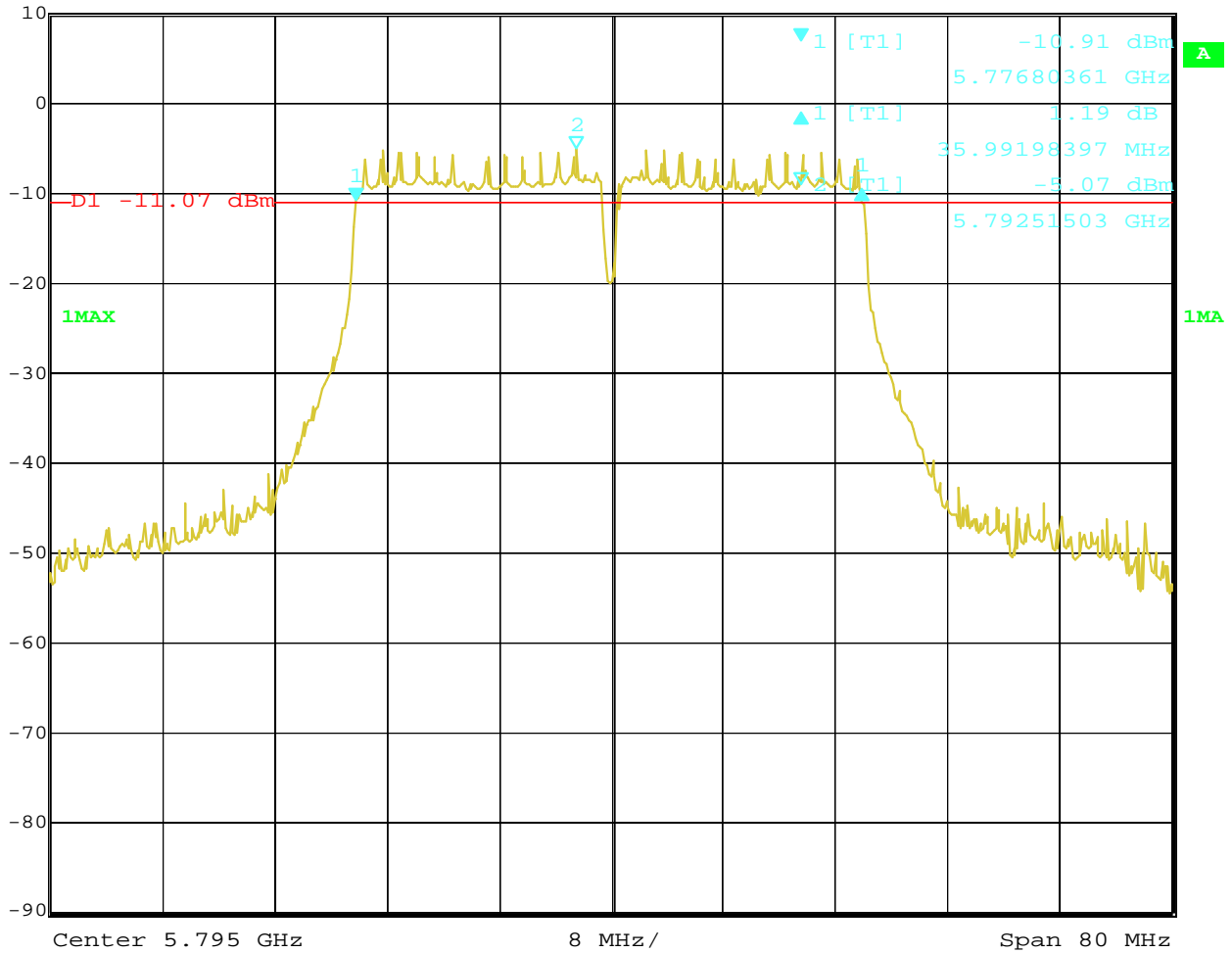
Date: 11.APR.2019 16:03:49

The report refers only to the sample tested and does not apply to the bulk.  
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Channel 159

	Delta 1 [T1]	RBW	100 kHz	RF Att	20 dB
	Ref Lvl	1.19 dB	VBW	300 kHz	
	10 dBm	35.99198397 MHz	SWT	20 ms	Unit dBm



Date: 11.APR.2019 16:05:16

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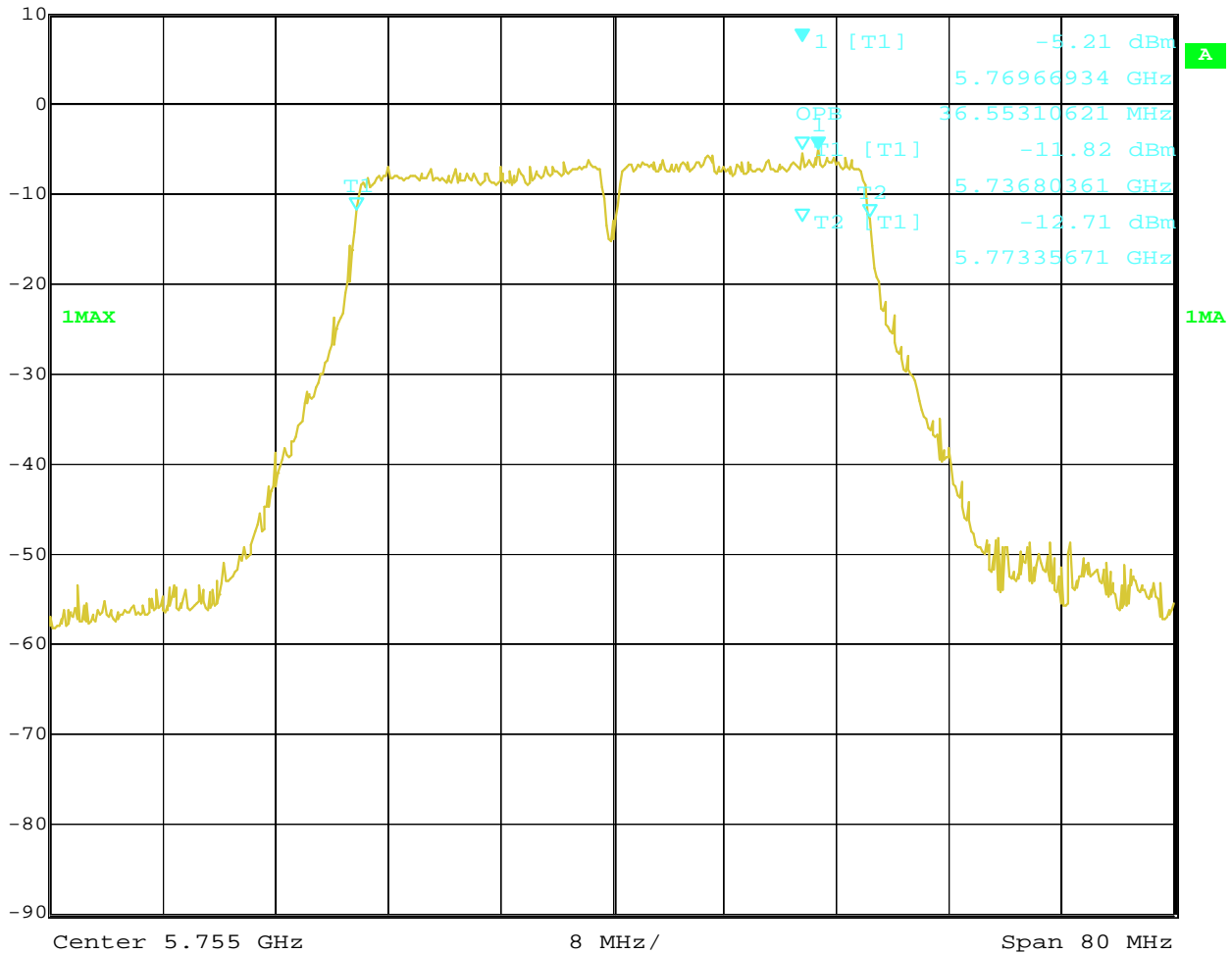


Test Configure

99% Bandwidth

Channel 151

	Ref Lvl	Marker 1 [T1]	RBW	300 kHz	RF Att	20 dB
	10 dBm	-5.21 dBm	VBW	1 MHz		
		5.76966934 GHz	SWT	5 ms	Unit	dBm



Date: 11.APR.2019 16:39:40

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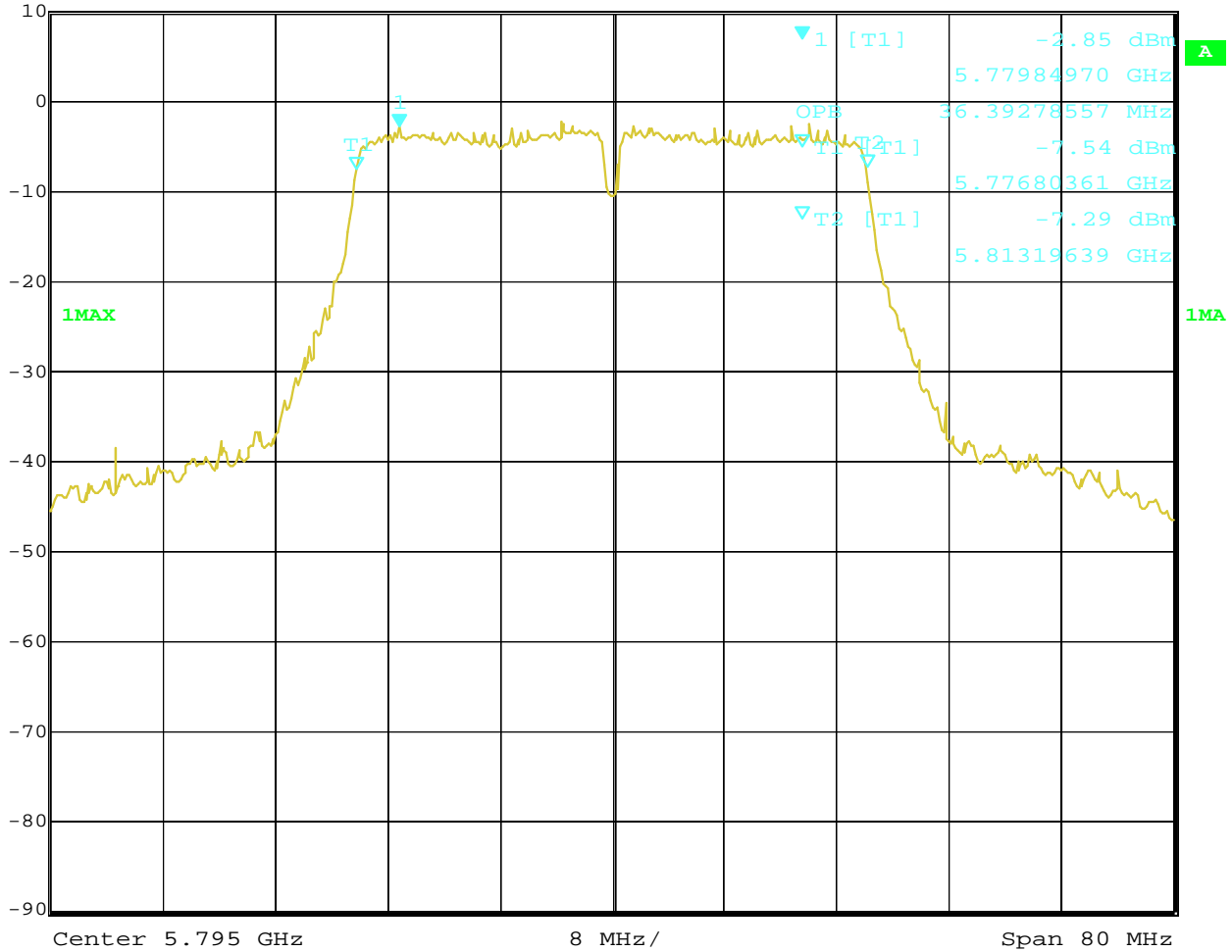




Channel 159



Ref Lvl	10 dBm	Marker 1 [T1]	-2.85 dBm	RBW	300 kHz	RF Att	20 dB
			5.77984970 GHz	VBW	1 MHz	Unit	dBm
				SWT	5 ms		



Date: 11.APR.2019 16:41:01

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EUT		Developer Board		Model	DB8
Mode		802.11ac VHT20		Input Voltage	120V~
Temperature		24 deg. C,		Humidity	56% RH
Channel	Channel Frequency (MHz)	Data Transfer Rate (Mbps)	Bandwidth (MHz)	Minimum Limit (MHz)	Pass/ Fail
<b>26dB Bandwidth</b>					
36	5180	mcs0	22.28	--	Pass
40	5200	mcs0	22.20	--	Pass
48	5240	mcs0	22.44	--	Pass
<b>99% Bandwidth</b>					
36	5180	mcs0	18.03	--	Pass
40	5200	mcs0	18.12	--	Pass
48	5240	mcs0	18.12	--	Pass

Note: Ant1 and Ant 2 were tested and only the worst case was recorded in the test report. Ant 1 was the worst case.

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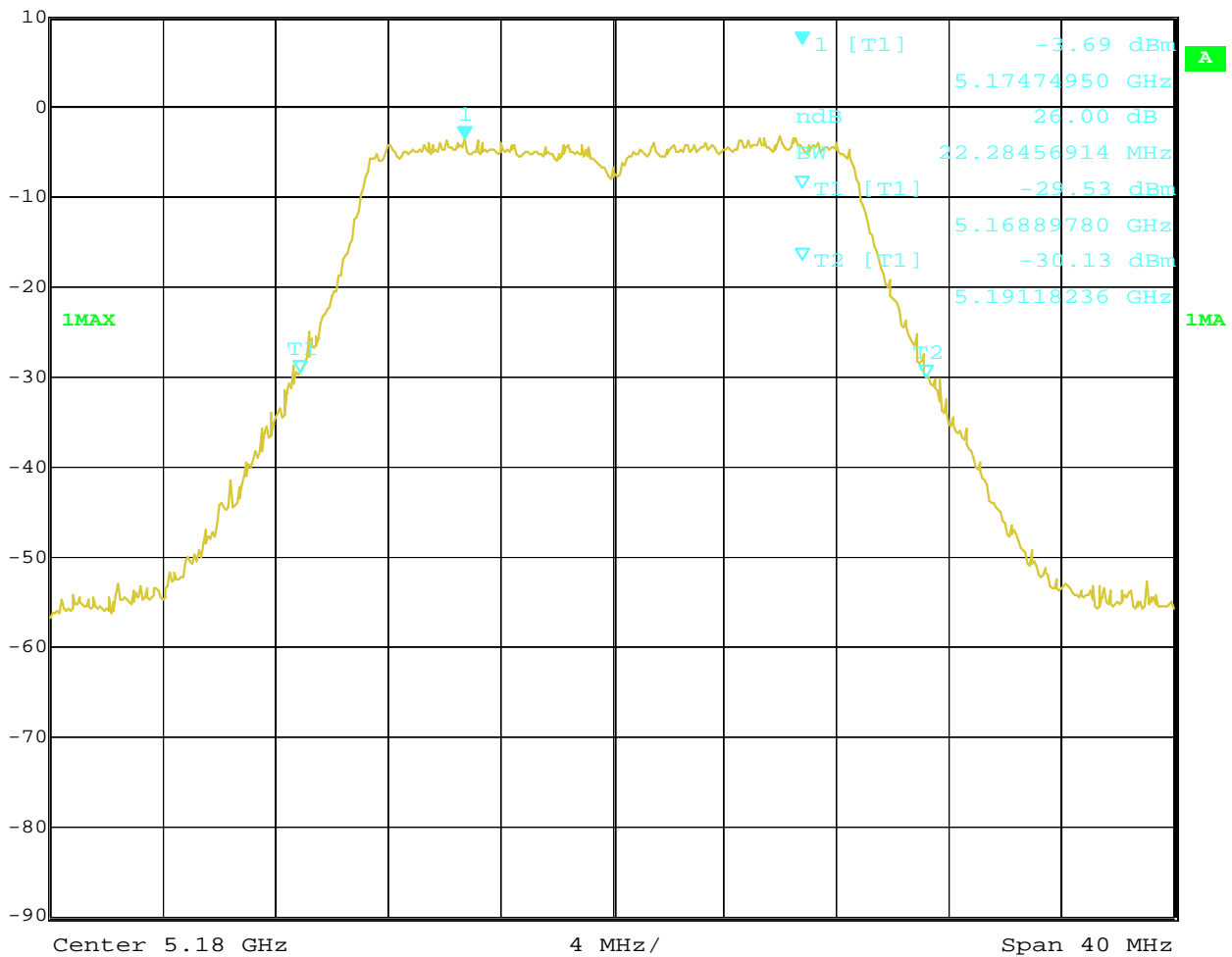


Test Configure

26dB Bandwidth

Channel 36

	Ref Lvl	Marker 1 [T1 ndB]	RBW	300 kHz	RF Att	20 dB
	10 dBm	ndB 26.00 dB	VBW	1 MHz		
		BW 22.28456914 MHz	SWT	5 ms	Unit	dBm



Date: 11.APR.2019 16:28:49

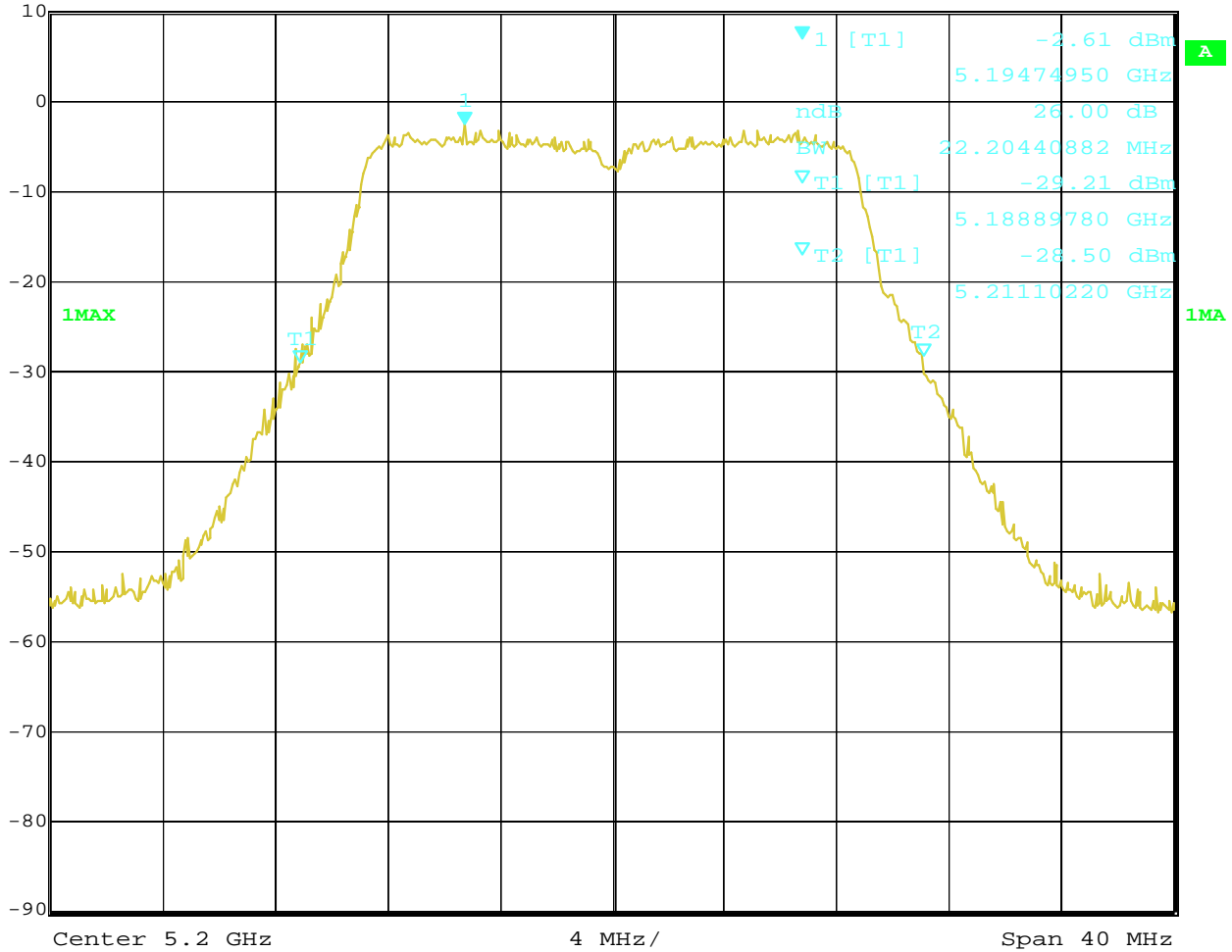
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Channel 40



Ref Lvl	Marker 1 [T1 ndB]	RBW	300 kHz	RF Att	20 dB
10 dBm	ndB 26.00 dB	VBW	1 MHz		
	BW 22.20440882 MHz	SWT	5 ms	Unit	dBm



Date: 11.APR.2019 16:29:16

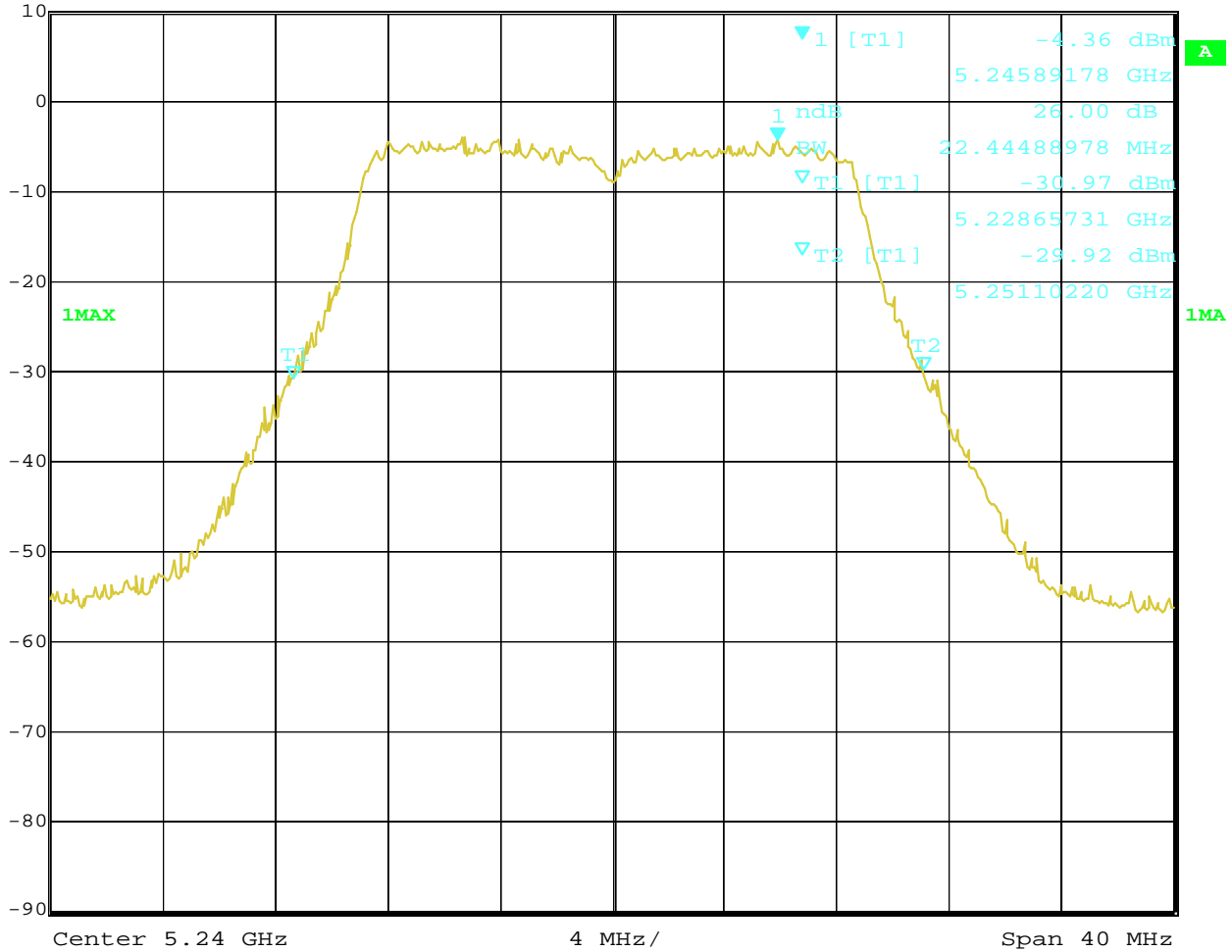
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Channel 48



Ref Lvl	10 dBm	Marker 1 [T1 ndB]	ndB	26.00 dB	RBW	300 kHz	RF Att	20 dB
		BW	22.44488978 MHz		VBW	1 MHz	Unit	dBm
					SWT	5 ms		



Date: 11.APR.2019 16:30:20

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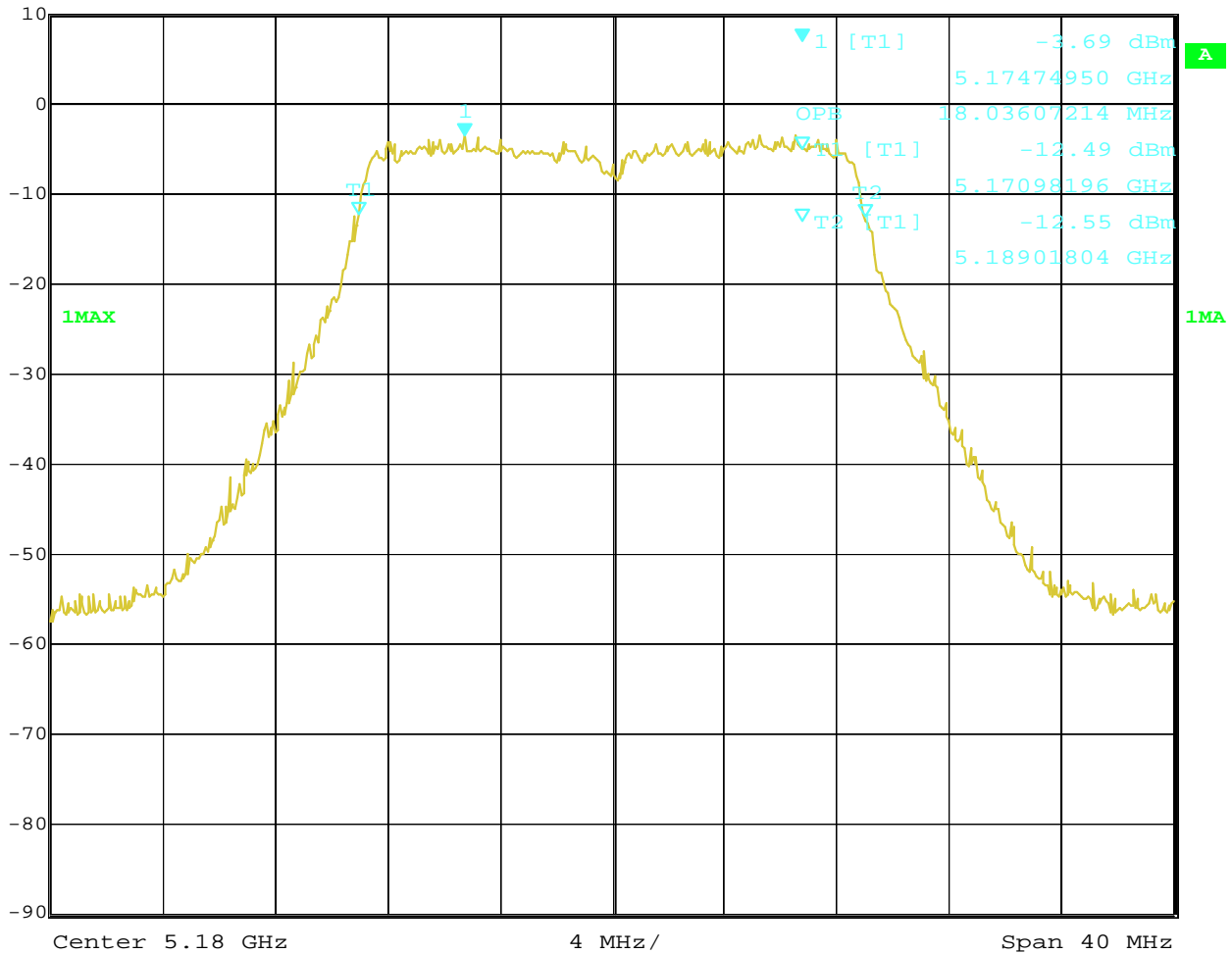


Test Configure

99%B Bandwidth

Channel 36

	Ref Lvl	Marker 1 [T1]	RBW	300 kHz	RF Att	20 dB
	10 dBm	-3.69 dBm	VBW	1 MHz		
		5.17474950 GHz	SWT	5 ms	Unit	dBm



Date: 11.APR.2019 16:28:31

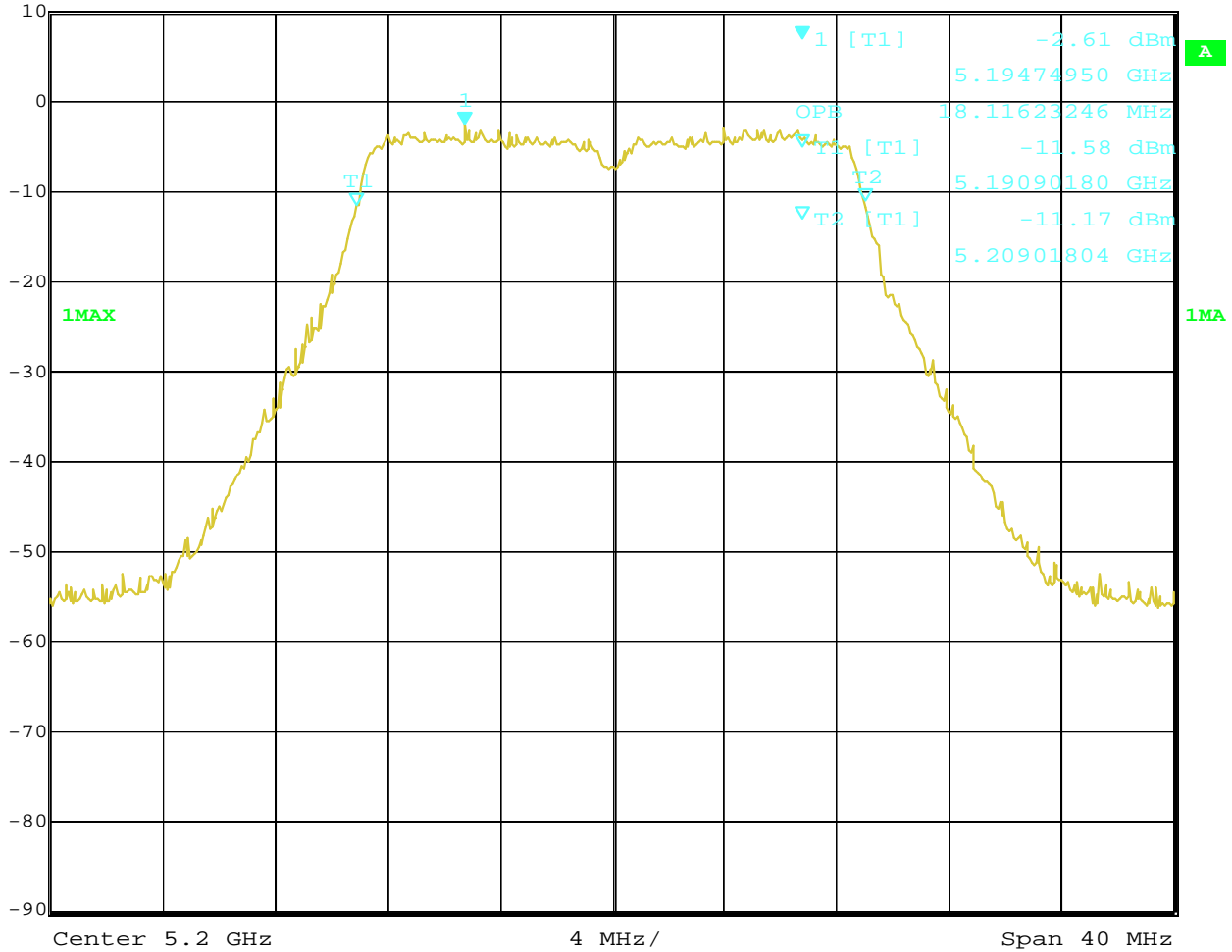
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Channel 40



Ref Lvl	10 dBm	Marker 1 [T1]	-2.61 dBm	RBW	300 kHz	RF Att	20 dB
			5.19474950 GHz	VBW	1 MHz	Unit	dBm
				SWT	5 ms		



Date: 11.APR.2019 16:29:26

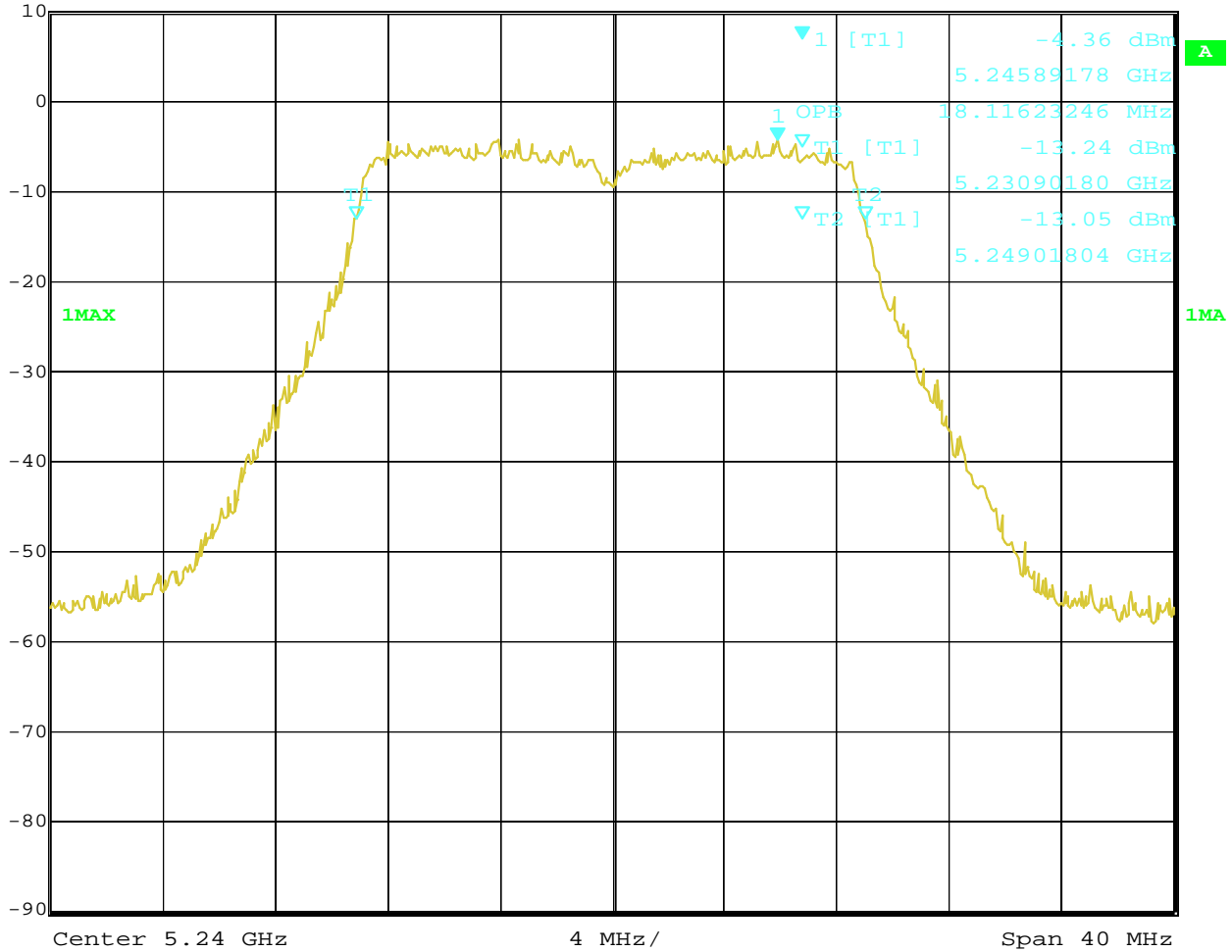
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Channel 48



Ref Lvl	10 dBm	Marker 1 [T1]	5.24589178 GHz	RBW	300 kHz	RF Att	20 dB
			-4.36 dBm	VBW	1 MHz		
				SWT	5 ms	Unit	dBm



Date: 11.APR.2019 16:29:54

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EUT		Developer Board		Model	DB8
Mode		802.11ac VHT20		Input Voltage	120V~
Temperature		24 deg. C,		Humidity	56% RH
Channel	Channel Frequency (MHz)	Data Transfer Rate (Mbps)	Bandwidth (MHz)	Minimum Limit (MHz)	Pass/ Fail
<b>26dB Bandwidth</b>					
149	5745	6	22.12	--	Pass
153	5765	6	22.53	--	Pass
161	5805	6	22.77	--	Pass
<b>6dB Bandwidth</b>					
149	5745	6	17.54	0.5	Pass
153	5765	6	17.60	0.5	Pass
161	5805	6	17.31	0.5	Pass
<b>99% Bandwidth</b>					
149	5745	6	18.04	--	Pass
153	5765	6	18.04	--	Pass
161	5805	6	18.20	--	Pass

Note: Ant1 and Ant 2 were tested and only the worst case was recorded in the test report. Ant 1 was the worst case.

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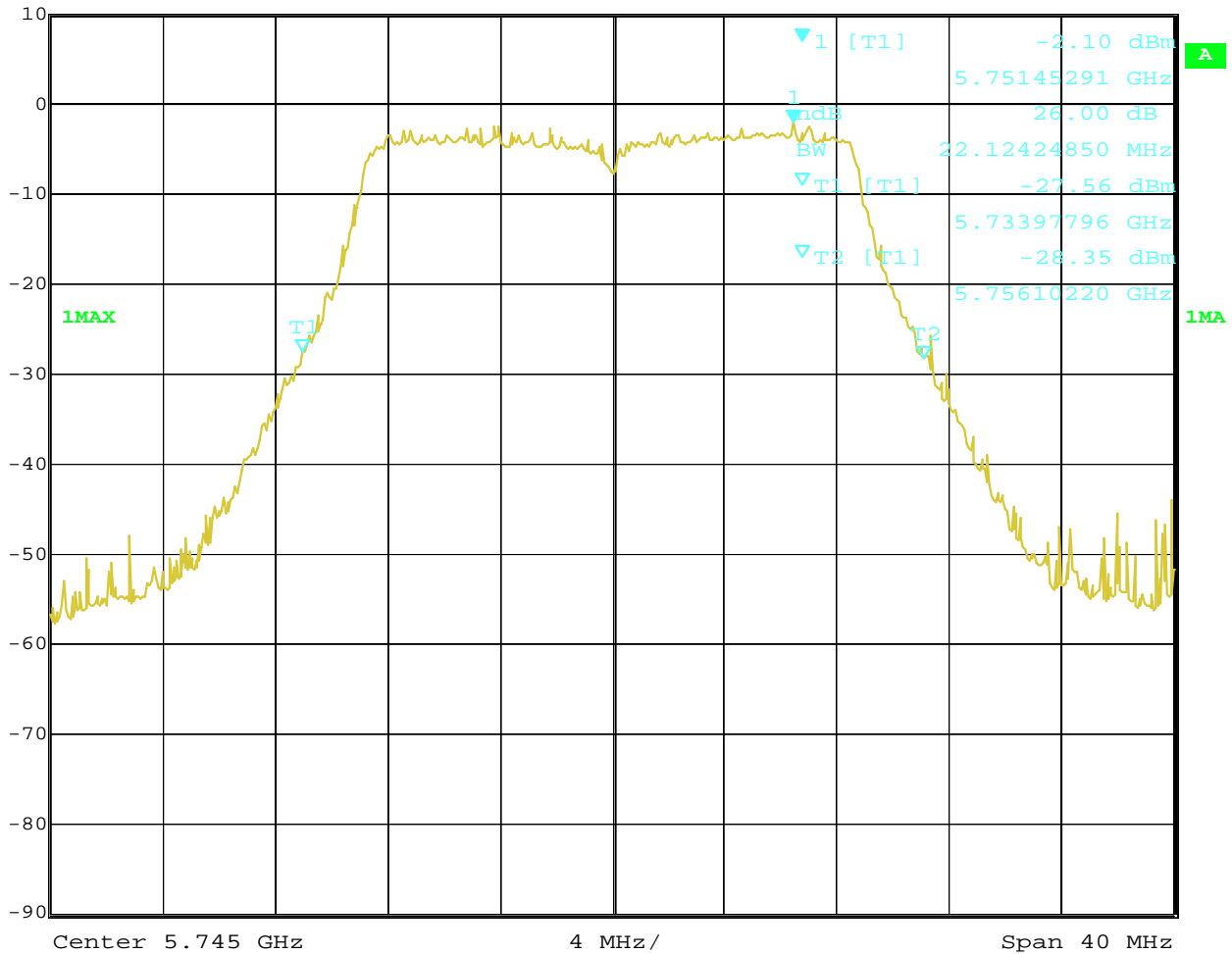


Test Configure

26dB Bandwidth

Channel 149

	Ref Lvl	10 dBm	Marker 1 [T1 ndB]	26.00 dB	RBW	300 kHz	RF Att	20 dB
			BW	22.12424850 MHz	VBW	1 MHz	Unit	dBm
			SWT	5 ms				



Date: 11.APR.2019 16:27:42

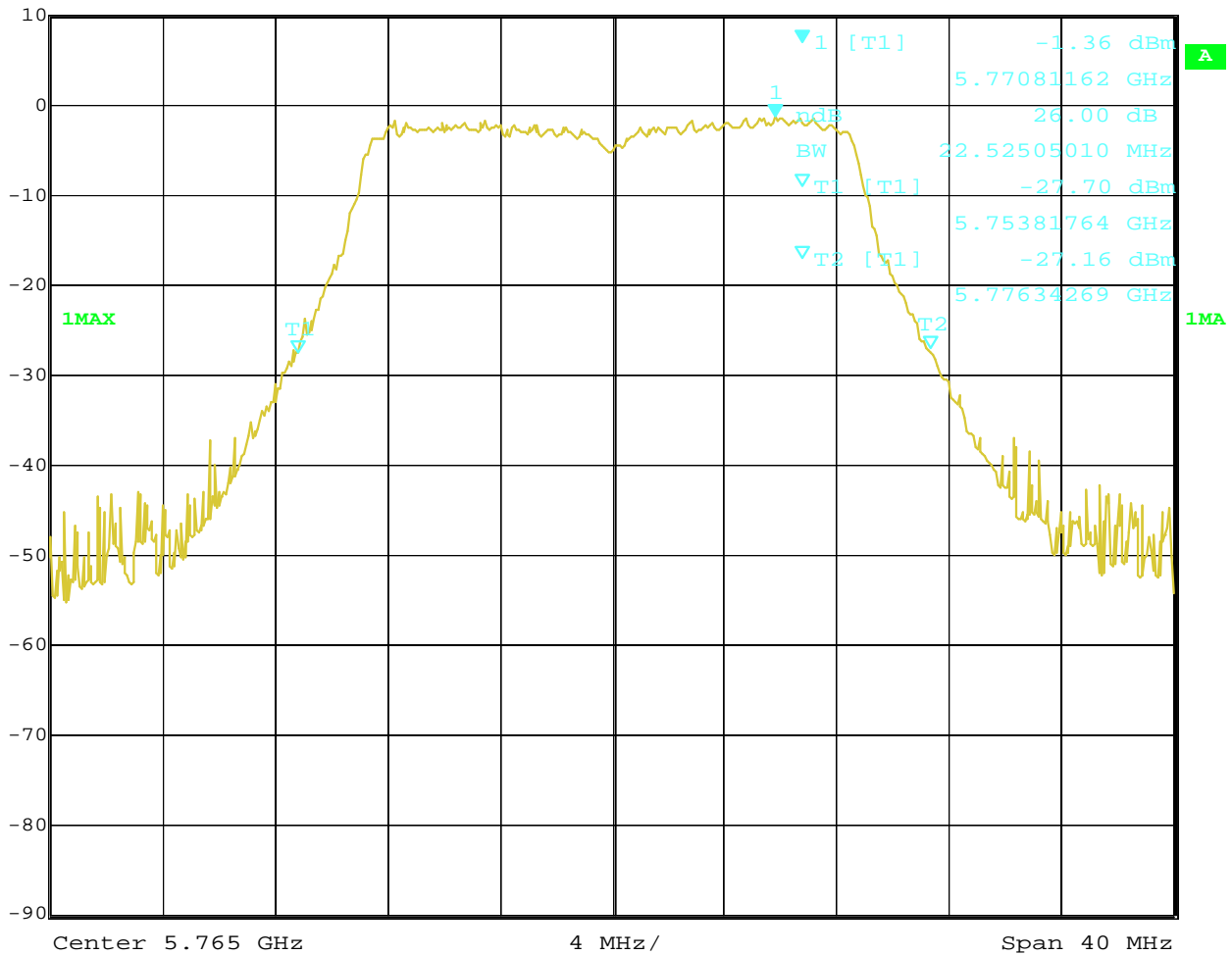
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Channel 153



Ref Lvl	10 dBm	Marker 1 [T1 ndB]	ndB	26.00 dB	RBW	300 kHz	RF Att	20 dB
		BW	22.52505010 MHz		VBW	1 MHz	Unit	dBm
		SWT				5 ms		



Date: 11.APR.2019 16:27:16

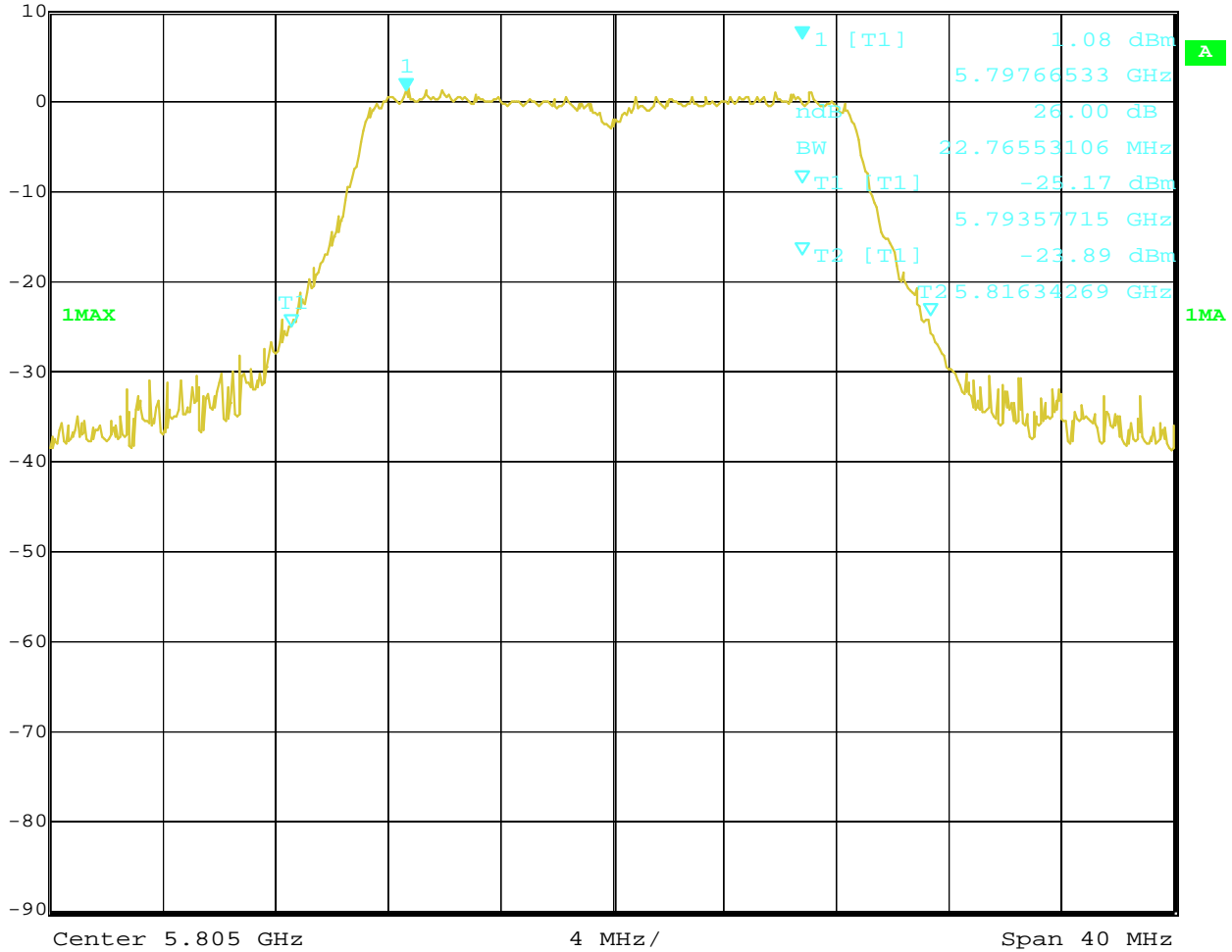
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Channel 161



Ref Lvl	10 dBm	Marker 1 [T1 ndB]	ndB	26.00 dB	RBW	300 kHz	RF Att	20 dB
		BW	22.76553106 MHz		VBW	1 MHz	Unit	dBm
					SWT	5 ms		



Date: 11.APR.2019 16:25:00

The report refers only to the sample tested and does not apply to the bulk.  
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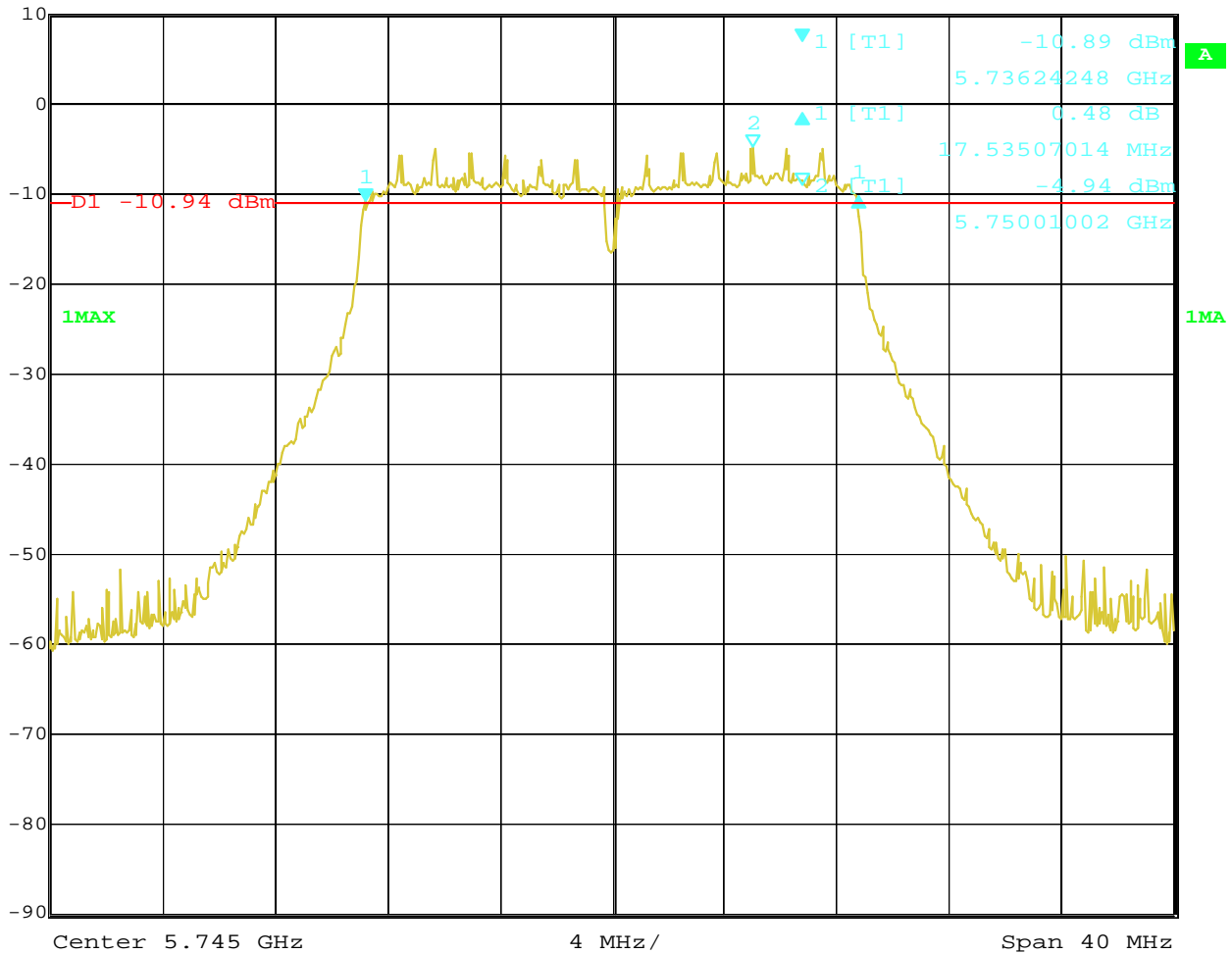


Test Configure

6dB Bandwidth

Channel 149

	Delta 1 [T1]	RBW	100 kHz	RF Att	20 dB
	Ref Lvl	0.48 dB	VBW	300 kHz	
	10 dBm	17.53507014 MHz	SWT	10 ms	Unit dBm



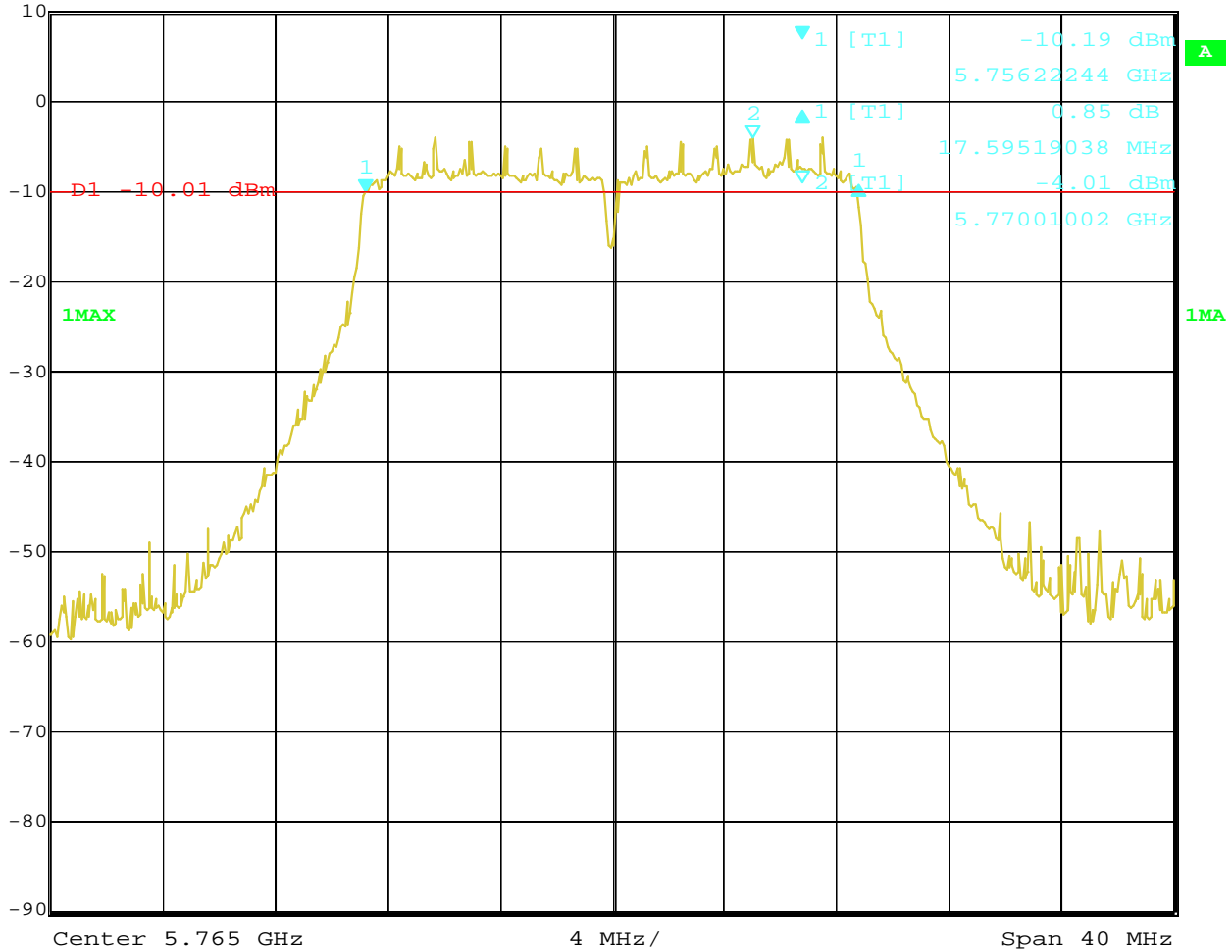
Date: 11.APR.2019 16:12:27

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Channel 153

◆ Delta 1 [T1] RBW 100 kHz RF Att 20 dB  
 Ref Lvl 0.85 dB VBW 300 kHz  
 10 dBm 17.59519038 MHz SWT 10 ms Unit dBm



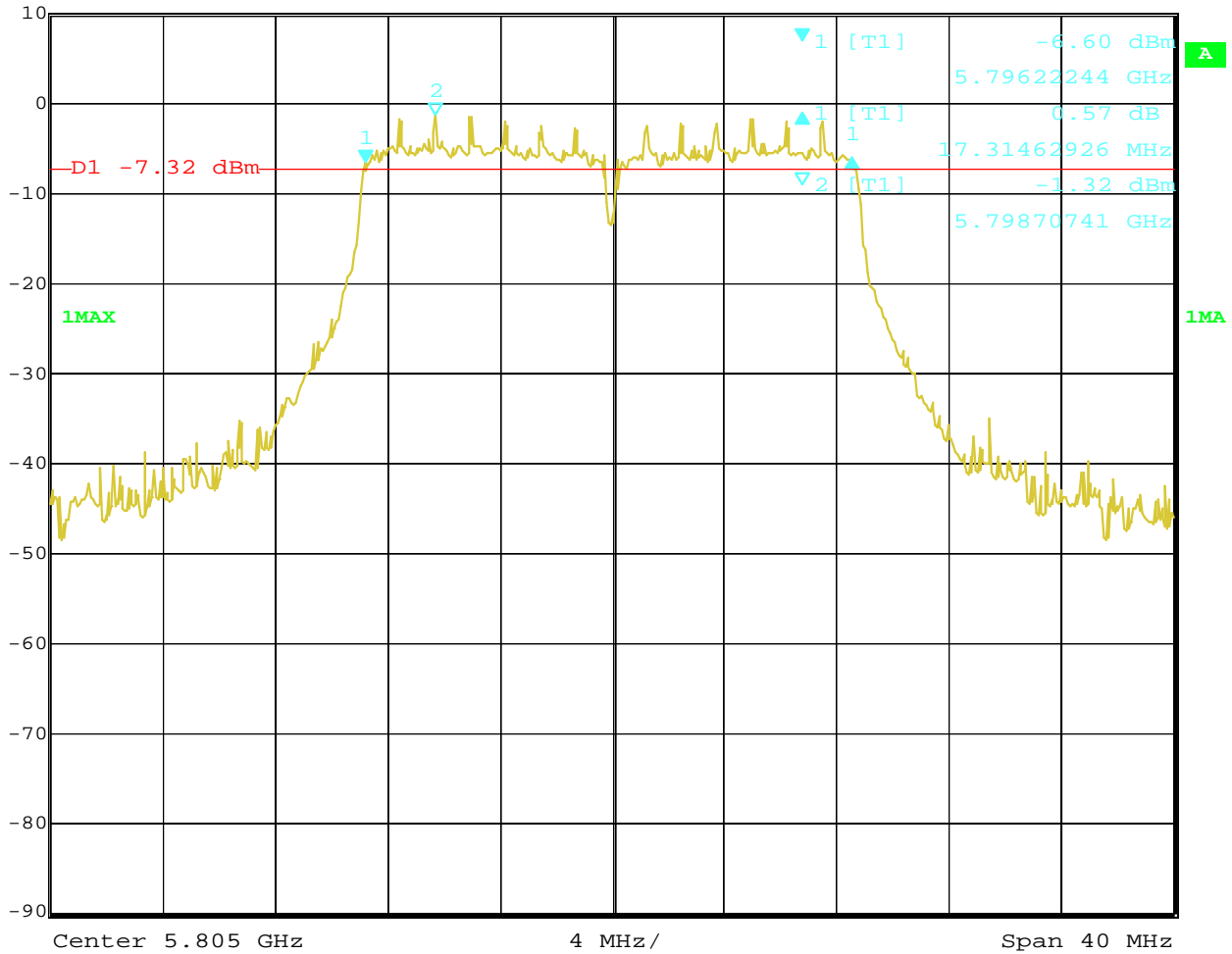
Date: 11.APR.2019 16:13:29

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Channel 161

	Delta 1 [T1]	RBW	100 kHz	RF Att	20 dB
	Ref Lvl	0.57 dB	VBW	300 kHz	
	10 dBm	17.31462926 MHz	SWT	10 ms	Unit dBm



Date: 11.APR.2019 16:18:20

The report refers only to the sample tested and does not apply to the bulk.  
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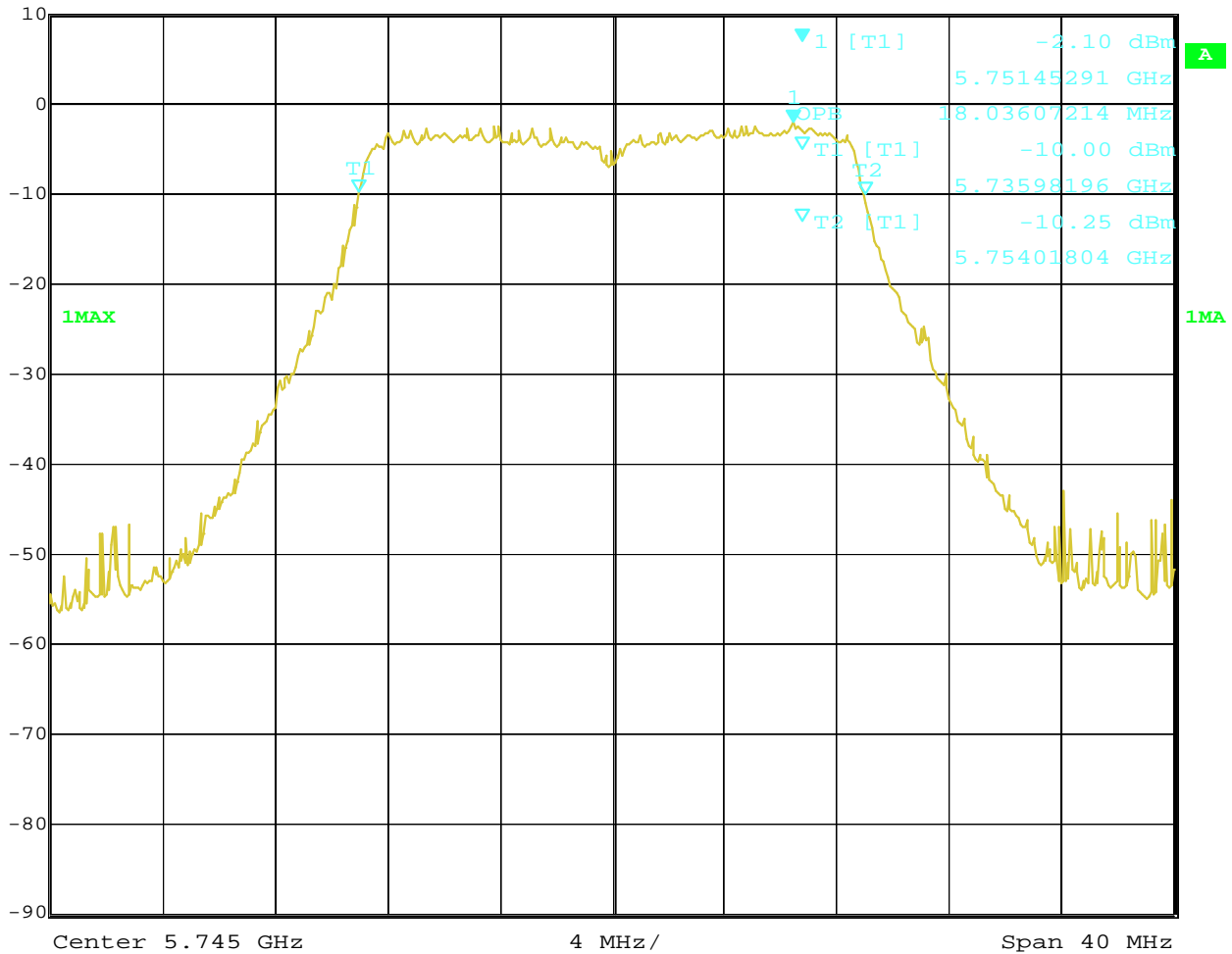


Test Configure

99% Bandwidth

Channel 149

	Ref Lvl	Marker 1 [T1]	RBW	300 kHz	RF Att	20 dB
	10 dBm	-2.10 dBm	VBW	1 MHz		
		5.75145291 GHz	SWT	5 ms	Unit	dBm



Date: 11.APR.2019 16:27:59

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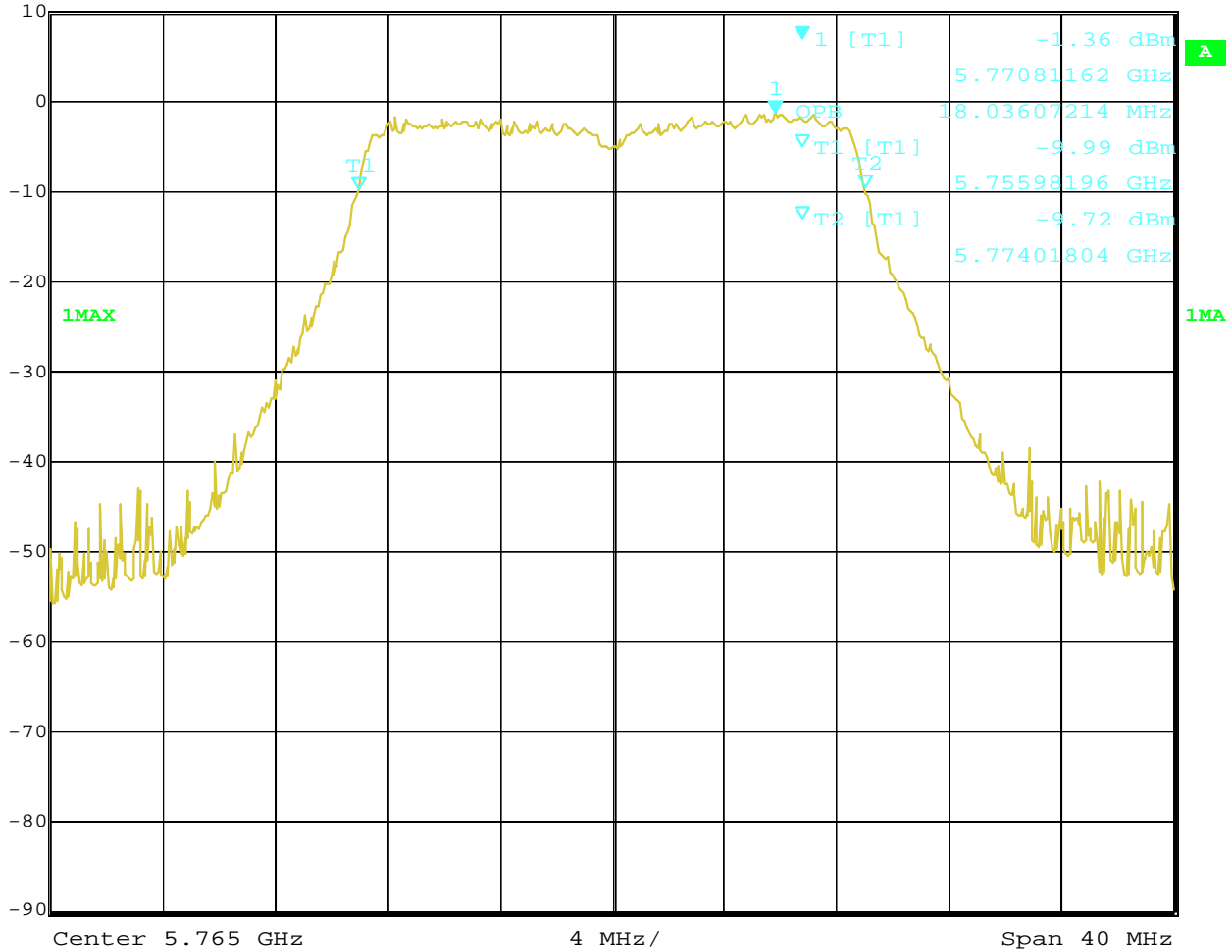




Channel 153



Ref Lvl	10 dBm	Marker 1 [T1]	-1.36 dBm	RBW	300 kHz	RF Att	20 dB
			5.77081162 GHz	VBW	1 MHz	Unit	dBm
				SWT	5 ms		



Date: 11.APR.2019 16:26:53

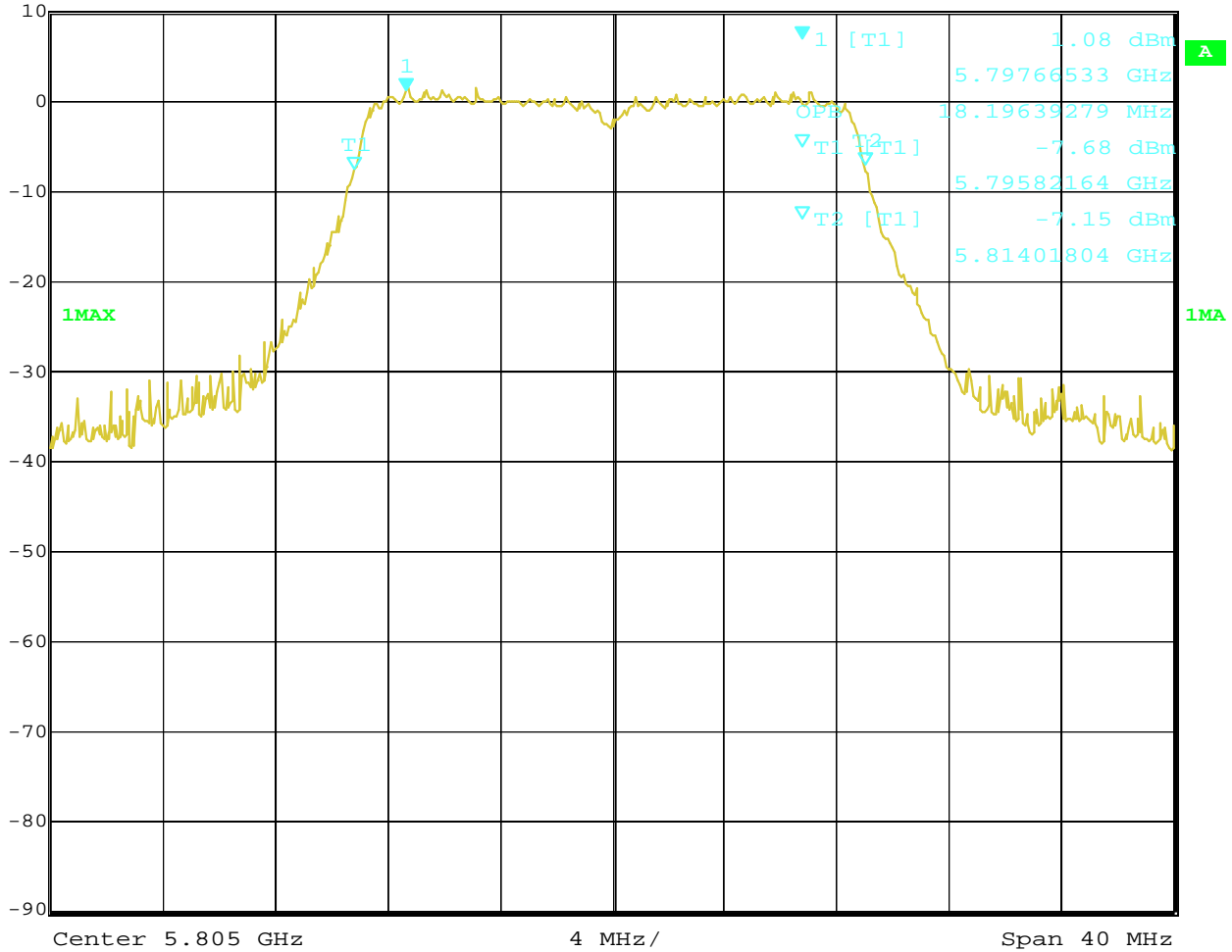
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Channel 161



Ref Lvl	10 dBm	Marker 1 [T1]	1.08 dBm	RBW	300 kHz	RF Att	20 dB
			5.79766533 GHz	VBW	1 MHz	Unit	dBm
				SWT	5 ms		



Date: 11.APR.2019 16:25:22

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EUT		Developer Board		Model	DB8
Mode		802.11ac VHT40		Input Voltage	120V~
Temperature		24 deg. C,		Humidity	56% RH
Channel	Channel Frequency (MHz)	Data Transfer Rate (Mbps)	Bandwidth (MHz)	Minimum Limit (MHz)	Pass/ Fail
<b>26dB Bandwidth</b>					
38	5190	mcs0	40.56	--	Pass
46	5230	mcs0	40.72	--	Pass
<b>99% Bandwidth</b>					
38	5190	mcs0	36.23	--	Pass
46	5230	mcs0	36.23	--	Pass

Note: Ant1 and Ant 2 were tested and only the worst case was recorded in the test report. Ant 1 was the worst case.

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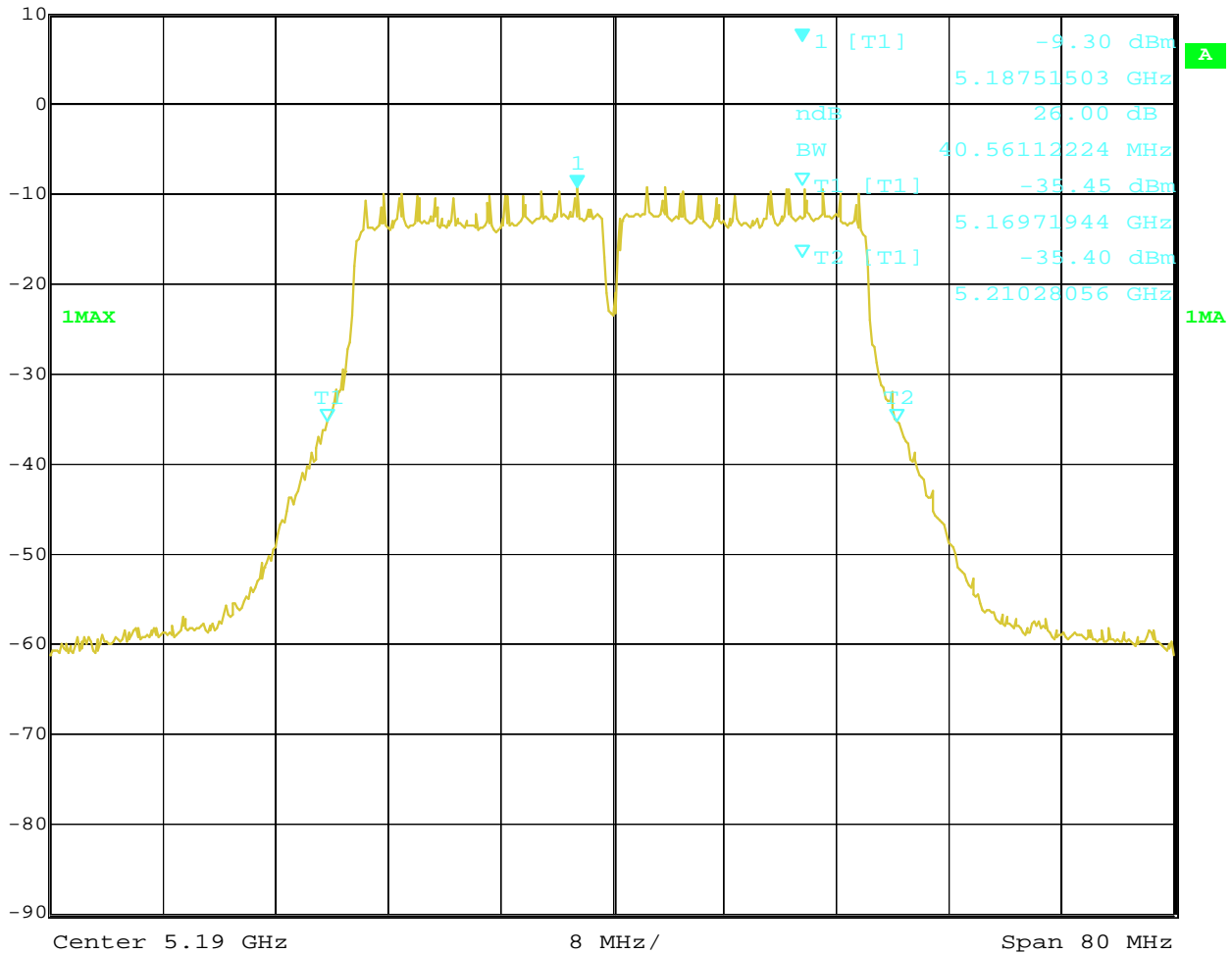


Test Configure

26dB Bandwidth

Channel 38

	Ref Lvl	10 dBm	Marker 1 [T1 ndB]	26.00 dB	RBW	100 kHz	RF Att	20 dB
			BW	40.56112224 MHz	VBW	300 kHz	Unit	dBm
			SWT	20 ms				



Date: 11.APR.2019 15:18:54

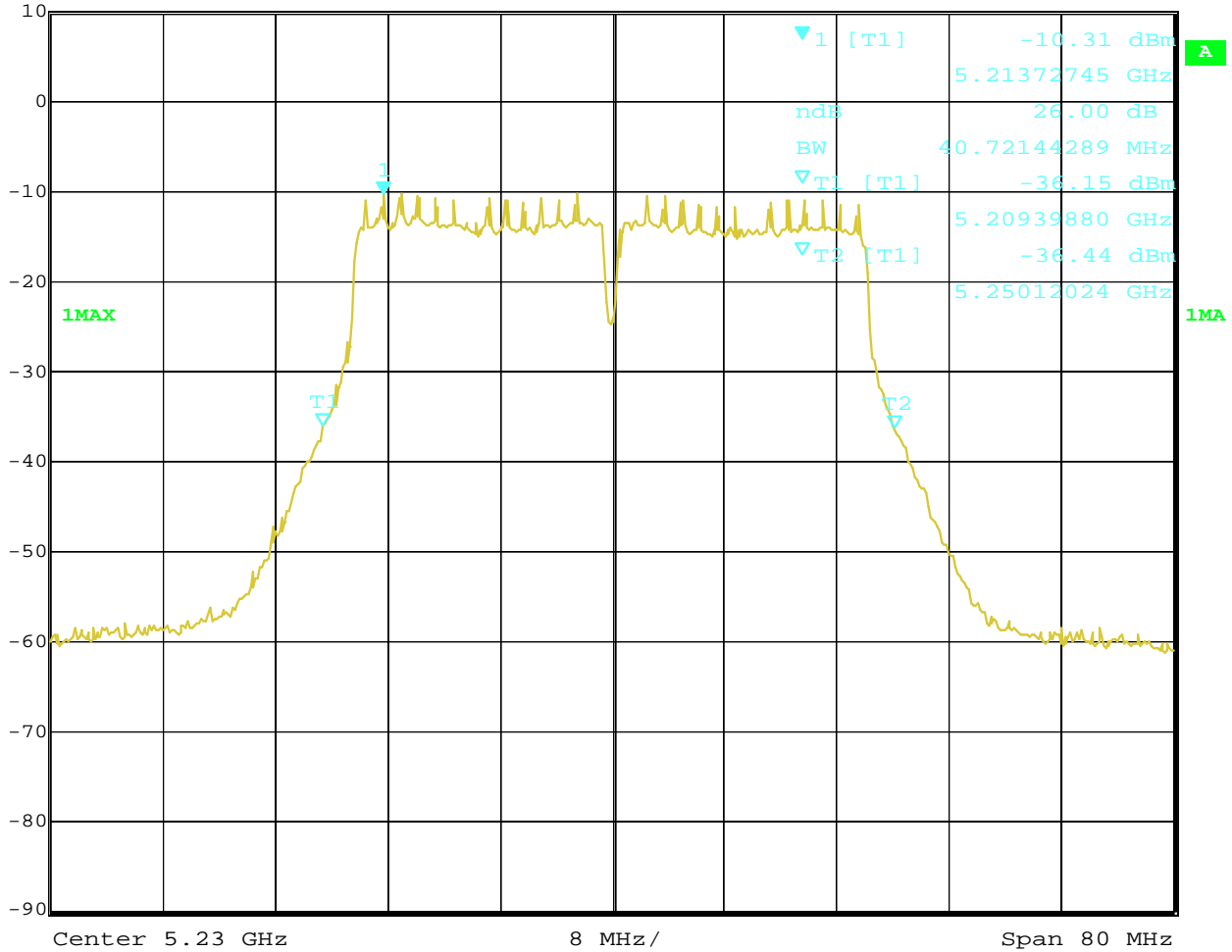
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Channel 46



Ref Lvl	10 dBm	Marker 1 [T1 ndB]	ndB	26.00 dB	RBW	100 kHz	RF Att	20 dB
		BW	40.72144289 MHz		VBW	300 kHz	Unit	dBm
					SWT	20 ms		



Date: 11.APR.2019 15:21:05

The report refers only to the sample tested and does not apply to the bulk.  
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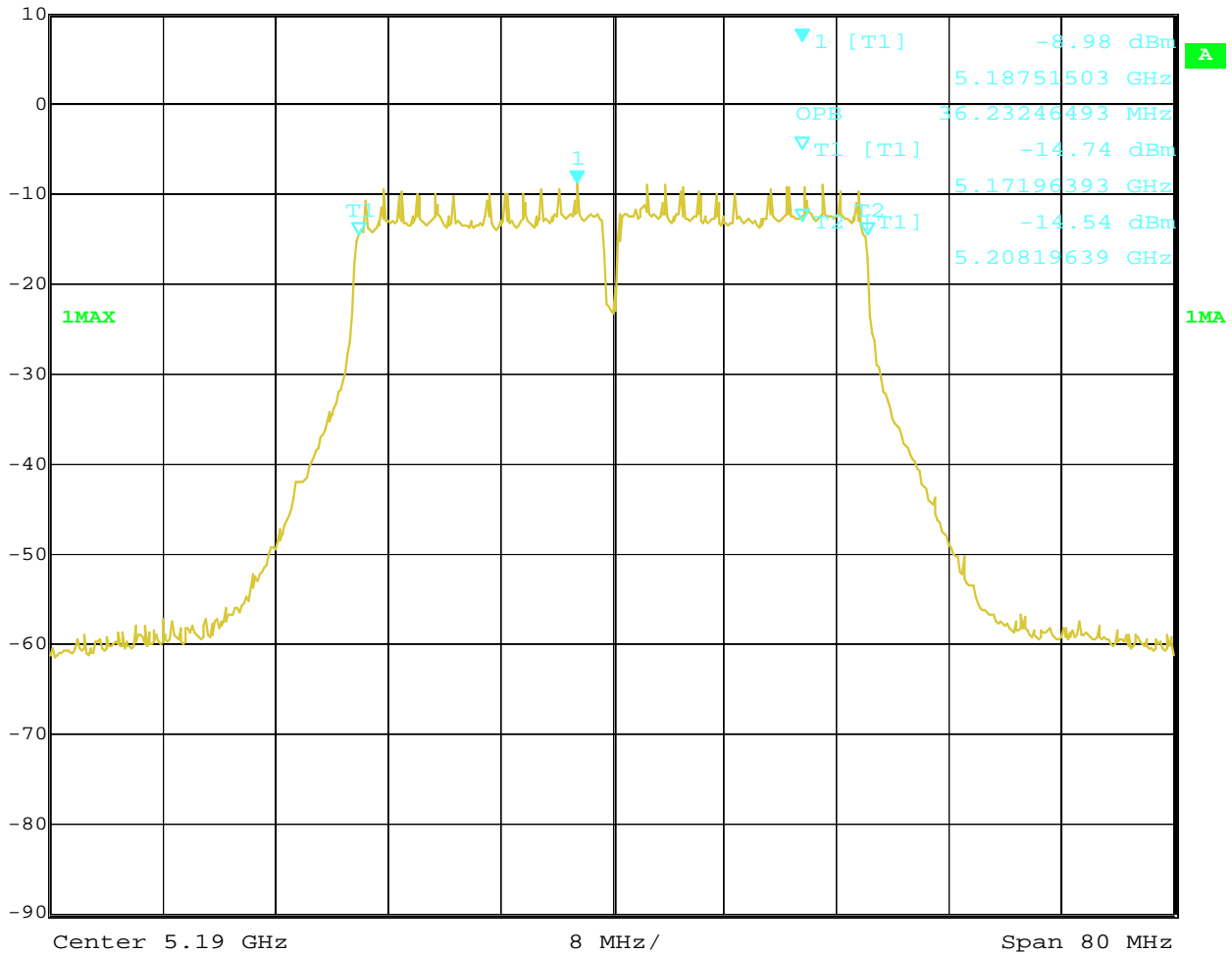


Test Configure

99% Bandwidth

Channel 38

	Ref Lvl	Marker 1 [T1]	RBW	100 kHz	RF Att	20 dB
	10 dBm	-8.98 dBm	VBW	300 kHz		
		5.18751503 GHz	SWT	20 ms	Unit	dBm



Date: 11.APR.2019 14:42:20

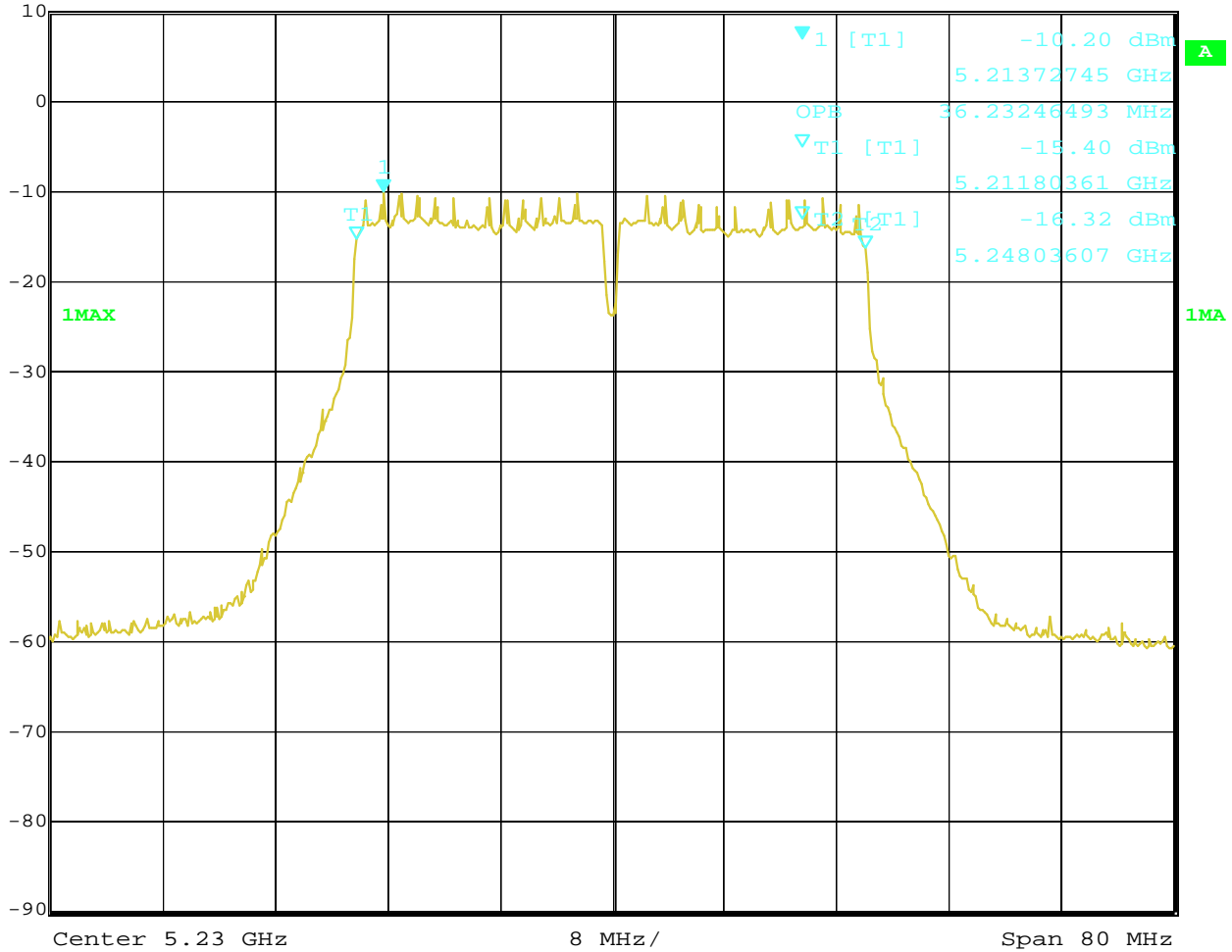
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Channel 46



Ref Lvl	10 dBm	Marker 1 [T1]	-10.20 dBm	RBW	100 kHz	RF Att	20 dB
			5.21372745 GHz	VBW	300 kHz	Unit	dBm
				SWT	20 ms		



Date: 11.APR.2019 14:50:19

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EUT		Developer Board		Model		DB8	
Mode		802.11ac VHT40		Input Voltage		120V~	
Temperature		24 deg. C,		Humidity		56% RH	
Channel	Channel Frequency (MHz)	Data Transfer Rate (Mbps)	Bandwidth (MHz)	Minimum Limit (MHz)	Pass/ Fail		
<b>26dB Bandwidth</b>							
151	5755	mcs0	42.81	--	Pass		
159	5795	mcs0	42.81	--	Pass		
<b>6dB Bandwidth</b>							
151	5755	mcs0	36.15	0.5	Pass		
159	5795	mcs0	35.99	0.5	Pass		
<b>99% Bandwidth</b>							
151	5755	mcs0	36.39	--	Pass		
159	5795	mcs0	36.39	--	Pass		

Note: Ant1 and Ant 2 were tested and only the worst case was recorded in the test report. Ant 1 was the worst case.

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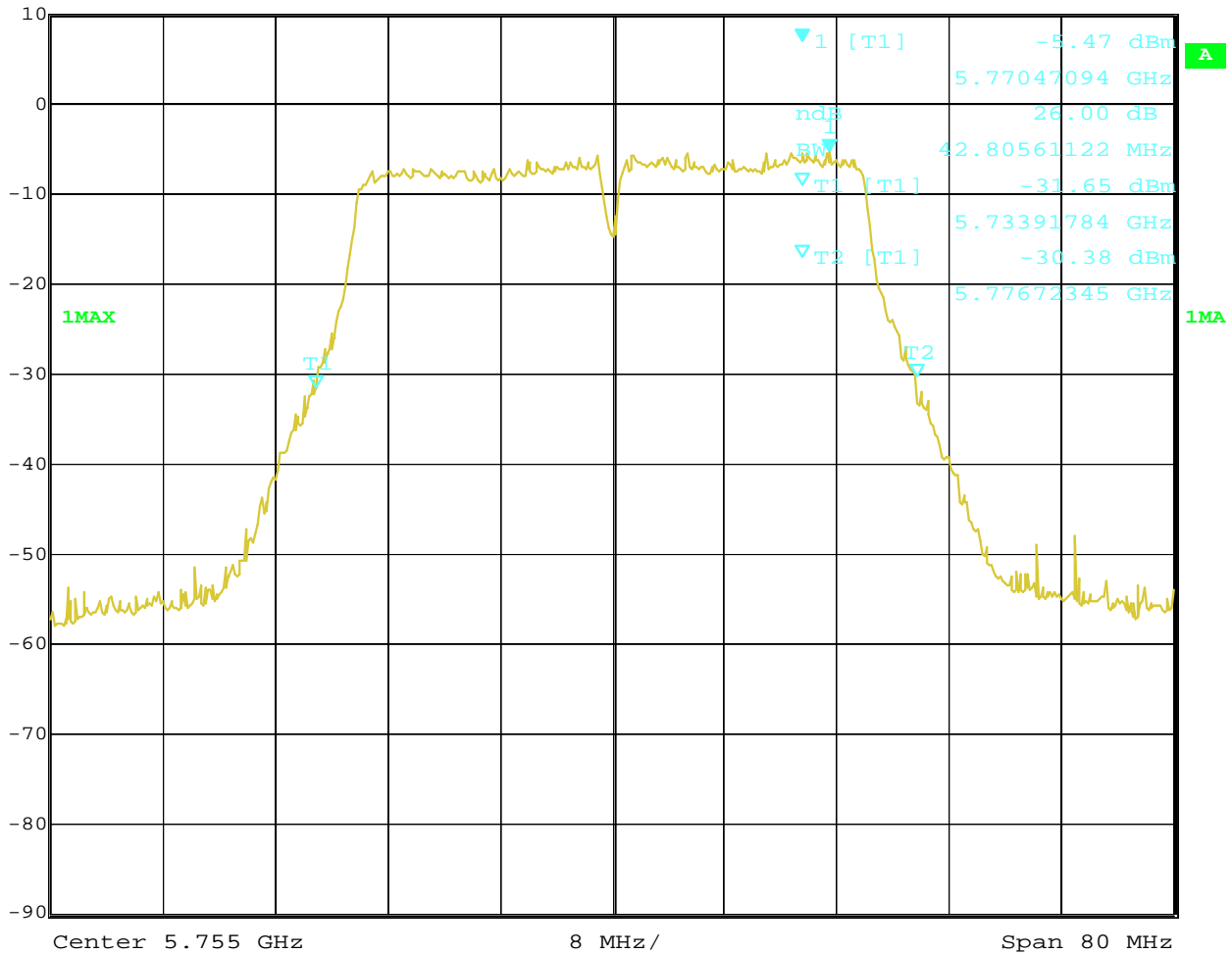


Test Configure

26dB Bandwidth

Channel 151

	Ref Lvl	10 dBm	Marker 1 [T1 ndB]	ndB 26.00 dB	RBW	300 kHz	RF Att	20 dB
			BW	42.80561122 MHz	VBW	1 MHz	Unit	dBm
			SWT	5 ms				



Date: 11.APR.2019 16:43:03

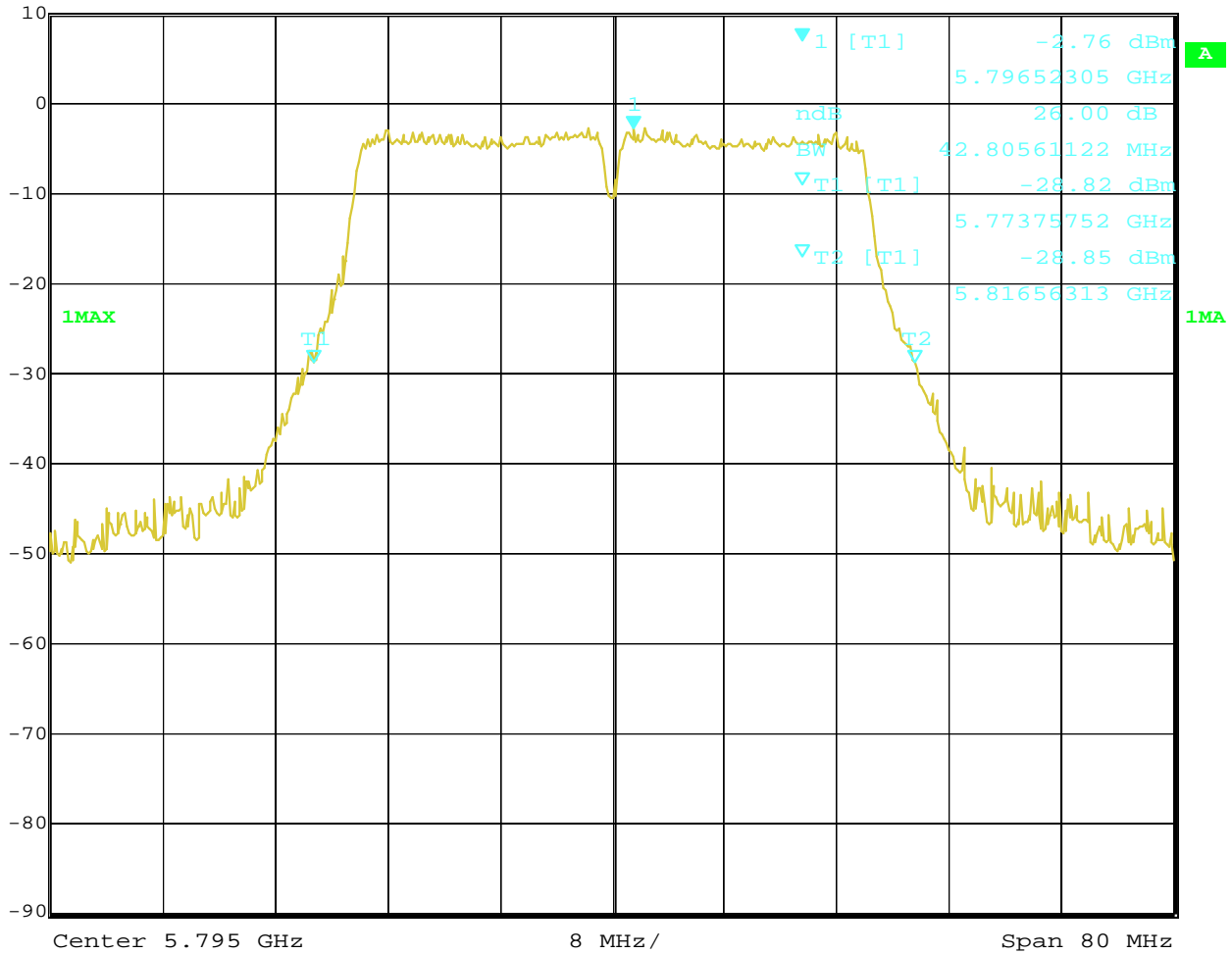
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Channel 159



Ref Lvl	10 dBm	Marker 1 [T1 ndB]	ndB	26.00 dB	RBW	300 kHz	RF Att	20 dB
		BW	42.80561122 MHz		VBW	1 MHz	Unit	dBm
					SWT	5 ms		



Date: 11.APR.2019 16:42:05

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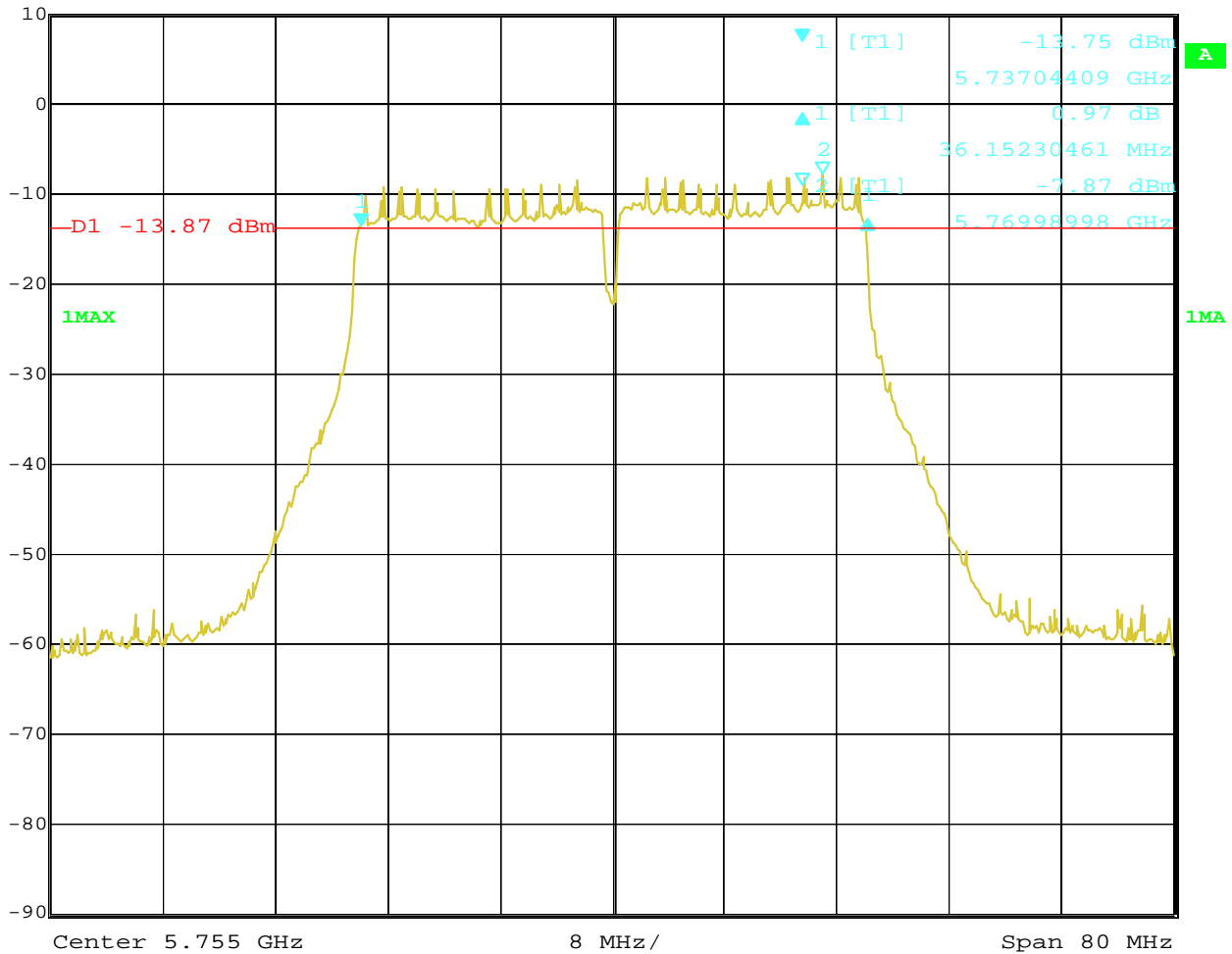


Test Configure

6dB Bandwidth

Channel 151

	Ref Lvl	Delta 1 [T1]	RBW	100 kHz	RF Att	20 dB
	10 dBm	0.97 dB	VBW	300 kHz		
		36.15230461 MHz	SWT	20 ms	Unit	dBm



Date: 11.APR.2019 16:07:20

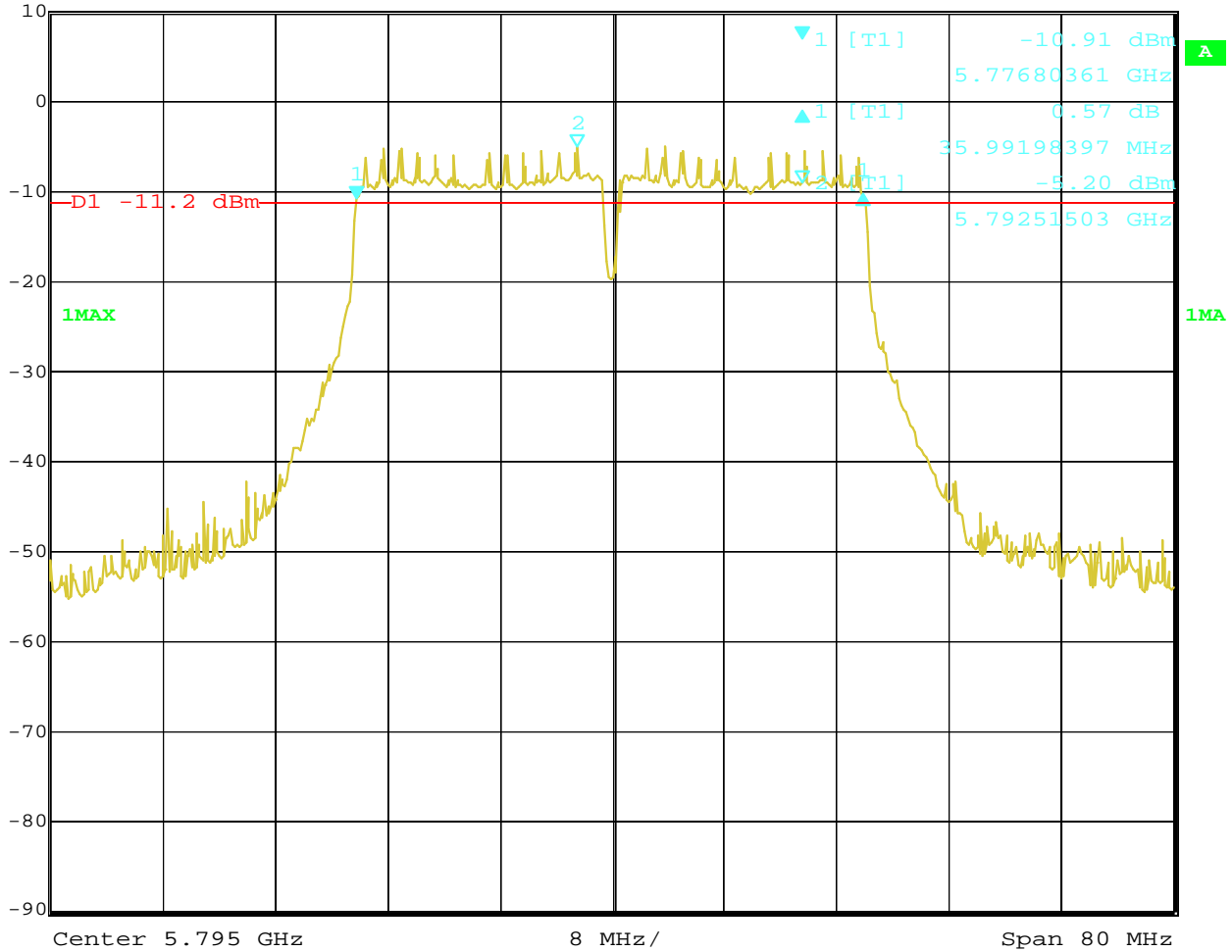
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Channel 159



Delta 1 [T1] RBW 100 kHz RF Att 20 dB  
 Ref Lvl 0.57 dB VBW 300 kHz  
 10 dBm 35.99198397 MHz SWT 20 ms Unit dBm



Date: 11.APR.2019 16:06:07

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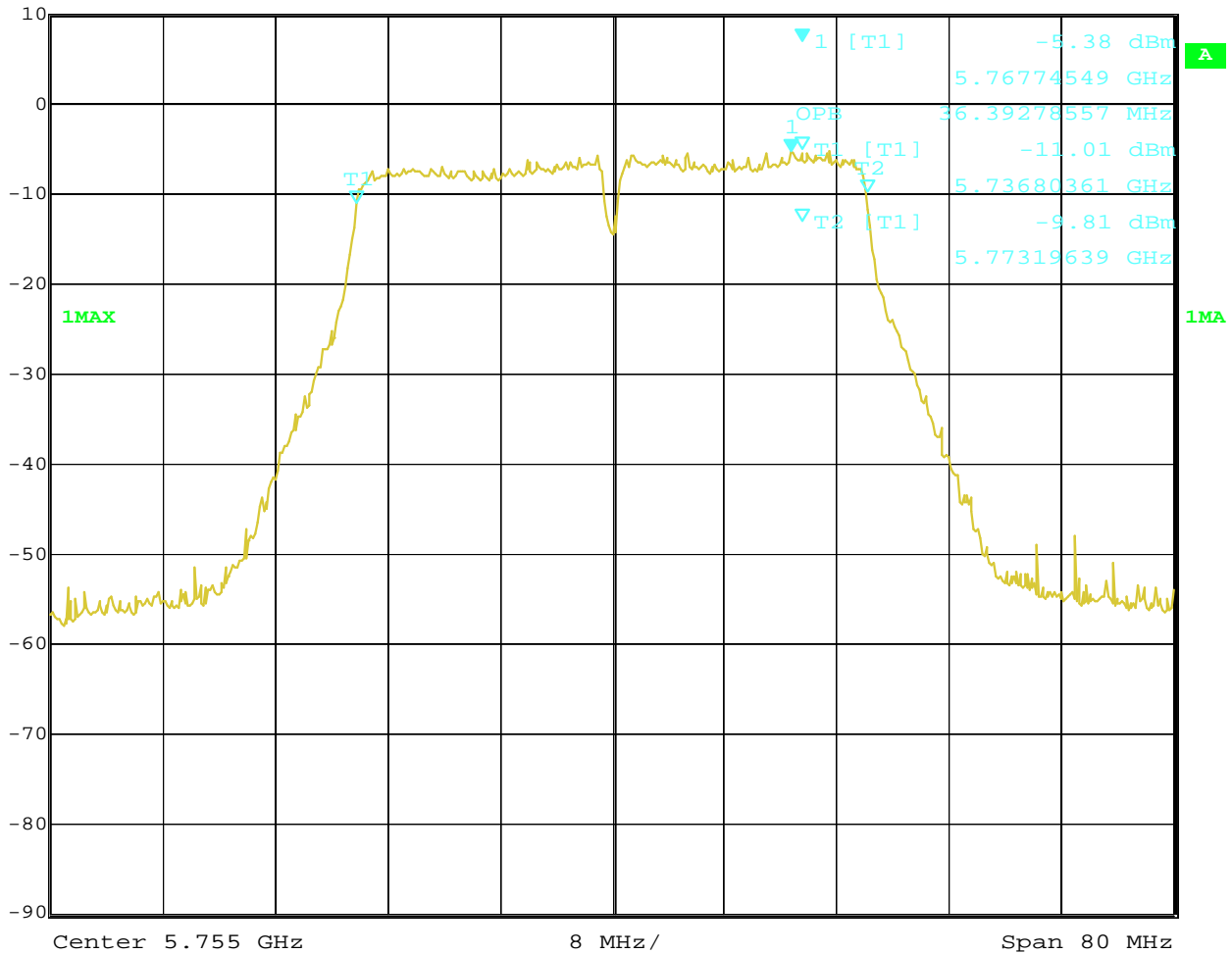


Test Configure

99% Bandwidth

Channel 151

	Ref Lvl	Marker 1 [T1]	RBW	300 kHz	RF Att	20 dB
	10 dBm	-5.38 dBm	VBW	1 MHz		
		5.76774549 GHz	SWT	5 ms	Unit	dBm



Date: 11.APR.2019 16:43:18

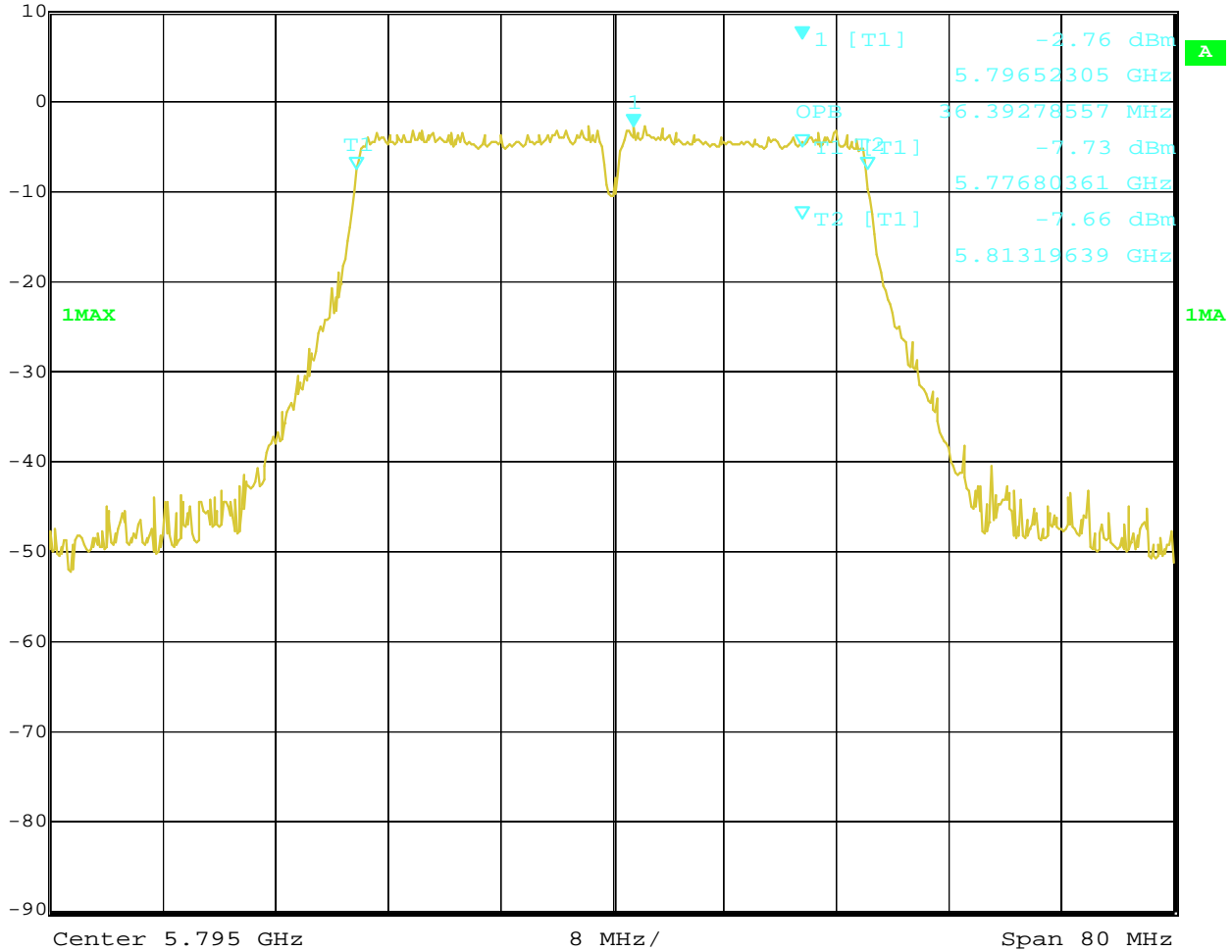
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Channel 159



Ref Lvl	10 dBm	Marker 1 [T1]	-2.76 dBm	RBW	300 kHz	RF Att	20 dB
			5.79652305 GHz	VBW	1 MHz	Unit	dBm
				SWT	5 ms		



Date: 11.APR.2019 16:41:47

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EUT		Developer Board		Model		DB8	
Mode		802.11ac VHT80		Input Voltage		120V~	
Temperature		24 deg. C,		Humidity		56% RH	
Channel	Channel Frequency (MHz)	Data Transfer Rate (Mbps)	Bandwidth (MHz)	Minimum Limit (MHz)	Pass/ Fail		
<b>26dB Bandwidth</b>							
42	5210	23.9	82.73	--	Pass		
<b>99% Bandwidth</b>							
42	5210	23.9	75.35	--	Pass		

Note: Ant1 and Ant 2 were tested and only the worst case was recorded in the test report. Ant 1 was the worst case.

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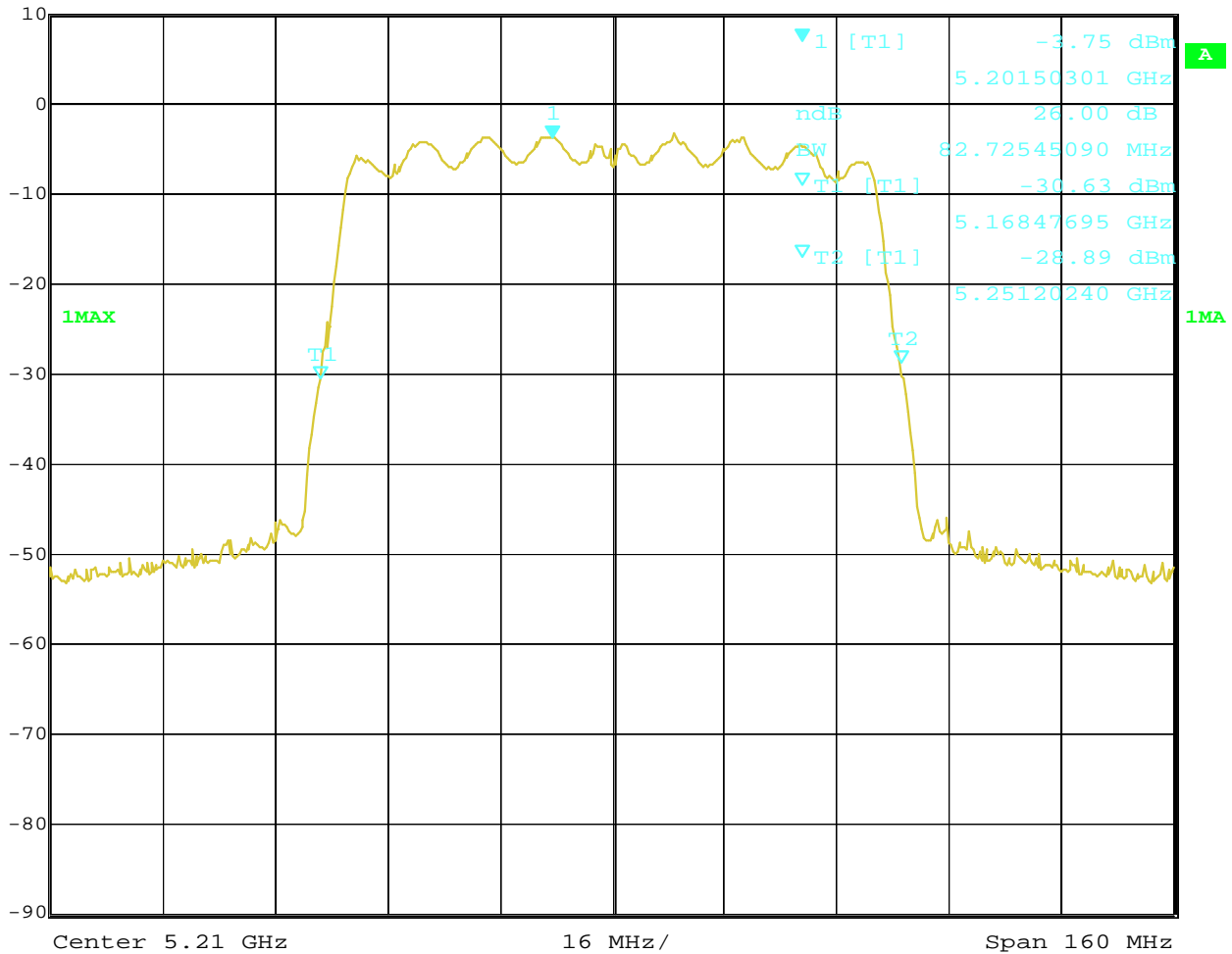


Test Configure

26dB Bandwidth

Channel 42

	Ref Lvl	10 dBm	Marker 1 [T1 ndB]	26.00 dB	RBW	1 MHz	RF Att	20 dB
			BW	82.72545090 MHz	VBW	3 MHz	Unit	dBm
			SWT	5 ms				



Date: 11.APR.2019 16:47:36

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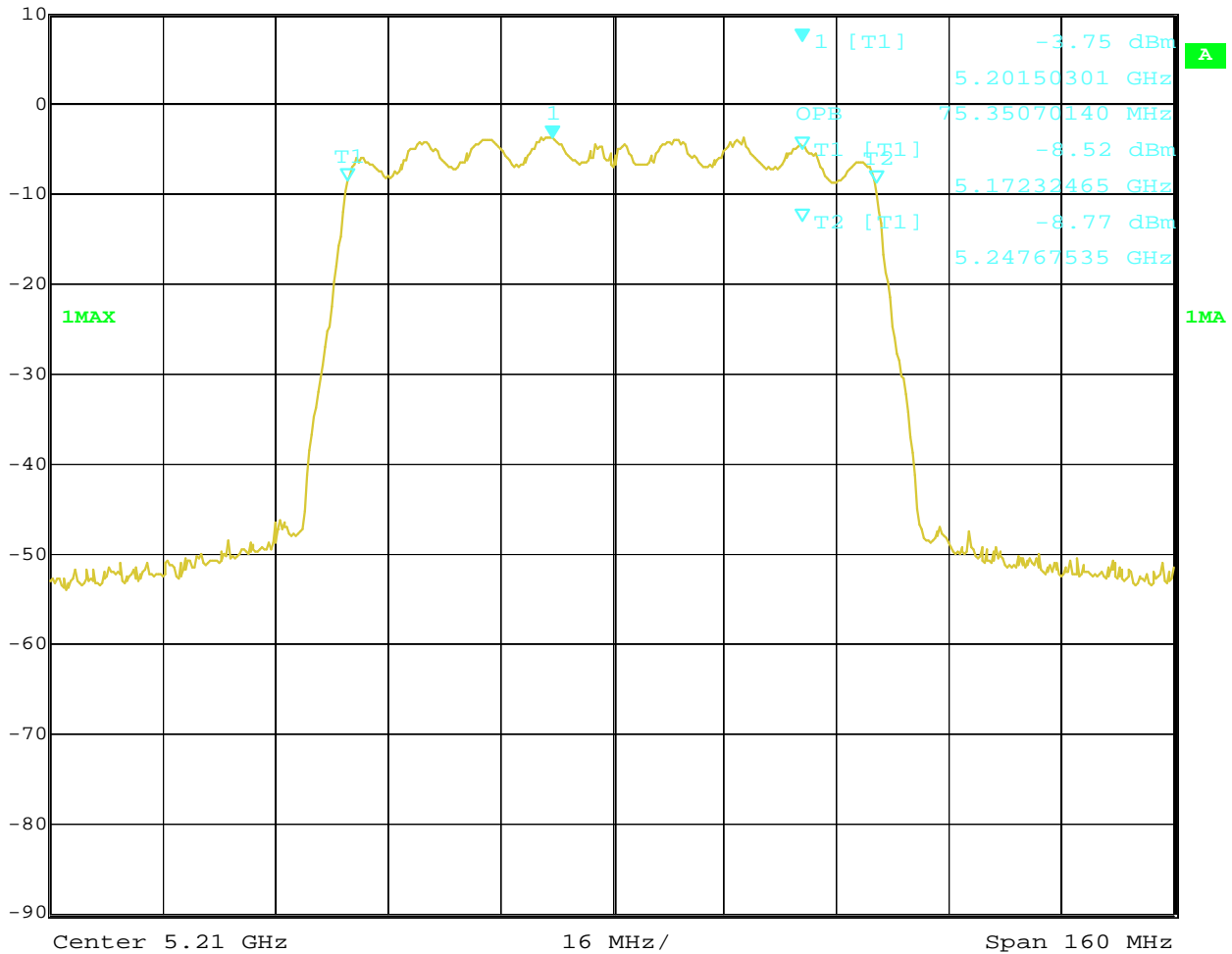


Test Configure

99% Bandwidth

Channel 42

	Ref Lvl	Marker 1 [T1]	RBW	1 MHz	RF Att	20 dB
	10 dBm	-3.75 dBm	VBW	3 MHz		
		5.20150301 GHz	SWT	5 ms	Unit	dBm



Date: 11.APR.2019 16:47:20

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EUT		Developer Board		Model	DB8
Mode		802.11ac VHT80		Input Voltage	120V~
Temperature		24 deg. C,		Humidity	56% RH
Channel	Channel Frequency (MHz)	Data Transfer Rate (Mbps)	Bandwidth (MHz)	Minimum Limit (MHz)	Pass/ Fail
<b>26dB Bandwidth</b>					
155	5775	23.9	82.40	--	Pass
<b>6dB Bandwidth</b>					
155	5775	23.9	75.39	0.5	Pass
<b>99% Bandwidth</b>					
155	5775	23.9	75.67	--	Pass

Note: Ant1 and Ant 2 were tested and only the worst case was recorded in the test report. Ant 1 was the worst case.

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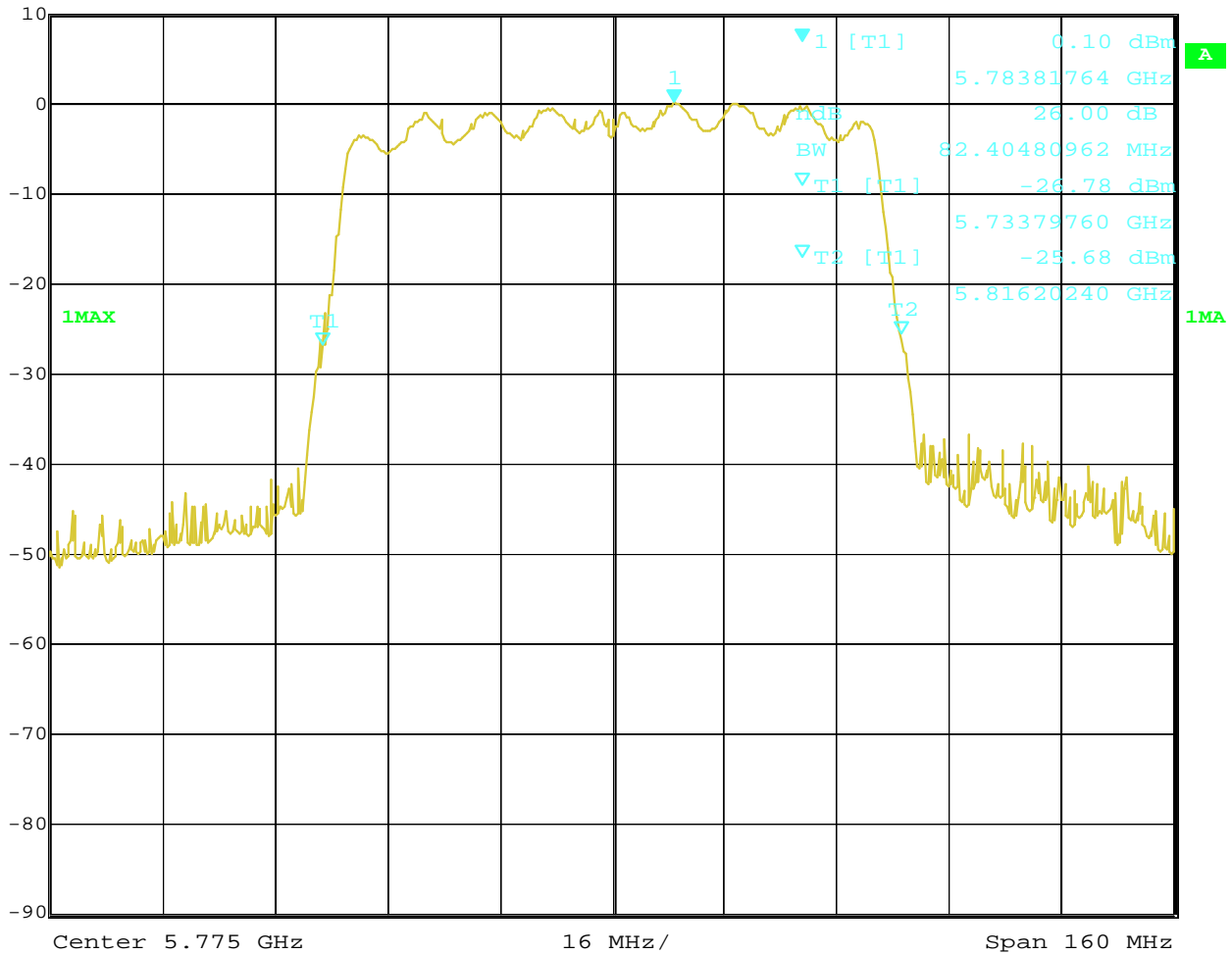


Test Configure

26dB Bandwidth

Channel 155

	Ref Lvl	10 dBm	Marker 1 [T1 ndB]	26.00 dB	RBW	1 MHz	RF Att	20 dB
			BW	82.40480962 MHz	VBW	3 MHz	Unit	dBm
			SWT	5 ms				



Date: 11.APR.2019 16:48:20

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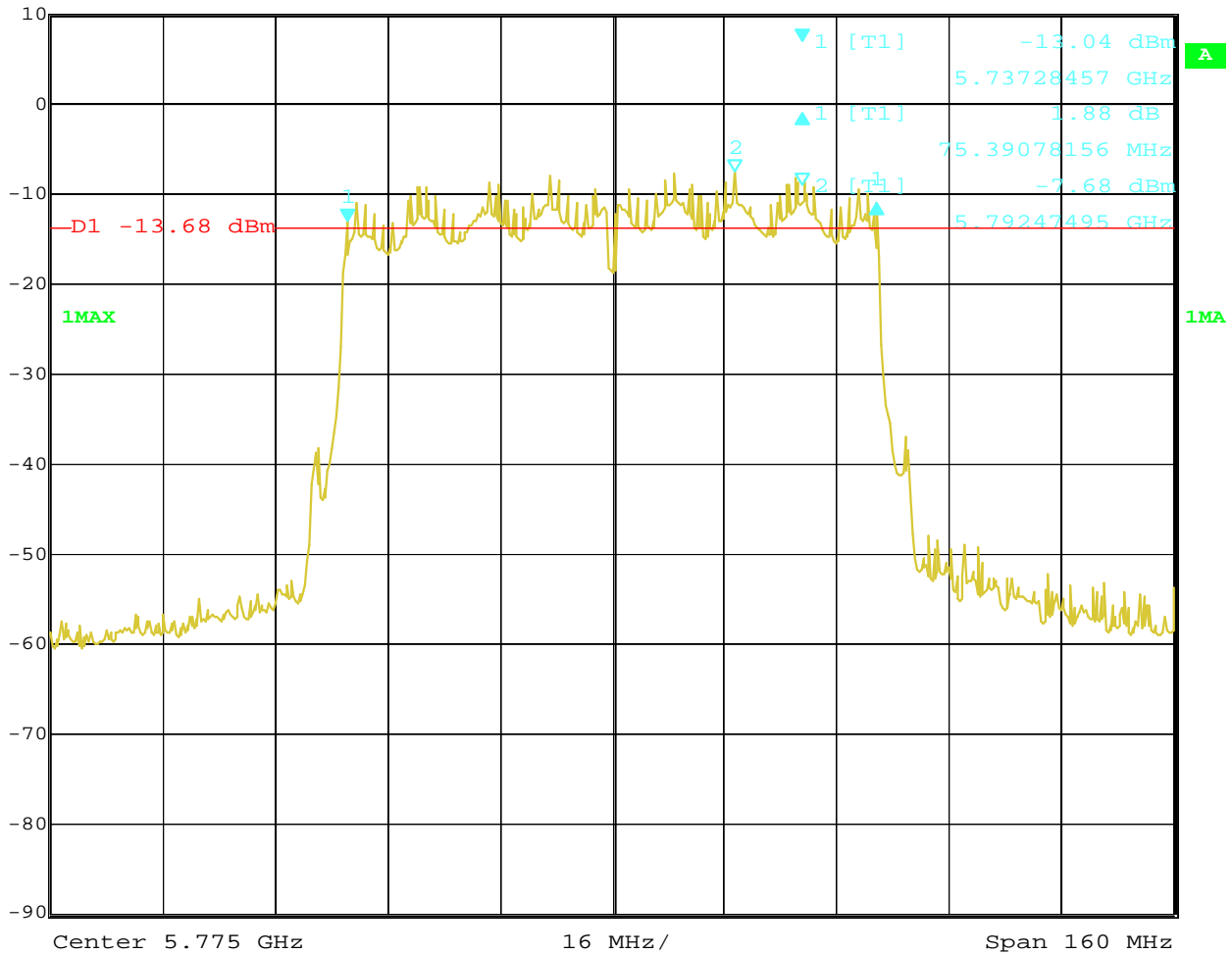


Test Configure

6dB Bandwidth

Channel 155

	Delta 1 [T1]	RBW	100 kHz	RF Att	20 dB
	Ref Lvl	1.88 dB	VBW	300 kHz	
	10 dBm	75.39078156 MHz	SWT	40 ms	Unit dBm



Date: 11.APR.2019 16:00:53

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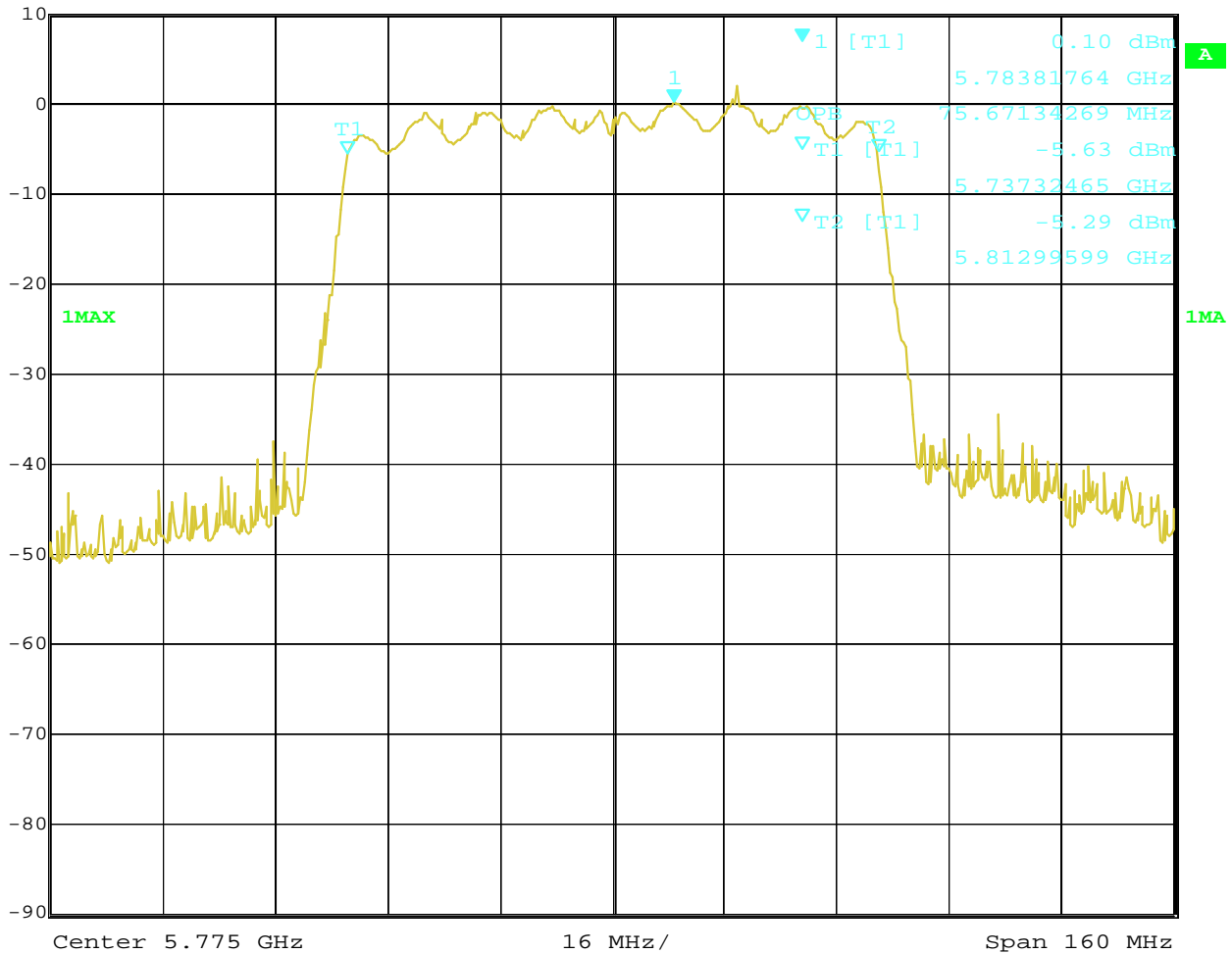


Test Configure

99% Bandwidth

Channel 155

	Ref Lvl	Marker 1 [T1]	RBW	1 MHz	RF Att	20 dB
	10 dBm	0.10 dBm	VBW	3 MHz		
		5.78381764 GHz	SWT	5 ms	Unit	dBm



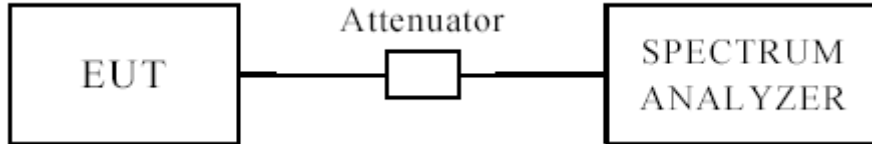
Date: 11.APR.2019 16:48:31

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## 8.0 Peak Transmit Power Measurement

### 8.1 Test Setup



### 8.2 Limits of Peak Transmit Power Measurement

Operation Band	EUT Category	Limit
U-NII-2A		For OEM devices installed in vehicles, the maximum e.i.r.p. shall not exceed 30 mW or $1.76 + 10 \log_{10} B^*$ , dBm, whichever is less
	√	For other devices, the maximum e.i.r.p. shall not exceed 200 mW or $10 + 10 \log_{10} B^*$ , dBm, whichever power is less

Note: 1. Where B is the 99% emission bandwidth in MHz.  
 2. EIRP was measured,  $EIRP = AV \text{ Power} + \text{Antenna Gain}$

U-NII-2A	--	250mW (24 dBm) or $11 \text{ dBm} + 10 \log B^*$
U-NII-2C	--	250mW (24 dBm) or $11 \text{ dBm} + 10 \log B^*$
U-NII-3	--	1 Watt (30 dBm)

Note: 1. Where B is the 26dB emission bandwidth in MHz.  
 2. The average power was measured

### 8.3 Test Procedure

The average power output was measured with a Spectrum analyzer connected to the RF Antenna connector (conducted measurement) while EUT was operating in transmit mode at the appropriate centre frequency.

**Note: the average power was measured**

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**8.4 Test Results**

EUT		Developer Board		Model		DB8		
Mode		802.11a		Input Voltage		120V~		
Temperature		24 deg. C,		Humidity		56% RH		
Channel	Frequency (MHz)	Ant 1 Power		Ant 2 Power		Total Power (dBm)	Limit (dBm)	Pass/ Fail
		dBm	mW	dBm	mW			
36	5180	5.63	3.66	5.50	3.55	8.58	22.38	Pass
40	5200	5.92	3.91	5.78	3.78	8.86	22.38	Pass
48	5240	5.89	3.88	5.80	3.80	8.85	22.38	Pass
149	5745	6.57	4.54	6.39	4.36	9.49	30	Pass
153	5765	7.40	5.50	7.27	5.33	10.34	30	Pass
161	5805	9.27	8.45	9.18	8.28	12.23	30	Pass

Note: 1. At final test to get the worst-case emission at 6Mbps for CH36, CH40, CH48, CH149, CH153 and CH161

2. The result basic equation calculation as follow:

$$\text{Average Power Output} = \text{AV Power Reading} + \text{Cable loss} + \text{Attenuator}$$

3. The worst case was recorded

4. Total power = Ant 1 + Ant 2

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EUT		Developer Board		Model		DB8		
Mode		802.11n HT20		Input Voltage		120V~		
Temperature		24 deg. C,		Humidity		56% RH		
Channel	Frequency (MHz)	Ant 1 Power		Ant 2 Power		Total Power (dBm)	Limit (dBm)	Pass/ Fail
		dBm	mW	dBm	mW			
36	5180	5.93	3.92	5.77	3.78	8.86	22.38	Pass
40	5200	6.12	4.09	6.01	3.99	9.07	22.38	Pass
48	5240	5.06	3.21	4.94	3.12	8.01	22.38	Pass
149	5745	6.36	4.33	6.22	4.19	9.30	30	Pass
153	5765	7.02	5.04	6.89	4.89	9.97	30	Pass
161	5805	9.19	8.30	9.07	8.07	12.14	30	Pass

Note: 1. At final test to get the worst-case emission at 6Mbps for CH36, CH40, CH48, CH149, CH153 and CH161

2. The result basic equation calculation as follow:

$$\text{Average Power Output} = \text{AV Power Reading} + \text{Cable loss} + \text{Attenuator}$$

3. The worse case was recorded

4. Total power = Ant 1 + Ant 2

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EUT		Developer Board		Model		DB8		
Mode		802.11n HT40		Input Voltage		120V~		
Temperature		24 deg. C,		Humidity		56% RH		
Channel	Frequency (MHz)	Ant 1 Power		Ant 2 Power		Total Power (dBm)	Limit (dBm)	Pass/ Fail
		dBm	mW	dBm	mW			
38	5190	2.09	1.62	2.01	1.59	5.07	23.01	Pass
46	5230	1.89	1.55	1.76	1.50	4.84	23.01	Pass
151	5755	3.39	2.18	3.31	2.14	6.35	30	Pass
159	5795	6.52	4.49	6.43	4.40	9.49	30	Pass

Note: 1. At final test to get the worst-case emission at 6Mbps for CH38, CH46, CH151, CH159

2. The result basic equation calculation as follow:

$$\text{Average Power Output} = \text{AV Power Reading} + \text{Cable loss} + \text{Attenuator}$$

2. The worse case was recorded
3. Total power = Ant 1 + Ant 2

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EUT		Developer Board		Model		DB8		
Mode		802.11ac VHT20		Input Voltage		120V~		
Temperature		24 deg. C,		Humidity		56% RH		
Channel	Frequency (MHz)	Ant 1 Power		Ant 2 Power		Total Power (dBm)	Limit (dBm)	Pass/ Fail
		dBm	mW	dBm	mW			
36	5180	5.58	3.61	5.45	3.51	8.52	22.38	Pass
40	5200	5.67	3.69	5.57	3.61	8.63	22.38	Pass
48	5240	4.50	2.82	4.39	2.75	7.46	22.38	Pass
149	5745	6.41	4.38	6.26	4.23	9.35	30	Pass
153	5765	7.46	5.57	7.38	5.47	10.43	30	Pass
161	5805	9.05	8.04	8.92	7.80	12.00	30	Pass

Note: 1. At final test to get the worst-case emission at mcs0 (6.5Mbps) for CH36, CH40, CH48, CH149, CH153 and CH161

2. The result basic equation calculation as follow:

$$\text{Average Power Output} = \text{AV Power Reading} + \text{Cable loss} + \text{Attenuator}$$

3. The worse case was recorded
4. Total power = Ant 1 + Ant 2

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EUT		Developer Board		Model		DB8		
Mode		802.11ac VHT40		Input Voltage		120V~		
Temperature		24 deg. C,		Humidity		56% RH		
Channel	Frequency (MHz)	Ant 1 Power		Ant 2 Power		Total Power (dBm)	Limit (dBm)	Pass/ Fail
		dBm	mW	dBm	mW			
38	5190	2.21	1.66	2.13	1.63	5.17	23.01	Pass
46	5230	1.93	1.56	1.87	1.54	4.91	23.01	Pass
151	5755	3.43	2.20	3.29	2.13	6.36	30	Pass
159	5795	6.46	4.43	6.34	4.31	9.42	30	Pass

Note: 1. At final test to get the worst-case emission at mcs0 (13.5Mbps) for CH38, CH46, CH151, CH159

2. The result basic equation calculation as follow:

$$\text{Average Power Output} = \text{AV Power Reading} + \text{Cable loss} + \text{Attenuator}$$

4. The worse case was recorded

5. Total power = Ant 1 + Ant 2

EUT		Developer Board		Model		DB8		
Mode		802.11ac VHT80		Input Voltage		120V~		
Temperature		24 deg. C,		Humidity		56% RH		
Channel	Frequency (MHz)	Ant 1 Power		Ant 2 Power		Total Power (dBm)	Limit (dBm)	Pass/ Fail
		dBm	mW	dBm	mW			
42	5210	2.18	1.65	2.10	1.62	5.15	23.01	Pass
155	5775	5.22	3.33	5.16	3.28	8.20	30	Pass

Note: 1. At final test to get the worst-case emission at mcs0 (23.9Mbps) for CH38, CH46, CH151, CH159

2. The result basic equation calculation as follow:

$$\text{Average Power Output} = \text{AV Power Reading} + \text{Cable loss} + \text{Attenuator}$$

3. The worse case was recorded

4. Total power = Ant 1 + Ant 2

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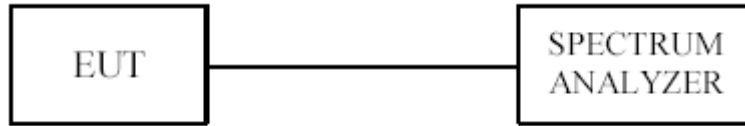
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## 9. Power Spectral Density Measurement

### 9.1 Test Setup



### 9.2 Limits of Power Spectral Density Measurement

Operation Band	Limit
U-NII-1	10dBm/MHz
U-NII-2A	11dBm/MHz
U-NII-2C	11dBm/MHz
U-NII-3	30dBm/500kHz

### 9.3 Test Procedure

1. The EUT was directly connected to the spectrum analyzer
2. Set the RBW = 1MHz.
3. Set the VBW = 3MHz.
4. Set the span to encompass the entire emissions bandwidth (EBW) of the signal
5. Detector = RMS
6. Sweep time = auto couple.
7. Trace mode = max hold.
8. Allow trace to fully stabilize.
9. Use the peak marker function to determine the maximum amplitude level.

Note: Because spectrum RS can not set RBW to be 500KHz, so only can set RBW to be 1MHz

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**9.4 Test Result**

EUT		Developer Board		Model		DB8	
Mode		802.11a 6Mbps		Input Voltage		120V~	
Temperature		24 deg. C,		Humidity		56% RH	
Channel	Frequency (MHz)	Ant1 Spectral Density	Factor	Total Spectral Density (dBm)	Limit (dBm)	Pass/ Fail	
36	5180	-4.52	3.01	-1.51	10	Pass	
40	5200	-4.24	3.01	-1.23	10	Pass	
48	5240	-5.34	3.01	-2.33	10	Pass	
149	5745	-3.52	3.01	-0.51	30	Pass	
153	5765	-2.62	3.01	0.39	30	Pass	
161	5805	-0.06	3.01	2.95	30	Pass	

- Note: 1. Total Spectral Density = Ant1 Spectral Density + Factor  
 2. Factor=10log2=3.01  
 3. Ant1 and Ant 2 were tested and Ant 1 was the worst case

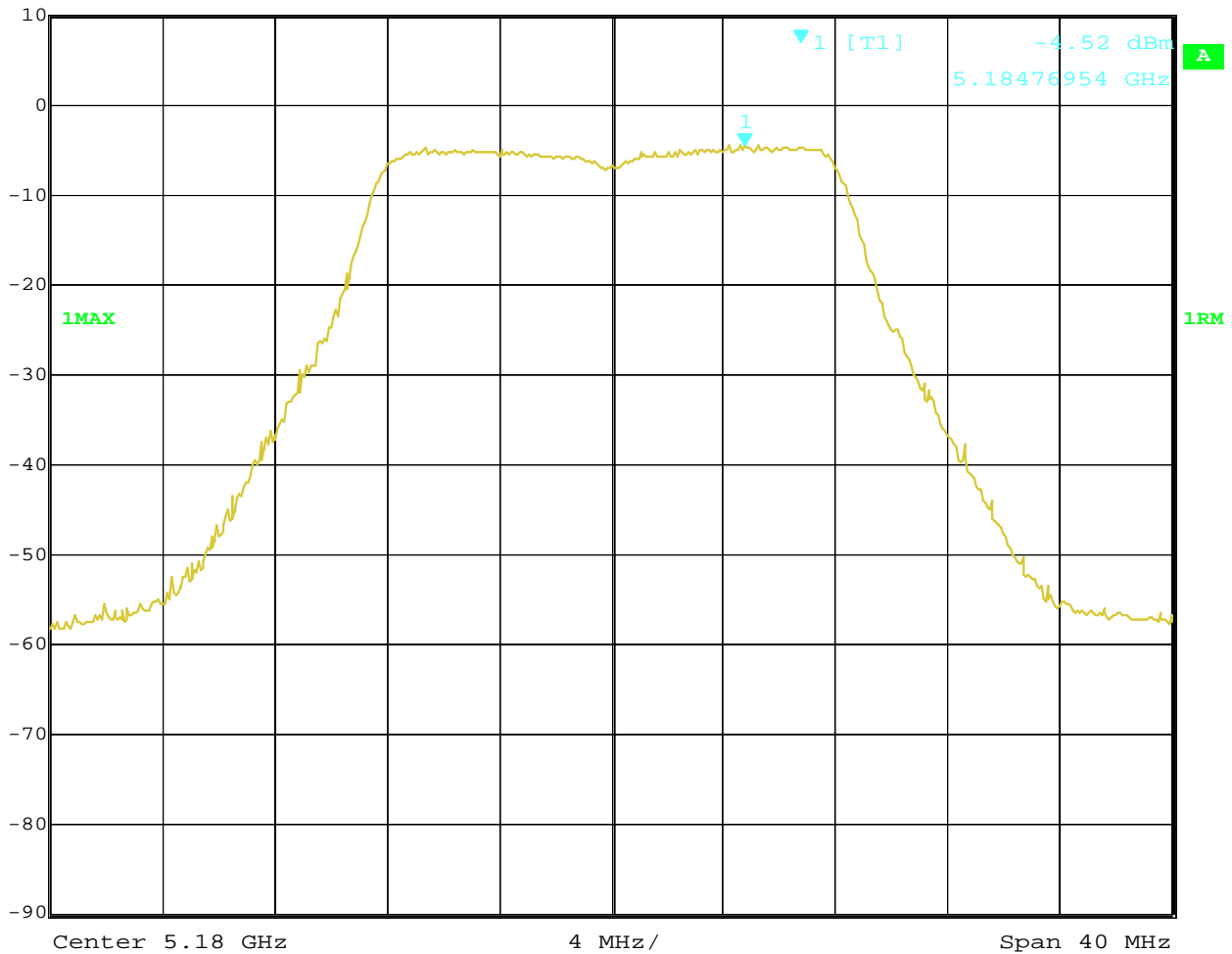
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**9.5 Plots of Power Spectral Density Measurement**

1.802.11a at 6Mbps of CH36

	Ref Lvl	10 dBm	Marker 1 [T1]	-4.52 dBm	RBW	1 MHz	RF Att	20 dB
			5.18476954 GHz		VBW	3 MHz		
					SWT	5 ms	Unit	dBm

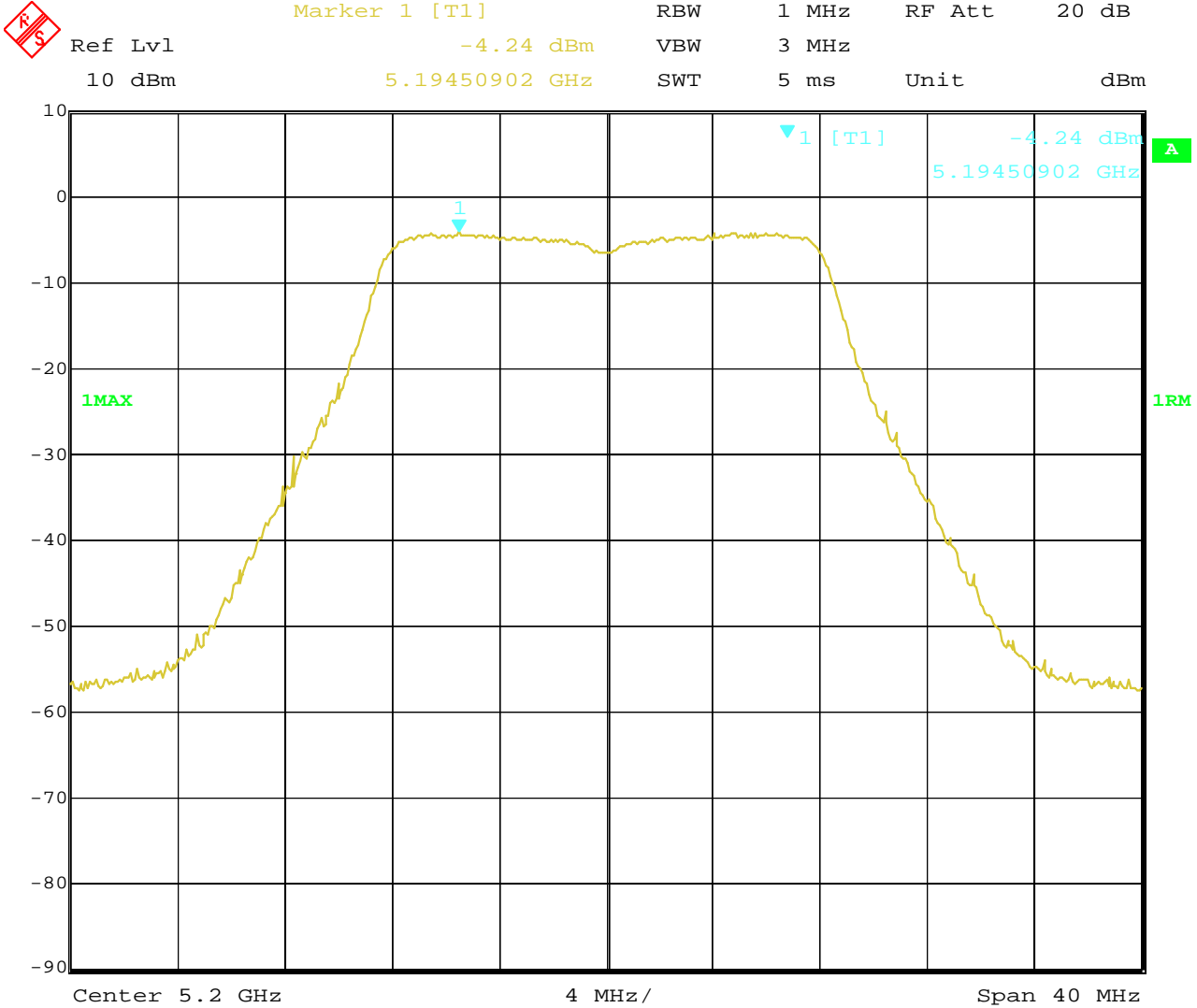


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2.802.11a at 6Mbps of CH40



Date: 11.APR.2019 16:52:45

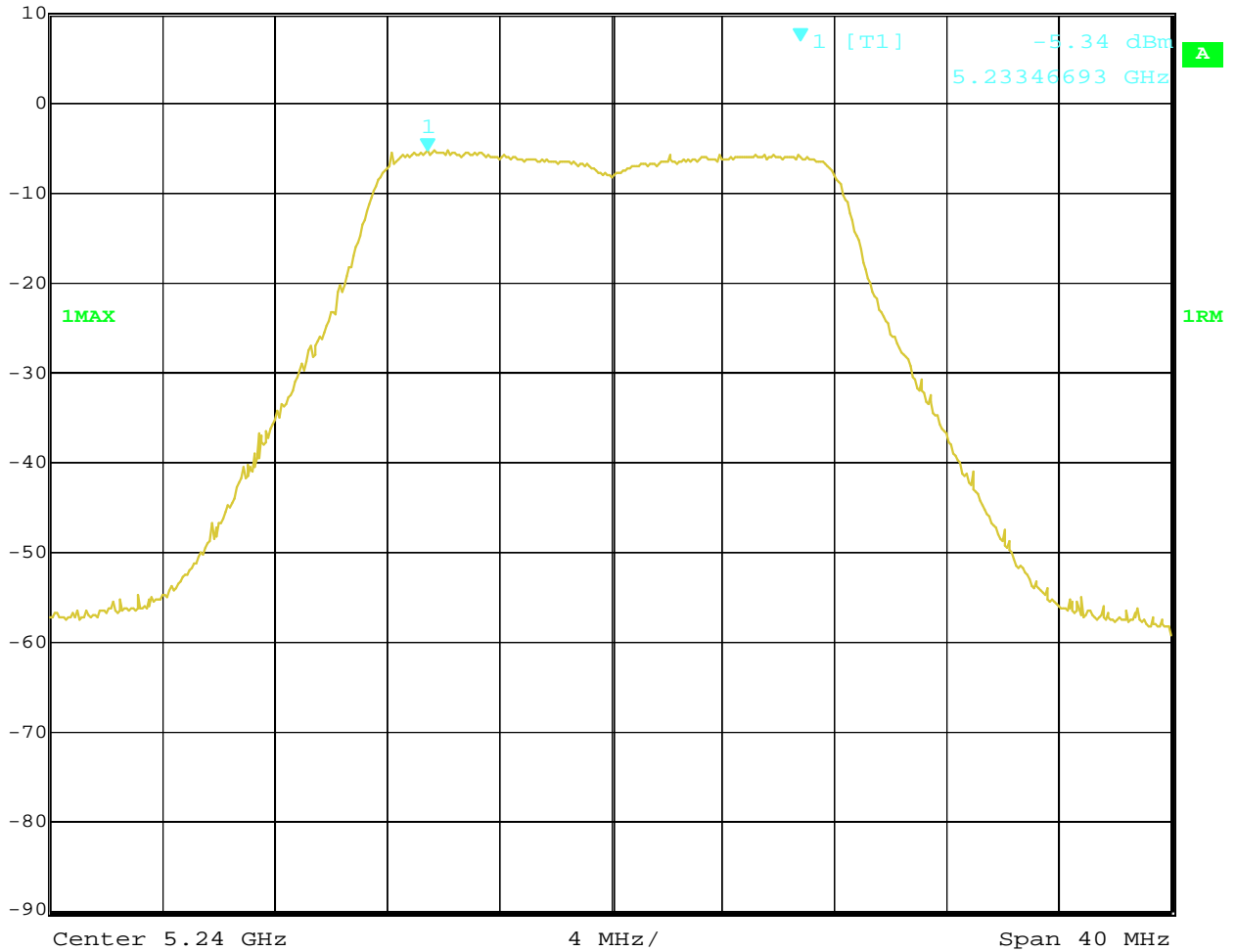
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3.802.11a at 6Mbps of CH48



Ref Lvl	10 dBm	Marker 1 [T1]	-5.34 dBm	RBW	1 MHz	RF Att	20 dB
			5.23346693 GHz	VBW	3 MHz	Unit	dBm
				SWT	5 ms		



Date: 11.APR.2019 16:54:57

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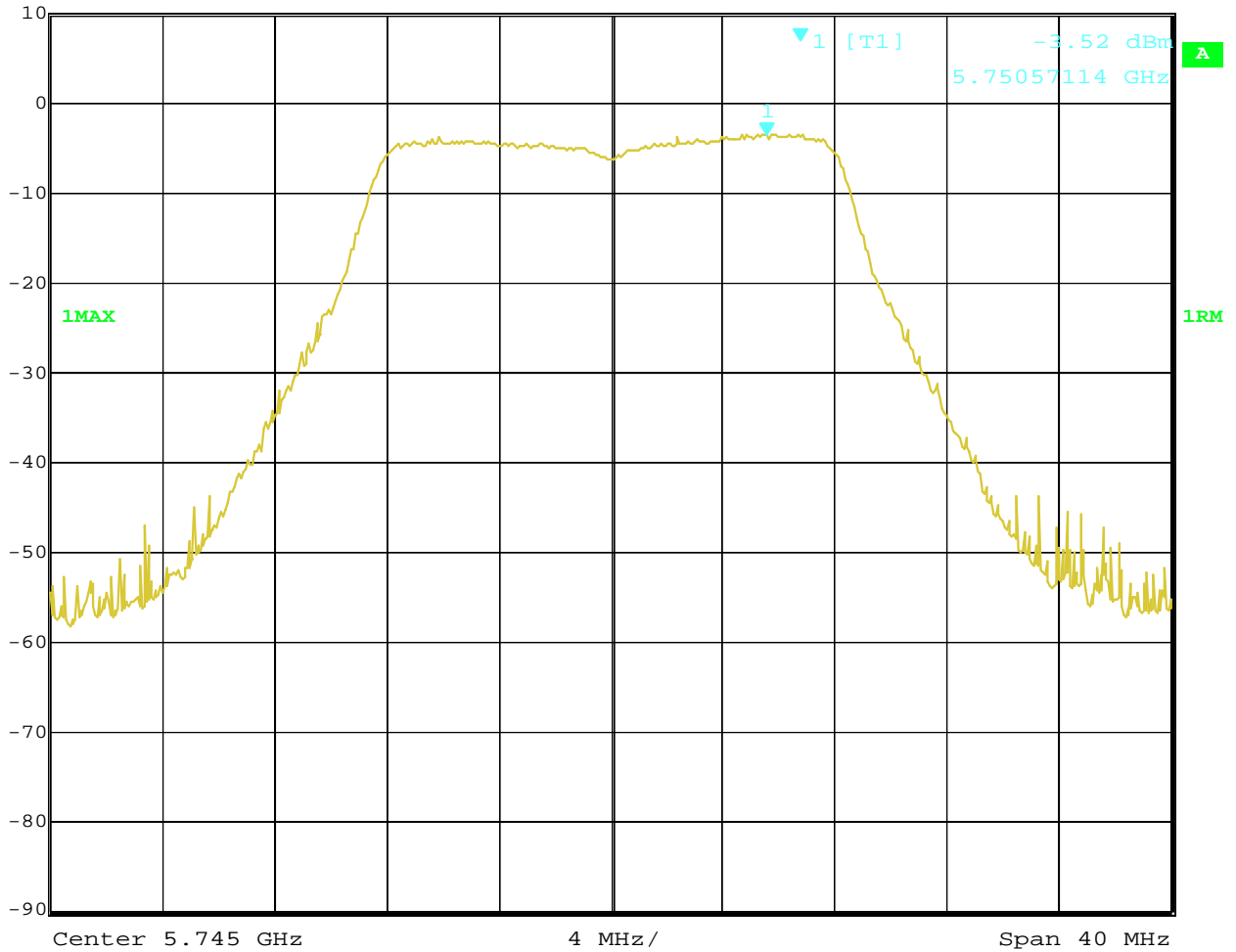




4.802.11a at 6Mbps of CH149



Ref Lvl	10 dBm	Marker 1 [T1]	-3.52 dBm	RBW	1 MHz	RF Att	20 dB
			5.75057114 GHz	VBW	3 MHz	Unit	dBm
				SWT	5 ms		



Date: 11.APR.2019 16:56:12

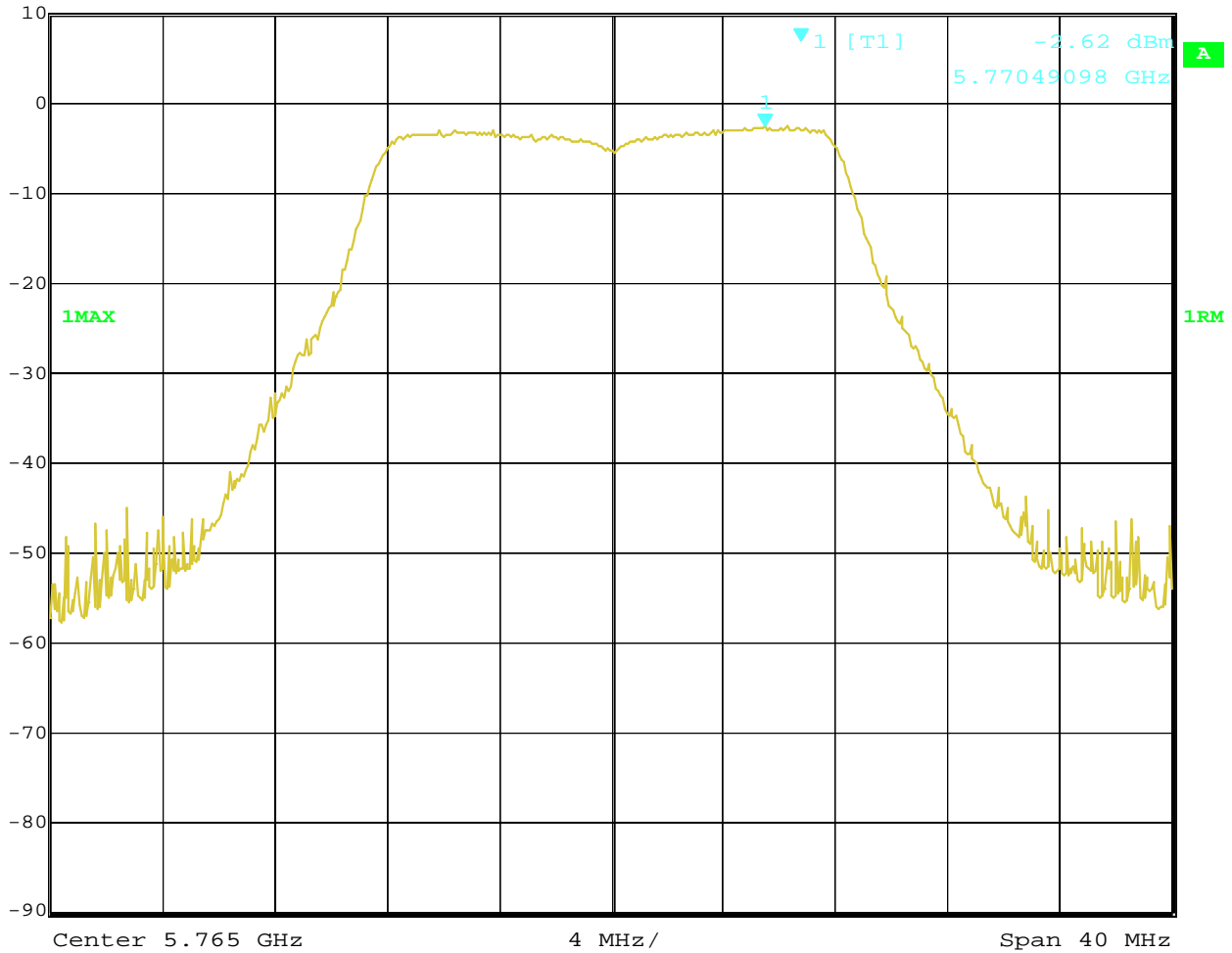
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5.802.11a at 6Mbps of CH153



Ref Lvl	10 dBm	Marker 1 [T1]	5.77049098 GHz	RBW	1 MHz	RF Att	20 dB
				VBW	3 MHz		
				SWT	5 ms	Unit	dBm



Date: 11.APR.2019 16:57:02

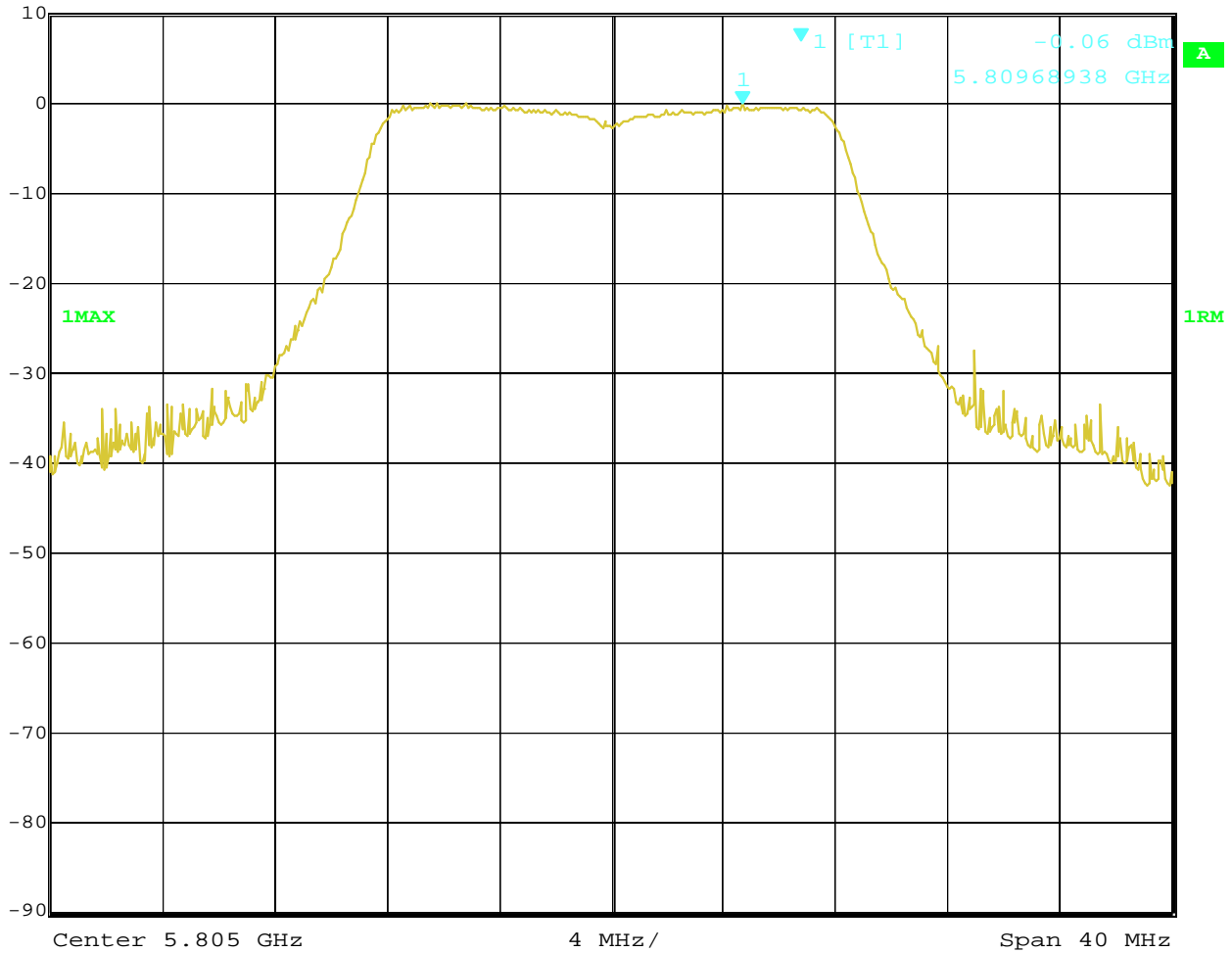
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6.802.11a at 6Mbps of CH161



Ref Lvl	10 dBm	Marker 1 [T1]	-0.06 dBm	RBW	1 MHz	RF Att	20 dB
			5.80968938 GHz	VBW	3 MHz	Unit	dBm
				SWT	5 ms		



Date: 11.APR.2019 17:00:25

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EUT		Developer Board		Model		DB8	
Mode		802.11n HT20 mcs0		Input Voltage		120V~	
Temperature		24 deg. C,		Humidity		56% RH	
Channel	Frequency (MHz)	Ant1 Spectral Density	Factor	Total Spectral Density (dBm)	Limit (dBm)	Pass/ Fail	
36	5180	-4.27	3.01	-1.26	10	Pass	
40	5200	-4.13	3.01	-1.12	10	Pass	
48	5240	-5.22	3.01	-2.21	10	Pass	
149	5745	-3.65	3.01	-0.64	30	Pass	
153	5765	-3.03	3.01	-0.02	30	Pass	
161	5805	-0.38	3.01	2.63	30	Pass	

- Note: 1. Total Spectral Density = Ant1 Spectral Density + Factor  
 2. Factor=10log2=3.01  
 3. Ant1 and Ant 2 were tested and Ant 1 was the worst case

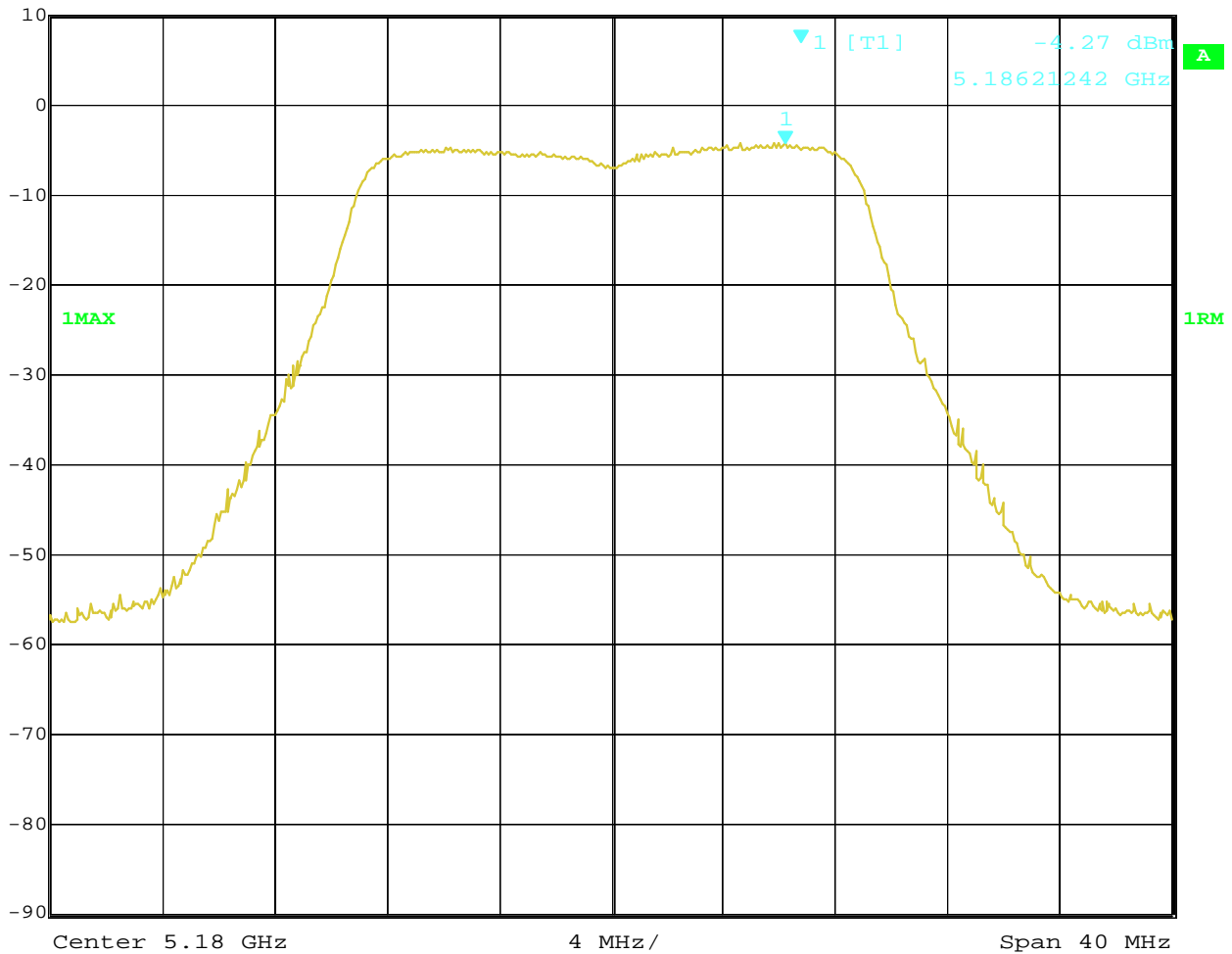
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**Test Plots**

1.802.11n at mcs0 of CH36

	Marker 1 [T1]	RBW	1 MHz	RF Att	20 dB
	Ref Lvl	-4.27 dBm	VBW	3 MHz	
	10 dBm	5.18621242 GHz	SWT	5 ms	Unit dBm



Date: 11.APR.2019 17:10:28

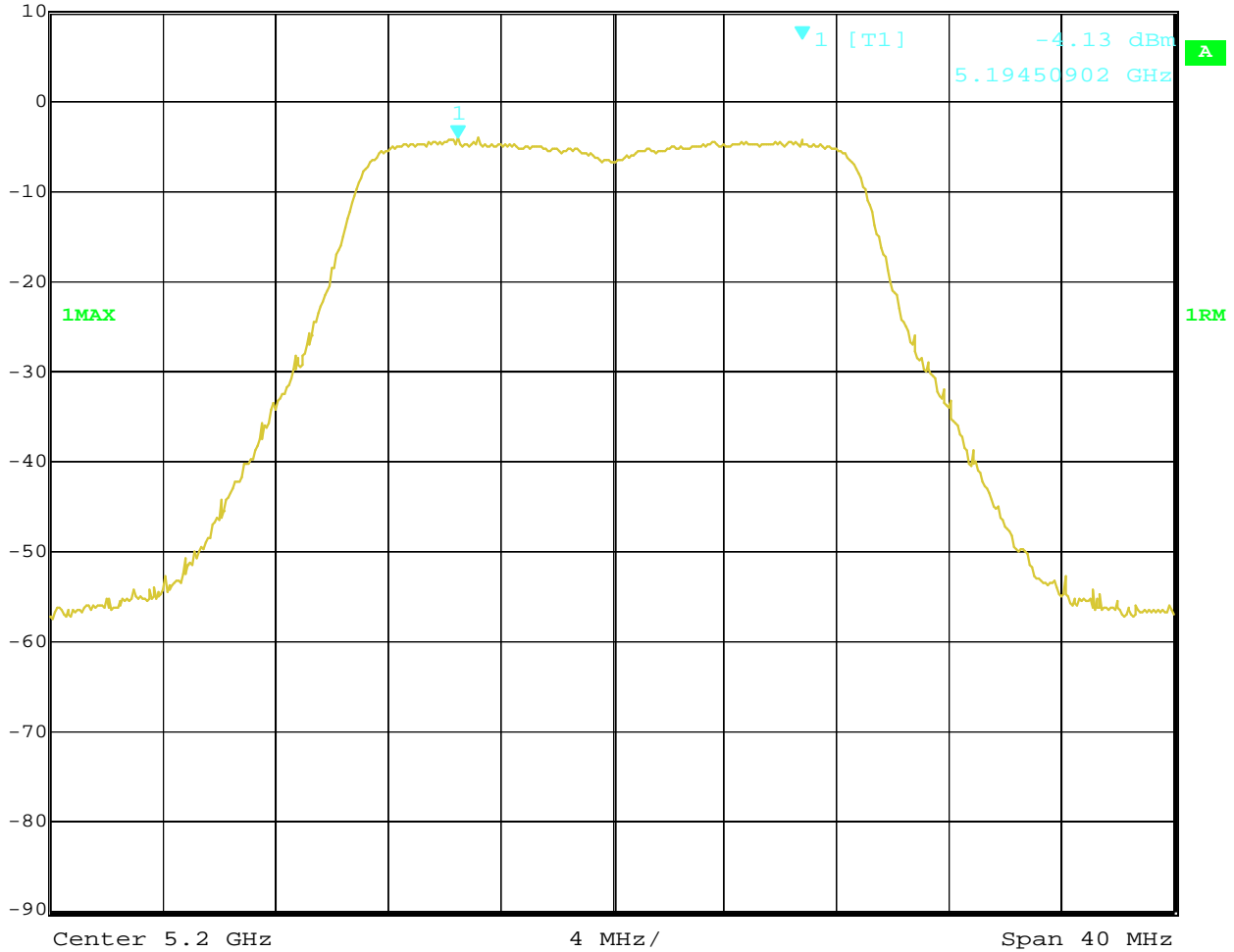
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2.802.11n at mcs0 of CH40



Ref Lvl	10 dBm	Marker 1 [T1]	5.19450902 GHz	RBW	1 MHz	RF Att	20 dB
				VBW	3 MHz		
				SWT	5 ms	Unit	dBm



Date: 11.APR.2019 17:08:38

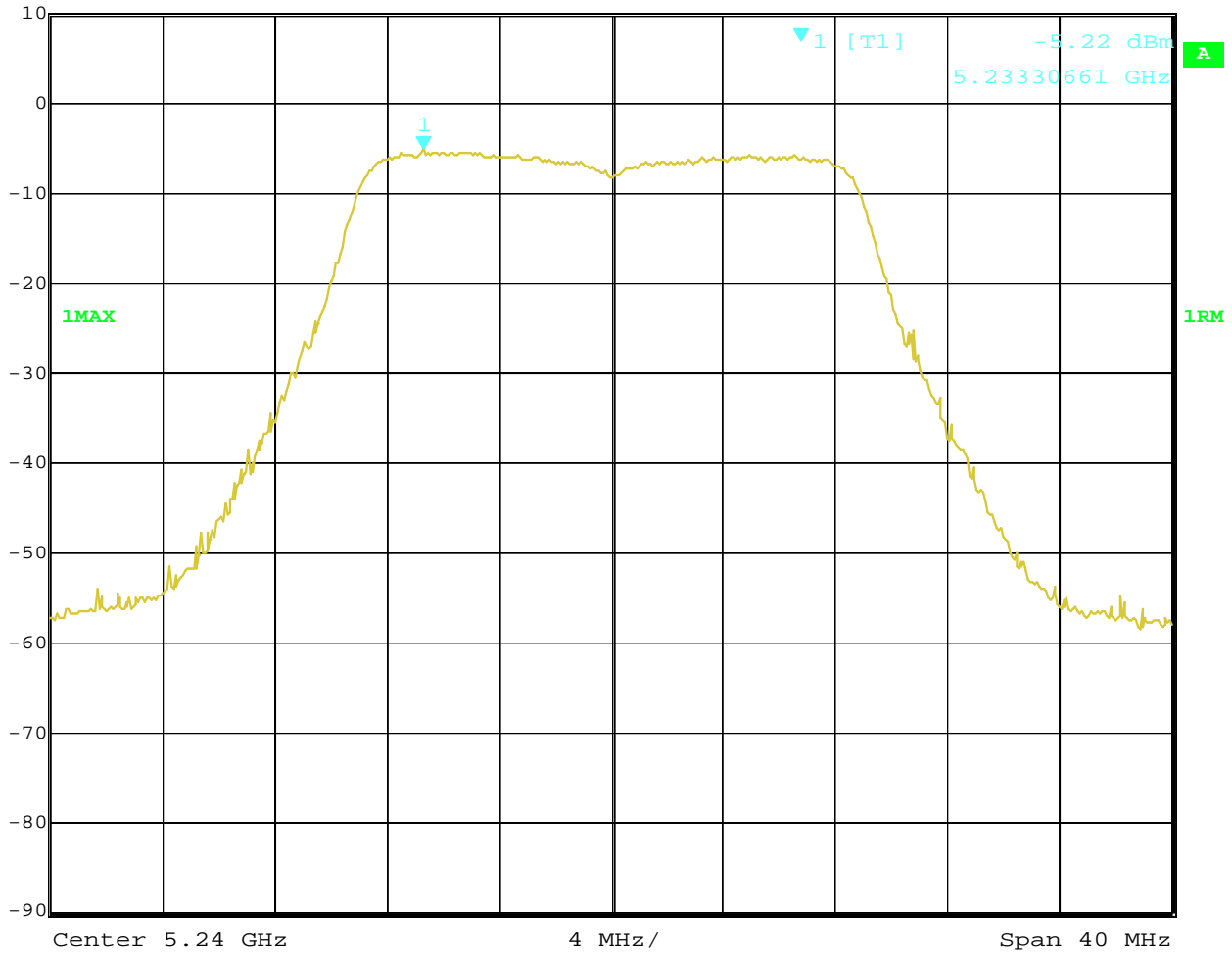
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3.802.11n at mcs0 of CH48



Ref Lvl	Marker 1 [T1]	RBW	1 MHz	RF Att	20 dB
10 dBm	-5.22 dBm	VBW	3 MHz		
	5.23330661 GHz	SWT	5 ms	Unit	dBm



Date: 11.APR.2019 17:07:46

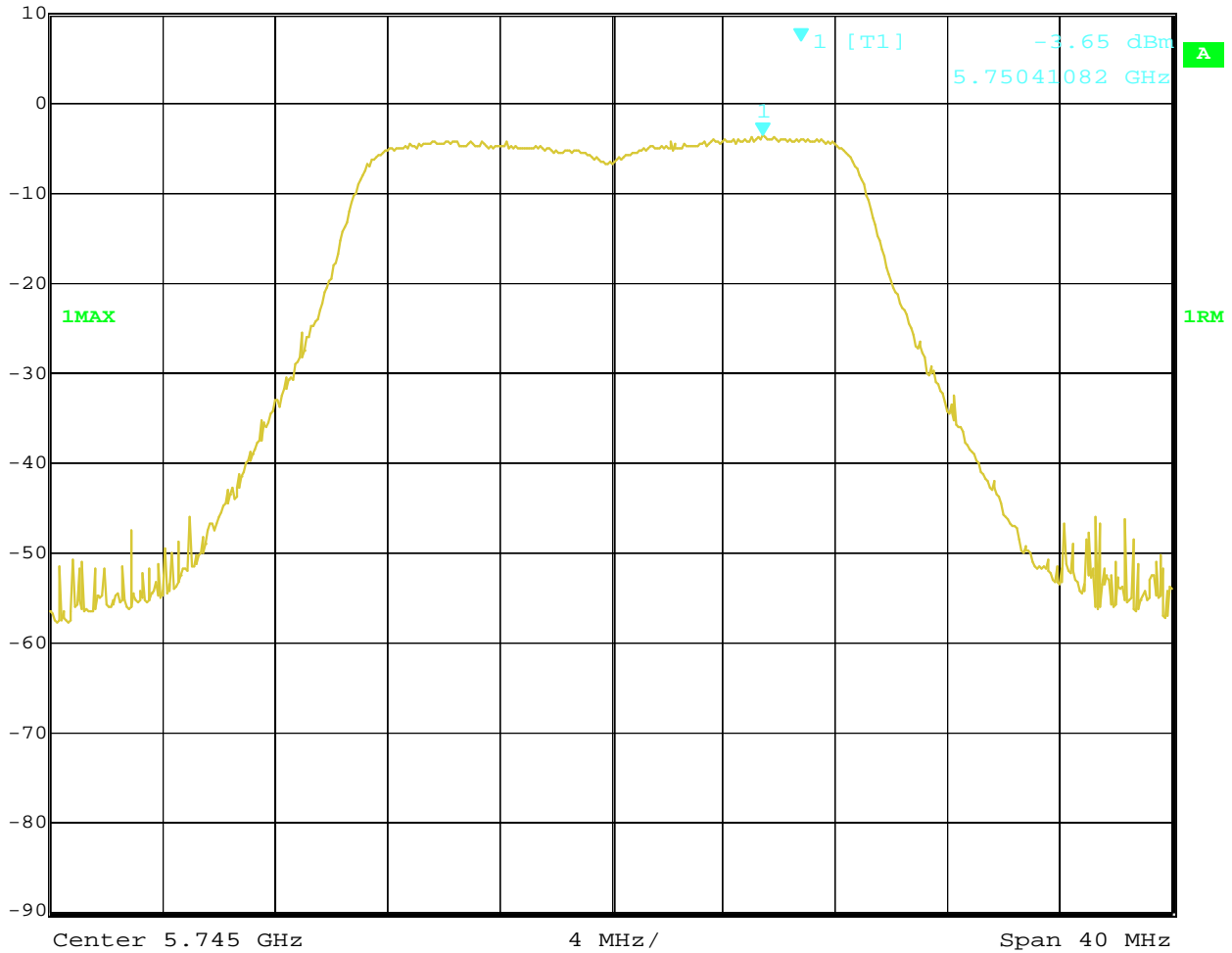
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4.802.11n at mcs0 of CH149



Ref Lvl	10 dBm	Marker 1 [T1]	-3.65 dBm	RBW	1 MHz	RF Att	20 dB
			5.75041082 GHz	VBW	3 MHz	Unit	dBm
				SWT	5 ms		



Date: 11.APR.2019 17:06:09

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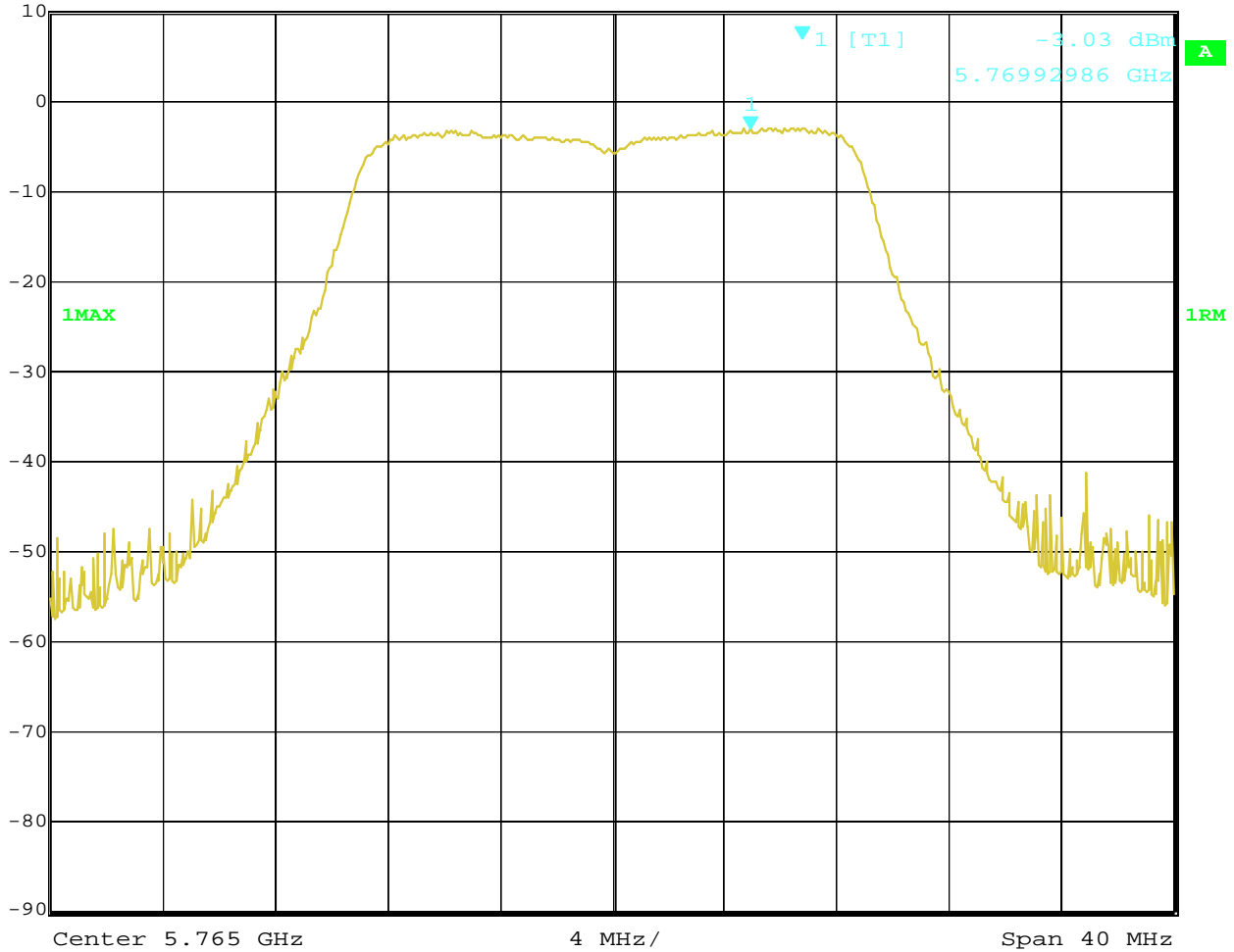




5.802.11n at mcs0 of CH153



Ref Lvl	10 dBm	Marker 1 [T1]	-3.03 dBm	RBW	1 MHz	RF Att	20 dB
			5.76992986 GHz	VBW	3 MHz	Unit	dBm
				SWT	5 ms		



Date: 11.APR.2019 17:04:45

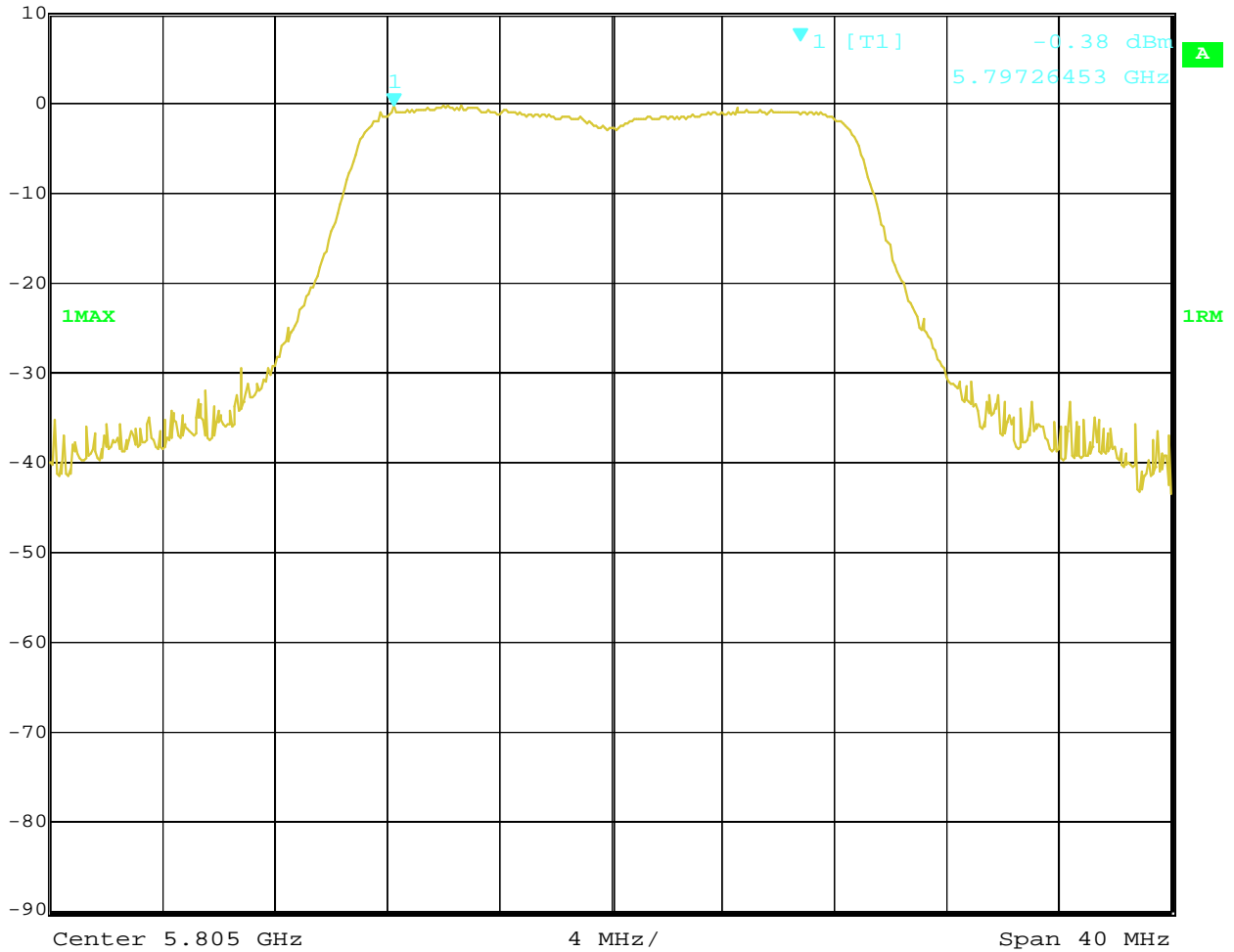
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6.802.11n at mcs0 of CH161



Ref Lvl	10 dBm	Marker 1 [T1]	-0.38 dBm	RBW	1 MHz	RF Att	20 dB
			5.79726453 GHz	VBW	3 MHz	Unit	dBm
				SWT	5 ms		



Date: 11.APR.2019 17:03:38

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EUT		Developer Board		Model		DB8	
Mode		802.11n HT40 mcs0		Input Voltage		120V~	
Temperature		24 deg. C,		Humidity		56% RH	
Channel	Frequency (MHz)	Ant1 Spectral Density	Factor	Total Spectral Density (dBm)	Limit (dBm)	Pass/ Fail	
38	5190	-8.09	3.01	-5.08	10	Pass	
46	5230	-8.93	3.01	-5.92	10	Pass	
151	5755	-6.88	3.01	-3.87	30	Pass	
159	5795	-3.96	3.01	-0.95	30	Pass	

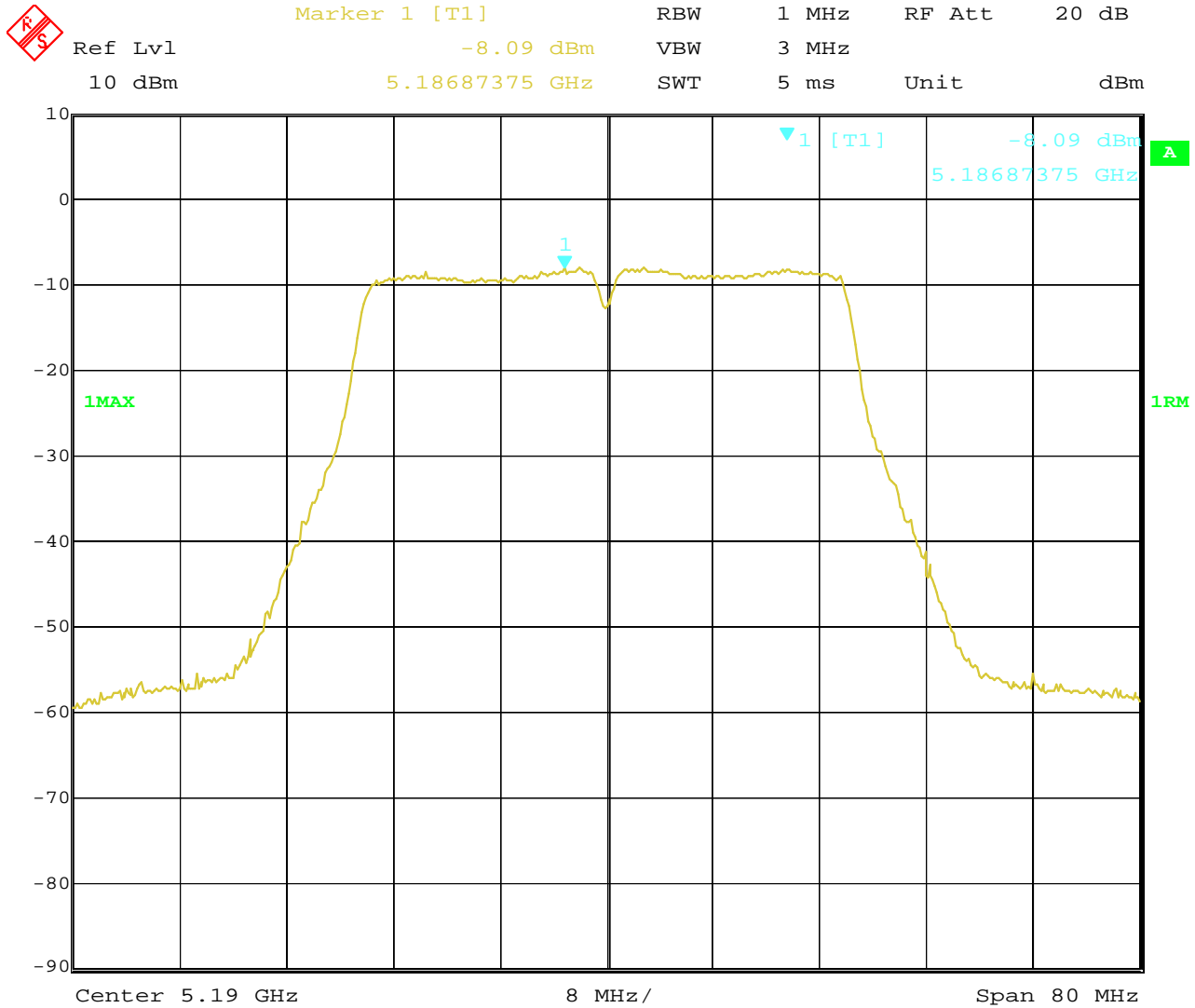
- Note: 1. Total Spectral Density = Ant1 Spectral Density + Factor  
 2. Factor=10log2=3.01  
 3. Ant1 and Ant 2 were tested and Ant 1 was the worst case

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**Test Plots**

1.802.11n HT40 at mcs0 of CH38



Date: 11.APR.2019 17:23:34

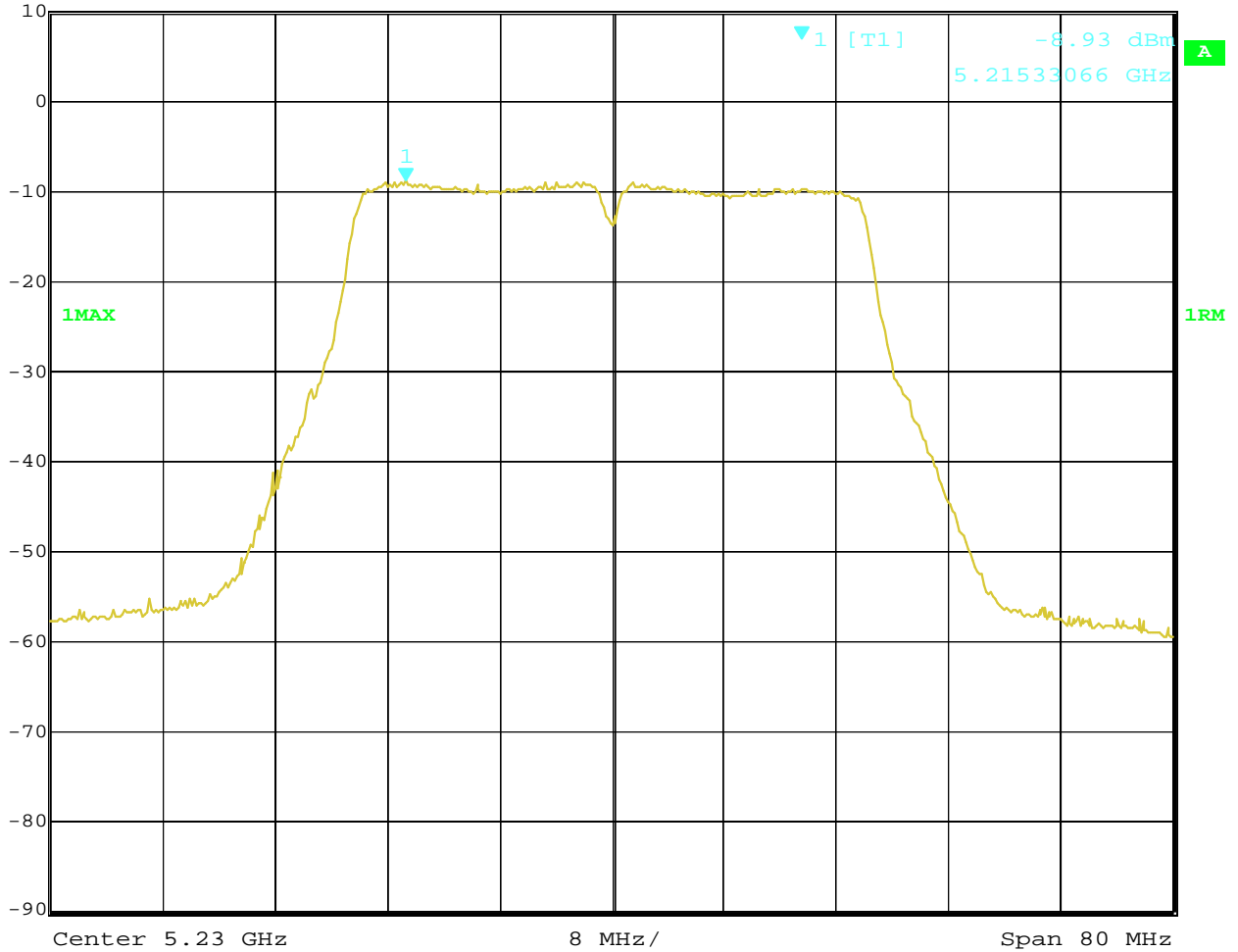
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2.802.11n HT40 at mcs0 of CH46



Ref Lvl	10 dBm	Marker 1 [T1]	-8.93 dBm	RBW	1 MHz	RF Att	20 dB
			5.21533066 GHz	VBW	3 MHz	Unit	dBm
				SWT	5 ms		



Date: 11.APR.2019 17:26:11

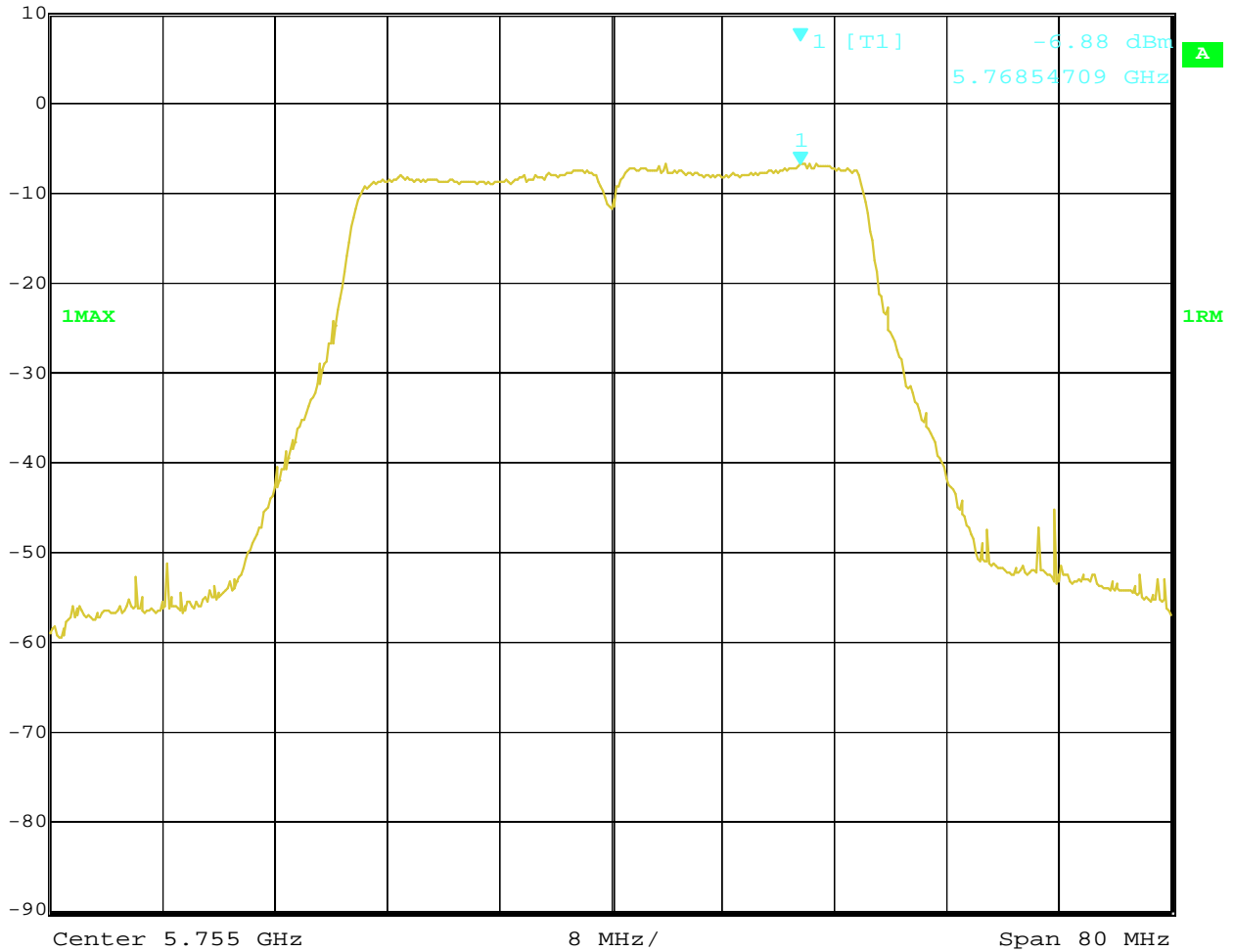
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3.802.11n HT40 at mcs0 of CH151



Ref Lvl	10 dBm	Marker 1 [T1]	-6.88 dBm	RBW	1 MHz	RF Att	20 dB
			5.76854709 GHz	VBW	3 MHz	Unit	dBm
				SWT	5 ms		



Date: 11.APR.2019 17:27:37

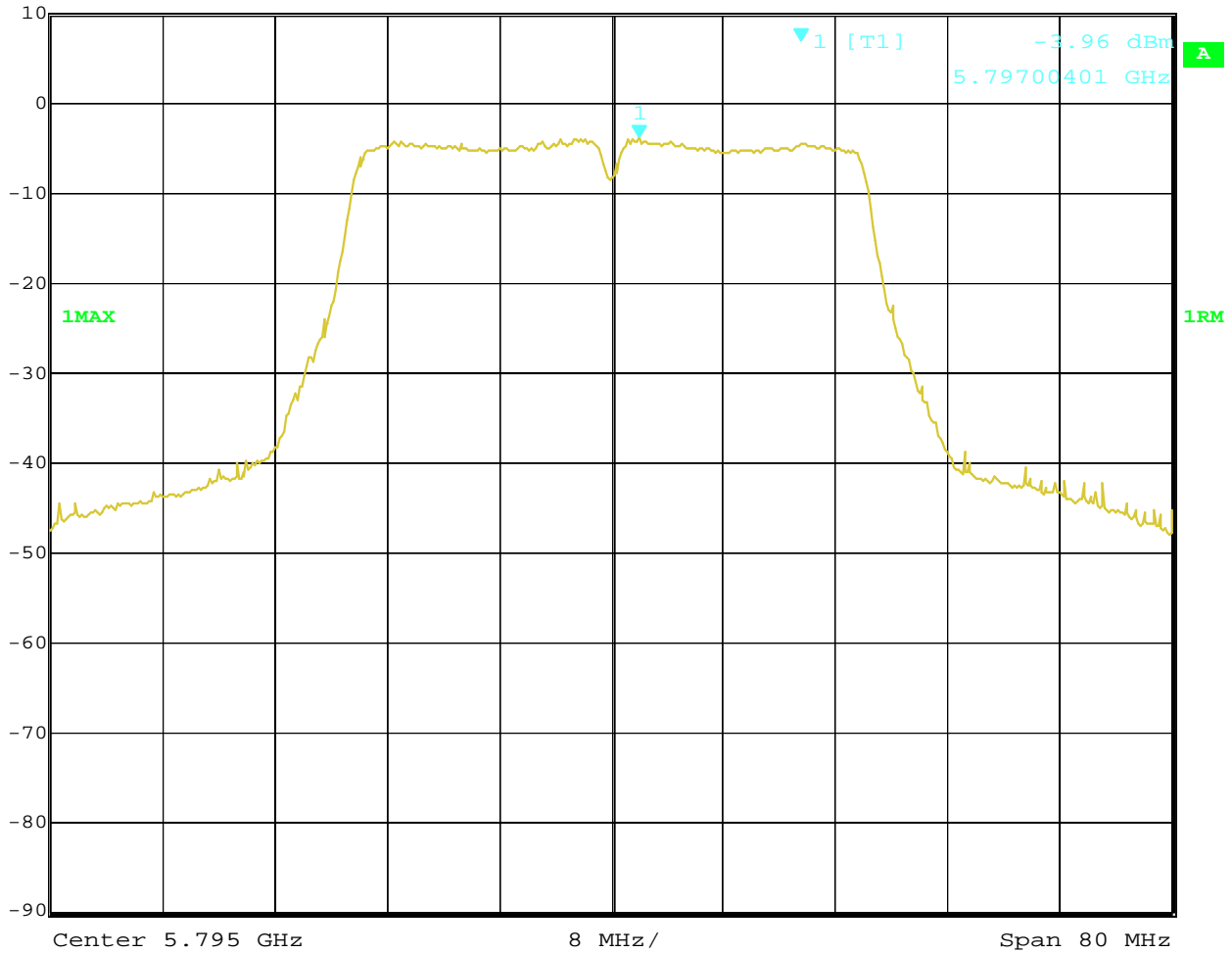
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4.802.11n HT40 at mcs0 of CH159



Ref Lvl	10 dBm	Marker 1 [T1]	5.79700401 GHz	RBW	1 MHz	RF Att	20 dB
				VBW	3 MHz		
				SWT	5 ms	Unit	dBm



Date: 11.APR.2019 17:30:03

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EUT		Developer Board		Model		DB8	
Mode		802.11ac VHT20		Input Voltage		120V~	
Temperature		24 deg. C,		Humidity		56% RH	
Channel	Frequency (MHz)	Ant1 Spectral Density	Factor	Total Spectral Density (dBm)	Limit (dBm)	Pass/ Fail	
36	5180	-4.52	3.01	-1.51	10	Pass	
40	5200	-3.98	3.01	-0.97	10	Pass	
48	5240	-5.52	3.01	-2.51	10	Pass	
149	5745	-3.80	3.01	-0.79	30	Pass	
153	5765	-2.83	3.01	0.18	30	Pass	
161	5805	-0.24	3.01	2.77	30	Pass	

- Note: 1. Total Spectral Density = Ant1 Spectral Density + Factor  
 2. Factor=10log2=3.01  
 3. Ant1 and Ant 2 were tested and Ant 1 was the worst case

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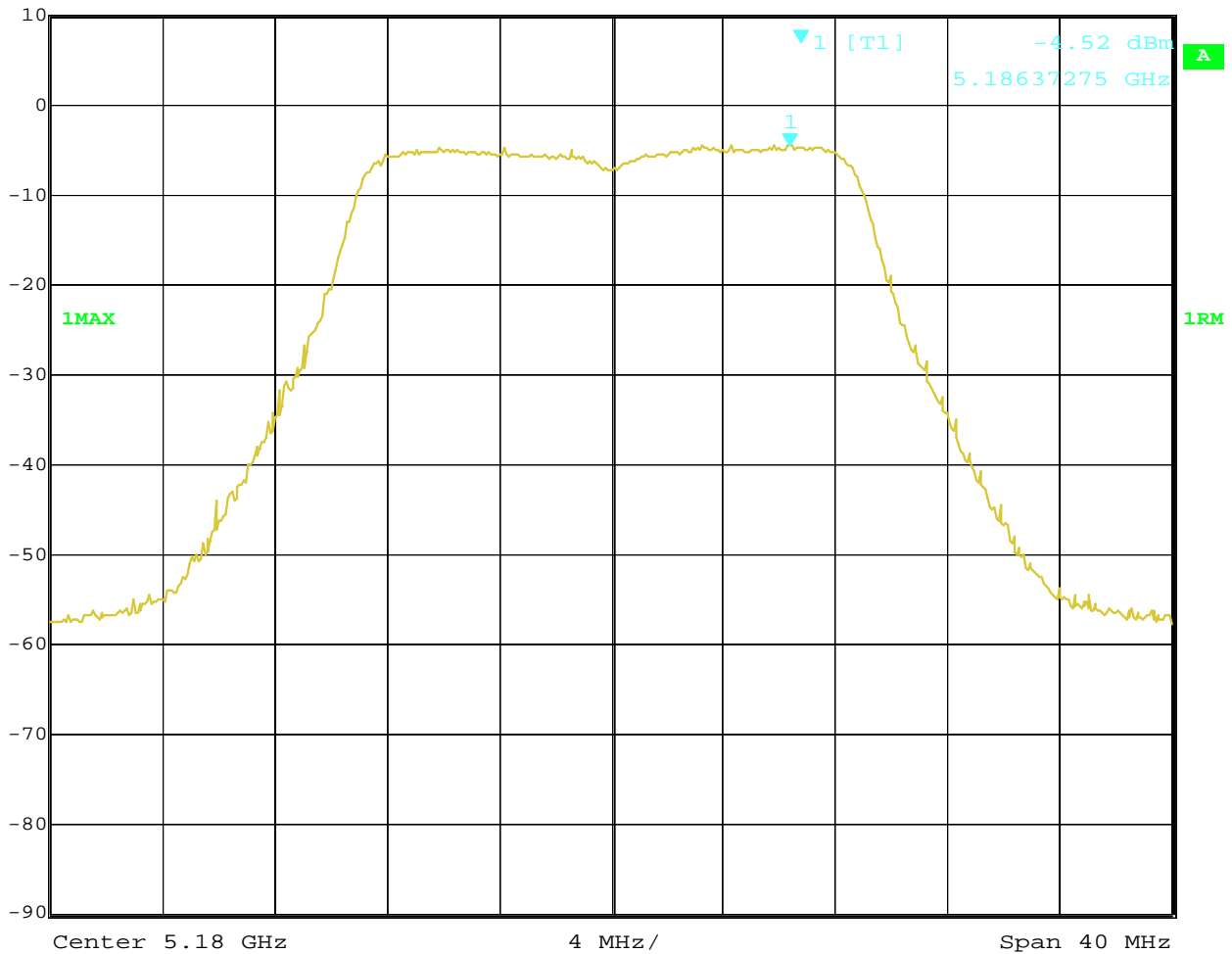




**Test Plots**

1.802.11ac at mcs0 of CH36

	Marker 1 [T1]	RBW	1 MHz	RF Att	20 dB
	Ref Lvl	-4.52 dBm	VBW	3 MHz	
	10 dBm	5.18637275 GHz	SWT	5 ms	Unit dBm



Date: 11.APR.2019 17:11:22

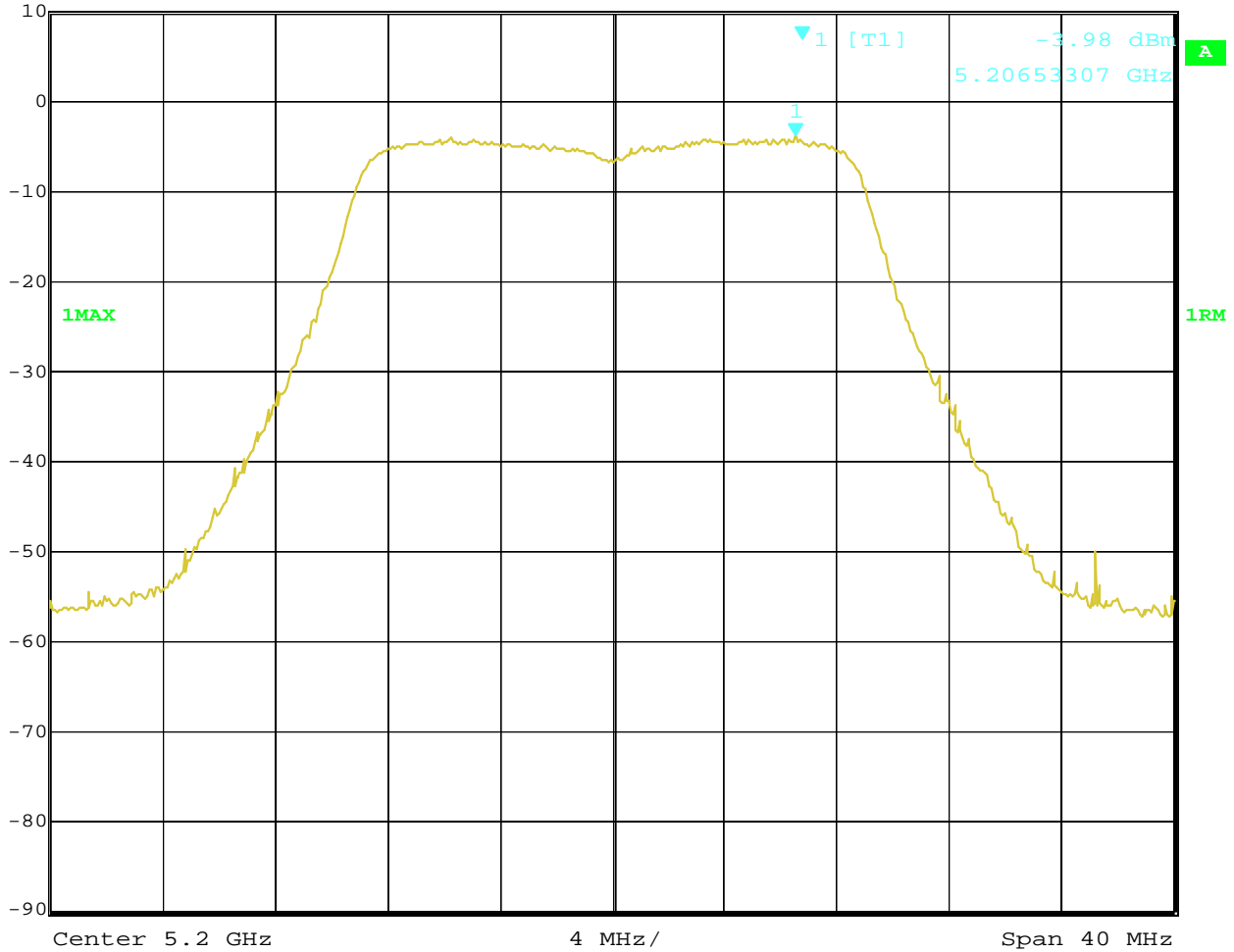
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2.802.11ac at mcs0 of CH40



Ref Lvl	Marker 1 [T1]	RBW	1 MHz	RF Att	20 dB
10 dBm	-3.98 dBm	VBW	3 MHz		
	5.20653307 GHz	SWT	5 ms	Unit	dBm



Date: 11.APR.2019 17:14:10

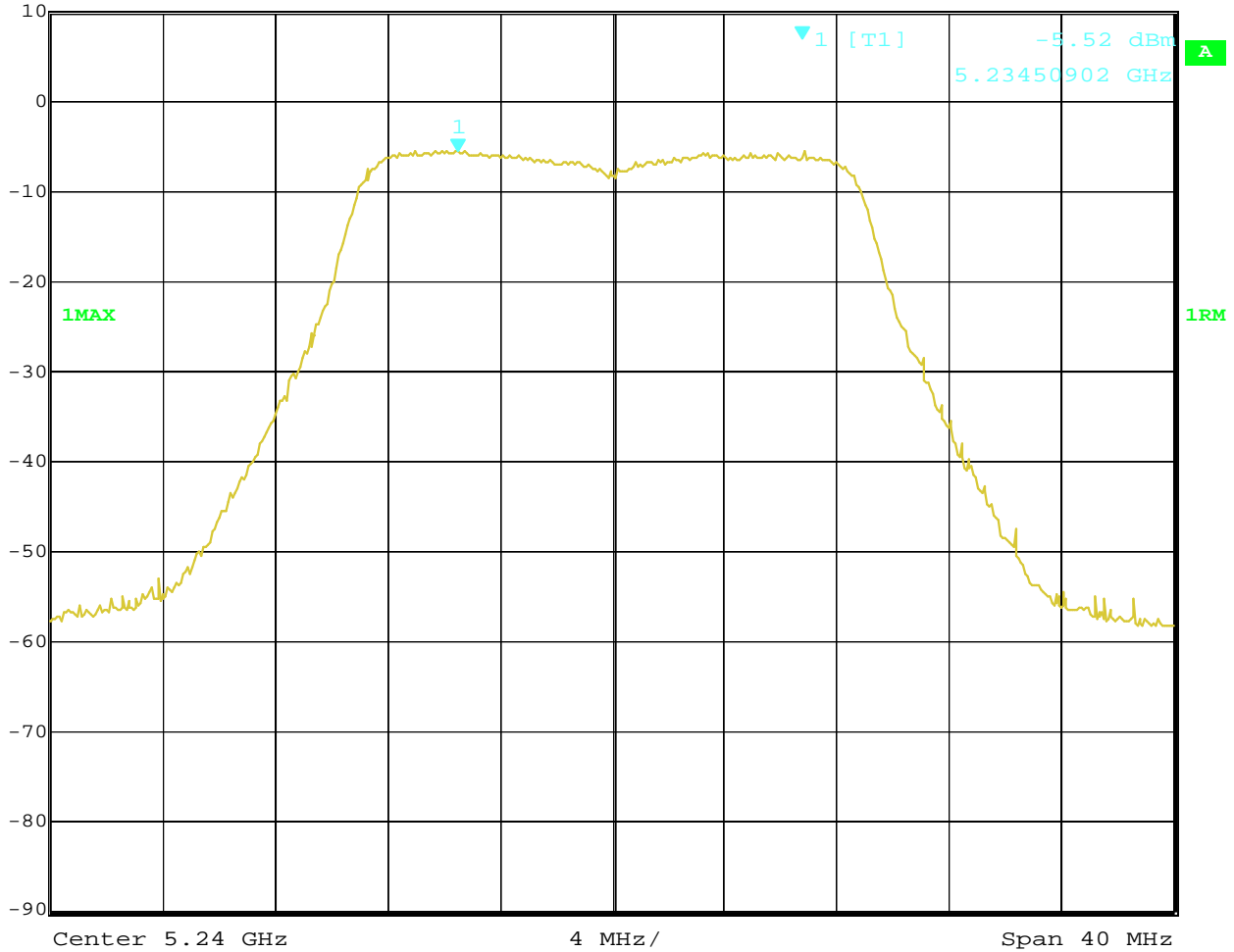
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3.802.11ac at mcs0 of CH48



Ref Lvl	10 dBm	Marker 1 [T1]	-5.52 dBm	RBW	1 MHz	RF Att	20 dB
			5.23450902 GHz	VBW	3 MHz	Unit	dBm
				SWT	5 ms		



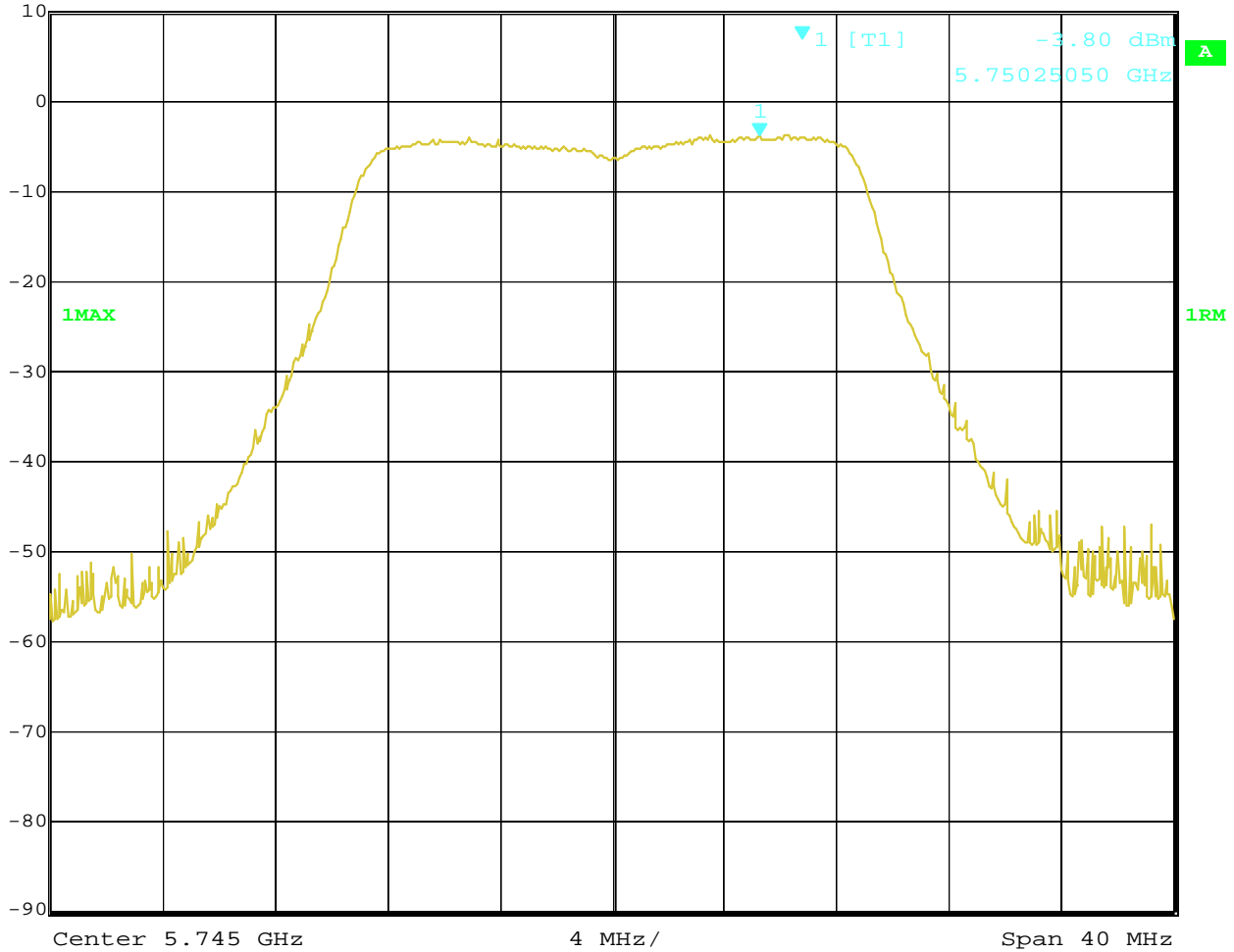
Date: 11.APR.2019 17:15:09

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4.802.11ac at mcs0 of CH149

	Marker 1 [T1]	RBW	1 MHz	RF Att	20 dB
	Ref Lvl	-3.80 dBm	VBW	3 MHz	
	10 dBm	5.75025050 GHz	SWT	5 ms	Unit dBm

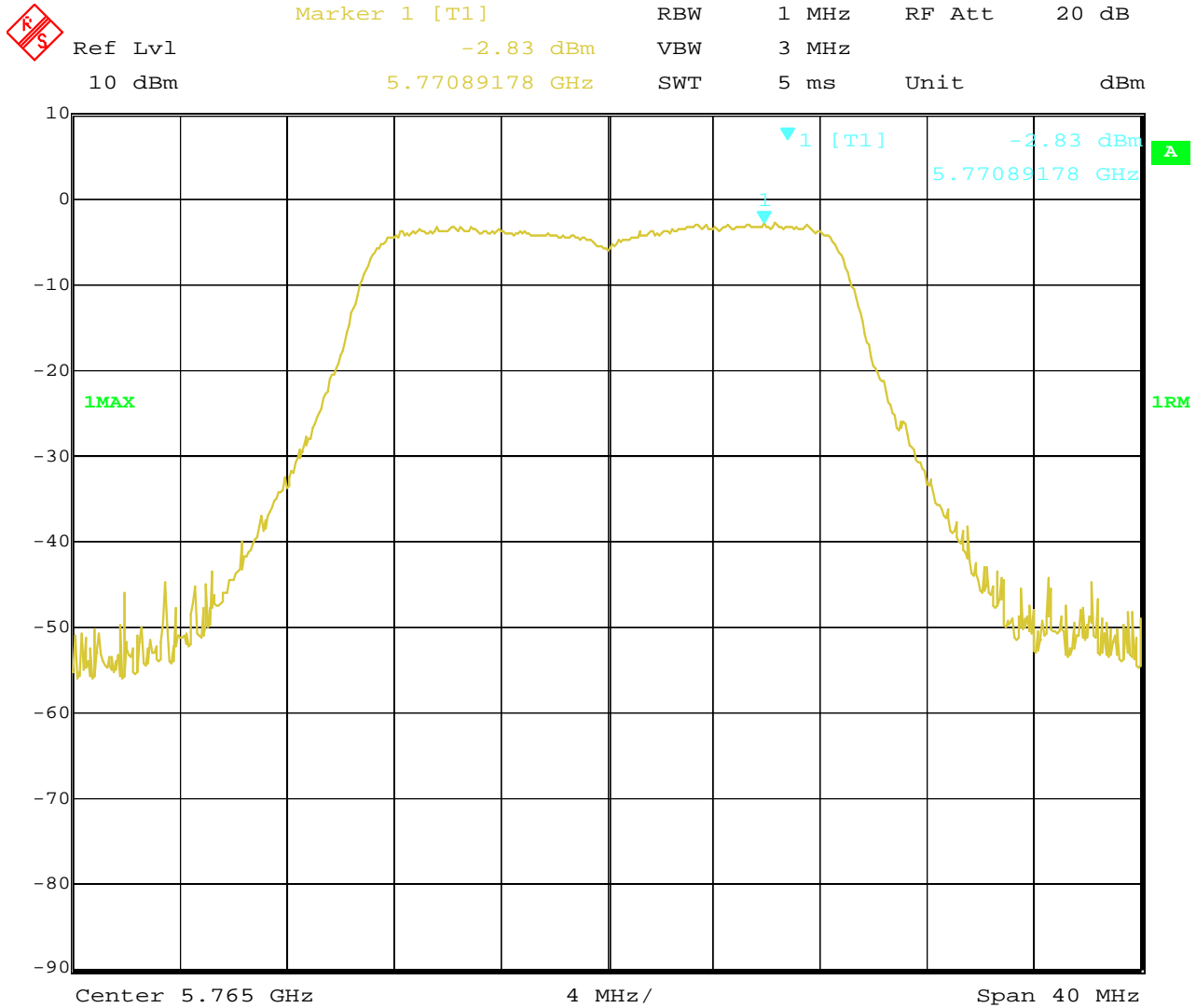


Date: 11.APR.2019 17:17:00

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5.802.11ac at mcs0 of CH153

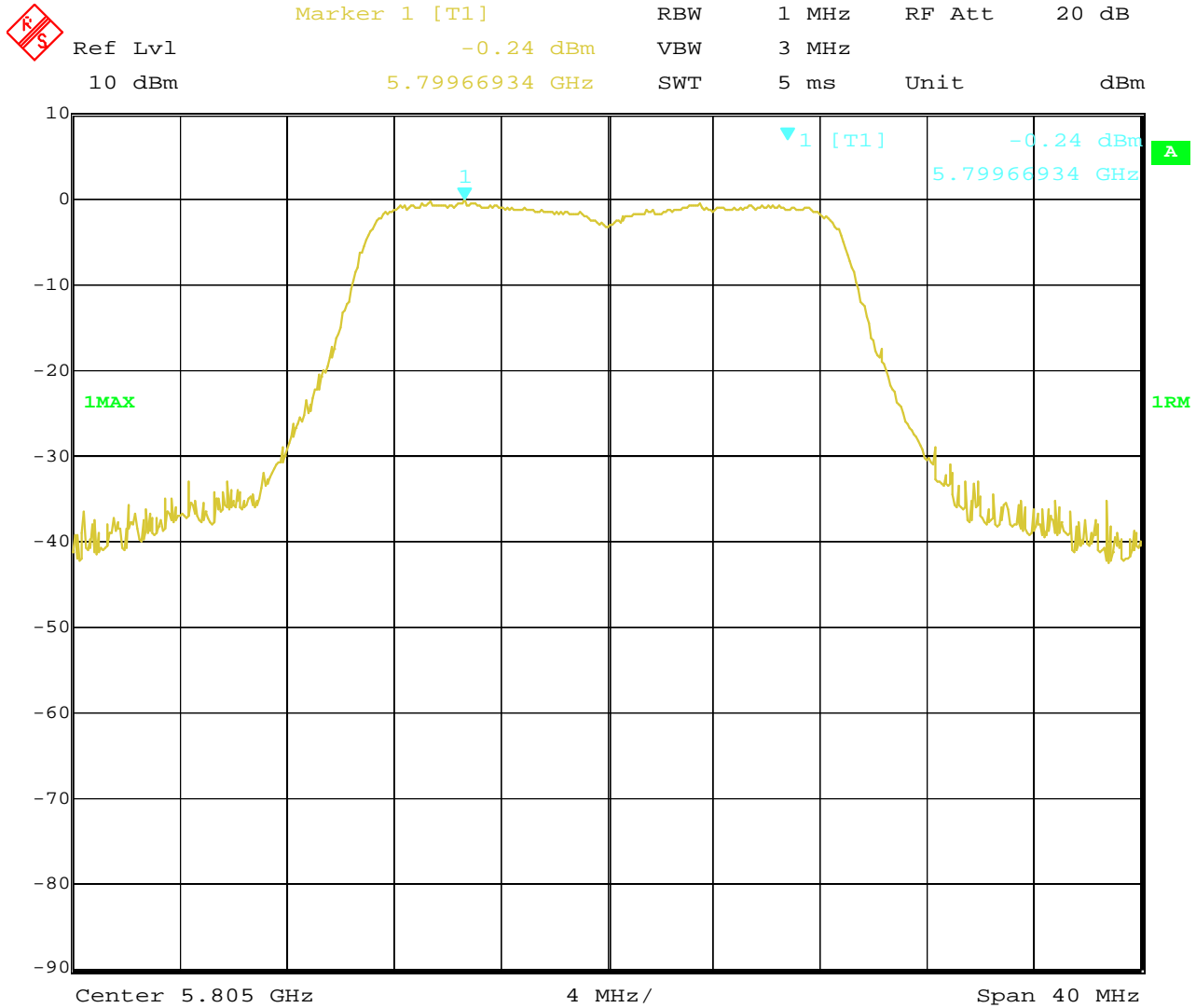


Date: 11.APR.2019 17:18:48

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6.802.11ac at mcs0 of CH161



Date: 11.APR.2019 17:21:23

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EUT		Developer Board		Model		DB8	
Mode		802.11ac VHT40		Input Voltage		120V~	
Temperature		24 deg. C,		Humidity		56% RH	
Channel	Frequency (MHz)	Ant1 Spectral Density	Factor	Total Spectral Density (dBm)	Limit (dBm)	Pass/ Fail	
38	5190	-7.85	3.01	-4.84	10	Pass	
46	5230	-8.92	3.01	-5.91	10	Pass	
151	5755	-6.84	3.01	-3.83	30	Pass	
159	5795	-4.05	3.01	-1.04	30	Pass	

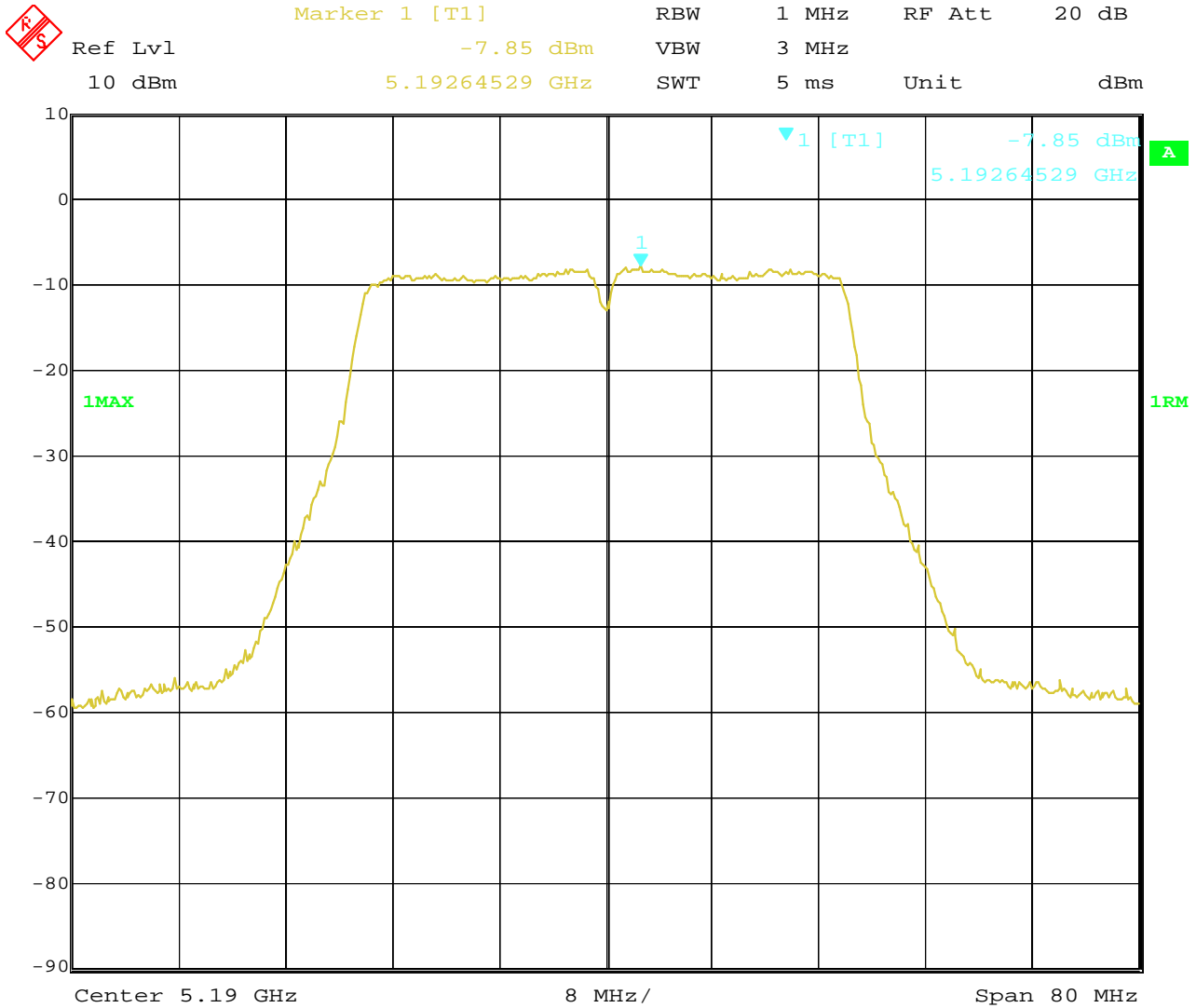
- Note: 1. Total Spectral Density = Ant1 Spectral Density + Factor  
 2. Factor=10log2=3.01  
 3. Ant1 and Ant 2 were tested and Ant 1 was the worst case

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Test Plots

1.802.11ac at mcs0 of CH38



Date: 11.APR.2019 17:36:04

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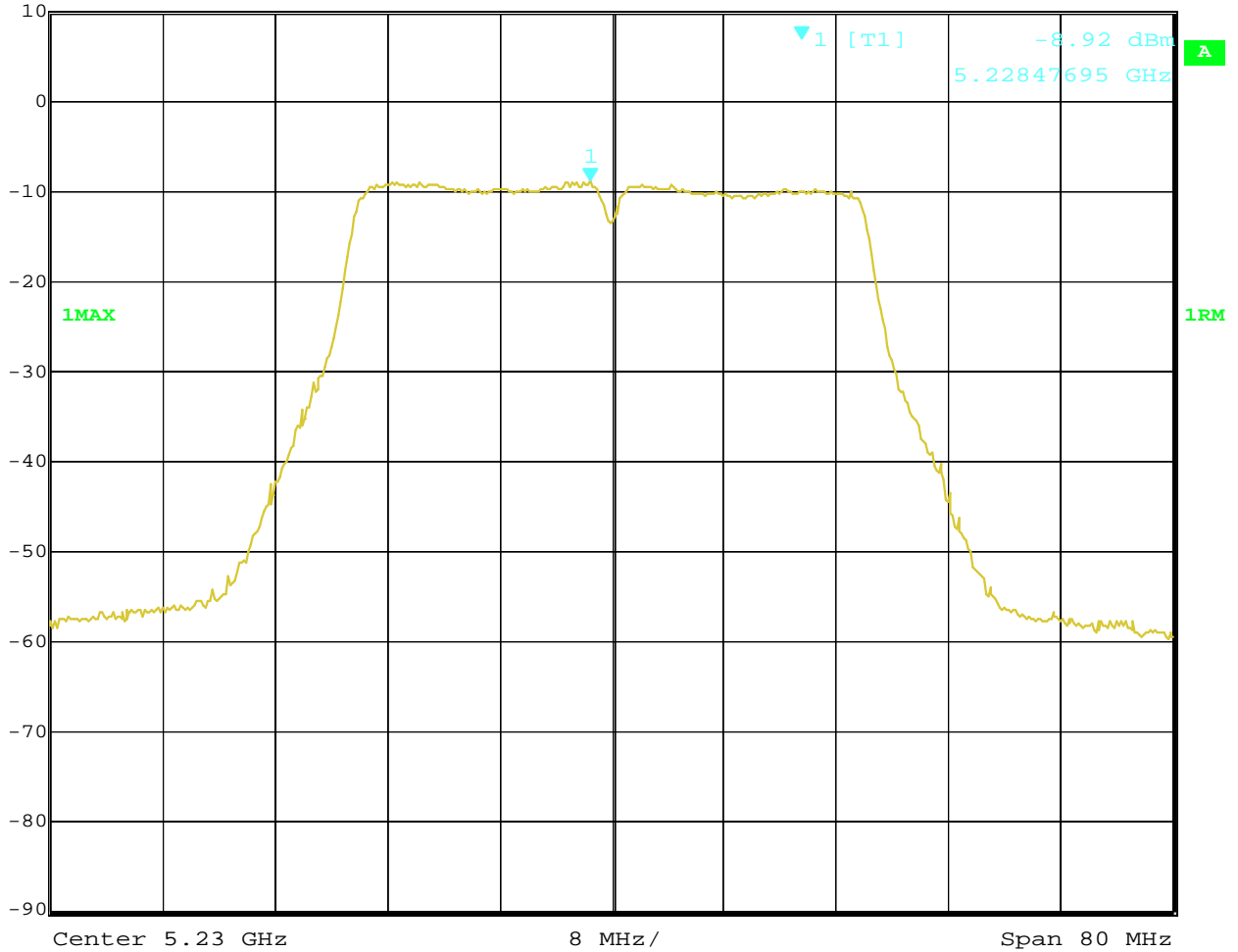




2.802.11ac at mcs0 of CH46



Ref Lvl	10 dBm	Marker 1 [T1]	-8.92 dBm	RBW	1 MHz	RF Att	20 dB
			5.22847695 GHz	VBW	3 MHz	Unit	dBm
				SWT	5 ms		



Date: 11.APR.2019 17:35:03

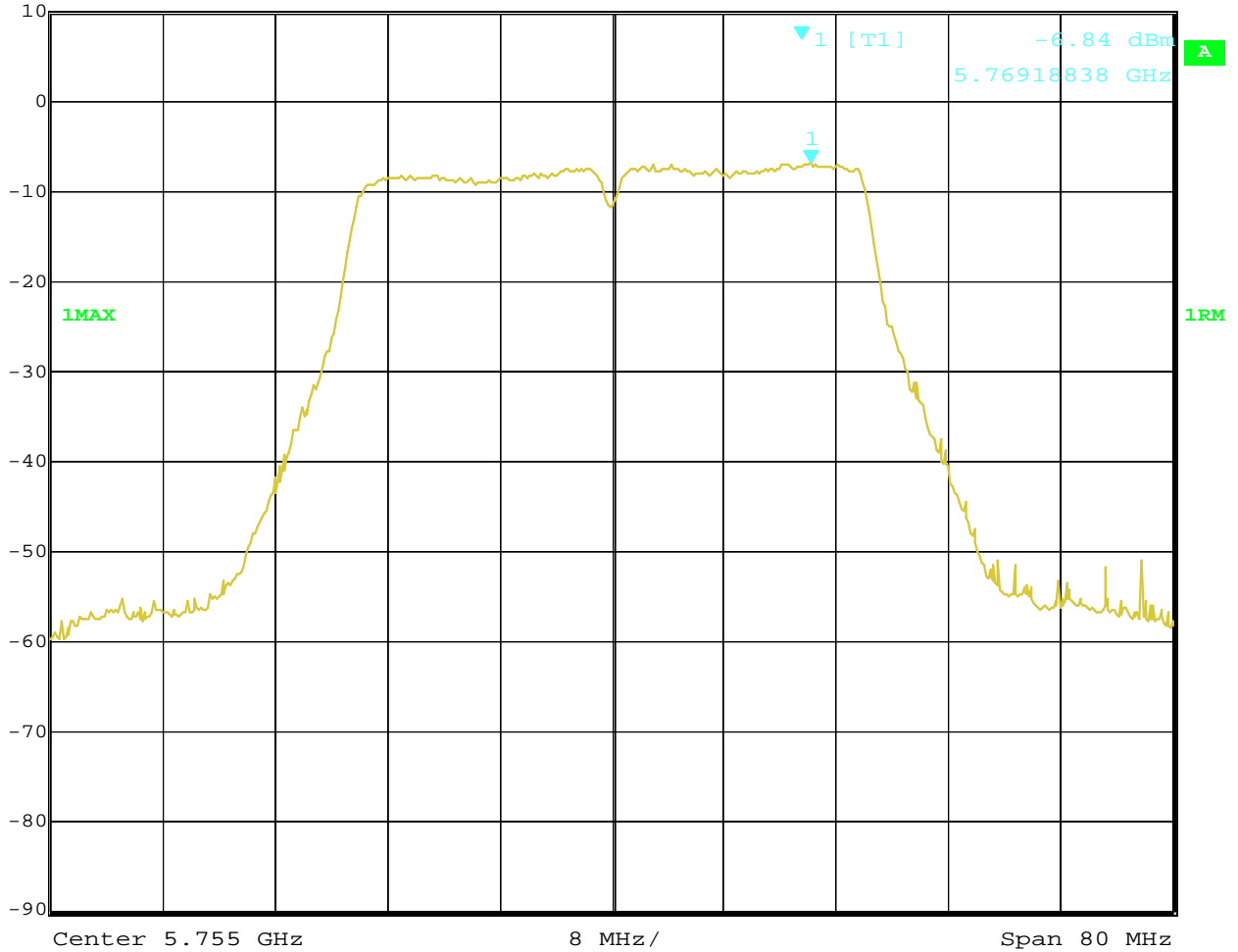
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3.802.11ac at mcs0 of CH151



Ref Lvl	10 dBm	Marker 1 [T1]	-6.84 dBm	RBW	1 MHz	RF Att	20 dB
			5.76918838 GHz	VBW	3 MHz	Unit	dBm
				SWT	5 ms		



Date: 11.APR.2019 17:33:01

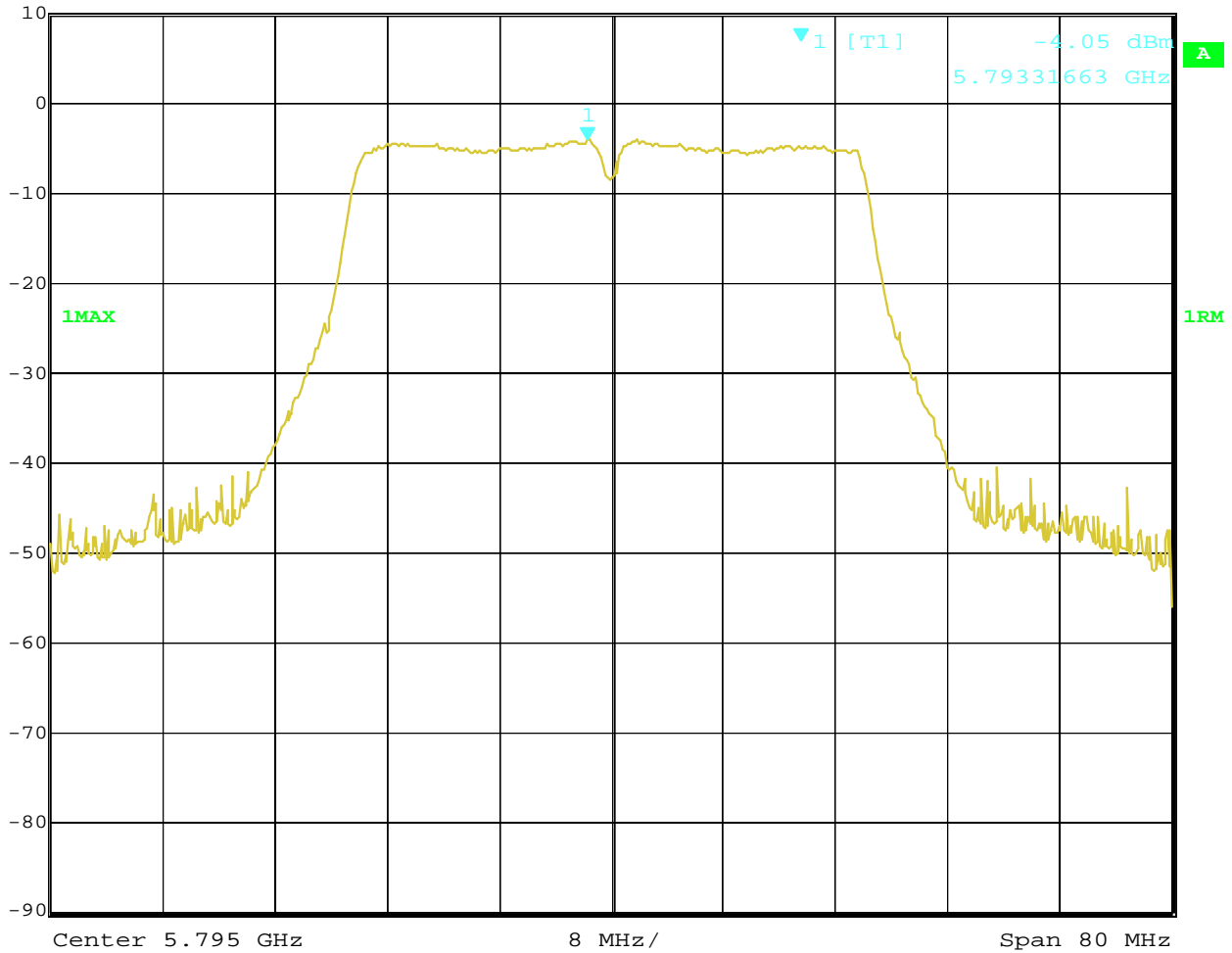
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4.802.11ac at mcs0 of CH159



Ref Lvl	10 dBm	Marker 1 [T1]	-4.05 dBm	RBW	1 MHz	RF Att	20 dB
			5.79331663 GHz	VBW	3 MHz	Unit	dBm
				SWT	5 ms		



Date: 11.APR.2019 17:31:27

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EUT		Developer Board		Model		DB8	
Mode		802.11ac VHT80		Input Voltage		120V~	
Temperature		24 deg. C,		Humidity		56% RH	
Channel	Frequency (MHz)	Ant1 Spectral Density	Factor	Total Spectral Density (dBm)	Limit (dBm)	Pass/ Fail	
42	5210	-10.06	3.01	-7.05	10	Pass	
155	5775	-7.02	3.01	-4.01	30	Pass	

- Note: 1. Total Spectral Density = Ant1 Spectral Density + Factor  
 2. Factor=10log2=3.01  
 3. Ant1 and Ant 2 were tested and Ant 1 was the worst case

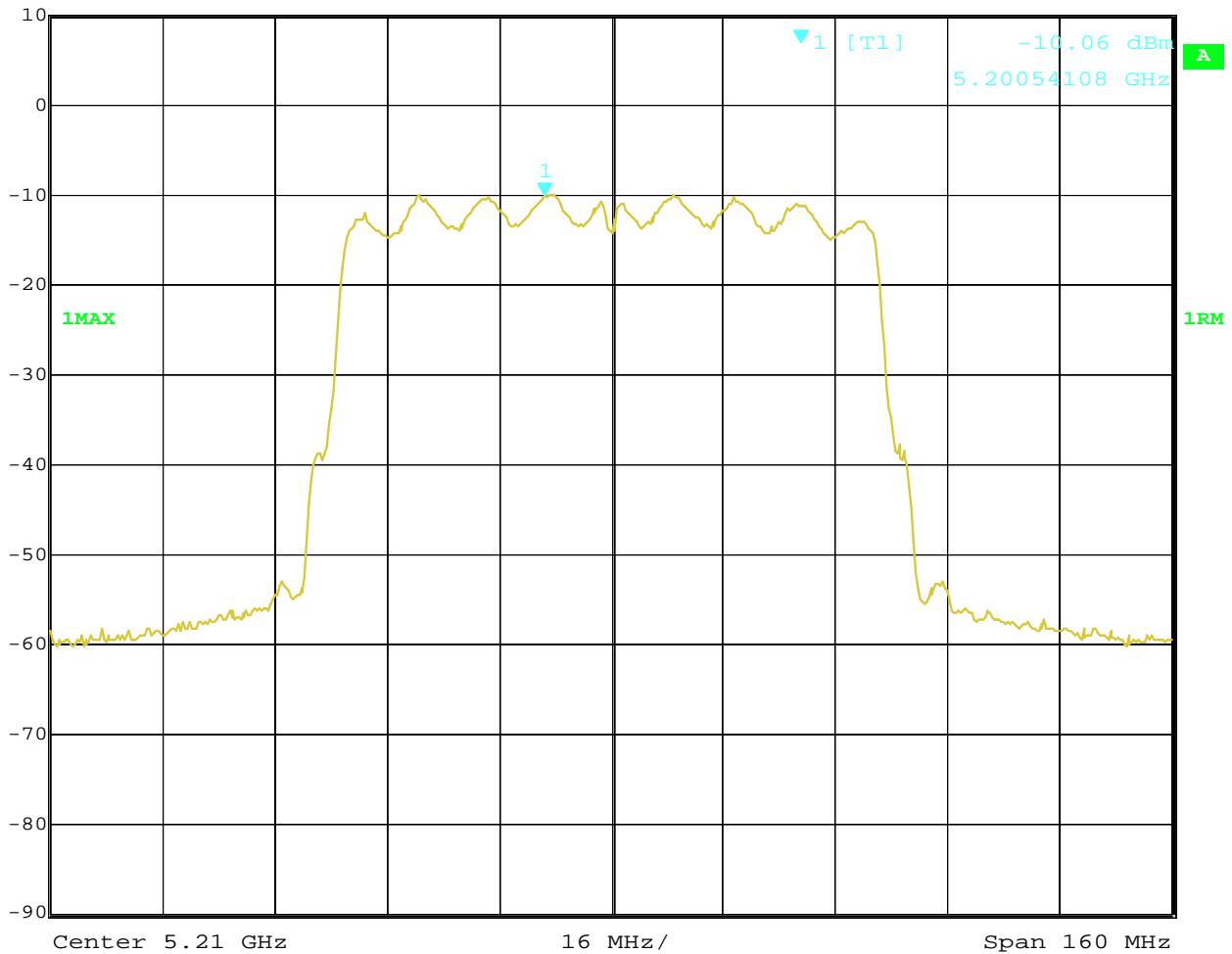
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**Test Plots**

1.802.11ac at 23.9Mbps of CH42

	Ref Lvl	10 dBm	Marker 1 [T1]	-10.06 dBm	RBW	1 MHz	RF Att	20 dB
			5.20054108 GHz		VBW	3 MHz	Unit	dBm
					SWT	5 ms		



Date: 11.APR.2019 17:37:57

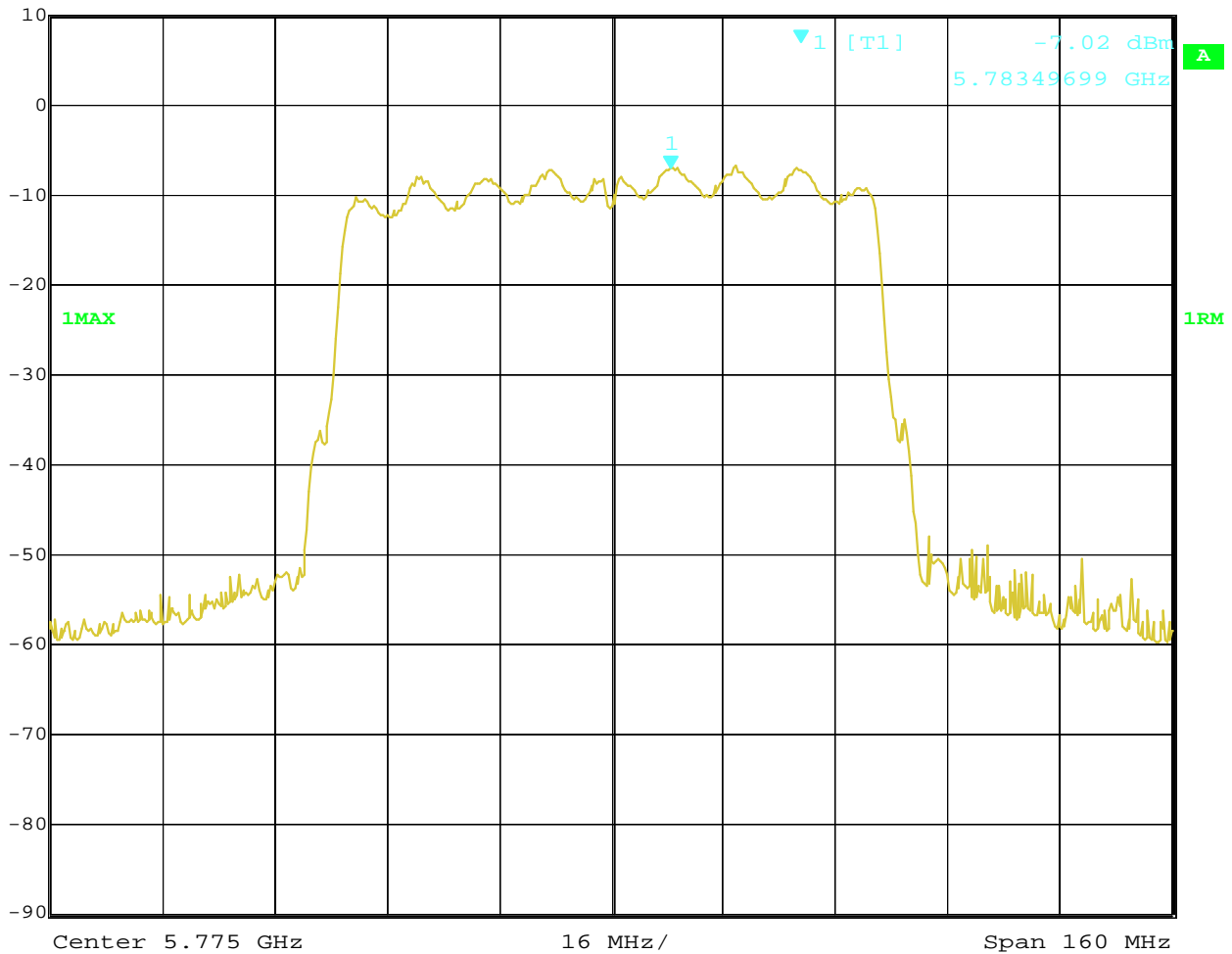
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**Test Plots**

2.802.11ac at 23.9Mbps of CH155

	Marker 1 [T1]	RBW	1 MHz	RF Att	20 dB
	Ref Lvl	-7.02 dBm	VBW	3 MHz	
	10 dBm	5.78349699 GHz	SWT	5 ms	Unit dBm



Date: 11.APR.2019 17:38:35

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## 10.0 Frequency Stability

### 10.1 Limits of Frequency Stability Measurement

The frequency tolerance of the carrier signal shall be maintained within +/- 0.02% of the operating frequency over a temperature variation of -30 degrees to 50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees

### 10.2 Test Procedure

1. The EUT was placed inside the environmental test chamber and powered by nominal DC voltage.
2. Turn the EUT on and couple its output to a spectrum analyzer.
3. Turn the EUT off and set the chamber to the highest temperature specified.
4. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT on and measure the operating frequency after 2, 5, and 10 minutes.
5. Repeat step 2 and 3 with the temperature chamber set to the lowest temperature.
6. The test chamber was allowed to stabilize at +20 degree C for a minimum of 30 minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.

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### 10.3 Test Result

#### Channel 36 (5180MHz)

##### Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)
138V	5179.9828
120V	5179.9841
102V	5179.9837
Max. Deviation (MHz)	0.0172
Max. Deviation (ppm)	3.3

Rated working voltage: 120V~

##### Temperature vs. Frequency Stability

Temperature (°C)	Measurement Frequency (MHz)
-30	5179.9822
-20	5179.9836
-10	5179.9827
0	5179.9831
10	5179.9846
20	5179.9827
30	5179.9805
40	5179.9821
50	5179.9819
Max. Deviation (MHz)	0.0195
Max. Deviation (ppm)	3.8

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**Channel 149 (5745MHz)**

**Voltage vs. Frequency Stability**

Voltage	Measurement Frequency (MHz)
138V	5744.9767
120V	5744.9783
102V	5744.9796
Max. Deviation (MHz)	0.0233
Max. Deviation (ppm)	4.1

Rated working voltage: 120V~

**Temperature vs. Frequency Stability**

Temperature (°C)	Measurement Frequency (MHz)
-30	5744.9722
-20	5744.9737
-10	5744.9755
0	5744.9740
10	5744.9729
20	5744.9758
30	5744.9761
40	5744.9737
50	5744.9764
Max. Deviation (MHz)	0.0278
Max. Deviation (ppm)	4.8

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## **11.0 Antenna Requirement**

### **11.1 Standard Applicable**

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

And according to FCC 47 CFR Section 15.247 (b), if transmitter antennas of directional gain greater than 6 dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

### **11.2 Antenna Connected construction**

Antenna: 2pcs External antenna with reversed polarity non standard unique antenna port.

Antenna Gain: Maximum 3.2dBi for each antenna, Directional gain =  $3.2 + 10 \log 2 = 6.21 \text{ dBi}$

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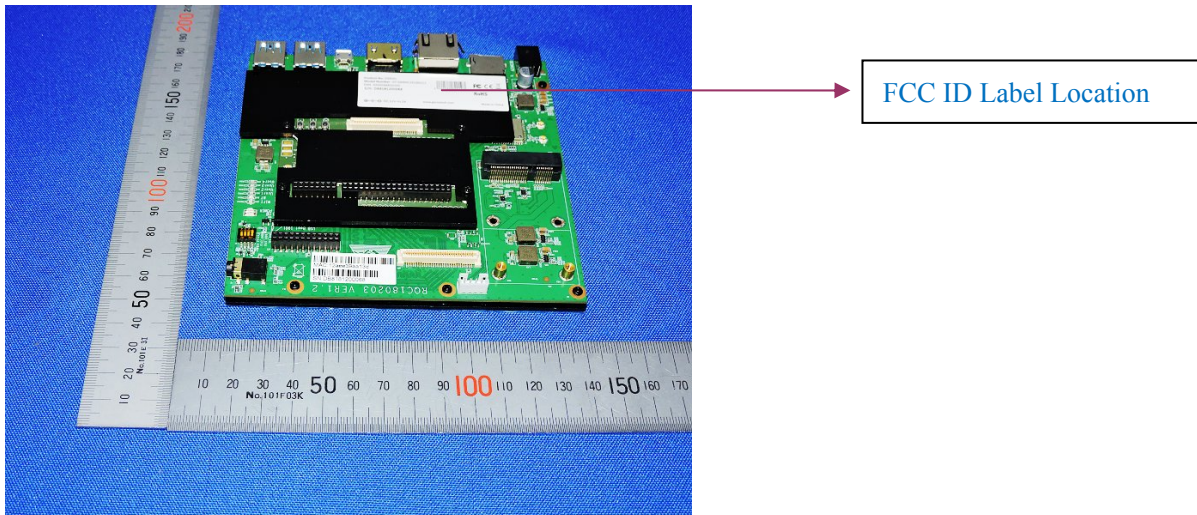
## 12.0 FCC ID Label

### FCC ID: ZJU-D19EC5

**This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.**

The label must not be a stick-on paper label. The label on these products must be permanently affixed to the product and readily visible at the time of purchase and must last the expected lifetime of the equipment not be readily detachable.

#### Mark Location:



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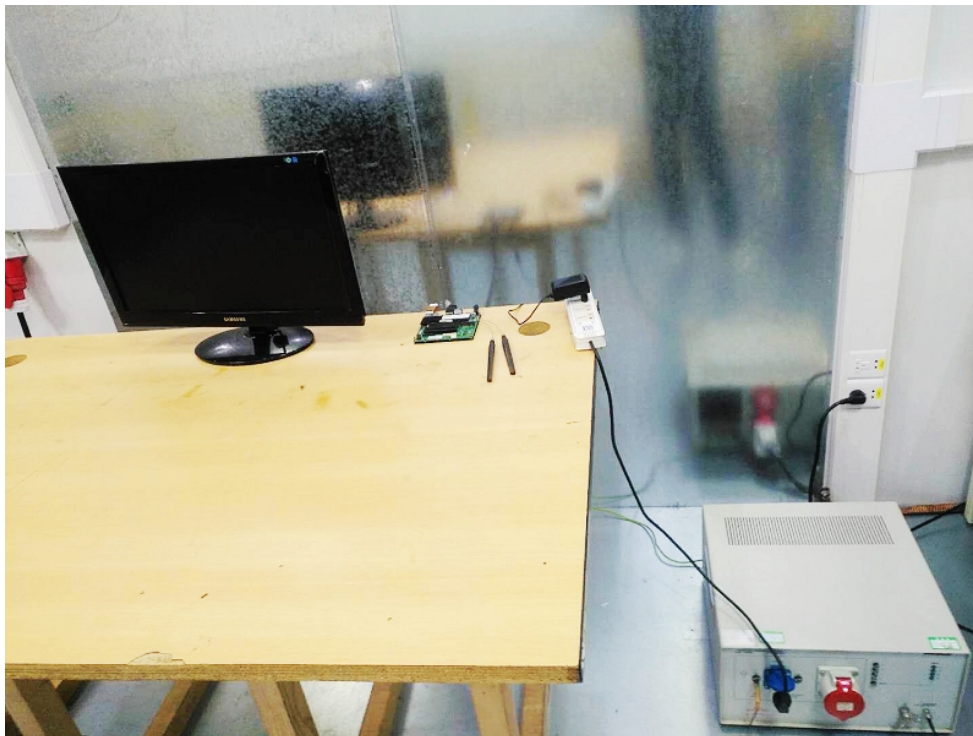
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### 13.0 Photo of testing

Conducted Emission Test Setup:



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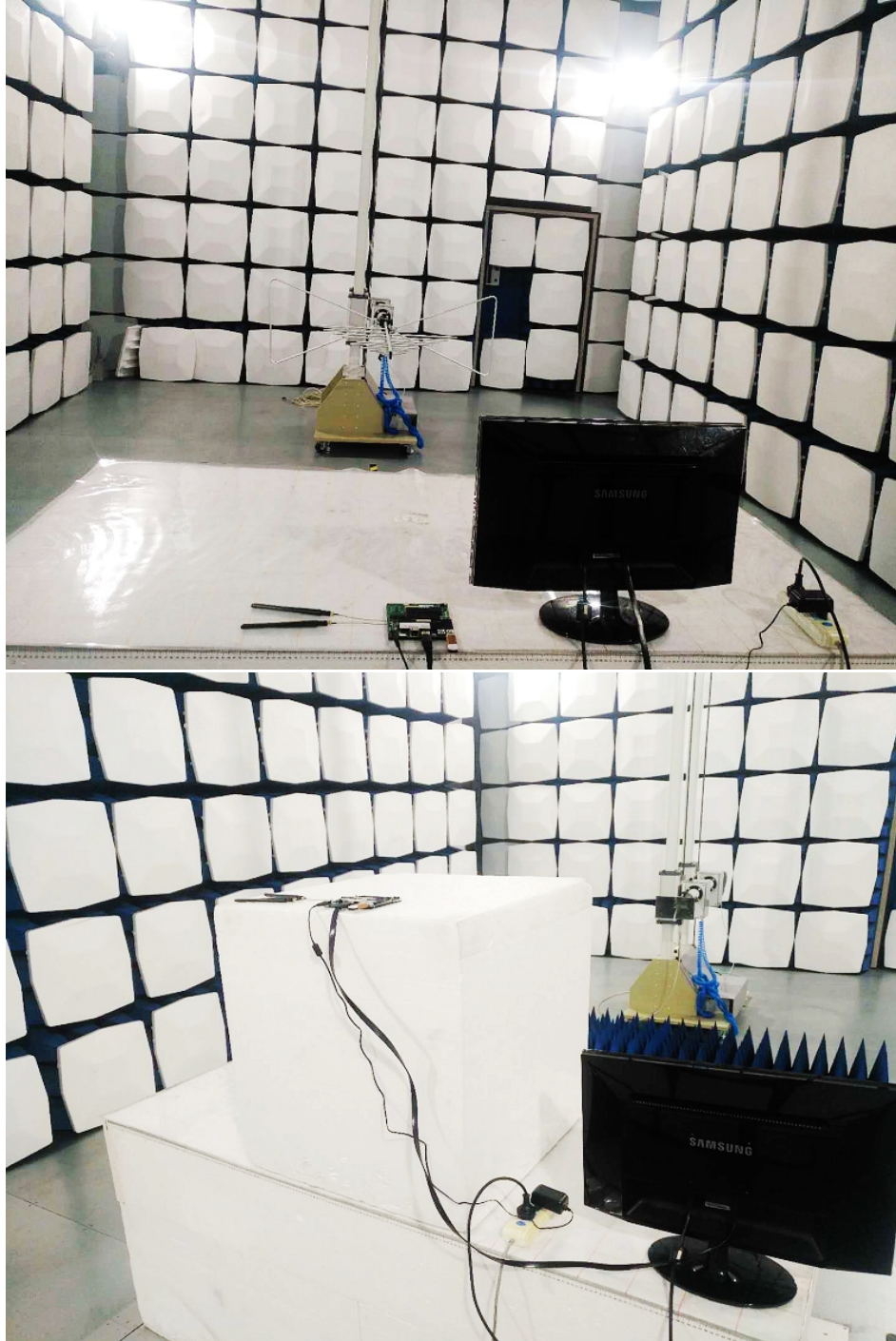
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Radiated Emission Test Setup:



**Photos of EUT**

Please see test report FCC1903224-01

**End of the report**

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