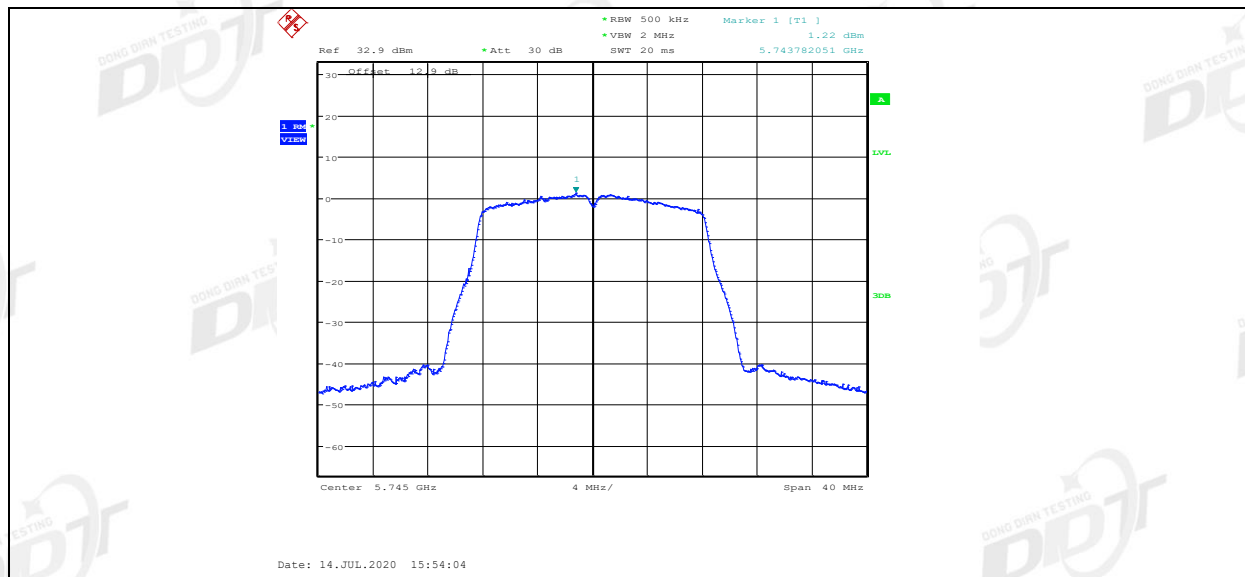
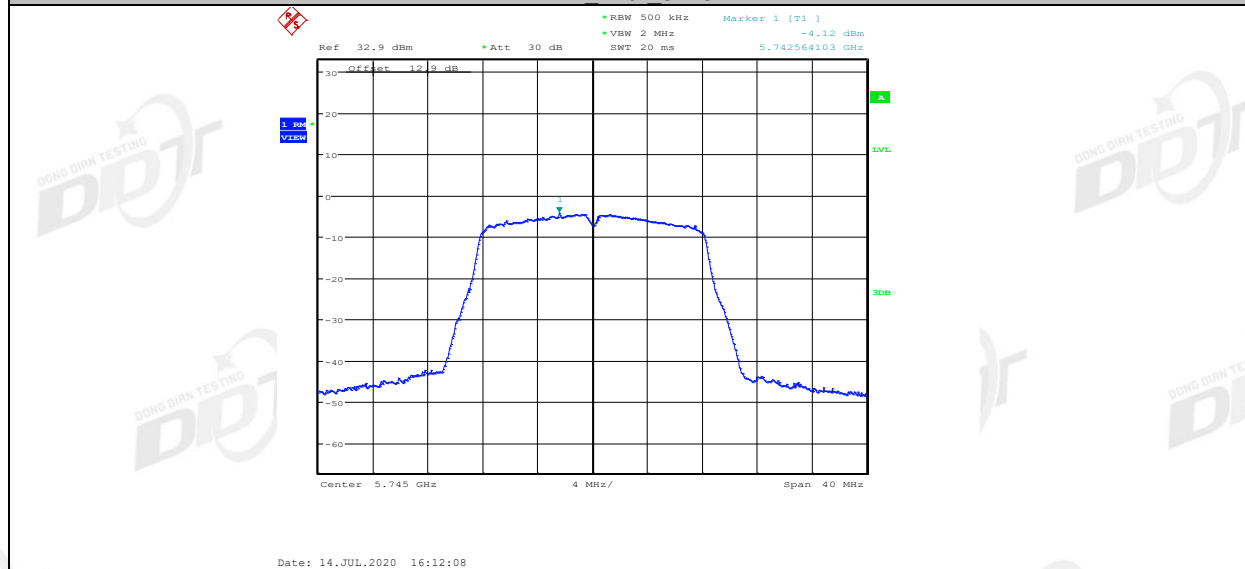
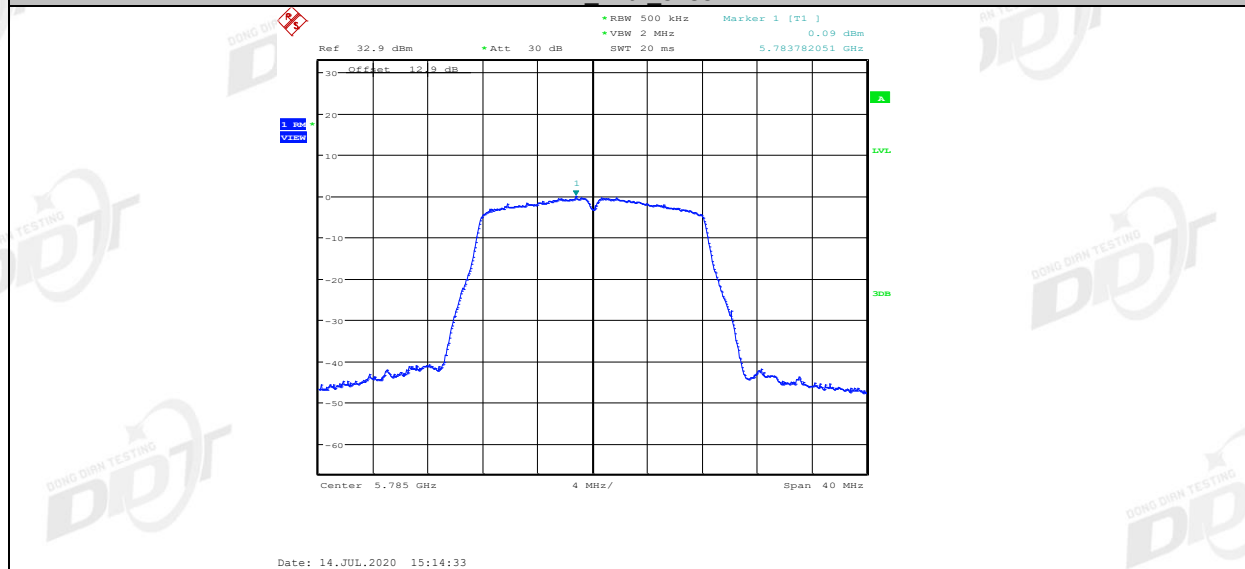




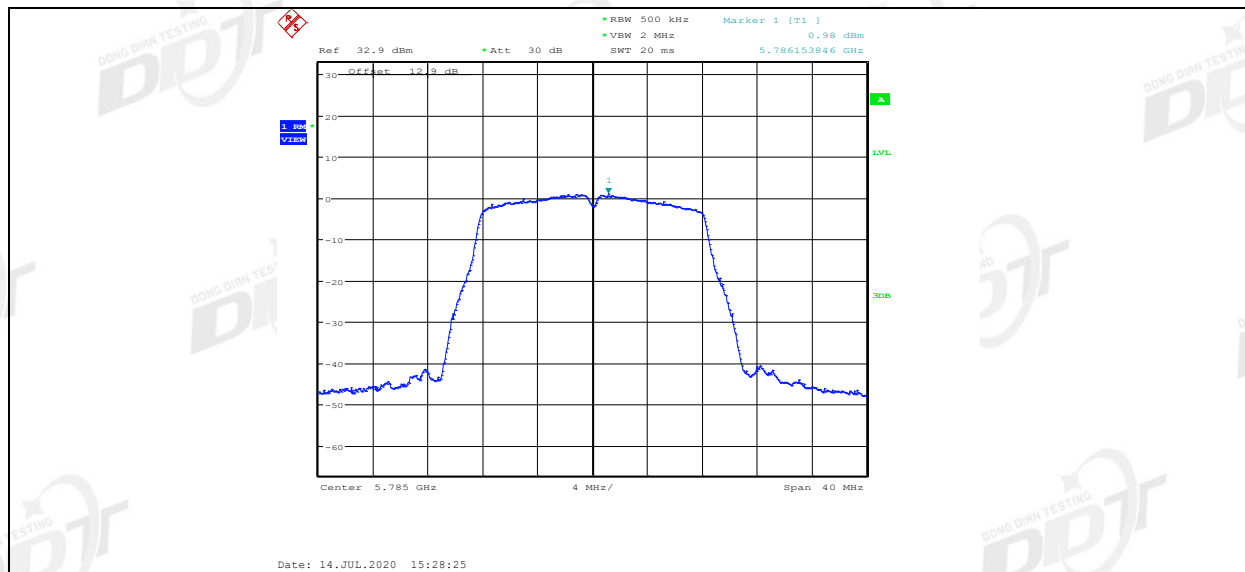
11A_Ant4_5745



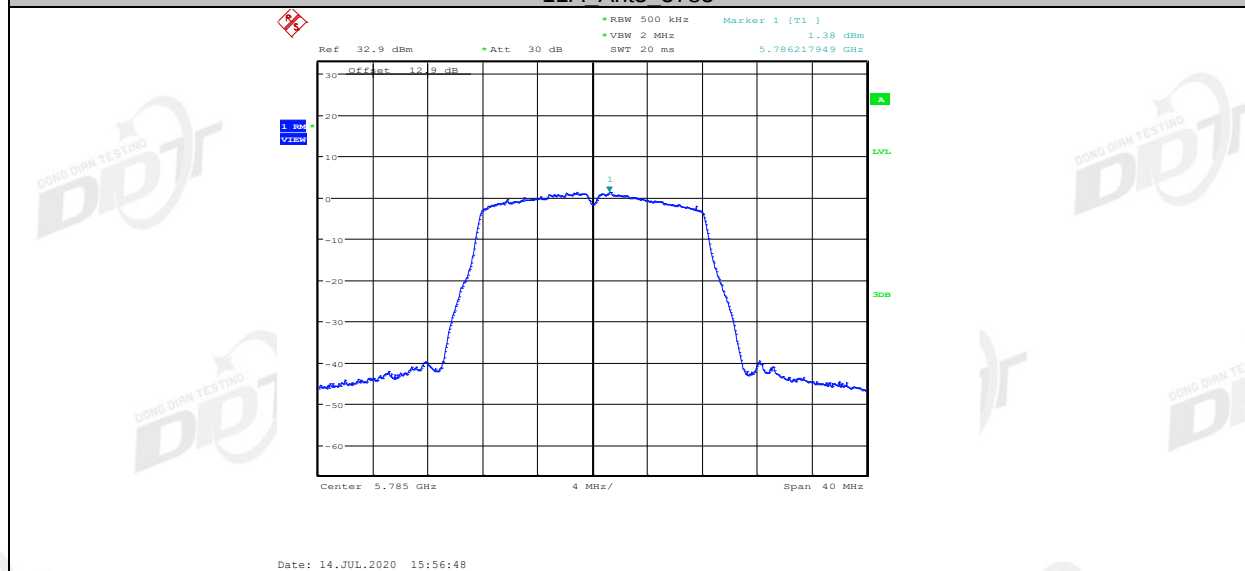
11A_Ant1_5785



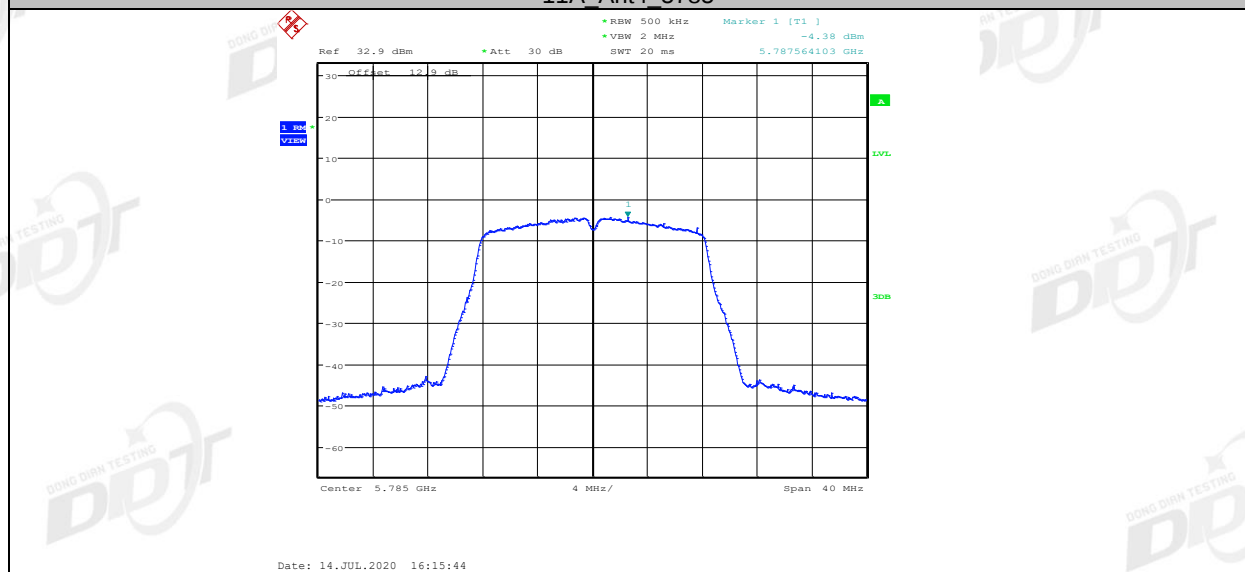
11A_Ant2_5785



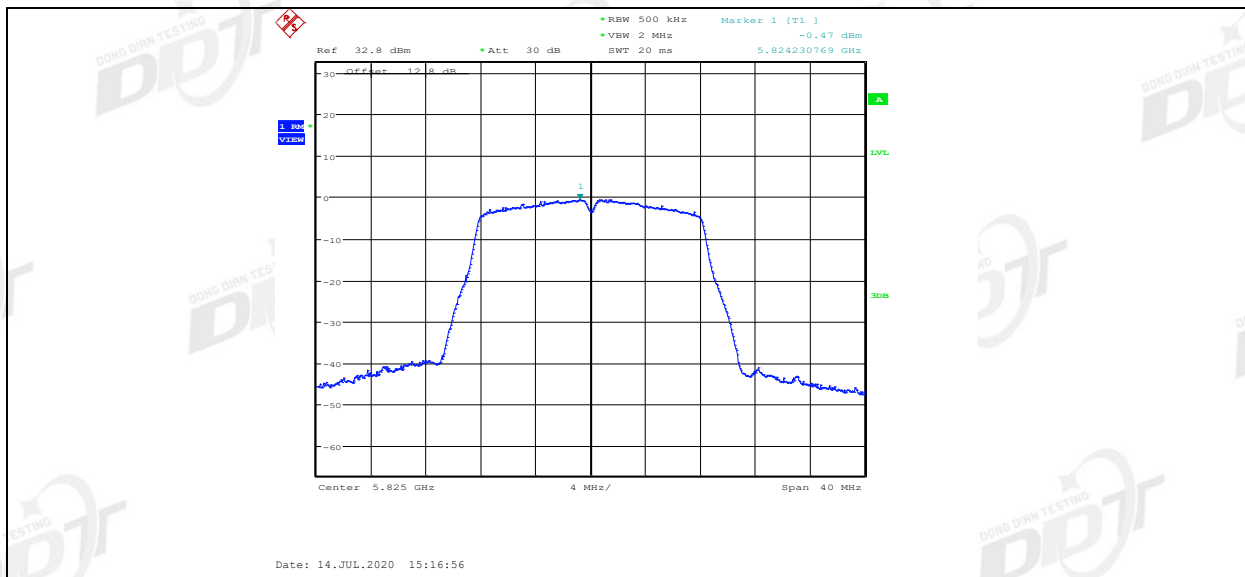
11A Ant3 5785



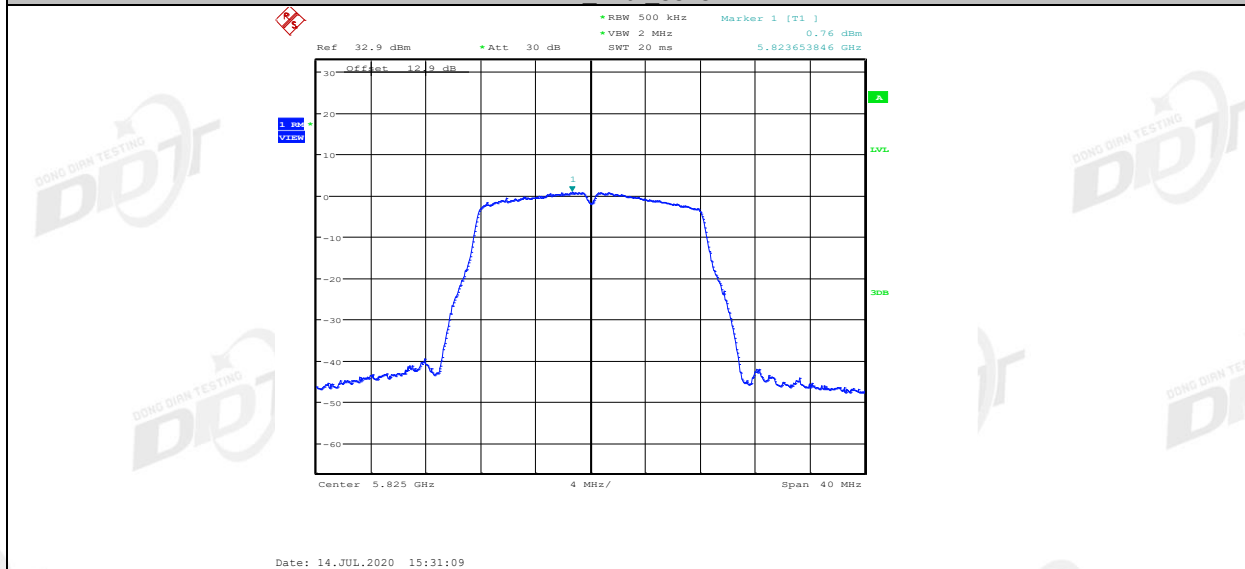
11A Ant4 5785



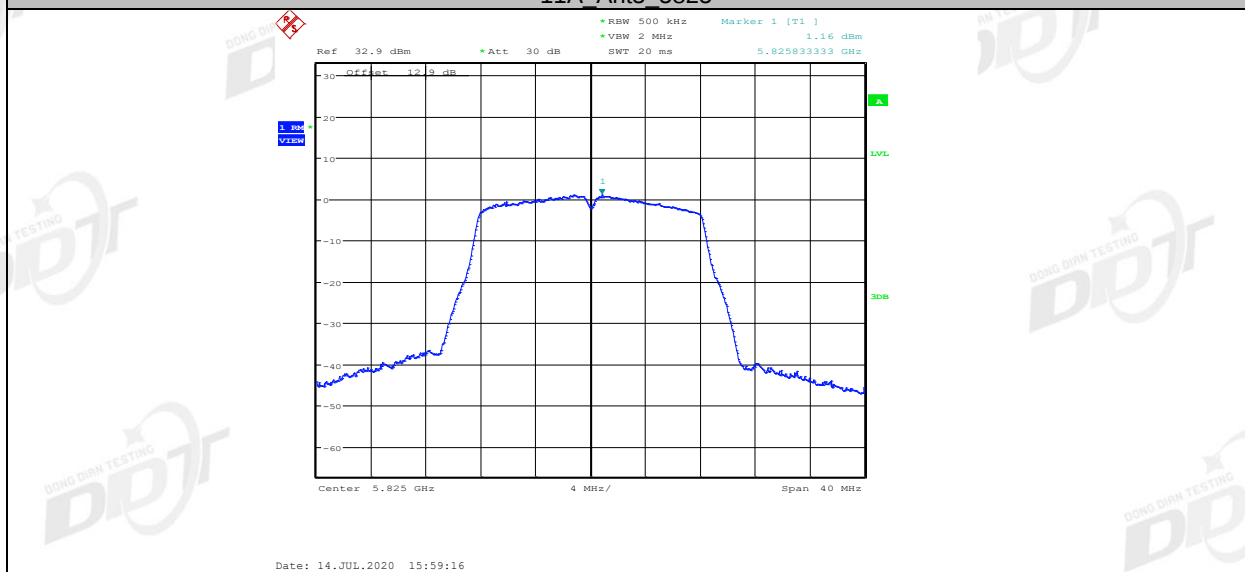
11A Ant1 5825



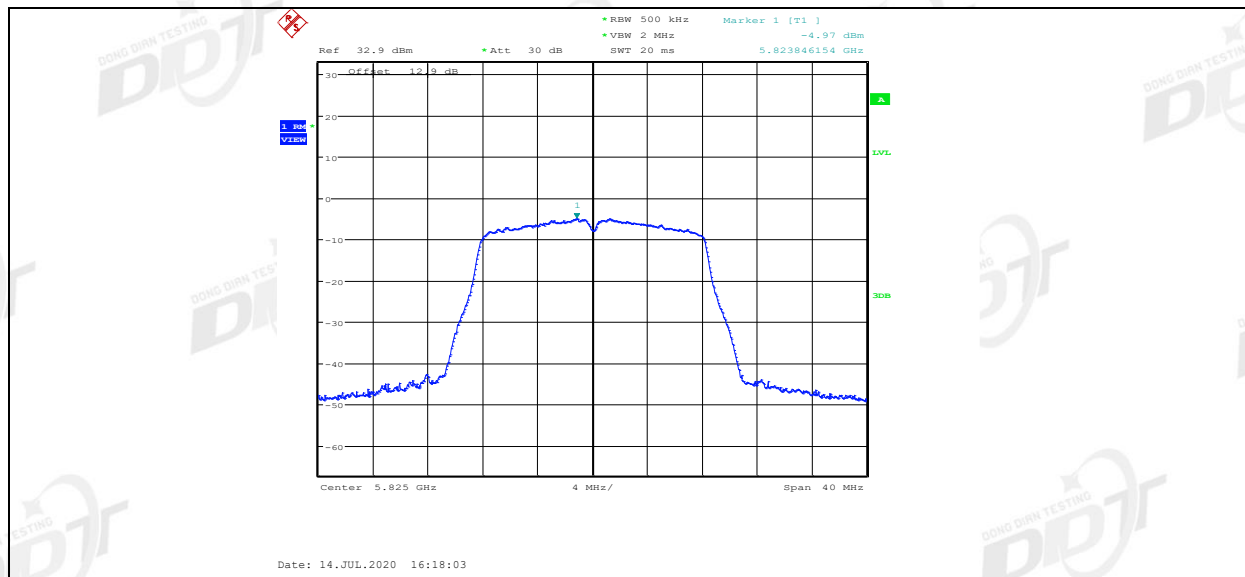
11A Ant2 5825



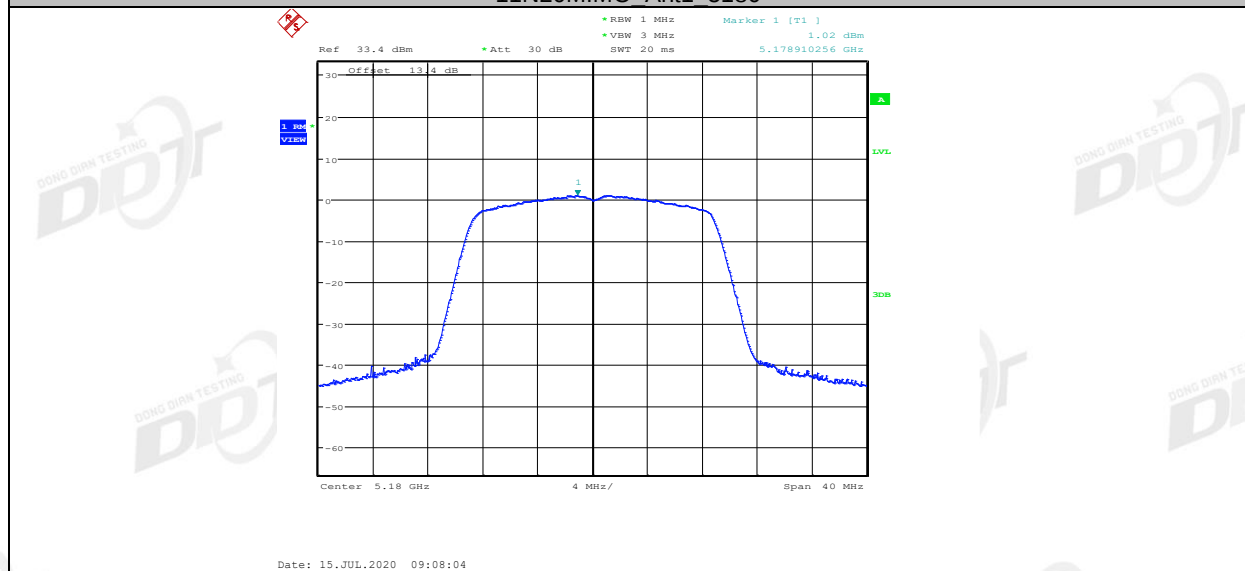
11A Ant3 5825



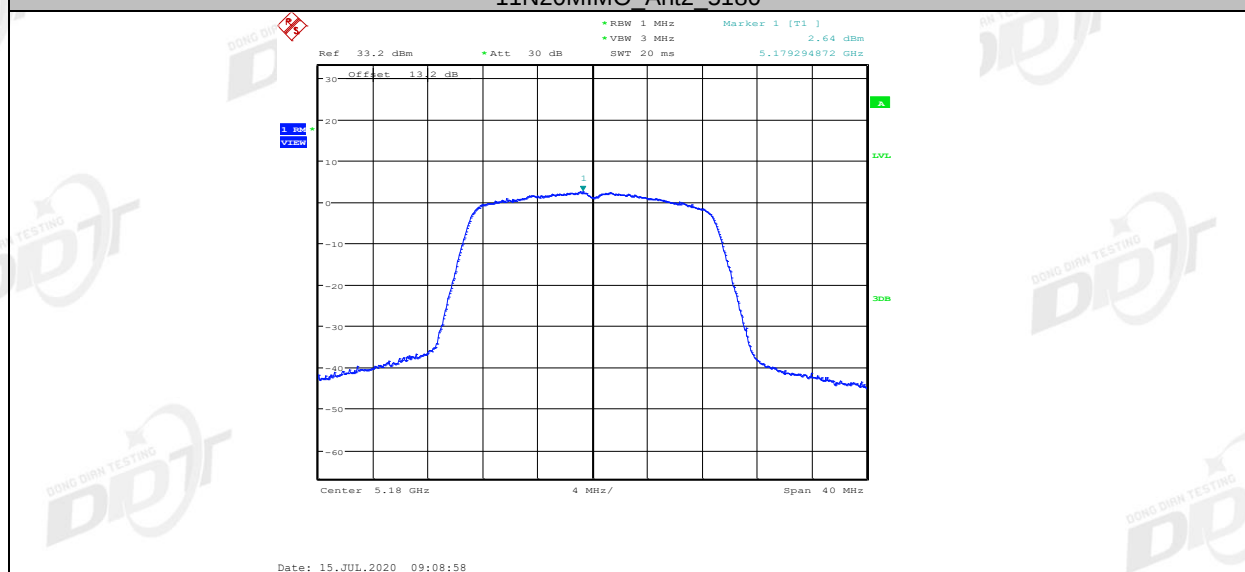
11A Ant4 5825



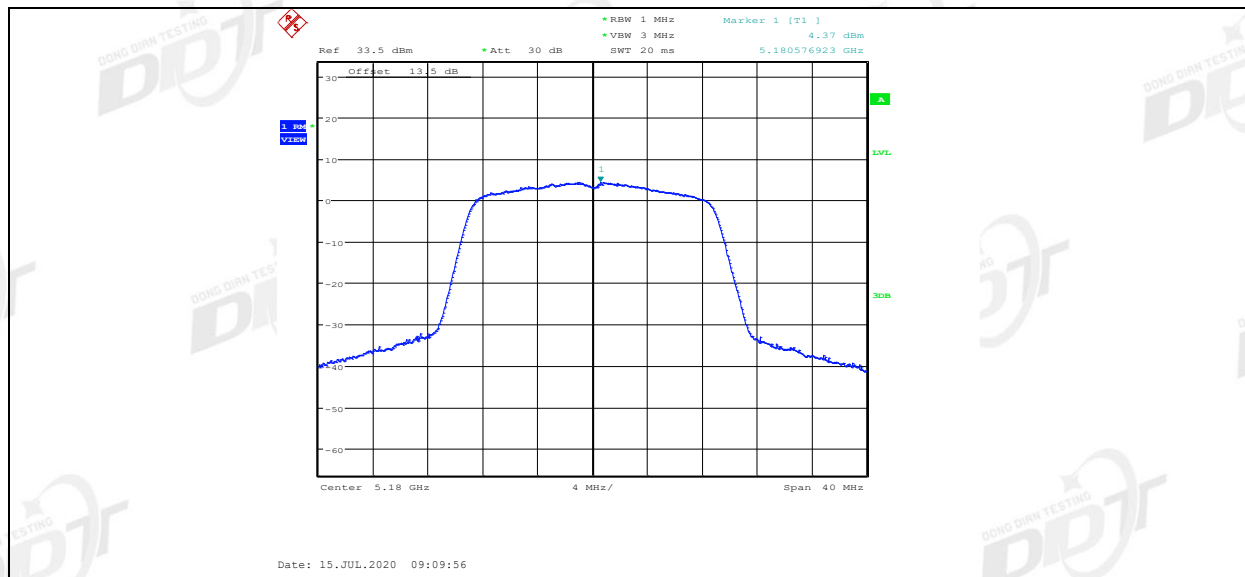
11N20MIMO_Ant1_5180



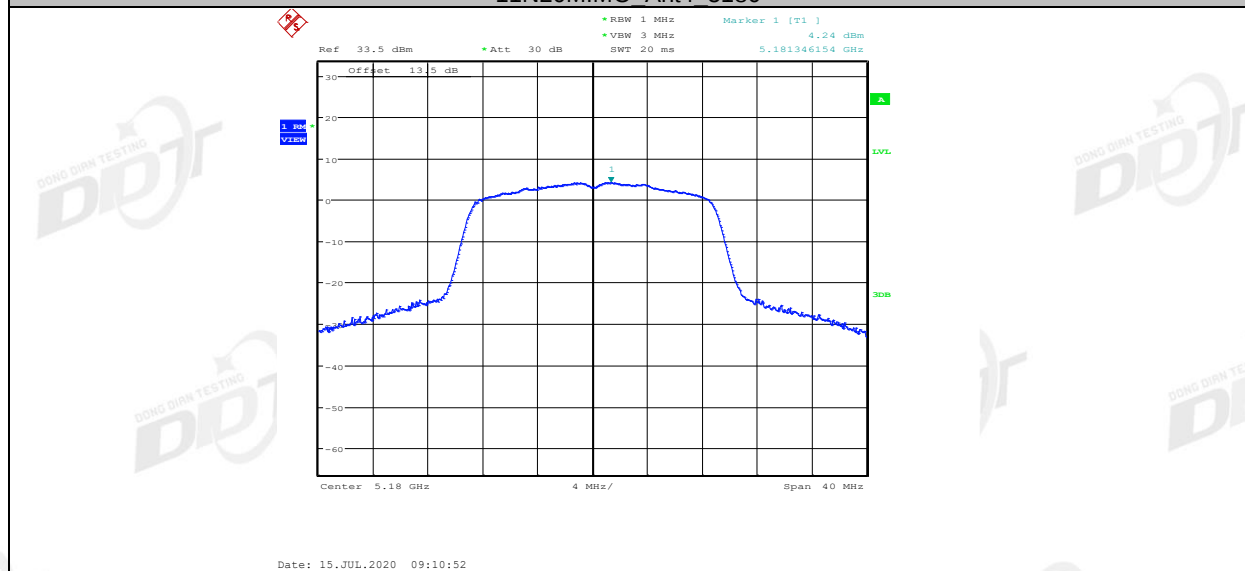
11N20MIMO_Ant2_5180



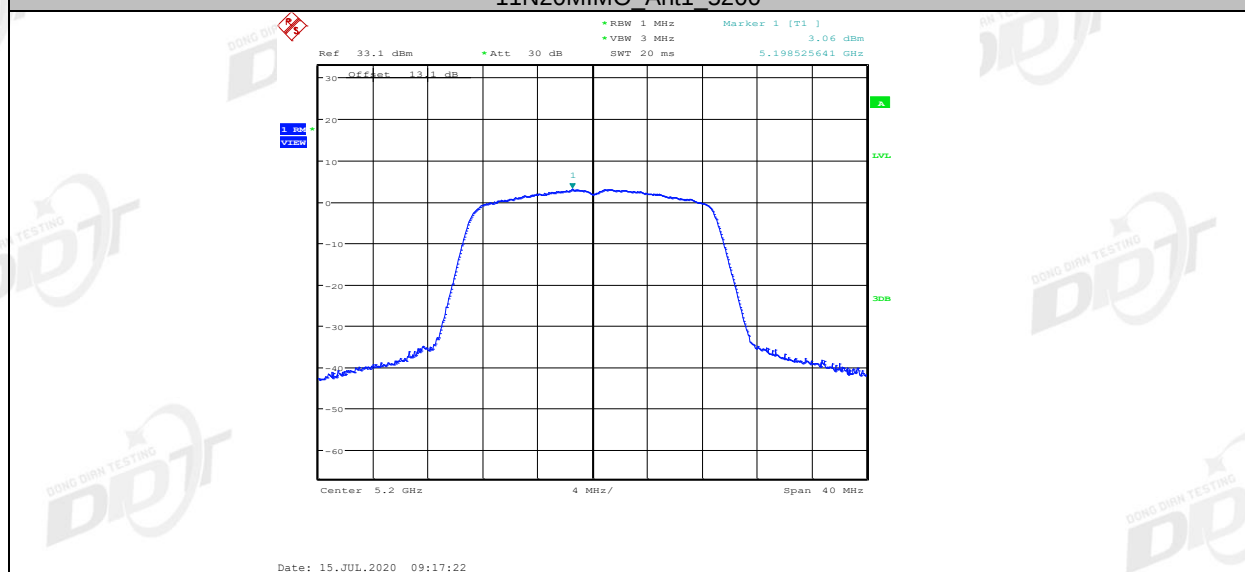
11N20MIMO_Ant3_5180



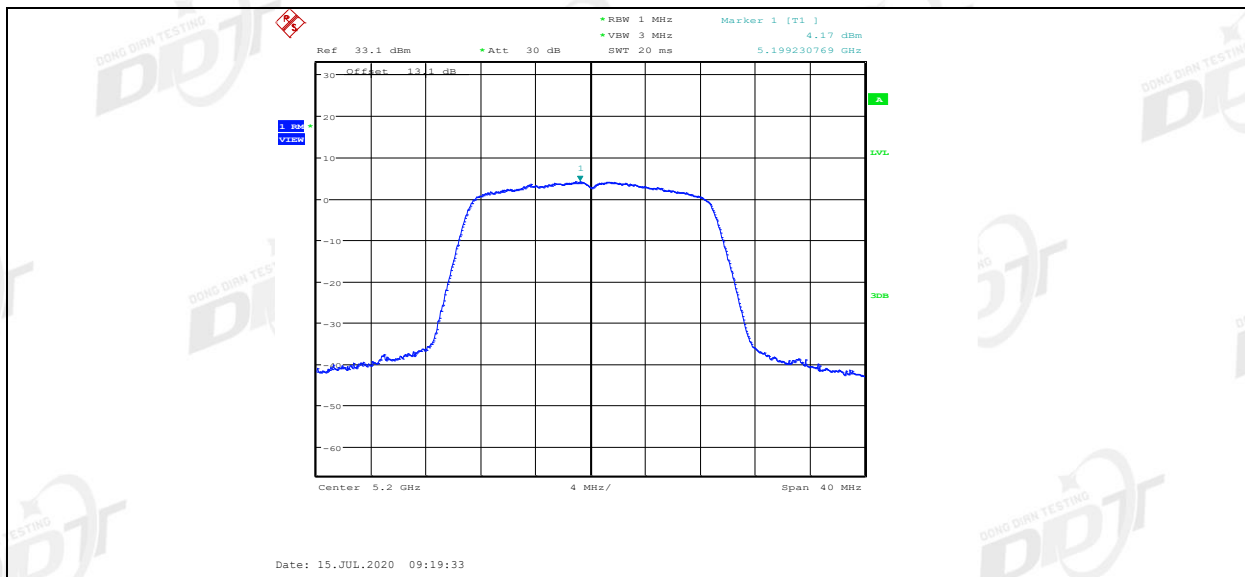
11N20MIMO_Ant4_5180



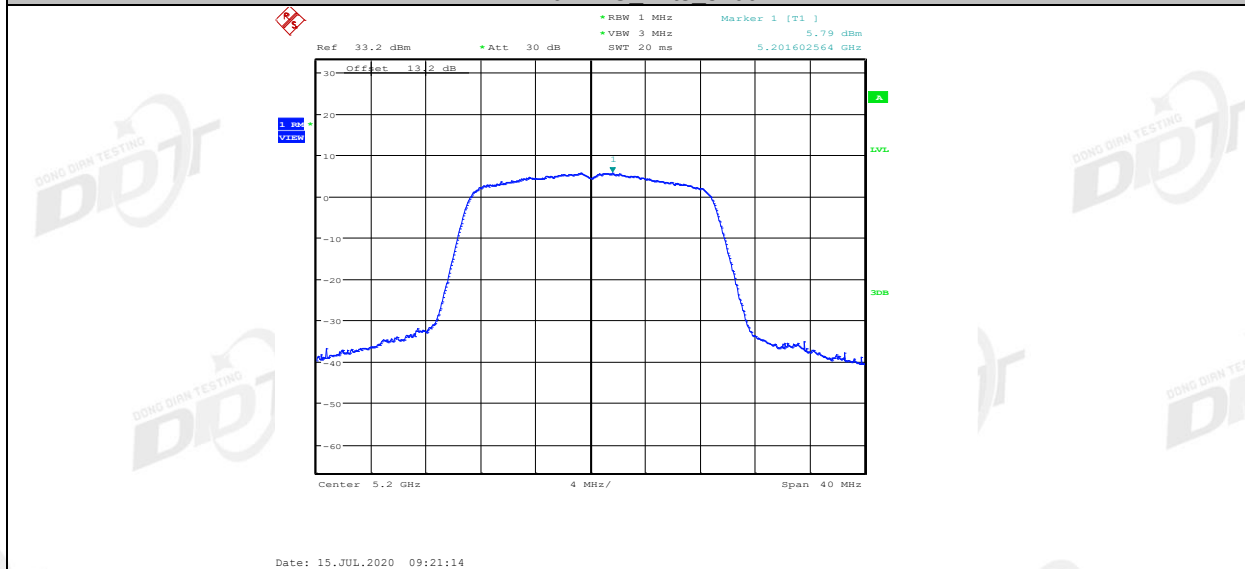
11N20MIMO_Ant1_5200



11N20MIMO_Ant2_5200



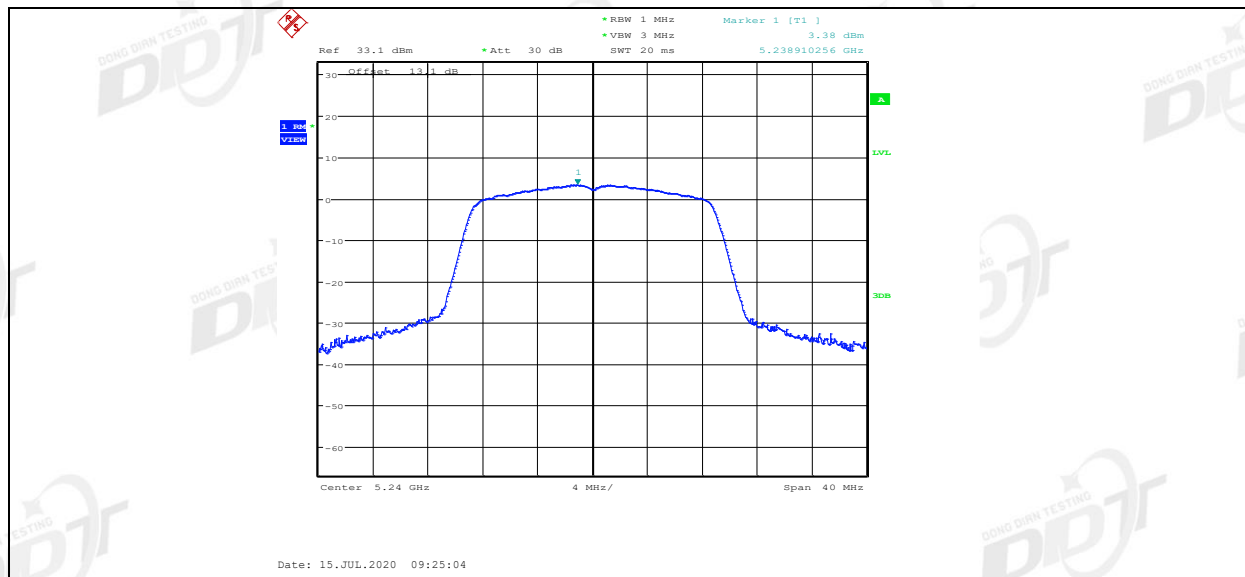
11N20MIMO_Ant3_5200



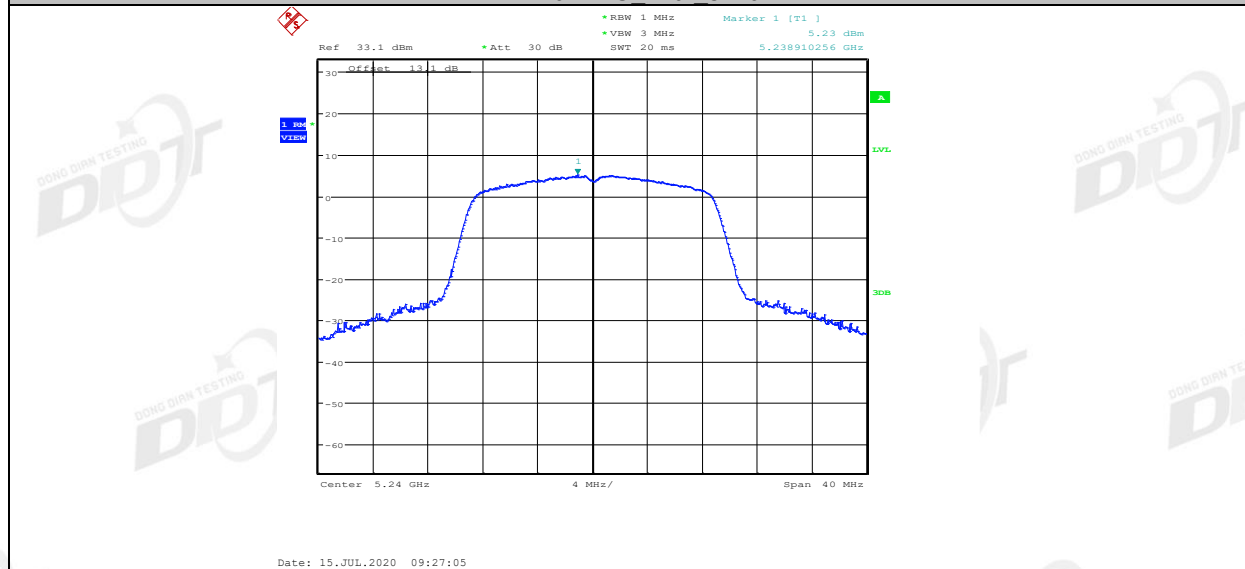
11N20MIMO_Ant4_5200



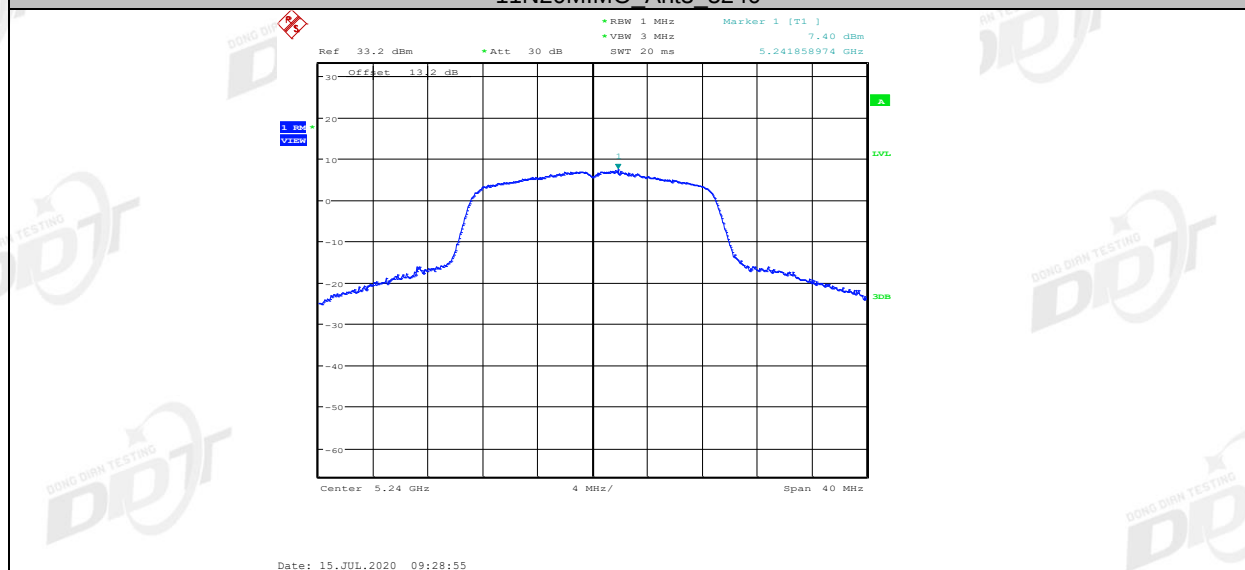
11N20MIMO_Ant1_5240



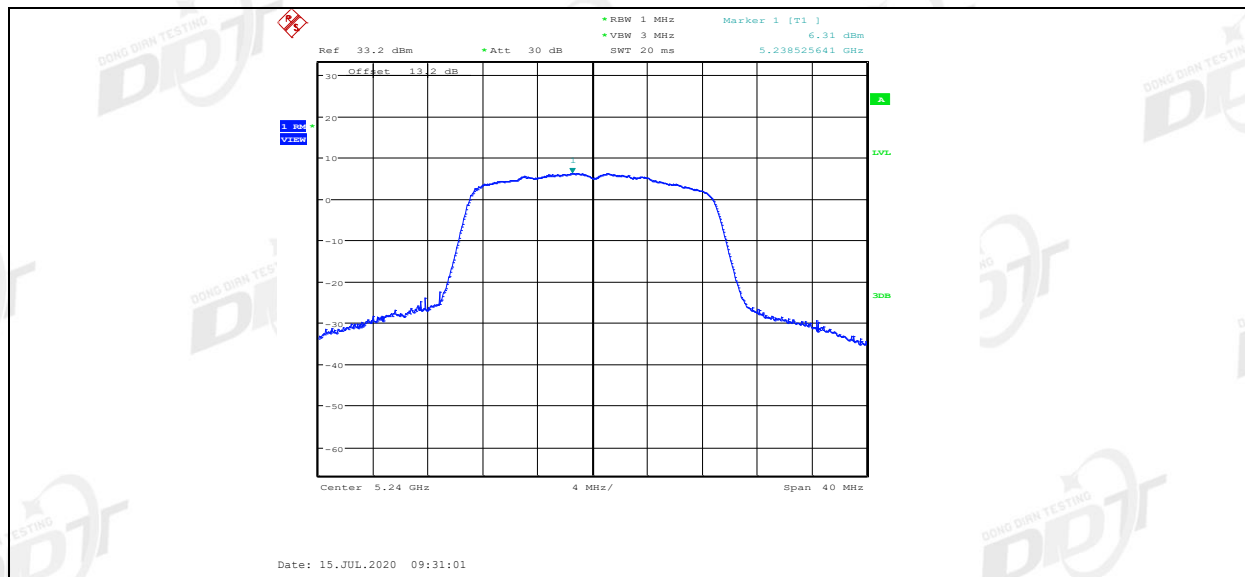
11N20MIMO_Ant2_5240



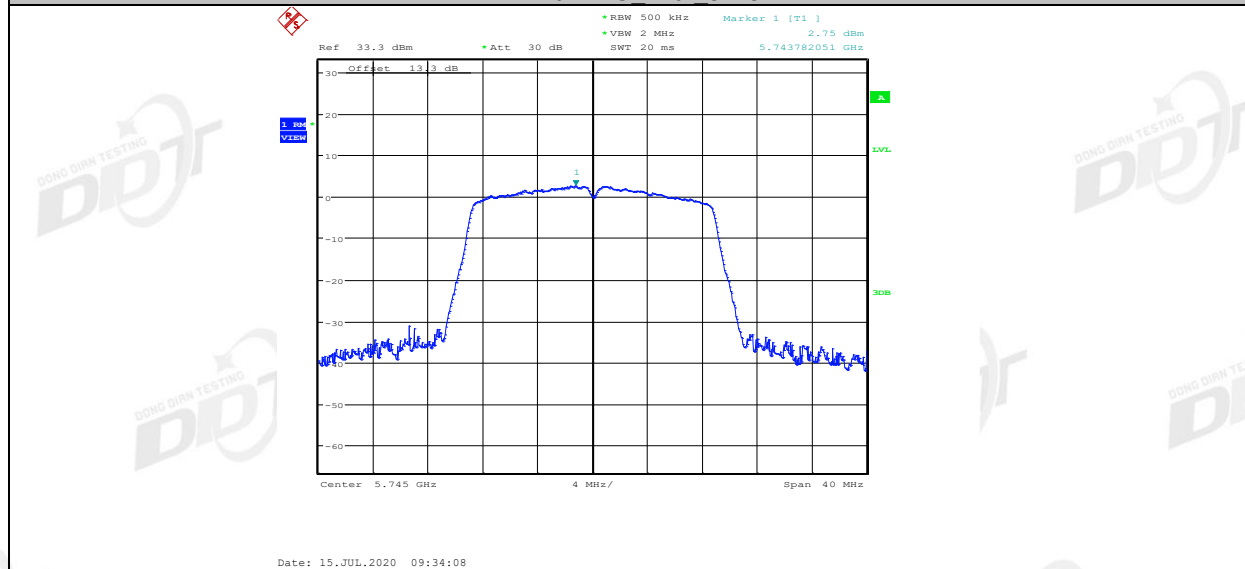
11N20MIMO_Ant3_5240



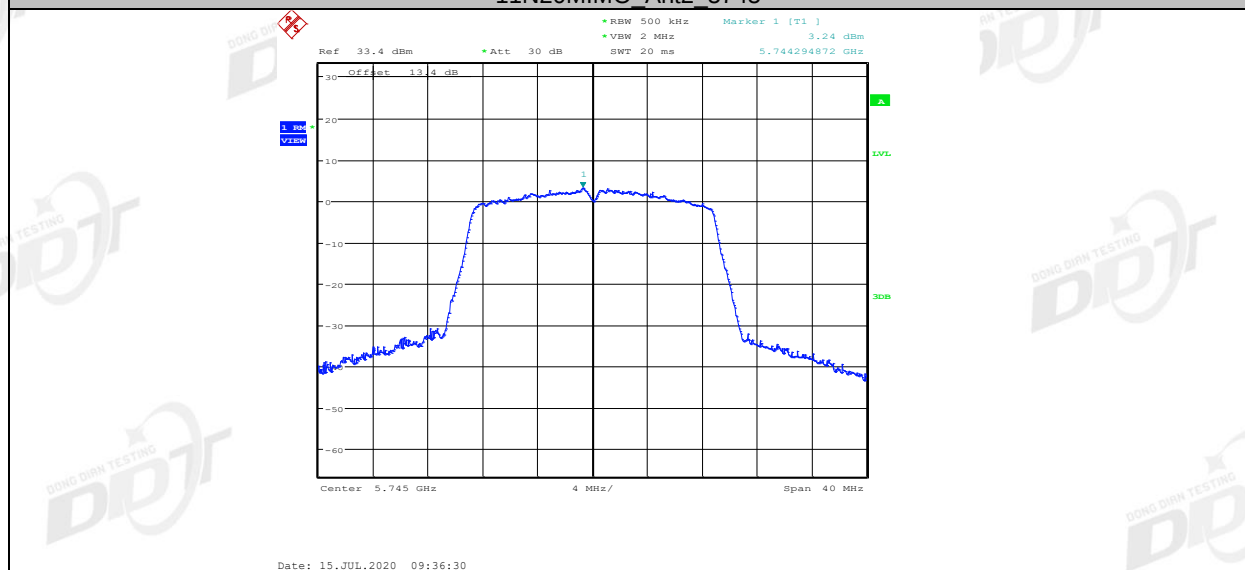
11N20MIMO_Ant4_5240



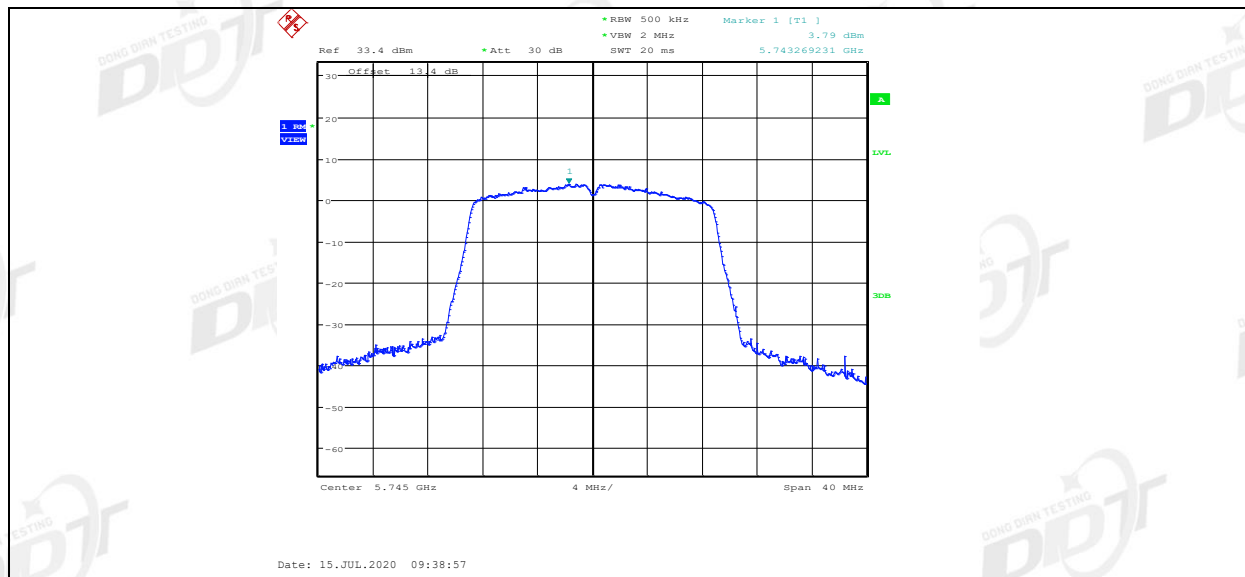
11N20MIMO_Ant1_5745



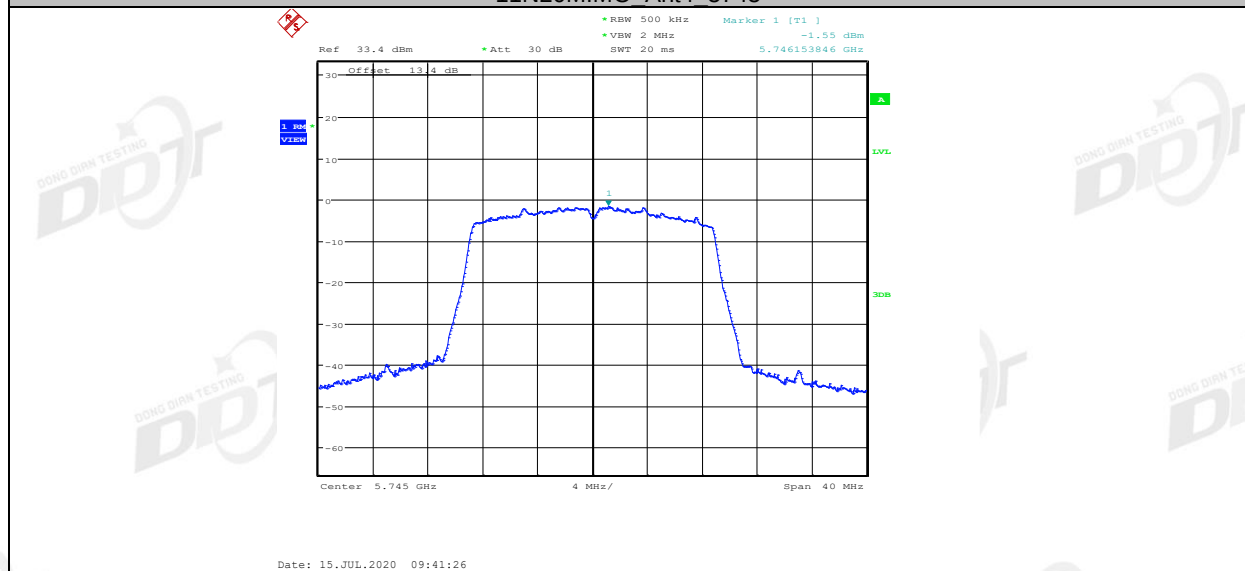
11N20MIMO_Ant2_5745



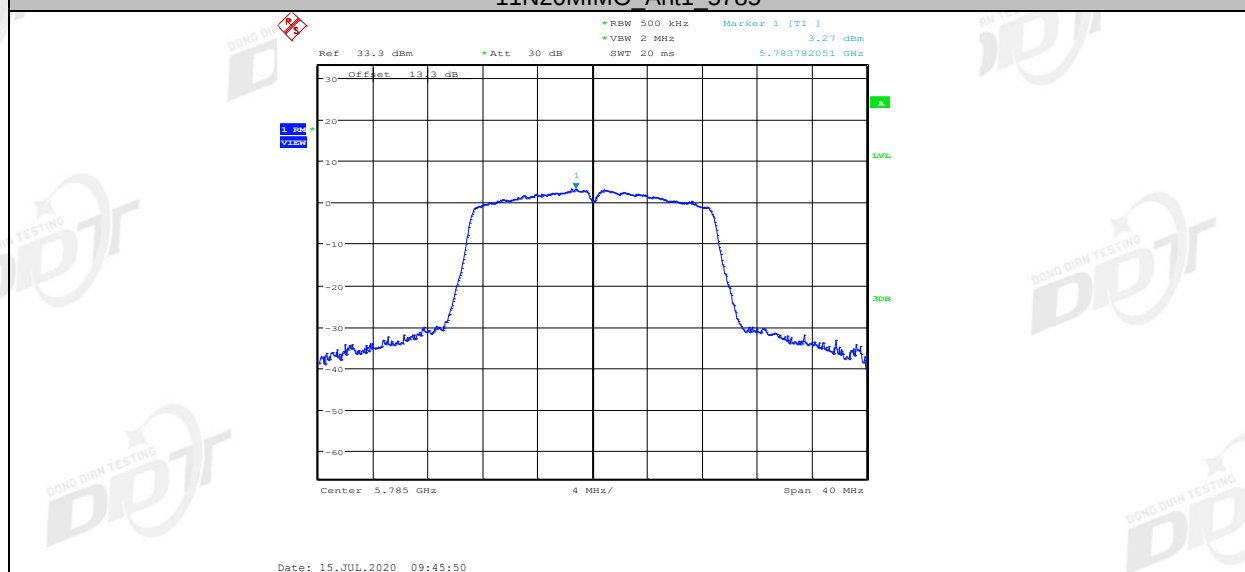
11N20MIMO_Ant3_5745



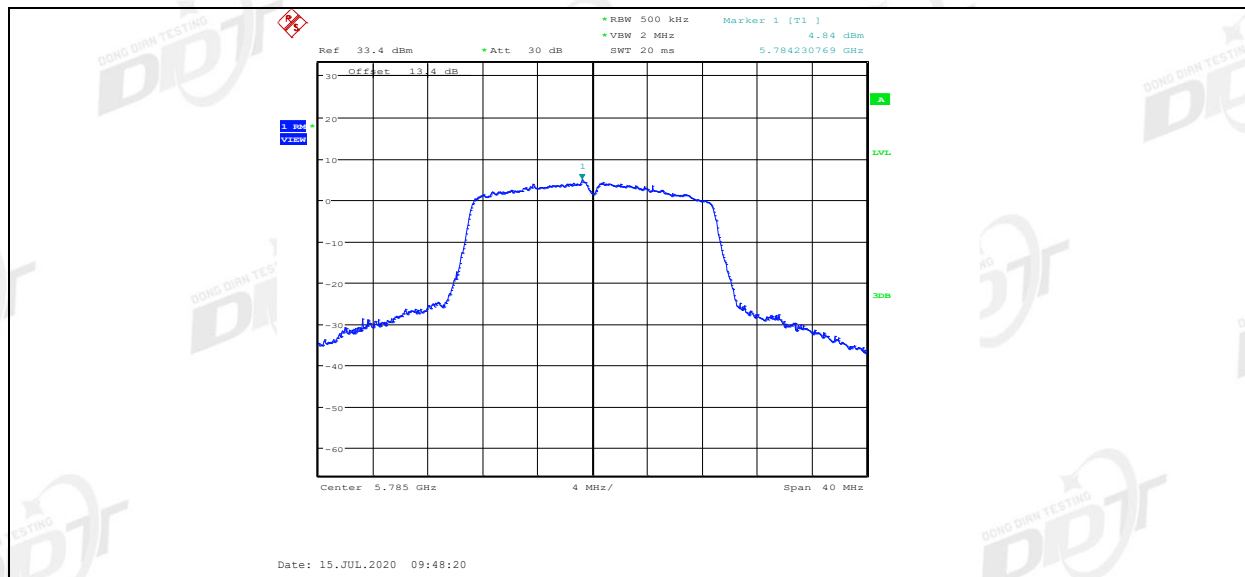
11N20MIMO_Ant4_5745



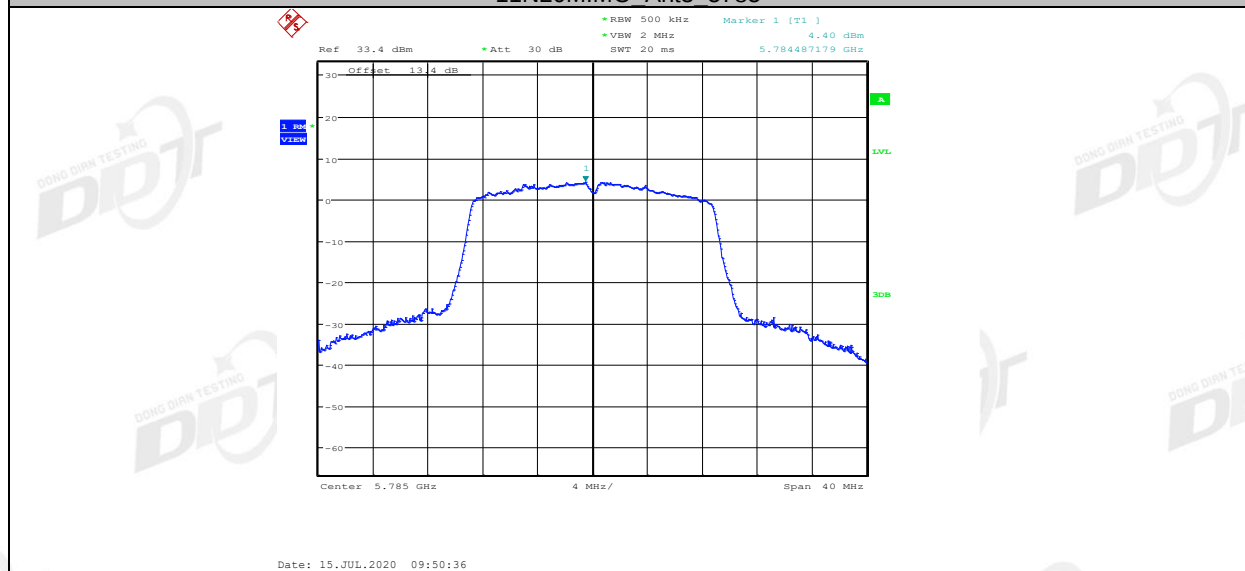
11N20MIMO_Ant1_5785



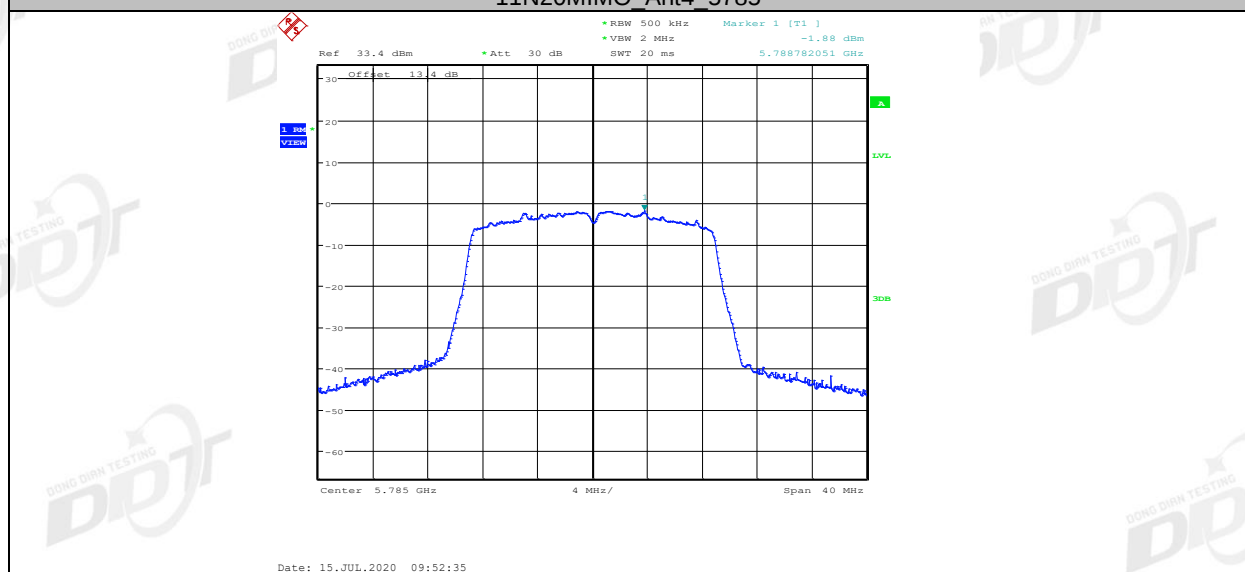
11N20MIMO_Ant2_5785



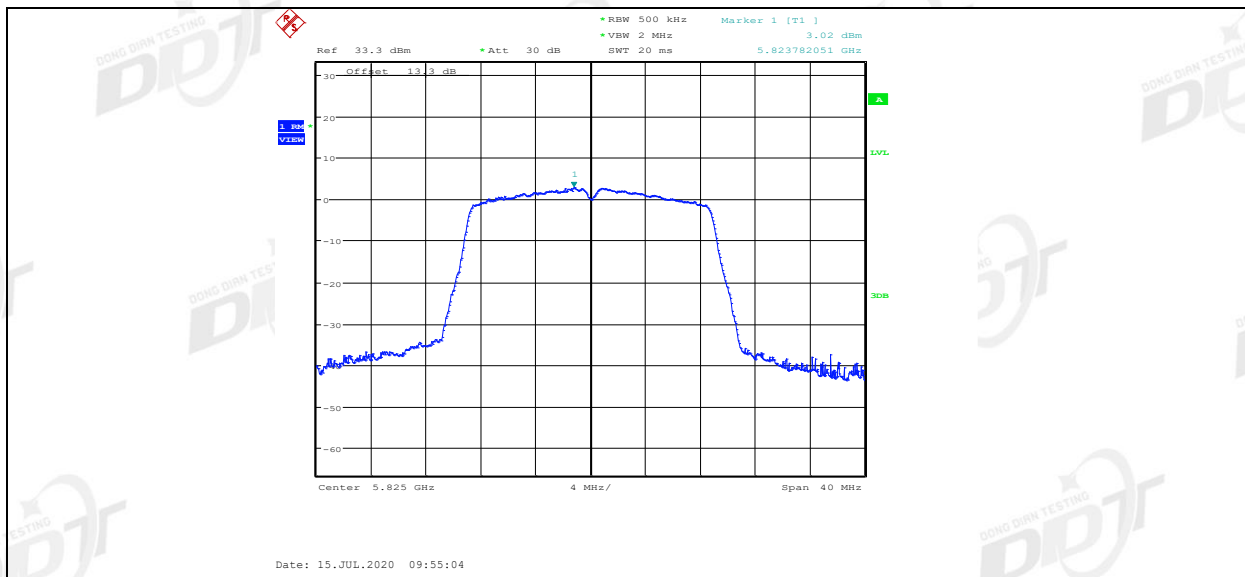
11N20MIMO_Ant3_5785



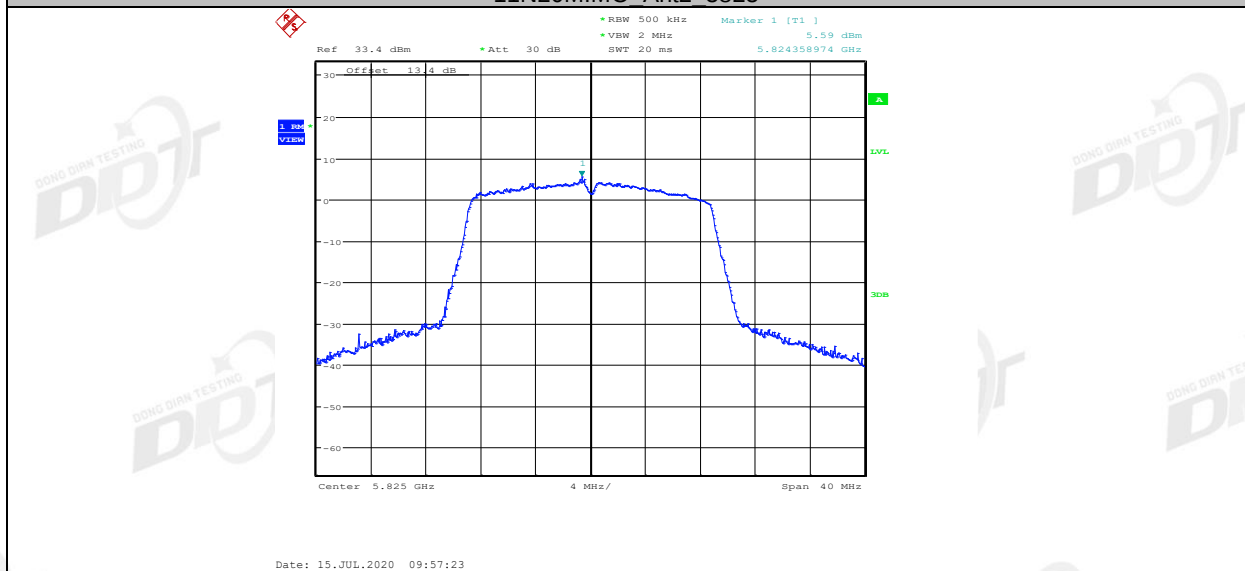
11N20MIMO_Ant4_5785



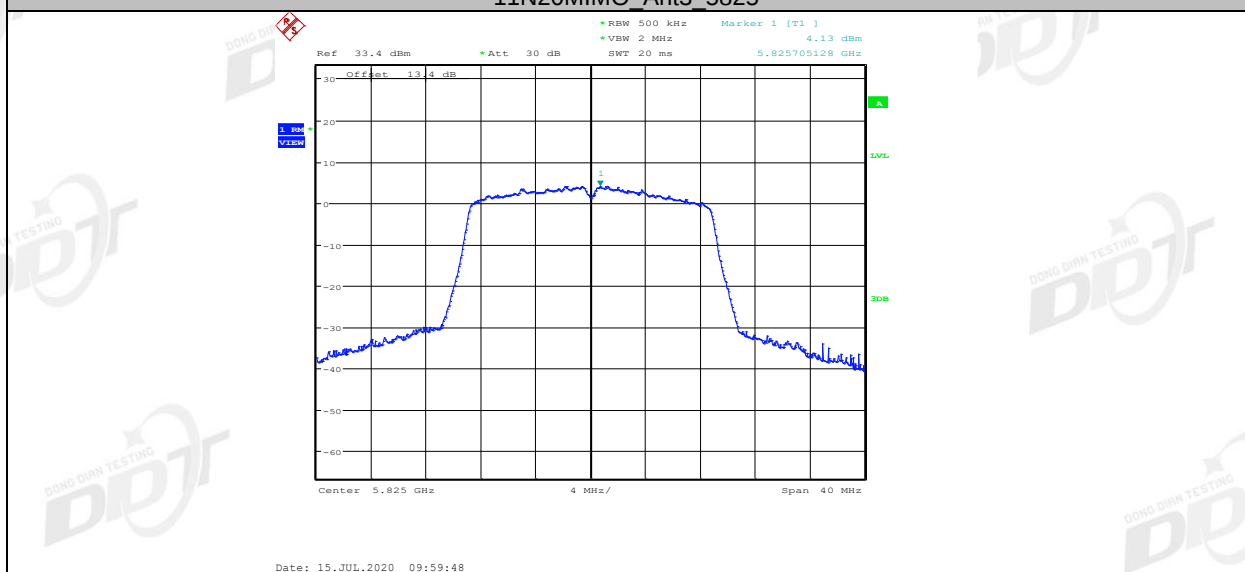
11N20MIMO_Ant1_5825



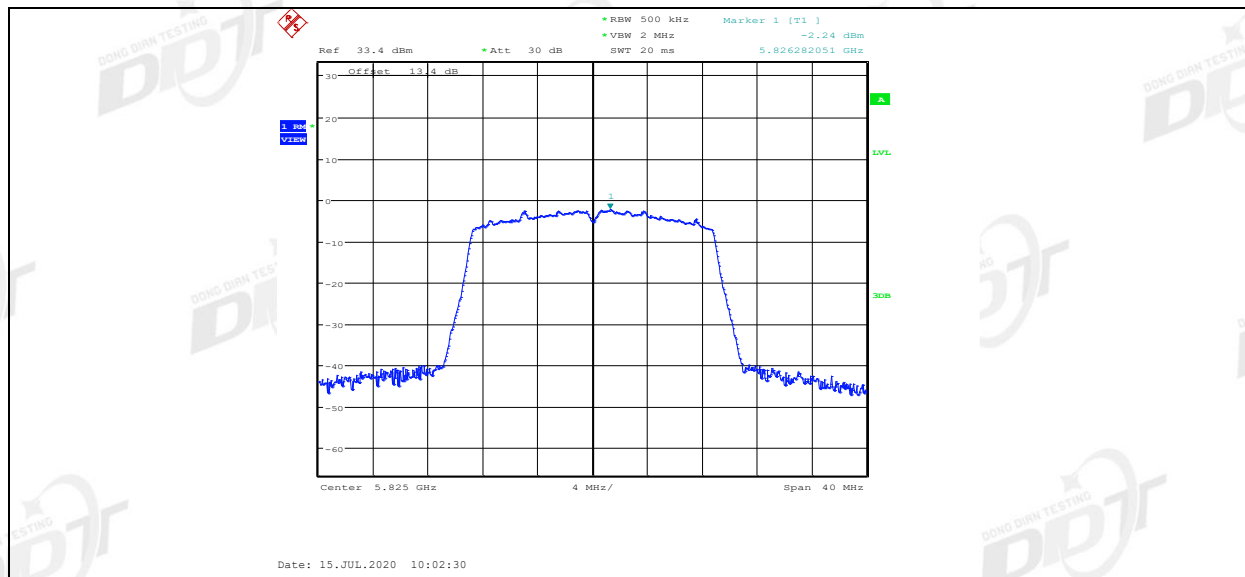
11N20MIMO_Ant2_5825



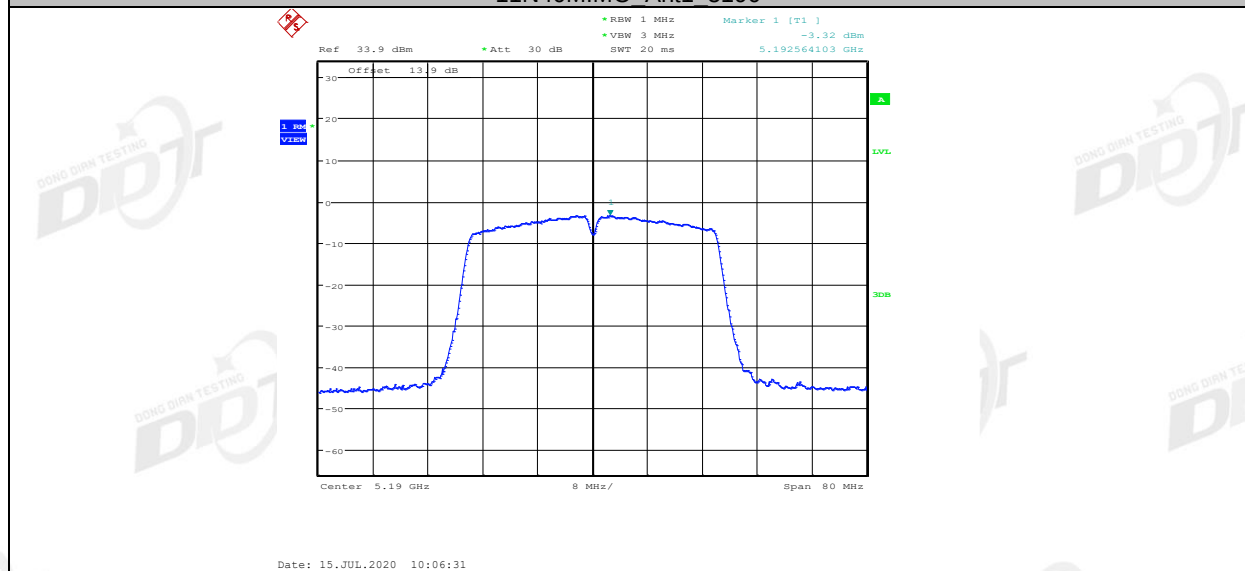
11N20MIMO_Ant3_5825



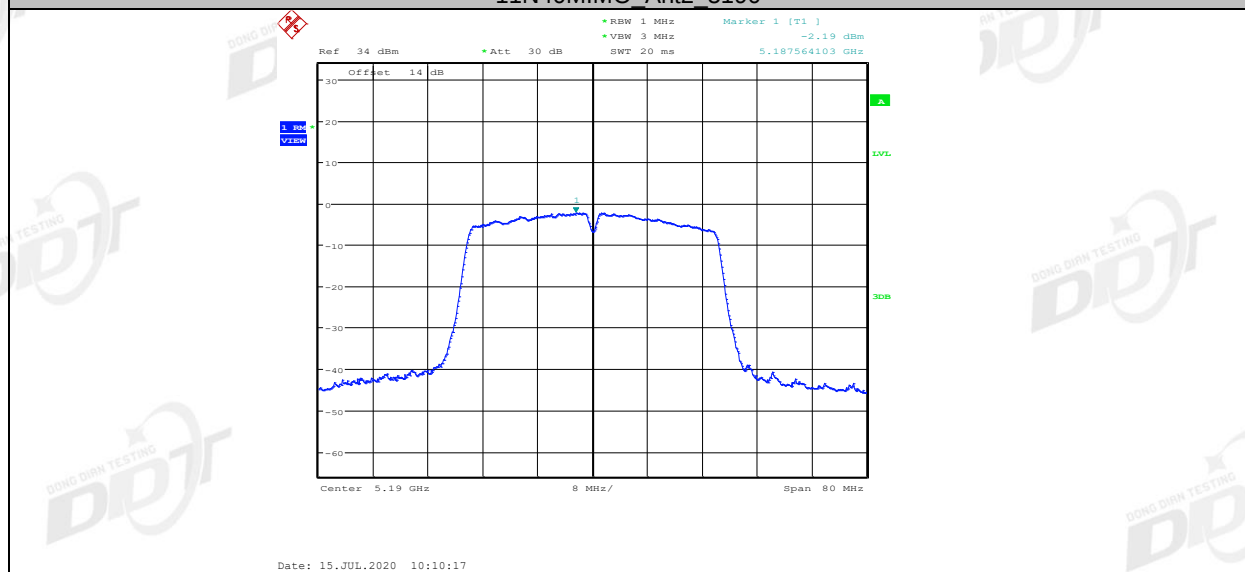
11N20MIMO_Ant4_5825



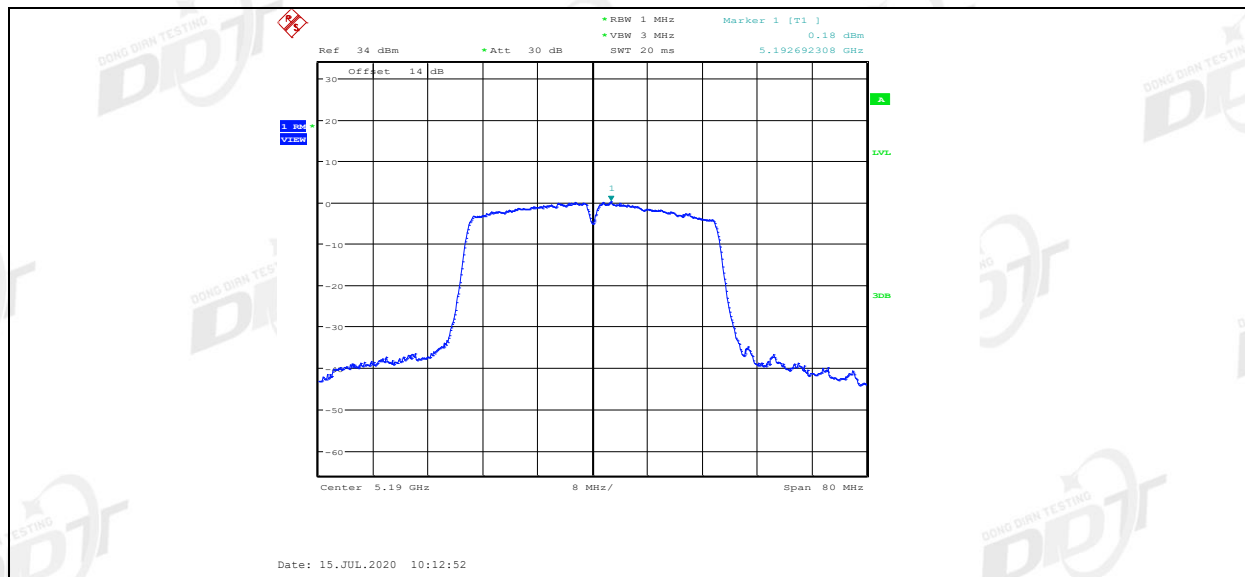
11N40MIMO_Ant1_5190



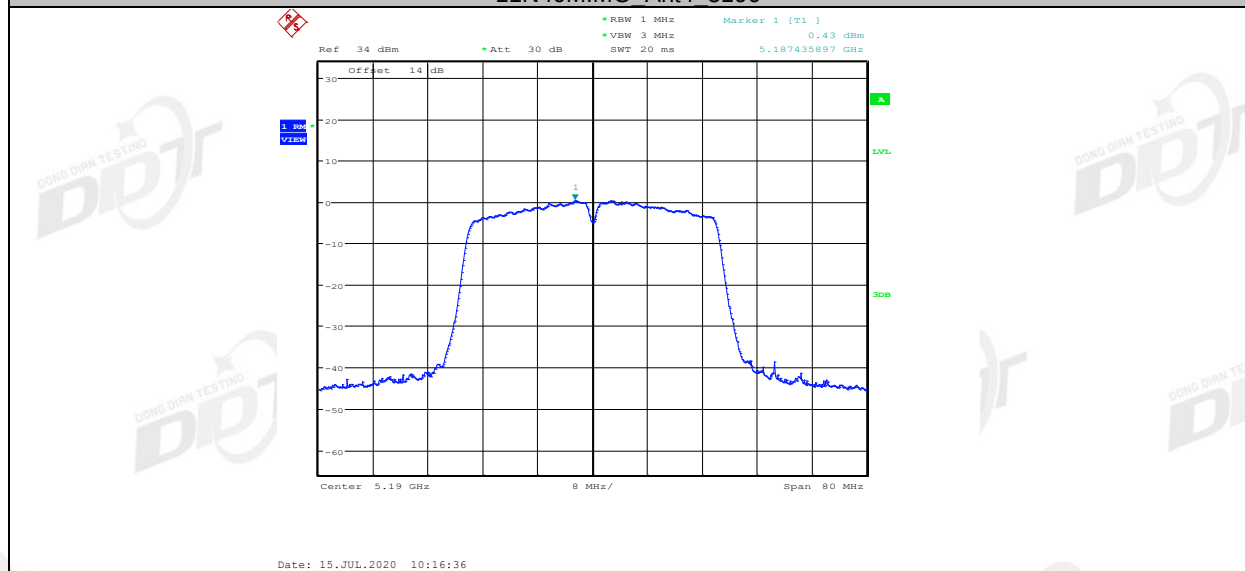
11N40MIMO_Ant2_5190



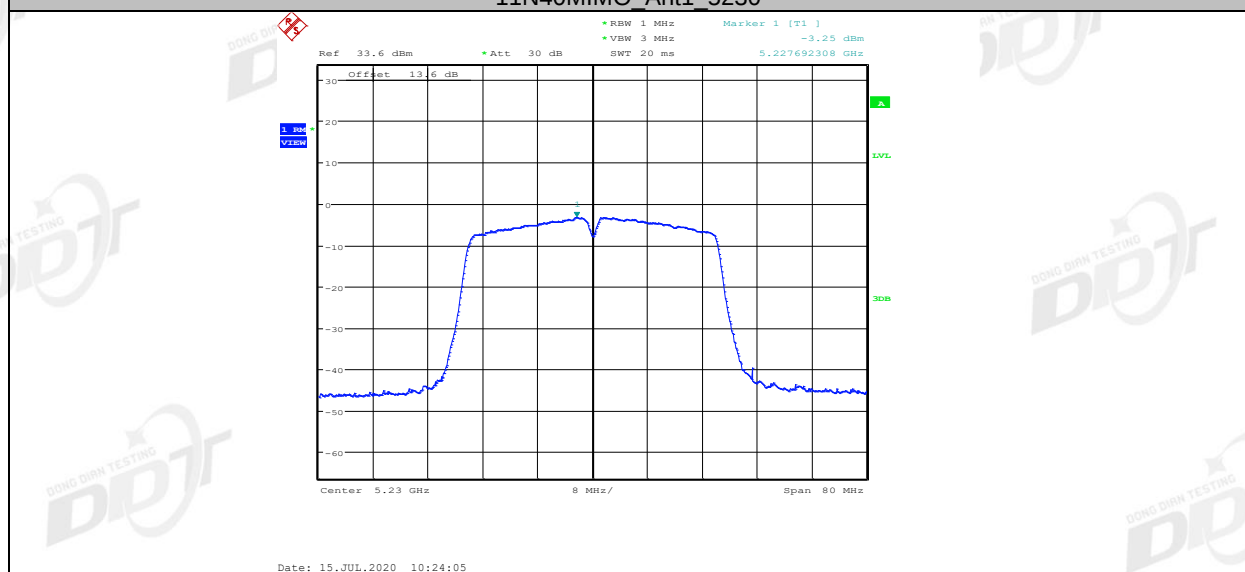
11N40MIMO_Ant3_5190



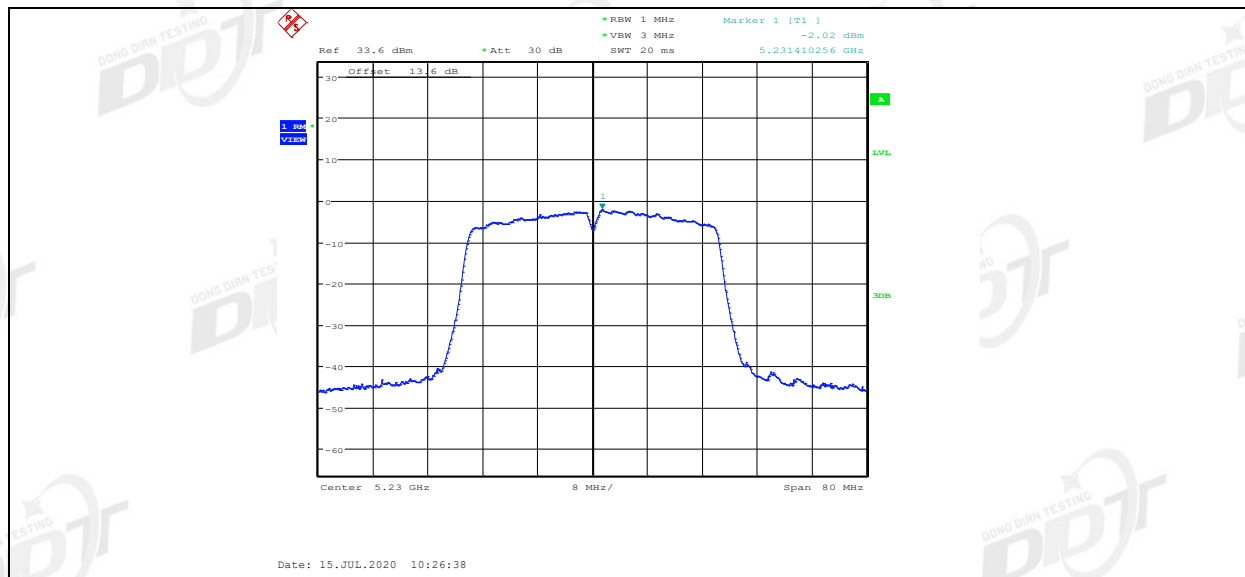
11N40MIMO_Ant4_5190



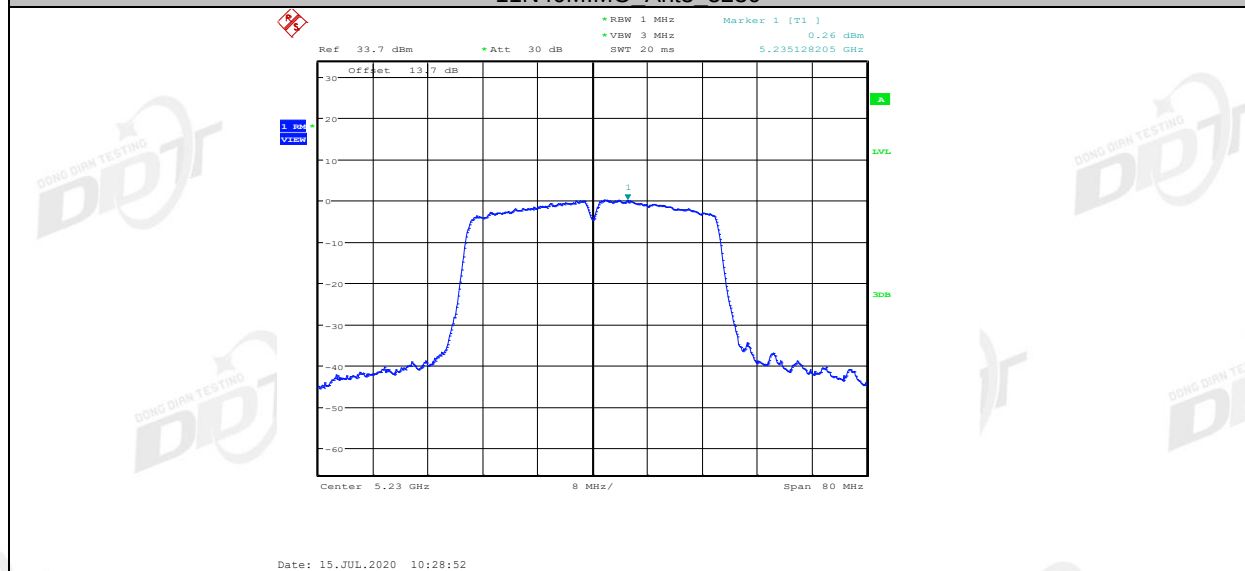
11N40MIMO_Ant1_5230



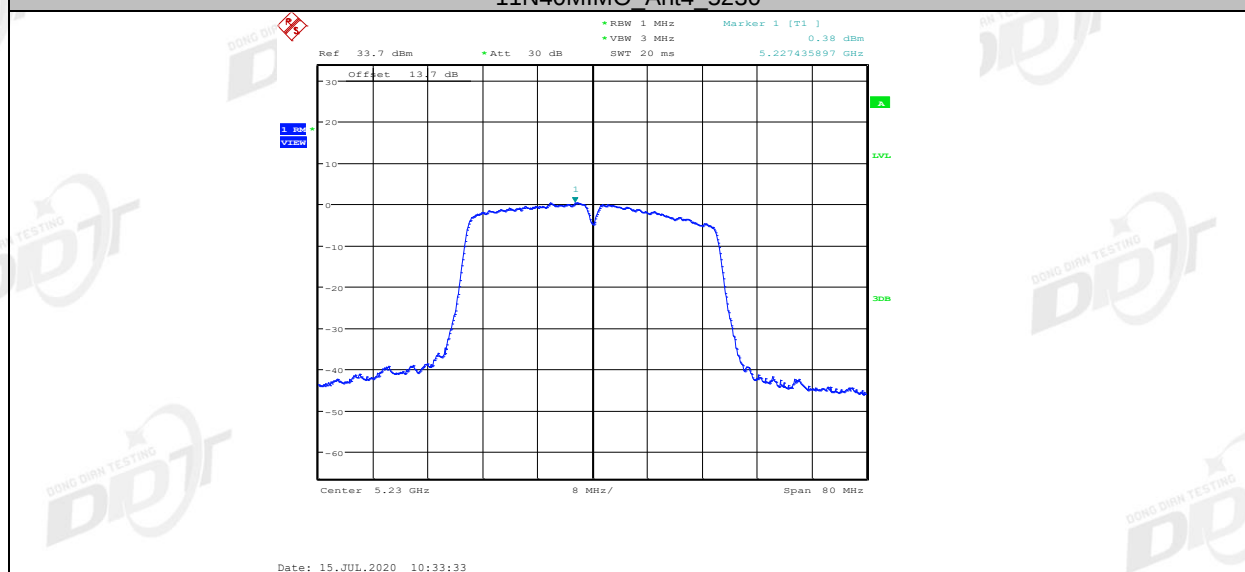
11N40MIMO_Ant2_5230



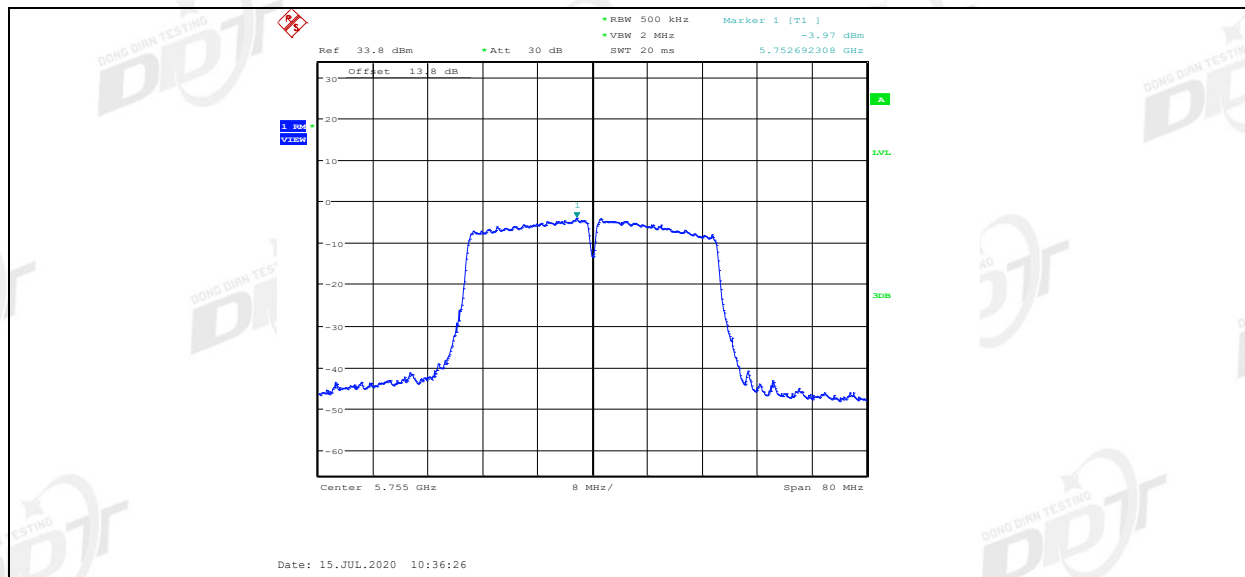
11N40MIMO_Ant3_5230



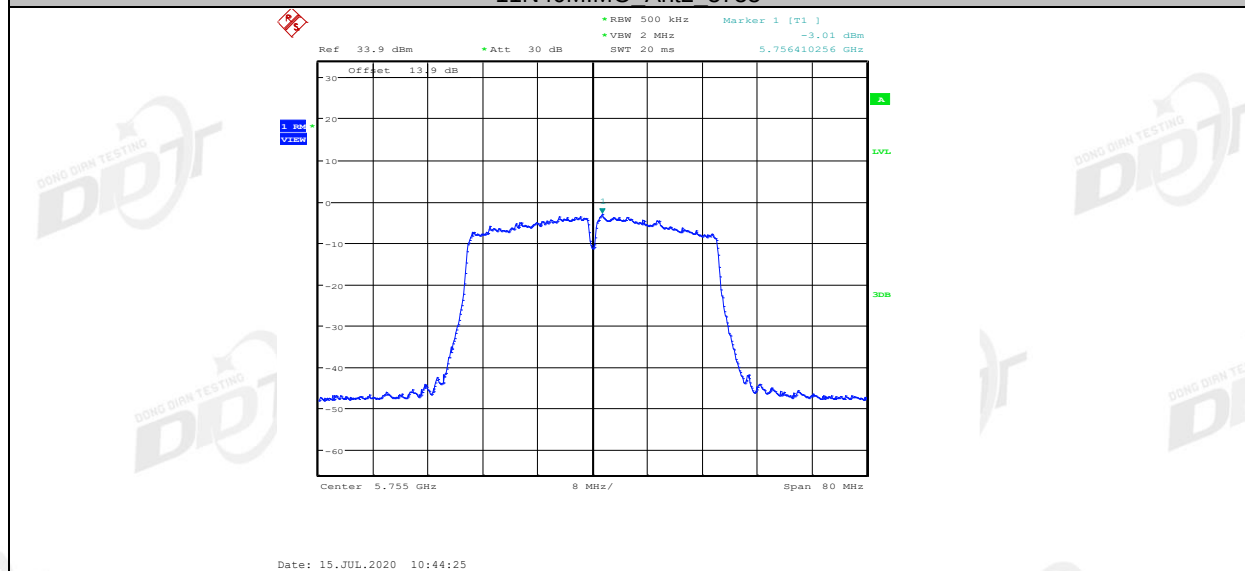
11N40MIMO_Ant4_5230



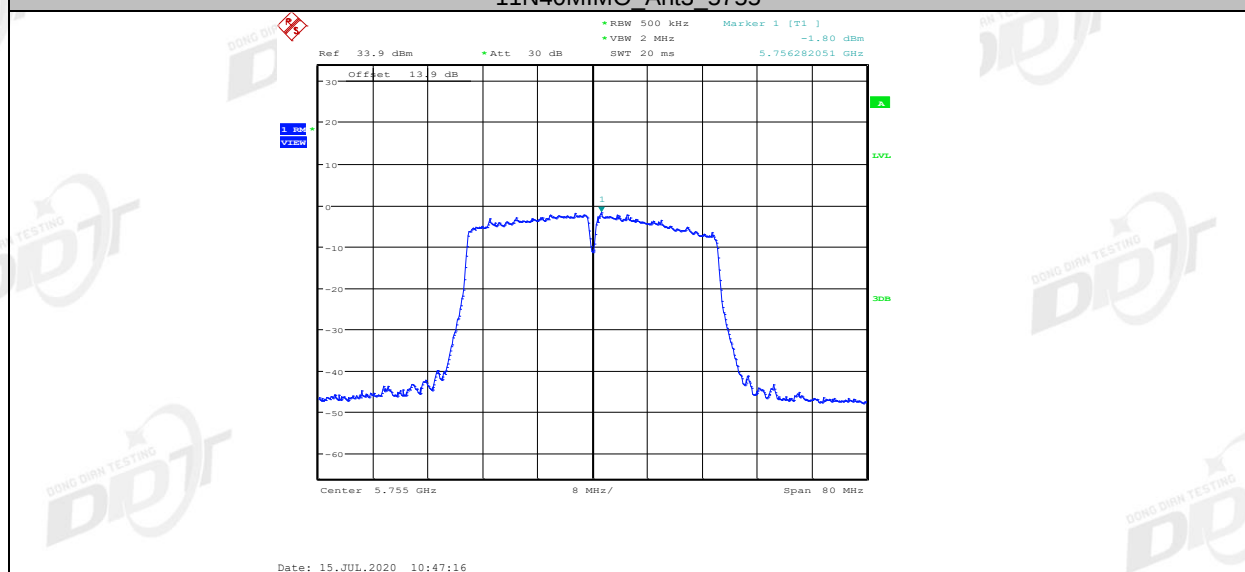
11N40MIMO_Ant1_5755



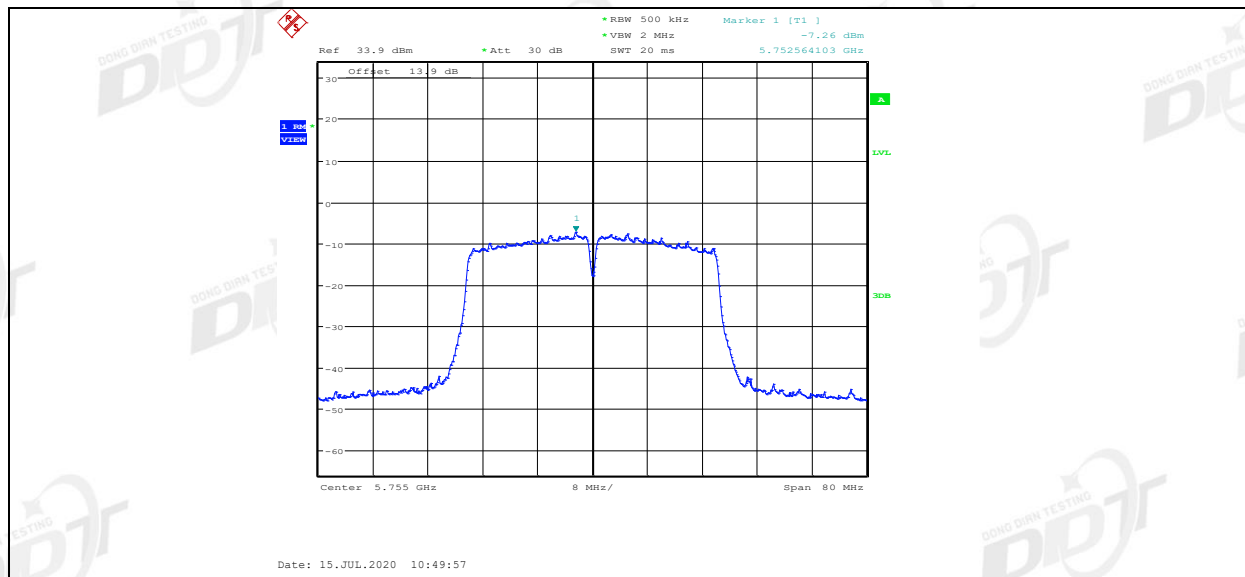
11N40MIMO_Ant2_5755



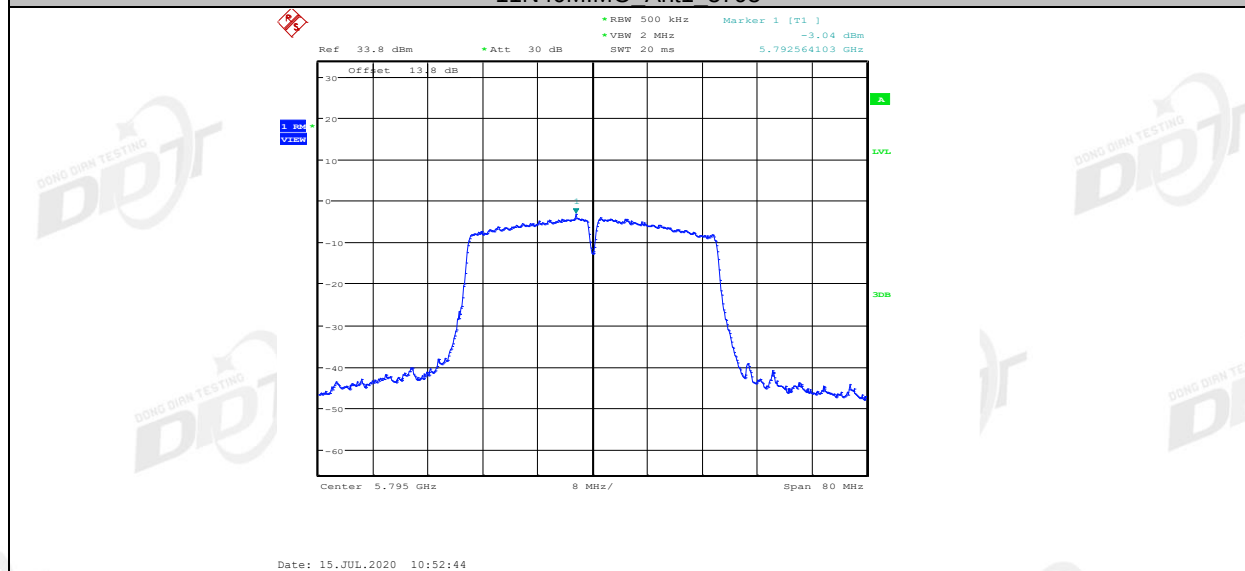
11N40MIMO_Ant3_5755



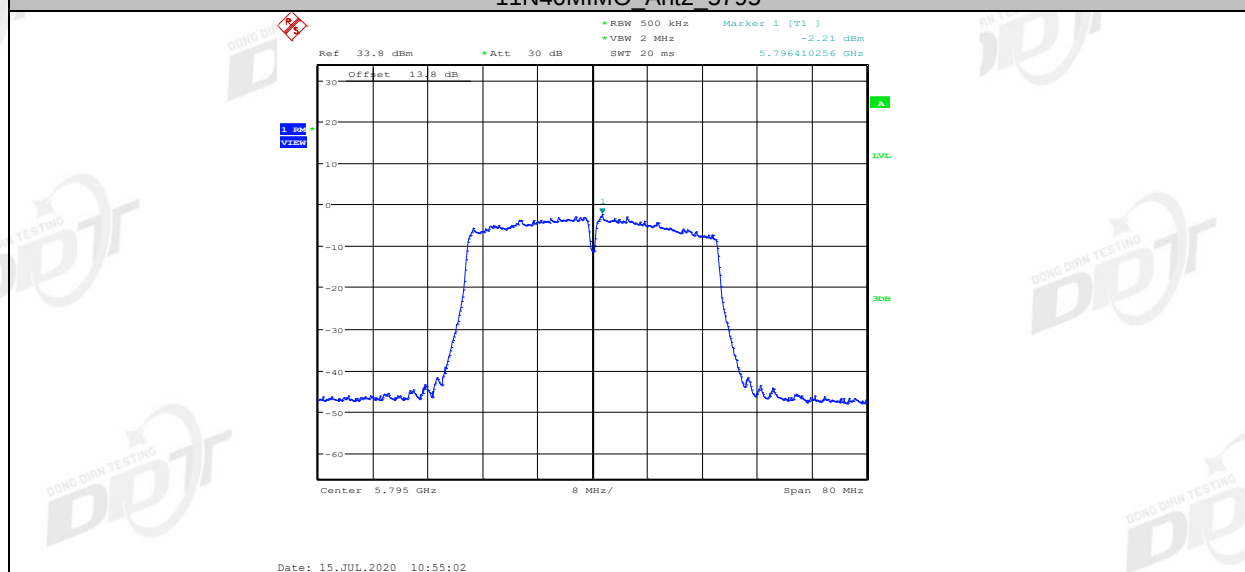
11N40MIMO_Ant4_5755



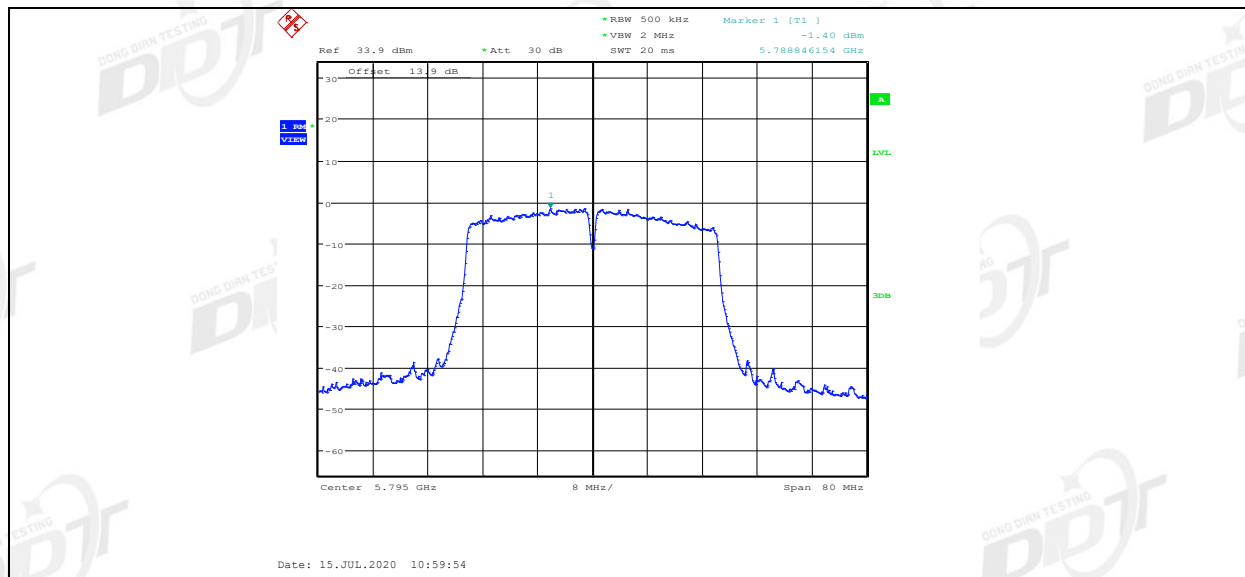
11N40MIMO_Ant1_5795



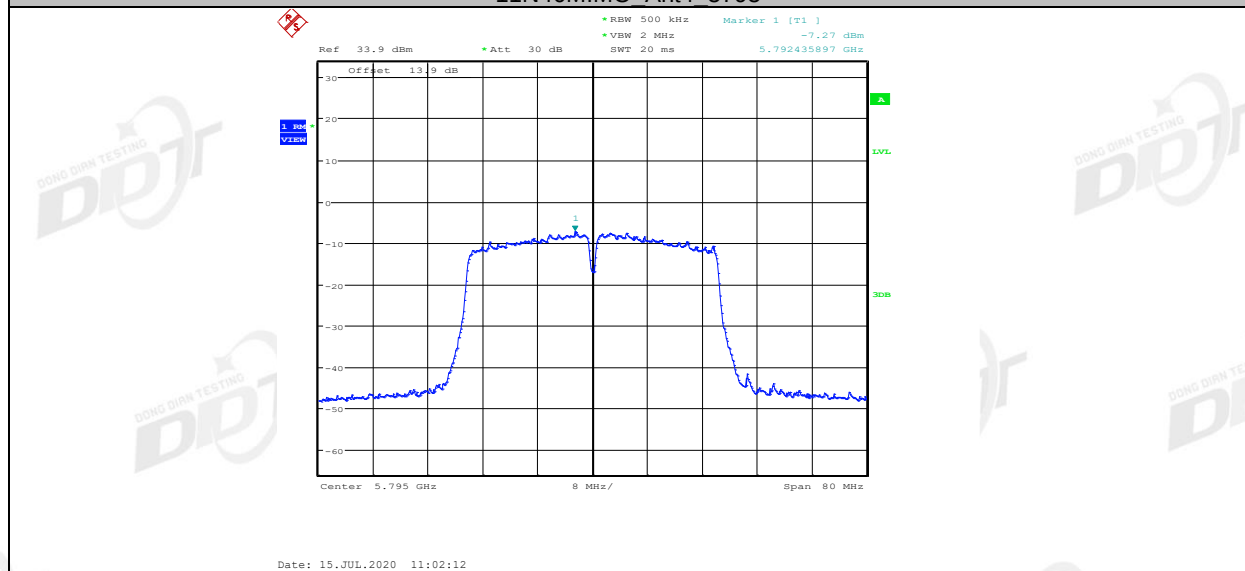
11N40MIMO_Ant2_5795



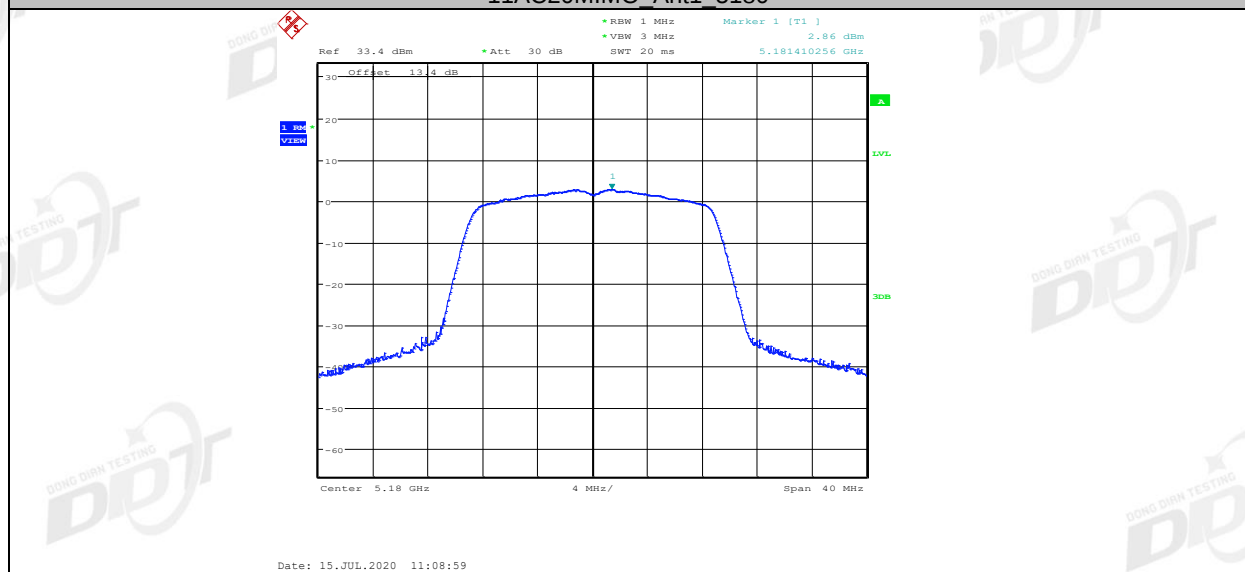
11N40MIMO_Ant3_5795



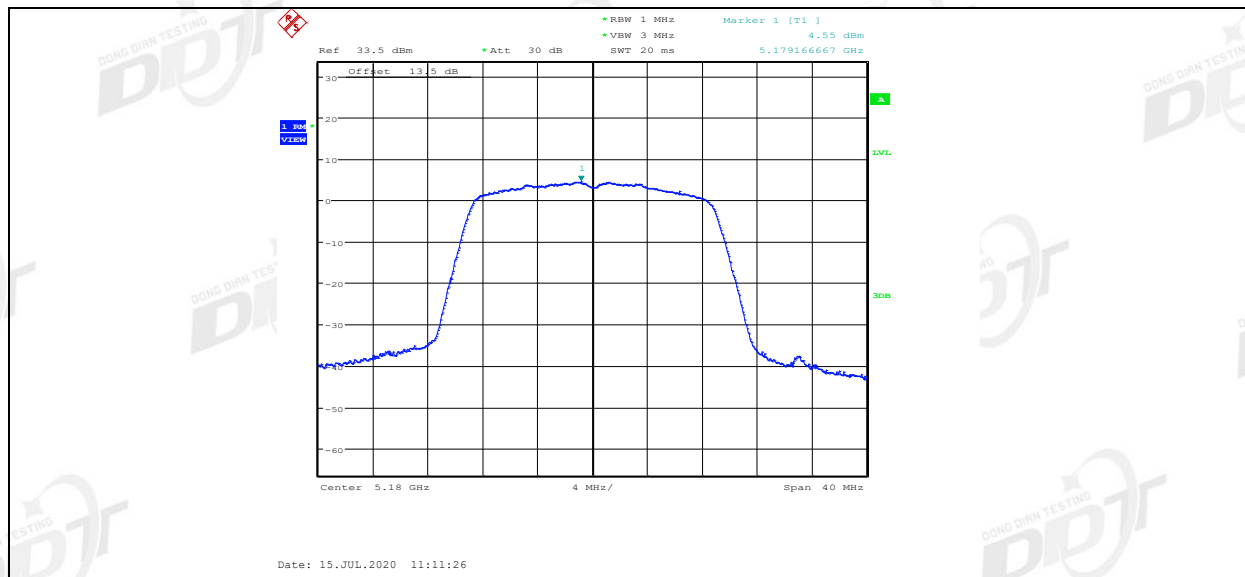
11N40MIMO Ant4 5795



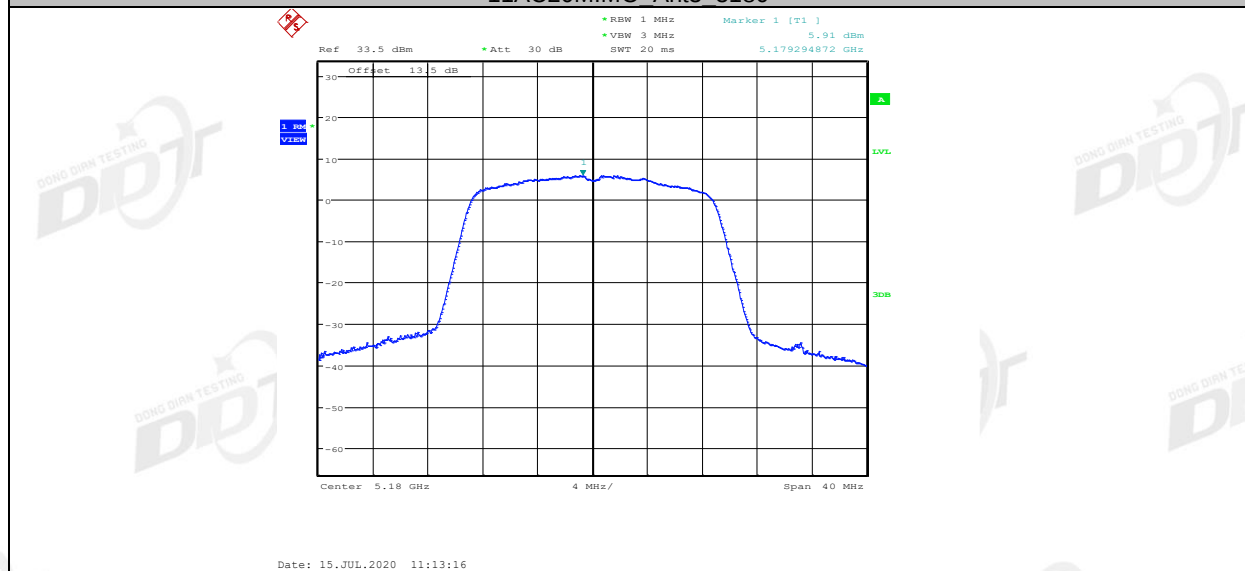
11AC20MIMO Ant1 5180



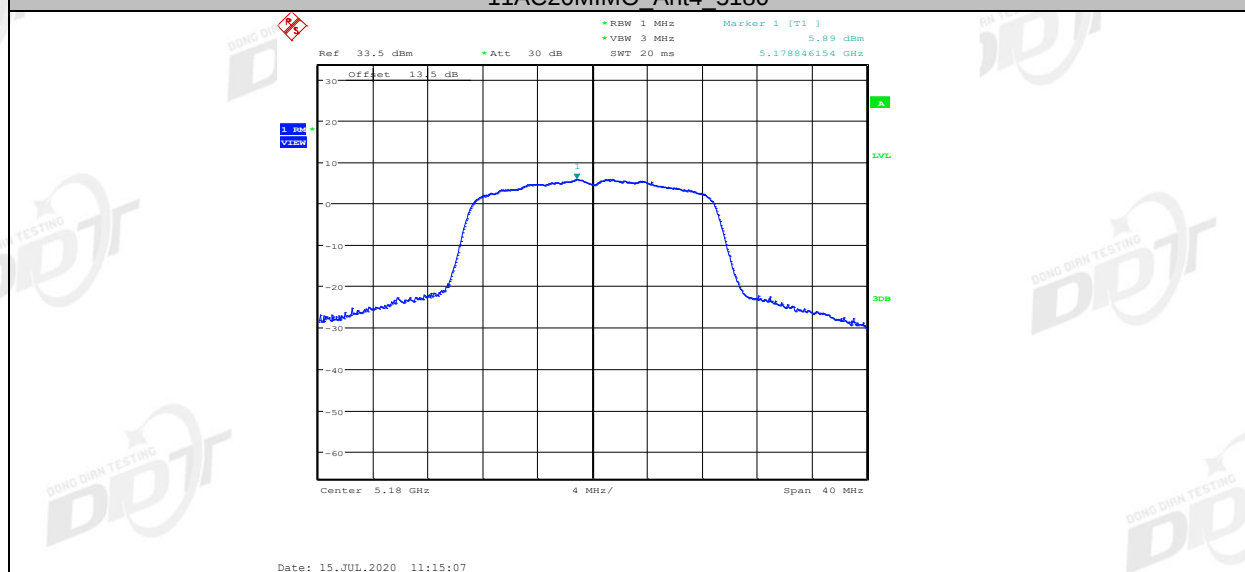
11AC20MIMO Ant2 5180



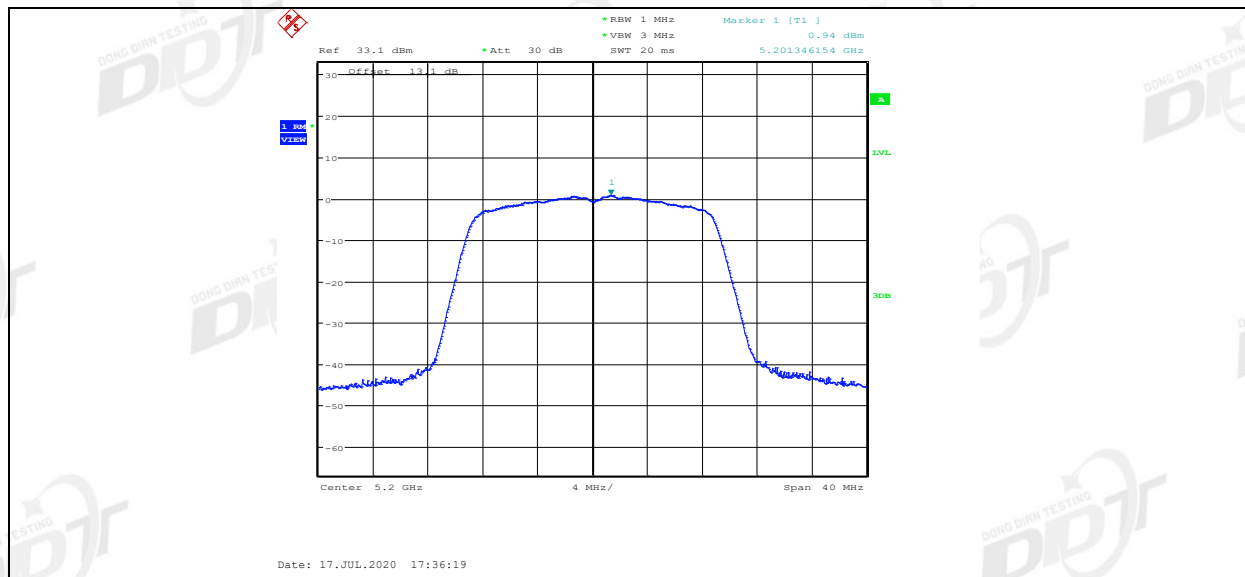
11AC20MIMO_Ant3_5180



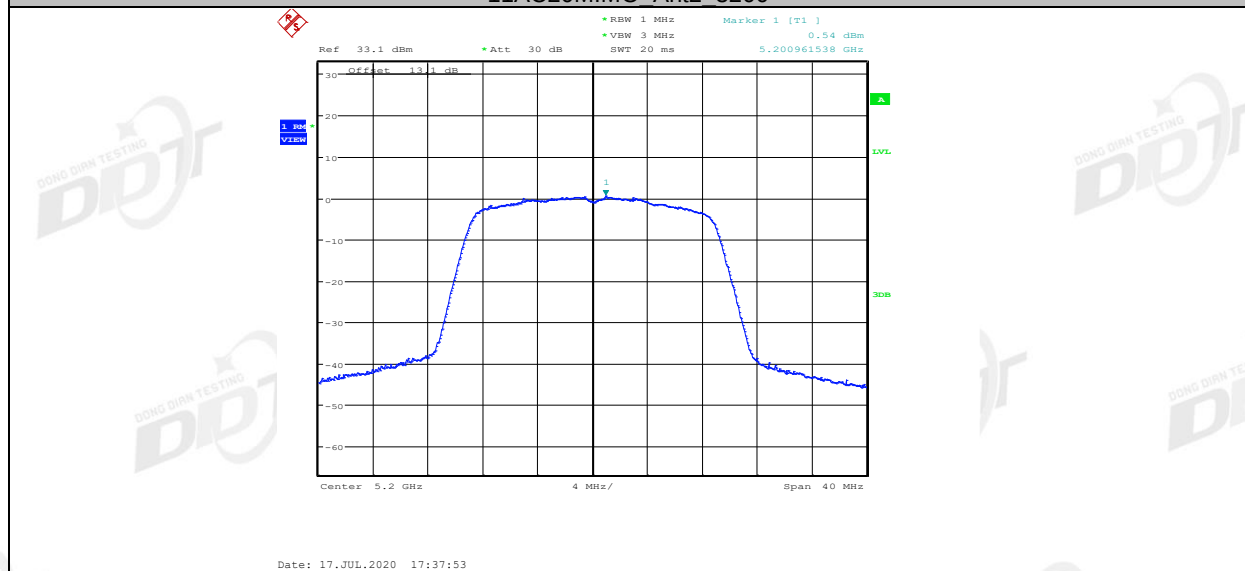
11AC20MIMO_Ant4_5180



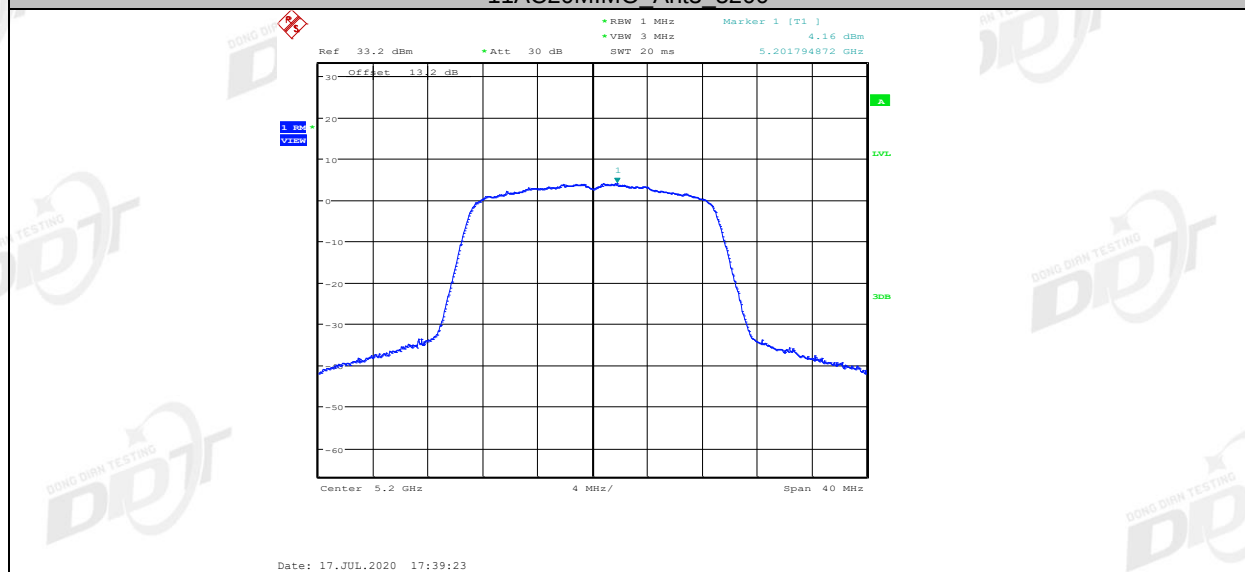
11AC20MIMO_Ant1_5200



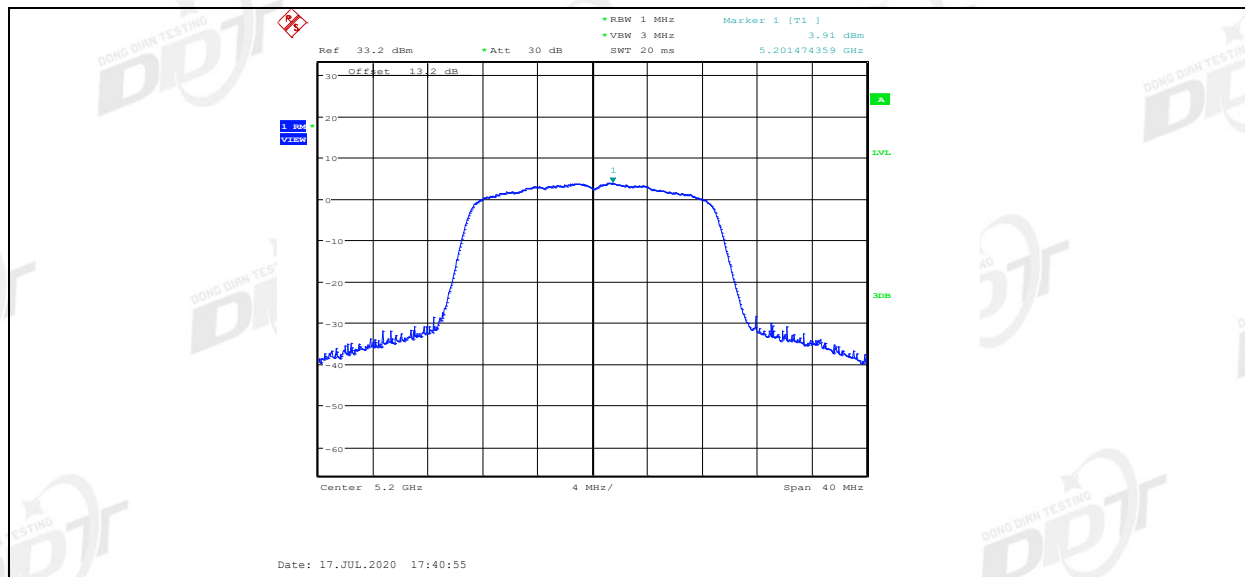
11AC20MIMO_Ant2_5200



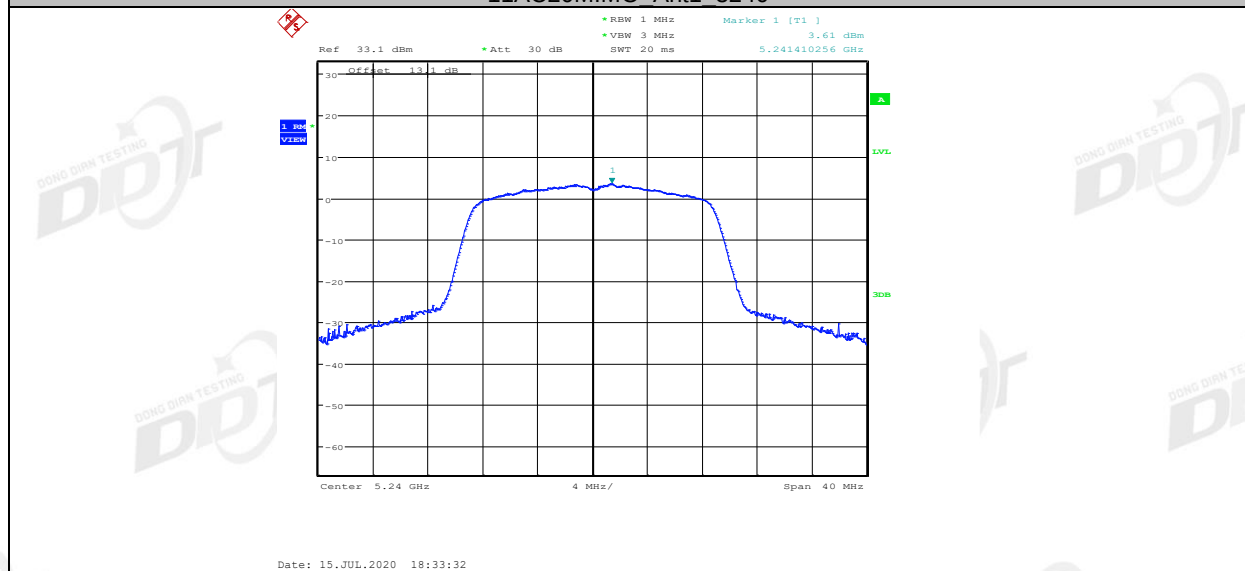
11AC20MIMO_Ant3_5200



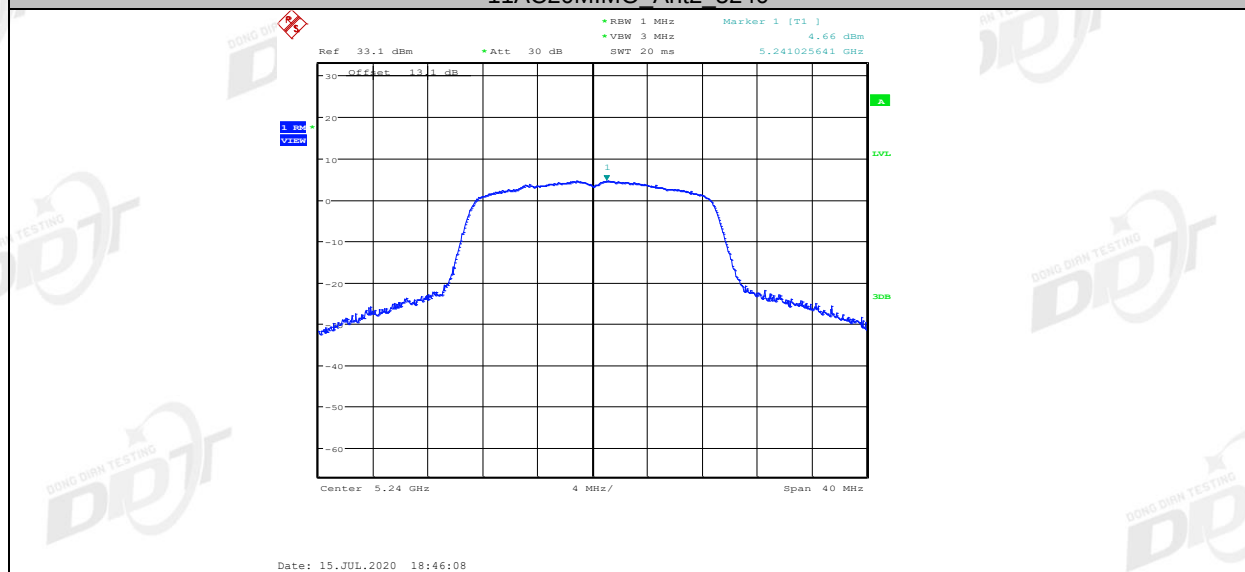
11AC20MIMO_Ant4_5200



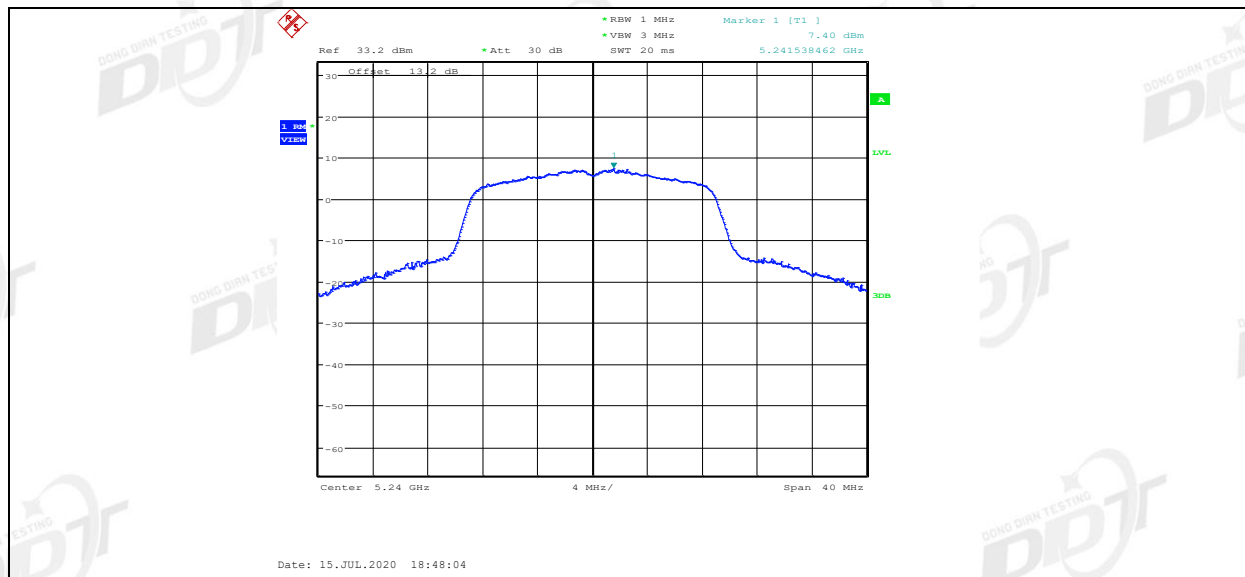
11AC20MIMO_Ant1_5240



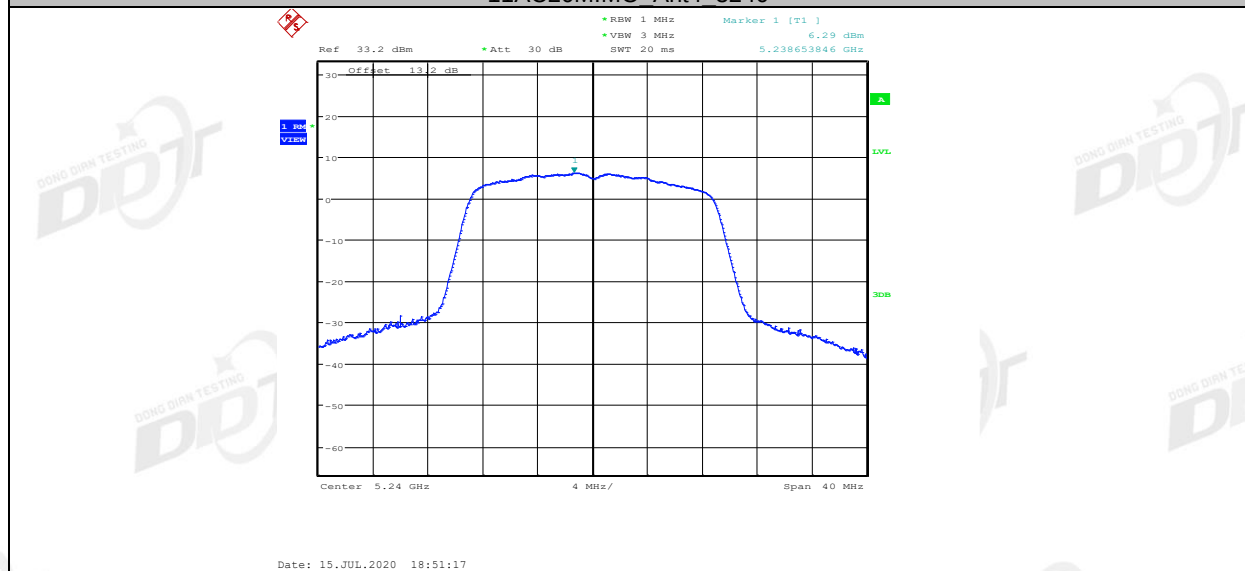
11AC20MIMO_Ant2_5240



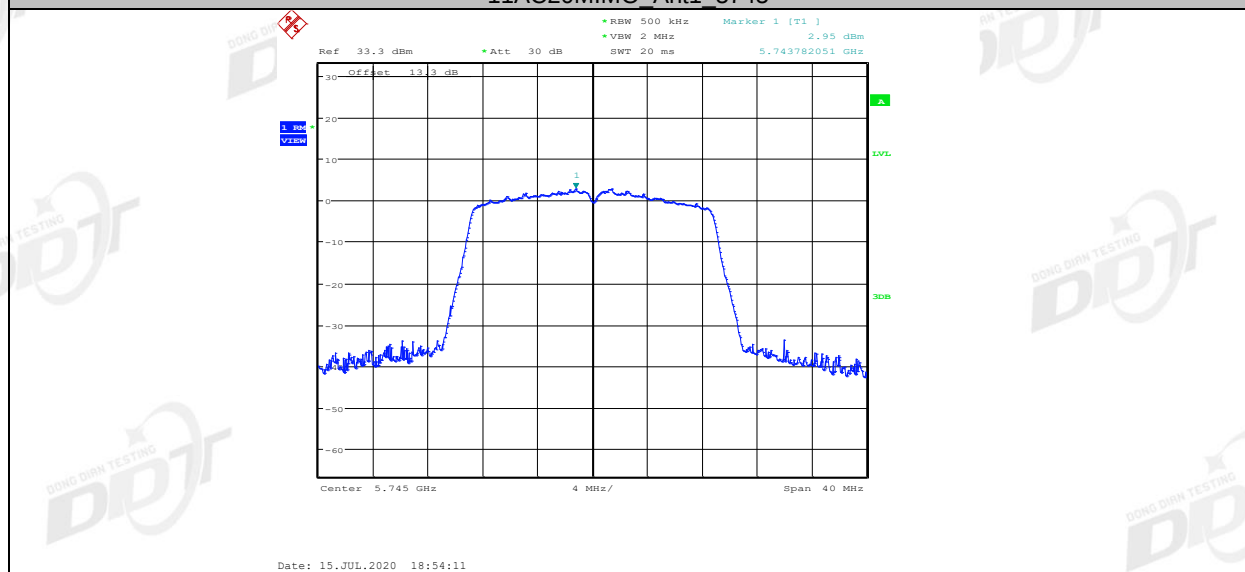
11AC20MIMO_Ant3_5240



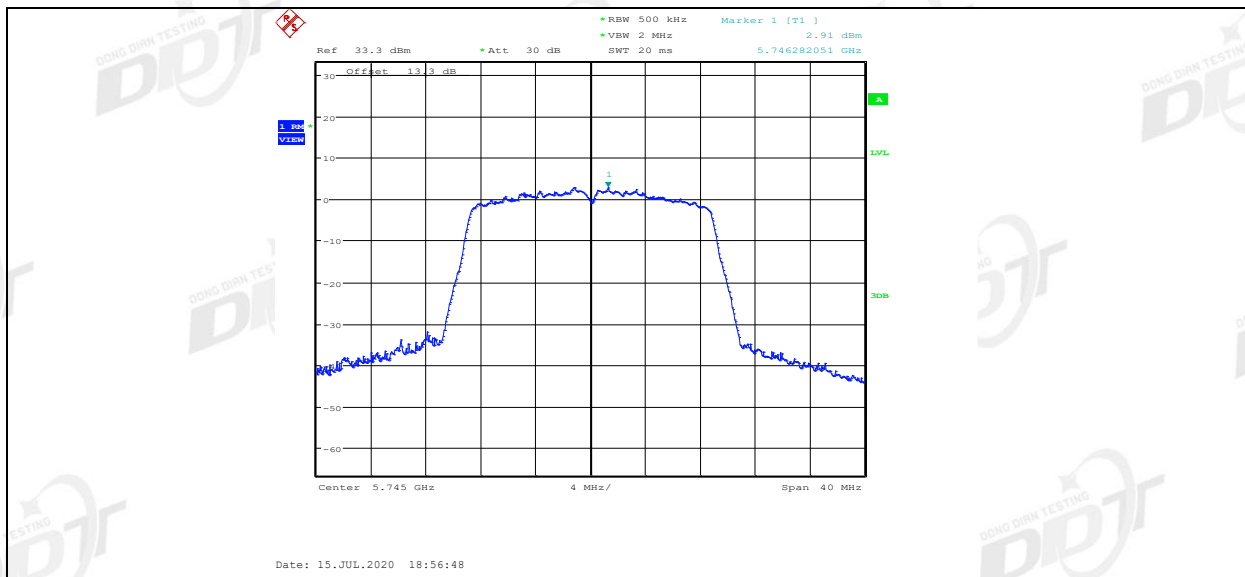
11AC20MIMO_Ant4_5240



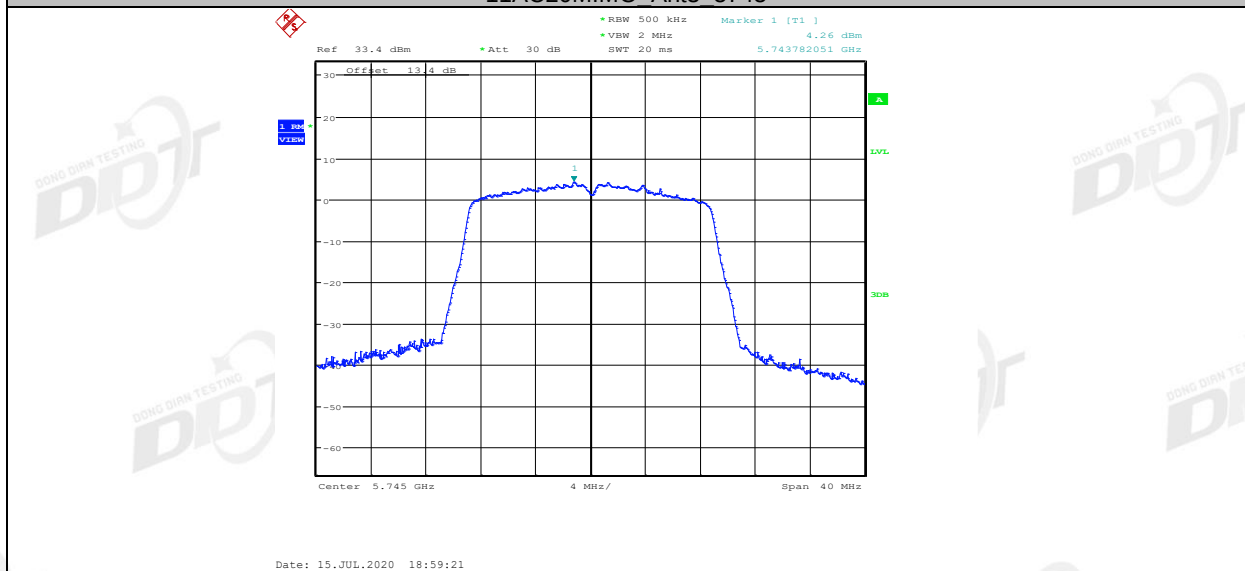
11AC20MIMO_Ant1_5745



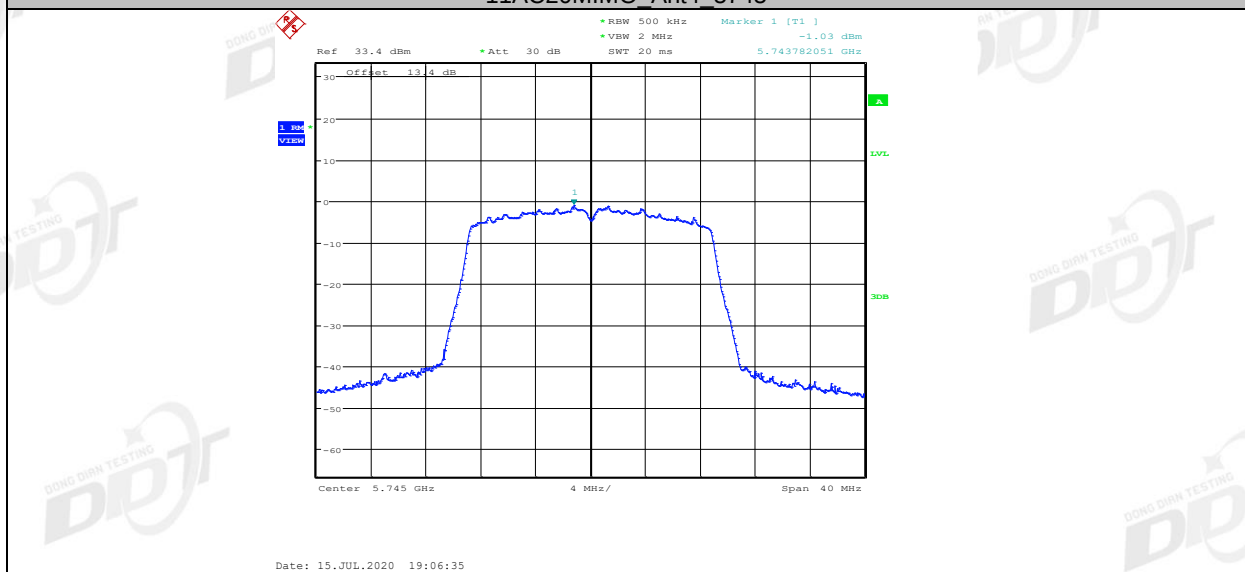
11AC20MIMO_Ant2_5745



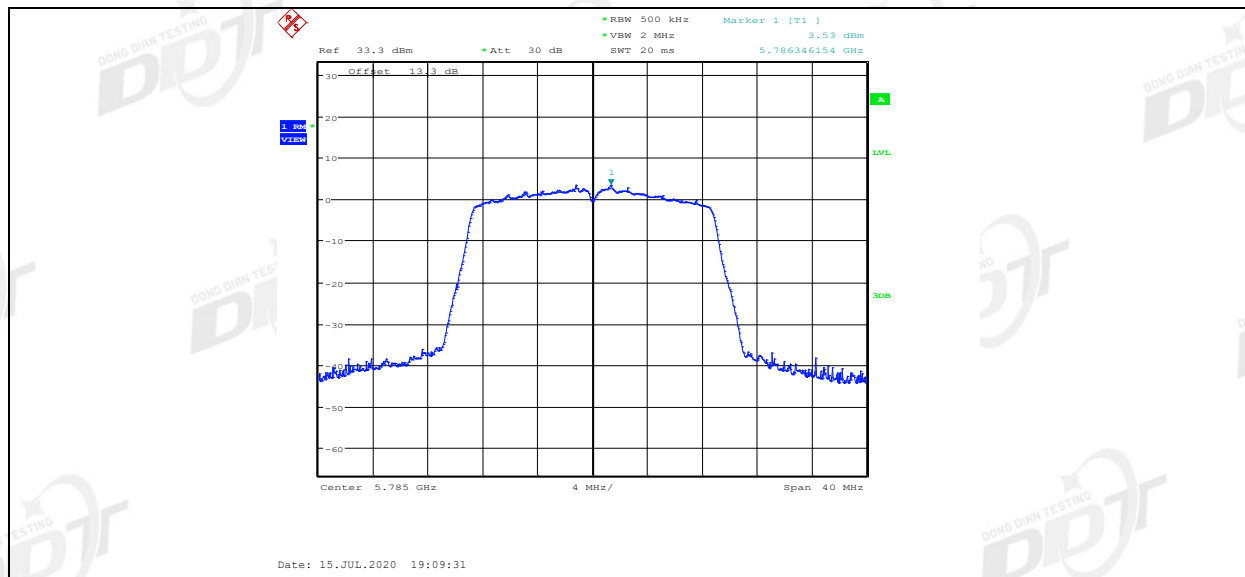
11AC20MIMO_Ant3_5745



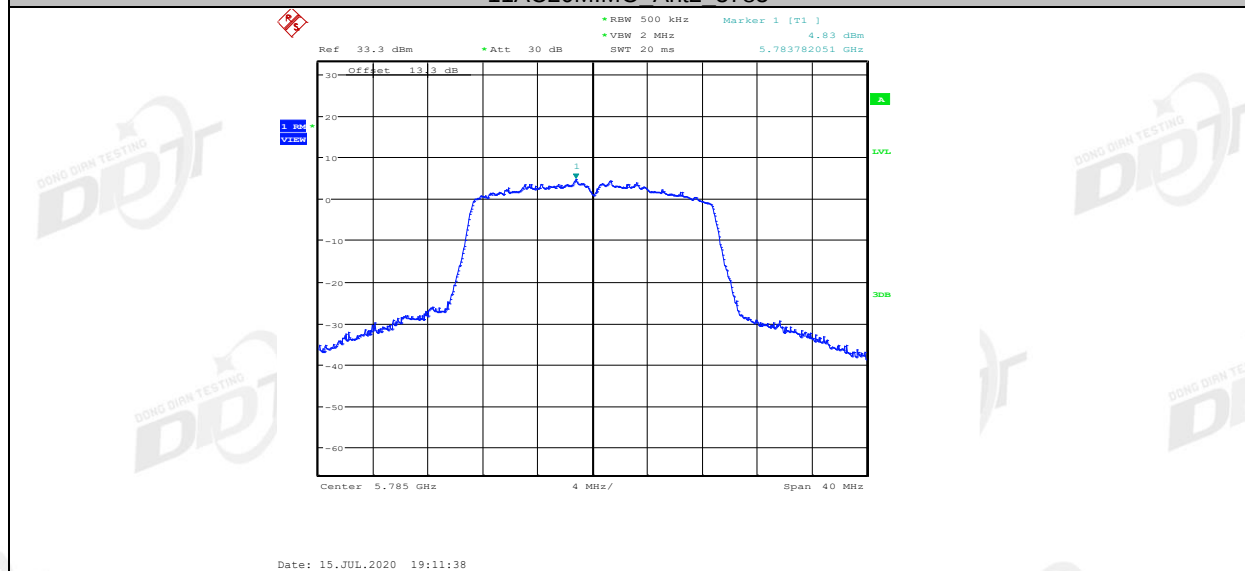
11AC20MIMO_Ant4_5745



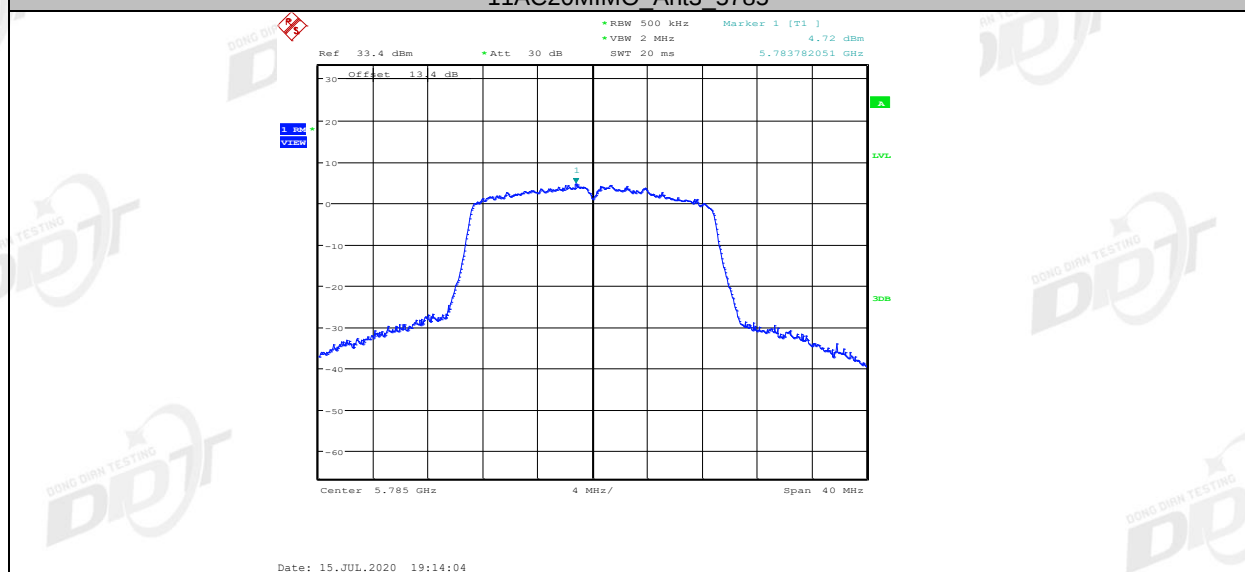
11AC20MIMO_Ant1_5785



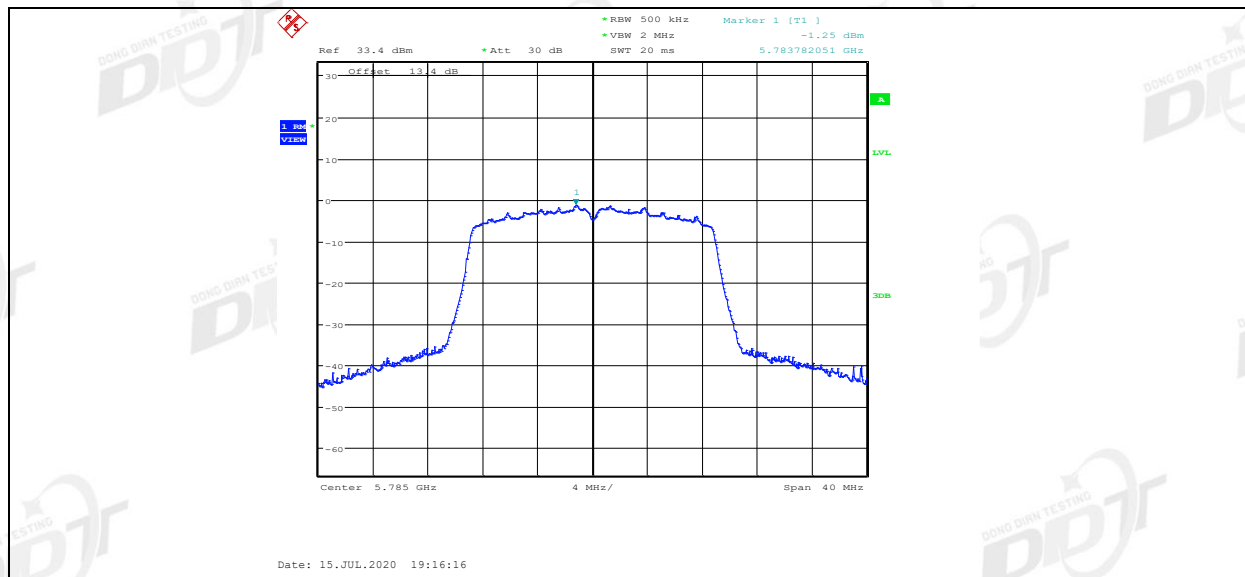
11AC20MIMO_Ant2_5785



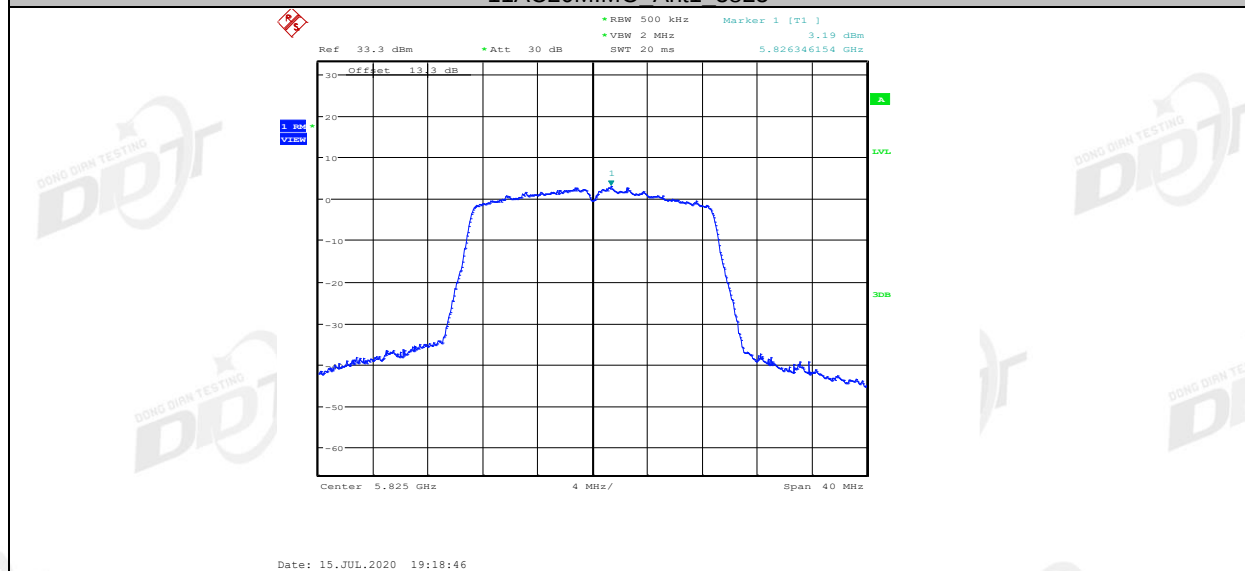
11AC20MIMO_Ant3_5785



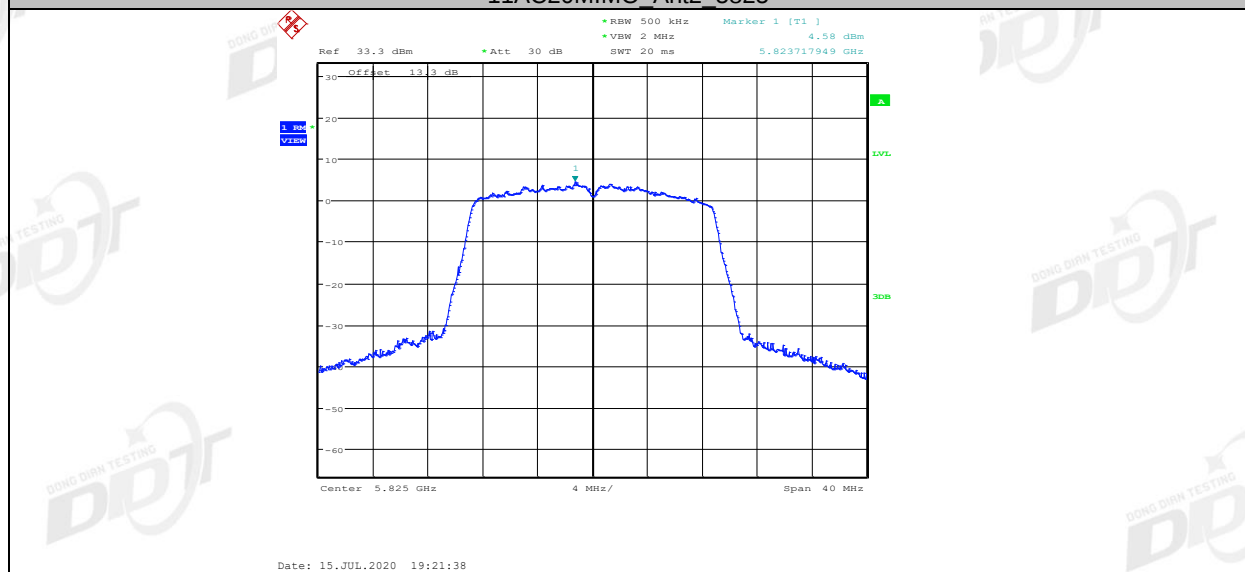
11AC20MIMO_Ant4_5785



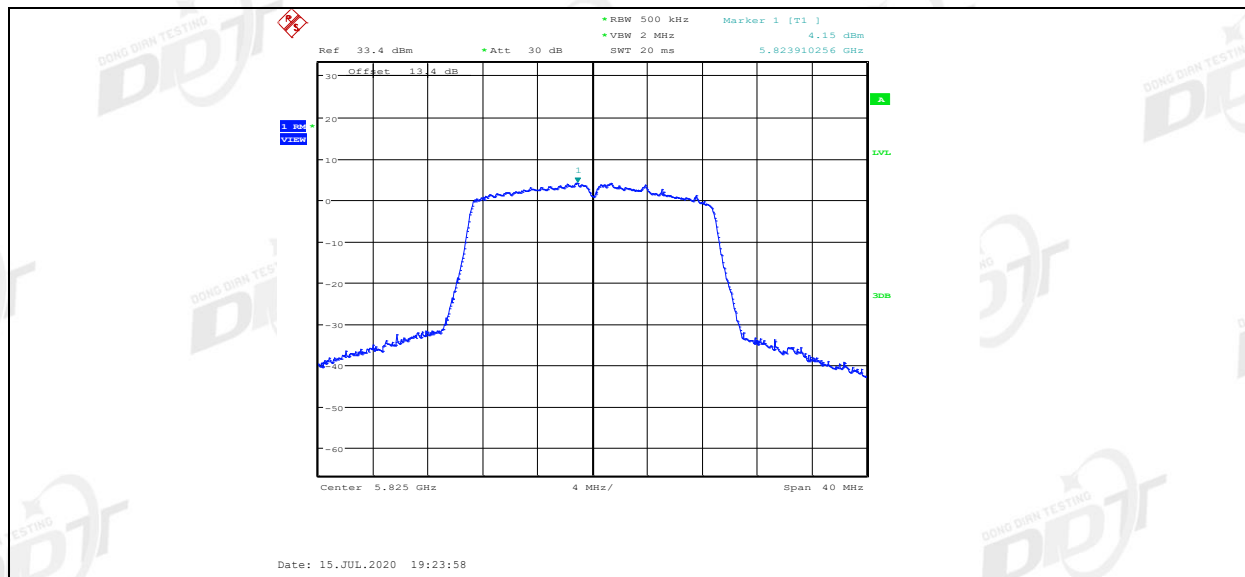
11AC20MIMO_Ant1_5825



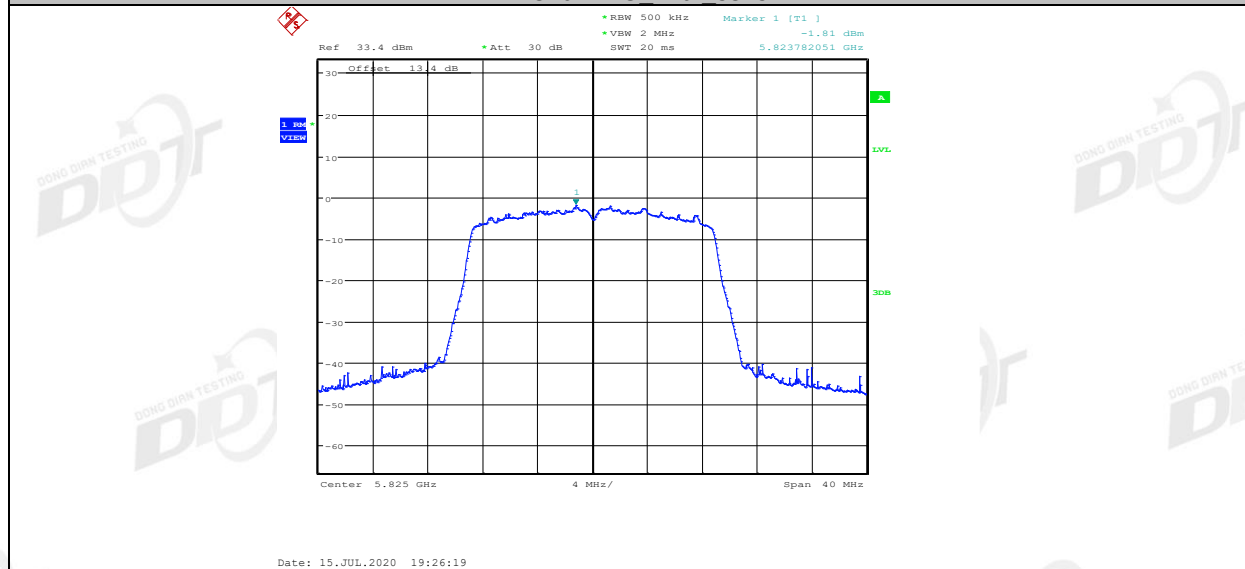
11AC20MIMO_Ant2_5825



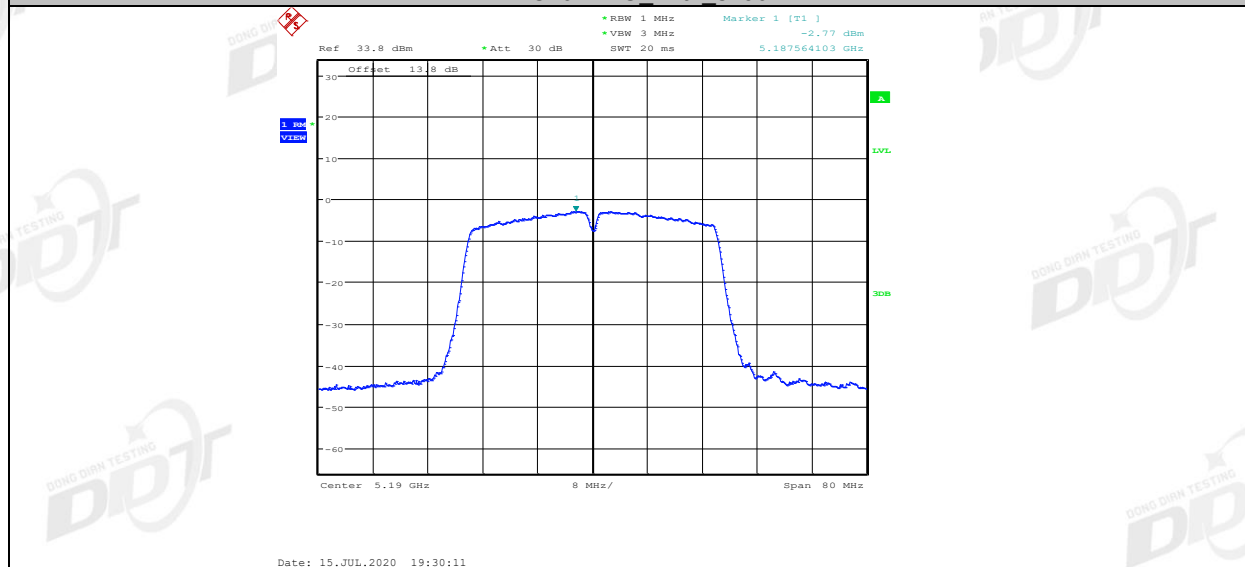
11AC20MIMO_Ant3_5825



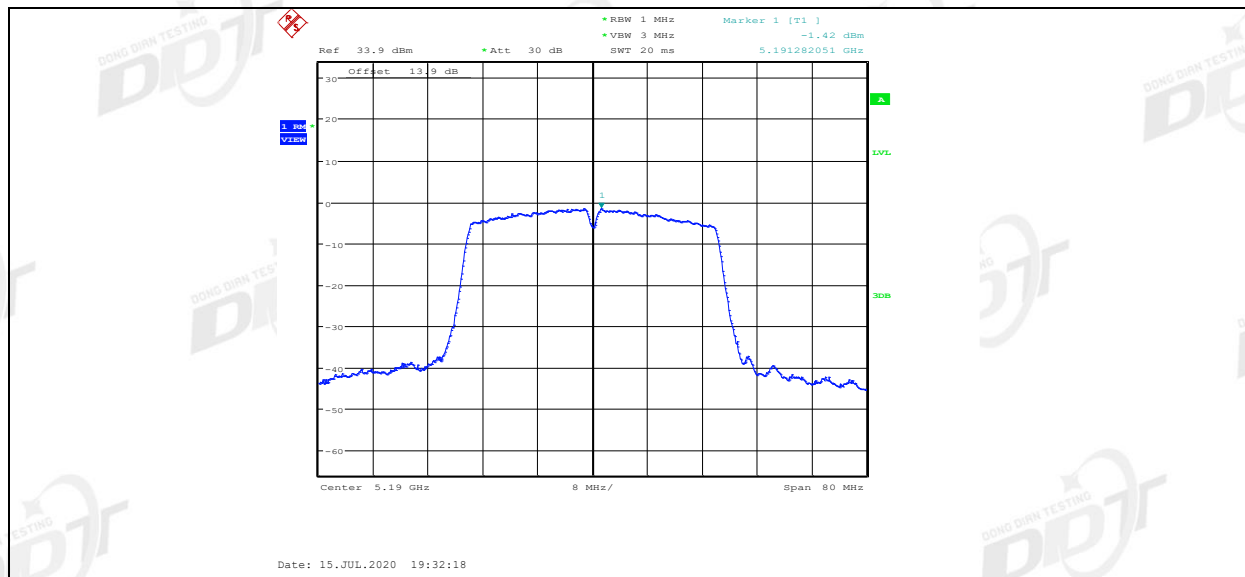
11AC20MIMO_Ant4_5825



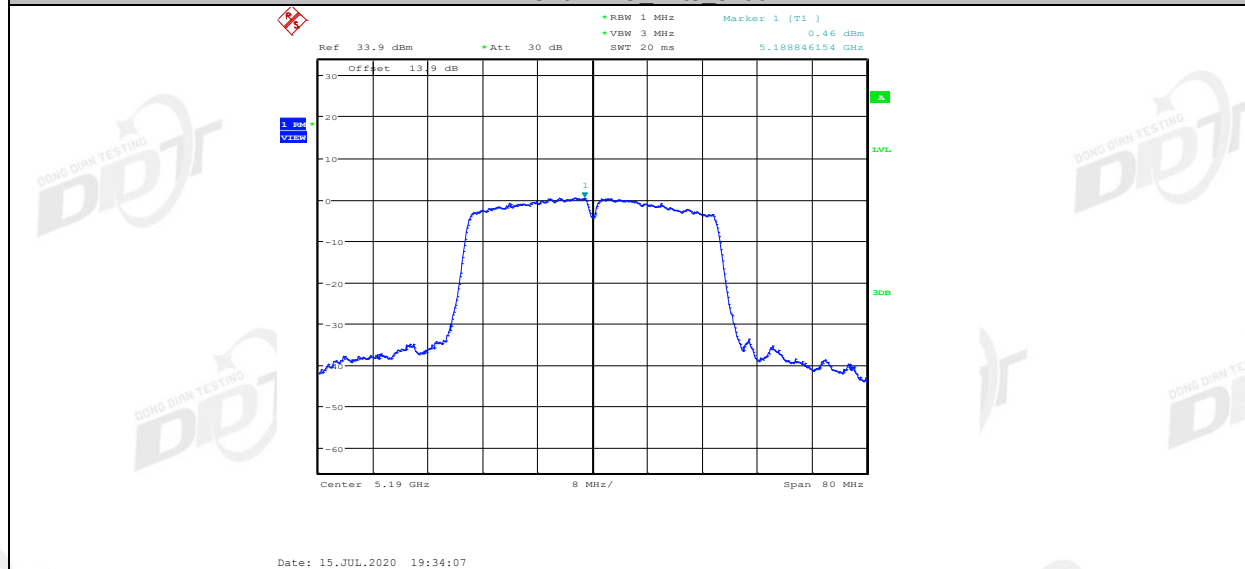
11AC40MIMO_Ant1_5190



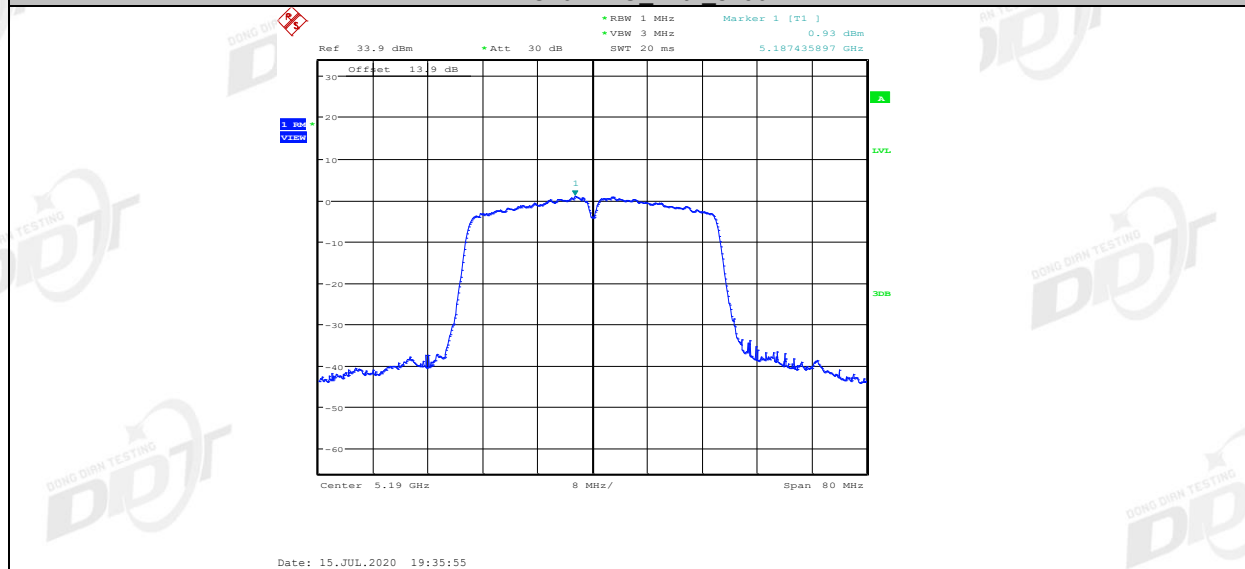
11AC40MIMO_Ant2_5190



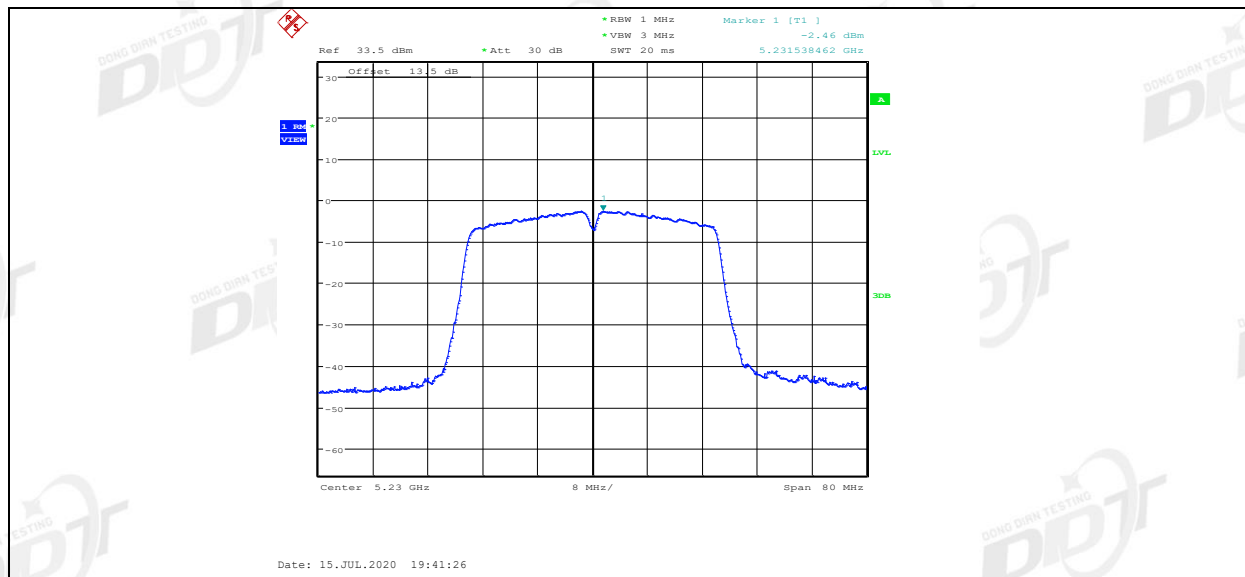
11AC40MIMO_Ant3_5190



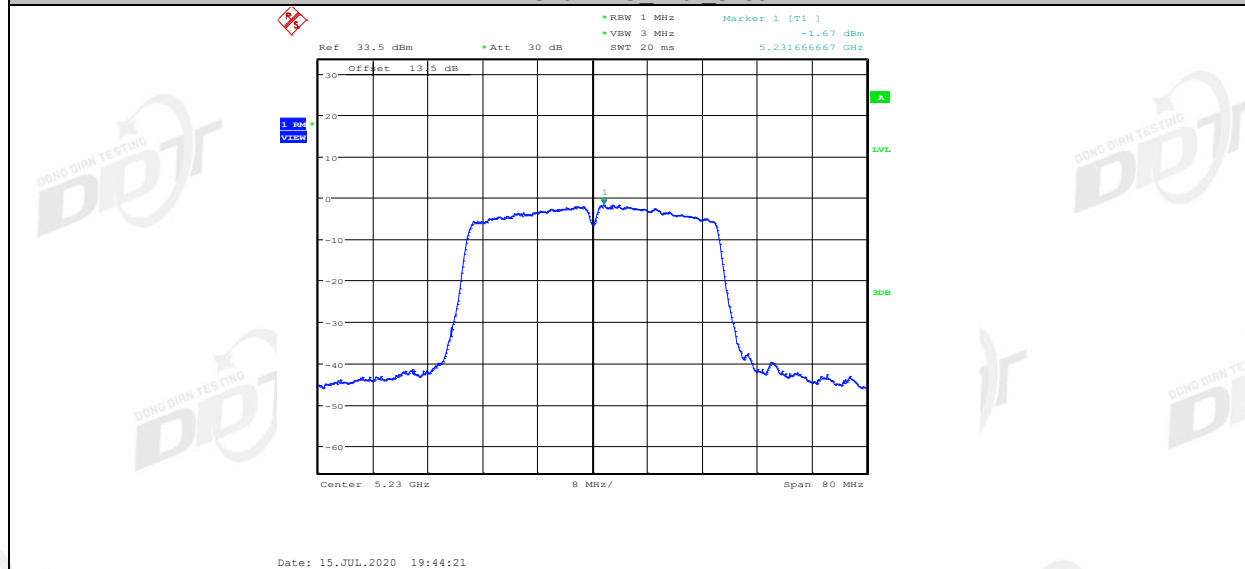
11AC40MIMO_Ant4_5190



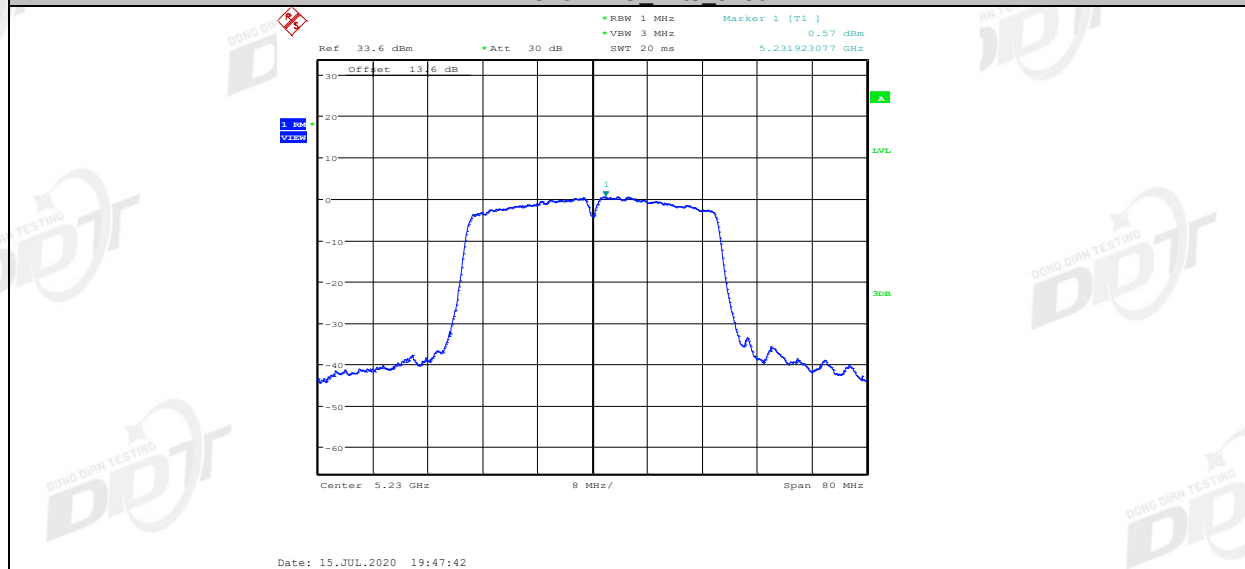
11AC40MIMO_Ant1_5230



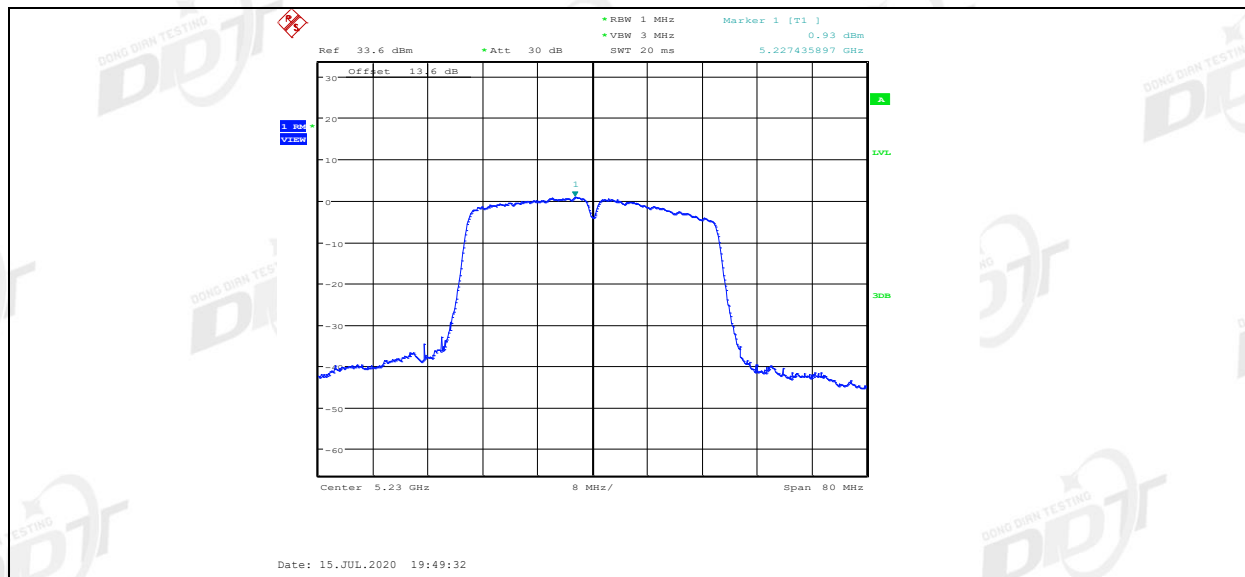
11AC40MIMO_Ant2_5230



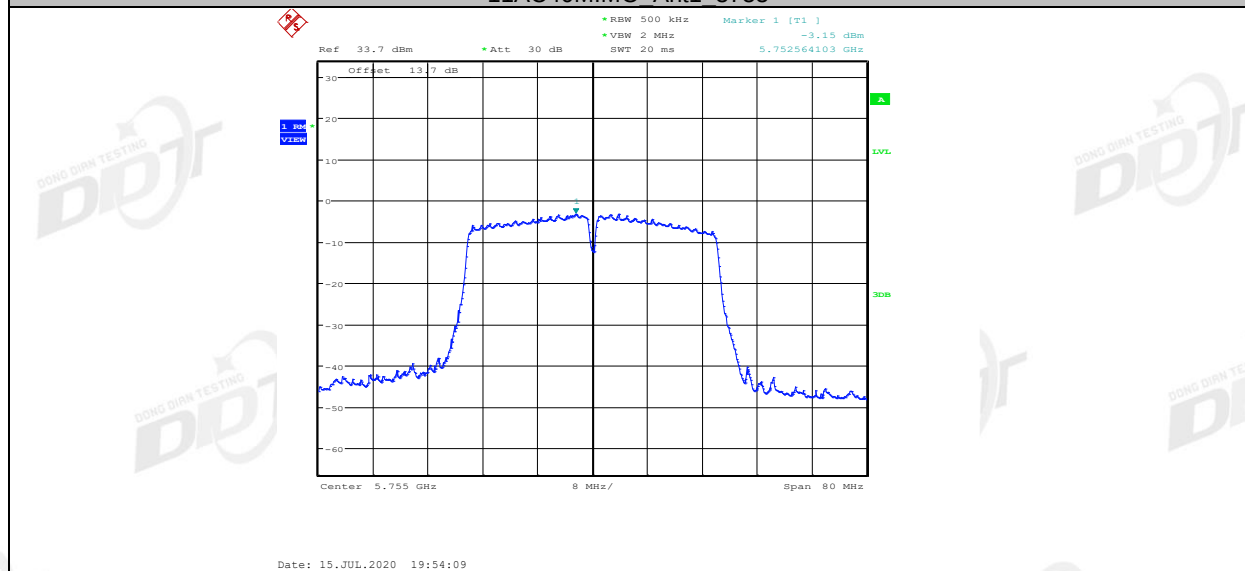
11AC40MIMO_Ant3_5230



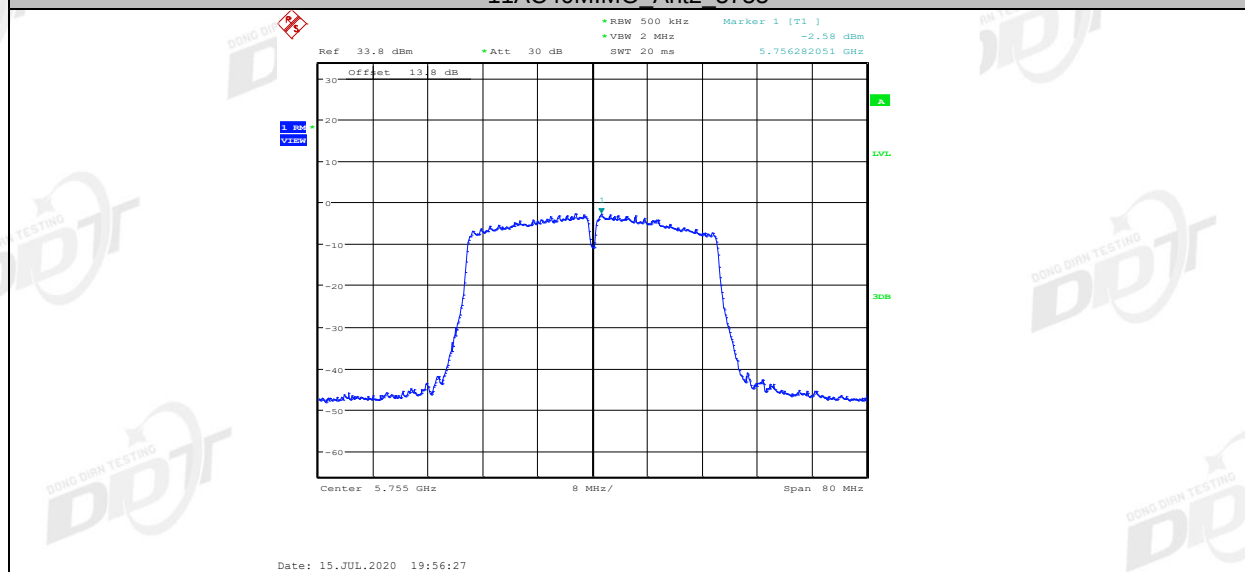
11AC40MIMO_Ant4_5230



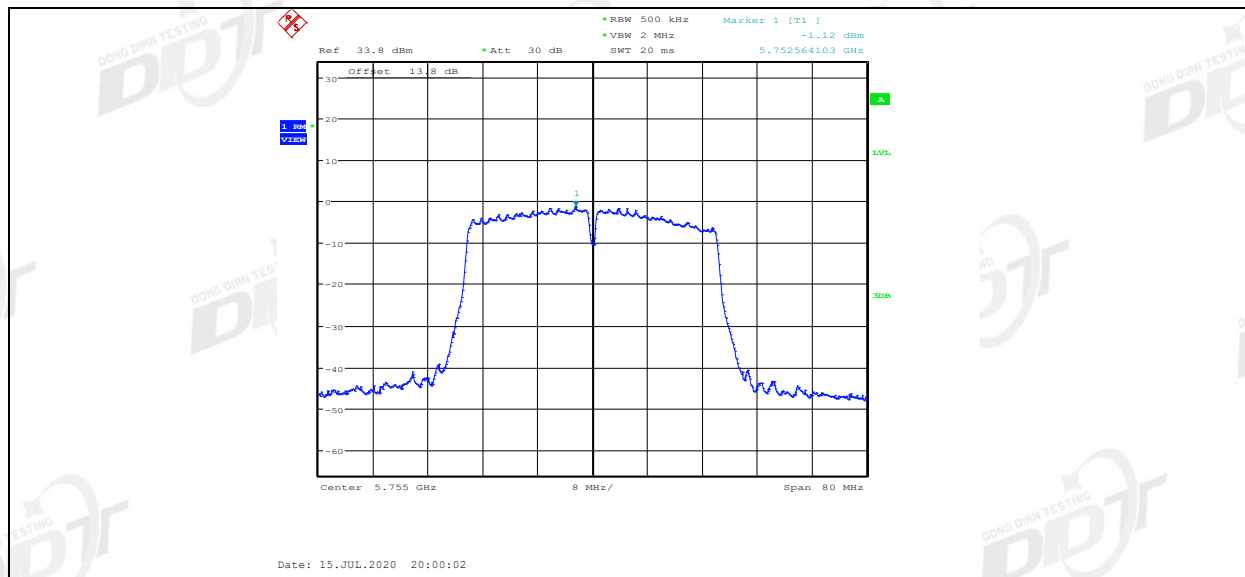
11AC40MIMO_Ant1_5755



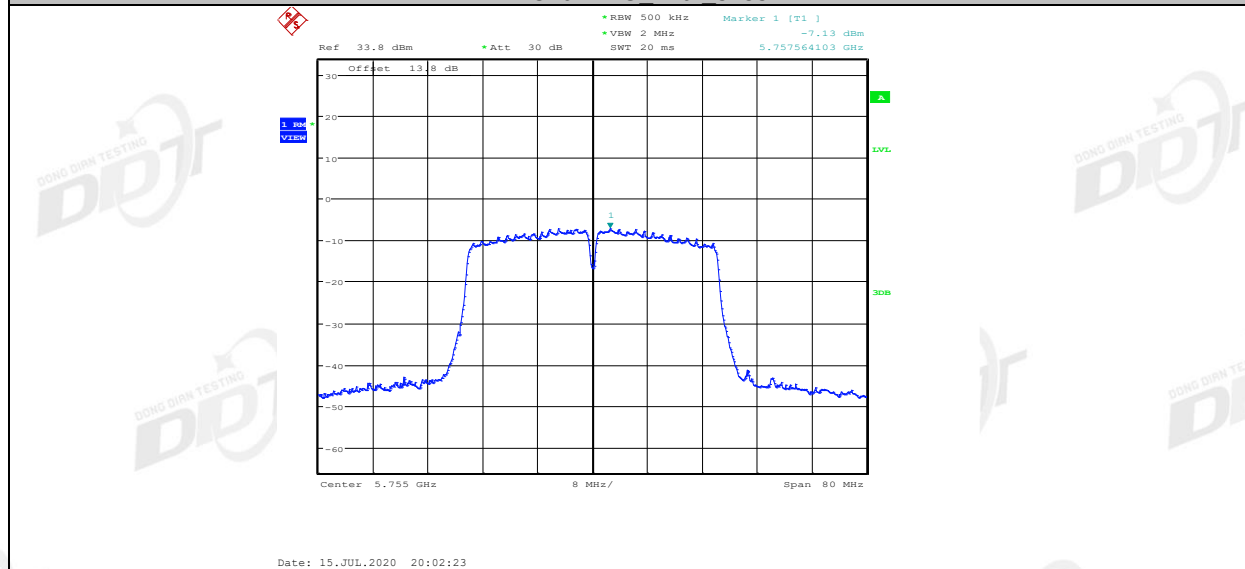
11AC40MIMO_Ant2_5755



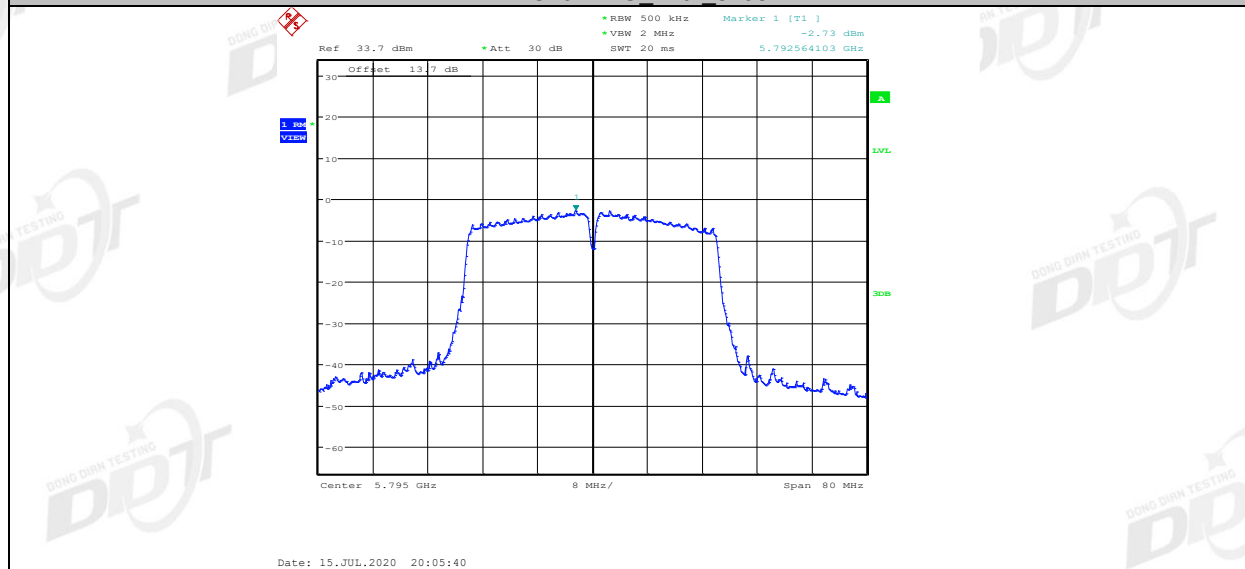
11AC40MIMO_Ant3_5755



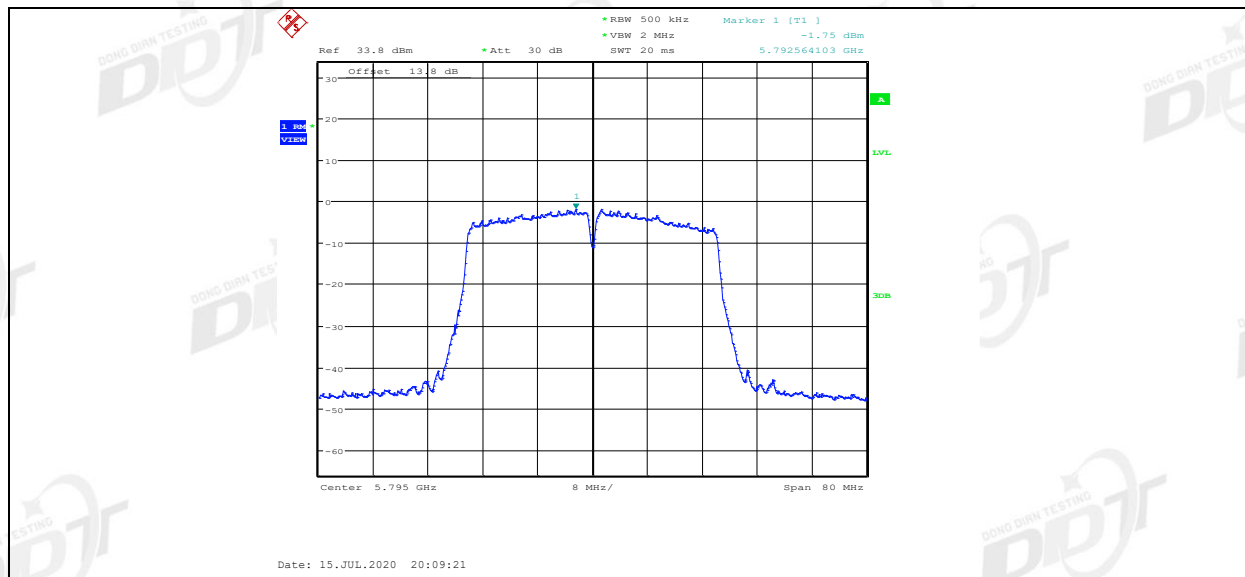
11AC40MIMO_Ant4_5755



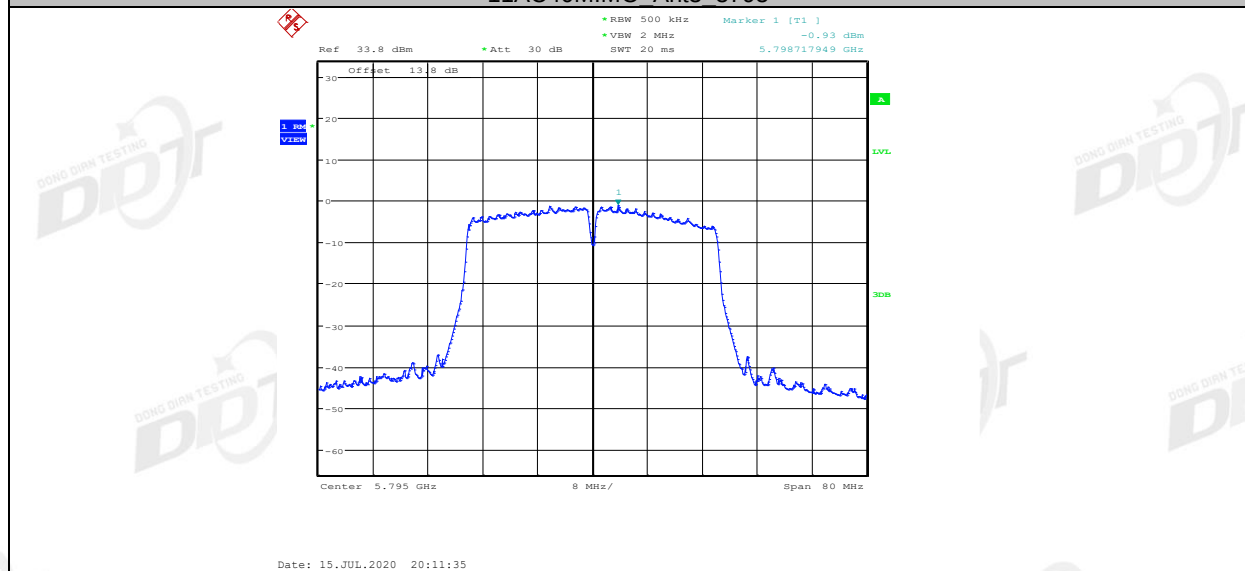
11AC40MIMO_Ant1_5795



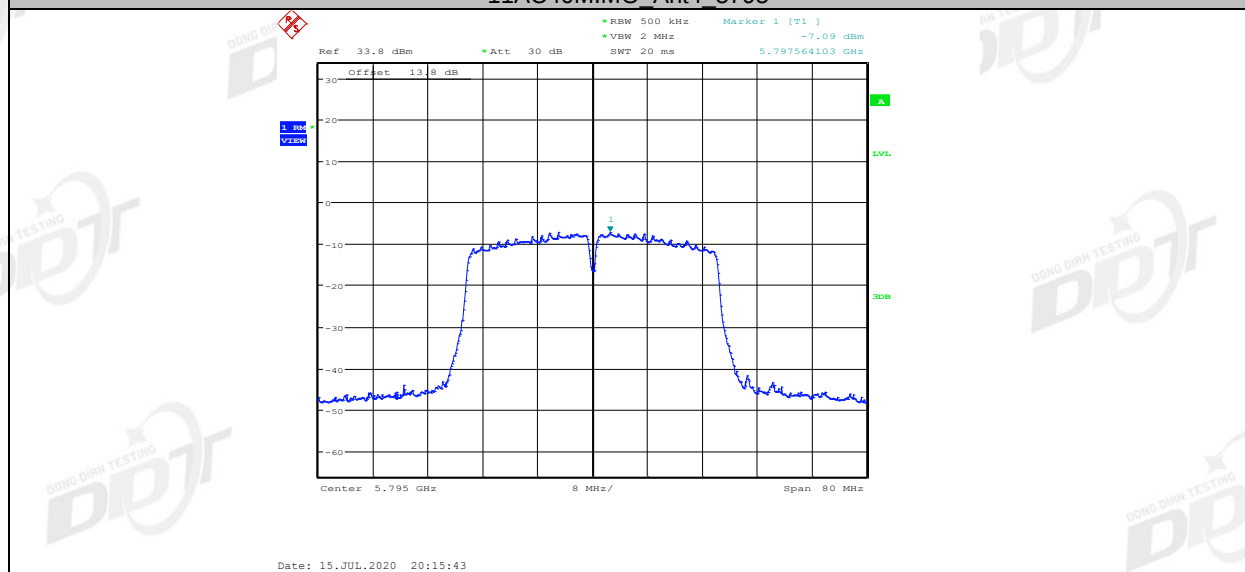
11AC40MIMO_Ant2_5795



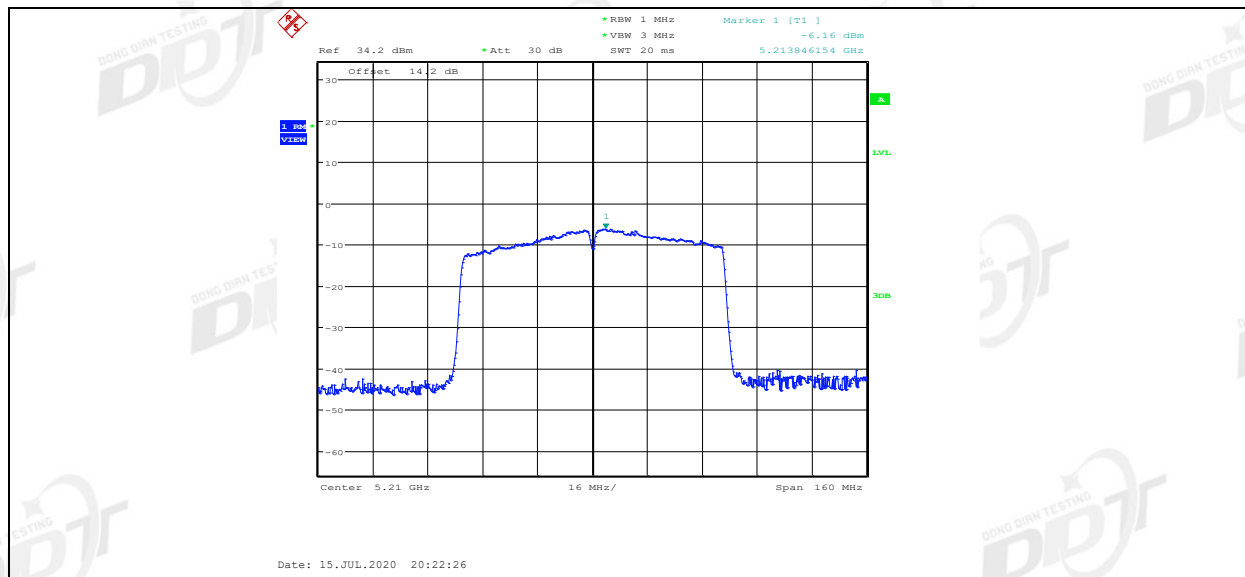
11AC40MIMO_Ant3_5795



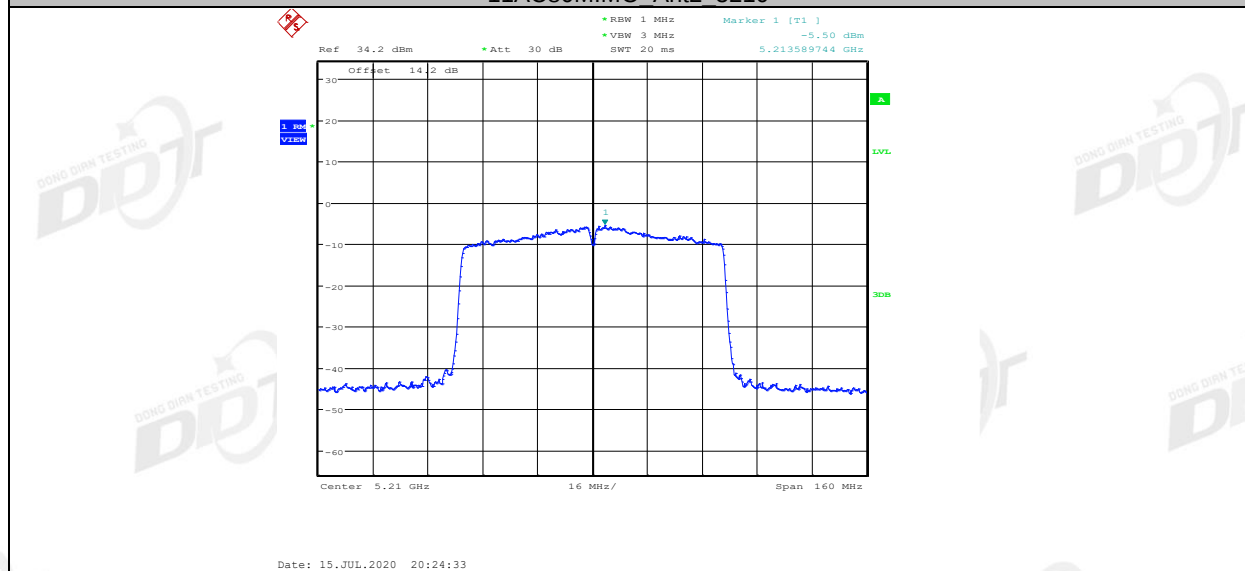
11AC40MIMO_Ant4_5795



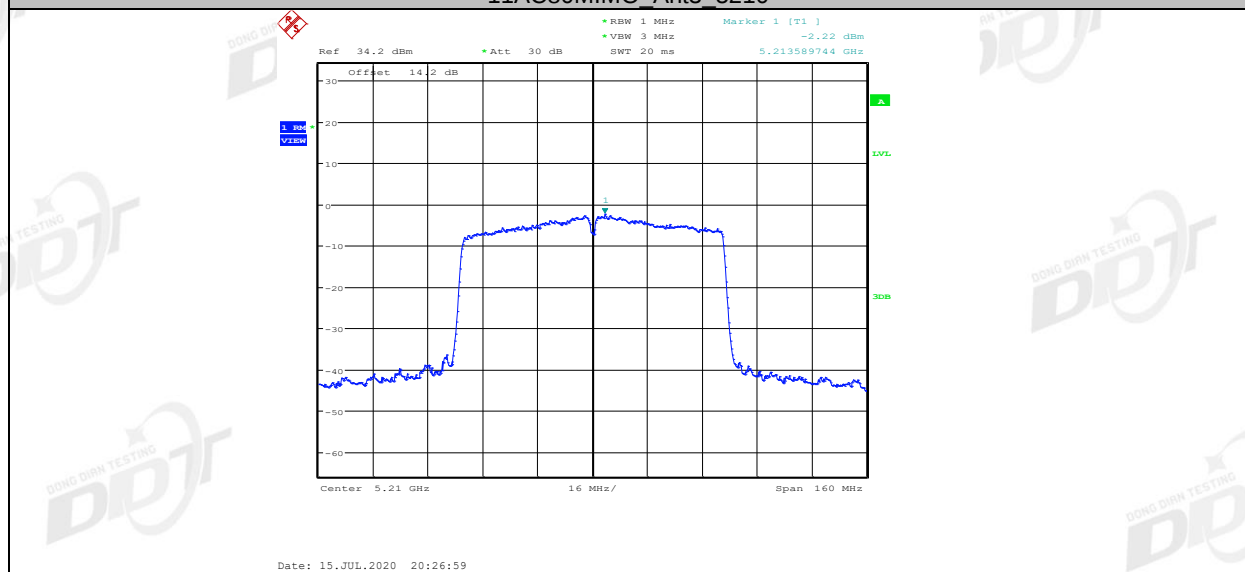
11AC80MIMO_Ant1_5210



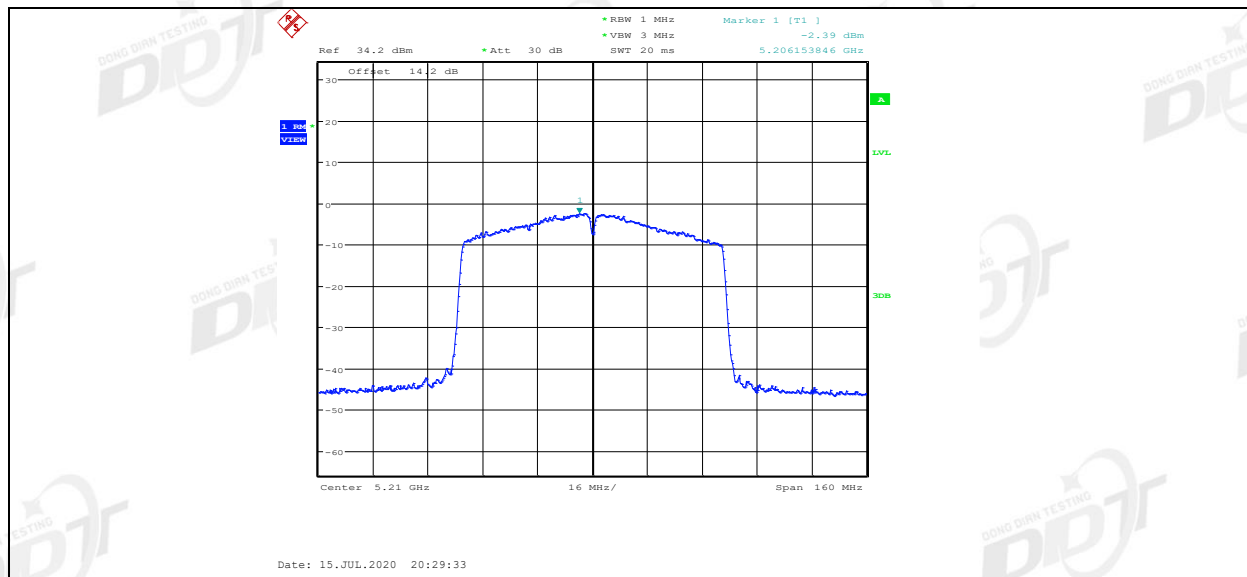
11AC80MIMO_Ant2_5210



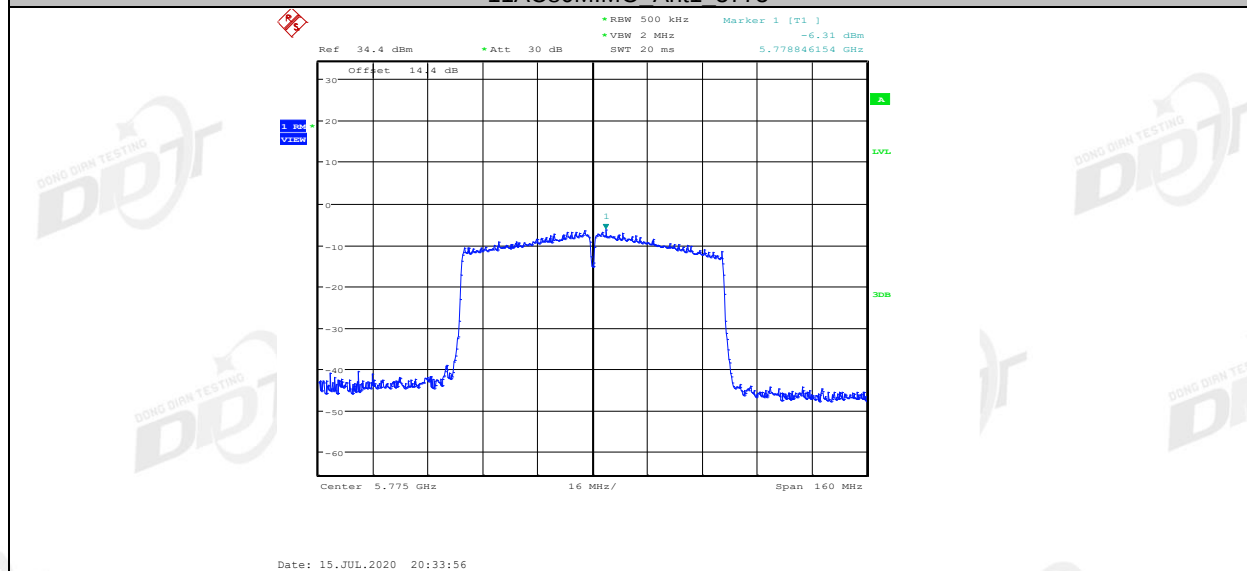
11AC80MIMO_Ant3_5210



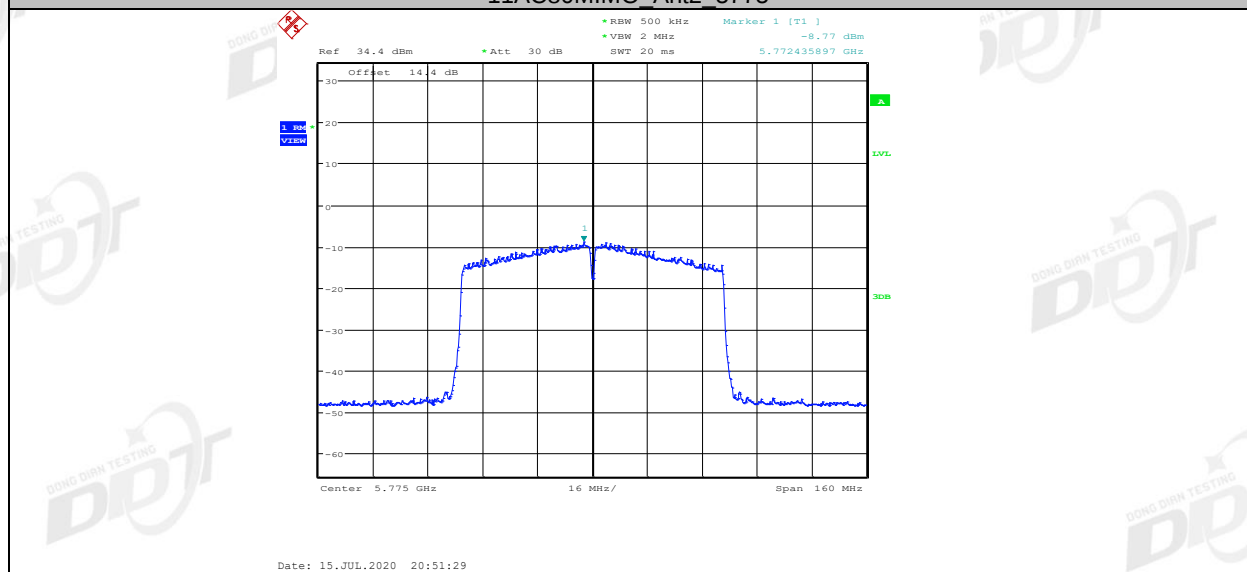
11AC80MIMO_Ant4_5210



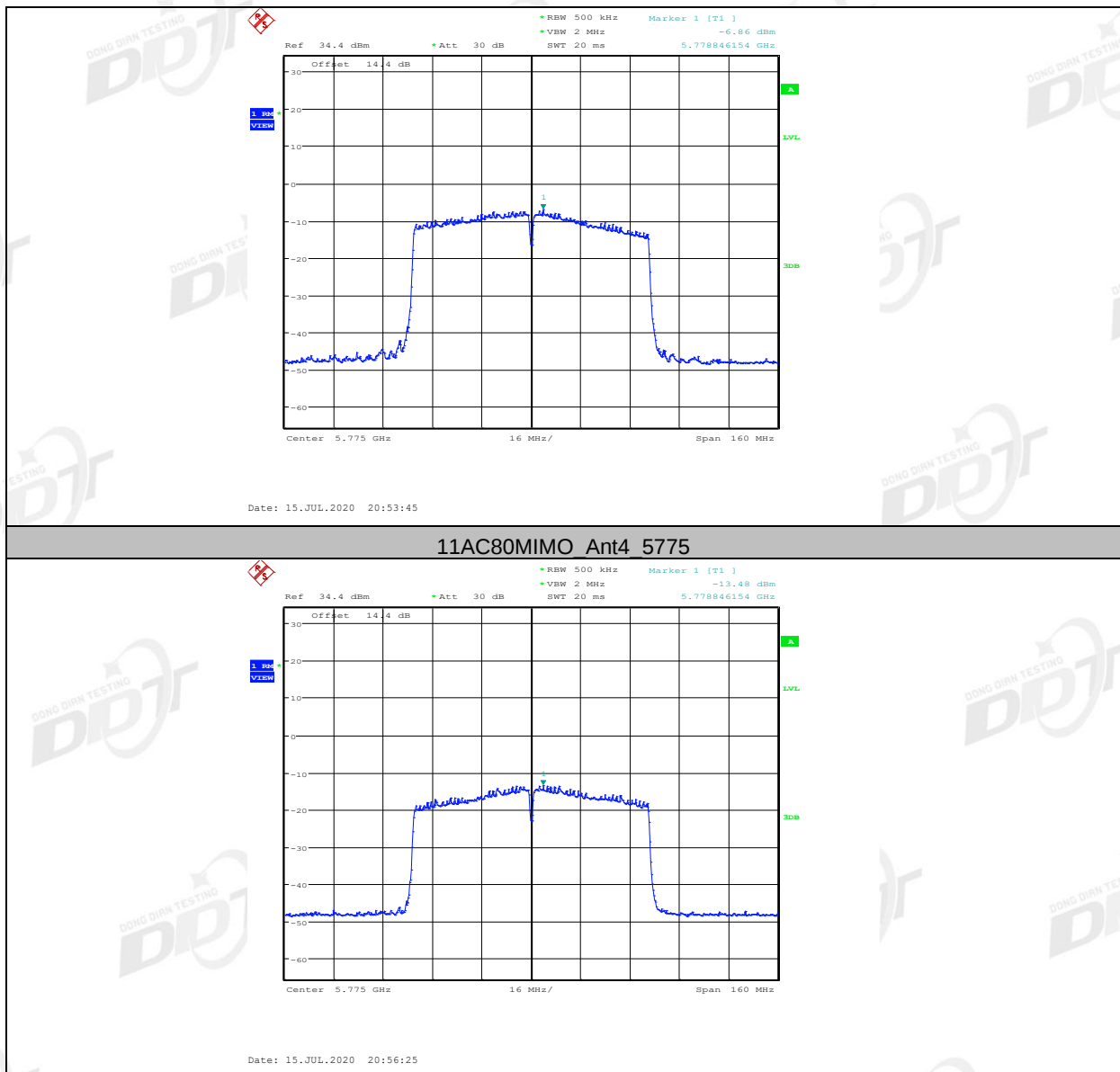
11AC80MIMO_Ant1_5775



11AC80MIMO_Ant2_5775



11AC80MIMO_Ant3_5775



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.

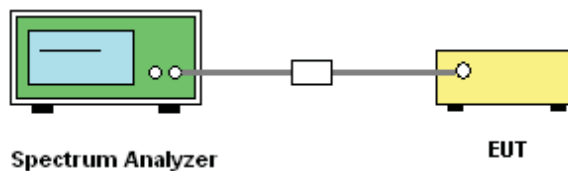
7.2. Measuring instruments

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

Test Mode	Antenna	Channel	Voltage (Vdc)	Temperature (°C)	Deviation (Hz)	Deviation (ppm)
11A	Ant1	5180	NV	NT	-13000	-2.509653
			LV	NT	-13000	-2.509653
			HV	NT	-13000	-2.509653
	Ant2	5180	NV	NT	-5000	-0.965251
			LV	NT	-5000	-0.965251
			HV	NT	-5000	-0.965251
	Ant3	5180	NV	NT	-4000	-0.772201
			LV	NT	-4000	-0.772201
			HV	NT	-4000	-0.772201
	Ant4	5180	NV	NT	-3000	-0.579151
			LV	NT	-3000	-0.579151
			HV	NT	-3000	-0.579151
	Ant1	5200	NV	NT	-11000	-2.115385
			LV	NT	-11000	-2.115385
			HV	NT	-11000	-2.115385
	Ant2	5200	NV	NT	-5000	-0.961538

			LV	NT	-5000	-0.961538
			HV	NT	-5000	-0.961538
			NV	NT	-4000	-0.769231
	Ant3	5200	LV	NT	-4000	-0.769231
			HV	NT	-4000	-0.769231
			NV	NT	-3000	-0.576923
	Ant4	5200	LV	NT	-3000	-0.576923
			HV	NT	-4000	-0.769231
			NV	NT	-10000	-1.908397
	Ant1	5240	LV	NT	-10000	-1.908397
			HV	NT	-10000	-1.908397
	Ant2	5240	NV	NT	-5000	-0.954198
			LV	NT	-5000	-0.954198
			HV	NT	-5000	-0.954198
	Ant3	5240	NV	NT	-4000	-0.763359
			LV	NT	-4000	-0.763359
			HV	NT	-4000	-0.763359
	Ant4	5240	NV	NT	-4000	-0.763359
			LV	NT	-3000	-0.572519
			HV	NT	-3000	-0.572519
	Ant1	5745	NV	NT	-9000	-1.56658
			LV	NT	-9000	-1.56658
			HV	NT	-9000	-1.56658
	Ant2	5745	NV	NT	-5000	-0.870322
			LV	NT	-5000	-0.870322
			HV	NT	-4000	-0.696258
	Ant3	5745	NV	NT	-4000	-0.696258
			LV	NT	-4000	-0.696258
			HV	NT	-4000	-0.696258
	Ant4	5745	NV	NT	-4000	-0.696258
			LV	NT	-4000	-0.696258
			HV	NT	-4000	-0.696258
	Ant1	5785	NV	NT	-9000	-1.555748
			LV	NT	-9000	-1.555748
			HV	NT	-9000	-1.555748
	Ant2	5785	NV	NT	-4000	-0.691443
			LV	NT	-4000	-0.691443
			HV	NT	-4000	-0.691443
	Ant3	5785	NV	NT	-4000	-0.691443
			LV	NT	-4000	-0.691443
			HV	NT	-4000	-0.691443
	Ant4	5785	NV	NT	-3000	-0.518583
			LV	NT	-3000	-0.518583
			HV	NT	-3000	-0.518583
	Ant1	5825	NV	NT	-8000	-1.373391
			LV	NT	-8000	-1.373391
			HV	NT	-6000	-1.030043
	Ant2	5825	NV	NT	-4000	-0.686695
			LV	NT	-4000	-0.686695
			HV	NT	-4000	-0.686695
	Ant3	5825	NV	NT	-4000	-0.686695

	Ant4	5825	LV	NT	-3000	-0.515021
			HV	NT	-3000	-0.515021
			NV	NT	-3000	-0.515021
			LV	NT	-3000	-0.515021
			HV	NT	-3000	-0.515021
11N20MIMO	Ant1	5180	NV	NT	-3000	-0.579151
			LV	NT	-3000	-0.579151
			HV	NT	-3000	-0.579151
	Ant2	5180	NV	NT	-3000	-0.579151
			LV	NT	-3000	-0.579151
			HV	NT	-3000	-0.579151
	Ant3	5180	NV	NT	-3000	-0.579151
			LV	NT	-3000	-0.579151
			HV	NT	-2000	-0.3861
	Ant4	5180	NV	NT	-2000	-0.3861
			LV	NT	-3000	-0.579151
			HV	NT	-2000	-0.3861
	Ant1	5200	NV	NT	-3000	-0.576923
			LV	NT	-3000	-0.576923
			HV	NT	-3000	-0.576923
	Ant2	5200	NV	NT	-3000	-0.576923
			LV	NT	-3000	-0.576923
			HV	NT	-2000	-0.384615
	Ant3	5200	NV	NT	-2000	-0.384615
			LV	NT	-2000	-0.384615
			HV	NT	-2000	-0.384615
	Ant4	5200	NV	NT	-3000	-0.576923
			LV	NT	-2000	-0.384615
			HV	NT	-2000	-0.384615
	Ant1	5240	NV	NT	-3000	-0.572519
			LV	NT	-3000	-0.572519
			HV	NT	-3000	-0.572519
	Ant2	5240	NV	NT	-3000	-0.572519
			LV	NT	-3000	-0.572519
			HV	NT	-3000	-0.572519
	Ant3	5240	NV	NT	-3000	-0.572519
			LV	NT	-3000	-0.572519
			HV	NT	-3000	-0.572519
	Ant4	5240	NV	NT	-3000	-0.572519
			LV	NT	-3000	-0.572519
			HV	NT	-3000	-0.572519
	Ant1	5745	NV	NT	-4000	-0.696258
			LV	NT	-3000	-0.522193
			HV	NT	-3000	-0.522193
	Ant2	5745	NV	NT	-3000	-0.522193
			LV	NT	-3000	-0.522193
			HV	NT	-3000	-0.522193
	Ant3	5745	NV	NT	-3000	-0.522193
			LV	NT	-3000	-0.522193
			HV	NT	-3000	-0.522193
	Ant4	5745	NV	NT	-3000	-0.522193

		Ant1	5785	LV	NT	-3000	-0.522193
				HV	NT	-3000	-0.522193
				NV	NT	-3000	-0.518583
				LV	NT	-3000	-0.518583
				HV	NT	-3000	-0.518583
				NV	NT	-3000	-0.518583
		Ant2	5785	LV	NT	-3000	-0.518583
				HV	NT	-3000	-0.518583
				NV	NT	-3000	-0.518583
		Ant3	5785	LV	NT	-3000	-0.518583
				HV	NT	-3000	-0.518583
				NV	NT	-3000	-0.518583
		Ant4	5785	LV	NT	-3000	-0.518583
				HV	NT	-3000	-0.518583
				NV	NT	-3000	-0.518583
	11N40MIMO	Ant1	5825	NV	NT	-3000	-0.515021
				LV	NT	-3000	-0.515021
				HV	NT	-2000	-0.343348
		Ant2	5825	NV	NT	-3000	-0.515021
				LV	NT	-3000	-0.515021
				HV	NT	-3000	-0.515021
		Ant3	5825	NV	NT	-2000	-0.343348
				LV	NT	-3000	-0.515021
				HV	NT	-3000	-0.515021
		Ant4	5825	NV	NT	-2000	-0.343348
				LV	NT	-3000	-0.515021
				HV	NT	-3000	-0.515021
		Ant1	5190	NV	NT	-3000	-0.578035
				LV	NT	-3000	-0.578035
				HV	NT	-3000	-0.578035
		Ant2	5190	NV	NT	-3000	-0.578035
				LV	NT	-2000	-0.385356
				HV	NT	-2000	-0.385356
		Ant3	5190	NV	NT	-2000	-0.385356
				LV	NT	-2000	-0.385356
				HV	NT	-2000	-0.385356
		Ant4	5190	NV	NT	-2000	-0.385356
				LV	NT	-2000	-0.385356
				HV	NT	-2000	-0.385356
		Ant1	5230	NV	NT	-3000	-0.573614
				LV	NT	-3000	-0.573614
				HV	NT	-3000	-0.573614
		Ant2	5230	NV	NT	-3000	-0.573614
				LV	NT	-2000	-0.382409
				HV	NT	-3000	-0.573614
		Ant3	5230	NV	NT	-3000	-0.573614
				LV	NT	-3000	-0.573614
				HV	NT	-3000	-0.573614
		Ant4	5230	NV	NT	-3000	-0.573614
				LV	NT	-3000	-0.573614
				HV	NT	-3000	-0.573614
		Ant1	5755	NV	NT	-3000	-0.521286

	Ant2	5755	LV	NT	-3000	-0.521286
			HV	NT	-3000	-0.521286
			NV	NT	-2000	-0.347524
		5755	LV	NT	-2000	-0.347524
			HV	NT	-2000	-0.347524
			NV	NT	-2000	-0.347524
	Ant3	5755	LV	NT	-3000	-0.521286
			HV	NT	-3000	-0.521286
			NV	NT	-2000	-0.347524
	Ant4	5755	LV	NT	-3000	-0.521286
			HV	NT	-3000	-0.521286
			NV	NT	-2000	-0.347524
	Ant1	5795	NV	NT	-3000	-0.517688
			LV	NT	-3000	-0.517688
			HV	NT	-3000	-0.517688
	Ant2	5795	NV	NT	-2000	-0.345125
			LV	NT	-3000	-0.517688
			HV	NT	-2000	-0.345125
	Ant3	5795	NV	NT	-2000	-0.345125
			LV	NT	-2000	-0.345125
			HV	NT	-2000	-0.345125
	Ant4	5795	NV	NT	-2000	-0.345125
			LV	NT	-2000	-0.345125
			HV	NT	-2000	-0.345125
11AC20MIMO	Ant1	5180	NV	NT	-3000	-0.579151
			LV	NT	-3000	-0.579151
			HV	NT	-3000	-0.579151
	Ant2	5180	NV	NT	-2000	-0.386100
			LV	NT	-2000	-0.386100
			HV	NT	-2000	-0.386100
	Ant3	5180	NV	NT	-3000	-0.579151
			LV	NT	-3000	-0.579151
			HV	NT	-3000	-0.579151
	Ant4	5180	NV	NT	-3000	-0.579151
			LV	NT	-3000	-0.579151
			HV	NT	-3000	-0.579151
	Ant1	5200	NV	NT	-3000	-0.576923
			LV	NT	-3000	-0.576923
			HV	NT	-3000	-0.576923
	Ant2	5200	NV	NT	-2000	-0.384615
			LV	NT	-2000	-0.384615
			HV	NT	-2000	-0.384615
	Ant3	5200	NV	NT	-2000	-0.384615
			LV	NT	-2000	-0.384615
			HV	NT	-2000	-0.384615
	Ant4	5200	NV	NT	-2000	-0.384615
			LV	NT	-2000	-0.384615
			HV	NT	-2000	-0.384615
	Ant1	5240	NV	NT	-3000	-0.572519
			LV	NT	-3000	-0.572519
			HV	NT	-3000	-0.572519
	Ant2	5240	NV	NT	-3000	-0.572519

			LV	NT	-3000	-0.572519
			HV	NT	-3000	-0.572519
			NV	NT	-3000	-0.572519
	Ant3	5240	LV	NT	-3000	-0.572519
			HV	NT	-3000	-0.572519
			NV	NT	-3000	-0.572519
	Ant4	5240	LV	NT	-2000	-0.381679
			HV	NT	-2000	-0.381679
			NV	NT	-3000	-0.522193
	Ant1	5745	LV	NT	-3000	-0.522193
			HV	NT	-3000	-0.522193
			NV	NT	-3000	-0.522193
	Ant2	5745	LV	NT	-2000	-0.348129
			HV	NT	-3000	-0.522193
			NV	NT	-2000	-0.348129
	Ant3	5745	LV	NT	-2000	-0.348129
			HV	NT	-2000	-0.348129
			NV	NT	-2000	-0.348129
	Ant4	5745	LV	NT	-2000	-0.348129
			HV	NT	-2000	-0.348129
			NV	NT	-3000	-0.518583
	Ant1	5785	LV	NT	-3000	-0.518583
			HV	NT	-2000	-0.345722
			NV	NT	-2000	-0.345722
	Ant2	5785	LV	NT	-2000	-0.345722
			HV	NT	-2000	-0.345722
			NV	NT	-2000	-0.345722
	Ant3	5785	LV	NT	-2000	-0.345722
			HV	NT	-2000	-0.345722
			NV	NT	-2000	-0.345722
	Ant4	5785	LV	NT	-2000	-0.345722
			HV	NT	-2000	-0.345722
			NV	NT	-14000	-2.403433
	Ant1	5825	LV	NT	-15000	-2.575107
			HV	NT	-15000	-2.575107
			NV	NT	-14000	-2.403433
	Ant2	5825	LV	NT	-14000	-2.403433
			HV	NT	-14000	-2.403433
			NV	NT	-14000	-2.403433
	Ant3	5825	LV	NT	-14000	-2.403433
			HV	NT	-14000	-2.403433
			NV	NT	-14000	-2.403433
	Ant4	5825	LV	NT	-14000	-2.403433
			HV	NT	-14000	-2.403433
			NV	NT	-13000	-2.504817
11AC40MIMO	Ant1	5190	LV	NT	-13000	-2.504817
			HV	NT	-13000	-2.504817
			NV	NT	-13000	-2.504817
	Ant2	5190	LV	NT	-12000	-2.312139
			HV	NT	-13000	-2.504817
			NV	NT	-13000	-2.504817
	Ant3	5190	NV	NT	-13000	-2.504817

			LV	NT	-13000	-2.504817
			HV	NT	-13000	-2.504817
			NV	NT	-13000	-2.504817
	Ant4	5190	LV	NT	-13000	-2.504817
			HV	NT	-13000	-2.504817
			NV	NT	-13000	-2.48566
	Ant1	5230	LV	NT	-13000	-2.48566
			HV	NT	-13000	-2.48566
			NV	NT	-13000	-2.48566
	Ant2	5230	LV	NT	-13000	-2.48566
			HV	NT	-13000	-2.48566
			NV	NT	-13000	-2.48566
	Ant3	5230	LV	NT	-13000	-2.48566
			HV	NT	-13000	-2.48566
			NV	NT	-13000	-2.48566
	Ant4	5230	LV	NT	-13000	-2.48566
			HV	NT	-13000	-2.48566
			NV	NT	-13000	-2.48566
	Ant1	5755	LV	NT	-14000	-2.432667
			HV	NT	-14000	-2.432667
			NV	NT	-14000	-2.432667
	Ant2	5755	LV	NT	-14000	-2.432667
			HV	NT	-14000	-2.432667
			NV	NT	-14000	-2.432667
	Ant3	5755	LV	NT	-14000	-2.432667
			HV	NT	-14000	-2.432667
			NV	NT	-14000	-2.432667
	Ant4	5755	LV	NT	-14000	-2.432667
			HV	NT	-14000	-2.432667
			NV	NT	-14000	-2.432667
	Ant1	5795	LV	NT	-14000	-2.415876
			HV	NT	-14000	-2.415876
			NV	NT	-14000	-2.415876
	Ant2	5795	LV	NT	-14000	-2.415876
			HV	NT	-14000	-2.415876
			NV	NT	-14000	-2.415876
	Ant3	5795	LV	NT	-14000	-2.415876
			HV	NT	-14000	-2.415876
			NV	NT	-14000	-2.415876
	Ant4	5795	LV	NT	-14000	-2.415876
			HV	NT	-14000	-2.415876
			NV	NT	-14000	-2.415876
11AC80MIMO	Ant1	5210	LV	NT	-13000	-2.495202
			HV	NT	-12000	-2.303263
			NV	NT	-13000	-2.495202
	Ant2	5210	LV	NT	-12000	-2.303263
			HV	NT	-12000	-2.303263
			NV	NT	-13000	-2.495202
	Ant3	5210	LV	NT	-12000	-2.303263
			HV	NT	-12000	-2.303263
			NV	NT	-13000	-2.495202
	Ant4	5210	NV	NT	-13000	-2.495202

	Ant1	5775	LV	NT	-12000	-2.303263
			HV	NT	-12000	-2.303263
			NV	NT	-14000	-2.424242
			LV	NT	-14000	-2.424242
			HV	NT	-13000	-2.251082
	Ant2	5775	NV	NT	-14000	-2.424242
			LV	NT	-14000	-2.424242
			HV	NT	-14000	-2.424242
	Ant3	5775	NV	NT	-14000	-2.424242
			LV	NT	-14000	-2.424242
			HV	NT	-14000	-2.424242
	Ant4	5775	NV	NT	-14000	-2.424242
			LV	NT	-14000	-2.424242
			HV	NT	-14000	-2.424242

Test Mode	Antenna	Channel	Voltage (Vdc)	Temperature (°C)	Deviation (Hz)	Deviation (ppm)
11A	Ant1	5180	NV	-30	-12000	-2.316602
			NV	-20	-12000	-2.316602
			NV	-10	-12000	-2.316602
			NV	0	-12000	-2.316602
			NV	10	-12000	-2.316602
			NV	20	-12000	-2.316602
			NV	30	-12000	-2.316602
			NV	40	-12000	-2.316602
			NV	50	-12000	-2.316602
	Ant2	5180	NV	-30	-5000	-0.965251
			NV	-20	-5000	-0.965251
			NV	-10	-5000	-0.965251
			NV	0	-5000	-0.965251
			NV	10	-5000	-0.965251
			NV	20	-5000	-0.965251
			NV	30	-5000	-0.965251
			NV	40	-5000	-0.965251
			NV	50	-5000	-0.965251
	Ant3	5180	NV	-30	-4000	-0.772201
			NV	-20	-4000	-0.772201
			NV	-10	-4000	-0.772201
			NV	0	-4000	-0.772201
			NV	10	-4000	-0.772201
			NV	20	-4000	-0.772201
			NV	30	-4000	-0.772201
			NV	40	-4000	-0.772201
			NV	50	-4000	-0.772201
	Ant4	5180	NV	-30	-3000	-0.579151
			NV	-20	-3000	-0.579151
			NV	-10	-3000	-0.579151
			NV	0	-3000	-0.579151
			NV	10	-3000	-0.579151
			NV	20	-3000	-0.579151
			NV	30	-3000	-0.579151

			NV	40	-3000	-0.579151
			NV	50	-3000	-0.579151
	Ant1	5200	NV	-30	-11000	-2.115385
			NV	-20	-11000	-2.115385
			NV	-10	-11000	-2.115385
			NV	0	-10000	-1.923077
			NV	10	-10000	-1.923077
			NV	20	-10000	-1.923077
			NV	30	-10000	-1.923077
			NV	40	-10000	-1.923077
			NV	50	-10000	-1.923077
	Ant2	5200	NV	-30	-5000	-0.961538
			NV	-20	-5000	-0.961538
			NV	-10	-5000	-0.961538
			NV	0	-5000	-0.961538
			NV	10	-5000	-0.961538
			NV	20	-5000	-0.961538
			NV	30	-4000	-0.769231
			NV	40	-5000	-0.961538
			NV	50	-4000	-0.769231
	Ant3	5200	NV	-30	-4000	-0.769231
			NV	-20	-3000	-0.576923
			NV	-10	-4000	-0.769231
			NV	0	-3000	-0.576923
			NV	10	-3000	-0.576923
			NV	20	-3000	-0.576923
			NV	30	-3000	-0.576923
			NV	40	-3000	-0.576923
			NV	50	-3000	-0.576923
	Ant4	5200	NV	-30	-3000	-0.576923
			NV	-20	-3000	-0.576923
			NV	-10	-3000	-0.576923
			NV	0	-3000	-0.576923
			NV	10	-3000	-0.576923
			NV	20	-3000	-0.576923
			NV	30	-3000	-0.576923
			NV	40	-3000	-0.576923
			NV	50	-3000	-0.576923
	Ant1	5240	NV	-30	-10000	-1.908397
			NV	-20	-10000	-1.908397
			NV	-10	-10000	-1.908397
			NV	0	-9000	-1.717557
			NV	10	-9000	-1.717557
			NV	20	-9000	-1.717557
			NV	30	-9000	-1.717557
			NV	40	-9000	-1.717557
			NV	50	-9000	-1.717557
	Ant2	5240	NV	-30	-5000	-0.954198
			NV	-20	-5000	-0.954198
			NV	-10	-5000	-0.954198
			NV	0	-5000	-0.954198

			NV	10	-5000	-0.954198
			NV	20	-5000	-0.954198
			NV	30	-5000	-0.954198
			NV	40	-5000	-0.954198
			NV	50	-5000	-0.954198
	Ant3	5240	NV	-30	-4000	-0.763359
			NV	-20	-3000	-0.572519
			NV	-10	-4000	-0.763359
			NV	0	-4000	-0.763359
			NV	10	-4000	-0.763359
			NV	20	-4000	-0.763359
			NV	30	-4000	-0.763359
			NV	40	-4000	-0.763359
			NV	50	-4000	-0.763359
	Ant4	5240	NV	-30	-3000	-0.572519
			NV	-20	-3000	-0.572519
			NV	-10	-3000	-0.572519
			NV	0	-3000	-0.572519
			NV	10	-3000	-0.572519
			NV	20	-3000	-0.572519
			NV	30	-3000	-0.572519
			NV	40	-3000	-0.572519
			NV	50	-3000	-0.572519
	Ant1	5745	NV	-30	-9000	-1.56658
			NV	-20	-9000	-1.56658
			NV	-10	-9000	-1.56658
			NV	0	-9000	-1.56658
			NV	10	-9000	-1.56658
			NV	20	-9000	-1.56658
			NV	30	-9000	-1.56658
			NV	40	-9000	-1.56658
			NV	50	-9000	-1.56658
	Ant2	5745	NV	-30	-5000	-0.870322
			NV	-20	-4000	-0.696258
			NV	-10	-4000	-0.696258
			NV	0	-4000	-0.696258
			NV	10	-4000	-0.696258
			NV	20	-4000	-0.696258
			NV	30	-4000	-0.696258
			NV	40	-4000	-0.696258
			NV	50	-4000	-0.696258
	Ant3	5745	NV	-30	-4000	-0.696258
			NV	-20	-3000	-0.522193
			NV	-10	-4000	-0.696258
			NV	0	-4000	-0.696258
			NV	10	-4000	-0.696258
			NV	20	-4000	-0.696258
			NV	30	-4000	-0.696258
			NV	40	-4000	-0.696258
			NV	50	-4000	-0.696258
	Ant4	5745	NV	-30	-4000	-0.696258

			NV	-20	-4000	-0.696258
			NV	-10	-4000	-0.696258
			NV	0	-3000	-0.522193
			NV	10	-3000	-0.522193
			NV	20	-3000	-0.522193
			NV	30	-3000	-0.522193
			NV	40	-3000	-0.522193
			NV	50	-3000	-0.522193
	Ant1	5785	NV	-30	-9000	-1.555748
			NV	-20	-9000	-1.555748
			NV	-10	-9000	-1.555748
			NV	0	-8000	-1.382887
			NV	10	-9000	-1.555748
			NV	20	-8000	-1.382887
			NV	30	-8000	-1.382887
			NV	40	-8000	-1.382887
			NV	50	-8000	-1.382887
	Ant2	5785	NV	-30	-4000	-0.691443
			NV	-20	-4000	-0.691443
			NV	-10	-4000	-0.691443
			NV	0	-4000	-0.691443
			NV	10	-4000	-0.691443
			NV	20	-4000	-0.691443
			NV	30	-4000	-0.691443
			NV	40	-4000	-0.691443
			NV	50	-4000	-0.691443
	Ant3	5785	NV	-30	-4000	-0.691443
			NV	-20	-4000	-0.691443
			NV	-10	-4000	-0.691443
			NV	0	-3000	-0.518583
			NV	10	-3000	-0.518583
			NV	20	-3000	-0.518583
			NV	30	-4000	-0.691443
			NV	40	-3000	-0.518583
			NV	50	-3000	-0.518583
	Ant4	5785	NV	-30	-3000	-0.518583
			NV	-20	-3000	-0.518583
			NV	-10	-3000	-0.518583
			NV	0	-3000	-0.518583
			NV	10	-3000	-0.518583
			NV	20	-3000	-0.518583
			NV	30	-3000	-0.518583
			NV	40	-3000	-0.518583
			NV	50	-3000	-0.518583
	Ant1	5825	NV	-30	-6000	-1.030043
			NV	-20	-5000	-0.858369
			NV	-10	-6000	-1.030043
			NV	0	-6000	-1.030043
			NV	10	-6000	-1.030043
			NV	20	-5000	-0.858369
			NV	30	-5000	-0.858369

			NV	40	-6000	-1.030043
			NV	50	-5000	-0.858369
	Ant2	5825	NV	-30	-3000	-0.515021
			NV	-20	-4000	-0.686695
			NV	-10	-3000	-0.515021
			NV	0	-4000	-0.686695
			NV	10	-4000	-0.686695
			NV	20	-4000	-0.686695
			NV	30	-4000	-0.686695
			NV	40	-4000	-0.686695
			NV	50	-4000	-0.686695
			NV	-30	-3000	-0.515021
	Ant3	5825	NV	-20	-3000	-0.515021
			NV	-10	-3000	-0.515021
			NV	0	-3000	-0.515021
			NV	10	-3000	-0.515021
			NV	20	-3000	-0.515021
			NV	30	-3000	-0.515021
			NV	40	-3000	-0.515021
			NV	50	-3000	-0.515021
			NV	-30	-3000	-0.515021
			NV	-20	-3000	-0.515021
	Ant4	5825	NV	-10	-3000	-0.515021
			NV	0	-3000	-0.515021
			NV	10	-3000	-0.515021
			NV	20	-3000	-0.515021
			NV	30	-3000	-0.515021
			NV	40	-3000	-0.515021
			NV	50	-3000	-0.515021
			NV	-30	-3000	-0.579151
			NV	-20	-3000	-0.579151
			NV	-10	-3000	-0.579151
11N20MIMO	Ant1	5180	NV	0	-3000	-0.579151
			NV	10	-3000	-0.579151
			NV	20	-3000	-0.579151
			NV	30	-3000	-0.579151
			NV	40	-3000	-0.579151
			NV	50	-3000	-0.579151
			NV	-30	-3000	-0.579151
			NV	-20	-3000	-0.579151
			NV	-10	-3000	-0.579151
			NV	0	-2000	-0.38610
	Ant2	5180	NV	-10	-3000	-0.579151
			NV	0	-2000	-0.38610
			NV	10	-3000	-0.579151
			NV	20	-3000	-0.579151
			NV	30	-3000	-0.579151
			NV	40	-3000	-0.579151
			NV	50	-3000	-0.579151
			NV	-30	-3000	-0.579151
			NV	-20	-3000	-0.579151
			NV	-10	-3000	-0.579151
	Ant3	5180	NV	0	-3000	-0.579151

			NV	10	-2000	-0.386100
			NV	20	-3000	-0.579151
			NV	30	-3000	-0.579151
			NV	40	-3000	-0.579151
			NV	50	-2000	-0.386100
	Ant4	5180	NV	-30	-3000	-0.579151
			NV	-20	-2000	-0.386100
			NV	-10	-2000	-0.386100
			NV	0	-2000	-0.386100
			NV	10	-2000	-0.386100
			NV	20	-2000	-0.386100
			NV	30	-2000	-0.386100
			NV	40	-3000	-0.579151
			NV	50	-2000	-0.386100
	Ant1	5200	NV	-30	-3000	-0.576923
			NV	-20	-3000	-0.576923
			NV	-10	-3000	-0.576923
			NV	0	-3000	-0.576923
			NV	10	-3000	-0.576923
			NV	20	-3000	-0.576923
			NV	30	-3000	-0.576923
			NV	40	-3000	-0.576923
			NV	50	-3000	-0.576923
	Ant2	5200	NV	-30	-2000	-0.384615
			NV	-20	-3000	-0.576923
			NV	-10	-3000	-0.576923
			NV	0	-3000	-0.576923
			NV	10	-3000	-0.576923
			NV	20	-3000	-0.576923
			NV	30	-3000	-0.576923
			NV	40	-3000	-0.576923
			NV	50	-3000	-0.576923
	Ant3	5200	NV	-30	-3000	-0.576923
			NV	-20	-3000	-0.576923
			NV	-10	-3000	-0.576923
			NV	0	-3000	-0.576923
			NV	10	-2000	-0.384615
			NV	20	-3000	-0.576923
			NV	30	-3000	-0.576923
			NV	40	-3000	-0.576923
			NV	50	-2000	-0.384615
	Ant4	5200	NV	-30	-2000	-0.384615
			NV	-20	-3000	-0.576923
			NV	-10	-3000	-0.576923
			NV	0	-2000	-0.384615
			NV	10	-2000	-0.384615
			NV	20	-3000	-0.576923
			NV	30	-3000	-0.576923
			NV	40	-2000	-0.384615
			NV	50	-2000	-0.384615
	Ant1	5240	NV	-30	-3000	-0.572519

			NV	-20	-3000	-0.572519
			NV	-10	-3000	-0.572519
			NV	0	-3000	-0.572519
			NV	10	-3000	-0.572519
			NV	20	-3000	-0.572519
			NV	30	-3000	-0.572519
			NV	40	-3000	-0.572519
			NV	50	-3000	-0.572519
	Ant2	5240	NV	-30	-3000	-0.572519
			NV	-20	-3000	-0.572519
			NV	-10	-3000	-0.572519
			NV	0	-3000	-0.572519
			NV	10	-3000	-0.572519
			NV	20	-3000	-0.572519
			NV	30	-3000	-0.572519
			NV	40	-3000	-0.572519
			NV	50	-3000	-0.572519
	Ant3	5240	NV	-30	-3000	-0.572519
			NV	-20	-3000	-0.572519
			NV	-10	-3000	-0.572519
			NV	0	-3000	-0.572519
			NV	10	-3000	-0.572519
			NV	20	-3000	-0.572519
			NV	30	-3000	-0.572519
			NV	40	-3000	-0.572519
			NV	50	-3000	-0.572519
	Ant4	5240	NV	-30	-3000	-0.572519
			NV	-20	-3000	-0.572519
			NV	-10	-3000	-0.572519
			NV	0	-3000	-0.572519
			NV	10	-3000	-0.572519
			NV	20	-3000	-0.572519
			NV	30	-3000	-0.572519
			NV	40	-3000	-0.572519
			NV	50	-3000	-0.572519
	Ant1	5745	NV	-30	-3000	-0.522193
			NV	-20	-3000	-0.522193
			NV	-10	-3000	-0.522193
			NV	0	-3000	-0.522193
			NV	10	-4000	-0.696258
			NV	20	-4000	-0.696258
			NV	30	-3000	-0.522193
			NV	40	-3000	-0.522193
			NV	50	-3000	-0.522193
	Ant2	5745	NV	-30	-3000	-0.522193
			NV	-20	-3000	-0.522193
			NV	-10	-3000	-0.522193
			NV	0	-3000	-0.522193
			NV	10	-3000	-0.522193
			NV	20	-3000	-0.522193
			NV	30	-3000	-0.522193

			NV	40	-3000	-0.522193
			NV	50	-3000	-0.522193
	Ant3	5745	NV	-30	-3000	-0.522193
			NV	-20	-3000	-0.522193
			NV	-10	-3000	-0.522193
			NV	0	-3000	-0.522193
			NV	10	-3000	-0.522193
			NV	20	-3000	-0.522193
			NV	30	-3000	-0.522193
			NV	40	-3000	-0.522193
			NV	50	-3000	-0.522193
	Ant4	5745	NV	-30	-3000	-0.522193
			NV	-20	-3000	-0.522193
			NV	-10	-3000	-0.522193
			NV	0	-3000	-0.522193
			NV	10	-3000	-0.522193
			NV	20	-3000	-0.522193
			NV	30	-3000	-0.522193
			NV	40	-3000	-0.522193
			NV	50	-3000	-0.522193
	Ant1	5785	NV	-30	-3000	-0.518583
			NV	-20	-3000	-0.518583
			NV	-10	-3000	-0.518583
			NV	0	-3000	-0.518583
			NV	10	-3000	-0.518583
			NV	20	-3000	-0.518583
			NV	30	-3000	-0.518583
			NV	40	-3000	-0.518583
			NV	50	-3000	-0.518583
	Ant2	5785	NV	-30	-3000	-0.518583
			NV	-20	-3000	-0.518583
			NV	-10	-3000	-0.518583
			NV	0	-3000	-0.518583
			NV	10	-3000	-0.518583
			NV	20	-3000	-0.518583
			NV	30	-3000	-0.518583
			NV	40	-3000	-0.518583
			NV	50	-3000	-0.518583
	Ant3	5785	NV	-30	-3000	-0.518583
			NV	-20	-3000	-0.518583
			NV	-10	-3000	-0.518583
			NV	0	-3000	-0.518583
			NV	10	-2000	-0.345722
			NV	20	-2000	-0.345722
			NV	30	-2000	-0.345722
			NV	40	-2000	-0.345722
			NV	50	-2000	-0.345722
	Ant4	5785	NV	-30	-3000	-0.518583
			NV	-20	-3000	-0.518583
			NV	-10	-2000	-0.345722
			NV	0	-2000	-0.345722

			NV	10	-2000	-0.345722
			NV	20	-2000	-0.345722
			NV	30	-3000	-0.518583
			NV	40	-3000	-0.518583
			NV	50	-2000	-0.345722
	Ant1	5825	NV	-30	-3000	-0.515021
			NV	-20	-3000	-0.515021
			NV	-10	-3000	-0.515021
			NV	0	-3000	-0.515021
			NV	10	-3000	-0.515021
			NV	20	-3000	-0.515021
			NV	30	-3000	-0.515021
			NV	40	-3000	-0.515021
			NV	50	-3000	-0.515021
	Ant2	5825	NV	-30	-3000	-0.515021
			NV	-20	-3000	-0.515021
			NV	-10	-3000	-0.515021
			NV	0	-3000	-0.515021
			NV	10	-2000	-0.343348
			NV	20	-2000	-0.343348
			NV	30	-3000	-0.515021
			NV	40	-3000	-0.515021
			NV	50	-3000	-0.515021
	Ant3	5825	NV	-30	-3000	-0.515021
			NV	-20	-3000	-0.515021
			NV	-10	-3000	-0.515021
			NV	0	-2000	-0.343348
			NV	10	-3000	-0.515021
			NV	20	-3000	-0.515021
			NV	30	-2000	-0.343348
			NV	40	-2000	-0.343348
			NV	50	-3000	-0.515021
	Ant4	5825	NV	-30	-3000	-0.515021
			NV	-20	-2000	-0.343348
			NV	-10	-3000	-0.515021
			NV	0	-2000	-0.343348
			NV	10	-2000	-0.343348
			NV	20	-2000	-0.343348
			NV	30	-2000	-0.343348
			NV	40	-2000	-0.343348
			NV	50	-2000	-0.343348
11N40MIMO	Ant1	5190	NV	-30	-3000	-0.578035
			NV	-20	-2000	-0.385356
			NV	-10	-2000	-0.385356
			NV	0	-2000	-0.385356
			NV	10	-2000	-0.385356
			NV	20	-2000	-0.385356
			NV	30	-3000	-0.578035
			NV	40	-2000	-0.385356
			NV	50	-2000	-0.385356
	Ant2	5190	NV	-30	-2000	-0.385356

			NV	-20	-2000	-0.385356
			NV	-10	-2000	-0.385356
			NV	0	-2000	-0.385356
			NV	10	-2000	-0.385356
			NV	20	-2000	-0.385356
			NV	30	-2000	-0.385356
			NV	40	-2000	-0.385356
			NV	50	-2000	-0.385356
	Ant3	5190	NV	-30	-2000	-0.385356
			NV	-20	-2000	-0.385356
			NV	-10	-2000	-0.385356
			NV	0	-2000	-0.385356
			NV	10	-2000	-0.385356
			NV	20	-2000	-0.385356
			NV	30	-2000	-0.385356
			NV	40	-2000	-0.385356
			NV	50	-2000	-0.385356
	Ant4	5190	NV	-30	-2000	-0.385356
			NV	-20	-2000	-0.385356
			NV	-10	-2000	-0.385356
			NV	0	-2000	-0.385356
			NV	10	-2000	-0.385356
			NV	20	-2000	-0.385356
			NV	30	-2000	-0.385356
			NV	40	-2000	-0.385356
			NV	50	-2000	-0.385356
	Ant1	5230	NV	-30	-3000	-0.573614
			NV	-20	-3000	-0.573614
			NV	-10	-2000	-0.382409
			NV	0	-3000	-0.573614
			NV	10	-3000	-0.573614
			NV	20	-3000	-0.573614
			NV	30	-3000	-0.573614
			NV	40	-3000	-0.573614
			NV	50	-3000	-0.573614
	Ant2	5230	NV	-30	-3000	-0.573614
			NV	-20	-2000	-0.382409
			NV	-10	-2000	-0.382409
			NV	0	-3000	-0.573614
			NV	10	-2000	-0.382409
			NV	20	-3000	-0.573614
			NV	30	-3000	-0.573614
			NV	40	-3000	-0.573614
			NV	50	-3000	-0.573614
	Ant3	5230	NV	-30	-3000	-0.573614
			NV	-20	-3000	-0.573614
			NV	-10	-3000	-0.573614
			NV	0	-3000	-0.573614
			NV	10	-3000	-0.573614
			NV	20	-3000	-0.573614
			NV	30	-3000	-0.573614

			NV	40	-3000	-0.573614
			NV	50	-3000	-0.573614
	Ant4	5230	NV	-30	-3000	-0.573614
			NV	-20	-3000	-0.573614
			NV	-10	-3000	-0.573614
			NV	0	-3000	-0.573614
			NV	10	-3000	-0.573614
			NV	20	-3000	-0.573614
			NV	30	-3000	-0.573614
			NV	40	-3000	-0.573614
			NV	50	-3000	-0.573614
	Ant1	5755	NV	-30	-3000	-0.521286
			NV	-20	-3000	-0.521286
			NV	-10	-3000	-0.521286
			NV	0	-3000	-0.521286
			NV	10	-3000	-0.521286
			NV	20	-3000	-0.521286
			NV	30	-3000	-0.521286
			NV	40	-3000	-0.521286
			NV	50	-3000	-0.521286
	Ant2	5755	NV	-30	-2000	-0.347524
			NV	-20	-2000	-0.347524
			NV	-10	-3000	-0.521286
			NV	0	-3000	-0.521286
			NV	10	-2000	-0.347524
			NV	20	-2000	-0.347524
			NV	30	-2000	-0.347524
			NV	40	-2000	-0.347524
			NV	50	-3000	-0.521286
	Ant3	5755	NV	-30	-3000	-0.521286
			NV	-20	-3000	-0.521286
			NV	-10	-2000	-0.347524
			NV	0	-2000	-0.347524
			NV	10	-3000	-0.521286
			NV	20	-2000	-0.347524
			NV	30	-3000	-0.521286
			NV	40	-2000	-0.347524
			NV	50	-2000	-0.347524
	Ant4	5755	NV	-30	-3000	-0.521286
			NV	-20	-2000	-0.347524
			NV	-10	-2000	-0.347524
			NV	0	-2000	-0.347524
			NV	10	-2000	-0.347524
			NV	20	-2000	-0.347524
			NV	30	-2000	-0.347524
			NV	40	-3000	-0.521286
			NV	50	-3000	-0.521286
	Ant1	5795	NV	-30	-3000	-0.517688
			NV	-20	-3000	-0.517688
			NV	-10	-3000	-0.517688
			NV	0	-3000	-0.517688

			NV	10	-2000	-0.345125
			NV	20	-3000	-0.517688
			NV	30	-2000	-0.345125
			NV	40	-2000	-0.345125
			NV	50	-3000	-0.517688
	Ant2	5795	NV	-30	-2000	-0.345125
			NV	-20	-2000	-0.345125
			NV	-10	-2000	-0.345125
			NV	0	-2000	-0.345125
			NV	10	-2000	-0.345125
			NV	20	-2000	-0.345125
			NV	30	-2000	-0.345125
			NV	40	-3000	-0.517688
			NV	50	-2000	-0.345125
	Ant3	5795	NV	-30	-2000	-0.345125
			NV	-20	-2000	-0.345125
			NV	-10	-3000	-0.517688
			NV	0	-2000	-0.345125
			NV	10	-2000	-0.345125
			NV	20	-2000	-0.345125
			NV	30	-2000	-0.345125
			NV	40	-2000	-0.345125
			NV	50	-2000	-0.345125
	Ant4	5795	NV	-30	-2000	-0.345125
			NV	-20	-2000	-0.345125
			NV	-10	-2000	-0.345125
			NV	0	-2000	-0.345125
			NV	10	-2000	-0.345125
			NV	20	-2000	-0.345125
			NV	30	-2000	-0.345125
			NV	40	-2000	-0.345125
			NV	50	-2000	-0.345125
11AC20MIMO	Ant1	5180	NV	-30	-3000	-0.579151
			NV	-20	-3000	-0.579151
			NV	-10	-2000	-0.386100
			NV	0	-2000	-0.386100
			NV	10	-2000	-0.386100
			NV	20	-2000	-0.386100
			NV	30	-3000	-0.579151
			NV	40	-3000	-0.579151
			NV	50	-2000	-0.386100
	Ant2	5180	NV	-30	-2000	-0.386100
			NV	-20	-2000	-0.386100
			NV	-10	-3000	-0.579151
			NV	0	-3000	-0.579151
			NV	10	-2000	-0.386100
			NV	20	-2000	-0.386100
			NV	30	-3000	-0.579151
			NV	40	-3000	-0.579151
			NV	50	-3000	-0.579151
	Ant3	5180	NV	-30	-3000	-0.579151

			NV	-20	-3000	-0.579151
			NV	-10	-3000	-0.579151
			NV	0	-3000	-0.579151
			NV	10	-2000	-0.386100
			NV	20	-3000	-0.579151
			NV	30	-2000	-0.386100
			NV	40	-3000	-0.579151
			NV	50	-3000	-0.579151
	Ant4	5180	NV	-30	-2000	-0.386100
			NV	-20	-2000	-0.386100
			NV	-10	-3000	-0.579151
			NV	0	-3000	-0.579151
			NV	10	-3000	-0.579151
			NV	20	-2000	-0.386100
			NV	30	-2000	-0.386100
			NV	40	-2000	-0.386100
			NV	50	-3000	-0.579151
	Ant1	5200	NV	-30	-3000	-0.576923
			NV	-20	-3000	-0.576923
			NV	-10	-3000	-0.576923
			NV	0	-2000	-0.384615
			NV	10	-2000	-0.384615
			NV	20	-2000	-0.384615
			NV	30	-2000	-0.384615
			NV	40	-2000	-0.384615
			NV	50	-2000	-0.384615
	Ant2	5200	NV	-30	-2000	-0.384615
			NV	-20	-2000	-0.384615
			NV	-10	-2000	-0.384615
			NV	0	-2000	-0.384615
			NV	10	-2000	-0.384615
			NV	20	-2000	-0.384615
			NV	30	-2000	-0.384615
			NV	40	-2000	-0.384615
			NV	50	-2000	-0.384615
	Ant3	5200	NV	-30	-2000	-0.384615
			NV	-20	-2000	-0.384615
			NV	-10	-2000	-0.384615
			NV	0	-2000	-0.384615
			NV	10	-2000	-0.384615
			NV	20	-2000	-0.384615
			NV	30	-2000	-0.384615
			NV	40	-2000	-0.384615
			NV	50	-2000	-0.384615
	Ant4	5200	NV	-30	-2000	-0.384615
			NV	-20	-2000	-0.384615
			NV	-10	-2000	-0.384615
			NV	0	-2000	-0.384615
			NV	10	-2000	-0.384615
			NV	20	-2000	-0.384615
			NV	30	-2000	-0.384615

			NV	40	-2000	-0.384615
			NV	50	-2000	-0.384615
	Ant1	5240	NV	-30	-3000	-0.572519
			NV	-20	-2000	-0.381679
			NV	-10	-3000	-0.572519
			NV	0	-3000	-0.572519
			NV	10	-3000	-0.572519
			NV	20	-3000	-0.572519
			NV	30	-3000	-0.572519
			NV	40	-3000	-0.572519
			NV	50	-3000	-0.572519
	Ant2	5240	NV	-30	-3000	-0.572519
			NV	-20	-3000	-0.572519
			NV	-10	-3000	-0.572519
			NV	0	-3000	-0.572519
			NV	10	-3000	-0.572519
			NV	20	-3000	-0.572519
			NV	30	-3000	-0.572519
			NV	40	-2000	-0.381679
			NV	50	-3000	-0.572519
	Ant3	5240	NV	-30	-3000	-0.572519
			NV	-20	-3000	-0.572519
			NV	-10	-3000	-0.572519
			NV	0	-2000	-0.381679
			NV	10	-3000	-0.572519
			NV	20	-3000	-0.572519
			NV	30	-3000	-0.572519
			NV	40	-2000	-0.381679
			NV	50	-3000	-0.572519
	Ant4	5240	NV	-30	-2000	-0.381679
			NV	-20	-3000	-0.572519
			NV	-10	-2000	-0.381679
			NV	0	-2000	-0.381679
			NV	10	-2000	-0.381679
			NV	20	-2000	-0.381679
			NV	30	-3000	-0.572519
			NV	40	-3000	-0.572519
			NV	50	-3000	-0.572519
	Ant1	5745	NV	-30	-3000	-0.522193
			NV	-20	-3000	-0.522193
			NV	-10	-3000	-0.522193
			NV	0	-3000	-0.522193
			NV	10	-3000	-0.522193
			NV	20	-3000	-0.522193
			NV	30	-3000	-0.522193
			NV	40	-3000	-0.522193
			NV	50	-2000	-0.348129
	Ant2	5745	NV	-30	-3000	-0.522193
			NV	-20	-3000	-0.522193
			NV	-10	-2000	-0.348129
			NV	0	-2000	-0.348129

			NV	10	-2000	-0.348129
			NV	20	-2000	-0.348129
			NV	30	-3000	-0.522193
			NV	40	-3000	-0.522193
			NV	50	-3000	-0.522193
	Ant3	5745	NV	-30	-3000	-0.522193
			NV	-20	-2000	-0.348129
			NV	-10	-2000	-0.348129
			NV	0	-2000	-0.348129
			NV	10	-2000	-0.348129
			NV	20	-2000	-0.348129
			NV	30	-2000	-0.348129
			NV	40	-2000	-0.348129
			NV	50	-2000	-0.348129
	Ant4	5745	NV	-30	-2000	-0.348129
			NV	-20	-2000	-0.348129
			NV	-10	-2000	-0.348129
			NV	0	-2000	-0.348129
			NV	10	-2000	-0.348129
			NV	20	-2000	-0.348129
			NV	30	-2000	-0.348129
			NV	40	-2000	-0.348129
			NV	50	-2000	-0.348129
	Ant1	5785	NV	-30	-2000	-0.345722
			NV	-20	-3000	-0.518583
			NV	-10	-2000	-0.345722
			NV	0	-3000	-0.518583
			NV	10	-2000	-0.345722
			NV	20	-2000	-0.345722
			NV	30	-2000	-0.345722
			NV	40	-2000	-0.345722
			NV	50	-2000	-0.345722
	Ant2	5785	NV	-30	-2000	-0.345722
			NV	-20	-2000	-0.345722
			NV	-10	-2000	-0.345722
			NV	0	-2000	-0.345722
			NV	10	-2000	-0.345722
			NV	20	-2000	-0.345722
			NV	30	-2000	-0.345722
			NV	40	-2000	-0.345722
			NV	50	-2000	-0.345722
	Ant3	5785	NV	-30	-2000	-0.345722
			NV	-20	-2000	-0.345722
			NV	-10	-2000	-0.345722
			NV	0	-2000	-0.345722
			NV	10	-2000	-0.345722
			NV	20	-2000	-0.345722
			NV	30	-2000	-0.345722
			NV	40	-2000	-0.345722
			NV	50	-2000	-0.345722
	Ant4	5785	NV	-30	-2000	-0.345722

			NV	-20	-2000	-0.345722
			NV	-10	-2000	-0.345722
			NV	0	-2000	-0.345722
			NV	10	-2000	-0.345722
			NV	20	-2000	-0.345722
			NV	30	-2000	-0.345722
			NV	40	-2000	-0.345722
			NV	50	-2000	-0.345722
	Ant1	5825	NV	-30	-15000	-2.575107
			NV	-20	-15000	-2.575107
			NV	-10	-14000	-2.403433
			NV	0	-14000	-2.403433
			NV	10	-15000	-2.575107
			NV	20	-15000	-2.575107
			NV	30	-15000	-2.575107
			NV	40	-14000	-2.403433
			NV	50	-15000	-2.575107
	Ant2	5825	NV	-30	-14000	-2.403433
			NV	-20	-14000	-2.403433
			NV	-10	-14000	-2.403433
			NV	0	-14000	-2.403433
			NV	10	-14000	-2.403433
			NV	20	-14000	-2.403433
			NV	30	-14000	-2.403433
			NV	40	-14000	-2.403433
			NV	50	-14000	-2.403433
	Ant3	5825	NV	-30	-14000	-2.403433
			NV	-20	-14000	-2.403433
			NV	-10	-14000	-2.403433
			NV	0	-14000	-2.403433
			NV	10	-14000	-2.403433
			NV	20	-14000	-2.403433
			NV	30	-14000	-2.403433
			NV	40	-14000	-2.403433
			NV	50	-14000	-2.403433
	Ant4	5825	NV	-30	-14000	-2.403433
			NV	-20	-14000	-2.403433
			NV	-10	-14000	-2.403433
			NV	0	-14000	-2.403433
			NV	10	-14000	-2.403433
			NV	20	-14000	-2.403433
			NV	30	-14000	-2.403433
			NV	40	-14000	-2.403433
			NV	50	-14000	-2.403433
11AC40MIMO	Ant1	5190	NV	-30	-13000	-2.504817
			NV	-20	-13000	-2.504817
			NV	-10	-13000	-2.504817
			NV	0	-13000	-2.504817
			NV	10	-13000	-2.504817
			NV	20	-13000	-2.504817
			NV	30	-13000	-2.504817

			NV	40	-13000	-2.504817
			NV	50	-13000	-2.504817
	Ant2	5190	NV	-30	-13000	-2.504817
			NV	-20	-13000	-2.504817
			NV	-10	-13000	-2.504817
			NV	0	-13000	-2.504817
			NV	10	-12000	-2.312139
			NV	20	-13000	-2.504817
			NV	30	-13000	-2.504817
			NV	40	-13000	-2.504817
			NV	50	-13000	-2.504817
	Ant3	5190	NV	-30	-13000	-2.504817
			NV	-20	-13000	-2.504817
			NV	-10	-13000	-2.504817
			NV	0	-13000	-2.504817
			NV	10	-13000	-2.504817
			NV	20	-13000	-2.504817
			NV	30	-13000	-2.504817
			NV	40	-12000	-2.312139
			NV	50	-13000	-2.504817
	Ant4	5190	NV	-30	-13000	-2.504817
			NV	-20	-13000	-2.504817
			NV	-10	-13000	-2.504817
			NV	0	-13000	-2.504817
			NV	10	-13000	-2.504817
			NV	20	-13000	-2.504817
			NV	30	-13000	-2.504817
			NV	40	-13000	-2.504817
			NV	50	-13000	-2.504817
	Ant1	5230	NV	-30	-12000	-2.294455
			NV	-20	-13000	-2.48566
			NV	-10	-13000	-2.48566
			NV	0	-13000	-2.48566
			NV	10	-13000	-2.48566
			NV	20	-13000	-2.48566
			NV	30	-13000	-2.48566
			NV	40	-13000	-2.48566
			NV	50	-13000	-2.48566
	Ant2	5230	NV	-30	-13000	-2.48566
			NV	-20	-13000	-2.48566
			NV	-10	-13000	-2.48566
			NV	0	-13000	-2.48566
			NV	10	-13000	-2.48566
			NV	20	-13000	-2.48566
			NV	30	-13000	-2.48566
			NV	40	-13000	-2.48566
			NV	50	-13000	-2.48566
	Ant3	5230	NV	-30	-13000	-2.48566
			NV	-20	-13000	-2.48566
			NV	-10	-13000	-2.48566
			NV	0	-13000	-2.48566

			NV	10	-13000	-2.48566
			NV	20	-13000	-2.48566
			NV	30	-13000	-2.48566
			NV	40	-13000	-2.48566
			NV	50	-13000	-2.48566
	Ant4	5230	NV	-30	-13000	-2.48566
			NV	-20	-13000	-2.48566
			NV	-10	-13000	-2.48566
			NV	0	-13000	-2.48566
			NV	10	-13000	-2.48566
			NV	20	-13000	-2.48566
			NV	30	-13000	-2.48566
			NV	40	-13000	-2.48566
			NV	50	-13000	-2.48566
	Ant1	5755	NV	-30	-14000	-2.432667
			NV	-20	-14000	-2.432667
			NV	-10	-14000	-2.432667
			NV	0	-14000	-2.432667
			NV	10	-14000	-2.432667
			NV	20	-14000	-2.432667
			NV	30	-14000	-2.432667
			NV	40	-14000	-2.432667
			NV	50	-14000	-2.432667
	Ant2	5755	NV	-30	-14000	-2.432667
			NV	-20	-14000	-2.432667
			NV	-10	-14000	-2.432667
			NV	0	-14000	-2.432667
			NV	10	-14000	-2.432667
			NV	20	-14000	-2.432667
			NV	30	-14000	-2.432667
			NV	40	-14000	-2.432667
			NV	50	-14000	-2.432667
	Ant3	5755	NV	-30	-14000	-2.432667
			NV	-20	-14000	-2.432667
			NV	-10	-14000	-2.432667
			NV	0	-14000	-2.432667
			NV	10	-14000	-2.432667
			NV	20	-14000	-2.432667
			NV	30	-14000	-2.432667
			NV	40	-14000	-2.432667
			NV	50	-14000	-2.432667
	Ant4	5755	NV	-30	-14000	-2.432667
			NV	-20	-14000	-2.432667
			NV	-10	-14000	-2.432667
			NV	0	-14000	-2.432667
			NV	10	-14000	-2.432667
			NV	20	-14000	-2.432667
			NV	30	-14000	-2.432667
			NV	40	-14000	-2.432667
			NV	50	-14000	-2.432667
	Ant1	5795	NV	-30	-14000	-2.415876

11AC80MIMO			NV	-20	-14000	-2.415876
			NV	-10	-14000	-2.415876
			NV	0	-14000	-2.415876
			NV	10	-14000	-2.415876
			NV	20	-14000	-2.415876
			NV	30	-14000	-2.415876
			NV	40	-14000	-2.415876
			NV	50	-14000	-2.415876
	Ant2	5795	NV	-30	-14000	-2.415876
			NV	-20	-14000	-2.415876
			NV	-10	-14000	-2.415876
			NV	0	-14000	-2.415876
			NV	10	-14000	-2.415876
			NV	20	-14000	-2.415876
			NV	30	-14000	-2.415876
			NV	40	-14000	-2.415876
			NV	50	-14000	-2.415876
	Ant3	5795	NV	-30	-14000	-2.415876
			NV	-20	-14000	-2.415876
			NV	-10	-14000	-2.415876
			NV	0	-14000	-2.415876
			NV	10	-14000	-2.415876
			NV	20	-14000	-2.415876
			NV	30	-14000	-2.415876
			NV	40	-14000	-2.415876
			NV	50	-14000	-2.415876
	Ant4	5795	NV	-30	-14000	-2.415876
			NV	-20	-14000	-2.415876
			NV	-10	-14000	-2.415876
			NV	0	-14000	-2.415876
			NV	10	-14000	-2.415876
			NV	20	-14000	-2.415876
			NV	30	-14000	-2.415876
			NV	40	-14000	-2.415876
			NV	50	-14000	-2.415876
	Ant1	5210	NV	-30	-12000	-2.303263
			NV	-20	-12000	-2.303263
			NV	-10	-12000	-2.303263
			NV	0	-13000	-2.495202
			NV	10	-12000	-2.303263
			NV	20	-12000	-2.303263
			NV	30	-12000	-2.303263
			NV	40	-12000	-2.303263
			NV	50	-12000	-2.303263
	Ant2	5210	NV	-30	-13000	-2.495202
			NV	-20	-12000	-2.303263
			NV	-10	-12000	-2.303263
			NV	0	-12000	-2.303263
			NV	10	-12000	-2.303263
			NV	20	-12000	-2.303263
			NV	30	-12000	-2.303263

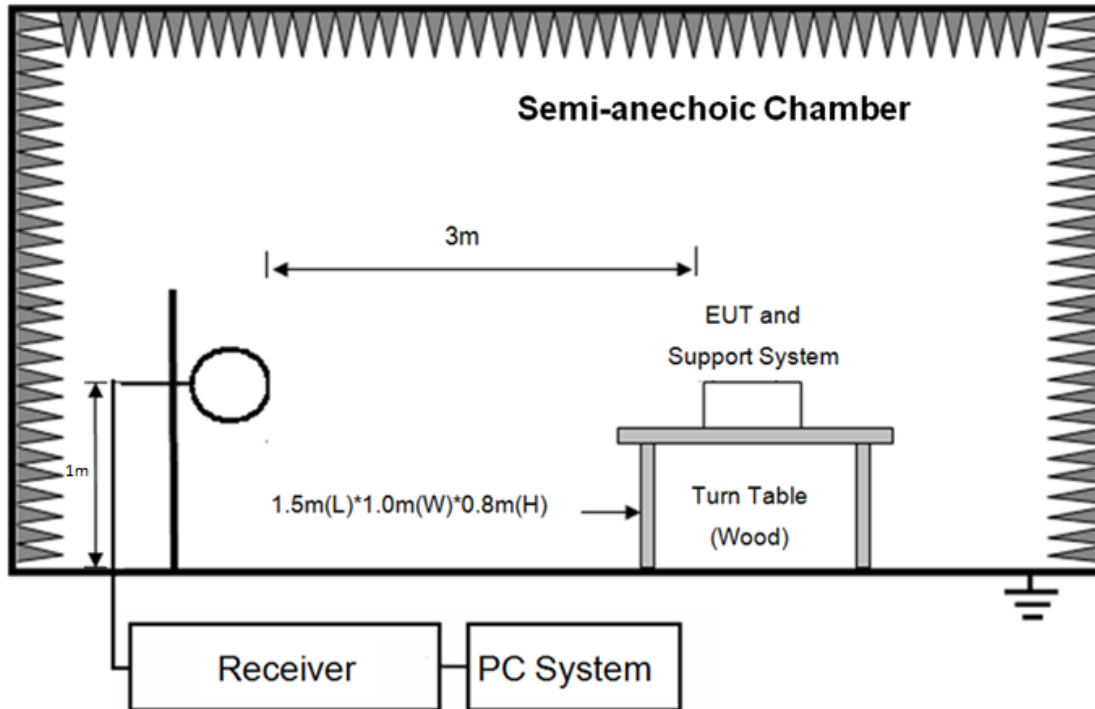
			NV	40	-12000	-2.303263
			NV	50	-12000	-2.303263
	Ant3	5210	NV	-30	-12000	-2.303263
			NV	-20	-12000	-2.303263
			NV	-10	-13000	-2.495202
			NV	0	-12000	-2.303263
			NV	10	-12000	-2.303263
			NV	20	-12000	-2.303263
			NV	30	-12000	-2.303263
			NV	40	-12000	-2.303263
			NV	50	-12000	-2.303263
	Ant4	5210	NV	-30	-12000	-2.303263
			NV	-20	-12000	-2.303263
			NV	-10	-12000	-2.303263
			NV	0	-12000	-2.303263
			NV	10	-12000	-2.303263
			NV	20	-12000	-2.303263
			NV	30	-12000	-2.303263
			NV	40	-12000	-2.303263
			NV	50	-12000	-2.303263
	Ant1	5775	NV	-30	-14000	-2.424242
			NV	-20	-14000	-2.424242
			NV	-10	-14000	-2.424242
			NV	0	-14000	-2.424242
			NV	10	-14000	-2.424242
			NV	20	-14000	-2.424242
			NV	30	-14000	-2.424242
			NV	40	-14000	-2.424242
			NV	50	-14000	-2.424242
	Ant2	5775	NV	-30	-14000	-2.424242
			NV	-20	-14000	-2.424242
			NV	-10	-14000	-2.424242
			NV	0	-14000	-2.424242
			NV	10	-14000	-2.424242
			NV	20	-14000	-2.424242
			NV	30	-14000	-2.424242
			NV	40	-14000	-2.424242
			NV	50	-14000	-2.424242
	Ant3	5775	NV	-30	-14000	-2.424242
			NV	-20	-14000	-2.424242
			NV	-10	-14000	-2.424242
			NV	0	-13000	-2.251082
			NV	10	-14000	-2.424242
			NV	20	-14000	-2.424242
			NV	30	-14000	-2.424242
			NV	40	-14000	-2.424242
			NV	50	-14000	-2.424242
	Ant4	5775	NV	-30	-14000	-2.424242
			NV	-20	-14000	-2.424242
			NV	-10	-14000	-2.424242
			NV	0	-14000	-2.424242

			NV	10	-14000	-2.424242
			NV	20	-14000	-2.424242
			NV	30	-14000	-2.424242
			NV	40	-14000	-2.424242
			NV	50	-14000	-2.424242

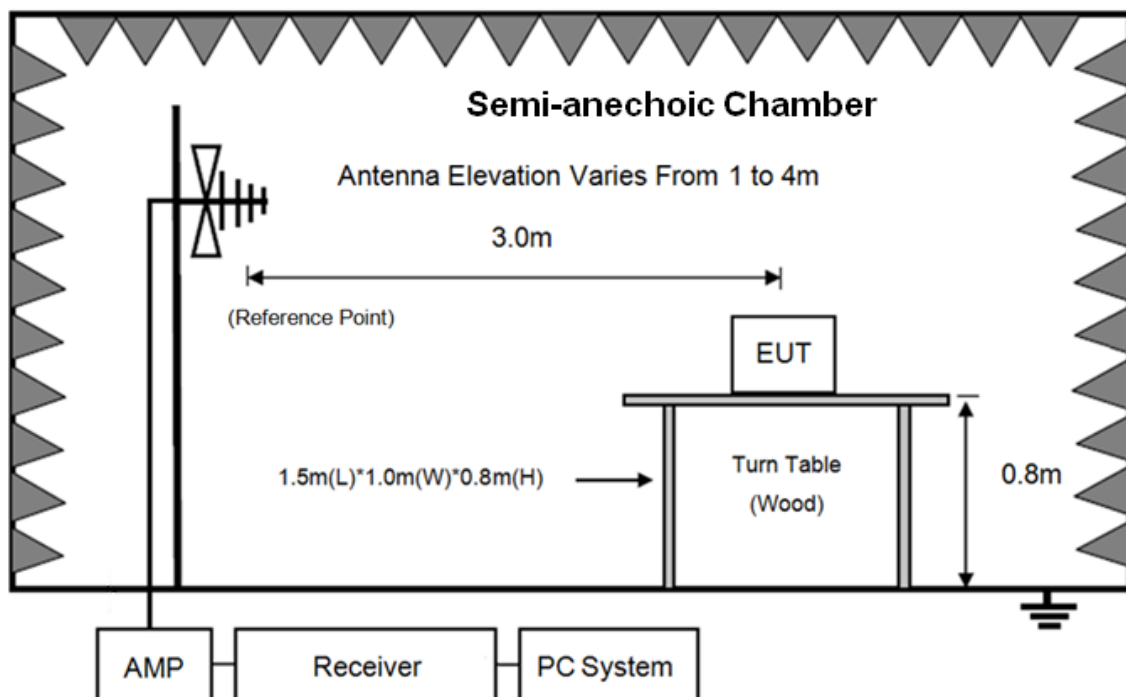
8. Emissions in restricted frequency bands

8.1. Block diagram of test setup

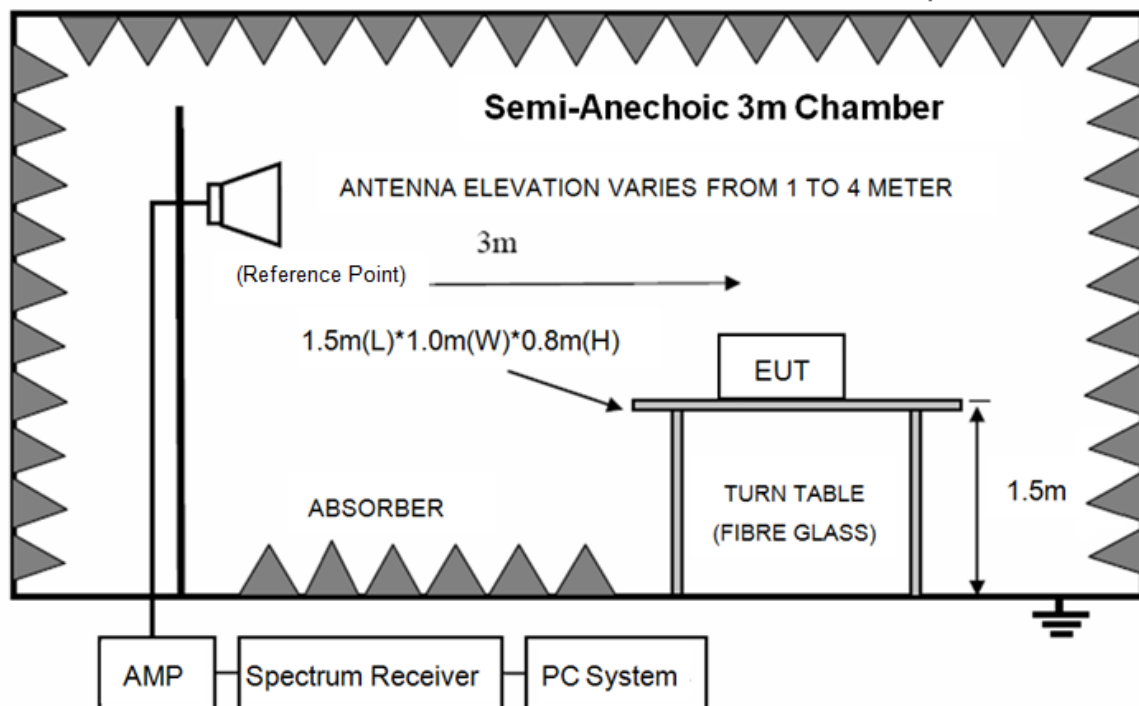
In 3m Anechoic Chamber Test Setup Diagram for 9kHz-30MHz



In 3m Anechoic Chamber Test Setup Diagram for 30MHz-1GHz



In 3m Anechoic Chamber Test Setup Diagram for frequency above 1GHz



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

8.2. Limit

8.3.1 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
¹ 0.495-0.505	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

8.3.2 FCC 15.209 Limit.

FREQUENCY MHz	DISTANCE Meters	FIELD STRENGTHS LIMIT	
		μV/m	dB(μV)/m
0.009 ~ 0.490	300	2400/F(kHz)	67.6-20log(F)
0.490 ~ 1.705	30	24000/F(kHz)	87.6-20log(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 dB(μV)/m (Peak) 54.0 dB(μV)/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:

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

8.3.3 Limit for this EUT

All the emissions appearing within 15.205 restricted frequency bands shall not exceed the limits shown in 15.209, all the other emissions shall be at least 20dB below the fundamental emissions or comply with 15.209 limits.

8.3. Test procedure

- (1) EUT height should be 0.8 m for below 1 GHz at a semi - anechoic chamber while EUT height should be 1.5 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, according

ANSI C63.10:2013 clause 4.2.3.2.3 procedure for average measure.

8.4. Test result

Pass. (See below detailed test result)

All the emissions except fundamental emission from 9kHz to 40GHz were comply with 15.209 limit.

Note1: According exploratory test, the emission levels are 20 dB below the limit 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.

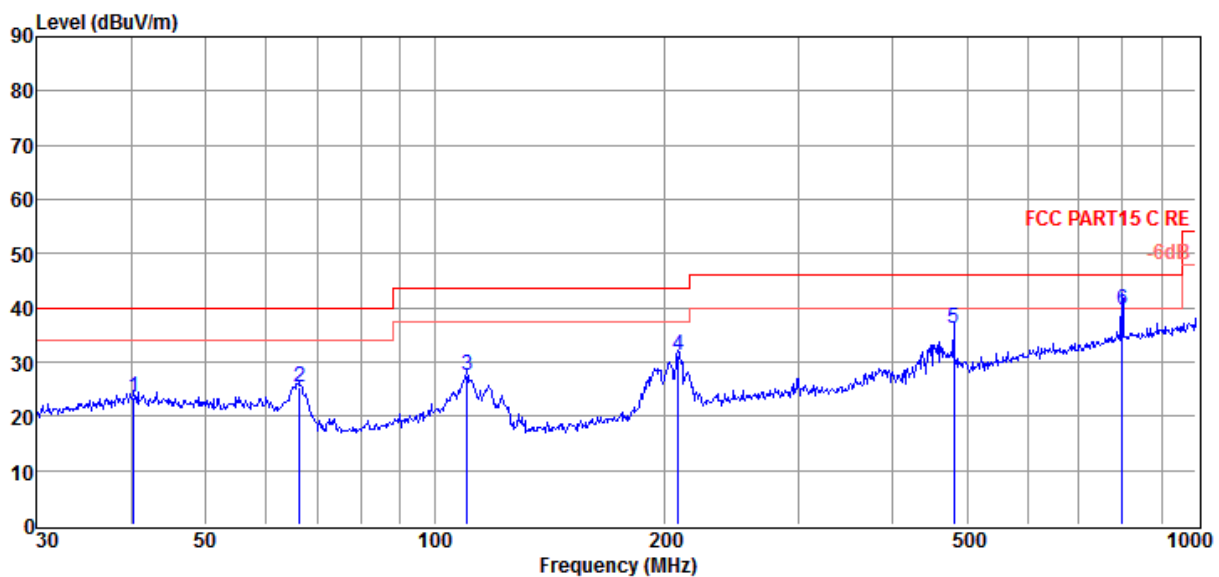
Note2: For emissions below 1 GHz, according exploratory explorer test, when change Tx mode and channel, have no distinct influence on emissions level, so for emissions below 1 GHz, the final test was only performed with EUT working in antenna1 11a mode.

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.

Radiated Emission test (below 1GHz)

TR-4-E-009 Radiated Emission Test Result

Test Site : DDT 3m Chamber 2# **E:\2020 RE2# Report Data\Q20052115-1E\FCC BELOW1G.EM6**
Test Date : 2020-06-08 **Tested By** : Talent
EUT : GPON ONT **Model Number** : HL-4GQVS
Power Supply : AC 120V / 60Hz **Test Mode** : Tx mode
Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa **Antenna/Distance** : 2019 VULB 9163 2#/3m/HORIZONTAL
Memo :



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	40.28	5.44	14.46	3.71	23.61	40.00	-16.39	QP	HORIZONTAL
2	66.50	11.35	9.97	3.94	25.26	40.00	-14.74	QP	HORIZONTAL
3	110.18	11.52	11.57	4.29	27.38	43.50	-16.12	QP	HORIZONTAL
4	208.58	14.67	11.67	4.89	31.23	43.50	-12.27	QP	HORIZONTAL
5	480.53	12.82	17.31	6.19	36.32	46.00	-9.68	QP	HORIZONTAL
6	798.98	10.99	21.19	7.54	39.72	46.00	-6.28	QP	HORIZONTAL

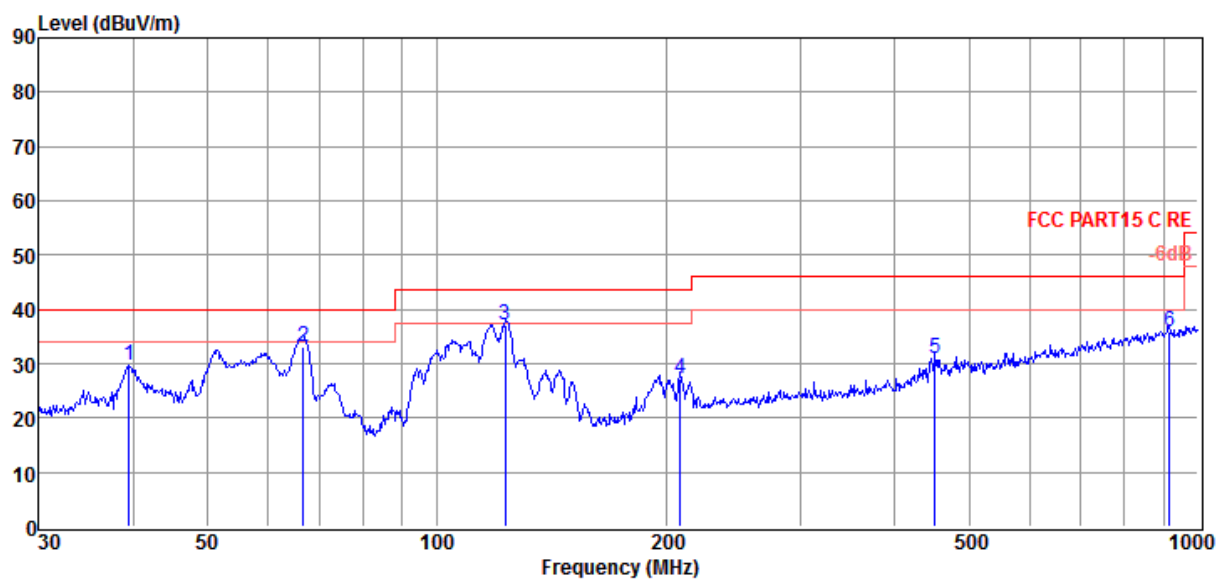
Note: 1. Result Level = Read Level + Antenna Factor + Cable loss.

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 2# **E:\2020 RE2# Report Data\Q20052115-1E\FCC BELOW1G.EM6**
Test Date : 2020-06-08 **Tested By** : Talent
EUT : GPON ONT **Model Number** : HL-4GQVS
Power Supply : AC 120V / 60Hz **Test Mode** : Tx mode
Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa **Antenna/Distance** : 2019 VULB 9163 2#/3m/VERTICAL
Memo :



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	39.44	11.55	14.39	3.70	29.64	40.00	-10.36	QP	VERTICAL
2	66.73	19.27	9.91	3.94	33.12	40.00	-6.88	QP	VERTICAL
3	122.83	23.04	9.72	4.38	37.14	43.50	-6.36	QP	VERTICAL
4	208.58	10.80	11.67	4.89	27.36	43.50	-16.14	QP	VERTICAL
5	451.14	8.22	16.69	6.07	30.98	46.00	-15.02	QP	VERTICAL
6	916.07	5.81	22.22	7.98	36.01	46.00	-9.99	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.

Radiated Emission test (above 1GHz)

Freq (MHz)	Read level (dBμV)	Antenna Factor (dB/m)	PRM Factor(dB)	Cable Loss (dB)	Result Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector type	Polarization
11a CH36									
5726.00	42.31	34.99	43.18	6.85	40.97	74.00	-33.03	Peak	HORIZONTAL
8089.00	42.67	36.67	42.78	9.21	45.77	74.00	-28.23	Peak	HORIZONTAL
10360.00	42.61	37.66	42.38	9.26	47.15	74.00	-26.85	Peak	HORIZONTAL
12475.00	42.60	38.50	41.80	10.66	49.96	74.00	-24.04	Peak	HORIZONTAL
15161.00	41.05	40.70	40.18	11.10	52.67	74.00	-21.33	Peak	HORIZONTAL
16385.00	40.07	42.12	40.08	11.73	53.84	74.00	-20.16	Peak	HORIZONTAL
5726.00	41.67	34.99	43.18	6.85	40.33	74.00	-33.67	Peak	VERTICAL
8089.00	41.84	36.67	42.78	9.21	44.94	74.00	-29.06	Peak	VERTICAL
10360.00	48.08	37.66	42.38	9.26	52.62	74.00	-21.38	Peak	VERTICAL
12968.00	41.72	38.87	41.29	11.35	50.65	74.00	-23.35	Peak	VERTICAL
14311.00	40.76	40.17	40.27	10.71	51.37	74.00	-22.63	Peak	VERTICAL
15671.00	40.70	41.11	40.13	11.19	52.87	74.00	-21.13	Peak	VERTICAL
11a CH40									
5454.00	41.30	34.77	43.26	6.74	39.55	74.00	-34.45	Peak	HORIZONTAL
7936.00	42.59	36.56	42.81	9.24	45.58	74.00	-28.42	Peak	HORIZONTAL
9891.00	42.68	37.71	42.42	9.16	47.13	74.00	-26.87	Peak	HORIZONTAL
12356.00	43.36	38.47	41.92	10.49	50.40	74.00	-23.60	Peak	HORIZONTAL
14039.00	40.70	40.28	40.30	10.57	51.25	74.00	-22.75	Peak	HORIZONTAL
15909.00	41.13	41.39	40.11	11.23	53.64	74.00	-20.36	Peak	HORIZONTAL
6746.00	42.20	35.75	42.98	8.29	43.26	74.00	-30.74	Peak	VERTICAL
9755.00	42.66	37.61	42.44	9.08	46.91	74.00	-27.09	Peak	VERTICAL
10400.00	44.67	37.64	42.38	9.26	49.19	74.00	-24.81	Peak	VERTICAL
13070.00	42.12	39.01	41.19	11.33	51.27	74.00	-22.73	Peak	VERTICAL
14991.00	40.17	40.59	40.20	11.07	51.63	74.00	-22.37	Peak	VERTICAL
16385.00	40.31	42.12	40.08	11.73	54.08	74.00	-19.92	Peak	VERTICAL
11a CH48									
5250.00	45.68	34.65	43.33	6.66	43.66	74.00	-30.34	Peak	HORIZONTAL
7936.00	42.42	36.56	42.81	9.24	45.41	74.00	-28.59	Peak	HORIZONTAL
10480.00	43.96	37.61	42.37	9.26	48.46	74.00	-25.54	Peak	HORIZONTAL
12934.00	42.31	38.85	41.33	11.30	51.13	74.00	-22.87	Peak	HORIZONTAL
13954.00	41.42	40.25	40.34	10.59	51.92	74.00	-22.08	Peak	HORIZONTAL
15076.00	39.82	40.65	40.19	11.08	51.36	74.00	-22.64	Peak	HORIZONTAL
5726.00	43.30	34.99	43.18	6.85	41.96	74.00	-32.04	Peak	VERTICAL
8259.00	42.64	36.81	42.74	9.10	45.81	74.00	-28.19	Peak	VERTICAL
10480.00	46.89	37.61	42.37	9.26	51.39	74.00	-22.61	Peak	VERTICAL
12951.00	41.52	38.86	41.31	11.32	50.39	74.00	-23.61	Peak	VERTICAL
14039.00	40.86	40.28	40.30	10.57	51.41	74.00	-22.59	Peak	VERTICAL
16436.00	40.43	42.20	40.08	11.79	54.34	74.00	-19.66	Peak	VERTICAL

Freq (MHz)	Read level (dBμV)	Antenna Factor (dB/m)	PRM Factor(dB)	Cable Loss (dB)	Result Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector type	Polarization
11a CH149									
5726.00	41.58	34.99	43.18	6.85	40.24	74.00	-33.76	Peak	HORIZONTAL
7936.00	42.68	36.56	42.81	9.24	45.67	74.00	-28.33	Peak	HORIZONTAL
9874.00	41.53	37.70	42.42	9.15	45.96	74.00	-28.04	Peak	HORIZONTAL
12016.00	42.33	38.40	42.28	10.02	48.47	74.00	-25.53	Peak	HORIZONTAL
13444.00	41.56	39.61	40.83	11.02	51.36	74.00	-22.64	Peak	HORIZONTAL
15671.00	40.19	41.11	40.13	11.19	52.36	74.00	-21.64	Peak	HORIZONTAL
4910.00	43.82	34.33	43.45	6.45	41.15	74.00	-32.85	Peak	VERTICAL
7375.00	41.64	36.20	42.88	8.94	43.90	74.00	-30.10	Peak	VERTICAL
9959.00	41.40	37.77	42.41	9.20	45.96	74.00	-28.04	Peak	VERTICAL
11489.00	46.16	38.20	42.32	9.64	51.68	74.00	-22.32	Peak	VERTICAL
13325.00	42.82	39.42	40.94	11.12	52.42	74.00	-21.58	Peak	VERTICAL
15059.00	40.04	40.64	40.19	11.08	51.57	74.00	-22.43	Peak	VERTICAL
11a CH157									
5726.00	41.33	34.99	43.18	6.85	39.99	74.00	-34.01	Peak	HORIZONTAL
8259.00	41.98	36.81	42.74	9.10	45.15	74.00	-28.85	Peak	HORIZONTAL
9755.00	42.48	37.61	42.44	9.08	46.73	74.00	-27.27	Peak	HORIZONTAL
12356.00	42.75	38.47	41.92	10.49	49.79	74.00	-24.21	Peak	HORIZONTAL
13920.00	41.07	40.21	40.37	10.62	51.53	74.00	-22.47	Peak	HORIZONTAL
15790.00	40.91	41.25	40.12	11.21	53.25	74.00	-20.75	Peak	HORIZONTAL
5556.00	41.35	34.85	43.23	6.78	39.75	74.00	-34.25	Peak	VERTICAL
6491.00	43.17	35.59	43.02	7.83	43.57	74.00	-30.43	Peak	VERTICAL
8684.00	42.14	37.04	42.65	8.83	45.36	74.00	-28.64	Peak	VERTICAL
11574.00	49.88	38.23	42.32	9.70	55.49	74.00	-18.51	Peak	VERTICAL
11574.00	45.50	38.23	42.32	9.70	51.11	54.00	-2.89	Average	VERTICAL
13920.00	41.62	40.21	40.37	10.62	52.08	74.00	-21.92	Peak	VERTICAL
15501.00	40.11	40.90	40.15	11.16	52.02	74.00	-21.98	Peak	VERTICAL
11a CH165									
5624.00	42.48	34.90	43.21	6.81	40.98	74.00	-33.02	Peak	HORIZONTAL
8021.00	41.85	36.62	42.80	9.26	44.93	74.00	-29.07	Peak	HORIZONTAL
10401.00	41.51	37.64	42.38	9.26	46.03	74.00	-27.97	Peak	HORIZONTAL
12050.00	42.56	38.41	42.25	10.07	48.79	74.00	-25.21	Peak	HORIZONTAL
13325.00	42.24	39.42	40.94	11.12	51.84	74.00	-22.16	Peak	HORIZONTAL
15059.00	39.88	40.64	40.19	11.08	51.41	74.00	-22.59	Peak	HORIZONTAL
4910.00	42.14	34.33	43.45	6.45	39.47	74.00	-34.53	Peak	VERTICAL
7120.00	41.51	36.00	42.92	8.80	43.39	74.00	-30.61	Peak	VERTICAL
9755.00	42.01	37.61	42.44	9.08	46.26	74.00	-27.74	Peak	VERTICAL
11659.00	47.83	38.26	42.32	9.76	53.53	74.00	-20.47	Peak	VERTICAL
13104.00	42.08	39.07	41.16	11.30	51.29	74.00	-22.71	Peak	VERTICAL
15654.00	40.08	41.09	40.13	11.19	52.23	74.00	-21.77	Peak	VERTICAL
Conclusion: Pass									
Note: -27 dBm/MHz Limit=95.2+EIRP [dBm]=95.2-27=68.2 dBμV/m									

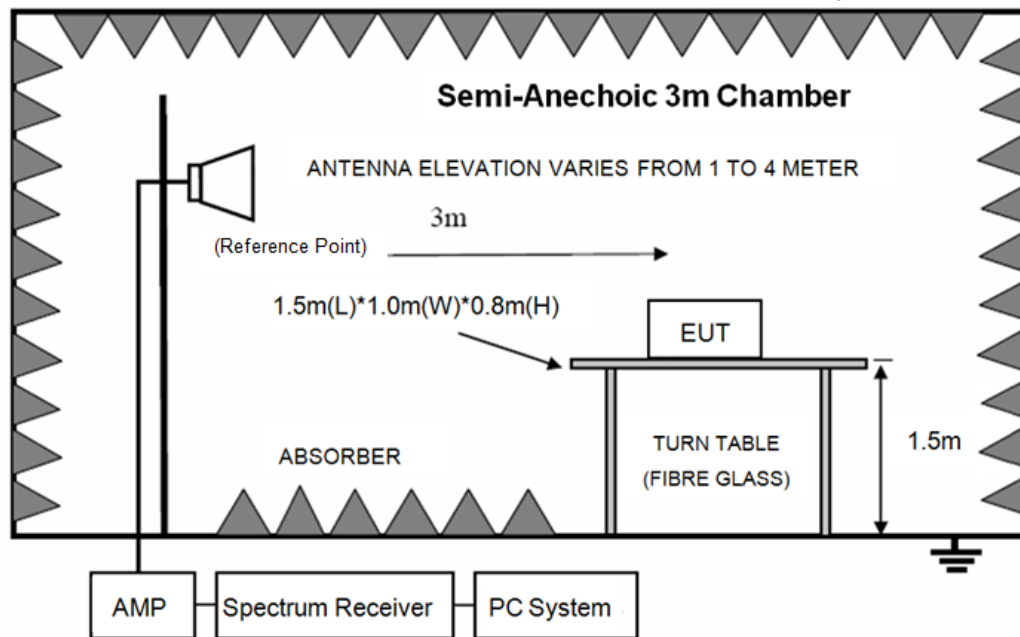
Note: 1. 30MHz~40GHz: (11a, 11n20, n40, 11ac20, 11ac40, 11ac80 mode all have been tested, only 11a mode is the worst case and reported.)

2. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.

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

9. Band Edge Compliance

9.1. Block diagram of test setup



9.2. Limit

(1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm / MHz.

(2) For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm / MHz.

(3) For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of -27 dBm / MHz.

(4) For transmitters operating in the 5.725-5.85 GHz band: All emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an e.i.r.p. of -17 dBm/MHz; for frequencies 10 MHz or greater above or below the band edge, emissions shall not exceed an e.i.r.p. of -27 dBm / MHz.

(5) Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in § 15.209. Further, any U-NII devices using an AC power line are required to comply also with the conducted limits set forth in § 15.207.

(6) The provisions of § 15.205 apply to intentional radiators operating under this section.

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

9.3. Test procedure

Same with clause 8.3 except change investigated frequency range from 5.15-5.25 GHz, 5250-5350 GHz, 5470-5725 GHz, 5.725-5.85 GHz.

Remark: All restriction band have been tested, and only the worst case is shown in report.

9.4. Test result

Pass. (See below detailed test result)

Note1: As specified in 15.407(b), emissions above 1000 MHz that are outside of the restricted bands are subject to a peak emission limit of -27 dBm/MHz. However, an out-of-band emission that complies with both the average and peak limits of 15.209 is not required to satisfy the -27 dBm/MHz or -17 dBm/MHz peak emission limit

Note2: 11a, 11n20, n40, 11ac20, 11ac40, 11ac80 mode all have been tested and recorded worst case in report.

TR-4-E-009 Radiated Emission Test Result

Test Site : DDT 3m Chamber 1#

D:\2020 RE 1# Report data\Q20052115-1E HL-4GQVS\FCC ABOVE 1G.EM6

Test Date : 2020-07-12

Tested By : Talent

EUT : GPON ONT

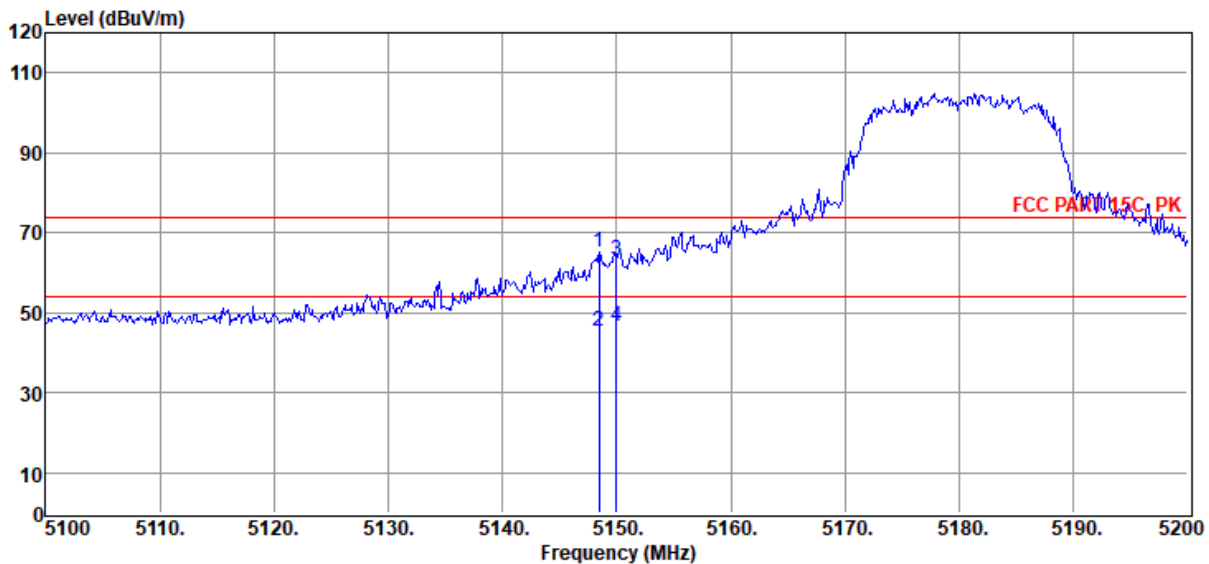
Model Number : HL-4GQVS

Power Supply : AC 120V / 60Hz

Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa **Antenna/Distance** : 2019 HF 907/3m/VERTICAL

Memo : 11A Antenna3 5180



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5148.50	67.16	34.59	43.36	6.62	65.01	74.00	-8.99	Peak	VERTICAL
2	5148.50	47.56	34.59	43.36	6.62	45.41	54.00	-8.59	Average	VERTICAL
3	5150.00	65.31	34.59	43.36	6.62	63.16	74.00	-10.84	Peak	VERTICAL
4	5150.00	48.63	34.59	43.36	6.62	46.48	54.00	-7.52	Average	VERTICAL

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

D:\2020 RE 1# Report data\Q20052115-1E HL-4GQVS\FCC ABOVE 1G.EM6

Test Date : 2020-07-12

Tested By : Talent

EUT : GPON ONT

Model Number : HL-4GQVS

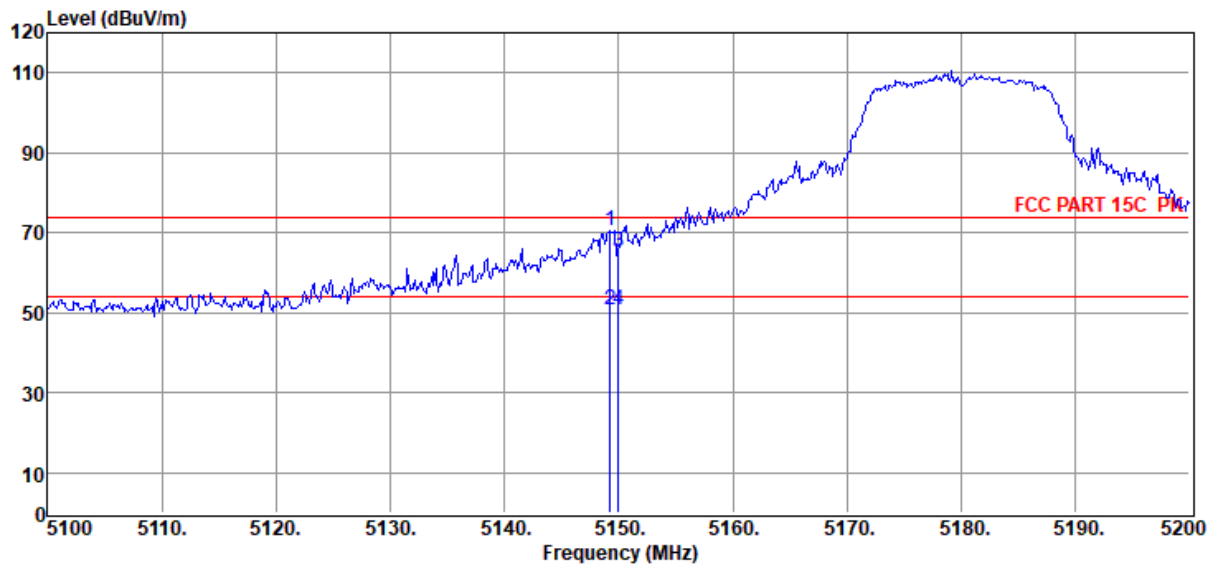
Power Supply : AC 120V / 60Hz

Test Mode : Tx mode

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

Antenna/Distance : 2019 HF 907/3m/HORIZONTAL

Memo : 11A Antenna3 5180



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5149.30	69.74	34.59	43.36	6.62	67.59	74.00	-6.41	Peak	HORIZONTAL
2	5149.30	52.67	34.59	43.36	6.62	50.52	54.00	-3.48	Average	HORIZONTAL
3	5150.00	67.31	34.59	43.36	6.62	65.16	74.00	-8.84	Peak	HORIZONTAL
4	5150.00	52.77	34.59	43.36	6.62	50.62	54.00	-3.38	Average	HORIZONTAL

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

D:\2020 RE 1# Report data\Q20052115-1E HL-4GQVS\FCC ABOVE 1G.EM6

Test Date : 2020-08-08

Tested By : Talent

EUT : GPON ONT

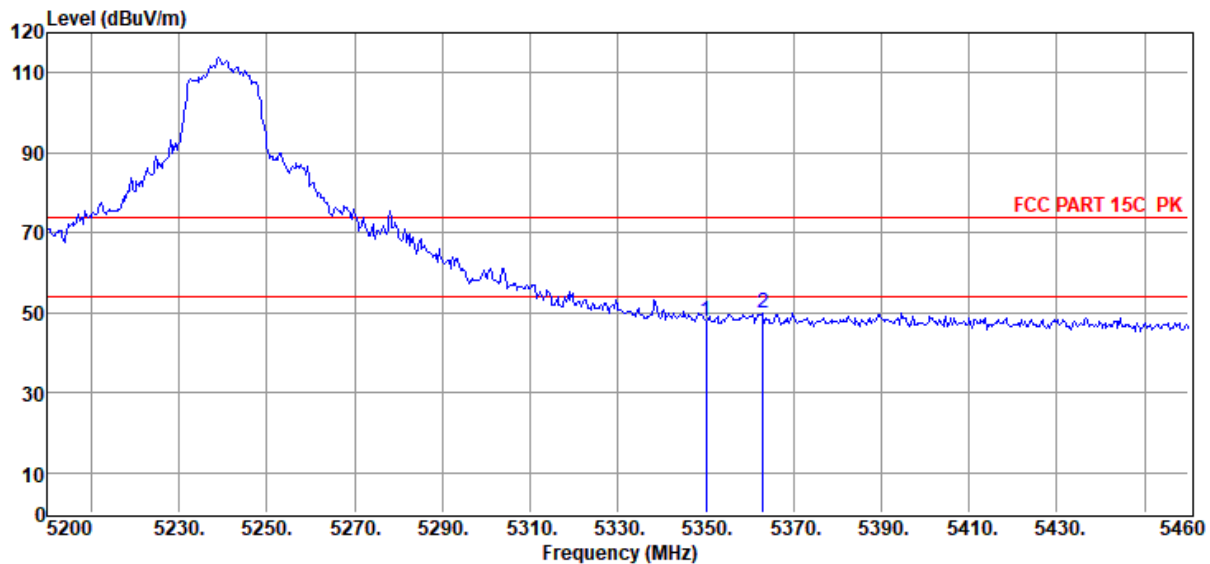
Model Number : HL-4GQVS

Power Supply : AC 120V / 60Hz

Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa **Antenna/Distance** : 2019 HF 907/3m/HORIZONTAL

Memo : 11A Antenna3 5240



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5350.00	50.51	34.71	43.99	6.70	47.93	74.00	-26.07	Peak	HORIZONTAL
2	5363.02	52.66	34.72	43.99	6.71	50.10	74.00	-23.90	Peak	HORIZONTAL

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

D:\2020 RE 1# Report data\Q20052115-1E HL-4GQVS\FCC ABOVE 1G.EM6

Test Date : 2020-08-08

Tested By : Talent

EUT : GPON ONT

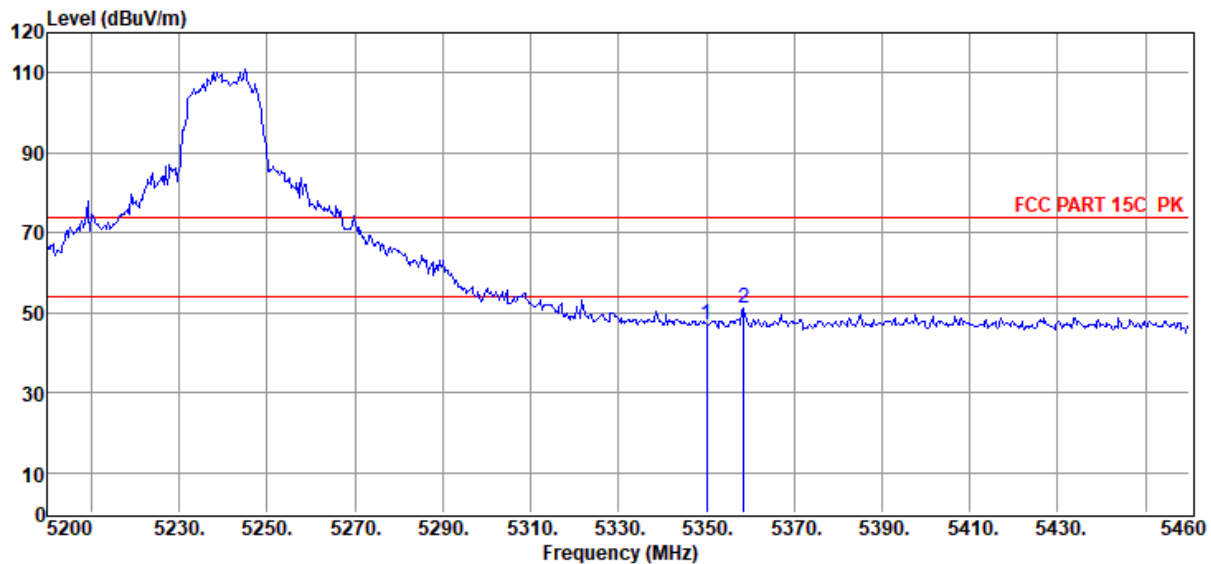
Model Number : HL-4GQVS

Power Supply : AC 120V / 60Hz

Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa **Antenna/Distance** : 2019 HF 907/3m/VERTICAL

Memo : 11A Antenna3 5240



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5350.00	49.44	34.71	43.99	6.70	46.86	74.00	-27.14	Peak	VERTICAL
2	5358.60	53.55	34.72	43.99	6.70	50.98	74.00	-23.02	Peak	VERTICAL

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

D:\2020 RE 1# Report data\Q20052115-1E HL-4GQVS\FCC ABOVE 1G.EM6

Test Date : 2020-07-12

Tested By : Talent

EUT : GPON ONT

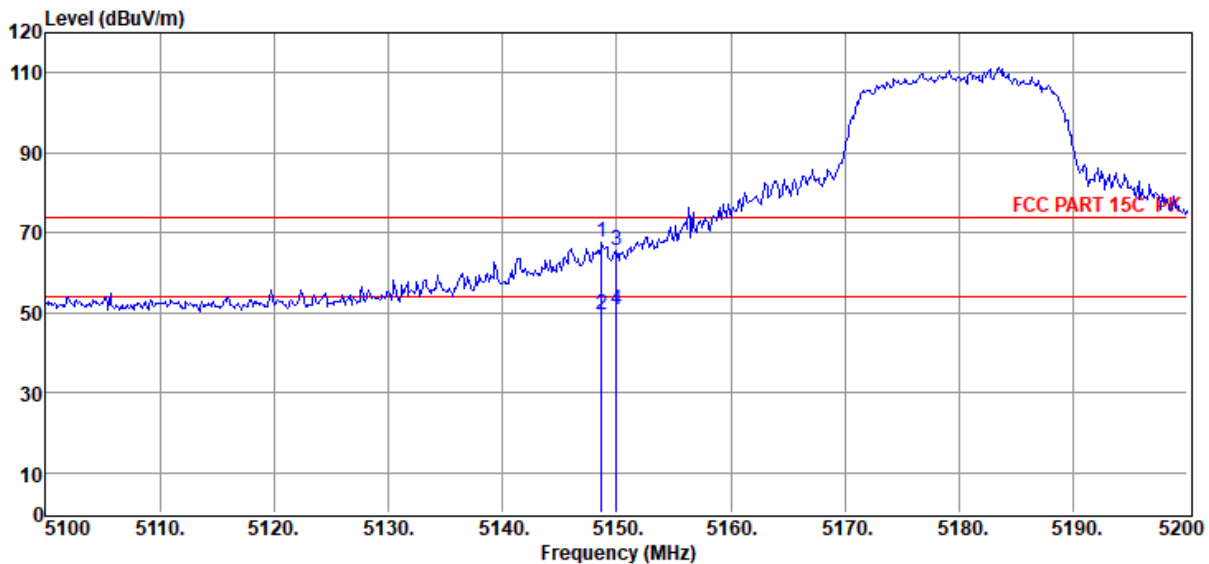
Model Number : HL-4GQVS

Power Supply : AC 120V / 60Hz

Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa **Antenna/Distance** : 2019 HF 907/3m/HORIZONTAL

Memo : 11AC20 5180



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5148.70	69.98	34.59	43.36	6.62	67.83	74.00	-6.17	Peak	HORIZONTAL
2	5148.70	51.69	34.59	43.36	6.62	49.54	54.00	-4.46	Average	HORIZONTAL
3	5150.00	67.54	34.59	43.36	6.62	65.39	74.00	-8.61	Peak	HORIZONTAL
4	5150.00	52.78	34.59	43.36	6.62	50.63	54.00	-3.37	Average	HORIZONTAL

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

D:\2020 RE 1# Report data\Q20052115-1E HL-4GQVS\FCC ABOVE 1G.EM6

Test Date : 2020-07-12

Tested By : Talent

EUT : GPON ONT

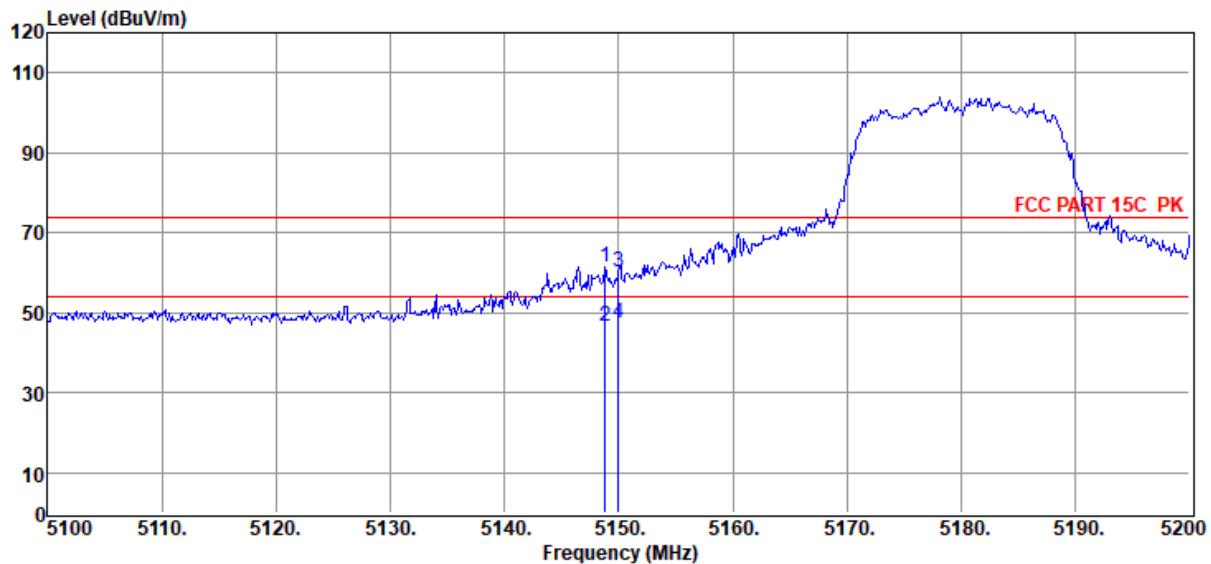
Model Number : HL-4GQVS

Power Supply : AC 120V / 60Hz

Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa **Antenna/Distance** : 2019 HF 907/3m/VERTICAL

Memo : 11AC20 5180



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5148.80	63.78	34.59	43.36	6.62	61.63	74.00	-12.37	Peak	VERTICAL
2	5148.80	48.75	34.59	43.36	6.62	46.60	54.00	-7.40	Average	VERTICAL
3	5150.00	62.46	34.59	43.36	6.62	60.31	74.00	-13.69	Peak	VERTICAL
4	5150.00	49.63	34.59	43.36	6.62	47.48	54.00	-6.52	Average	VERTICAL

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

D:\2020 RE 1# Report data\Q20052115-1E HL-4GQVS\FCC ABOVE 1G.EM6

Test Date : 2020-08-08

Tested By : Talent

EUT : GPON ONT

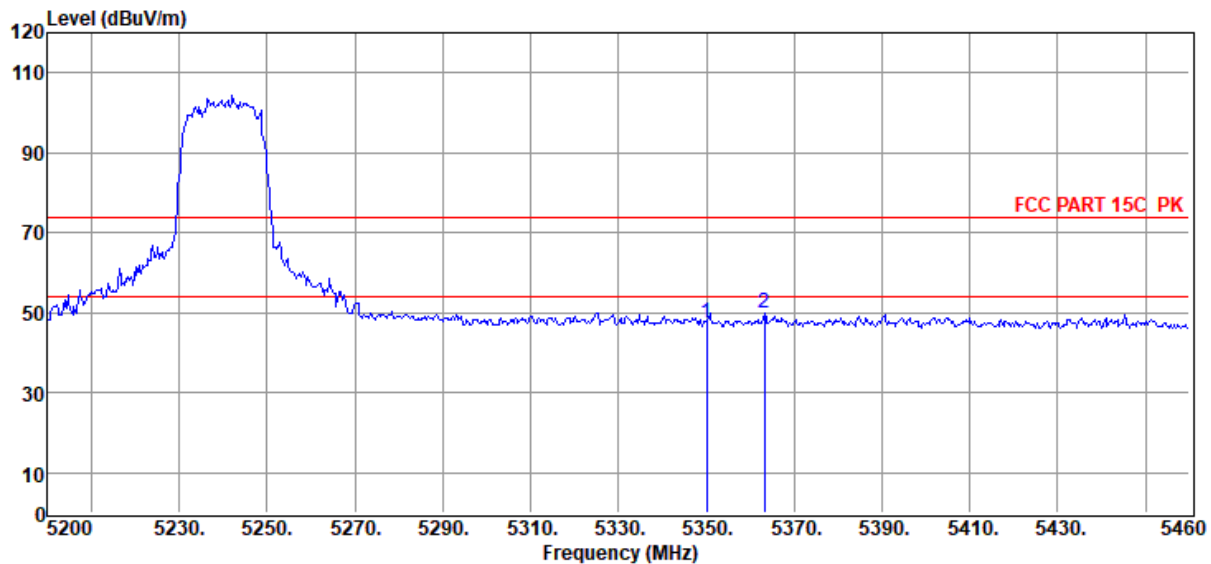
Model Number : HL-4GQVS

Power Supply : AC 120V / 60Hz

Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa **Antenna/Distance** : 2019 HF 907/3m/VERTICAL

Memo : 11AC20 5240



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5350.00	50.20	34.71	43.99	6.70	47.62	74.00	-26.38	Peak	VERTICAL
2	5363.28	52.33	34.72	43.99	6.71	49.77	74.00	-24.23	Peak	VERTICAL

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

D:\2020 RE 1# Report data\Q20052115-1E HL-4GQVS\FCC ABOVE 1G.EM6

Test Date : 2020-08-08

Tested By : Talent

EUT : GPON ONT

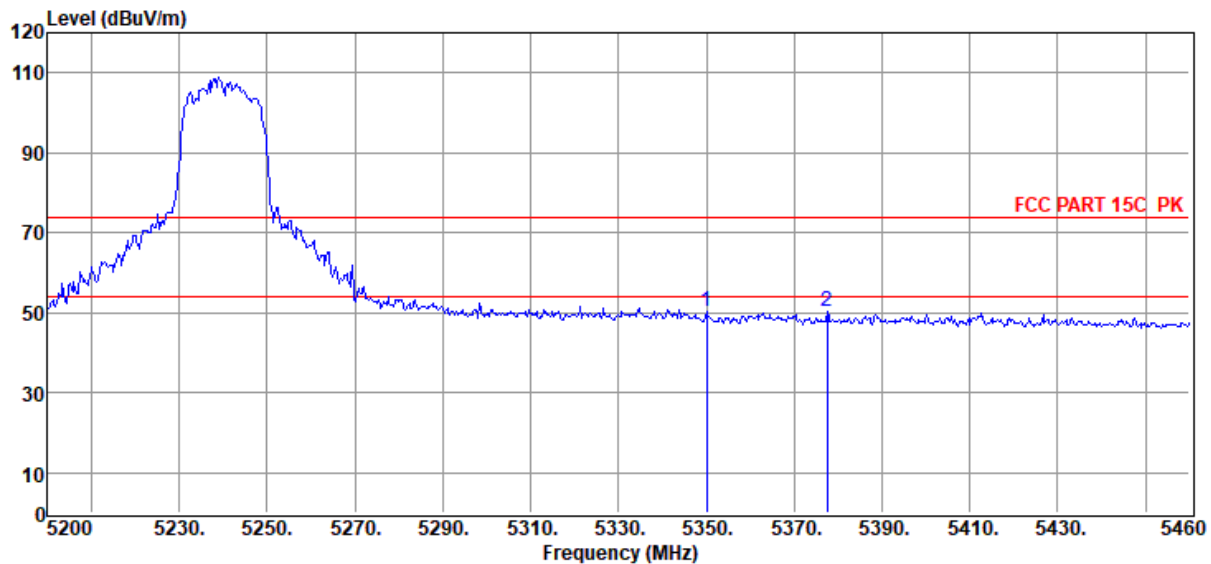
Model Number : HL-4GQVS

Power Supply : AC 120V / 60Hz

Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa **Antenna/Distance** : 2019 HF 907/3m/HORIZONTAL

Memo : 11AC20 5240



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5350.00	52.79	34.71	43.99	6.70	50.21	74.00	-23.79	Peak	HORIZONTAL
2	5377.58	52.94	34.73	43.98	6.71	50.40	74.00	-23.60	Peak	HORIZONTAL

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

D:\2020 RE 1# Report data\Q20052115-1E HL-4GQVS\FCC ABOVE 1G.EM6

Test Date : 2020-07-12

Tested By : Talent

EUT : GPON ONT

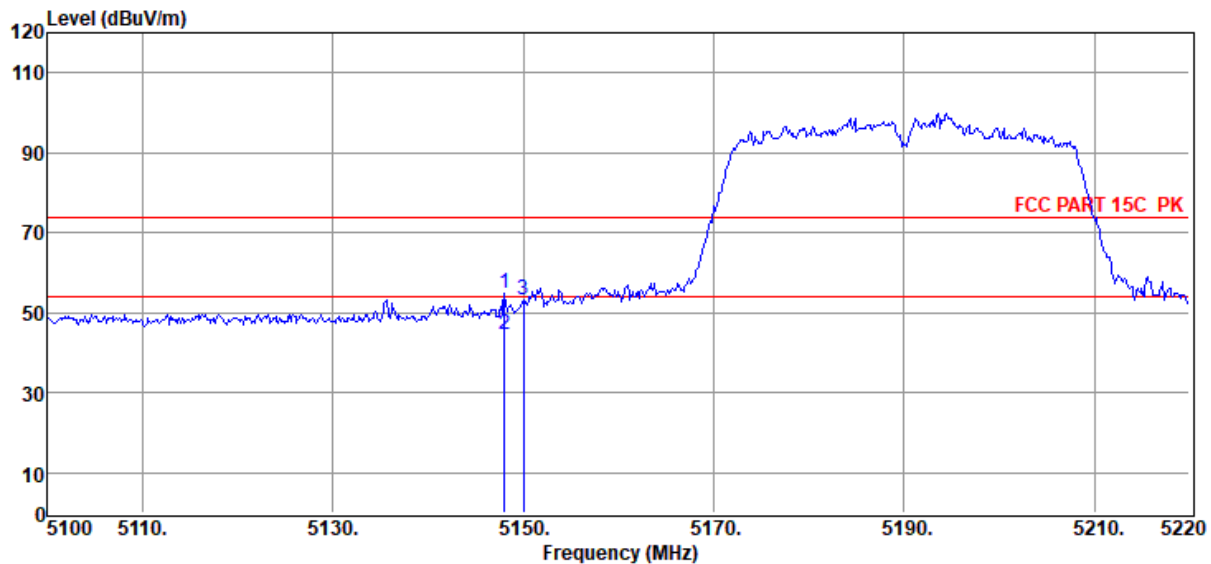
Model Number : HL-4GQVS

Power Supply : AC 120V / 60Hz

Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa **Antenna/Distance** : 2019 HF 907/3m/VERTICAL

Memo : 11AC40 5190



Item (Mark)	Freq. (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Detector	Polarization
1	5148.00	56.93	34.59	43.36	6.62	54.78	74.00	-19.22	Peak	VERTICAL
2	5148.00	46.62	34.59	43.36	6.62	44.47	54.00	-9.53	Average	VERTICAL
3	5150.04	55.16	34.59	43.36	6.62	53.01	74.00	-20.99	Peak	VERTICAL

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

D:\2020 RE 1# Report data\Q20052115-1E HL-4GQVS\FCC ABOVE 1G.EM6

Test Date : 2020-07-12

Tested By : Talent

EUT : GPON ONT

Model Number : HL-4GQVS

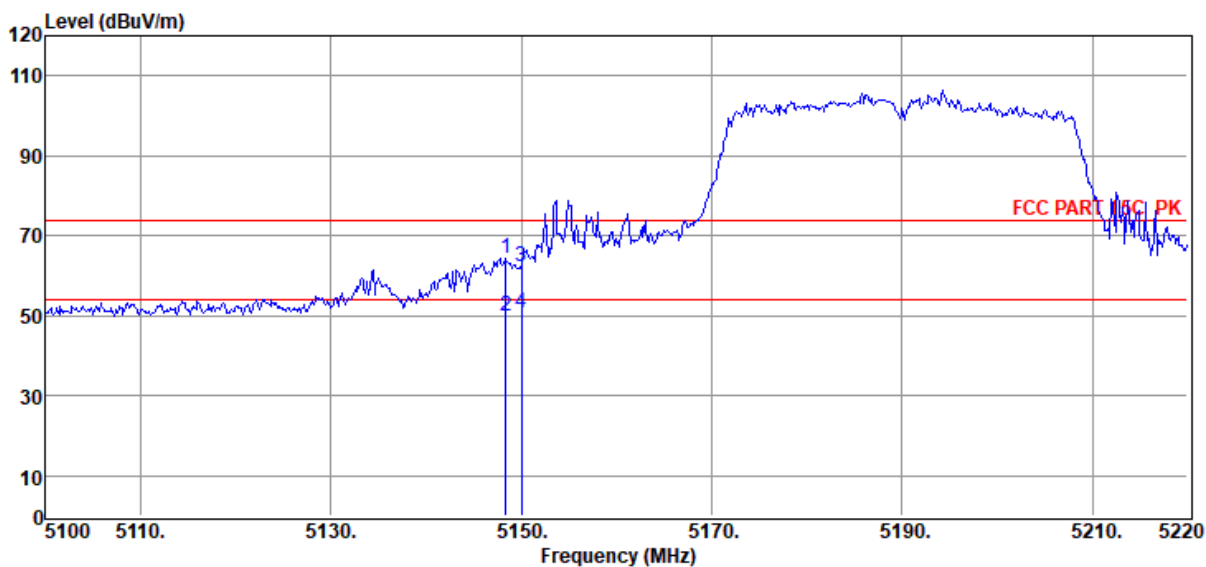
Power Supply : AC 120V / 60Hz

Test Mode : Tx mode

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

Antenna/Distance : 2019 HF 907/3m/HORIZONTAL

Memo : 11AC40 5190



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5148.36	66.53	34.59	43.36	6.62	64.38	74.00	-9.62	Peak	HORIZONTAL
2	5148.36	52.01	34.59	43.36	6.62	49.86	54.00	-4.14	Average	HORIZONTAL
3	5150.04	64.55	34.59	43.36	6.62	62.40	74.00	-11.60	Peak	HORIZONTAL
4	5150.04	52.74	34.59	43.36	6.62	50.59	54.00	-3.41	Average	HORIZONTAL

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

D:\2020 RE 1# Report data\Q20052115-1E HL-4GQVS\FCC ABOVE 1G.EM6

Test Date : 2020-08-08

Tested By : Talent

EUT : GPON ONT

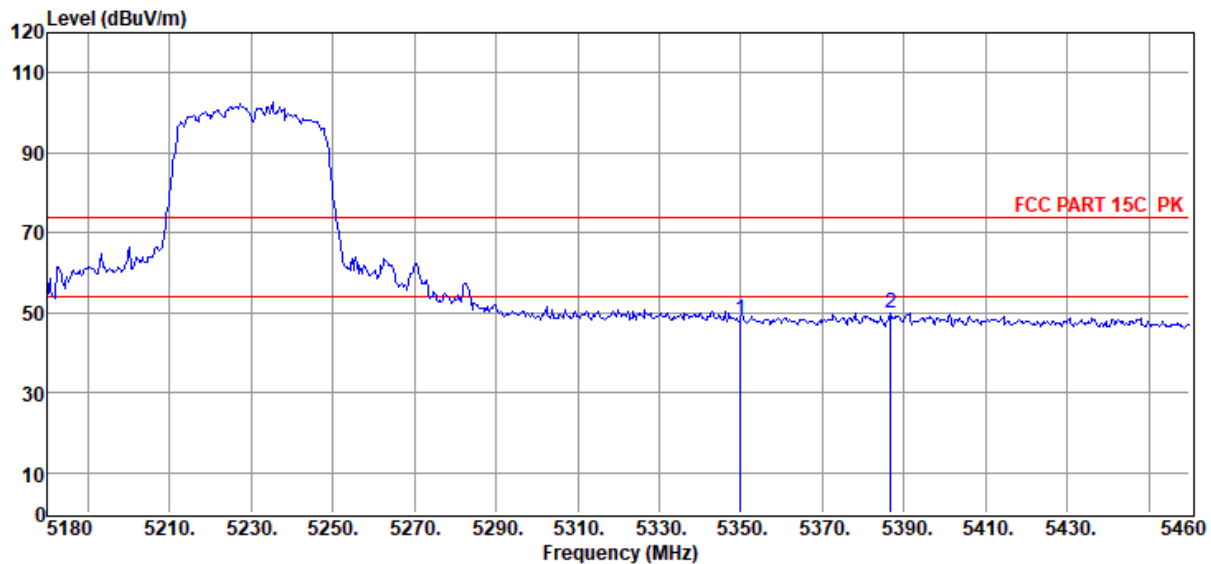
Model Number : HL-4GQVS

Power Supply : AC 120V / 60Hz

Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa **Antenna/Distance** : 2019 HF 907/3m/HORIZONTAL

Memo : 11AC40 5230



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5350.00	50.65	34.71	43.99	6.70	48.07	74.00	-25.93	Peak	HORIZONTAL
2	5386.64	52.40	34.73	43.98	6.71	49.86	74.00	-24.14	Peak	HORIZONTAL

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

D:\2020 RE 1# Report data\Q20052115-1E HL-4GQVS\FCC ABOVE 1G.EM6

Test Date : 2020-08-08

Tested By : Talent

EUT : GPON ONT

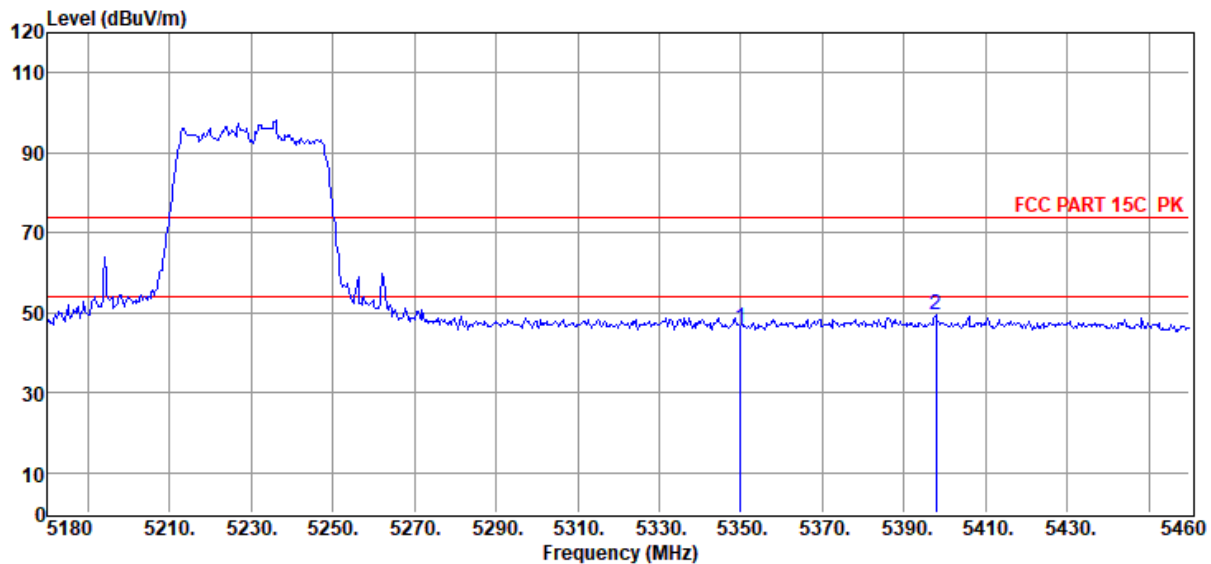
Model Number : HL-4GQVS

Power Supply : AC 120V / 60Hz

Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa **Antenna/Distance** : 2019 HF 907/3m/VERTICAL

Memo : 11AC40 5230



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5350.00	48.80	34.71	43.99	6.70	46.22	74.00	-27.78	Peak	VERTICAL
2	5397.84	51.84	34.74	43.98	6.72	49.32	74.00	-24.68	Peak	VERTICAL

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

D:\2020 RE 1# Report data\Q20052115-1E HL-4GQVS\FCC ABOVE 1G.EM6

Test Date : 2020-07-12

Tested By : Talent

EUT : GPON ONT

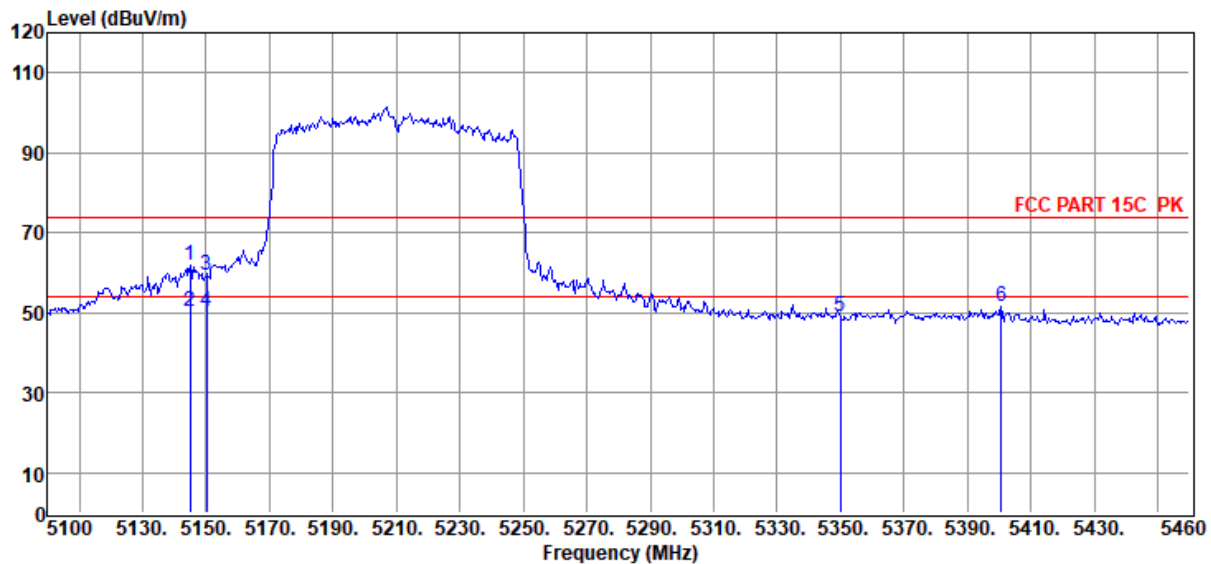
Model Number : HL-4GQVS

Power Supply : AC 120V / 60Hz

Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa **Antenna/Distance** : 2019 HF 907/3m/HORIZONTAL

Memo : 11AC80 5210



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5145.00	63.87	34.59	43.37	6.62	61.71	74.00	-12.29	Peak	HORIZONTAL
2	5145.00	52.32	34.59	43.37	6.62	50.16	54.00	-3.84	Average	HORIZONTAL
3	5150.04	61.60	34.59	43.36	6.62	59.45	74.00	-14.55	Peak	HORIZONTAL
4	5150.04	52.64	34.59	43.36	6.62	50.49	54.00	-3.51	Average	HORIZONTAL
5	5350.00	50.95	34.71	43.30	6.70	49.06	74.00	-24.94	Peak	HORIZONTAL
6	5400.60	53.18	34.74	43.28	6.72	51.36	74.00	-22.64	Peak	HORIZONTAL

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

D:\2020 RE 1# Report data\Q20052115-1E HL-4GQVS\FCC ABOVE 1G.EM6

Test Date : 2020-07-12

Tested By : Talent

EUT : GPON ONT

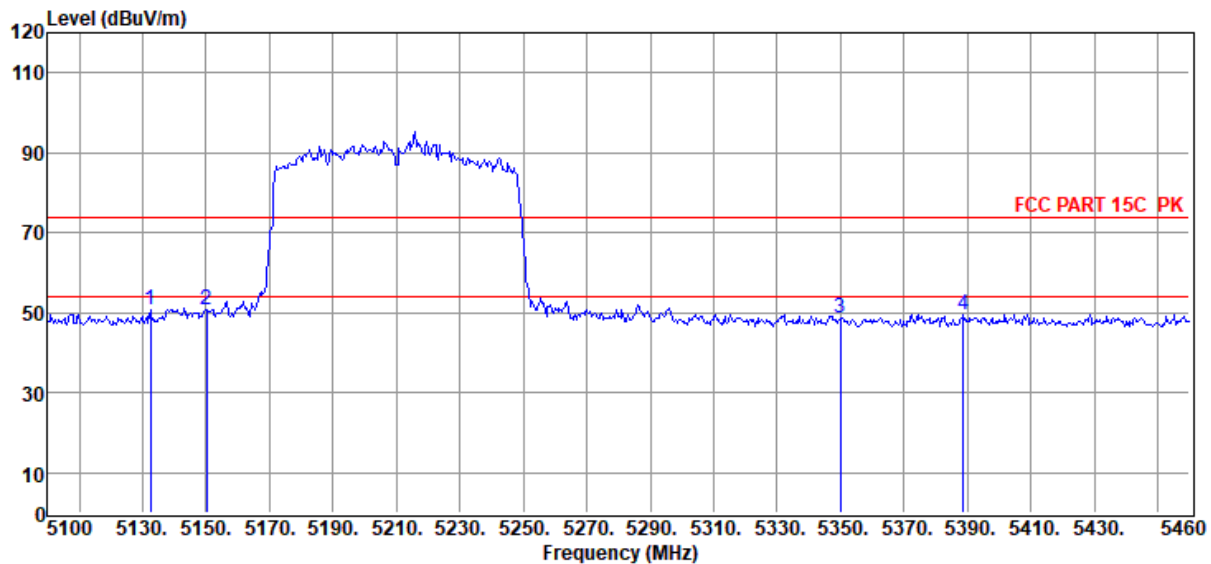
Model Number : HL-4GQVS

Power Supply : AC 120V / 60Hz

Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa **Antenna/Distance** : 2019 HF 907/3m/VERTICAL

Memo : 11AC80 5210



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5132.40	53.01	34.58	43.37	6.61	50.83	74.00	-23.17	Peak	VERTICAL
2	5150.04	52.85	34.59	43.36	6.62	50.70	74.00	-23.30	Peak	VERTICAL
3	5350.00	50.37	34.71	43.30	6.70	48.48	74.00	-25.52	Peak	VERTICAL
4	5388.72	51.49	34.74	43.29	6.72	49.66	74.00	-24.34	Peak	VERTICAL

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

D:\2020 RE 1# Report data\Q20052115-1E HL-4GQVS\FCC ABOVE 1G.EM6

Test Date : 2020-07-12

Tested By : Talent

EUT : GPON ONT

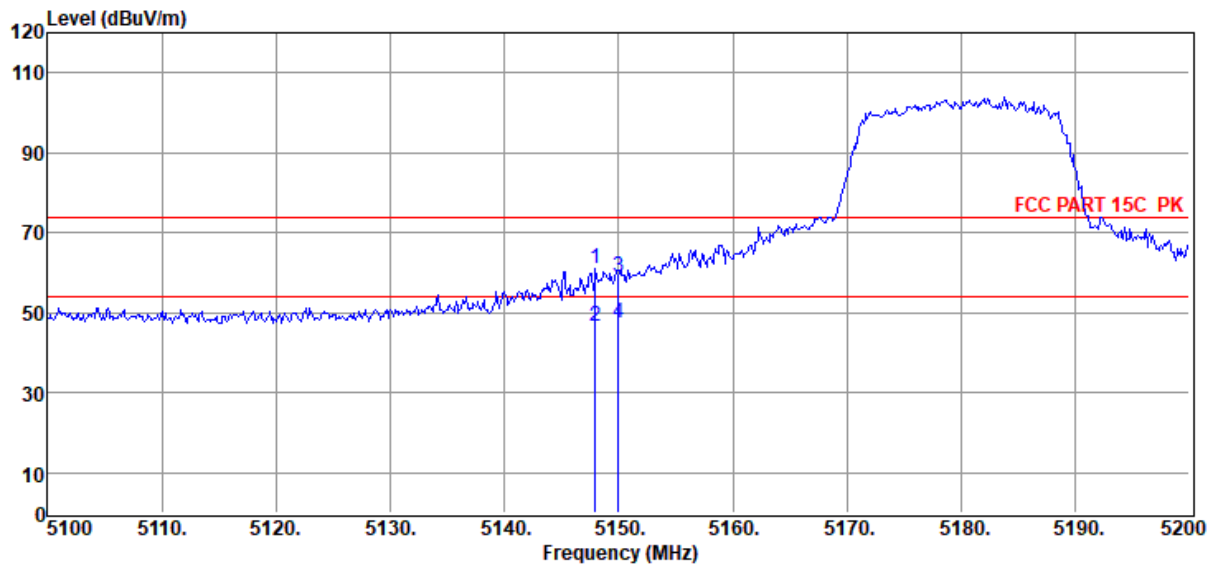
Model Number : HL-4GQVS

Power Supply : AC 120V / 60Hz

Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa **Antenna/Distance** : 2019 HF 907/3m/VERTICAL

Memo : 11N20 5180



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5148.00	63.12	34.59	43.36	6.62	60.97	74.00	-13.03	Peak	VERTICAL
2	5148.00	48.62	34.59	43.36	6.62	46.47	54.00	-7.53	Average	VERTICAL
3	5150.00	60.97	34.59	43.36	6.62	58.82	74.00	-15.18	Peak	VERTICAL
4	5150.00	49.37	34.59	43.36	6.62	47.22	54.00	-6.78	Average	VERTICAL

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

D:\2020 RE 1# Report data\Q20052115-1E HL-4GQVS\FCC ABOVE 1G.EM6

Test Date : 2020-07-12

Tested By : Talent

EUT : GPON ONT

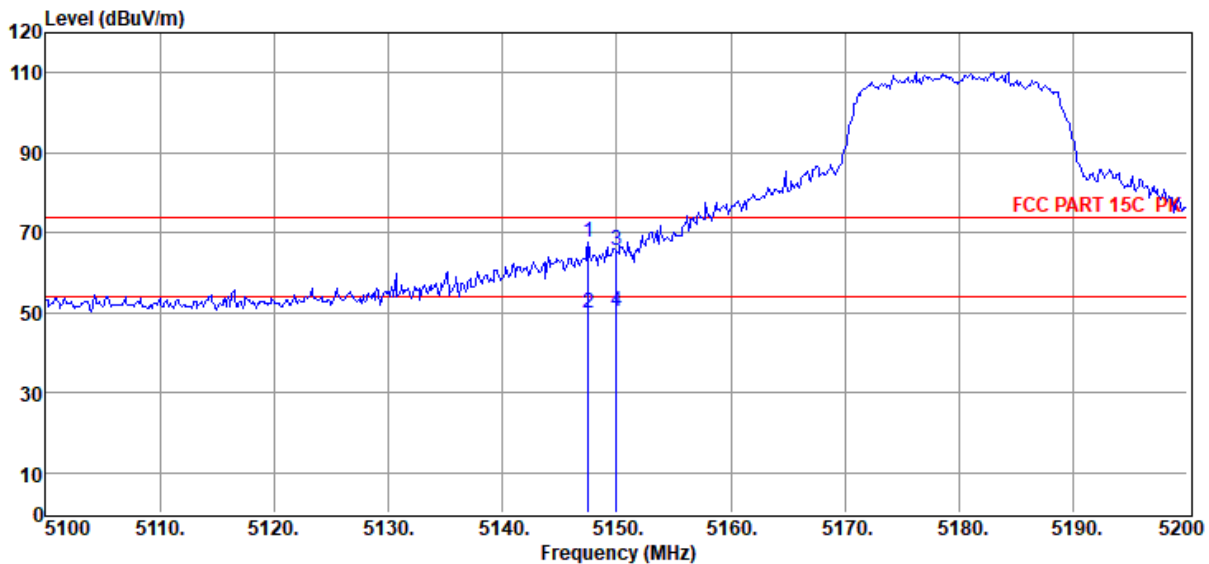
Model Number : HL-4GQVS

Power Supply : AC 120V / 60Hz

Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa **Antenna/Distance** : 2019 HF 907/3m/HORIZONTAL

Memo : 11N20 5180



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5147.50	69.67	34.59	43.36	6.62	67.52	74.00	-6.48	Peak	HORIZONTAL
2	5147.50	51.97	34.59	43.36	6.62	49.82	54.00	-4.18	Average	HORIZONTAL
3	5150.00	67.85	34.59	43.36	6.62	65.70	74.00	-8.3	Peak	HORIZONTAL
4	5150.00	52.46	34.59	43.36	6.62	50.31	54.00	-3.69	Average	HORIZONTAL

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

D:\2020 RE 1# Report data\Q20052115-1E HL-4GQVS\FCC ABOVE 1G.EM6

Test Date : 2020-08-08

Tested By : Talent

EUT : GPON ONT

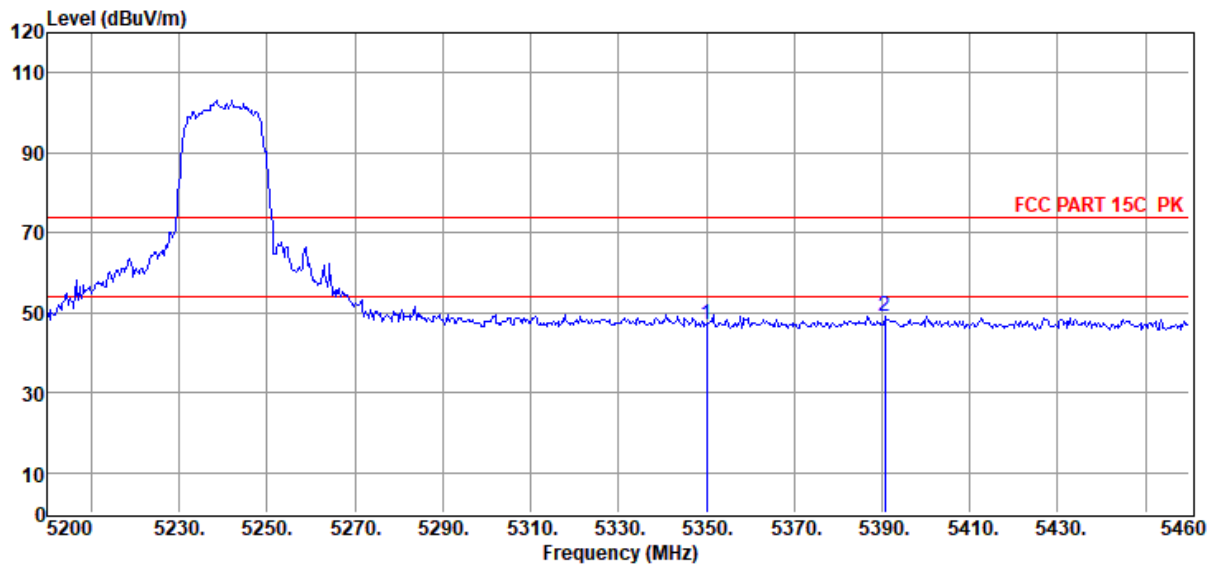
Model Number : HL-4GQVS

Power Supply : AC 120V / 60Hz

Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa **Antenna/Distance** : 2019 HF 907/3m/VERTICAL

Memo : 11N20 5240



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5350.00	49.54	34.71	43.99	6.70	46.96	74.00	-27.04	Peak	VERTICAL
2	5390.58	51.69	34.74	43.98	6.72	49.17	74.00	-24.83	Peak	VERTICAL

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

D:\2020 RE 1# Report data\Q20052115-1E HL-4GQVS\FCC
ABOVE 1G. EM6

Test Date : 2020-08-08

Tested By : Talent

EUT : GPON ONT

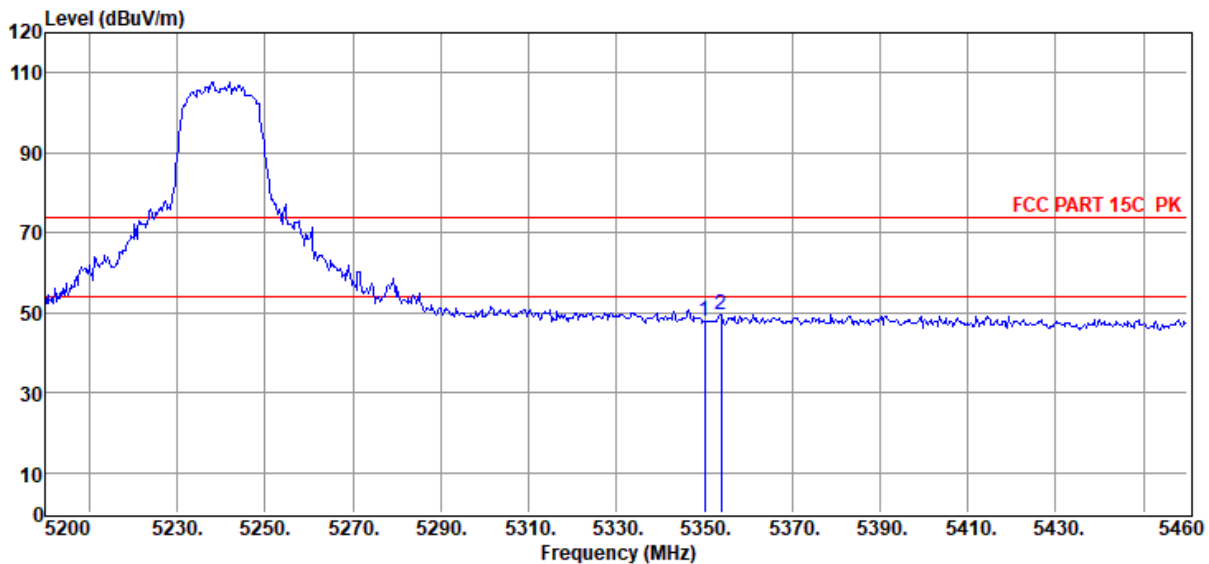
Model Number : HL-4GQVS

Power Supply : AC 120V / 60Hz

Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa **Antenna/Distance** : 2019 HF 907/3m/HORIZONTAL

Memo : 11N20 5240



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5350.00	50.54	34.71	43.99	6.70	47.96	74.00	-26.04	Peak	HORIZONTAL
2	5353.92	52.12	34.72	43.99	6.70	49.55	74.00	-24.45	Peak	HORIZONTAL

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

D:\2020 RE 1# Report data\Q20052115-1E HL-4GQVS\FCC ABOVE 1G.EM6

Test Date : 2020-07-12

Tested By : Talent

EUT : GPON ONT

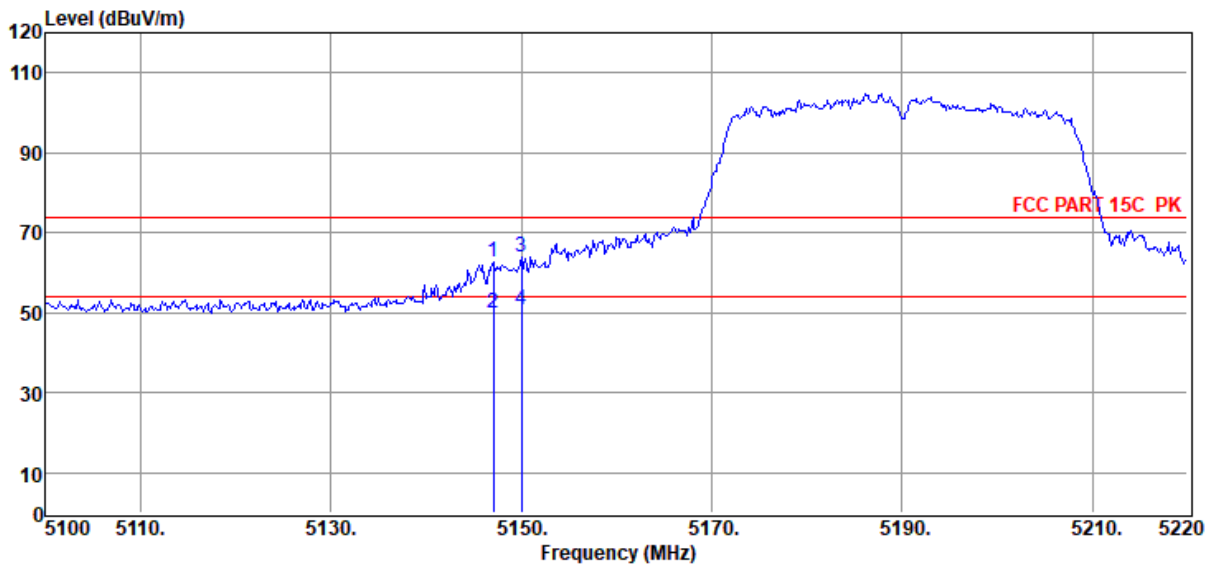
Model Number : HL-4GQVS

Power Supply : AC 120V / 60Hz

Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa **Antenna/Distance** : 2019 HF 907/3m/HORIZONTAL

Memo : 11N40 5190



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5147.04	64.78	34.59	43.36	6.62	62.63	74.00	-11.37	Peak	HORIZONTAL
2	5147.04	51.93	34.59	43.36	6.62	49.78	54.00	-4.22	Average	HORIZONTAL
3	5150.00	66.05	34.59	43.36	6.62	63.90	74.00	-10.10	Peak	HORIZONTAL
4	5150.00	52.83	34.59	43.36	6.62	50.68	54.00	-3.32	Average	HORIZONTAL

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

D:\2020 RE 1# Report data\Q20052115-1E HL-4GQVS\FCC
ABOVE 1G.EM6

Test Date : 2020-07-12

Tested By : Talent

EUT : GPON ONT

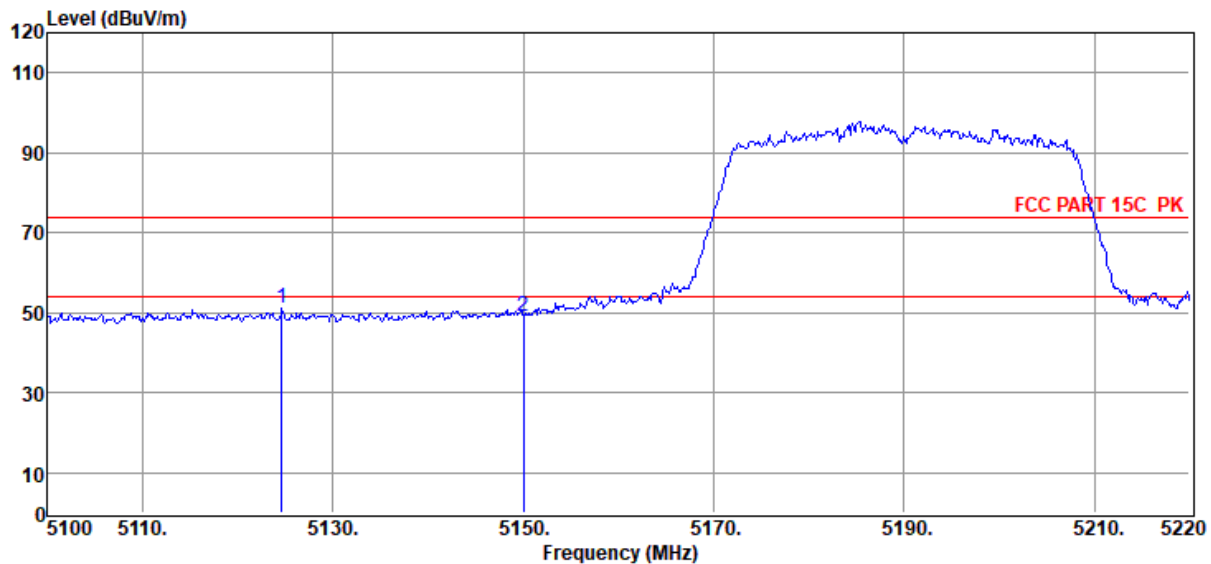
Model Number : HL-4GQVS

Power Supply : AC 120V / 60Hz

Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa **Antenna/Distance** : 2019 HF 907/3m/VERTICAL

Memo : 11N40 5190



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5124.60	53.34	34.58	43.37	6.61	51.16	74.00	-22.84	Peak	VERTICAL
2	5150.00	51.29	34.59	43.36	6.62	49.14	74.00	-24.86	Peak	VERTICAL

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

D:\2020 RE 1# Report data\Q20052115-1E HL-4GQVS\FCC ABOVE 1G.EM6

Test Date : 2020-08-08

Tested By : Talent

EUT : GPON ONT

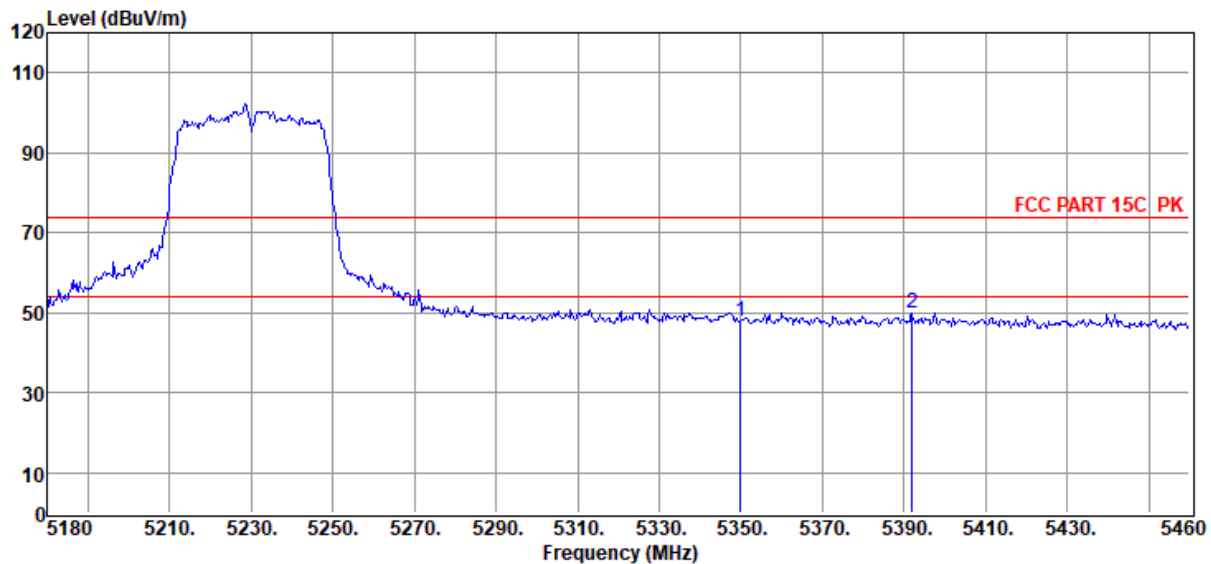
Model Number : HL-4GQVS

Power Supply : AC 120V / 60Hz

Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa **Antenna/Distance** : 2019 HF 907/3m/HORIZONTAL

Memo : 11N40 5230



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5350.00	50.22	34.71	43.99	6.70	47.64	74.00	-26.36	Peak	HORIZONTAL
2	5391.96	52.60	34.74	43.98	6.72	50.08	74.00	-23.92	Peak	HORIZONTAL

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

D:\2020 RE 1# Report data\Q20052115-1E HL-4GQVS\FCC ABOVE 1G.EM6

Test Date : 2020-08-08

Tested By : Talent

EUT : GPON ONT

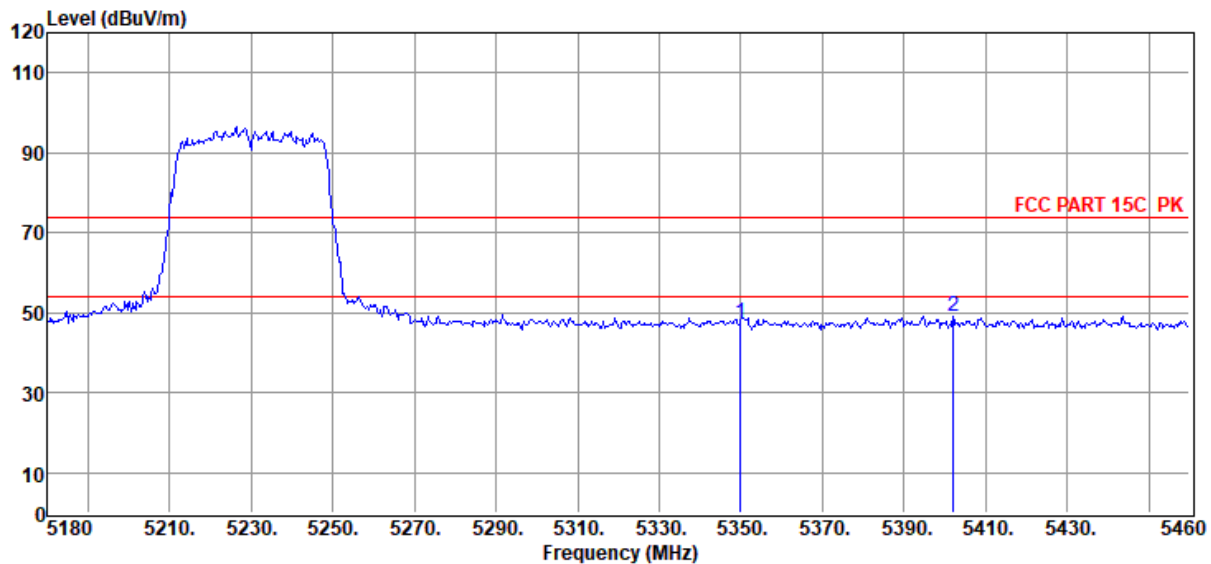
Model Number : HL-4GQVS

Power Supply : AC 120V / 60Hz

Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa **Antenna/Distance** : 2019 HF 907/3m/VERTICAL

Memo : 11N40 5230



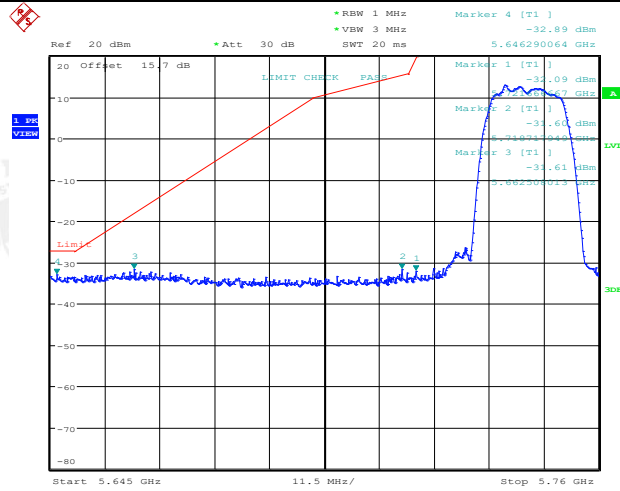
Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	5350.00	49.87	34.71	43.99	6.70	47.29	74.00	-26.71	Peak	VERTICAL
2	5402.04	51.77	34.74	43.98	6.72	49.25	74.00	-24.75	Peak	VERTICAL

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

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

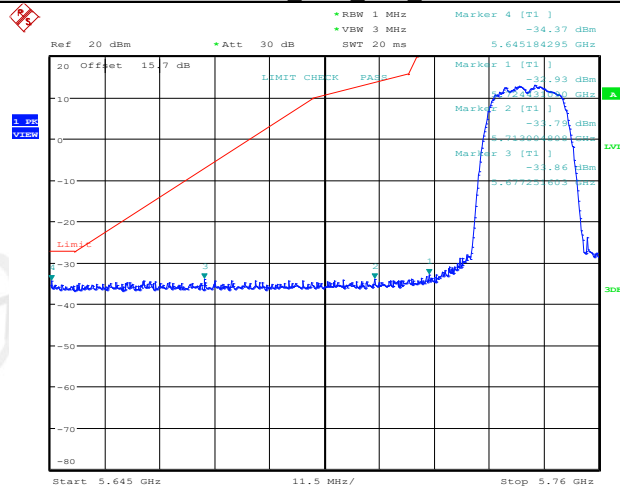
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

11A_Ant1_Low_5745



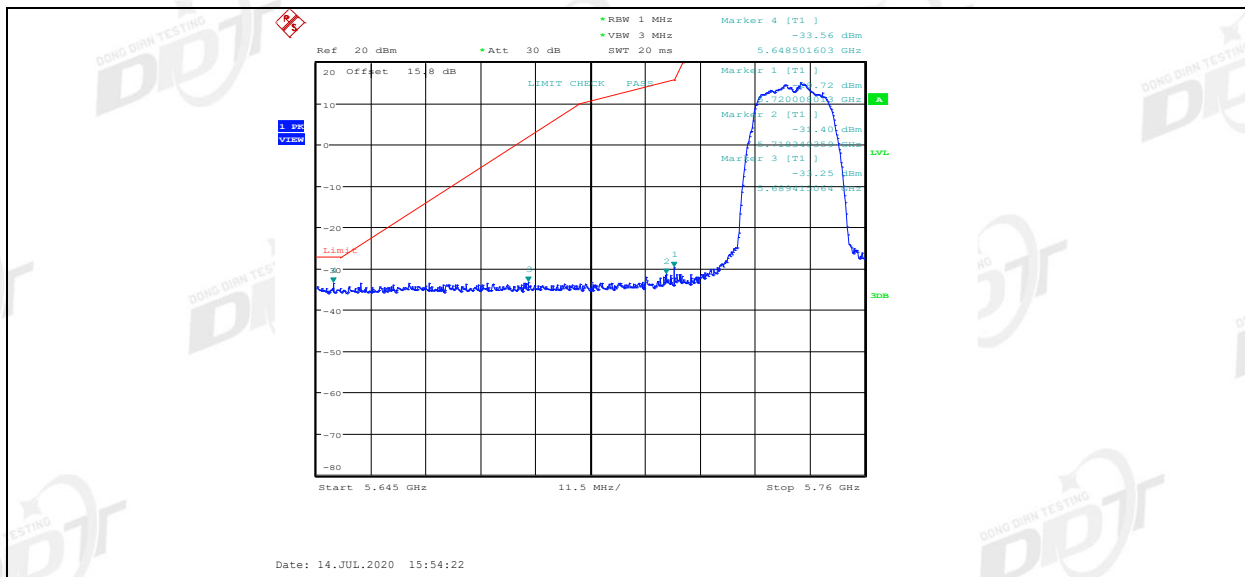
Date: 14.JUL.2020 15:12:19

11A_Ant2_Low_5745

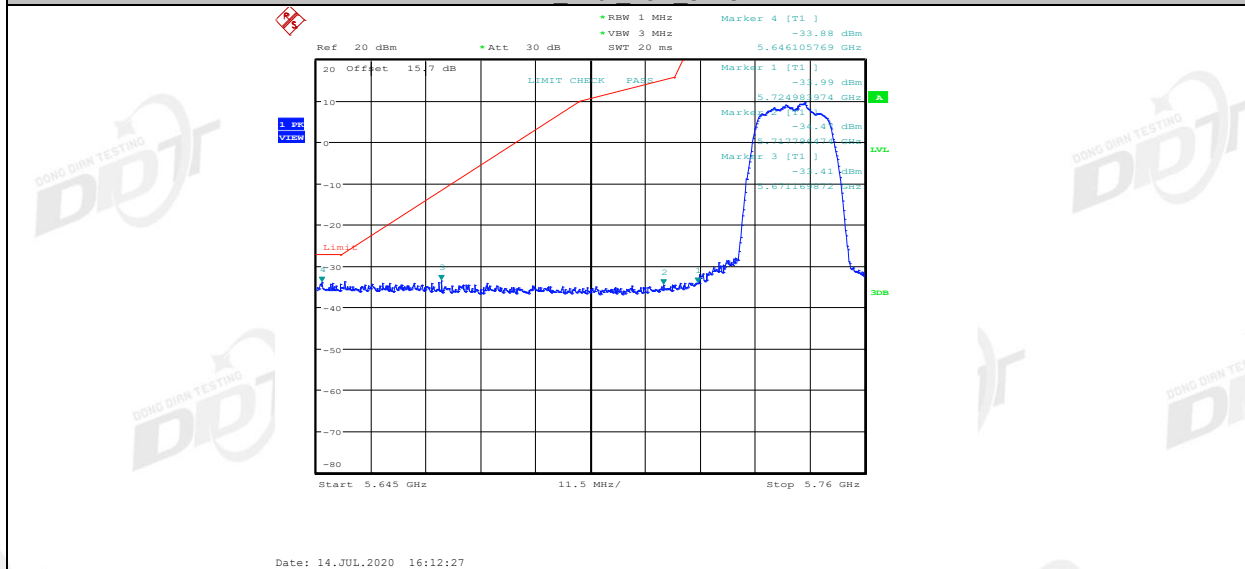


Date: 14.JUL.2020 15:26:08

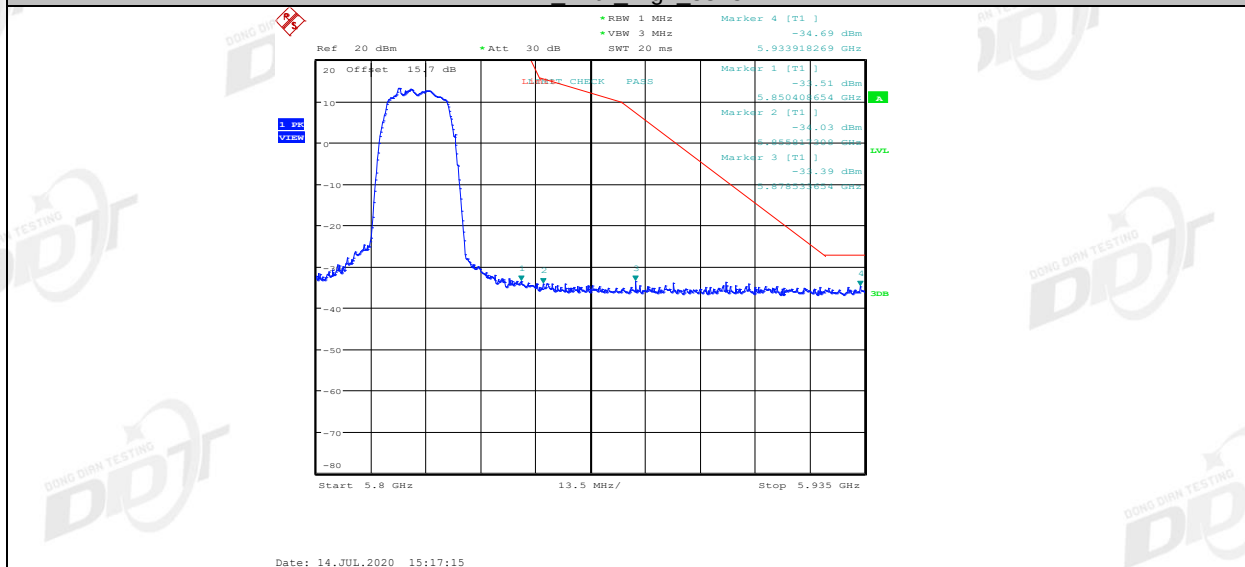
11A_Ant3_Low_5745



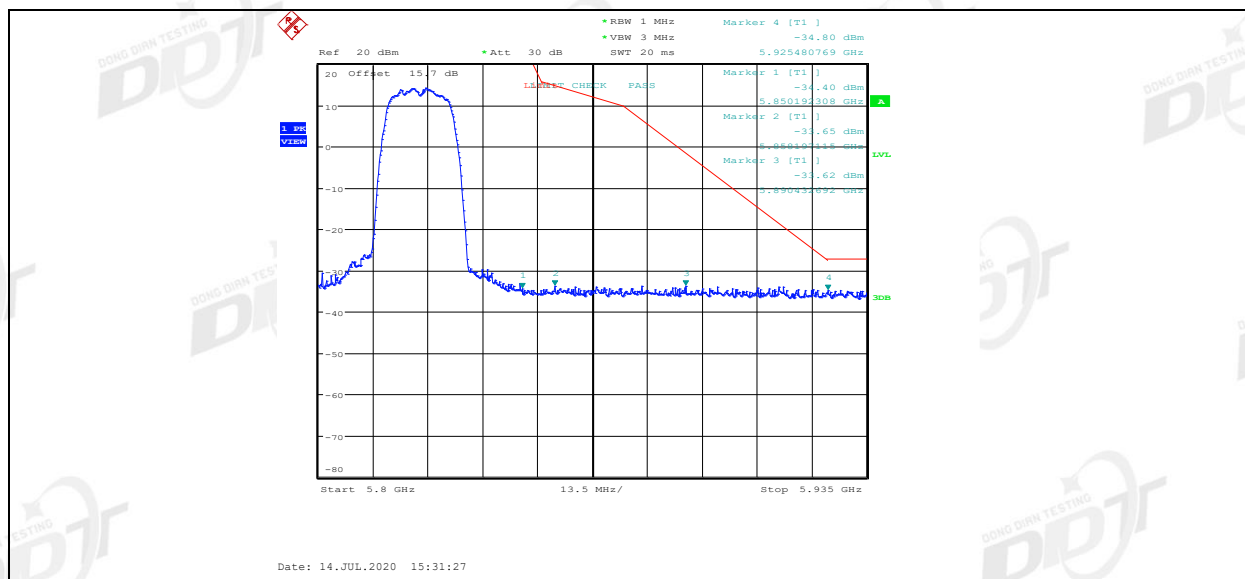
11A Ant4 Low 5745



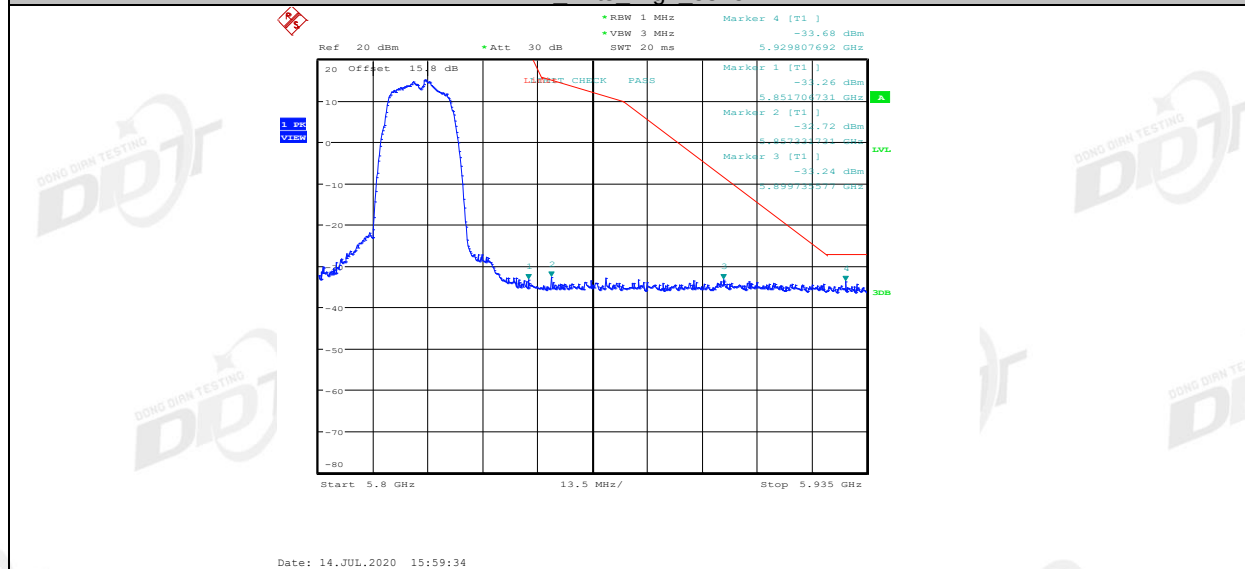
11A Ant1 High 5825



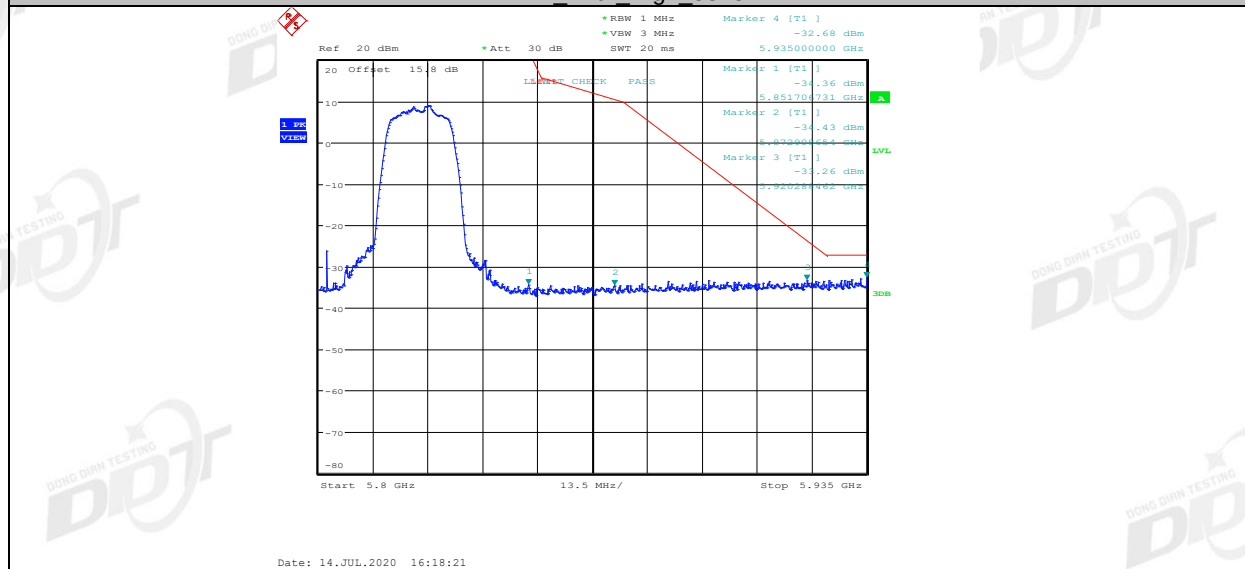
11A Ant2 High 5825



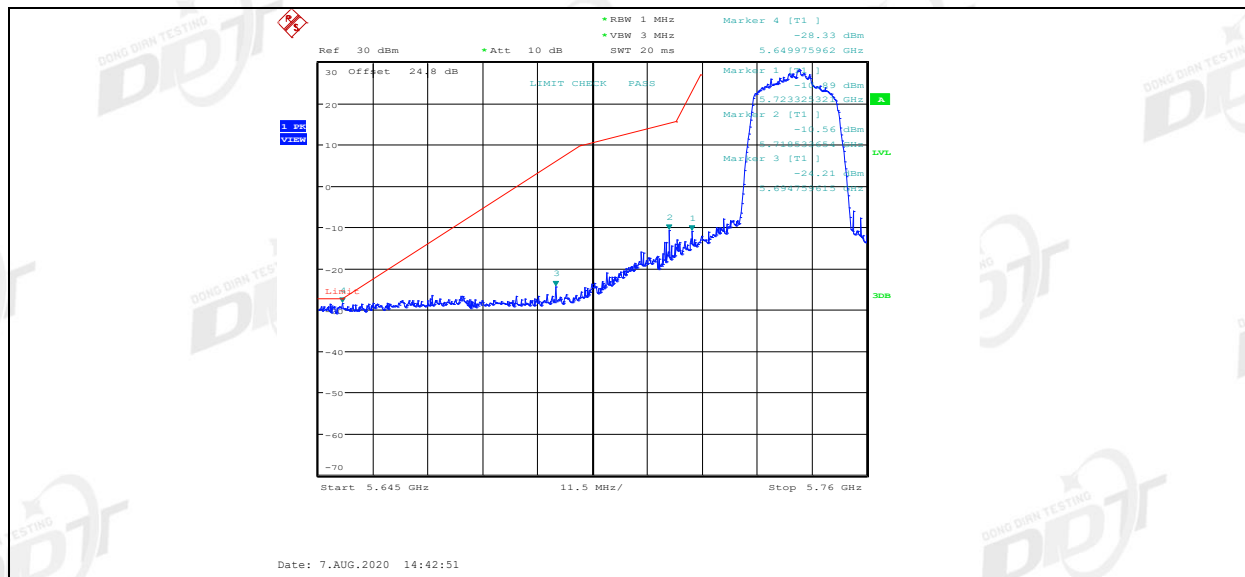
11A Ant3 High 5825



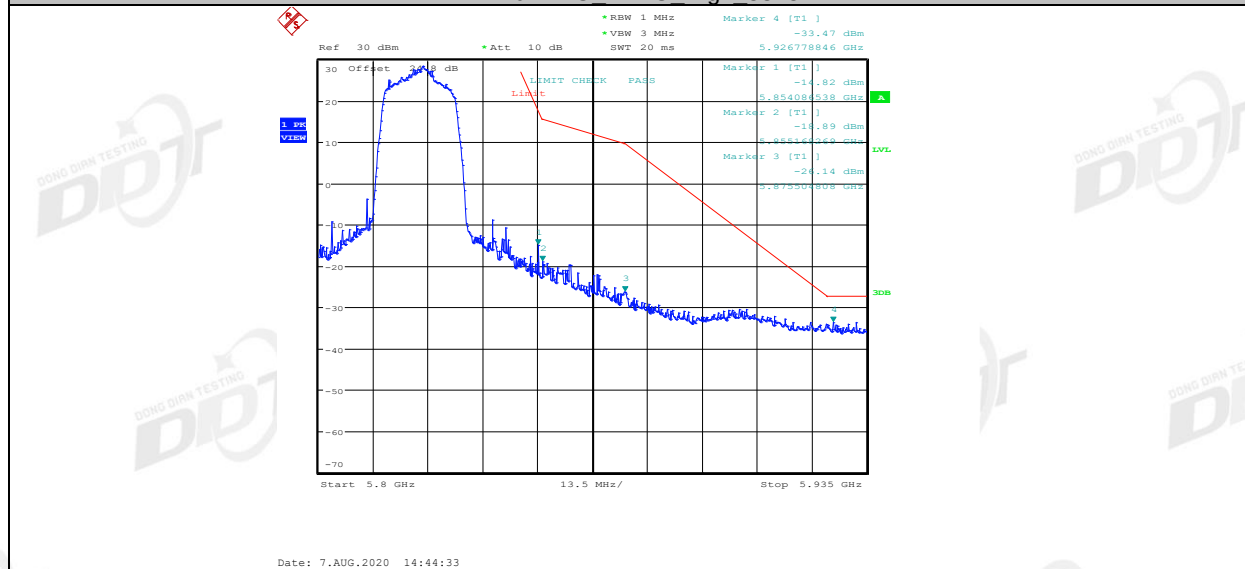
11A Ant4 High 5825



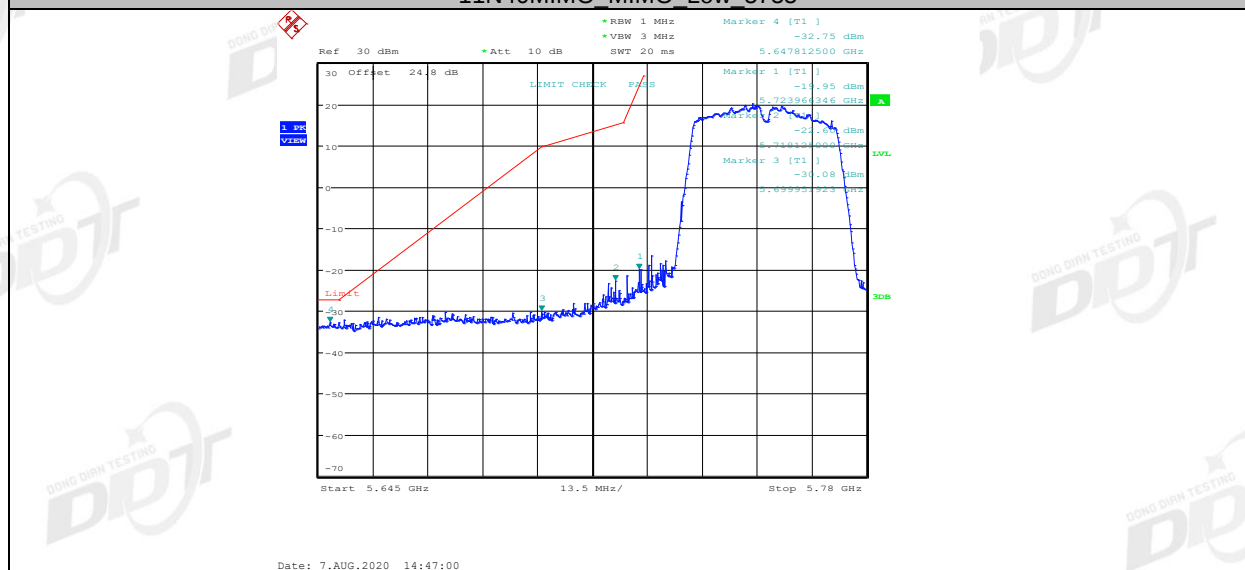
11N20MIMO_MIMO_Low_5745



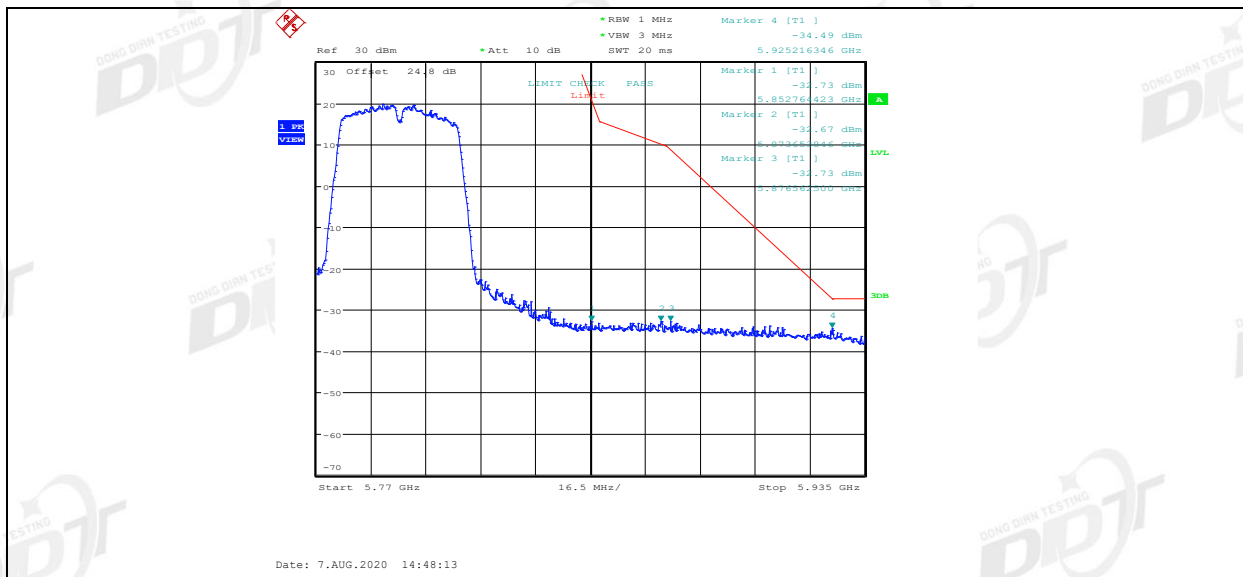
11N20MIMO MIMO High 5825



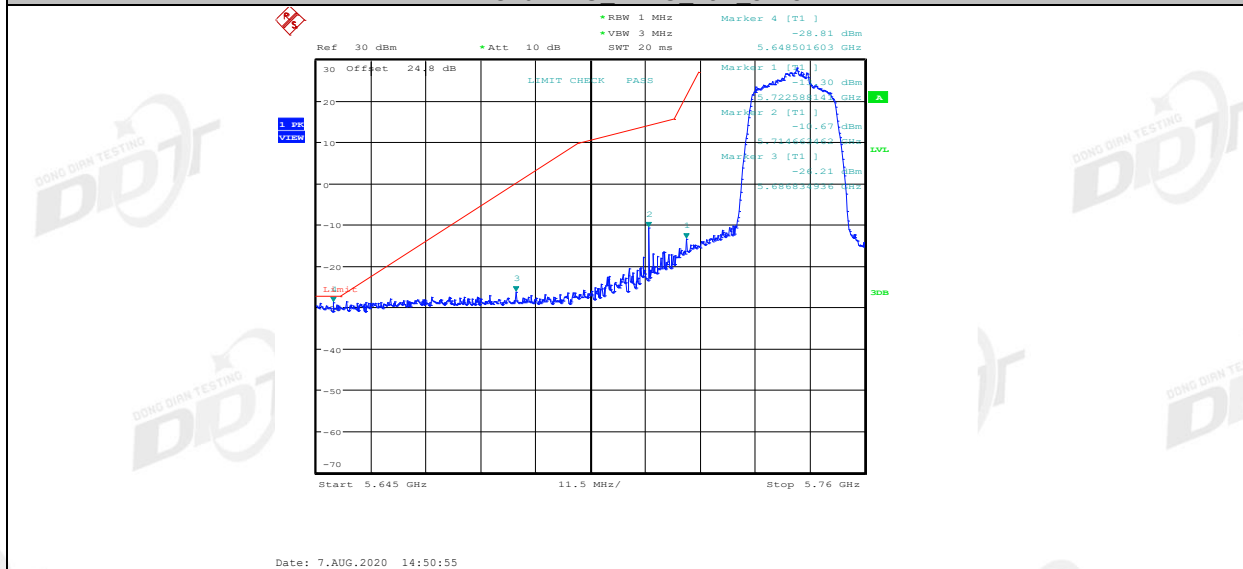
11N40MIMO MIMO Low 5755



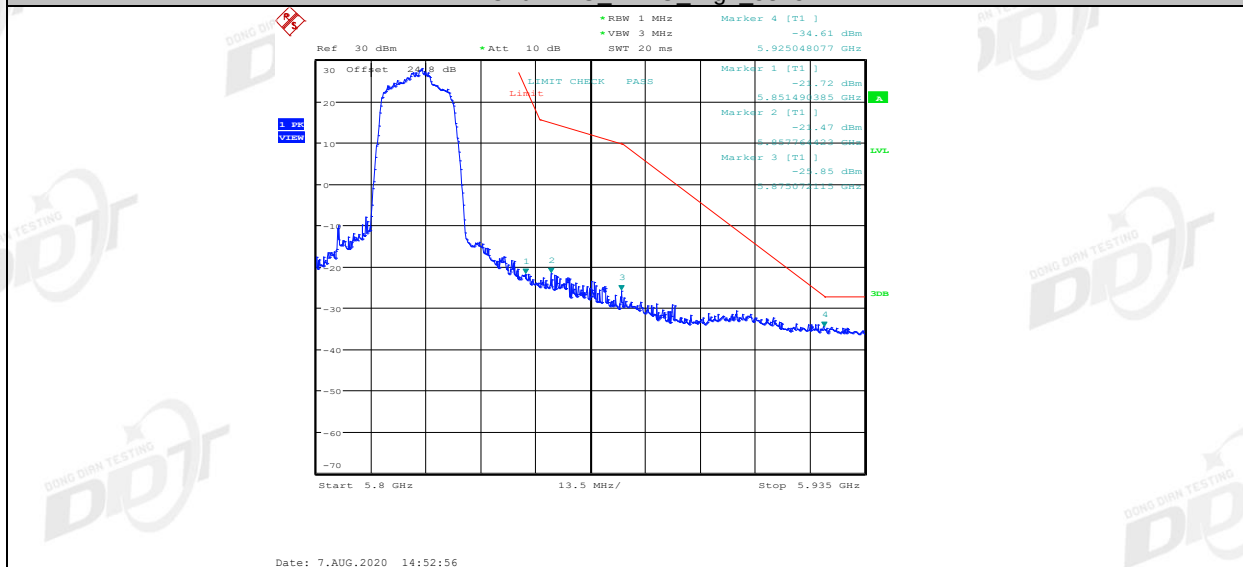
11N40MIMO MIMO High 5795



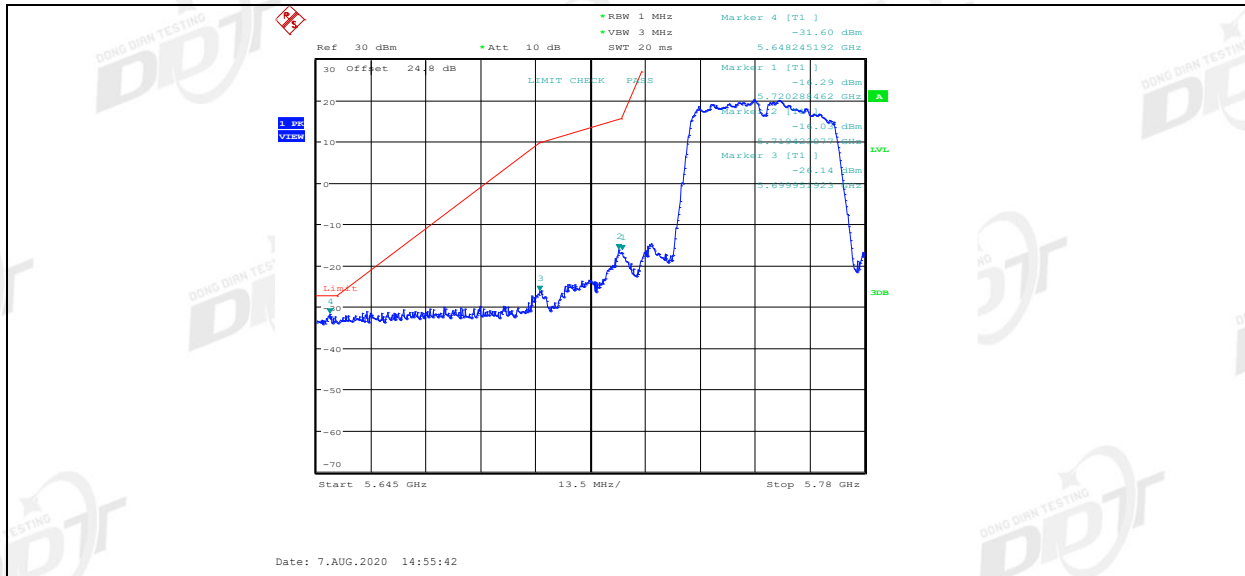
11AC20MIMO MIMO Low 5745



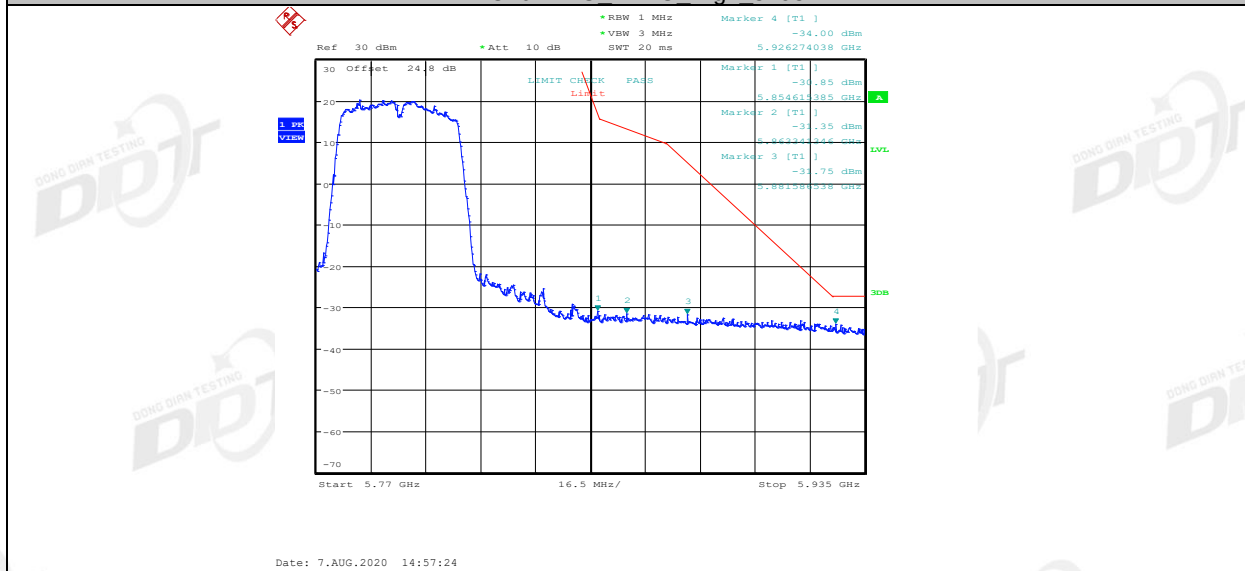
11AC20MIMO MIMO High 5825



11AC40MIMO MIMO Low 5755



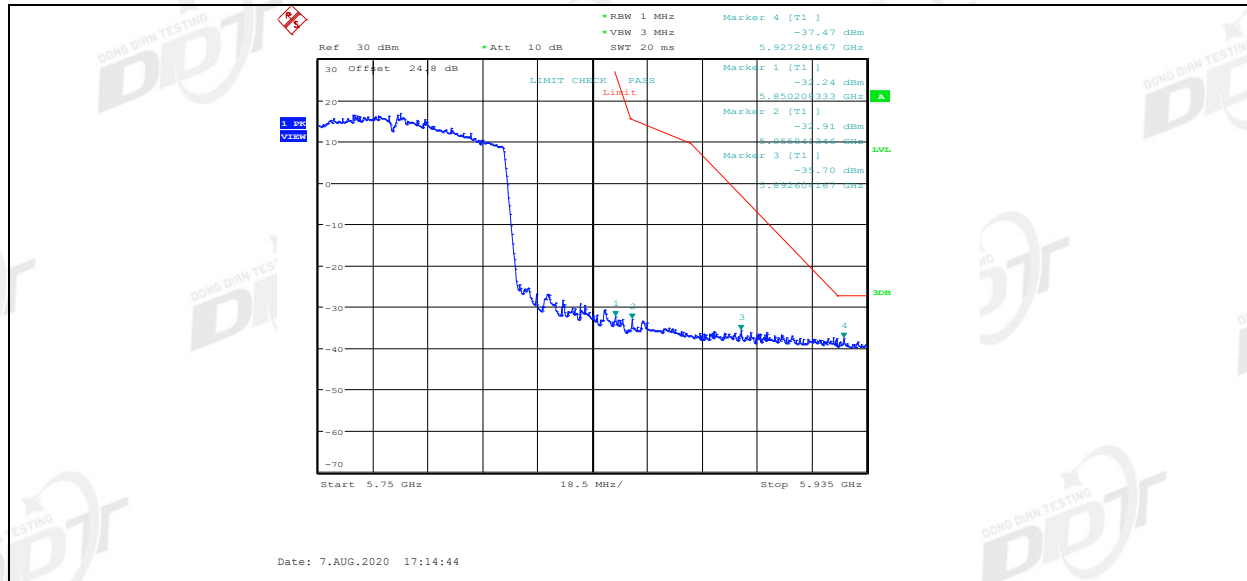
11AC40MIMO MIMO High 5795



11AC80MIMO MIMO Low 5775

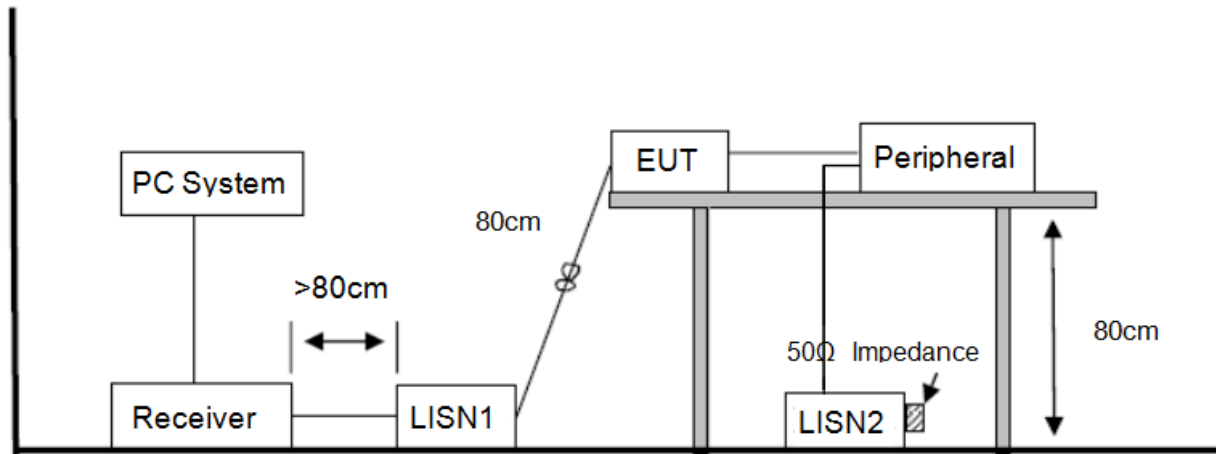


11AC80MIMO MIMO Low 5775



10. Power Line Conducted Emission

10.1. Block diagram of test setup



10.2. Power Line Conducted Emission Limits (Class B)

Frequency	Quasi-Peak Level dB(μV)	Average Level dB(μV)
150 kHz ~ 500 kHz	66 ~ 56*	56 ~ 46*
500 kHz ~ 5 MHz	56	46
5 MHz ~ 30 MHz	60	50

Note 1: * Decreasing linearly with logarithm of frequency.

Note 2: The lower limit shall apply at the transition frequencies.

10.3. Test procedure

The EUT and Support equipment, if needed, were put placed on a non-metallic table, 80cm above the ground plane.

Configuration EUT to simulate typical usage as described in clause 2.3 and test equipment as described in clause 10.2 of this report.

All I/O cables were positioned to simulate typical actual usage as per ANSI C63.4.

All support equipment power received from a second LISN.

Emissions were measured on each current carrying line of the EUT using an EMI Test Receiver connected to the LISN powering the EUT.

The Receiver scanned from 150 kHz to 30MHz for emissions in each of the test modes.

During the above scans, the emissions were maximized by cable manipulation.

The test mode(s) described in clause 2.3 were scanned during the preliminary test.

After the preliminary scan, we found the test mode producing the highest emission level.

The EUT configuration and worse cable configuration of the above highest emission levels were recorded for reference of the final test. EUT and support equipment were set up on the test bench as per the configuration with highest emission level in the preliminary test.

A scan was taken on both power lines, Neutral and Line, recording at least the six highest emissions.

Emission frequency and amplitude were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit.

The test data of the worst-case condition(s) was recorded.

The bandwidth of test receiver is set at 9 kHz.

10.4. Test result

Pass. (See below detailed test result)

Note1: All emissions not reported below are too low against the prescribed limits.

Note2: “-----” means peak detection; “-----” means average detection

Note3: Pre-test AC conducted emission at both voltage AC 120V/60Hz and AC 230V/50Hz, recorded worse case.

TR-4-E-010 Conducted Emission Test Result

Test Site : DDT 1# Shield Room

D:\2020 CE report data\Q20052115-1E\20200608 CE.EM6

Test Date : 2020-06-08

Tested By : Bote Huang

EUT : GPON ONT

Model Number : HL-4GQVS

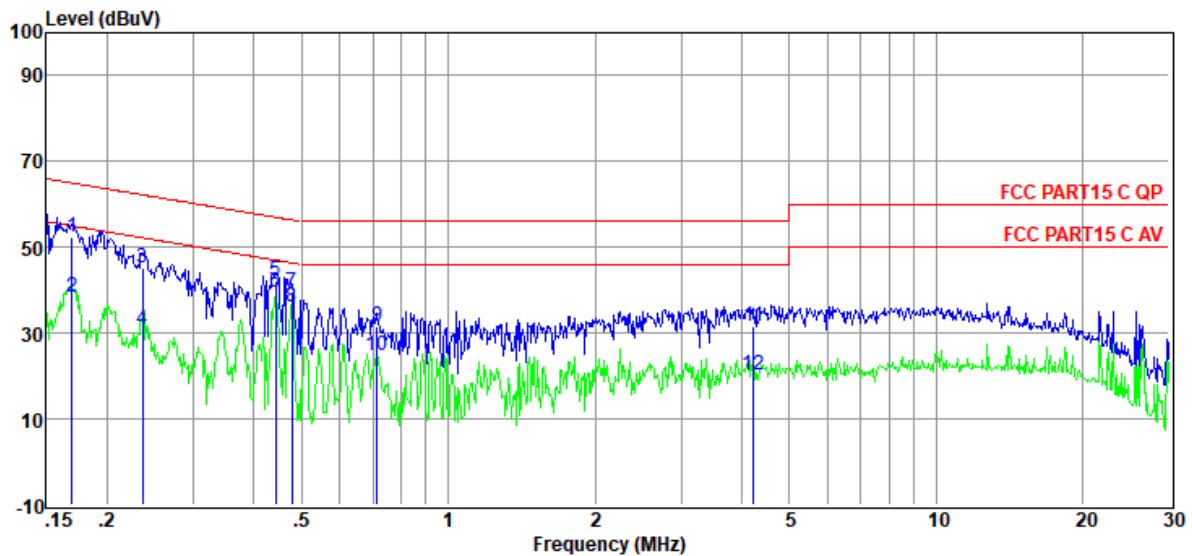
Power Supply : AC 120V / 60Hz

Test Mode : Tx mode

Condition : TEMP:24.5℃, RH:55%,
BP:101.4kPa

LISN : 2019 ENV216 1#/LINE

Memo :



Item	Freq.	Read Level	LISN Factor	Cable Loss	Pulse Limiter Factor	Result Level	Limit Line	Over Limit	Detector	Phase
(Mark)	(MHz)	(dBμV)	(dB)	(dB)	(dB)	(dBμV)	(dBμV)	(dB)		
1	0.17	33.06	9.60	0.01	9.86	52.53	64.99	-12.46	QP	LINE
2	0.17	19.07	9.60	0.01	9.86	38.54	54.99	-16.45	Average	LINE
3	0.24	25.57	9.60	0.02	9.86	45.05	62.22	-17.17	QP	LINE
4	0.24	11.36	9.60	0.02	9.86	30.84	52.22	-21.38	Average	LINE
5	0.44	22.76	9.60	0.02	9.86	42.24	57.02	-14.78	QP	LINE
6	0.44	20.05	9.60	0.02	9.86	39.53	47.02	-7.49	Average	LINE
7	0.48	19.91	9.60	0.02	9.86	39.39	56.36	-16.97	QP	LINE
8	0.48	16.46	9.60	0.02	9.86	35.94	46.36	-10.42	Average	LINE
9	0.72	12.27	9.60	0.03	9.86	31.76	56.00	-24.24	QP	LINE
10	0.72	5.33	9.60	0.03	9.86	24.82	46.00	-21.18	Average	LINE
11	4.22	11.92	9.60	0.07	9.87	31.46	56.00	-24.54	QP	LINE
12	4.22	0.78	9.60	0.07	9.87	20.32	46.00	-25.68	Average	LINE

Note: 1. Result Level = Read Level + LISN Factor + Pulse Limiter Factor + Cable loss.

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

3. Test setup: RBW: 200 Hz (9 kHz—150 kHz), 9 kHz (150 kHz—30 MHz).

4. Step size: 80Hz (0.009MHz-0.15MHz), 4 kHz (0.15MHz-30MHz), Scan time: auto.

TR-4-E-010 Conducted Emission Test Result

Test Site : DDT 1# Shield Room

D:\2020 CE report data\Q20052115-1E\20200608 CE.EM6

Test Date : 2020-06-08

Tested By : Bote Huang

EUT : GPON ONT

Model Number : HL-4GQVS

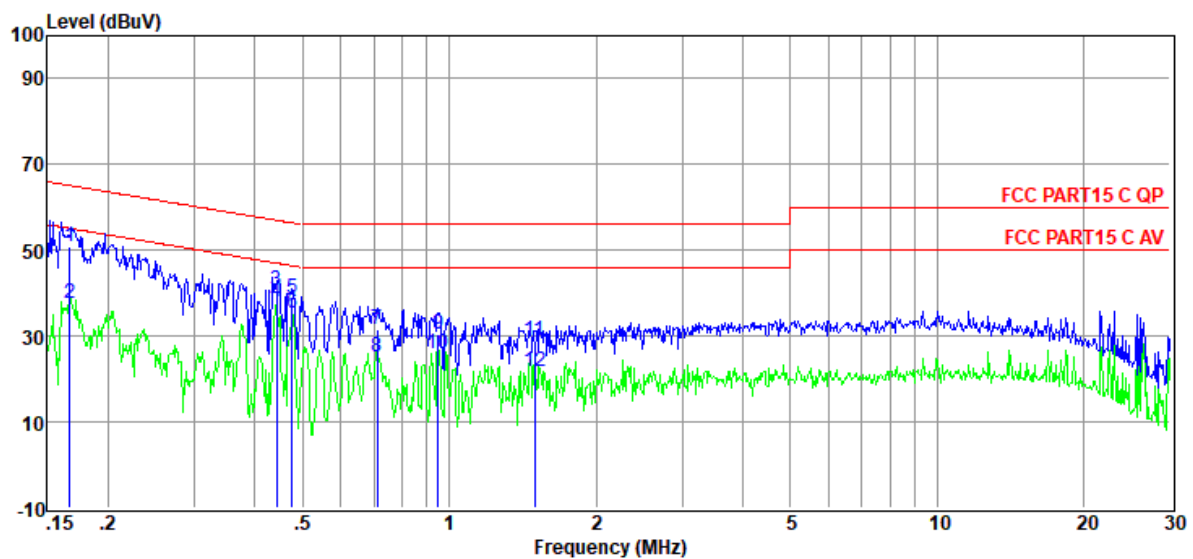
Power Supply : AC 120V / 60Hz

Test Mode : Tx mode

Condition : TEMP:24.5℃, RH:55%,
BP:101.4kPa

LISN : 2019 ENV216 1#/NEUTRAL

Memo :



Item	Freq.	Read Level	LISN Factor	Cable Loss	Pulse Limiter Factor	Result Level	Limit Line	Over Limit	Detector	Phase
(Mark)	(MHz)	(dBμV)	(dB)	(dB)	(dB)	(dBμV)	(dBμV)	(dB)		
1	0.17	31.53	9.60	0.01	9.86	51.00	65.12	-14.12	QP	NEUTRAL
2	0.17	18.07	9.60	0.01	9.86	37.54	55.12	-17.58	Average	NEUTRAL
3	0.44	21.33	9.60	0.02	9.86	40.81	57.02	-16.21	QP	NEUTRAL
4	0.44	18.44	9.60	0.02	9.86	37.92	47.02	-9.10	Average	NEUTRAL
5	0.48	19.27	9.60	0.02	9.86	38.75	56.41	-17.66	QP	NEUTRAL
6	0.48	15.75	9.60	0.02	9.86	35.23	46.41	-11.18	Average	NEUTRAL
7	0.71	11.95	9.60	0.03	9.86	31.44	56.00	-24.56	QP	NEUTRAL
8	0.71	5.85	9.60	0.03	9.86	25.34	46.00	-20.66	Average	NEUTRAL
9	0.95	10.83	9.60	0.03	9.86	30.32	56.00	-25.68	QP	NEUTRAL
10	0.95	6.39	9.60	0.03	9.86	25.88	46.00	-20.12	Average	NEUTRAL
11	1.50	9.46	9.60	0.04	9.86	28.96	56.00	-27.04	QP	NEUTRAL
12	1.50	2.27	9.60	0.04	9.86	21.77	46.00	-24.23	Average	NEUTRAL

Note: 1. Result Level = Read Level + LISN Factor + Pulse Limiter Factor + Cable loss.

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

3. Test setup: RBW: 200 Hz (9 kHz—150 kHz), 9 kHz (150 kHz—30 MHz).

4. Step size: 80Hz (0.009MHz-0.15MHz), 4 kHz (0.15MHz-30MHz), Scan time: auto.

11. Antenna Requirements

11.1. Limit

For intentional device, according to FCC 47 CFR Section 15.203, 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. And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

11.2. Result

The device support 4T4R MIMO, the antennas both used for this product are PCB antennas and no other than that furnished by the responsible party shall be used with the device, maximum antenna gain is 3.0 dBi for antenna 1, antenna 2, antenna 3, antenna 4. Maximum antenna gain is 9.0 dBi for MIMO.

END OF REPORT