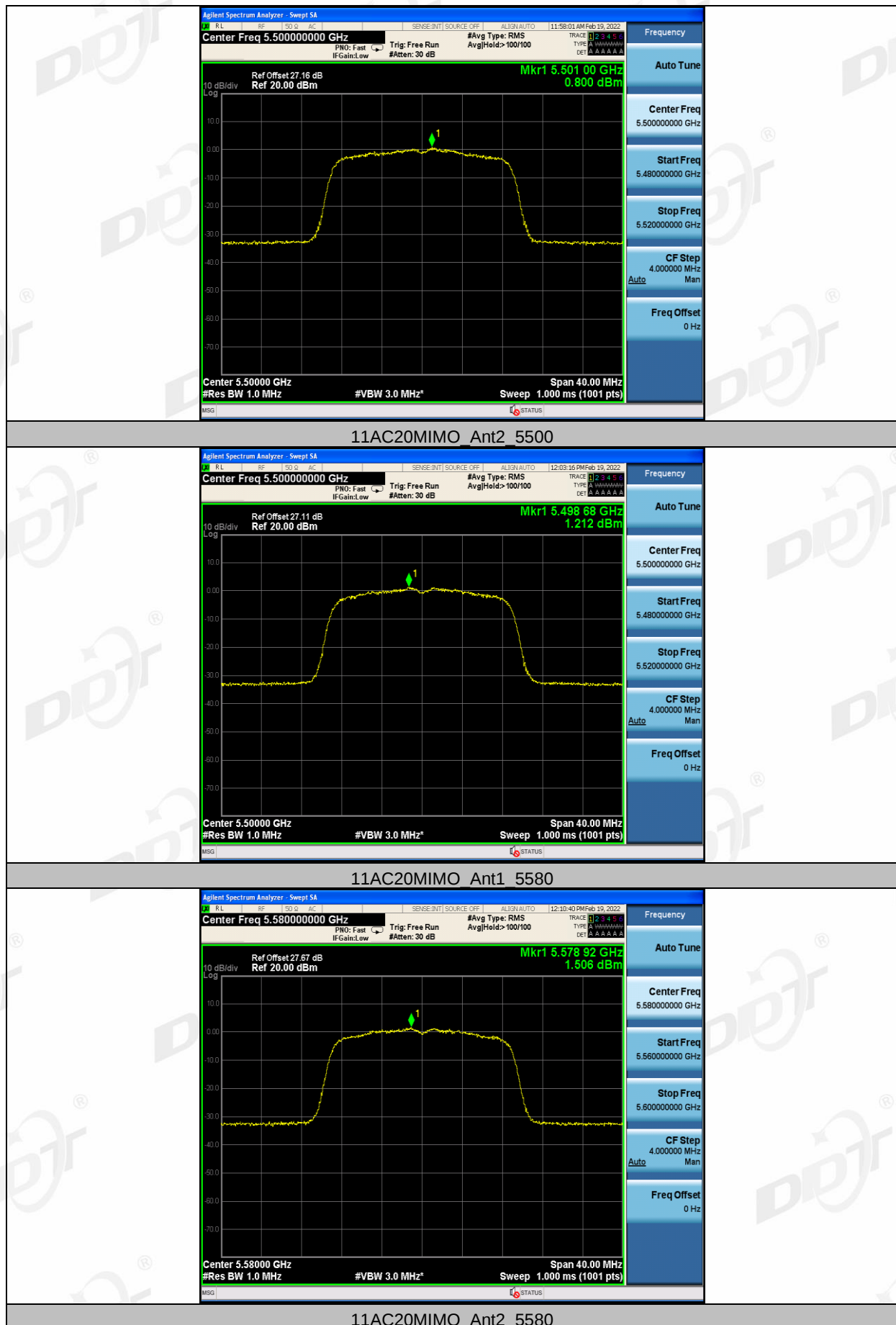
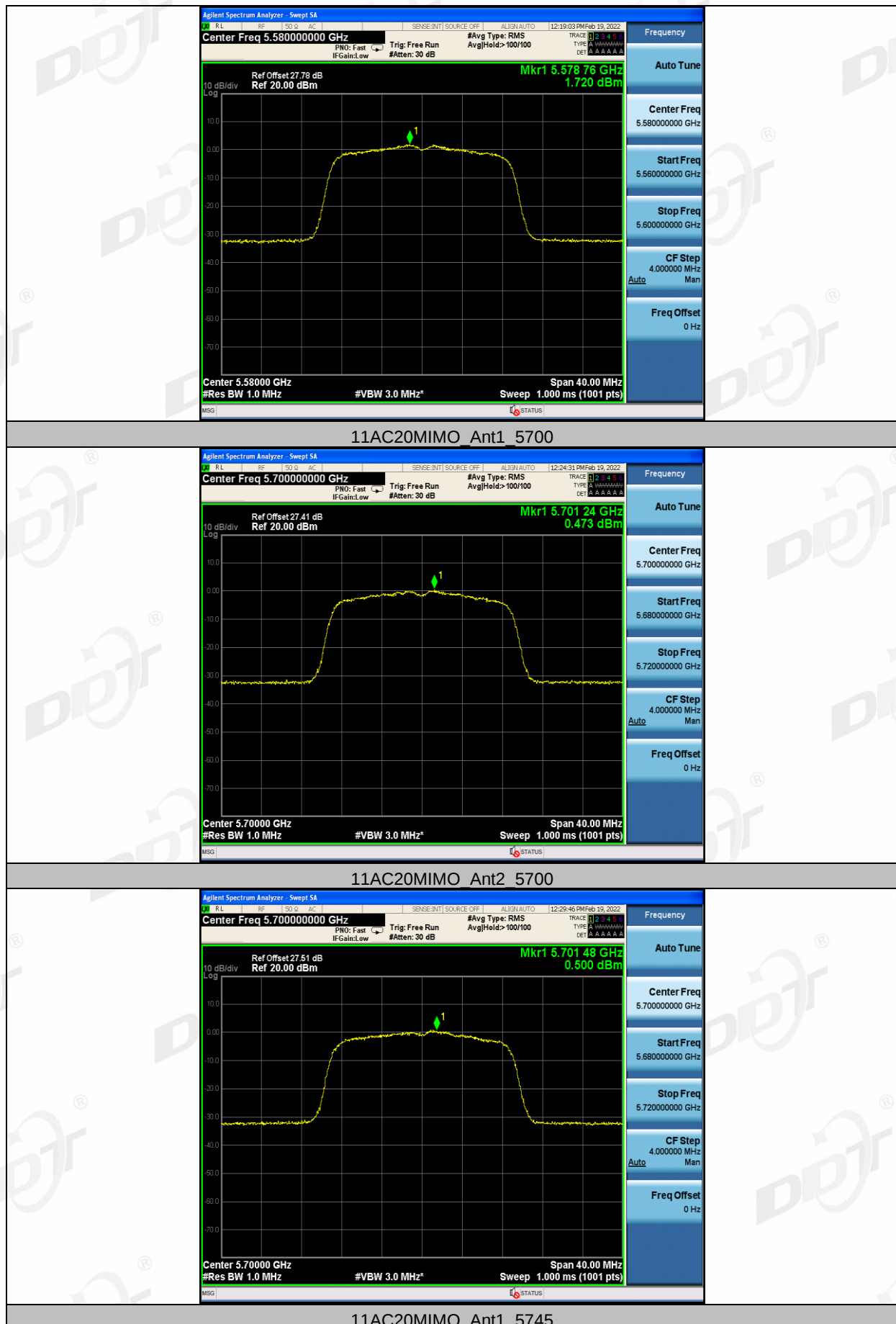
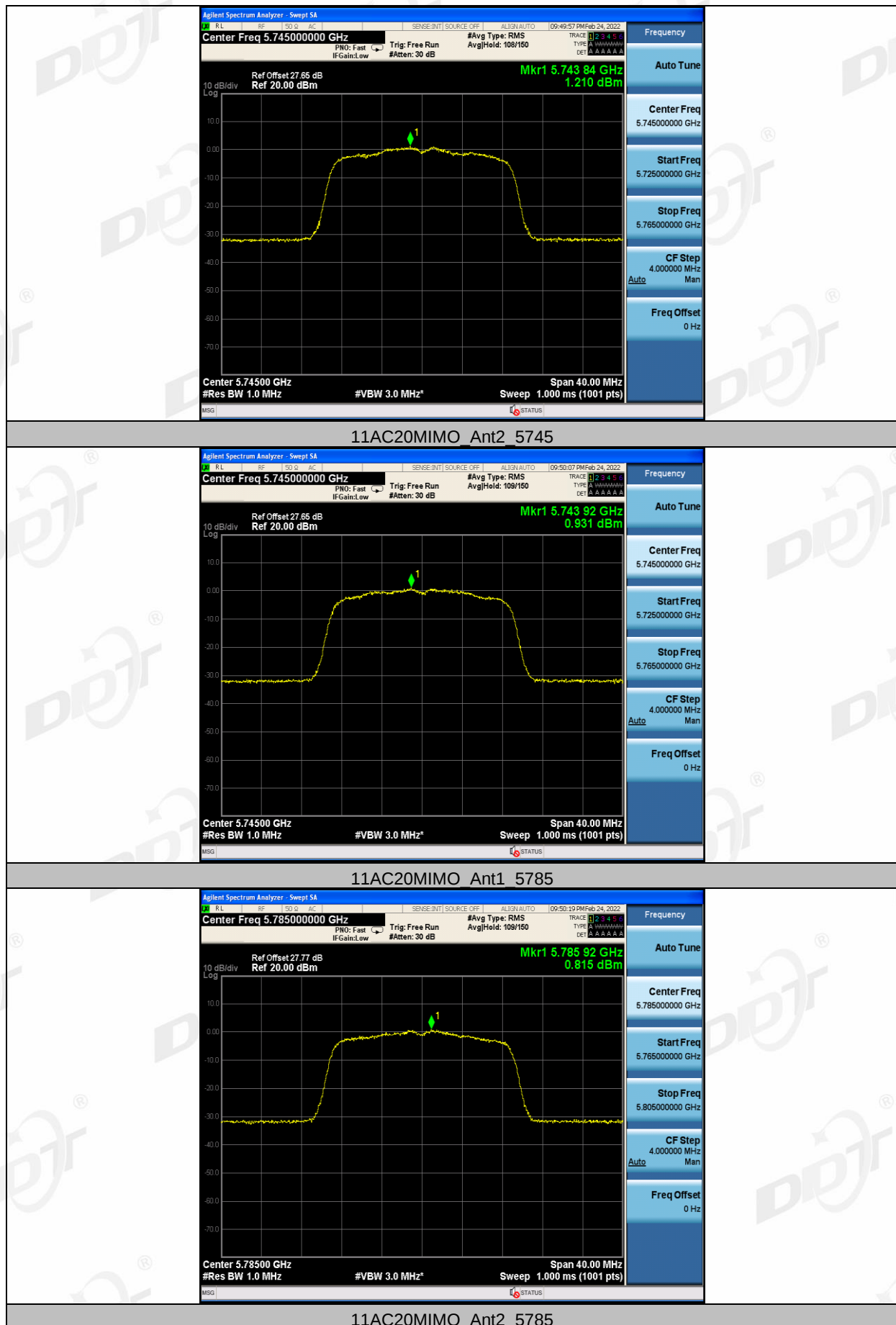
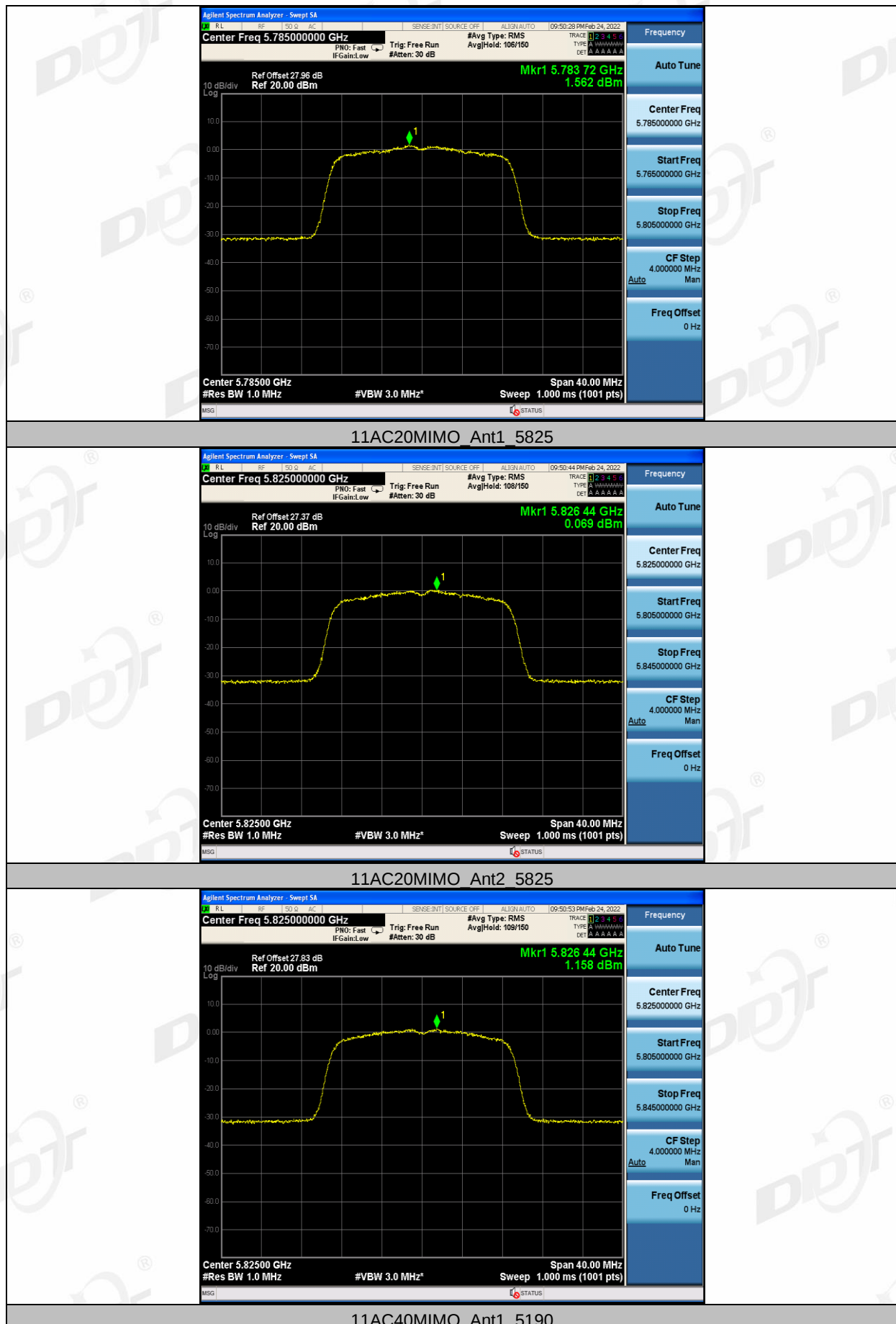
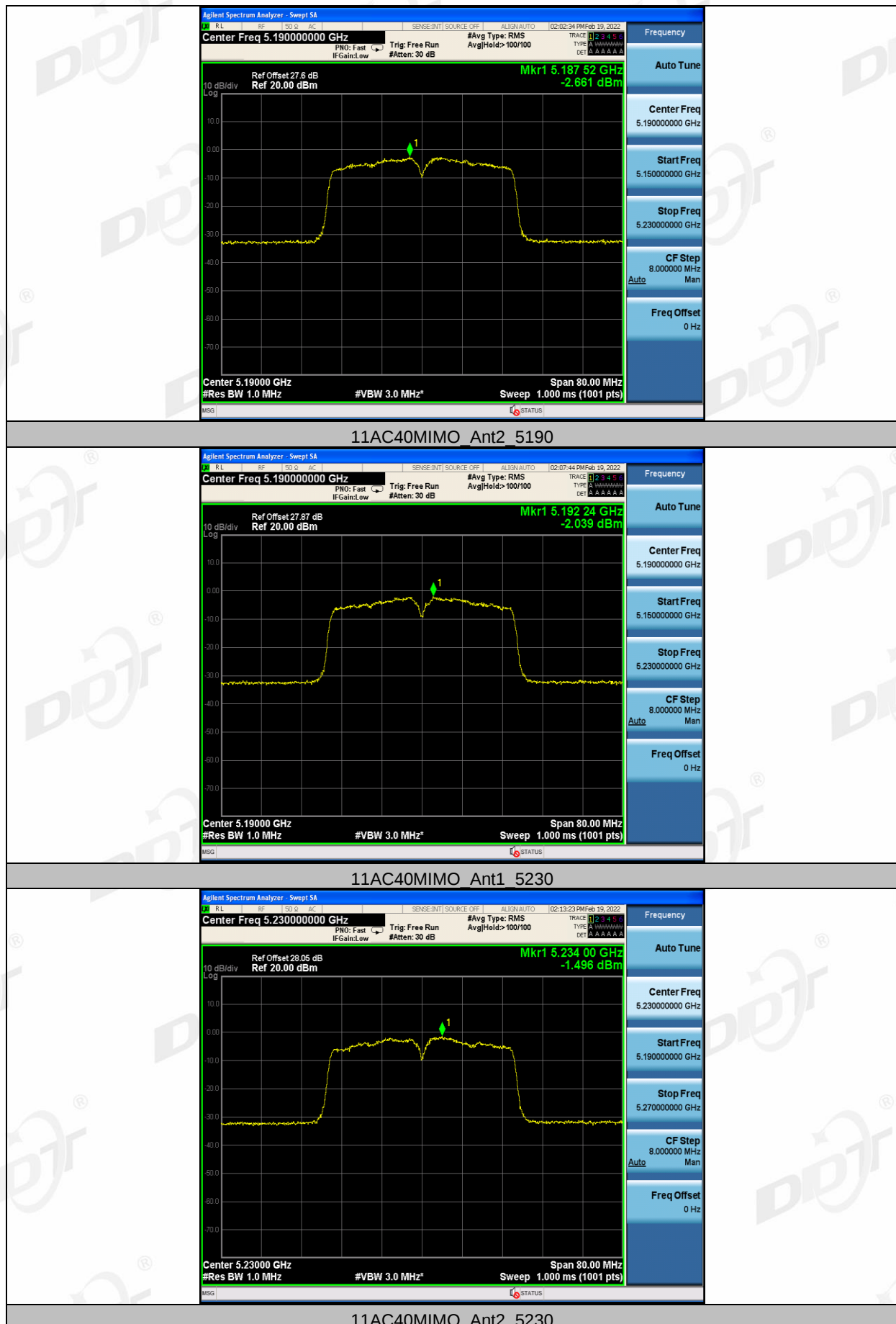


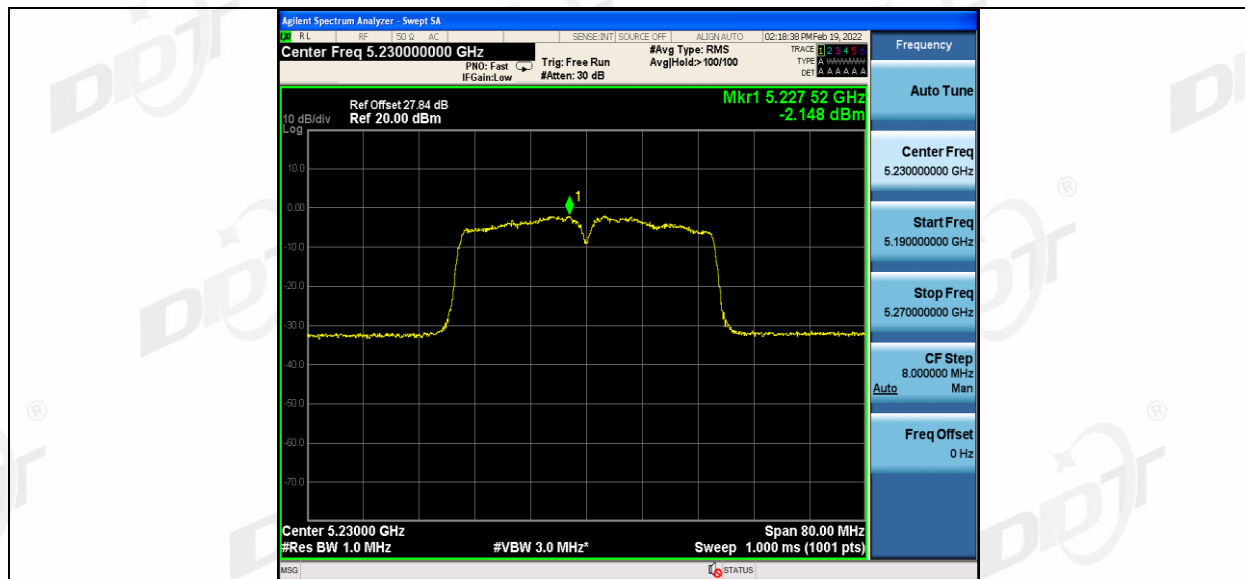




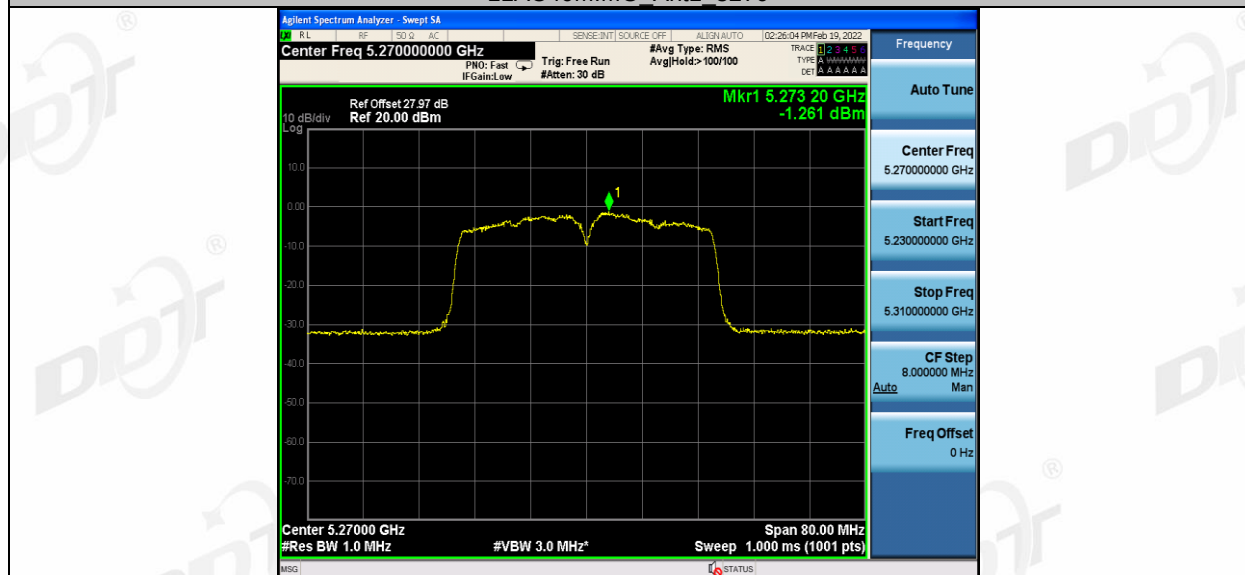




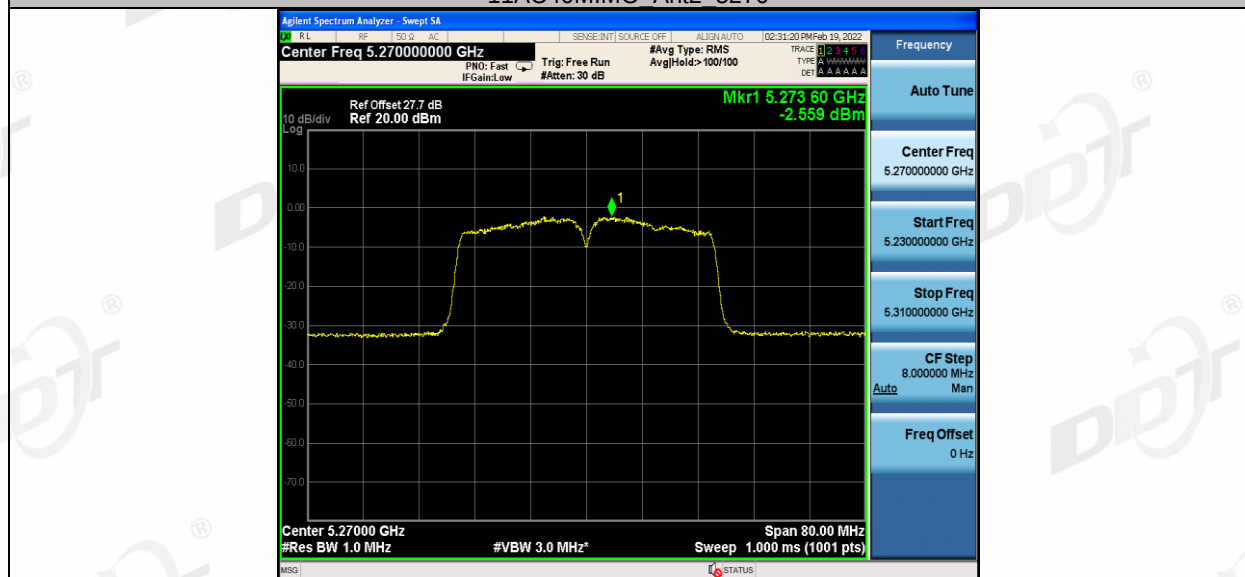




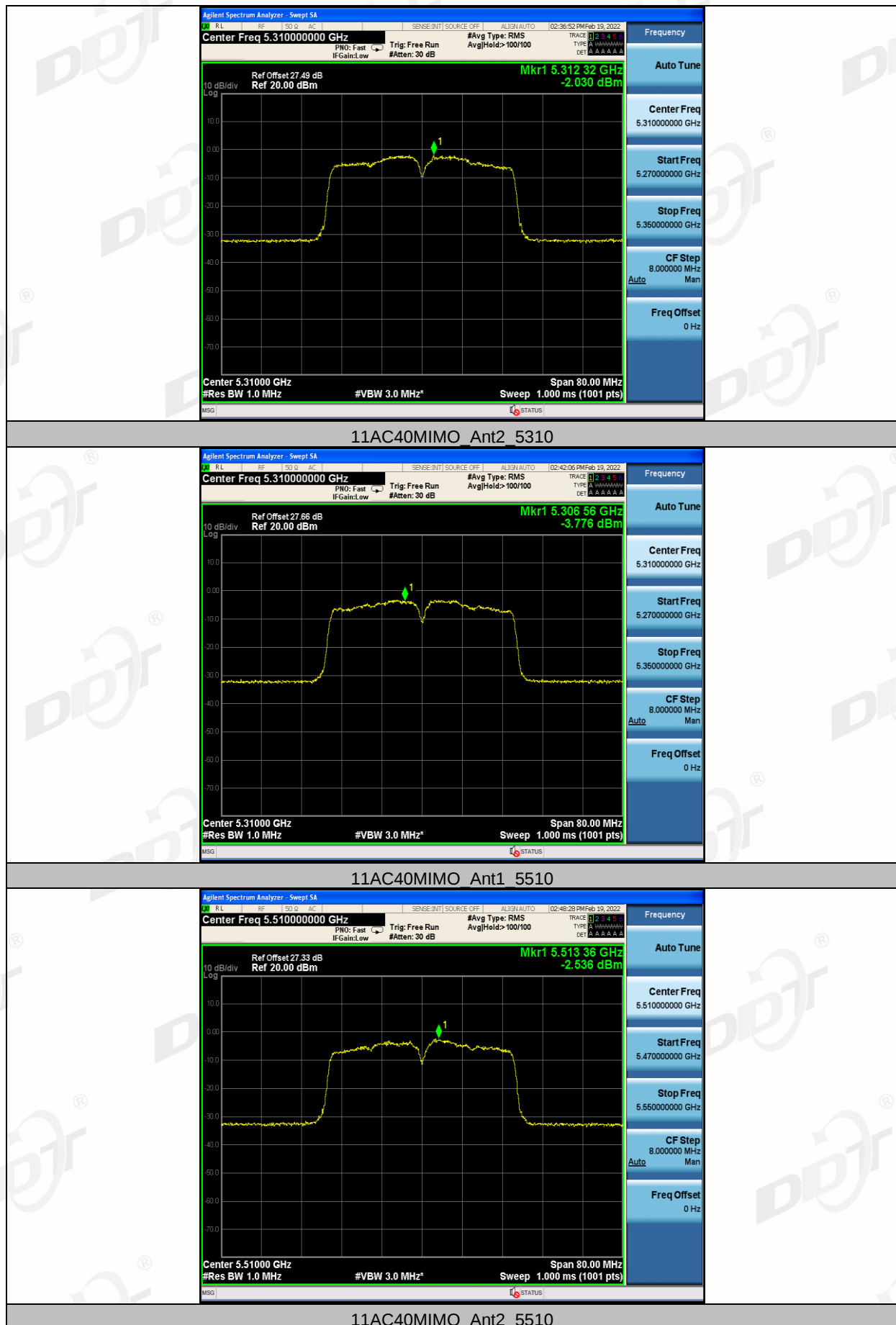
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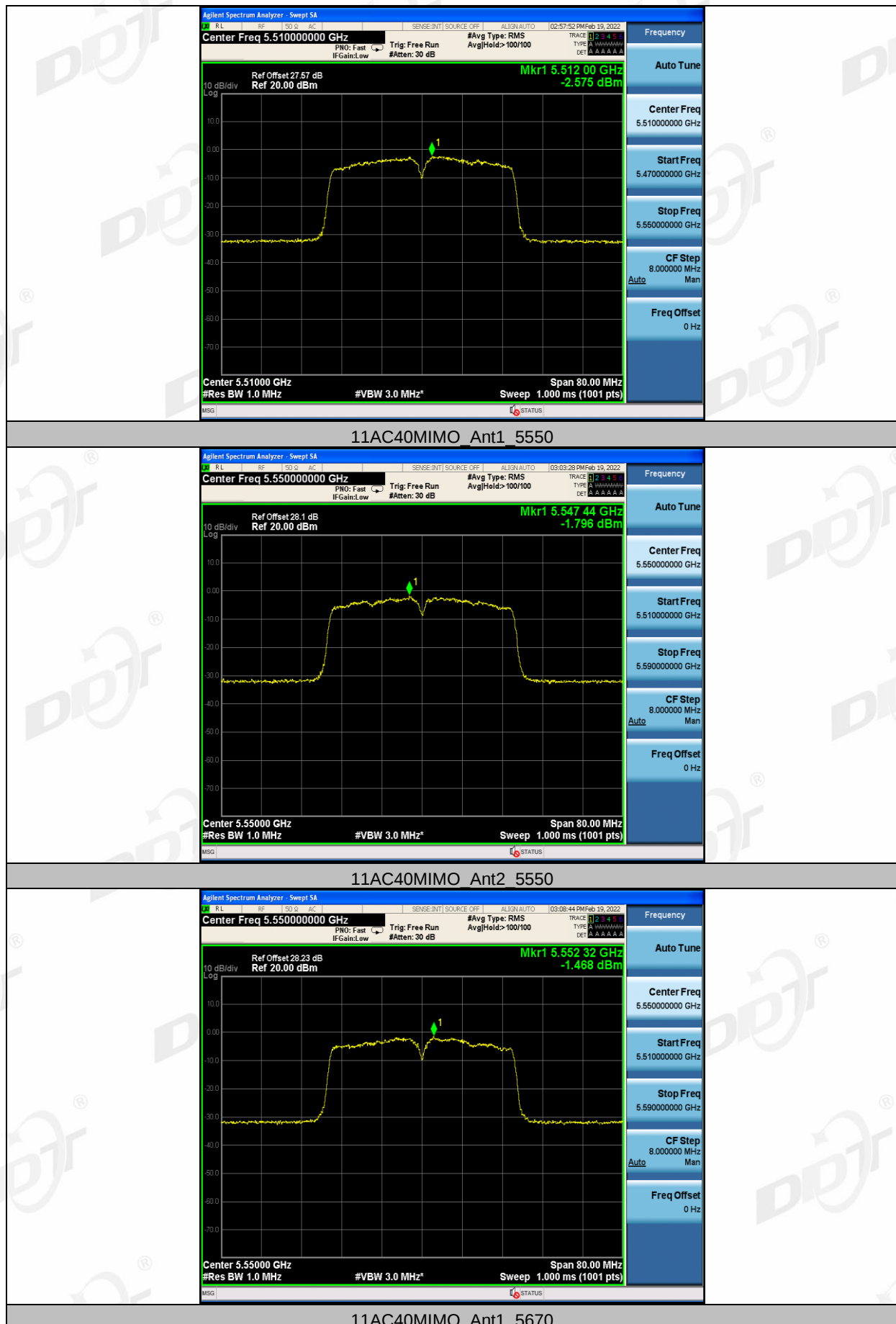


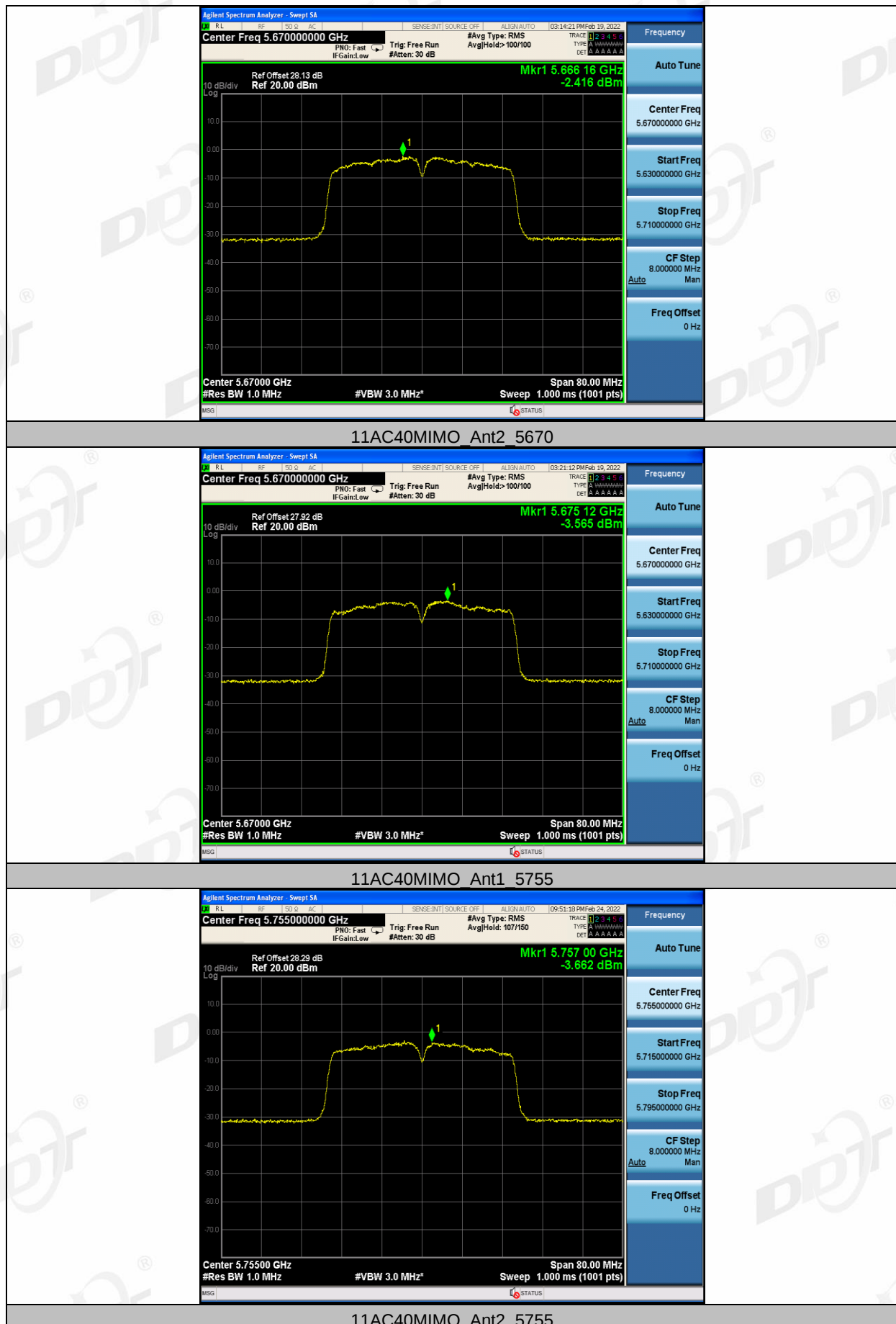
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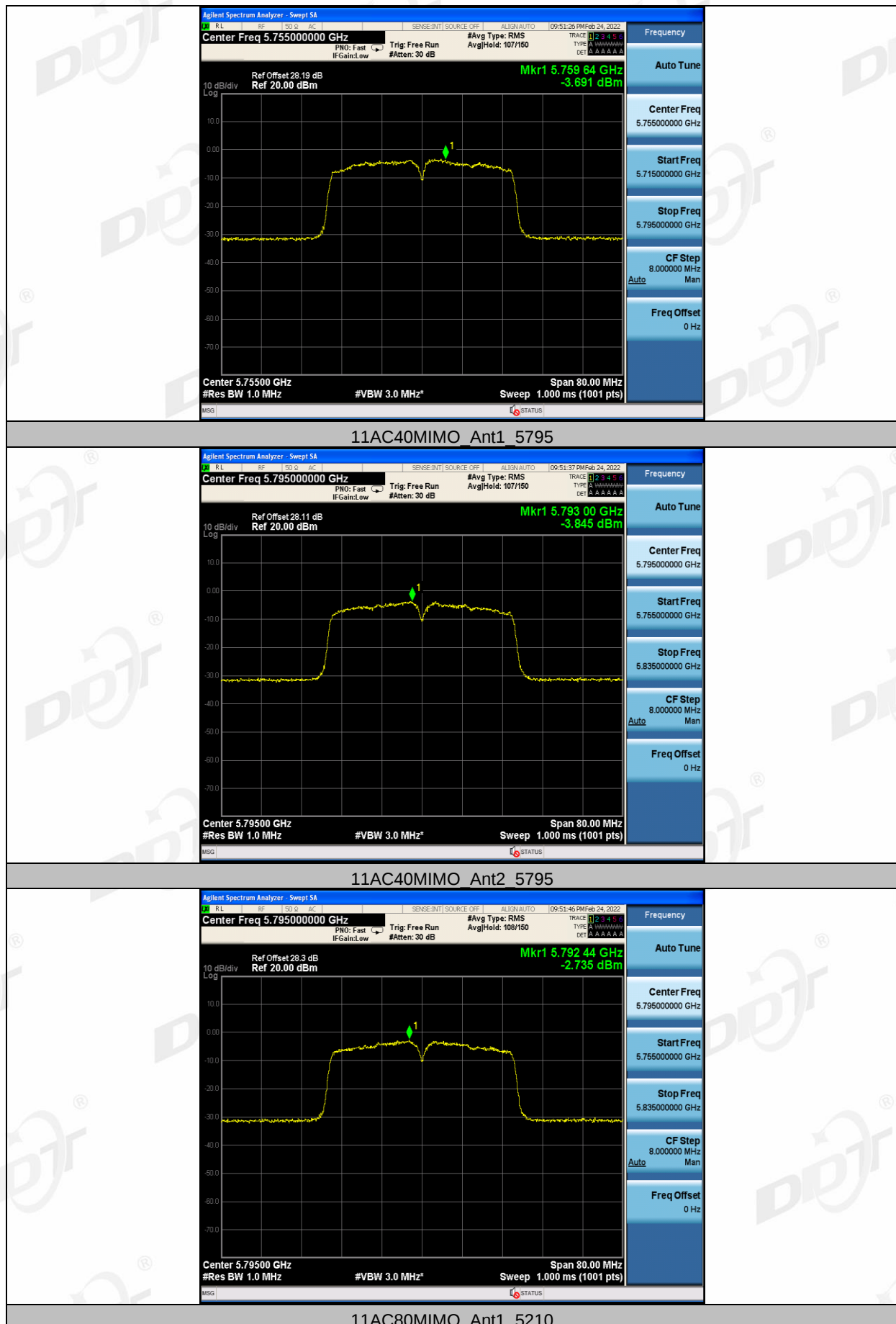


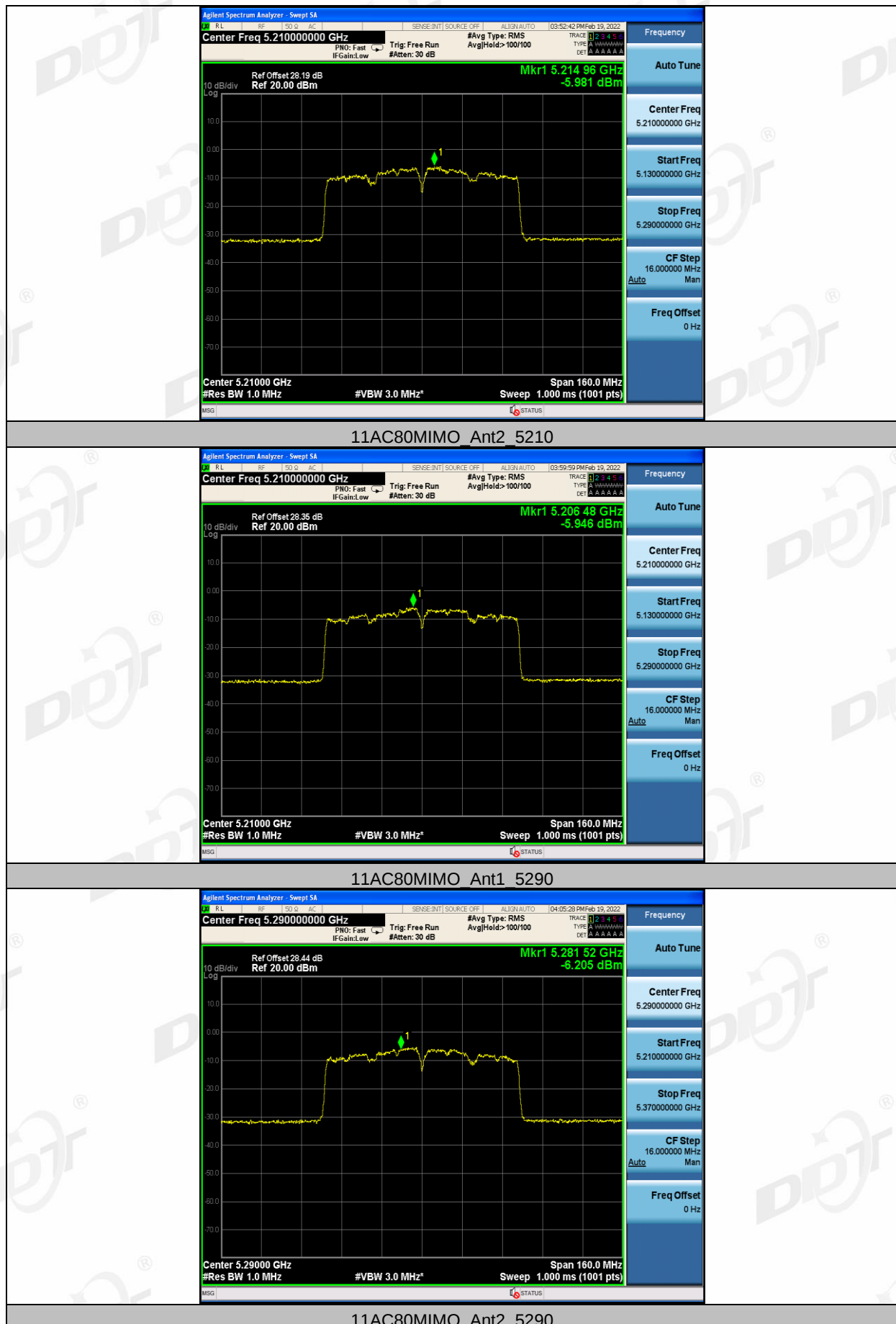
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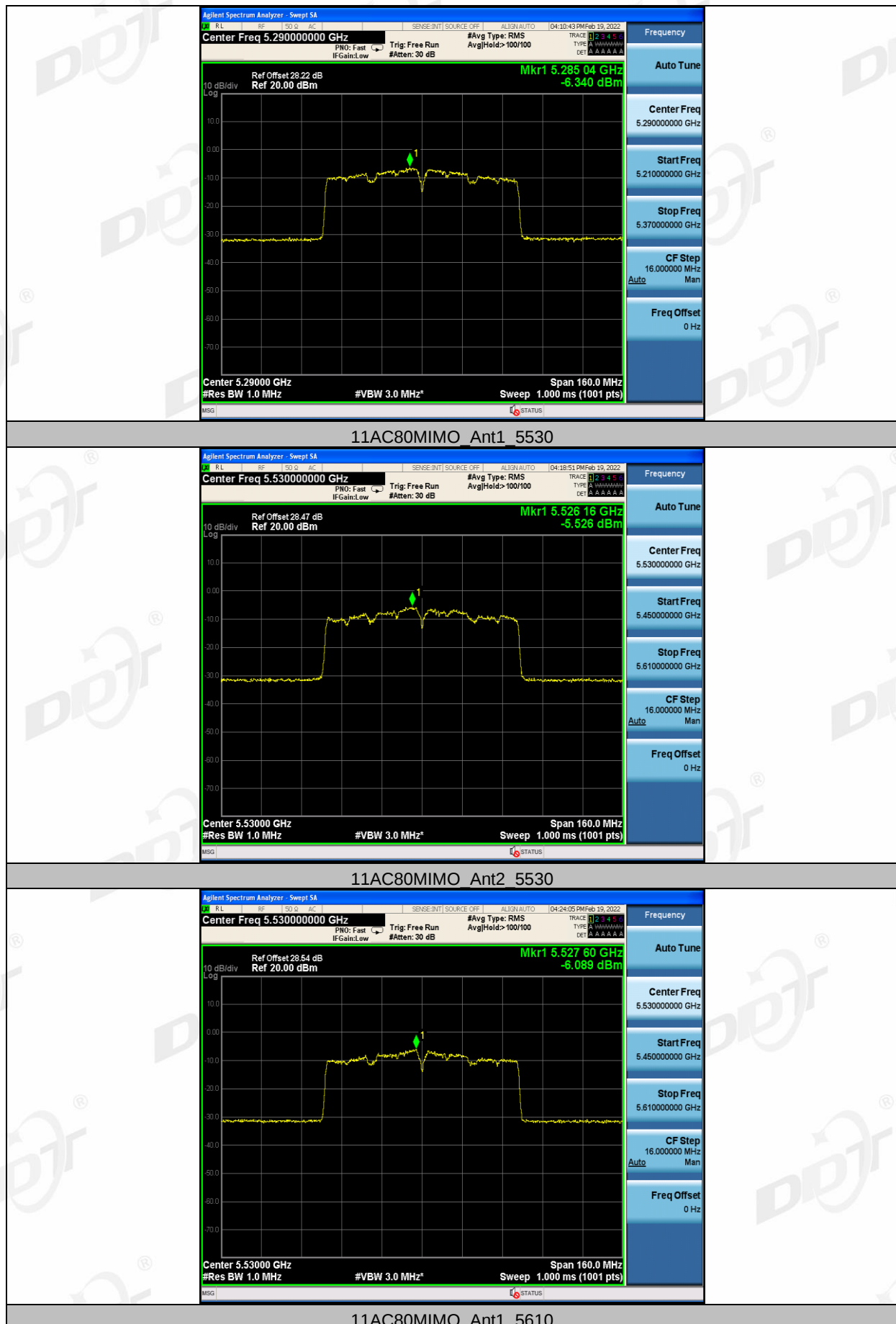


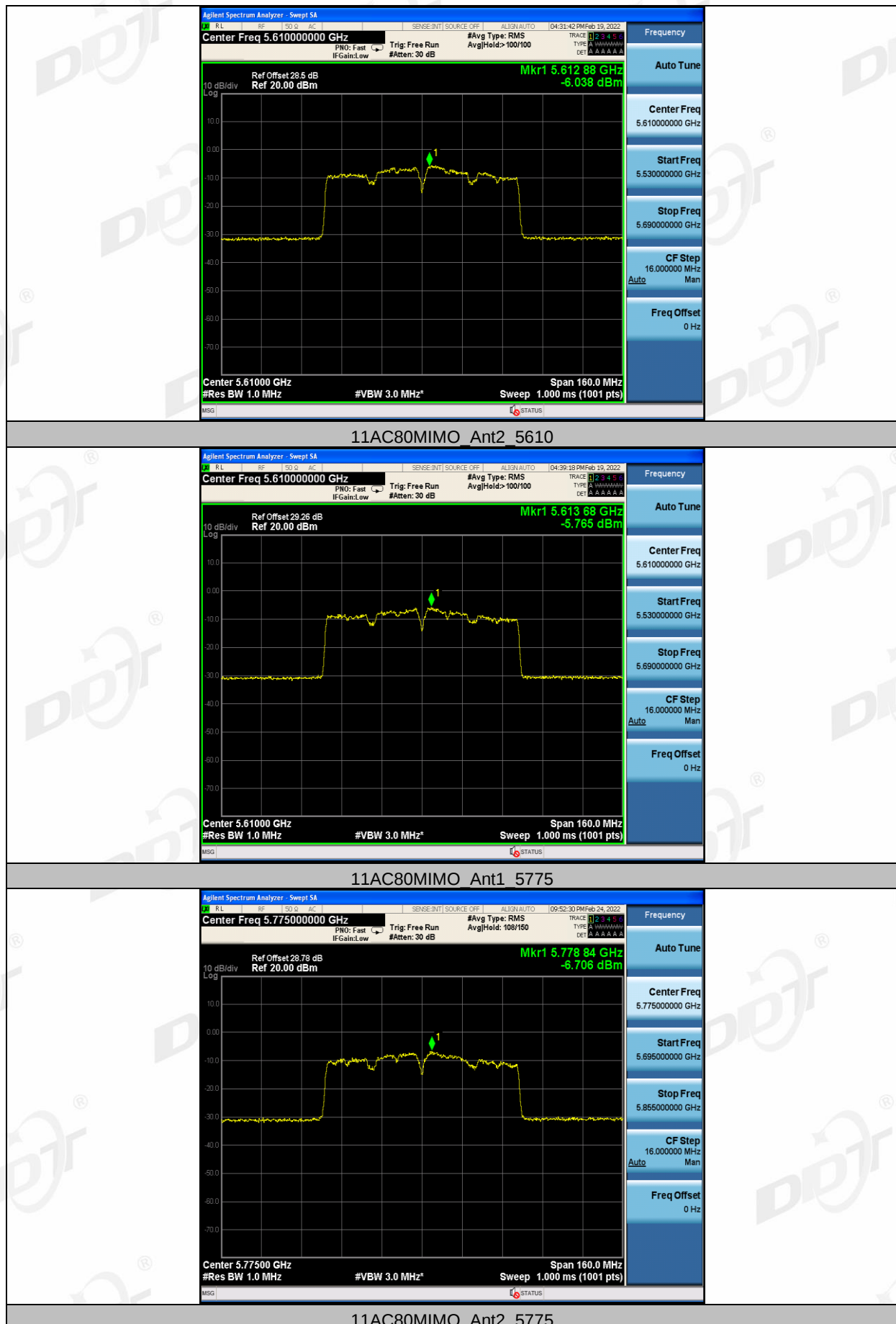


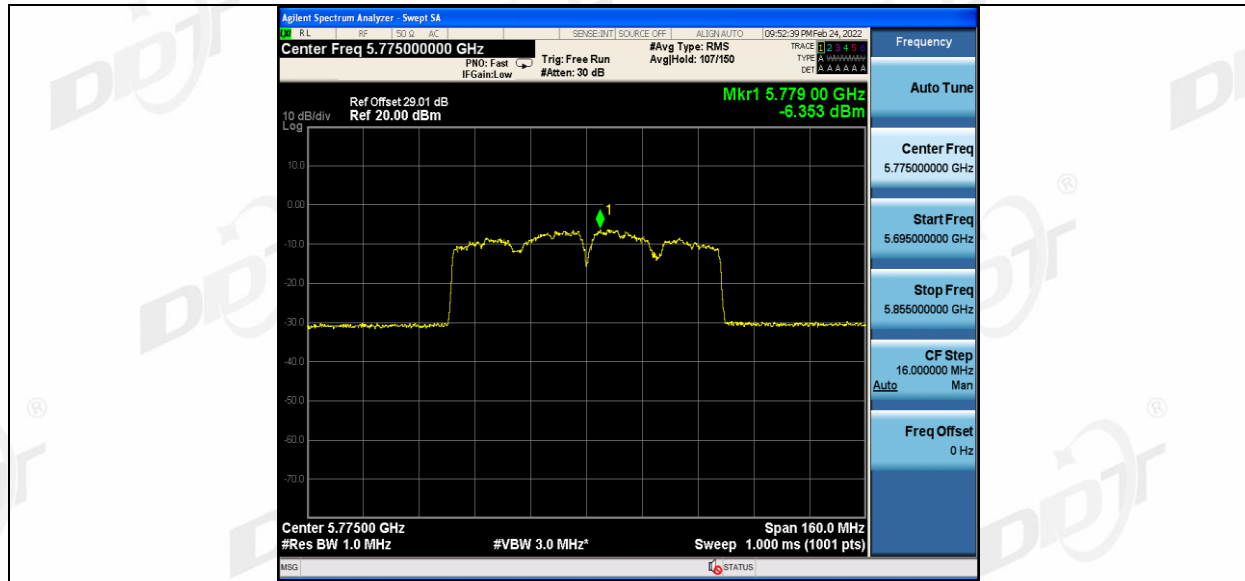












7. Frequency Stability Measurement

7.1. Limit of Frequency Stability

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.

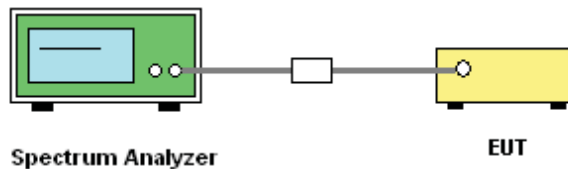
7.2. Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

7.3. Test Procedures

- (1) To ensure emission at the band edge is maintained within the authorized band, those values shall be measured by radiation emissions at upper and lower frequency points, and finally compensated by frequency deviation as procedures below.
- (2) The EUT was operated at the maximum output power, and connected to the spectrum analyzer, which is set to maximum hold function and peak detector. The peak value of the power envelope was measured and noted. The upper and lower frequency points were respectively measured relatively 10 dB lower than the measured peak value.
- (3) The frequency deviation was calculated by adding the upper frequency point and the lower frequency point divided by two. Those detailed values of frequency deviation are provided in table below.

7.4. Test Setup



7.5. Test Result

Voltage								
Test Mode	Antenna	Channel	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
11A	Ant1	5180	NV	NT	-20000.00	-3.861004	20	Pass
			LV	NT	-20000.00	-3.861004	20	Pass
			HV	NT	-20000.00	-3.861004	20	Pass
	Ant2	5180	NV	NT	0.00	0.000000	20	Pass
			LV	NT	0.00	0.000000	20	Pass
			HV	NT	-20000.00	-3.861004	20	Pass
	Ant1	5200	NV	NT	0.00	0.000000	20	Pass
			LV	NT	-20000.00	-3.846154	20	Pass
			HV	NT	-20000.00	-3.846154	20	Pass
	Ant2	5200	NV	NT	0.00	0.000000	20	Pass
			LV	NT	0.00	0.000000	20	Pass
			HV	NT	0.00	0.000000	20	Pass
	Ant1	5240	NV	NT	-20000.00	-3.816794	20	Pass
			LV	NT	0.00	0.000000	20	Pass
			HV	NT	-20000.00	-3.816794	20	Pass

Ant2	5240	NV	NT	0.00	0.000000	20	Pass
		LV	NT	0.00	0.000000	20	Pass
		HV	NT	20000.00	3.816794	20	Pass
Ant1	5260	NV	NT	20000.00	3.802281	20	Pass
		LV	NT	-20000.00	-3.802281	20	Pass
		HV	NT	0.00	0.000000	20	Pass
Ant2	5260	NV	NT	-20000.00	-3.802281	20	Pass
		LV	NT	0.00	0.000000	20	Pass
		HV	NT	0.00	0.000000	20	Pass
Ant1	5280	NV	NT	0.00	0.000000	20	Pass
		LV	NT	-20000.00	-3.787879	20	Pass
		HV	NT	-20000.00	-3.787879	20	Pass
Ant2	5280	NV	NT	-20000.00	-3.787879	20	Pass
		LV	NT	-20000.00	-3.787879	20	Pass
		HV	NT	-20000.00	-3.787879	20	Pass
Ant1	5320	NV	NT	-40000.00	-7.518797	20	Pass
		LV	NT	-40000.00	-7.518797	20	Pass
		HV	NT	-40000.00	-7.518797	20	Pass
Ant2	5320	NV	NT	-20000.00	-3.759398	20	Pass
		LV	NT	-20000.00	-3.759398	20	Pass
		HV	NT	0.00	0.000000	20	Pass
Ant1	5500	NV	NT	-20000.00	-3.636364	20	Pass
		LV	NT	-40000.00	-7.272727	20	Pass
		HV	NT	0.00	0.000000	20	Pass
Ant2	5500	NV	NT	0.00	0.000000	20	Pass
		LV	NT	-20000.00	-3.636364	20	Pass
		HV	NT	0.00	0.000000	20	Pass
Ant1	5580	NV	NT	-20000.00	-3.584229	20	Pass
		LV	NT	-20000.00	-3.584229	20	Pass
		HV	NT	-20000.00	-3.584229	20	Pass
Ant2	5580	NV	NT	-20000.00	-3.584229	20	Pass
		LV	NT	-20000.00	-3.584229	20	Pass
		HV	NT	-20000.00	-3.584229	20	Pass
Ant1	5700	NV	NT	-20000.00	-3.508772	20	Pass
		LV	NT	-20000.00	-3.508772	20	Pass
		HV	NT	-20000.00	-3.508772	20	Pass
Ant2	5700	NV	NT	-20000.00	-3.508772	20	Pass
		LV	NT	-20000.00	-3.508772	20	Pass
		HV	NT	-20000.00	-3.508772	20	Pass
Ant1	5745	NV	NT	-20000.00	-3.481288	20	Pass
		LV	NT	-20000.00	-3.481288	20	Pass
		HV	NT	-20000.00	-3.481288	20	Pass
Ant2	5745	NV	NT	-20000.00	-3.481288	20	Pass
		LV	NT	-20000.00	-3.481288	20	Pass
		HV	NT	0.00	0.000000	20	Pass
Ant1	5785	NV	NT	-20000.00	-3.457217	20	Pass
		LV	NT	-40000.00	-6.914434	20	Pass
		HV	NT	0.00	0.000000	20	Pass
Ant2	5785	NV	NT	-20000.00	-3.457217	20	Pass
		LV	NT	-20000.00	-3.457217	20	Pass
		HV	NT	0.00	0.000000	20	Pass

	Ant1	5825	NV	NT	-20000.00	-3.433476	20	Pass
			LV	NT	-20000.00	-3.433476	20	Pass
			HV	NT	0.00	0.000000	20	Pass
	Ant2	5825	NV	NT	0.00	0.000000	20	Pass
			LV	NT	0.00	0.000000	20	Pass
			HV	NT	0.00	0.000000	20	Pass
11N20MIMO	Ant1	5180	NV	NT	0.00	0.000000	20	Pass
			LV	NT	0.00	0.000000	20	Pass
			HV	NT	-20000.00	-3.861004	20	Pass
	Ant2	5180	NV	NT	-20000.00	-3.861004	20	Pass
			LV	NT	0.00	0.000000	20	Pass
			HV	NT	0.00	0.000000	20	Pass
	Ant1	5200	NV	NT	0.00	0.000000	20	Pass
			LV	NT	20000.00	3.846154	20	Pass
			HV	NT	0.00	0.000000	20	Pass
	Ant2	5200	NV	NT	-20000.00	-3.846154	20	Pass
			LV	NT	20000.00	3.846154	20	Pass
			HV	NT	0.00	0.000000	20	Pass
	Ant1	5240	NV	NT	-20000.00	-3.816794	20	Pass
			LV	NT	-20000.00	-3.816794	20	Pass
			HV	NT	0.00	0.000000	20	Pass
	Ant2	5240	NV	NT	0.00	0.000000	20	Pass
			LV	NT	0.00	0.000000	20	Pass
			HV	NT	-20000.00	-3.816794	20	Pass
	Ant1	5260	NV	NT	0.00	0.000000	20	Pass
			LV	NT	20000.00	3.802281	20	Pass
			HV	NT	0.00	0.000000	20	Pass
	Ant2	5260	NV	NT	-20000.00	-3.802281	20	Pass
			LV	NT	0.00	0.000000	20	Pass
			HV	NT	-20000.00	-3.802281	20	Pass
	Ant1	5280	NV	NT	0.00	0.000000	20	Pass
			LV	NT	0.00	0.000000	20	Pass
			HV	NT	-20000.00	-3.787879	20	Pass
	Ant2	5280	NV	NT	0.00	0.000000	20	Pass
			LV	NT	0.00	0.000000	20	Pass
			HV	NT	0.00	0.000000	20	Pass
	Ant1	5320	NV	NT	0.00	0.000000	20	Pass
			LV	NT	-20000.00	-3.759398	20	Pass
			HV	NT	-20000.00	-3.759398	20	Pass
	Ant2	5320	NV	NT	-20000.00	-3.759398	20	Pass
			LV	NT	-20000.00	-3.759398	20	Pass
			HV	NT	0.00	0.000000	20	Pass
	Ant1	5500	NV	NT	0.00	0.000000	20	Pass
			LV	NT	0.00	0.000000	20	Pass
			HV	NT	0.00	0.000000	20	Pass
	Ant2	5500	NV	NT	0.00	0.000000	20	Pass
			LV	NT	0.00	0.000000	20	Pass
			HV	NT	0.00	0.000000	20	Pass
	Ant1	5580	NV	NT	-20000.00	-3.584229	20	Pass
			LV	NT	-20000.00	-3.584229	20	Pass
			HV	NT	0.00	0.000000	20	Pass

11N40MIMO	Ant2	5580	NV	NT	0.00	0.000000	20	Pass
			LV	NT	-20000.00	-3.584229	20	Pass
			HV	NT	-20000.00	-3.584229	20	Pass
	Ant1	5700	NV	NT	20000.00	3.508772	20	Pass
			LV	NT	-20000.00	-3.508772	20	Pass
			HV	NT	-20000.00	-3.508772	20	Pass
	Ant2	5700	NV	NT	-20000.00	-3.508772	20	Pass
			LV	NT	0.00	0.000000	20	Pass
			HV	NT	-20000.00	-3.508772	20	Pass
	Ant1	5745	NV	NT	-20000.00	-3.481288	20	Pass
			LV	NT	0.00	0.000000	20	Pass
			HV	NT	0.00	0.000000	20	Pass
	Ant2	5745	NV	NT	-20000.00	-3.481288	20	Pass
			LV	NT	-20000.00	-3.481288	20	Pass
			HV	NT	20000.00	3.481288	20	Pass
	Ant1	5785	NV	NT	-20000.00	-3.457217	20	Pass
			LV	NT	-20000.00	-3.457217	20	Pass
			HV	NT	-20000.00	-3.457217	20	Pass
	Ant2	5785	NV	NT	0.00	0.000000	20	Pass
			LV	NT	0.00	0.000000	20	Pass
			HV	NT	0.00	0.000000	20	Pass
	Ant1	5825	NV	NT	0.00	0.000000	20	Pass
			LV	NT	0.00	0.000000	20	Pass
			HV	NT	-20000.00	-3.433476	20	Pass
	Ant2	5825	NV	NT	0.00	0.000000	20	Pass
			LV	NT	-20000.00	-3.433476	20	Pass
			HV	NT	0.00	0.000000	20	Pass
	Ant1	5190	NV	NT	40000.00	7.707129	20	Pass
			LV	NT	0.00	0.000000	20	Pass
			HV	NT	-40000.00	-7.707129	20	Pass
	Ant2	5190	NV	NT	0.00	0.000000	20	Pass
			LV	NT	40000.00	7.707129	20	Pass
			HV	NT	0.00	0.000000	20	Pass
	Ant1	5230	NV	NT	0.00	0.000000	20	Pass
			LV	NT	-40000.00	-7.648184	20	Pass
			HV	NT	0.00	0.000000	20	Pass
	Ant2	5230	NV	NT	0.00	0.000000	20	Pass
			LV	NT	0.00	0.000000	20	Pass
			HV	NT	0.00	0.000000	20	Pass
	Ant1	5270	NV	NT	-40000.00	-7.590133	20	Pass
			LV	NT	-40000.00	-7.590133	20	Pass
			HV	NT	-40000.00	-7.590133	20	Pass
	Ant2	5270	NV	NT	0.00	0.000000	20	Pass
			LV	NT	0.00	0.000000	20	Pass
			HV	NT	-40000.00	-7.590133	20	Pass
	Ant1	5310	NV	NT	40000.00	7.532957	20	Pass
			LV	NT	-40000.00	-7.532957	20	Pass
			HV	NT	0.00	0.000000	20	Pass
	Ant2	5310	NV	NT	0.00	0.000000	20	Pass
			LV	NT	-40000.00	-7.532957	20	Pass
			HV	NT	0.00	0.000000	20	Pass

	Ant1	5510	NV	NT	-40000.00	-7.259528	20	Pass
			LV	NT	0.00	0.000000	20	Pass
			HV	NT	0.00	0.000000	20	Pass
	Ant2	5510	NV	NT	0.00	0.000000	20	Pass
			LV	NT	40000.00	7.259528	20	Pass
			HV	NT	0.00	0.000000	20	Pass
	Ant1	5550	NV	NT	0.00	0.000000	20	Pass
			LV	NT	-40000.00	-7.207207	20	Pass
			HV	NT	40000.00	7.207207	20	Pass
	Ant2	5550	NV	NT	0.00	0.000000	20	Pass
			LV	NT	0.00	0.000000	20	Pass
			HV	NT	0.00	0.000000	20	Pass
	Ant1	5670	NV	NT	-40000.00	-7.054674	20	Pass
			LV	NT	-40000.00	-7.054674	20	Pass
			HV	NT	-40000.00	-7.054674	20	Pass
	Ant2	5670	NV	NT	0.00	0.000000	20	Pass
			LV	NT	0.00	0.000000	20	Pass
			HV	NT	0.00	0.000000	20	Pass
	Ant1	5755	NV	NT	0.00	0.000000	20	Pass
			LV	NT	0.00	0.000000	20	Pass
			HV	NT	-40000.00	-6.950478	20	Pass
	Ant2	5755	NV	NT	0.00	0.000000	20	Pass
			LV	NT	0.00	0.000000	20	Pass
			HV	NT	0.00	0.000000	20	Pass
	Ant1	5795	NV	NT	0.00	0.000000	20	Pass
			LV	NT	0.00	0.000000	20	Pass
			HV	NT	-40000.00	-6.902502	20	Pass
	Ant2	5795	NV	NT	-40000.00	-6.902502	20	Pass
			LV	NT	-40000.00	-6.902502	20	Pass
			HV	NT	0.00	0.000000	20	Pass
11AC20MIMO	Ant1	5180	NV	NT	0.00	0.000000	20	Pass
			LV	NT	0.00	0.000000	20	Pass
			HV	NT	0.00	0.000000	20	Pass
	Ant2	5180	NV	NT	0.00	0.000000	20	Pass
			LV	NT	0.00	0.000000	20	Pass
			HV	NT	0.00	0.000000	20	Pass
	Ant1	5200	NV	NT	0.00	0.000000	20	Pass
			LV	NT	0.00	0.000000	20	Pass
			HV	NT	-20000.00	-3.846154	20	Pass
	Ant2	5200	NV	NT	0.00	0.000000	20	Pass
			LV	NT	0.00	0.000000	20	Pass
			HV	NT	0.00	0.000000	20	Pass
	Ant1	5240	NV	NT	-20000.00	-3.816794	20	Pass
			LV	NT	0.00	0.000000	20	Pass
			HV	NT	-20000.00	-3.816794	20	Pass
	Ant2	5240	NV	NT	-20000.00	-3.816794	20	Pass
			LV	NT	0.00	0.000000	20	Pass
			HV	NT	0.00	0.000000	20	Pass
	Ant1	5260	NV	NT	-20000.00	-3.802281	20	Pass
			LV	NT	-20000.00	-3.802281	20	Pass
			HV	NT	-20000.00	-3.802281	20	Pass

Ant2	5260	NV	NT	0.00	0.000000	20	Pass
		LV	NT	-20000.00	-3.802281	20	Pass
		HV	NT	0.00	0.000000	20	Pass
Ant1	5280	NV	NT	0.00	0.000000	20	Pass
		LV	NT	-20000.00	-3.787879	20	Pass
		HV	NT	-20000.00	-3.787879	20	Pass
Ant2	5280	NV	NT	-20000.00	-3.787879	20	Pass
		LV	NT	-20000.00	-3.787879	20	Pass
		HV	NT	-20000.00	-3.787879	20	Pass
Ant1	5320	NV	NT	-20000.00	-3.759398	20	Pass
		LV	NT	-20000.00	-3.759398	20	Pass
		HV	NT	-20000.00	-3.759398	20	Pass
Ant2	5320	NV	NT	0.00	0.000000	20	Pass
		LV	NT	0.00	0.000000	20	Pass
		HV	NT	0.00	0.000000	20	Pass
Ant1	5500	NV	NT	0.00	0.000000	20	Pass
		LV	NT	-20000.00	-3.636364	20	Pass
		HV	NT	-20000.00	-3.636364	20	Pass
Ant2	5500	NV	NT	0.00	0.000000	20	Pass
		LV	NT	0.00	0.000000	20	Pass
		HV	NT	-20000.00	-3.636364	20	Pass
Ant1	5580	NV	NT	0.00	0.000000	20	Pass
		LV	NT	-20000.00	-3.584229	20	Pass
		HV	NT	-20000.00	-3.584229	20	Pass
Ant2	5580	NV	NT	-20000.00	-3.584229	20	Pass
		LV	NT	-20000.00	-3.584229	20	Pass
		HV	NT	0.00	0.000000	20	Pass
Ant1	5700	NV	NT	-20000.00	-3.508772	20	Pass
		LV	NT	-40000.00	-7.017544	20	Pass
		HV	NT	-20000.00	-3.508772	20	Pass
Ant2	5700	NV	NT	0.00	0.000000	20	Pass
		LV	NT	0.00	0.000000	20	Pass
		HV	NT	-20000.00	-3.508772	20	Pass
Ant1	5745	NV	NT	-20000.00	-3.481288	20	Pass
		LV	NT	-20000.00	-3.481288	20	Pass
		HV	NT	-20000.00	-3.481288	20	Pass
Ant2	5745	NV	NT	0.00	0.000000	20	Pass
		LV	NT	0.00	0.000000	20	Pass
		HV	NT	0.00	0.000000	20	Pass
Ant1	5785	NV	NT	-20000.00	-3.457217	20	Pass
		LV	NT	-20000.00	-3.457217	20	Pass
		HV	NT	-20000.00	-3.457217	20	Pass
Ant2	5785	NV	NT	0.00	0.000000	20	Pass
		LV	NT	-20000.00	-3.457217	20	Pass
		HV	NT	0.00	0.000000	20	Pass
Ant1	5825	NV	NT	0.00	0.000000	20	Pass
		LV	NT	-20000.00	-3.433476	20	Pass
		HV	NT	0.00	0.000000	20	Pass
Ant2	5825	NV	NT	0.00	0.000000	20	Pass
		LV	NT	-20000.00	-3.433476	20	Pass
		HV	NT	0.00	0.000000	20	Pass

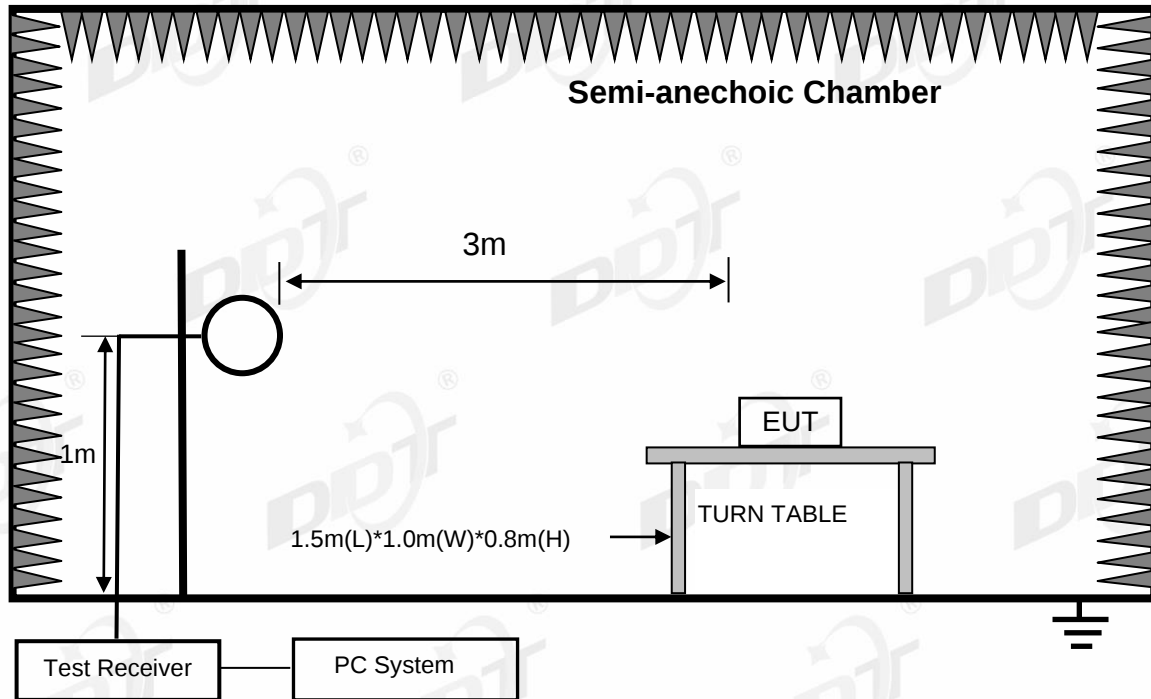
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			LV	NT	-40000.00	-7.707129	20	Pass
			HV	NT	0.00	0.000000	20	Pass
	Ant2	5190	NV	NT	-40000.00	-7.707129	20	Pass
			LV	NT	40000.00	7.707129	20	Pass
			HV	NT	-40000.00	-7.707129	20	Pass
	Ant1	5230	NV	NT	0.00	0.000000	20	Pass
			LV	NT	-40000.00	-7.648184	20	Pass
			HV	NT	-40000.00	-7.648184	20	Pass
	Ant2	5230	NV	NT	0.00	0.000000	20	Pass
			LV	NT	0.00	0.000000	20	Pass
			HV	NT	-40000.00	-7.648184	20	Pass
	Ant1	5270	NV	NT	0.00	0.000000	20	Pass
			LV	NT	-40000.00	-7.590133	20	Pass
			HV	NT	40000.00	7.590133	20	Pass
	Ant2	5270	NV	NT	-40000.00	-7.590133	20	Pass
			LV	NT	0.00	0.000000	20	Pass
			HV	NT	-40000.00	-7.590133	20	Pass
	Ant1	5310	NV	NT	0.00	0.000000	20	Pass
			LV	NT	0.00	0.000000	20	Pass
			HV	NT	40000.00	7.532957	20	Pass
	Ant2	5310	NV	NT	-40000.00	-7.532957	20	Pass
			LV	NT	-40000.00	-7.532957	20	Pass
			HV	NT	-40000.00	-7.532957	20	Pass
	Ant1	5510	NV	NT	-40000.00	-7.259528	20	Pass
			LV	NT	0.00	0.000000	20	Pass
			HV	NT	0.00	0.000000	20	Pass
	Ant2	5510	NV	NT	0.00	0.000000	20	Pass
			LV	NT	0.00	0.000000	20	Pass
			HV	NT	0.00	0.000000	20	Pass
	Ant1	5550	NV	NT	0.00	0.000000	20	Pass
			LV	NT	0.00	0.000000	20	Pass
			HV	NT	-40000.00	-7.207207	20	Pass
	Ant2	5550	NV	NT	0.00	0.000000	20	Pass
			LV	NT	-40000.00	-7.207207	20	Pass
			HV	NT	-40000.00	-7.207207	20	Pass
	Ant1	5670	NV	NT	40000.00	7.054674	20	Pass
			LV	NT	0.00	0.000000	20	Pass
			HV	NT	-40000.00	-7.054674	20	Pass
	Ant2	5670	NV	NT	0.00	0.000000	20	Pass
			LV	NT	0.00	0.000000	20	Pass
			HV	NT	-40000.00	-7.054674	20	Pass
	Ant1	5755	NV	NT	0.00	0.000000	20	Pass
			LV	NT	-40000.00	-6.950478	20	Pass
			HV	NT	-40000.00	-6.950478	20	Pass
	Ant2	5755	NV	NT	-40000.00	-6.950478	20	Pass
			LV	NT	-40000.00	-6.950478	20	Pass
			HV	NT	0.00	0.000000	20	Pass
	Ant1	5795	NV	NT	-40000.00	-6.902502	20	Pass
			LV	NT	0.00	0.000000	20	Pass
			HV	NT	0.00	0.000000	20	Pass

11AC80MIMO	Ant2	5795	NV	NT	0.00	0.000000	20	Pass
			LV	NT	-40000.00	-6.902502	20	Pass
			HV	NT	-40000.00	-6.902502	20	Pass
	Ant1	5210	NV	NT	80000.00	15.355086	20	Pass
			LV	NT	-80000.00	-15.355086	20	Pass
			HV	NT	160000.00	30.710173	20	Pass
	Ant2	5210	NV	NT	80000.00	15.355086	20	Pass
			LV	NT	0.00	0.000000	20	Pass
			HV	NT	80000.00	15.355086	20	Pass
	Ant1	5290	NV	NT	0.00	0.000000	20	Pass
			LV	NT	0.00	0.000000	20	Pass
			HV	NT	0.00	0.000000	20	Pass
	Ant2	5290	NV	NT	80000.00	15.122873	20	Pass
			LV	NT	-80000.00	-15.122873	20	Pass
			HV	NT	0.00	0.000000	20	Pass
	Ant1	5530	NV	NT	0.00	0.000000	20	Pass
			LV	NT	80000.00	14.466546	20	Pass
			HV	NT	0.00	0.000000	20	Pass
	Ant2	5530	NV	NT	80000.00	14.466546	20	Pass
			LV	NT	80000.00	14.466546	20	Pass
			HV	NT	0.00	0.000000	20	Pass
	Ant1	5610	NV	NT	0.00	0.000000	20	Pass
			LV	NT	0.00	0.000000	20	Pass
			HV	NT	0.00	0.000000	20	Pass
	Ant2	5610	NV	NT	-80000.00	-14.260250	20	Pass
			LV	NT	0.00	0.000000	20	Pass
			HV	NT	0.00	0.000000	20	Pass
	Ant1	5775	NV	NT	0.00	0.000000	20	Pass
			LV	NT	0.00	0.000000	20	Pass
			HV	NT	-80000.00	-13.852814	20	Pass
	Ant2	5775	NV	NT	0.00	0.000000	20	Pass
			LV	NT	0.00	0.000000	20	Pass
			HV	NT	80000.00	13.852814	20	Pass

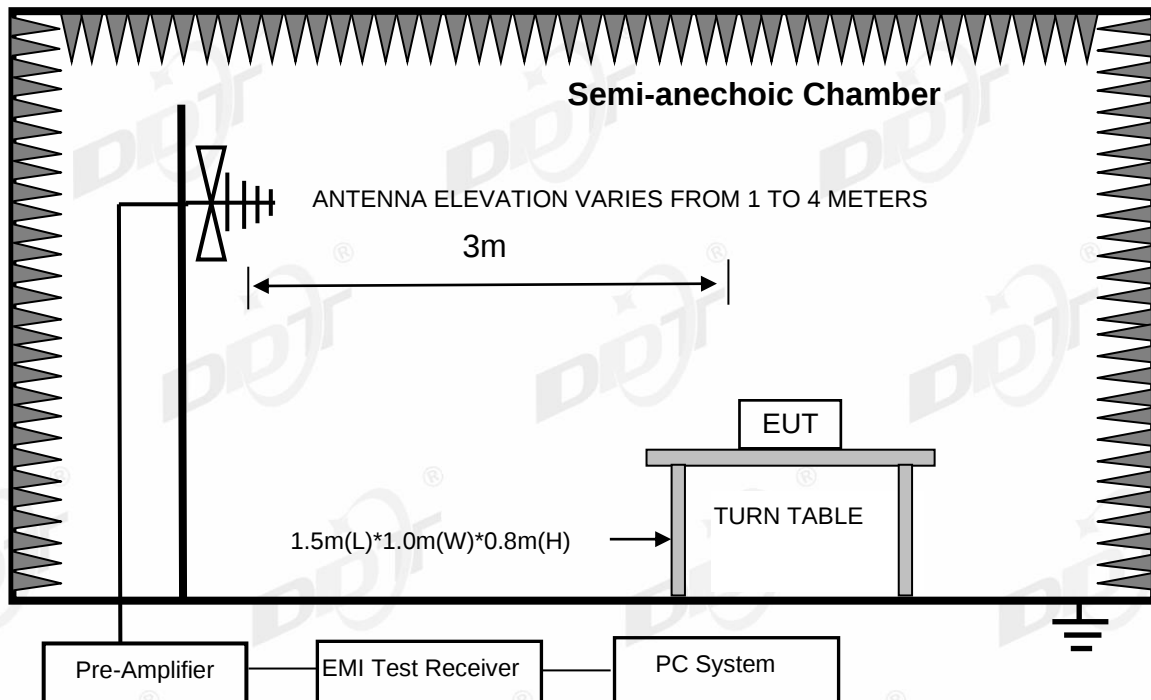
8. Emissions in restricted frequency bands

8.1. Block diagram of test setup

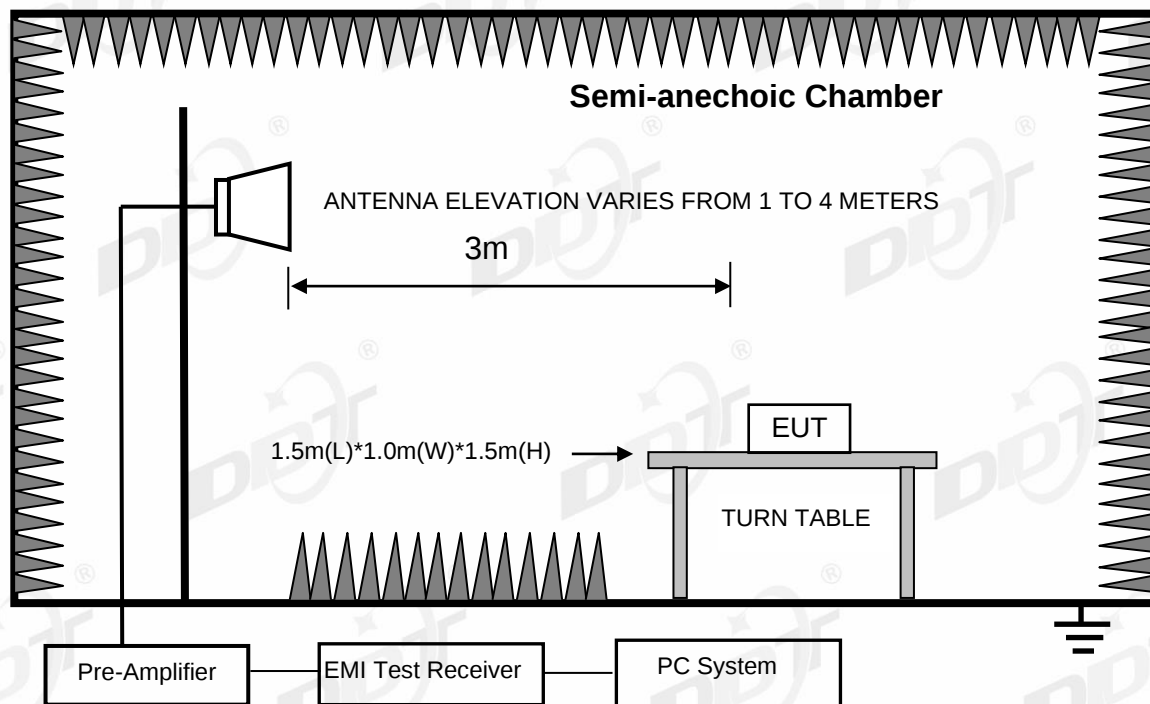
In 3 m Anechoic Chamber, test setup diagram for 9 kHz - 30 MHz:



In 3 m Anechoic Chamber, test setup diagram for 30 MHz - 1 GHz:



In 3 m Anechoic Chamber, test setup diagram for frequency above 1 GHz:



Note: For harmonic emissions test an appropriate high pass filter was inserted in the input port of AMP.

8.2. Limit

(1) FCC 15.205 Restricted frequency band

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
10.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.1772&4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.2072&4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	(²)
13.36-13.41			

¹Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.

²Above 38.6

(2) FCC 15.209 Limit.

FREQUENCY MHz	DISTANCE Meters	FIELD STRENGTHS LIMIT	
		$\mu\text{V/m}$	$\text{dB}(\mu\text{V})/\text{m}$
0.009 ~ 0.490	300	$2400/F(\text{kHz})$	$67.6-20\log(F)$
0.490 ~ 1.705	30	$24000/F(\text{kHz})$	$87.6-20\log(F)$
1.705 ~ 30.0	30	30	29.54
30 ~ 88	3	100	40.0
88 ~ 216	3	150	43.5
216 ~ 960	3	200	46.0
960 ~ 1000	3	500	54.0
Above 1000	3	74.0 $\text{dB}(\mu\text{V})/\text{m}$ (Peak) 54.0 $\text{dB}(\mu\text{V})/\text{m}$ (Average)	

Note: (1) The emission limits shown in the above table are based on measurements employing a CISPR QP detector except for the frequency bands 9-90kHz, 110-490kHz and above 1000MHz. Radiated emissions limits in these three bands are based on measurements employing an average detector.

(2) At frequencies below 30MHz, measurement may be performed at a distance closer than that specified, and the limit at closer measurement distance can be extrapolated by below formula:

$$\text{Limit}_{3\text{m}}(\text{dB}\mu\text{V}/\text{m}) = \text{Limit}_{30\text{m}}(\text{dB}\mu\text{V}/\text{m}) + 40\log(30\text{m}/3\text{m})$$

(3) Limit for this EUT

The emissions appearing within 15.205 restricted frequency bands shall not exceed the limits shown in 15.209, and the emissions appearing within RSS-Gen section 8.10 Restricted frequency bands shall not exceed the limits shown in RSS-Gen section 8.9, all the other emissions shall be at least 20 dB below the fundamental emissions or comply with 15.209 limits.

For transmitters operating in the 5.15-5.25 GHz, 5.25-5.35 GHz and 5.47-5.725 GHz band: all emissions outside of the 5.15-5.35 GHz and 5.47-5.725 GHz band shall not exceed an EIRP of -27 dBm/MHz.

For transmitters operating in the 5.725-5.85 GHz band:

All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

$-27 \text{ dBm/MHz Limit} = 95.2 + \text{EIRP}[\text{dBm}] = 95.2 - 27 = 68.2 \text{ dB}\mu\text{V}/\text{m}$

8.3. Test Procedure

(1) EUT height should be 0 m for below 1 GHz at a semi - anechoic chamber while EUT height

should be 0 m for above 1GHz at full chamber or semi - anechoic chamber ground with absorbers

(2) Setup EUT and assistant system according clause 2.3 and 8.2

(3) Test antenna was located 3m from the EUT on an adjustable mast, and the antenna used as below table.

Test frequency range	Test antenna used	Test distance
9 kHz-30 MHz	Active Loop antenna	3 m
30 MHz-1 GHz	Trilog Broadband Antenna	3 m
1 GHz-18 GHz	Double Ridged Horn Antenna(1GHz-18GHz)	3 m
18 GHz-40 GHz	Horn Antenna(18GHz-40GHz)	1 m

According ANSI C63.10:2013 clause 6.4.4.2 and 6.5.3, for measurements below 30 MHz, the loop antenna was positioned with its plane vertical from the EUT and rotated about its vertical axis for maximum response at each azimuth position around the EUT. And the loop antenna also be positioned with its plane horizontal at the specified distance from the EUT. The center of the loop is 1 m above the ground. for measurement above 30 MHz, the Trilog Broadband Antenna or Horn Antenna was located 3m from EUT, Measurements were made with the antenna positioned in both the horizontal and vertical planes of Polarization, and the measurement antenna was varied from 1 m to 4 m. in height above the reference ground plane to obtain the maximum signal strength.

(4) Below pre-scan procedure was first performed in order to find prominent frequency spectrum radiated emissions from 9 kHz to 40 GHz:

(a) Scanning the peak frequency spectrum with the antenna specified in step (3), and the EUT was rotated 360 degree, the antenna height was varied from 1 m to 4 m (Except loop antenna, it's fixed 1m above ground.)

(b) Change work frequency or channel of device if practicable.

(c) Change modulation type of device if practicable.

(d) Change power supply range from 85% to 115% of the rated supply voltage

(e) Rotated EUT though three orthogonal axes to determine the attitude of EUT arrangement produces highest emissions.

Spectrum frequency from 9 kHz to 40 GHz (tenth harmonic of fundamental frequency) was investigated, and no any obvious emission were detected from 9 kHz to 30 MHz and 18 GHz to 40 GHz, so below final test was performed with frequency range from 30 MHz to 18 GHz.

(5) For final emissions measurements at each frequency of interest, the EUT was rotated and the antenna height was varied between 1m and 4m in order to maximize the emission. Measurements in both horizontal and vertical polarities were made and the data was recorded. In order to find the maximum emission, the relative positions of equipments and all of the interface cables were changed according to ANSI C63.10:2013 on Radiated Emission test.

(6) The emissions from 9 kHz to 1 GHz were measured based on CISPR QP detector except for the frequency bands 9-90 kHz, 110-490 kHz, for emissions from 9 kHz-90kHz,110kHz-490kHz and above 1GHz were measured based on average detector, for emissions above 1 GHz, peak emissions also be measured and need comply with Peak limit.

(7) The emissions from 9 kHz to 1 GHz, QP or average values were measured with EMI receiver with below RBW

Frequency band	RBW
9 kHz-150 kHz	200 Hz
150 kHz-30 MHz	9 kHz
30 MHz-1 GHz	120 kHz

(8) For emissions above 1 GHz, both Peak and Average level were measured with Spectrum Analyzer, and the RBW is set at 1 MHz, VBW is set at 3MHz for Peak measure, the RBW is set at 1 MHz, VBW is set at 10 Hz for AV value.

8.4. Test result

Pass. (See below detailed test result)

All the emissions except fundamental emission from 9 kHz to 25 GHz were comply with 15.209 limits.

Note1: According exploratory test no any obvious emission was detected from 9 kHz to 30 MHz and 18 GHz to 40 GHz, so the final test was performed with frequency range from 30 MHz to 18 GHz and recorded in below.

Note2: For emissions below 1 GHz, according exploratory explorer test, when change Tx mode and channel, have no distinct influence on emissions level, so for emissions below 1 GHz, the final test was only performed with EUT working in 11n20 mode.

Note3: For below test data, when the limit tabular marked “/” means this frequency point is the fundamental emission and no need comply with this limit.

Note4: For simultaneous transmission of multiple channels in the WLAN, BT, 2.4G WIFI, and 5G WIFI, no noticeable emission was found.

Radiated Emission test (below 1GHz)

TR-4-E-009 Radiated Emission Test Result

Test Site : DDT 3m Chamber 3#

C:\E3 6.111\2022 Report Data\Q22011701-2E L065FGE\FCC
BELOW 1G.EM6

Test Date : 2022-02-09

Tested By : James Gan

EUT : Laser Projector

Model Number : L065FGE

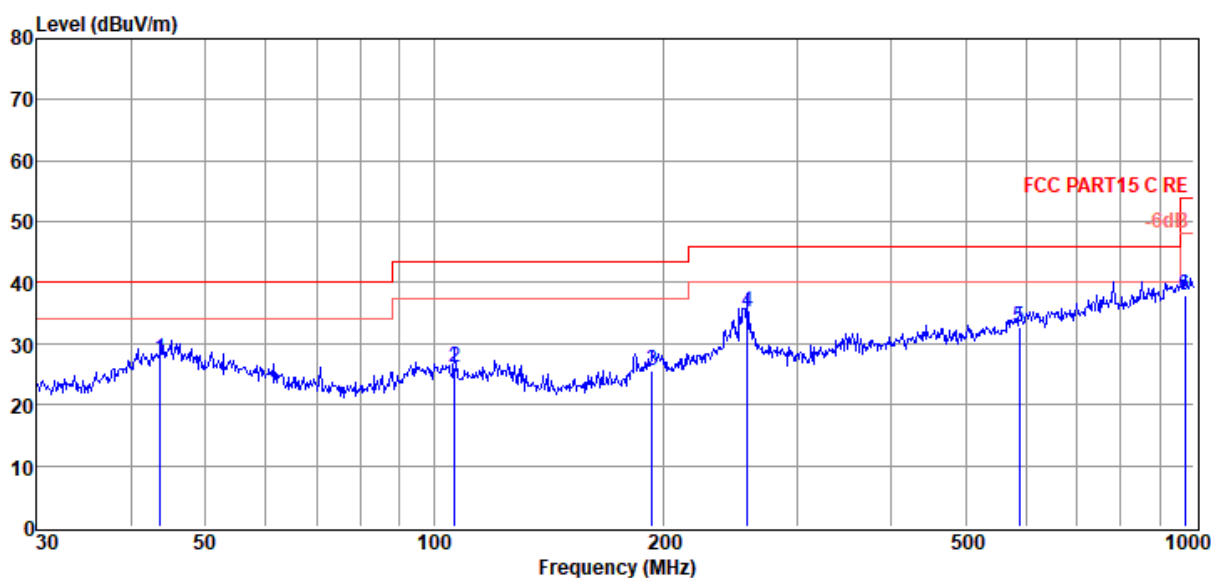
Power Supply : AC 120V/60Hz

Test Mode : TX Mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa

Antenna/Distance : 2021 VLUB 9163 3#/3m/HORIZONTAL

Memo : 5G WIF



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	43.66	9.18	14.80	3.64	27.62	40.00	-12.38	QP	HORIZONTAL
2	106.39	11.18	10.82	4.02	26.02	43.50	-17.48	QP	HORIZONTAL
3	193.77	9.59	11.45	4.43	25.47	43.50	-18.03	QP	HORIZONTAL
4	258.33	17.87	12.70	4.68	35.25	46.00	-10.75	QP	HORIZONTAL
5	588.91	8.11	18.81	5.71	32.63	46.00	-13.37	QP	HORIZONTAL
6	972.34	9.00	22.25	6.69	37.94	54.00	-16.06	QP	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss.

2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.

3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site : DDT 3m Chamber 3#

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BELOW 1G.EM6

Test Date : 2022-02-09

Tested By : James Gan

EUT : Laser Projector

Model Number : L065FGE

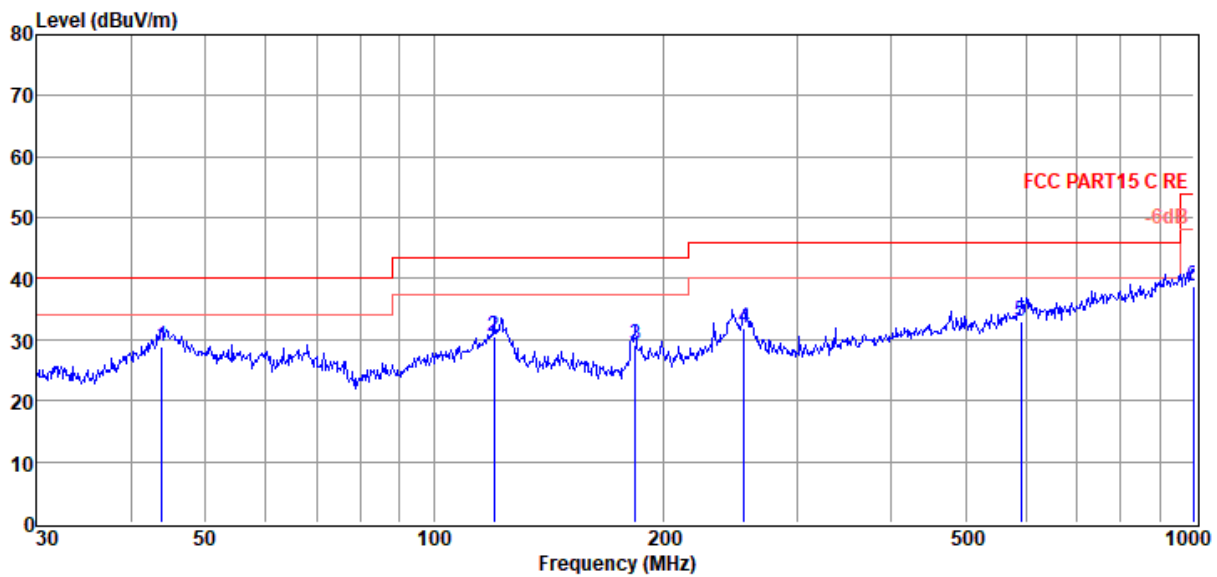
Power Supply : AC 120V/60Hz

Test Mode : TX Mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa

Antenna/Distance : 2021 VLUB 9163 3#/3m/VERTICAL

Memo : 5G WIFI



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	43.81	10.22	14.89	3.64	28.75	40.00	-11.25	QP	VERTICAL
2	119.86	17.27	9.11	4.10	30.48	43.50	-13.02	QP	VERTICAL
3	183.84	14.98	9.78	4.39	29.15	43.50	-14.35	QP	VERTICAL
4	255.62	14.58	12.70	4.67	31.95	46.00	-14.05	QP	VERTICAL
5	590.97	8.25	18.94	5.71	32.90	46.00	-13.10	QP	VERTICAL
6	996.50	9.39	22.43	6.82	38.64	54.00	-15.36	QP	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss.

2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.

3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site : DDT 3m Chamber 3#

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Test Date : 2022-02-15

Tested By : Kennys Zhang

EUT : Laser Projector

Model Number : L065FGE

Power Supply : AC 120V/60Hz

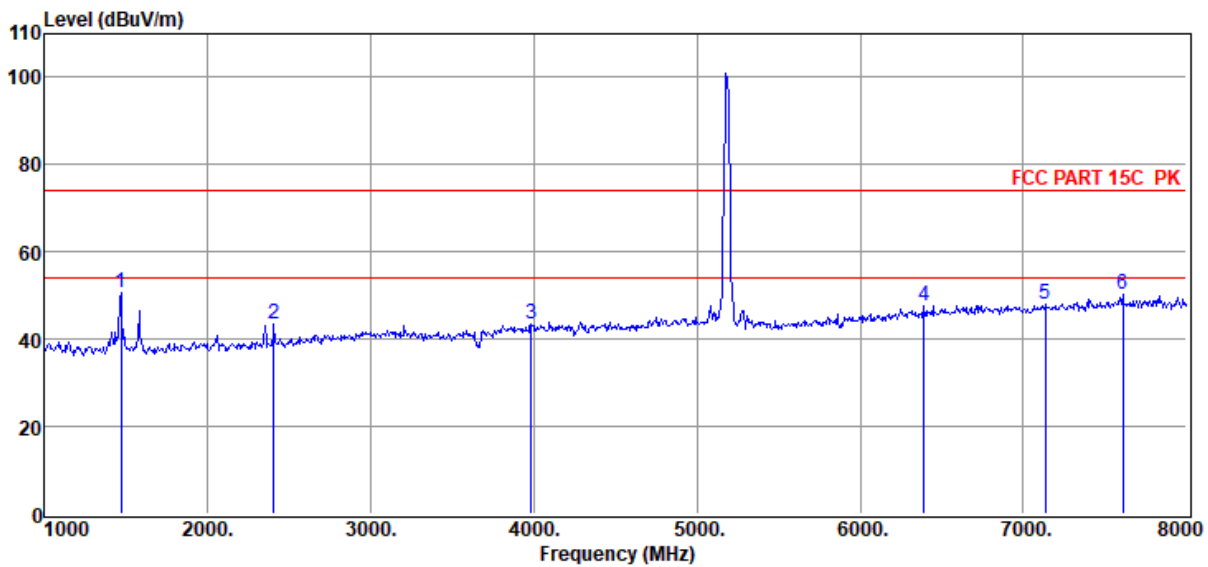
Test Mode : TX Mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa

Antenna/Distance : 2021 BBHA 9120D
3#/3m/HORIZONTAL

Memo : 11N20 5180

Data: 37



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	1469.00	61.86	25.41	38.60	1.36	0.58	50.61	68.20	-17.59	Peak	HORIZONTAL
2	2407.00	53.20	27.43	39.60	1.71	0.72	43.46	68.20	-24.74	Peak	HORIZONTAL
3	3982.00	49.65	31.04	40.19	2.09	0.86	43.45	68.20	-24.75	Peak	HORIZONTAL
4	6390.00	48.46	34.94	40.19	3.22	1.06	47.49	68.20	-20.71	Peak	HORIZONTAL
5	7132.00	47.70	36.11	39.71	3.05	0.96	48.11	68.20	-20.09	Peak	HORIZONTAL
6	7608.00	49.13	36.53	39.76	3.15	1.08	50.13	68.20	-18.07	Peak	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site : DDT 3m Chamber 3#

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Test Date : 2022-02-15

Tested By : Kennys Zhang

EUT : Laser Projector

Model Number : L065FGE

Power Supply : AC 120V/60Hz

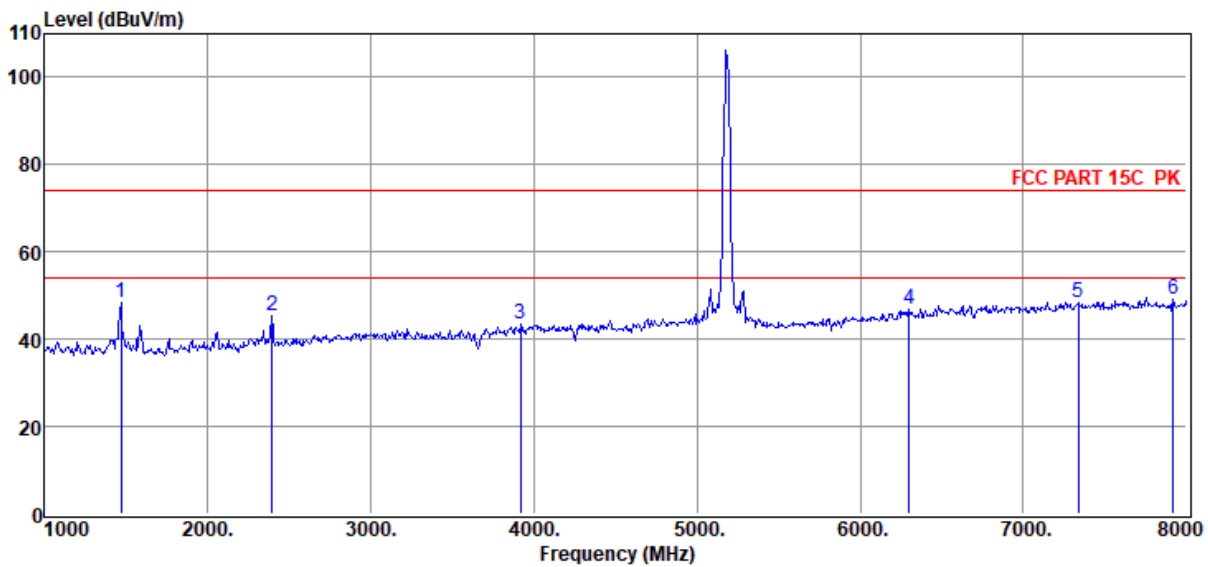
Test Mode : TX Mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa

Antenna/Distance : 2021 BBHA 9120D 3#/3m/VERTICAL

Memo : 11N20 5180

Data: 38



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	1469.00	59.82	25.41	38.60	1.36	0.58	48.57	68.20	-19.63	Peak	VERTICAL
2	2393.00	54.94	27.41	39.60	1.71	0.72	45.18	68.20	-23.02	Peak	VERTICAL
3	3919.00	49.99	30.82	40.18	2.04	0.85	43.52	68.20	-24.68	Peak	VERTICAL
4	6299.00	48.24	34.72	40.26	3.17	1.08	46.95	68.20	-21.25	Peak	VERTICAL
5	7335.00	47.80	36.27	39.73	3.10	1.01	48.45	68.20	-19.75	Peak	VERTICAL
6	7916.00	47.69	36.90	39.79	3.18	1.16	49.14	68.20	-19.06	Peak	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site : DDT 3m Chamber 3#

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Test Date : 2022-02-15

Tested By : Kennys Zhang

EUT : Laser Projector

Model Number : L065FGE

Power Supply : AC 120V/60Hz

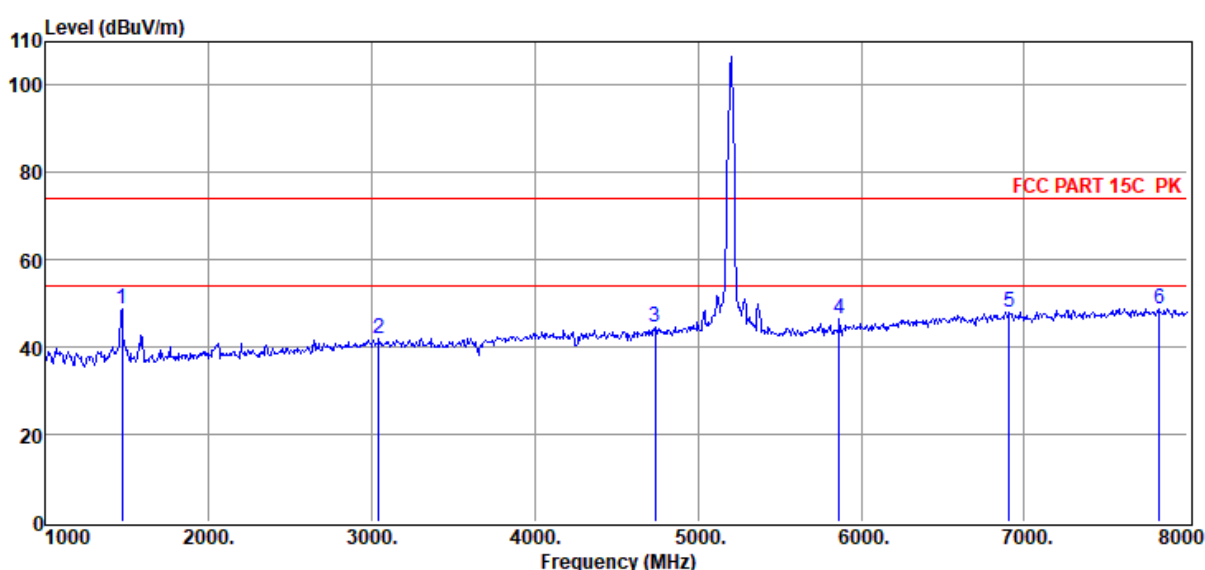
Test Mode : TX Mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa

Antenna/Distance : 2021 BBHA 9120D 3#/3m/VERTICAL

Memo : 11N20 5200

Data: 39



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Filter Factor dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	1469.00	60.08	25.41	38.60	1.36	0.58	48.83	68.20	-19.37	Peak	VERTICAL
2	3044.00	49.88	29.49	39.91	1.85	0.79	42.10	68.20	-26.10	Peak	VERTICAL
3	4738.00	49.45	32.26	40.35	2.45	0.90	44.71	68.20	-23.49	Peak	VERTICAL
4	5865.00	49.13	33.68	40.49	2.91	1.11	46.34	68.20	-21.86	Peak	VERTICAL
5	6908.00	47.93	35.85	39.77	3.07	0.95	48.03	68.20	-20.17	Peak	VERTICAL
6	7825.00	47.62	36.79	39.78	3.17	1.14	48.94	68.20	-19.26	Peak	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss + Filter Factor - PRM Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.