


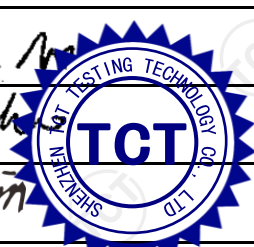


# Test Report

<b>Test Report No..... :</b>	TCT230327E033	
<b>Date of issue..... :</b>	Apr. 26, 2023	
<b>Testing laboratory .....</b>	Shenzhen TCT Testing Technology Co., Ltd.	
<b>Testing location/ address:</b>	2101 & 2201, Zhenchang Factory, Renshan Industrial Zone, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China	
<b>Applicant's name..... :</b>	Shenzhen Huafurui Technology Co., Ltd	
<b>Address..... :</b>	Unit 1401 & 1402, 14/F, Jinqi Zhigu Mansion (No. 4 Building of Chongwen Garden), Crossing of the Liuxian Street and Tangling Road, Taoyuan Street, Nanshan District, Shenzhen, P.R. China	
<b>Manufacturer's name. .... :</b>	Shenzhen Huafurui Technology Co., Ltd	
<b>Address..... :</b>	Unit 1401 & 1402, 14/F, Jinqi Zhigu Mansion (No. 4 Building of Chongwen Garden), Crossing of the Liuxian Street and Tangling Road, Taoyuan Street, Nanshan District, Shenzhen, P.R. China	
<b>Standard(s) .....</b>	ETSI EN 301 893 V2.1.1 (2017-05)	
<b>Product Name..... :</b>	Tablet	
<b>Trade Mark .....</b>	CUBOT	
<b>Model/Type reference..... :</b>	TAB KINGKONG	
<b>Rating(s)..... :</b>	Adapter Information: Model: HJ-FC018K7-EU Input: AC 100-240V, 50/60Hz, 0.6A Output: DC 5.0V, 2.0A/ DC 7.0V, 2.0A/ DC 9.0V, 2.0A, 18.0W Rechargeable Li-ion Battery DC 3.8V	
<b>Date of receipt of test item .....</b>	Mar. 27, 2023	
<b>Date (s) of performance of test..... :</b>	Mar. 27, 2023 ~ Apr. 26, 2023	
<b>Tested by (+signature) ... :</b>	Aaron MO	
<b>Check by (+signature).... :</b>	Beryl ZHAO	
<b>Approved by (+signature):</b>	Tomsin	



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## 1. General Product Information

### 1.1. EUT description

Product Name.....:	Tablet
Model/Type reference.....:	TAB KINGKONG
Hardware Version.....:	WT_P36-Y_6771_BED_UFS_MB_V1.0_20220825
Software Version .....	CUBOT_TAB_KINGKONG_P041_V03
Operation Frequency .....	5150MHz~5250MHz
Modulation Technology .....	Orthogonal Frequency Division Multiplexing(OFDM)
(IEEE802.11a/802.11n)	
Modulation Type.....:	256QAM, 64QAM, 16QAM, BPSK, QPSK
Antenna Type.....:	FPC Antenna
Antenna Gain.....:	-2.3dBi
Rating(s).....:	Adapter Information: Model: HJ-FC018K7-EU Input: AC 100-240V, 50/60Hz, 0.6A Output: DC 5.0V, 2.0A/ DC 7.0V, 2.0A/ DC 9.0V, 2.0A, 18.0W Rechargeable Li-ion Battery DC 3.8V

Note: The antenna gain listed in this report is provided by applicant, and the test laboratory is not responsible for this parameter.

### 1.2. Model(s) list

None.

### 1.3. Operation Frequency

For 802.11a/n/ac(HT20), 802.11n/ac(HT40) and 802.11ac(HT80)

Channel	Frequency	Channel	Frequency	Channel	Frequency
36	5180MHz	46	5230MHz		
38	5190MHz	48	5240MHz		
40	5200MHz				
42	5210MHz				
44	5220MHz				

The EUT operation in above frequency list, and used test software to control the EUT for staying in continuous transmitting and receiving mode. So test frequency is below:

**Band I (5150MHz-5250MHz)**

Test channel	Frequency (MHz)		
	802.11a/802.11n/ 802.11ac(HT20)	802.11n/802.11ac (HT40)	802.11ac (HT80)
Lowest channel	5180MHz	5190MHz	
Middle channel	5200MHz	----	5210MHz
Highest channel	5240MHz	5230MHz	

## 1.4. Test channel

Table 11: Test channels

Test	Clause	Test channels		
		Lower sub-band (5 150 MHz to 5 350 MHz)		Higher sub-band 5 470 MHz to 5 725 MHz
		5 150 MHz to 5 250 MHz	5 250 MHz to 5 350 MHz	
Centre frequencies	5.4.2	C7 (see note 1)		C8 (see note 1)
Occupied Channel Bandwidth	5.4.3	C7		C8
Power, Power Density	5.4.4	C1	C2	C3, C4
Transmitter unwanted emissions outside the 5 GHz RLAN bands	5.4.5	C7 (see note 1)		C8 (see note 1)
Transmitter unwanted emissions within the 5 GHz RLAN bands	5.4.6	C1	C2	C3, C4
Receiver spurious emissions	5.4.7	C7 (see note 1)		C8 (see note 1)

Test	Clause	Test channels		
		Lower sub-band (5 150 MHz to 5 350 MHz)		Higher sub-band 5 470 MHz to 5 725 MHz
		5 150 MHz to 5 250 MHz	5 250 MHz to 5 350 MHz	
Transmit Power Control (TPC)	5.4.4	n.a. (see note 2)	C2 (see note 1)	C3, C4 (see note 1)
Dynamic Frequency Selection (DFS)	5.4.8	n.a. (see note 2)	C5	C6 (see note 3)
Adaptivity	5.4.9	C9		
Receiver Blocking	5.4.10	C7		C8
C1, C3:	The lowest declared channel for every declared <i>Nominal Channel Bandwidth</i> within this band. For the Power Density testing, it is sufficient to only perform this test using the lowest <i>Nominal Channel Bandwidth</i> .			
C2, C4:	The highest declared channel for every declared <i>Nominal Channel Bandwidth</i> within this band. For the Power Density testing, it is sufficient to only perform this test using the lowest <i>Nominal Channel Bandwidth</i> .			
C5, C6:	One channel out of the declared channels for this frequency range. If more than one <i>Nominal Channel Bandwidth</i> has been declared for this sub-band, testing shall be performed using the lowest and highest <i>Nominal Channel Bandwidth</i> .			
C7, C8:	One channel out of the declared channels for this sub-band. For <i>Occupied Channel Bandwidth</i> , testing shall be repeated for every declared <i>Nominal Channel Bandwidth</i> within this sub-band.			
C9:	One channel (in case of single-channel testing) or a group of channels (in case of multi-channel testing) out of the declared channels.			
NOTE 1:	In case of more than one channel plan has been declared, testing of these specific requirements need only be performed using one of the declared channel plans.			
NOTE 2:	Testing is not required for <i>Nominal Channel Bandwidths</i> that fall completely within the frequency range 5 150 MHz to 5 250 MHz.			
NOTE 3:	Where the declared channel plan includes channels whose <i>Nominal Channel Bandwidth</i> falls completely or partly within the 5 600 MHz to 5 650 MHz band, the tests for the <i>Channel Availability Check</i> (and where implemented, for the <i>Off-Channel CAC</i> ) shall be performed on one of these channels in addition to a channel within the band 5 470 MHz to 5 600 MHz or within the band 5 650 MHz to 5 725 MHz.			

## 2. Test Result Summary

Test Item	Test Requirement	Test Method	Limit/Severity	Uncertainty	Result
Nominal Centre frequency	Clause 4.2.1	Clause 5.4.2.2.	$\pm 20\text{ppm}$	$\pm 1 \times 10^{-5}$	PASS
Normal Channel Bandwidth and Occupied Channel Bandwidth	Clause 4.2.2	Clause 5.4.3.2	Clause 4.2.2.2	N/A	PASS
RF output power, power density	Clause 4.2.3	Clause 5.4.4.2	Clause 4.2.3.2	$\pm 1.5\text{ dB}$	PASS
Transmitter Power Control (TPC)	Clause 4.2.3	Clause 5.4.4.2	Clause 4.2.3.2	$\pm 3\text{ dB}$	PASS
Transmitter unwanted emissions	Clause 4.2.4	Clause 5.4.5.2 & Clause 5.4.6.2	Clause 4.2.4.1.2 & Clause 4.2.4.2.2	$\pm 3\text{ dB}$	PASS
Receiver spurious emission	Clause 4.2.5	Clause 5.4.7.2	Clause 4.2.5.2	N/A	PASS
Dynamic Frequency Selection (DFS)	Clause 4.2.6	Clause 5.4.8.2	Clause 4.2.6.2.2.2 & Clause 4.2.6.2.3.2 & Clause 4.2.6.2.4.2 & Clause 4.2.6.2.5.2 & Clause 4.2.6.2.6.2 & Clause 4.2.6.2.6.2	N/A	PASS
Adaptivity Channel Access Mechanism	Clause 4.2.7	Clause 5.4.9.2 & Clause 5.4.9.3	Clause 4.2.7.3.3.3	N/A	PASS
Receiver Blocking	Clause 4.2.8	Clause 5.4.10.2	Clause 4.2.8.4	N/A	PASS
User Access Restrictions	Clause 4.2.9	N/A	Clause 4.2.9.2	N/A	N/A

### 3. General Information

#### 3.1. Test environment and mode

Item	Normal condition	Extreme condition			
		HVHT	LVHT	HVLT	LVLT
Temperature	+25°C	+40°C	+40°C	0°C	0°C
Voltage	DC 3.8V	DC 4.3V	DC 3.3V	DC 4.3V	DC 3.3V
Humidity	20%-95%				
Atmospheric Pressure:	1008 mbar				
Test Mode:					
Transmitting mode:		Keep the EUT in transmitting mode with modulation.(100% duty cycle)			
Receiving mode:		Keep the EUT in receiving mode.			

We have verified the construction and function in typical operation. All the test modes were carried out with the EUT in transmitting operation, which was shown in this test report and defined as follows: The Worst Case Modulation Configuration

**Per-scan all kind of data rate in all channel, and found the follow list which it was worst case and recorded.**

Mode	Data rate
802.11a	6Mbps
802.11n/ac (HT20)	MCS0
802.11n/ac (HT40)	MCS0
802.11ac (HT80)	MCS0

#### 3.2. Description of Support Units

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

Equipment	Model No.	Serial No.	FCC ID	Trade Name
/	/	/	/	/

**Note:**

1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.



### 3.3. Test Instruments List

Radiated Emission				
Name	Model No.	Manufacturer	Date of Cal.	Due Date
Spectrum Analyzer	FSQ40	R&S	Jul. 04, 2022	Jul. 03, 2023
Pre-amplifier	8447D	HP	Jul. 04, 2022	Jul. 03, 2023
Pre-amplifier	LNPA_0118G-45	SKET	Feb. 21, 2023	Feb. 20, 2024
Pre-amplifier	LNPA_1840G-50	SKET	Feb. 21, 2023	Feb. 20, 2024
Broadband Antenna	VULB9163	Schwarzbeck	Jul. 06, 2022	Jul. 05, 2023
Horn Antenna	BBHA 9120D	Schwarzbeck	Jul. 06, 2022	Jul. 05, 2023
Horn Antenna	BBHA 9170	Schwarzbeck	Feb. 25, 2023	Feb. 24, 2024
Coaxial cable	RC-18G-N-M	SKET	Feb. 25, 2022	Feb. 24, 2024
Coaxial cable	RC_40G-K-M	SKET	Feb. 25, 2022	Feb. 24, 2024

Conducted Emission				
Name	Model No.	Manufacturer	Date of Cal.	Due Date
Signal Generator	N5182A	Agilent	Jul. 04, 2022	Jul. 03, 2023
Spectrum Analyzer	N9020A	Agilent	Jul. 05, 2022	Jul. 04, 2023
Combiner Box	AT890-RFB	Ascentest	/	/



## 4. Facilities and Accreditations

### 4.1. Facilities

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

- FCC - Registration No.: 645098

SHENZHEN TONGCE TESTING LAB

Designation Number: CN1205

The testing lab has been registered and fully described in a report with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files.

- IC - Registration No.: 10668A-1

SHENZHEN TONGCE TESTING LAB

CAB identifier: CN0031

The testing lab has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing.

### 4.2. Location

Shenzhen TCT Testing Technology Co., Ltd.

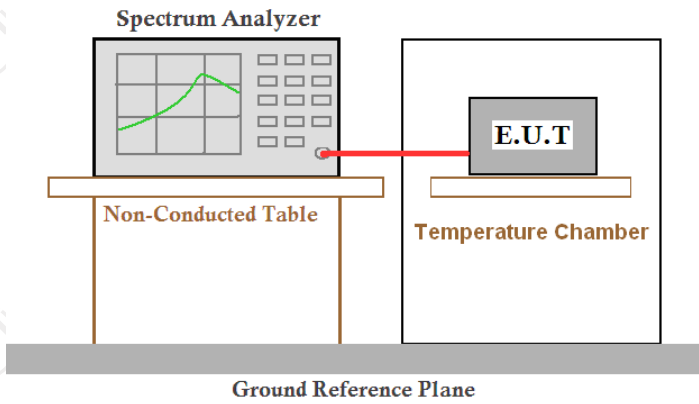
Address: 2101 & 2201, Zhenchang Factory, Renshan Industrial Zone, Fuhai Subdistrict,  
Bao'an District, Shenzhen, Guangdong, China

TEL: +86-755-27673339

## 5. Technical requirements

### 5.1. Nominal Centre frequencies

#### 5.1.1. Test Specification

<b>Test Requirement:</b>	ETSI EN 301 893 clause 4.2.1
<b>Test Method:</b>	ETSI EN 301 893 clause 5.4.2.2
<b>Limit:</b>	$f_c \pm 20\text{ppm}$
<b>Test Setup:</b>	 <p>The diagram illustrates the test setup. A Spectrum Analyzer is positioned on a Non-Conducted Table. A red line indicates the connection from the Spectrum Analyzer to the E.U.T. (Equipment Under Test), which is located inside a Temperature Chamber. Both the table and the chamber are situated on a Ground Reference Plane.</p>
<b>Test Procedure:</b>	<ol style="list-style-type: none"> <li>1. The EUT was connected to spectrum analyser and operated in an unmodulated test mode.</li> <li>2. Under normal and extreme test condition of temperature, the center frequency of the EUT has been measured according to the standard.</li> <li>3. Measure and record the results in the test report.</li> </ol>
<b>Test Instrument:</b>	Refer to Item 3.3
<b>Test Mode:</b>	Refer to section 3.1 for details
<b>Test Result:</b>	PASS

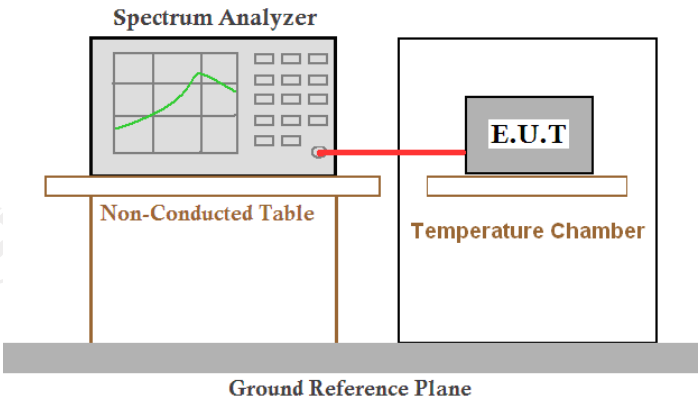
## 5.1.2. Test Data

### Band I (5150MHz-5250MHz)

Frequency (MHz)	Measured Frequency For Operating Conditions					Maximum Frequency Error (kHz)	Maximum Frequency Error (ppm)
	NC	LVHT	LVL	HVHT	HVLT		
802.11a							
5200	5199.96	5199.98	5199.98	5199.94	5199.96	-60	-11.54
802.11n-VHT40							
5190	5189.96	5190.00	5189.96	5190.00	5189.96	-40	-7.71
802.11ac-VHT80							
5210	5210.00	5210.00	5210.00	5210.00	5210.00	0	0

## 5.2. Nominal Channel Bandwidth and Occupied Channel Bandwidth

### 5.2.1. Test Specification

<b>Test Requirement:</b>	ETSI EN 301 893 clause 4.2.2
<b>Test Method:</b>	ETSI EN 301 893 clause 5.4.3.2
<b>Limit:</b>	<p>The Nominal Channel Bandwidth for a single Operating Channel shall be 20 MHz.</p> <p>Alternatively, equipment may implement a lower Nominal Channel Bandwidth with a minimum of 5 MHz.</p> <p>The Occupied Channel Bandwidth shall be between 80 % and 100 % of the Nominal Channel Bandwidth</p>
<b>Test Setup:</b>	 <p>The diagram illustrates the test setup. A Spectrum Analyzer is positioned on a Non-Conducted Table. A red cable connects the Spectrum Analyzer to the E.U.T. (Equipment Under Test), which is housed within a Temperature Chamber. Both the table and the chamber sit on a common Ground Reference Plane.</p>
<b>Test Procedure:</b>	<p>For the Occupied Bandwidth: The UUT shall be configured to operate at a typical RF power output level.</p> <ol style="list-style-type: none"> <li>1. The output of the transmitter shall be connected to the spectrum analyzer.</li> <li>2. Setting the spectrum analyser: Centre Frequency: The centre frequency of the channel under test. RBW=100KHz, VBW=300KHz, Span=2*nominal bandwidth, Detector=RMS, trace mode=Max Hold;</li> <li>3. Measure and record the results in the test report.</li> <li>4. Repeat all the frequency of the UUT.</li> </ol>
<b>Test Instrument:</b>	Refer to Item 3.3
<b>Test Mode:</b>	Refer to section 3.1 for details
<b>Test Result:</b>	PASS

**5.2.2. Test Data****Band I (5150MHz-5250MHz)****Configuration IEEE 802.11a 6 Mbps**

Frequency (MHz)	Mode	Nominal Bandwidth (MHz)	Occupied Bandwidth (MHz)		Result
			Measured (MHz)	Limit (MHz)	
5200	802.11a	20	16.31	16-20	Pass

**Configuration IEEE 802.11n (HT20) MCS0**

Frequency (MHz)	Mode	Nominal Bandwidth (MHz)	Occupied Bandwidth (MHz)		Result
			Measured (MHz)	Limit (MHz)	
5200	802.11n	20	17.52	16-20	Pass

**Configuration IEEE 802.11ac (HT20) MCS0**

Frequency (MHz)	Mode	Nominal Bandwidth (MHz)	Occupied Bandwidth (MHz)		Result
			Measured (MHz)	Limit (MHz)	
5200	802.11ac	20	17.52	16-20	Pass

**Configuration IEEE 802.11n (HT40) MCS0**

Frequency (MHz)	Mode	Nominal Bandwidth (MHz)	Occupied Bandwidth (MHz)		Result
			Measured (MHz)	Limit (MHz)	
5190	802.11n	40	35.83	32-40	Pass

**Configuration IEEE 802.11ac (HT40) MCS0**

Frequency (MHz)	Mode	Nominal Bandwidth (MHz)	Occupied Bandwidth (MHz)		Result
			Measured (MHz)	Limit (MHz)	
5190	802.11ac	40	35.83	32-40	Pass

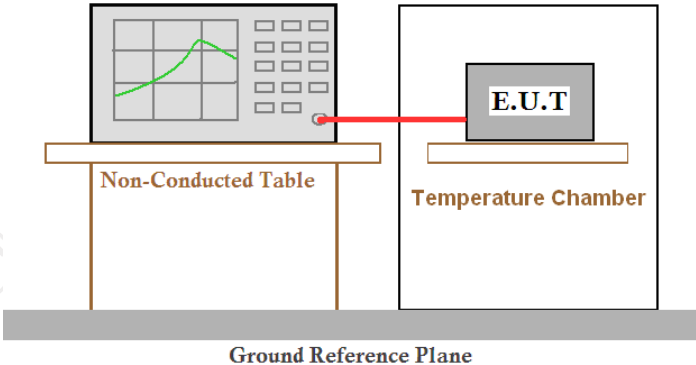
**Configuration IEEE 802.11ac (HT80) MCS0**

Frequency (MHz)	Mode	Nominal Bandwidth (MHz)	Occupied Bandwidth (MHz)		Result
			Measured (MHz)	Limit (MHz)	
5210	802.11ac	80	75.46	64-80	Pass

### 5.3. RF output power, Transmit Power Control(TPC) and EIRP spectral density

#### 5.3.1. Transmitter RF output power and power density

##### 5.3.1.1. Test Specification

Test Requirement:	ETSI EN 301 893 clause 4.2.3																			
Test Method:	ETSI EN 301 893 clause 5.4.4.2																			
Limit:	<b>Table 2: Mean e.i.r.p. limits for RF output power and Power Density at the highest power level (P<sub>H</sub>)</b>																			
	<table><tr><th rowspan="2">Frequency range (MHz)</th><th colspan="2">Mean e.i.r.p. limit for P<sub>H</sub> (dBm)</th><th colspan="2">Mean e.i.r.p. density limit (dBm/MHz)</th></tr><tr><th>with TPC</th><th>without TPC</th><th>with TPC</th><th>without TPC</th></tr><tr><td>5 150 to 5 350</td><td>23</td><td>20/23 (see note 1)</td><td>10</td><td>7/10 (see note 2)</td></tr><tr><td>5 470 to 5 725</td><td>30 (see note 3)</td><td>27 (see note 3)</td><td>17 (see note 3)</td><td>14 (see note 3)</td></tr></table>	Frequency range (MHz)	Mean e.i.r.p. limit for P <sub>H</sub> (dBm)		Mean e.i.r.p. density limit (dBm/MHz)		with TPC	without TPC	with TPC	without TPC	5 150 to 5 350	23	20/23 (see note 1)	10	7/10 (see note 2)	5 470 to 5 725	30 (see note 3)	27 (see note 3)	17 (see note 3)	14 (see note 3)
	Frequency range (MHz)		Mean e.i.r.p. limit for P <sub>H</sub> (dBm)		Mean e.i.r.p. density limit (dBm/MHz)															
with TPC		without TPC	with TPC	without TPC																
5 150 to 5 350	23	20/23 (see note 1)	10	7/10 (see note 2)																
5 470 to 5 725	30 (see note 3)	27 (see note 3)	17 (see note 3)	14 (see note 3)																
<p>NOTE 1: The applicable limit is 20 dBm, except for transmissions whose nominal bandwidth falls completely within the band 5 150 MHz to 5 250 MHz, in which case the applicable limit is 23 dBm.</p> <p>NOTE 2: The applicable limit is 7 dBm/MHz, except for transmissions whose nominal bandwidth falls completely within the band 5 150 MHz to 5 250 MHz, in which case the applicable limit is 10 dBm/MHz.</p> <p>NOTE 3: Slave devices without a <i>Radar Interference Detection</i> function shall comply with the limits for the frequency range 5 250 MHz to 5 350 MHz.</p>																				
Test Setup:	<div><div><div>Spectrum Analyzer</div></div></div>																			
Test Procedure:	Refer to ETSI EN 301 893 clause 5.4.4.2																			
Test Instrument:	Refer to Item 3.3																			
Test Result:	PASS																			

### 5.3.1.2. Test Data

#### Band I (5150MHz-5250MHz)

802.11a Modulation								
Test Conditions	channel	Total Output power (dBm)	Antenna Gain (dBi)	EIRP Power (dBm EIRP)	Limit (dBm EIRP)	Power density (dBm/MHz)	Limit (dBm/MHz)	Result
Normal	Lowest	13.54	-2.3	11.24	23	0.95	10	PASS
	Highest	13.71	-2.3	11.41		1.08		
LVHT	Lowest	13.52	-2.3	11.22		0.93		
	Highest	13.68	-2.3	11.38		1.06		
LVLT	Lowest	13.49	-2.3	11.19		0.91		
	Highest	13.63	-2.3	11.33		1.04		
HVHT	Lowest	13.50	-2.3	11.20		0.88		
	Highest	13.65	-2.3	11.35		1.02		
HVLT	Lowest	13.47	-2.3	11.17		0.86		
	Highest	13.60	-2.3	11.30		0.99		
<b>Note:</b> 1>. Volt= Voltage, Temp= Temperature 2>. $P_{EIRP} = P_{cond} + G$ (dBm) 3>. The test result is with TPC. 4>. this factors have been set in test software.								

802.11n-VHT20 Modulation								
Test Conditions	channel	Total Output power (dBm)	Antenna Gain (dBi)	EIRP Power (dBm EIRP)	Limit (dBm EIRP)	Power density (dBm/MHz)	Limit (dBm/MHz)	Result
Normal	Lowest	12.87	-2.3	10.57	23	0.03	10	PASS
	Highest	12.72	-2.3	10.42		-0.05		
LVHT	Lowest	12.85	-2.3	10.55		0.02		
	Highest	12.70	-2.3	10.40		-0.07		
LVLT	Lowest	12.82	-2.3	10.52		-0.02		
	Highest	12.64	-2.3	10.34		-0.12		
HVHT	Lowest	12.84	-2.3	10.54		0		
	Highest	12.67	-2.3	10.37		-0.09		
HVLT	Lowest	12.80	-2.3	10.50		-0.04		
	Highest	12.62	-2.3	10.32		-0.15		
<b>Note:</b> 1>. Volt= Voltage, Temp= Temperature 2>. $P_{EIRP} = P_{cond} + G$ (dBm) 3>. The test result is with TPC. 4>. this factors have been set in test software.								



802.11ac-VHT20 Modulation								
Test Conditions	channel	Total Output power (dBm)	Antenna Gain (dBi)	EIRP Power (dBm EIRP)	Limit (dBm EIRP)	Power density (dBm/MHz)	Limit (dBm/MHz)	Result
Normal	Lowest	13.57	-2.3	11.27	23	0.77	10	PASS
	Highest	13.66	-2.3	11.36		1.04		
LVHT	Lowest	13.55	-2.3	11.25		0.74		
	Highest	13.64	-2.3	11.34		1.03		
LVLT	Lowest	13.53	-2.3	11.23		0.72		
	Highest	13.62	-2.3	11.32		1.00		
HVHT	Lowest	13.51	-2.3	11.21		0.69		
	Highest	13.59	-2.3	11.29		0.98		
HVLT	Lowest	13.49	-2.3	11.19		0.66		
	Highest	13.57	-2.3	11.27		0.95		
<b>Note:</b> 1>. Volt= Voltage, Temp= Temperature 2>. $P_{EIRP} = P_{cond} + G$ (dBm) 3>. The test result is with TPC. 4>. this factors have been set in test software.								

802.11n-VHT40 Modulation								
Test Conditions	channel	Total Output power (dBm)	Antenna Gain (dBi)	EIRP Power (dBm EIRP)	Limit (dBm EIRP)	Power density (dBm/MHz)	Limit (dBm/MHz z)	Result
Normal	Lowest	13.98	-2.3	11.68	23	-1.56	10	PASS
	Highest	13.99	-2.3	11.69		-1.77		
LVHT	Lowest	13.96	-2.3	11.66		-1.59		
	Highest	13.97	-2.3	11.67		-1.79		
LVLT	Lowest	13.92	-2.3	11.62		-1.62		
	Highest	13.93	-2.3	11.63		-1.81		
HVHT	Lowest	13.94	-2.3	11.64		-1.65		
	Highest	13.95	-2.3	11.65		-1.84		
HVLT	Lowest	13.89	-2.3	11.59		-1.68		
	Highest	13.91	-2.3	11.61		-1.87		
<b>Note:</b> 1>. Volt= Voltage, Temp= Temperature 2>. $P_{EIRP} = P_{cond} + G$ (dBm) 3>. The test result is with TPC. 4>. this factors have been set in test software.								

802.11ac-VHT40 Modulation								
Test Conditions	channel	Total Output power (dBm)	Antenna Gain (dBi)	EIRP Power (dBm EIRP)	Limit (dBm EIRP)	Power density (dBm/MHz)	Limit (dBm/MHz)	Result
Normal	Lowest	13.80	-2.3	11.50	23	-1.78	10	PASS
	Highest	14.02	-2.3	11.72		-1.53		
LVHT	Lowest	13.76	-2.3	11.46		-1.82		
	Highest	13.97	-2.3	11.67		-1.55		
LVLT	Lowest	13.78	-2.3	11.48		-1.87		
	Highest	13.99	-2.3	11.69		-1.62		
HVHT	Lowest	13.74	-2.3	11.44		-1.85		
	Highest	13.95	-2.3	11.65		-1.58		
HVLT	Lowest	13.72	-2.3	11.42		-1.91		
	Highest	13.94	-2.3	11.64		-1.65		

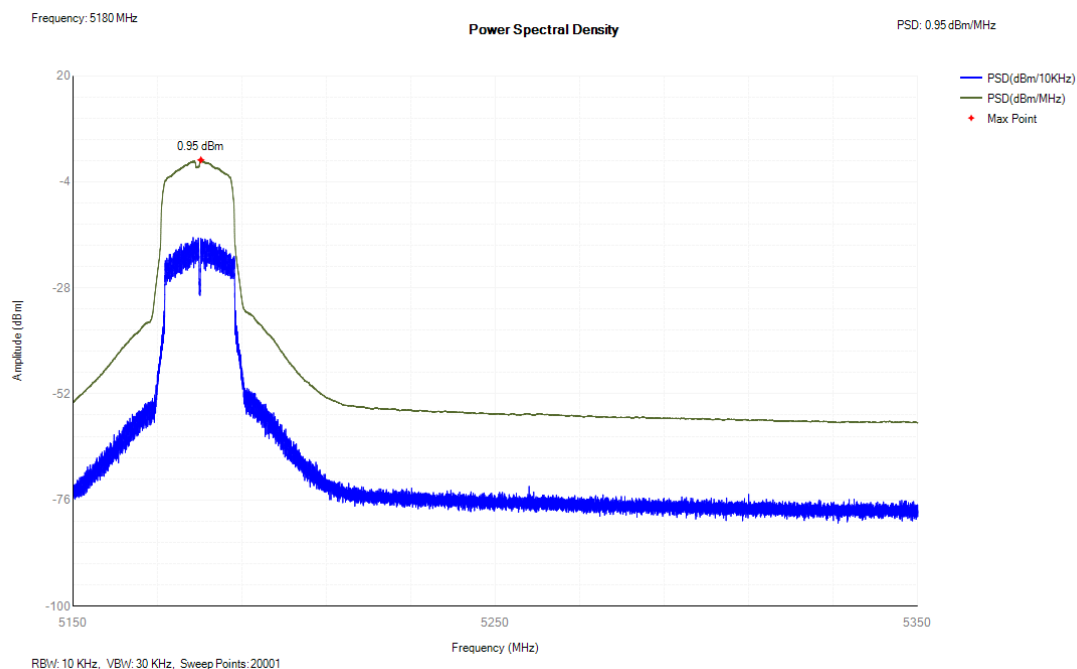
**Note:** 1>. Volt= Voltage, Temp= Temperature  
 2>.  $P_{EIRP} = P_{cond} + G$  (dBm)  
 3>. The test result is with TPC.  
 4>. this factors have been set in test software.

802.1ac-VHT80 Modulation								
Test Conditions	channel	Total Output power (dBm)	Antenna Gain (dBi)	EIRP Power (dBm EIRP)	Limit (dBm EIRP)	Power density (dBm/MHz)	Limit (dBm/MHz)	Result
Normal	Middle	12.34	-2.3	10.04	23	-6.83	10	PASS
LVHT	Middle	12.31	-2.3	10.01		-6.85		
LVLT	Middle	12.26	-2.3	9.96		-6.88		
HVHT	Middle	12.27	-2.3	9.97		-6.92		
HVLT	Middle	12.29	-2.3	9.99		-6.94		

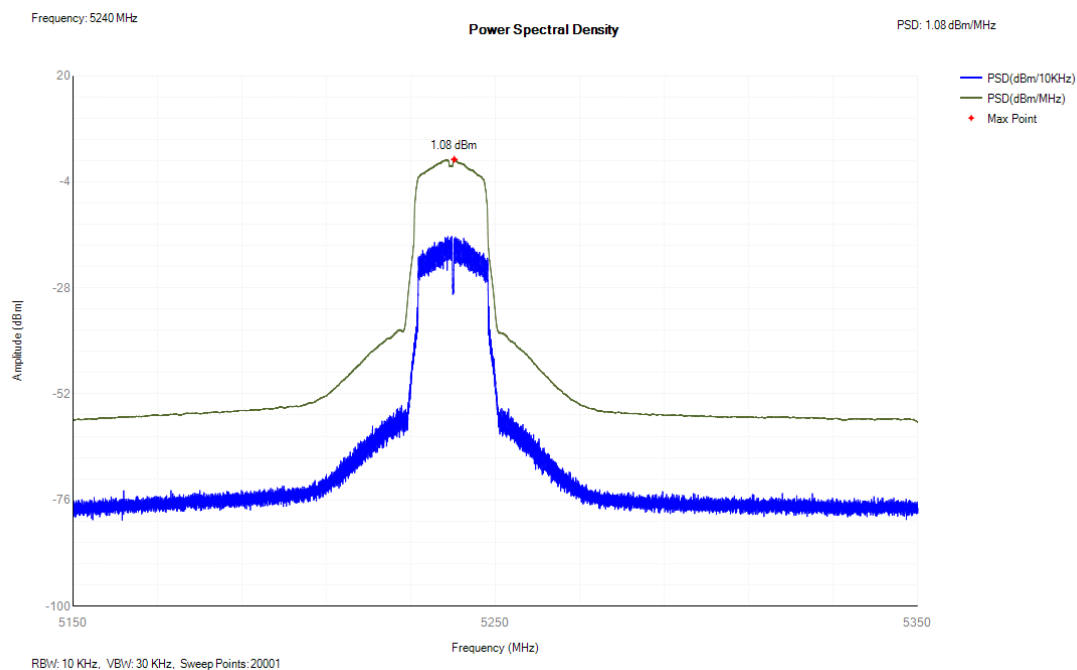
**Note:** 1>. Volt= Voltage, Temp= Temperature  
 2>.  $P_{EIRP} = P_{cond} + G$  (dBm)  
 3>. The test result is with TPC.  
 4>. this factors have been set in test software.

Test plots as follows:  
802.11a Modulation

5180MHz 802.11 a

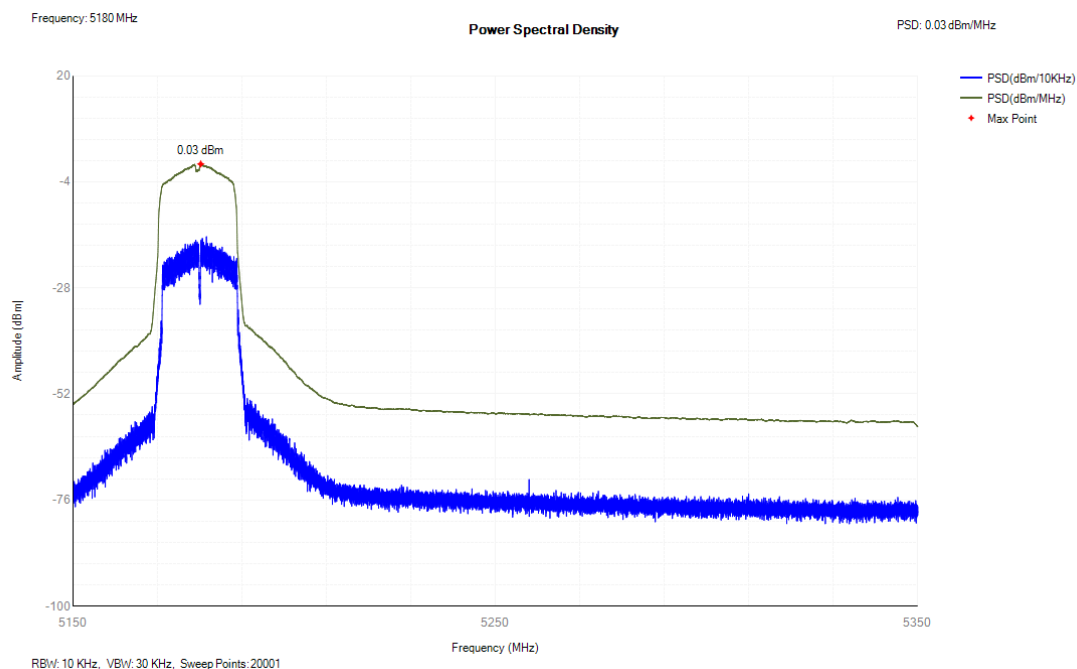


5240MHz 802.11 a

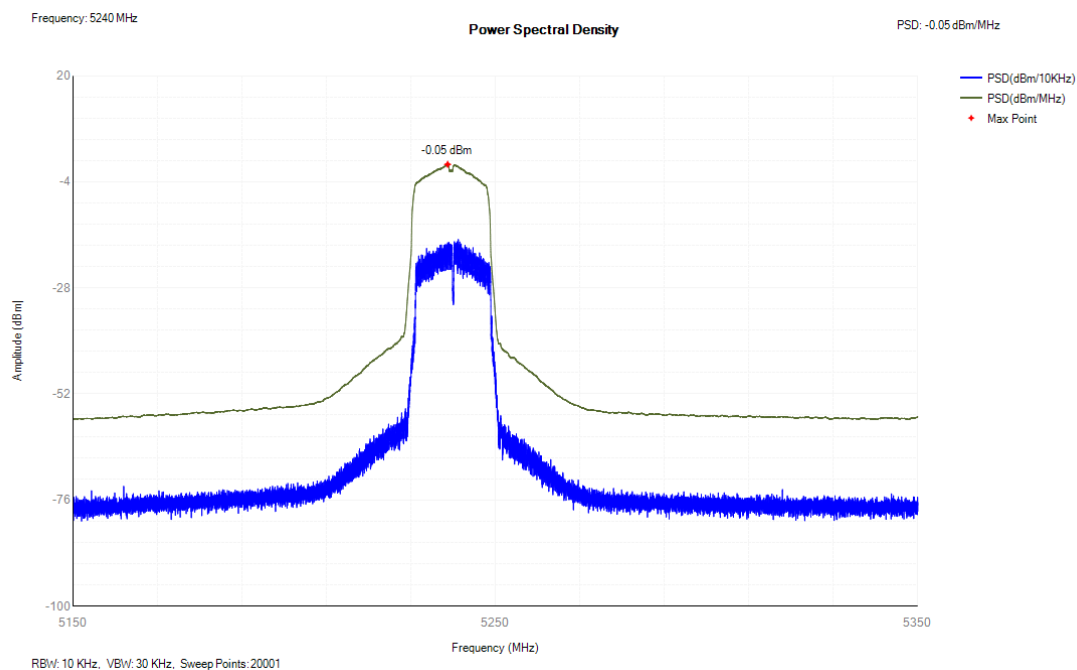


## 802.11n-HT20 Modulation

### 5180MHz 802.11 n20

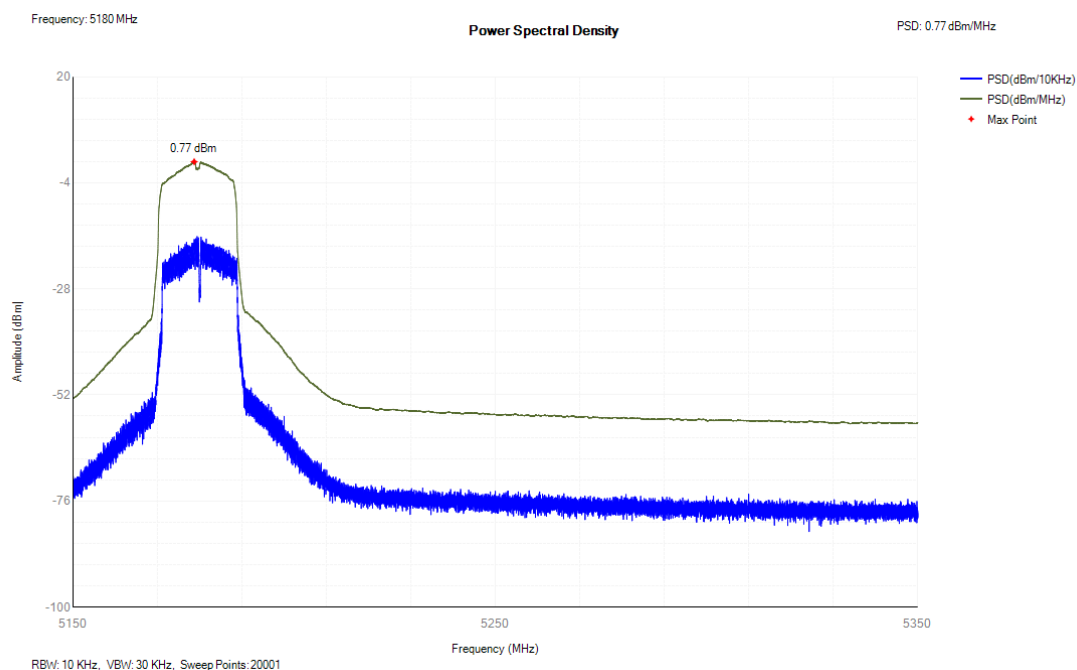


### 5240MHz 802.11 n20

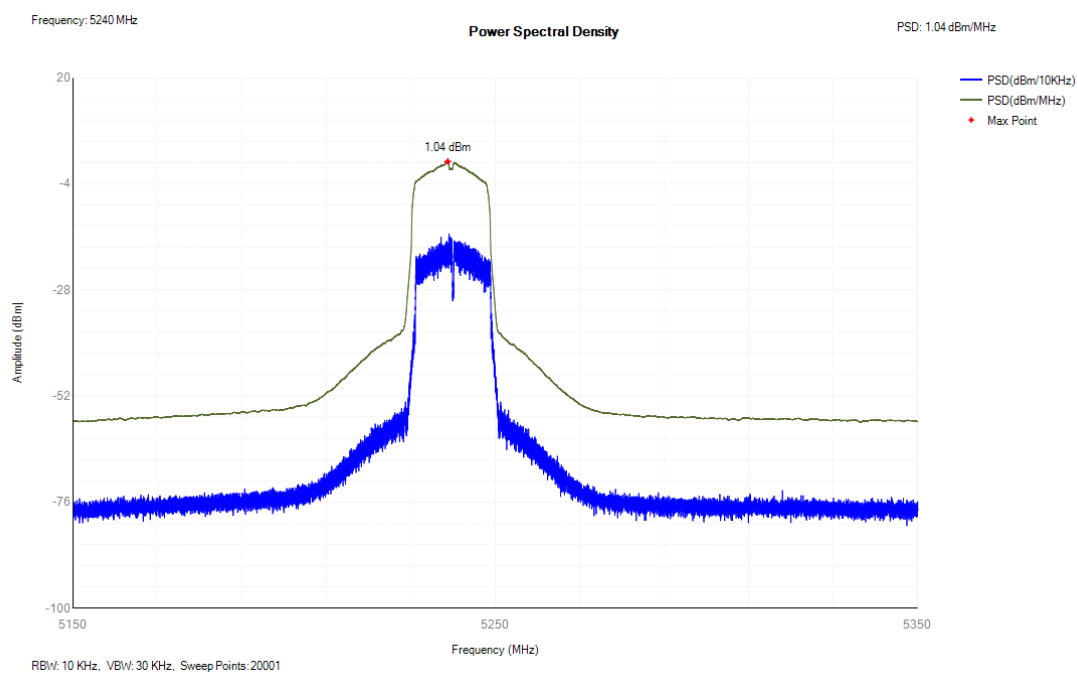


## 802.11ac-HT20 Modulation

### 5180MHz 802.11 ac20

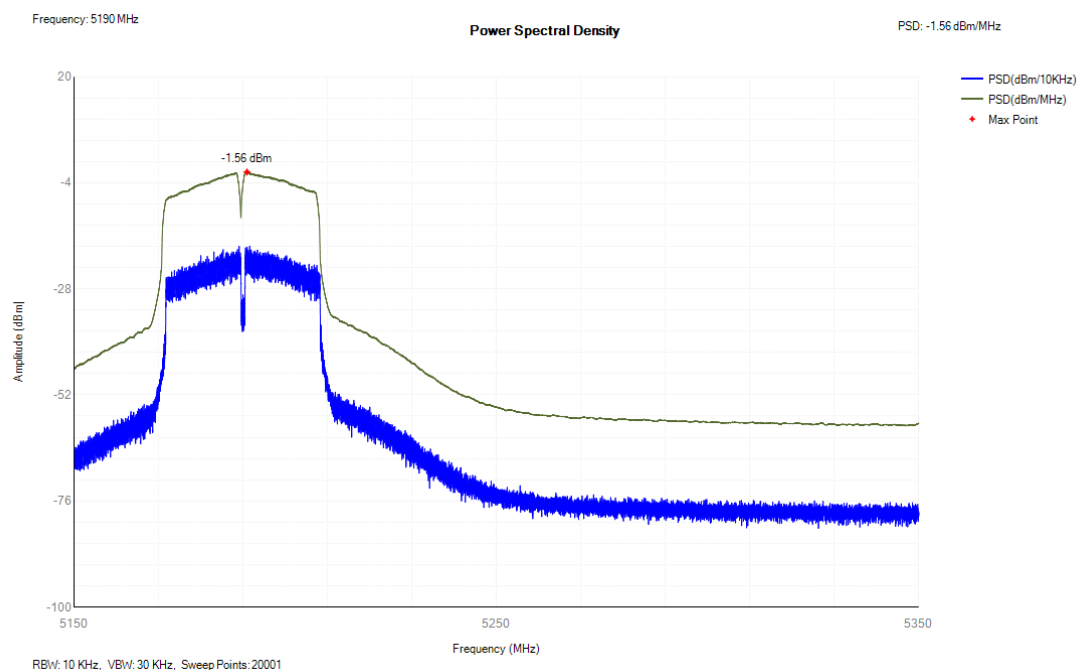


### 5240MHz 802.11 ac20

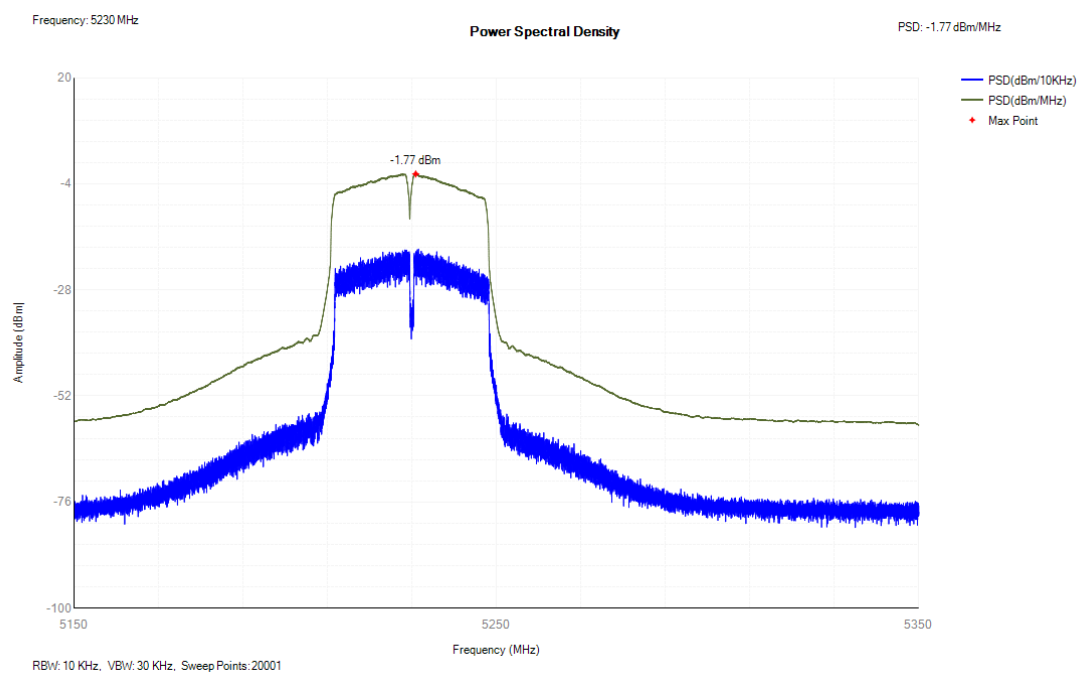


## 802.11n(HT40) Modulation

5190MHz 802.11 n40

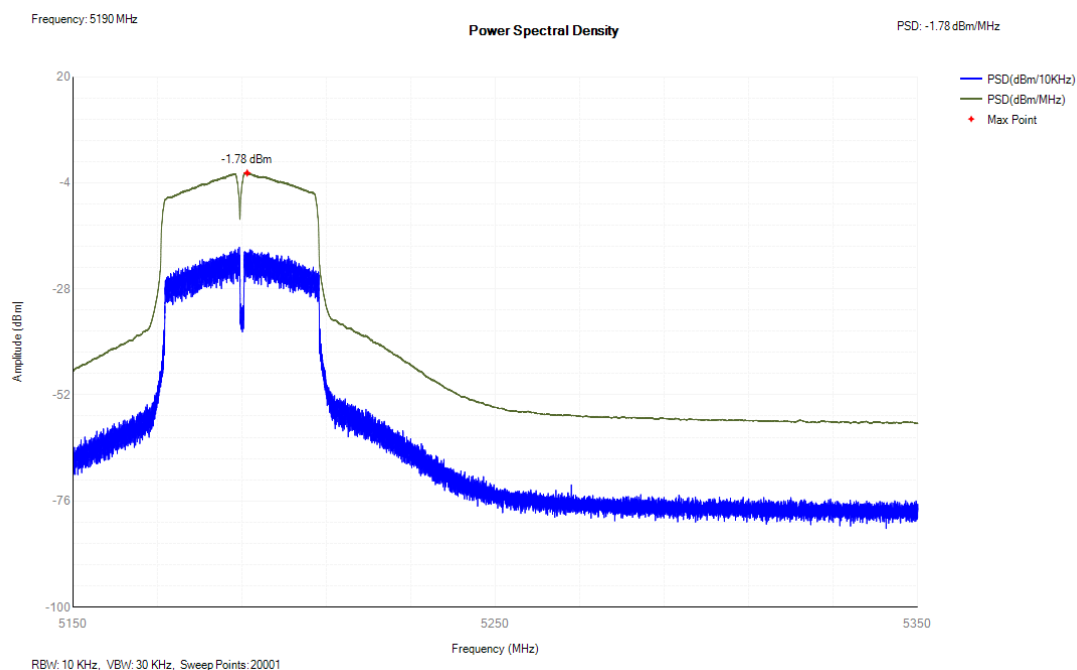


5230MHz 802.11 n40

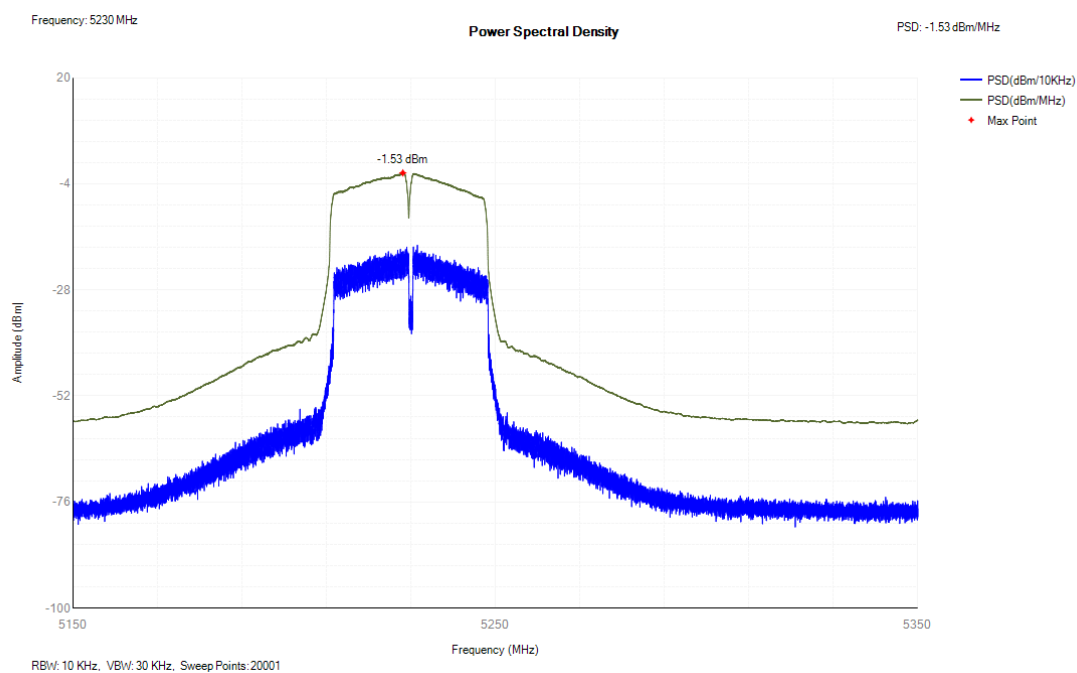


## 802.11ac(HT40) Modulation

### 5190MHz 802.11 ac40



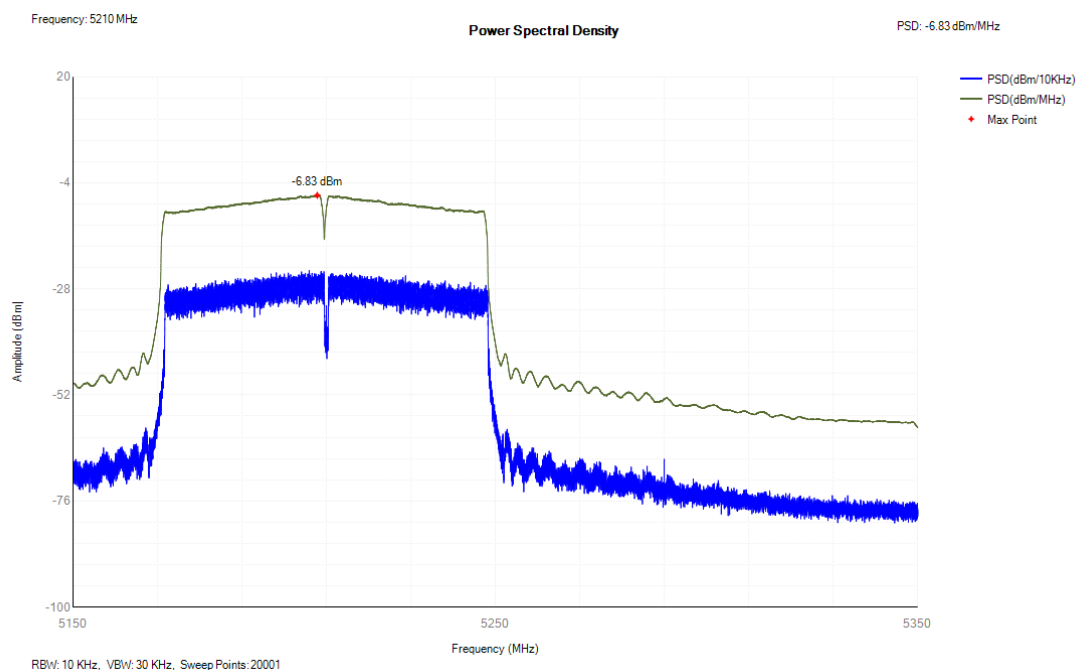
### 5230MHz 802.11 ac40





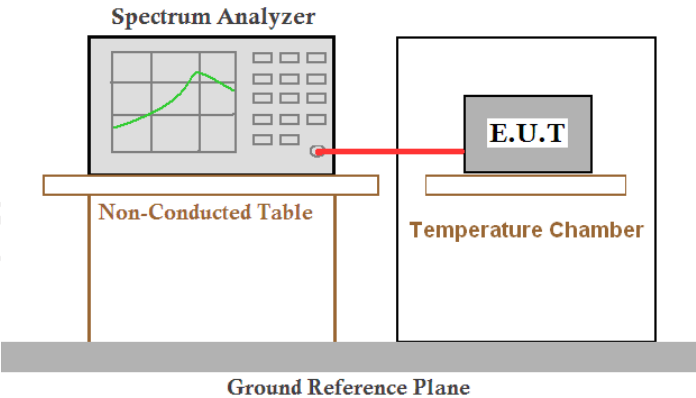
## 802.11ac (HT80) Modulation

5210MHz 802.11 ac80



## 5.3.2. Transmit Power Control(TPC)

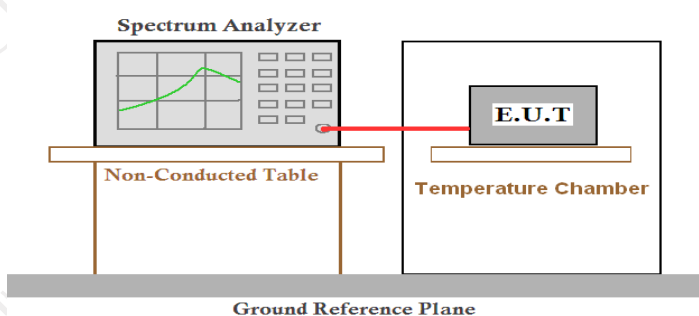
### 5.3.2.1. Test Specification

<b>Test Requirement:</b>	ETSI EN 301 893 clause 4.2.3						
<b>Test Method:</b>	ETSI EN 301 893 clause 5.4.4.2						
<b>Limit:</b>	<p><b>Table 3: Mean e.i.r.p. limits for RF Output Power at the lowest power level of the TPC range</b></p> <table border="1"> <thead> <tr> <th>Frequency range</th><th>Mean e.i.r.p. (dBm) limit for <math>P_L</math></th></tr> </thead> <tbody> <tr> <td>5 250 MHz to 5 350 MHz</td><td>17</td></tr> <tr> <td>5 470 MHz to 5 725 MHz</td><td>24 (see note)</td></tr> </tbody> </table> <p>NOTE: Slave devices without a <i>Radar Interference Detection</i> function shall comply with the limits for the band 5 250 MHz to 5 350 MHz.</p>	Frequency range	Mean e.i.r.p. (dBm) limit for $P_L$	5 250 MHz to 5 350 MHz	17	5 470 MHz to 5 725 MHz	24 (see note)
Frequency range	Mean e.i.r.p. (dBm) limit for $P_L$						
5 250 MHz to 5 350 MHz	17						
5 470 MHz to 5 725 MHz	24 (see note)						
<b>Test Setup:</b>	 <p>The diagram illustrates the test setup. A Spectrum Analyzer is positioned on a Non-Conducted Table. A red cable connects the Spectrum Analyzer to the E.U.T. (Equipment Under Test), which is housed within a Temperature Chamber. Both the table and the chamber are situated on a common Ground Reference Plane.</p>						
<b>Test Procedure:</b>	Refer to ETSI EN 301 893 clause 5.4.4.2						
<b>Test Instrument:</b>	Refer to Item 3.3						
<b>Test Result:</b>	The DUT doesn't support this function. So this test item is not applicable.						

## 5.4. Transmitter unwanted emissions

### 5.4.1. Transmitter unwanted emissions outside the 5G RLAN band

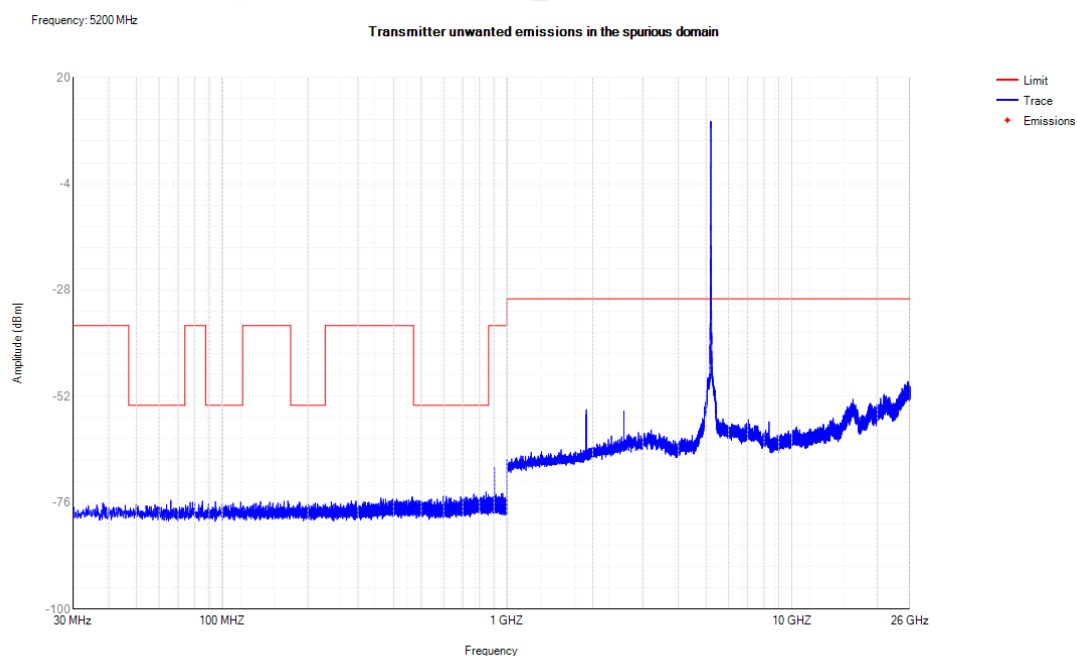
#### 5.4.1.1. Test Specification

Test Requirement:	ETSI EN 301 893 clause 4.2.4.1																																							
Test Method:	ETSI EN 301 893 clause 5.4.5																																							
Limit:	<p>Table 4: Transmitter unwanted emission limits outside the 5 GHz RLAN bands</p> <table><tr><th>Frequency range</th><th>Maximum power</th><th>Bandwidth</th></tr><tr><td>30 MHz to 47 MHz</td><td>-36 dBm</td><td>100 kHz</td></tr><tr><td>47 MHz to 74 MHz</td><td>-54 dBm</td><td>100 kHz</td></tr><tr><td>74 MHz to 87,5 MHz</td><td>-36 dBm</td><td>100 kHz</td></tr><tr><td>87,5 MHz to 118 MHz</td><td>-54 dBm</td><td>100 kHz</td></tr><tr><td>118 MHz to 174 MHz</td><td>-36 dBm</td><td>100 kHz</td></tr><tr><td>174 MHz to 230 MHz</td><td>-54 dBm</td><td>100 kHz</td></tr><tr><td>230 MHz to 470 MHz</td><td>-36 dBm</td><td>100 kHz</td></tr><tr><td>470 MHz to 862 MHz</td><td>-54 dBm</td><td>100 kHz</td></tr><tr><td>862 MHz to 1 GHz</td><td>-36 dBm</td><td>100 kHz</td></tr><tr><td>1 GHz to 5,15 GHz</td><td>-30 dBm</td><td>1 MHz</td></tr><tr><td>5,35 GHz to 5,47 GHz</td><td>-30 dBm</td><td>1 MHz</td></tr><tr><td>5,725 GHz to 26 GHz</td><td>-30 dBm</td><td>1 MHz</td></tr></table>	Frequency range	Maximum power	Bandwidth	30 MHz to 47 MHz	-36 dBm	100 kHz	47 MHz to 74 MHz	-54 dBm	100 kHz	74 MHz to 87,5 MHz	-36 dBm	100 kHz	87,5 MHz to 118 MHz	-54 dBm	100 kHz	118 MHz to 174 MHz	-36 dBm	100 kHz	174 MHz to 230 MHz	-54 dBm	100 kHz	230 MHz to 470 MHz	-36 dBm	100 kHz	470 MHz to 862 MHz	-54 dBm	100 kHz	862 MHz to 1 GHz	-36 dBm	100 kHz	1 GHz to 5,15 GHz	-30 dBm	1 MHz	5,35 GHz to 5,47 GHz	-30 dBm	1 MHz	5,725 GHz to 26 GHz	-30 dBm	1 MHz
Frequency range	Maximum power	Bandwidth																																						
30 MHz to 47 MHz	-36 dBm	100 kHz																																						
47 MHz to 74 MHz	-54 dBm	100 kHz																																						
74 MHz to 87,5 MHz	-36 dBm	100 kHz																																						
87,5 MHz to 118 MHz	-54 dBm	100 kHz																																						
118 MHz to 174 MHz	-36 dBm	100 kHz																																						
174 MHz to 230 MHz	-54 dBm	100 kHz																																						
230 MHz to 470 MHz	-36 dBm	100 kHz																																						
470 MHz to 862 MHz	-54 dBm	100 kHz																																						
862 MHz to 1 GHz	-36 dBm	100 kHz																																						
1 GHz to 5,15 GHz	-30 dBm	1 MHz																																						
5,35 GHz to 5,47 GHz	-30 dBm	1 MHz																																						
5,725 GHz to 26 GHz	-30 dBm	1 MHz																																						
Test setup:	<p>For conducted emission</p> 																																							
Test procedure:	<ol style="list-style-type: none"><li>The output of the transmitter shall be connected to the spectrum analyzer through an attenuator.</li><li>Set the Spectrum Analyzer as below: RBW=100KHz, VBW=300KHz when frequency below 1GHz; RBW=1MHz, VBW=3MHz when above 1GHz. Detector=Peak, Trace mode=Max Hold. Frequency range: according to the above table 4</li><li>Find the peak value of the power envelope and record in the report;</li><li>Repeat the above procedure for other frequency range</li></ol>																																							
Test Instruments:	Refer to Item 3.3																																							
Test Mode:	Transmitting mode																																							
Test Result	PASS																																							
Remark:	All modulations have been tested, The worst modulation reported only.																																							

## 5.4.1.2. Test Data

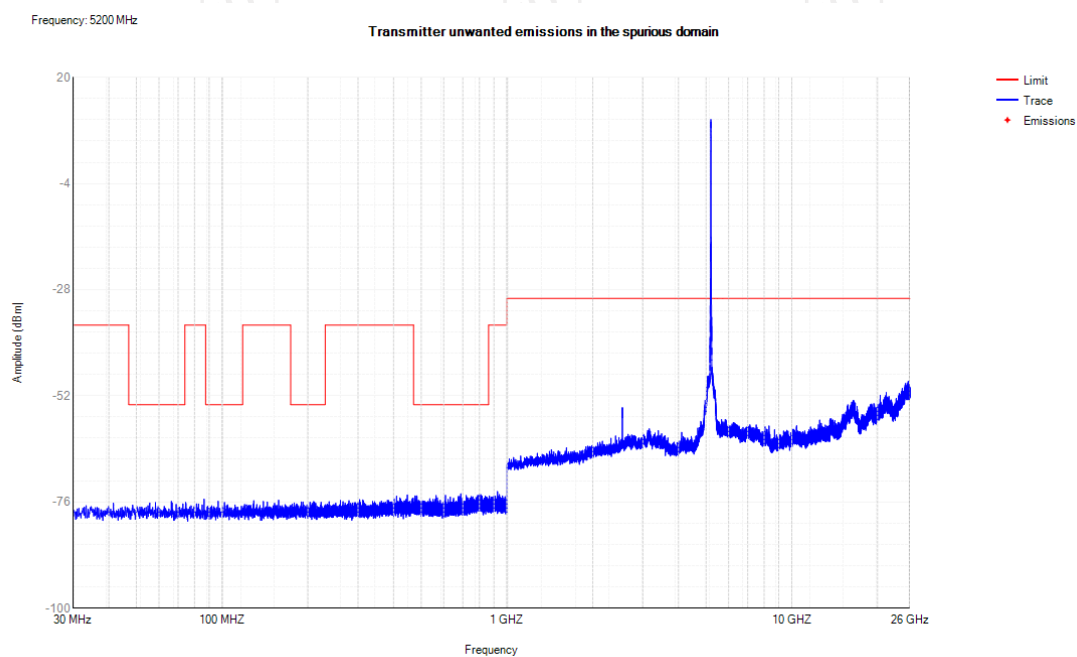
### 802.11a Modulation

#### 5200MHz 802.11 a



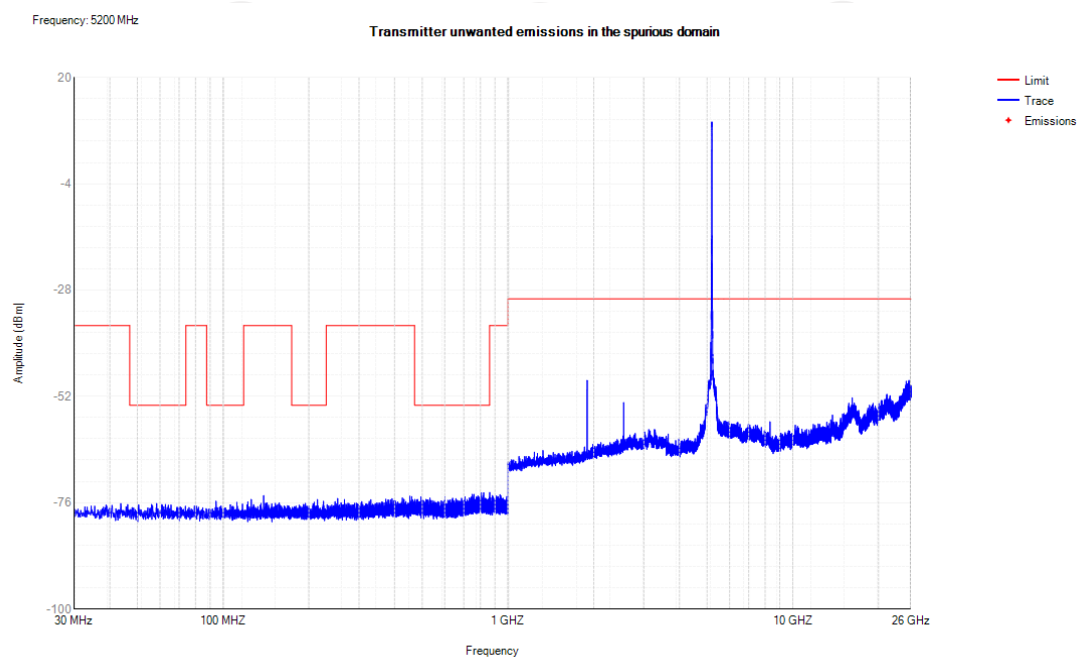
### 802.11n-HT20 Modulation

#### 5200MHz 802.11n20



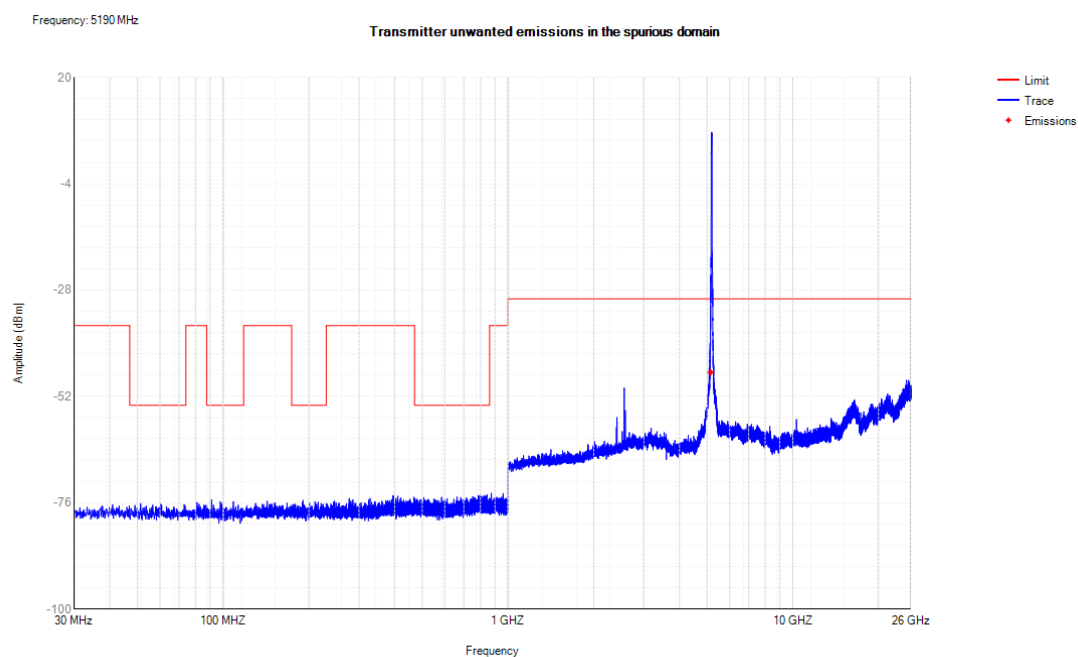
## 802.11ac-HT20 Modulation

### 5200MHz 802.11 ac20



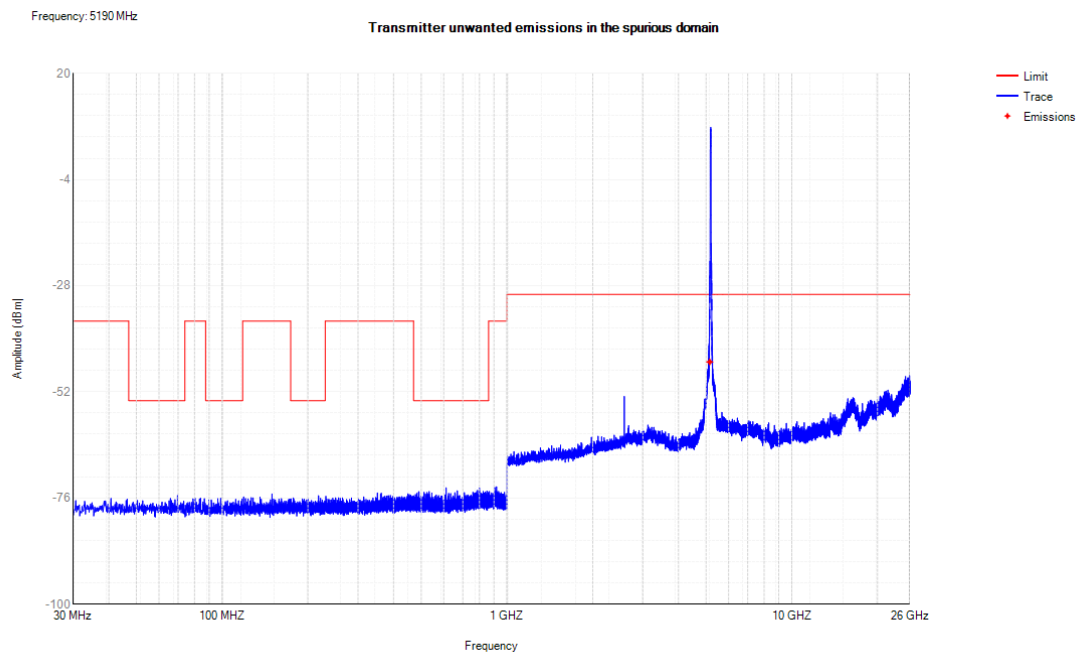
## 802.11n-HT40 Modulation

### 5190MHz 802.11 n40



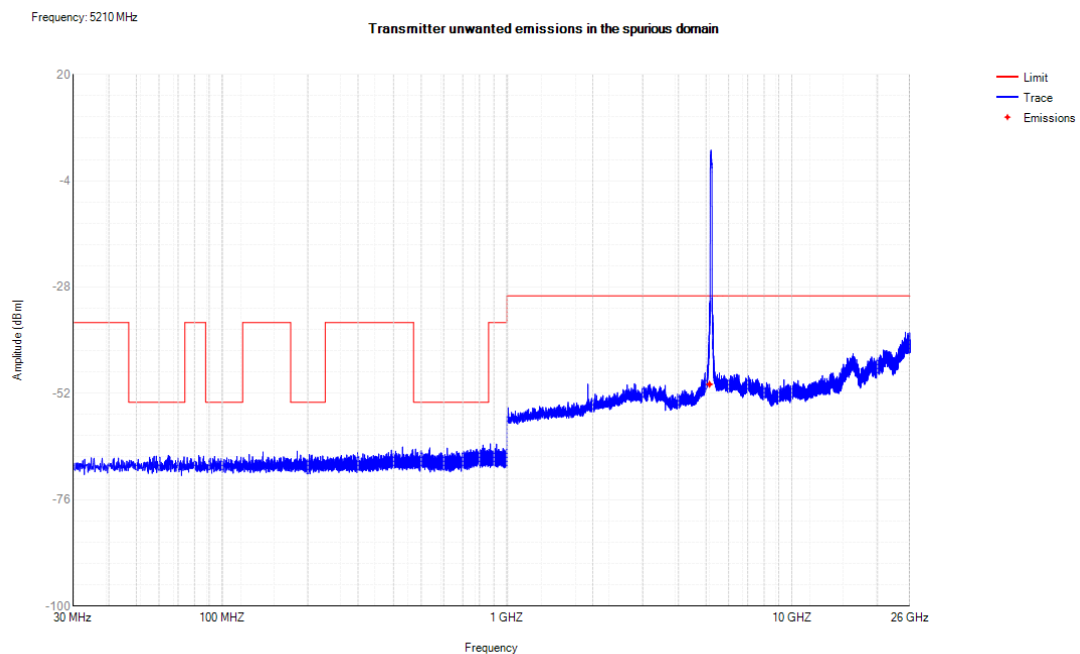
## 802.11ac-HT40 Modulation

### 5190MHz 802.11 ac40



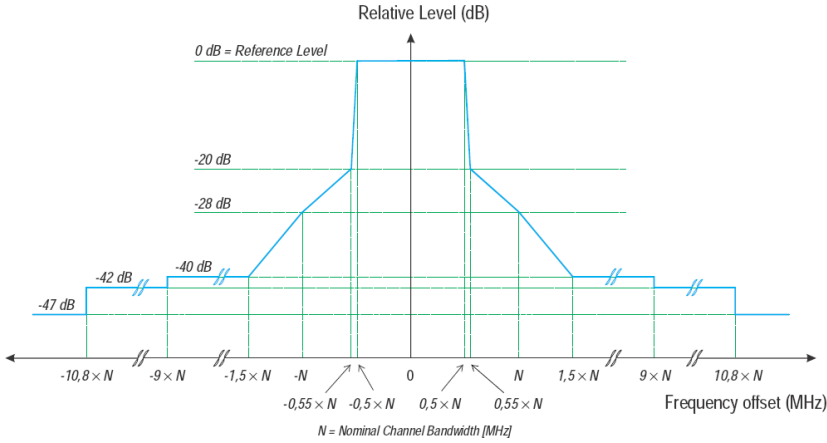
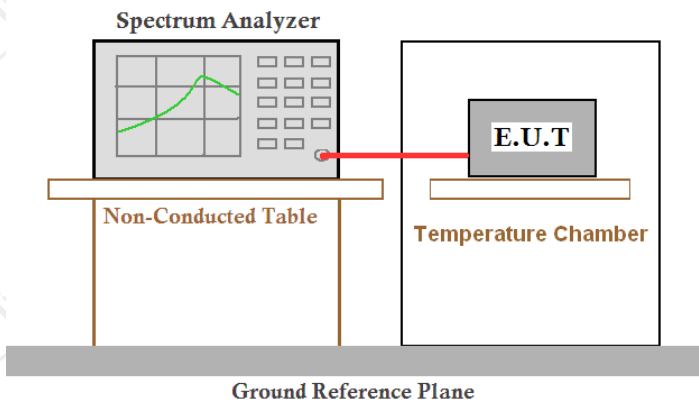
## 802.11ac (HT80) Modulation

### 5210MHz 802.11 ac80



## 5.4.2. Transmitter unwanted emissions within the 5G RLAN band

### 5.4.2.1. Test Specification

<b>Test Requirement:</b>	ETSI EN 301 893 clause 4.2.4.2
<b>Test Method:</b>	ETSI EN 301 893 clause 5.4.6
<b>Limit:</b>	 <p>Figure 1: Transmit spectral power mask</p> <p>The mean Power Density (measured with a 1 MHz measurement bandwidth) of the transmitter unwanted emissions within the 5 GHz RLAN bands shall not exceed the limits of the mask provided in figure 1 or an absolute level of -30 dBm/MHz, whichever is greater. The limits in figure 1 are relative to the maximum Power Density of the RLAN device when measured with a reference bandwidth of 1 MHz.</p>
<b>Test setup:</b>	<p>For conducted emission</p> 
<b>Test procedure:</b>	<ol style="list-style-type: none"> <li>1. The output of the transmitter shall be connected to the spectrum analyzer through an attenuator.</li> <li>2. According to the above figure 1, calculate the frequencies and limits for each section, and set up the limit</li> <li>3. Set the Spectrum Analyzer as below: RBW=1MHz, VBW=30kHz, Detector=Peak, Trace = max hold</li> <li>4. Record the test result.</li> </ol>

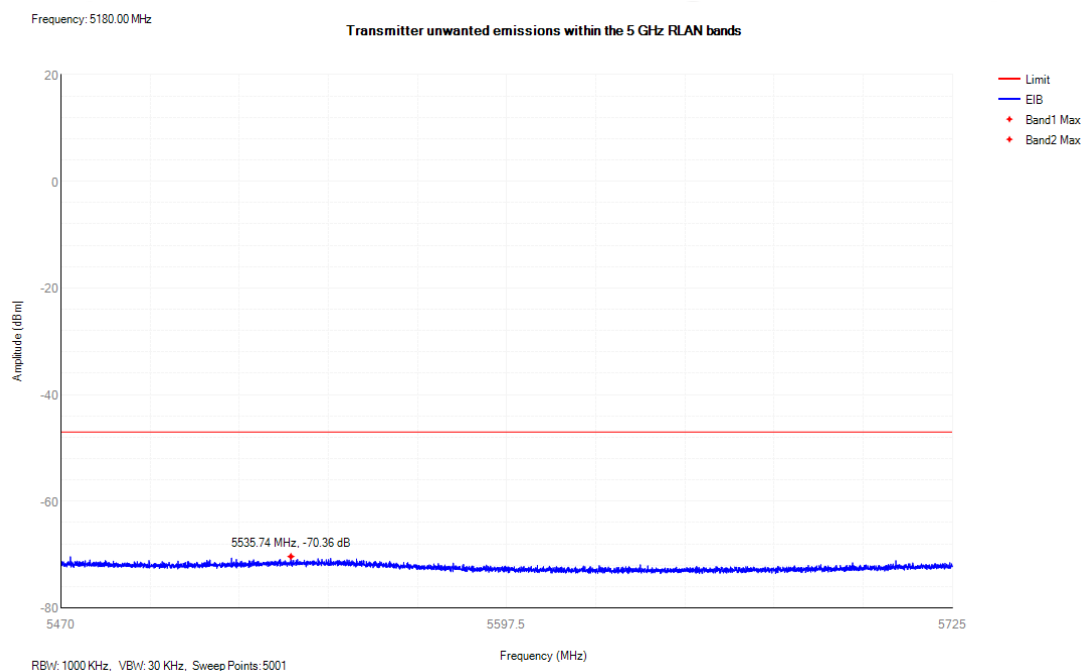
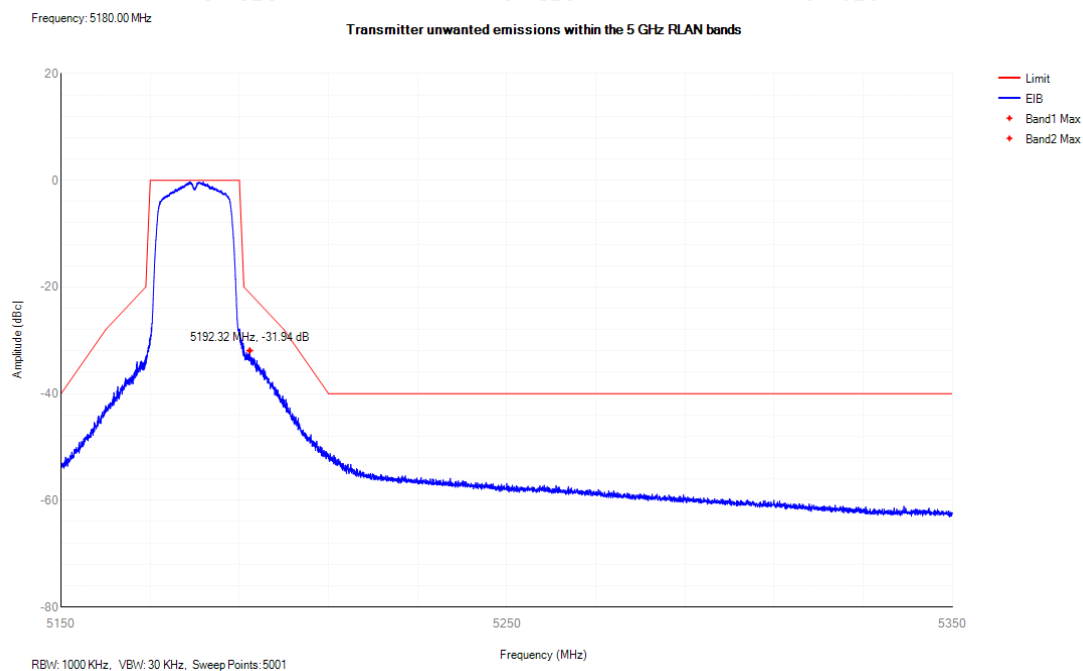


Test Instruments:	Refer to Item 3.3
Test Mode:	Transmitting mode
Test Result	PASS
Remark:	All modulations have been tested, The worst modulation reported only.

## 5.4.2.2. Test Data

### 802.11a Modulation

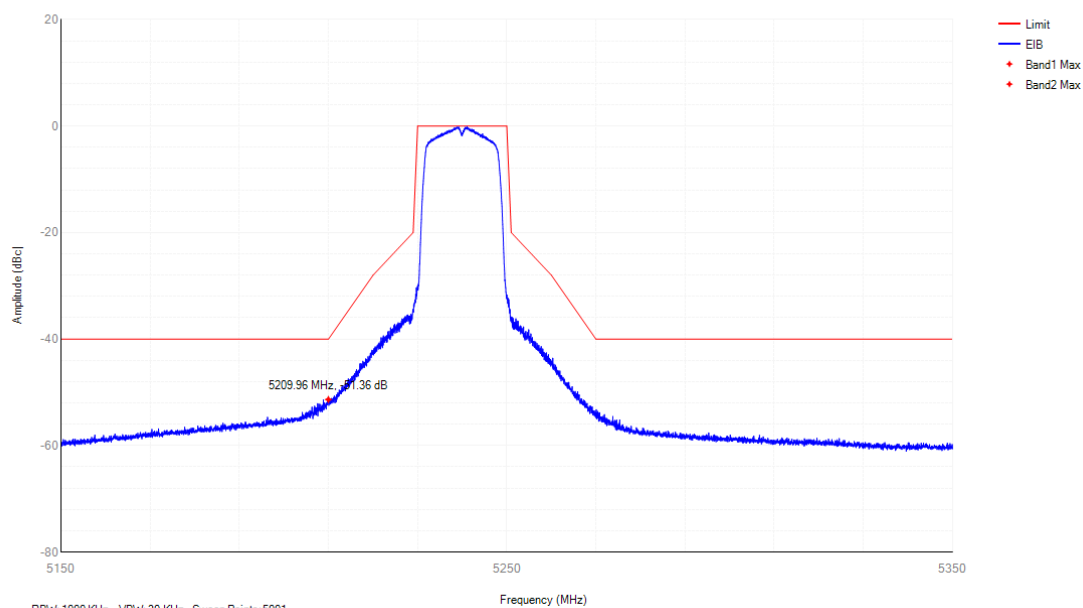
#### 5180MHz 802.11 a



## 5240MHz 802.11 a

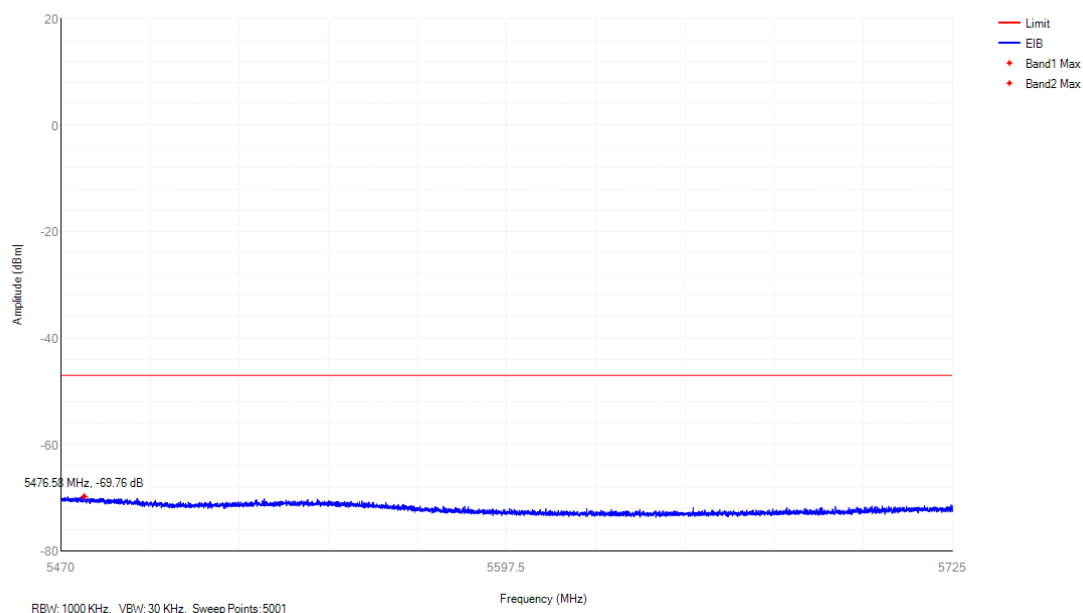
Frequency: 5240.00 MHz

Transmitter unwanted emissions within the 5 GHz WLAN bands



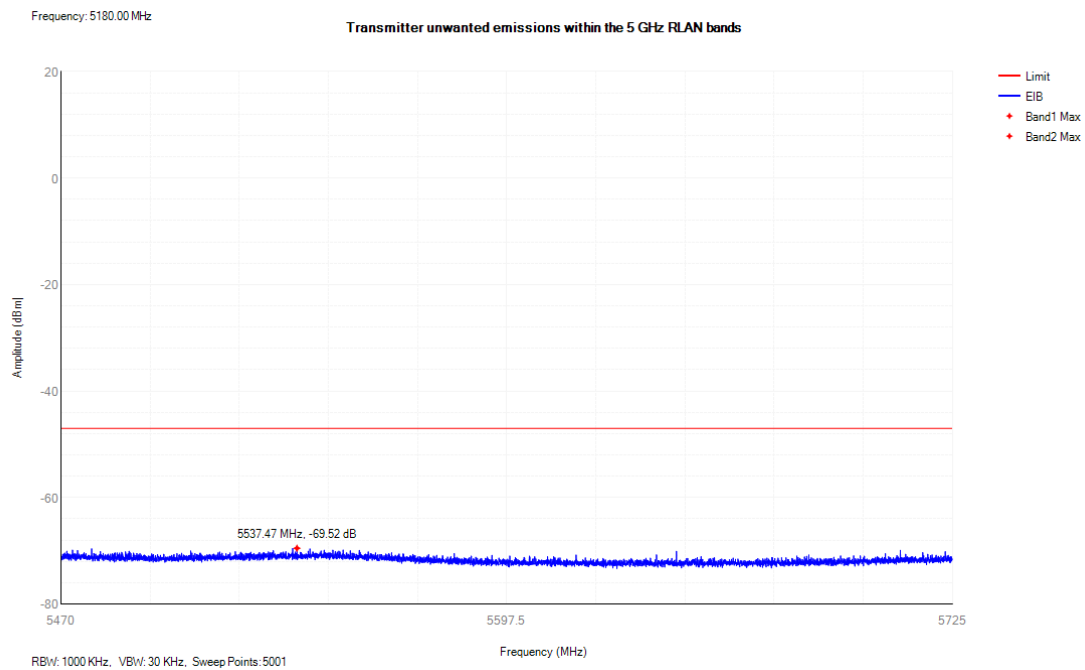
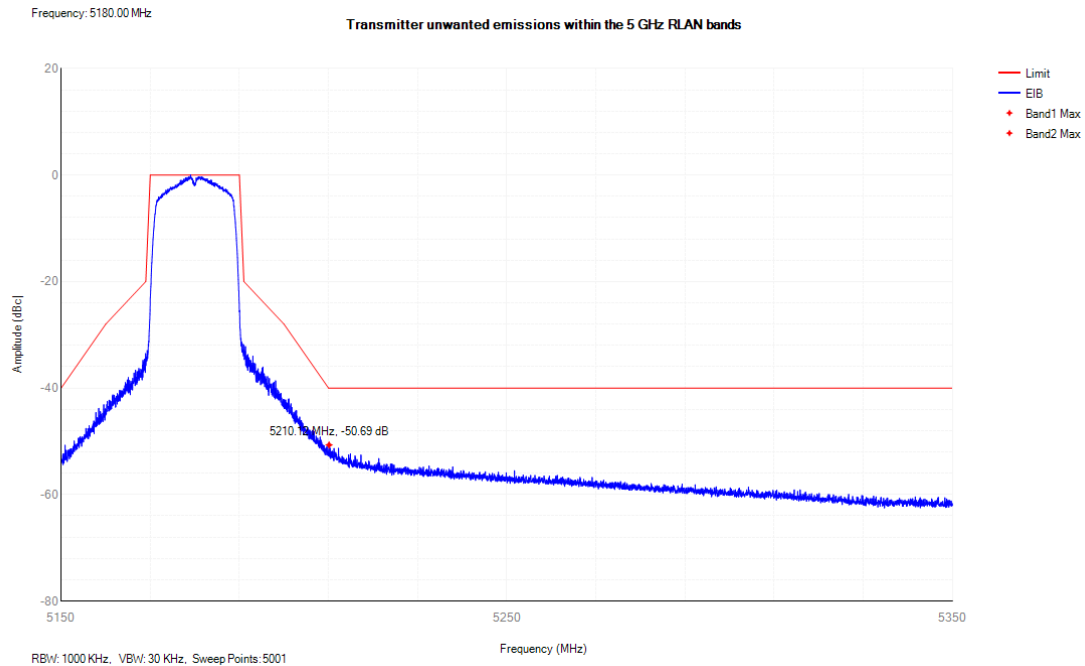
Frequency: 5240.00 MHz

Transmitter unwanted emissions within the 5 GHz WLAN bands



**802.11n-HT20 Modulation**

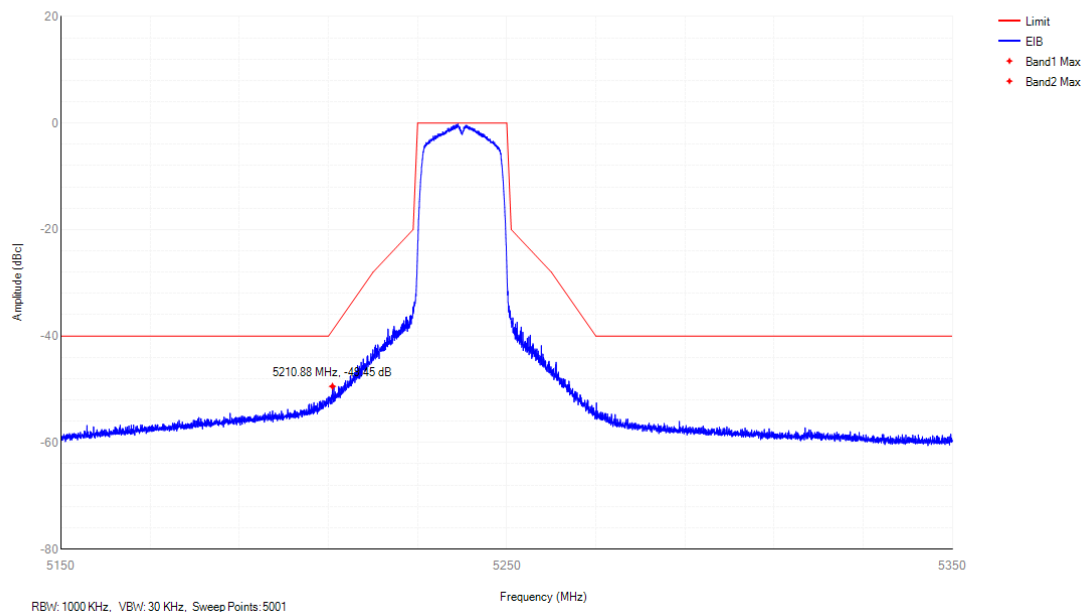
**5180MHz 802.11 n20**



5240MHz 802.11 n20

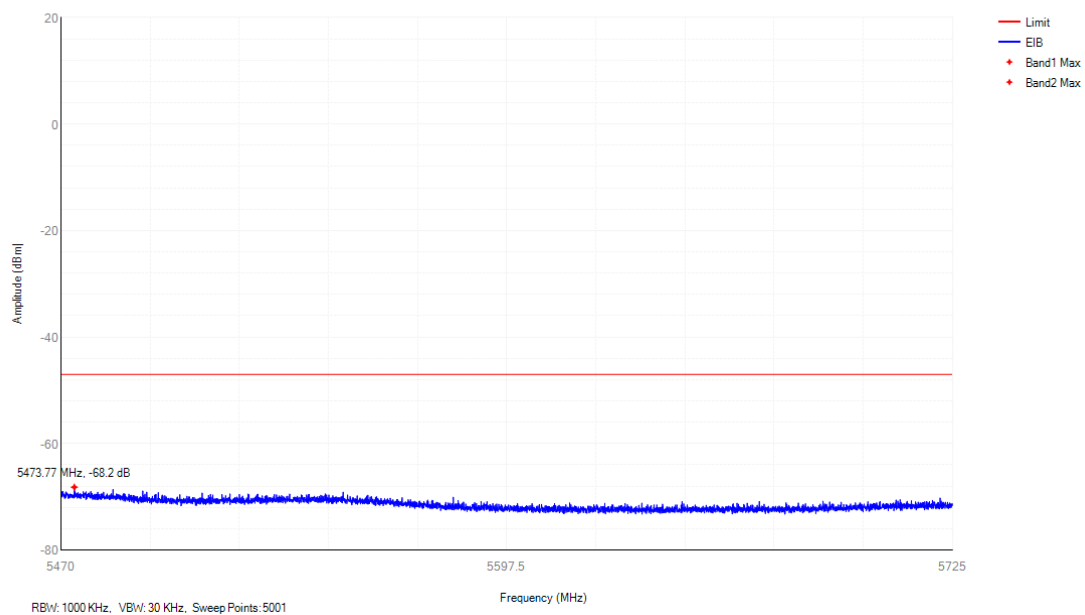
Frequency: 5240.00 MHz

Transmitter unwanted emissions within the 5 GHz WLAN bands



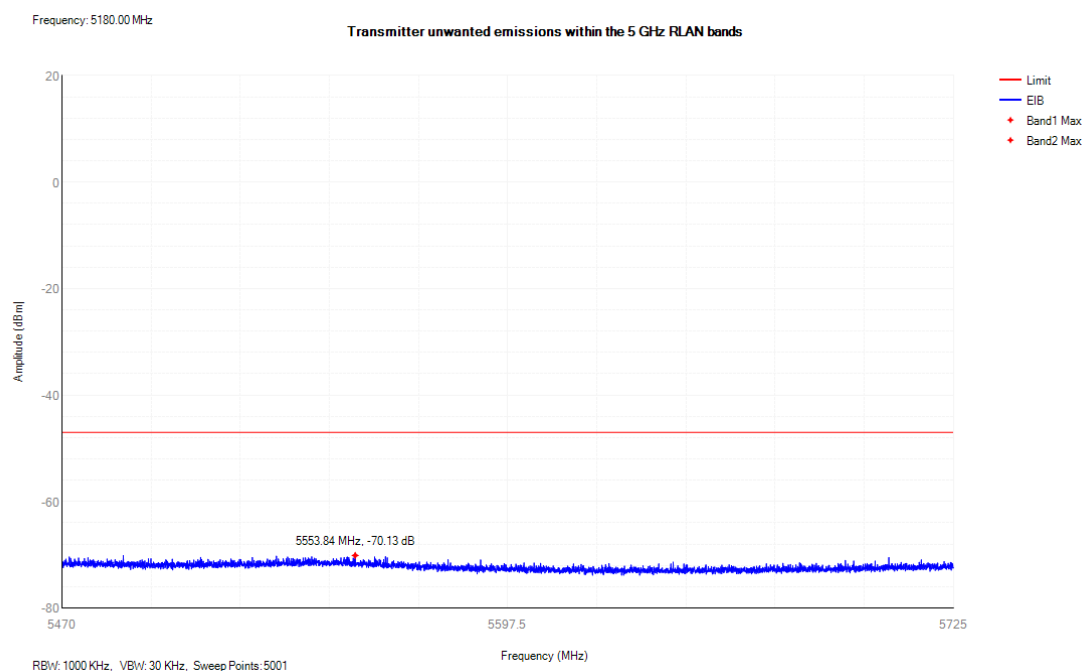
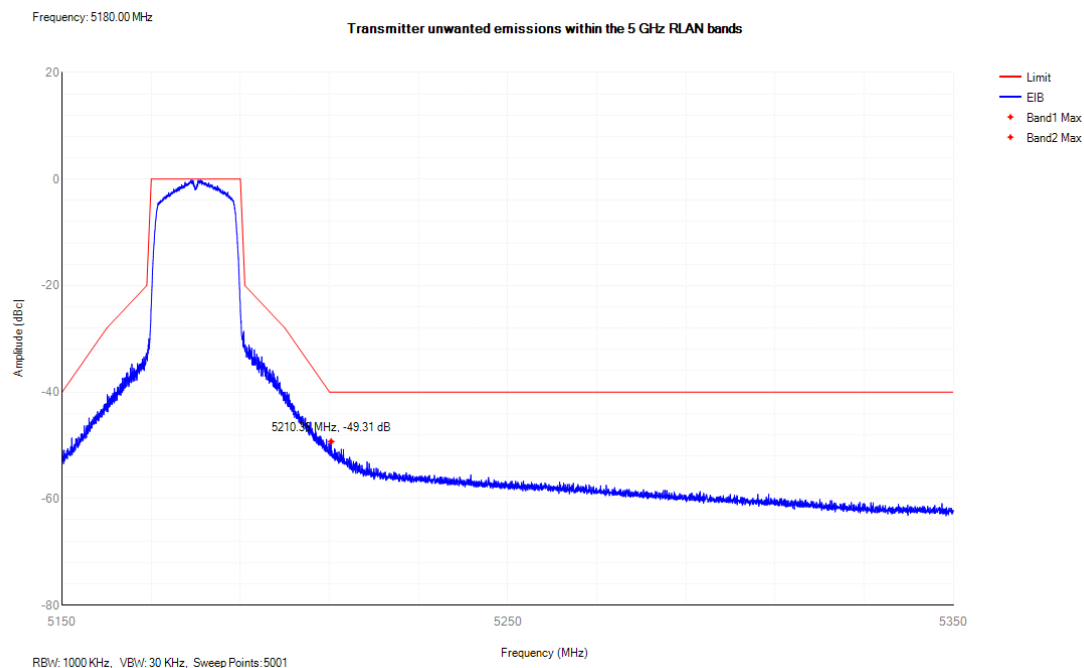
Frequency: 5240.00 MHz

Transmitter unwanted emissions within the 5 GHz WLAN bands



## 802.11ac-HT20 Modulation

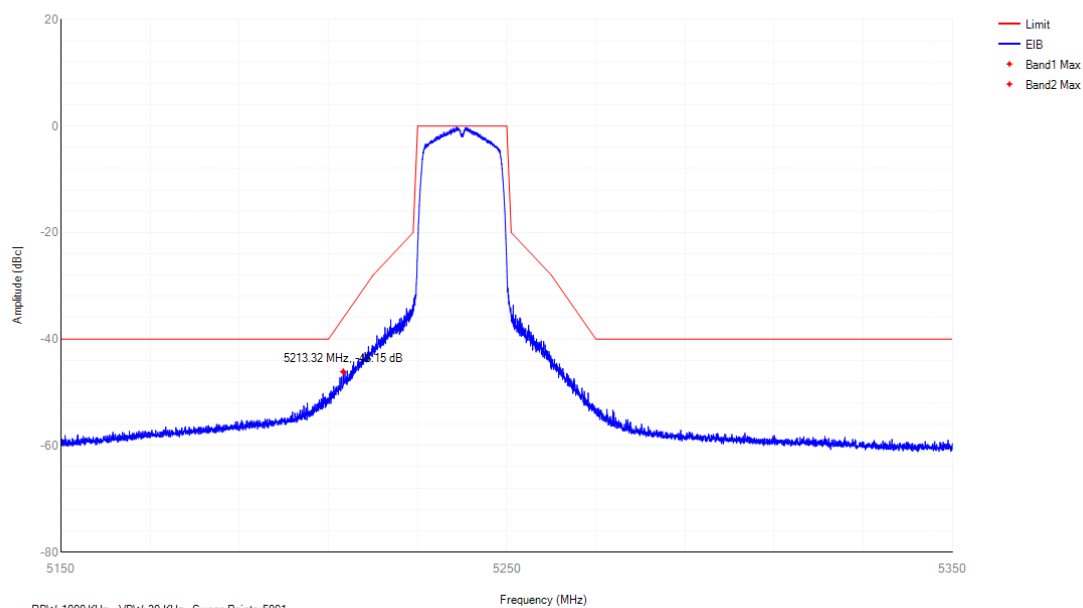
### 5180MHz 802.11 ac20



## 5240MHz 802.11 ac20

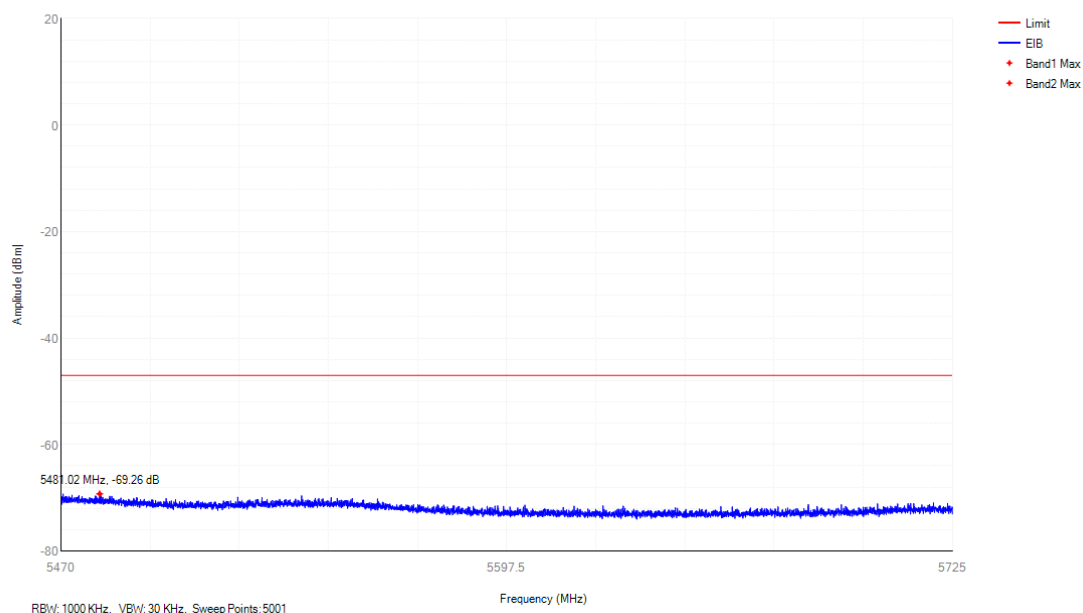
Frequency: 5240.00 MHz

Transmitter unwanted emissions within the 5 GHz WLAN bands



Frequency: 5240.00 MHz

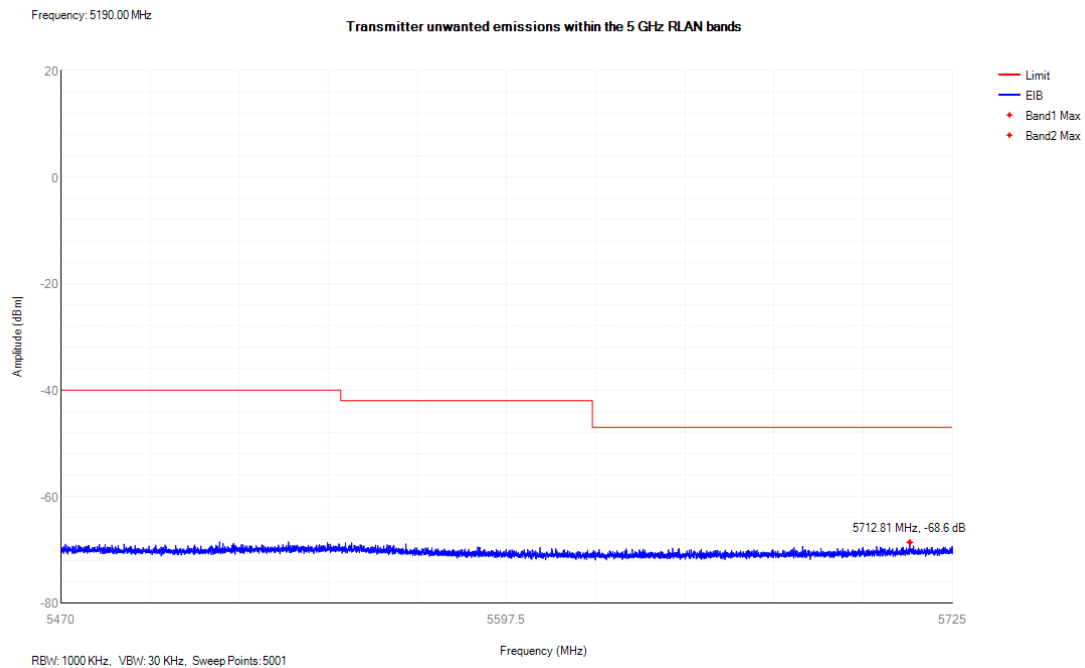
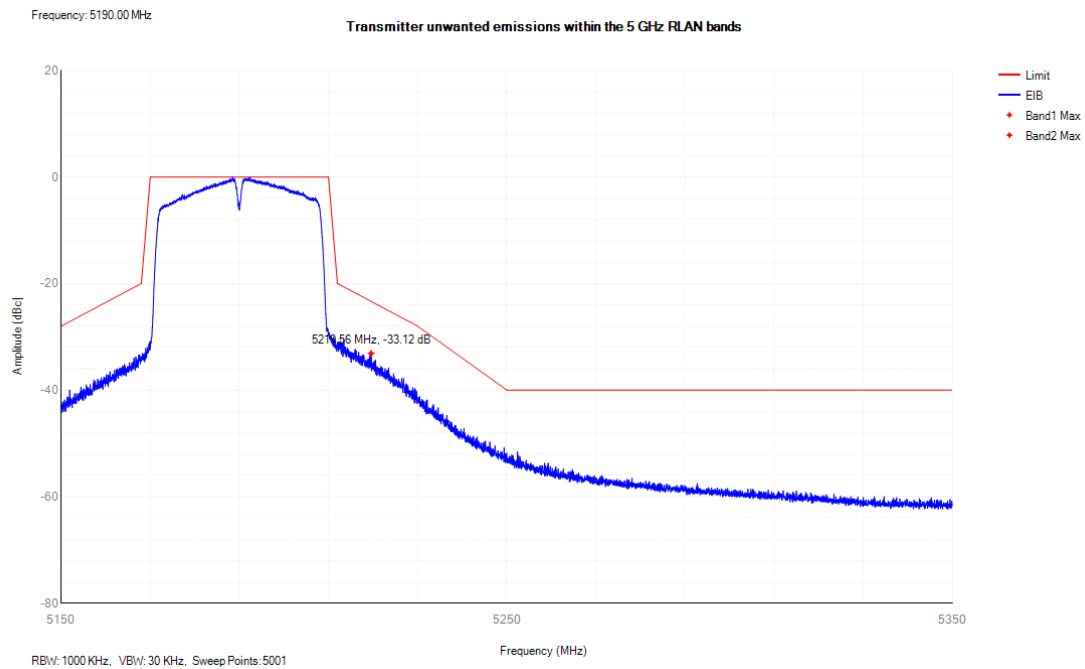
Transmitter unwanted emissions within the 5 GHz WLAN bands





**802.11n(HT40) Modulation**

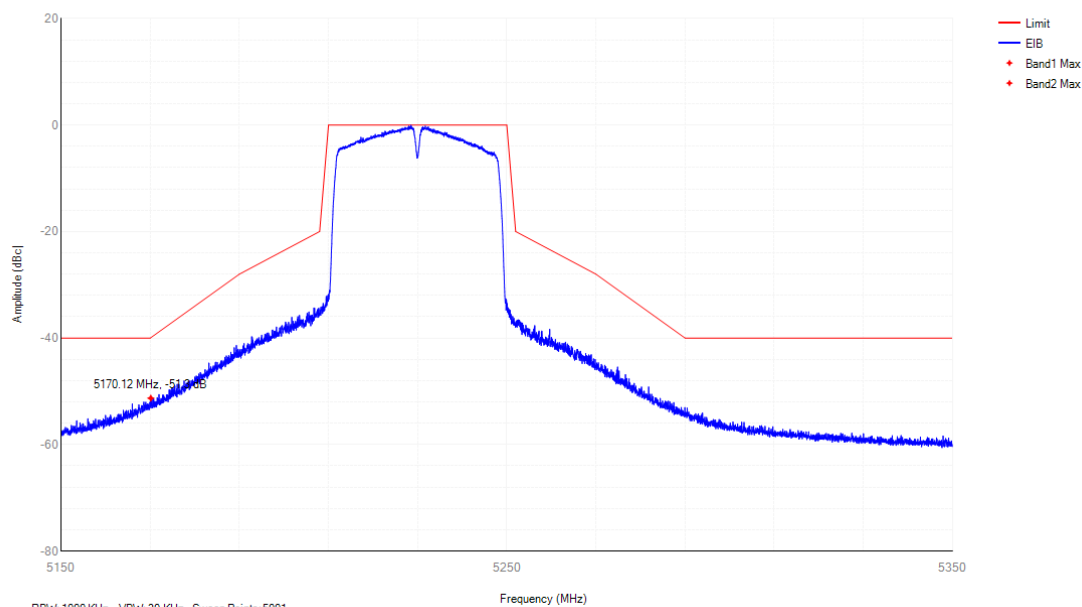
**5190MHz 802.11 n40**



## 5230MHz 802.11 n40

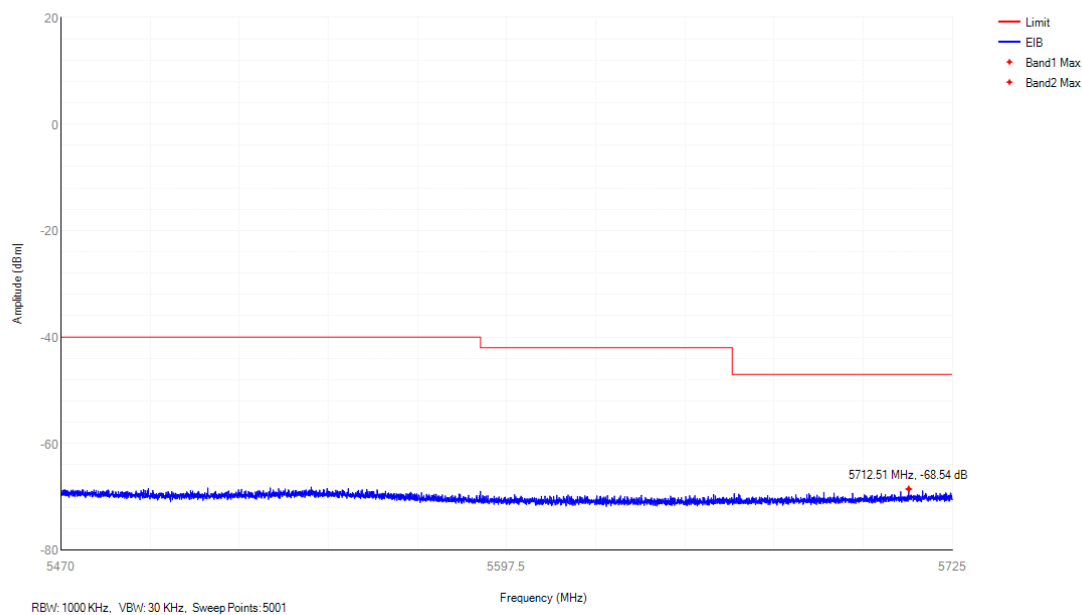
Frequency: 5230.00 MHz

Transmitter unwanted emissions within the 5 GHz RLAN bands



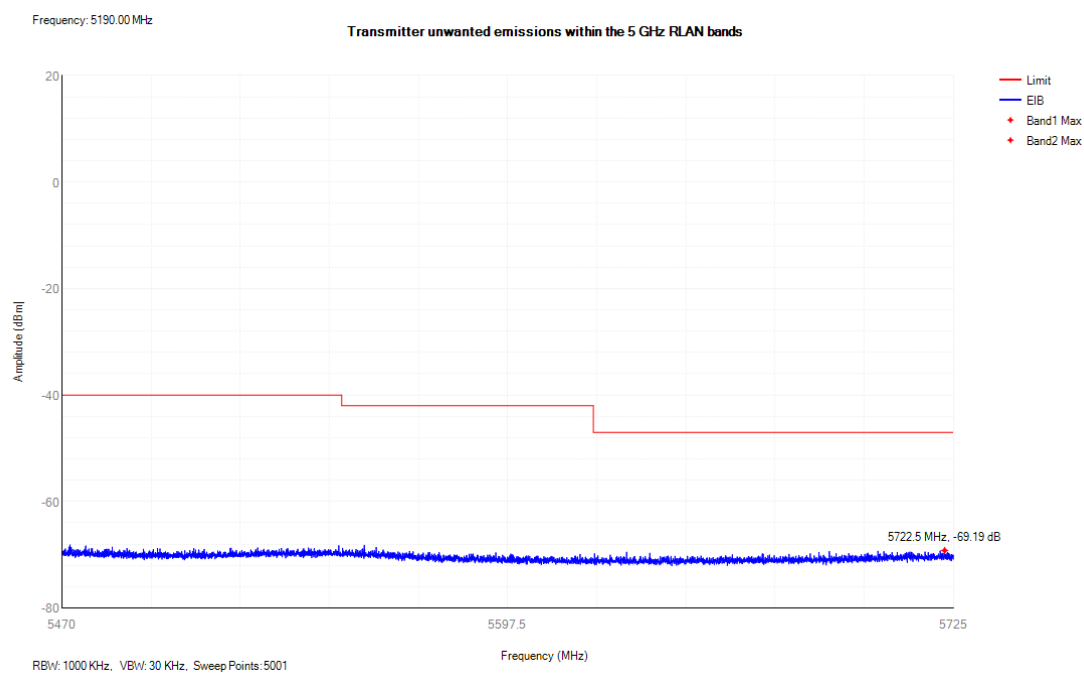
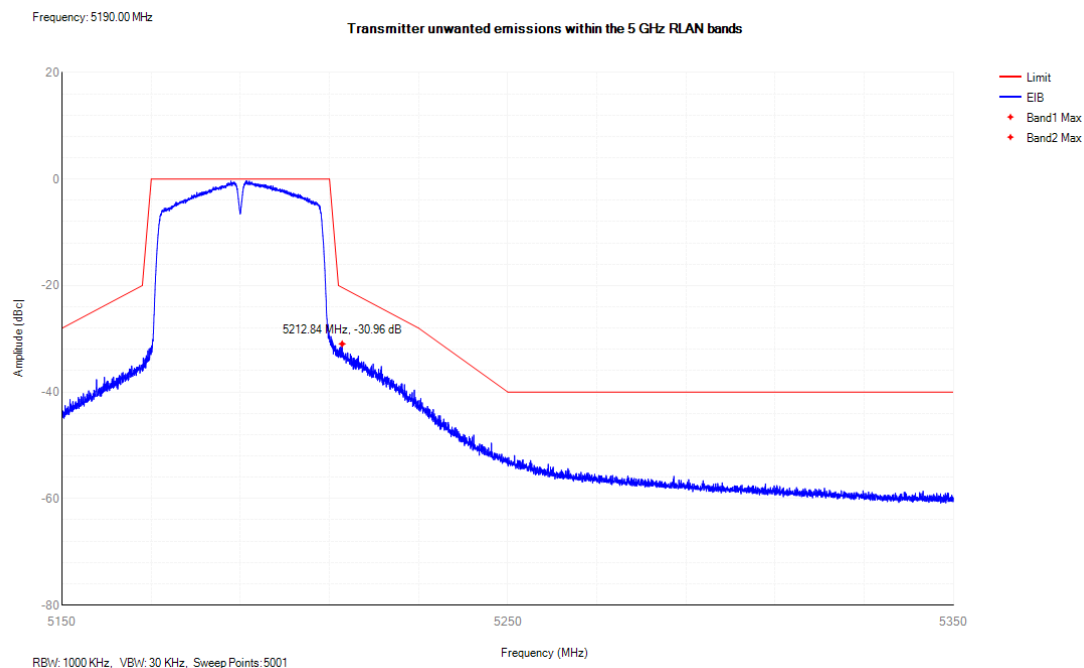
Frequency: 5230.00 MHz

Transmitter unwanted emissions within the 5 GHz RLAN bands



## 802.11ac(HT40) Modulation

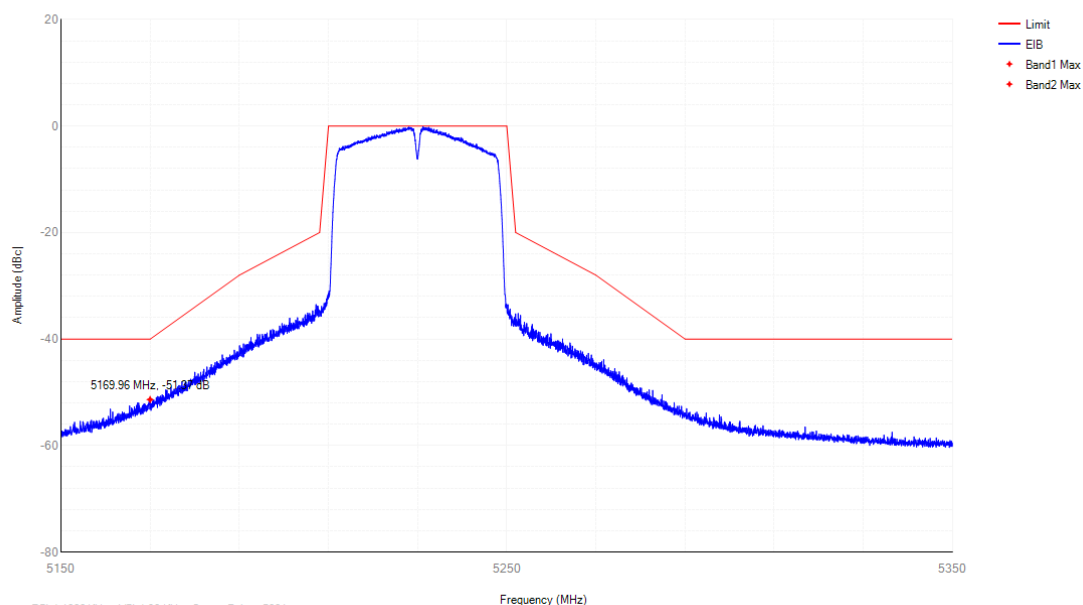
### 5190MHz 802.11 ac40



## 5230MHz 802.11 ac40

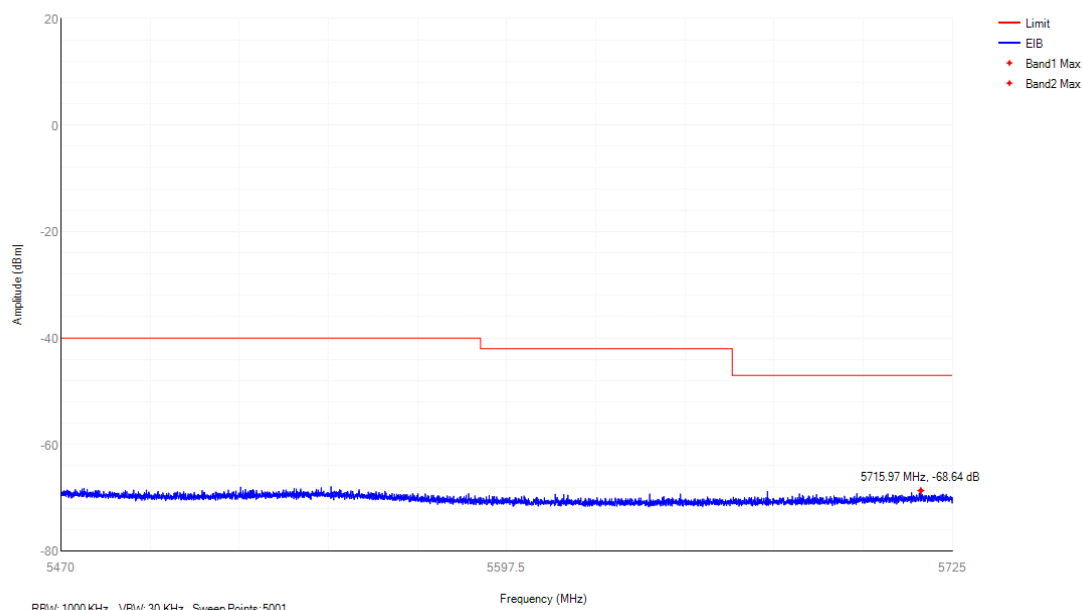
Frequency: 5230.00 MHz

Transmitter unwanted emissions within the 5 GHz WLAN bands



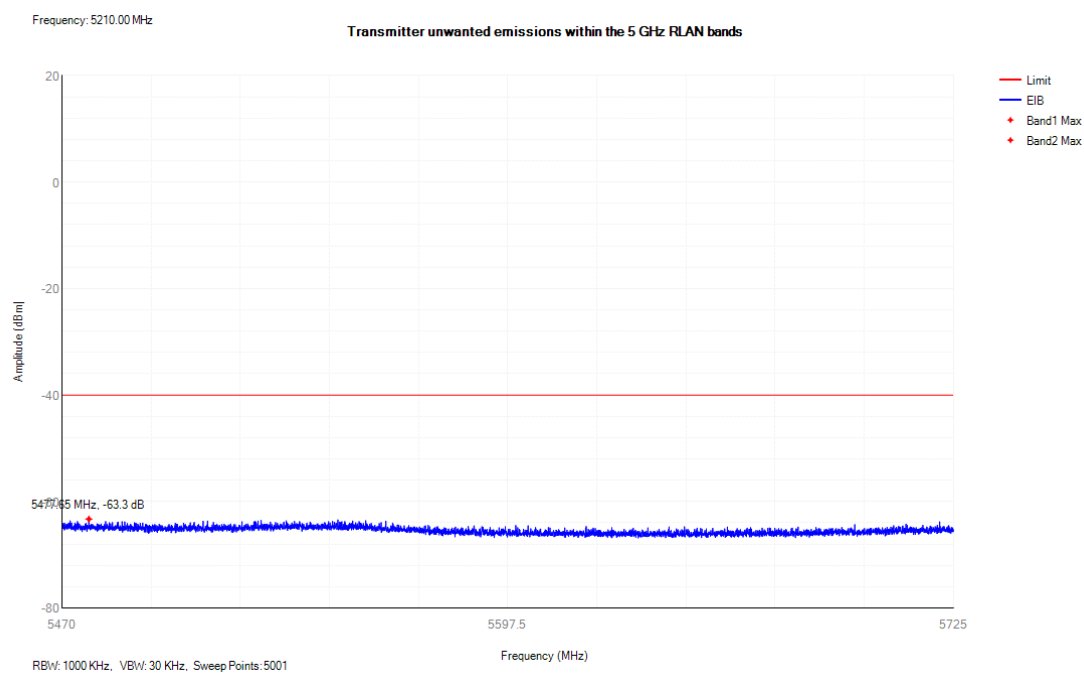
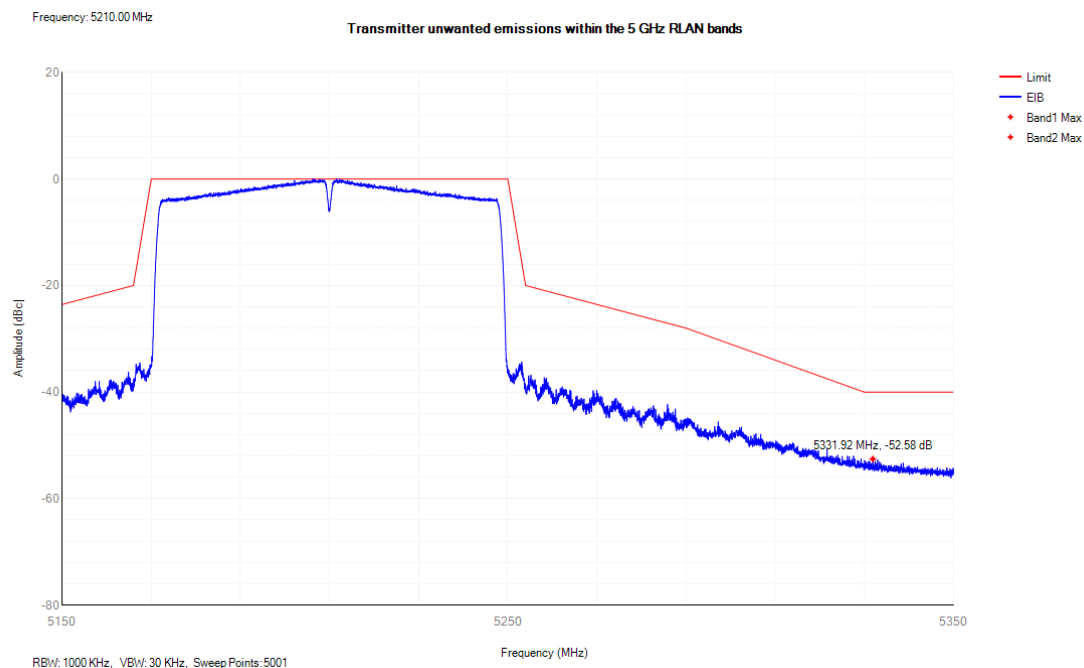
Frequency: 5230.00 MHz

Transmitter unwanted emissions within the 5 GHz WLAN bands



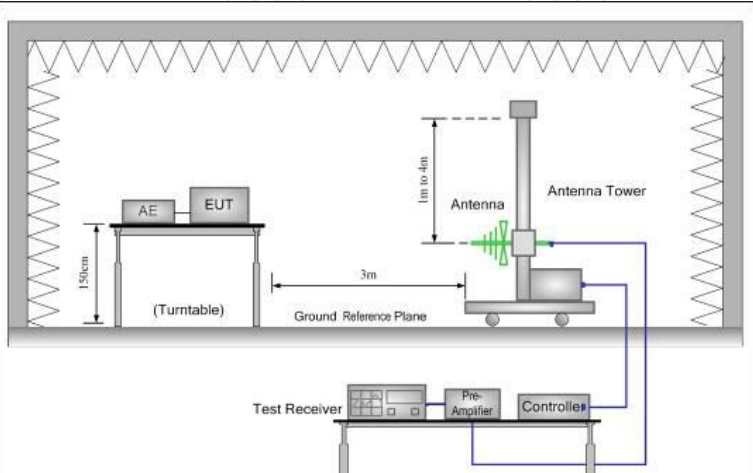
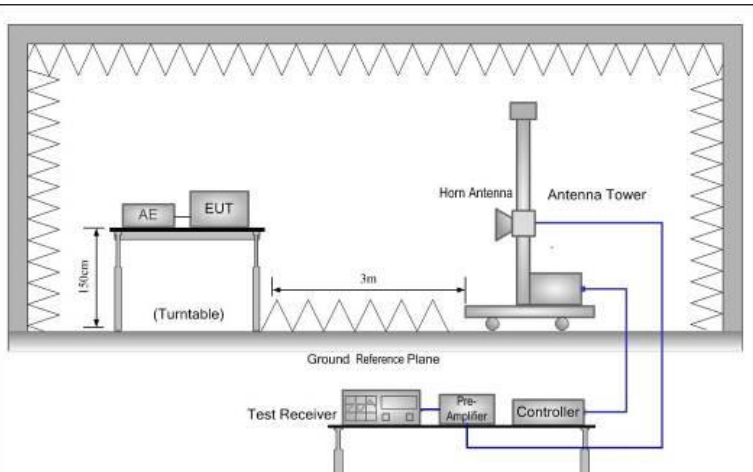
## 802.11ac (HT80) Modulation

### 5210MHz 802.11 ac80



## 5.5. Receiver spurious emissions

### 5.5.1. Test Specification

Test Requirement:	ETSI EN 301 893 clause 4.2.5												
Test Method:	ETSI EN 301 893 clause 5.3.7.2												
Limit:	<table><tr><th colspan="3">Table 5: Spurious radiated emission limits</th></tr><tr><th>Frequency range</th><th>Maximum power</th><th>Measurement bandwidth</th></tr><tr><td>30 MHz to 1 GHz</td><td>-57 dBm</td><td>100 kHz</td></tr><tr><td>1 GHz to 26 GHz</td><td>-47 dBm</td><td>1 MHz</td></tr></table>	Table 5: Spurious radiated emission limits			Frequency range	Maximum power	Measurement bandwidth	30 MHz to 1 GHz	-57 dBm	100 kHz	1 GHz to 26 GHz	-47 dBm	1 MHz
Table 5: Spurious radiated emission limits													
Frequency range	Maximum power	Measurement bandwidth											
30 MHz to 1 GHz	-57 dBm	100 kHz											
1 GHz to 26 GHz	-47 dBm	1 MHz											
Test Setup:	<div><div><div>For Radiated Below 1GHz</div><div></div></div><div><div>Above 1GHz</div><div></div></div></div>												
Test Mode:	Receive Mode												
Test Procedure:	<div><div>Below 1GHz test procedure:</div><div><div>1. On the test site as test setup graph above, the EUT shall be placed at the 1.5m support on the turntable and in the position closest to normal use as declared by the provider.</div><div>2. The test antenna shall be oriented initially for vertical polarization and shall be chosen to correspond to the frequency of the transmitter. The output of the test antenna</div></div></div>												

- shall be connected to the measuring receiver.
3. The transmitter shall be switched on, if possible, without modulation under test.
  4. The test antenna shall be raised and lowered from 1m to 4m until a maximum signal level is detected by the measuring receiver. Then the turntable should be rotated through 360° in the horizontal plane, until the maximum signal level is detected by the measuring receiver.
  5. Repeat step 4 for test frequency with the test antenna polarized horizontally.
  6. Remove the transmitter and replace it with a substitution antenna (the antenna should be half-wavelength for each frequency involved).
  7. The center of the substitution antenna should be approximately at the same location as the center of the transmitter. At the lower frequencies, where the substitution antenna is very long, this will be impossible to achieve when the antenna is polarized vertically. In such case the lower end of the antenna should be 0.4 m above the ground.
  8. Feed the substitution antenna at the transmitter end with a signal generator connected to the antenna by means of a Non-radiating cable. With the antennas at both ends vertically polarized, and with the signal generator tuned to a particular test frequency, raise and lower the test antenna to obtain a maximum reading at the spectrum analyzer. Adjust the level of the signal generator output until the previously recorded maximum reading for this set of conditions is obtained. This should be done carefully repeating the adjustment of the test antenna and generator output.
  9. Repeat step 7 with both antennas horizontally polarized for each test frequency.
  10. Calculate power in dBm into a reference ideal half-wave dipole antenna by reducing the readings obtained in steps 7 and 8 by the power loss in the cable between the generator and the antenna, and further corrected for the gain of the substitution antenna used relative to an ideal half-wave dipole antenna by the following formula:  
$$\text{ERP(dBm)} = \text{Pg(dBm)} - \text{cable loss (dB)} + \text{antenna gain (dBd)}$$
where: Pg is the generator output power into the substitution antenna.

**Above 1GHz test procedure:**

	Different between above is the test site, change from Semi-Anechoic Chamber to fully Anechoic Chamber, and the test antenna do not need to raise from 1 to 4m, just test in 1.5m height.
Test Instrument:	Refer to Item 3.3
Test Result:	PASS
Remark:	All modulations have been tested, The worst modulation reported only.



## 5.5.2. Test Data

### 802.11a Modulation

5200MHz				
Frequency (MHz)	Spurious Emission		Limit dBm(EIRP)	Test Result
	polarization	Level dBm(EIRP)		
356.14	Vertical	-84.18	-57.00	PASS
1545.47	V	-60.92	-47.00	
10400.0	V	-61.15	-47.00	
-	V	-	-	
356.14	Horizontal	-84.73	-57.00	
1545.47	H	-61.65	-47.00	
10400.0	H	-61.93	-47.00	
-	H	-	-	

### 802.11n (HT20) Modulation

5200MHz				
Frequency (MHz)	Spurious Emission		Limit dBm(EIRP)	Test Result
	polarization	Level dBm(EIRP)		
355.87	Vertical	-86.21	-57.00	PASS
1539.25	V	-60.36	-47.00	
10400.0	V	-61.27	-47.00	
-	V	-	-	
355.87	Horizontal	-86.83	-57.00	
1539.25	H	-61.19	-47.00	
10400.0	H	-62.16	-47.00	
-	H	-	-	

**802.11ac (HT20) Modulation**

5200MHz				
Frequency (MHz)	Spurious Emission		Limit dBm(EIRP)	Test Result
	polarization	Level dBm(EIRP)		
355.47	Vertical	-81.91	-57.00	PASS
1537.52	V	-57.35	-47.00	
10400.0	V	-58.22	-47.00	
-	V	-	-	
355.47	Horizontal	-82.29	-57.00	
1537.52	H	-58.25	-47.00	
10400.0	H	-58.79	-47.00	
-	H	-	-	

**802.11n (HT40) Modulation**

5190MHz				
Frequency (MHz)	Spurious Emission		Limit dBm(EIRP)	Test Result
	polarization	Level dBm(EIRP)		
363.42	Vertical	-79.56	-57.00	PASS
1537.06	V	-60.02	-47.00	
10380.0	V	-61.17	-47.00	
-	V	-	-	
363.42	Horizontal	-80.21	-57.00	
1537.06	H	-60.62	-47.00	
10380.0	H	-61.76	-47.00	
-	H	-	-	

**802.11ac (HT40) Modulation**

5190MHz				
Frequency (MHz)	Spurious Emission		Limit dBm(EIRP)	Test Result
	polarization	Level dBm(EIRP)		
362.14	Vertical	-86.12	-57.00	PASS
1536.71	V	-57.74	-47.00	
10380.0	V	-58.36	-47.00	
-	V	-	-	
362.14	Horizontal	-86.75	-57.00	
1536.71	H	-58.62	-47.00	
10380.0	H	-59.13	-47.00	
-	H	-	-	

**802.11ac (HT80) Modulation**

5210MHz				
Frequency (MHz)	Spurious Emission		Limit dBm(EIRP)	Test Result
	polarization	Level dBm(EIRP)		
363.82	Vertical	-79.64	-57.00	PASS
1526.74	V	-52.55	-47.00	
10420.0	V	-53.29	-47.00	
-	V	-	-	
363.82	Horizontal	-79.77	-57.00	
1526.74	H	-53.28	-47.00	
10420.0	H	-54.09	-47.00	
-	H	-	-	

## 5.6. Dynamic Frequency Selection (DFS)

### 5.6.1. Test Specification

<b>Test Requirement:</b>	ETSI EN 301 893 clause 4.2.6														
<b>Test Method:</b>	ETSI EN 301 893 clause 5.3.7.2														
<b>Limit:</b>	<table border="1"> <thead> <tr> <th>Parameter</th><th>Value</th></tr> </thead> <tbody> <tr> <td>Channel Availability Check Time</td><td>60 s (see note 1)</td></tr> <tr> <td>Minimum Off-Channel CAC Time</td><td>6 minutes (see note 2)</td></tr> <tr> <td>Maximum Off-Channel CAC Time</td><td>4 hours (see note 2)</td></tr> <tr> <td>Channel Move Time</td><td>10 s</td></tr> <tr> <td>Channel Closing Transmission Time</td><td>1 s</td></tr> <tr> <td>Non-Occupancy Period</td><td>30 minutes</td></tr> </tbody> </table> <p>NOTE 1: For channels whose nominal bandwidth falls completely or partly within the band 5 600 MHz to 5 650 MHz, the <i>Channel Availability Check Time</i> shall be 10 minutes.</p> <p>NOTE 2: For channels whose nominal bandwidth falls completely or partly within the band 5 600 MHz to 5 650 MHz, the <i>Off-Channel CAC Time</i> shall be within the range 1 hour to 24 hours.</p>	Parameter	Value	Channel Availability Check Time	60 s (see note 1)	Minimum Off-Channel CAC Time	6 minutes (see note 2)	Maximum Off-Channel CAC Time	4 hours (see note 2)	Channel Move Time	10 s	Channel Closing Transmission Time	1 s	Non-Occupancy Period	30 minutes
Parameter	Value														
Channel Availability Check Time	60 s (see note 1)														
Minimum Off-Channel CAC Time	6 minutes (see note 2)														
Maximum Off-Channel CAC Time	4 hours (see note 2)														
Channel Move Time	10 s														
Channel Closing Transmission Time	1 s														
Non-Occupancy Period	30 minutes														
<b>Test Setup:</b>	<p style="text-align: center;"><b>Figure 5: Set-up A</b></p>														
<b>Test Procedure:</b>	Refer to ETSI EN 301 893 clause 5.4.8.2														
<b>Test Instrument:</b>	Refer to Item 3.3														
<b>Test Result:</b>	Not required for channels whose nominal bandwidth falls Completely within the band 5150 MHz to 5250 MHz.														

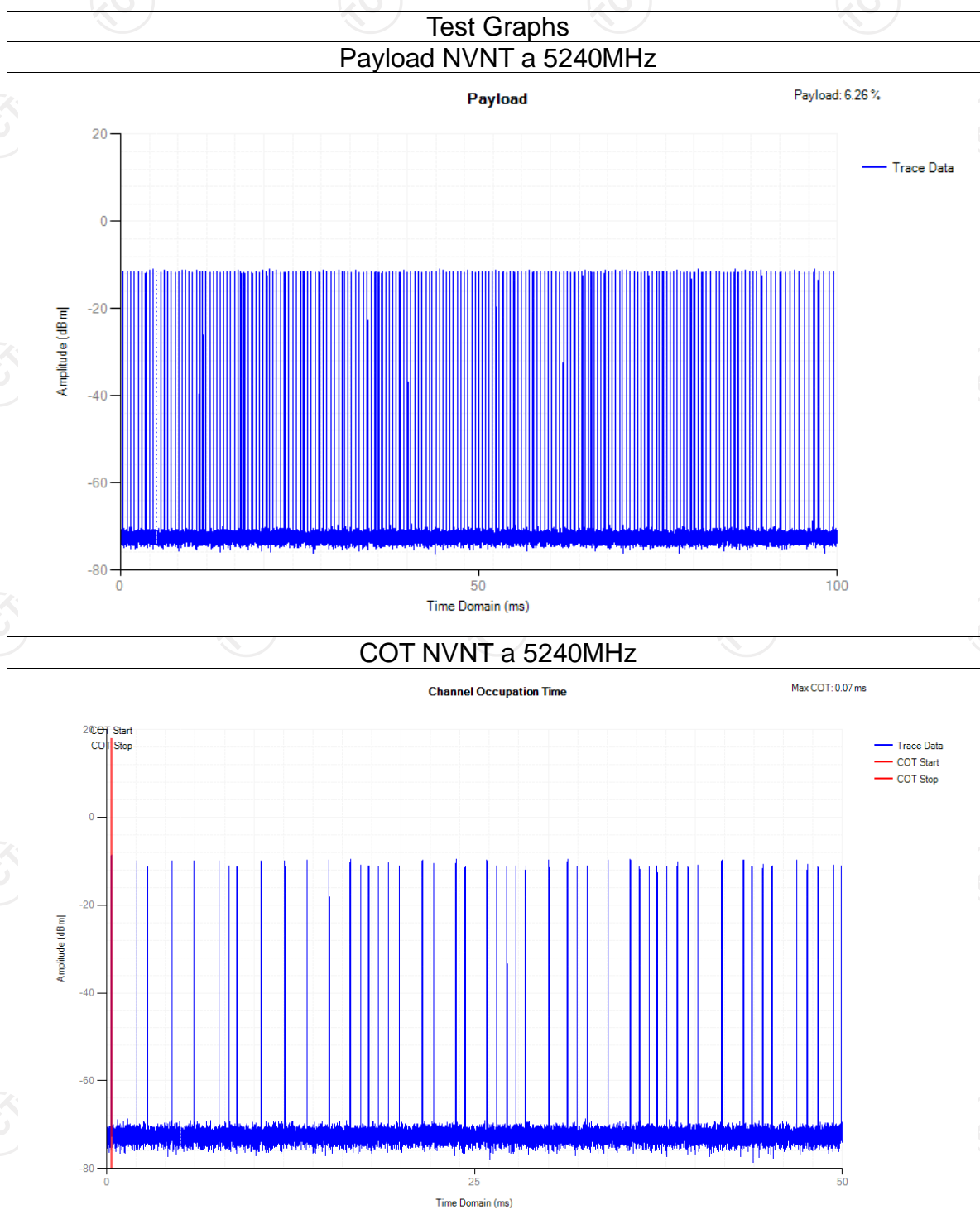
## 5.7. Adaptivity (Channel Access Mechanism)

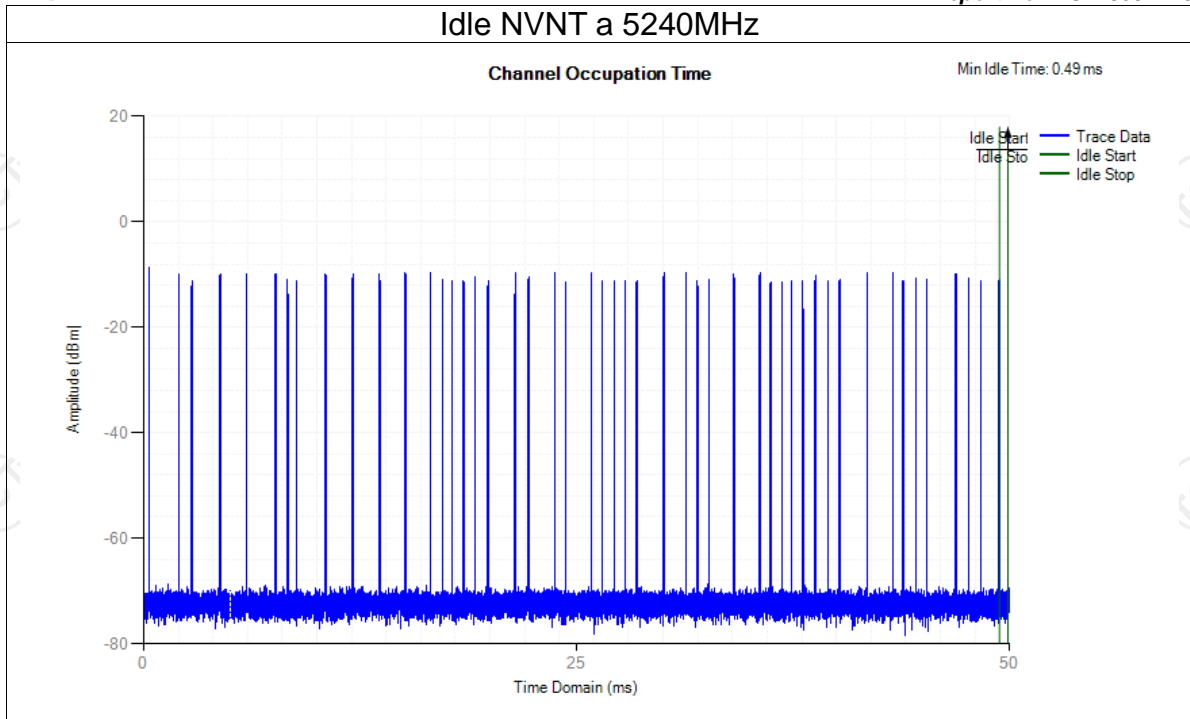
### 5.7.1. Test Specification

<b>Test Requirement:</b>	ETSI EN 301 893 clause 4.2.7
<b>Test Method:</b>	ETSI EN 301 893 clause 5.4.9.3
<b>Limit:</b>	<p>The use of Short Control Signalling Transmissions is constrained as follows:</p> <ul style="list-style-type: none"> <li>• within an observation period of 50 ms, the number of Short Control Signalling Transmissions by the equipment shall be equal to or less than 50; and</li> <li>• the total duration of the equipment's Short Control Signalling Transmissions shall be less than 2 500 <math>\mu</math>s within said observation period.</li> </ul>
<b>Test Setup:</b>	<p>Figure 16: Example Test Set-up for verifying the adaptivity of an equipment</p>
<b>Test Procedure:</b>	Refer to ETSI EN 301 893 clause 5.4.9.3
<b>Test Instrument:</b>	Refer to Item 3.3
<b>Test Result:</b>	PASS
<b>Remark:</b>	All modulations have been tested, The worst modulation reported only.

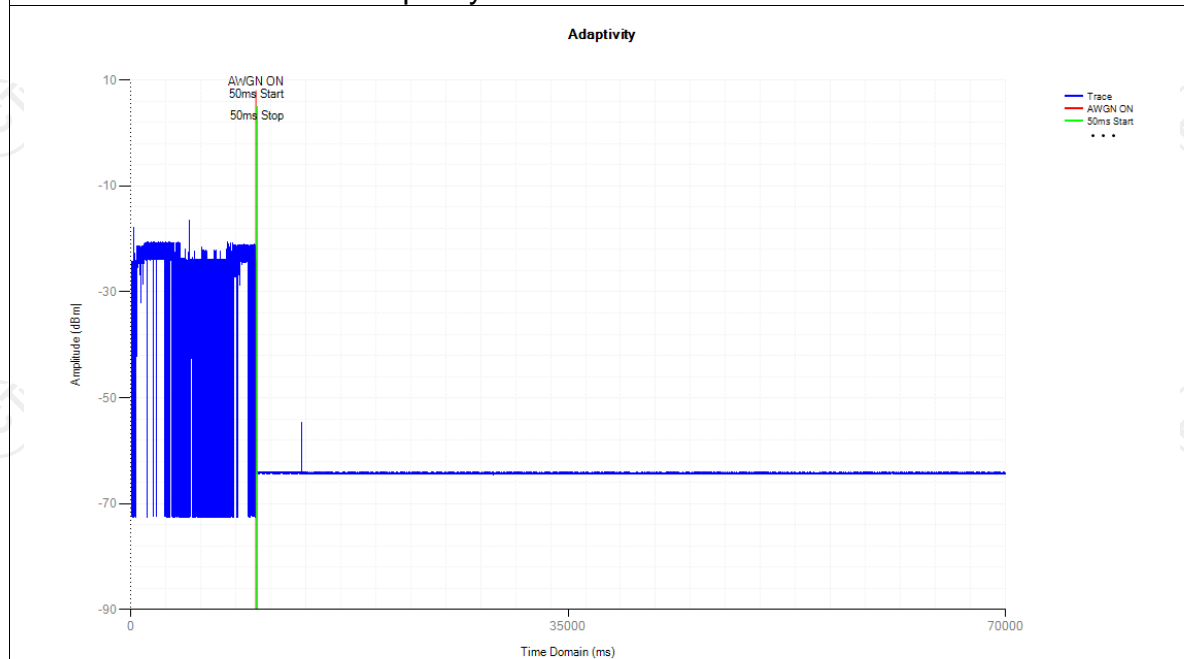
## 5.7.2. Test Data

Test Mode			802.11a			
Channel	Frequency (MHz)	Interference Level (dBm)	Max COT (ms)	Min Idle Time (ms)	Short transmission (ms)	Result
48	5240	-61.41	0.07	0.49	0	PASS

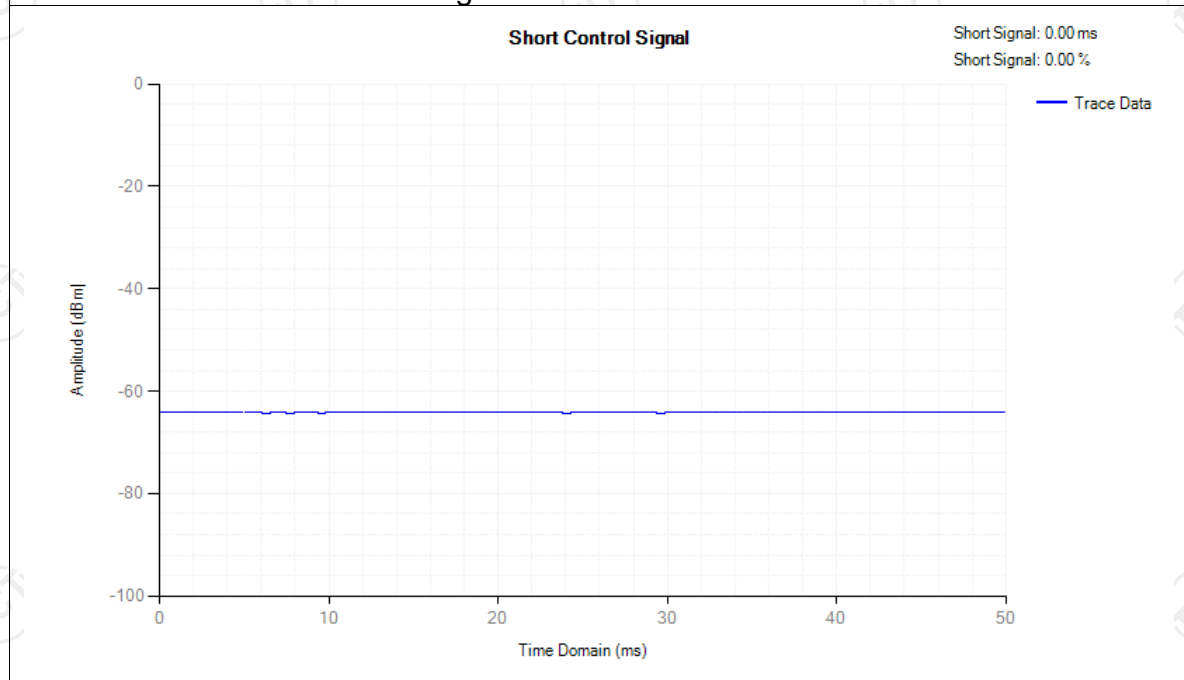




### Adaptivity NVNT a 5240MHz AWGN

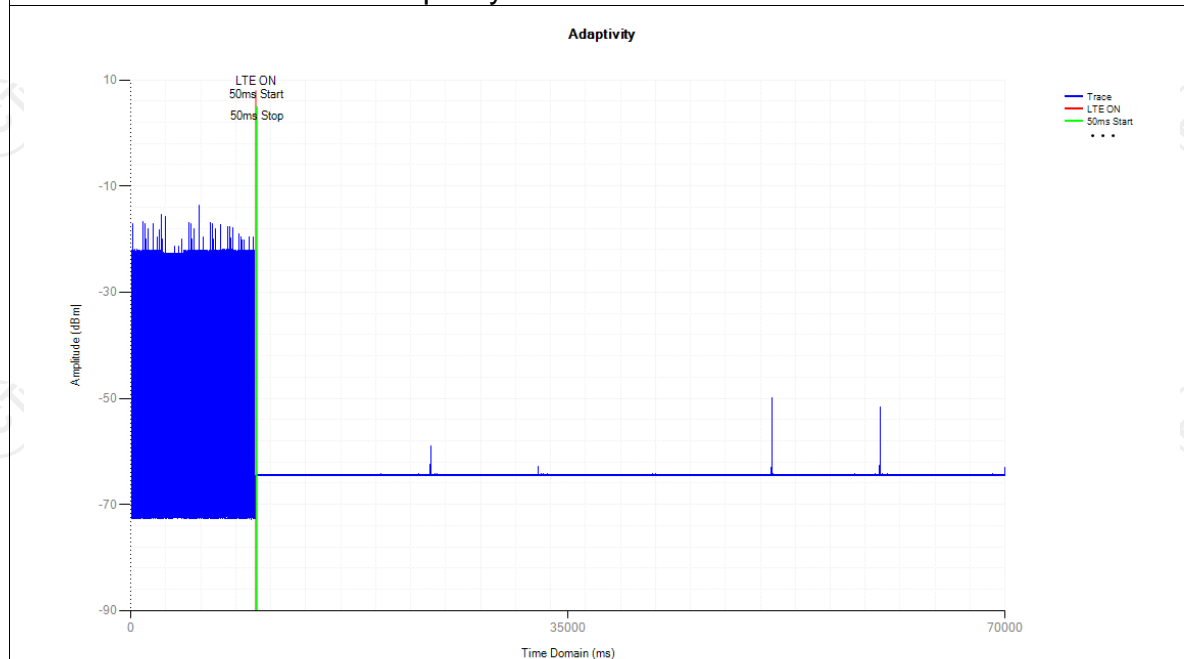


### Control Signal NVNT a 5240MHz AWGN

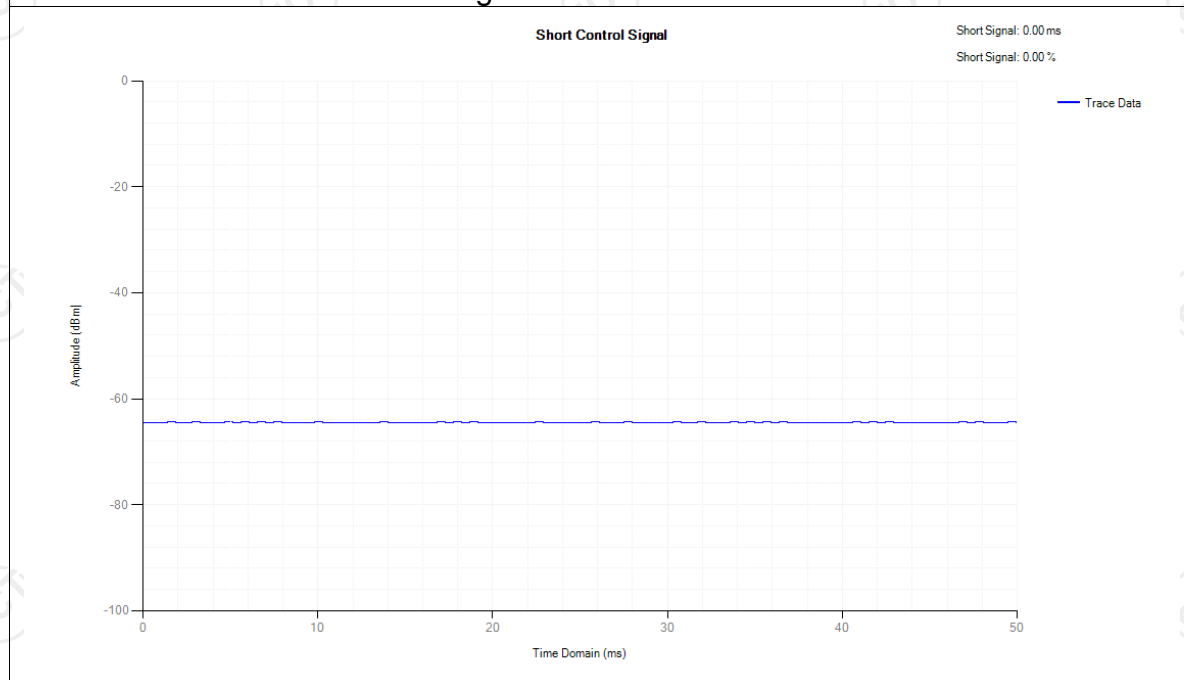




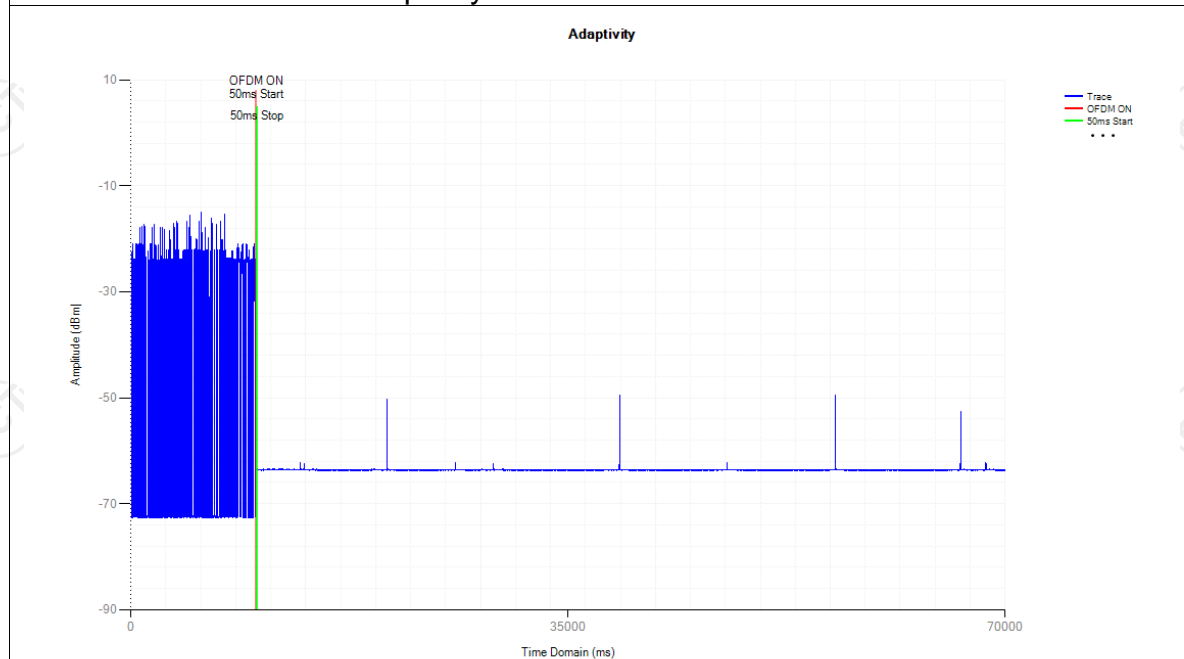
### Adaptivity NVNT a 5240MHz LTE



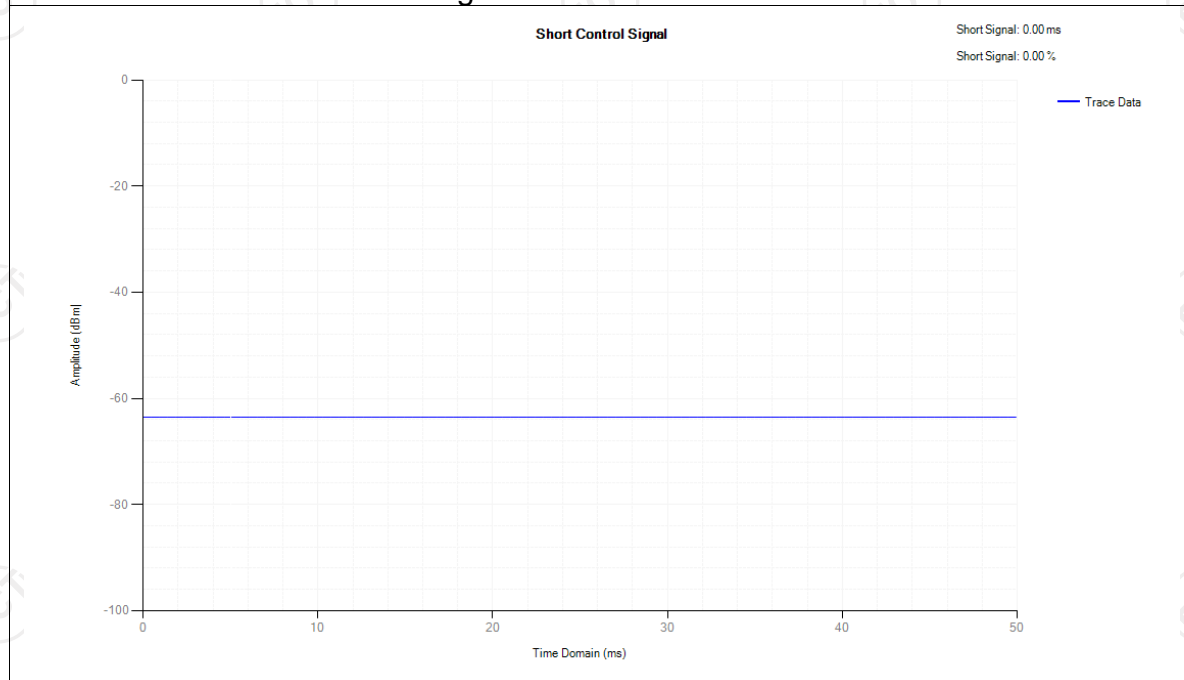
### Control Signal NVNT a 5240MHz LTE



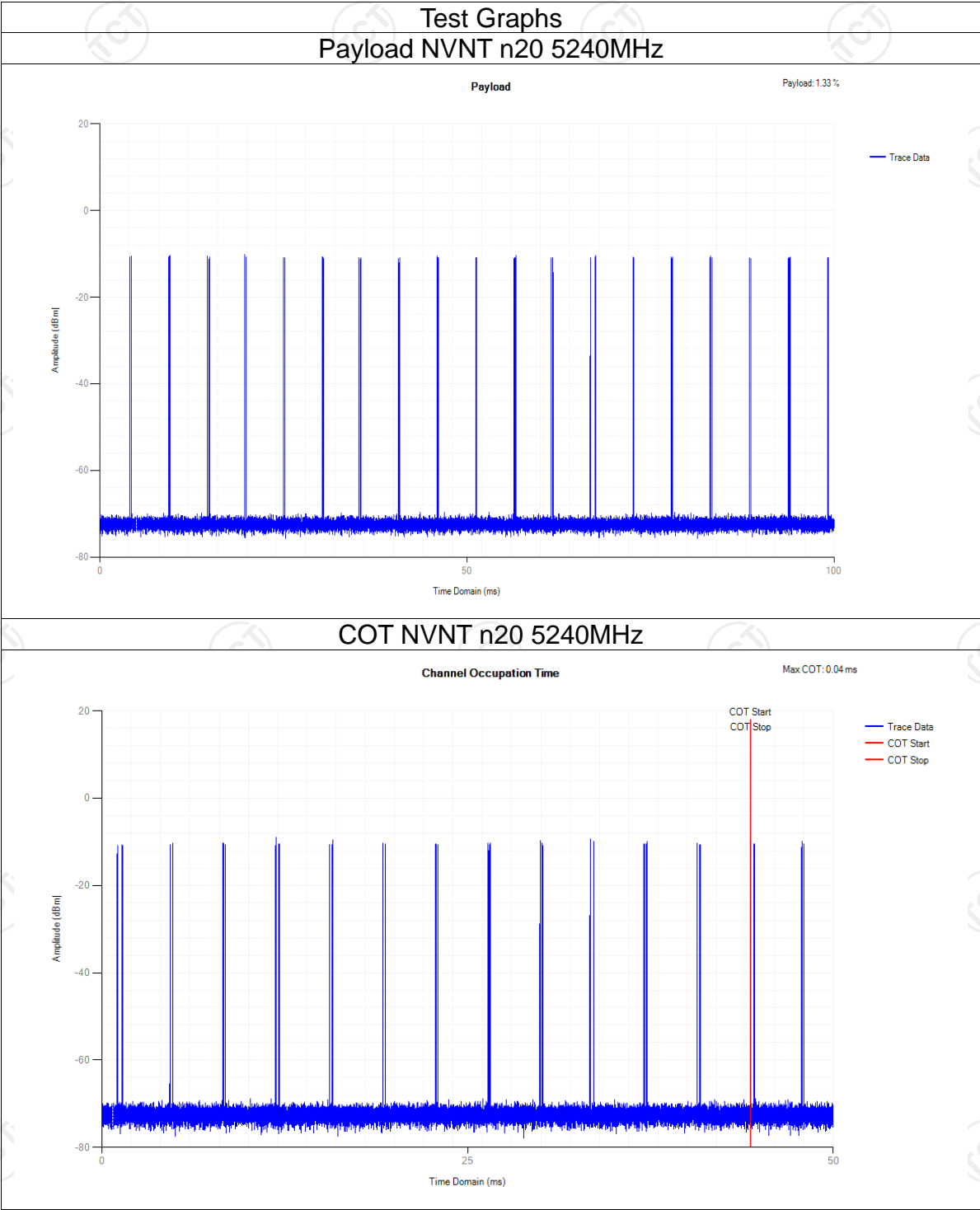
### Adaptivity NVNT a 5240MHz OFDM

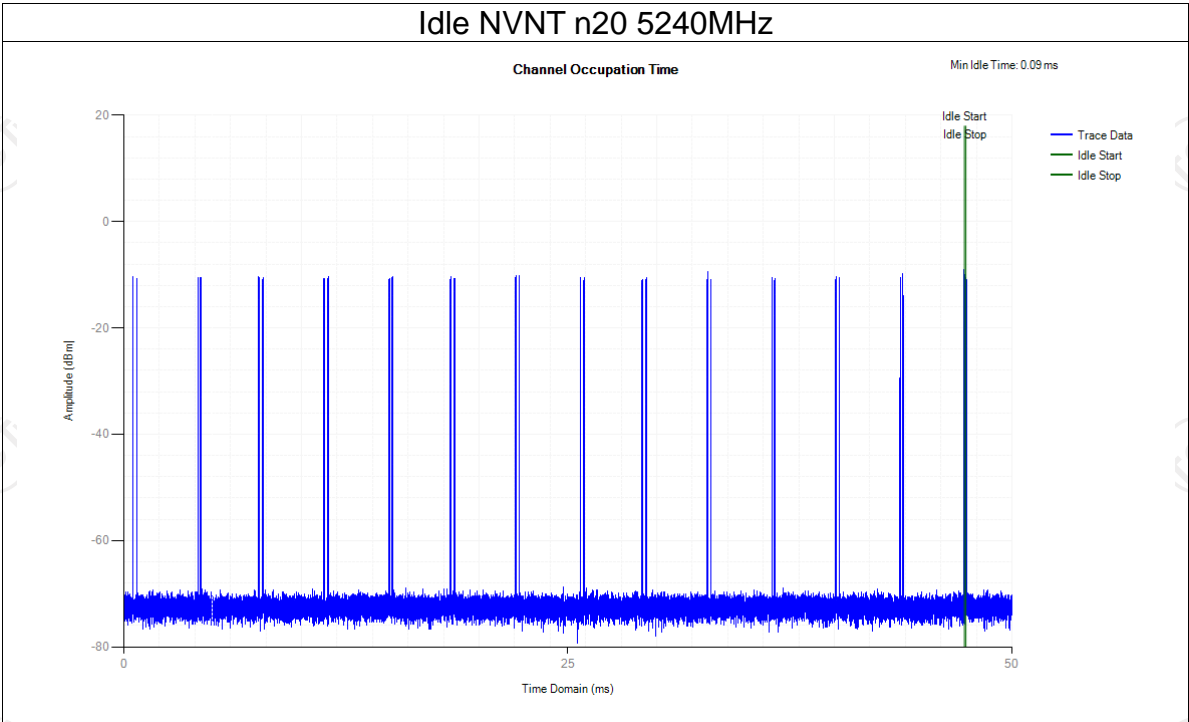


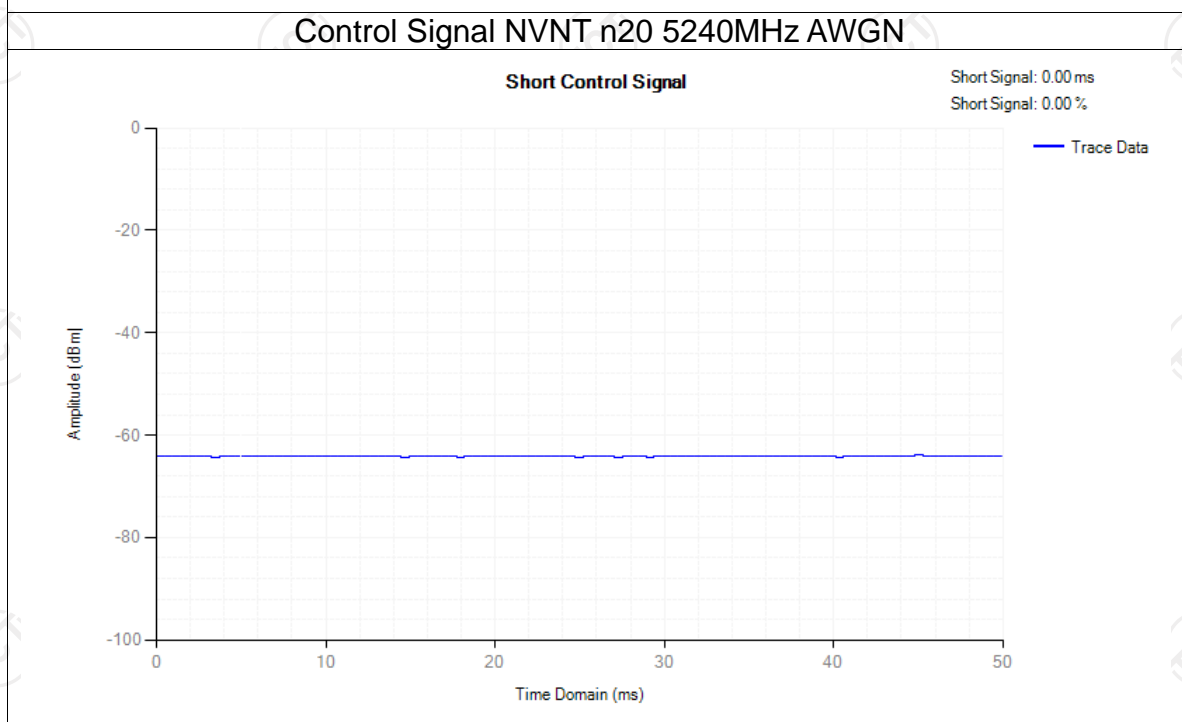
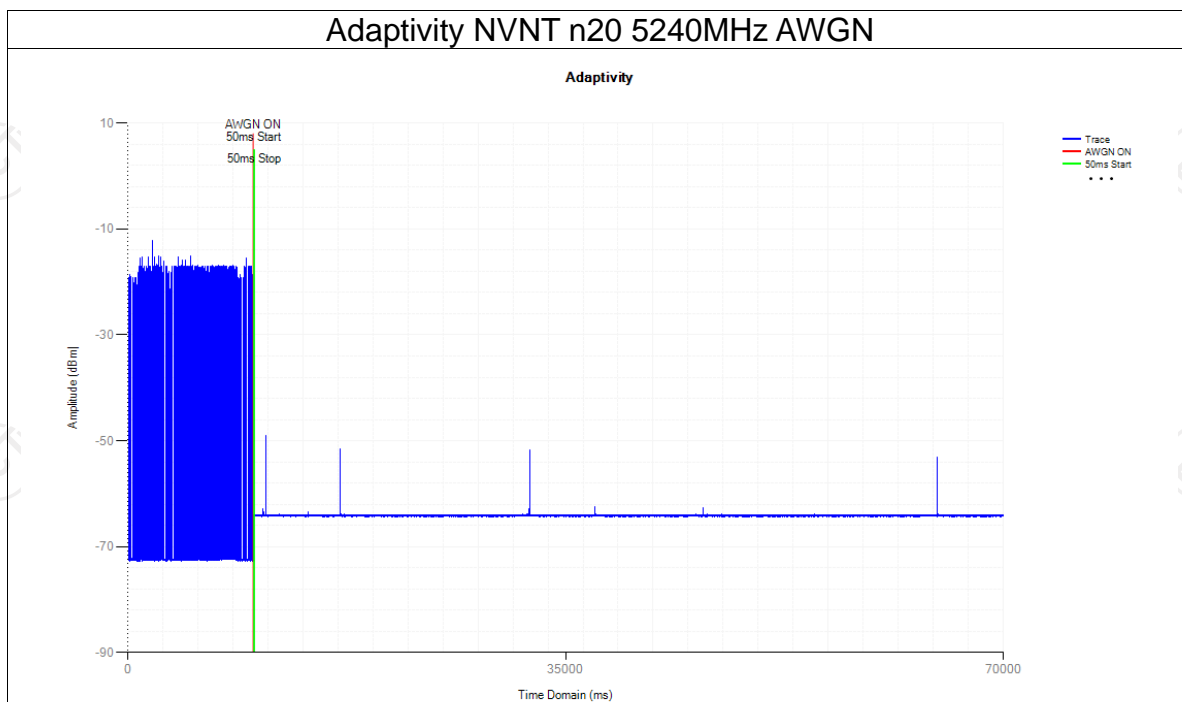
### Control Signal NVNT a 5240MHz OFDM



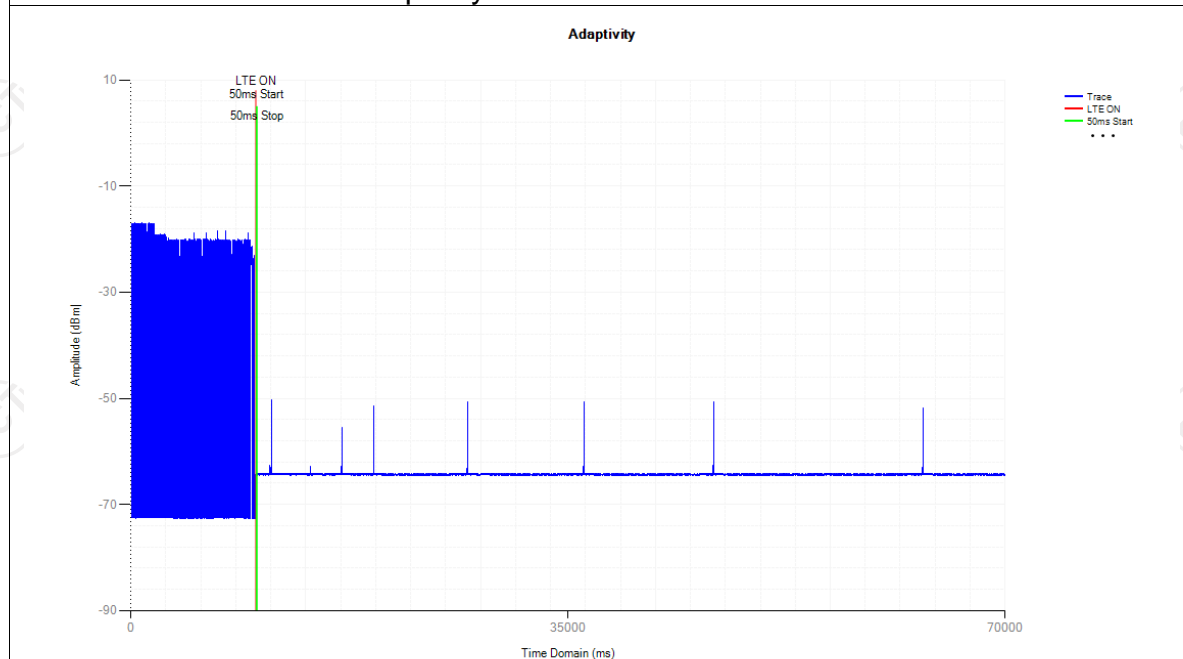
Test Mode			802.11n(HT20)			
Channel	Frequency (MHz)	Interference Level (dBm)	Max COT (ms)	Min Idle Time (ms)	Short transmission (ms)	Result
36	5180	-60.57	0.04	0.09	0	PASS



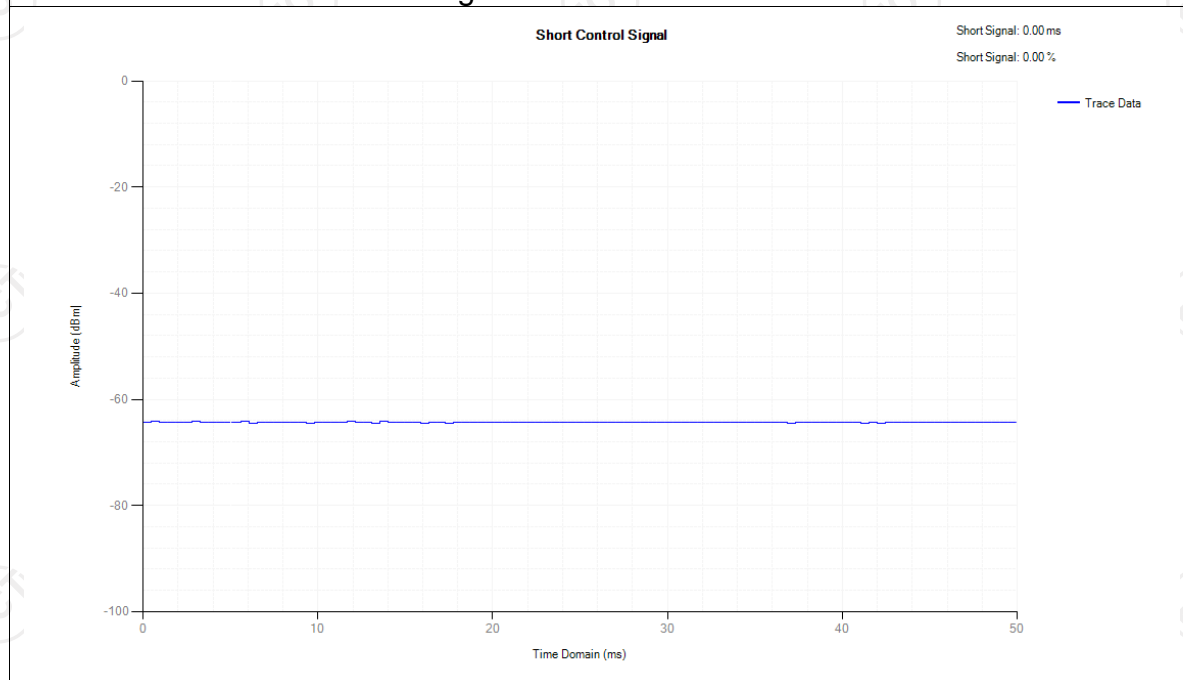




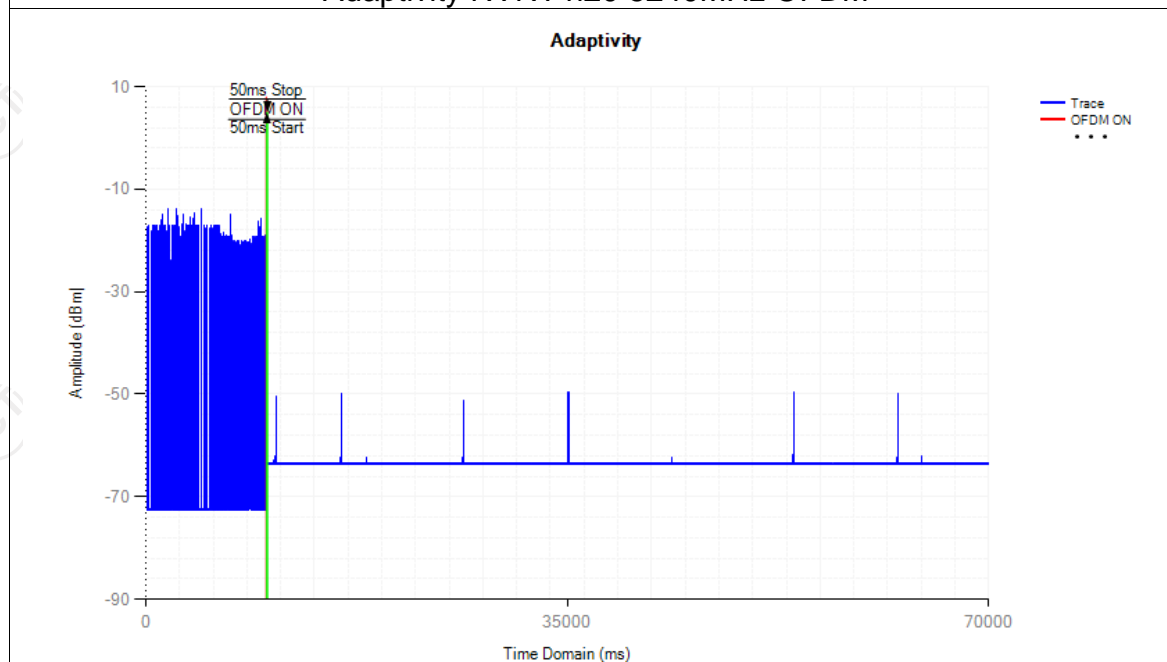
### Adaptivity NVNT n20 5240MHz LTE



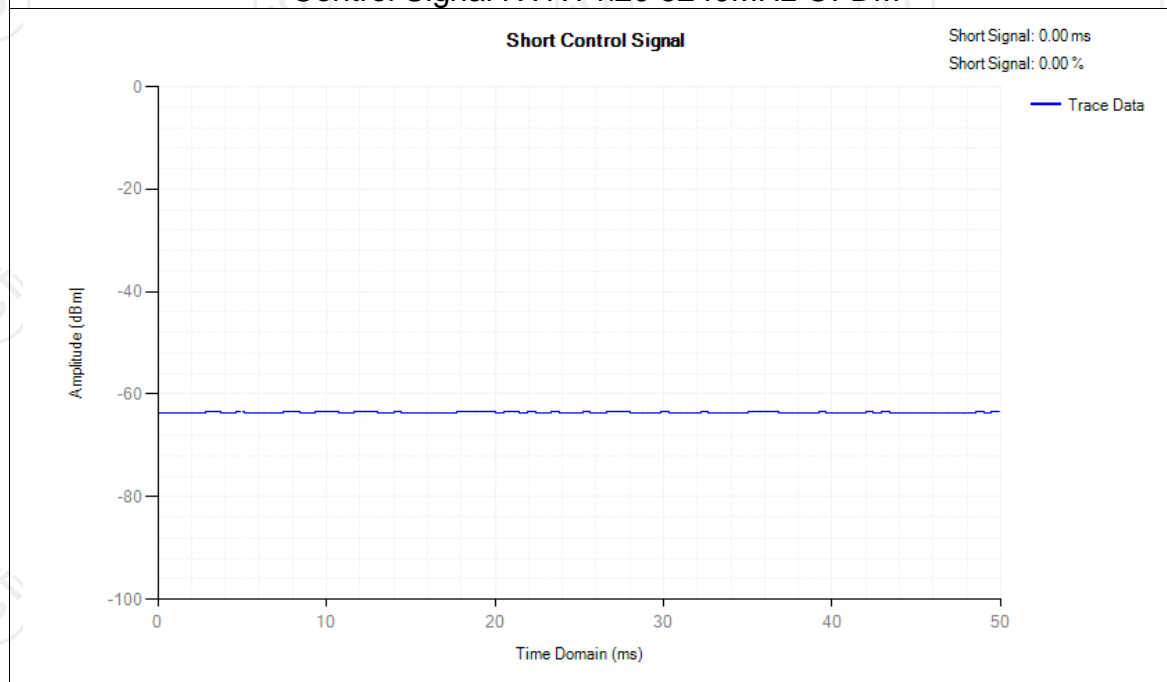
### Control Signal NVNT n20 5240MHz LTE



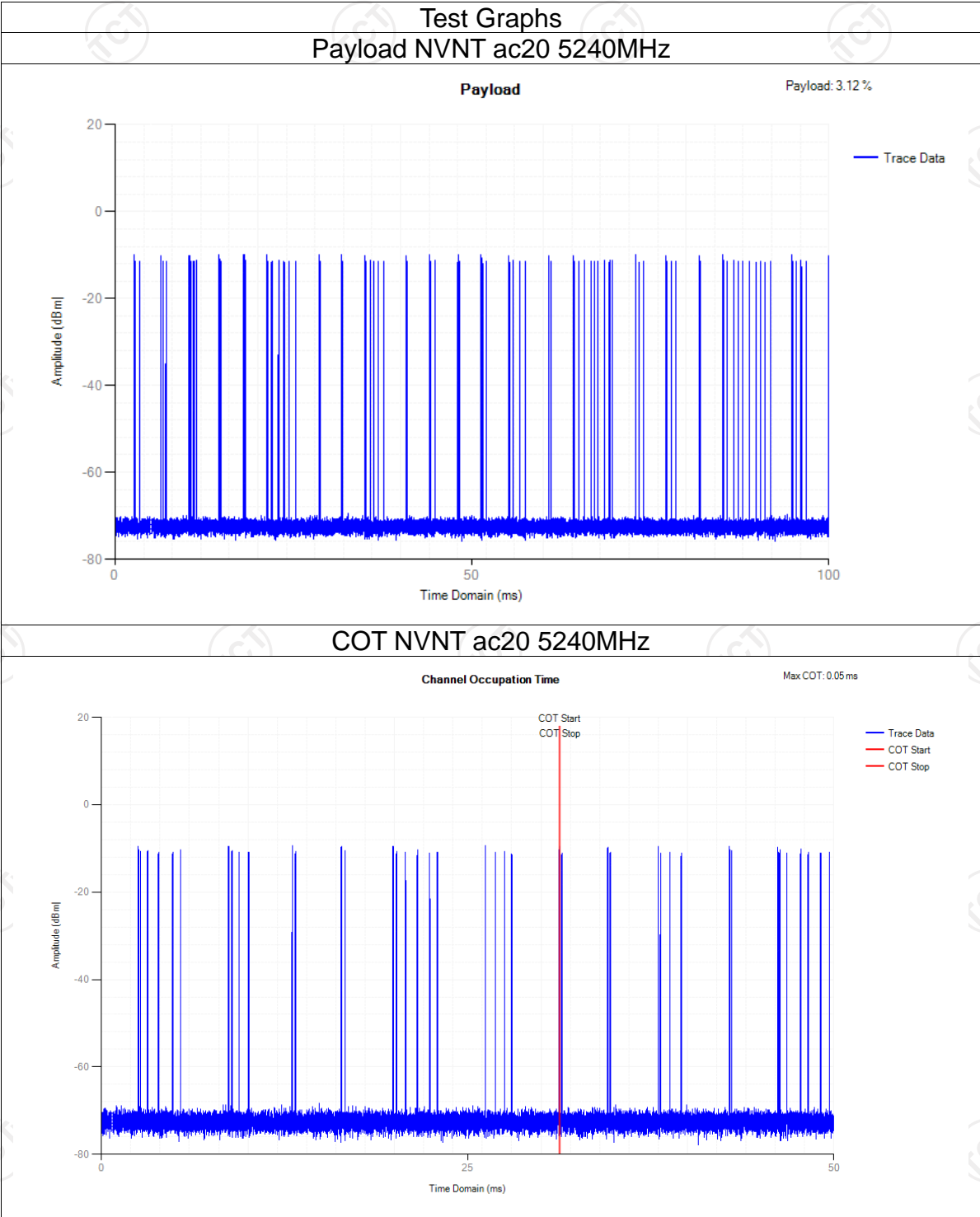
### Adaptivity NVNT n20 5240MHz OFDM



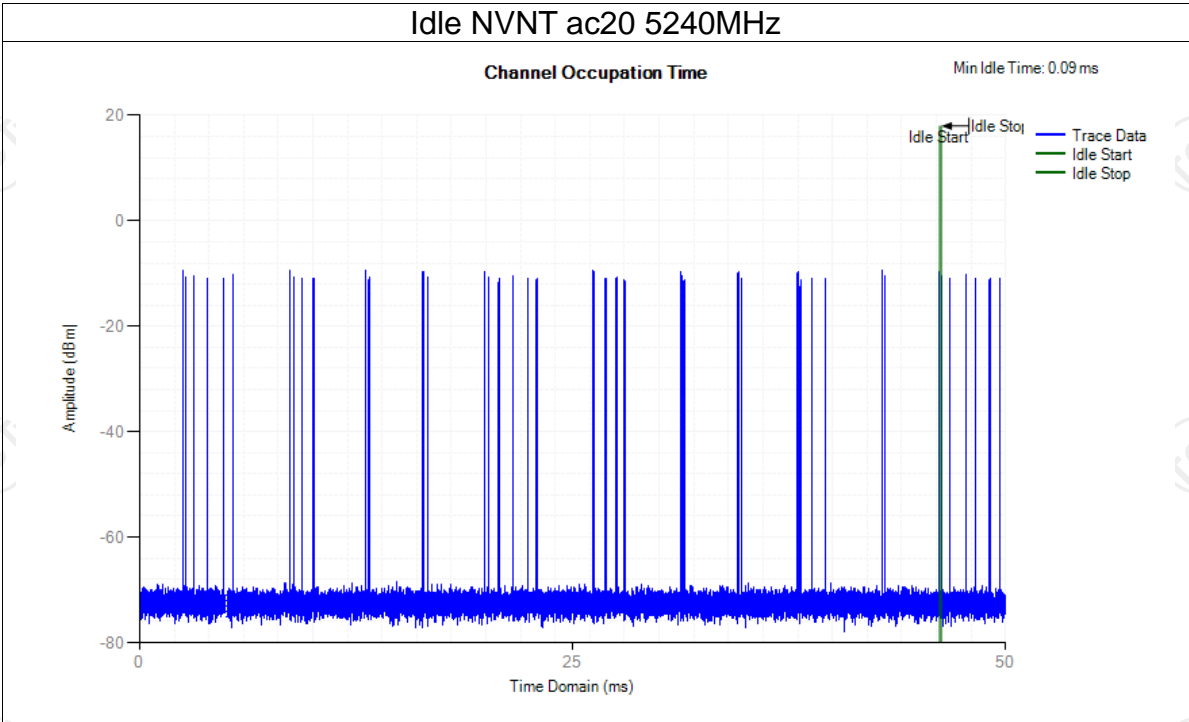
### Control Signal NVNT n20 5240MHz OFDM



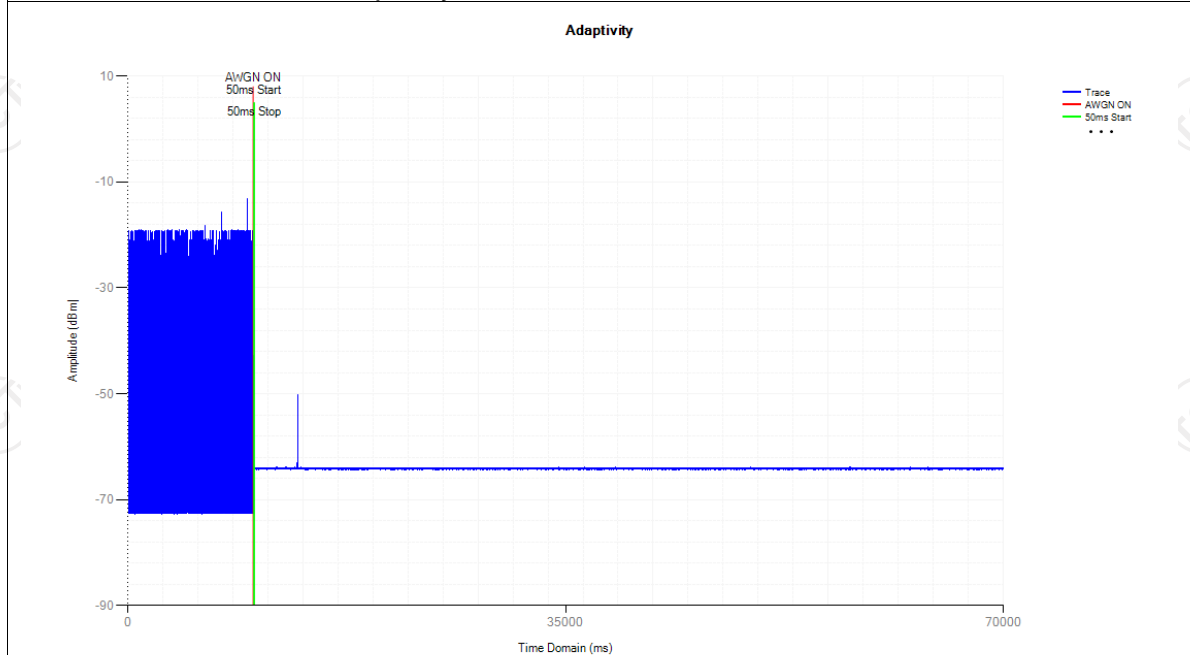
Test Mode			802.11ac(HT20)			
Channel	Frequency (MHz)	Interference Level (dBm)	Max COT (ms)	Min Idle Time (ms)	Short transmission (ms)	Result
48	5240	-61.36	0.05	0.09	0	PASS



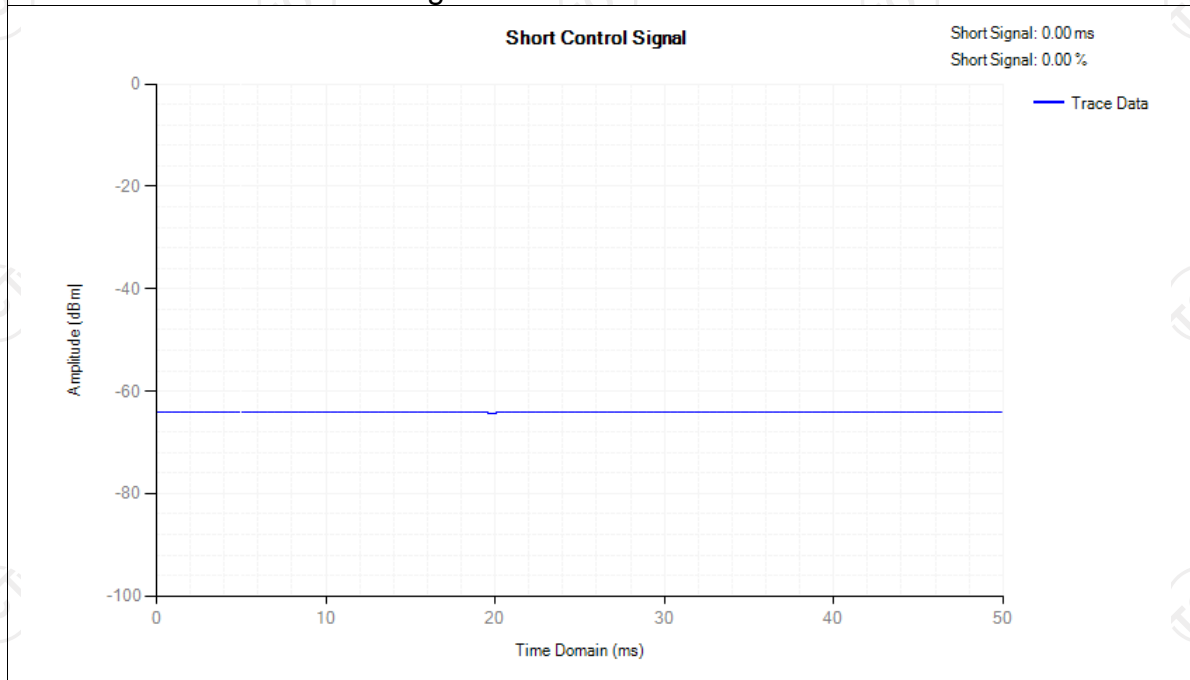




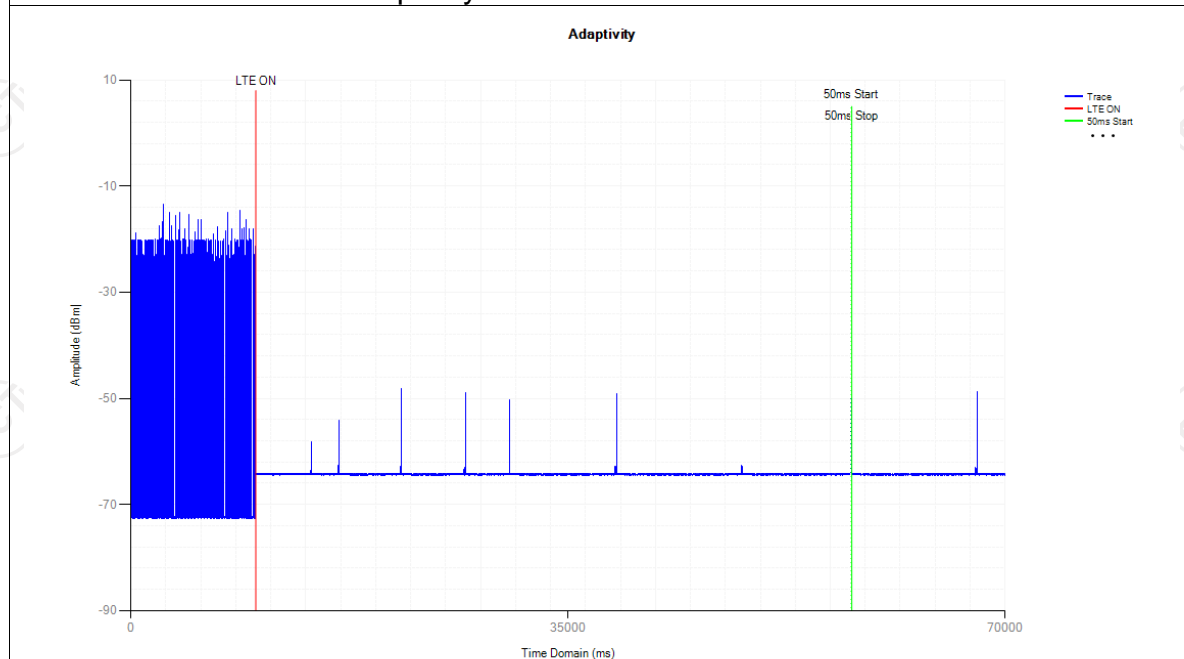
### Adaptivity NVNT ac20 5240MHz AWGN



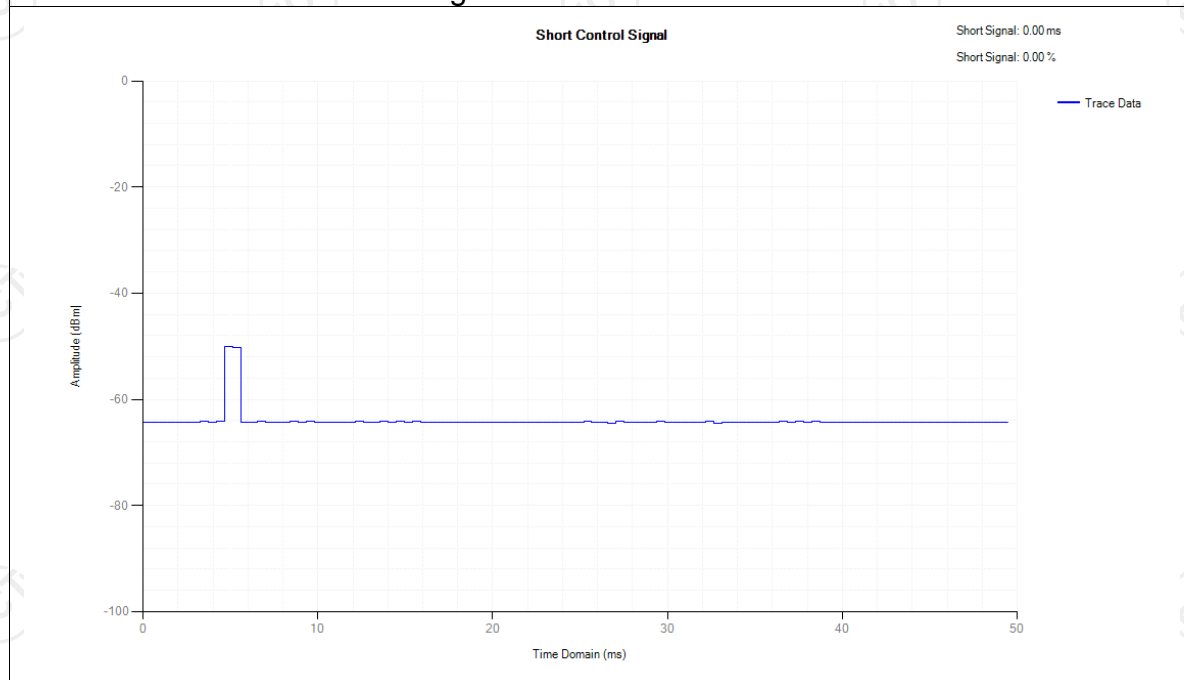
### Control Signal NVNT ac20 5240MHz AWGN



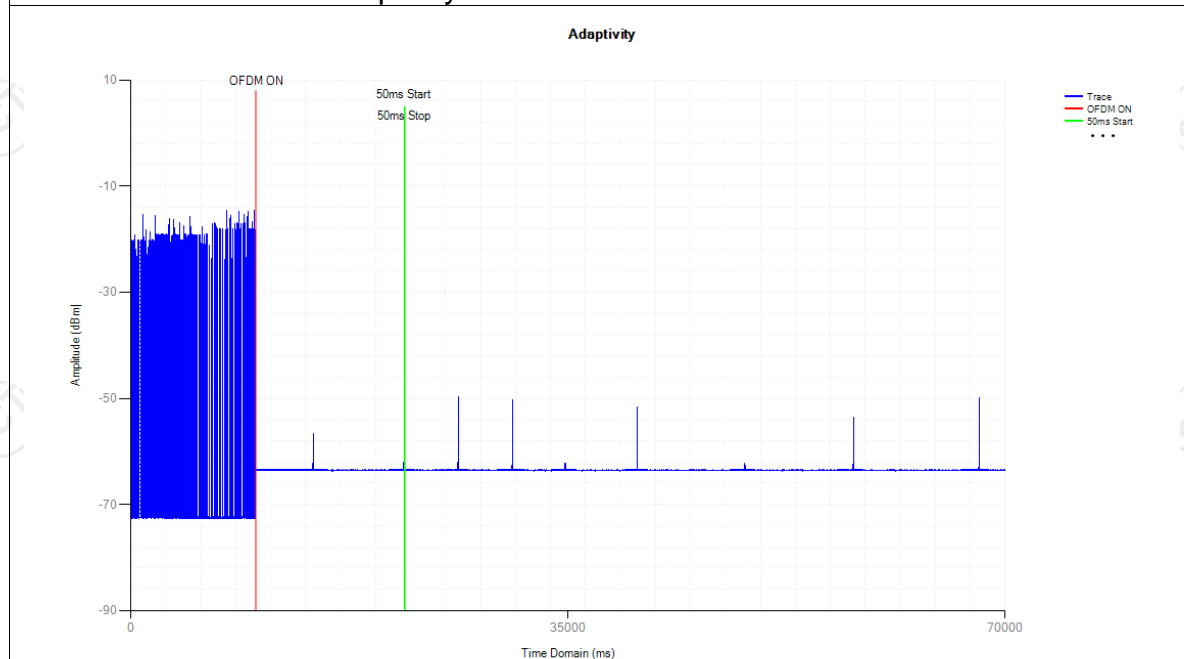
### Adaptivity NVNT ac20 5240MHz LTE



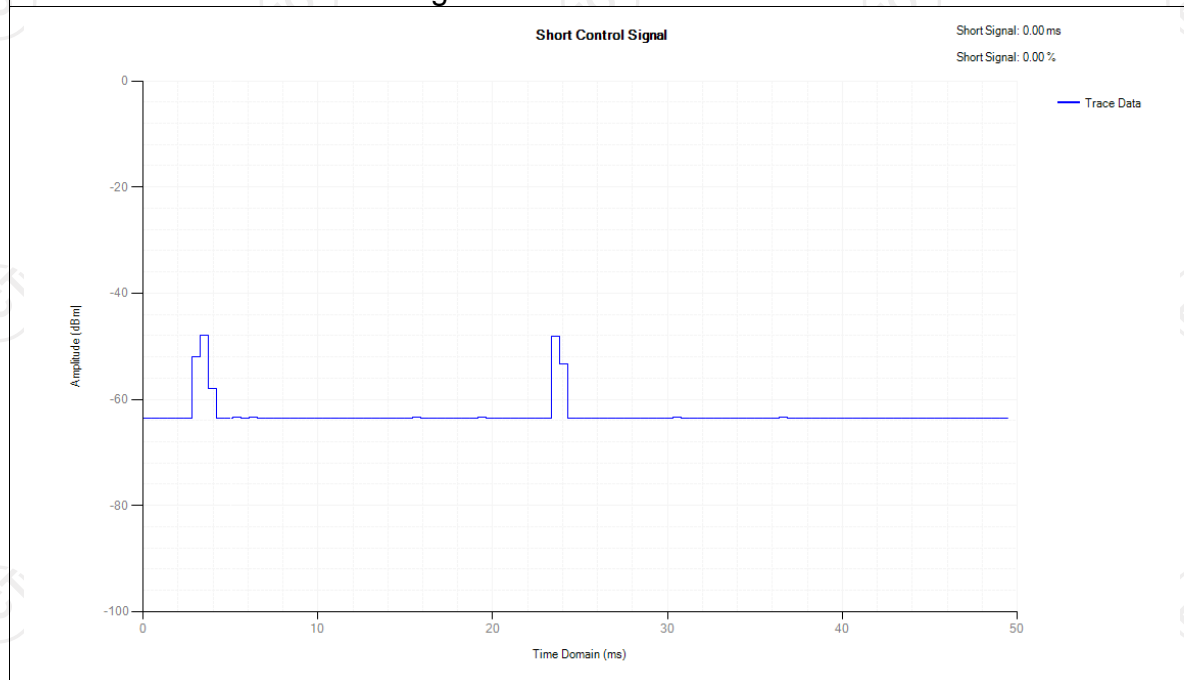
### Control Signal NVNT ac20 5240MHz LTE



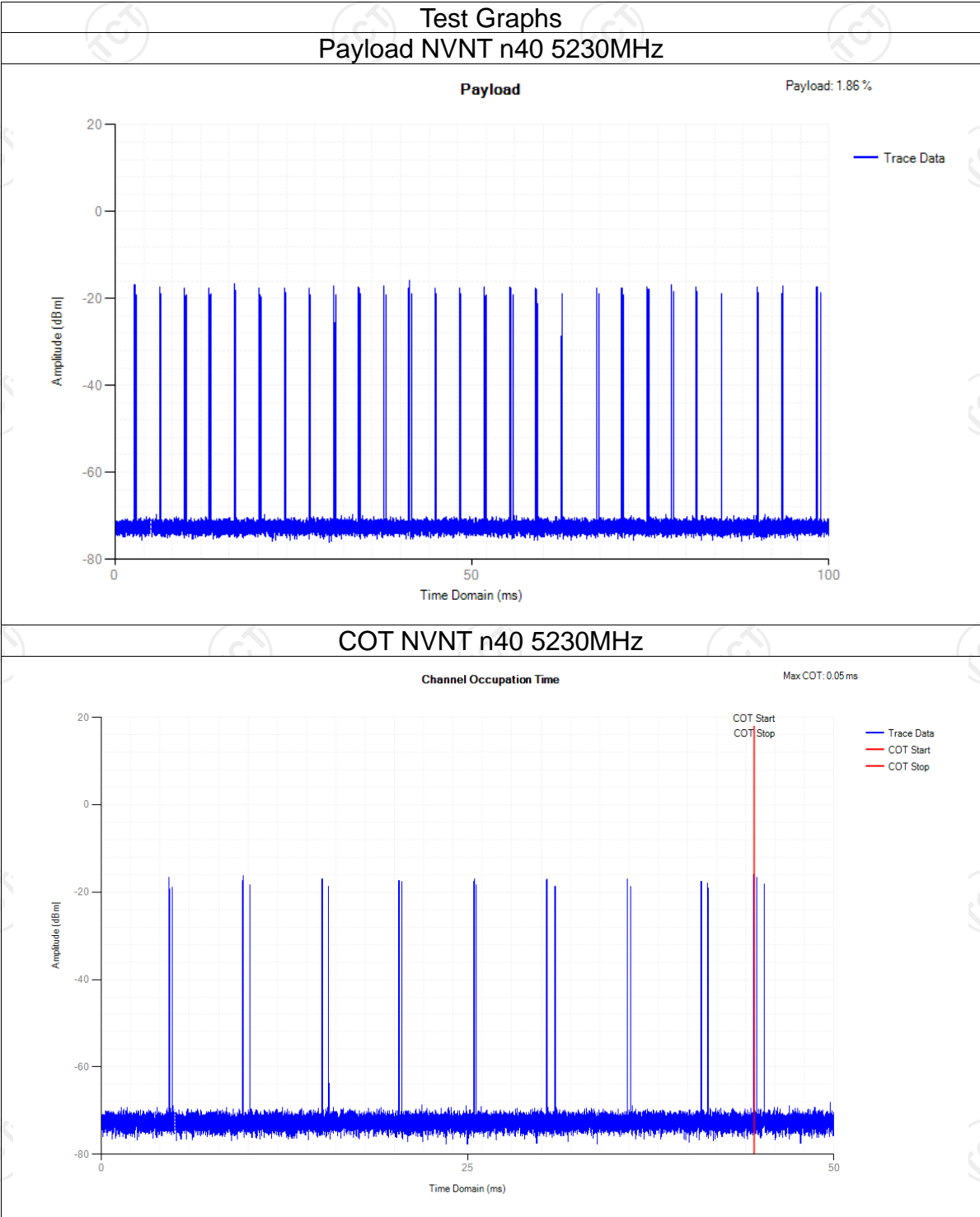
### Adaptivity NVNT ac20 5240MHz OFDM

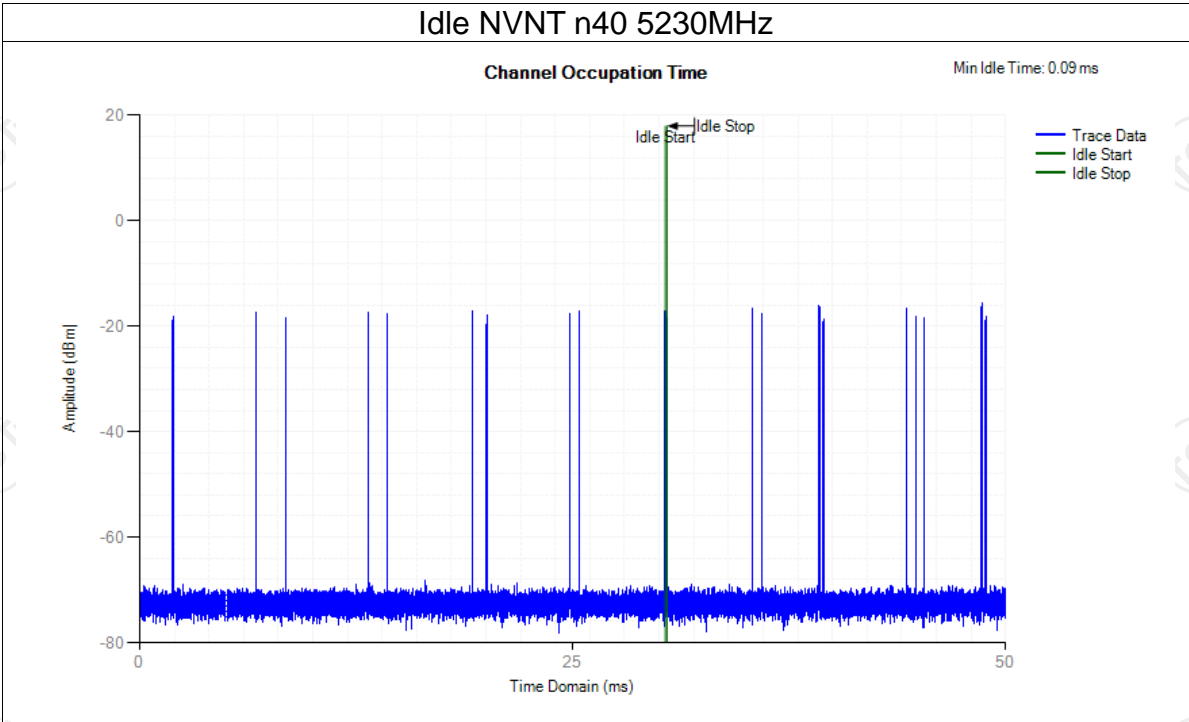


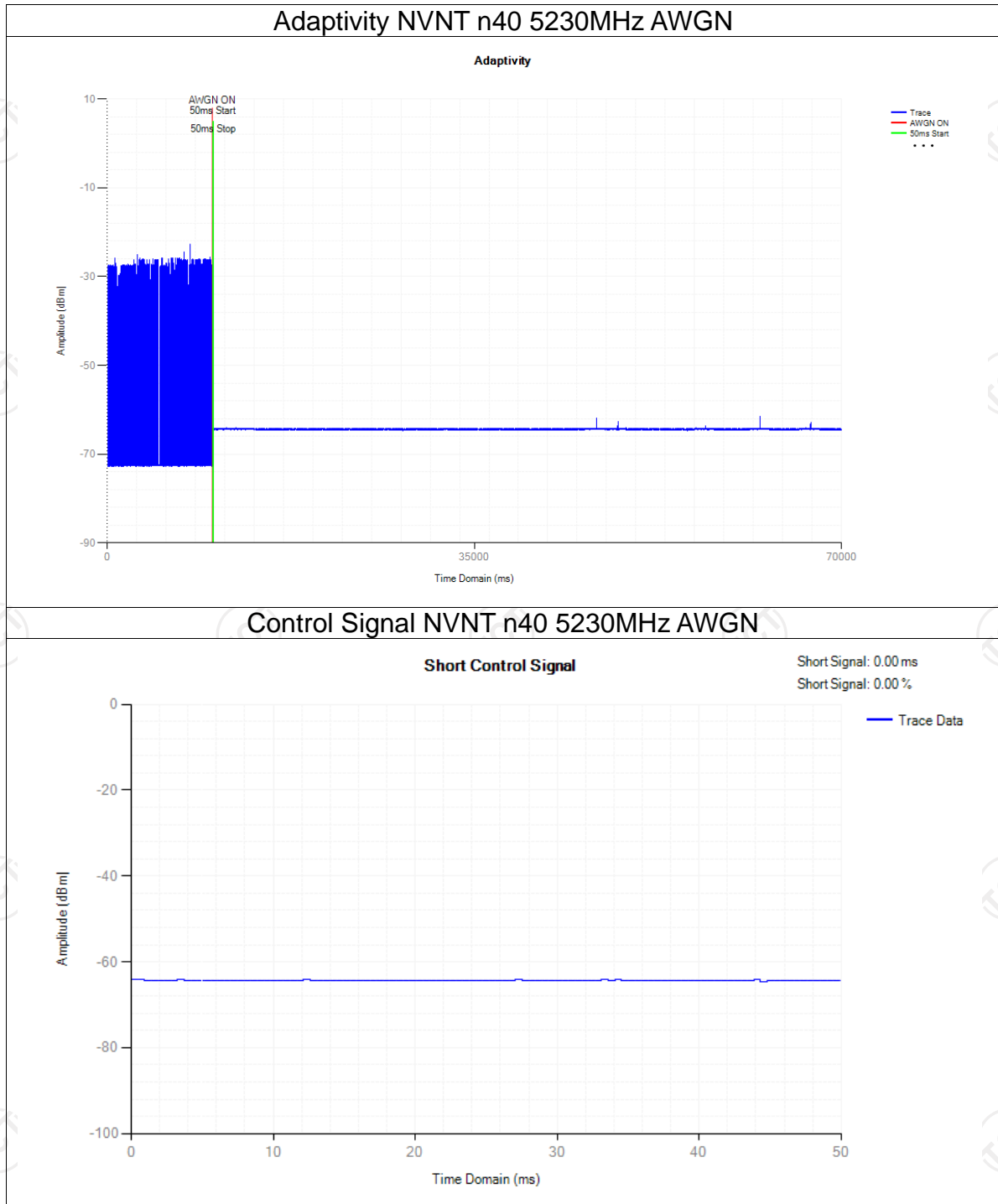
### Control Signal NVNT ac20 5240MHz OFDM



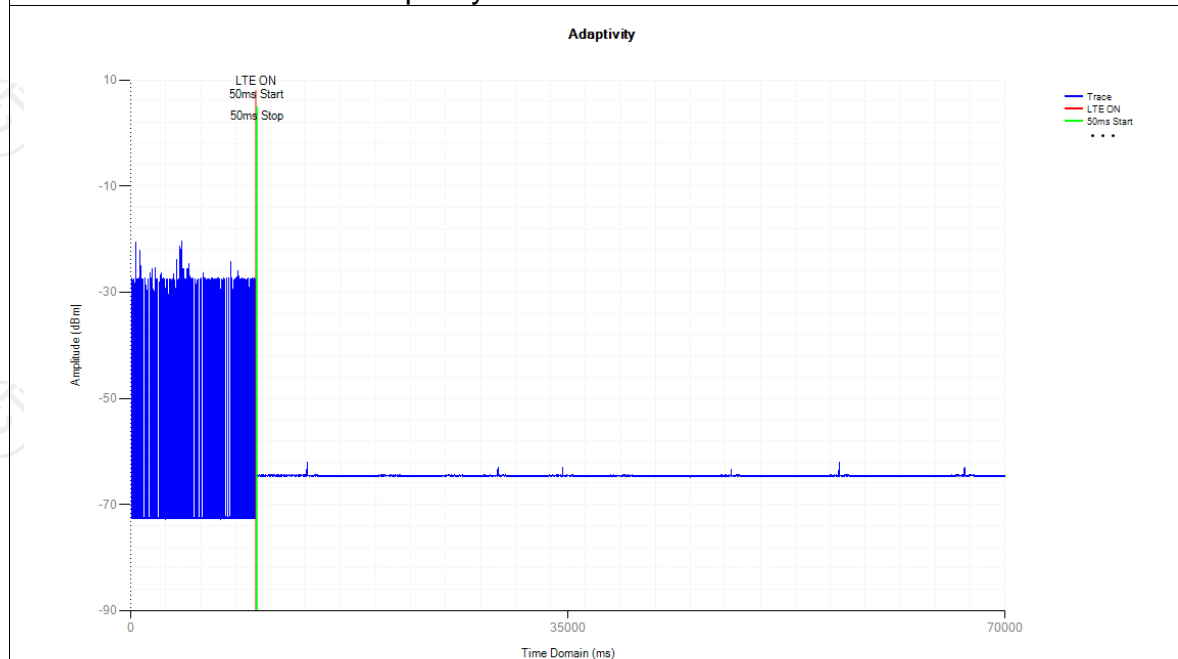
Test Mode			802.11n(HT40)			
Channel	Frequency (MHz)	Interference Level (dBm)	Max COT (ms)	Min Idle Time (ms)	Short transmission (ms)	Result
46	5230	-61.69	0.05	0.09	0	PASS



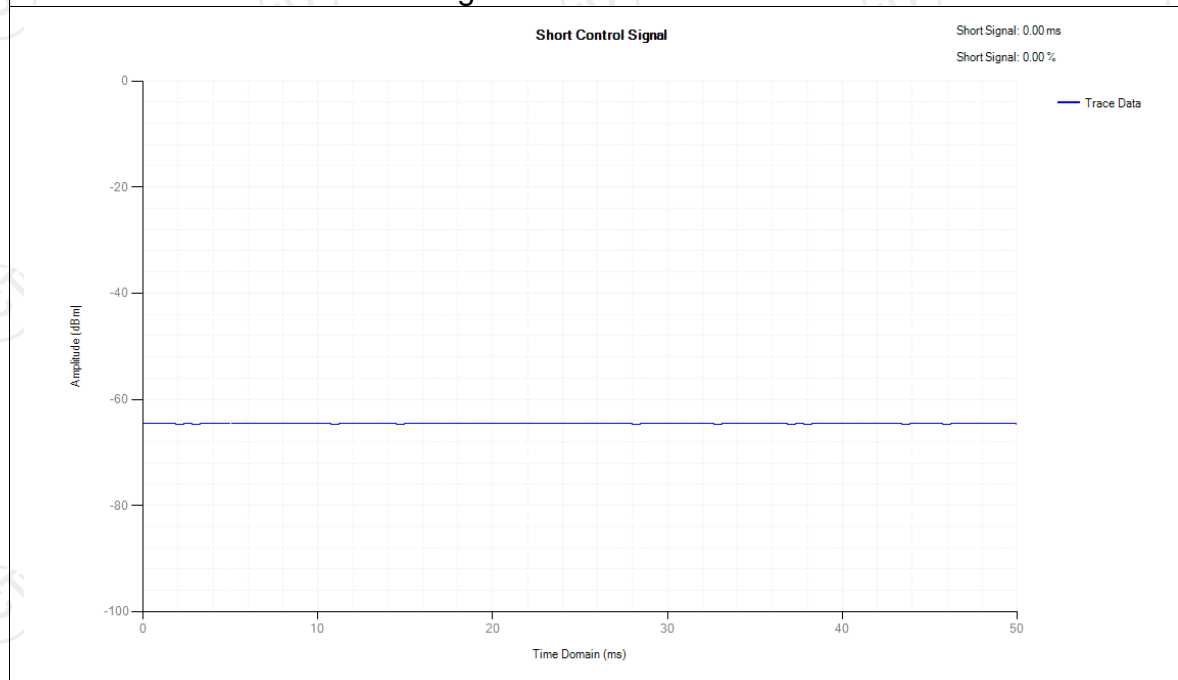




### Adaptivity NVNT n40 5230MHz LTE

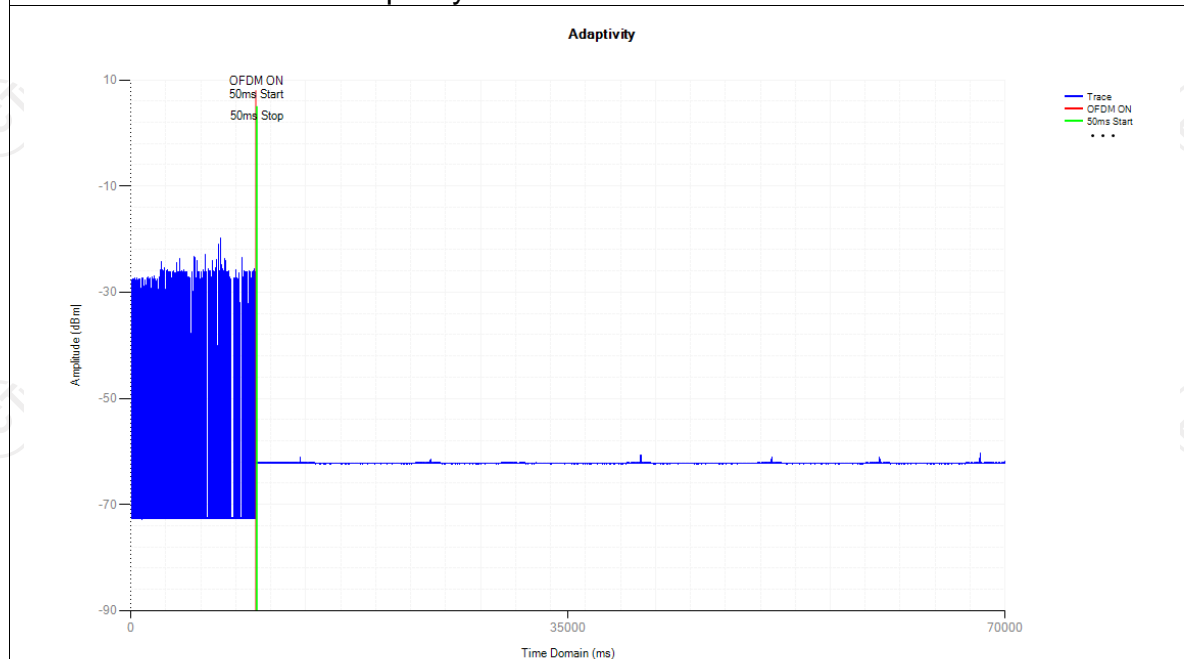


### Control Signal NVNT n40 5230MHz LTE

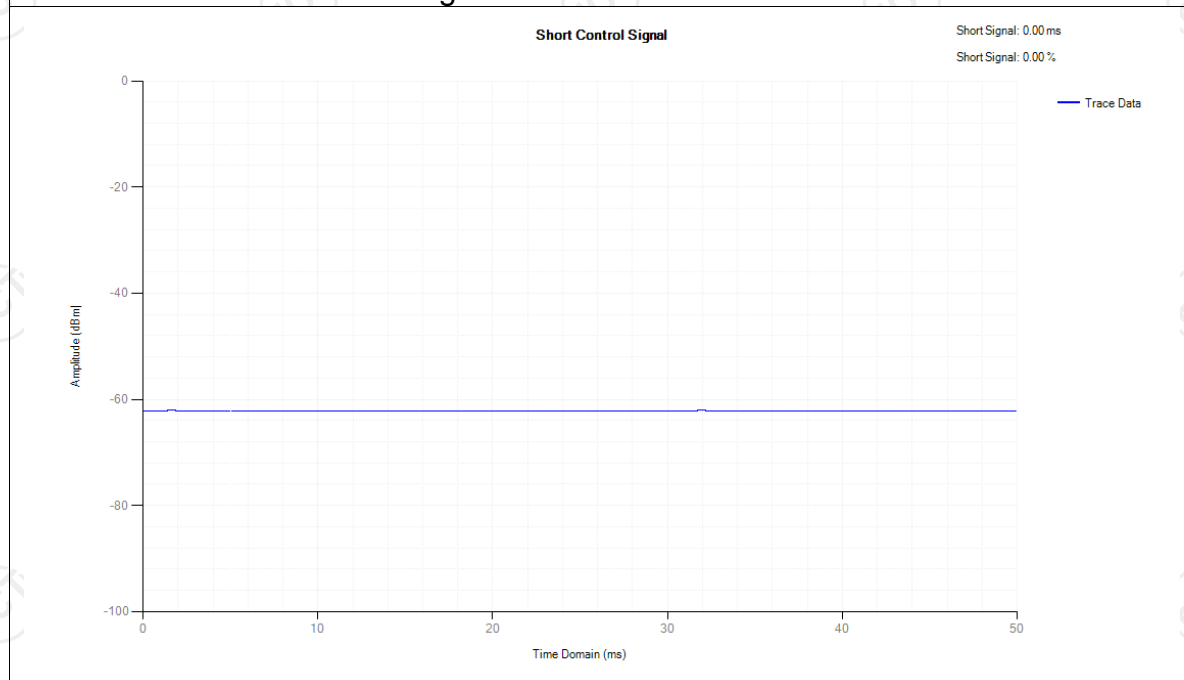




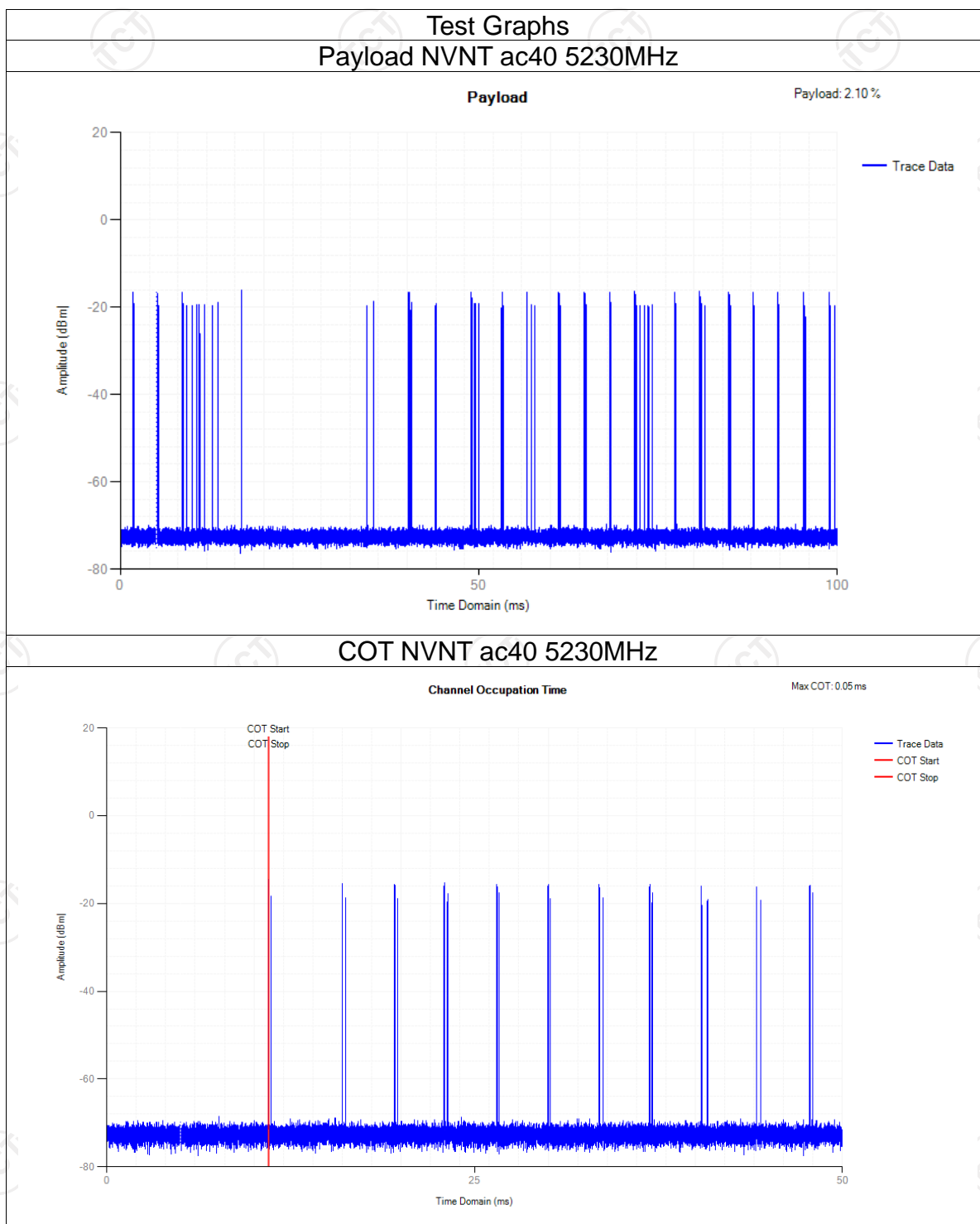
### Adaptivity NVNT n40 5230MHz OFDM

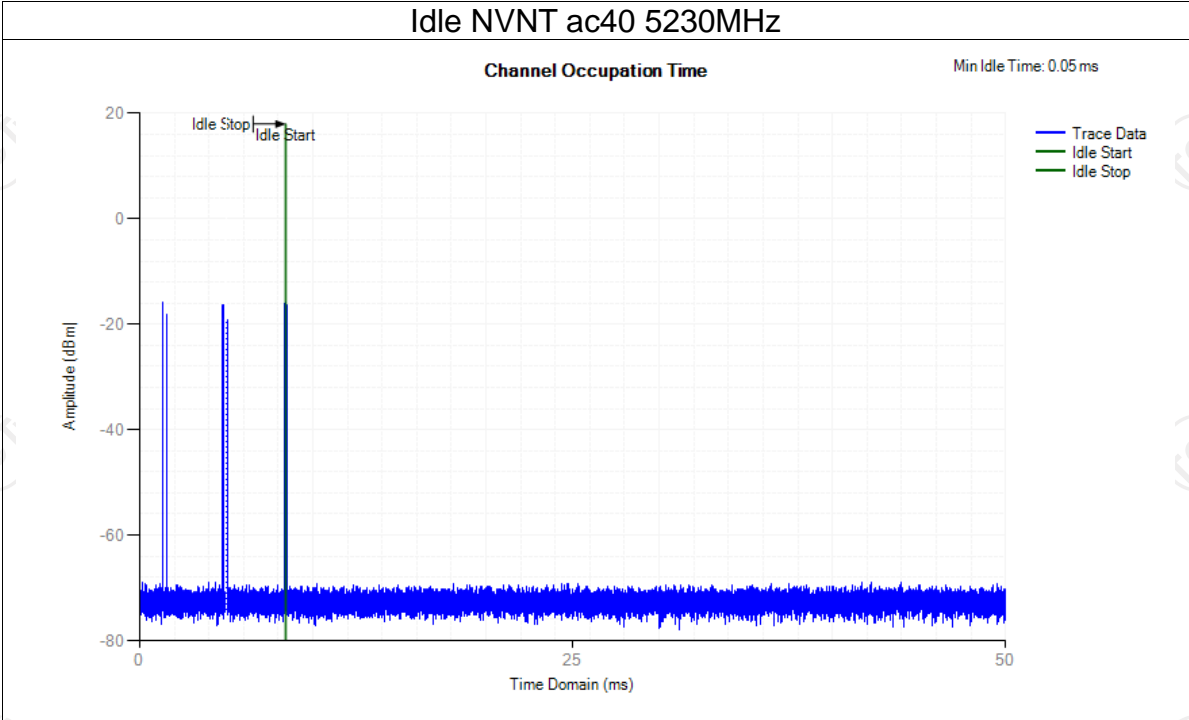


### Control Signal NVNT n40 5230MHz OFDM

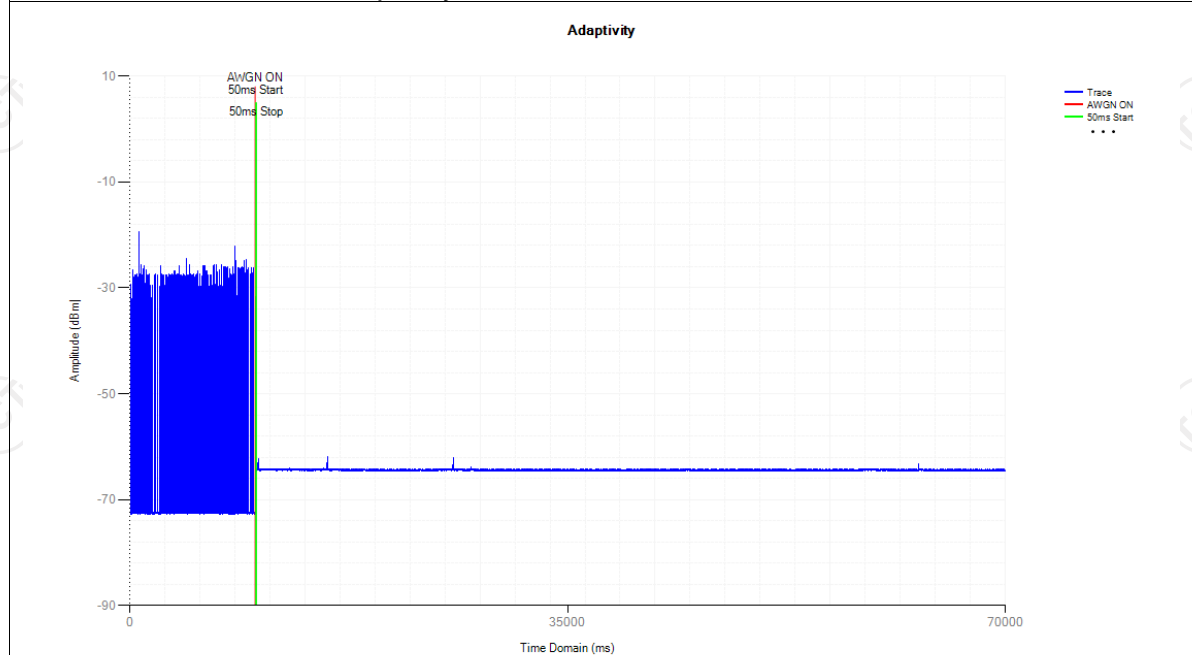


Test Mode			802.11ac(HT40)			
Channel	Frequency (MHz)	Interference Level (dBm)	Max COT (ms)	Min Idle Time (ms)	Short transmission (ms)	Result
46	5230	-61.72	0.05	0.05	0	PASS

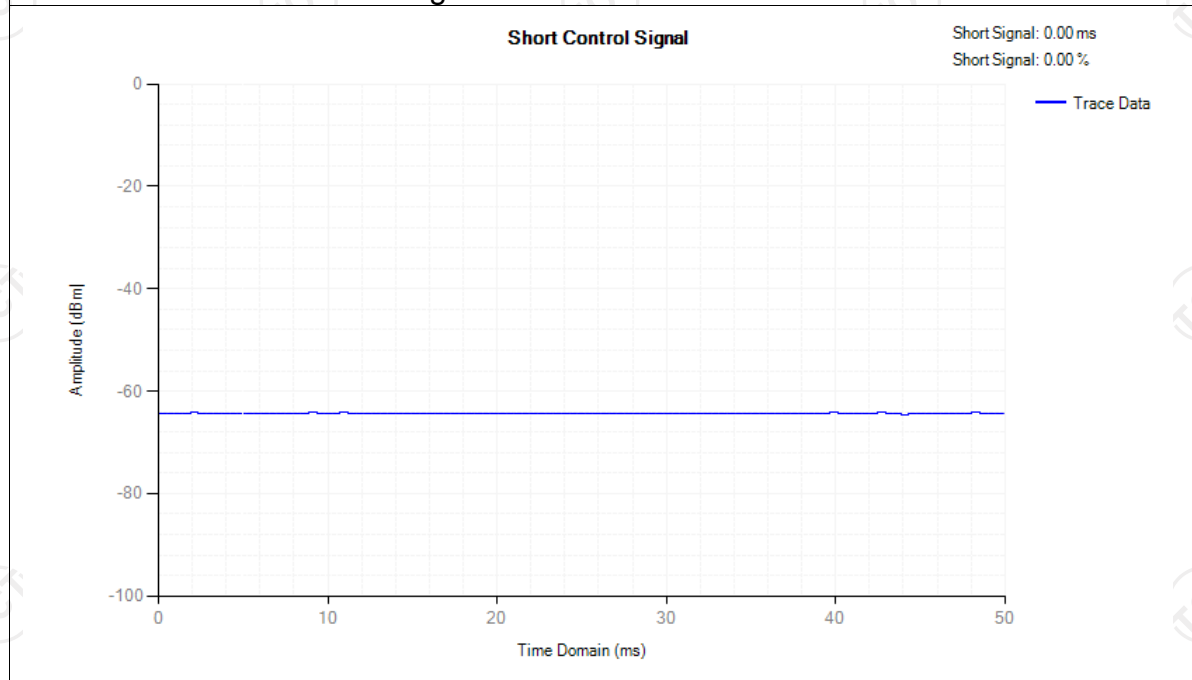




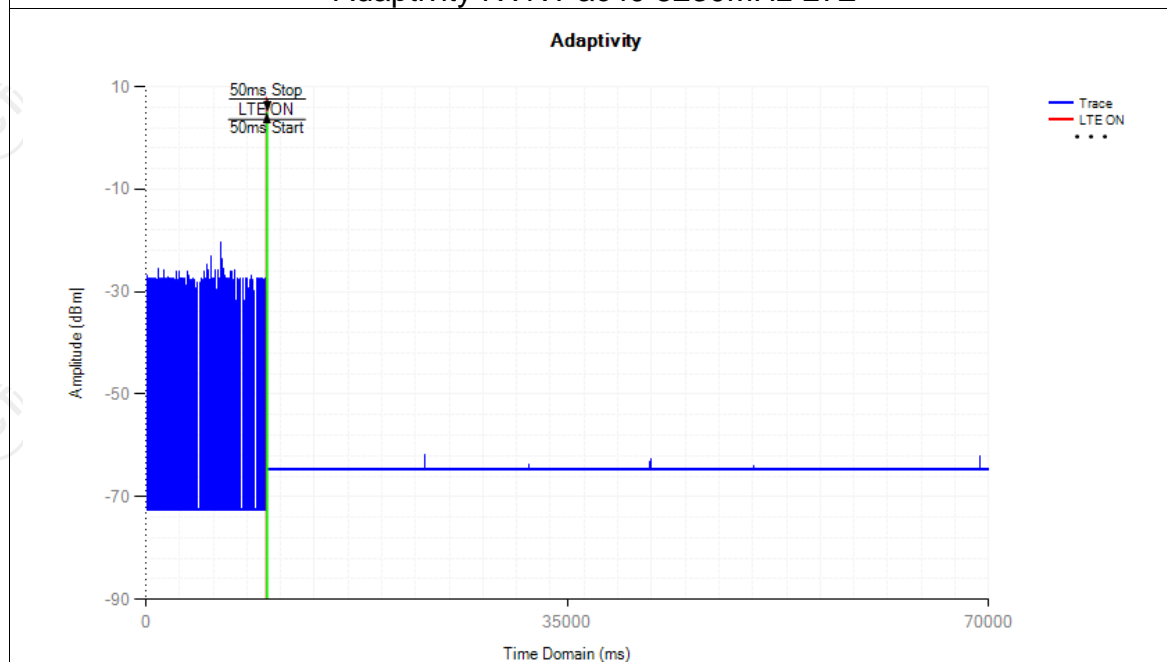
### Adaptivity NVNT ac40 5230MHz AWGN



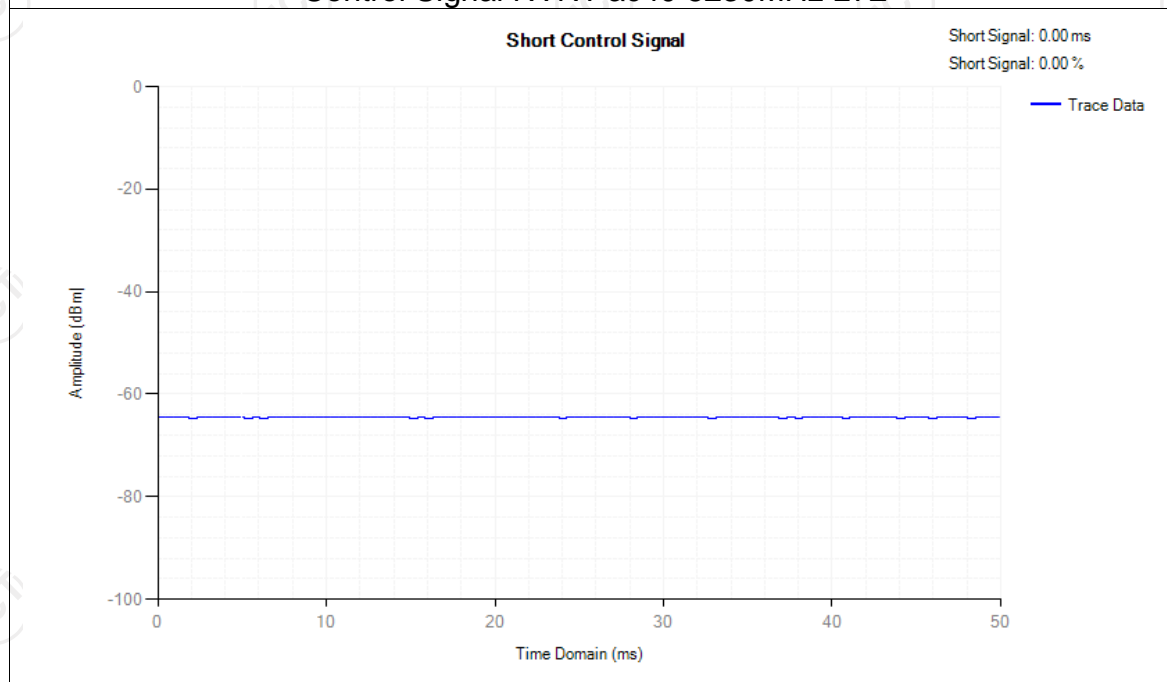
### Control Signal NVNT ac40 5230MHz AWGN



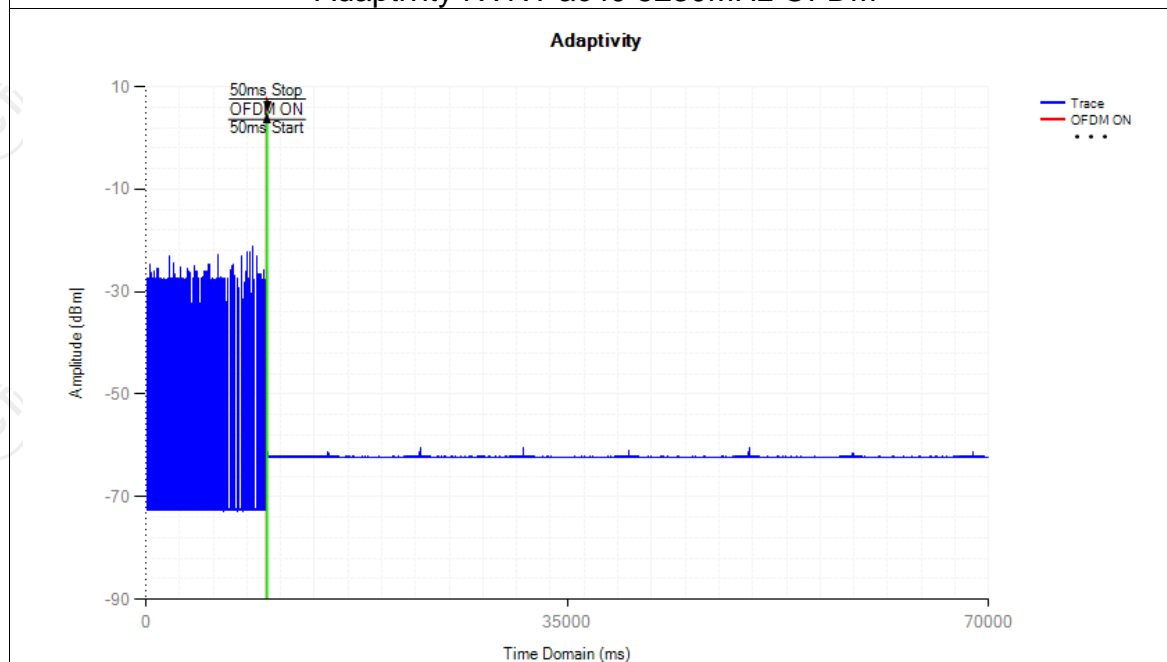
### Adaptivity NVNT ac40 5230MHz LTE



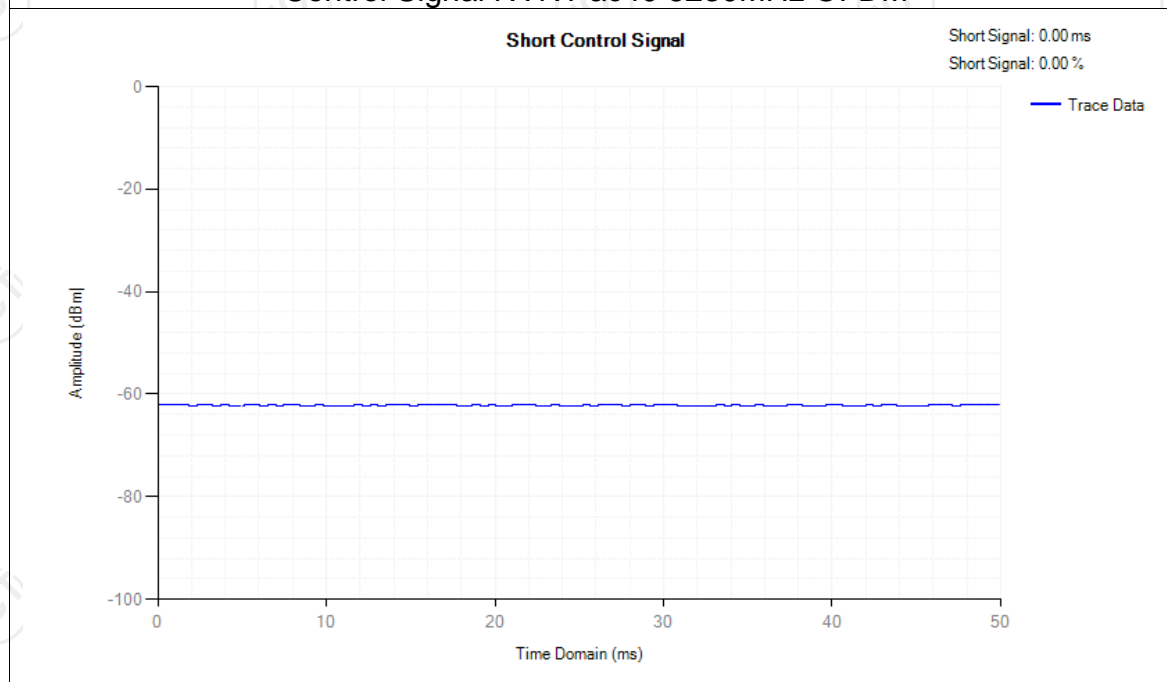
### Control Signal NVNT ac40 5230MHz LTE



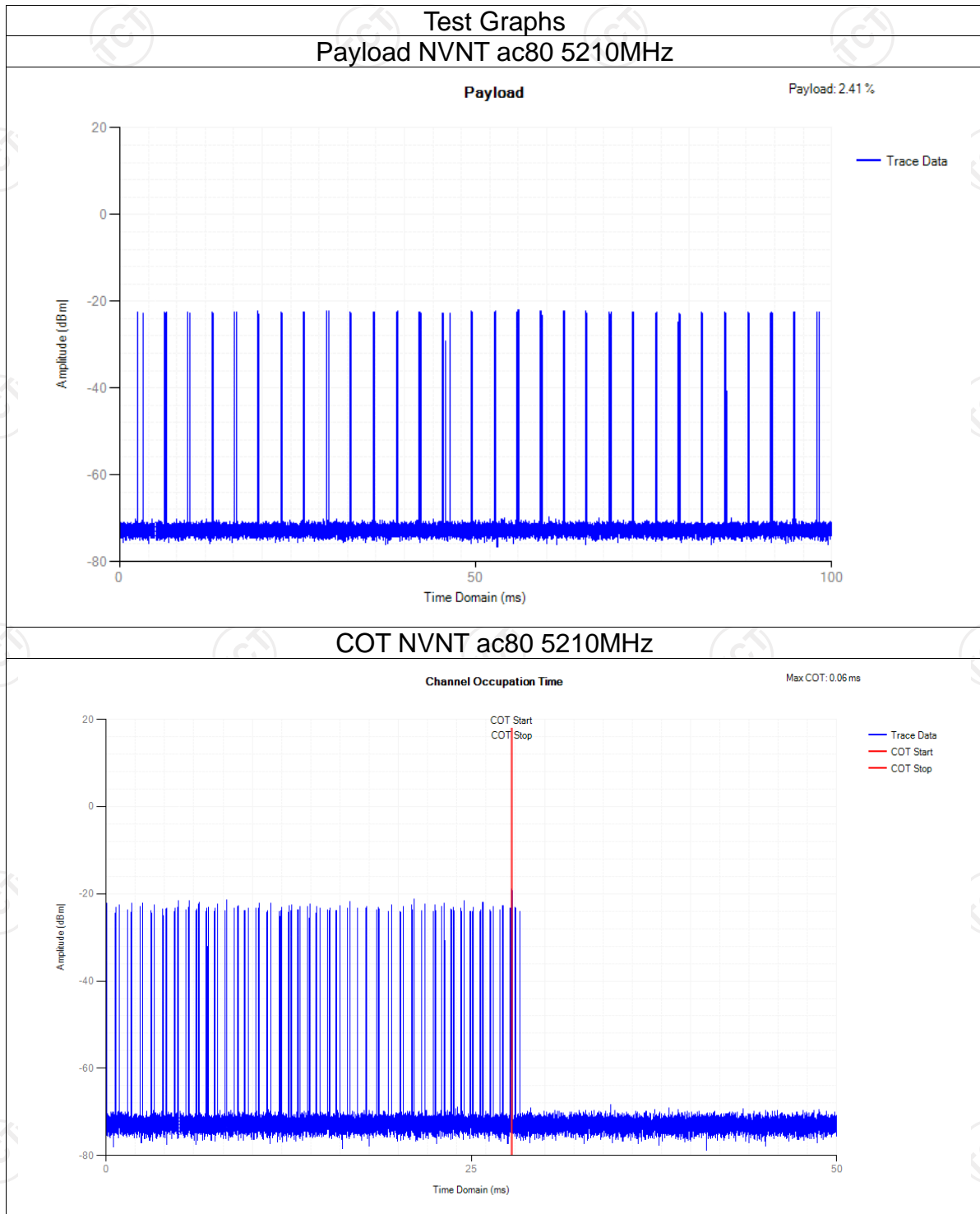
### Adaptivity NVNT ac40 5230MHz OFDM

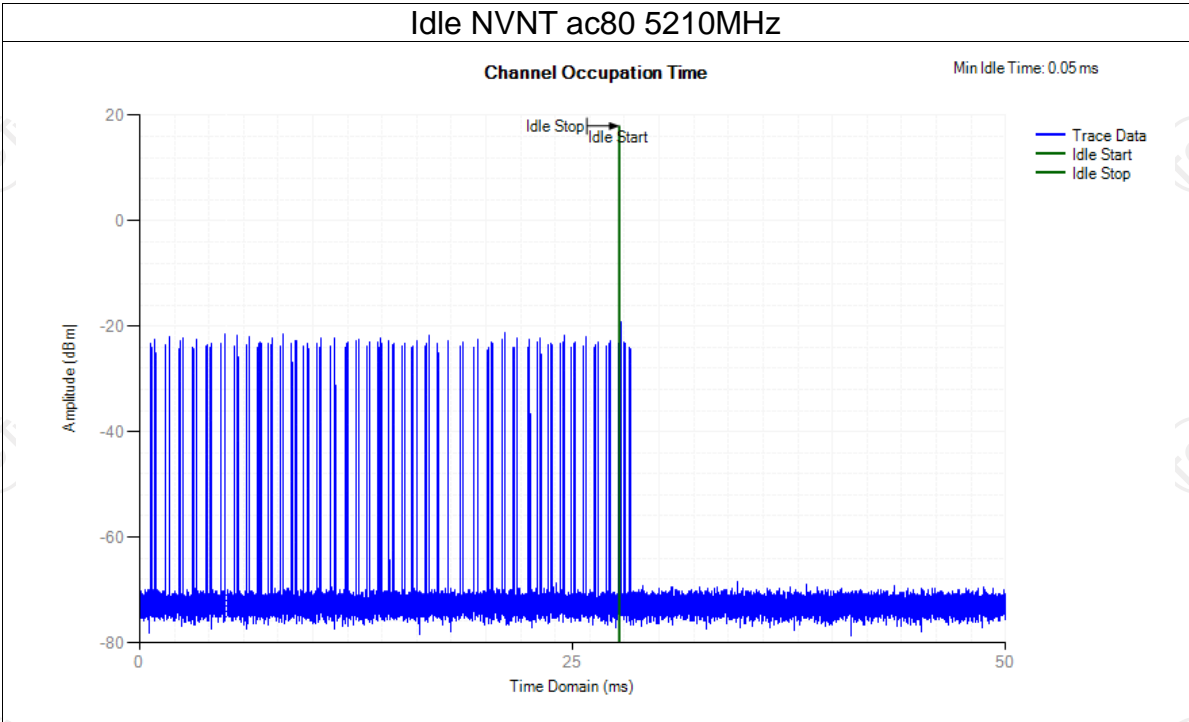


### Control Signal NVNT ac40 5230MHz OFDM



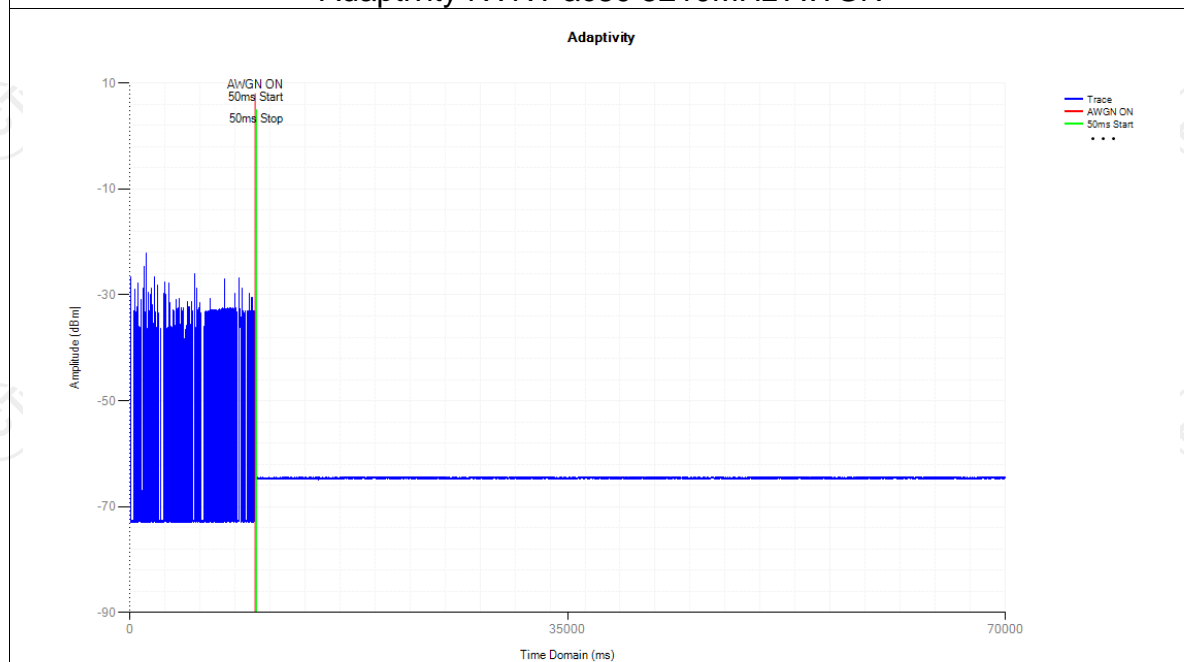
Test Mode			802.11ac(HT80)			
Channel	Frequency (MHz)	Interference Level (dBm)	Max COT (ms)	Min Idle Time (ms)	Short transmission (ms)	Result
42	5210	-60.04	0.06	0.05	0	PASS



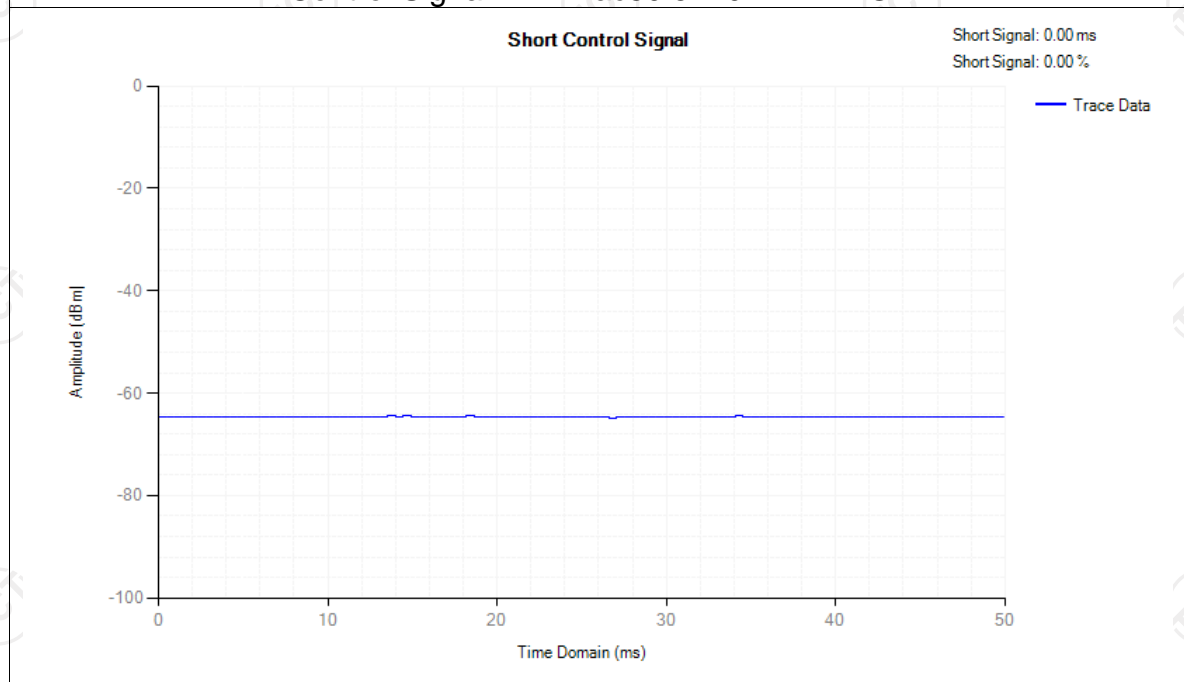




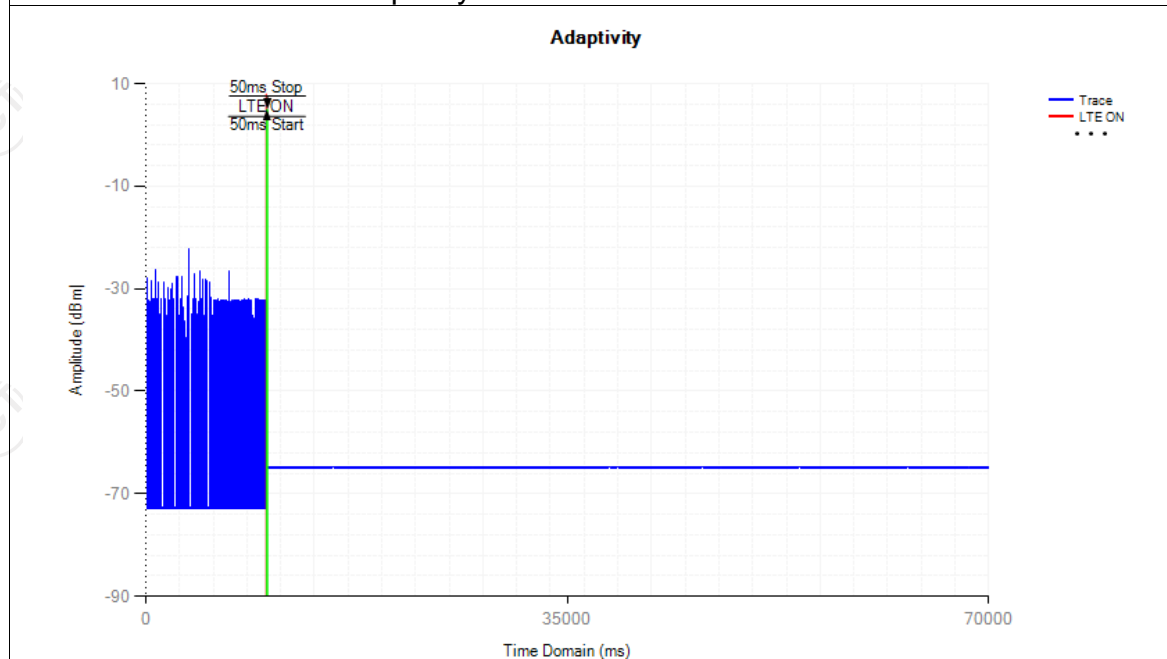
### Adaptivity NVNT ac80 5210MHz AWGN



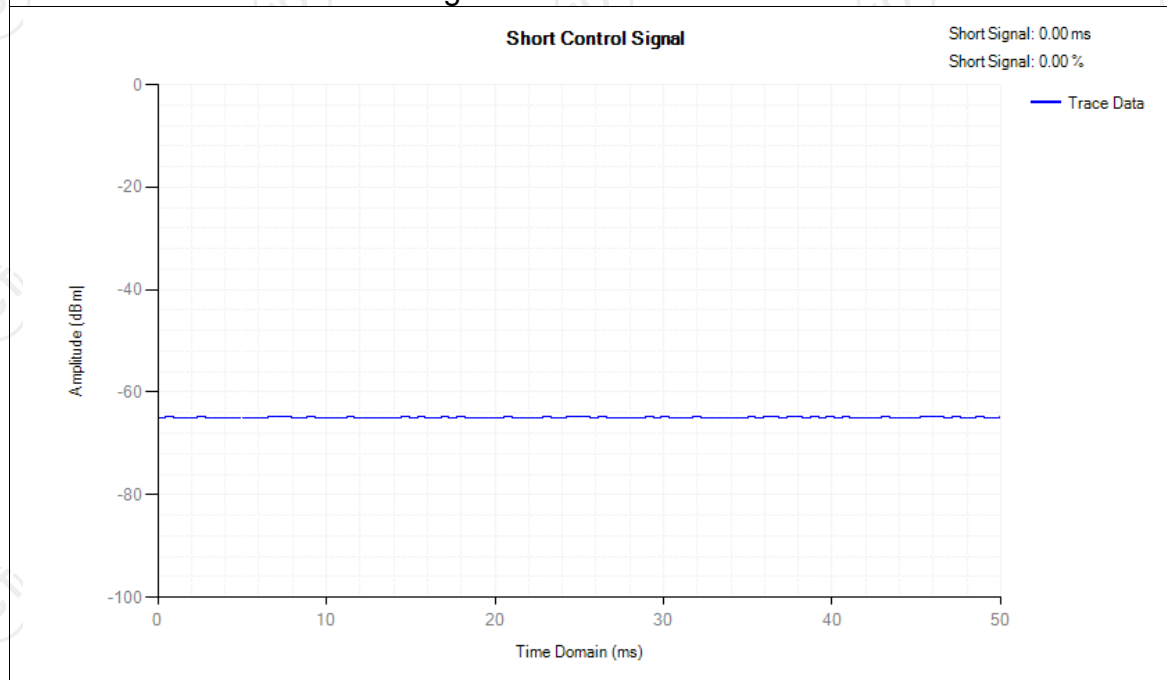
### Control Signal NVNT ac80 5210MHz AWGN



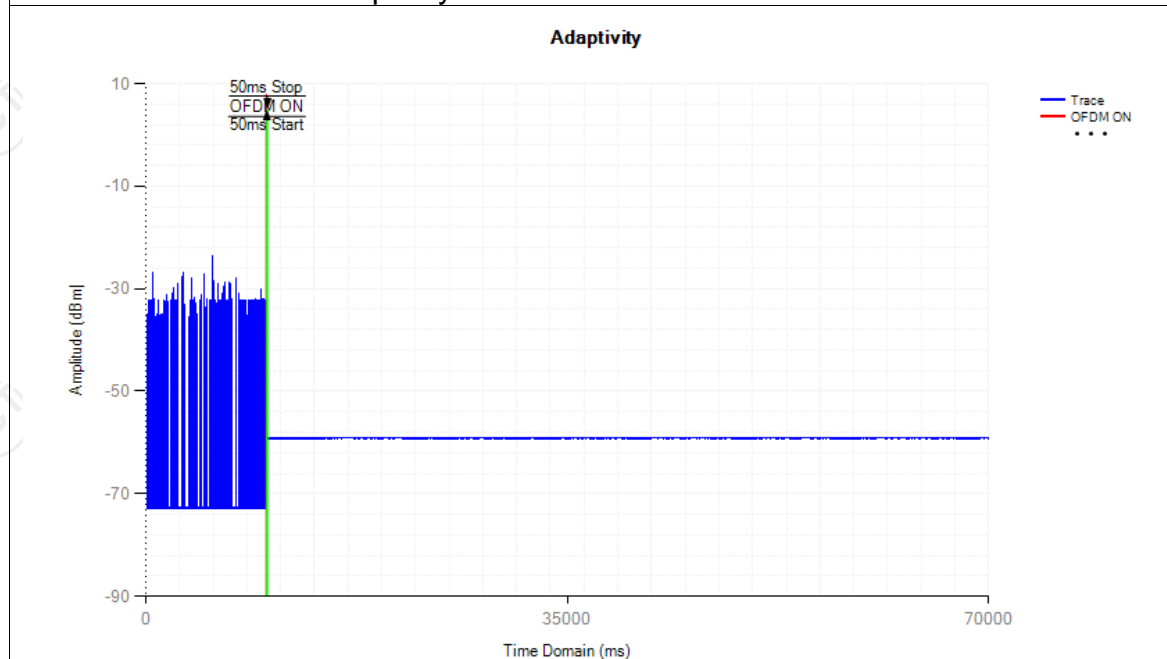
### Adaptivity NVNT ac80 5210MHz LTE



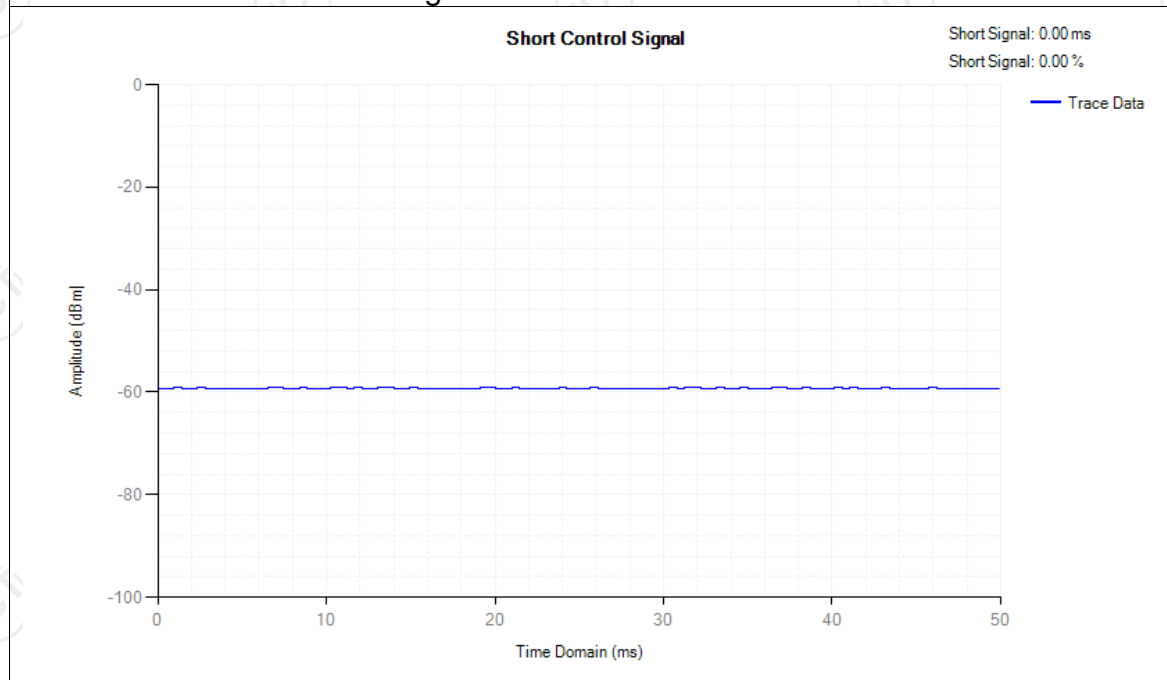
### Control Signal NVNT ac80 5210MHz LTE



### Adaptivity NVNT ac80 5210MHz OFDM



### Control Signal NVNT ac80 5210MHz OFDM



## 5.8. Receiver Blocking

### 5.8.1. Test Specification

Test Requirement:	ETSI EN 301 893 clause 4.2.8																	
Test Method:	ETSI EN 301 893 clause 5.4.10.2																	
Limit:	<div>Table 9: Receiver Blocking parameters</div> <table><tr><th rowspan="2">Wanted signal mean power from companion device (dBm)</th><th rowspan="2">Blocking signal frequency (MHz)</th><th colspan="2">Blocking signal power (dBm) (see note 2)</th><th rowspan="2">Type of blocking signal</th></tr><tr><th>Master or Slave with radar detection (see table D.2, note 2)</th><th>Slave without radar detection (see table D.2, note 2)</th></tr><tr><td>Pmin + 6 dB</td><td>5 100</td><td>-53</td><td>-59</td><td>Continuous Wave</td></tr><tr><td>Pmin + 6 dB</td><td>4 900 5 000 5 975</td><td>-47</td><td>-53</td><td>Continuous Wave</td></tr></table> <div><div>NOTE 1: P<sub>min</sub> is the minimum level of the wanted signal (in dBm) required to meet the minimum performance criteria as defined clause 4.2.8.3 in the absence of any blocking signal.</div><div>NOTE 2: The levels specified are levels in front of the UUT antenna. In case of conducted measurements, the same levels should be used at the antenna connector irrespective of antenna gain.</div></div>	Wanted signal mean power from companion device (dBm)	Blocking signal frequency (MHz)	Blocking signal power (dBm) (see note 2)		Type of blocking signal	Master or Slave with radar detection (see table D.2, note 2)	Slave without radar detection (see table D.2, note 2)	Pmin + 6 dB	5 100	-53	-59	Continuous Wave	Pmin + 6 dB	4 900 5 000 5 975	-47	-53	Continuous Wave
Wanted signal mean power from companion device (dBm)	Blocking signal frequency (MHz)			Blocking signal power (dBm) (see note 2)			Type of blocking signal											
		Master or Slave with radar detection (see table D.2, note 2)	Slave without radar detection (see table D.2, note 2)															
Pmin + 6 dB	5 100	-53	-59	Continuous Wave														
Pmin + 6 dB	4 900 5 000 5 975	-47	-53	Continuous Wave														
Test Setup:	<div><div><div><div>Signalling Unit or Companion Device</div><div>Blocking Signal Generator</div></div><div>Variable attenuator step size ≤ 1 dB</div><div>Splitter/Combiner</div><div><div>Direct Coupler</div><div>Spectrum Analyzer</div></div><div>ATT</div><div>UUT</div><div>Performance Monitoring Device</div></div><div>Shielding or Shielded Room</div><div>Optional</div></div> <div>Figure 18: Test Set-up for receiver blocking</div>																	
Test Mode:	Normal operation Mode																	
Test Procedure:	Refer to ETSI EN 301 893 clause 5.4.10.2																	
Test Instrument:	Refer to Item 3.3																	
Test Result:	PASS																	

## 5.8.2. Test data

802.11a		5200MHz		
Wanted signal mean power from companion device (dBm)	Blocking signal frequency (MHz)	Blocking signal power (dBm)	Type of blocking signal	PASS
Pmin+6dB	5100	-61.3	CW	
Pmin+6dB	4900	-55.3	CW	
Pmin+6dB	5000	-55.3	CW	
Pmin+6dB	5975	-55.3	CW	
<p>Note: 1. <math>P_{min}=-77.3\text{dBm}</math>, <math>P_{min}</math> is the minimum level of wanted signal (in dBm) required to meet the minimum performance criteria, which the minimum performance criterion shall be a PER less than or equal to 10 %.</p> <p>2. Blocking signal power should be equal or greater than -59dBm /-53dBm+Antenna gain, Antenna gain is -2.3dBi.</p> <p>3. PER has been monitored is 1.39%.</p>				

802.11n (HT20)		5200MHz		
Wanted signal mean power from companion device (dBm)	Blocking signal frequency (MHz)	Blocking signal power (dBm)	Type of blocking signal	PASS
Pmin+6dB	5100	-61.3	CW	
Pmin+6dB	4900	-55.3	CW	
Pmin+6dB	5000	-55.3	CW	
Pmin+6dB	5975	-55.3	CW	
<p>Note: 1. <math>P_{min}=-78.2\text{dBm}</math>, <math>P_{min}</math> is the minimum level of wanted signal (in dBm) required to meet the minimum performance criteria, which the minimum performance criterion shall be a PER less than or equal to 10 %.</p> <p>2. Blocking signal power should be equal or greater than -59dBm /-53dBm+Antenna gain, Antenna gain is -2.3dBi.</p> <p>3. PER has been monitored is 1.95%.</p>				

802.11ac (HT20)		5200MHz		
Wanted signal mean power from companion device (dBm)	Blocking signal frequency (MHz)	Blocking signal power (dBm)	Type of blocking signal	PASS
Pmin+6dB	5100	-61.3	CW	
Pmin+6dB	4900	-55.3	CW	
Pmin+6dB	5000	-55.3	CW	
Pmin+6dB	5975	-55.3	CW	
<p>Note: 1. <math>P_{min}=-75.9\text{dBm}</math>, <math>P_{min}</math> is the minimum level of wanted signal (in dBm) required to meet the minimum performance criteria, which the minimum performance criterion shall be a PER less than or equal to 10 %.</p> <p>2. Blocking signal power should be equal or greater than -59dBm /-53dBm+Antenna gain, Antenna gain is -2.3dBi.</p> <p>3. PER has been monitored is 1.83%.</p>				

802.11n (HT40)		5190MHz		
Wanted signal mean power from companion device (dBm)	Blocking signal frequency (MHz)	Blocking signal power (dBm)	Type of blocking signal	PASS
Pmin+6dB	5100	-61.3	CW	
Pmin+6dB	4900	-55.3	CW	
Pmin+6dB	5000	-55.3	CW	
Pmin+6dB	5975	-55.3	CW	
<p>Note: 1. <i>Pmin=-76.2dBm</i>, <i>Pmin</i> is the minimum level of wanted signal (in dBm) required to meet the minimum performance criteria, which the minimum performance criterion shall be a PER less than or equal to 10 %.</p> <p>2. <i>Blocking signal power should be equal or greater than -59dBm /-53dBm+Antenna gain, Antenna gain is -2.3dBi.</i></p> <p>3. <i>PER has been monitored is 1.27%.</i></p>				

802.11ac (HT40)		5190MHz		
Wanted signal mean power from companion device (dBm)	Blocking signal frequency (MHz)	Blocking signal power (dBm)	Type of blocking signal	PASS
Pmin+6dB	5100	-61.3	CW	
Pmin+6dB	4900	-55.3	CW	
Pmin+6dB	5000	-55.3	CW	
Pmin+6dB	5975	-55.3	CW	
<p>Note: 1. <math>P_{min}=-74.8\text{dBm}</math>, <math>P_{min}</math> is the minimum level of wanted signal (in dBm) required to meet the minimum performance criteria, which the minimum performance criterion shall be a PER less than or equal to 10 %.</p> <p>2. Blocking signal power should be equal or greater than -59dBm /-53dBm+Antenna gain, Antenna gain is -2.3dBi.</p> <p>3. PER has been monitored is 1.25%.</p>				

802.11ac (HT80)		5210MHz		
Wanted signal mean power from companion device (dBm)	Blocking signal frequency (MHz)	Blocking signal power (dBm)	Type of blocking signal	PASS
Pmin+6dB	5100	-61.3	CW	
Pmin+6dB	4900	-55.3	CW	
Pmin+6dB	5000	-55.3	CW	
Pmin+6dB	5975	-55.3	CW	
<p>Note: 1. <i>Pmin=-71.5dBm, Pmin is the minimum level of wanted signal (in dBm) required to meet the minimum performance criteria, which the minimum performance criterion shall be a PER less than or equal to 10 %.</i></p> <p>2. <i>Blocking signal power should be equal or greater than -59dBm /-53dBm+Antenna gain, Antenna gain is -2.3dBi.</i></p> <p>3. <i>PER has been monitored is 1.58%.</i></p>				

## 5.9. User Access Restrictions

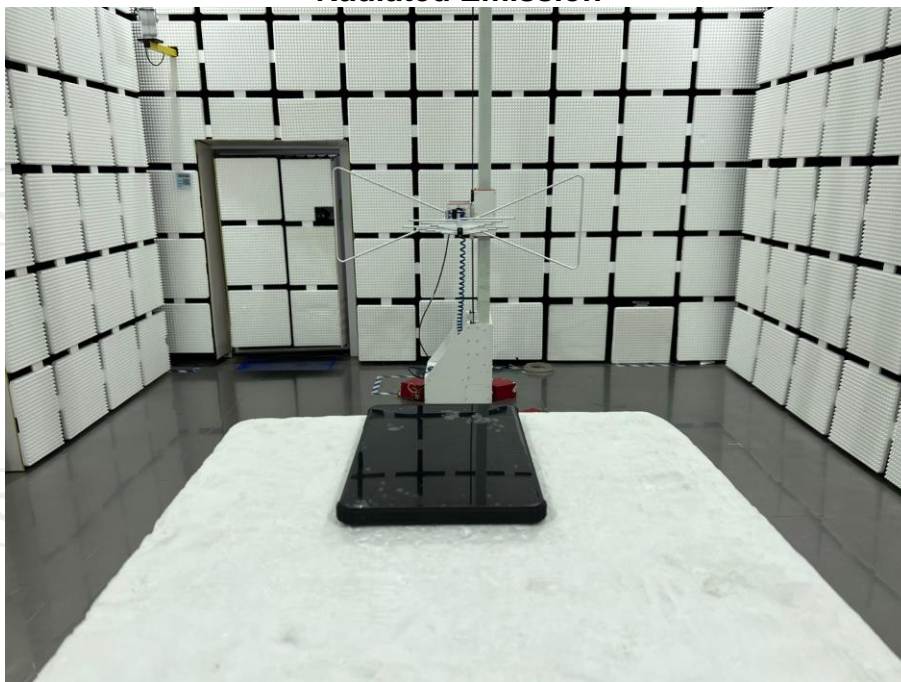
### 5.9.1. Test Specification

<b>Test Requirement:</b>	ETSI EN 301 893 clause 4.2.9
<b>Test Method:</b>	ETSI EN 301 893 clause 4.2.6.2
<b>Test Requirement:</b>	DFS Controls (hardware or software) related to radar detection shall not be accessible to the user so that the DFS requirements described in clauses 4.2.6.2.1 to 4.2.6.2.6 can neither be disabled nor altered.
<b>Test Result:</b>	The EUT has no radar detection function and the manufacturer will restrict access for the user to change certain hardware and /or software settings of the equipment.



## 6. Photographs of Test Configuration

Radiated Emission



## 7. Photographs of EUT

Refer to the test report No. TCT230327E039

\*\*\*\*\***END OF REPORT**\*\*\*\*\*