

Spurious emissions (conducted) 9 kHz – 5 GHz

TX 469.5 MHz, GMSK 4800bps, Ch Width 25kHz

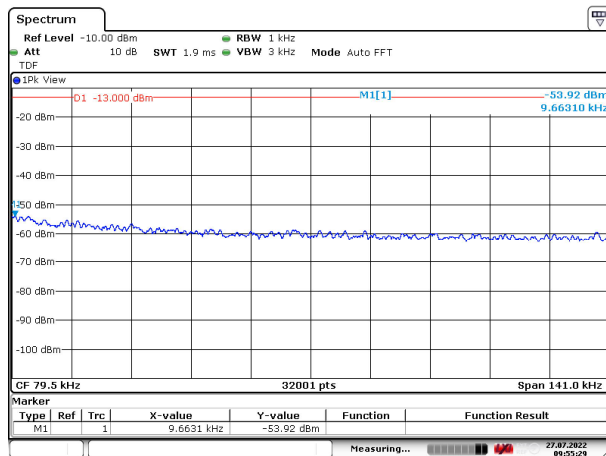


Figure 260: 9 – 150 kHz

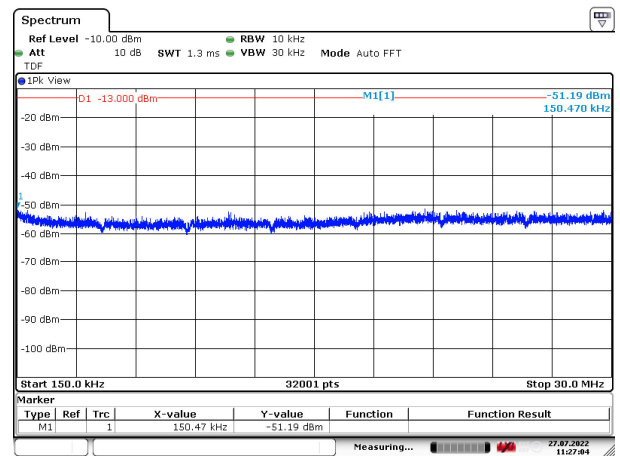


Figure 261: 150 kHz – 30 MHz

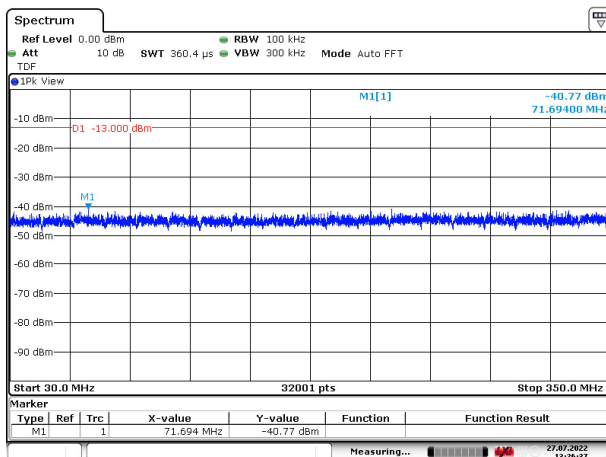


Figure 262: 30 – 350 MHz

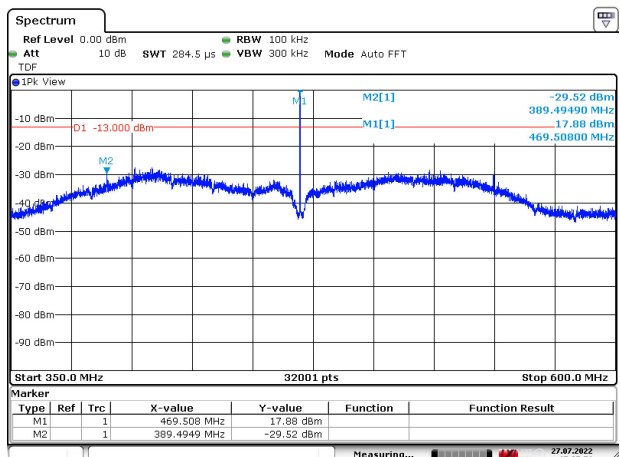


Figure 263: 350 – 600 MHz

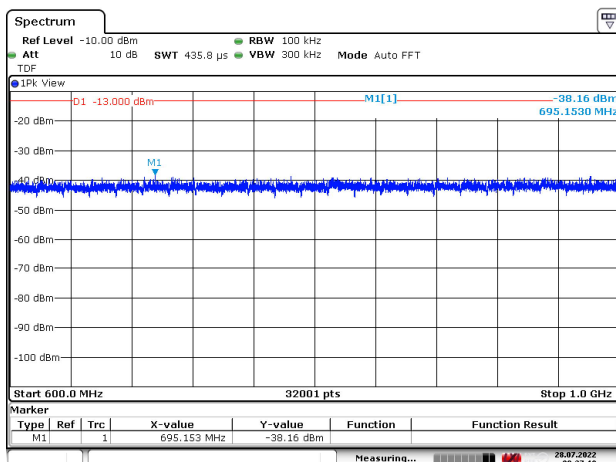


Figure 264: 600 – 1000 MHz

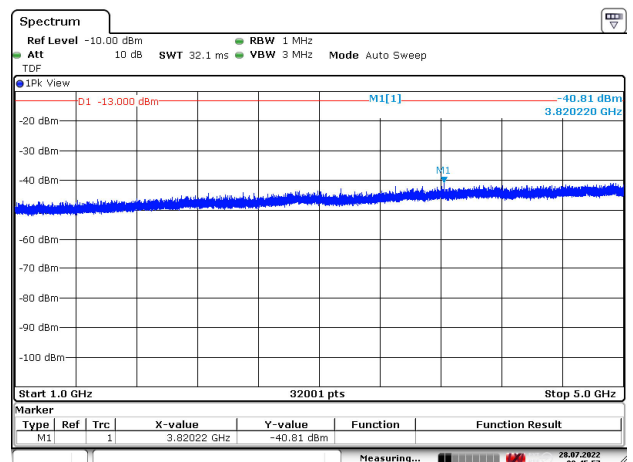


Figure 265: 1000 – 5000 MHz

Spurious emissions (conducted) 9 kHz – 5 GHz

TX 406.6 MHz, GMSK 9600bps, Ch Width 25kHz

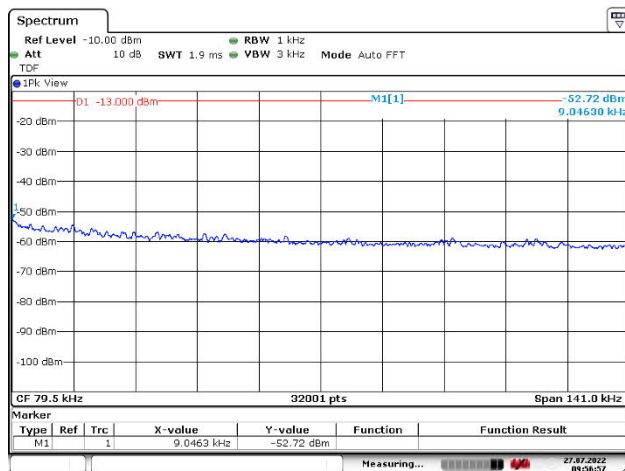


Figure 266: 9 – 150 kHz

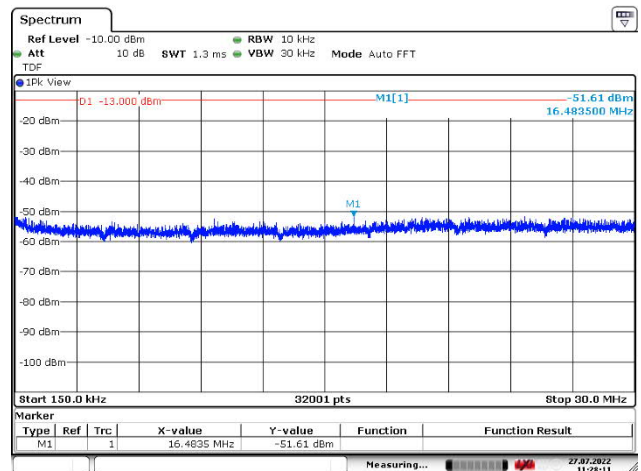


Figure 267: 150 kHz – 30 MHz

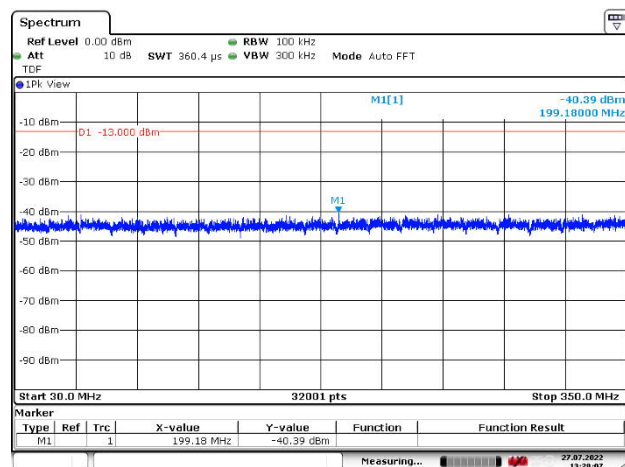


Figure 268: 30 – 350 MHz

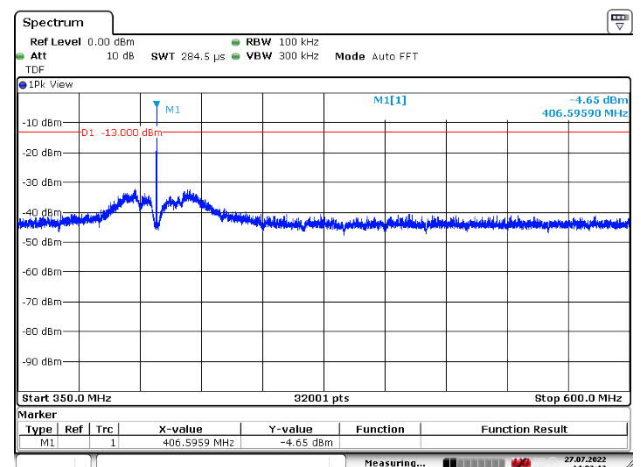


Figure 269: 350 – 600 MHz

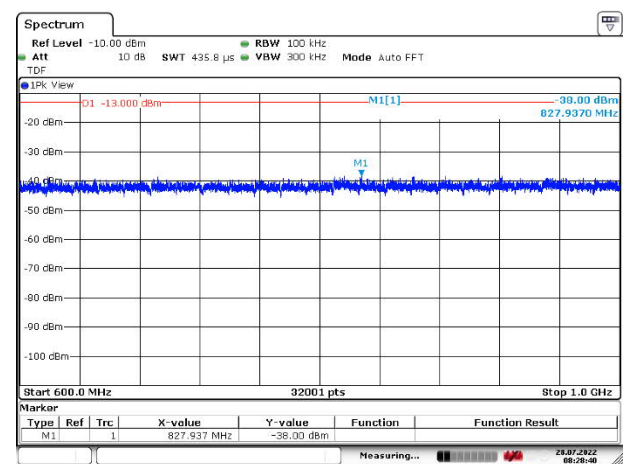


Figure 270: 600 – 1000 MHz

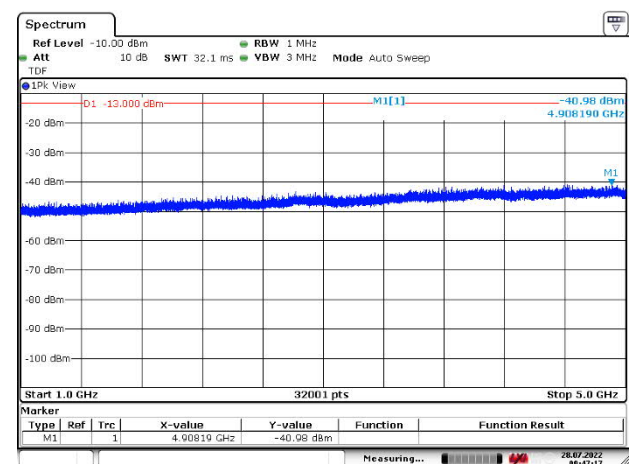
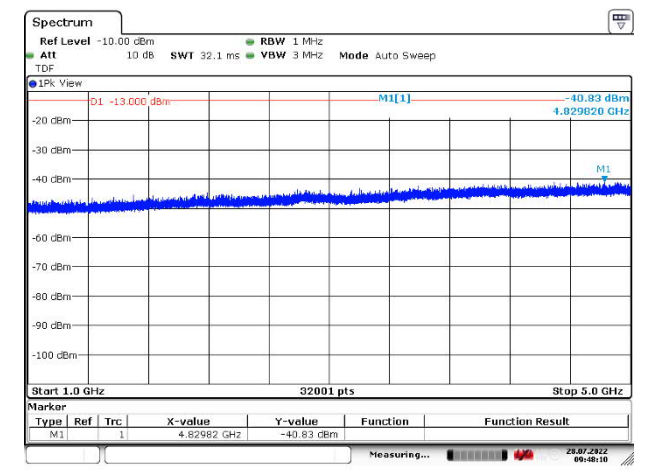
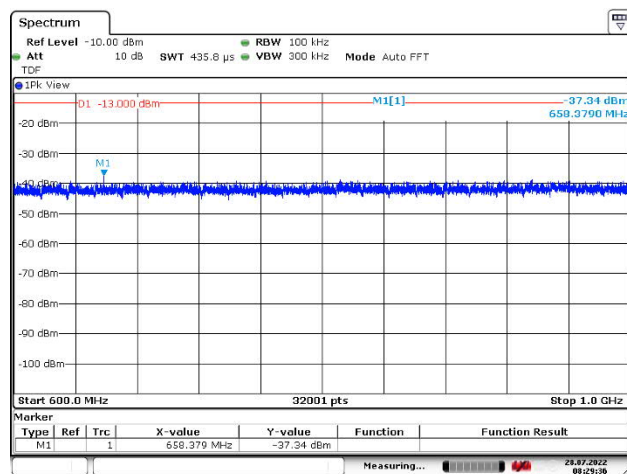
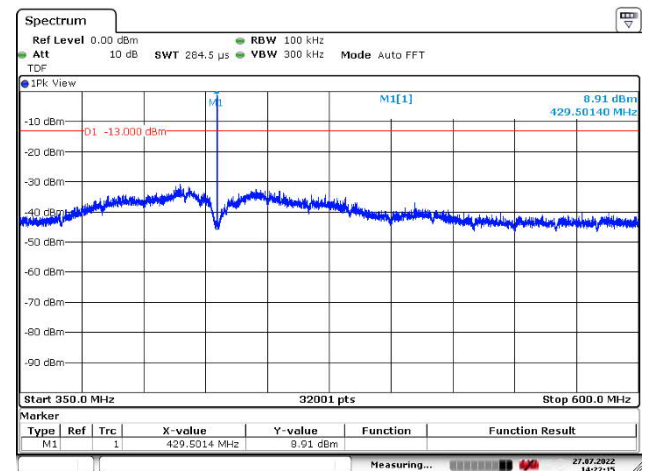
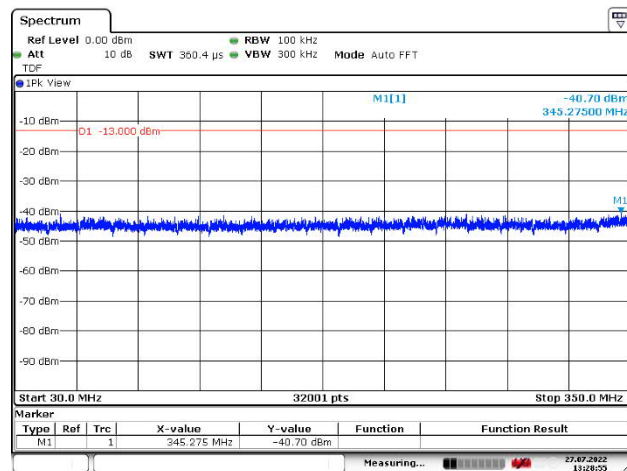
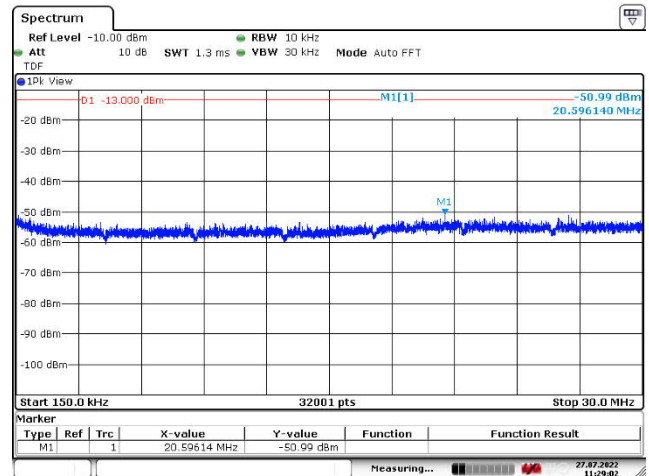
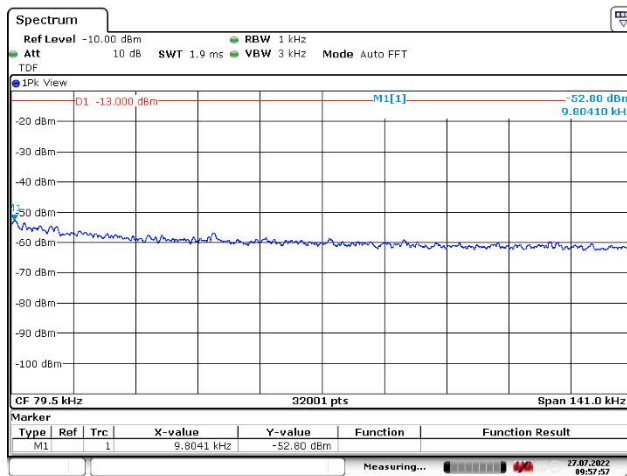


Figure 271: 1000 – 5000 MHz

Spurious emissions (conducted) 9 kHz – 5 GHz

TX 429.5 MHz, GMSK 9600bps, Ch Width 25kHz



Spurious emissions (conducted) 9 kHz – 5 GHz

TX 450.5 MHz, GMSK 9600bps, Ch Width 25kHz

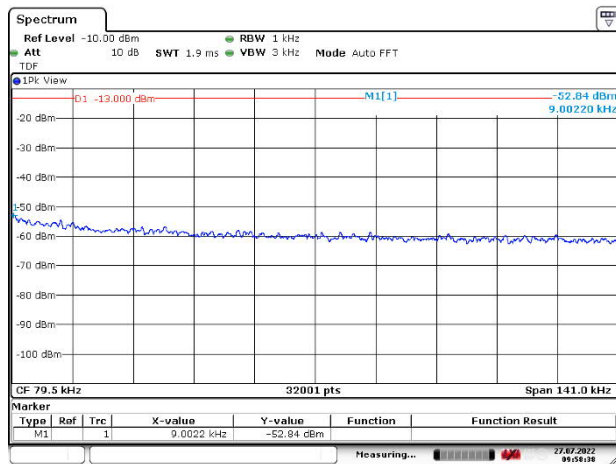


Figure 278: 9 – 150 kHz

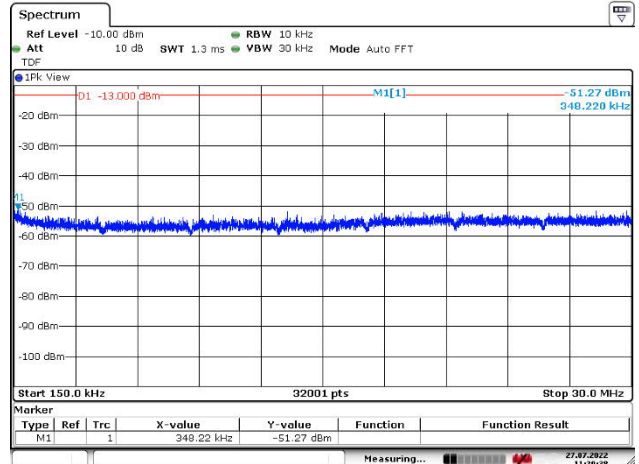


Figure 279: 150 kHz – 30 MHz

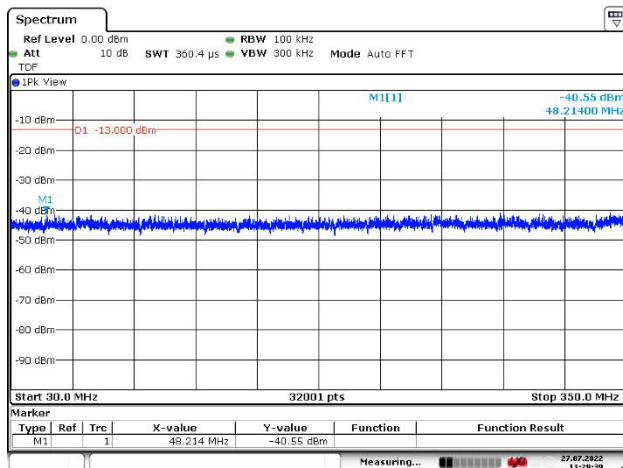


Figure 280: 30 – 350 MHz

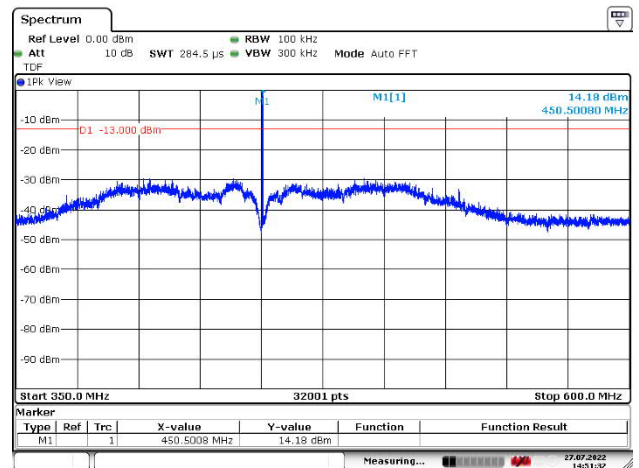


Figure 281: 350 – 600 MHz

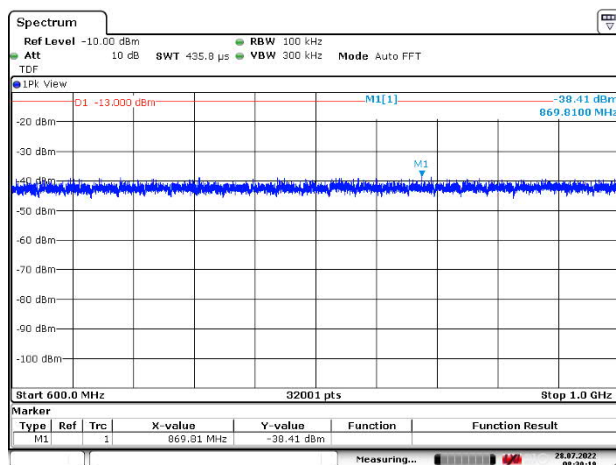


Figure 282: 600 – 1000 MHz

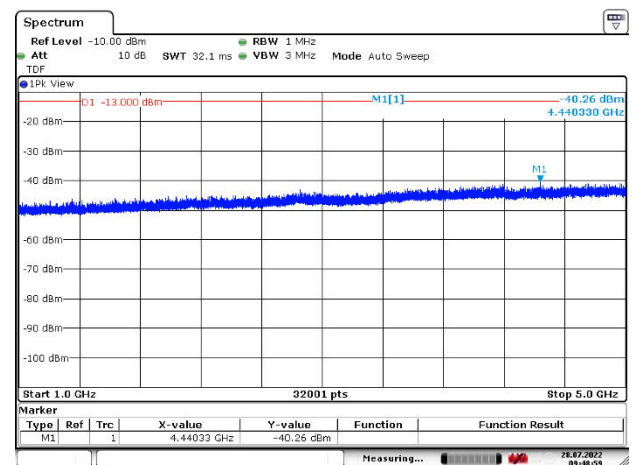


Figure 283: 1000 – 5000 MHz

Spurious emissions (conducted) 9 kHz – 5 GHz

TX 469.5 MHz, GMSK 9600bps, Ch Width 25kHz

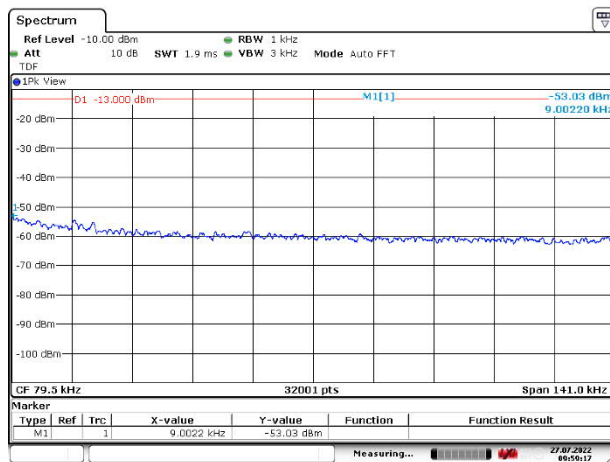


Figure 284: 9 – 150 kHz

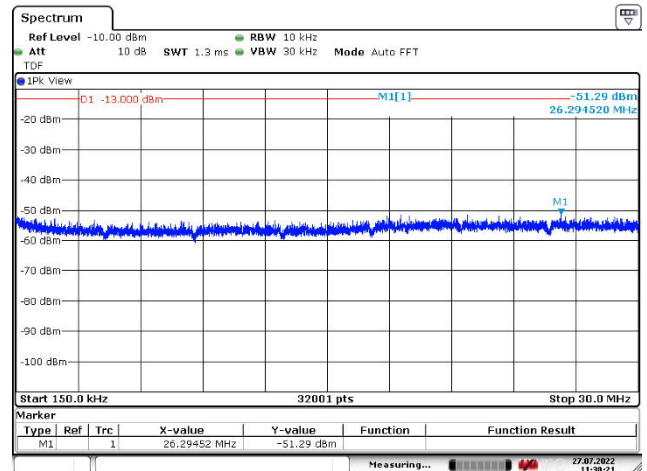


Figure 285: 150 kHz – 30 MHz

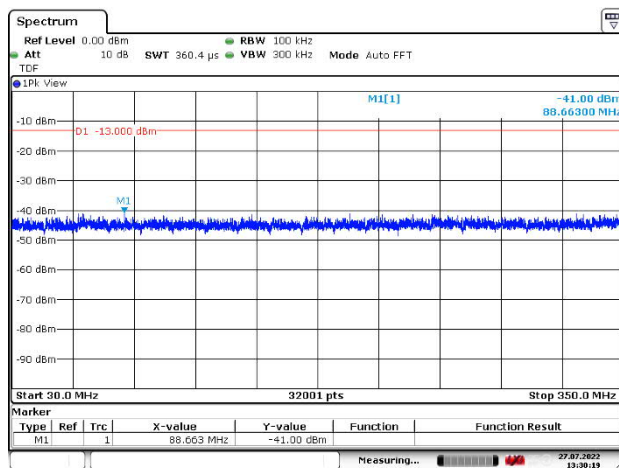


Figure 286: 30 – 350 MHz

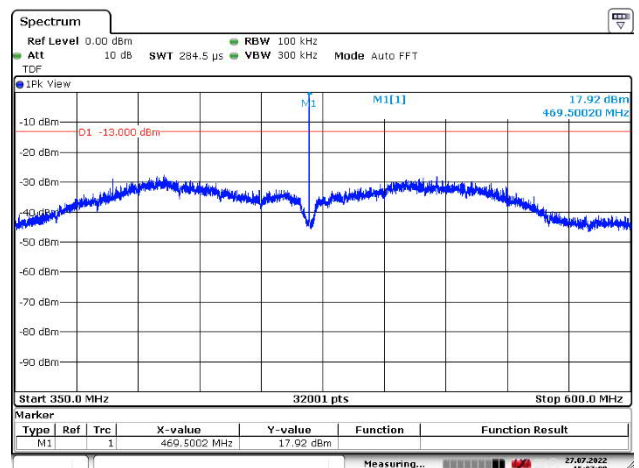


Figure 287: 350 – 600 MHz

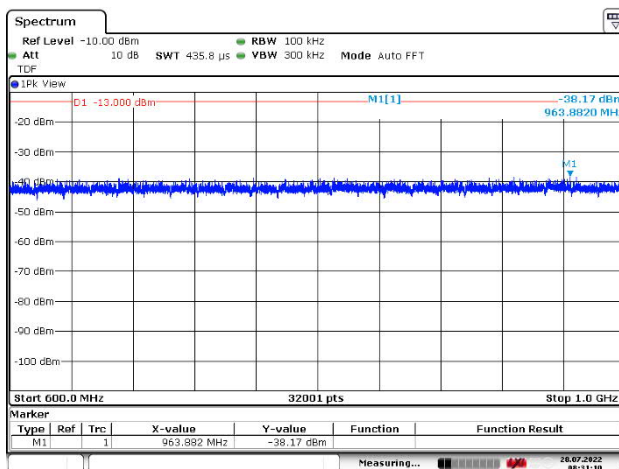


Figure 288: 600 – 1000 MHz

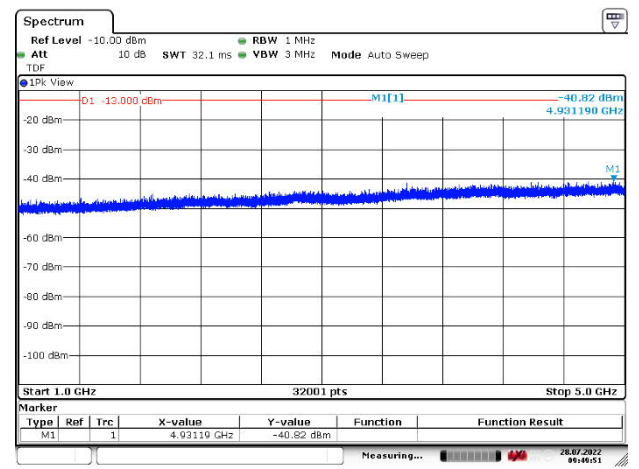


Figure 289: 1000 – 5000 MHz

Spurious emissions (conducted) 9 kHz – 5 GHz

TX 406.6 MHz, GMSK 16000bps, Ch Width 25kHz

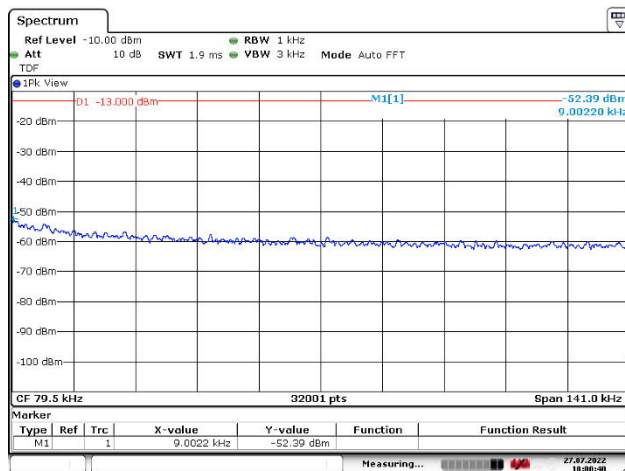


Figure 290: 9 – 150 kHz

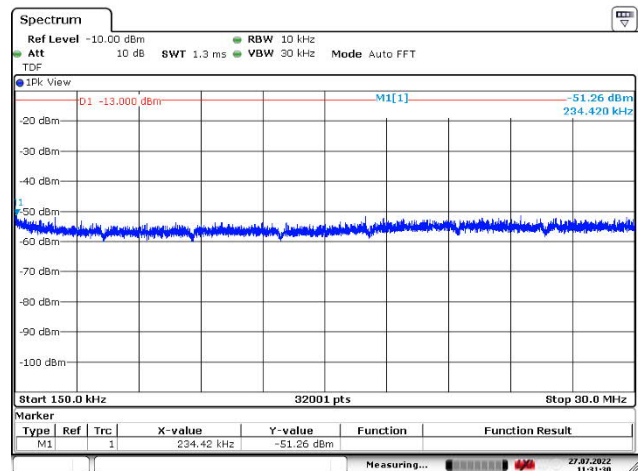


Figure 291: 150 kHz – 30 MHz

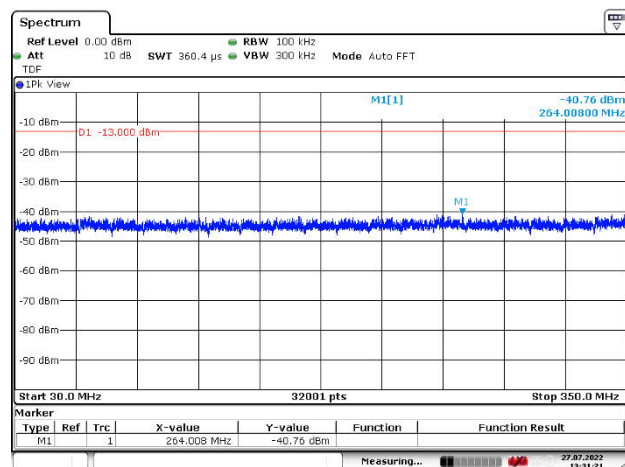


Figure 292: 30 – 350 MHz

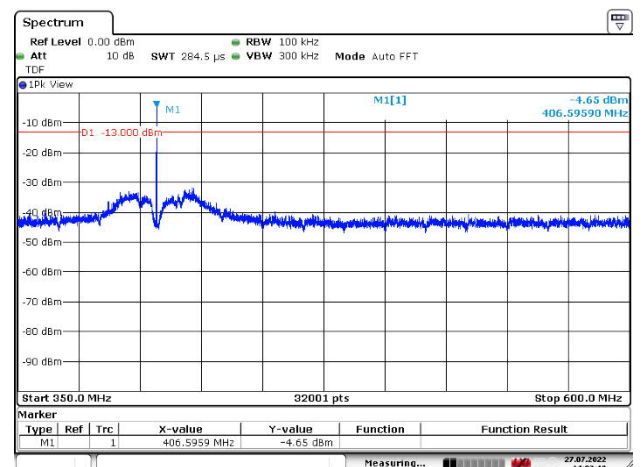


Figure 293: 350 – 600 MHz

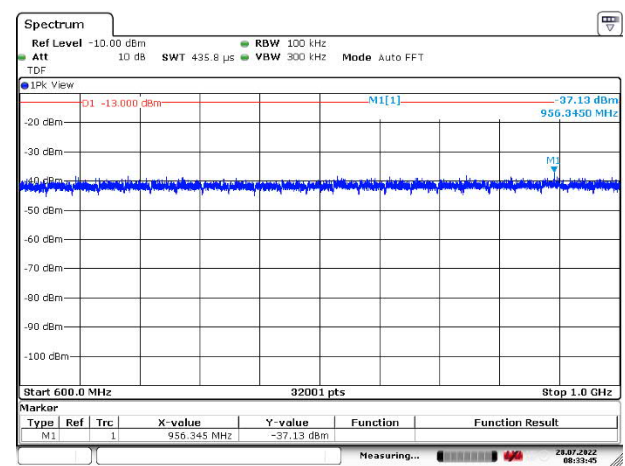


Figure 294: 600 – 1000 MHz

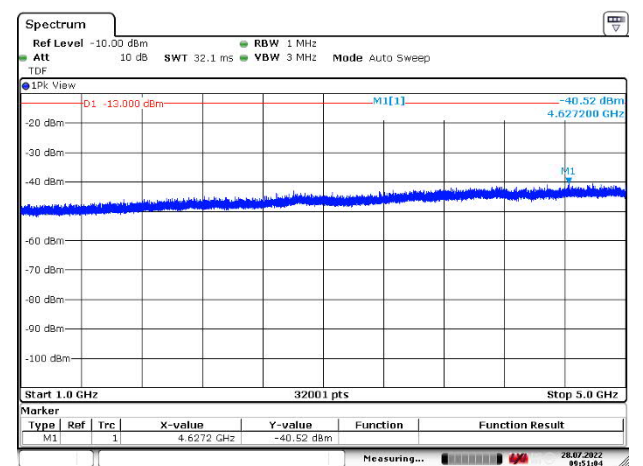


Figure 295: 1000 – 5000 MHz

Spurious emissions (conducted) 9 kHz – 5 GHz

TX 429.5 MHz, GMSK 16000bps, Ch Width 25kHz

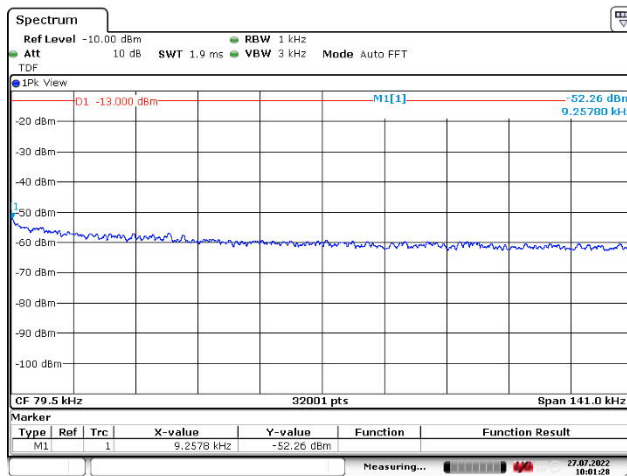


Figure 296: 9 – 150 kHz

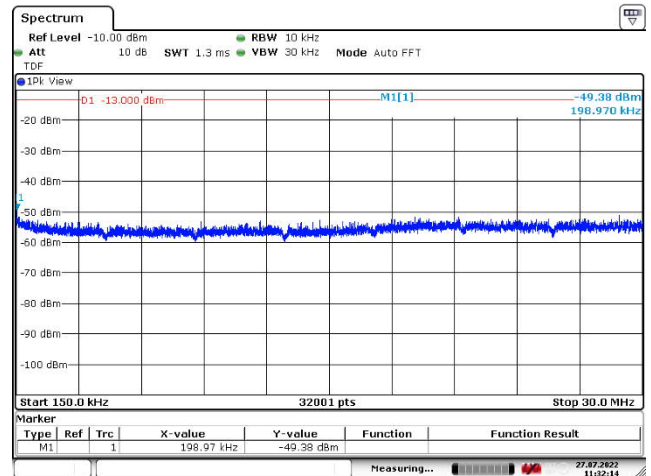


Figure 297: 150 kHz – 30 MHz

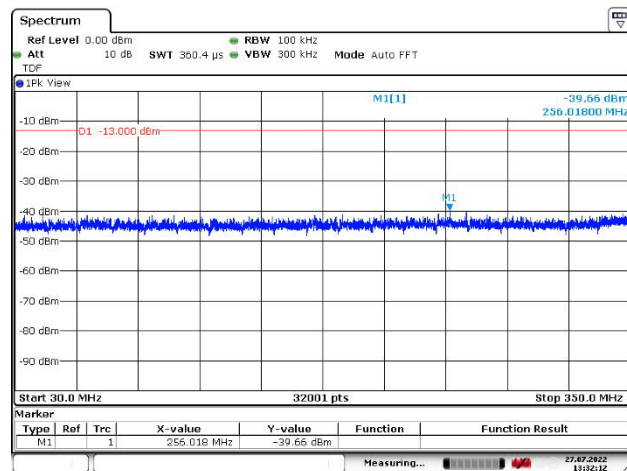


Figure 298: 30 – 350 MHz

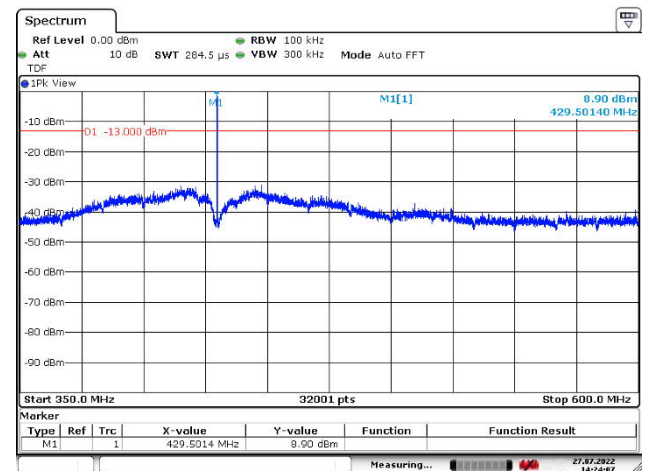


Figure 299: 350 – 600 MHz

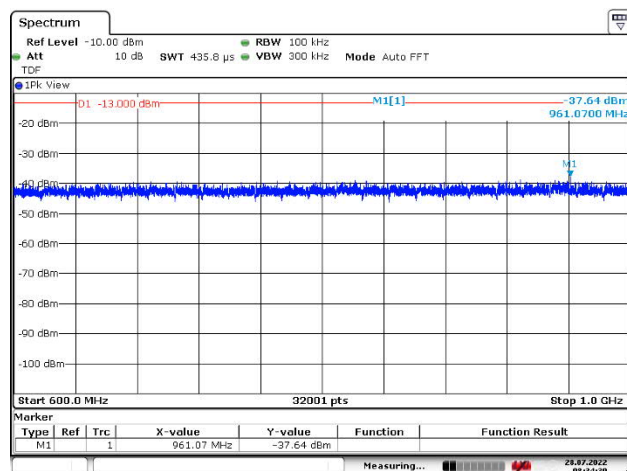


Figure 300: 600 – 1000 MHz

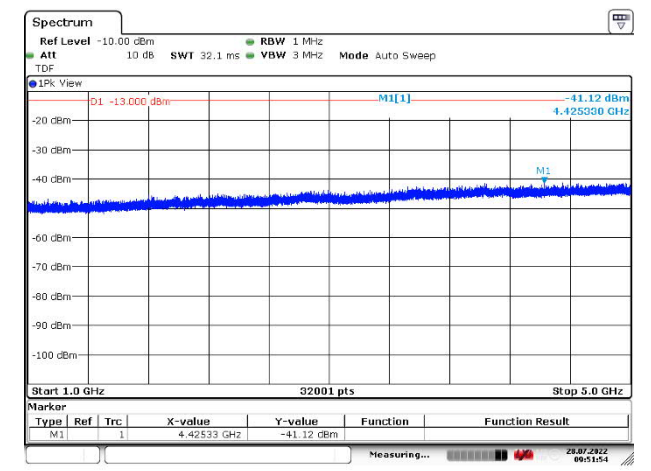


Figure 301: 1000 – 5000 MHz

Spurious emissions (conducted) 9 kHz – 5 GHz

TX 450.5 MHz, GMSK 16000bps, Ch Width 25kHz

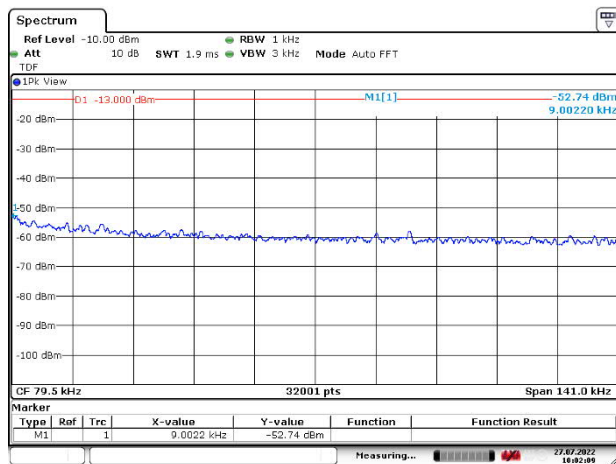


Figure 302: 9 – 150 kHz

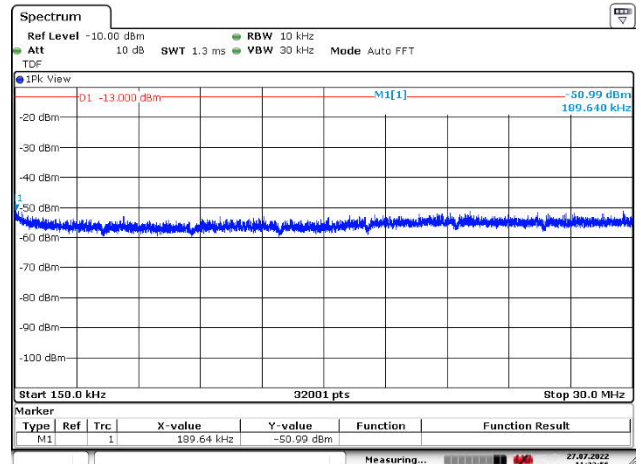


Figure 303: 150 kHz – 30 MHz

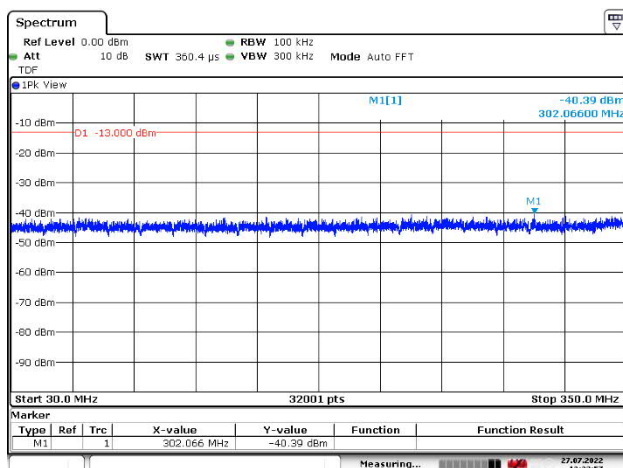


Figure 304: 30 – 350 MHz

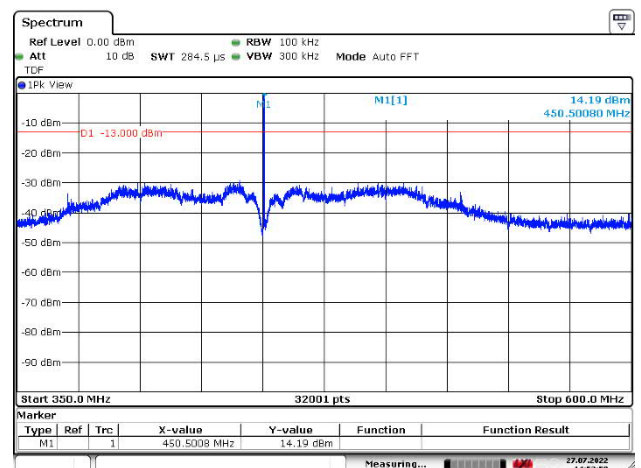


Figure 305: 350 – 600 MHz

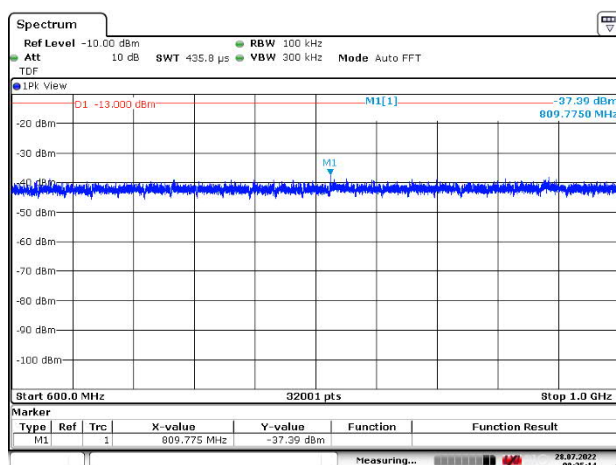


Figure 306: 600 – 1000 MHz

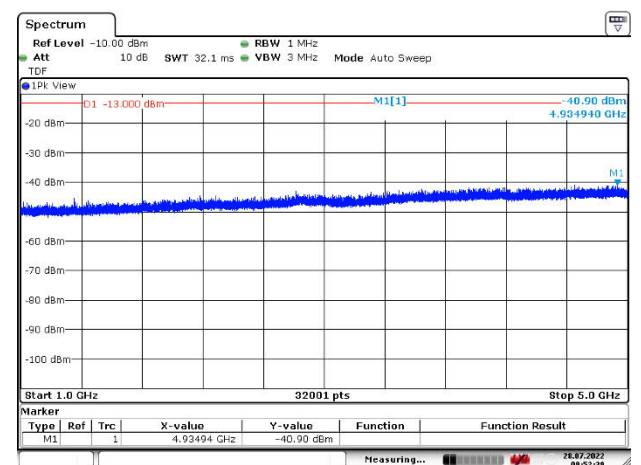


Figure 307: 1000 – 5000 MHz

Spurious emissions (conducted) 9 kHz – 5 GHz

TX 469.5 MHz, GMSK 16000bps, Ch Width 25kHz

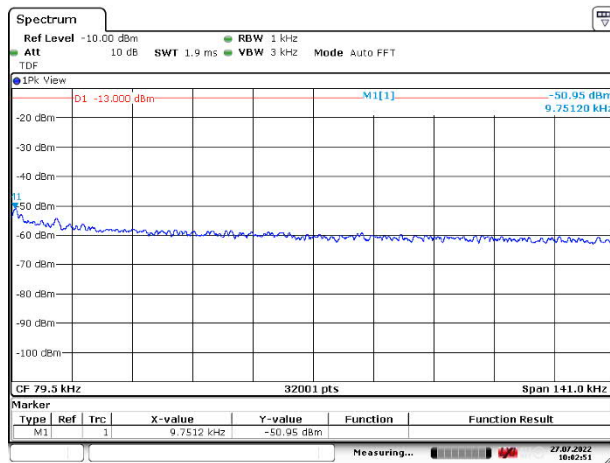


Figure 308: 9 – 150 kHz

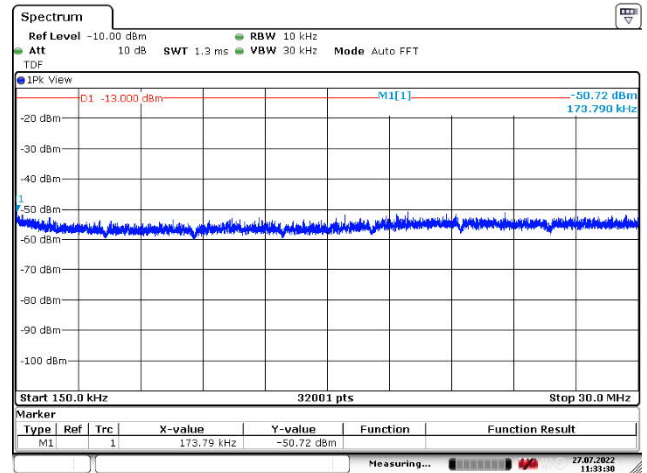


Figure 309: 150 kHz – 30 MHz

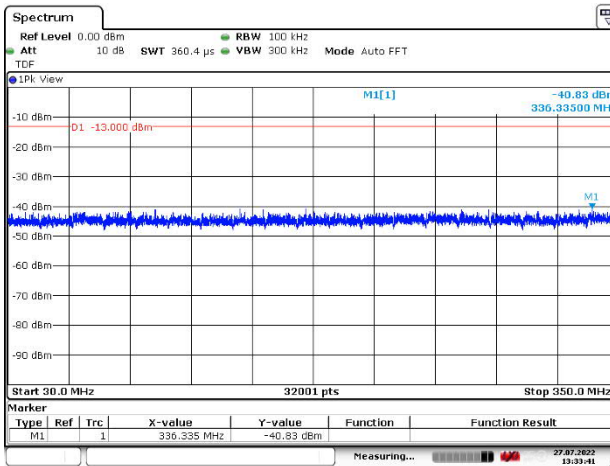


Figure 310: 30 – 350 MHz

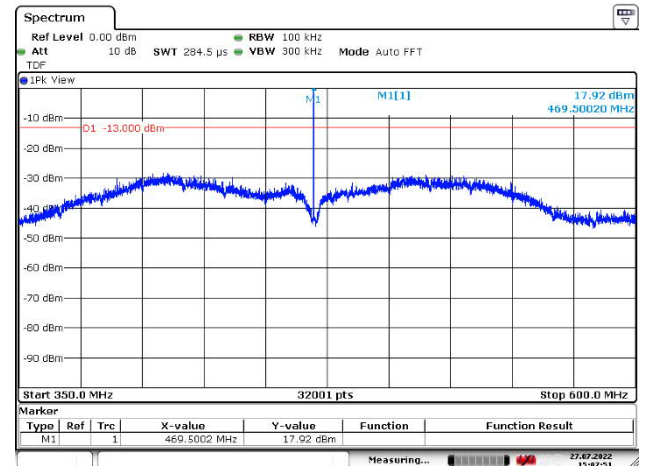


Figure 311: 350 – 600 MHz

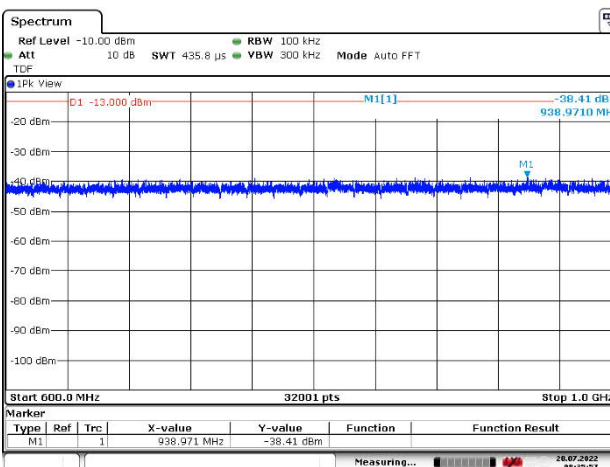


Figure 312: 600 – 1000 MHz

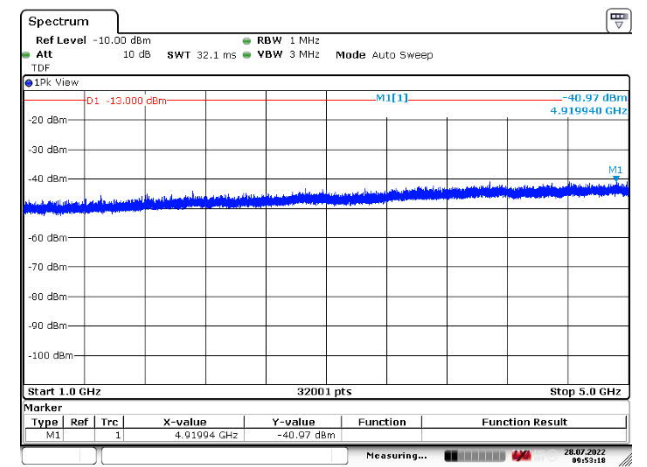


Figure 313: 1000 – 5000 MHz

Spurious emissions (radiated) 9 kHz – 5 GHz

Standard: ANSI C63.26-2015
Tested by: LAS
Date: 16 June – 4 July 2022 5 June 2021
Temperature: 23 ± 3 °C
Humidity: 20 - 75 % RH
Barometric pressure: 860 - 1060 hPa
Measurement uncertainty: ± 5.29 dB. level of confidence 95.45 % (k = 2)
Test result: **PASS**

FCC Rule: §90.210
RSS-119 5.8

For transmitters that are not equipped with an audio low-pass filter. the power of any emission must be attenuated below the unmodulated carrier output power (P) as follows: on any frequency removed from the center of the authorized bandwidth by more than 250 percent of the authorized bandwidth; at least 43 + 10 log (P) dB.

For transmitters designed to operate with a 12.5 kHz channel bandwidth. any emission must be attenuated below the power (P) of the highest emission contained within the authorized bandwidth as follows: on any frequency removed from the center of the authorized bandwidth by a displacement frequency (f_d in kHz) of more than 12.5 kHz: at least 50 + 10 log (P) or 70 dB. whichever is the lesser attenuation.

Frequency Band (MHz)	Channel Bandwidth (kHz)	Authorized Bandwidth (kHz)	Limit (dBm)
406.1-430 and 450-470	12.5	11.25	-20
	25	20	-13

Test plan

The test was performed in a semi-anechoic chamber. The EUT was placed on a non-conductive table standing on a turntable. The distance between the EUT and the measurement antenna was 3 m. In order to find the maximum levels of the disturbance radiation the angle of the turntable. and the height of the measuring antenna were varied during the tests. The test was performed with the measurement antenna in both horizontal and vertical polarizations.

The EUT is tested in different combinations of channel bandwidth. TX frequency. and EUT orientation. If emissions near the limit are detected with any combination. other combinations are investigated as well. The antenna connector was terminated with a 50 Ω load.

Test results

TX Frequency [MHz]	TX power [mW]	Ch. Width [kHz]	Modulation	Frequency (MHz)	MaxPeak (dBm)	Limit (dBm)	Margin (dB)	Result
406.6	35000	12.5	4FSK	0.009400	-41.09	-20.00	21.09	PASS
406.6	35000	12.5	4FSK	0.766000	-47.69	-20.00	27.69	PASS
406.6	35000	12.5	4FSK	799.274500	-58.45	-20.00	38.45	PASS
406.6	35000	12.5	4FSK	3252.783333	-37.97	-20.00	17.97	PASS
429.5	35000	12.5	4FSK	2577.050000	-41.40	-20.00	21.40	PASS
450.5	35000	12.5	4FSK	2252.516667	-39.93	-20.00	19.93	PASS
469.5	35000	12.5	4FSK	1882.116667	-44.61	-20.00	24.61	PASS
469.5	35000	12.5	4FSK	2352.400000	-42.23	-20.00	22.23	PASS
406.6	35000	25	4FSK	3252.800000	-36.42	-13.00	23.42	PASS
429.5	35000	25	4FSK	0.009240	-38.71	-13.00	25.71	PASS
429.5	35000	25	4FSK	0.771750	-47.90	-13.00	34.90	PASS

Spurious emissions (radiated) 9 kHz – 5 GHz

429.5	35000	25	4FSK	799.822000	-59.96	-13.00	46.96	PASS
429.5	35000	25	4FSK	2576.950000	-44.59	-13.00	31.59	PASS
450.5	35000	25	4FSK	2252.400000	-39.92	-13.00	26.92	PASS
469.5	35000	25	4FSK	2352.516667	-39.36	-13.00	26.36	PASS
429.5	35000	12.5	8FSK	0.009240	-40.48	-20.00	20.48	PASS
429.5	35000	12.5	8FSK	0.771750	-48.16	-20.00	28.16	PASS
450.5	35000	12.5	8FSK	901.011500	-56.74	-20.00	36.74	PASS
450.5	35000	12.5	8FSK	1805.866667	-51.75	-20.00	31.75	PASS
450.5	35000	12.5	8FSK	2252.650000	-41.41	-20.00	21.41	PASS
469.5	35000	25	8FSK	0.009000	-37.89	-13.00	24.89	PASS
469.5	35000	25	8FSK	0.767750	-47.56	-13.00	34.56	PASS
469.5	35000	25	8FSK	321.441500	-63.53	-13.00	50.53	PASS
469.5	35000	25	8FSK	940.994000	-43.59	-13.00	30.59	PASS
469.5	35000	25	8FSK	2352.400000	-39.73	-13.00	26.73	PASS
406.6	35000	12.5	16FSK	0.009080	-39.46	-20.00	19.46	PASS
406.6	35000	12.5	16FSK	0.773500	-49.75	-20.00	29.75	PASS
406.6	35000	12.5	16FSK	302.824500	-63.71	-20.00	43.71	PASS
406.6	35000	12.5	16FSK	813.196500	-61.13	-20.00	41.13	PASS
406.6	35000	12.5	16FSK	3252.916667	-39.20	-20.00	19.20	PASS
429.5	35000	25	16FSK	0.009240	-41.76	-13.00	28.76	PASS
429.5	35000	25	16FSK	0.767750	-47.40	-13.00	34.40	PASS
429.5	35000	25	16FSK	33.836500	-66.00	-13.00	53.00	PASS
429.5	35000	25	16FSK	799.792000	-62.85	-13.00	49.85	PASS
429.5	35000	25	16FSK	2577.066667	-42.04	-13.00	29.04	PASS
406.6	35000	12.5	GMSK 4800	3252.183333	-46.60	-20.00	26.60	PASS
450.5	35000	12.5	GMSK 4800	0.009000	-38.65	-20.00	18.65	PASS
450.5	35000	12.5	GMSK 4800	0.767750	-47.29	-20.00	27.29	PASS
450.5	35000	12.5	GMSK 4800	901.011500	-46.59	-20.00	26.59	PASS
450.5	35000	12.5	GMSK 4800	2253.150000	-42.90	-20.00	22.90	PASS
450.5	35000	12.5	GMSK 4800	3154.350000	-46.95	-20.00	26.95	PASS
469.5	35000	25	GMSK 4800	0.009480	-41.92	-13.00	28.92	PASS
469.5	35000	25	GMSK 4800	0.767750	-47.16	-13.00	34.16	PASS
469.5	35000	25	GMSK 4800	798.475500	-60.86	-13.00	47.86	PASS
469.5	35000	25	GMSK 4800	941.414000	-71.44	-13.00	58.44	PASS
469.5	35000	25	GMSK 4800	2349.900000	-50.16	-13.00	37.16	PASS
406.6	35000	12.5	GMSK 8000	0.009000	-38.54	-20.00	18.54	PASS
406.6	35000	12.5	GMSK 8000	0.763750	-48.53	-20.00	28.53	PASS
406.6	35000	12.5	GMSK 8000	813.076500	-67.31	-20.00	47.31	PASS
406.6	35000	12.5	GMSK 8000	3252.933333	-40.25	-20.00	20.25	PASS
429.5	35000	25	GMSK 9600	0.009080	-38.26	-13.00	25.26	PASS
429.5	35000	25	GMSK 9600	0.767750	-47.42	-13.00	34.42	PASS
429.5	35000	25	GMSK 9600	858.860500	-73.03	-13.00	60.03	PASS
429.5	35000	25	GMSK 9600	2580.550000	-48.88	-13.00	35.88	PASS
450.5	35000	25.0	GMSK 16000	0.009000	-38.42	-13.00	25.42	PASS
450.5	35000	25.0	GMSK 16000	0.771750	-48.54	-13.00	35.54	PASS
450.5	35000	25.0	GMSK 16000	796.501000	-60.35	-13.00	47.35	PASS
450.5	35000	25.0	GMSK 16000	901.131500	-69.68	-13.00	56.68	PASS
450.5	35000	25.0	GMSK 16000	2254.516667	-50.41	-13.00	37.41	PASS

Spurious emissions (radiated) 9 kHz – 5 GHz

TX 4FSK, 8FSK and 16FSK, 9 kHz - 30 MHz

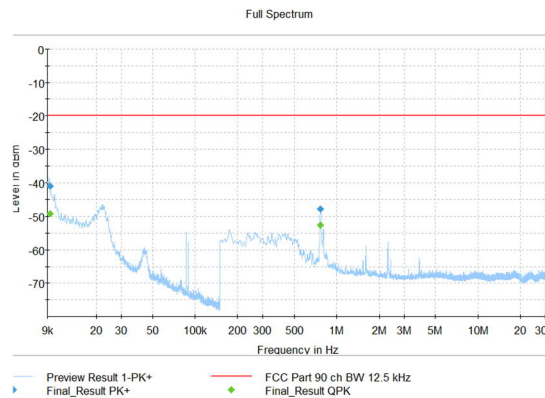


Figure 314: 4FSK, Ch Width 12.5kHz, 406.6 MHz, X

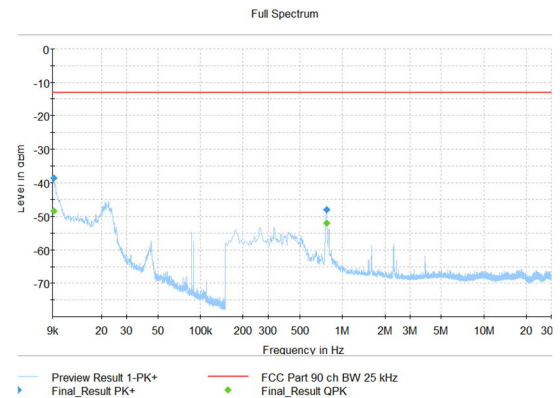


Figure 315: 4FSK, Ch Width 25kHz, 429.5 MHz, Y

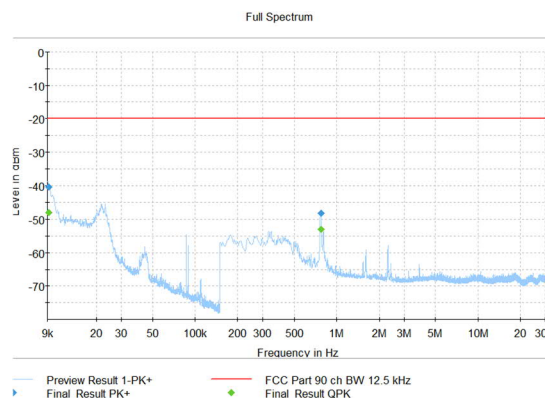


Figure 316: 8FSK, Ch Width 12.5kHz, 450.5 MHz, Z

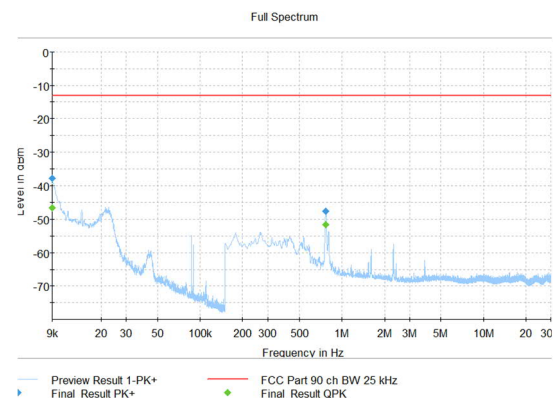


Figure 317: 8FSK, Ch Width 25kHz, 469.5 MHz, X

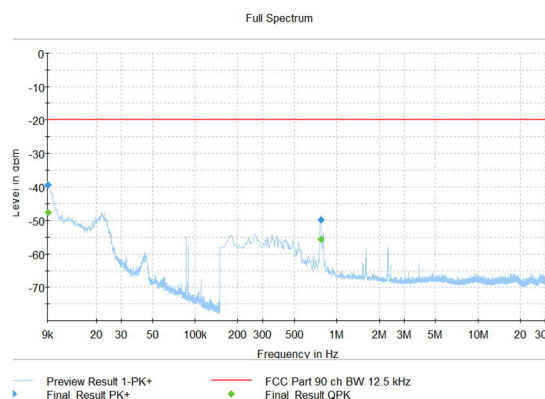


Figure 318: 16FSK, Ch Width 12.5kHz, 406.6 MHz, Y

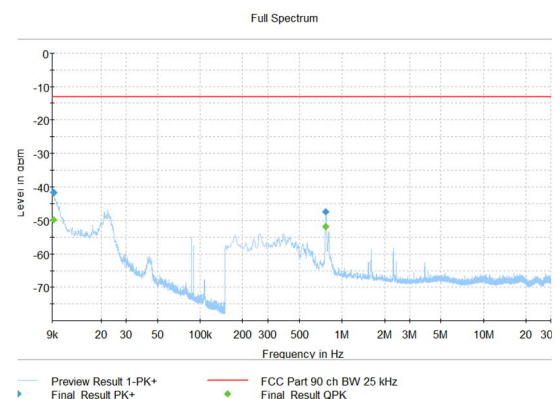


Figure 319: 16FSK, Ch Width 25kHz, 429.5 MHz, Z

Spurious emissions (radiated) 9 kHz – 5 GHz

TX 4FSK. 8FSK and 16FSK. 30 - 1000 MHz

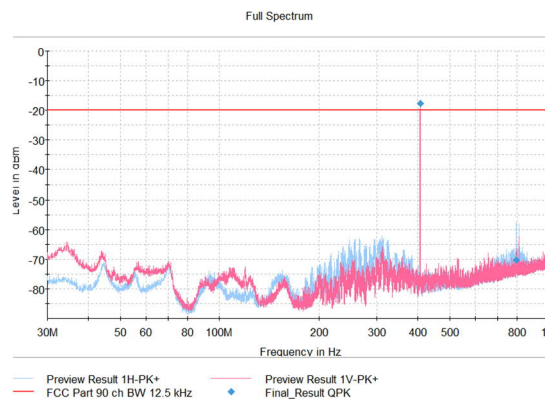


Figure 320: 4FSK, Ch Width 12.5kHz, 406.6 MHz, X

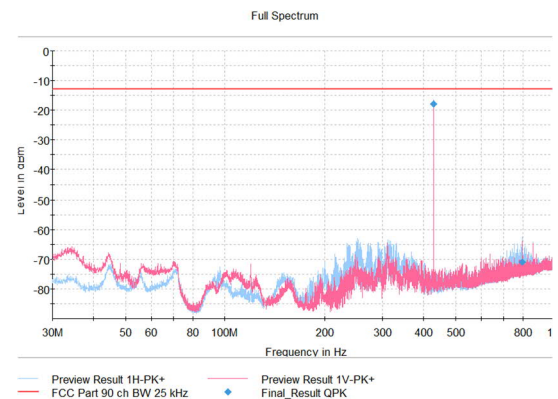


Figure 321: 4FSK, Ch Width 25kHz, 429.5 MHz, Y

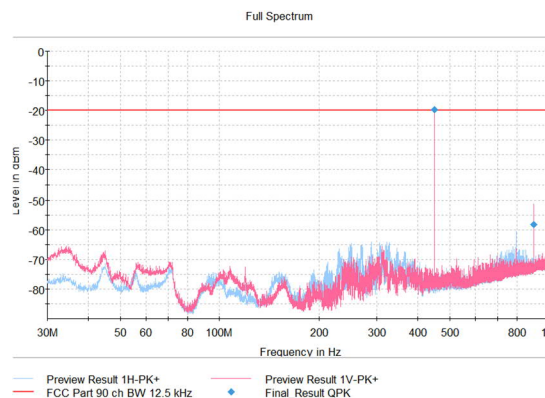


Figure 322: 8FSK, Ch Width 12.5kHz, 450.5 MHz, Z

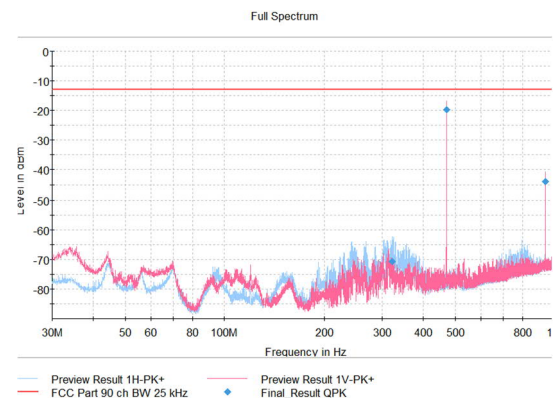


Figure 323: 8FSK, Ch Width 25kHz, 469.5 MHz, X

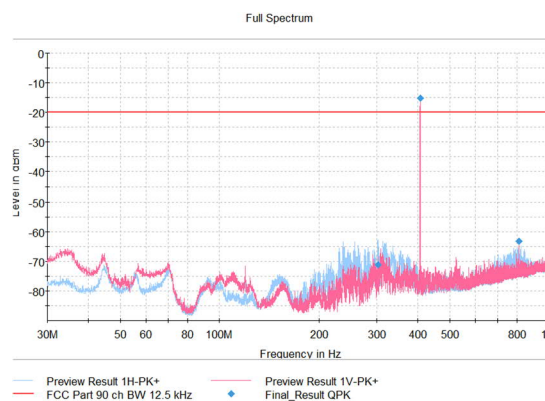


Figure 324: 16FSK, Ch Width 12.5kHz, 406.6 MHz, Y

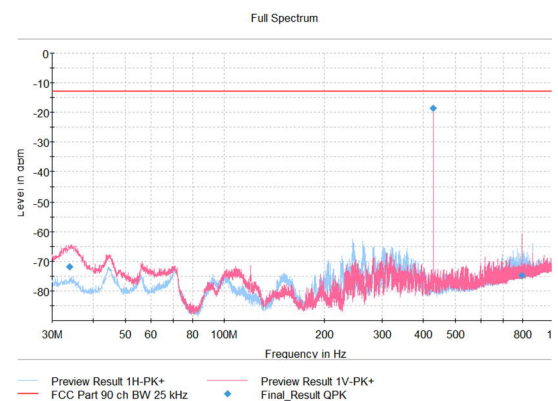


Figure 325: 16FSK, Ch Width 25kHz, 429.5 MHz, Z

Spurious emissions (radiated) 9 kHz – 5 GHz

TX 4FSK, 8FSK and 16FSK, 1 - 5 GHz

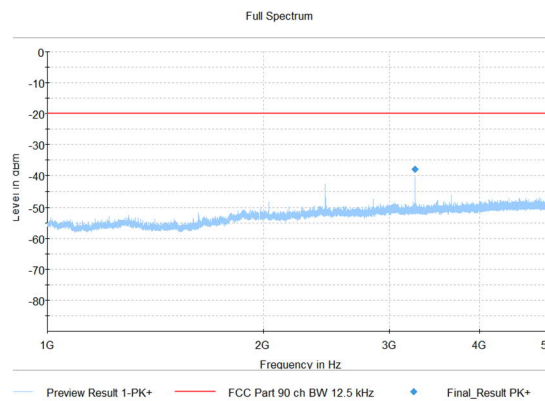


Figure 326: 4FSK, Ch Width 12.5kHz.406.6 MHz, X

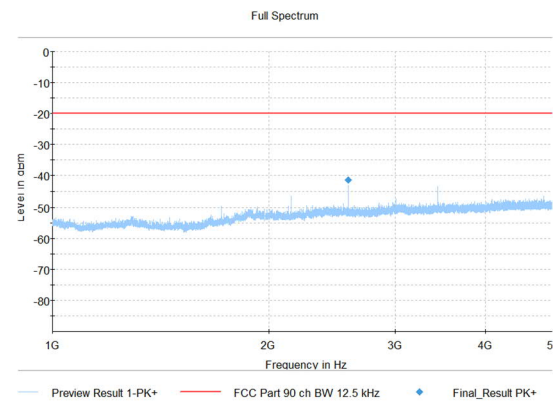


Figure 327: 4FSK, Ch Width 12.5kHz, 429.5 MHz, X

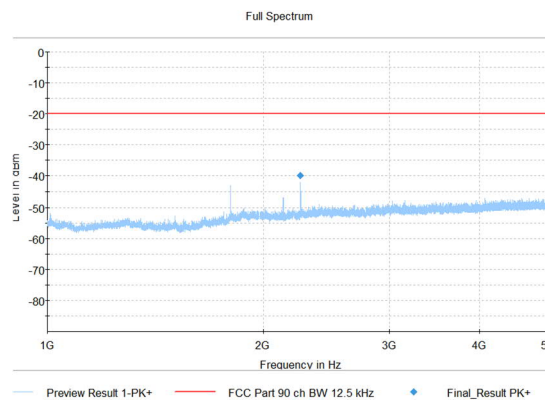


Figure 328: 4FSK, Ch Width 12.5kHz, 450.5 MHz, X

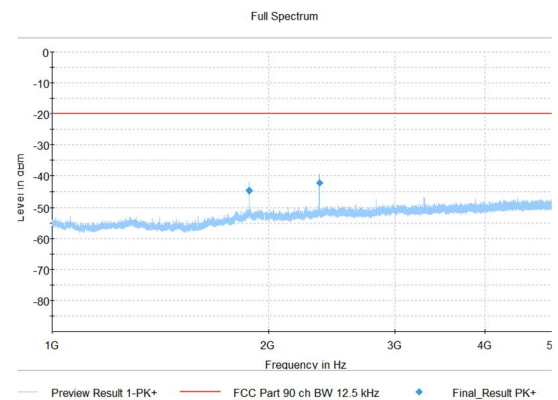


Figure 329: 8FSK. Ch Width 12.5kHz. 469.5 MHz. X

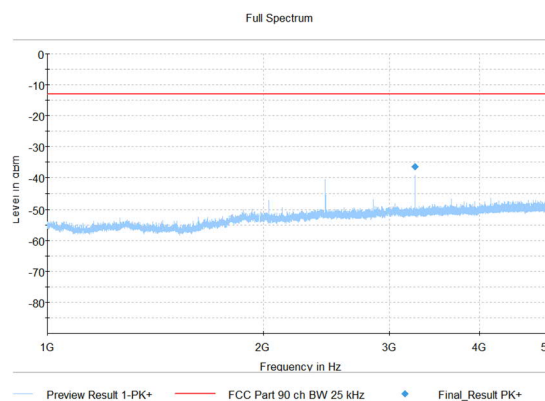


Figure 330: 4FSK. Ch Width 25kHz. 406.6 MHz. X

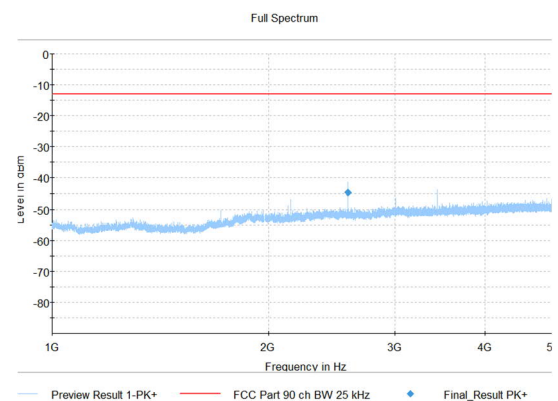


Figure 331: 4FSK, Ch Width 25kHz, 429.5 MHz, X

Spurious emissions (radiated) 9 kHz – 5 GHz

TX 4FSK, 8FSK and 16FSK, 1 - 5 GHz

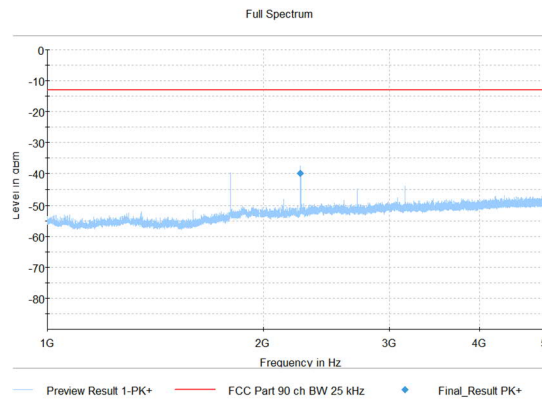


Figure 332: 4FSK, Ch Width 25kHz, 450.5 MHz ,X

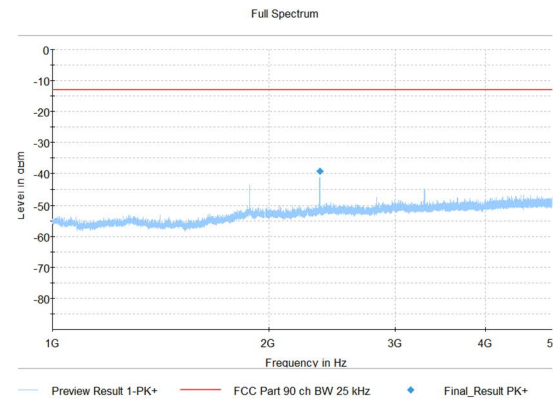


Figure 333: 4FSK, Ch Width 25kHz, 469.5 MHz, X

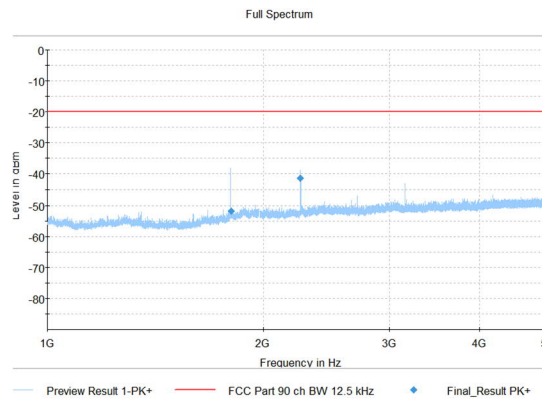


Figure 334: 8FSK, Ch Width 12.5kHz, 450.5 MHz, X

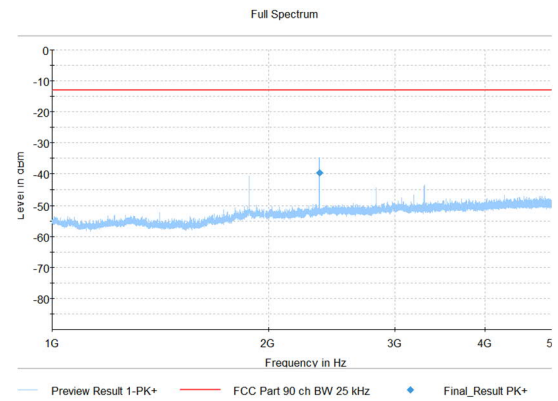


Figure 335: 8FSK, Ch Width 25kHz, 469.5 MHz, Y

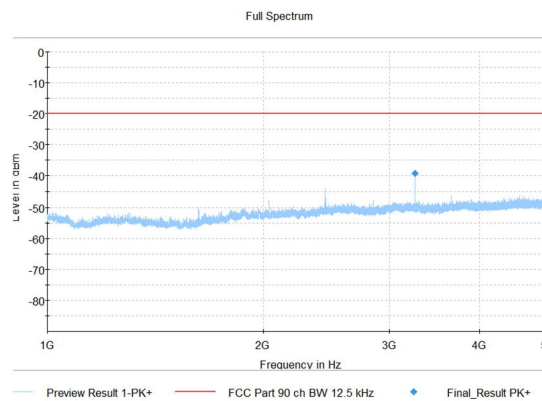


Figure 336: 16FSK, Ch Width 25kHz, 406.6 MHz, Z

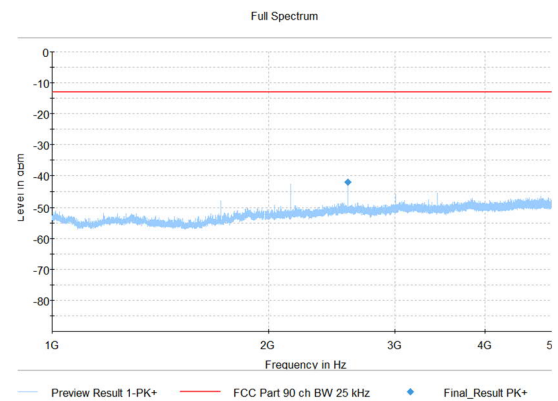


Figure 337: 16FSK, Ch Width 25kHz, 429.5 MHz, X

Spurious emissions (radiated) 9 kHz – 5 GHz

TX, GMSK, 9 kHz - 30 MHz

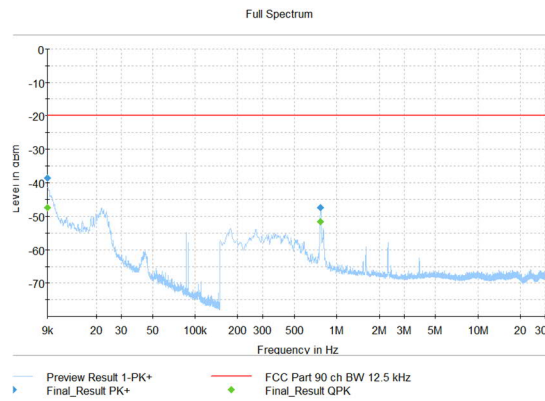


Figure 338: GMSK 4800bps, Ch Width 12.5kHz, 450.5 MHz, X

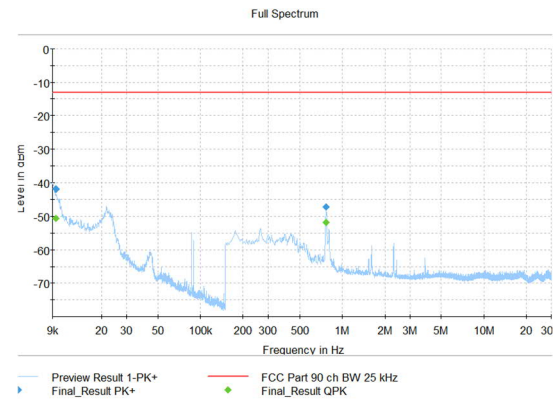


Figure 339: GMSK 4800bps, Ch Width 25kHz, 469.5 MHz, Y

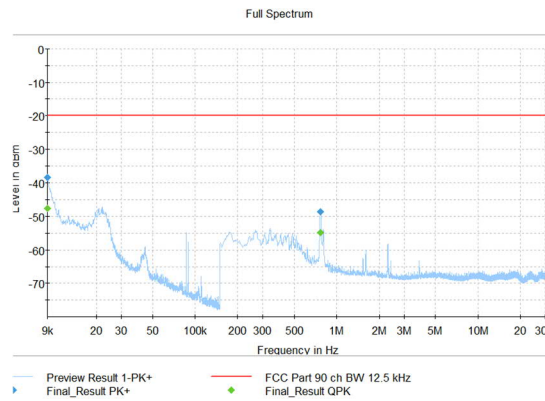


Figure 340: GSMK 8000bps, Ch Width 12.5kHz, 406.6 MHz, Z

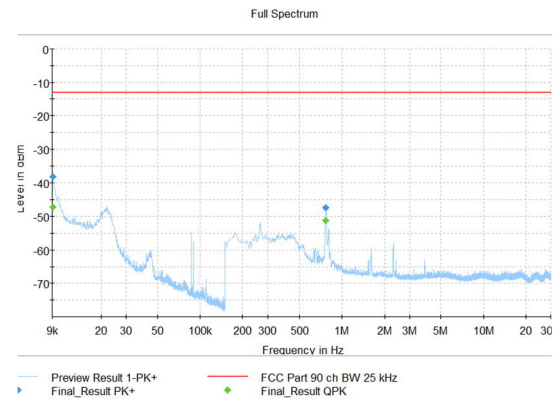


Figure 341: GSMK 9600bps, Ch Width 25kHz, 429.5 MHz, X

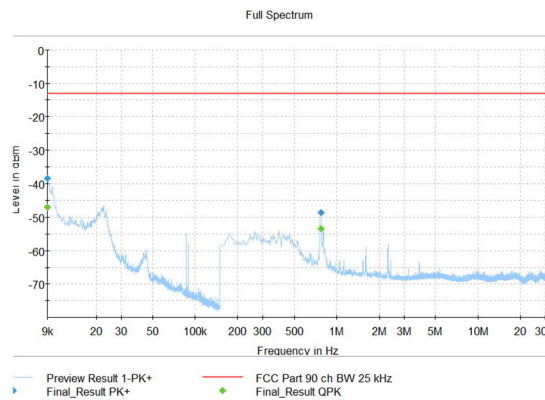


Figure 342: GSMK 16000bps, Ch Width 25kHz, 450.5 MHz, Y

Spurious emissions (radiated) 9 kHz – 5 GHz

TX, GMSK, 30 MHz - 1000 MHz

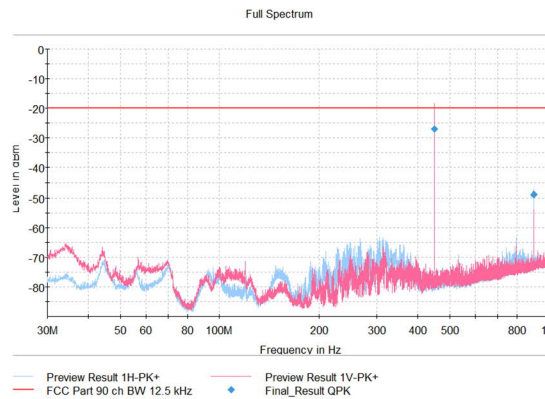


Figure 343: GMSK 4800bps, Ch Width 12.5kHz, 450.5 MHz, X

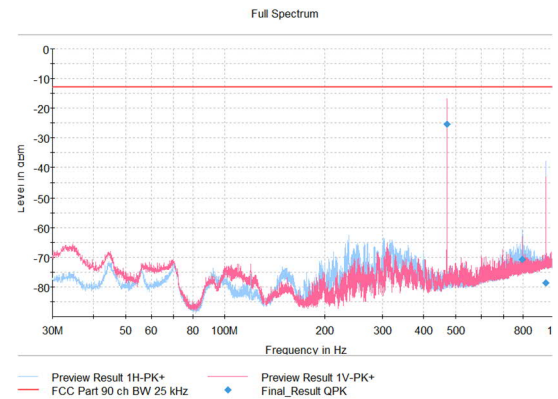


Figure 344: GMSK 4800bps, Ch Width 25kHz, 469.5 MHz, Y

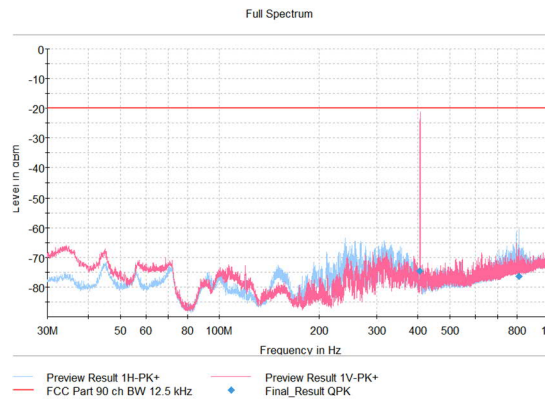


Figure 345: GSMK 8000bps, Ch Width 12.5kHz, 406.6 MHz, Z

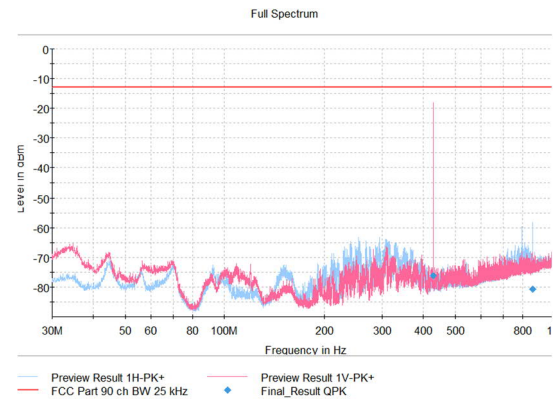


Figure 346: GSMK 9600bps, Ch Width 25kHz, 429.5 MHz, X

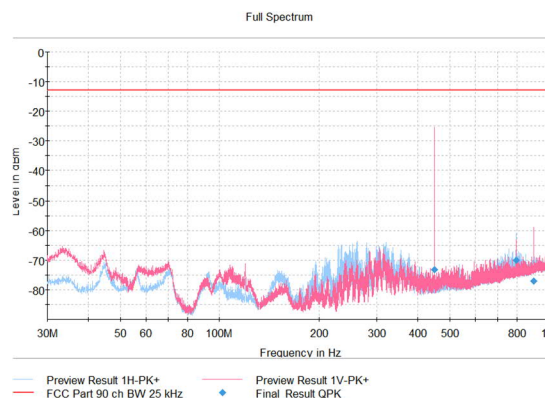


Figure 347: GSMK 16000bps, Ch Width 25kHz, 450.5 MHz, Y

Spurious emissions (radiated) 9 kHz – 5 GHz

TX, GMSK, 1 GHz - 5 GHz

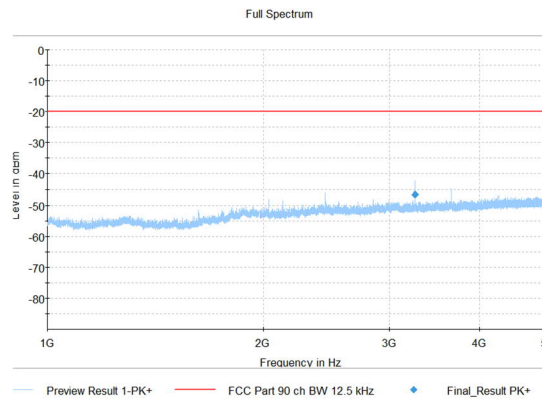


Figure 348: GMSK 4800bps, Ch Width 12.5kHz, 406.6 MHz, X

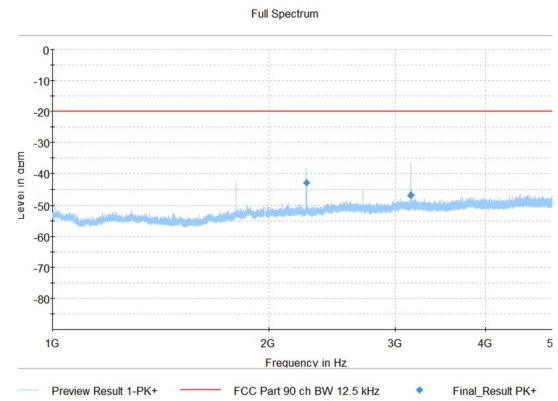


Figure 349: GMSK 4800bps, Ch Width 12.5kHz, 450.5 MHz, Y

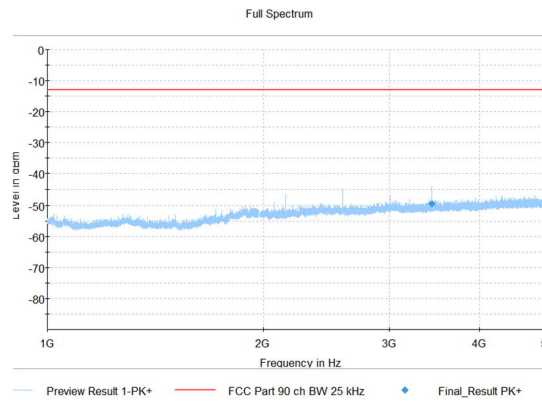


Figure 350: GMSK 4800bps, Ch Width 25kHz, 429.5 MHz, Z

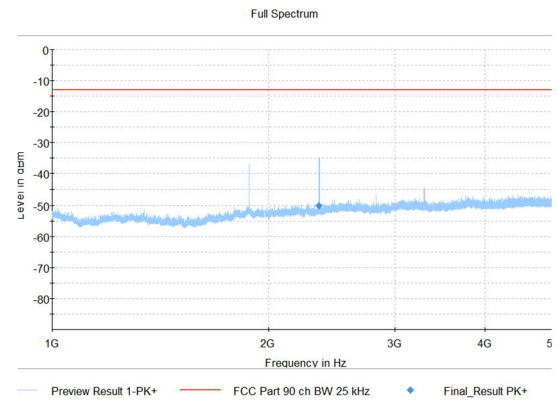


Figure 351: GMSK 4800bps, Ch Width 25kHz, 469.5 MHz, Z

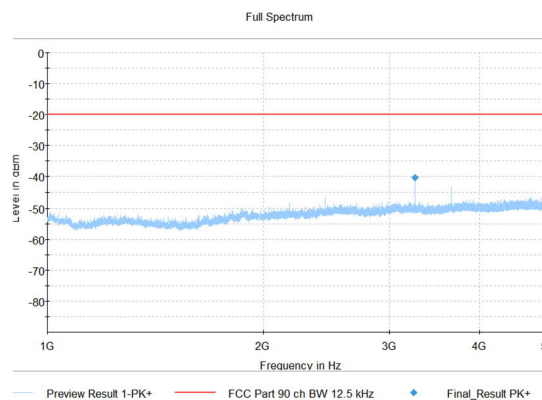


Figure 352: GMSK 8000bps, Ch Width 12.5kHz, 406.6 MHz, X

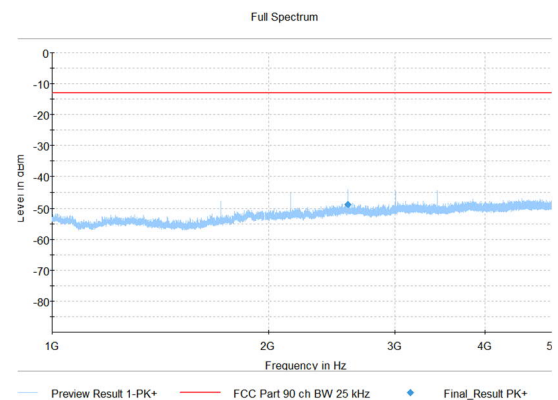


Figure 353: GMSK 9600bps, Ch Width 25kHz, 429.5 MHz, Y

TX, GMSK, 1 GHz - 5 GHz

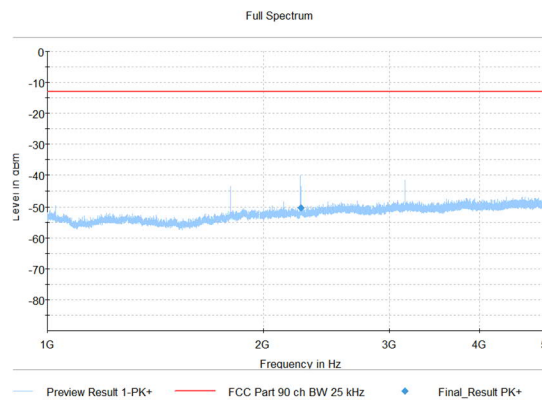


Figure 354: GMSK 16000bps, Ch Width 25kHz, 450.5 MHz, Z

Frequency stability

Standard: ANSI C63.26-2015
Tested by: PKA
Date: 25 – 26 July 2022
Temperature: 23 ± 3 °C
Humidity: 20 - 75 % RH
Barometric pressure: 860 - 1060 hPa
Measurement uncertainty: ± 0.470 dB (level of confidence 95.45 % (k = 2))
Test result: **PASS**

FCC Rule: §90.213**RSS-119 5.3**

Frequency stability is a measure of drift due to temperature and supply voltage variations. with reference to the frequency measured at an appropriate reference temperature and the rated supply voltage. The carrier frequency shall not depart from the nominal frequency in excess of the values specified for the equipment's frequency band:

Frequency Band (MHz)	Channel Bandwidth (kHz)	Frequency Stability (ppm)
406.1-430 and 450-470	12.5	± 2.5
	25.0	± 5

The test was performed with unmodulated carrier at maximum power level.

Test results. channel width 12.5 kHz
Table 9: Frequency stability (normal temperature)

Test Conditions		Frequency (MHz)		Deviation from Nominal (ppm)	Result
Temperature (°C)	Voltage (V)	Nominal	Measured		
+20	9.0	406.6	406.600029300	0.072	PASS
		469.5	469.500033200	0.071	PASS
	12.06	406.6	406.600029800	0.073	PASS
		469.5	469.500033800	0.072	PASS
	30.0	406.6	406.600031800	0.078	PASS
		469.5	469.500034800	0.074	PASS

Table 10: Frequency stability (extreme temperature. input voltage 12.0 V)

Temperature (°C)	Frequency (MHz)		Deviation from Nominal (ppm)	Result
	Nominal	Measured		
-35	406.6	406.600087100	0.214	PASS
	469.5	469.500101200	0.216	PASS
-30	406.6	406.600076200	0.187	PASS
	469.5	469.500093800	0.200	PASS
-20	406.6	406.600108500	0.267	PASS
	469.5	469.500126700	0.270	PASS
-10	406.6	406.600131000	0.322	PASS
	469.5	469.500050300	0.107	PASS
0	406.6	406.600014400	0.035	PASS
	469.5	469.500017600	0.037	PASS
+10	406.6	406.600031000	0.076	PASS
	469.5	469.500039600	0.084	PASS
+20	406.6	406.600029800	0.073	PASS
	469.5	469.500033800	0.072	PASS
+30	406.6	406.599994500	-0.014	PASS
	469.5	469.499994800	-0.011	PASS
+40	406.6	406.599996100	-0.010	PASS
	469.5	469.500002200	0.005	PASS
+50	406.6	406.600027100	0.067	PASS
	469.5	469.500036500	0.078	PASS
+60	406.6	406.600185300	0.456	PASS
	469.5	469.500172900	0.368	PASS

Test results. channel width 25 kHz

Table 11: Frequency stability (normal temperature)

Test Conditions		Frequency (MHz)		Deviation from Nominal (ppm)	Result
Temperature (°C)	Voltage (V)	Nominal	Measured		
+20	9.0	406.6	406.600031900	0.078	PASS
		469.5	469.500035800	0.076	PASS
	12.06	406.6	406.600027700	0.068	PASS
		469.5	469.500033100	0.071	PASS
	30.0	406.6	406.600031800	0.078	PASS
		469.5	469.500036300	0.077	PASS

Table 12: Frequency stability (extreme temperature. input voltage 12.0 V)

Temperature (°C)	Frequency (MHz)		Deviation from Nominal (ppm)	Result
	Nominal	Measured		
-35	406.6	406.600086000	0.212	PASS
	469.5	469.500099700	0.212	PASS
-30	406.6	406.600084800	0.209	PASS
	469.5	469.500104000	0.222	PASS
-20	406.6	406.600108300	0.266	PASS
	469.5	469.500121800	0.259	PASS
-10	406.6	406.600040300	0.099	PASS
	469.5	469.500049700	0.106	PASS
0	406.6	406.600011100	0.027	PASS
	469.5	469.500020700	0.044	PASS
+10	406.6	406.600037900	0.093	PASS
	469.5	469.500041200	0.088	PASS
+20	406.6	406.600027700	0.068	PASS
	469.5	469.500033100	0.071	PASS
+30	406.6	406.599998200	-0.004	PASS
	469.5	469.499995800	-0.009	PASS
+40	406.6	406.600007500	0.018	PASS
	469.5	469.500009800	0.021	PASS
+50	406.6	406.600024100	0.059	PASS
	469.5	469.500028300	0.060	PASS
+60	406.6	406.600191300	0.470	PASS
	469.5	469.500196900	0.419	PASS

Transient frequency behaviour

Standard: ANSI C63.26-2015
Tested by: PKA
Date: 29 July 2022
Temperature: 23 ± 3 °C
Humidity: 20 - 75 % RH
Barometric pressure: 860 - 1060 hPa
Test result: **PASS**

FCC Rule: §90.214
RSS-119 5.9

When a transmitter is turned on or off, the radio frequency may take some time to stabilize. During this initial period, the frequency error or frequency difference (i.e., between the instantaneous and the steady state frequencies) shall not exceed the limits specified for the equipment's frequency band and channel bandwidth:

Channel Bandwidth (kHz)	Time Intervals	Maximum Frequency Difference (kHz)	Transient Duration Limit (ms)
12.5	t_1	±12.5	10
	t_2	±6.25	25
	t_3	±12.5	10
25	t_1	±25	10
	t_2	±12.5	25
	t_3	±25	10

- t_{on} is the instant when a 1 kHz test signal is completely suppressed, including any capture time due to phasing
- t_1 is the time period immediately following t_{on}
- t_2 is the time period immediately following t_1
- t_3 is the time period from the instant when the transmitter is turned off until t_{off}
- t_{off} is the instant when the 1 kHz test signal starts to rise

The test was performed with unmodulated carrier at maximum power level.

Test results

Frequency [MHz]	TX power [mW]	Ch. Width [kHz]	Result
406.6	35000	12.5	PASS
469.5	35000	12.5	PASS
406.6	35000	12.5	PASS
469.5	35000	12.5	PASS
406.6	35000	25.0	PASS
469.5	35000	25.0	PASS
406.6	35000	25.0	PASS
469.5	35000	25.0	PASS

Transmitter OFF to ON (12.5 kHz channel bandwidth)

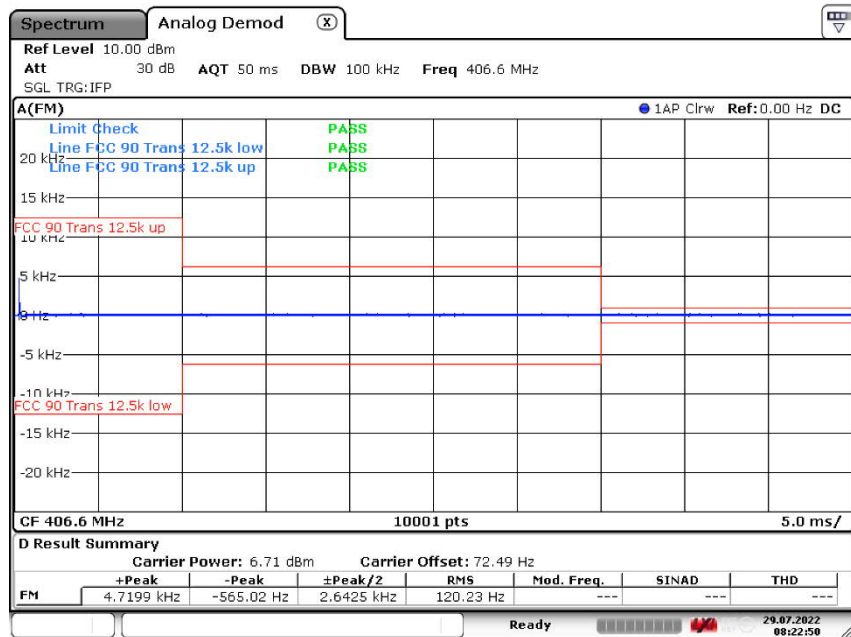


Figure 355: 406.6 MHz

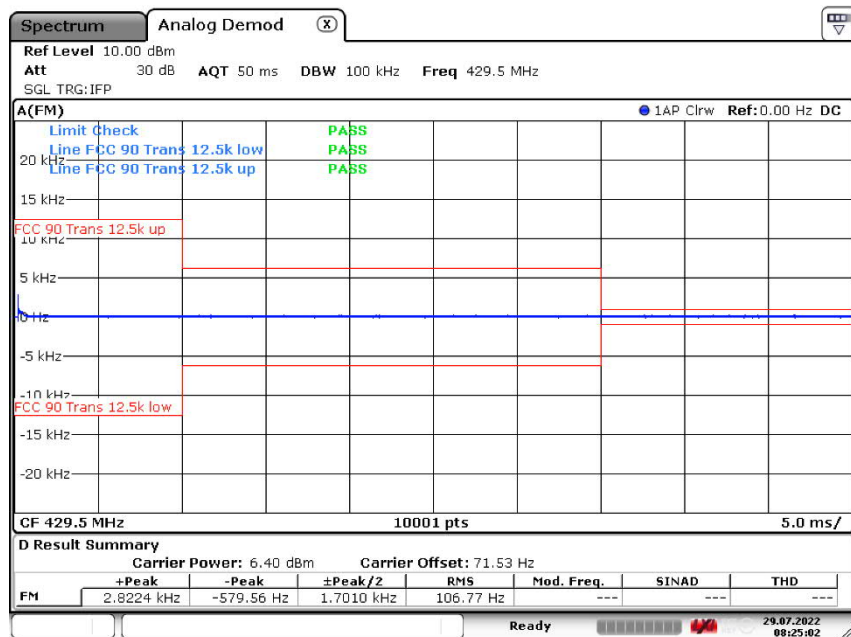


Figure 356: 429.5 MHz

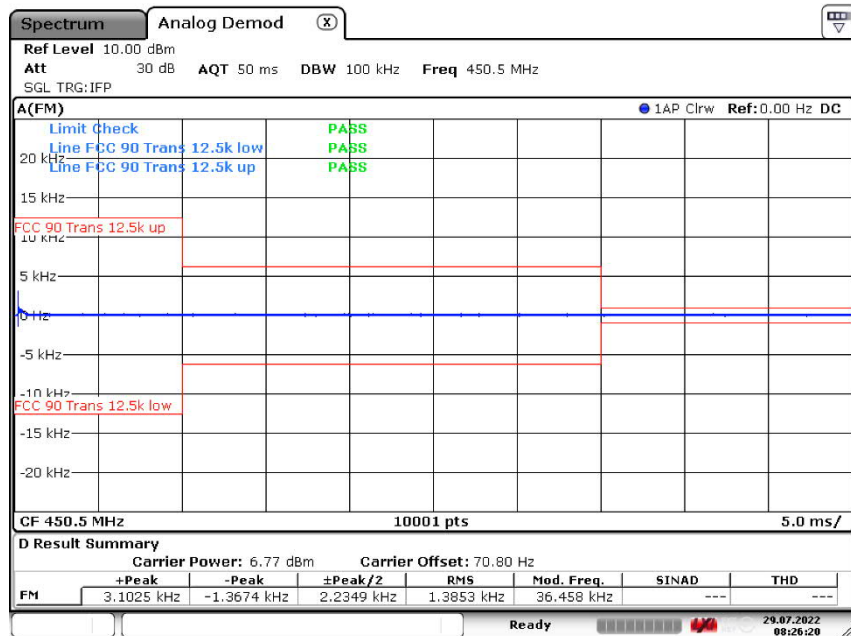


Figure 357: 450.5 MHz

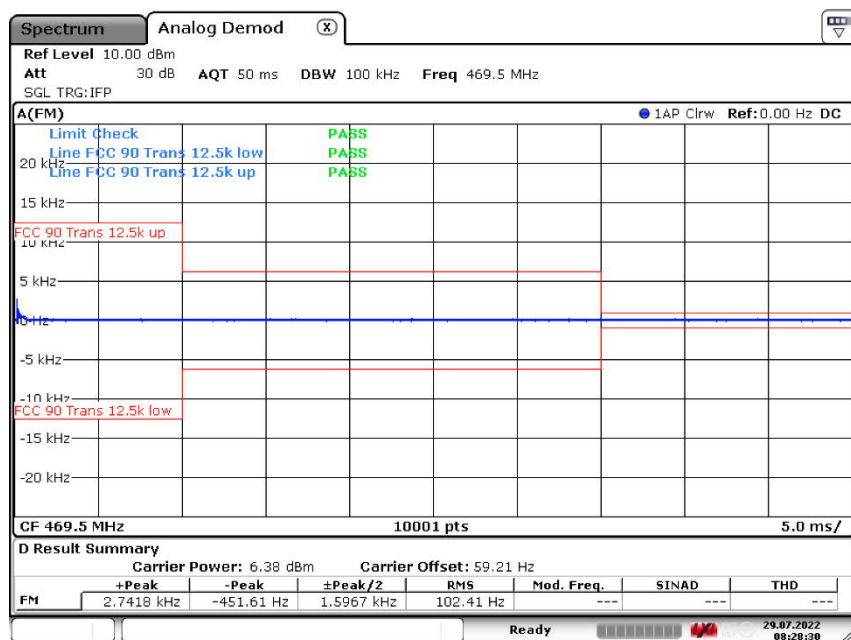


Figure 358: 469.5 MHz

Transmitter OFF to ON (25 kHz channel bandwidth)

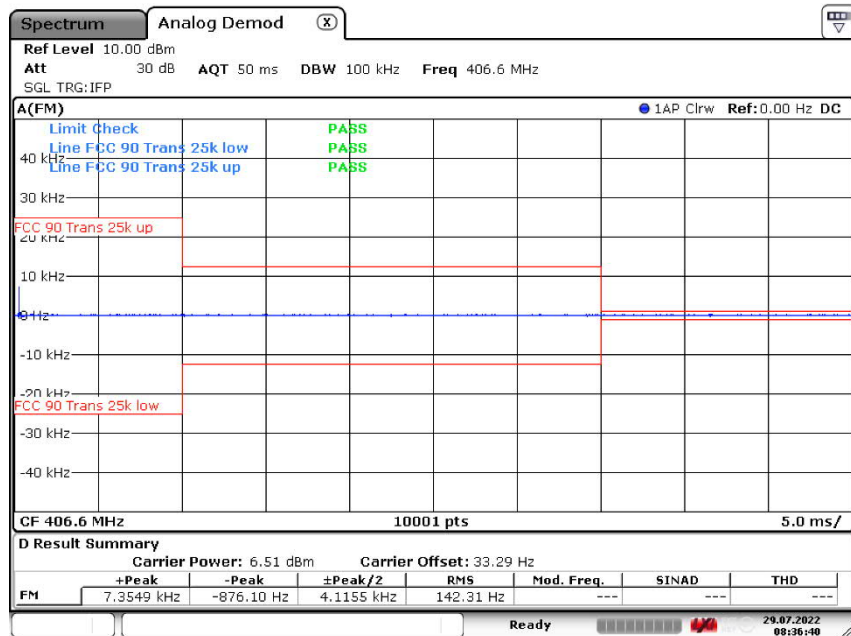


Figure 359: 406.6 MHz

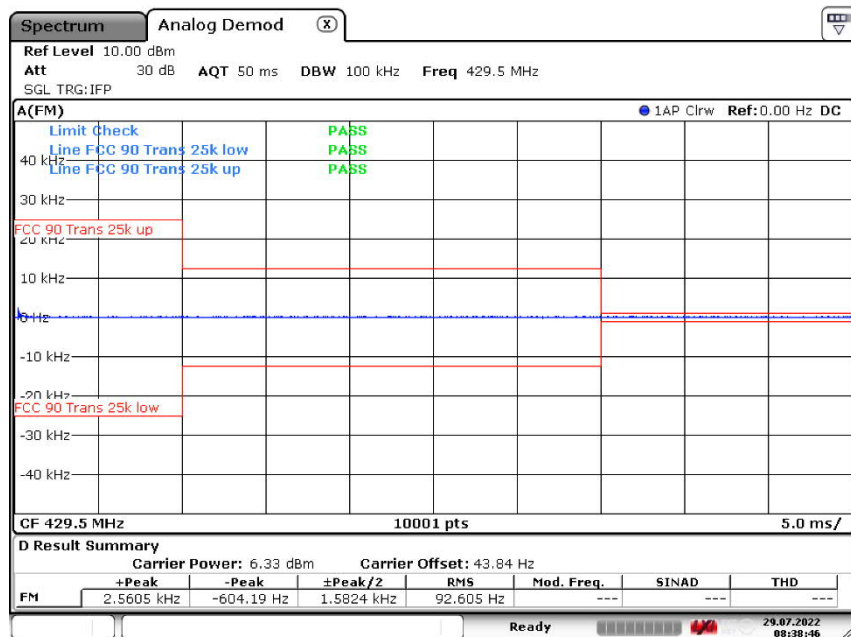


Figure 360: 429.5 MHz

Transient frequency behaviour

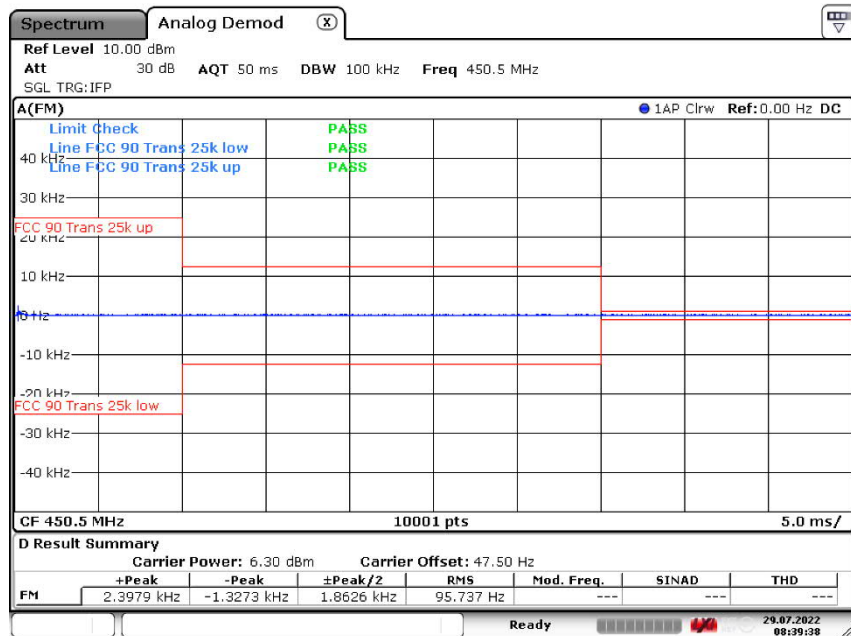


Figure 361: 450.5 MHz

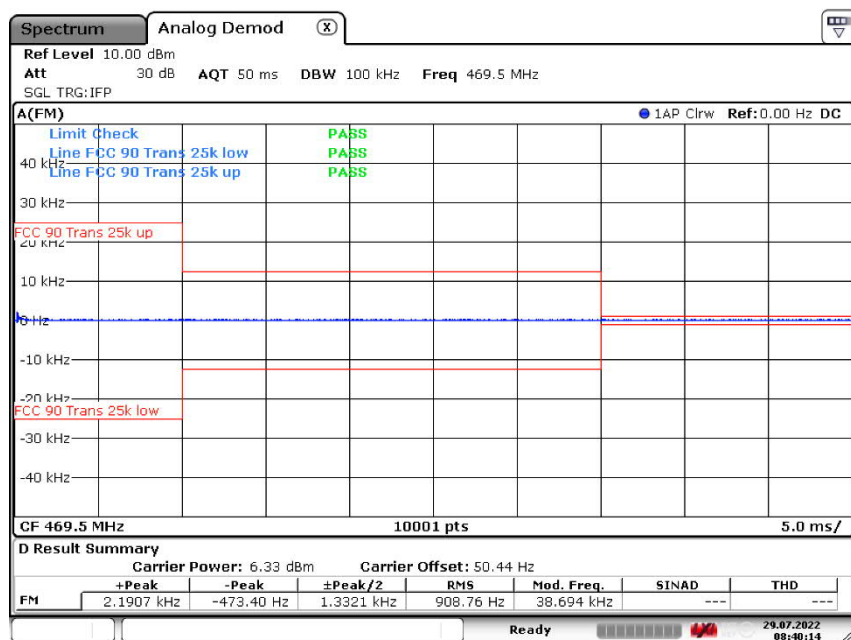


Figure 362: 469.5 MHz

Transmitter ON to OFF (12.5 kHz channel bandwidth)

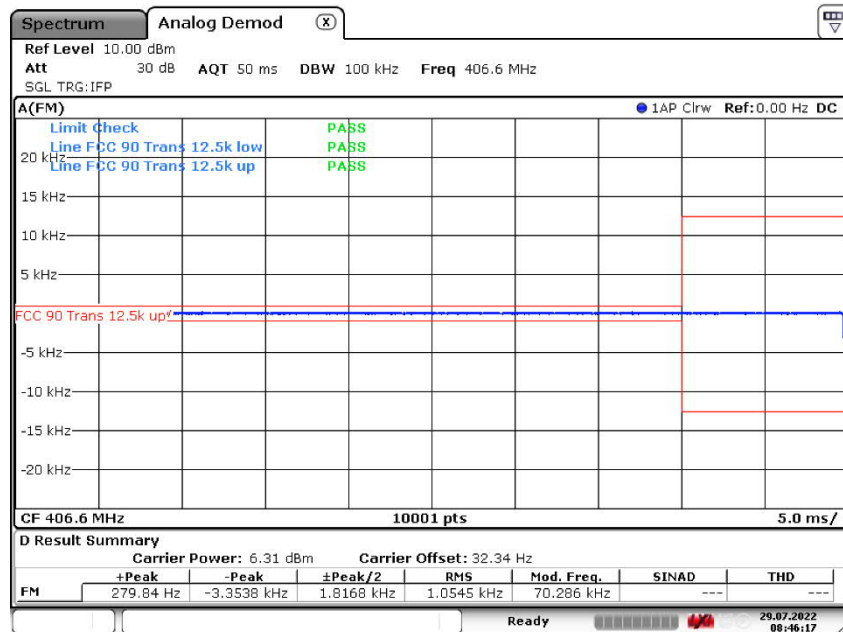


Figure 363: 406.6 MHz

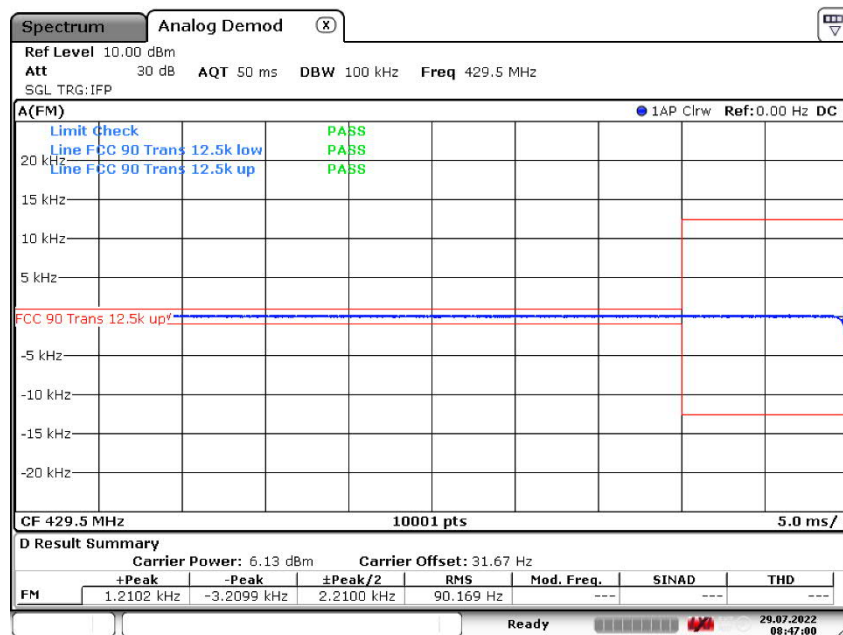


Figure 364: 429.5 MHz

Transient frequency behaviour

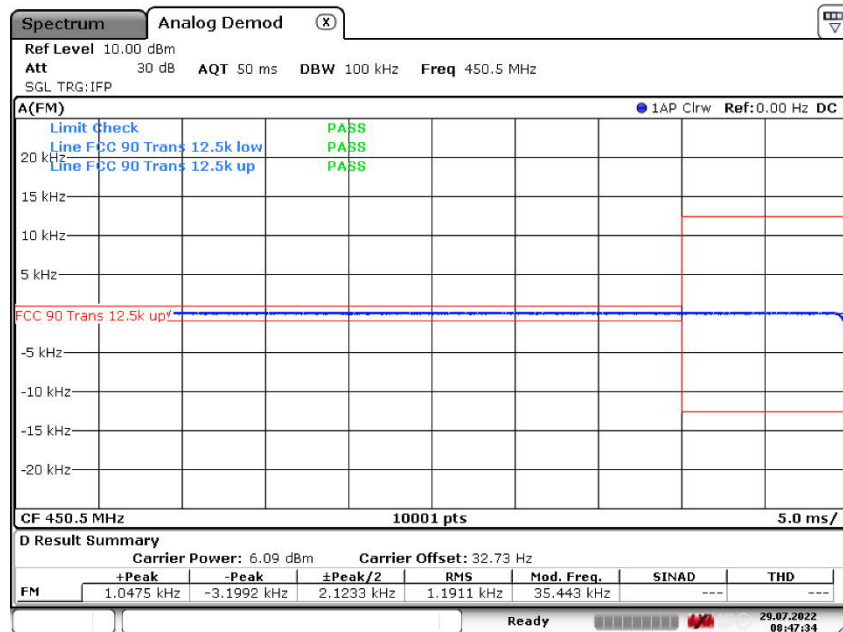


Figure 365: 450.5 MHz

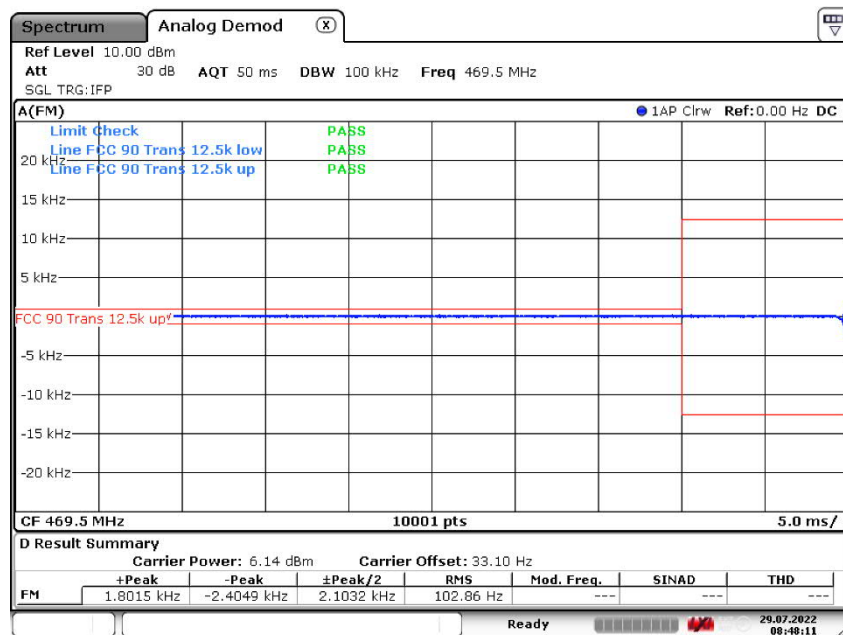


Figure 366: 469.5 MHz

Transmitter ON to OFF (25 kHz channel bandwidth)

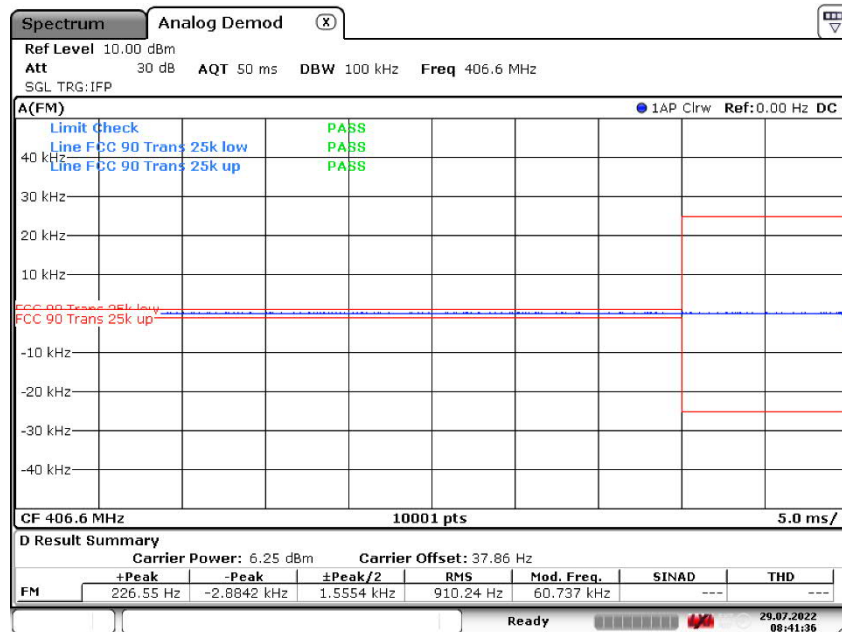


Figure 367: 406.6 MHz

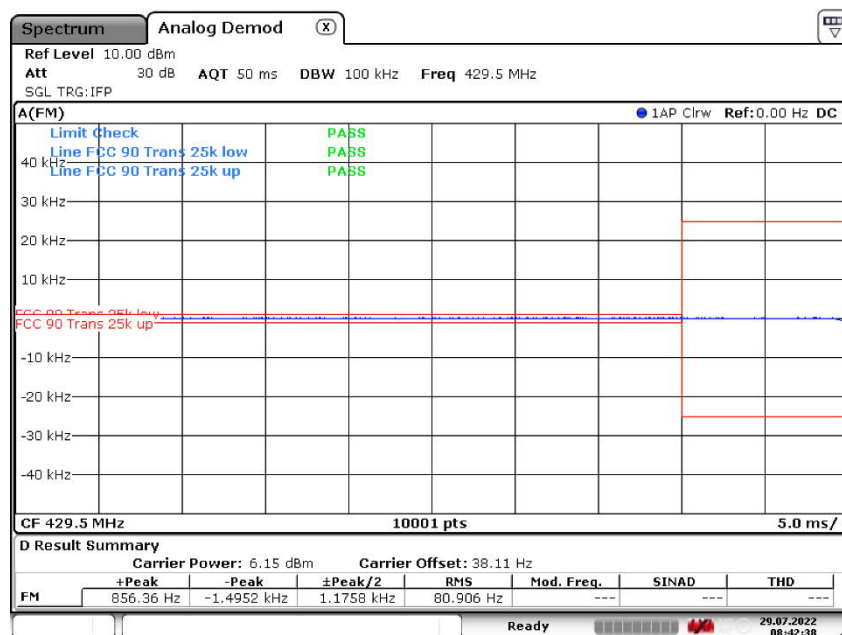


Figure 368: 429.5 MHz

Transient frequency behaviour

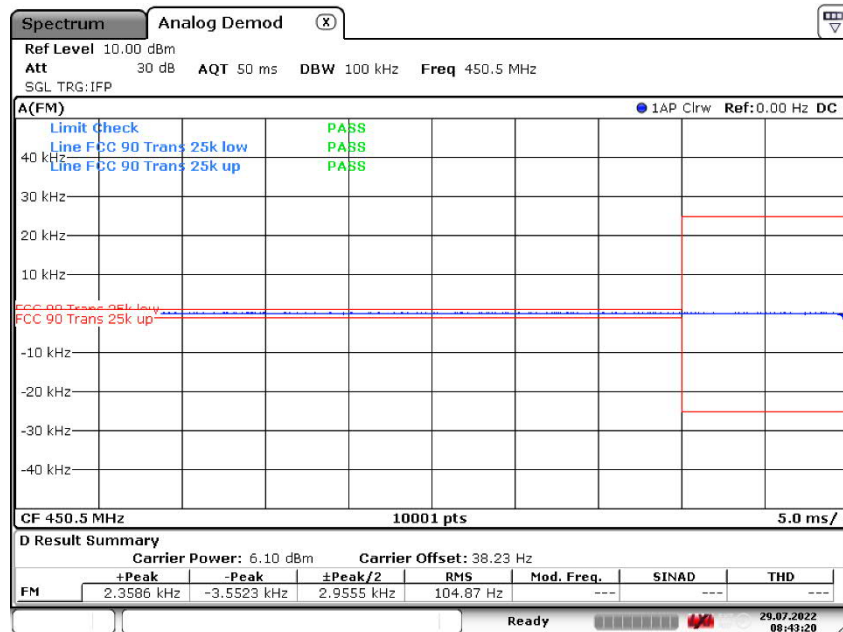


Figure 369: 450.5 MHz

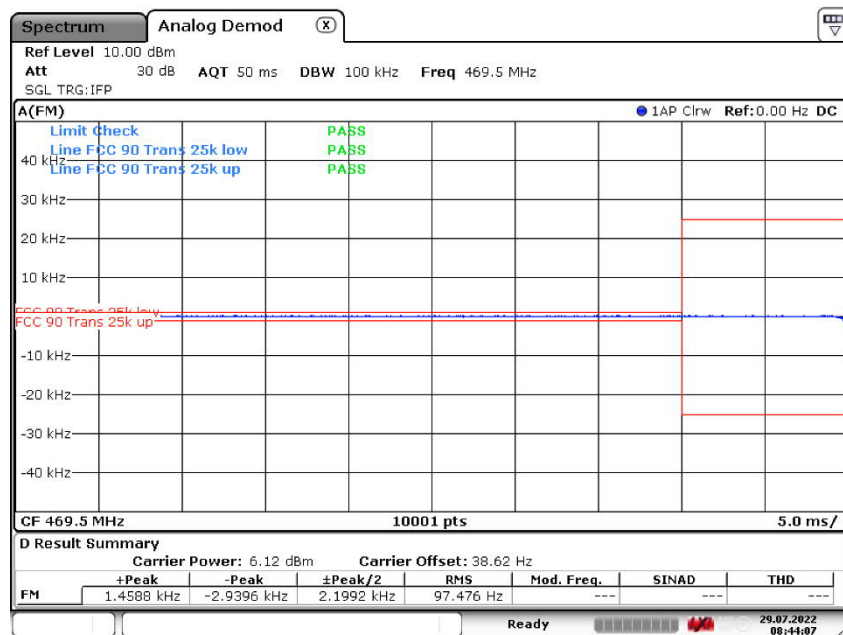


Figure 370: 469.5 MHz

TEST EQUIPMENT

Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
ANTENNA	EMCO	3117. emi 1-18GHz	inv:7293	2022-03-31	2024-03-31
ANTENNA	ROHDE & SCHWARZ	HFH2-Z2 . 335.4711.52	inv. 8013	2020-10-28	2022-10-28
ANTENNA	SCHWARZBECK	VULB 9168	inv. 8911	2020-11-04	2022-11-04
ATTENUATOR	Weinschel	48-20—34-LIM	inv. 9604	2021-05-17	2023-05-17
ATTENUATOR	NARDA	757 C – 20 dB	inv. 9491	2021-01-25	2023-01-25
ATTENUATOR	PASTERNAK	PE 7004-4 (4Db)	inv. 10126	2021-03-30	2023-03-30
FILTER	WAINWRIGHT	HP. WHK0.6/13G-10SS	inv:9562	2021-01-29	2023-01-29
EMI TEST RECEIVER	ROHDE & SCHWARZ	ESW26	inv:10679	2022-06-20	2023-06-20
RF PREAMPLIFIER	CIAO	CA118-3123	inv:10278	2021-10-05	2022-10-05
SPECTRUM ANALYZER	ROHDE & SCHWARZ	FSV40	inv:9093	2021-12-06	2022-12-06
TEMPERATURE/ HUMIDITY SENSOR	EDS	OW-ENV-TH. K5 SAC	inv:10517	2021-10-22	2022-10-22
TEMPERATURE/ HUMIDITY SENSOR	EDS	OW-ENV-TH. K5 EMC	inv:10516	2021-10-22	2022-10-22
TEMPERATURE CHAMBER	CTS	T-65/50	inv:10521	NCR	NCR
TEST SOFTWARE	ROHDE & SCHWARZ	EMC-32	-	-	-
TURNTABLE	MATURO	DS430 UPGRADED	inv. 10182	NCR	NCR
MAST & TURNTABLE CONTROLLER	MATURO	NCD	inv. 10183	NCR	NCR
ANTENNA MAST	MATURO	TAM 4.0E	inv. 10181	NCR	NCR

NCR = No Calibration Required

END OF TEST REPORT