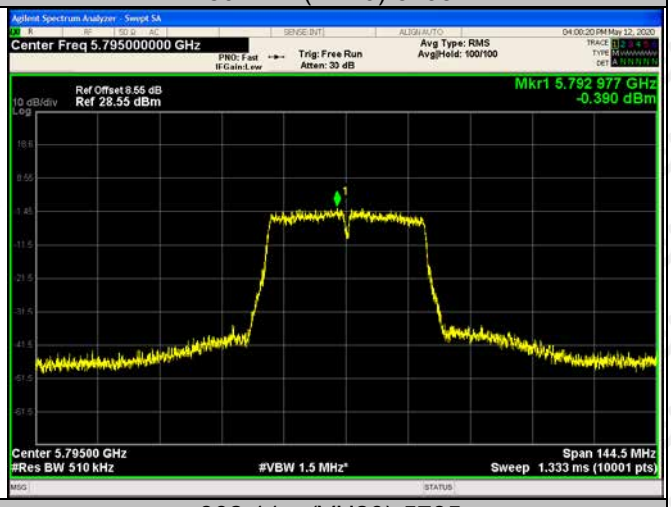
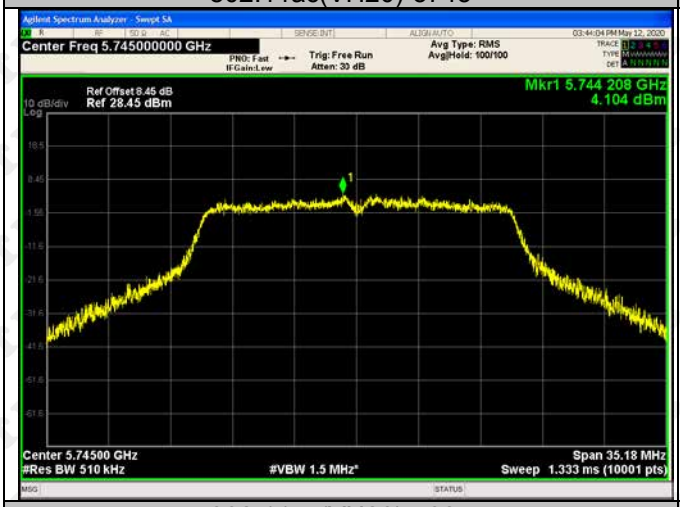
802.11n(HT40)-5755

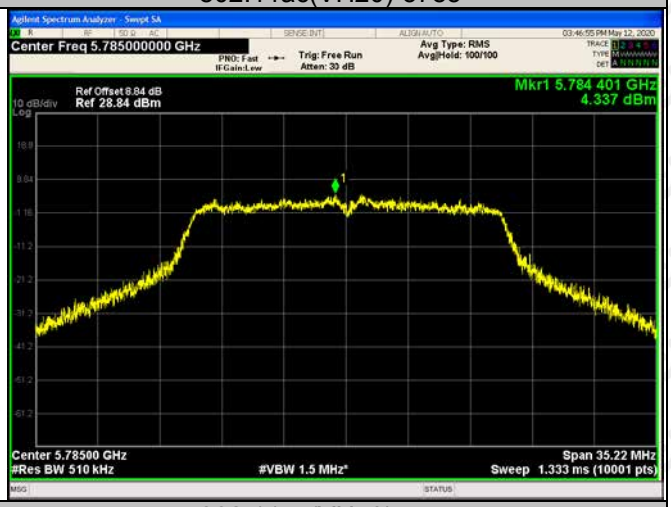
802.11n(HT40)-5795



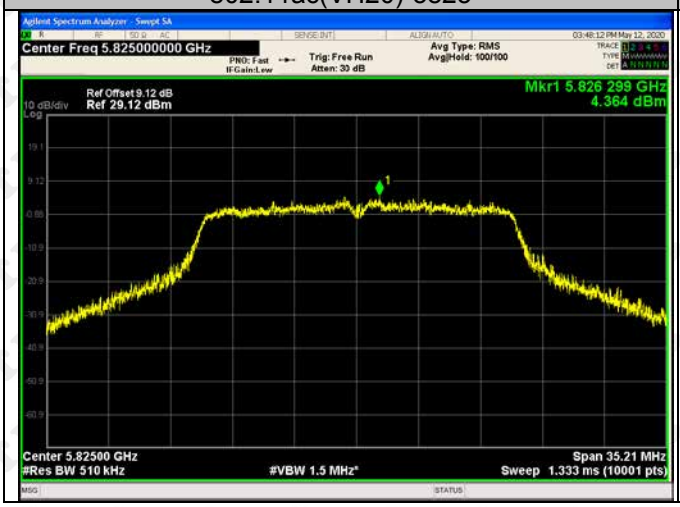
802.11ac(VH20)-5745



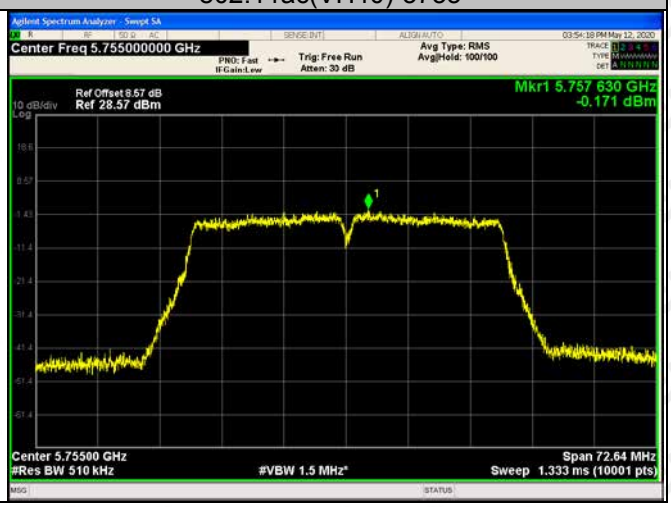
802.11ac(VH20)-5785

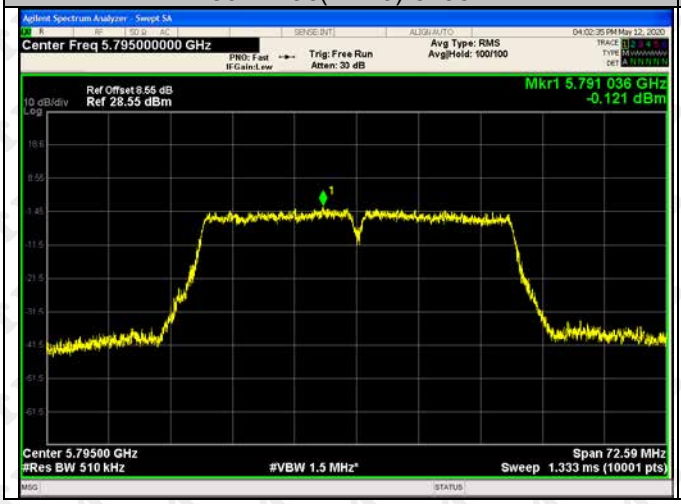
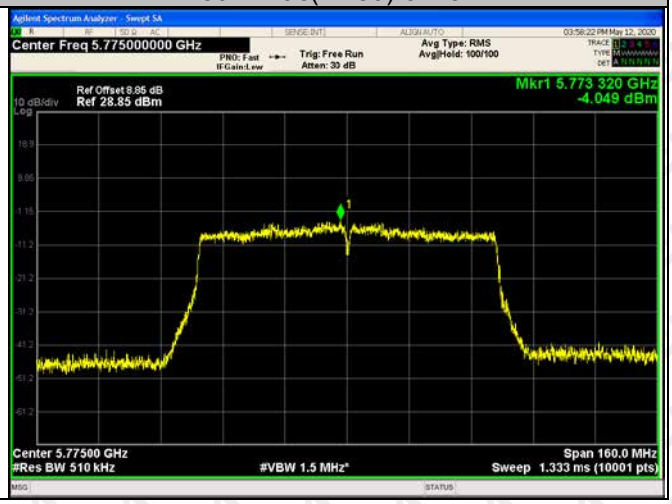


802.11ac(VH20)-5825

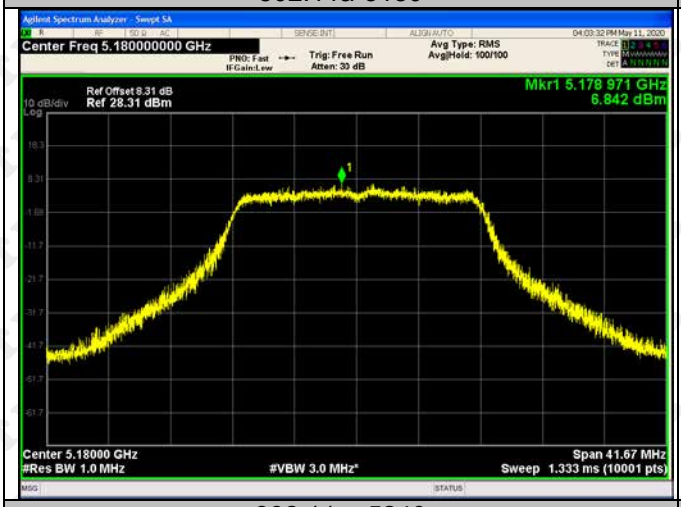
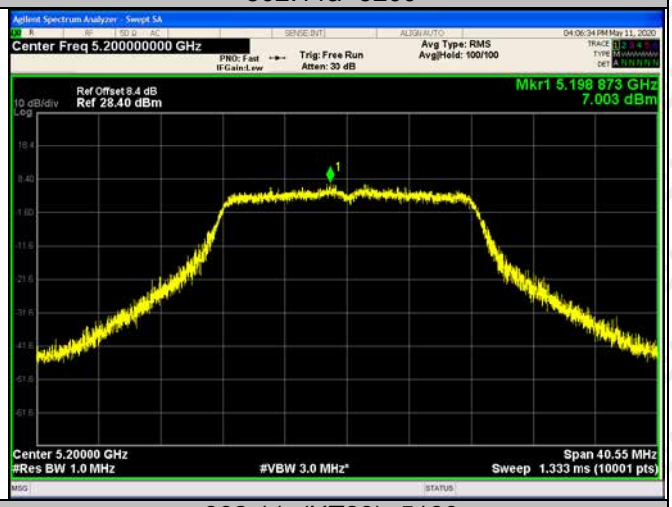
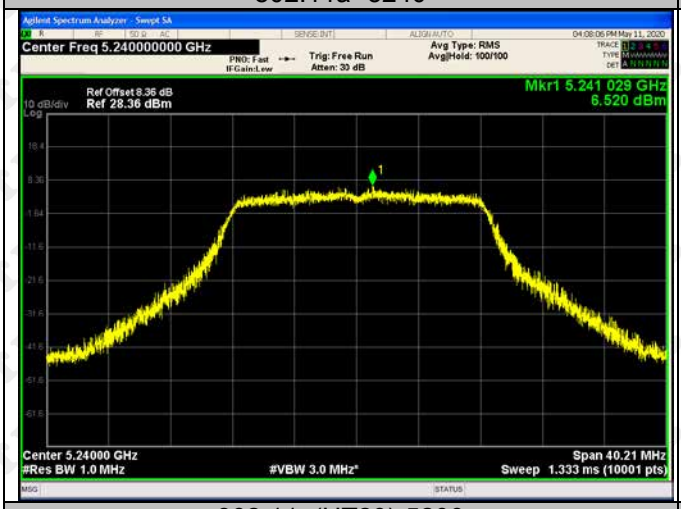
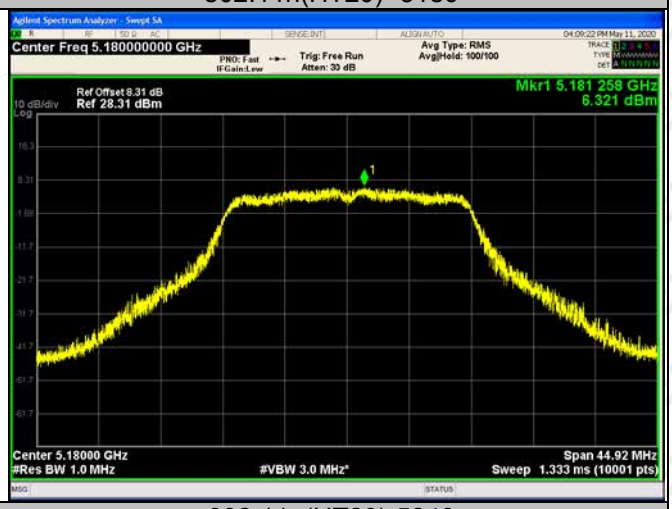


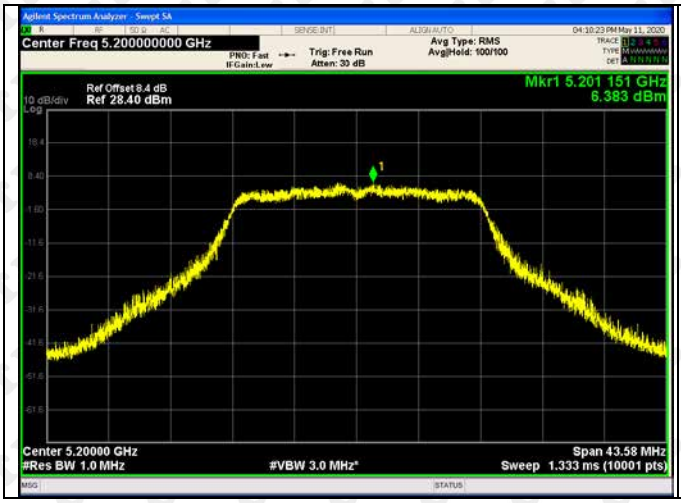
802.11ac(VH40)-5755



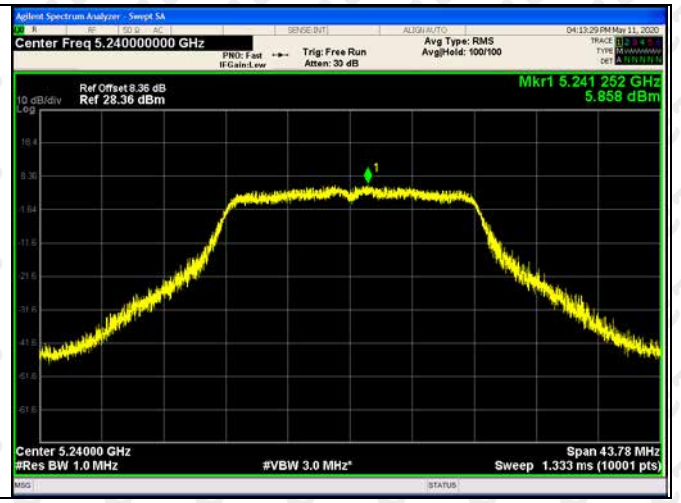
802.11ac(VH40)-5795	802.11ac(VH80)-5775
	

ANT 2
5150-5250MHz

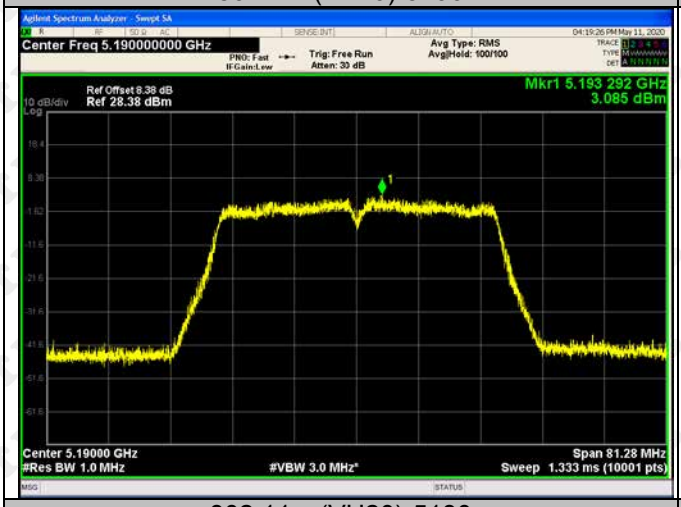
802.11a-5180	802.11a -5200
	
802.11a -5240	802.11n(HT20) -5180
	
802.11n(HT20)-5200	802.11n(HT20)-5240



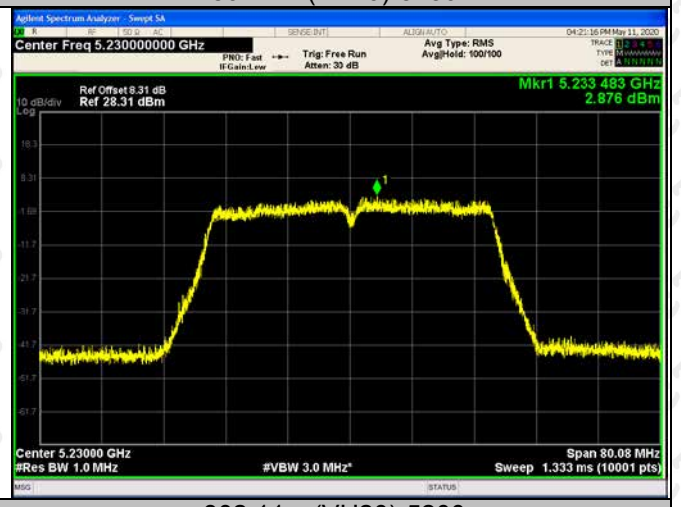
802.11n(HT40)-5190



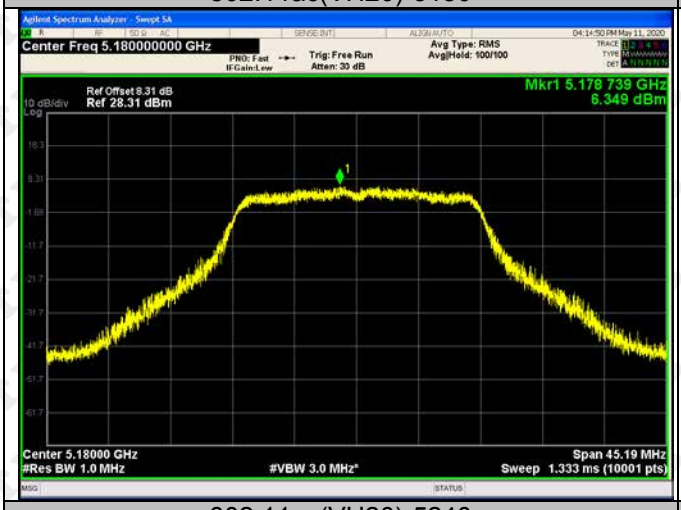
802.11n(HT40)-5230



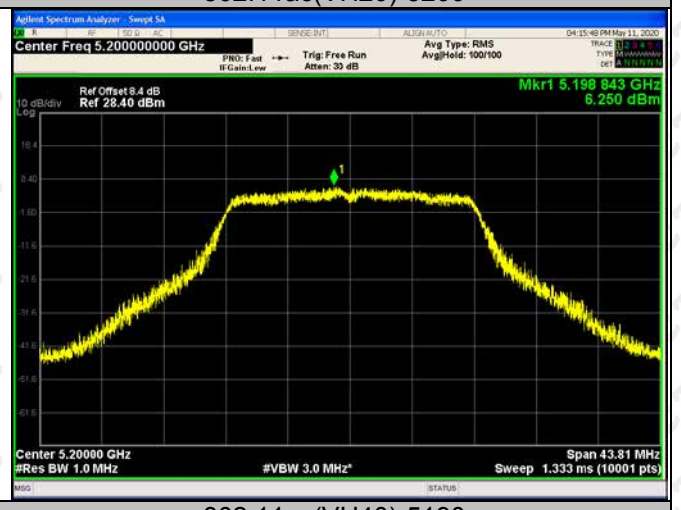
802.11ac(VH20)-5180



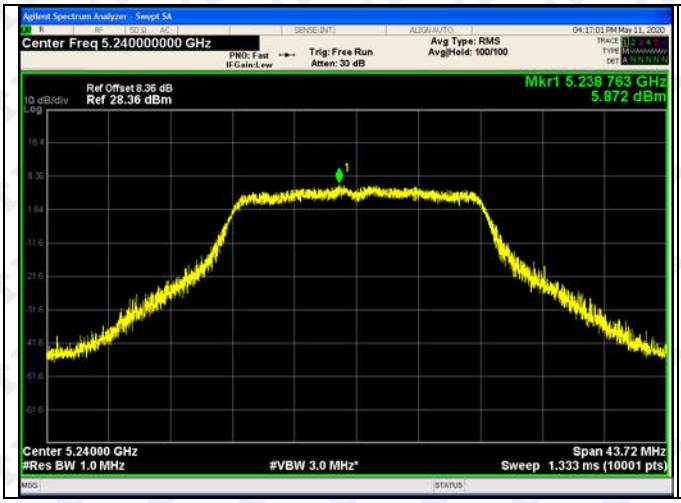
802.11ac(VH20)-5200

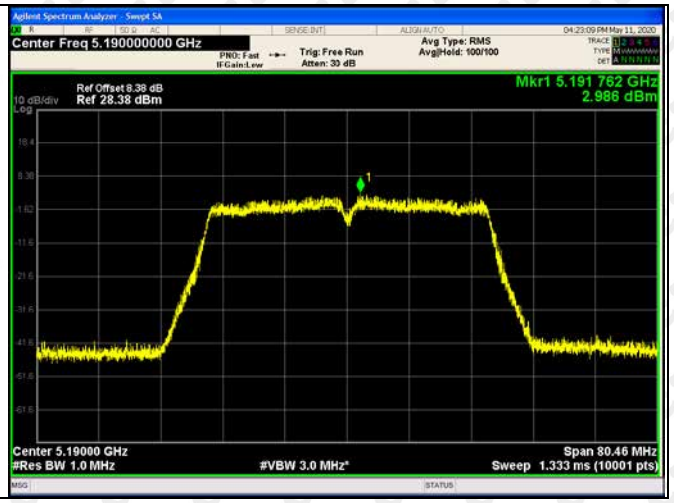


802.11ac(VH20)-5240

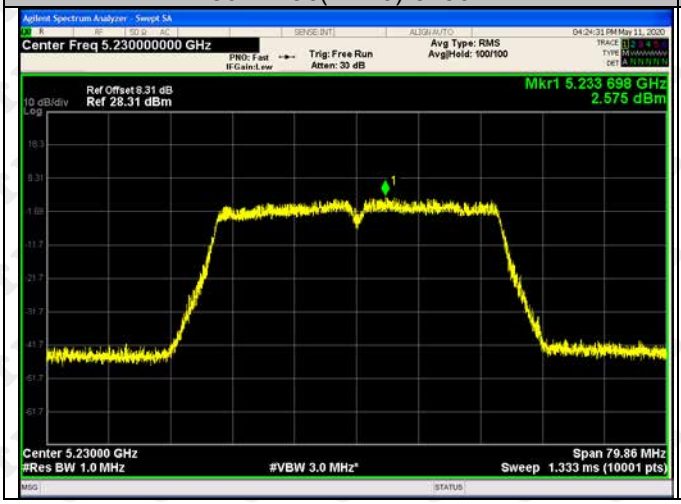


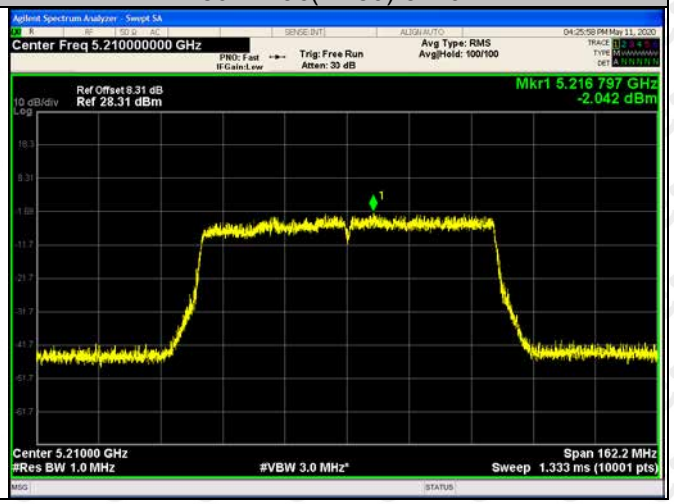
802.11ac(VH40)-5190





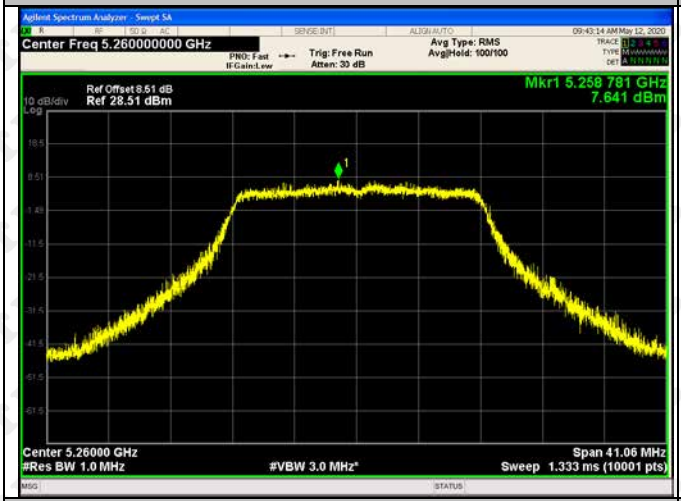
802.11ac(VH40)-5230	802.11ac(VH80)-5210



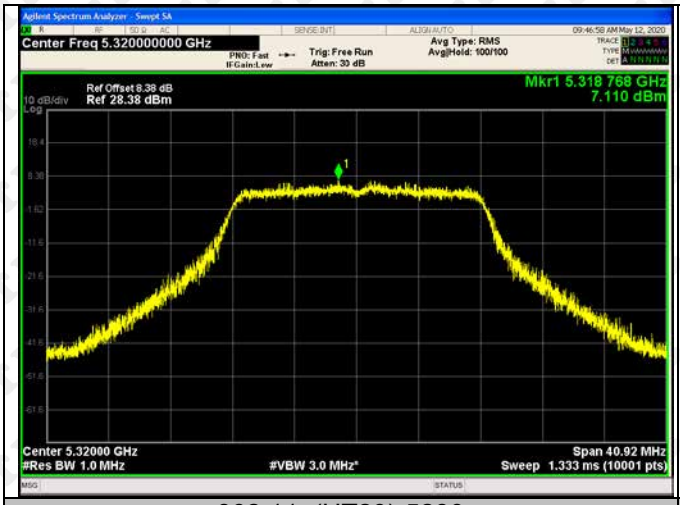


5250-5350MHz

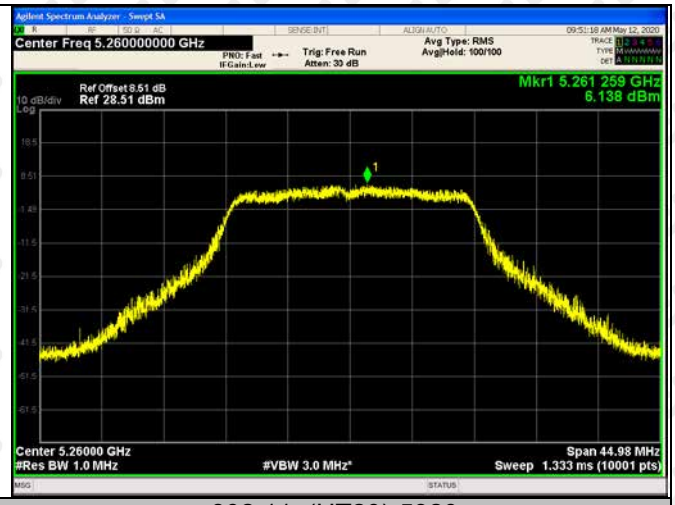
802.11a-5260	802.11a-5280



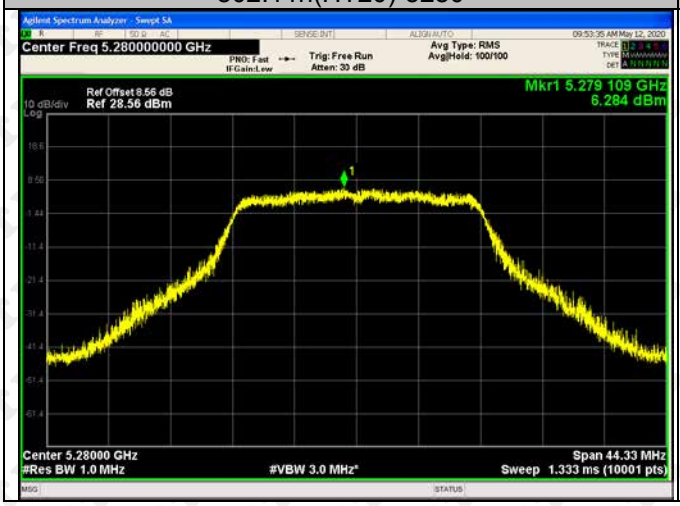
802.11a-5320	802.11n(HT20)-5260



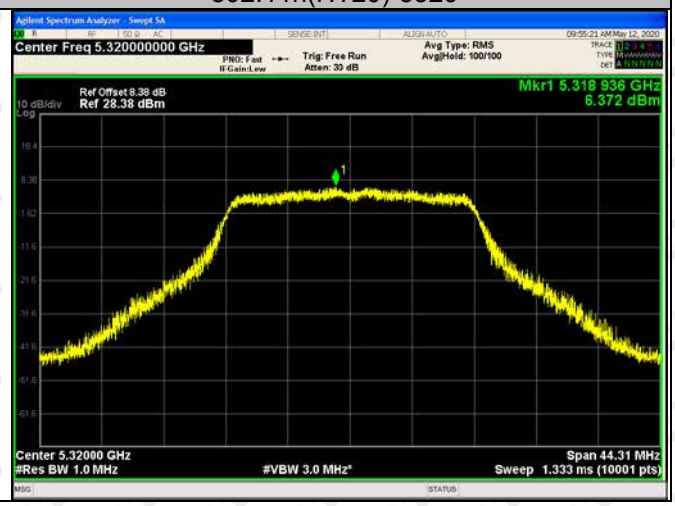
802.11n(HT20)-5280



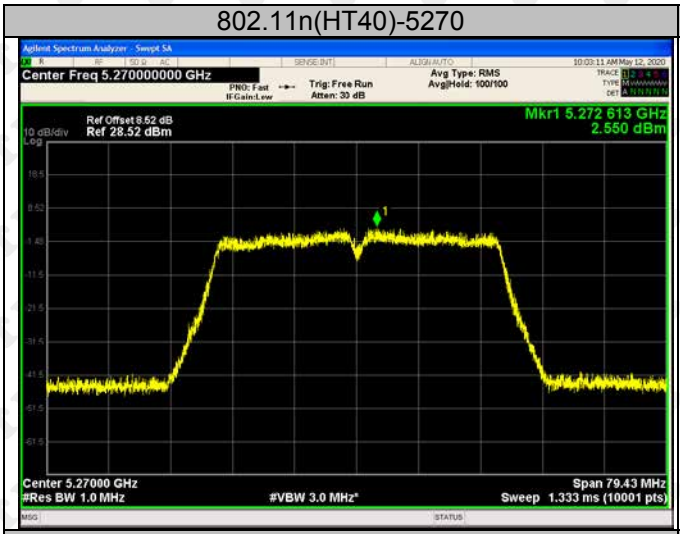
802.11n(HT20)-5320



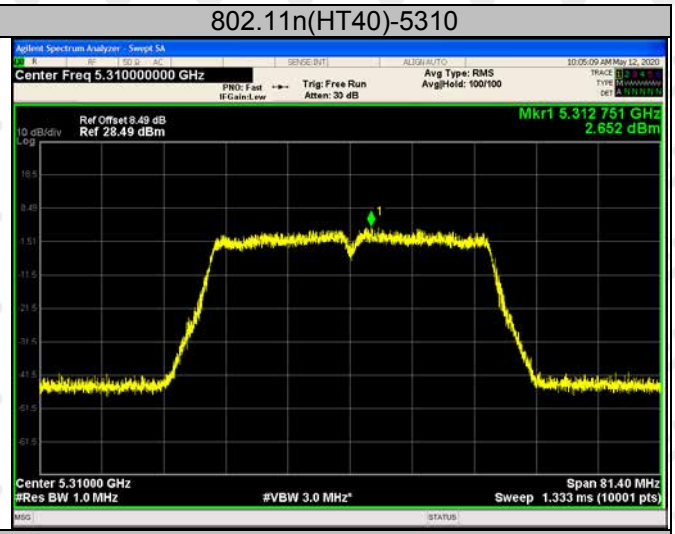
802.11n(HT40)-5270



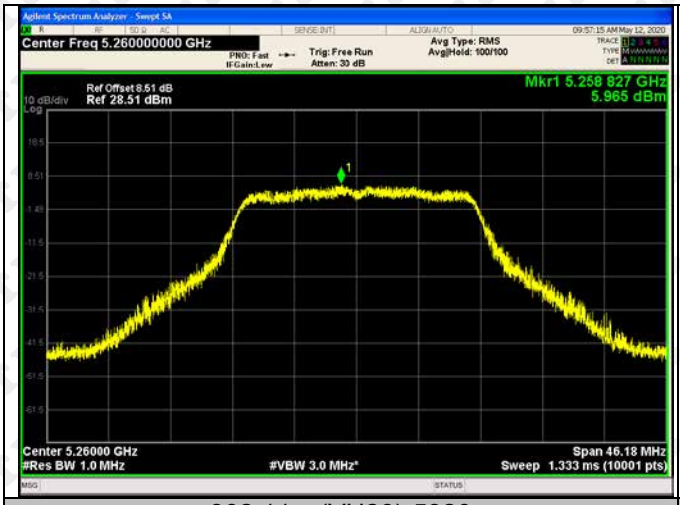
802.11n(HT40)-5310



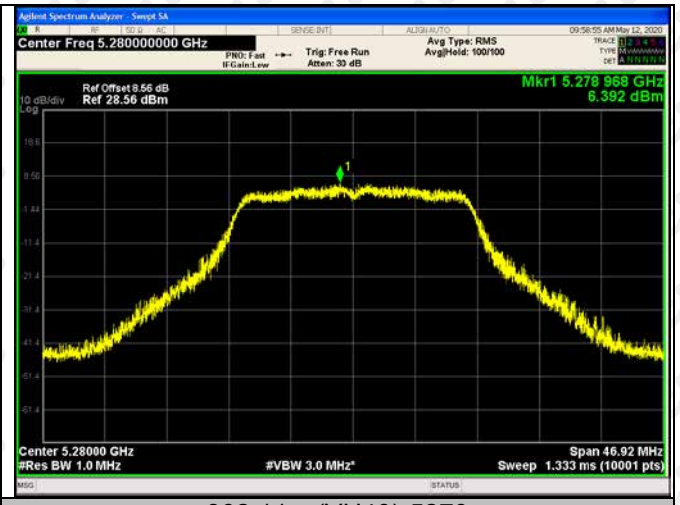
802.11ac(VH20)-5260



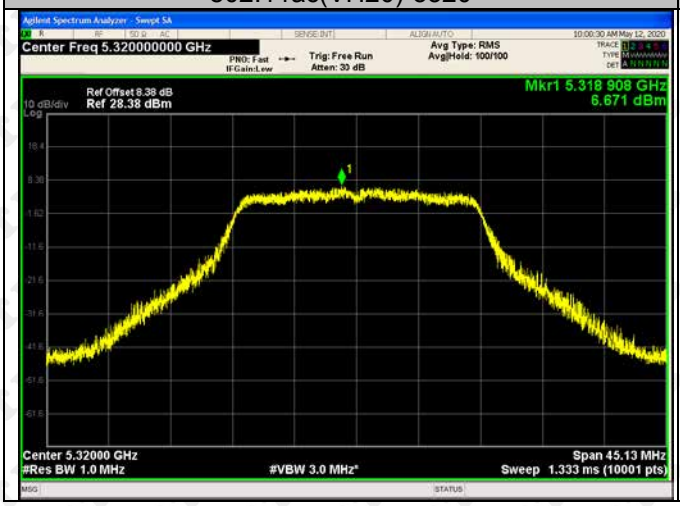
802.11ac(VH20)-5280



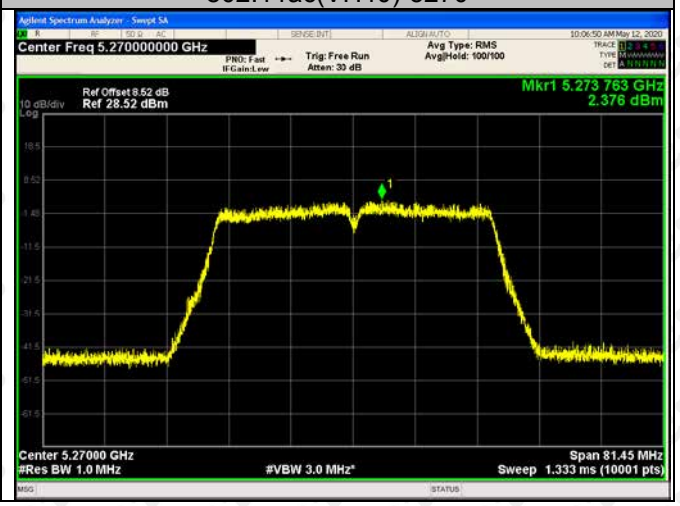
802.11ac(VH20)-5320



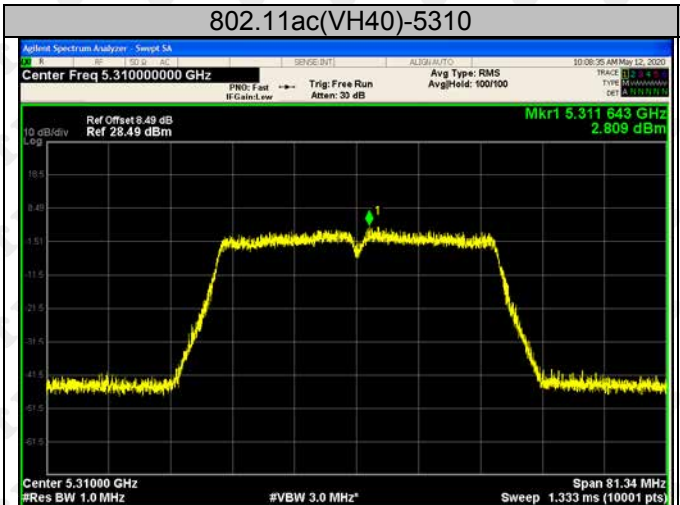
802.11ac(VH40)-5270

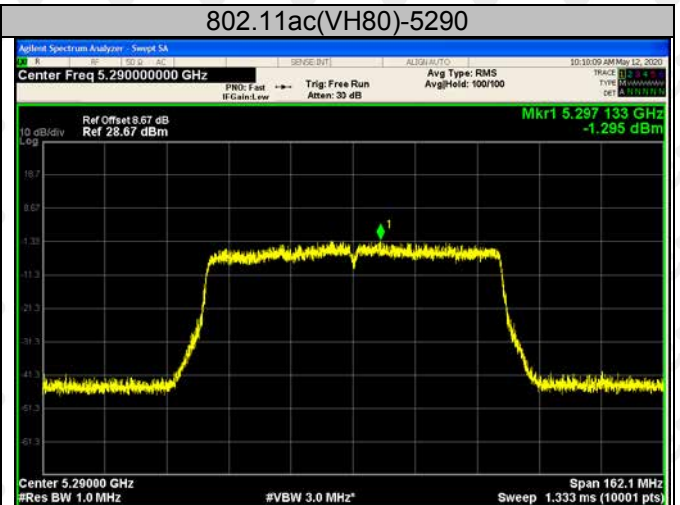


802.11ac(VH40)-5310



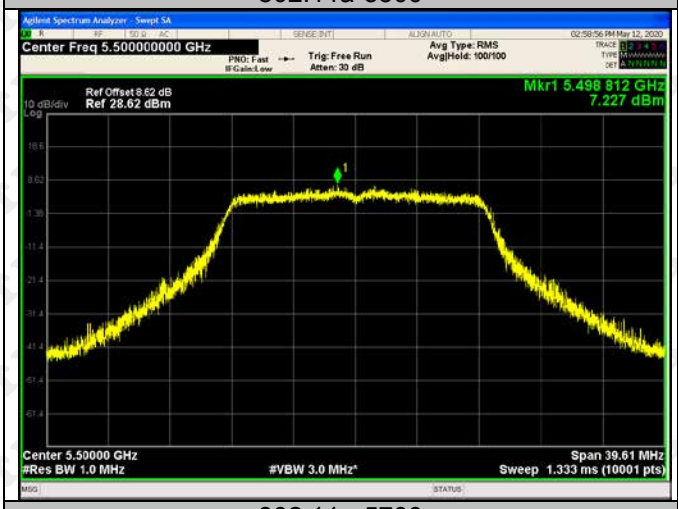
802.11ac(VH80)-5290



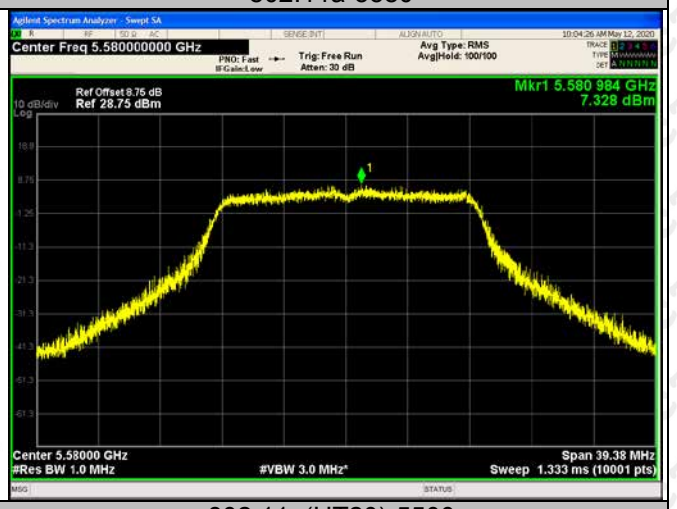


5470-5725MHz

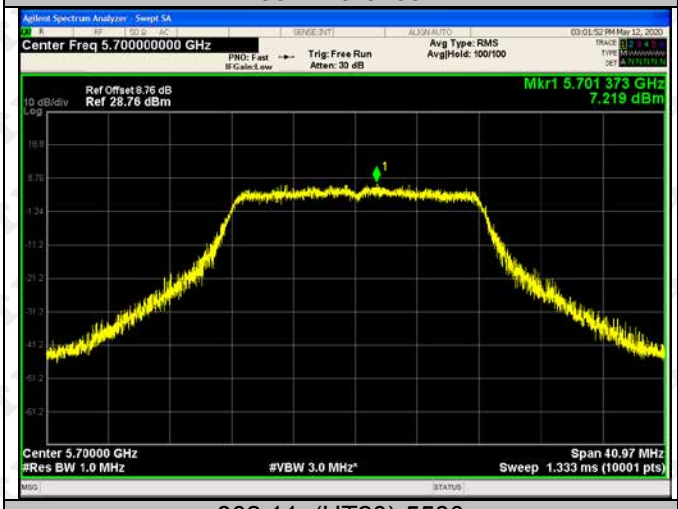
802.11a-5500



802.11a-5580

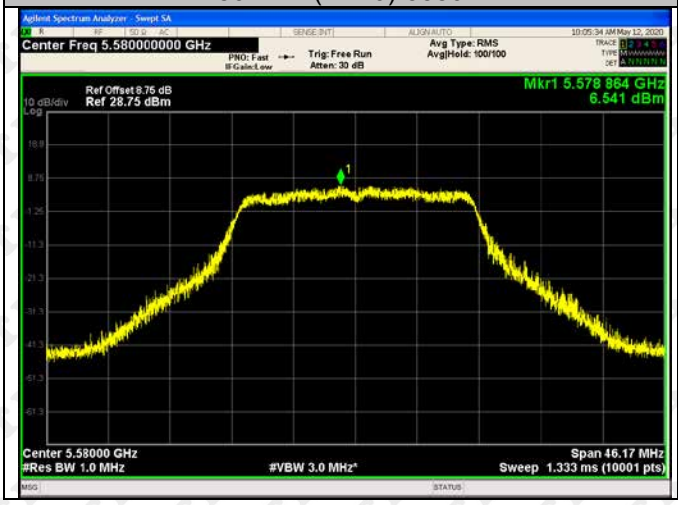


802.11a-5700

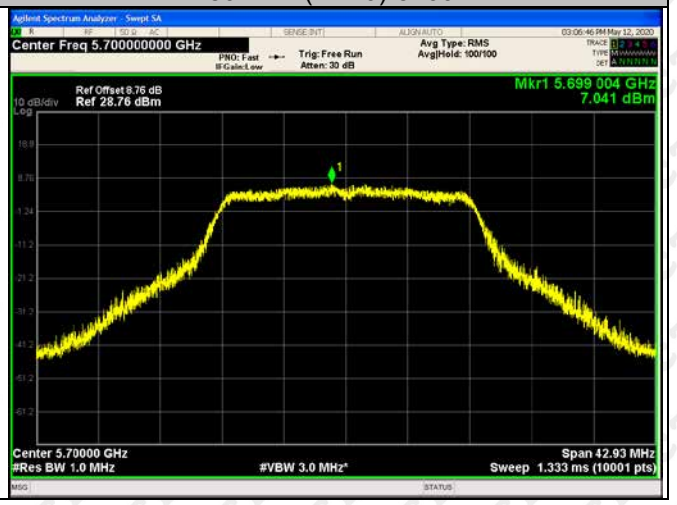


802.11n(HT20)-5500

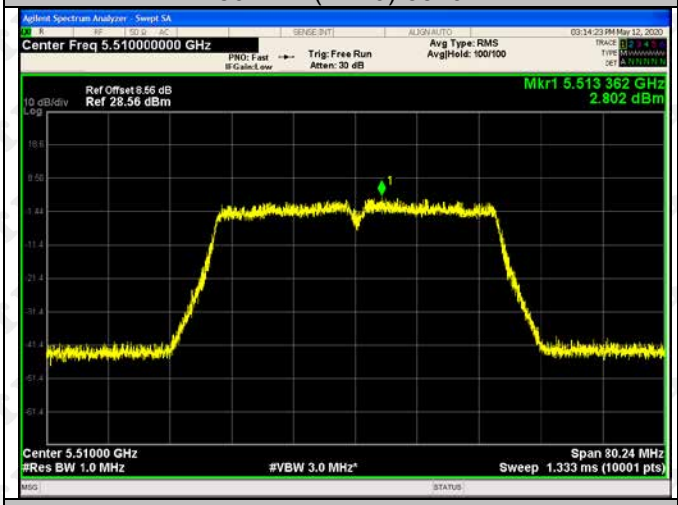
802.11n(HT20)-5580



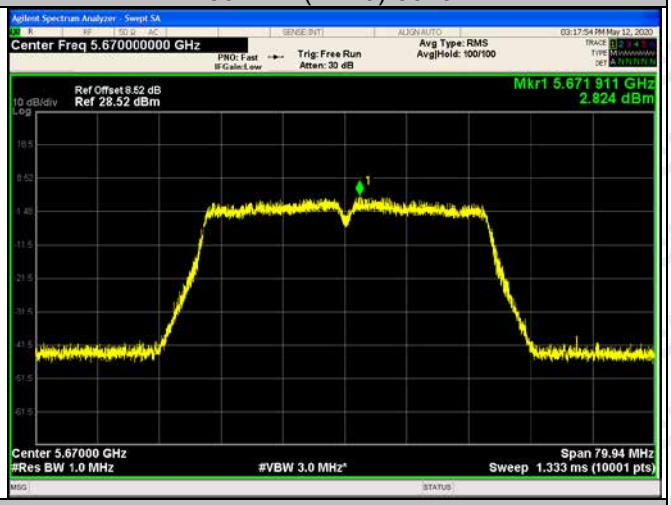
802.11n(HT20)-5700



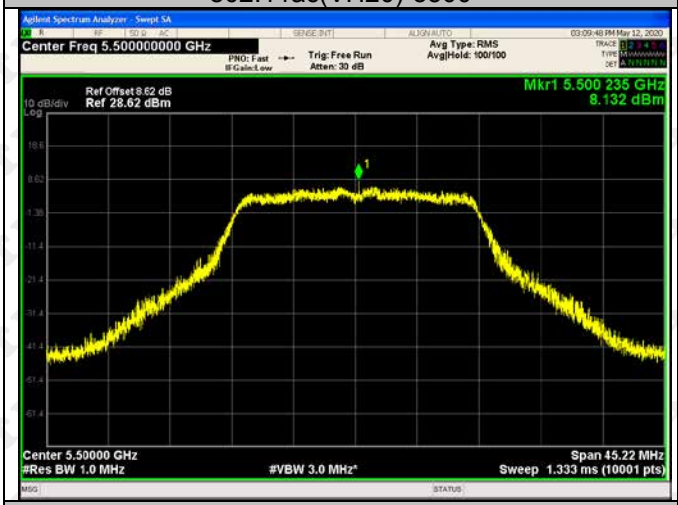
802.11n(HT40)-5510



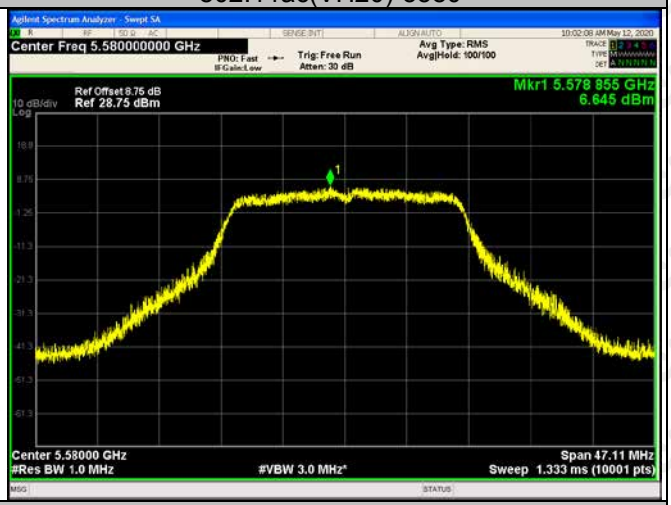
802.11n(HT40)-5670



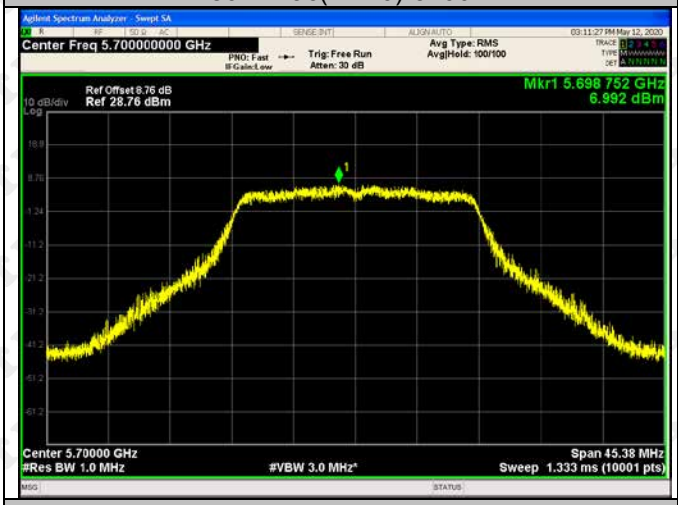
802.11ac(VH20)-5500



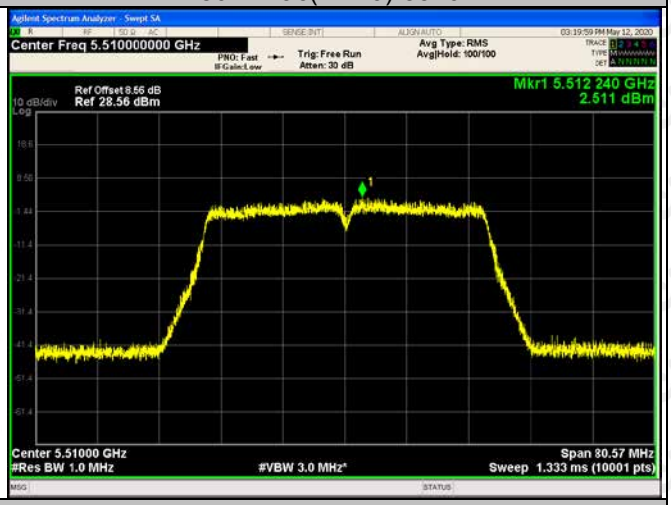
802.11ac(VH20)-5580



802.11ac(VH20)-5700

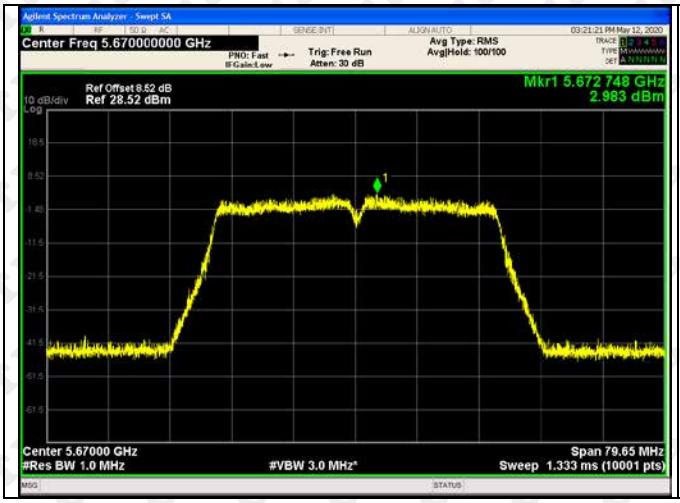


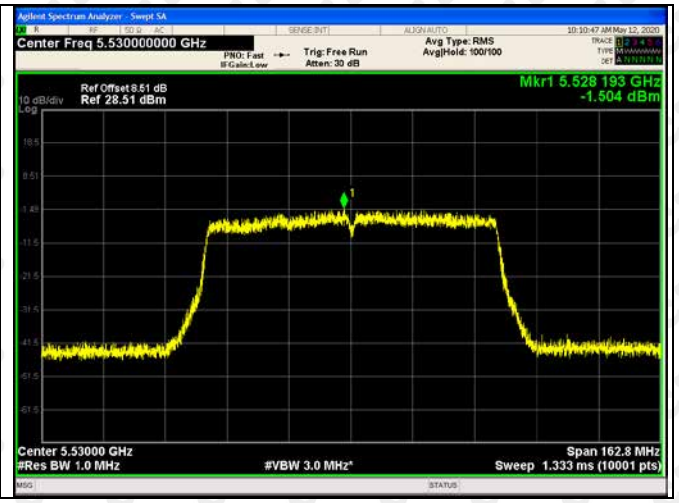
802.11ac(VH40)-5510



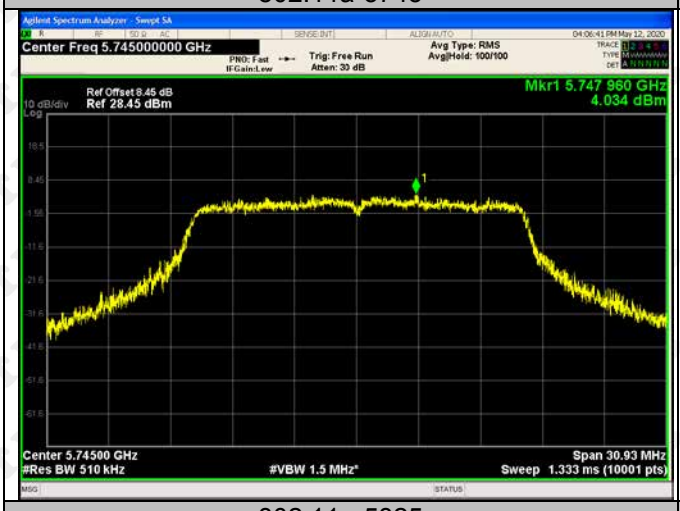
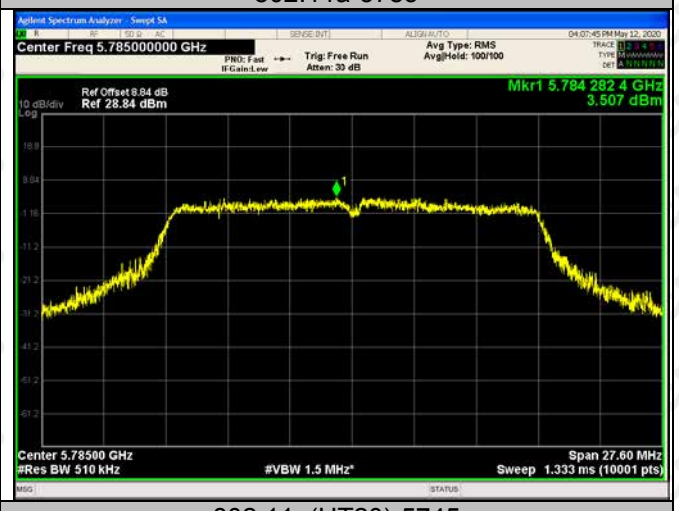
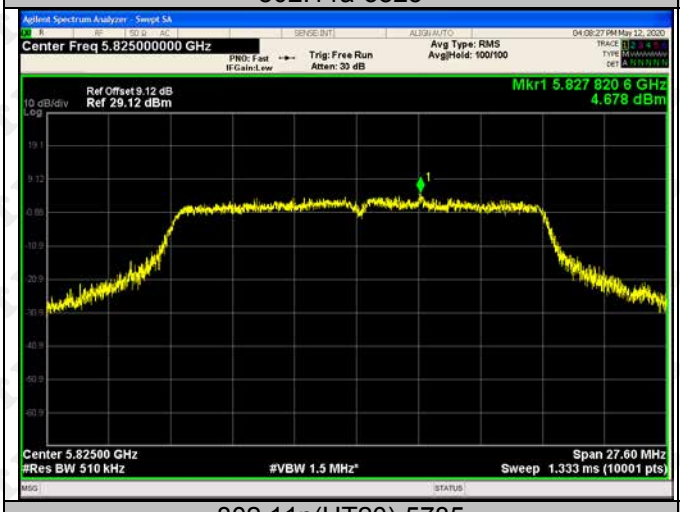
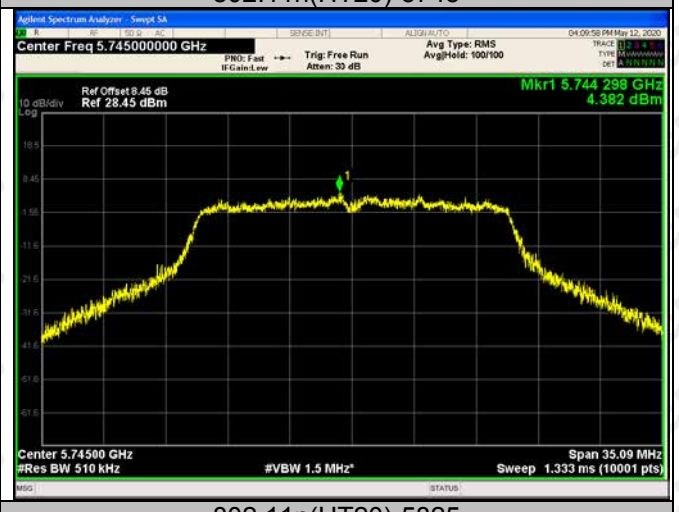
802.11ac(VH40)-5670

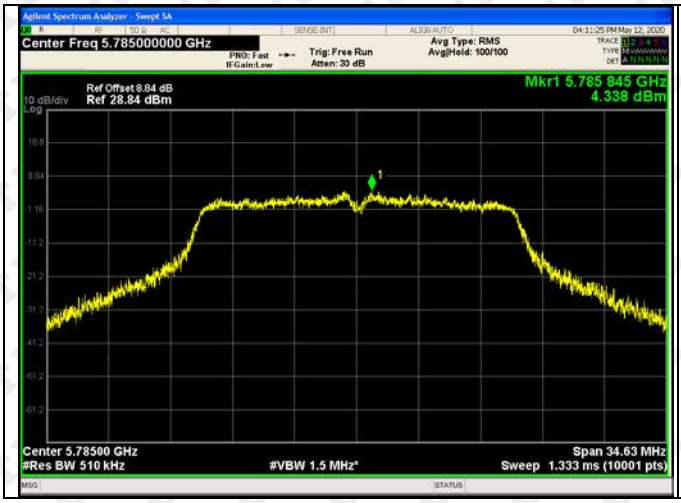
802.11ac(VH80)-5530



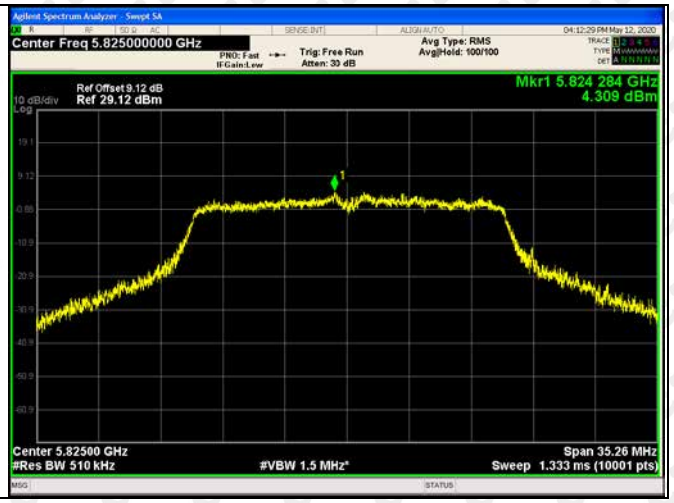


5725-5850MHz

802.11a-5745	802.11a-5785
	
802.11a-5825	802.11n(HT20)-5745
	
802.11n(HT20)-5785	802.11n(HT20)-5825

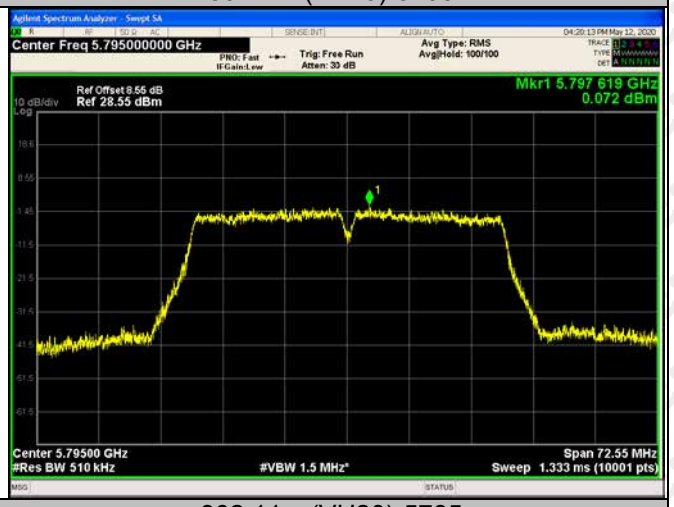


802.11n(HT40)-5755

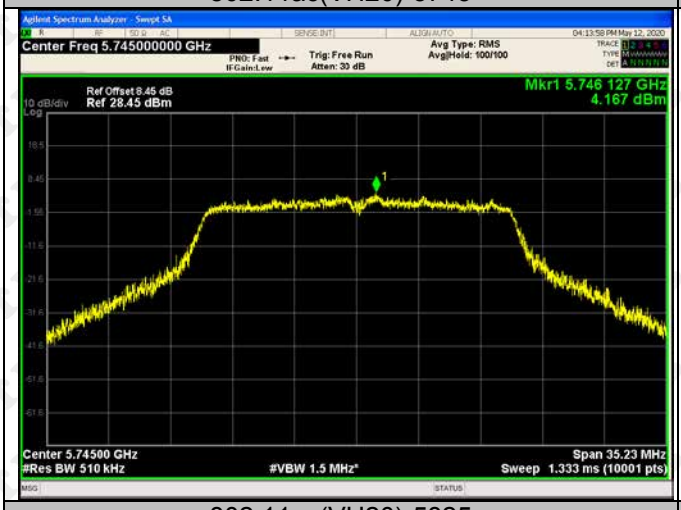


802.11n(HT40)-5795

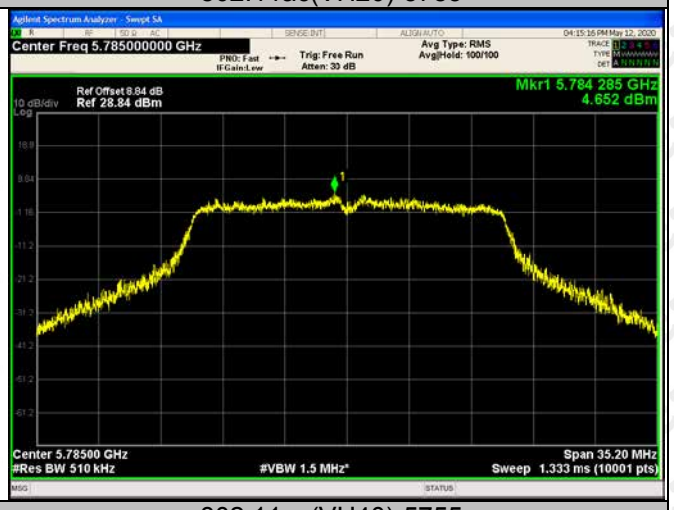
802.11ac(VH20)-5745



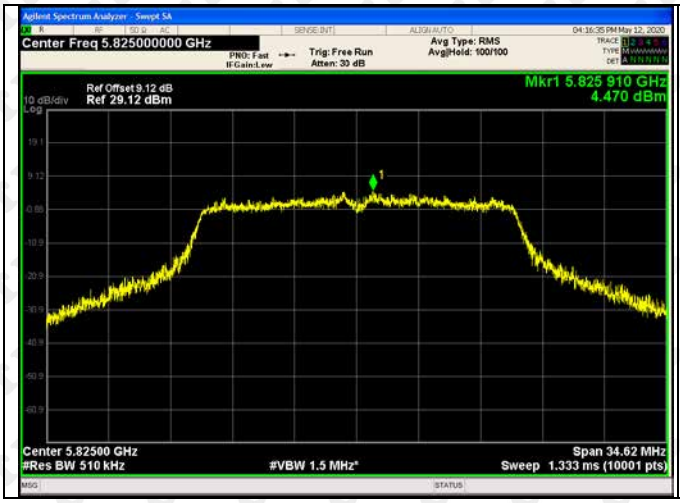
802.11ac(VH20)-5785

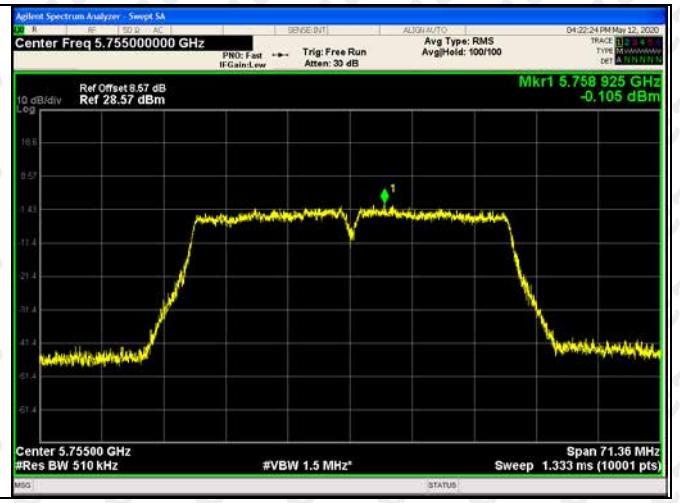


802.11ac(VH20)-5825

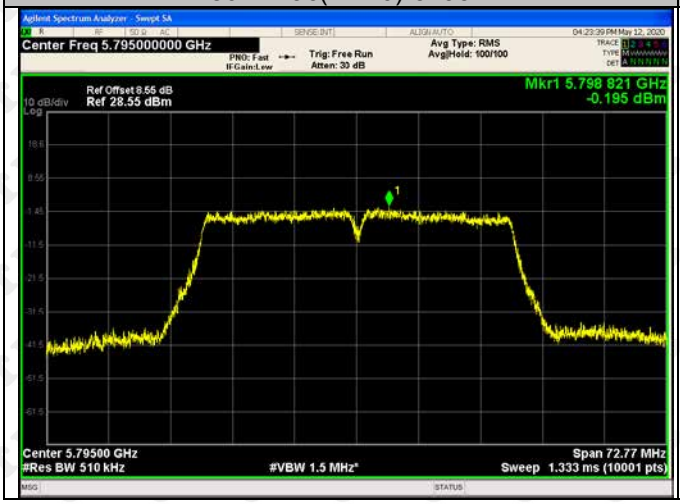


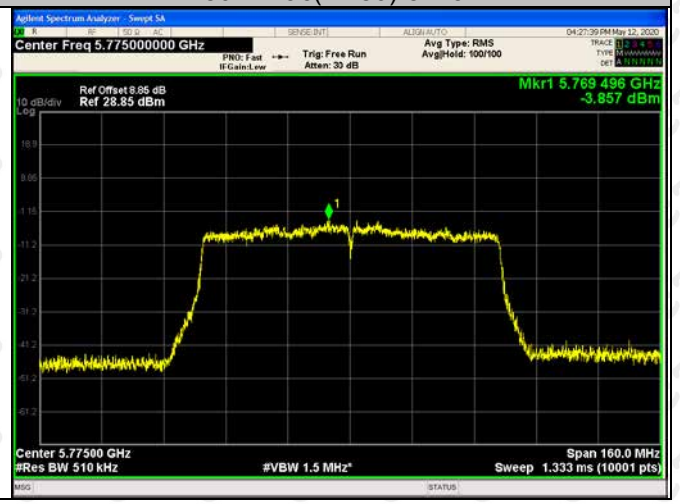
802.11ac(VH40)-5755





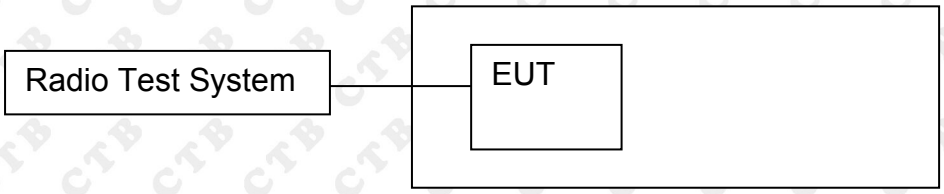
802.11ac(VH40)-5795	802.11ac(VH80)-5775





12. FREQUENCY STABILITY

12.1 Block Diagram Of Test Setup



12.2 Limit

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

12.3 Test procedure

1. The EUT was placed inside temperature chamber and powered and powered by nominal DC voltage.

2. Set EUT as normal operation.

3. Turn the EUT on and couple its output to spectrum.

4. Turn the EUT off and set the chamber to the highest temperature specified.

5. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT and measure the operating frequency.

6. Repeat step with the temperature chamber set to the lowest temperature.

12.4 Test Result

Remark: This Report only show the test plots of the ANT1 worst case.

5150-5250MHz

Test mode	Test Voltage	Test Temperature(°)	Test Channel (MHz)	Measured (MHz)	Tolerance (MHz)
802.11a	NV	-30	5200	5200.005	0.005
		-20		5200.004	0.004
		-10		5200.005	0.005
		0		5200.005	0.005
		+10		5200.002	0.002
		+20		5200.005	0.005
		+30		5200.005	0.005
		+40		5200.004	0.004
		+50		5200.005	0.005
	LV	+20		5200.000	0.000
	HV	+20		5200.001	0.001
802.11n(HT20)	NV	-30	5200	5200.004	0.004
		-20		5200.001	0.001
		-10		5200.004	0.004
		0		5200.002	0.002
		+10		5200.001	0.001
		+20		5200.002	0.002
		+30		5200.003	0.003
		+40		5200.000	0.000
		+50		5200.002	0.002
	LV	+20		5200.002	0.002
	HV	+20		5200.004	0.004
802.11n(HT40)	NV	-30	5230	5230.003	0.003
		-20		5230.002	0.002
		-10		5230.000	0.000
		0		5230.000	0.000
		+10		5230.003	0.003
		+20		5230.004	0.004
		+30		5230.000	0.000
		+40		5230.004	0.004
		+50		5230.005	0.005
	LV	+20		5230.001	0.001
	HV	+20		5230.004	0.004
802.11ac(VH20)	NV	-30	5200	5200.002	0.002
		-20		5200.003	0.003
		-10		5200.002	0.002
		0		5200.003	0.003
		+10		5200.003	0.003
		+20		5200.000	0.000
		+30		5200.003	0.003
		+40		5200.003	0.003
		+50		5200.003	0.003
	LV	+20		5200.004	0.004
	HV	+20		5200.004	0.004
802.11ac(VH40)	NV	-30	5230	5230.003	0.003
		-20		5230.002	0.002
		-10		5230.000	0.000
		0		5230.000	0.000
		+10		5230.003	0.003

		+20		5230.004	0.004
		+30		5230.000	0.000
		+40		5230.004	0.004
		+50		5230.005	0.005
	LV	+20		5230.001	0.001
	HV	+20		5230.004	0.004
802.11ac(VH80)	NV	-30	5210	5210.002	0.002
		-20		5210.000	0.000
		-10		5210.002	0.002
		0		5210.003	0.003
		+10		5210.001	0.001
		+20		5210.004	0.004
		+30		5210.002	0.002
		+40		5210.003	0.003
		+50		5210.001	0.001
	LV	+20		5210.004	0.004
	HV	+20		5210.004	0.004

5250-5350 MHz

Test mode	Test Voltage	Test Temperature(°)	Test Channel (MHz)	Measured (MHz)	Tolerance (MHz)
802.11a	NV	-30	5280	5280.000	0.000
		-20		5280.003	0.003
		-10		5280.002	0.002
		0		5280.002	0.002
		+10		5280.004	0.004
		+20		5280.003	0.003
		+30		5280.000	0.000
		+40		5280.003	0.003
		+50		5280.005	0.005
	LV	+20		5280.000	0.000
	HV	+20		5280.004	0.004
802.11n(HT20)	NV	-30	5280	5280.001	0.001
		-20		5280.001	0.001
		-10		5280.000	0.000
		0		5280.003	0.003
		+10		5280.004	0.004
		+20		5280.002	0.002
		+30		5280.002	0.002
		+40		5280.003	0.003
		+50		5280.004	0.004
	LV	+20		5280.005	0.005
	HV	+20		5280.001	0.001
802.11n(HT40)	NV	-30	5310	5310.004	0.004
		-20		5310.004	0.004
		-10		5310.000	0.000
		0		5310.001	0.001
		+10		5310.005	0.005
		+20		5310.001	0.001
		+30		5310.005	0.005
		+40		5310.005	0.005
		+50		5310.001	0.001
	LV	+20		5310.002	0.002
	HV	+20		5310.005	0.005

802.11ac(VH20)	NV	-30	5310	5310.001	0.001
		-20		5310.005	0.005
		-10		5310.000	0.000
		0		5310.003	0.003
		+10		5310.003	0.003
		+20		5310.002	0.002
		+30		5310.001	0.001
		+40		5310.001	0.001
		+50		5310.005	0.005
	LV	+20		5310.002	0.002
	HV	+20		5310.003	0.003
802.11ac(VH40)	NV	-30	5310	5310.002	0.002
		-20		5310.000	0.000
		-10		5310.001	0.001
		0		5310.004	0.004
		+10		5310.003	0.003
		+20		5310.003	0.003
		+30		5310.002	0.002
		+40		5310.002	0.002
		+50		5310.000	0.000
	LV	+20		5310.003	0.003
	HV	+20		5310.001	0.001
802.11ac(VH80)	NV	-30	5290	5290.003	0.003
		-20		5290.003	0.003
		-10		5290.003	0.003
		0		5290.004	0.004
		+10		5290.000	0.000
		+20		5290.004	0.004
		+30		5290.004	0.004
		+40		5290.002	0.002
		+50		5290.003	0.003
	LV	+20		5290.004	0.004
	HV	+20		5290.001	0.001

5470-5725 MHz

Test mode	Test Voltage	Test Temperature(°)	Test Channel (MHz)	Measured (MHz)	Tolerance (MHz)
802.11a	NV	-30	5580	5580.001	0.001
		-20		5580.003	0.003
		-10		5580.000	0.000
		0		5580.003	0.003
		+10		5580.001	0.001
		+20		5580.003	0.003
		+30		5580.001	0.001
		+40		5580.002	0.002
		+50		5580.005	0.005
	LV	+20		5580.003	0.003
	HV	+20		5580.001	0.001
802.11n(HT20)	NV	-30	5580	5580.002	0.002
		-20		5580.002	0.002
		-10		5580.001	0.001
		0		5580.003	0.003
		+10		5580.001	0.001

		+20		5580.002	0.002
		+30		5580.004	0.004
		+40		5580.001	0.001
		+50		5580.001	0.001
	LV	+20		5580.001	0.001
	HV	+20		5580.000	0.000
802.11n(HT40)	NV	-30	5590	5590.005	0.005
		-20		5590.004	0.004
		-10		5590.002	0.002
		0		5590.001	0.001
		+10		5590.002	0.002
		+20		5590.002	0.002
		+30		5590.005	0.005
		+40		5590.003	0.003
		+50		5590.001	0.001
	LV	+20		5590.001	0.001
	HV	+20		5590.003	0.003
802.11ac(VH20)	NV	-30	5580	5580.000	0.000
		-20		5580.002	0.002
		-10		5580.002	0.002
		0		5580.001	0.001
		+10		5580.001	0.001
		+20		5580.004	0.004
		+30		5580.000	0.000
		+40		5580.000	0.000
		+50		5580.004	0.004
	LV	+20		5580.004	0.004
	HV	+20		5580.002	0.002
802.11ac(VH40)	NV	-30	5590	5590.003	0.003
		-20		5590.002	0.002
		-10		5590.001	0.001
		0		5590.002	0.002
		+10		5590.004	0.004
		+20		5590.003	0.003
		+30		5590.005	0.005
		+40		5590.001	0.001
		+50		5590.004	0.004
	LV	+20		5590.002	0.002
	HV	+20		5590.002	0.002
802.11ac(VH80)	NV	-30	5530	5530.003	0.003
		-20		5530.001	0.001
		-10		5530.000	0.000
		0		5530.003	0.003
		+10		5530.001	0.001
		+20		5530.001	0.001
		+30		5530.002	0.002
		+40		5530.001	0.001
		+50		5530.001	0.001
	LV	+20		5530.004	0.004
	HV	+20		5530.002	0.002

5725-5850MHz

Test mode	Test Voltage	Test Temperature(°)	Test Channel (MHz)	Measured (MHz)	Tolerance (MHz)
802.11a	NV	-30	5785	5785.002	0.002
		-20		5785.000	0.000
		-10		5785.004	0.004
		0		5785.002	0.002
		+10		5785.003	0.003
		+20		5785.001	0.001
		+30		5785.002	0.002
		+40		5785.001	0.001
		+50		5785.001	0.001
	LV	+20		5785.000	0.000
	HV	+20		5785.005	0.005
802.11n(HT20)	NV	-30	5785	5785.004	0.004
		-20		5785.004	0.004
		-10		5785.001	0.001
		0		5785.002	0.002
		+10		5785.002	0.002
		+20		5785.001	0.001
		+30		5785.001	0.001
		+40		5785.001	0.001
		+50		5785.000	0.000
	LV	+20		5785.001	0.001
	HV	+20		5785.001	0.001
802.11n(HT40)	NV	-30	5795	5795.004	0.004
		-20		5795.002	0.002
		-10		5795.004	0.004
		0		5795.003	0.003
		+10		5795.000	0.000
		+20		5795.002	0.002
		+30		5795.004	0.004
		+40		5795.002	0.002
		+50		5795.000	0.000
	LV	+20		5795.002	0.002
	HV	+20		5795.001	0.001
802.11ac(VH20)	NV	-30	5785	5785.000	0.000
		-20		5785.001	0.001
		-10		5785.005	0.005
		0		5785.002	0.002
		+10		5785.004	0.004
		+20		5785.003	0.003
		+30		5785.004	0.004
		+40		5785.000	0.000
		+50		5785.002	0.002
	LV	+20		5785.000	0.000
	HV	+20		5785.000	0.000
802.11ac(VH40)	NV	-30	5795	5795.000	0.000
		-20		5795.001	0.001
		-10		5795.005	0.005
		0		5795.003	0.003
		+10		5795.000	0.000
		+20		5795.004	0.004
		+30		5795.003	0.003
		+40		5795.001	0.001
		+50		5795.002	0.002

	LV	+20		5795.001	0.001
	HV	+20		5795.002	0.002
802.11ac(VH80)	NV	-30	5775	5775.002	0.002
		-20		5775.003	0.003
		-10		5775.004	0.004
		0		5775.002	0.002
		+10		5775.004	0.004
		+20		5775.002	0.002
		+30		5775.004	0.004
		+40		5775.002	0.002
		+50		5775.002	0.002
	LV	+20		5775.001	0.001
	HV	+20		5775.003	0.003

13. OPERATION IN THE ABSENCE OF INFORMATION TO THE TRANSMIT

13.1 Requirement

15.407(c) requirement:
The device shall automatically discontinue transmission in case of either absence of information to transmit or operational failure. These provisions are not intended to preclude the transmission of control or signal ling information or the use of repetitive codes used by certain digital technologies to complete frame or burst intervals. Applicants shall include in their application for equipment authorization a description of how this requirement is met.

13.2 Test Results

Operation in the absence of information to the transmit:

While the EUT is not transmitting any information, the EUT can automatically discontinue transmission and become standby mode for power saving. The EUT can detect the controlling
signal of ASK message transmitting from remote device and verify whether it shall resend or
discontinue transmission. (manufacturer declare)

14. ANTENNA REQUIREMENT

15.203 requirement:

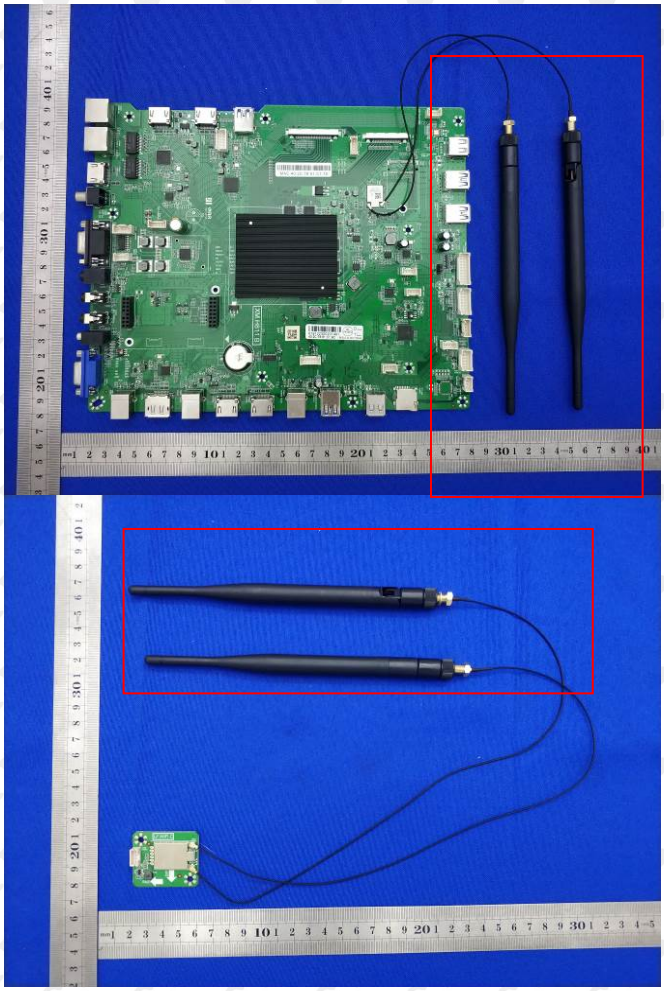
An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

15.247(b) (4) requirement:

The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

EUT Antenna:

The antenna is External Antenna and no consideration of replacement. The best case gain of the antenna is 5dBi.



15. EUT PHOTOGRAPHS

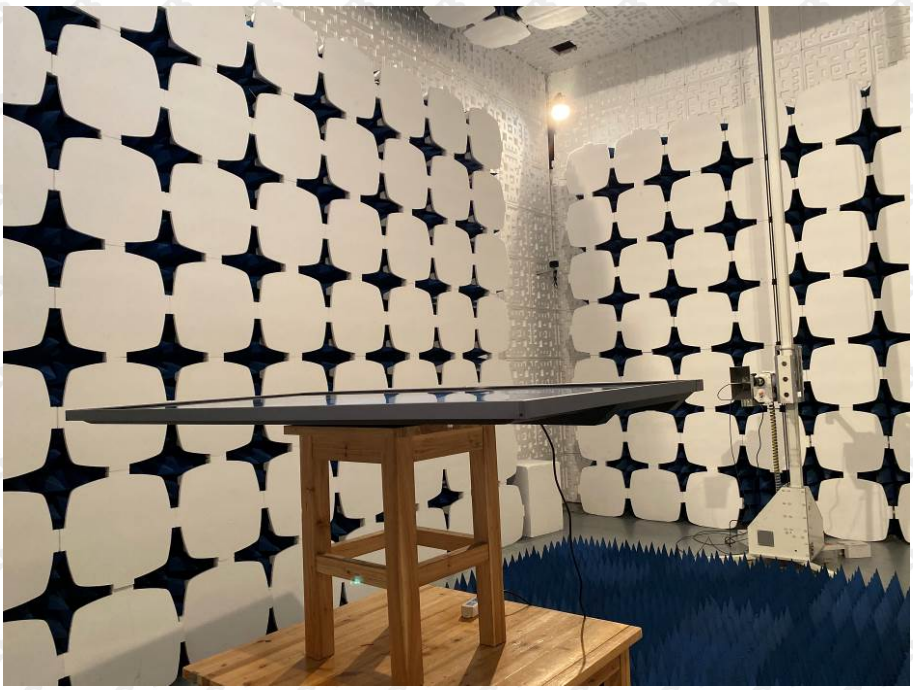
Refer to Report No.CTB200521016RFX for EUT external and internal photos.

16. EUT TEST SETUP PHOTOGRAPHS

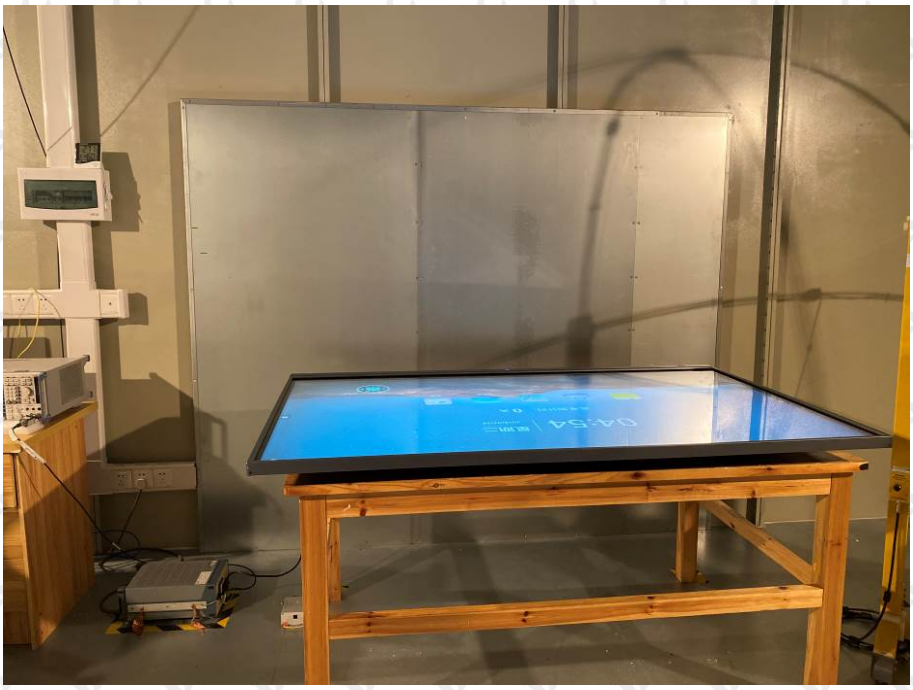
Spurious emissions

Below 1GHz

Above 1GHz



Conducted Emission



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