



4.5 Power Spectral Density

4.5.1 Test Specification

Test Requirement:	FCC Part15 E Section 15.407 (a)
Test Method:	KDB789033 D02 General UNII Test Procedures New Rules v02r01 Section F
Limit:	$\leq -1\text{dBm/MHz}$ for 5925-6425MHz, 6425-6525MHz, 6525-6875MHz, 6875-7125MHz
Test Setup:	 Spectrum Analyzer EUT
Test Mode:	Transmitting mode with modulation
Test Procedure:	1. Set the spectrum analyzer or EMI receiver span to view the entire emission bandwidth. 2. Set RBW = 1MHz, VBW $\geq 3 \times$ RBW, Sweep time = Auto, Detector = RMS. 3. Allow the sweeps to continue until the trace stabilizes. 4. Use the peak marker function to determine the maximum amplitude level. 5. The E.I.R.P spectral density used radiated test method. At a test site that has been validated using the procedures of ANSI C63.4 or the latest CISPR 16-1-4 for measurements above 1 GHz, so as to simulate a near free-space environment.
Test Result:	PASS

4.5.2 Test Instruments

RF Test Room					
Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due
Spectrum analyzer	Agilent	N9020A	HKE-025	Feb. 20, 2024	Feb. 19, 2025
RF cable	Times	1-40G	HKE-034	Feb. 20, 2024	Feb. 19, 2025
RF automatic control unit	Tonscend	JS0806-2	HKE-060	Feb. 20, 2024	Feb. 19, 2025
RF Test Software	Tonscend	JS1120-3 Version 3.5.39	HKE-083	N/A	N/A

Note: The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).



RF Test Room					
Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due
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RF Test Software	Tonscend	JS1120-3 Version 3.5.39	HKE-083	N/A	N/A

Note: The calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).



4.5.3 Test Data

ANT. 1

Mode	Test channel	Frequency (MHz)	Result [dBm/MHz]	E.I.R.P [dBm/MHz]	Limit [dBm/MHz]	Result
802.11a	1	5955	-14.67	-12.08	-1	PASS
802.11a	45	6175	-15.77	-13.18	-1	PASS
802.11a	93	6415	-16.67	-14.08	-1	PASS
802.11a	97	6435	-14.94	-12.35	-1	PASS
802.11a	105	6475	-14.16	-11.57	-1	PASS
802.11a	113	6515	-13.83	-11.24	-1	PASS
802.11a	117	6535	-13.95	-11.36	-1	PASS
802.11a	153	6715	-13.16	-10.57	-1	PASS
802.11a	181	6855	-14.36	-11.77	-1	PASS
802.11a	185	6875	-14.83	-12.24	-1	PASS
802.11a	213	7015	-13.77	-11.18	-1	PASS
802.11a	233	7115	-11.95	-9.36	-1	PASS
802.11ax(HE20)	1	5955	-14.57	-11.98	-1	PASS
802.11ax(HE20)	45	6175	-18.61	-16.02	-1	PASS
802.11ax(HE20)	93	6415	-14.82	-12.23	-1	PASS
802.11ax(HE20)	97	6435	-15.05	-12.46	-1	PASS
802.11ax(HE20)	105	6475	-14.24	-11.65	-1	PASS
802.11ax(HE20)	113	6515	-13.66	-11.07	-1	PASS
802.11ax(HE20)	117	6535	-13.96	-11.37	-1	PASS
802.11ax(HE20)	153	6715	-13.30	-10.71	-1	PASS
802.11ax(HE20)	181	6855	-14.40	-11.81	-1	PASS
802.11ax(HE20)	185	6875	-14.52	-11.93	-1	PASS
802.11ax(HE20)	213	7015	-13.65	-11.06	-1	PASS
802.11ax(HE20)	233	7115	-11.58	-8.99	-1	PASS
802.11ax(HE40)	3	5965	-17.10	-14.51	-1	PASS
802.11ax(HE40)	43	6165	-14.82	-12.23	-1	PASS
802.11ax(HE40)	91	6405	-18.20	-15.61	-1	PASS
802.11ax(HE40)	99	6445	-17.15	-14.56	-1	PASS

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802.11ax(HE40)	107	6485	-13.55	-10.96	-1	PASS
802.11ax(HE40)	115	6525	-13.89	-11.3	-1	PASS
802.11ax(HE40)	123	6565	-14.18	-11.59	-1	PASS
802.11ax(HE40)	155	6725	-13.40	-10.81	-1	PASS
802.11ax(HE40)	179	6845	-13.13	-10.54	-1	PASS
802.11ax(HE40)	187	6885	-13.85	-11.26	-1	PASS
802.11ax(HE40)	211	7005	-14.63	-12.04	-1	PASS
802.11ax(HE40)	227	7085	-11.72	-9.13	-1	PASS
802.11ax(HE80)	7	5985	-14.02	-11.43	-1	PASS
802.11ax(HE80)	39	6145	-15.21	-12.62	-1	PASS
802.11ax(HE80)	87	6385	-18.83	-16.24	-1	PASS
802.11ax(HE80)	103	6465	-18.16	-15.57	-1	PASS
802.11ax(HE80)	119	6545	-15.16	-12.57	-1	PASS
802.11ax(HE80)	135	6625	-14.14	-11.55	-1	PASS
802.11ax(HE80)	151	6705	-13.05	-10.46	-1	PASS
802.11ax(HE80)	167	6785	-14.33	-11.74	-1	PASS
802.11ax(HE80)	183	6865	-14.30	-11.71	-1	PASS
802.11ax(HE80)	199	6945	-15.84	-13.25	-1	PASS
802.11ax(HE80)	215	7025	-13.88	-11.29	-1	PASS
802.11ax(HE160)	15	6025	-15.97	-13.38	-1	PASS
802.11ax(HE160)	47	6185	-18.52	-15.93	-1	PASS
802.11ax(HE160)	79	6345	-19.35	-16.76	-1	PASS
802.11ax(HE160)	111	6505	-18.01	-15.42	-1	PASS
802.11ax(HE160)	143	6665	-16.42	-13.83	-1	PASS
802.11ax(HE160)	175	6825	-16.10	-13.51	-1	PASS
802.11ax(HE160)	207	6985	-17.25	-14.66	-1	PASS

NOTE: E.I.R.P= PSD Result + antenna gain

Antenna 1 gain = 2.59dBi

Test plots as follows:

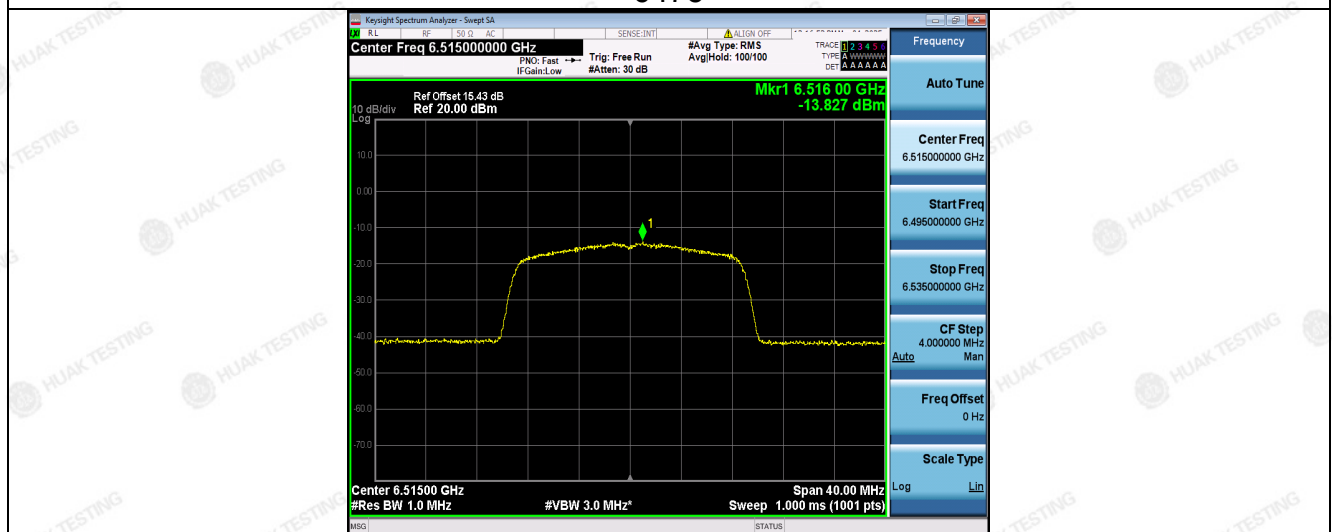




6435



6475



6515





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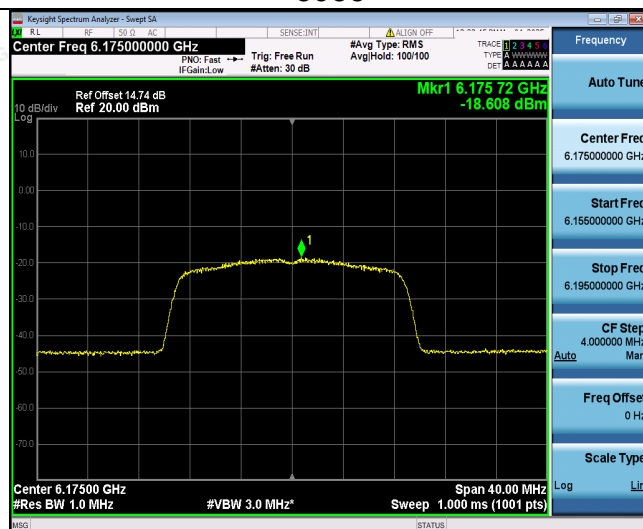
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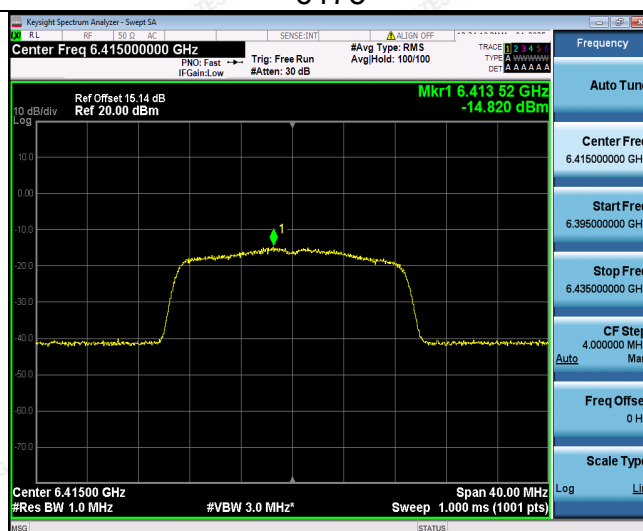
802.11ax(HE20)



5955



6175



6415



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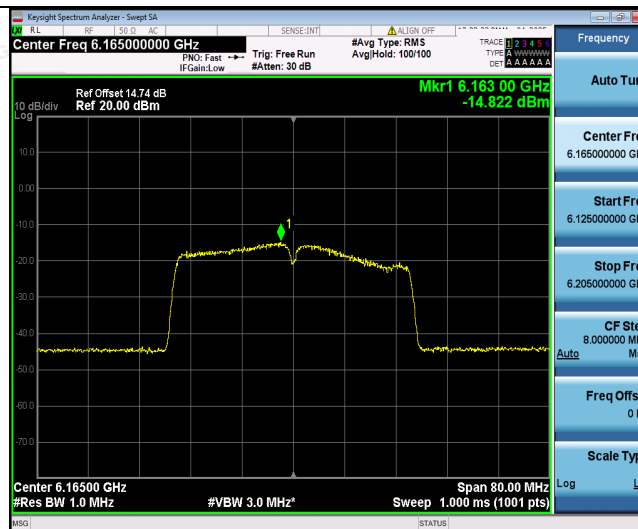
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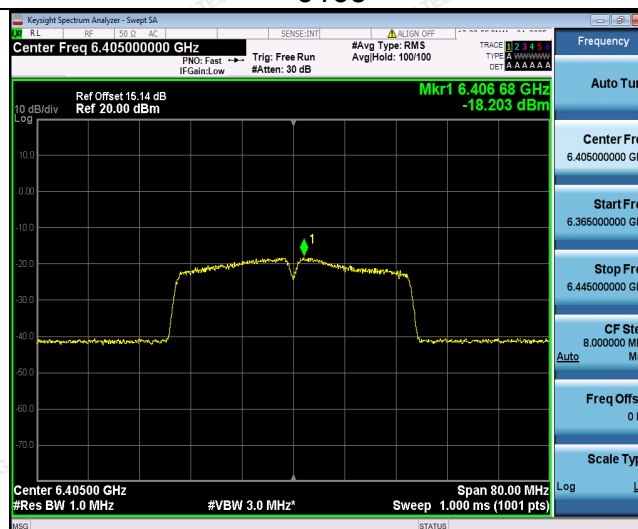
802.11ax(HE40)



5965



6165



6405





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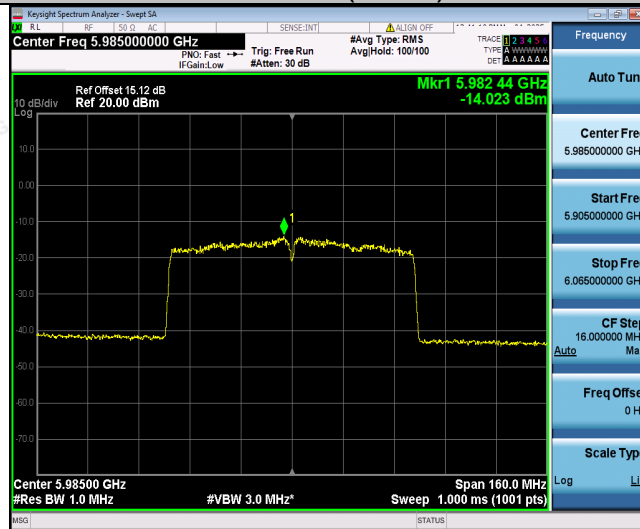
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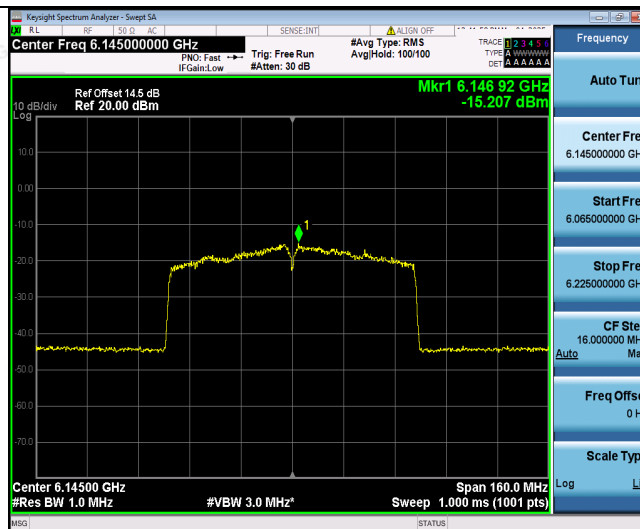
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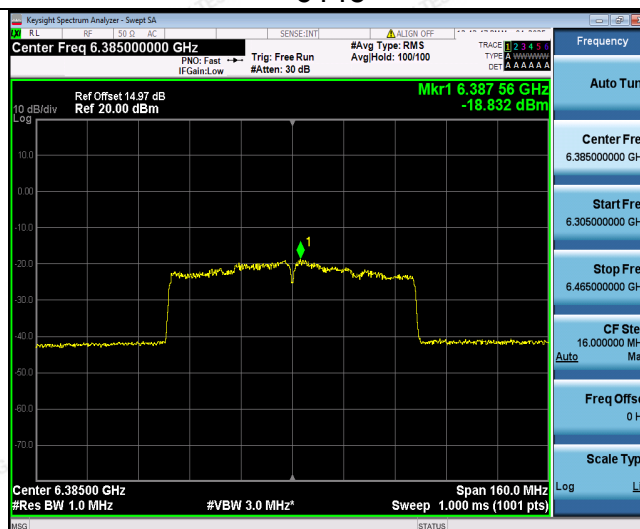
802.11ax(HE80)



5985



6145



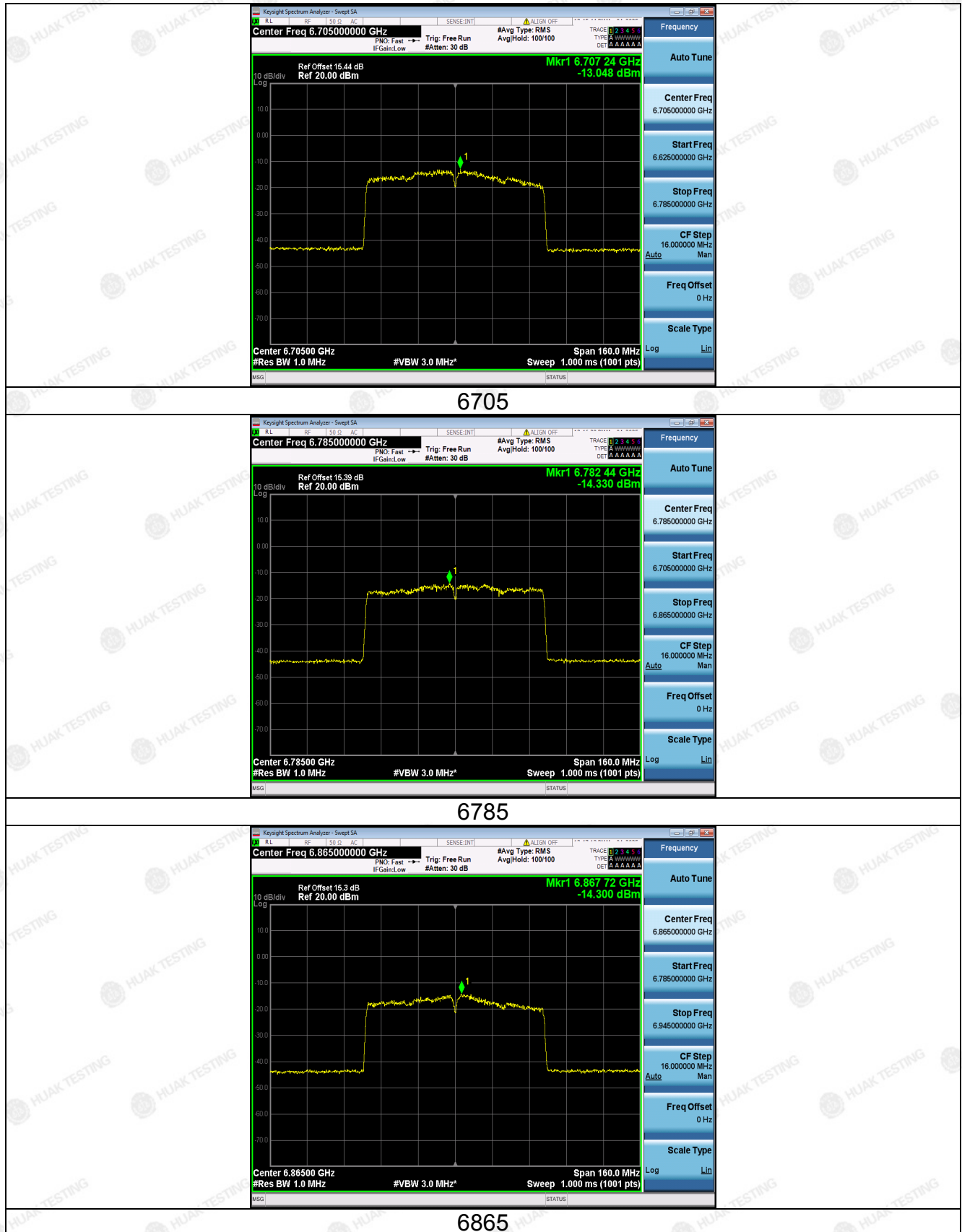
6385



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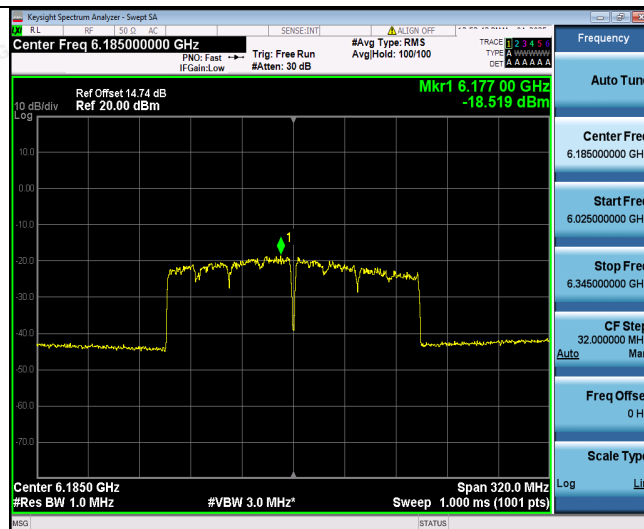




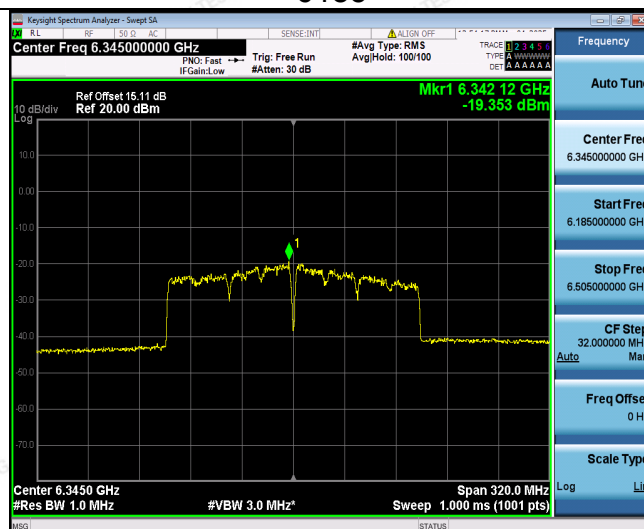
802.11ax(HE160)



6025



6185



6345



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