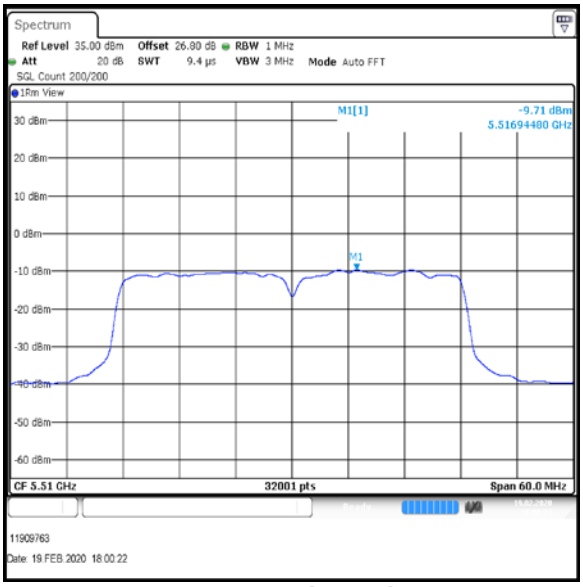
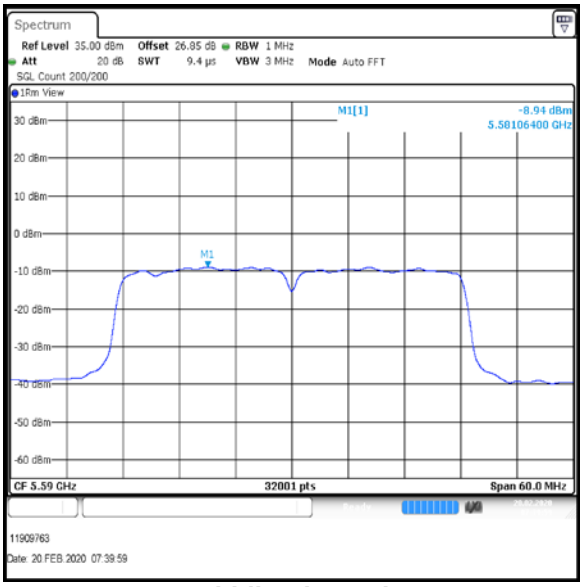
Transmitter Maximum Power Spectral Density (continued)

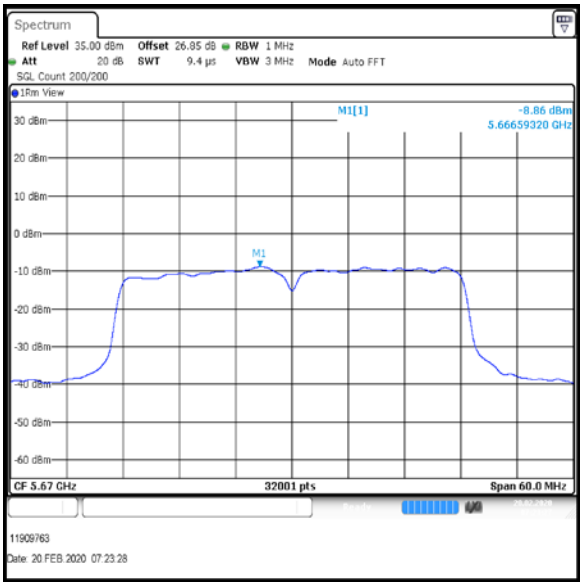
Results: 802.11n / HT40 / MCS3 / MIMO / Port 1+2+3 / PWL 13 / 9 dBi Antenna / Port 1



Bottom Channel



Middle Channel

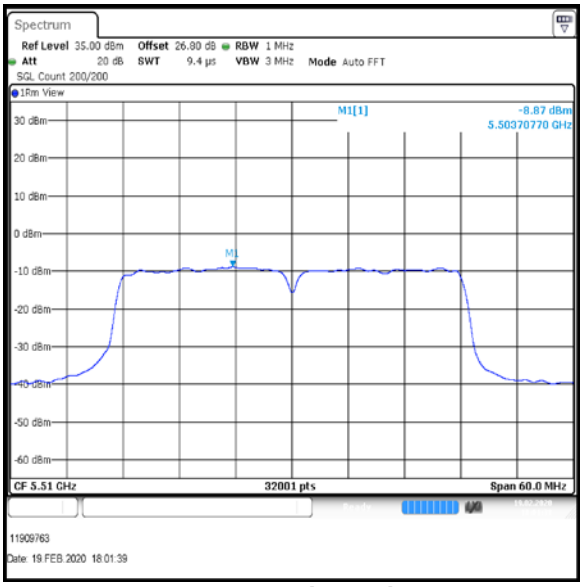


Top Channel

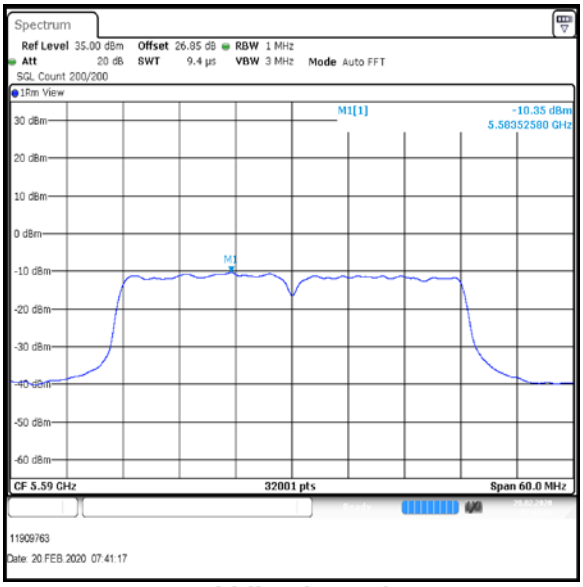
Result: Pass

Transmitter Maximum Power Spectral Density (continued)

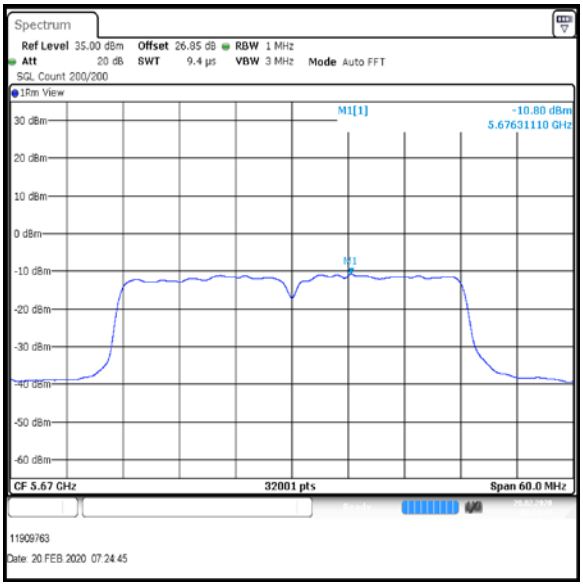
Results: 802.11n / HT40 / MCS3 / MIMO / Port 1+2+3 / PWL 13 / 9 dBi Antenna / Port 2



Bottom Channel



Middle Channel

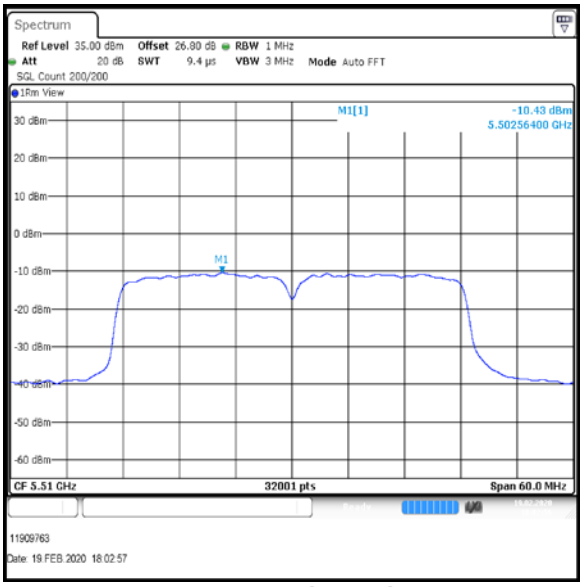


Top Channel

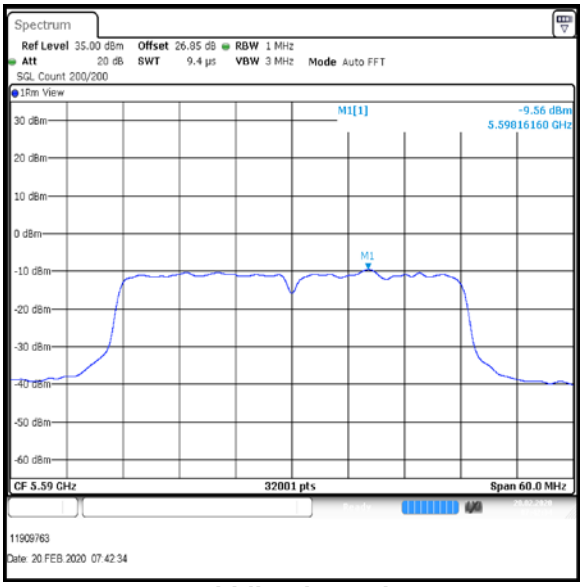
Result: Pass

Transmitter Maximum Power Spectral Density (continued)

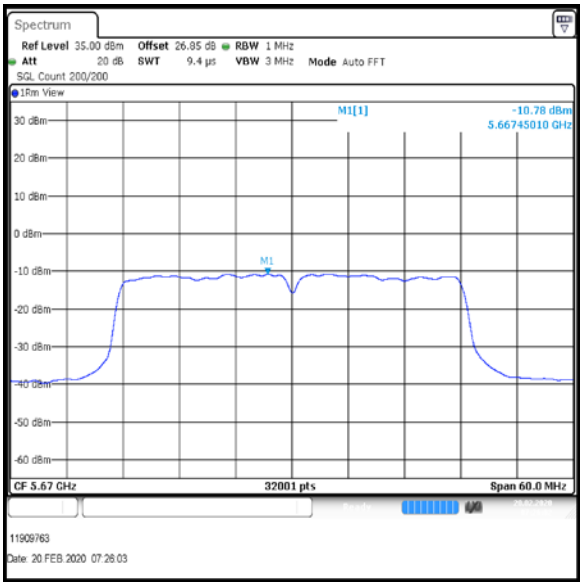
Results: 802.11n / HT40 / MCS3 / MIMO / Port 1+2+3 / PWL 13 / 9 dBi Antenna / Port 3



Bottom Channel



Middle Channel



Top Channel

Result: Pass

Transmitter Maximum Power Spectral Density (continued)

Results: 802.11n / HT40 / MCS5 / MIMO / Port 1+2+3 / PWL 13 / 9 dBi Antenna

Channel	Port 1 PSD (dBm/MHz)	Duty Cycle Correction (dB)	Port 1 Corrected PSD (dBm/MHz)	Port 2 PSD (dBm/MHz)	Duty Cycle Correction (dB)	Port 2 Corrected PSD (dBm/MHz)
Bottom	-10.4	2.1	-8.3	-9.3	2.1	-7.2
Middle	-10.0	2.1	-7.9	-10.7	2.1	-8.6
Top	-10.0	2.1	-7.9	-11.4	2.1	-9.3

Channel	Port 3 PSD (dBm/MHz)	Duty Cycle Correction (dB)	Port 3 Corrected PSD (dBm/MHz)
Bottom	-10.6	2.1	-8.5
Middle	-10.9	2.1	-8.8
Top	-11.5	2.1	-9.4

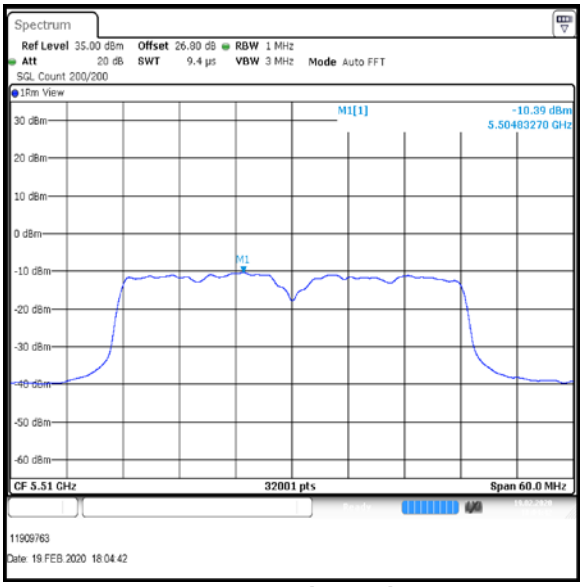
Channel	Corrected PSD Port 1 (dBm/MHz)	Corrected PSD Port 2 (dBm/MHz)	Corrected PSD Port 3 (dBm/MHz)	Port 1+2+3 Combined PSD (dBm/MHz)
Bottom	-8.3	-7.2	-8.5	-3.7
Middle	-7.9	-8.6	-8.8	-3.8
Top	-7.9	-9.3	-9.4	-4.2

Channel	Combined Conducted PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Bottom	-3.7	3.2	6.9	Complied
Middle	-3.8	3.2	7.0	Complied
Top	-4.2	3.2	7.4	Complied

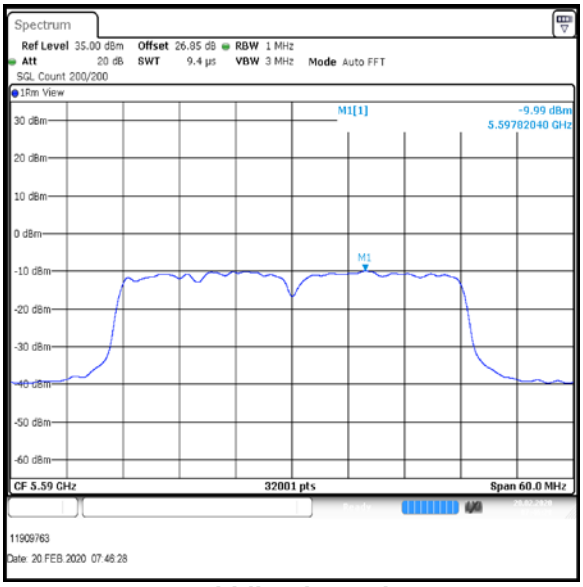
Result: Pass

Transmitter Maximum Power Spectral Density (continued)

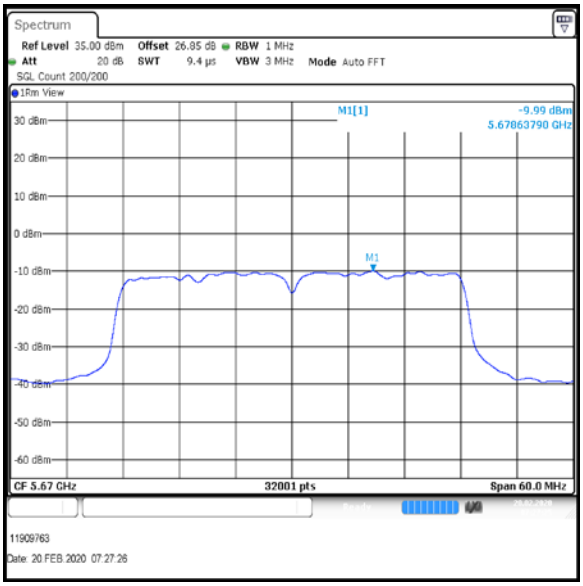
Results: 802.11n / HT40 / MCS5 / MIMO / Port 1+2+3 / PWL 13 / 9 dBi Antenna / Port 1



Bottom Channel



Middle Channel

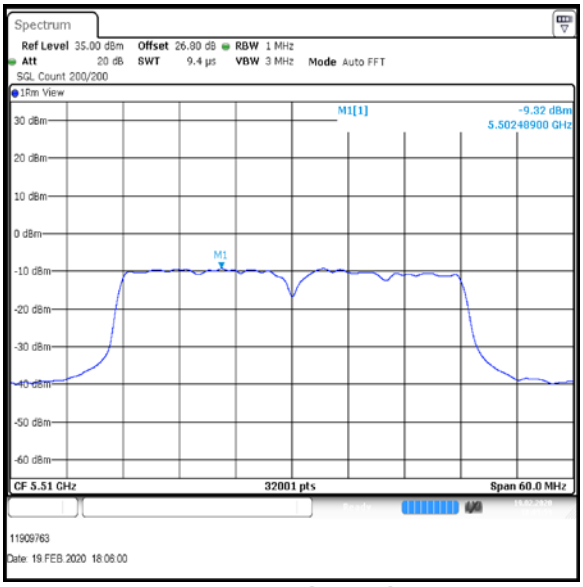


Top Channel

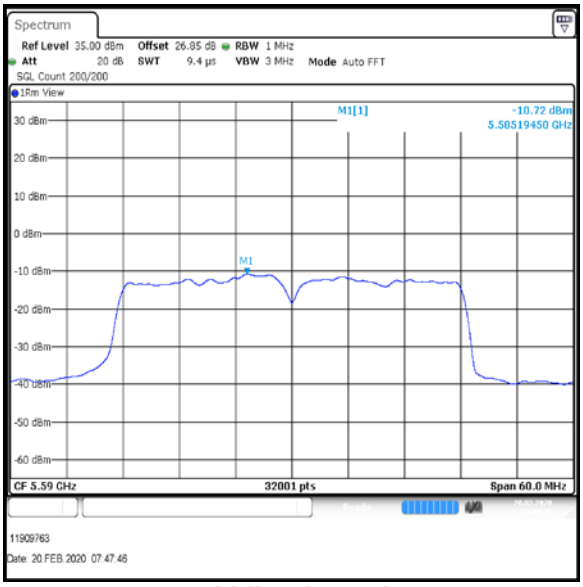
Result: Pass

Transmitter Maximum Power Spectral Density (continued)

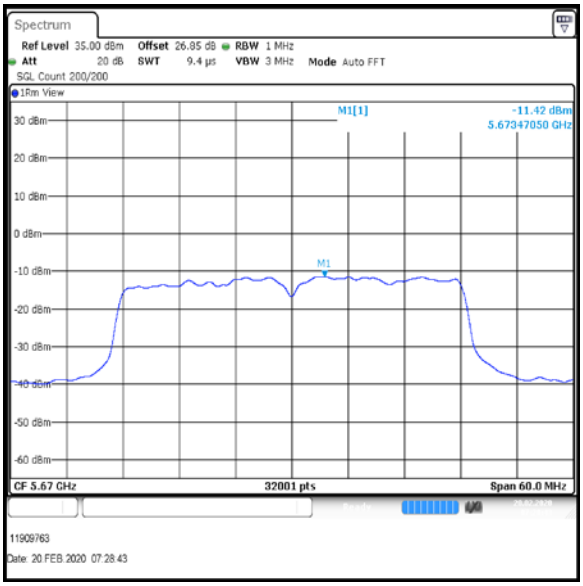
Results: 802.11n / HT40 / MCS5 / MIMO / Port 1+2+3 / PWL 13 / 9 dBi Antenna / Port 2



Bottom Channel



Middle Channel

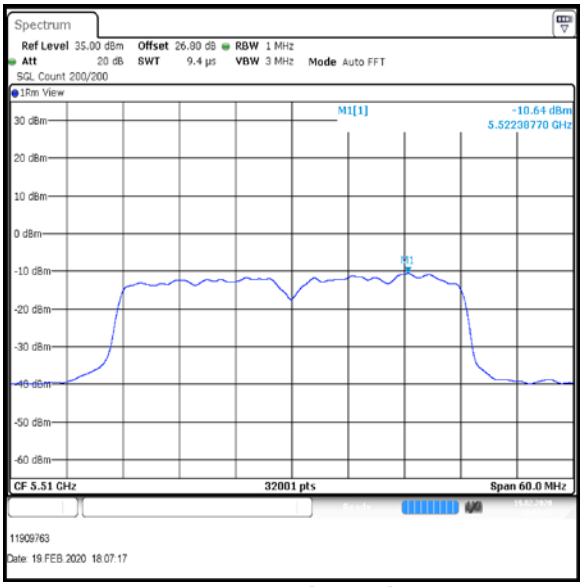


Top Channel

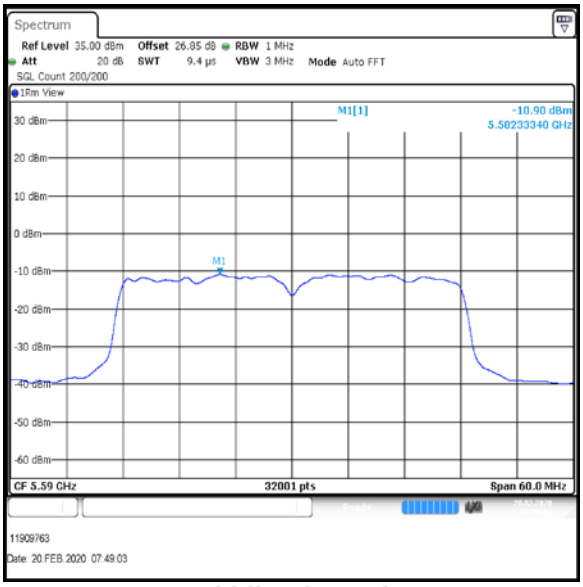
Result: Pass

Transmitter Maximum Power Spectral Density (continued)

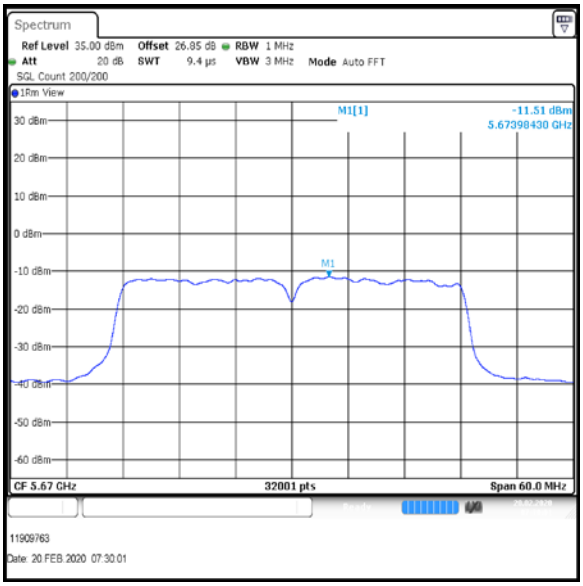
Results: 802.11n / HT40 / MCS5 / MIMO / Port 1+2+3 / PWL 13 / 9 dBi Antenna / Port 3



Bottom Channel



Middle Channel



Top Channel

Result: Pass

Transmitter Maximum Power Spectral Density (continued)

Results: 802.11ac / HT40 / MCS3 / MIMO / Port 1+2+3 / PWL 13 / 9 dBi Antenna

Channel	Port 1 PSD (dBm/MHz)	Duty Cycle Correction (dB)	Port 1 Corrected PSD (dBm/MHz)	Port 2 PSD (dBm/MHz)	Duty Cycle Correction (dB)	Port 2 Corrected PSD (dBm/MHz)
Bottom	-9.8	2.3	-7.5	-8.6	2.3	-6.3
Middle	-8.4	2.3	-6.1	-10.9	2.3	-8.6
Top	-9.8	2.3	-7.5	-10.9	2.3	-8.6

Channel	Port 3 PSD (dBm/MHz)	Duty Cycle Correction (dB)	Port 3 Corrected PSD (dBm/MHz)
Bottom	-10.4	2.3	-8.1
Middle	-10.1	2.3	-7.8
Top	-10.2	2.3	-7.9

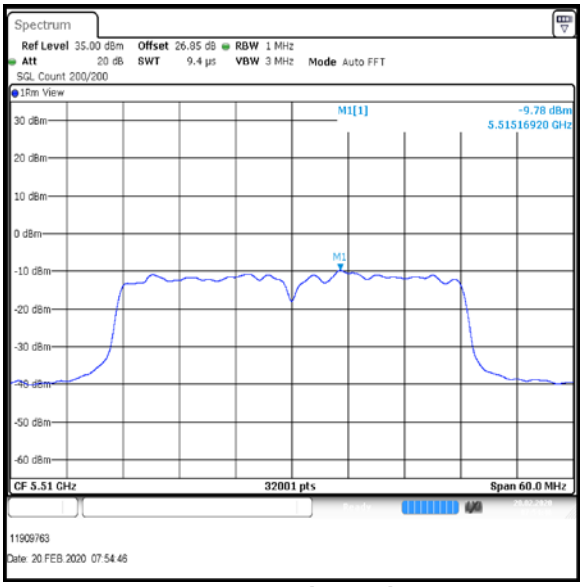
Channel	Corrected PSD Port 1 (dBm/MHz)	Corrected PSD Port 2 (dBm/MHz)	Corrected PSD Port 3 (dBm/MHz)	Port 1+2+3 Combined PSD (dBm/MHz)
Bottom	-7.5	-6.3	-8.1	-3.8
Middle	-6.1	-8.6	-7.8	-3.7
Top	-7.5	-8.6	-7.9	-4.1

Channel	Combined Conducted PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Bottom	-3.8	3.2	7.0	Complied
Middle	-3.7	3.2	6.9	Complied
Top	-4.1	3.2	7.3	Complied

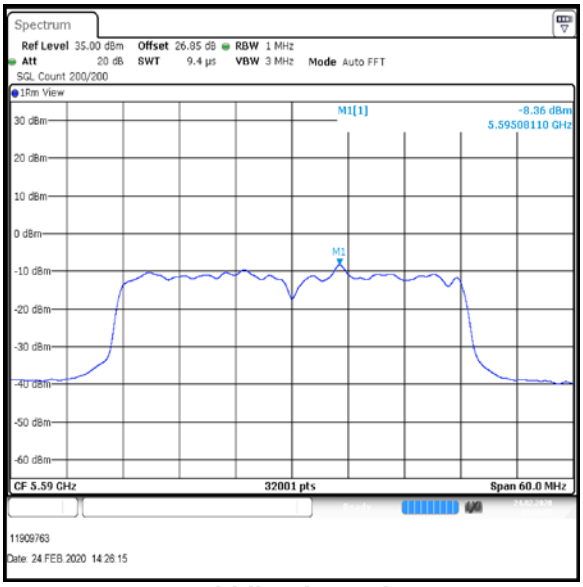
Result: Pass

Transmitter Maximum Power Spectral Density (continued)

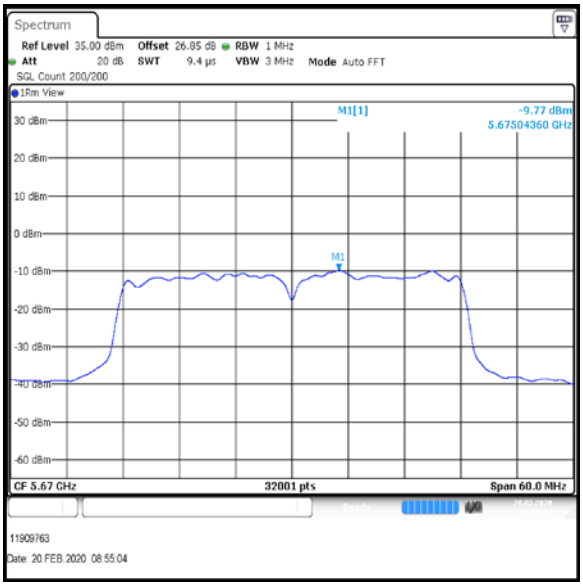
Results: 802.11ac / HT40 / MCS3 / MIMO / Port 1+2+3 / PWL 13 / 9 dBi Antenna / Port 1



Bottom Channel



Middle Channel

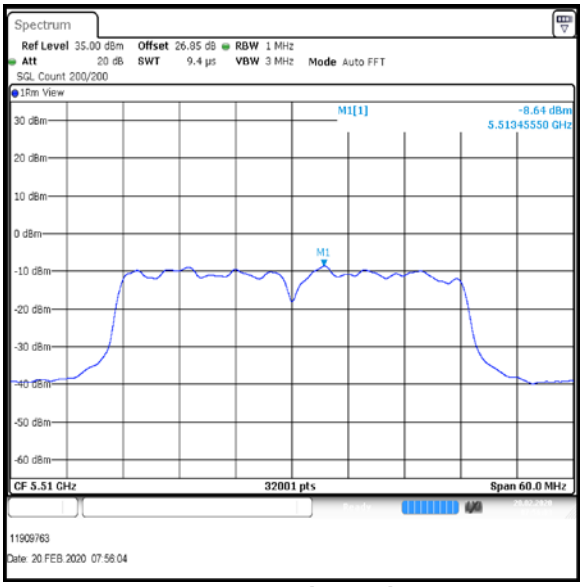


Top Channel

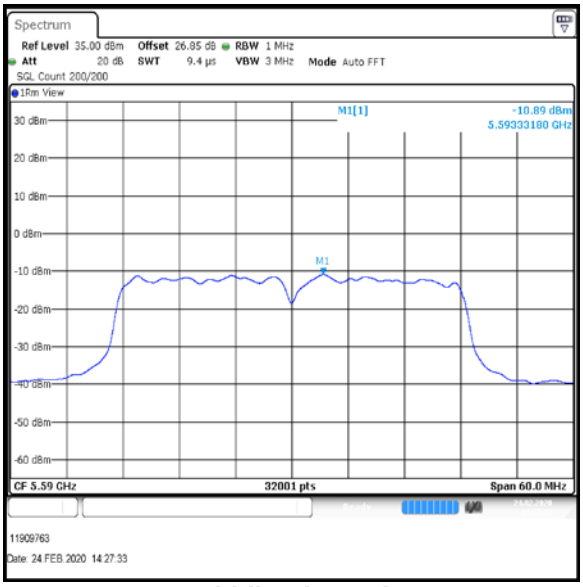
Result: Pass

Transmitter Maximum Power Spectral Density (continued)

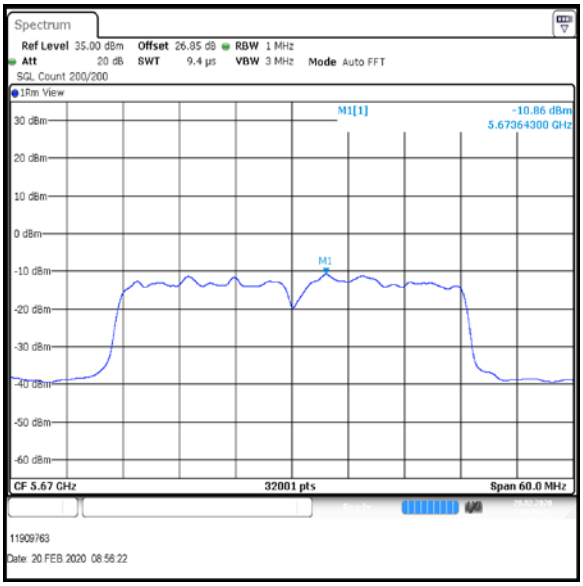
Results: 802.11ac / HT40 / MCS3 / MIMO / Port 1+2+3 / PWL 13 / 9 dBi Antenna / Port 2



Bottom Channel



Middle Channel

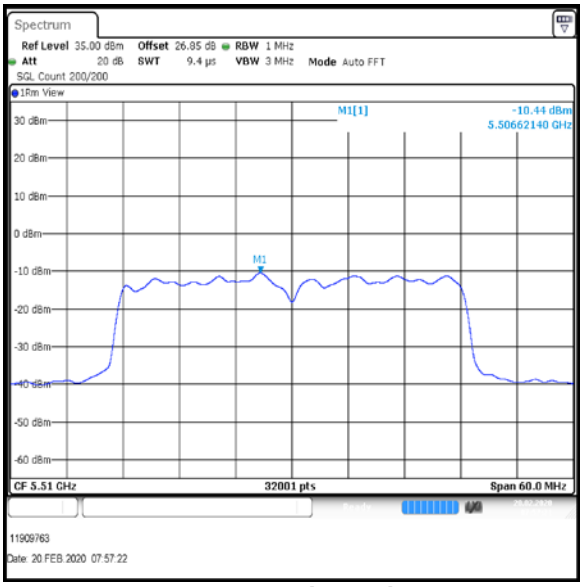


Top Channel

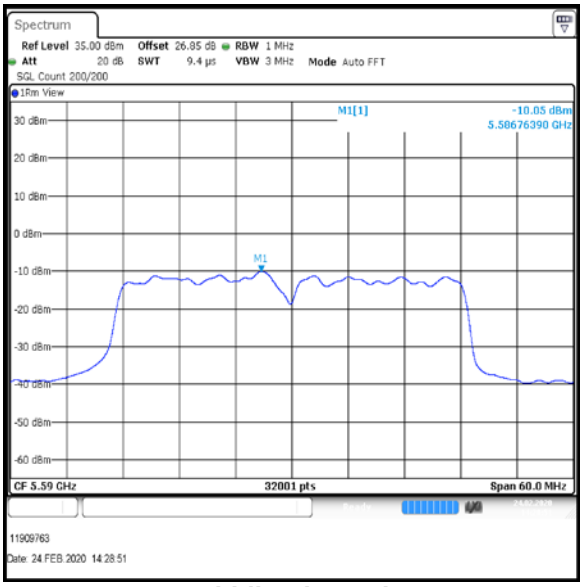
Result: Pass

Transmitter Maximum Power Spectral Density (continued)

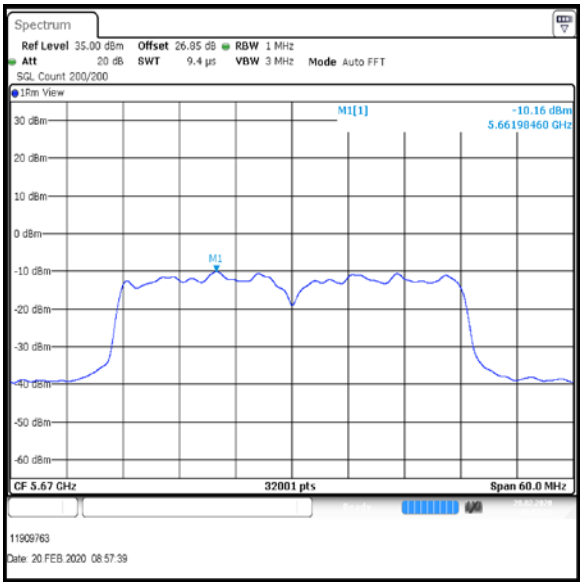
Results: 802.11ac / HT40 / MCS3 / MIMO / Port 1+2+3 / PWL 13 / 9 dBi Antenna / Port 3



Bottom Channel



Middle Channel



Top Channel

Result: Pass

Transmitter Maximum Power Spectral Density (continued)

Results: 802.11ac / HT40 / MCS5 / MIMO / Port 1+2+3 / PWL 13 / 9 dBi Antenna

Channel	Port 1 PSD (dBm/MHz)	Duty Cycle Correction (dB)	Port 1 Corrected PSD (dBm/MHz)	Port 2 PSD (dBm/MHz)	Duty Cycle Correction (dB)	Port 2 Corrected PSD (dBm/MHz)
Bottom	-10.5	2.3	-8.2	-9.5	2.3	-7.2
Middle	-10.7	2.3	-8.4	-10.8	2.3	-8.5
Top	-10.6	2.3	-8.3	-12.1	2.3	-9.8

Channel	Port 3 PSD (dBm/MHz)	Duty Cycle Correction (dB)	Port 3 Corrected PSD (dBm/MHz)
Bottom	-11.5	2.3	-9.2
Middle	-10.2	2.3	-7.9
Top	-11.2	2.3	-8.9

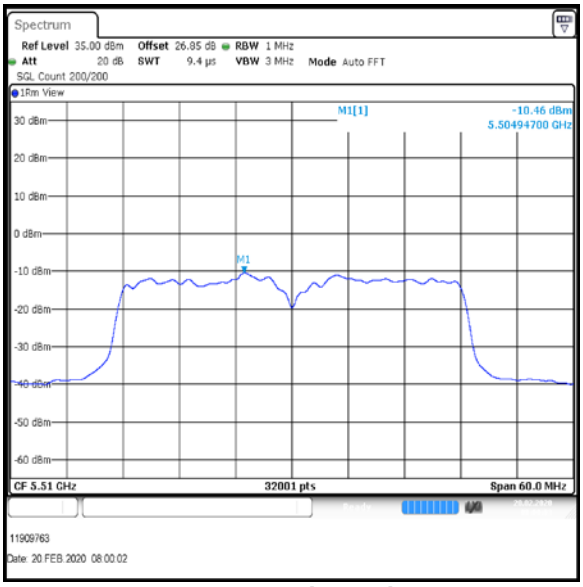
Channel	Corrected PSD Port 1 (dBm/MHz)	Corrected PSD Port 2 (dBm/MHz)	Corrected PSD Port 3 (dBm/MHz)	Port 1+2+3 Combined PSD (dBm/MHz)
Bottom	-8.2	-7.2	-9.2	-3.8
Middle	-8.4	-8.5	-7.9	-4.3
Top	-8.3	-9.8	-8.9	-4.8

Channel	Combined Conducted PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Bottom	-3.8	3.2	7.0	Complied
Middle	-4.3	3.2	7.5	Complied
Top	-4.8	3.2	8.0	Complied

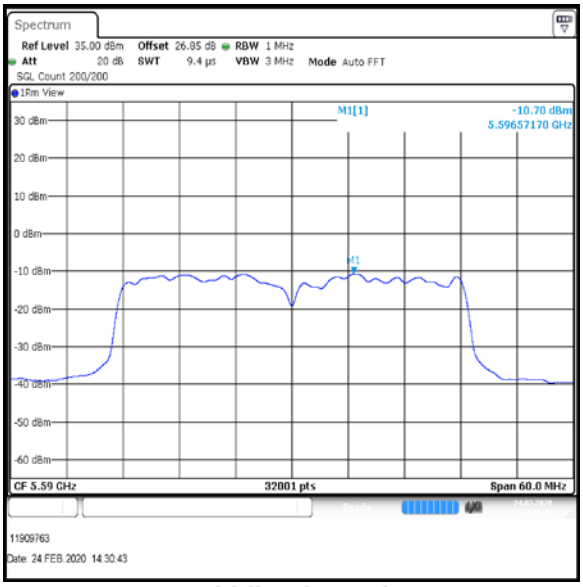
Result: Pass

Transmitter Maximum Power Spectral Density (continued)

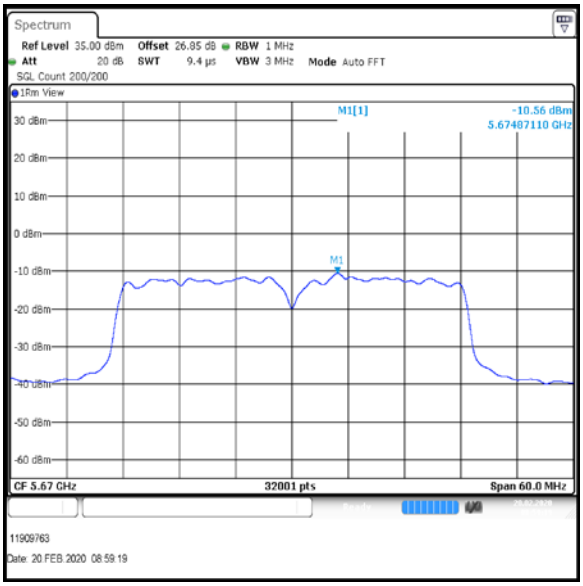
Results: 802.11ac / HT40 / MCS5 / MIMO / Port 1+2+3 / PWL 13 / 9 dBi Antenna / Port 1



Bottom Channel



Middle Channel

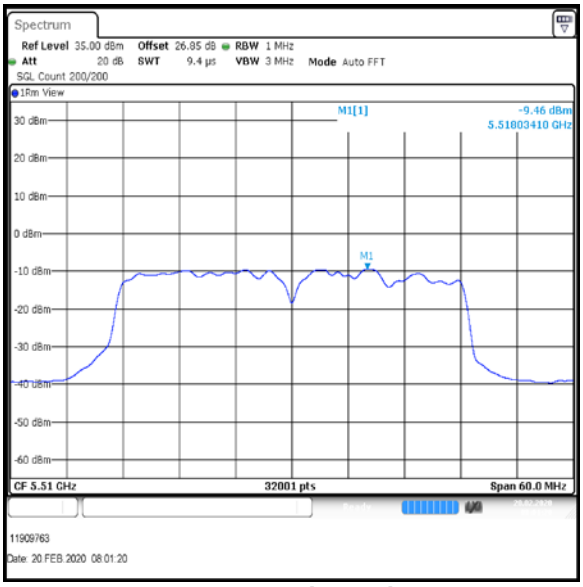


Top Channel

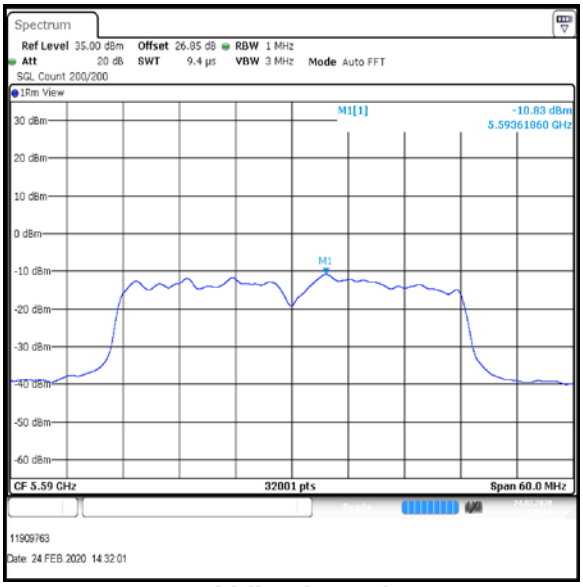
Result: Pass

Transmitter Maximum Power Spectral Density (continued)

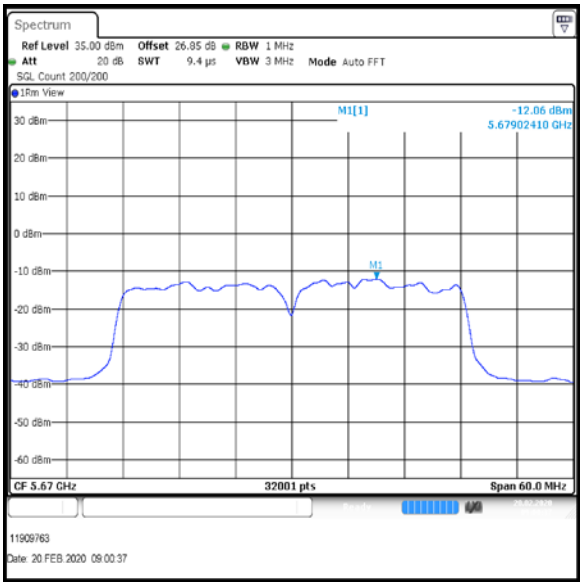
Results: 802.11ac / HT40 / MCS5 / MIMO / Port 1+2+3 / PWL 13 / 9 dBi Antenna / Port 2



Bottom Channel



Middle Channel

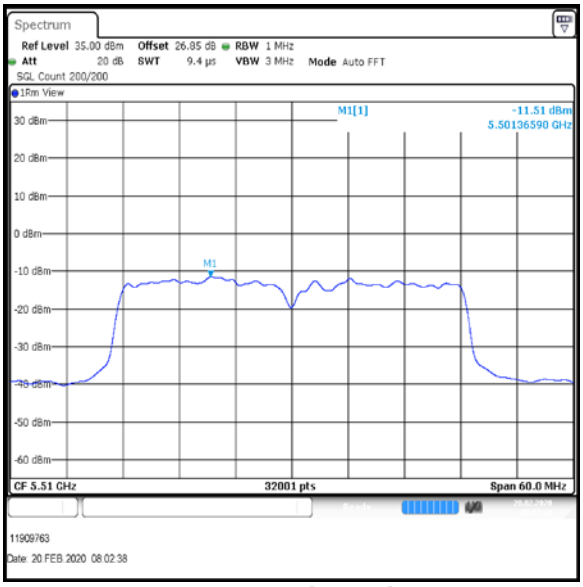


Top Channel

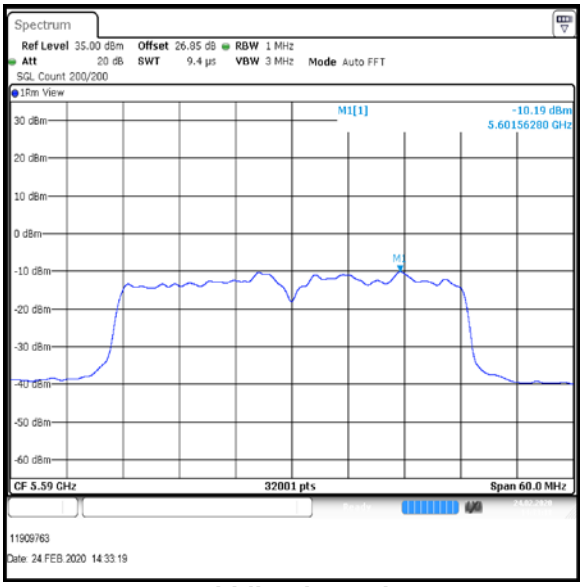
Result: Pass

Transmitter Maximum Power Spectral Density (continued)

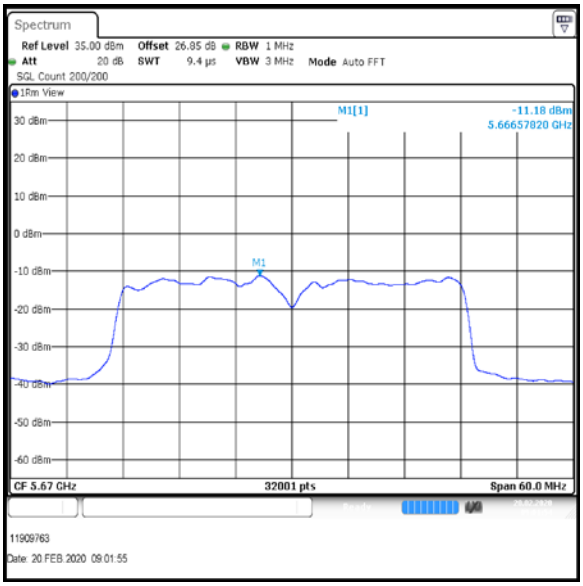
Results: 802.11ac / HT40 / MCS5 / MIMO / Port 1+2+3 / PWL 13 / 9 dBi Antenna / Port 3



Bottom Channel



Middle Channel



Top Channel

Result: Pass

Transmitter Maximum Power Spectral Density (continued)

Results: 802.11ac / HT80 / MCS1 / MIMO / Port 1+2+3 / PWL 13 / 9 dBi Antenna

Channel	Port 1 PSD (dBm/MHz)	Duty Cycle Correction (dB)	Port 1 Corrected PSD (dBm/MHz)	Port 2 PSD (dBm/MHz)	Duty Cycle Correction (dB)	Port 2 Corrected PSD (dBm/MHz)
Bottom	-11.7	2.8	-8.9	-11.6	2.8	-8.8
Top	-14.2	2.8	-11.4	-16.2	2.8	-13.4

Channel	Port 3 PSD (dBm/MHz)	Duty Cycle Correction (dB)	Port 3 Corrected PSD (dBm/MHz)
Bottom	-12.8	2.8	-10.0
Top	-15.7	2.8	-12.9

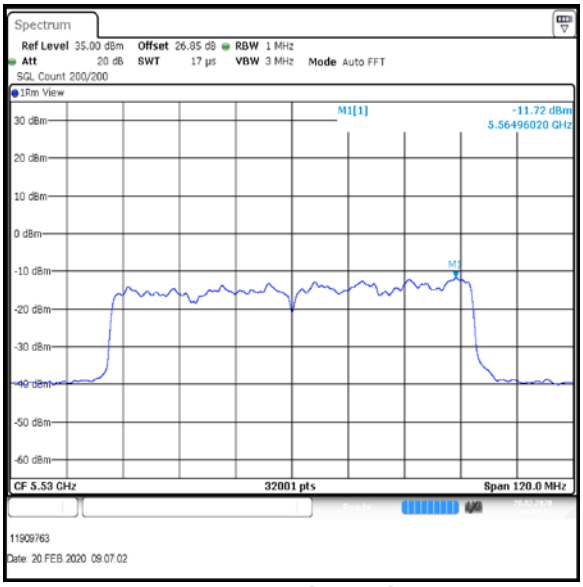
Channel	Corrected PSD Port 1 (dBm/MHz)	Corrected PSD Port 2 (dBm/MHz)	Corrected PSD Port 3 (dBm/MHz)	Port 1+2+3 Combined PSD (dBm/MHz)
Bottom	-8.9	-8.8	-10.0	-5.3
Top	-11.4	-13.4	-12.9	-8.6

Channel	Combined Conducted PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Bottom	-5.3	3.2	8.5	Complied
Top	-8.6	3.2	11.8	Complied

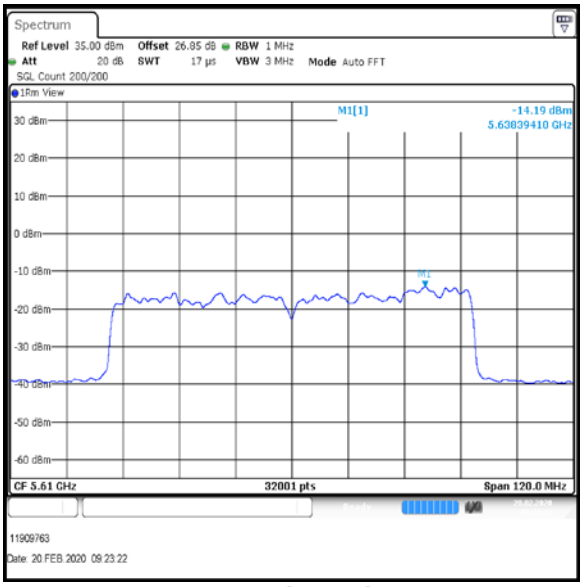
Result: Pass

Transmitter Maximum Power Spectral Density (continued)

Results: 802.11ac / HT80 / MCS1 / MIMO / Port 1+2+3 / PWL 13 / 9 dBi Antenna / Port 1



Bottom Channel

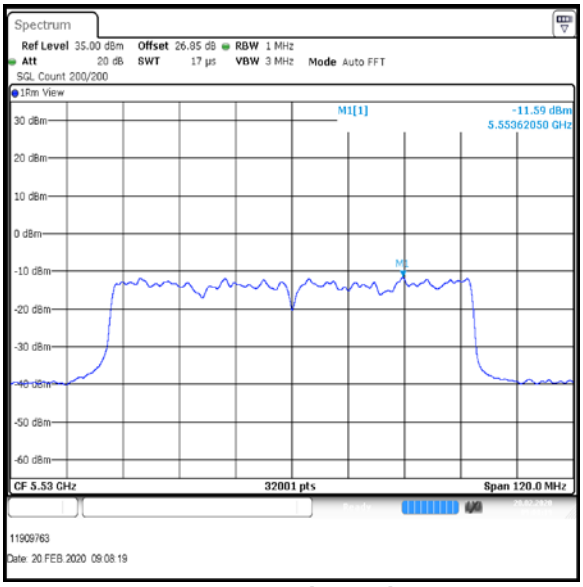


Top Channel

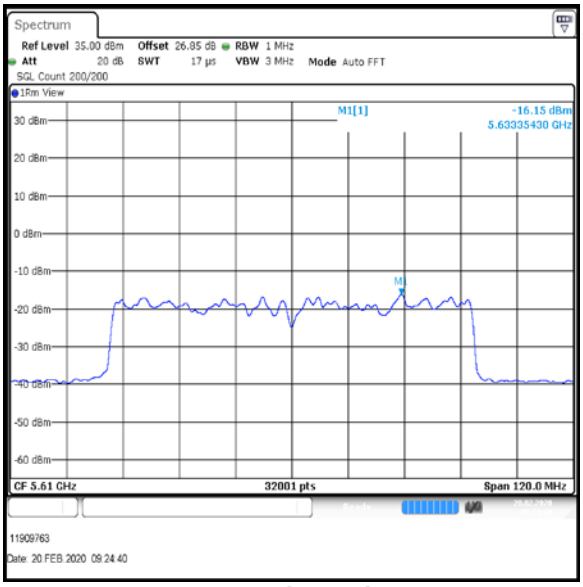
Result: Pass

Transmitter Maximum Power Spectral Density (continued)

Results: 802.11ac / HT80 / MCS1 / MIMO / Port 1+2+3 / PWL 13 / 9 dBi Antenna / Port 2



Bottom Channel

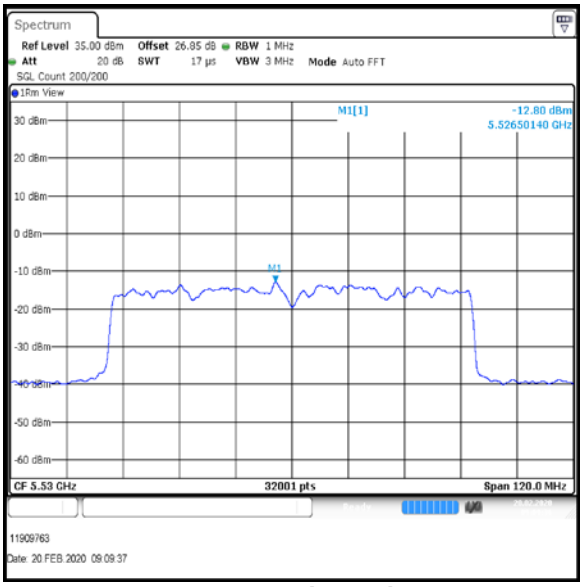


Top Channel

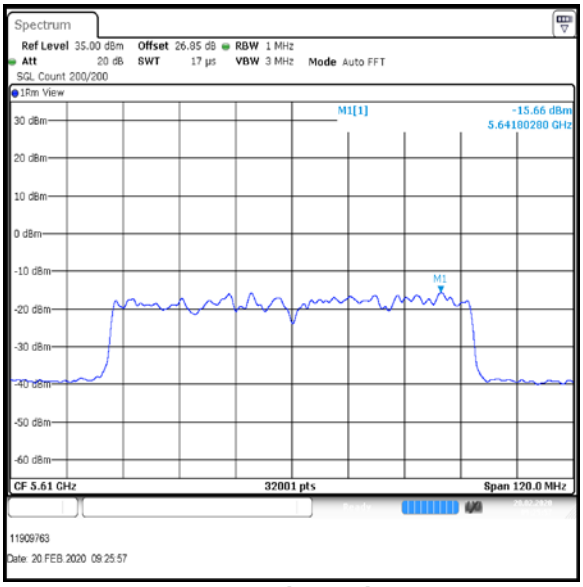
Result: Pass

Transmitter Maximum Power Spectral Density (continued)

Results: 802.11ac / HT80 / MCS1 / MIMO / Port 1+2+3 / PWL 13 / 9 dBi Antenna / Port 3



Bottom Channel



Top Channel

Result: Pass

Transmitter Maximum Power Spectral Density (continued)

Results: 802.11ac / HT80 / MCS2 / MIMO / Port 1+2+3 / PWL 13 / 9 dBi Antenna

Channel	Port 1 PSD (dBm/MHz)	Duty Cycle Correction (dB)	Port 1 Corrected PSD (dBm/MHz)	Port 2 PSD (dBm/MHz)	Duty Cycle Correction (dB)	Port 2 Corrected PSD (dBm/MHz)
Bottom	-13.0	2.1	-10.9	-12.0	2.1	-9.9
Top	-15.0	2.1	-12.9	-17.8	2.1	-15.7

Channel	Port 3 PSD (dBm/MHz)	Duty Cycle Correction (dB)	Port 3 Corrected PSD (dBm/MHz)
Bottom	-14.1	2.1	-12.0
Top	-16.5	2.1	-14.4

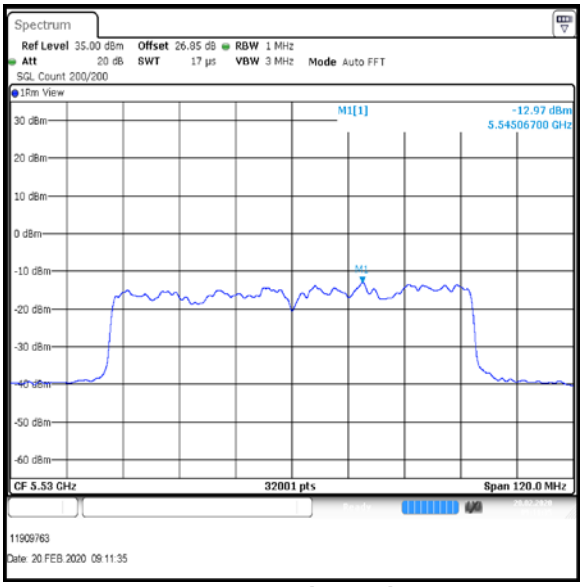
Channel	Corrected PSD Port 1 (dBm/MHz)	Corrected PSD Port 2 (dBm/MHz)	Corrected PSD Port 3 (dBm/MHz)	Port 1+2+3 Combined PSD (dBm/MHz)
Bottom	-10.9	-9.9	-12.0	-7.3
Top	-12.9	-15.7	-14.4	-10.2

Channel	Combined Conducted PSD (dBm/MHz)	Limit (dBm/MHz)	Margin (dB)	Result
Bottom	-7.3	3.2	10.5	Complied
Top	-10.2	3.2	13.4	Complied

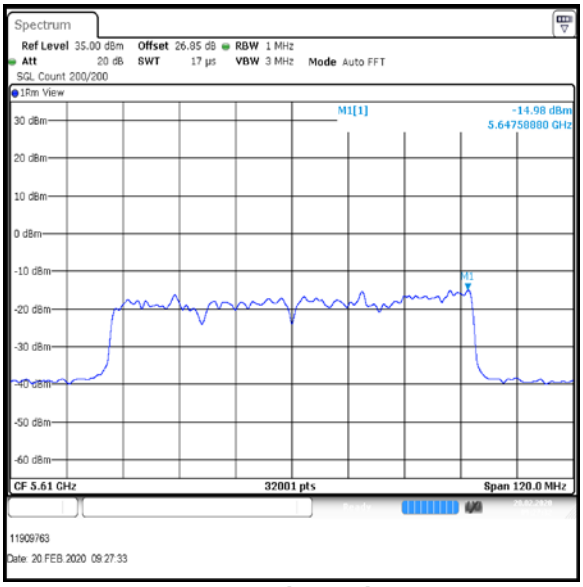
Result: Pass

Transmitter Maximum Power Spectral Density (continued)

Results: 802.11ac / HT80 / MCS2 / MIMO / Port 1+2+3 / PWL 13 / 9 dBi Antenna / Port 1



Bottom Channel

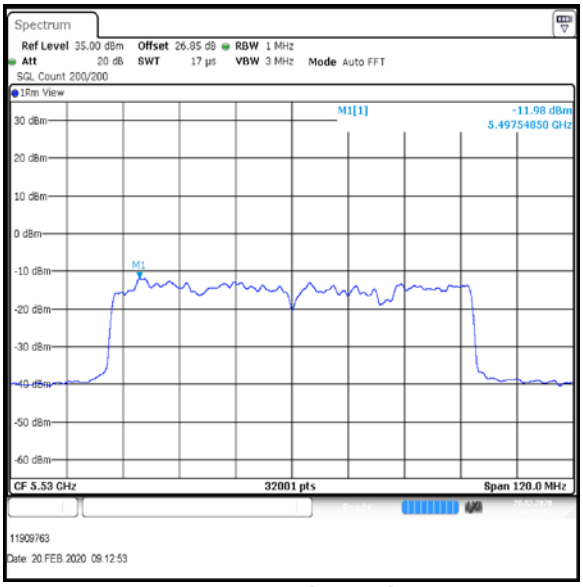


Top Channel

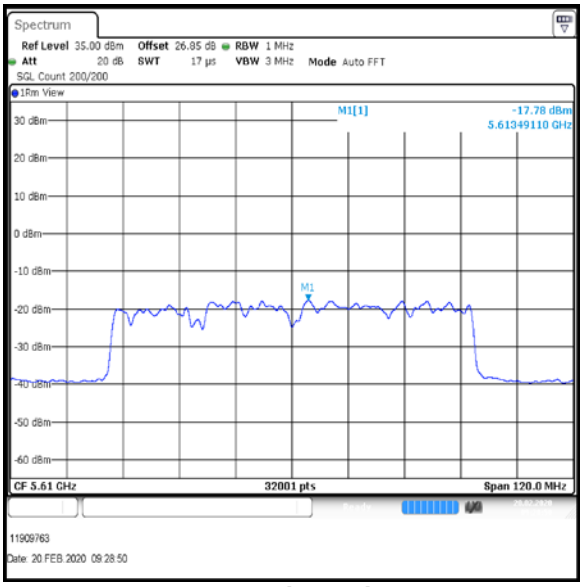
Result: Pass

Transmitter Maximum Power Spectral Density (continued)

Results: 802.11ac / HT80 / MCS2 / MIMO / Port 1+2+3 / PWL 13 / 9 dBi Antenna / Port 2



Bottom Channel

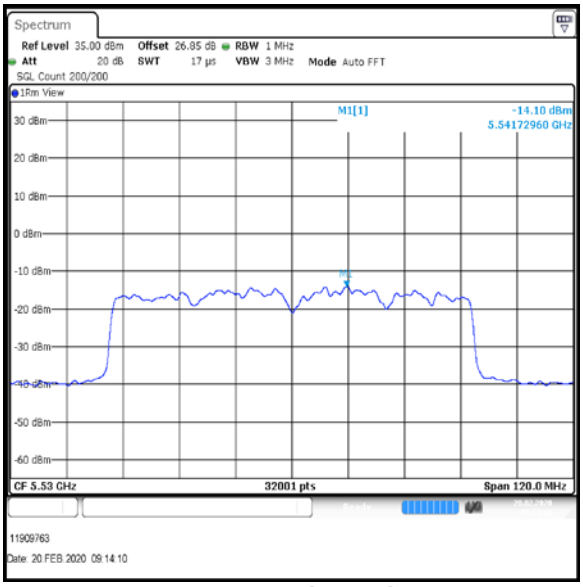


Top Channel

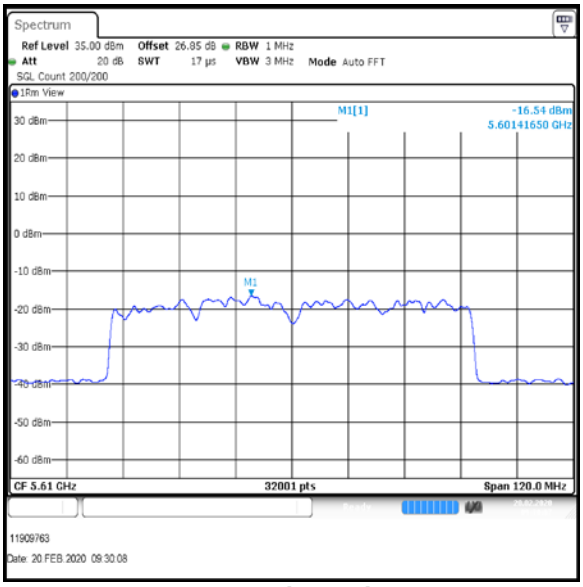
Result: Pass

Transmitter Maximum Power Spectral Density (continued)

Results: 802.11ac / HT80 / MCS2 / MIMO / Port 1+2+3 / PWL 13 / 9 dBi Antenna / Port 3



Bottom Channel



Top Channel

Result: Pass

6. Measurement Uncertainty

The expression of uncertainty of a measurement result allows realistic comparison of results with reference values and limits given in specifications and standards.

The uncertainty of the result may need to be taken into account when interpreting the measurement results.

The reported expanded uncertainties below are based on a standard uncertainty multiplied by an appropriate coverage factor such that a confidence level of approximately 95% is maintained. For the purposes of this document “approximately” is interpreted as meaning “effectively” or “for most practical purposes”.

Measurement Type	Confidence Level (%)	Calculated Uncertainty
AC Conducted Spurious Emissions	95%	±2.49 dB
Conducted Maximum Peak Output Power	95%	±0.59 dB
Conducted Maximum Power Spectral Density	95%	±0.59 dB
Transmitter Duty Cycle	95%	±3.4%
26 dB Bandwidth	95%	±0.87 %

The methods used to calculate the above uncertainties are in line with those recommended within the various measurement specifications. Where measurement specifications do not include guidelines for the evaluation of measurement uncertainty the published guidance of the appropriate accreditation body is followed.

7. Used equipment

Test site: SR 7/8

ID	Manufacturer	Type	Model	Serial	Cal Date	Cal. Cycle
22	Rohde & Schwarz	Artificial Mains	ESH3-Z5	831767/014	2019-07-09	12
23	Rohde & Schwarz	Artificial Mains	ESH3-Z5	831767/013	2019-07-09	12
28	Rohde & Schwarz	Passive Probe	ESH2-Z3	none	2019-07-11	12
215	Rohde & Schwarz	Artificial Mains Network	ESH2-Z5	879675/002	2019-07-05	12
349	Rohde & Schwarz	Receiver, EMI Test	ESIB7	836697/009	2019-07-10	12
351	Rohde & Schwarz	network, Artificial Mains	ESH3-Z5	862770/018	2019-07-08	12
370	Rohde & Schwarz	Current probe	EZ-17	833335/010	2019-07-11	24
564	Teseq	Impedance stabilisation network (ISN)	ISN T800	26076	2019-07-08	24
565	Teseq	Impedance stabilisation network (ISN)	ISN ST08	26575	2019-07-09	12
616	Rohde & Schwarz	ISN	ENY81-CA6	101656	2019-07-09	12
-/-	Testo	Thermo-Hygrometer	608-H1	08	lab verification	n/a
1603671	Siemens Matsushita Components	shielded room		B83117-A1421-T162	n/a	n/a

Test site: SR 9

ID	Manufacturer	Type	Model	Serial	Calibration Date	Cal. Cycle
472	Rohde & Schwarz	Generator, Vectorsignal	SMU200A	102409	2019-08-07	12
621	Ahlborn-Almemo	Temperatur-/ Feuchtemessgerät	MA2470-S2	H16080099	2019-05-03	12
635	Rohde & Schwarz	Signal generator	SMB100A	179875	2019-07-09	12
636	Rohde & Schwarz	switching unit	OSP120	101698	2019-07-19	12
637	Rohde & Schwarz	Spectrum Analyzer	FSV40	101587	2019-07-11	12
445	Huber & Suhner	RF Attenuator (10dB)	6810.17.AC	--	Cal Before Use	12
-/-	Testo	Thermo-Hygrometer	608-H1	07	lab verification	n/a
-/-	Huber & Suhner	4 X4 MIMO RF Cables (18 GHz)	N-SMA	-/-	lab verification	n/a
1603668	Siemens Matsushita Components	shielded room		B83117-B1422-T161	n/a	n/a

8. Report Revision History

Version Number	Revision Details		
	Page No(s)	Clause	Details
1.0	521	-	Initial Version