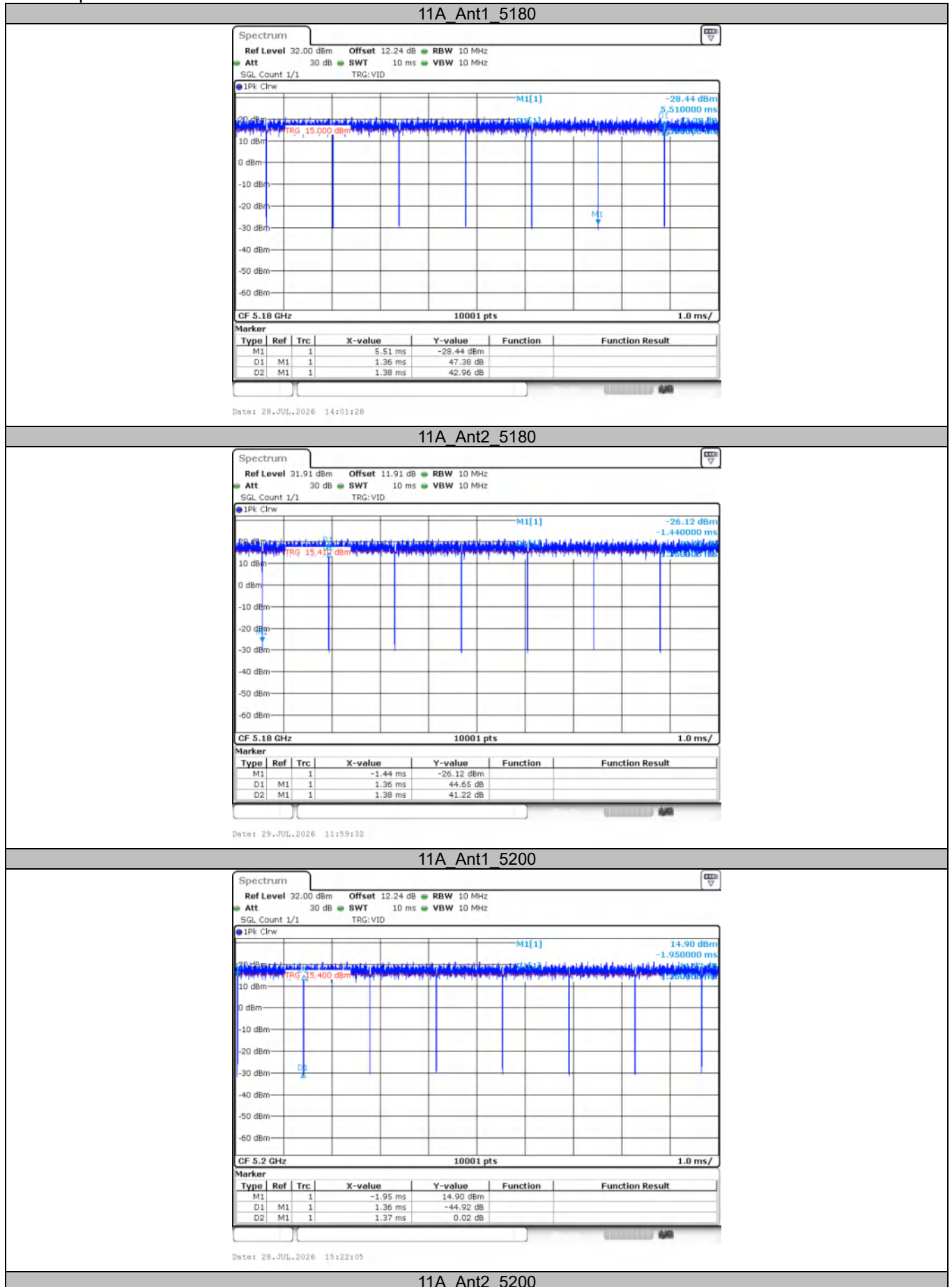


	Ant1	5755	0.57	0.59	96.61	0.15
	Ant2	5755	0.58	0.59	98.31	0.07
	Ant1	5795	0.57	0.58	98.28	0.08
	Ant2	5795	0.57	0.58	98.28	0.08
11AC20MIMO	Ant1	5180	1.15	1.16	99.14	0.04
	Ant2	5180	1.15	1.16	99.14	0.04
	Ant1	5200	1.16	1.17	99.15	0.04
	Ant2	5200	1.15	1.16	99.14	0.04
	Ant1	5240	1.15	1.16	99.14	0.04
	Ant2	5240	1.15	1.16	99.14	0.04
	Ant1	5260	1.15	1.16	99.14	0.04
	Ant2	5260	1.16	1.17	99.15	0.04
	Ant1	5280	1.15	1.16	99.14	0.04
	Ant2	5280	1.16	1.17	99.15	0.04
	Ant1	5320	1.15	1.17	98.29	0.07
	Ant2	5320	1.15	1.16	99.14	0.04
	Ant1	5500	1.15	1.16	99.14	0.04
	Ant2	5500	1.15	1.16	99.14	0.04
	Ant1	5580	1.15	1.16	99.14	0.04
	Ant2	5580	1.16	1.17	99.15	0.04
	Ant1	5700	1.15	1.16	99.14	0.04
	Ant2	5700	1.15	1.16	99.14	0.04
	Ant1	5745	1.16	1.17	99.15	0.04
	Ant2	5745	1.15	1.16	99.14	0.04
	Ant1	5785	1.16	1.17	99.15	0.04
	Ant2	5785	1.15	1.16	99.14	0.04
	Ant1	5825	1.15	1.17	98.29	0.07
	Ant2	5825	1.15	1.17	98.29	0.07
11AC40MIMO	Ant1	5190	0.57	0.58	98.28	0.08
	Ant2	5190	0.58	0.59	98.31	0.07
	Ant1	5230	0.58	0.59	98.31	0.07
	Ant2	5230	0.58	0.59	98.31	0.07
	Ant1	5270	0.57	0.58	98.28	0.08
	Ant2	5270	0.58	0.59	98.31	0.07
	Ant1	5310	0.58	0.59	98.31	0.07
	Ant2	5310	0.57	0.58	98.28	0.08
	Ant1	5510	0.57	0.59	96.61	0.15
	Ant2	5510	0.58	0.59	98.31	0.07
	Ant1	5550	0.58	0.59	98.31	0.07
	Ant2	5550	0.58	0.59	98.31	0.07
	Ant1	5670	0.57	0.59	96.61	0.15
	Ant2	5670	0.58	0.59	98.31	0.07
	Ant1	5755	0.57	0.58	98.28	0.08
	Ant2	5755	0.57	0.59	96.61	0.15
	Ant1	5795	0.57	0.58	98.28	0.08
	Ant2	5795	0.57	0.59	96.61	0.15
11AC80MIMO	Ant1	5210	0.29	0.30	96.67	0.15
	Ant2	5210	0.29	0.30	96.67	0.15
	Ant1	5290	0.29	0.30	96.67	0.15
	Ant2	5290	0.29	0.30	96.67	0.15
	Ant1	5530	0.29	0.30	96.67	0.15
	Ant2	5530	0.29	0.30	96.67	0.15
	Ant1	5610	0.29	0.30	96.67	0.15
	Ant2	5610	0.29	0.30	96.67	0.15
	Ant1	5775	0.29	0.31	93.55	0.29
	Ant2	5775	0.29	0.30	96.67	0.15
11AX20MIMO	Ant1	5180	0.98	0.99	98.99	0.04
	Ant2	5180	0.98	0.99	98.99	0.04
	Ant1	5200	0.98	1.00	98.00	0.09
	Ant2	5200	0.99	1.00	99.00	0.04
	Ant1	5240	0.98	1.00	98.00	0.09
	Ant2	5240	0.99	1.00	99.00	0.04
	Ant1	5260	0.99	1.00	99.00	0.04
	Ant2	5260	0.99	1.00	99.00	0.04
	Ant1	5280	0.99	1.00	99.00	0.04
	Ant2	5280	0.98	1.00	98.00	0.09

	Ant1	5320	0.99	1.00	99.00	0.04
	Ant2	5320	0.98	0.99	98.99	0.04
	Ant1	5500	0.99	1.00	99.00	0.04
	Ant2	5500	0.99	1.00	99.00	0.04
	Ant1	5580	0.99	1.00	99.00	0.04
	Ant2	5580	0.98	0.99	98.99	0.04
	Ant1	5700	0.99	1.00	99.00	0.04
	Ant2	5700	0.99	1.00	99.00	0.04
	Ant1	5745	0.98	1.00	98.00	0.09
	Ant2	5745	0.98	1.00	98.00	0.09
	Ant1	5785	0.99	1.00	99.00	0.04
	Ant2	5785	0.99	1.00	99.00	0.04
	Ant1	5825	0.99	1.00	99.00	0.04
	Ant2	5825	0.98	0.99	98.99	0.04
11AX40MIMO	Ant1	5190	0.52	0.54	96.30	0.16
	Ant2	5190	0.52	0.54	96.30	0.16
	Ant1	5230	0.52	0.53	98.11	0.08
	Ant2	5230	0.52	0.53	98.11	0.08
	Ant1	5270	0.52	0.53	98.11	0.08
	Ant2	5270	0.52	0.54	96.30	0.16
	Ant1	5310	0.52	0.53	98.11	0.08
	Ant2	5310	0.52	0.53	98.11	0.08
	Ant1	5510	0.52	0.53	98.11	0.08
	Ant2	5510	0.52	0.53	98.11	0.08
	Ant1	5550	0.52	0.53	98.11	0.08
	Ant2	5550	0.52	0.53	98.11	0.08
	Ant1	5670	0.52	0.54	96.30	0.16
	Ant2	5670	0.52	0.53	98.11	0.08
	Ant1	5755	0.52	0.54	96.30	0.16
	Ant2	5755	0.52	0.54	96.30	0.16
	Ant1	5795	0.52	0.54	96.30	0.16
	Ant2	5795	0.52	0.53	98.11	0.08
11AX80MIMO	Ant1	5210	0.28	0.29	96.55	0.15
	Ant2	5210	0.27	0.29	93.10	0.31
	Ant1	5290	0.28	0.29	96.55	0.15
	Ant2	5290	0.28	0.29	96.55	0.15
	Ant1	5530	0.28	0.29	96.55	0.15
	Ant2	5530	0.28	0.29	96.55	0.15
	Ant1	5610	0.28	0.29	96.55	0.15
	Ant2	5610	0.28	0.29	96.55	0.15
	Ant1	5775	0.28	0.29	96.55	0.15
	Ant2	5775	0.27	0.29	93.10	0.31

Test Graphs

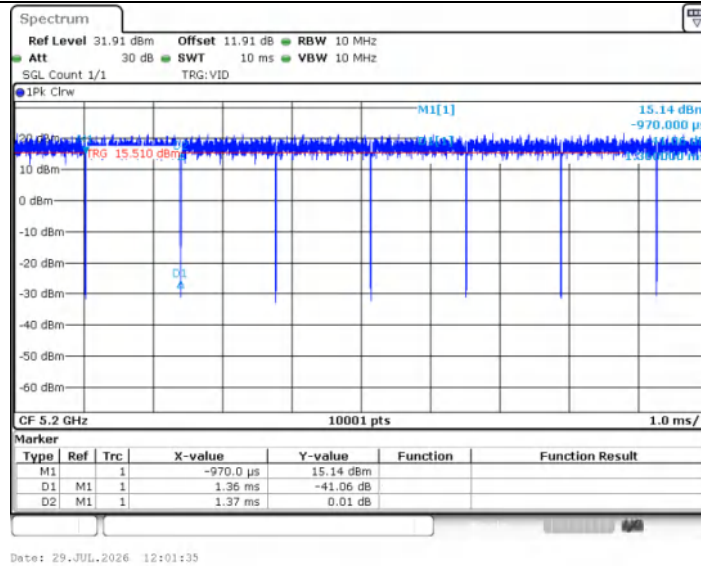


CTC Laboratories, Inc.

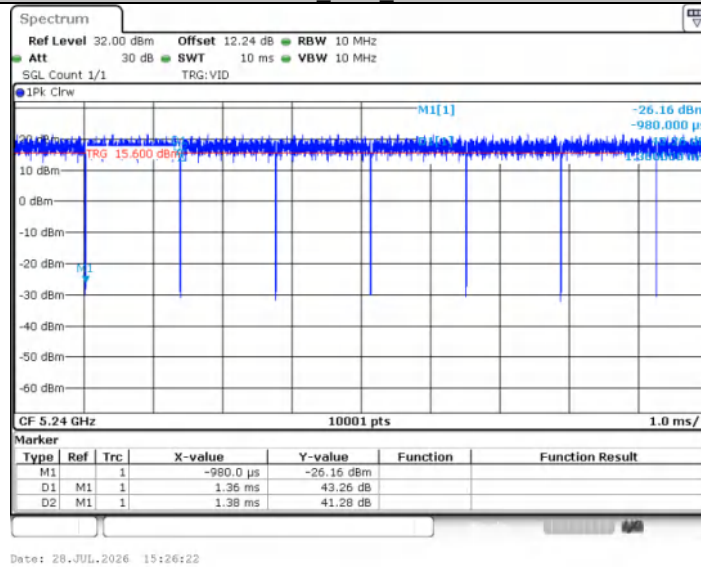
Room 107, 108, 207, 208 of Building A, Room 101 of Building B, No.7, Langqing 1st Road, Luhua Community, Guanhu Subdistrict, Longhua District, Shenzhen, Guangdong, China Tel.: (86)755-27521059 Fax: (86)755-27521011 Http://www.sz-ctc.org.cn

TRF No: CTC-TR-062_A5

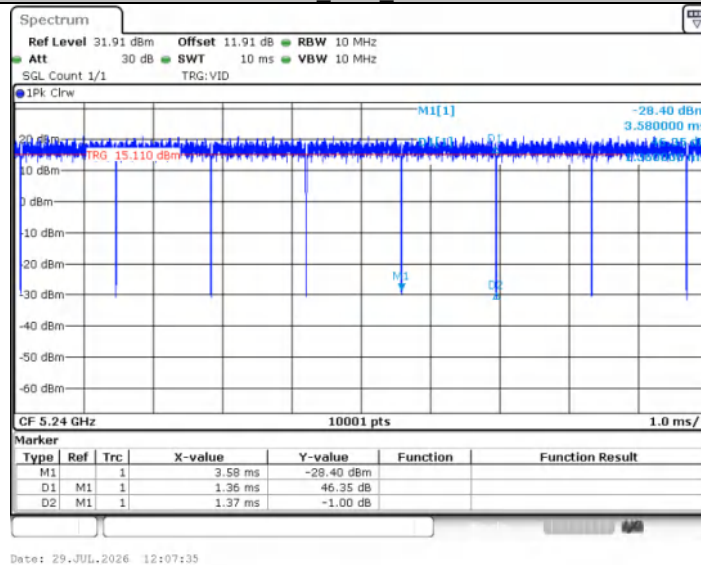
Master TRF : Dated 2026-06-01



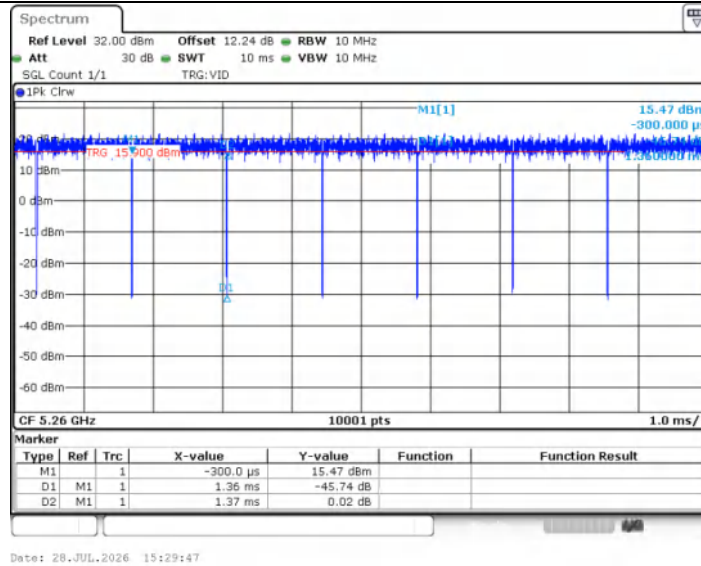
11A_Ant1_5240



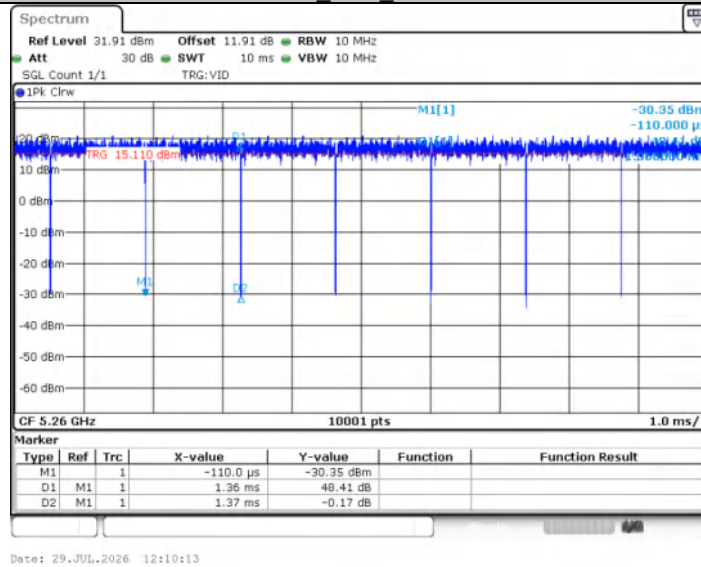
11A_Ant2_5240



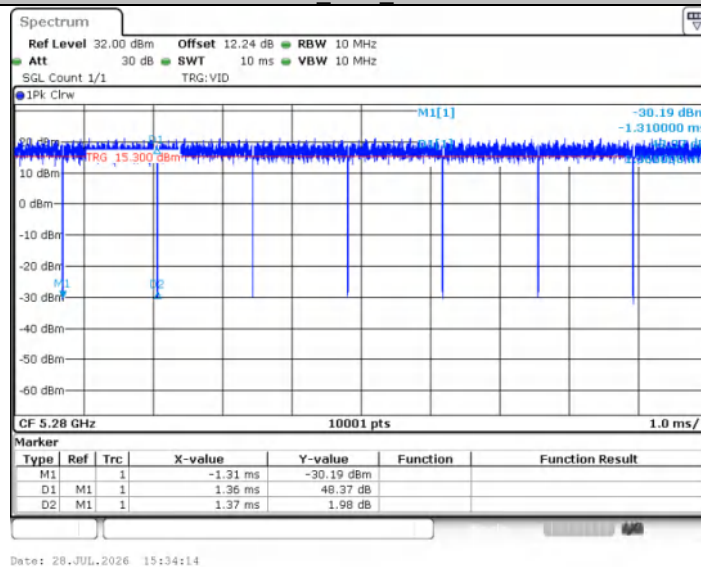
11A_Ant1_5260



11A_Ant2_5260



11A_Ant1_5280



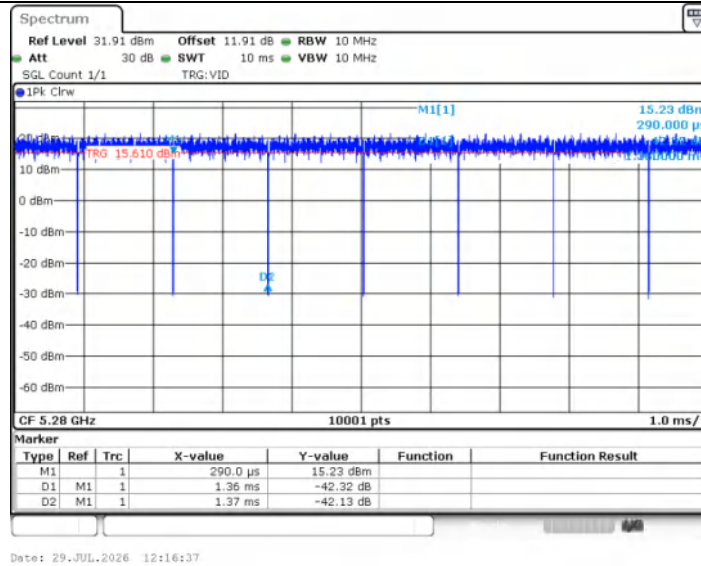
11A_Ant2_5280

CTC Laboratories, Inc.

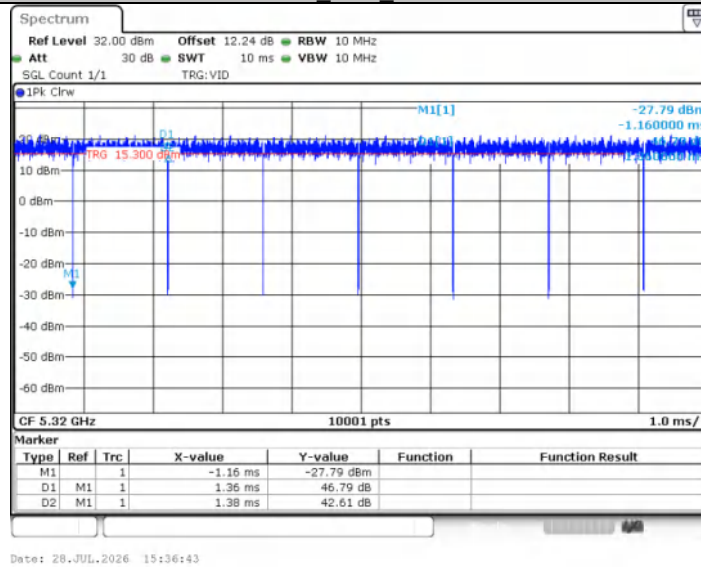
Room 107, 108, 207, 208 of Building A, Room 101 of Building B, No.7, Langqing 1st Road, Luhua Community, Guanhu Subdistrict, Longhua District, Shenzhen, Guangdong, China Tel.: (86)755-27521059 Fax: (86)755-27521011 Http://www.sz-ctc.org.cn

TRF No: CTC-TR-062_A5

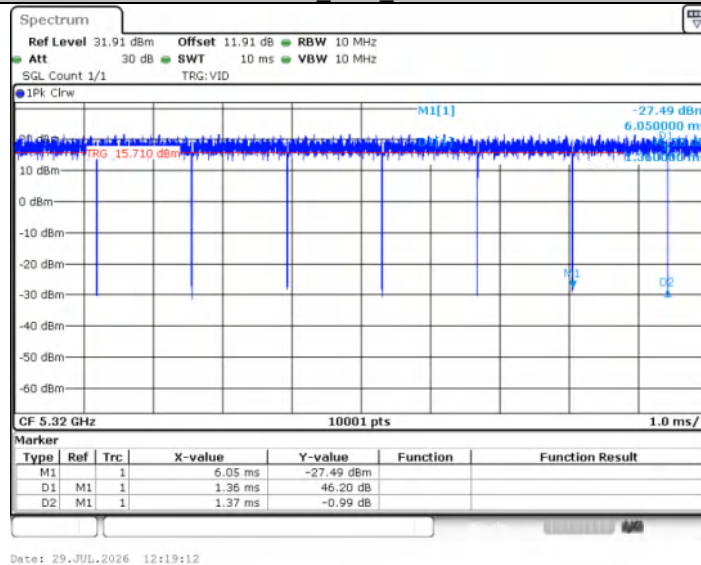
Master TRF : Dated 2026-06-01



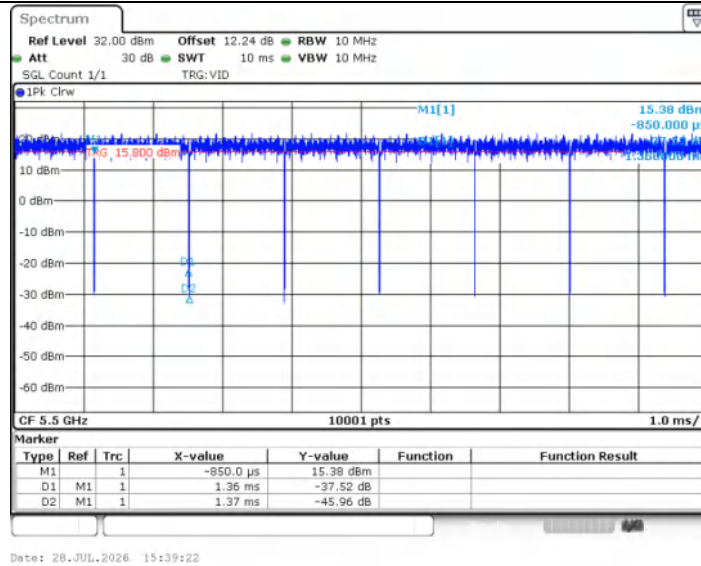
11A_Ant1_5320



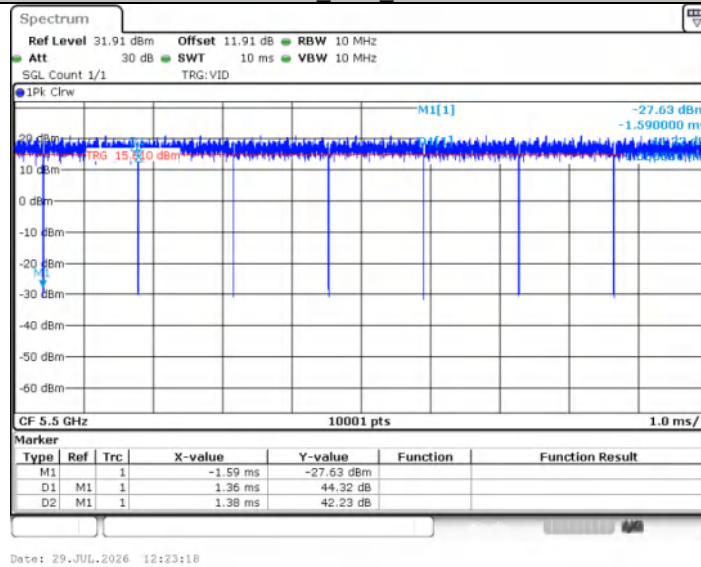
11A_Ant2_5320



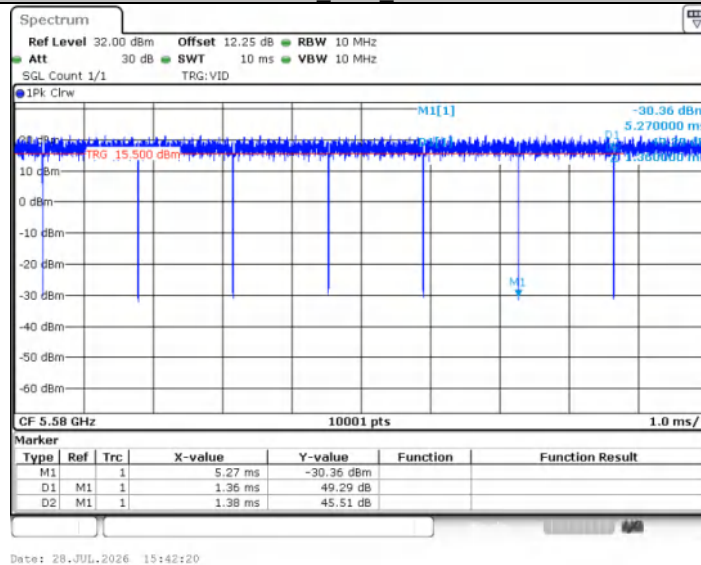
11A_Ant1_5500



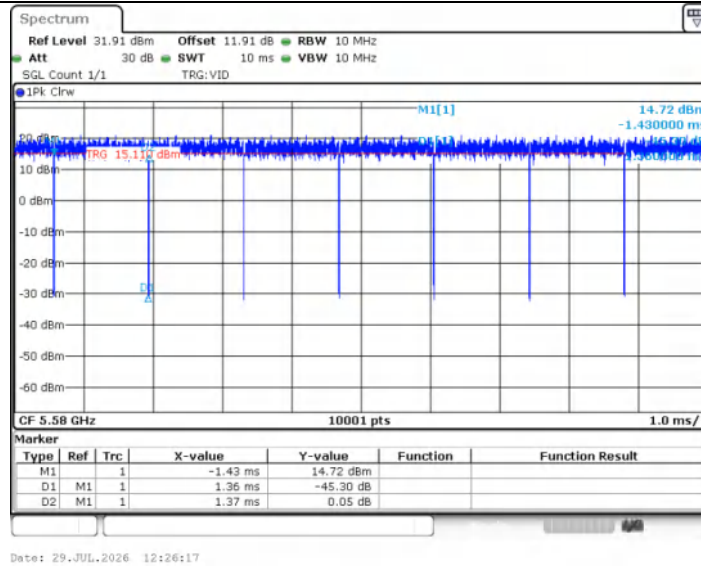
11A_Ant2_5500



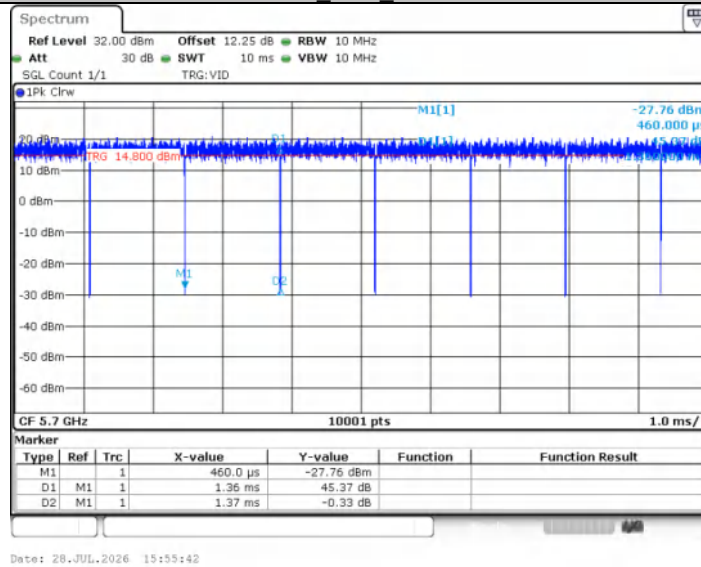
11A_Ant1_5580



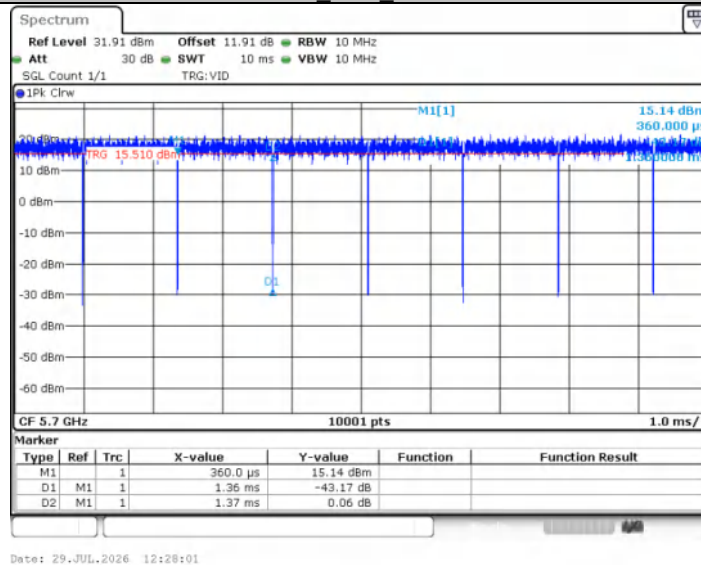
11A_Ant2_5580



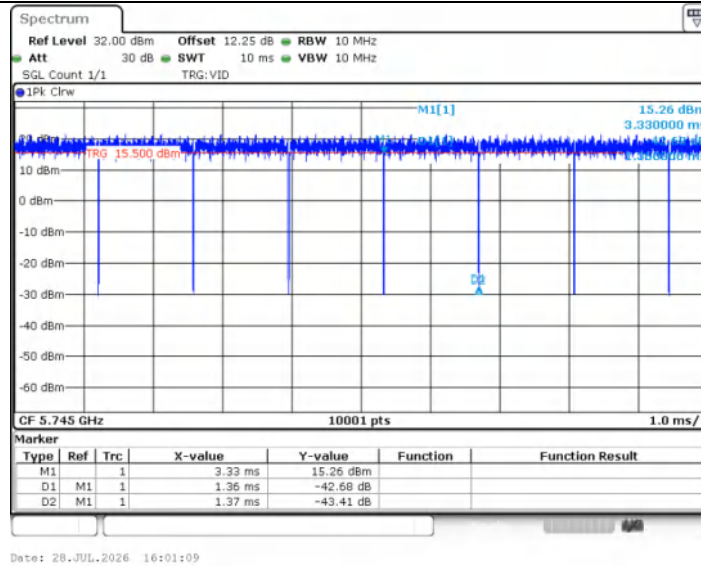
11A_Ant1_5700



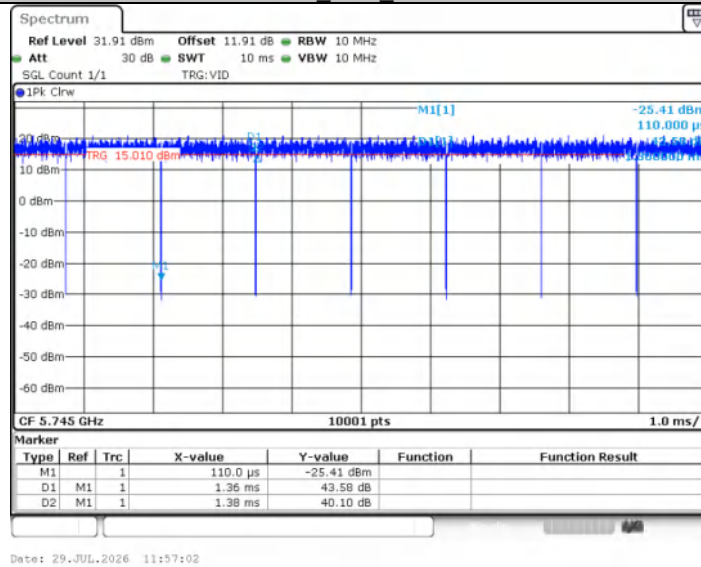
11A_Ant2_5700



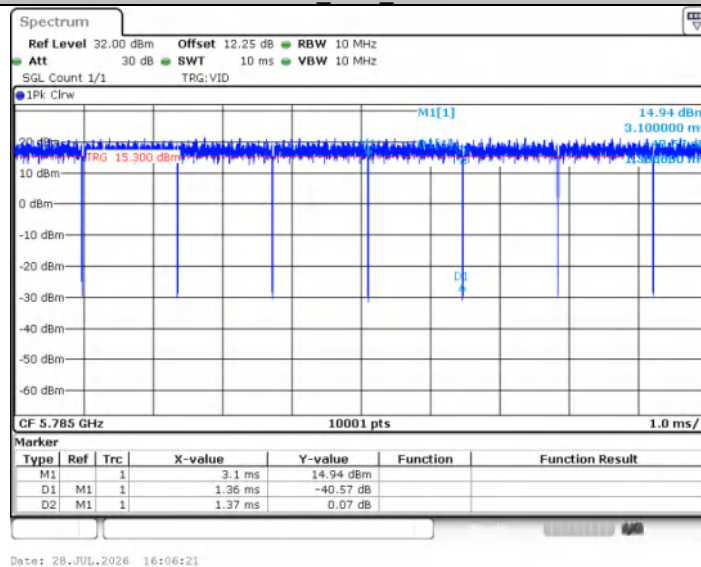
11A_Ant1_5745



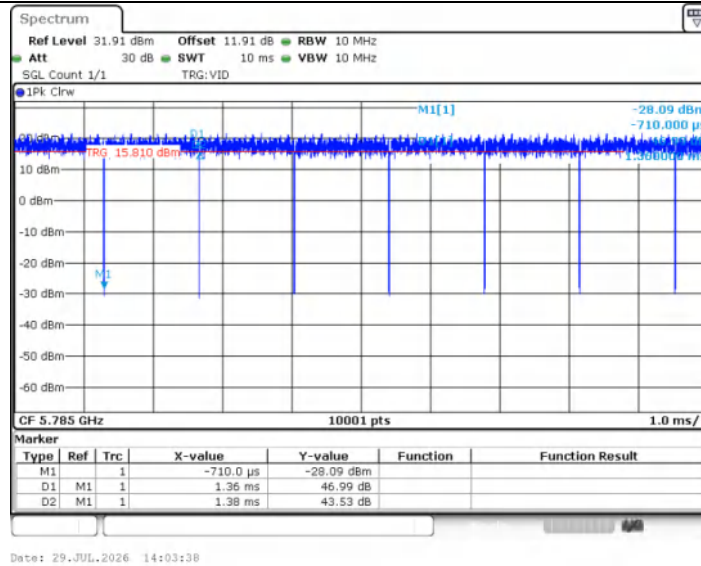
11A_Ant2_5745



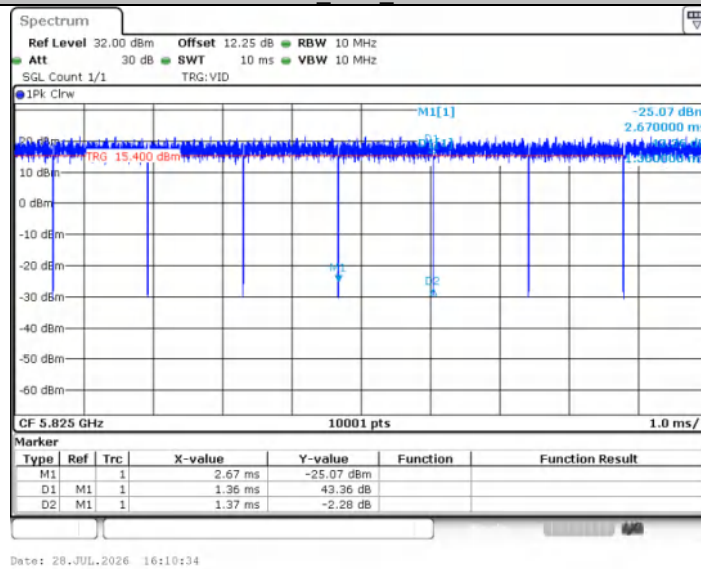
11A_Ant1_5785



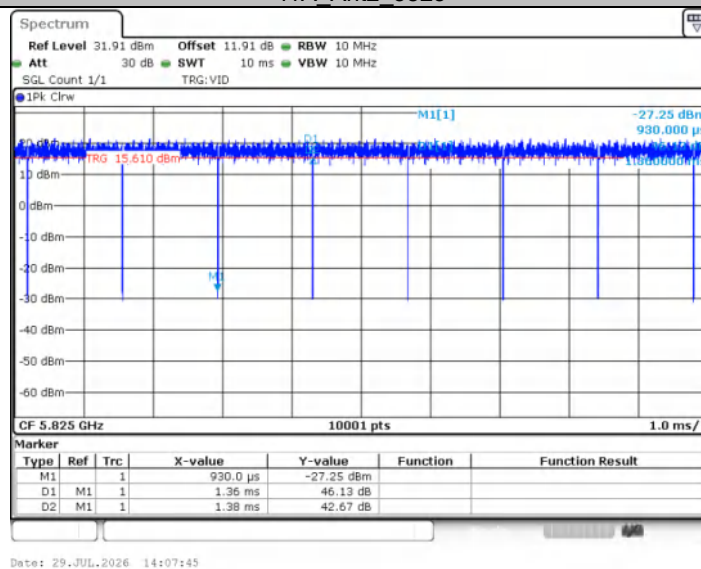
11A_Ant2_5785



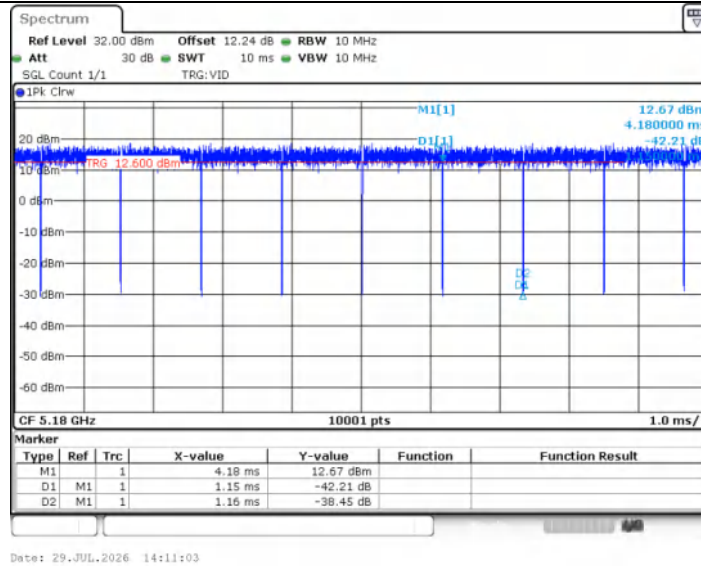
11A_Ant1_5825



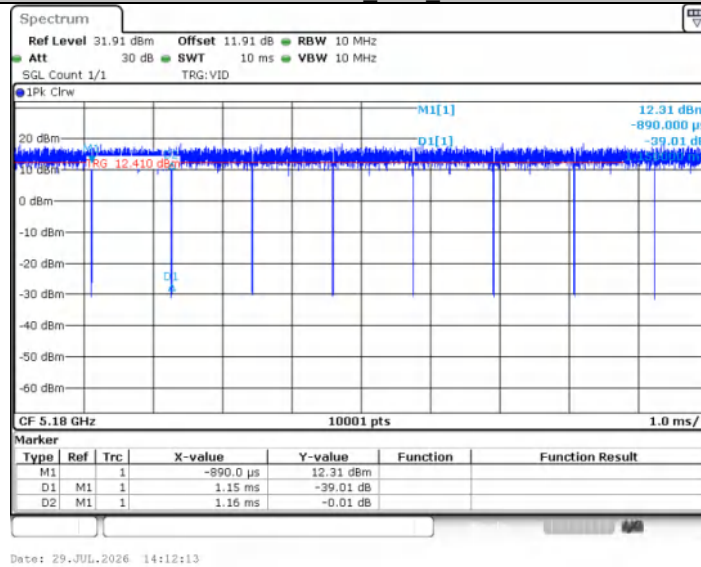
11A_Ant2_5825



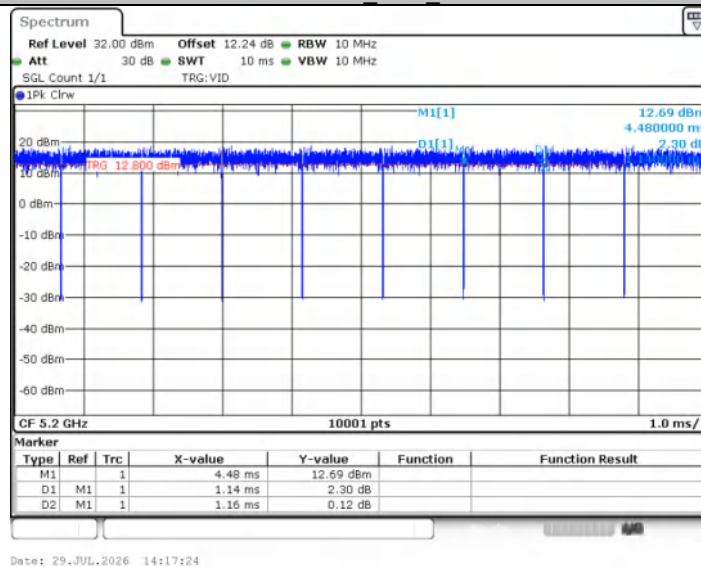
11N20MIMO_Ant1_5180



11N20MIMO_Ant2_5180



11N20MIMO_Ant1_5200



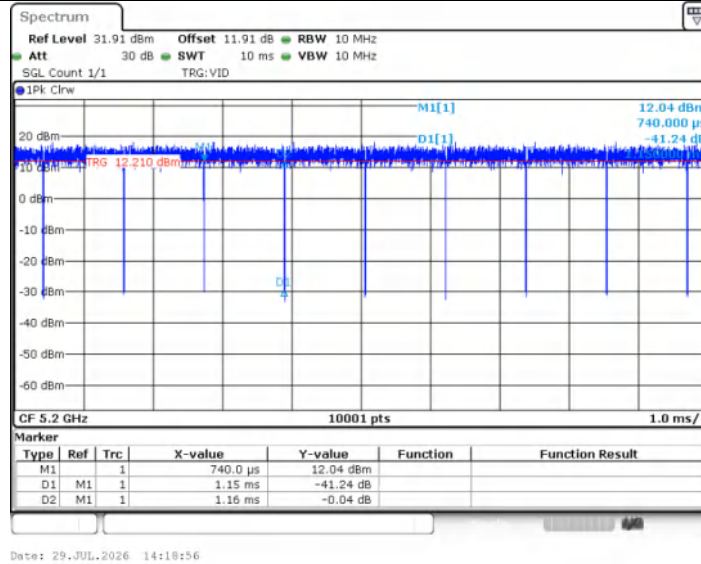
11N20MIMO_Ant2_5200

CTC Laboratories, Inc.

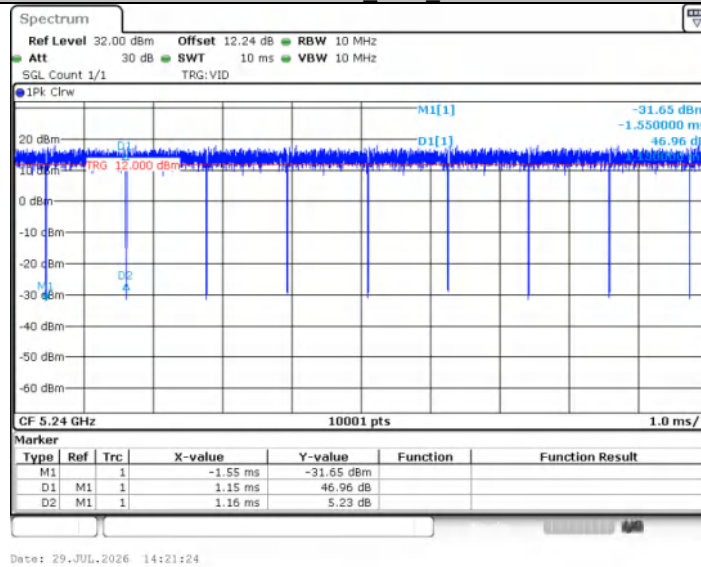
Room 107, 108, 207, 208 of Building A, Room 101 of Building B, No.7, Lanqing 1st Road, Luhu Community, Guanhu Subdistrict, Longhua District, Shenzhen, Guangdong, China Tel.: (86)755-27521059 Fax: (86)755-27521011 Http://www.sz-ctc.org.cn

TRF No: CTC-TR-062_A5

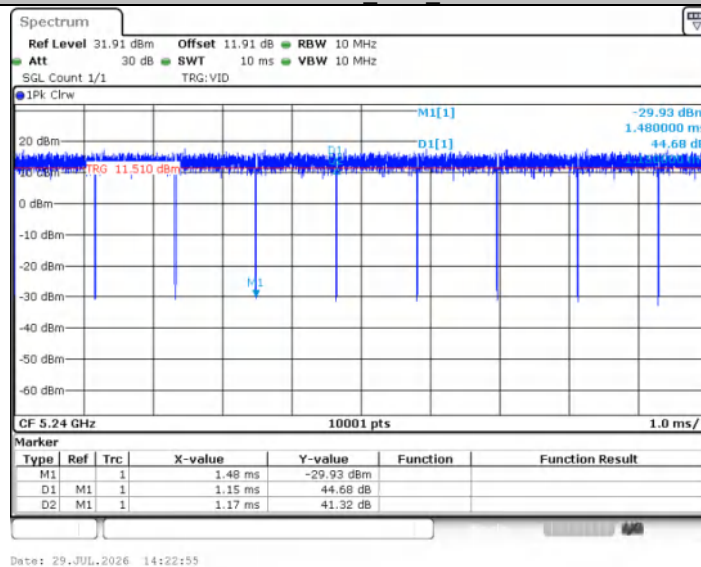
Master TRF : Dated 2026-06-01



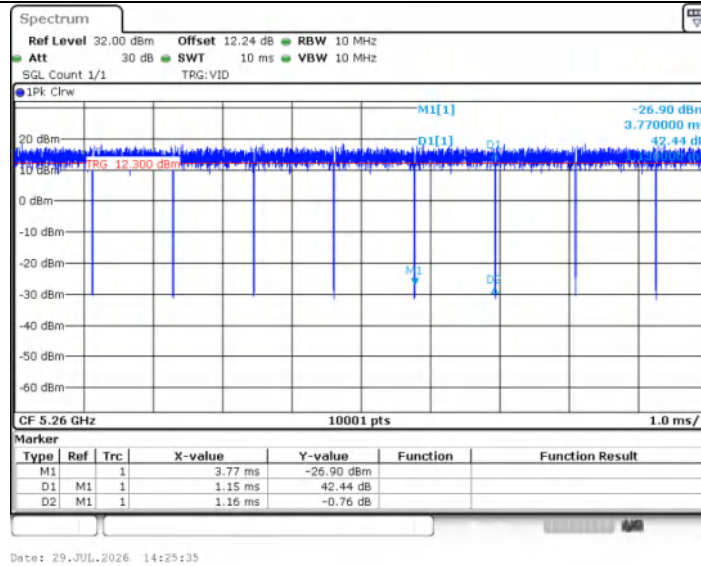
11N20MIMO_Ant1_5240



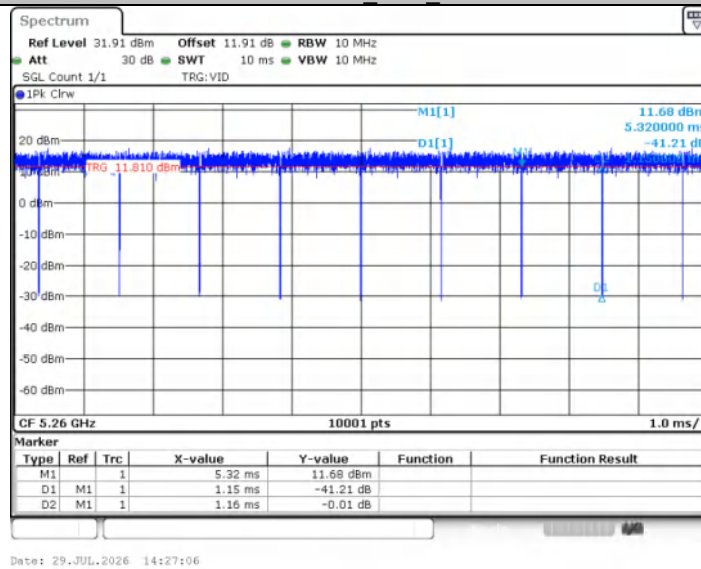
11N20MIMO_Ant2_5240



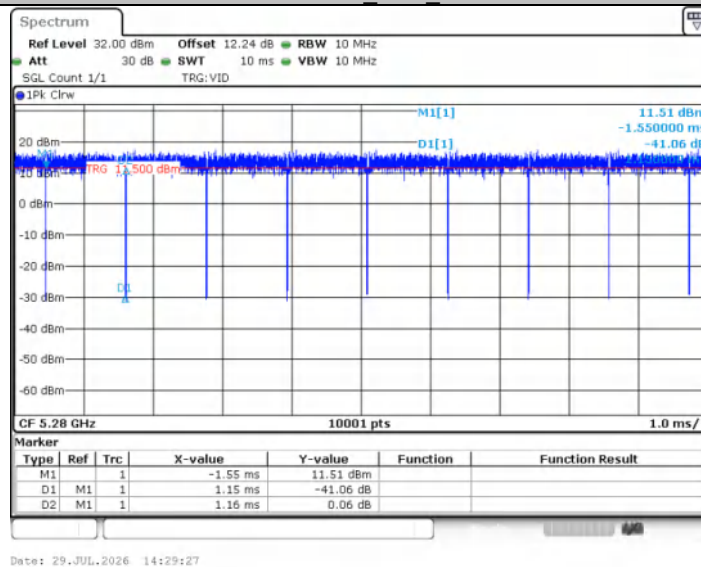
11N20MIMO_Ant1_5260



11N20MIMO_Ant2_5260



11N20MIMO_Ant1_5280



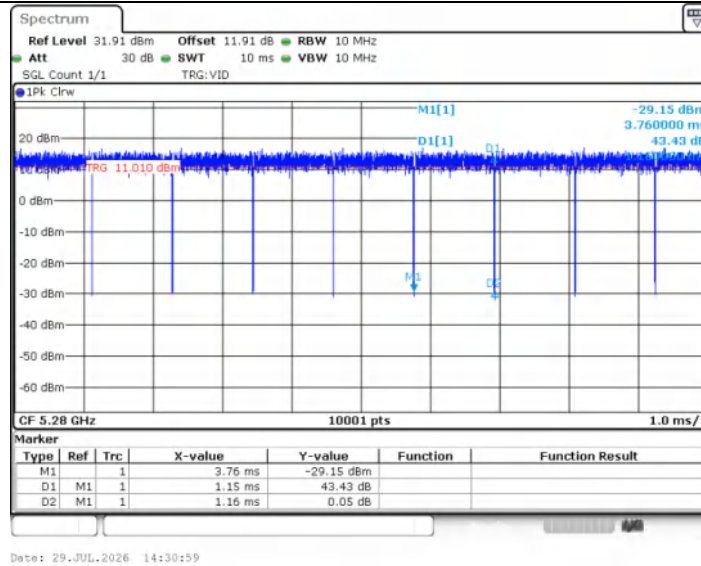
11N20MIMO_Ant2_5280

CTC Laboratories, Inc.

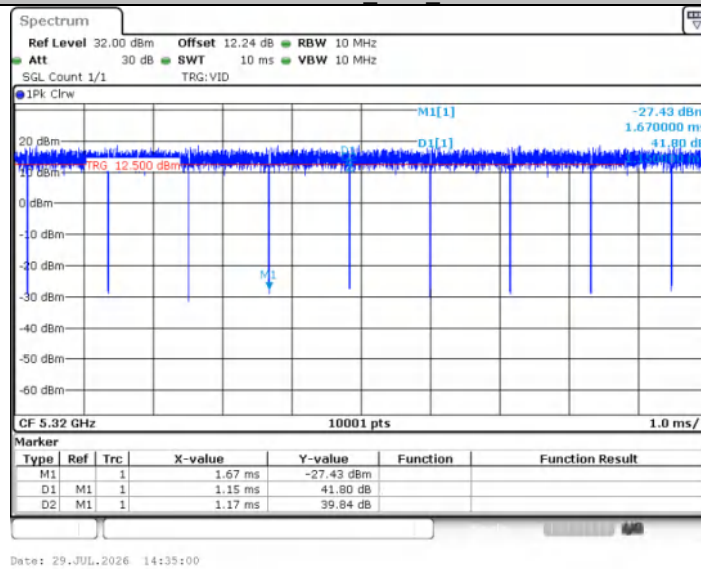
Room 107, 108, 207, 208 of Building A, Room 101 of Building B, No.7, Lanqing 1st Road, Luhua Community, Guanhu Subdistrict, Longhua District, Shenzhen, Guangdong, China Tel.: (86)755-27521059 Fax: (86)755-27521011 Http://www.sz-ctc.org.cn

TRF No: CTC-TR-062_A5

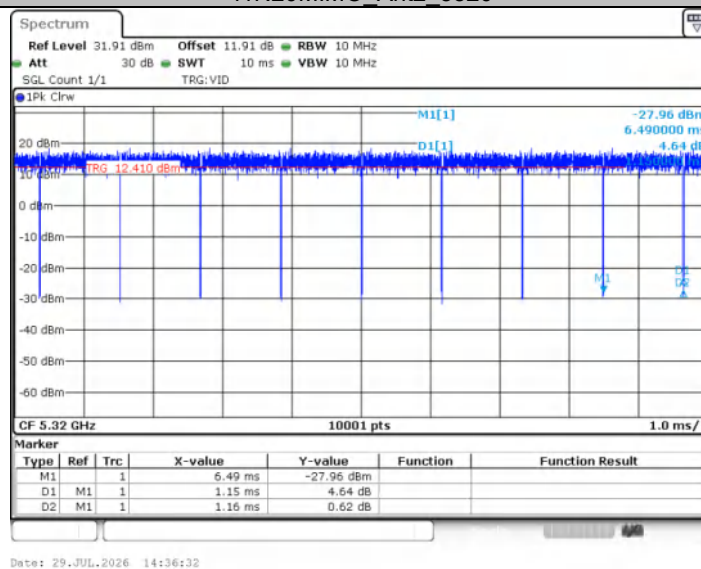
Master TRF : Dated 2026-06-01



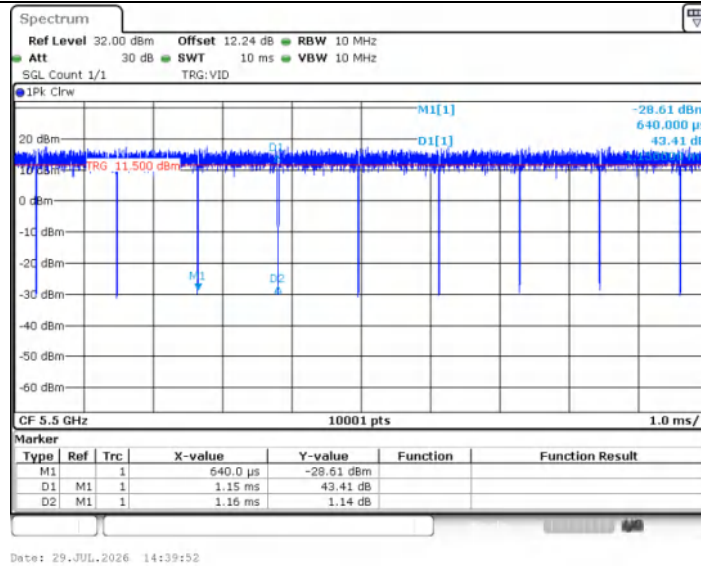
11N20MIMO_Ant1_5320



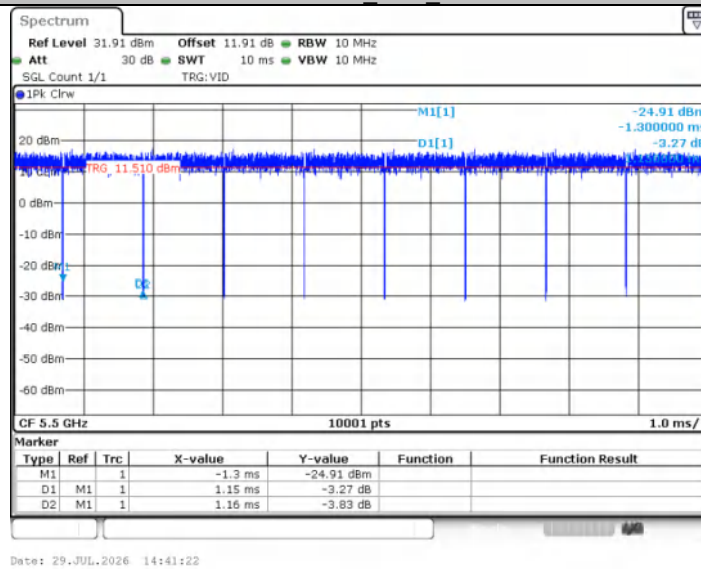
11N20MIMO_Ant2_5320



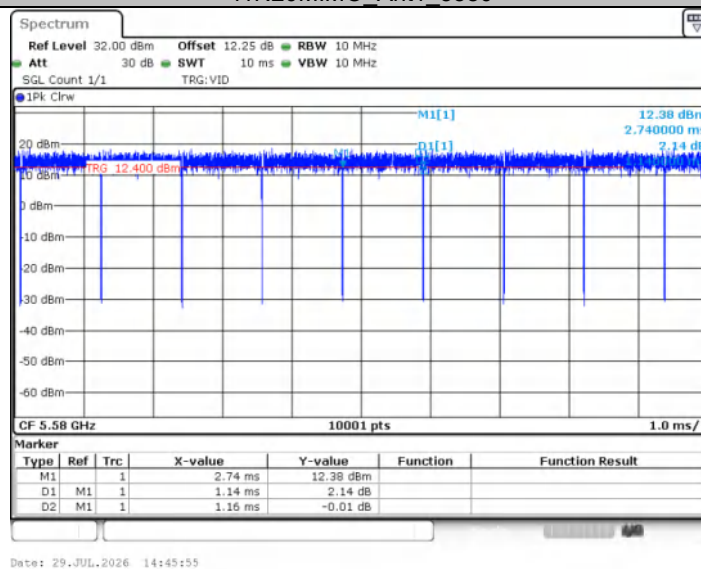
11N20MIMO_Ant1_5500



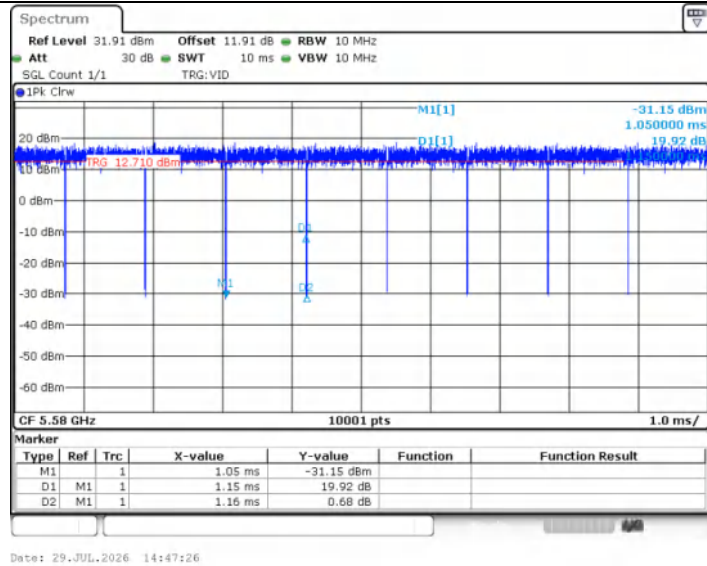
11N20MIMO_Ant2_5500



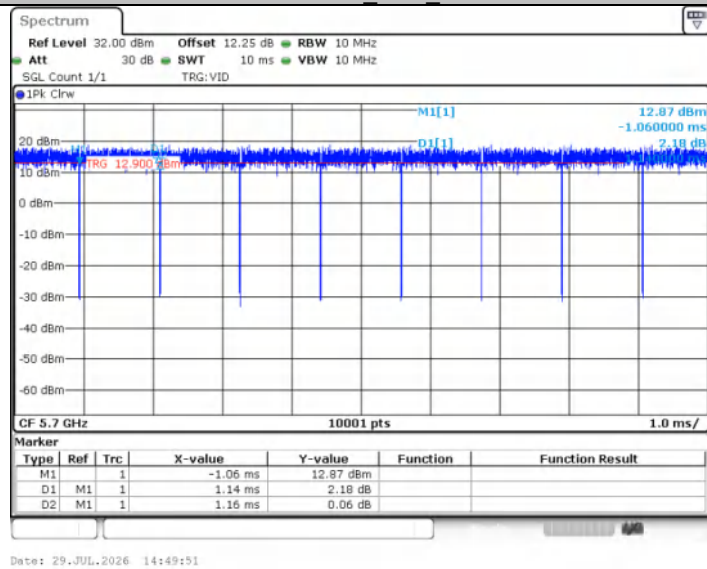
11N20MIMO_Ant1_5580



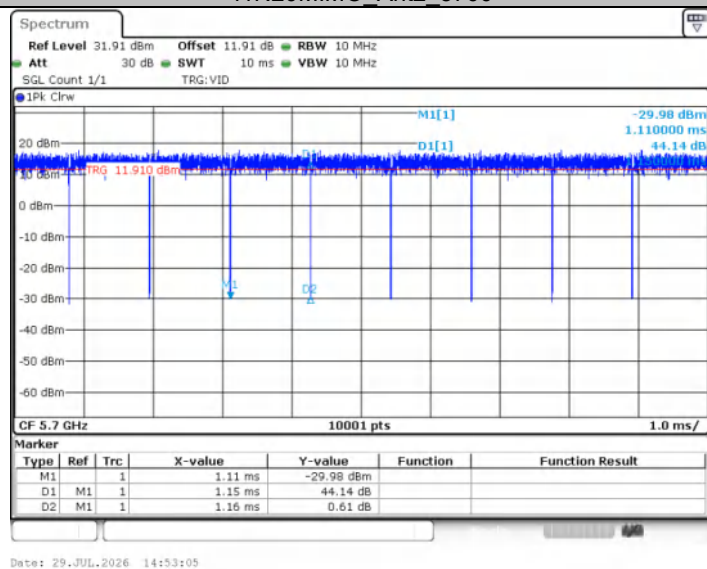
11N20MIMO_Ant2_5580



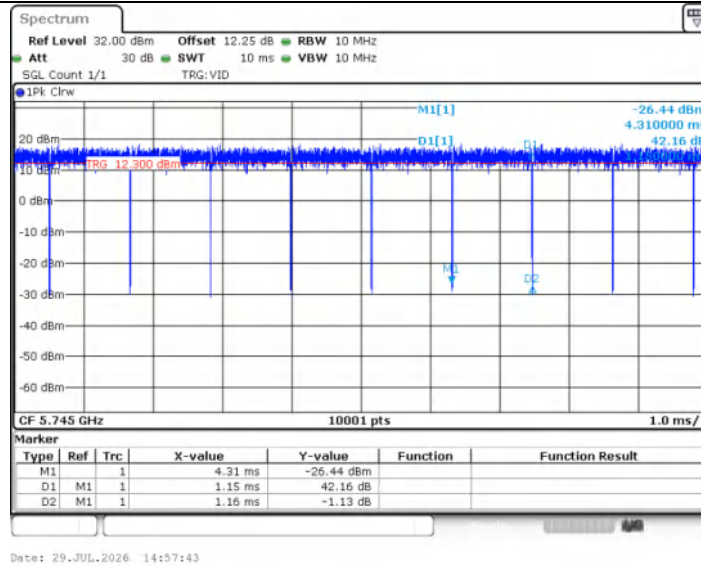
11N20MIMO_Ant1_5700



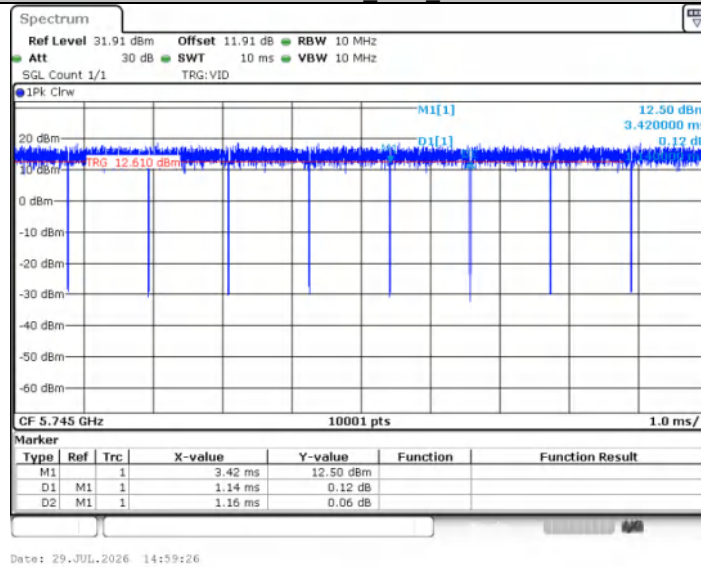
11N20MIMO_Ant2_5700



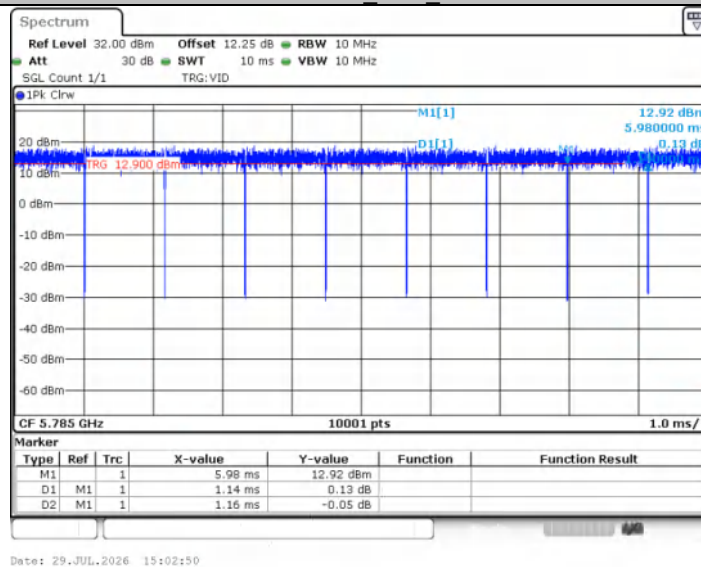
11N20MIMO_Ant1_5745



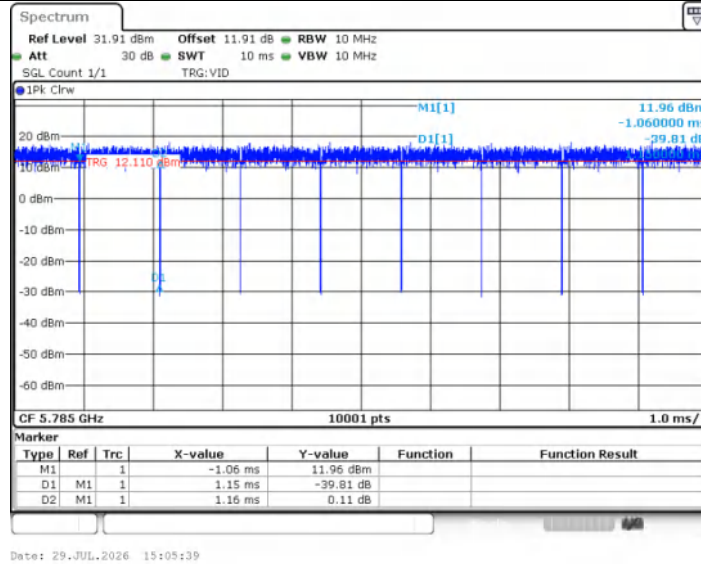
11N20MIMO_Ant2_5745



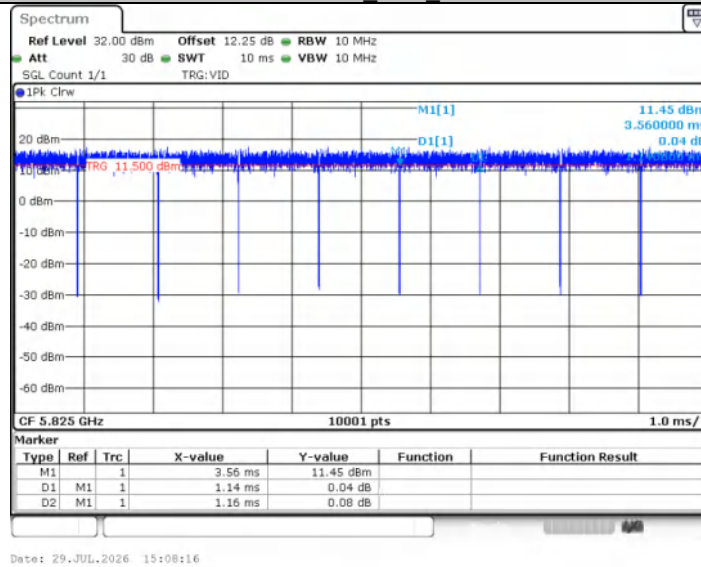
11N20MIMO_Ant1_5785



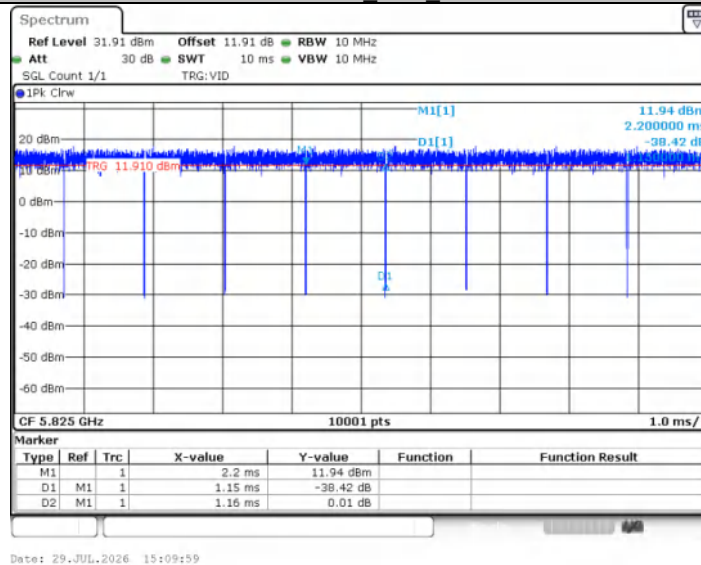
11N20MIMO_Ant2_5785



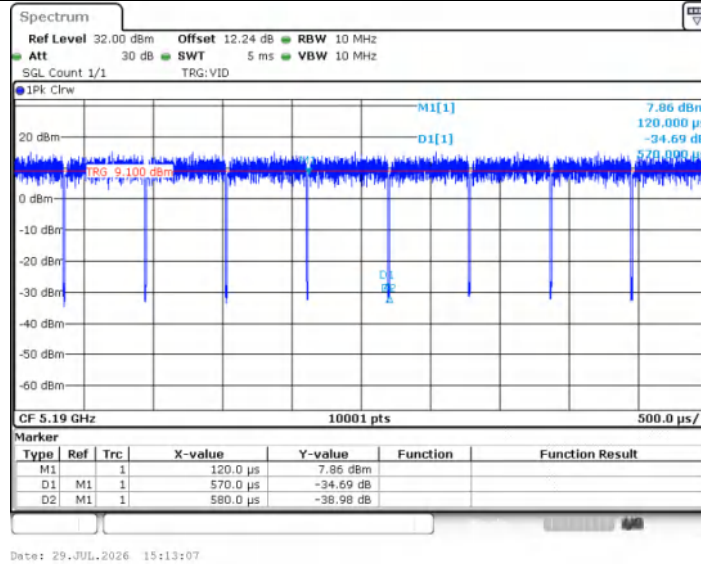
11N20MIMO_Ant1_5825



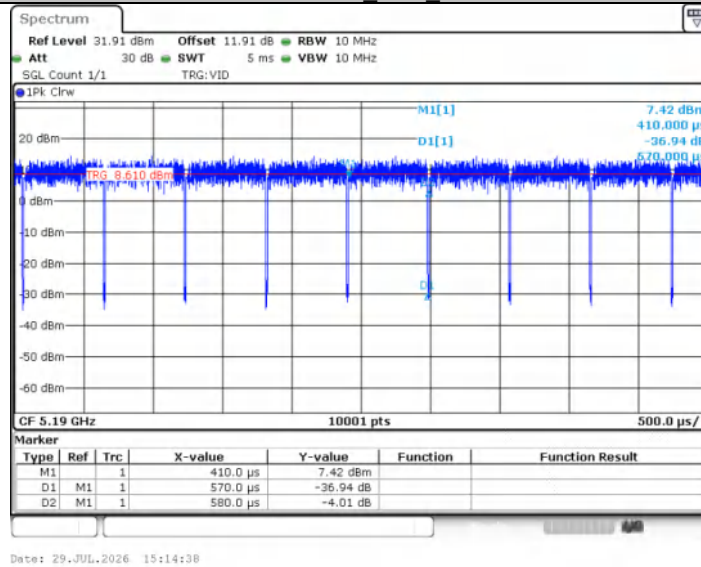
11N20MIMO_Ant2_5825



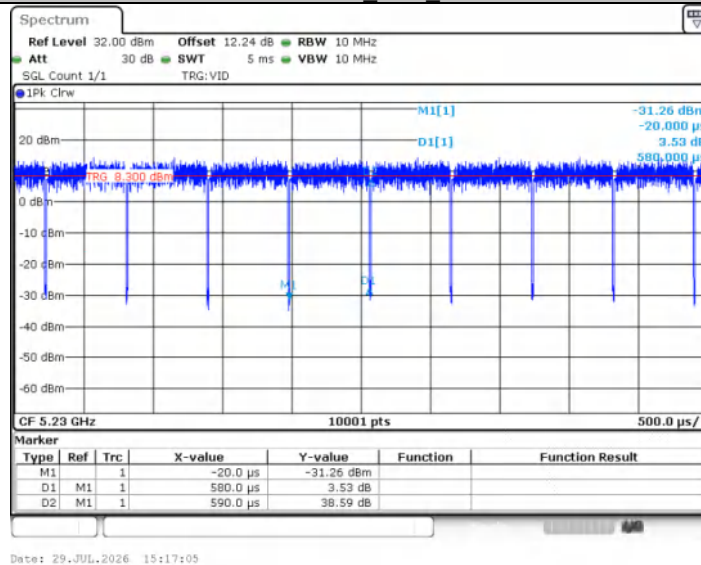
11N40MIMO_Ant1_5190



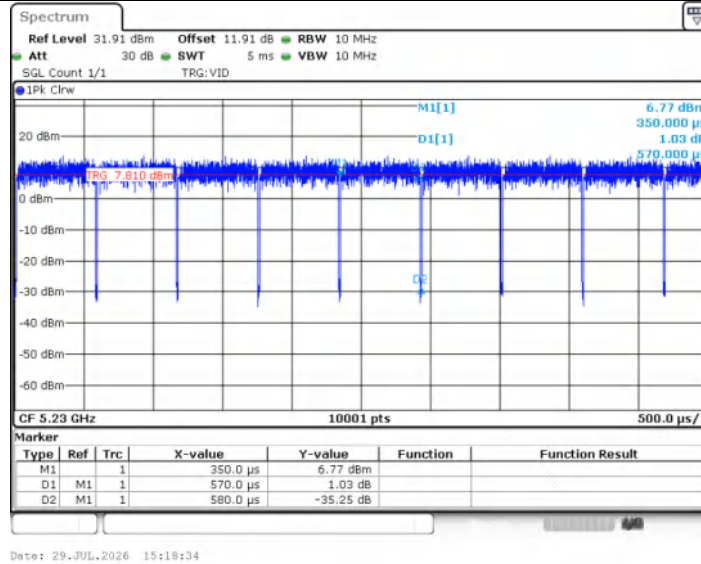
11N40MIMO_Ant2_5190



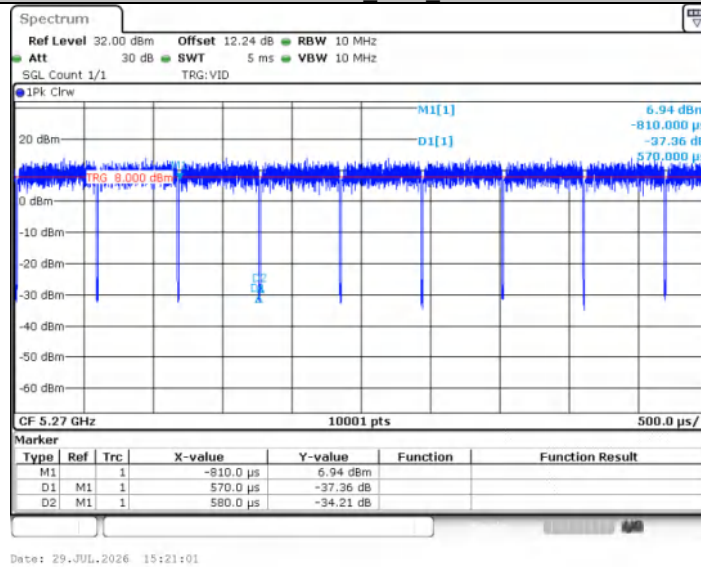
11N40MIMO_Ant1_5230



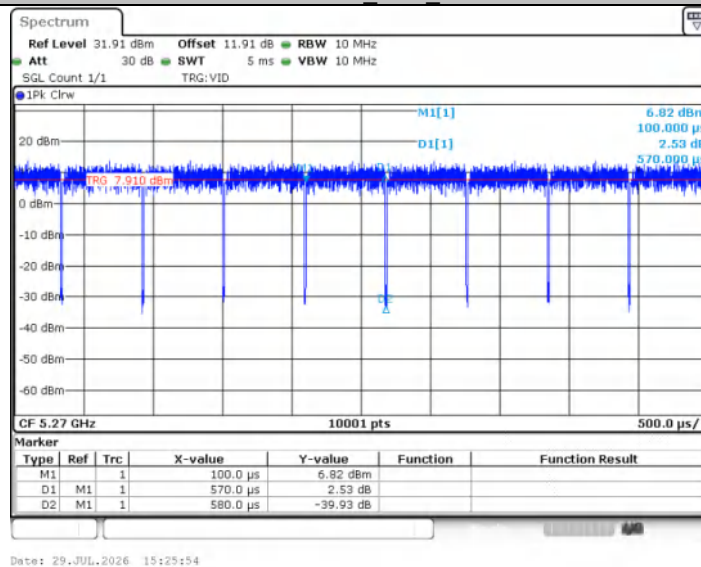
11N40MIMO_Ant2_5230



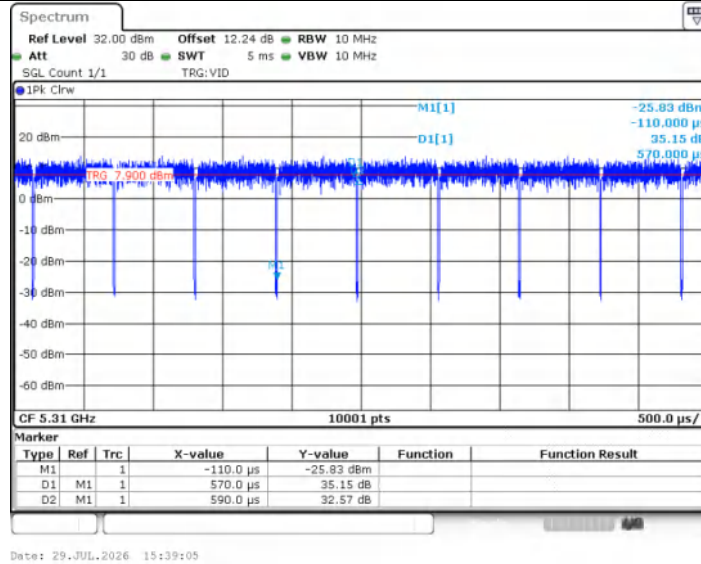
11N40MIMO_Ant1_5270



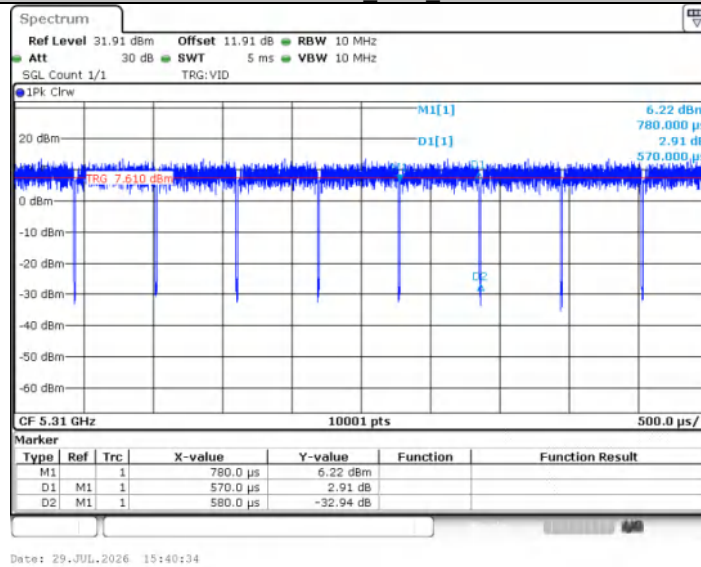
11N40MIMO_Ant2_5270



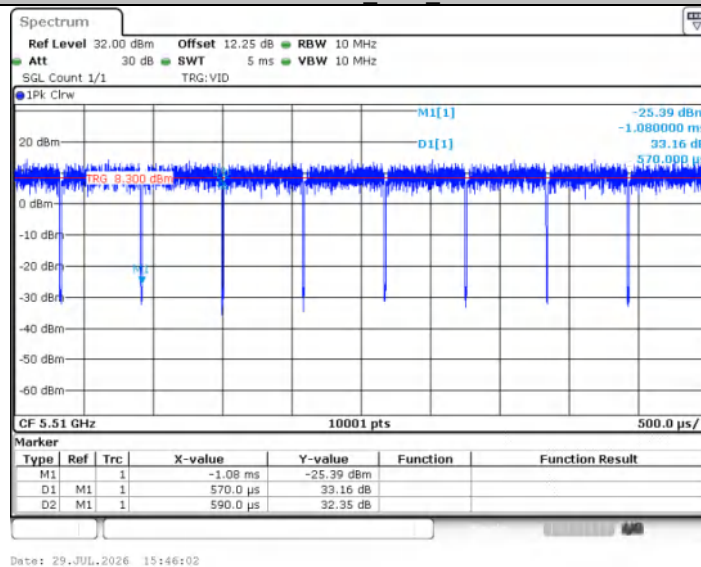
11N40MIMO_Ant1_5310



11N40MIMO_Ant2_5310



11N40MIMO_Ant1_5510



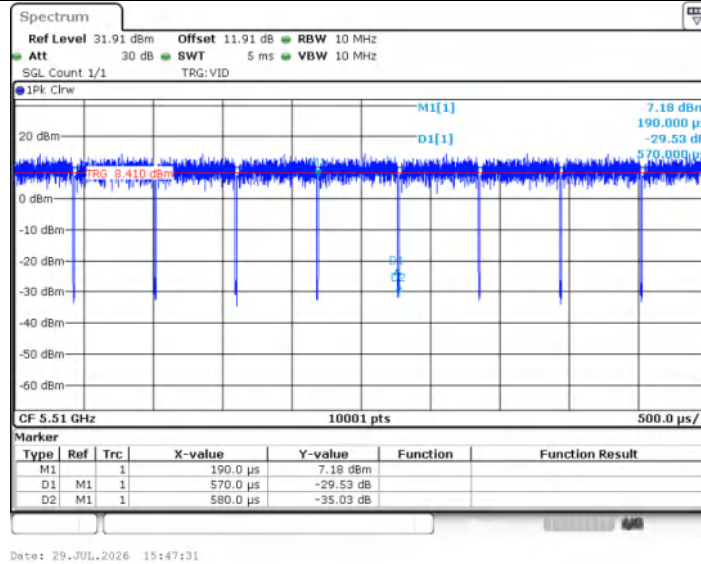
11N40MIMO_Ant2_5510

CTC Laboratories, Inc.

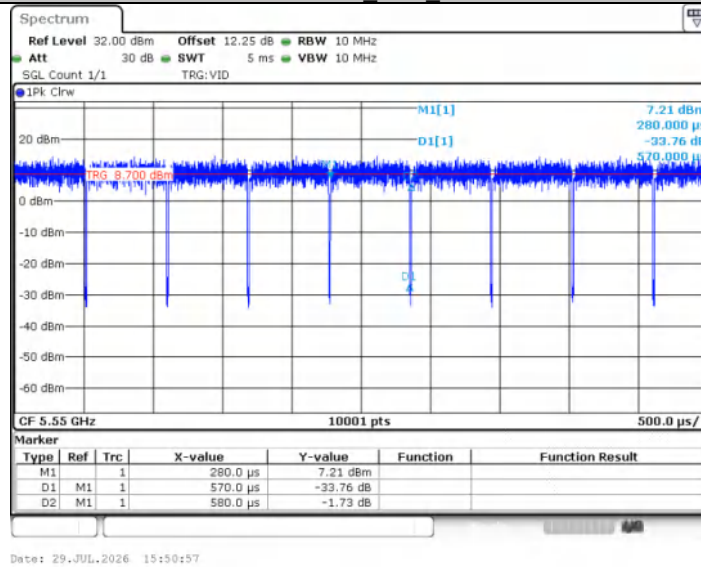
Room 107, 108, 207, 208 of Building A, Room 101 of Building B, No.7, Lanqing 1st Road, Luhu Community, Guanhu Subdistrict, Longhua District, Shenzhen, Guangdong, China Tel.: (86)755-27521059 Fax: (86)755-27521011 Http://www.sz-ctc.org.cn

TRF No: CTC-TR-062_A5

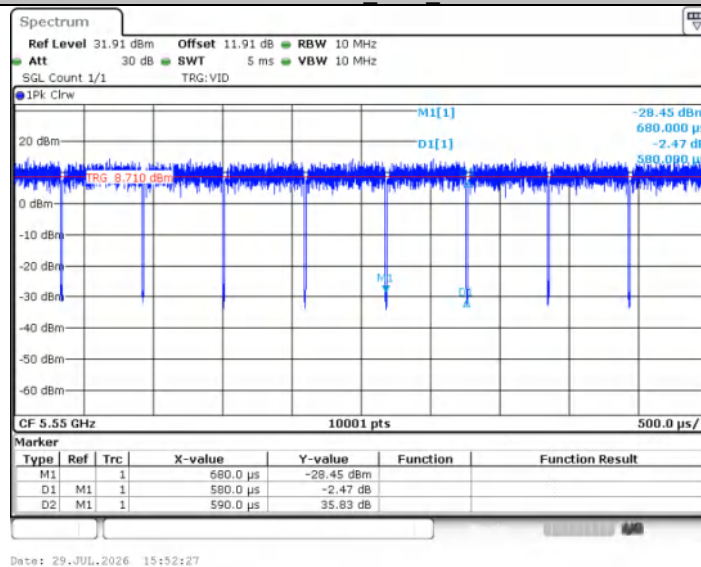
Master TRF : Dated 2026-06-01



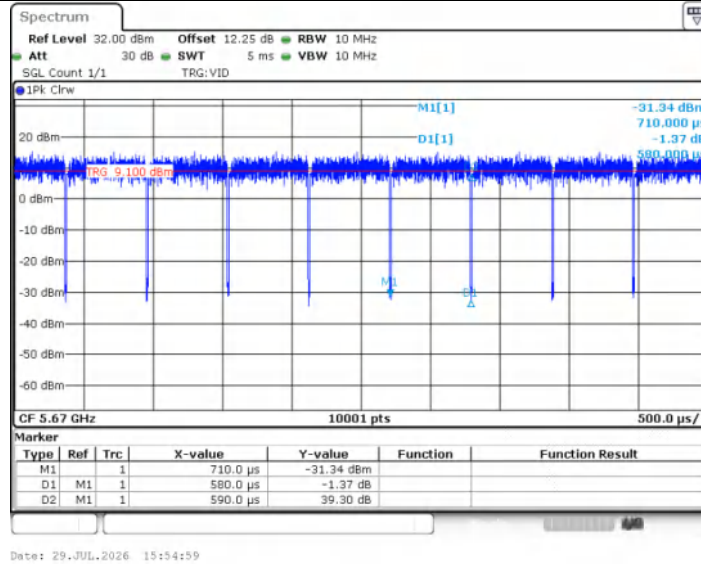
11N40MIMO_Ant1_5550



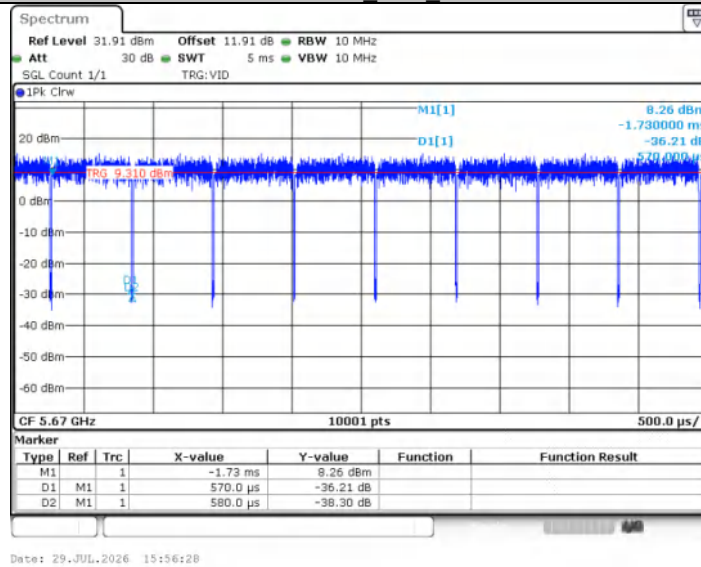
11N40MIMO_Ant2_5550



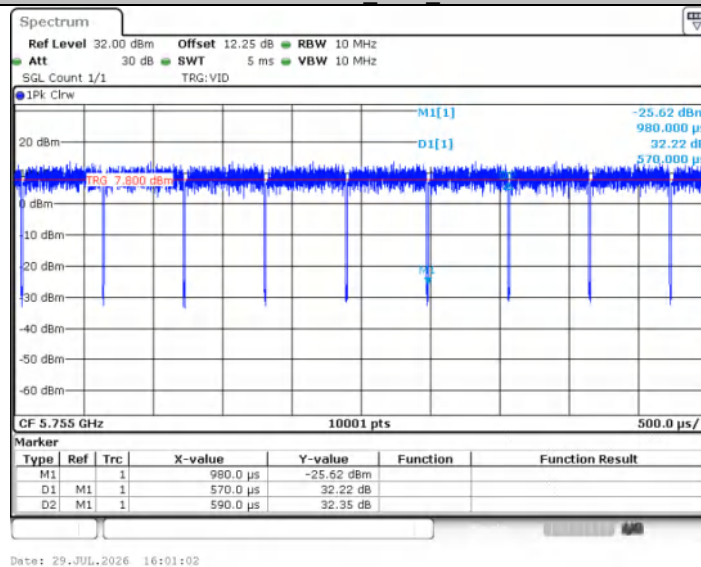
11N40MIMO_Ant1_5670



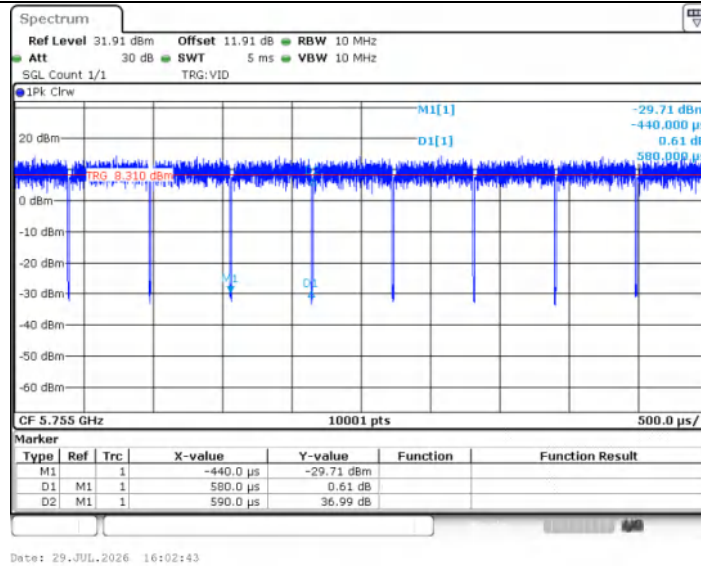
11N40MIMO_Ant2_5670



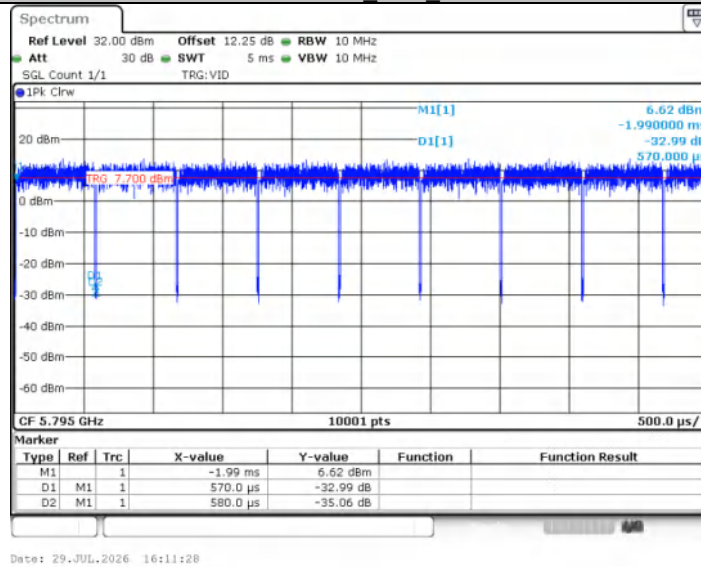
11N40MIMO_Ant1_5755



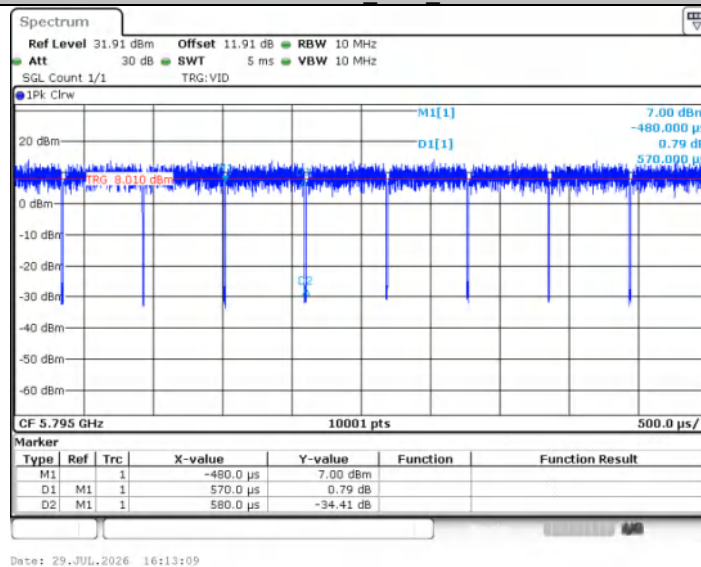
11N40MIMO_Ant2_5755



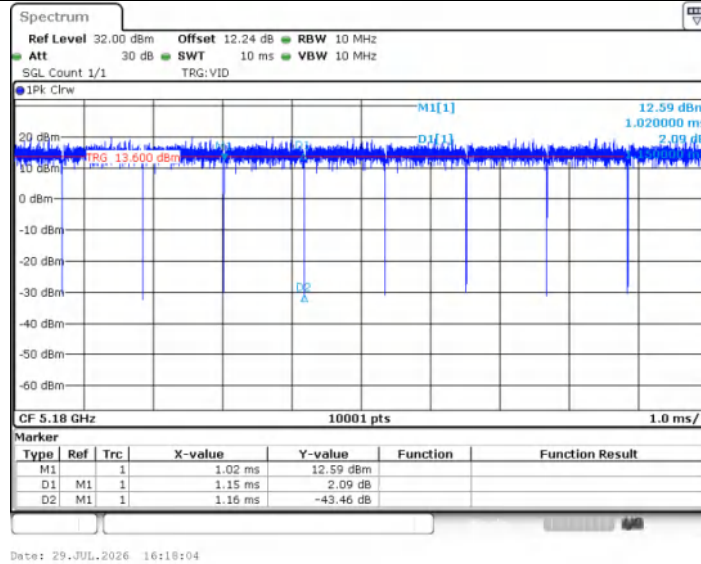
11N40MIMO_Ant1_5795



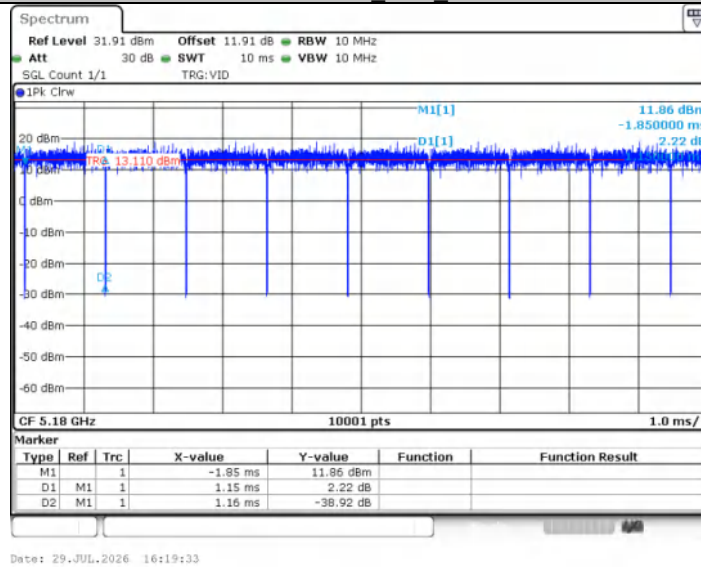
11N40MIMO_Ant2_5795



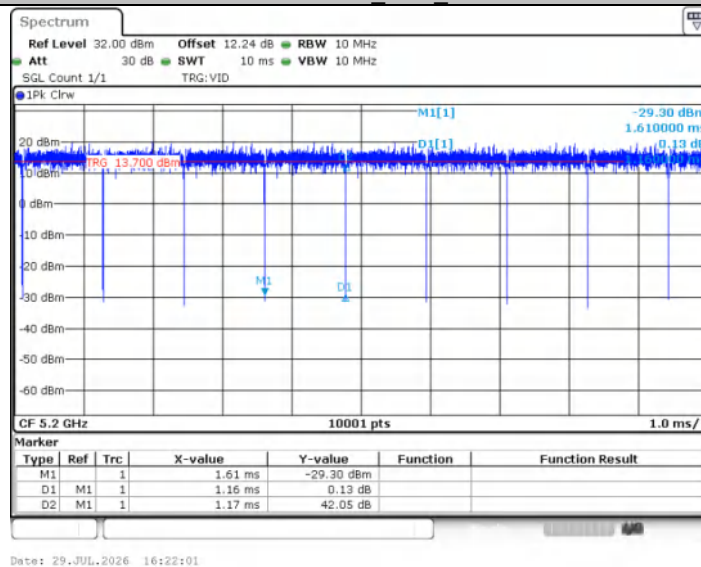
11AC20MIMO_Ant1_5180



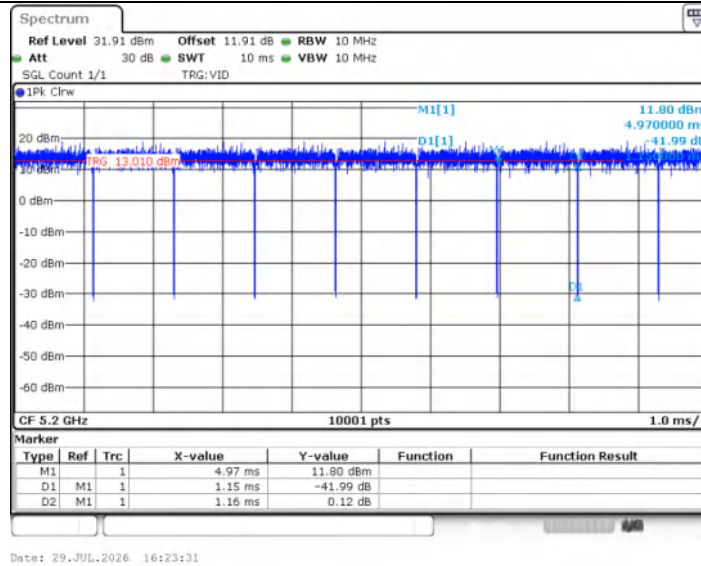
11AC20MIMO_Ant2_5180



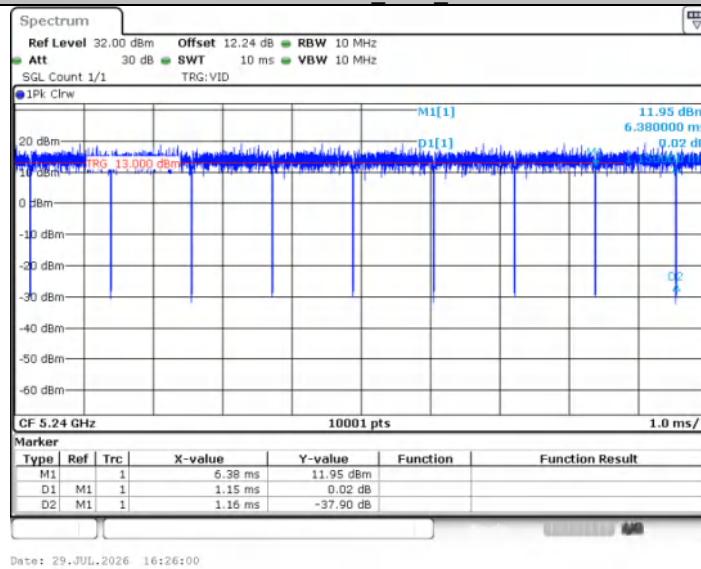
11AC20MIMO_Ant1_5200



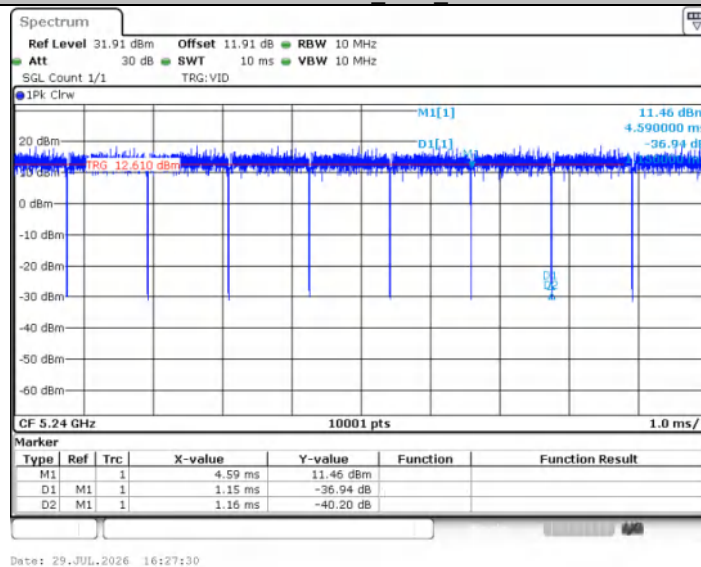
11AC20MIMO_Ant2_5200



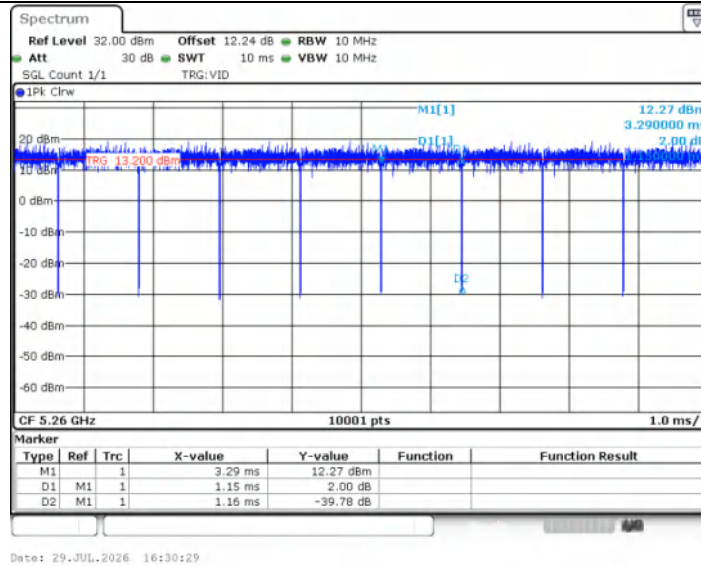
11AC20MIMO_Ant1_5240



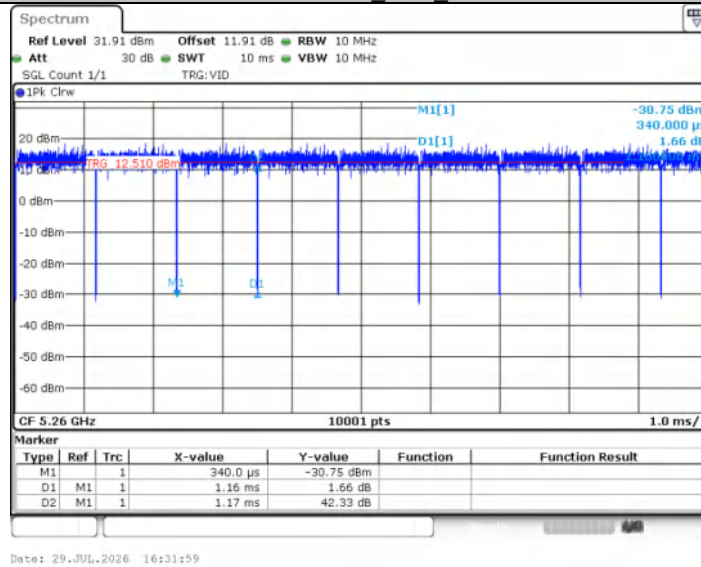
11AC20MIMO_Ant2_5240



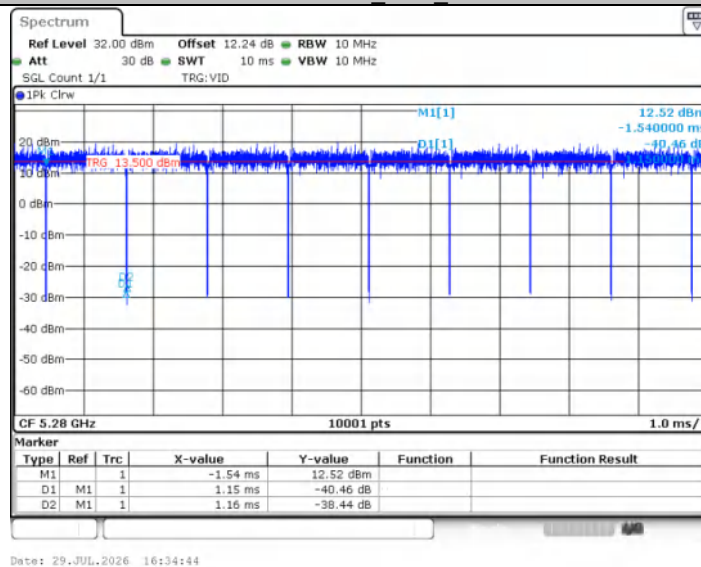
11AC20MIMO_Ant1_5260



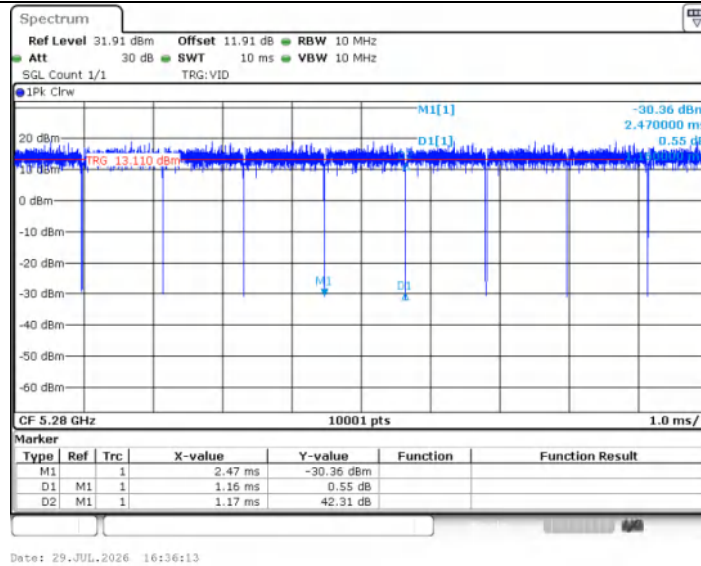
11AC20MIMO_Ant2_5260



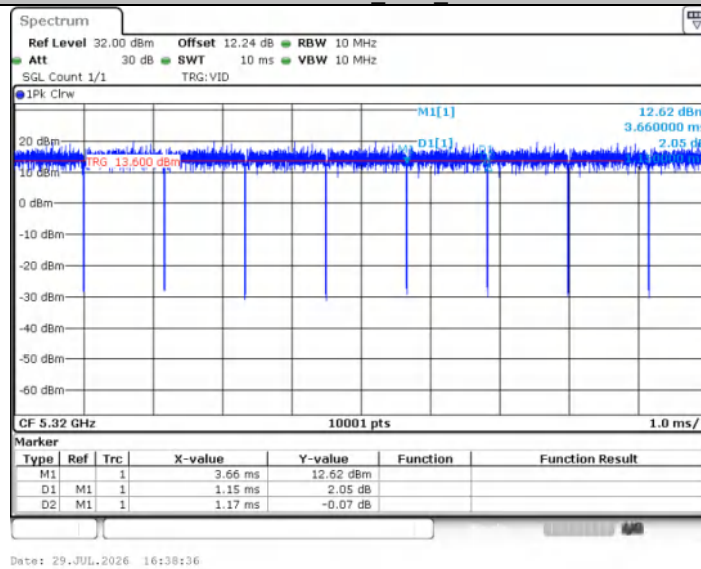
11AC20MIMO_Ant1_5280



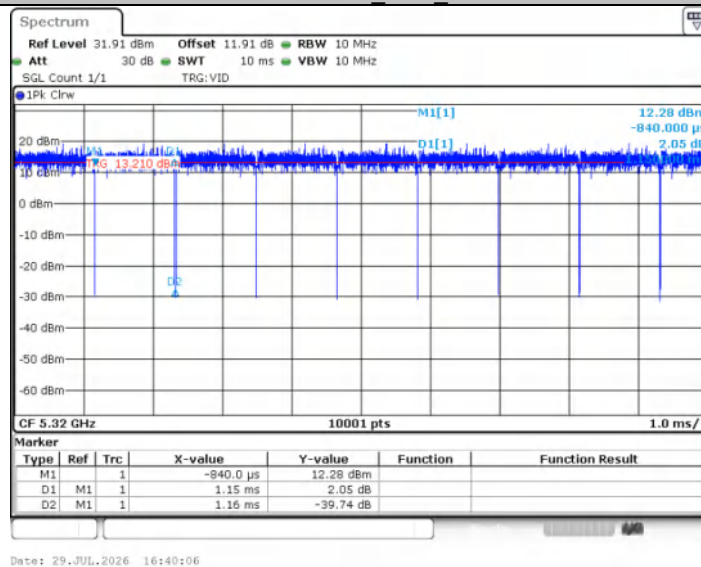
11AC20MIMO_Ant2_5280



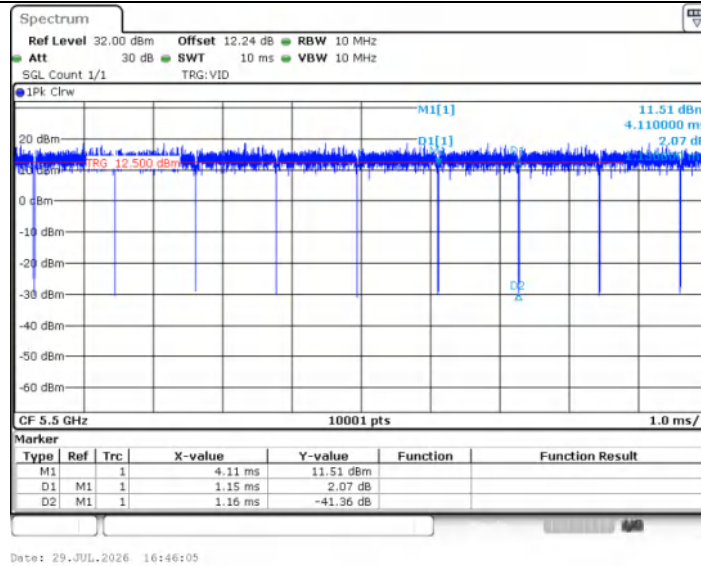
11AC20MIMO_Ant1_5320



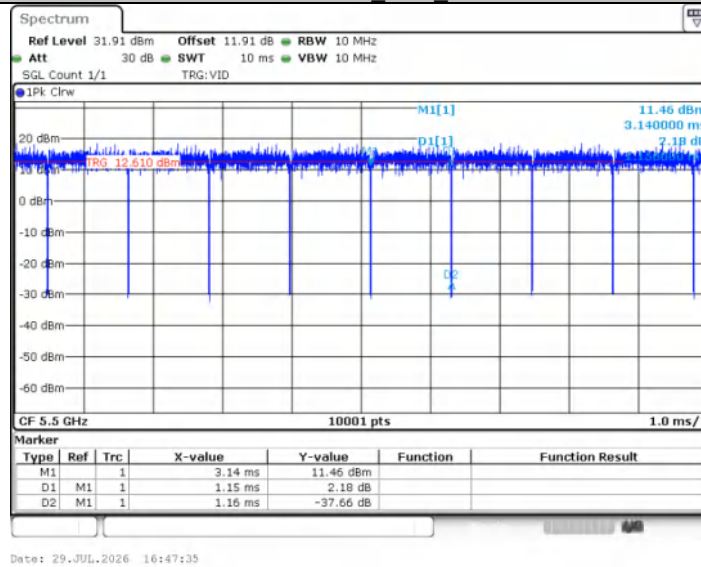
11AC20MIMO_Ant2_5320



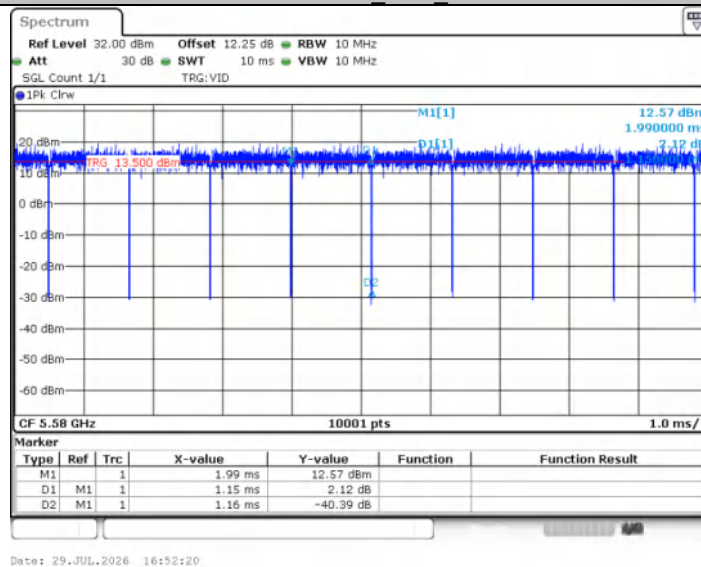
11AC20MIMO_Ant1_5500



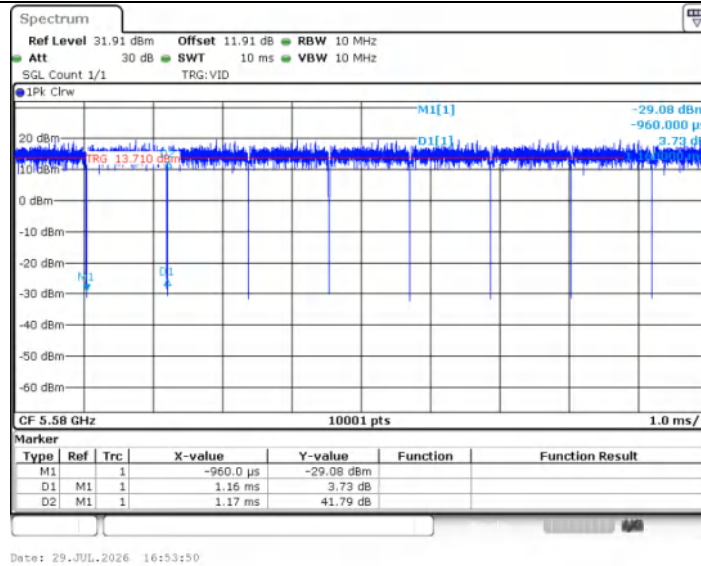
11AC20MIMO_Ant2_5500



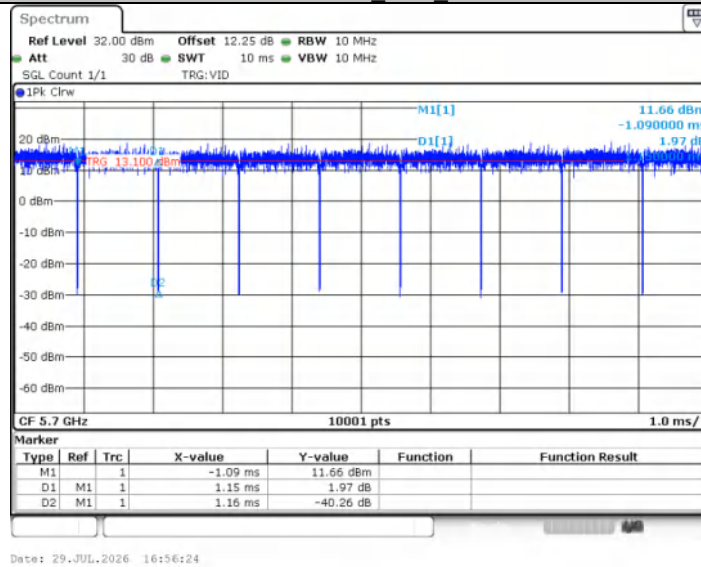
11AC20MIMO_Ant1_5580



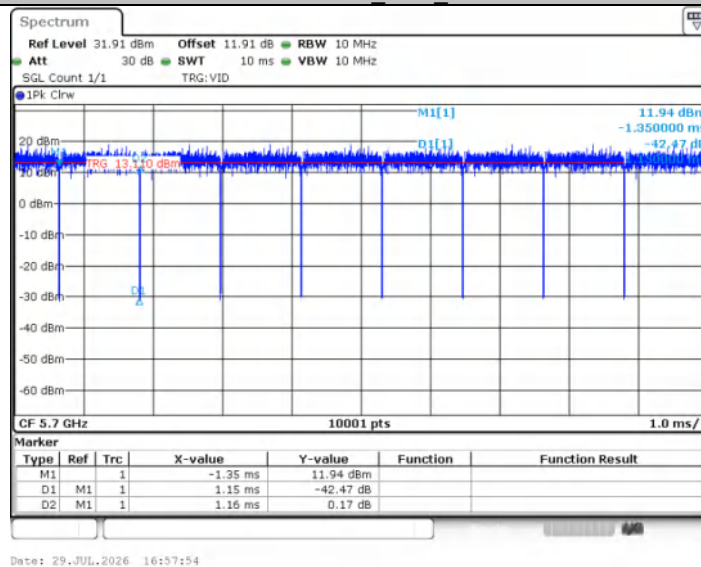
11AC20MIMO_Ant2_5580



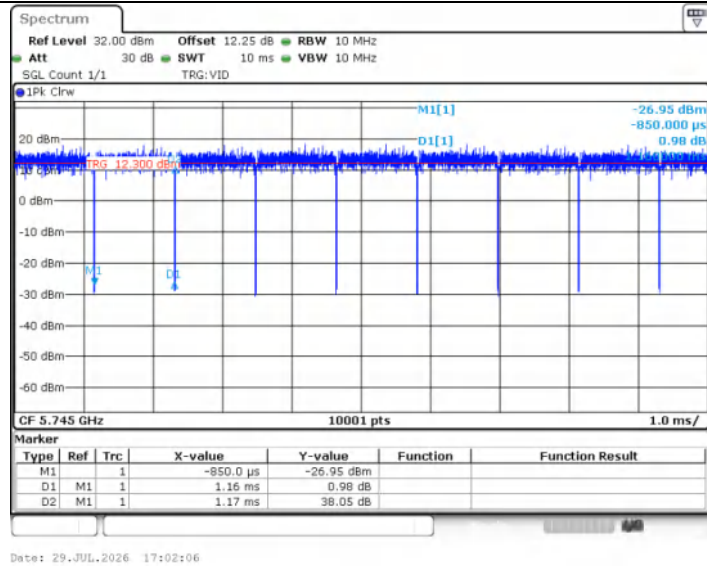
11AC20MIMO_Ant1_5700



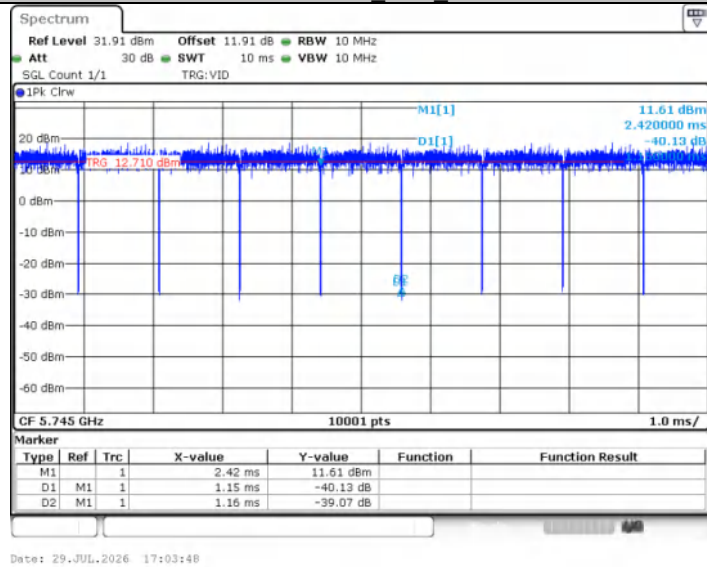
11AC20MIMO_Ant2_5700



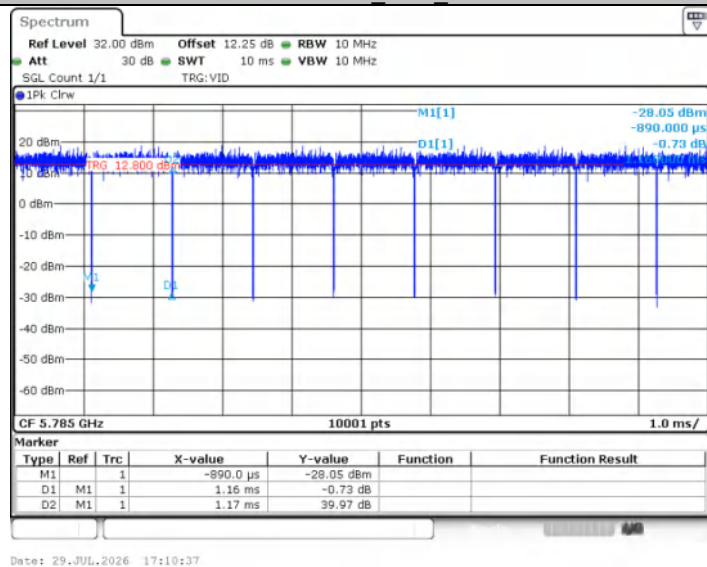
11AC20MIMO_Ant1_5745



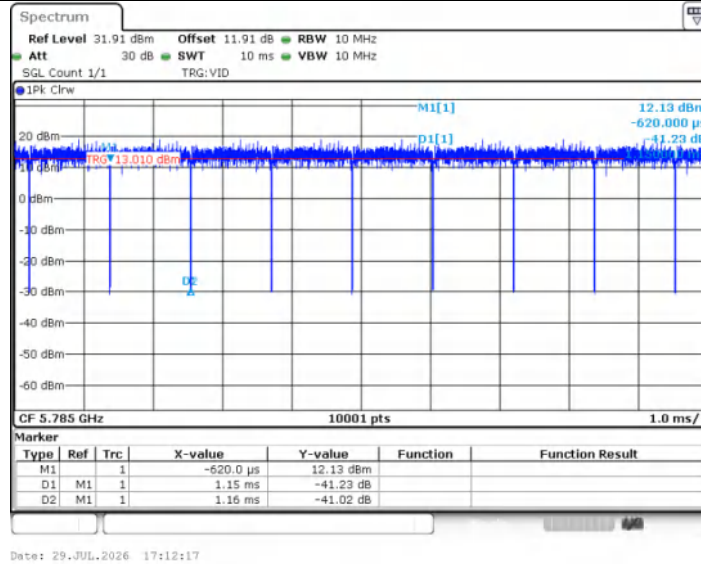
11AC20MIMO_Ant2_5745



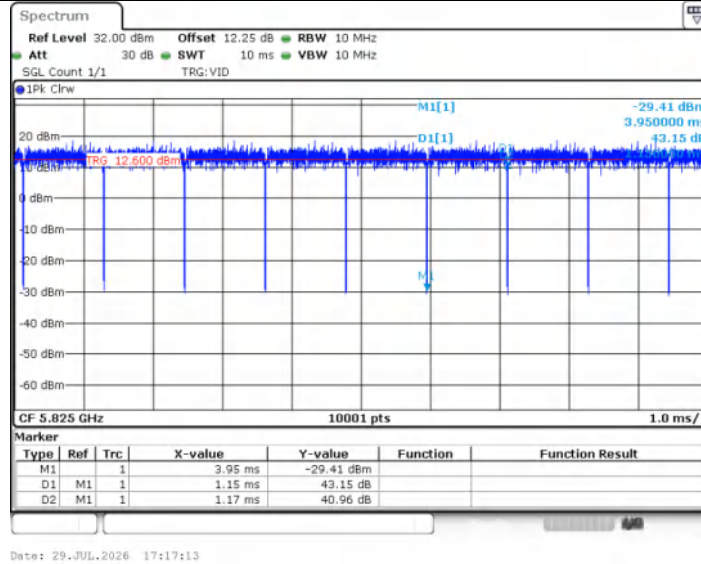
11AC20MIMO_Ant1_5785



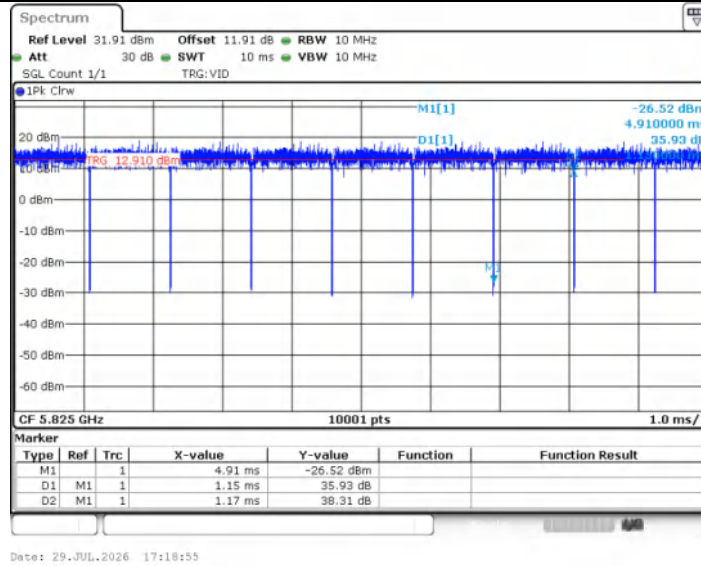
11AC20MIMO_Ant2_5785



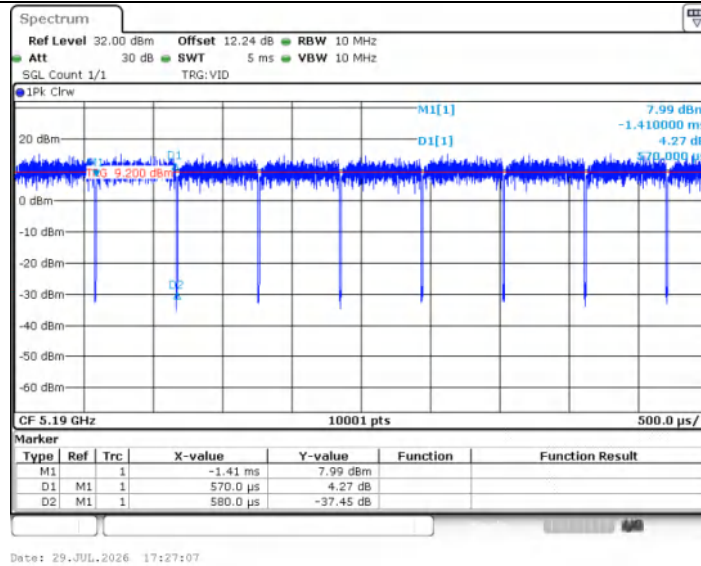
11AC20MIMO_Ant1_5825



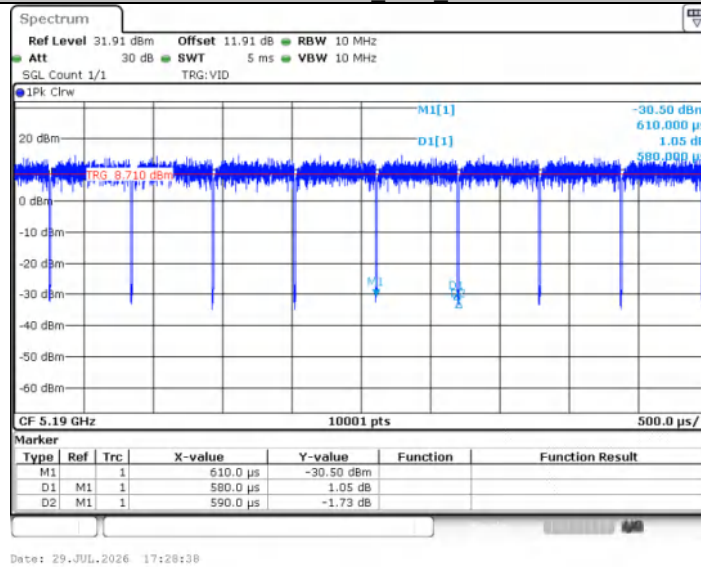
11AC20MIMO_Ant2_5825



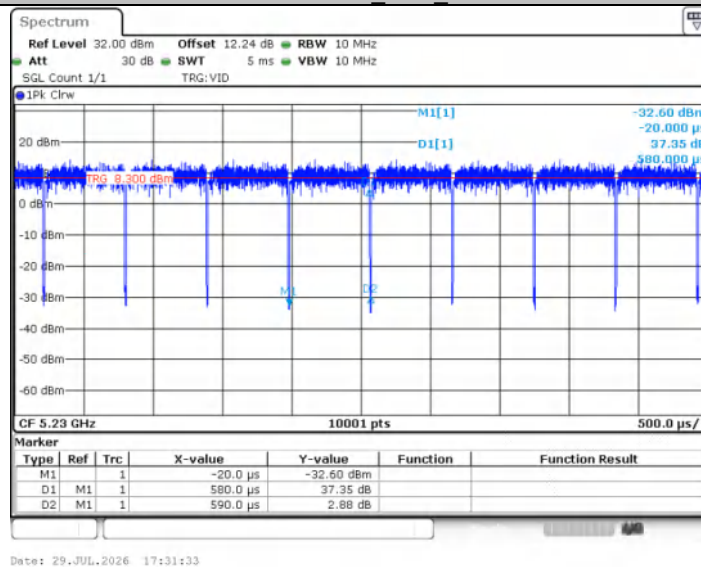
11AC40MIMO_Ant1_5190



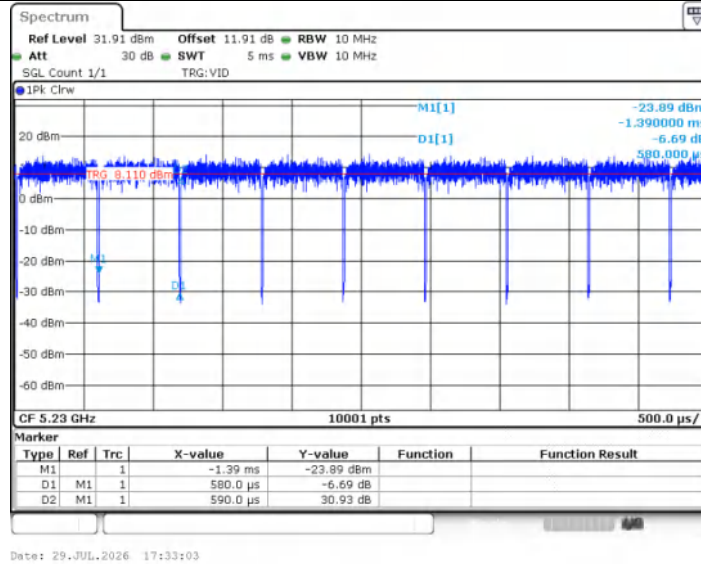
11AC40MIMO_Ant2_5190



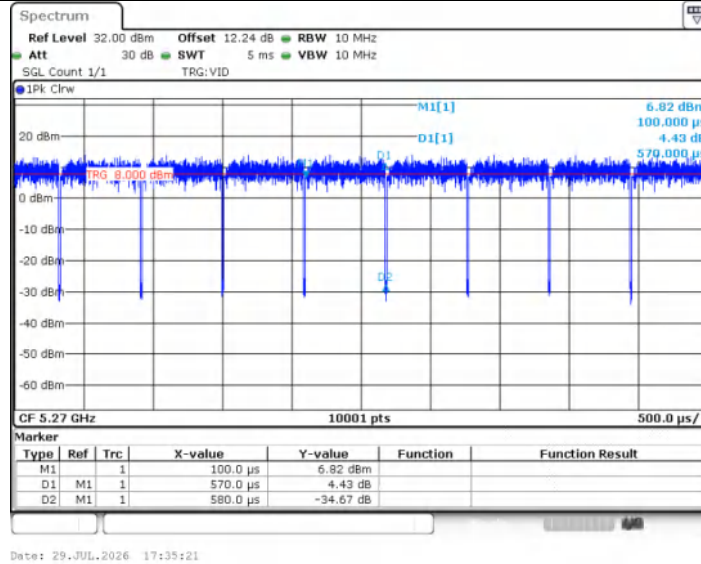
11AC40MIMO_Ant1_5230



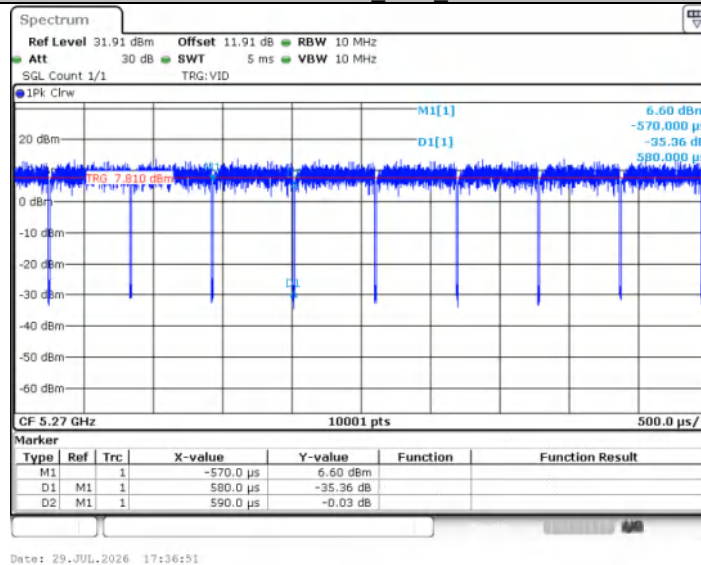
11AC40MIMO_Ant2_5230



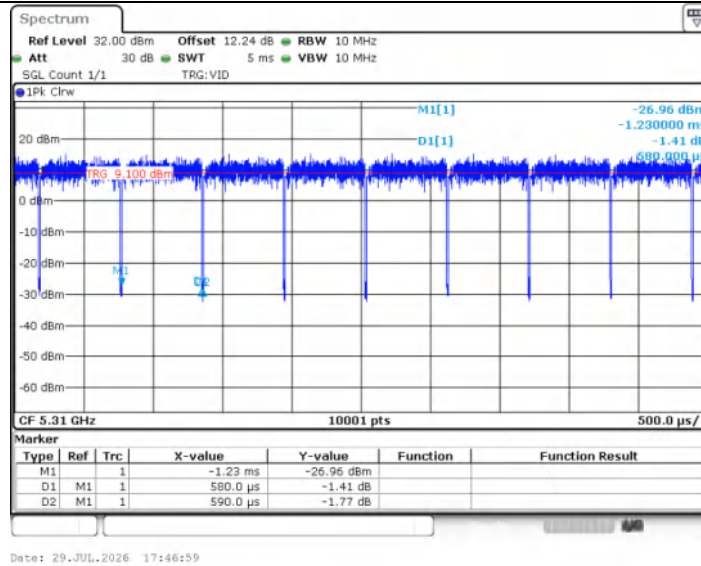
11AC40MIMO_Ant1_5270



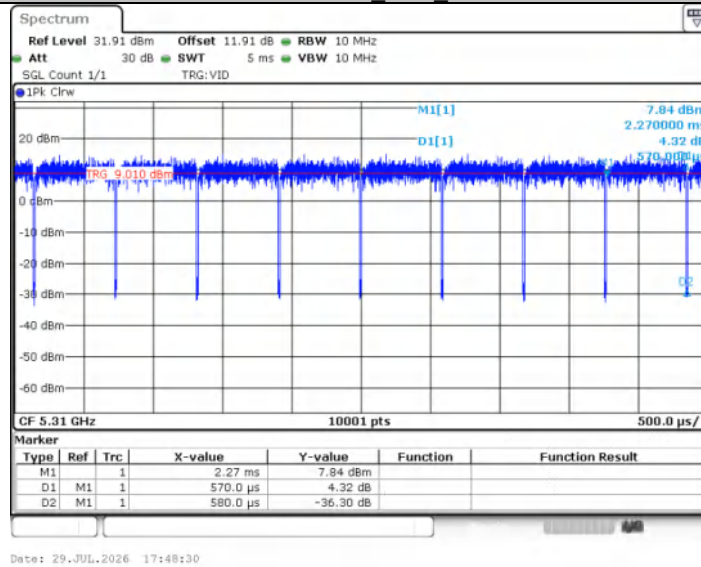
11AC40MIMO_Ant2_5270



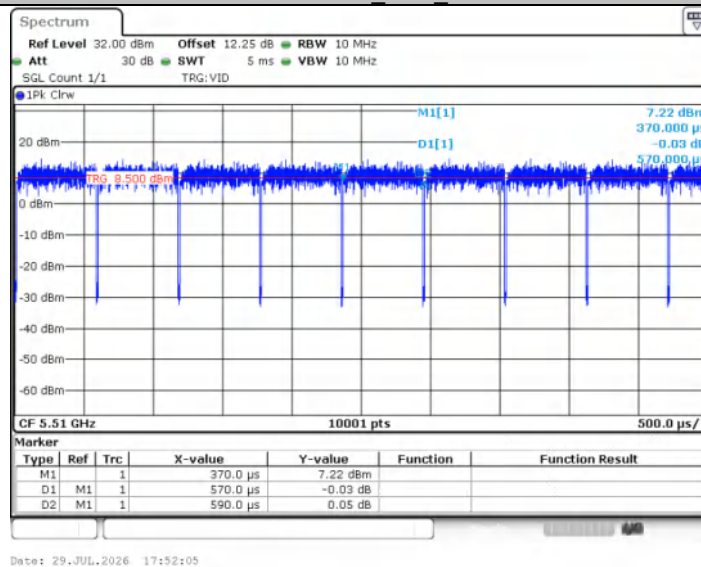
11AC40MIMO_Ant1_5310



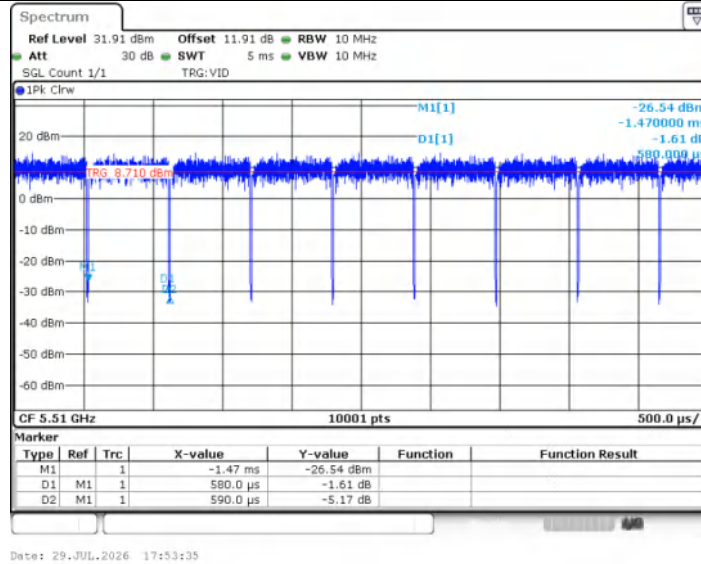
11AC40MIMO_Ant2_5310



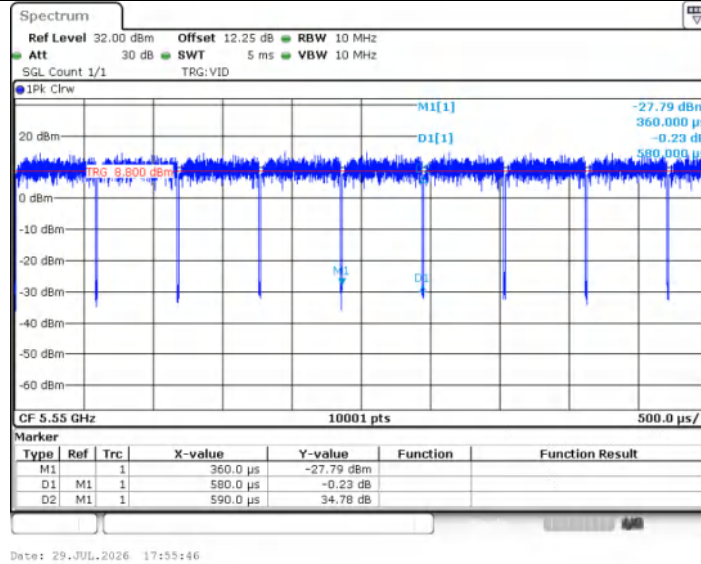
11AC40MIMO_Ant1_5510



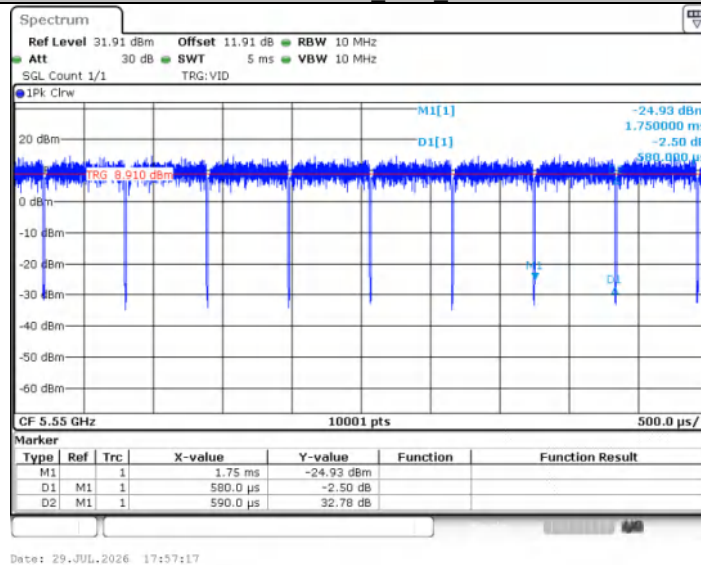
11AC40MIMO_Ant2_5510



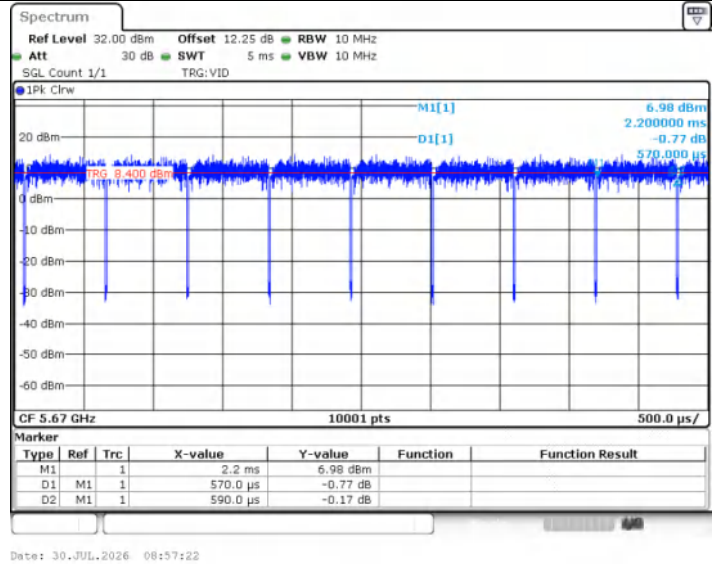
11AC40MIMO_Ant1_5550



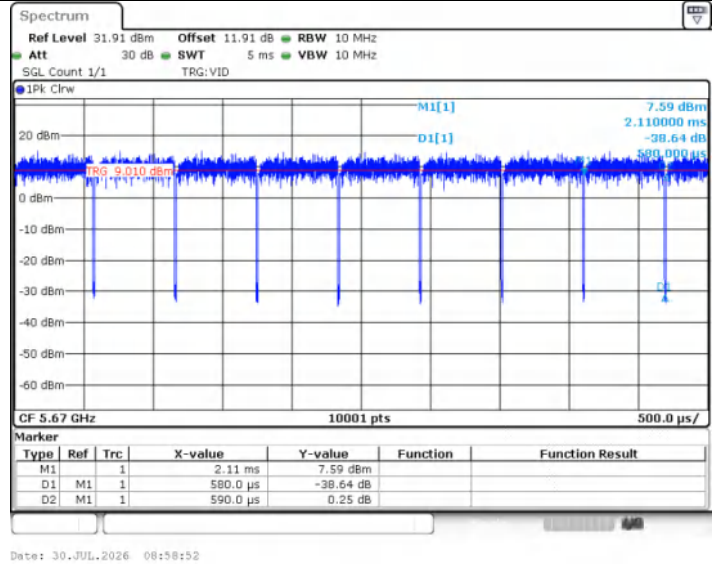
11AC40MIMO_Ant2_5550



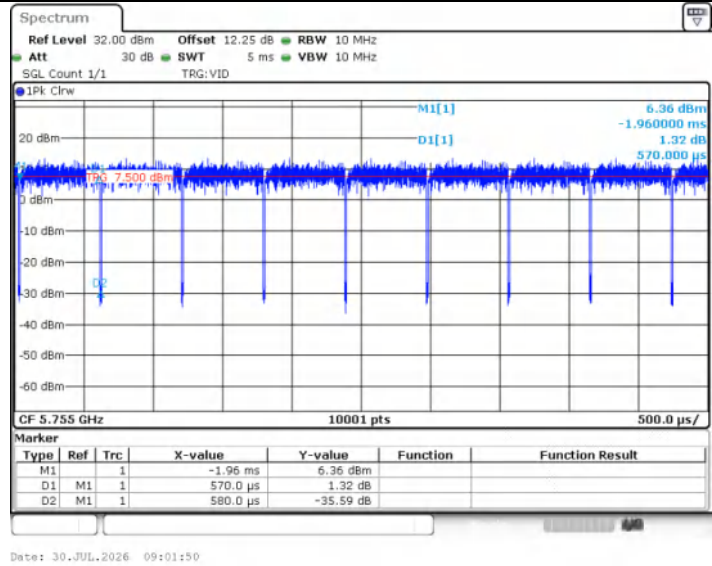
11AC40MIMO_Ant1_5670



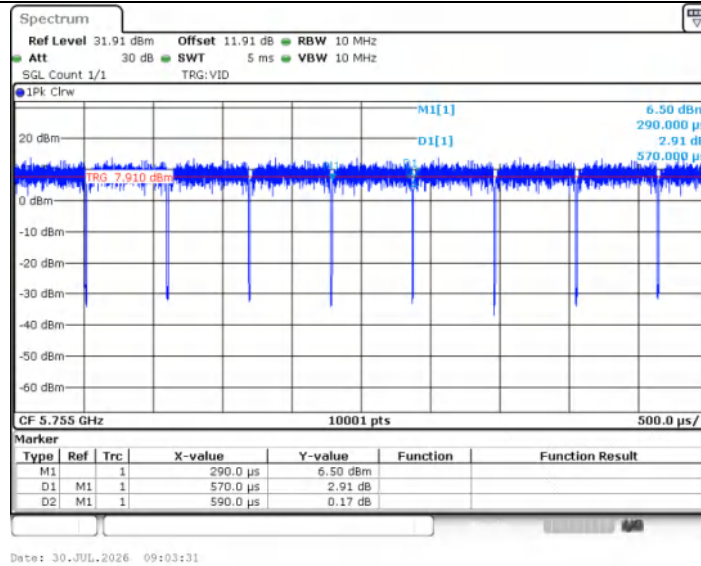
11AC40MIMO_Ant2_5670



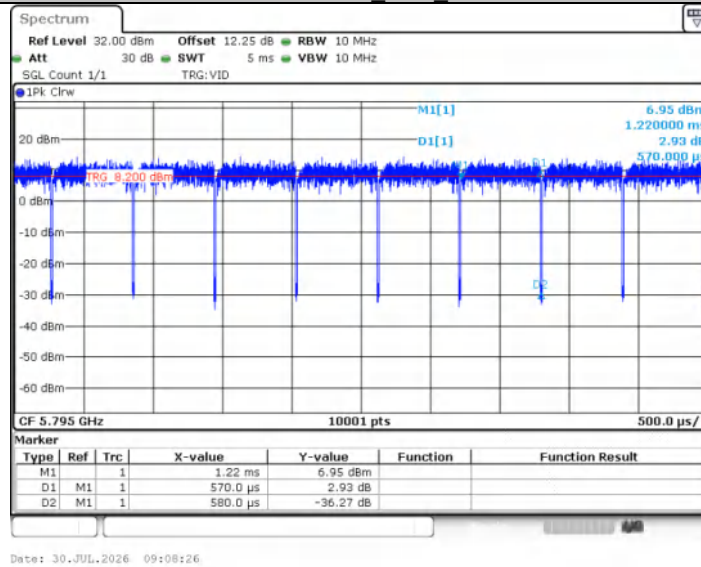
11AC40MIMO_Ant1_5755



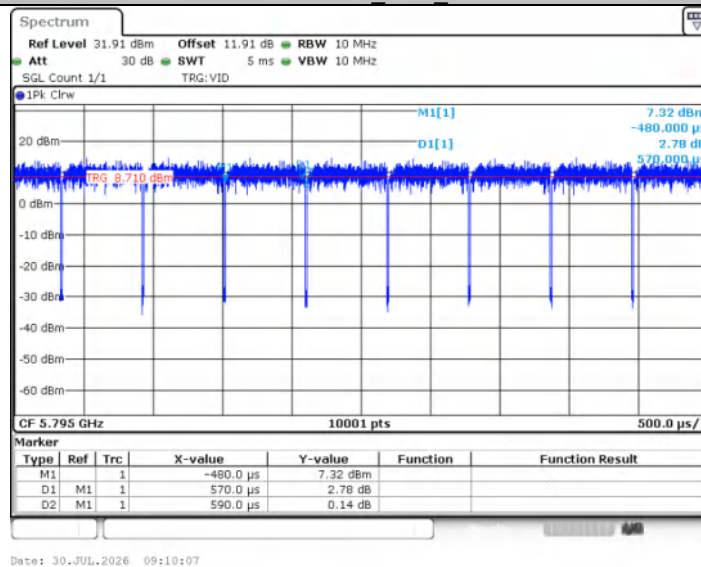
11AC40MIMO_Ant2_5755



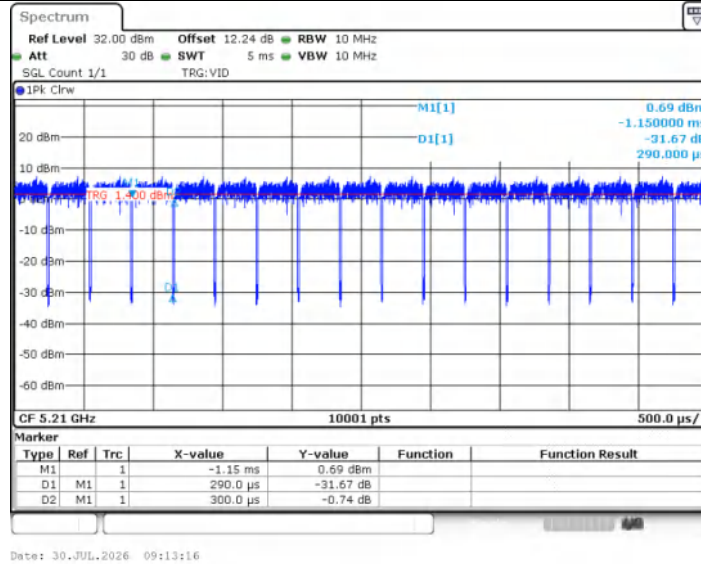
11AC40MIMO_Ant1_5795



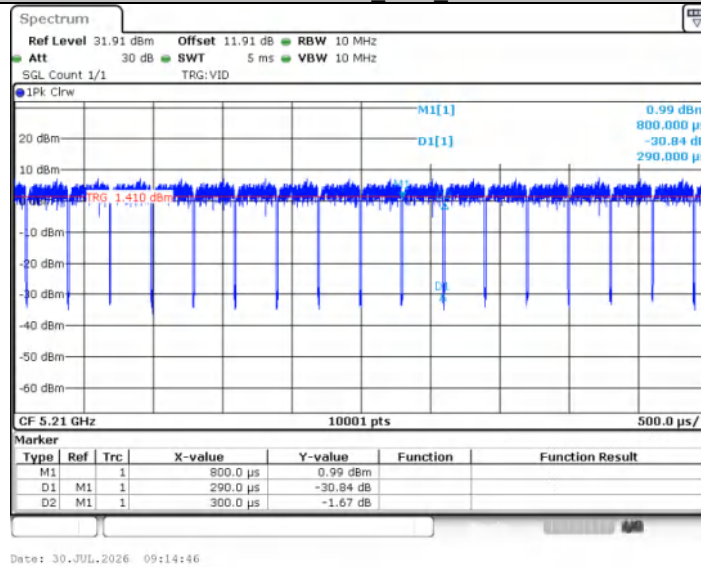
11AC40MIMO_Ant2_5795



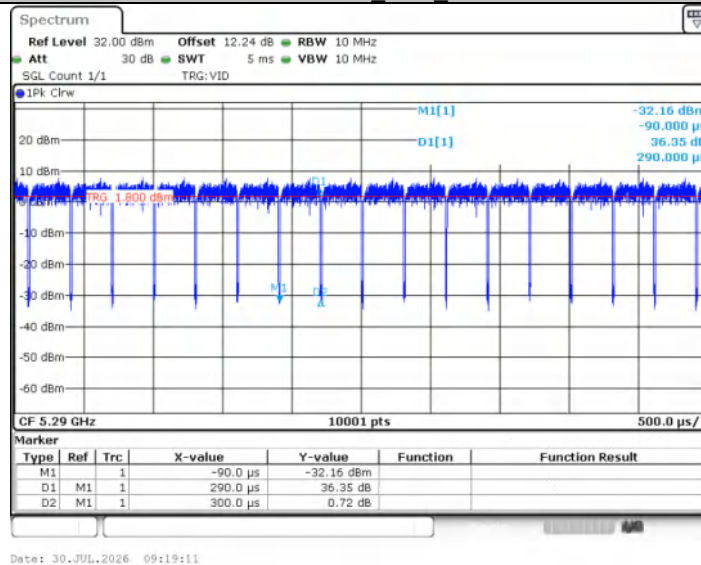
11AC80MIMO_Ant1_5210



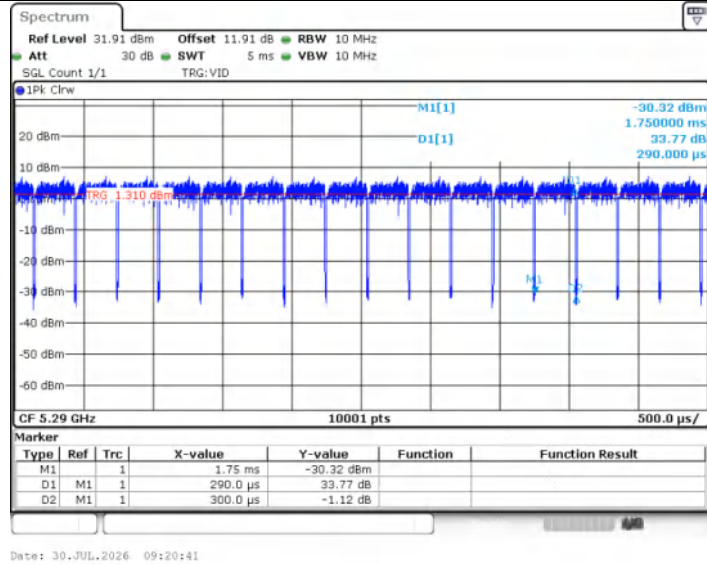
11AC80MIMO_Ant2_5210



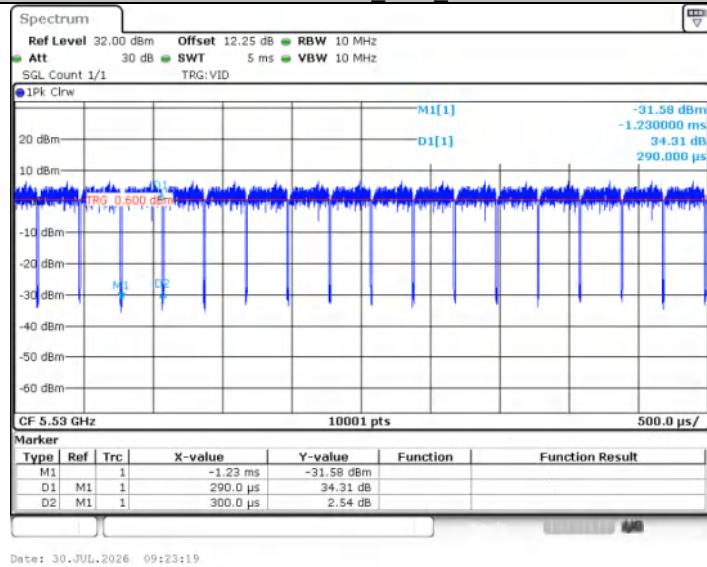
11AC80MIMO_Ant1_5290



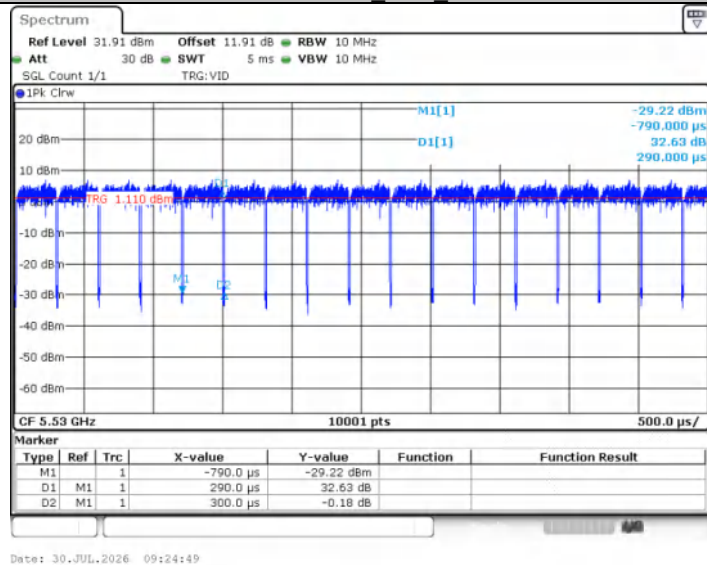
11AC80MIMO_Ant2_5290



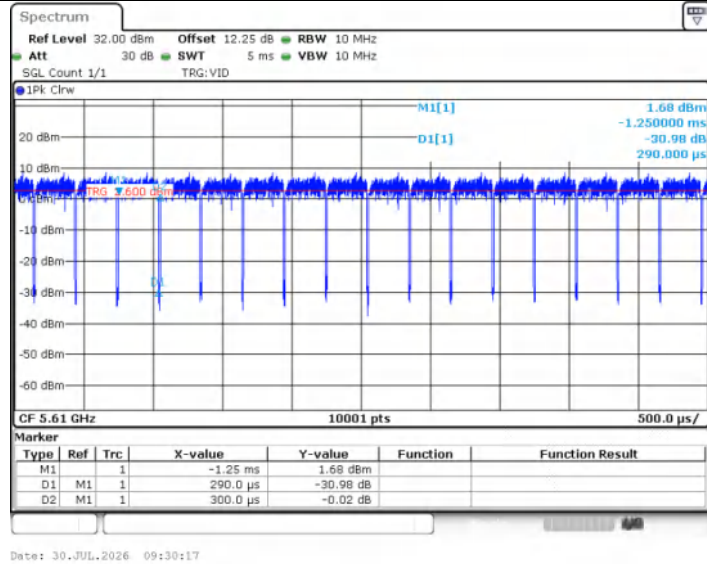
11AC80MIMO_Ant1_5530



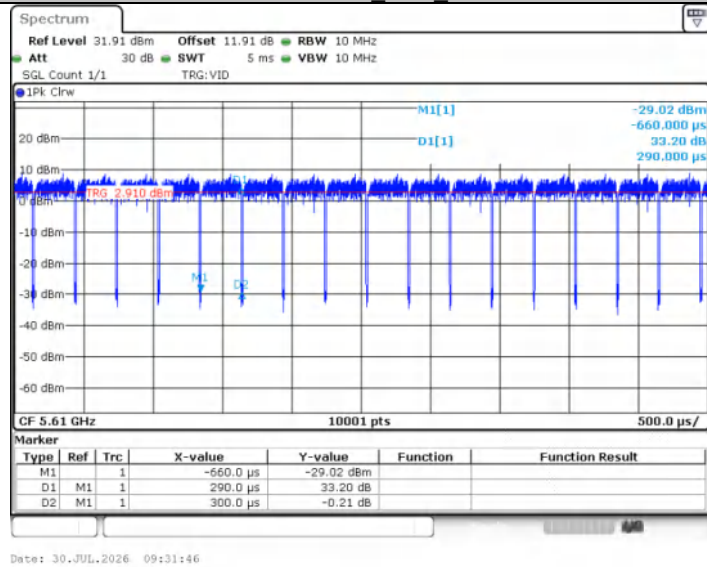
11AC80MIMO_Ant2_5530



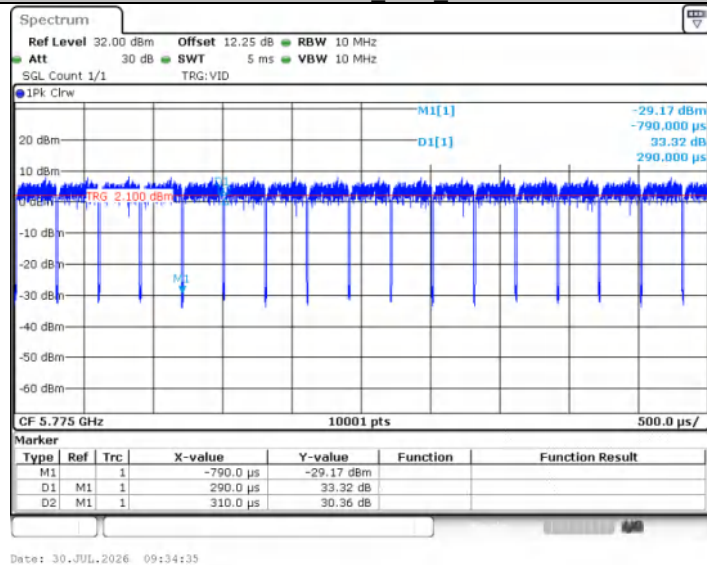
11AC80MIMO_Ant1_5610



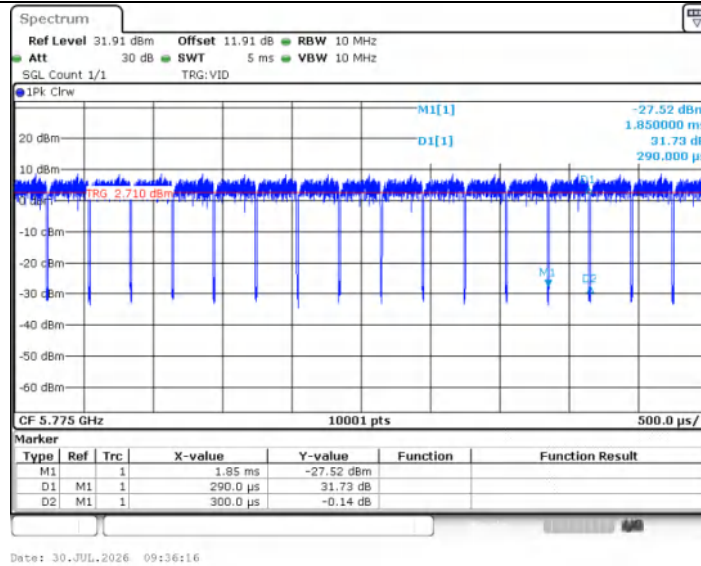
11AC80MIMO_Ant2_5610



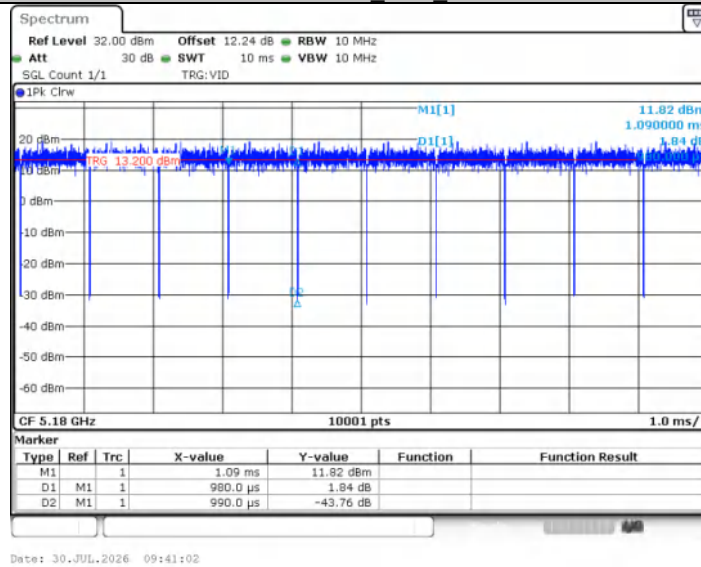
11AC80MIMO_Ant1_5775



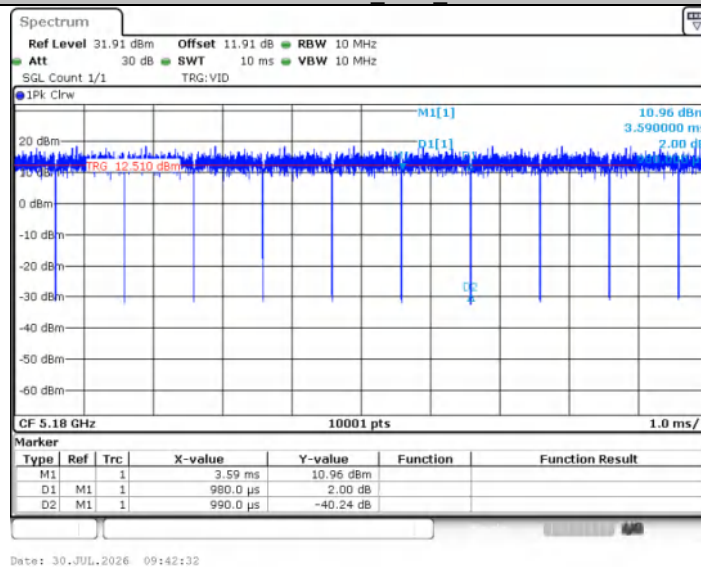
11AC80MIMO_Ant2_5775



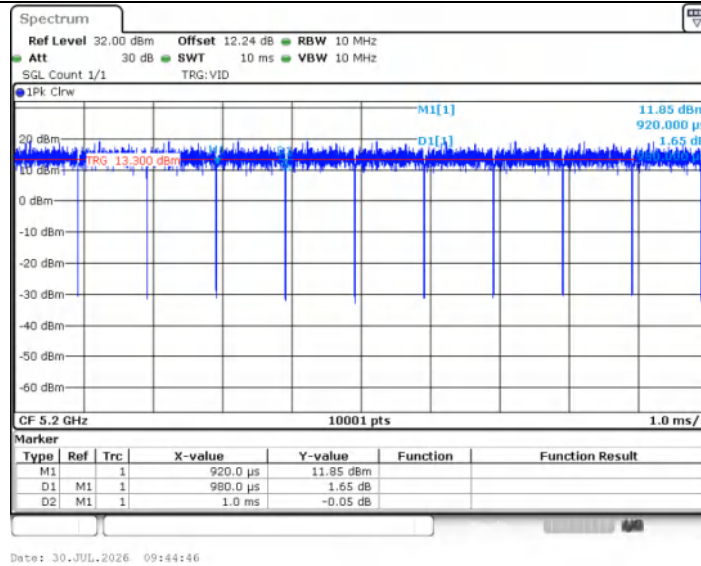
11AX20MIMO_Ant1_5180



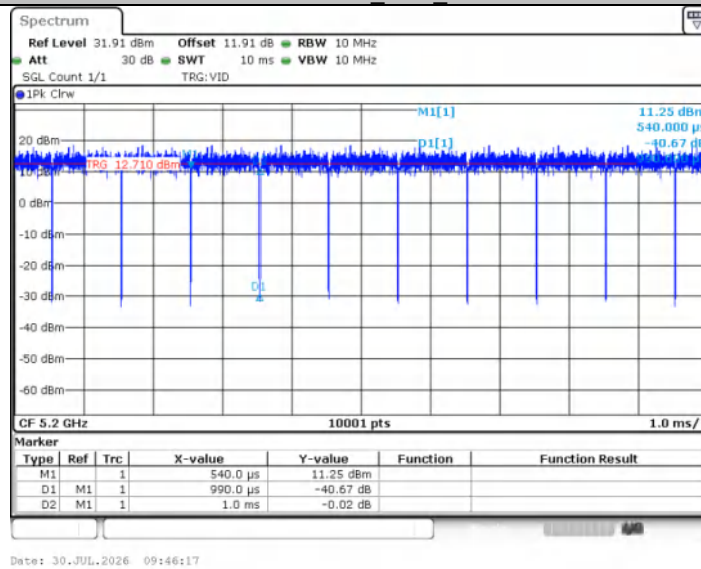
11AX20MIMO_Ant2_5180



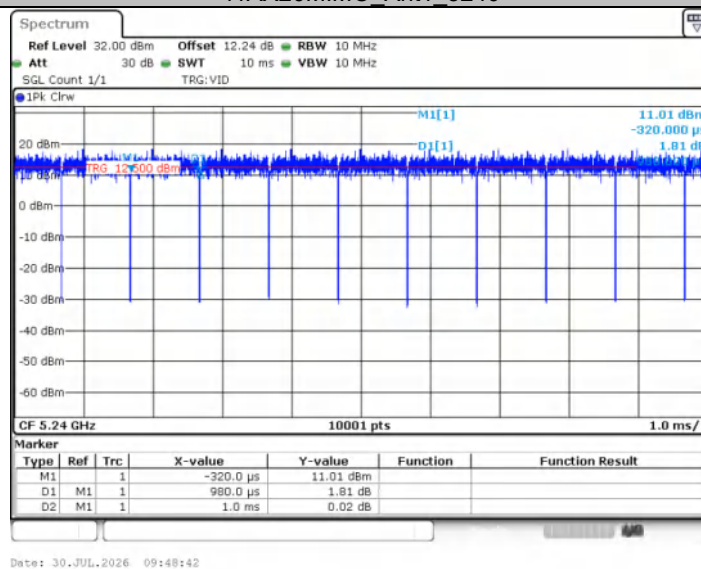
11AX20MIMO_Ant1_5200



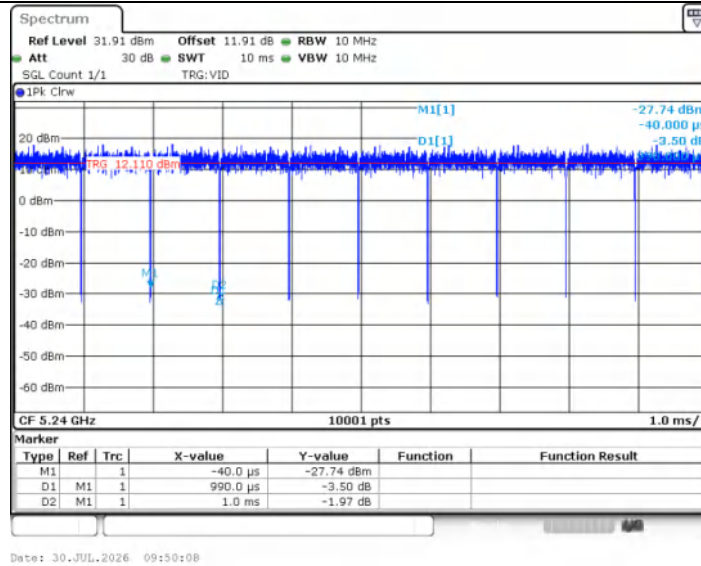
11AX20MIMO_Ant2_5200



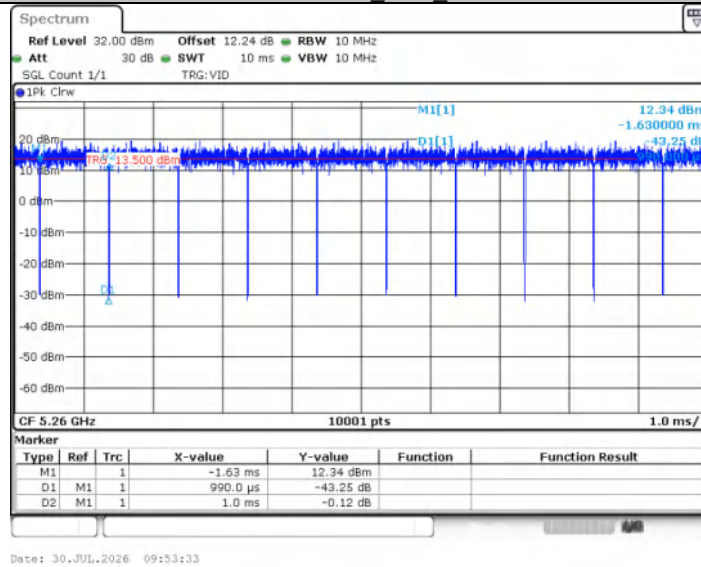
11AX20MIMO_Ant1_5240



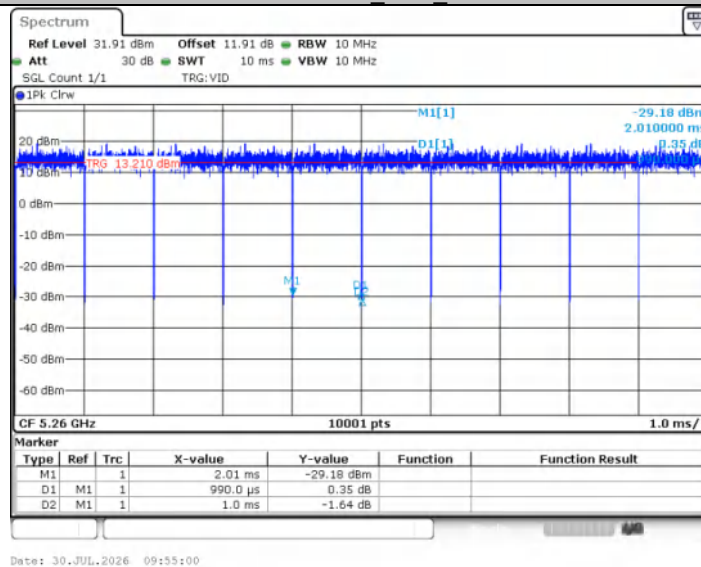
11AX20MIMO_Ant2_5240



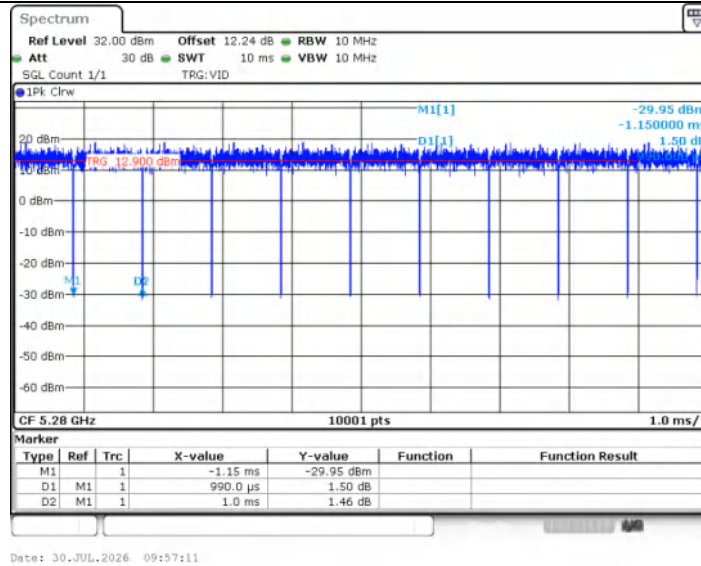
11AX20MIMO_Ant1_5260



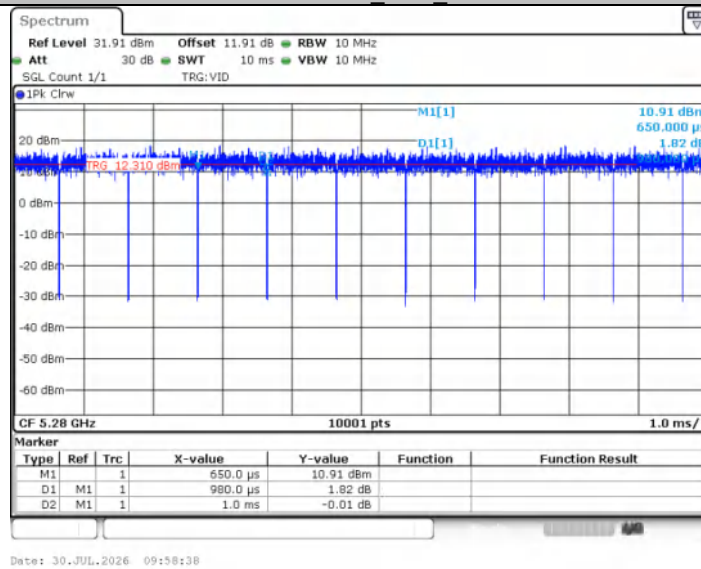
11AX20MIMO_Ant2_5260



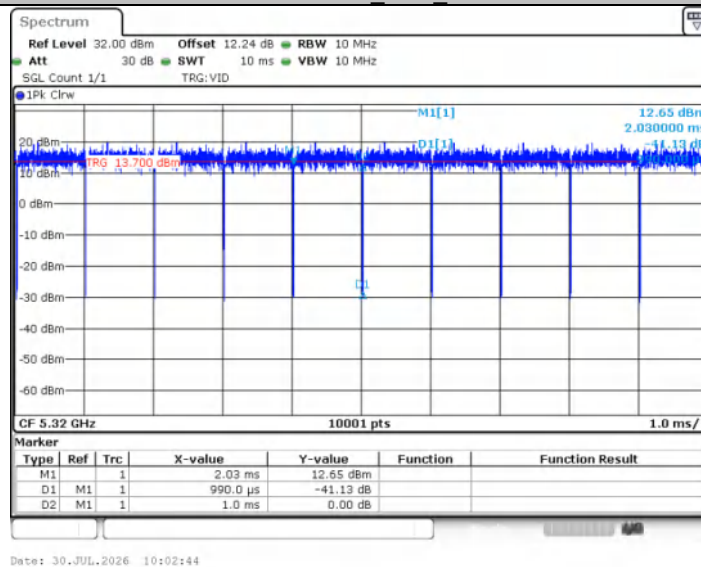
11AX20MIMO_Ant1_5280



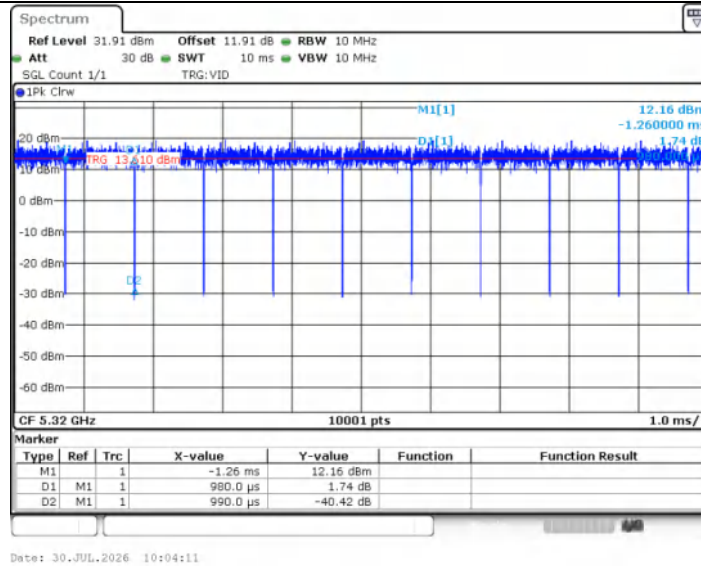
11AX20MIMO_Ant2_5280



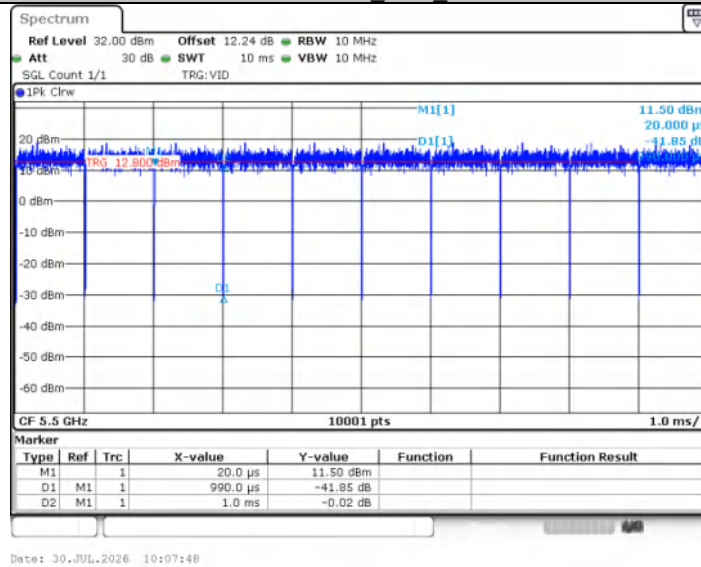
11AX20MIMO_Ant1_5320



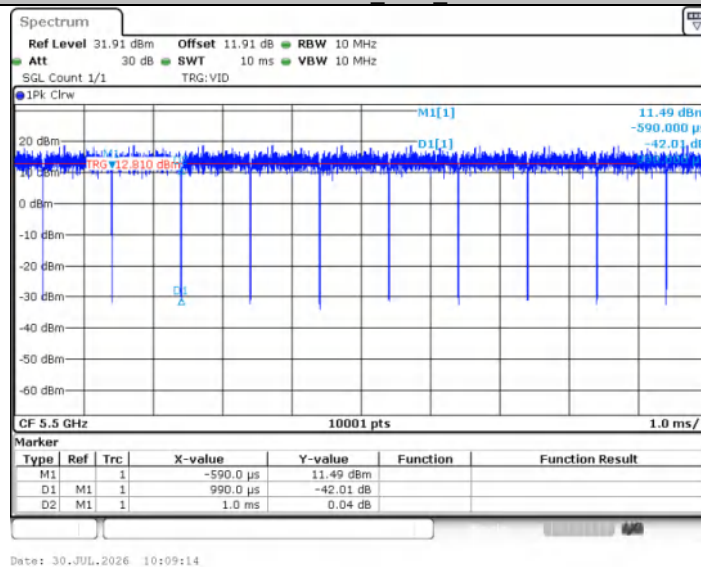
11AX20MIMO_Ant2_5320



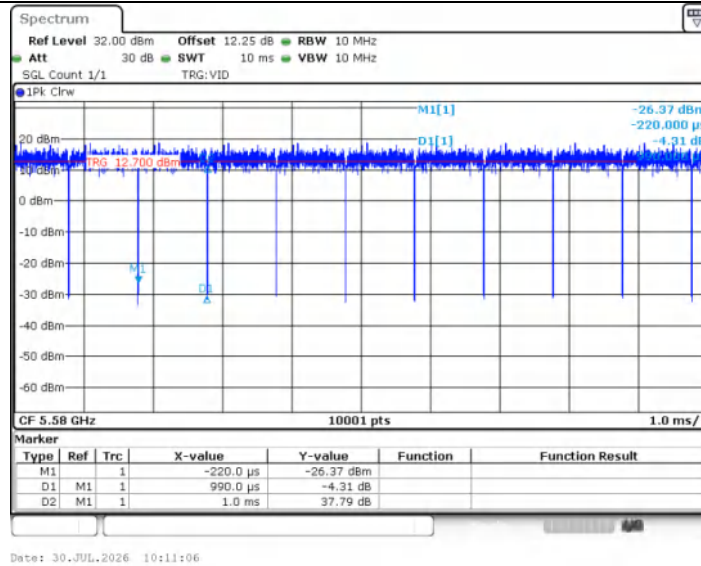
11AX20MIMO_Ant1_5500



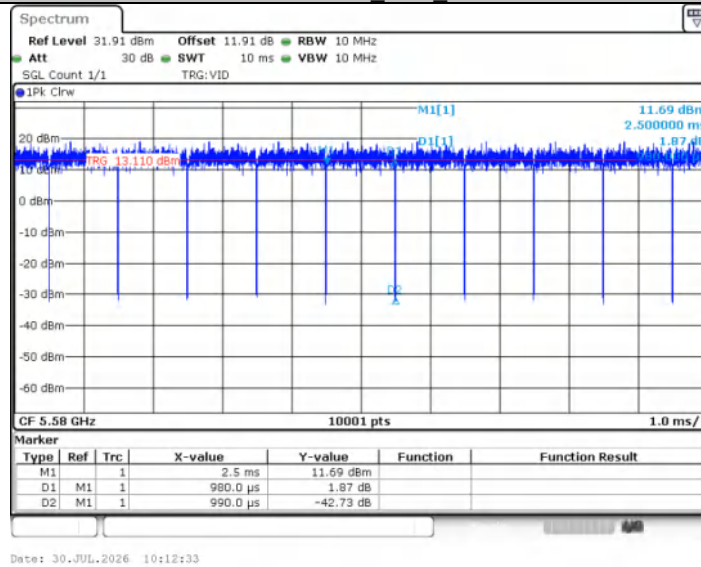
11AX20MIMO_Ant2_5500



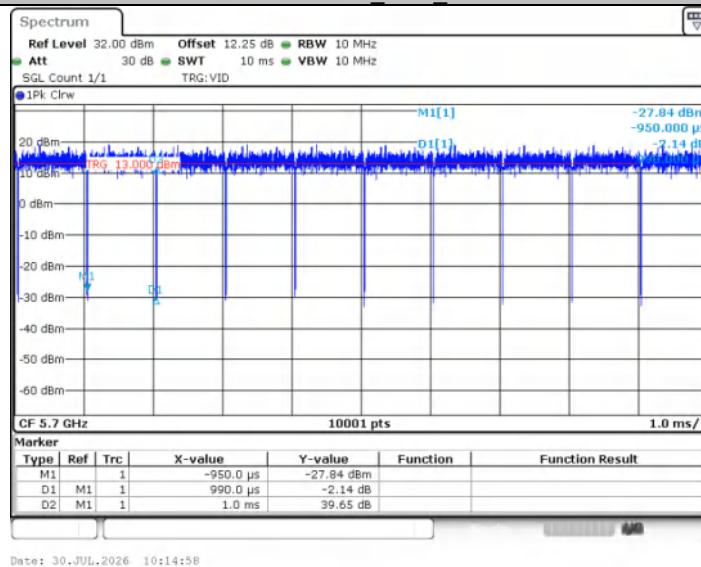
11AX20MIMO_Ant1_5580



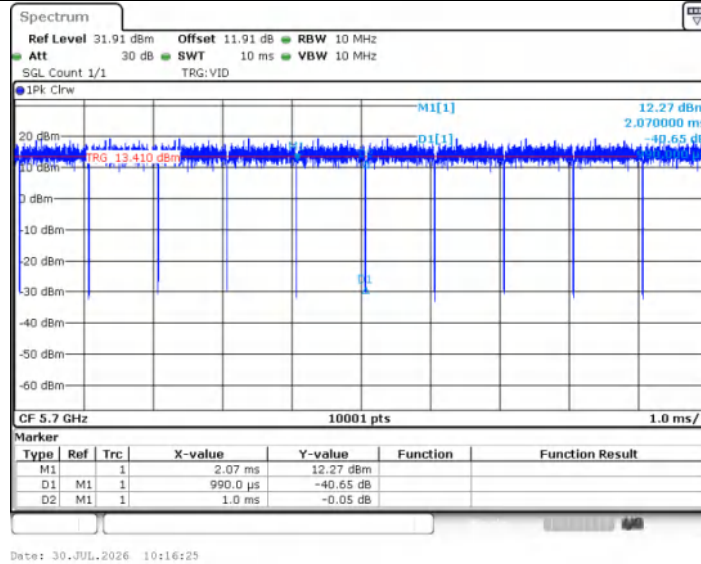
11AX20MIMO_Ant2_5580



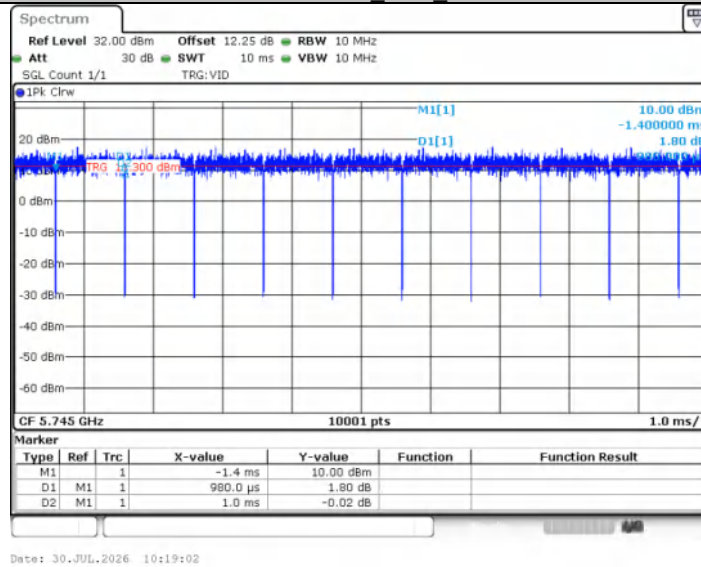
11AX20MIMO_Ant1_5700



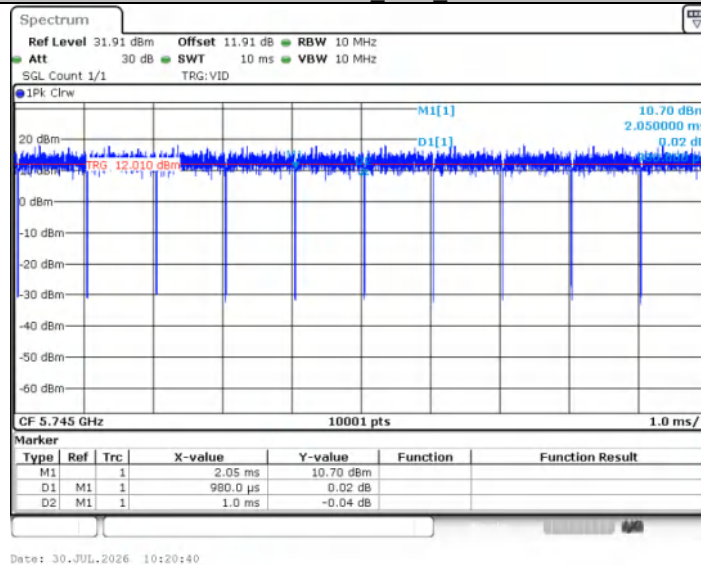
11AX20MIMO_Ant2_5700



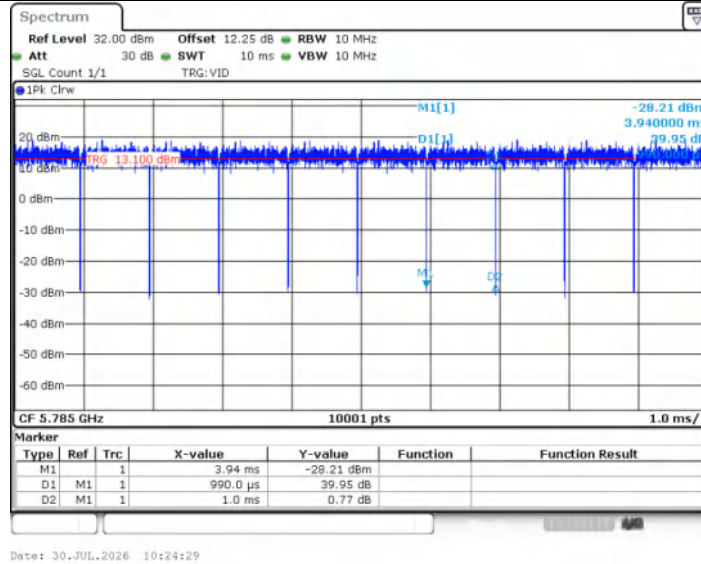
11AX20MIMO_Ant1_5745



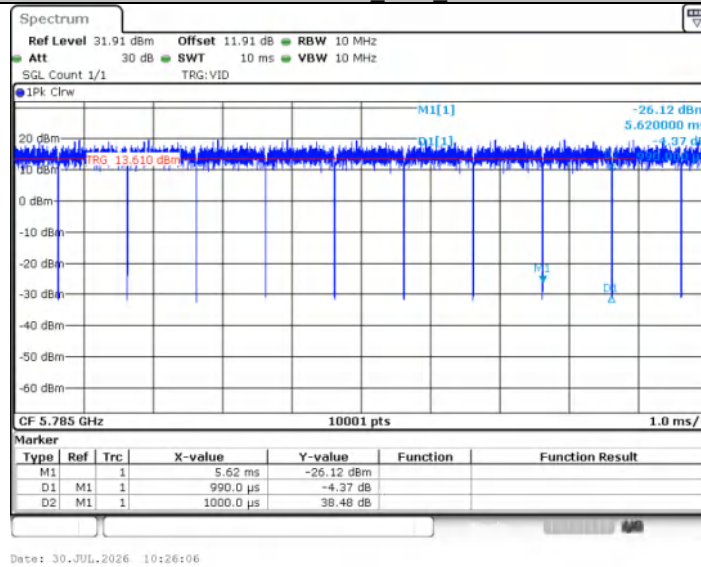
11AX20MIMO_Ant2_5745



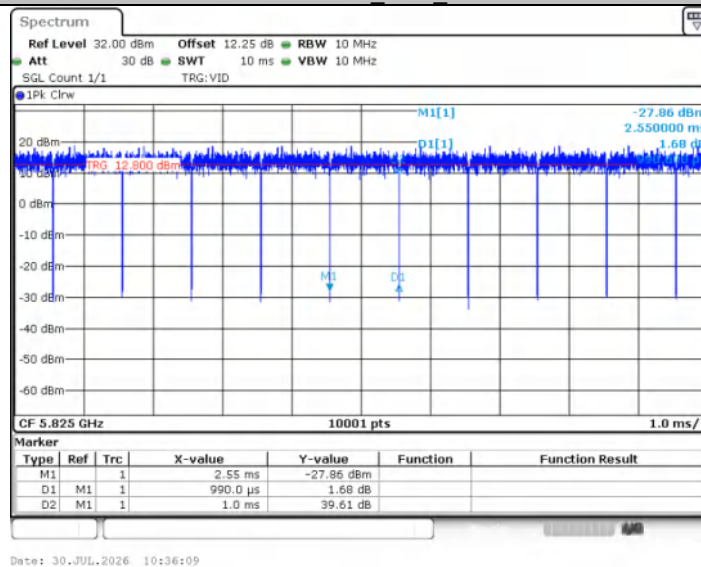
11AX20MIMO_Ant1_5785



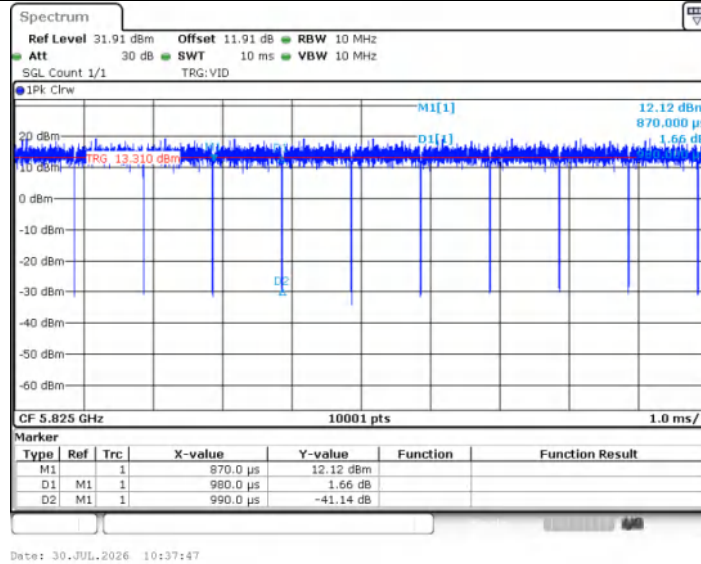
11AX20MIMO_Ant2_5785



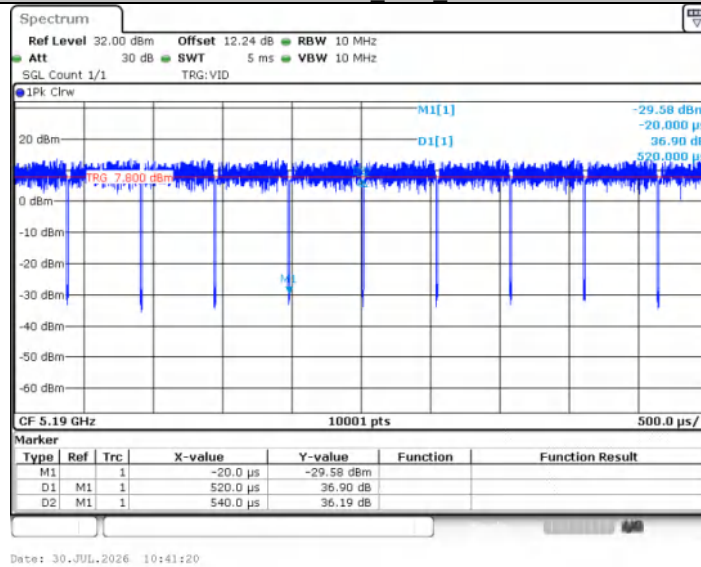
11AX20MIMO_Ant1_5825



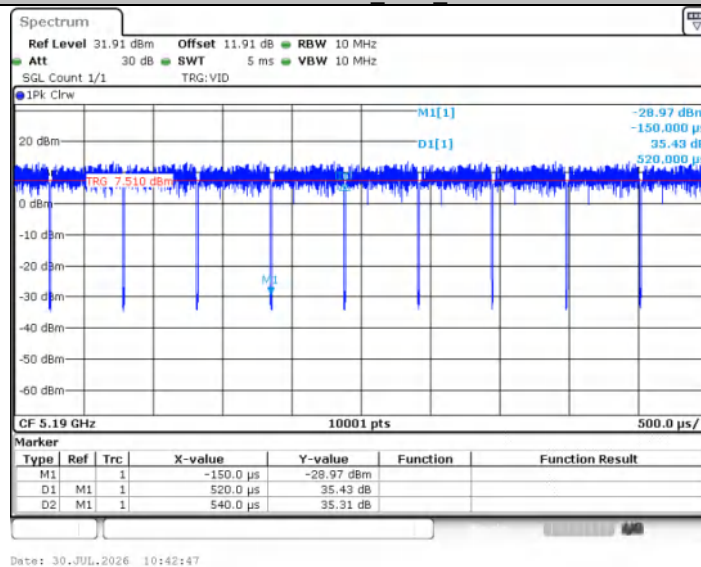
11AX20MIMO_Ant2_5825



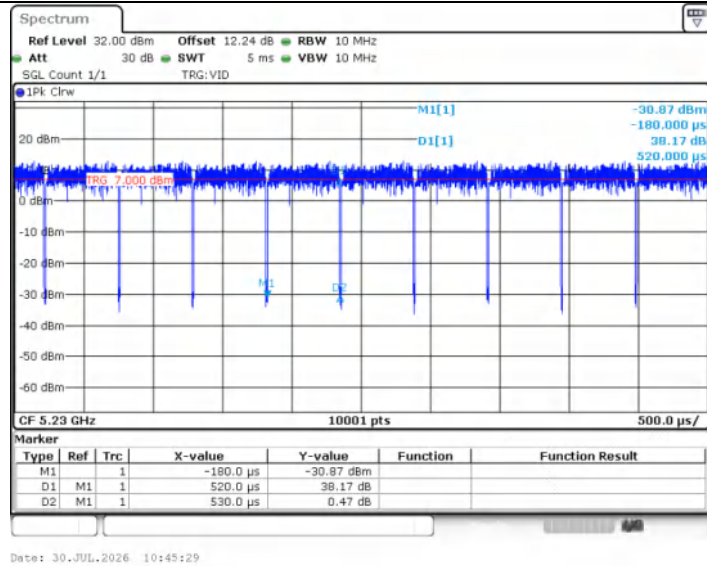
11AX40MIMO_Ant1_5190



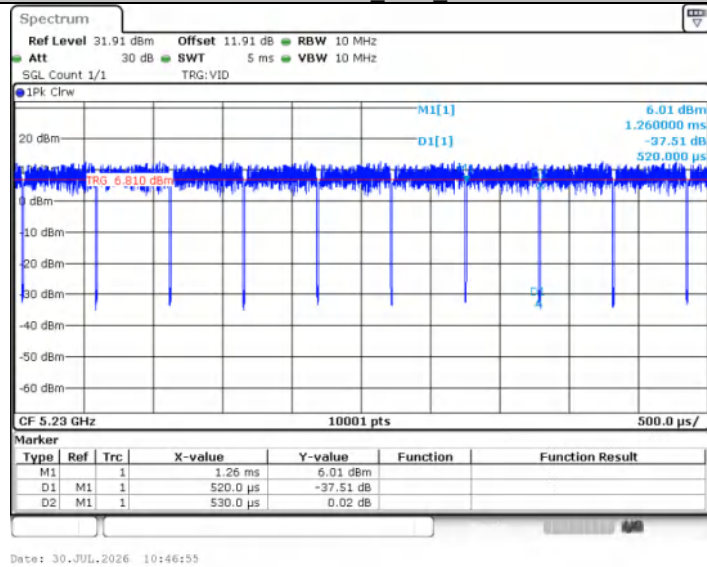
11AX40MIMO_Ant2_5190



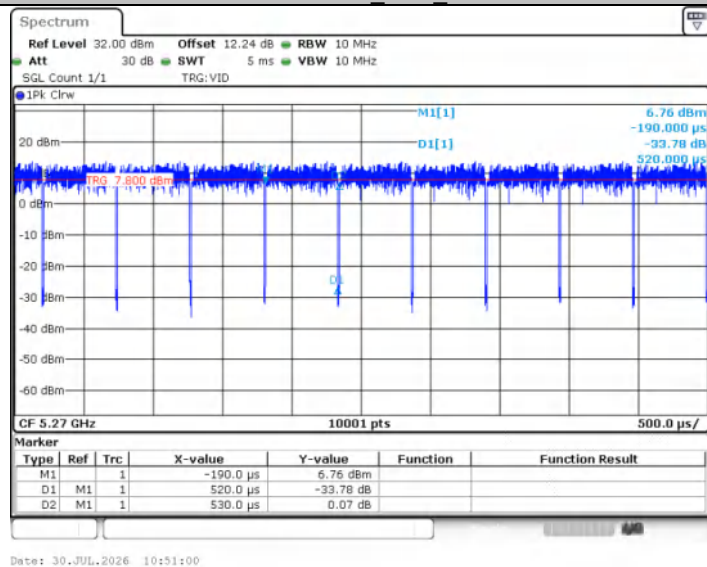
11AX40MIMO_Ant1_5230



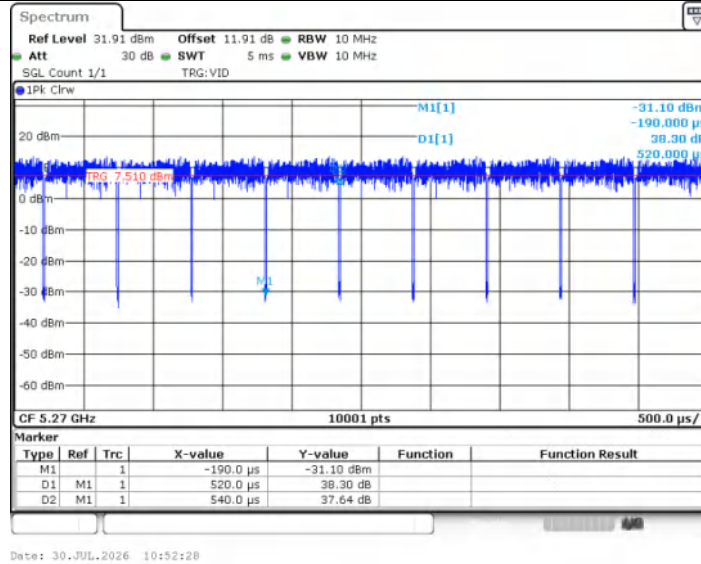
11AX40MIMO_Ant2_5230



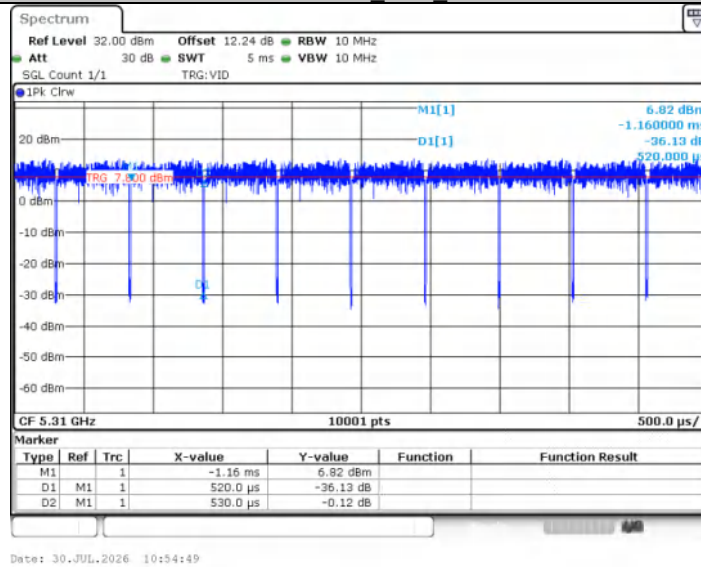
11AX40MIMO_Ant1_5270



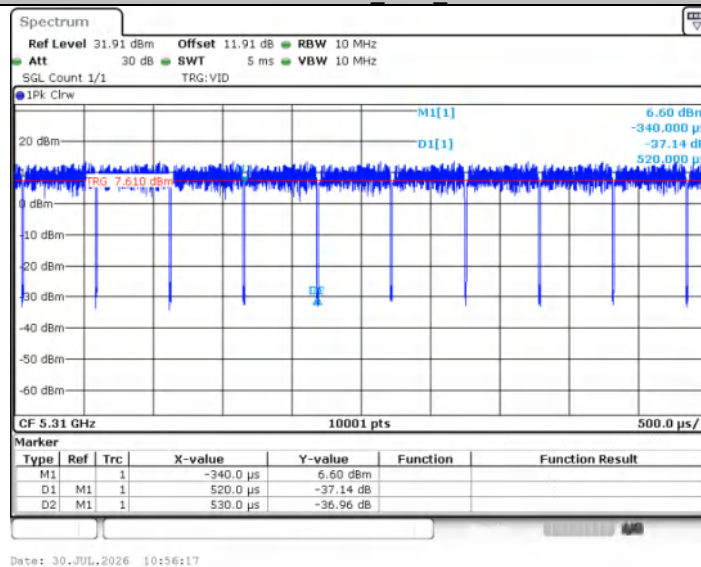
11AX40MIMO_Ant2_5270



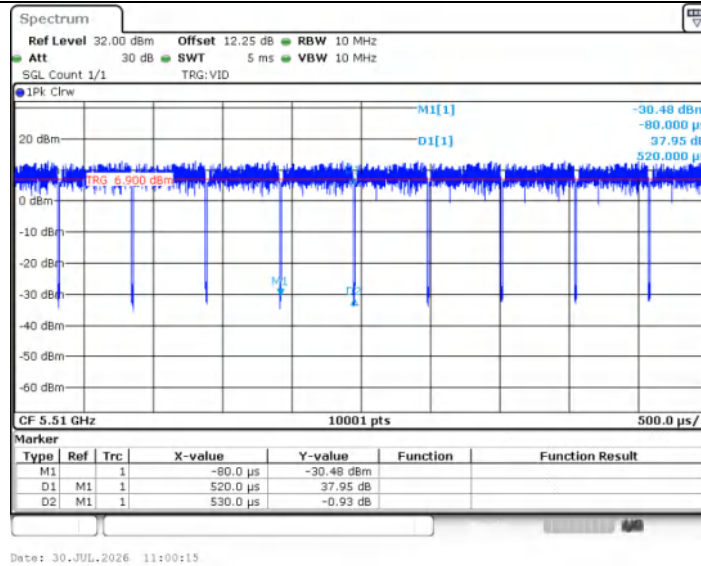
11AX40MIMO_Ant1_5310



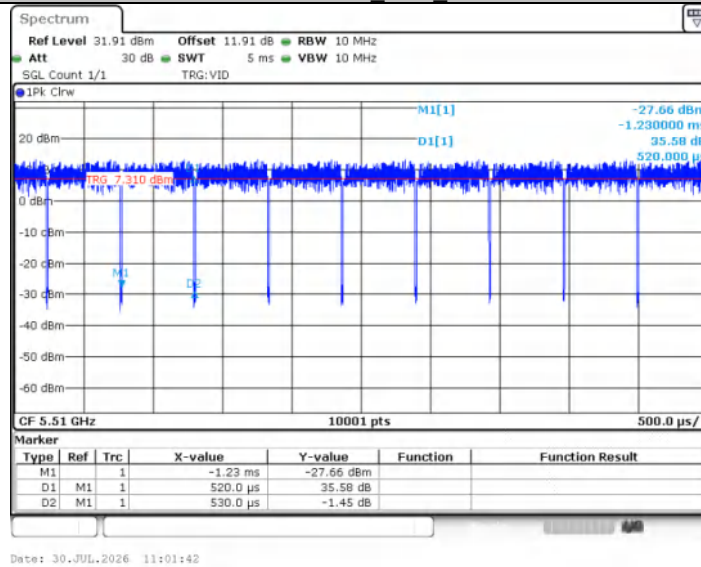
11AX40MIMO_Ant2_5310



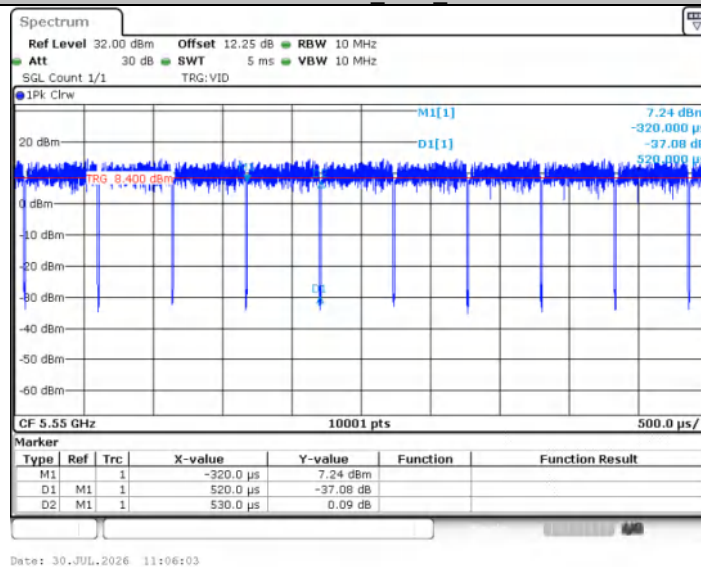
11AX40MIMO_Ant1_5510



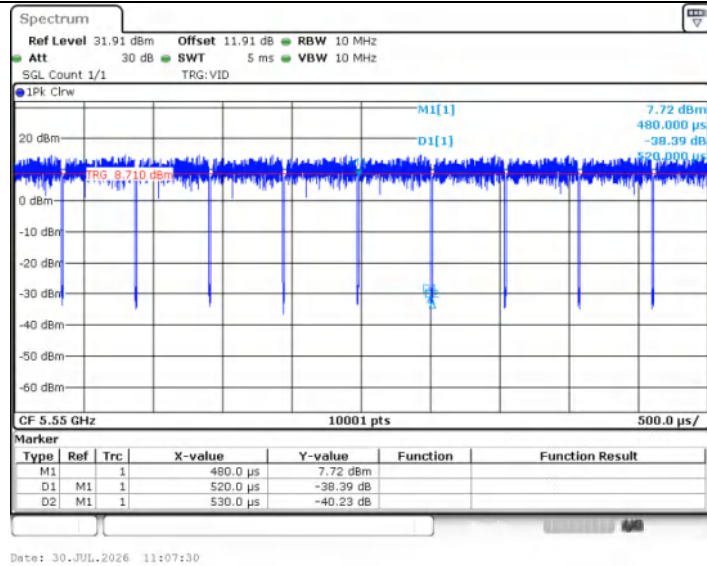
11AX40MIMO_Ant2_5510



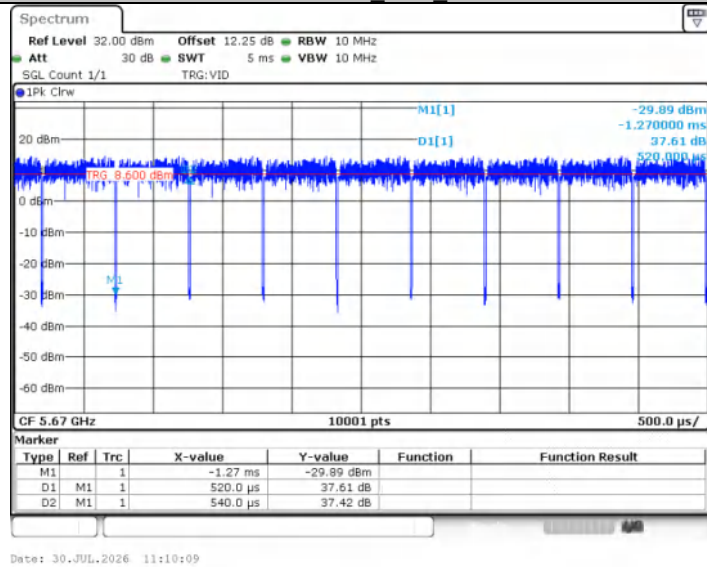
11AX40MIMO_Ant1_5550



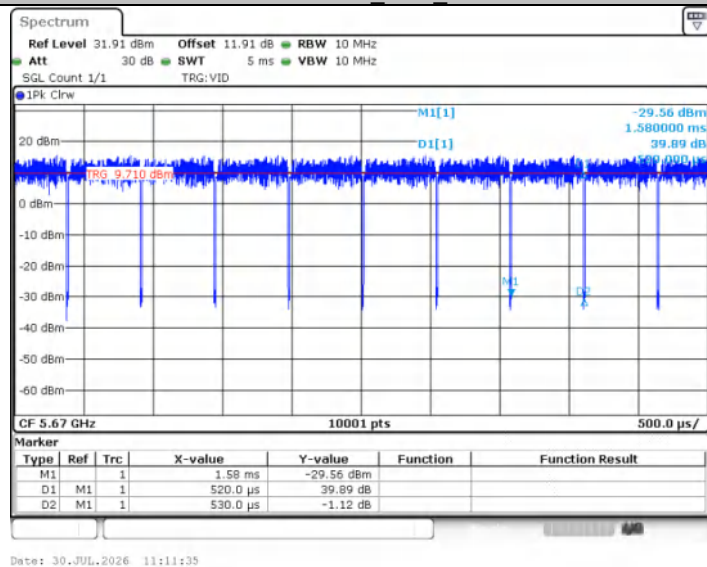
11AX40MIMO_Ant2_5550



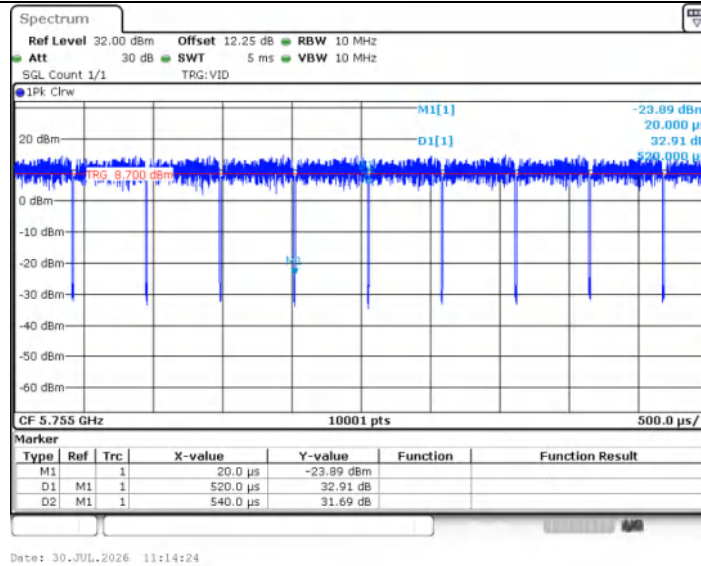
11AX40MIMO_Ant1_5670



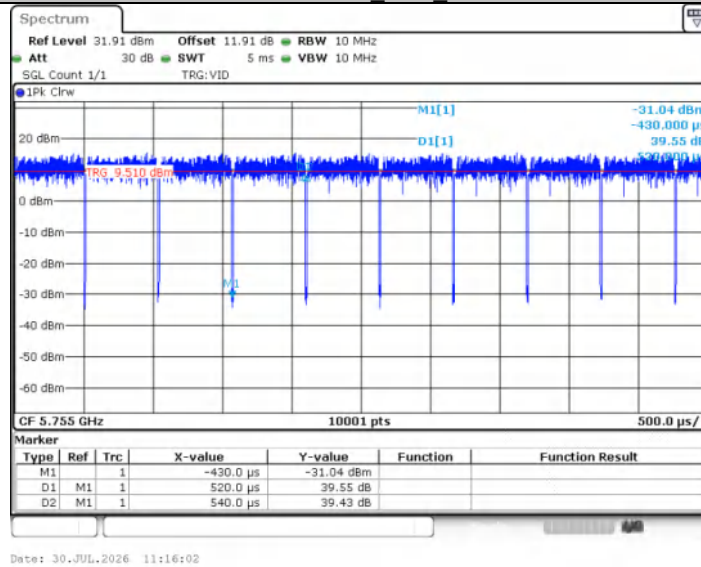
11AX40MIMO_Ant2_5670



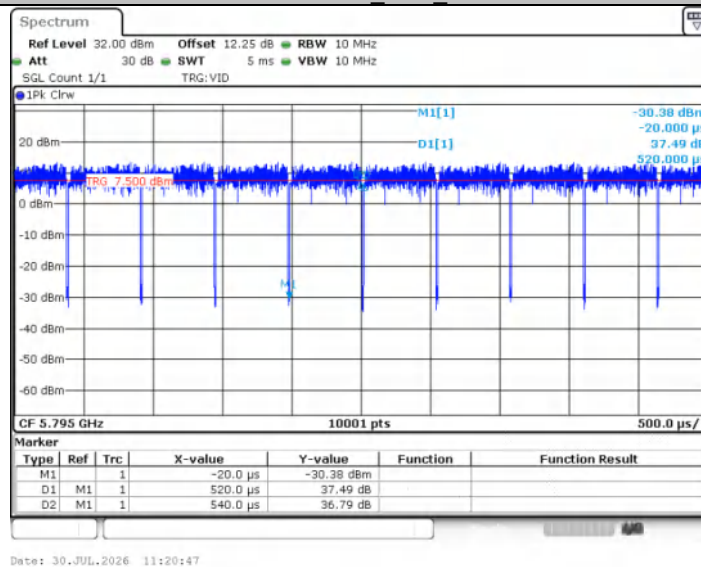
11AX40MIMO_Ant1_5755



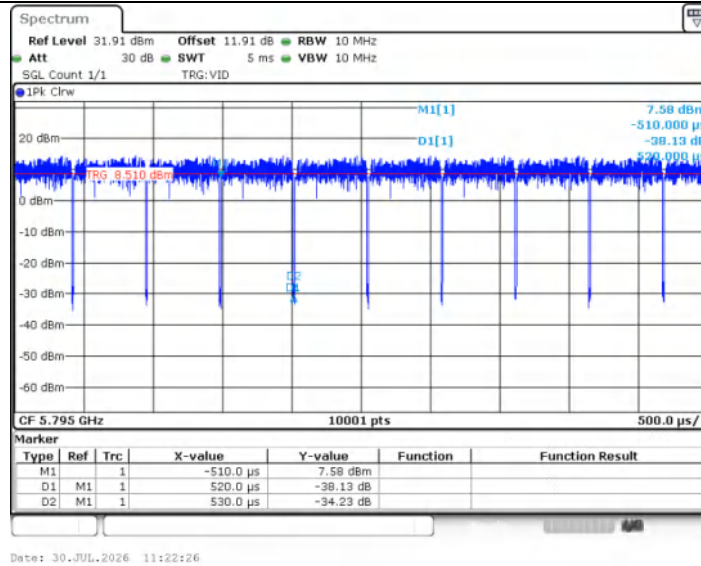
11AX40MIMO_Ant2_5755



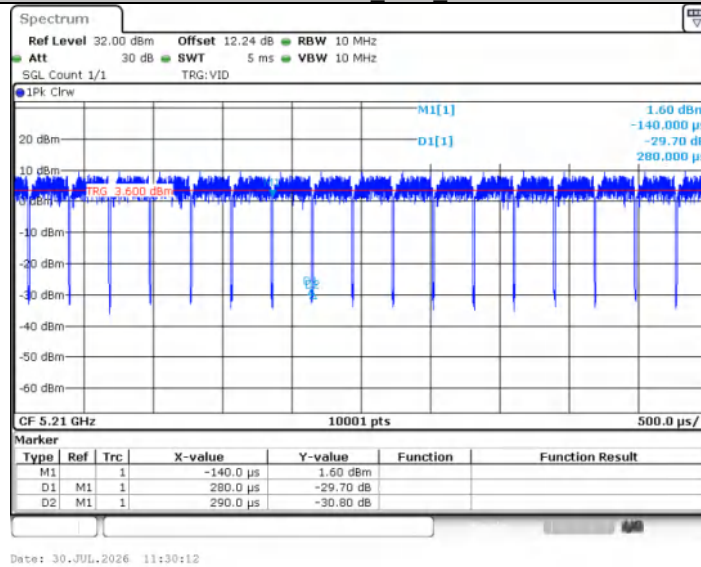
11AX40MIMO_Ant1_5795



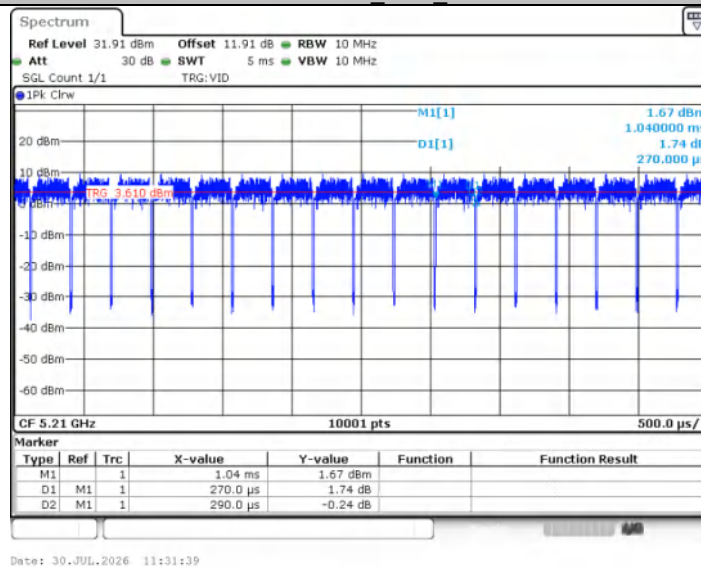
11AX40MIMO_Ant2_5795



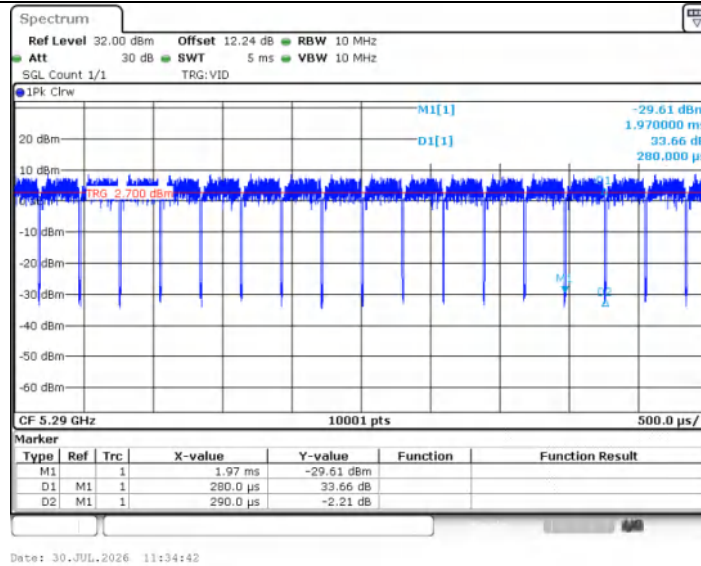
11AX80MIMO_Ant1_5210



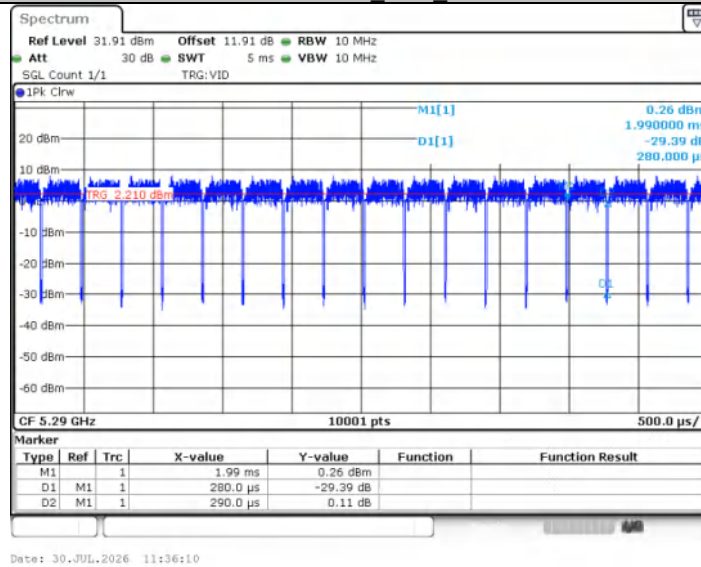
11AX80MIMO_Ant2_5210



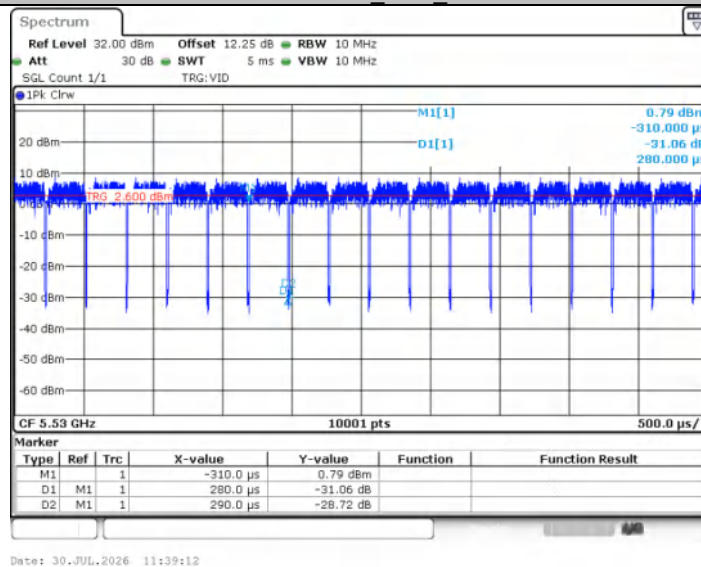
11AX80MIMO_Ant1_5290



11AX80MIMO_Ant2_5290



11AX80MIMO_Ant1_5530



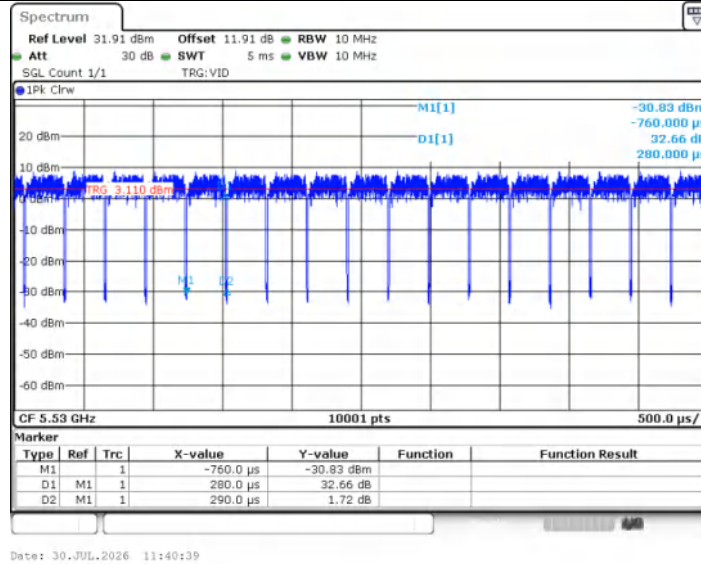
11AX80MIMO_Ant2_5530

CTC Laboratories, Inc.

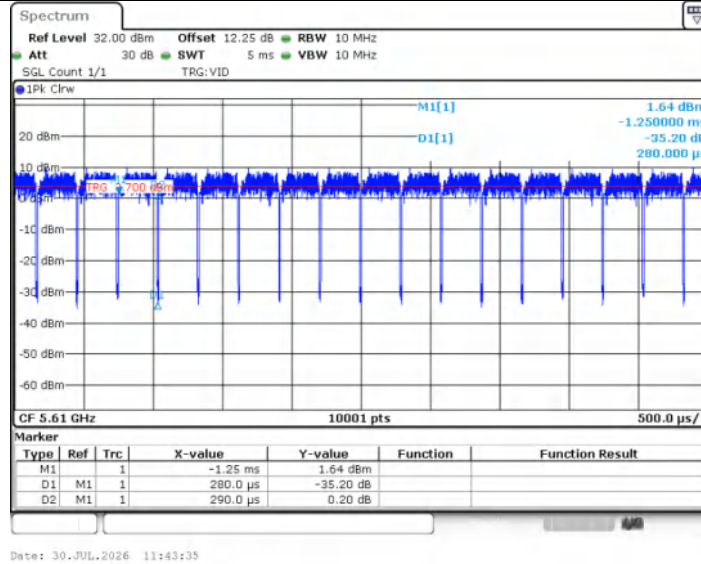
Room 107, 108, 207, 208 of Building A, Room 101 of Building B, No.7, Langqing 1st Road, Luhua Community, Guanhu Subdistrict, Longhua District, Shenzhen, Guangdong, China Tel.: (86)755-27521059 Fax: (86)755-27521011 Http://www.sz-ctc.org.cn

TRF No: CTC-TR-062_A5

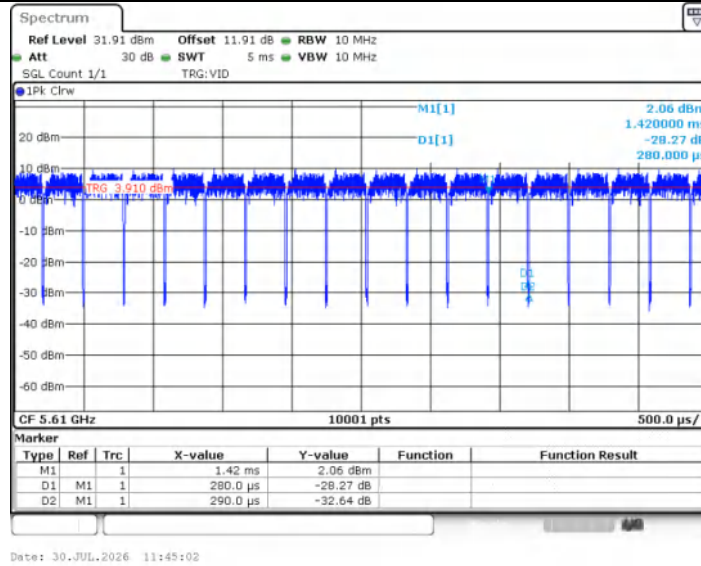
Master TRF : Dated 2026-06-01



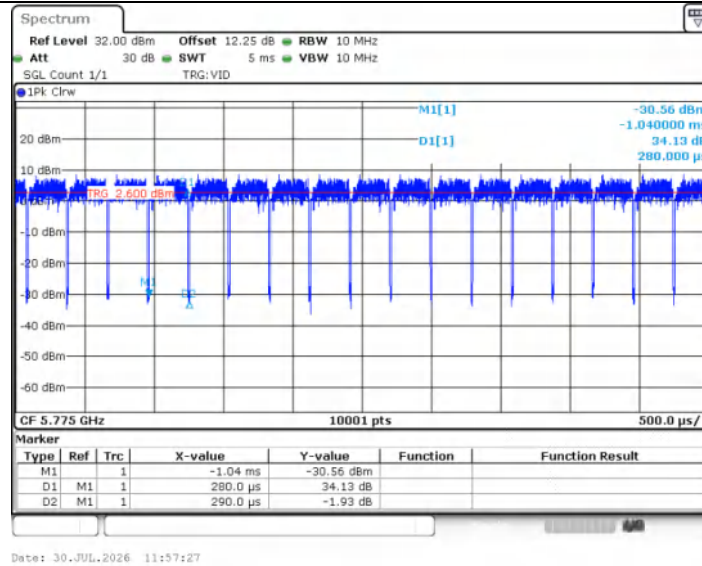
11AX80MIMO_Ant1_5610



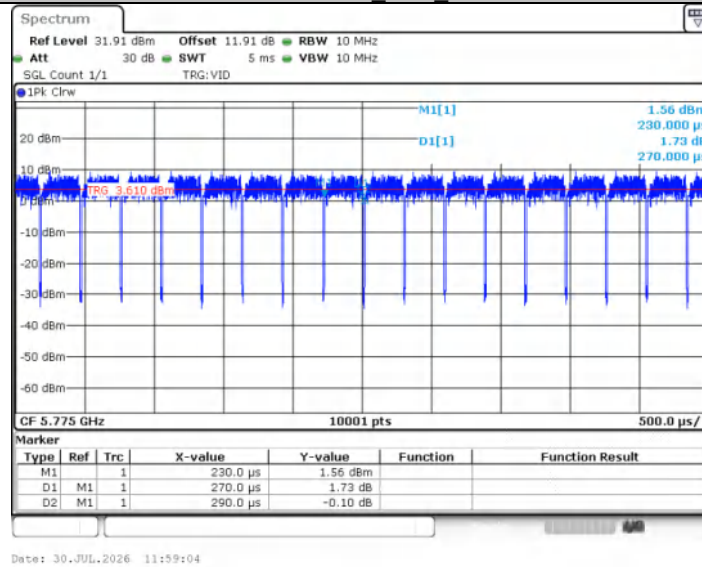
11AX80MIMO_Ant2_5610



11AX80MIMO_Ant1_5775



11AX80MIMO_Ant2_5775



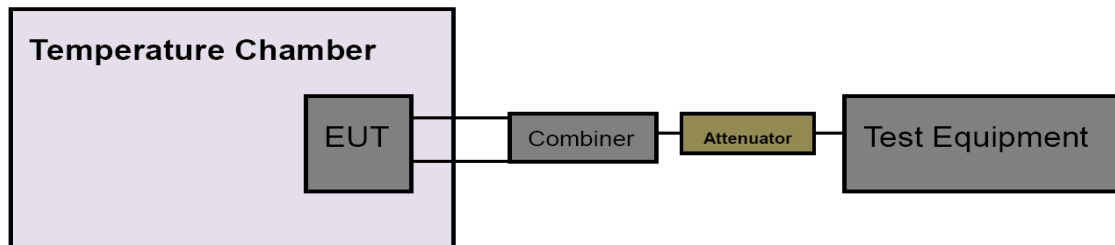
3.8. Frequency Stability

Limit

FCC CFR Title 47 Part 15 Subpart E Section 15.407(g) / RSS-Gen 6.11

Test Item	Limit	Frequency Range (MHz)
Frequency Stability	Specified in the user's manual, the transmitter center frequency tolerance shall be ± 20 ppm maximum for the 5 GHz band (IEEE 802.11n specification)	5150~5250
		5250~5350
		5500~5700
		5725~5850

Test Configuration



Test Procedure

The EUT was directly connected to the Spectrum Analyzer and antenna output port as show in the block diagram above.

- (1) The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
- (2) Set analyzer center frequency to transmitting frequency.
- (3) Set the span to encompass the entire emissions bandwidth (EBW) of the signal.
- (4) Set the RBW to: 8MHz, VBW=8MHz with peak detector and max hold settings.
- (5) The test extreme voltage is to change the primary supply voltage from 6.84V to 8.36V percent of the nominal value.
- (6) Extreme temperature is 0°C~50°C

NOTE: The EUT was set to continuously transmitting in continuously un-modulation transmitting mode.

Test Mode

Please refer to the clause 2.4.

Test Result

Test Mode	Antenna	Freq(MHz)	Voltage				Limit (ppm)	Verdict
			Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)		
20M	Ant1	5180	NV	NT	-17980.00	-3.471042	20	PASS
			LV	NT	-18480.00	-3.567568	20	PASS
			HV	NT	-18480.00	-3.567568	20	PASS
	Ant2	5180	NV	NT	-18980.00	-3.664093	20	PASS
			LV	NT	-19480.00	-3.760618	20	PASS
			HV	NT	-18980.00	-3.664093	20	PASS
	Ant1	5200	NV	NT	-18480.00	-3.553846	20	PASS
			LV	NT	-18980.00	-3.650000	20	PASS
			HV	NT	-19480.00	-3.746154	20	PASS
	Ant2	5200	NV	NT	-19480.00	-3.746154	20	PASS
			LV	NT	-19480.00	-3.746154	20	PASS
			HV	NT	-19480.00	-3.746154	20	PASS
	Ant1	5240	NV	NT	-19480.00	-3.717557	20	PASS
			LV	NT	-19480.00	-3.717557	20	PASS
			HV	NT	-19480.00	-3.717557	20	PASS
	Ant2	5240	NV	NT	-19980.00	-3.812977	20	PASS
			LV	NT	-19980.00	-3.812977	20	PASS
			HV	NT	-19980.00	-3.812977	20	PASS
	Ant1	5260	NV	NT	-19980.00	-3.798479	20	PASS
			LV	NT	-19980.00	-3.798479	20	PASS
			HV	NT	-20480.00	-3.893536	20	PASS
	Ant2	5260	NV	NT	-20480.00	-3.893536	20	PASS
			LV	NT	-20480.00	-3.893536	20	PASS
			HV	NT	-20480.00	-3.893536	20	PASS
	Ant1	5280	NV	NT	-19480.00	-3.689394	20	PASS
			LV	NT	-19480.00	-3.689394	20	PASS
			HV	NT	-19480.00	-3.689394	20	PASS
	Ant2	5280	NV	NT	-19980.00	-3.784091	20	PASS
			LV	NT	-19980.00	-3.784091	20	PASS
			HV	NT	-19980.00	-3.784091	20	PASS
	Ant1	5320	NV	NT	-19980.00	-3.755639	20	PASS
			LV	NT	-19980.00	-3.755639	20	PASS
			HV	NT	-19980.00	-3.755639	20	PASS
	Ant2	5320	NV	NT	-19980.00	-3.755639	20	PASS
			LV	NT	-20480.00	-3.849624	20	PASS
			HV	NT	-19980.00	-3.755639	20	PASS
	Ant1	5500	NV	NT	-20480.00	-3.723636	20	PASS
			LV	NT	-20480.00	-3.723636	20	PASS
			HV	NT	-20980.00	-3.814545	20	PASS
	Ant2	5500	NV	NT	-20480.00	-3.723636	20	PASS
			LV	NT	-20480.00	-3.723636	20	PASS
			HV	NT	-20980.00	-3.814545	20	PASS
	Ant1	5580	NV	NT	-20480.00	-3.670251	20	PASS
			LV	NT	-20480.00	-3.670251	20	PASS
			HV	NT	-20980.00	-3.759857	20	PASS
	Ant2	5580	NV	NT	-21480.00	-3.849462	20	PASS
			LV	NT	-20980.00	-3.759857	20	PASS
			HV	NT	-21480.00	-3.849462	20	PASS
	Ant1	5700	NV	NT	-21480.00	-3.768421	20	PASS
			LV	NT	-21980.00	-3.856140	20	PASS
			HV	NT	-21980.00	-3.856140	20	PASS
	Ant2	5700	NV	NT	-21980.00	-3.856140	20	PASS
			LV	NT	-21980.00	-3.856140	20	PASS
			HV	NT	-22480.00	-3.943860	20	PASS
	Ant1	5745	NV	NT	-21980.00	-3.825936	20	PASS
			LV	NT	-22480.00	-3.912968	20	PASS
			HV	NT	-21980.00	-3.825936	20	PASS
	Ant2	5745	NV	NT	-21980.00	-3.825936	20	PASS
			LV	NT	-21980.00	-3.825936	20	PASS
			HV	NT	-21980.00	-3.825936	20	PASS
	Ant1	5785	NV	NT	-21480.00	-3.713051	20	PASS

CTC Laboratories, Inc.

Room 107, 108, 207, 208 of Building A, Room 101 of Building B, No.7, Langqing 1st Road, Luhua Community, Guanhu Subdistrict, Longhua District, Shenzhen, Guangdong, China Tel.: (86)755-27521059 Fax: (86)755-27521011 Http://www.sz-ctc.org.cn

TRF No: CTC-TR-062_A5

Master TRF : Dated 2026-06-01

	Ant2	5785	LV	NT	-21980.00	-3.799481	20	PASS
			HV	NT	-22480.00	-3.885912	20	PASS
			NV	NT	-22480.00	-3.885912	20	PASS
			LV	NT	-22480.00	-3.885912	20	PASS
			HV	NT	-21980.00	-3.799481	20	PASS
			NV	NT	-21980.00	-3.773391	20	PASS
	Ant1	5825	LV	NT	-21980.00	-3.773391	20	PASS
			HV	NT	-22480.00	-3.859227	20	PASS
			NV	NT	-22480.00	-3.859227	20	PASS
	Ant2	5825	LV	NT	-22480.00	-3.859227	20	PASS
			HV	NT	-22480.00	-3.859227	20	PASS
			NV	NT	-9490.00	-1.828516	20	PASS
40M	Ant1	5190	LV	NT	-9490.00	-1.828516	20	PASS
			HV	NT	-10490.00	-2.021195	20	PASS
			NV	NT	-12490.00	-2.406551	20	PASS
	Ant2	5190	LV	NT	-12490.00	-2.406551	20	PASS
			HV	NT	-12990.00	-2.502890	20	PASS
			NV	NT	-13490.00	-2.579350	20	PASS
	Ant1	5230	LV	NT	-13490.00	-2.579350	20	PASS
			HV	NT	-13990.00	-2.674952	20	PASS
			NV	NT	-14990.00	-2.866157	20	PASS
	Ant2	5230	LV	NT	-15480.00	-2.959847	20	PASS
			HV	NT	-15480.00	-2.959847	20	PASS
			NV	NT	-15980.00	-3.032258	20	PASS
	Ant1	5270	LV	NT	-15480.00	-2.937381	20	PASS
			HV	NT	-15980.00	-3.032258	20	PASS
			NV	NT	-16480.00	-3.127135	20	PASS
	Ant2	5270	LV	NT	-16480.00	-3.127135	20	PASS
			HV	NT	-16980.00	-3.222011	20	PASS
			NV	NT	-15980.00	-3.009416	20	PASS
	Ant1	5310	LV	NT	-16480.00	-3.103578	20	PASS
			HV	NT	-16480.00	-3.103578	20	PASS
			NV	NT	-17480.00	-3.291902	20	PASS
	Ant2	5310	LV	NT	-17480.00	-3.291902	20	PASS
			HV	NT	-17480.00	-3.291902	20	PASS
			NV	NT	-18480.00	-3.353902	20	PASS
	Ant1	5510	LV	NT	-17980.00	-3.263158	20	PASS
			HV	NT	-18480.00	-3.353902	20	PASS
			NV	NT	-18980.00	-3.444646	20	PASS
	Ant2	5510	LV	NT	-19480.00	-3.535390	20	PASS
			HV	NT	-19480.00	-3.535390	20	PASS
			NV	NT	-18980.00	-3.419820	20	PASS
	Ant1	5550	LV	NT	-19480.00	-3.509910	20	PASS
			HV	NT	-19480.00	-3.509910	20	PASS
			NV	NT	-19980.00	-3.600000	20	PASS
	Ant2	5550	LV	NT	-19980.00	-3.600000	20	PASS
			HV	NT	-19980.00	-3.600000	20	PASS
			NV	NT	-19980.00	-3.523810	20	PASS
	Ant1	5670	LV	NT	-20480.00	-3.611993	20	PASS
			HV	NT	-20480.00	-3.611993	20	PASS
			NV	NT	-20980.00	-3.700176	20	PASS
	Ant2	5670	LV	NT	-20980.00	-3.700176	20	PASS
			HV	NT	-20980.00	-3.700176	20	PASS
			NV	NT	-20480.00	-3.558645	20	PASS
	Ant1	5755	LV	NT	-20980.00	-3.645526	20	PASS
			HV	NT	-20980.00	-3.645526	20	PASS
			NV	NT	-20980.00	-3.645526	20	PASS
	Ant2	5755	LV	NT	-20980.00	-3.645526	20	PASS
			HV	NT	-21480.00	-3.732407	20	PASS
			NV	NT	-20980.00	-3.620362	20	PASS
	Ant1	5795	LV	NT	-20980.00	-3.620362	20	PASS
			HV	NT	-20980.00	-3.620362	20	PASS
			NV	NT	-21480.00	-3.706644	20	PASS
	Ant2	5795	LV	NT	-21480.00	-3.706644	20	PASS
			HV	NT	-21480.00	-3.706644	20	PASS
			NV	NT	-19480.00	-3.738964	20	PASS
80M	Ant1	5210	NV	NT	-19480.00	-3.738964	20	PASS

CTC Laboratories, Inc.

Room 107, 108, 207, 208 of Building A, Room 101 of Building B, No.7, Lanqing 1st Road, Luhua Community, Guanhu Subdistrict, Longhua District, Shenzhen, Guangdong, China Tel.: (86)755-27521059 Fax: (86)755-27521011 Http://www.sz-ctc.org.cn

TRF No: CTC-TR-062_A5

Master TRF : Dated 2026-06-01

			LV	NT	-18980.00	-3.642994	20	PASS
			HV	NT	-19480.00	-3.738964	20	PASS
	Ant2	5210	NV	NT	-19980.00	-3.834933	20	PASS
			LV	NT	-19980.00	-3.834933	20	PASS
			HV	NT	-19980.00	-3.834933	20	PASS
			NV	NT	-19980.00	-3.776938	20	PASS
	Ant1	5290	LV	NT	-19980.00	-3.776938	20	PASS
			HV	NT	-20480.00	-3.871456	20	PASS
			NV	NT	-20480.00	-3.871456	20	PASS
			LV	NT	-20480.00	-3.871456	20	PASS
			HV	NT	-20480.00	-3.871456	20	PASS
			NV	NT	-20980.00	-3.793852	20	PASS
	Ant1	5530	LV	NT	-20980.00	-3.793852	20	PASS
			HV	NT	-20980.00	-3.793852	20	PASS
			NV	NT	-21480.00	-3.884268	20	PASS
			LV	NT	-21480.00	-3.884268	20	PASS
			HV	NT	-21480.00	-3.884268	20	PASS
			NV	NT	-17980.00	-3.204991	20	PASS
	Ant1	5610	LV	NT	-18980.00	-3.383244	20	PASS
			HV	NT	-19480.00	-3.472371	20	PASS
			NV	NT	-21480.00	-3.828877	20	PASS
			LV	NT	-21480.00	-3.828877	20	PASS
			HV	NT	-21980.00	-3.918004	20	PASS
			NV	NT	-21480.00	-3.719481	20	PASS
	Ant1	5775	LV	NT	-21980.00	-3.806061	20	PASS
			HV	NT	-22480.00	-3.892641	20	PASS
			NV	NT	-22480.00	-3.892641	20	PASS
			LV	NT	-22980.00	-3.979221	20	PASS
	Ant2	5775	HV	NT	-22480.00	-3.892641	20	PASS

Temperature								
Test Mode	Antenna	Freq(MHz)	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
20M	Ant1	5180	NV	0	-18980.00	-3.664093	20	PASS
			NV	10	-18480.00	-3.567568	20	PASS
			NV	20	-18980.00	-3.664093	20	PASS
			NV	30	-18980.00	-3.664093	20	PASS
			NV	40	-18980.00	-3.664093	20	PASS
			NV	50	-18980.00	-3.664093	20	PASS
	Ant2	5180	NV	0	-18980.00	-3.664093	20	PASS
			NV	10	-19480.00	-3.760618	20	PASS
			NV	20	-19480.00	-3.760618	20	PASS
			NV	30	-19480.00	-3.760618	20	PASS
			NV	40	-19480.00	-3.760618	20	PASS
			NV	50	-19480.00	-3.760618	20	PASS
	Ant1	5200	NV	0	-19480.00	-3.746154	20	PASS
			NV	10	-19480.00	-3.746154	20	PASS
			NV	20	-19480.00	-3.746154	20	PASS
			NV	30	-19480.00	-3.746154	20	PASS
			NV	40	-19980.00	-3.842308	20	PASS
			NV	50	-19480.00	-3.746154	20	PASS
	Ant2	5200	NV	0	-19480.00	-3.746154	20	PASS
			NV	10	-19480.00	-3.746154	20	PASS
			NV	20	-19980.00	-3.842308	20	PASS
			NV	30	-19480.00	-3.746154	20	PASS
			NV	40	-19480.00	-3.746154	20	PASS
			NV	50	-19480.00	-3.746154	20	PASS
	Ant1	5240	NV	0	-19480.00	-3.717557	20	PASS
			NV	10	-19480.00	-3.717557	20	PASS
			NV	20	-19980.00	-3.812977	20	PASS
			NV	30	-19980.00	-3.812977	20	PASS
			NV	40	-19980.00	-3.812977	20	PASS
			NV	50	-19980.00	-3.812977	20	PASS
	Ant2	5240	NV	0	-19980.00	-3.812977	20	PASS
			NV	10	-19980.00	-3.812977	20	PASS

			NV	20	-19980.00	-3.812977	20	PASS
			NV	30	-19480.00	-3.717557	20	PASS
			NV	40	-19980.00	-3.812977	20	PASS
			NV	50	-19480.00	-3.717557	20	PASS
Ant1	5260		NV	0	-20480.00	-3.893536	20	PASS
			NV	10	-20480.00	-3.893536	20	PASS
			NV	20	-20480.00	-3.893536	20	PASS
			NV	30	-20480.00	-3.893536	20	PASS
			NV	40	-20480.00	-3.893536	20	PASS
			NV	50	-20480.00	-3.893536	20	PASS
Ant2	5260		NV	0	-20480.00	-3.893536	20	PASS
			NV	10	-19980.00	-3.798479	20	PASS
			NV	20	-19980.00	-3.798479	20	PASS
			NV	30	-20480.00	-3.893536	20	PASS
			NV	40	-19980.00	-3.798479	20	PASS
			NV	50	-19980.00	-3.798479	20	PASS
Ant1	5280		NV	0	-19480.00	-3.689394	20	PASS
			NV	10	-19480.00	-3.689394	20	PASS
			NV	20	-19980.00	-3.784091	20	PASS
			NV	30	-19480.00	-3.689394	20	PASS
			NV	40	-19980.00	-3.784091	20	PASS
			NV	50	-19480.00	-3.689394	20	PASS
Ant2	5280		NV	0	-19980.00	-3.784091	20	PASS
			NV	10	-19980.00	-3.784091	20	PASS
			NV	20	-19980.00	-3.784091	20	PASS
			NV	30	-19980.00	-3.784091	20	PASS
			NV	40	-19980.00	-3.784091	20	PASS
			NV	50	-19980.00	-3.784091	20	PASS
Ant1	5320		NV	0	-19980.00	-3.755639	20	PASS
			NV	10	-19980.00	-3.755639	20	PASS
			NV	20	-19980.00	-3.755639	20	PASS
			NV	30	-19980.00	-3.755639	20	PASS
			NV	40	-19980.00	-3.755639	20	PASS
			NV	50	-20480.00	-3.849624	20	PASS
Ant2	5320		NV	0	-19980.00	-3.755639	20	PASS
			NV	10	-19980.00	-3.755639	20	PASS
			NV	20	-19980.00	-3.755639	20	PASS
			NV	30	-19980.00	-3.755639	20	PASS
			NV	40	-19980.00	-3.755639	20	PASS
			NV	50	-19980.00	-3.755639	20	PASS
Ant1	5500		NV	0	-20480.00	-3.723636	20	PASS
			NV	10	-20480.00	-3.723636	20	PASS
			NV	20	-20980.00	-3.814545	20	PASS
			NV	30	-20480.00	-3.723636	20	PASS
			NV	40	-20480.00	-3.723636	20	PASS
			NV	50	-20980.00	-3.814545	20	PASS
Ant2	5500		NV	0	-20980.00	-3.814545	20	PASS
			NV	10	-20980.00	-3.814545	20	PASS
			NV	20	-20980.00	-3.814545	20	PASS
			NV	30	-20980.00	-3.814545	20	PASS
			NV	40	-20980.00	-3.814545	20	PASS
			NV	50	-20980.00	-3.814545	20	PASS
Ant1	5580		NV	0	-20980.00	-3.759857	20	PASS
			NV	10	-20980.00	-3.759857	20	PASS
			NV	20	-20980.00	-3.759857	20	PASS
			NV	30	-20980.00	-3.759857	20	PASS
			NV	40	-20980.00	-3.759857	20	PASS
			NV	50	-20980.00	-3.759857	20	PASS
Ant2	5580		NV	0	-21480.00	-3.849462	20	PASS
			NV	10	-20980.00	-3.759857	20	PASS
			NV	20	-21480.00	-3.849462	20	PASS
			NV	30	-21480.00	-3.849462	20	PASS
			NV	40	-21480.00	-3.849462	20	PASS
			NV	50	-21480.00	-3.849462	20	PASS
Ant1	5700		NV	0	-21980.00	-3.856140	20	PASS
			NV	10	-21480.00	-3.768421	20	PASS

			NV	20	-21980.00	-3.856140	20	PASS
			NV	30	-21980.00	-3.856140	20	PASS
			NV	40	-21980.00	-3.856140	20	PASS
			NV	50	-21980.00	-3.856140	20	PASS
	Ant2	5700	NV	0	-21980.00	-3.856140	20	PASS
			NV	10	-21980.00	-3.856140	20	PASS
			NV	20	-21980.00	-3.856140	20	PASS
			NV	30	-21980.00	-3.856140	20	PASS
			NV	40	-21980.00	-3.856140	20	PASS
			NV	50	-22480.00	-3.943860	20	PASS
	Ant1	5745	NV	0	-22480.00	-3.912968	20	PASS
			NV	10	-21980.00	-3.825936	20	PASS
			NV	20	-21980.00	-3.825936	20	PASS
			NV	30	-21980.00	-3.825936	20	PASS
			NV	40	-21980.00	-3.825936	20	PASS
			NV	50	-22480.00	-3.912968	20	PASS
	Ant2	5745	NV	0	-21980.00	-3.825936	20	PASS
			NV	10	-21980.00	-3.825936	20	PASS
			NV	20	-21980.00	-3.825936	20	PASS
			NV	30	-21980.00	-3.825936	20	PASS
			NV	40	-22480.00	-3.912968	20	PASS
			NV	50	-21980.00	-3.825936	20	PASS
	Ant1	5785	NV	0	-22480.00	-3.885912	20	PASS
			NV	10	-21980.00	-3.799481	20	PASS
			NV	20	-22480.00	-3.885912	20	PASS
			NV	30	-21980.00	-3.799481	20	PASS
			NV	40	-22480.00	-3.885912	20	PASS
			NV	50	-22480.00	-3.885912	20	PASS
	Ant2	5785	NV	0	-22480.00	-3.885912	20	PASS
			NV	10	-22480.00	-3.885912	20	PASS
			NV	20	-22480.00	-3.885912	20	PASS
			NV	30	-22480.00	-3.885912	20	PASS
			NV	40	-22480.00	-3.885912	20	PASS
			NV	50	-21980.00	-3.799481	20	PASS
	Ant1	5825	NV	0	-22480.00	-3.859227	20	PASS
			NV	10	-22480.00	-3.859227	20	PASS
			NV	20	-22480.00	-3.859227	20	PASS
			NV	30	-22480.00	-3.859227	20	PASS
			NV	40	-22980.00	-3.945064	20	PASS
			NV	50	-22480.00	-3.859227	20	PASS
	Ant2	5825	NV	0	-22480.00	-3.859227	20	PASS
			NV	10	-22480.00	-3.859227	20	PASS
			NV	20	-22980.00	-3.945064	20	PASS
			NV	30	-22480.00	-3.859227	20	PASS
			NV	40	-22480.00	-3.859227	20	PASS
			NV	50	-22480.00	-3.859227	20	PASS
40M	Ant1	5190	NV	0	-10990.00	-2.117534	20	PASS
			NV	10	-11490.00	-2.213873	20	PASS
			NV	20	-11490.00	-2.213873	20	PASS
			NV	30	-11490.00	-2.213873	20	PASS
			NV	40	-11990.00	-2.310212	20	PASS
			NV	50	-11990.00	-2.310212	20	PASS
	Ant2	5190	NV	0	-12990.00	-2.502890	20	PASS
			NV	10	-12990.00	-2.502890	20	PASS
			NV	20	-12990.00	-2.502890	20	PASS
			NV	30	-13490.00	-2.599229	20	PASS
			NV	40	-13490.00	-2.599229	20	PASS
			NV	50	-13490.00	-2.599229	20	PASS
	Ant1	5230	NV	0	-13990.00	-2.674952	20	PASS
			NV	10	-14490.00	-2.770554	20	PASS
			NV	20	-14490.00	-2.770554	20	PASS
			NV	30	-14490.00	-2.770554	20	PASS
			NV	40	-13990.00	-2.674952	20	PASS
			NV	50	-14490.00	-2.770554	20	PASS
	Ant2	5230	NV	0	-15480.00	-2.959847	20	PASS
			NV	10	-15480.00	-2.959847	20	PASS

			NV	20	-15980.00	-3.055449	20	PASS
			NV	30	-15480.00	-2.959847	20	PASS
			NV	40	-15480.00	-2.959847	20	PASS
			NV	50	-15980.00	-3.055449	20	PASS
Ant1	5270		NV	0	-15980.00	-3.032258	20	PASS
			NV	10	-15980.00	-3.032258	20	PASS
			NV	20	-16480.00	-3.127135	20	PASS
			NV	30	-15980.00	-3.032258	20	PASS
			NV	40	-16480.00	-3.127135	20	PASS
			NV	50	-16480.00	-3.127135	20	PASS
Ant2	5270		NV	0	-16480.00	-3.127135	20	PASS
			NV	10	-16980.00	-3.222011	20	PASS
			NV	20	-16980.00	-3.222011	20	PASS
			NV	30	-16980.00	-3.222011	20	PASS
			NV	40	-16980.00	-3.222011	20	PASS
			NV	50	-17480.00	-3.316888	20	PASS
Ant1	5310		NV	0	-16480.00	-3.103578	20	PASS
			NV	10	-16480.00	-3.103578	20	PASS
			NV	20	-16980.00	-3.197740	20	PASS
			NV	30	-16980.00	-3.197740	20	PASS
			NV	40	-16980.00	-3.197740	20	PASS
			NV	50	-17480.00	-3.291902	20	PASS
Ant2	5310		NV	0	-17480.00	-3.291902	20	PASS
			NV	10	-17480.00	-3.291902	20	PASS
			NV	20	-17480.00	-3.291902	20	PASS
			NV	30	-17480.00	-3.291902	20	PASS
			NV	40	-17980.00	-3.386064	20	PASS
			NV	50	-17980.00	-3.386064	20	PASS
Ant1	5510		NV	0	-18480.00	-3.353902	20	PASS
			NV	10	-18480.00	-3.353902	20	PASS
			NV	20	-18480.00	-3.353902	20	PASS
			NV	30	-18980.00	-3.444646	20	PASS
			NV	40	-18980.00	-3.444646	20	PASS
			NV	50	-18480.00	-3.353902	20	PASS
Ant2	5510		NV	0	-18980.00	-3.444646	20	PASS
			NV	10	-18980.00	-3.444646	20	PASS
			NV	20	-18980.00	-3.444646	20	PASS
			NV	30	-18980.00	-3.444646	20	PASS
			NV	40	-18980.00	-3.444646	20	PASS
			NV	50	-19480.00	-3.535390	20	PASS
Ant1	5550		NV	0	-19480.00	-3.509910	20	PASS
			NV	10	-19480.00	-3.509910	20	PASS
			NV	20	-19480.00	-3.509910	20	PASS
			NV	30	-19480.00	-3.509910	20	PASS
			NV	40	-19480.00	-3.509910	20	PASS
			NV	50	-19980.00	-3.600000	20	PASS
Ant2	5550		NV	0	-19980.00	-3.600000	20	PASS
			NV	10	-19980.00	-3.600000	20	PASS
			NV	20	-19480.00	-3.509910	20	PASS
			NV	30	-19980.00	-3.600000	20	PASS
			NV	40	-19980.00	-3.600000	20	PASS
			NV	50	-19980.00	-3.600000	20	PASS
Ant1	5670		NV	0	-20480.00	-3.611993	20	PASS
			NV	10	-20480.00	-3.611993	20	PASS
			NV	20	-20980.00	-3.700176	20	PASS
			NV	30	-20480.00	-3.611993	20	PASS
			NV	40	-20480.00	-3.611993	20	PASS
			NV	50	-20480.00	-3.611993	20	PASS
Ant2	5670		NV	0	-20980.00	-3.700176	20	PASS
			NV	10	-20980.00	-3.700176	20	PASS
			NV	20	-20980.00	-3.700176	20	PASS
			NV	30	-20980.00	-3.700176	20	PASS
			NV	40	-20980.00	-3.700176	20	PASS
			NV	50	-20980.00	-3.700176	20	PASS
Ant1	5755		NV	0	-20980.00	-3.645526	20	PASS
			NV	10	-20980.00	-3.645526	20	PASS

CTC Laboratories, Inc.

Room 107, 108, 207, 208 of Building A, Room 101 of Building B, No.7, Lanqing 1st Road, Luhu Community, Guanhu Subdistrict, Longhua District, Shenzhen, Guangdong, China Tel.: (86)755-27521059 Fax: (86)755-27521011 Http://www.sz-ctc.org.cn

TRF No: CTC-TR-062_A5

Master TRF : Dated 2026-06-01

			NV	20	-20980.00	-3.645526	20	PASS
			NV	30	-20980.00	-3.645526	20	PASS
			NV	40	-20980.00	-3.645526	20	PASS
			NV	50	-21480.00	-3.732407	20	PASS
	Ant2	5755	NV	0	-20980.00	-3.645526	20	PASS
			NV	10	-20980.00	-3.645526	20	PASS
			NV	20	-21480.00	-3.732407	20	PASS
			NV	30	-20980.00	-3.645526	20	PASS
			NV	40	-21480.00	-3.732407	20	PASS
			NV	50	-20980.00	-3.645526	20	PASS
	Ant1	5795	NV	0	-21480.00	-3.706644	20	PASS
			NV	10	-21480.00	-3.706644	20	PASS
			NV	20	-21480.00	-3.706644	20	PASS
			NV	30	-21480.00	-3.706644	20	PASS
			NV	40	-21480.00	-3.706644	20	PASS
			NV	50	-21480.00	-3.706644	20	PASS
	Ant2	5795	NV	0	-21480.00	-3.706644	20	PASS
			NV	10	-21480.00	-3.706644	20	PASS
			NV	20	-21480.00	-3.706644	20	PASS
			NV	30	-21480.00	-3.706644	20	PASS
			NV	40	-21480.00	-3.706644	20	PASS
			NV	50	-21480.00	-3.706644	20	PASS
80M	Ant1	5210	NV	0	-19480.00	-3.738964	20	PASS
			NV	10	-19980.00	-3.834933	20	PASS
			NV	20	-19480.00	-3.738964	20	PASS
			NV	30	-19980.00	-3.834933	20	PASS
			NV	40	-19480.00	-3.738964	20	PASS
			NV	50	-19480.00	-3.738964	20	PASS
	Ant2	5210	NV	0	-19980.00	-3.834933	20	PASS
			NV	10	-19980.00	-3.834933	20	PASS
			NV	20	-19980.00	-3.834933	20	PASS
			NV	30	-19980.00	-3.834933	20	PASS
			NV	40	-19980.00	-3.834933	20	PASS
			NV	50	-20480.00	-3.930902	20	PASS
	Ant1	5290	NV	0	-19980.00	-3.776938	20	PASS
			NV	10	-20480.00	-3.871456	20	PASS
			NV	20	-20480.00	-3.871456	20	PASS
			NV	30	-20480.00	-3.871456	20	PASS
			NV	40	-20480.00	-3.871456	20	PASS
			NV	50	-19980.00	-3.776938	20	PASS
	Ant2	5290	NV	0	-20480.00	-3.871456	20	PASS
			NV	10	-20480.00	-3.871456	20	PASS
			NV	20	-20480.00	-3.871456	20	PASS
			NV	30	-20480.00	-3.871456	20	PASS
			NV	40	-20480.00	-3.871456	20	PASS
			NV	50	-19980.00	-3.776938	20	PASS
	Ant1	5530	NV	0	-20980.00	-3.793852	20	PASS
			NV	10	-21480.00	-3.884268	20	PASS
			NV	20	-20980.00	-3.793852	20	PASS
			NV	30	-21480.00	-3.884268	20	PASS
			NV	40	-20980.00	-3.793852	20	PASS
			NV	50	-21480.00	-3.884268	20	PASS
	Ant2	5530	NV	0	-20980.00	-3.793852	20	PASS
			NV	10	-21480.00	-3.884268	20	PASS
			NV	20	-21480.00	-3.884268	20	PASS
			NV	30	-21480.00	-3.884268	20	PASS
			NV	40	-21480.00	-3.884268	20	PASS
			NV	50	-21480.00	-3.884268	20	PASS
	Ant1	5610	NV	0	-19980.00	-3.561497	20	PASS
			NV	10	-20480.00	-3.650624	20	PASS
			NV	20	-20480.00	-3.650624	20	PASS
			NV	30	-20980.00	-3.739750	20	PASS
			NV	40	-20480.00	-3.650624	20	PASS
			NV	50	-20980.00	-3.739750	20	PASS
	Ant2	5610	NV	0	-21980.00	-3.918004	20	PASS
			NV	10	-21480.00	-3.828877	20	PASS

			NV	20	-21980.00	-3.918004	20	PASS
			NV	30	-21980.00	-3.918004	20	PASS
			NV	40	-21480.00	-3.828877	20	PASS
			NV	50	-21980.00	-3.918004	20	PASS
	Ant1	5775	NV	0	-21980.00	-3.806061	20	PASS
			NV	10	-22480.00	-3.892641	20	PASS
			NV	20	-22480.00	-3.892641	20	PASS
			NV	30	-22480.00	-3.892641	20	PASS
			NV	40	-22480.00	-3.892641	20	PASS
			NV	50	-22480.00	-3.892641	20	PASS
	Ant2	5775	NV	0	-22980.00	-3.979221	20	PASS
			NV	10	-22480.00	-3.892641	20	PASS
			NV	20	-22980.00	-3.979221	20	PASS
			NV	30	-22980.00	-3.979221	20	PASS
			NV	40	-22980.00	-3.979221	20	PASS
			NV	50	-22980.00	-3.979221	20	PASS

3.9. Antenna Requirement

Requirement

FCC CFR Title 47 Part 15 Subpart C 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. The use of a permanently attached antenna or of antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

RSS-Gen Issue 5 Section 6.8

The applicant for equipment certification, as per RSP-100, must provide a list of all antenna types that may be used with the licence-exempt transmitter, indicating the maximum permissible antenna gain (in dBi) and the required impedance for each antenna. Licence-exempt transmitters that have received equipment certification may operate with different types of antennas. However, it is not permissible to exceed the maximum equivalent isotropically radiated power(e.i.r.p.) limits specified in the applicable standard (RSS) for licence-exempt apparatus.

Test Result

Pass.

3.10. Dynamic Frequency Selection

KDB 905462 Requirement

Table 1: Applicability of DFS Requirements Prior to Use of a Channel

Requirement	Operational Mode		
	Master	Client Without Radar Detection	Client With Radar Detection
Non-Occupancy Period	Yes	Not required	Yes
DFS Detection Threshold	Yes	Not required	Yes
Channel Availability Check Time	Yes	Not required	Not required
U-NII Detection Bandwidth	Yes	Not required	Yes

Table 2: Applicability of DFS requirements during normal operation

Requirement	Operational Mode	
	Master Device or Client with Radar Detection	Client Without Radar Detection
DFS Detection Threshold	Yes	Not required
Channel Closing Transmission Time	Yes	Yes
Channel Move Time	Yes	Yes
U-NII Detection Bandwidth	Yes	Not required

Additional requirements for devices with multiple bandwidth modes	Master Device or Client with Radar Detection	Client Without Radar Detection
U-NII Detection Bandwidth and Statistical Performance Check	All BW modes must be tested	Not required
Channel Move Time and Channel Closing Transmission Time	Test using widest BW mode available	Test using the widest BW mode available for the link
All other tests	Any single BW mode	Not required

Note: Frequencies selected for statistical performance check (Section 7.8.4) should include several frequencies within the radar detection bandwidth and frequencies near the edge of the radar detection bandwidth. For 802.11 devices it is suggested to select frequencies in each of the bonded 20 MHz channels and the channel center frequency.

Limit**1. DFS Detection Thresholds**

Table 3: DFS Detection Thresholds for Master Devices and Client Devices With Radar Detection

Maximum Transmit Power	Value (See Notes 1, 2, and 3)
EIRP $\geq$ 200 milliwatt	-64 dBm
EIRP < 200 milliwatt and power spectral density < 10 dBm/MHz	-62 dBm
EIRP < 200 milliwatt that do not meet the power spectral density requirement	-64 dBm

Note 1: This is the level at the input of the receiver assuming a 0dBi receive antenna.
Note 2: Throughout these test procedures an additional 1 dB has been added to the amplitude of the test transmission waveforms to account for variations in measurement equipment. This will ensure that the test signal is at or above the detection threshold level to trigger a DFS response.
Note3: EIRP is based on the highest antenna gain. For MIMO devices refer to KDB Publication 662911 D01.

2. DFS Response Requirements

Table 4: DFS Response Requirement Values

Parameter	Value
Non-occupancy period	Minimum 30 minutes
Channel Availability Check Time	60 seconds
Channel Move Time	10 seconds See Note 1.
Channel Closing Transmission Time	200 milliseconds + an aggregate of 60 milliseconds over remaining 10 second period. See Notes 1 and 2.
U-NII Detection Bandwidth	Minimum 100% of the U-NII 99% transmission power bandwidth. See Note 3.

Note 1: Channel Move Time and the Channel Closing Transmission Time should be performed with Radar Type 0. The measurement timing begins at the end of the Radar Type 0 burst.
Note 2: The Channel Closing Transmission Time is comprised of 200 milliseconds starting at the beginning of the Channel Move Time plus any additional intermittent control signals required facilitating a Channel move (an aggregate of 60 milliseconds) during the remainder of the 10 second period. The aggregate duration of control signals will not count quiet periods in between transmissions.
Note 3: During the U-NII Detection Bandwidth detection test, radar type 0 should be used. For each frequency step the minimum percentage of detection is 90 percent. Measurements are performed with no data traffic.

Radar Test Waveforms

This section provides the parameters for required test waveforms, minimum percentage of successful detections, and the minimum number of trials that must be used for determining DFS conformance. Step intervals of 0.1 microsecond for Pulse Width, 1 microsecond for PRI, 1 MHz for chirp width and 1 for the number of pulses will be utilized for the random determination of specific test waveforms.

Table 5 Short Pulse Radar Test Waveforms

Radar Type	Pulse Width (μsec)	PRI (μsec)	Number of Pulses	Minimum Percentage of Successful Detection	Minimum Number of Trials
0	1	1428	18	See Note 1	See Note 1
1	1	Test A: 15 unique PRI values randomly selected from the list of 23 PRI values in Table 5a	$\text{Roundup} \left\{ \left(\frac{1}{360} \right) \cdot \left(\frac{19 \cdot 10^6}{\text{PRI}_{\mu\text{sec}}} \right) \right\}$	60%	30
		Test B: 15 unique PRI values randomly selected within the range of 518-3066 μsec, with a minimum increment of 1 μsec, excluding PRI values selected in Test A			
2	1-5	150-230	23-29	60%	30
3	6-10	200-500	16-18	60%	30
4	11-20	200-500	12-16	60%	30
Aggregate (Radar Types 1-4)				80%	120
Note 1: Short Pulse Radar Type 0 should be used for the detection bandwidth test, channel move time, and channel closing time tests.					

A minimum of 30 unique waveforms is required for each of the Short Pulse Radar Types 2 through 4. If more than 30 waveforms are used for Short Pulse Radar Types 2 through 4, then each additional waveform must also be unique and not repeated from the previous waveforms. If more than 30 waveforms are used for Short Pulse Radar Type 1, then each additional waveform is generated with Test B and must also be unique and not repeated from the previous waveforms in Tests A or B.

For example if in Short Pulse Radar Type 1 Test B a PRI of 3066 μsec is selected, the number of pulses

$$\left\lceil \left(\frac{1}{360} \right) \cdot \left(\frac{19 \cdot 10^6}{3066} \right) \right\rceil$$

would be Round up $\left\lceil \left(\frac{1}{360} \right) \cdot \left(\frac{19 \cdot 10^6}{3066} \right) \right\rceil = \text{Round up } \{17.2\} = 18$.

Table 5a - Pulse Repetition Intervals Values for Test A

Pulse Repetition Frequency Number	Pulse Repetition Frequency (Pulses Per Second)	Pulse Repetition Interval (Microseconds)
1	1930.5	518
2	1858.7	538
3	1792.1	558
4	1730.1	578
5	1672.2	598
6	1618.1	618
7	1567.4	638
8	1519.8	658
9	1474.9	678

Pulse Repetition Frequency Number	Pulse Repetition Frequency (Pulses Per Second)	Pulse Repetition Interval (Microseconds)
10	1432.7	698
11	1392.8	718
12	1355	738
13	1319.3	758
14	1285.3	778
15	1253.1	798
16	1222.5	818
17	1193.3	838
18	1165.6	858
19	1139	878
20	1113.6	898
21	1089.3	918
22	1066.1	938
23	326.2	3066

Table 6 – Long Pulse Radar Test Waveform

Radar Type	Pulse Width (μsec)	Chirp Width (MHz)	PRI (μsec)	Number of Pulses per Burst	Number of Bursts	Minimum Percentage of Successful Detection	Minimum Number of Trials
5	50-100	5-20	1000-2000	1-3	8-20	80%	30

The parameters for this waveform are randomly chosen. Thirty unique waveforms are required for the Long Pulse Radar Type waveforms. If more than 30 waveforms are used for the Long Pulse Radar Type waveforms, then each additional waveform must also be unique and not repeated from the previous waveforms.

Table 7 – Frequency Hopping Radar Test Waveform

Radar Type	Pulse Width (μsec)	PRI (μsec)	Pulses per Hop	Hopping Rate (kHz)	Hopping Sequence Length (msec)	Minimum Percentage of Successful Detection	Minimum Number of Trials
6	1	333	9	0.333	300	70%	30

For the Frequency Hopping Radar Type, the same Burst parameters are used for each wave form. The hopping sequence is different for each wave form and a 100-length segment is selected from the hopping sequence defined by the following algorithm:

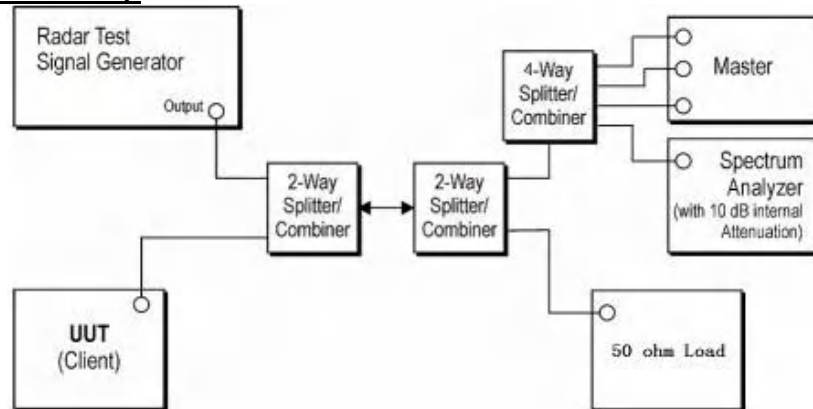
The first frequency in a hopping sequence is selected randomly from the group of 475 integer frequencies from 5250–5724MHz. Next, the frequency that was just chosen is removed from the group and a frequency is randomly selected from the remaining 474 frequencies in the group. This process continues until all 475 frequencies are chosen for the set. For selection of a random frequency, the frequencies remaining within the group are always treated as equally likely.

Calibration of Radar Waveform

Radar Waveform Calibration Procedure

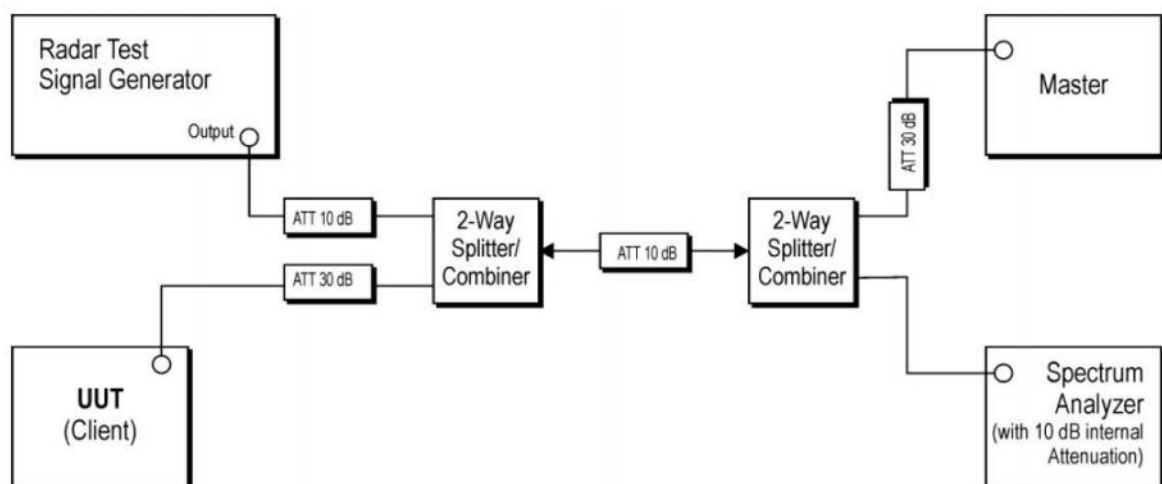
- 1) A 50 ohm load is connected in place of the spectrum analyzer, and the spectrum analyzer is connected to place of the master
- 2) The interference Radar Detection Threshold Level is $-62\text{dBm} + 2.09\text{dBi} + 1\text{dB} = -58.91\text{dBm}$ that had been taken into account the output power range and antenna gain.
- 3) The following equipment setup was used to calibrate the conducted radar waveform. A vector signal generator was utilized to establish the test signal level for radar type 0. During this process there were no transmissions by either the master or client device. The spectrum analyzer was switched to the zero spans (time domain) at the frequency of the radar waveform generator. Peak detection was used. The spectrum analyzer resolution bandwidth (RBW) and video bandwidth (VBW) were set to 3 MHz. The spectrum analyzer had offset -1.0dB to compensate RF cable loss 1.0dB.
- 4) The vector signal generator amplitude was set so that the power level measured at the spectrum analyzer was $-62\text{dBm} + 2.09\text{dBi} + 1\text{dB} = -58.91\text{dBm}$. Capture the spectrum analyzer plots on short pulse radar waveform.

Conducted Calibration Setup

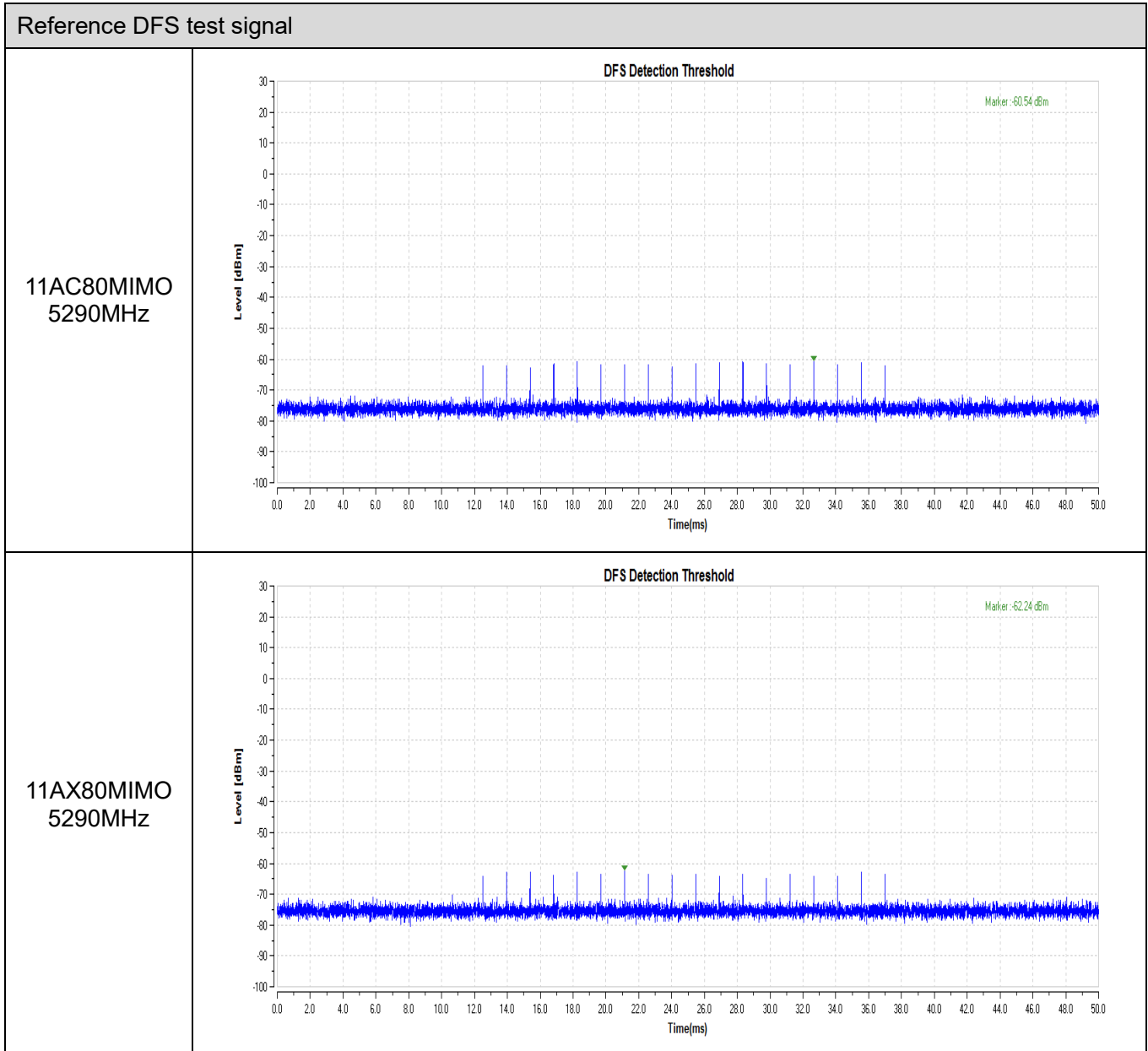


Test Configuration

Setup for Client with injection at the Master



Radar Waveform Calibration Result



Test Procedure

1. The radar pulse generator is setup to provide a pulse at frequency that the master and client are operating. A type 0 radar pulse with a 1us pulse width and a 1428us PRI is used for the testing.
2. The vector signal generator is adjusted to provide the radar burst (18 pulses) at the level of approximately -61dBm at the antenna port of the master device
3. A trigger is provided from the pulse generator to the DFS monitoring system in order to capture the traffic and the occurrence of the radar pulse.
4. EUT will associate with the master at channel. The file "iperf.exe" specified by the FCC is streamed from the PC 2 through the master and the client device to the PC 1 and played in full motion video using Media Player Classic Ver. 6.4.8.6 in order to properly load the network for the entire period of the test.
5. When radar burst with a level equal to the DFS Detection Threshold +1dB is generated on the operating channel of the U-NII device. At time T0 the radar waveform generator sends a burst of pulse of the radar waveform at Detection Threshold +1dB.

6. Observe the transmissions of the EUT at the end of the radar Burst on the Operating Channel Measure and record the transmissions from the UUT during the observation time (Channel Move Time). One 15 seconds plot is reported for the Short Pulse Radar Type 0. The plot for the Short Pulse Radar Types start at the end of the radar burst. The Channel Move Time will be calculated based on the zoom in 600ms plot of the Short Pulse Radar Type
7. Measurement of the aggregate duration of the Channel Closed Transmission Time method. With the spectrum analyzer set to zero span tuned to the center frequency of the EUT operating channel at the radar simulated frequency, peak detection, and max hold, the dwell time per bin is given by: $Dwell (0.3ms) = S (12000ms) / B (4000)$; where Dwell is the dwell time per spectrum analyzer sampling bin, S is sweep time and B is the number of spectrum analyzer sampling bins. An upper bound of the aggregate duration of the intermittent control signals of Channel Closing Transmission Time is calculated by: $C (ms) = N \times Dwell (0.3ms)$; where C is the Closing Time, N is the number of spectrum analyzer sampling bins (intermittent control signals) showing a U-NII transmission and Dwell is the dwell time per bin.
8. Measurement the EUT for more than 30 minutes following the channel move time to verify that no transmission or beacons occur on this channel.

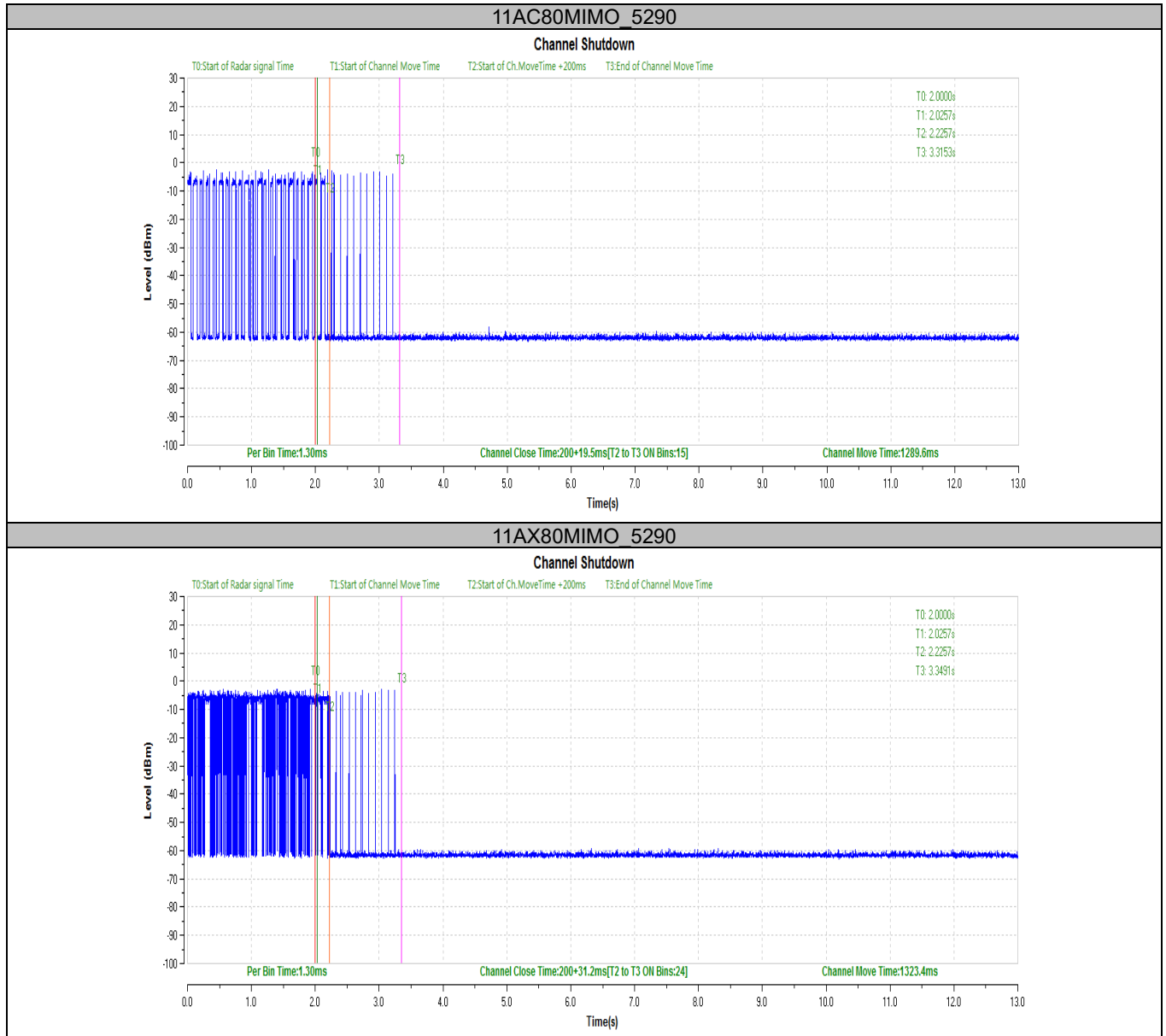
Test Mode

Please refer to the clause 2.4.

Test Result

The product in this report belongs to Client Without Radar Detection.

Test Mode	Frequency [MHz]	CCTT [ms]	Limit[ms]	CMT [ms]	Limit[ms]	Verdict
11AC80MIMO	5290	200+19.5	200+60	1289.6	10000	PASS
11AX80MIMO	5290	200+31.2	200+60	1323.4	10000	PASS



*****THE END OF REPORT*****