Product Name:Smart Phone	**Report No: ITEZA2-202400192RF5**
Product Model: S118, V31, V31 GT, S110, S110 GT, V31 Plus, V31 Ultra, S118 Pro, S118 S, S118 E, S118 SE, S118 Plus, S118 Max, S118 Ultra	**Security Classification: Open**
Version: V1.0	**Total Page:164**

TIRT Testing Report

Prepared By:	**Checked By:**	**Approved By:**	
Aaron Long	Stone Tang	Joky Wang	
Aaron Long	Stone Tang	Joky Wang	

FCCRadio Test Report

FCC ID: 2AX4YS118

This report concerns:Original Grant

Applicant:	Shenzhen DOOGEE Hengtong Technology CO.,LTD
Address:	B, 2/F, Building A4, Silicon Valley Power Digital Industrial Park, No. 22, Longhua New District, Shenzhen, China
Manufacturer:	Shenzhen DOOGEE Hengtong Technology CO.,LTD
Address:	B, 2/F, Building A4, Silicon Valley Power Digital Industrial Park, No. 22, Longhua New District, Shenzhen, China
Sample No:	1000036597
Product Name:	Smart Phone
Brand Name:	DOOGEE
Model No.:	S118, V31, V31 GT, S110, S110 GT, V31 Plus, V31 Ultra, S118 Pro, S118 S, S118 E, S118 SE, S118 Plus, S118 Max, S118 Ultra
Test No.:	S118

Date of Receipt:	2024/06/13
Date of Test:	2024/06/13~2024/06/25
Issued Date:	2024/06/30
Testing Lab:	TIRT

Note: This report shall not be reproduced except in full, without the written approval of Beijing TIRT Technology Service Co.,Ltd Shenzhen.Laboratory.
This document may be altered or revised by Beijing TIRT Technology Service Co.,Ltd Shenzhen. Laboratory.Personnel only, and shall be noted in the revision section of the document. The test results of this report relate only to the tested sample identified in this report.

Table of Contents Page

REPORT ISSUED HISTORY

Report No.	Version	Description	Issued Date	Note
ITEZA2-202400192RF5	V1.0	Original Report.	2024.06.30	Valid

1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standard(s):

FCC CFR Title 47, Part 15, Subpart E				
Standard(s) Section	**Test Item**	**Test Result**	**Judgment**	**Remark**
15.207 15.407(b)	AC Power Line Conducted Emissions	APPENDIX A	PASS	------
15.407(b) 15.205(a) 15.209(a)	Radiated Emissions	APPENDIX B APPENDIX C APPENDIX D	PASS	------
15.407(a) 15.407(e)	Bandwidth	APPENDIX E	PASS	------
15.407(a)	Maximum Output Power	APPENDIX F	PASS	------
15.407(a)	Power Spectral Density	APPENDIX G	PASS	------
15.407(g)	Frequency Stability	APPENDIX H	PASS	**NOTE (5)**
15.203	Antenna Requirements	------	PASS	**NOTE (2)**
15.407(c)	Automatically Discontinue Transmission	------	PASS	**NOTE (3)**

Note:

(1) “N/A” denotes test is not applicable in this test report.

(2) The device what use a permanently attached antenna were considered sufficient to comply with the provisions of 15.203.

(3) During no any information transmission, the EUT can automatically discontinue transmission and become standby mode for power saving.the EUT can detect the controlling signal of ACK message transmitting from remote device and verify whether it shall resend or discontinue transmission.

(4) For UNII-1 this device was functioned as a

☐Outdoor access point device

☐Indoor access point device

☐Fixed point-to-point access points device

☒Client device

(5) The manufacturer states that the frequency sability is in compliance with 15.407(g).

(6) Measurement Standard Used:

FCC Rules and Regulations Part 15 Subpart E

ANSI C63.4:2014, ANSI C63.10:2013

1.1 TEST FACILITY

Company:	Beijing TIRT Technology Service Co.,Ltd Shenzhen
Address:	104 Building C, Xinmingsheng Industrial Park No.132, Zhangge Old Village East Zone, Zhangge Community, Fucheng Street, Longhua District, Shenzhen, Guangdong, P. R. China
CNAS Registration Number:	CNAS L14158
A2LA Registration Number:	6049.01
FCC Accredited Lab.Designation Number:	CN1366
FCC Test Firm Registration Number:	820690
Telephone:	+86-0755-27087573

1.2 MEASUREMENT UNCERTAINTY

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2))
The TIRT measurement uncertainty as below table:

Uncertainty	
Parameter	Uncertainty
Occupied Channel Bandwidth	±142.12 KHz
RF power conducted	±0.74 dB
RF power radiated	±3.25dB
Spurious emissions, conducted	±1.78dB
Spurious emissions, radiated (30MHz～1GHz)	±4.6dB
Spurious emissions, radiated (1GHz ~ 18GHz)	±4.9dB
Conduction Emissions(150kHz~30MHz)	±3.1 dB
Humidity	±4.6%
Temperature	±0.7°C
Time	±1.25%

Note: Unless specifically mentioned, the uncertainty of measurement has not been taken into account to declare the compliance or non-compliance to the specification.

1.3 TEST ENVIRONMENT CONDITIONS

Test Item	Temperature	Humidity	Test Voltage	Tested By
AC Power Line Conducted Emissions	25.1°C	52%	DC 11V from adapter	Stone Tang
Radiated Emissions-9kHz to 30MHz	24.5°C	50%	DC 3.85V from battery or DC 11V from adapter	Stone Tang
Radiated Emissions-30MHz to 1000MHz	24.2°C	53%	DC 3.85V from battery or DC 11V from adapter	Stone Tang
Radiated Emissions-Above 1000 MHz	26.0°C	53%	DC 3.85V from battery or DC 11V from adapter	Stone Tang
Bandwidth	25.0°C	56%	DC 3.85V from battery or DC 11V from adapter	Stone Tang
Maximum Output Power	24.9°C	54%	AC 120V/60Hz from Adapter	Stone Tang
Power Spectral Density	25.1°C	62%	DC 3.85V from battery or DC 11V from adapter	Stone Tang

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Equipment	Smart Phone
Brand Name	DOOGEE
Test Model	S118
Series Model	S118, V31, V31 GT, S110, S110 GT, V31 Plus, V31 Ultra, S118 Pro, S118 S, S118 E, S118 SE, S118 Plus, S118 Max, S118 Ultra
Model Difference(s)	There is no difference except the name of the model
Software Version	DOOGEE-S118-EEA-Android14.0-20240427
Hardware Version	M116-MUB-V1
Power Rating	DC 3.85V from battery or DC 11V from adapter
Operation FrequencyBand(s)	UNII-1: 5180 MHz~5240 MHz UNII-2A: 5260 MHz ~ 5320 MHz UNII-2C: 5500 MHz ~ 5700 MHz UNII-3: 5745 MHz~5825MHz
Modulation Type	IEEE 802.11n: OFDM (64QAM,16QAM,QPSK,BPSK) IEEE 802.11a: OFDM (64QAM,16QAM,QPSK,BPSK) IEEE802.11ac: OFDM (64QAM,16QAM, 256QAM,QPSK,BPSK)
Maximum Output Power _UNII-1	IEEE 802.11ac(VHT80): 13.00dBm(0.019953W)
Maximum Output Power _UNII-2A	IEEE 802.11ac(VHT80): 11.59dBm(0.014421W)
Maximum Output Power _UNII-2C	IEEE 802.11n20: 9.59dBm(0.009099W)
Maximum Output Power _UNII-3	IEEE 802.11ac(VHT40): 11.13dBm(0.012972W)

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.

2. Channel List:

IEEE 802.11a IEEE 802.11n(HT20) IEEE 802.11ac(VHT20)		IEEE 802.11n(HT40) IEEE 802.11ac(VHT40)		IEEE 802.11ac(VHT80)	
UNII-1		UNII-1		UNII-1	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
36	5180	38	5190	42	5210
40	5200	46	5230		
44	5220				
48	5240				

IEEE 802.11a IEEE 802.11n(HT20) IEEE 802.11ac(VHT20)		IEEE 802.11n(HT40) IEEE 802.11ac(VHT40)		IEEE 802.11ac(VHT80)	
UNII-2A		UNII-2A		UNII-2A	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
52	5260	54	5270	58	5290
56	5280	62	5310		
60	5300				
64	5320				

IEEE 802.11a IEEE 802.11n(HT20) IEEE 802.11ac(VHT20)		IEEE 802.11n(HT40) IEEE 802.11ac(VHT40)		IEEE 802.11ac(VHT80)	
UNII-2C		UNII-2C		UNII-2C	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
100	5500	102	5510	106	5530
116	5580	110	5550	122	5610
136	5680				
140	5700				

IEEE 802.11a IEEE 802.11n(HT20) IEEE 802.11ac(VHT20)		IEEE 802.11n(HT40) IEEE 802.11ac(VHT40)		IEEE 802.11ac(VHT80)	
UNII-3		UNII-3		UNII-3	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
149	5745	151	5755	155	5775
153	5765	159	5795		
157	5785				
161	5805				
165	5825				

3. Antenna Specification:

Ant.	Manufactured	Model Name	Antenna Type	Connector	Gain (dBi)
1	SHENZHEN HENGXIANGTONG ANTENNA TECNOLOGY CO., LTD.	M22G	PIFA	N/A	1.4

Note:
1) The antenna gain is provided by the manufacturer.
2) The antenna is for testing and fixation purposes

2.2 TEST MODES

The test system was pre-tested based on the consideration of all possible combinations of EUT operation mode.

Pretest Mode	Description
Mode 1	TX A ModeChannel 36/40/48 (UNII-1)
Mode 2	TX N(HT20) ModeChannel 36/40/48 (UNII-1)
Mode 3	TX N(HT40) Mode Channel 38/46 (UNII-1)
Mode 4	TX AC(VHT20) ModeChannel 36/40/48 (UNII-1)
Mode 5	TX AC(VHT40) ModeChannel 38/46 (UNII-1)
Mode 6	TX AC(VHT80) Mode Channel 42 (UNII-1)
Mode 7	TX A Mode Channel 149/157/165 (UNII-3)
Mode 8	TX N(HT20) Mode Channel 149/157/165 (UNII-3)
Mode 9	TX N(HT40) Mode Channel 151/159 (UNII-3)
Mode 10	TX AC(VHT20) Mode Channel 149/157/165 (UNII-3)
Mode 11	TX AC(VHT40) Mode Channel 151/159 (UNII-3)
Mode 12	TX AC(VHT80) Mode Channel 155 (UNII-3)
Mode 13	TX A Mode Channel 52/60/64 (UNII-2A)
Mode 14	TX N(HT20) Mode Channel 52/60/64 (UNII-2A)
Mode 15	TX N(HT40) Mode Channel 54/62 (UNII-2A)
Mode 16	TX AC(VHT20) Mode Channel 52/60/64 (UNII-2A)
Mode 17	TX AC(VHT40) Mode Channel 54/62 (UNII-2A)
Mode 18	TX AC(VHT80) Mode Channel 58 (UNII-2A)
Mode 19	TX A Mode Channel 100/116/140 (UNII-2C)
Mode 20	TX N(HT20) Mode Channel 100/116/140 (UNII-2C)
Mode 21	TX N(HT40) Mode Channel 102/110/134 (UNII-2C)
Mode 22	TX AC(VHT20) Mode Channel 100/116/140 (UNII-2C)
Mode 23	TX AC(VHT40) Mode Channel 102/110/134 (UNII-2C)
Mode 24	TX AC(VHT80) Mode Channel 106/122 (UNII-2C)

AC power line conducted emissions test	
Final Test Mode	Description
Mode 24	TX AC(VHT80) Mode Channel 155 (UNII-3)

Radiated Emissions Test - Below 1GHz	
Final Test Mode	Description
Mode 24	TX AC(VHT80) Mode Channel 155 (UNII-3)

Radiated Emissions Test - Above 1GHz	
Final Test Mode	Description
Mode 1	TX A ModeChannel 36/40/48 (UNII-1)
Mode 2	TX N(HT20) Mode Channel 36/40/48 (UNII-1)
Mode 3	TX N(HT40) Mode Channel 38/46 (UNII-1)
Mode 6	TX AC(VHT80) Mode Channel 42 (UNII-1)
Mode 7	TX A Mode Channel 149/157/165 (UNII-3)
Mode 8	TX N(HT20) Mode Channel 149/157/165 (UNII-3)
Mode 9	TX N(HT40) Mode Channel 151/159 (UNII-3)
Mode 10	TX AC(VHT80) Mode Channel 155 (UNII-3)

Conducted Test	
Final Test Mode	Description
Mode 1	TX A ModeChannel 36/40/48 (UNII-1)
Mode 2	TX N(HT20) Mode Channel 36/40/48 (UNII-1)
Mode 3	TX N(HT40) Mode Channel 38/46 (UNII-1)
Mode 4	TX AC(VHT20) Mode Channel 36/40/48 (UNII-1)
Mode 5	TX AC(VHT40) Mode Channel 38/46 (UNII-1)
Mode 6	TX AC(VHT80) Mode Channel 42 (UNII-1)
Mode 7	TX A Mode Channel 149/157/165 (UNII-3)
Mode 8	TX N(HT20) Mode Channel 149/157/165 (UNII-3)
Mode 9	TX N(HT40) Mode Channel 151/159 (UNII-3)
Mode 10	TX AC(VHT20) Mode Channel 149/157/165 (UNII-3)
Mode 11	TX AC(VHT40) Mode Channel 151/159 (UNII-3)
Mode 12	TX AC(VHT80) Mode Channel 155 (UNII-3)

Note:

(1) For AC power line conducted emissions andradiated emission below 1 GHz test, the TX N(HT40) Mode Channel 36 (UNII-1)is found to be the worst case and recorded.

(2) For radiated emission above 1 GHz test, the spurious points of 1GHz~26.5GHz and 26.5GHz~40GHz have been pre-tested and in this report only recorded the worst case. The remaining spurious points are all below the limit value of 20dB.

(3) All the bit rate of transmitter have been tested and found the lowest rate is found tobe the worst case and recorded.

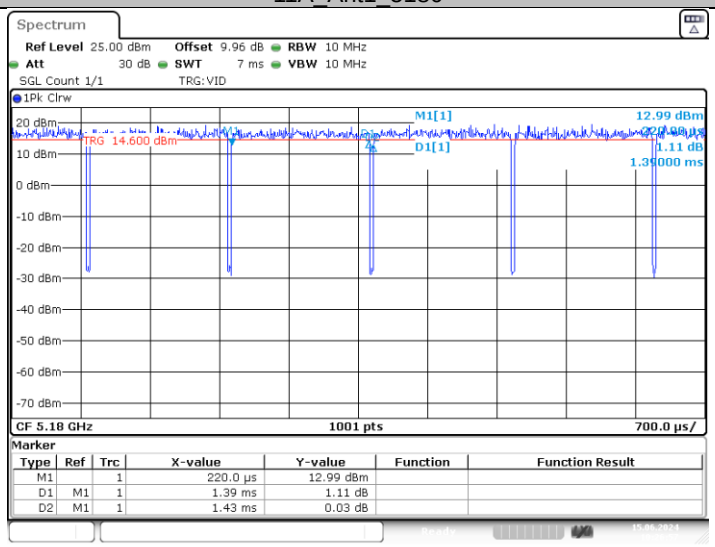
(4) The measurements for Output Power are tested, the worst case are IEEE 802.11a mode, IEEE 802.11n(HT20) mode, IEEE 802.11n(HT40) mode, IEEE 802.11ac(VHT80) mode,only the worst cases are documented for other test items.

2.3DUTY CYCLE

If duty cycle is ≥ 98 %, duty factor is not required.
If duty cycle is < 98 %, duty factor shall be considered.
The output power = measured power + duty factor.
The power spectral density = measured power spectral density + duty factor.

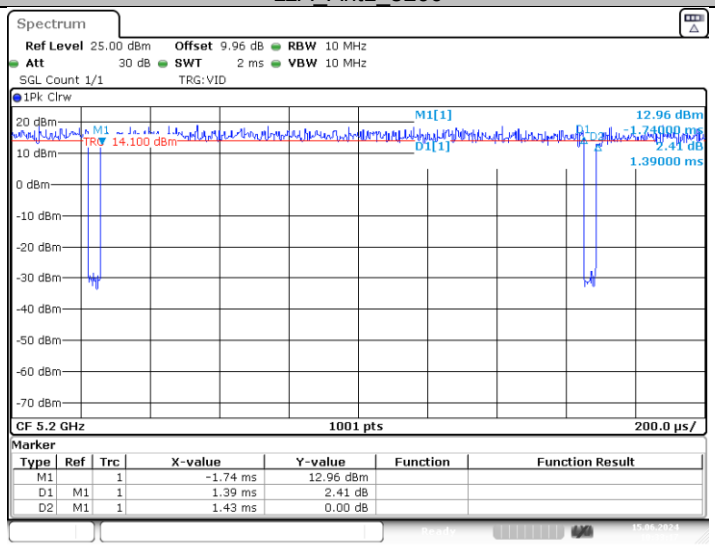
TestMode	Antenna	Freq(MHz)	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]
11A	Ant1	5180	1.39	1.43	97.20
		5200	1.39	1.43	97.20
		5240	1.40	1.43	97.90
		5260	1.39	1.42	97.89
		5300	1.40	1.43	97.90
		5320	1.39	1.43	97.20
		5500	1.39	1.43	97.20
		5600	1.38	1.43	96.50
		5700	1.40	1.43	97.90
		5745	1.39	1.43	97.20
		5785	1.39	1.43	97.20
		5825	1.39	1.43	97.20
11N20SISO	Ant1	5180	1.30	1.33	97.74
		5200	1.29	1.33	96.99
		5240	1.30	1.34	97.01
		5260	1.30	1.34	97.01
		5300	1.30	1.34	97.01
		5320	1.30	1.33	97.74
		5500	1.31	1.34	97.76
		5600	1.30	1.34	97.01
		5700	1.30	1.33	97.74
		5745	1.30	1.33	97.74
		5785	1.29	1.33	96.99
		5825	1.29	1.34	96.27
11N40SISO	Ant1	5190	0.65	0.68	95.59
		5230	0.65	0.69	94.20
		5270	0.65	0.68	95.59
		5310	0.65	0.68	95.59
		5510	0.64	0.68	94.12
		5590	0.65	0.68	95.59
		5670	0.65	0.69	94.20
		5755	0.65	0.68	95.59
		5795	0.65	0.68	95.59
11AC20SISO	Ant1	5180	1.31	1.35	97.04
		5200	1.31	1.35	97.04
		5240	1.31	1.35	97.04
		5260	1.32	1.35	97.78
		5300	1.32	1.35	97.78
		5320	1.31	1.34	97.76
		5500	1.31	1.35	97.04
		5600	1.31	1.35	97.04
		5700	1.31	1.35	97.04
		5745	1.32	1.35	97.78
		5785	1.31	1.35	97.04
		5825	1.31	1.34	97.76
11AC40SISO	Ant1	5190	0.65	0.69	94.20
		5230	0.65	0.69	94.20
		5270	0.65	0.68	95.59
		5310	0.65	0.69	94.20
		5510	0.65	0.69	94.20
		5590	0.65	0.68	95.59
		5670	0.65	0.69	94.20
		5755	0.65	0.69	94.20
		5795	0.65	0.68	95.59
11AC80SISO	Ant1	5210	0.32	0.36	88.89
		5290	0.33	0.36	91.67
		5530	0.32	0.36	88.89
		5610	0.33	0.36	91.67
		5775	0.32	0.36	88.89

11A_Ant1_5180



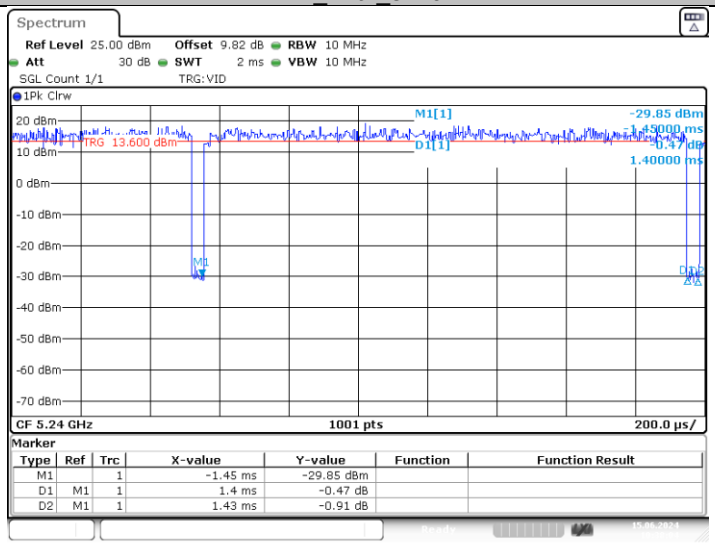
Date: 15.JUN.2024 10:26:56

11A_Ant1_5200



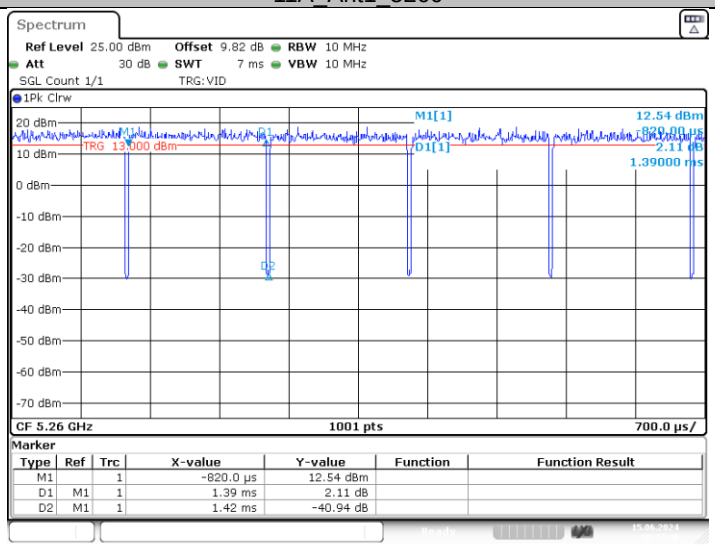
Date: 15.JUN.2024 10:33:17

11A_Ant1_5240



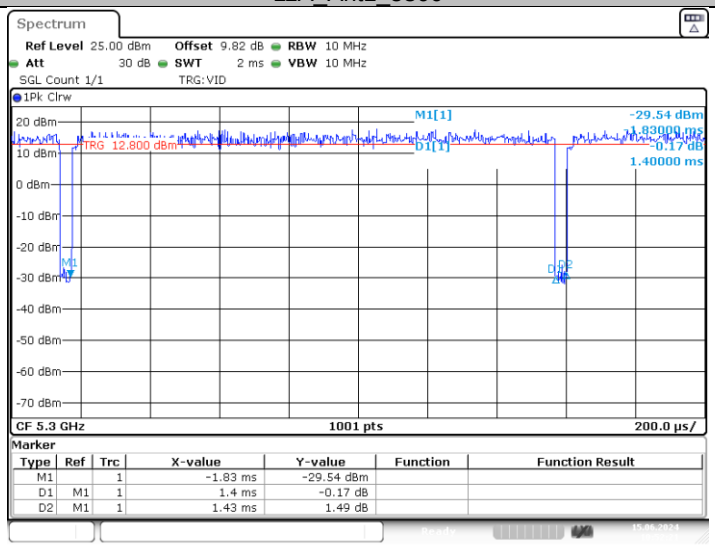
Date: 15.JUN.2024 10:38:04

11A_Ant1_5260



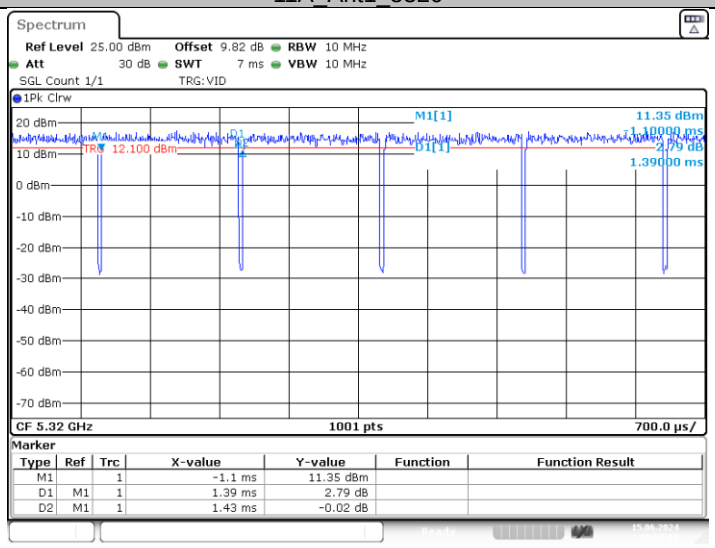
Date: 15.JUN.2024 10:47:39

11A_Ant1_5300



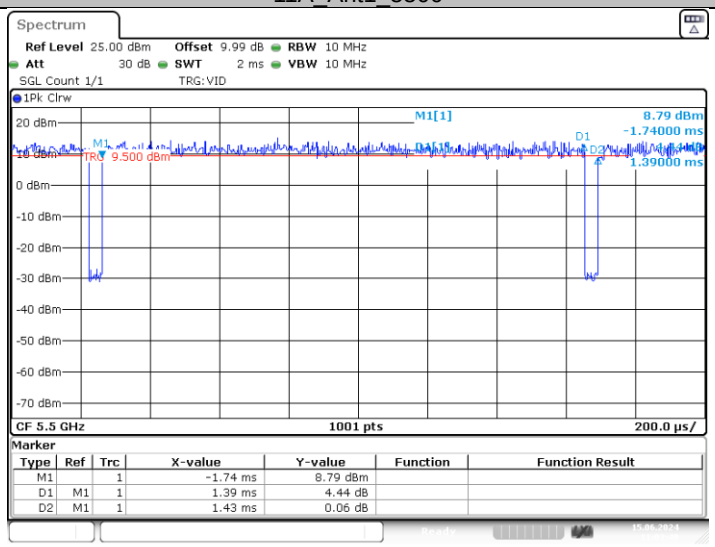
Date: 15.JUN.2024 10:52:21

11A_Ant1_5320

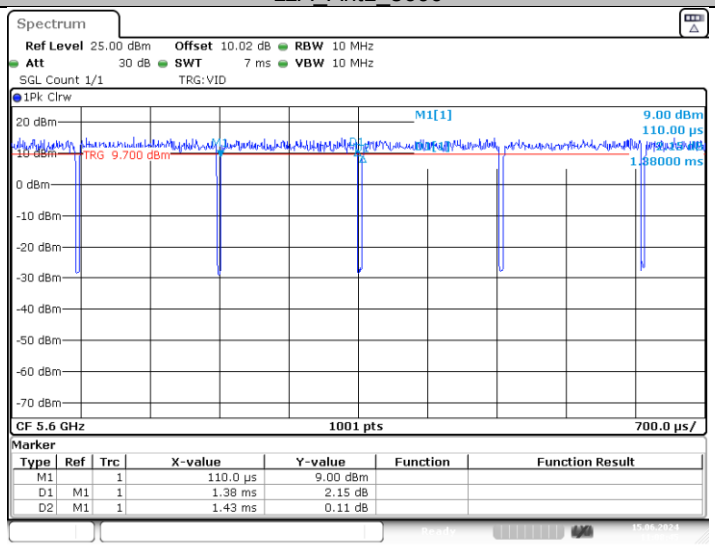


Date: 15.JUN.2024 10:57:09

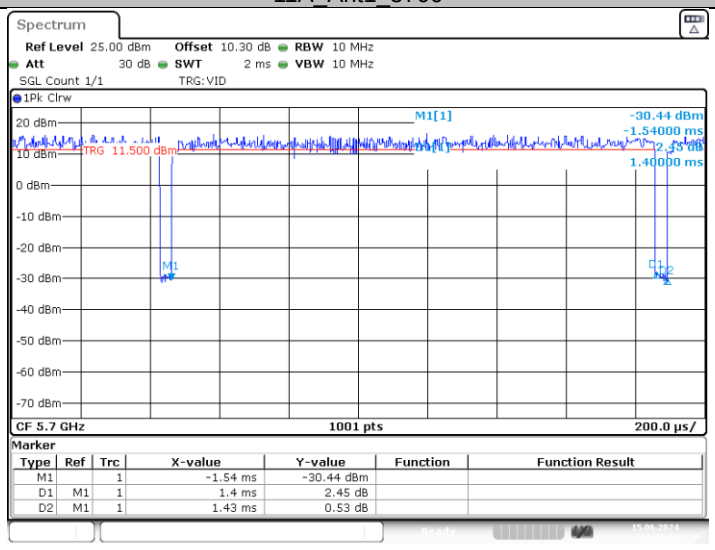
11A_Ant1_5500



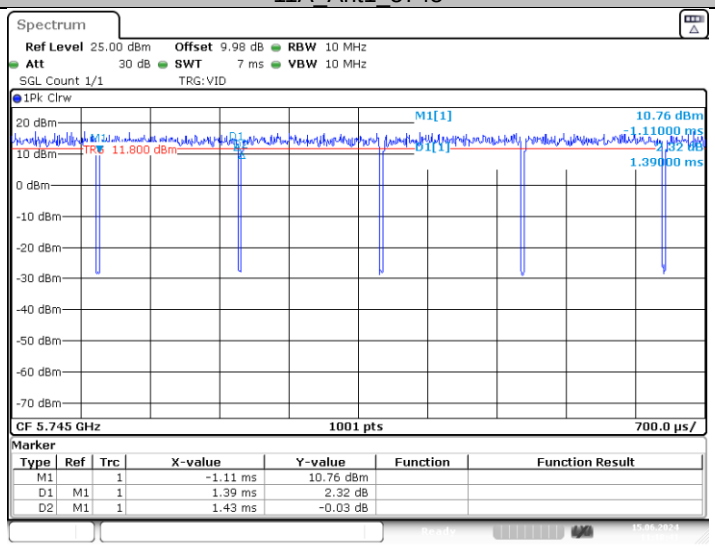
11A_Ant1_5600



11A_Ant1_5700

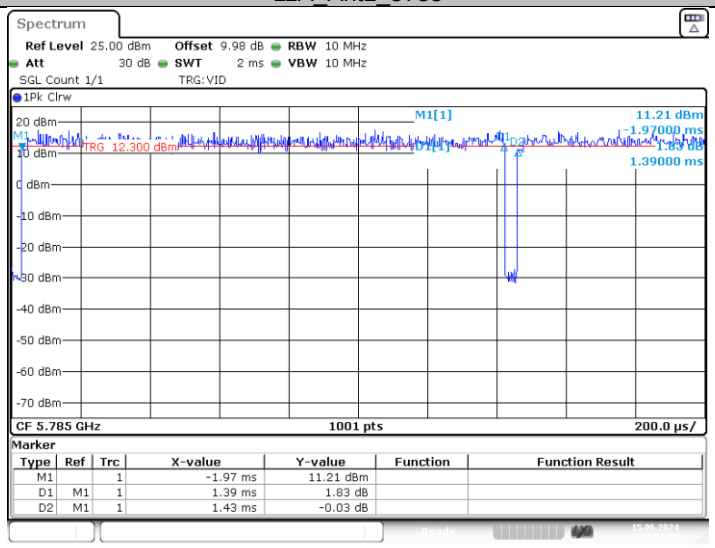


11A_Ant1_5745



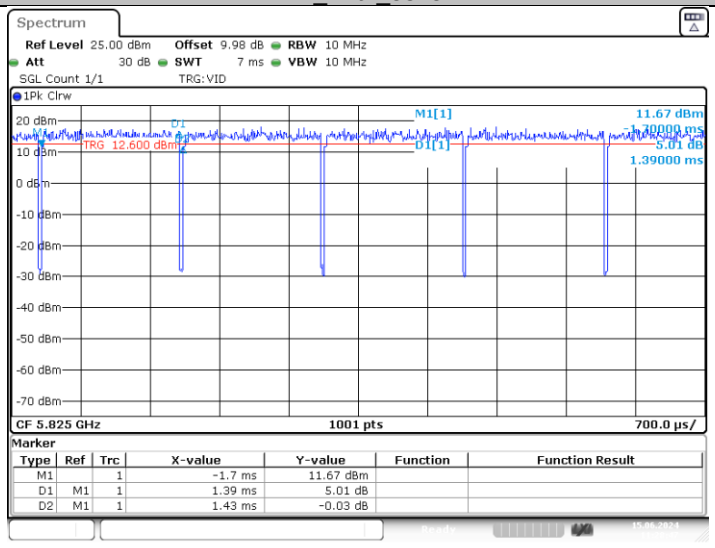
Date: 15.JUN.2024 11:18:41

11A_Ant1_5785



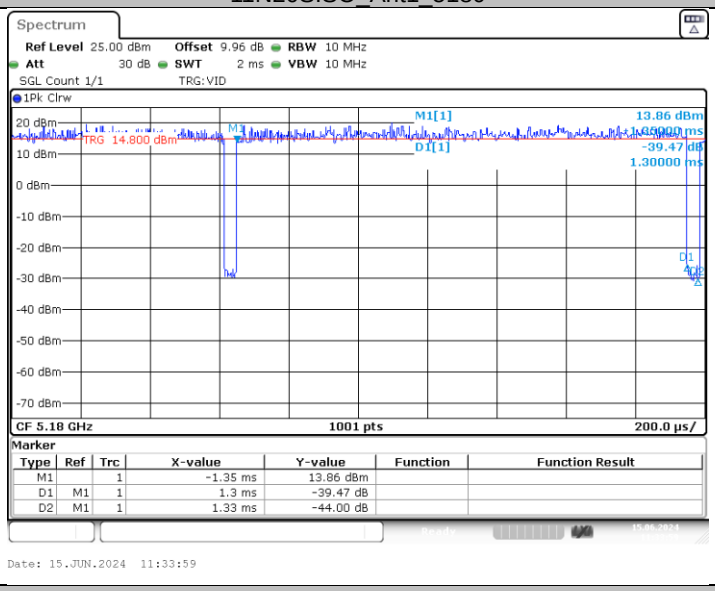
Date: 15.JUN.2024 11:23:57

11A_Ant1_5825

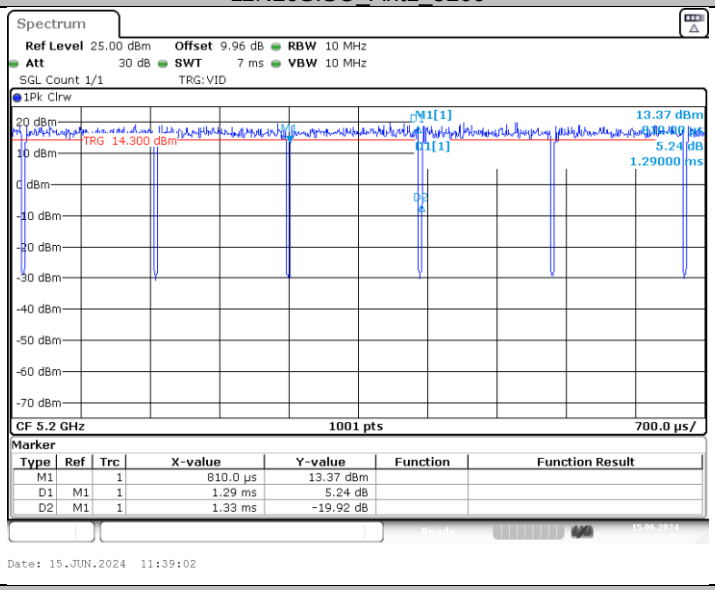


Date: 15.JUN.2024 11:28:47

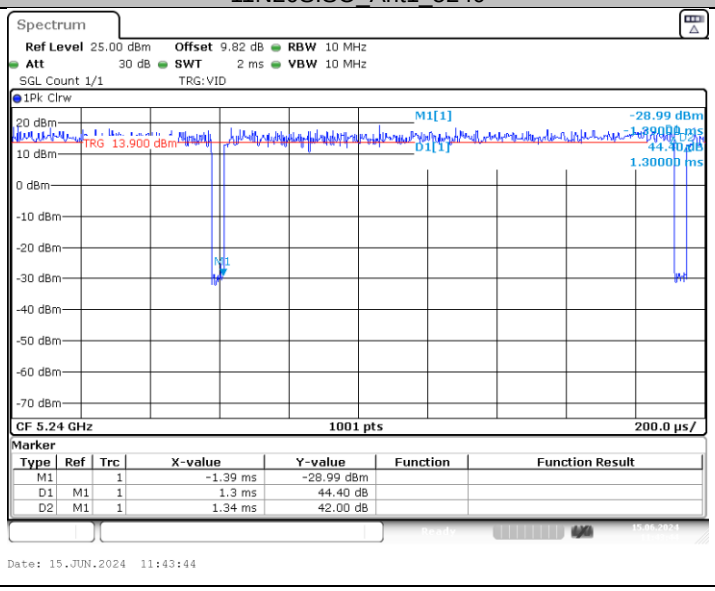
11N20SISO_Ant1_5180



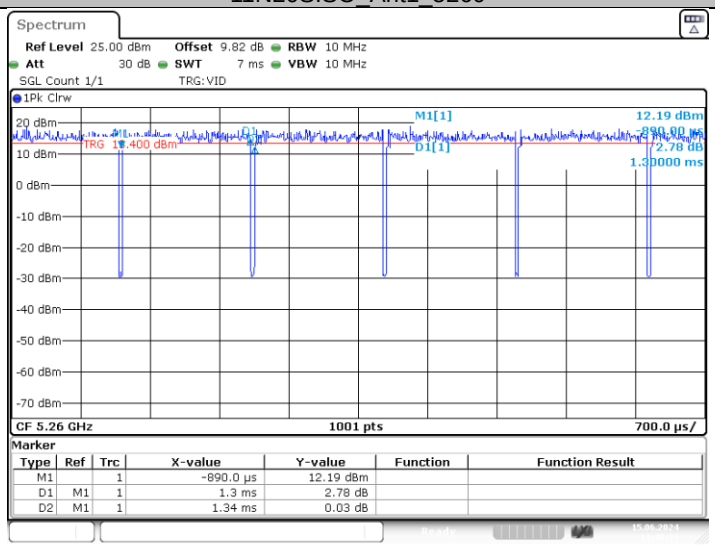
11N20SISO_Ant1_5200



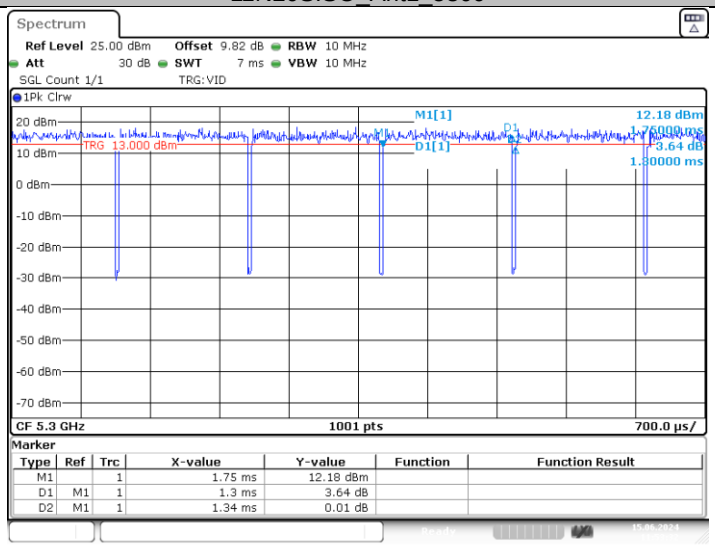
11N20SISO_Ant1_5240



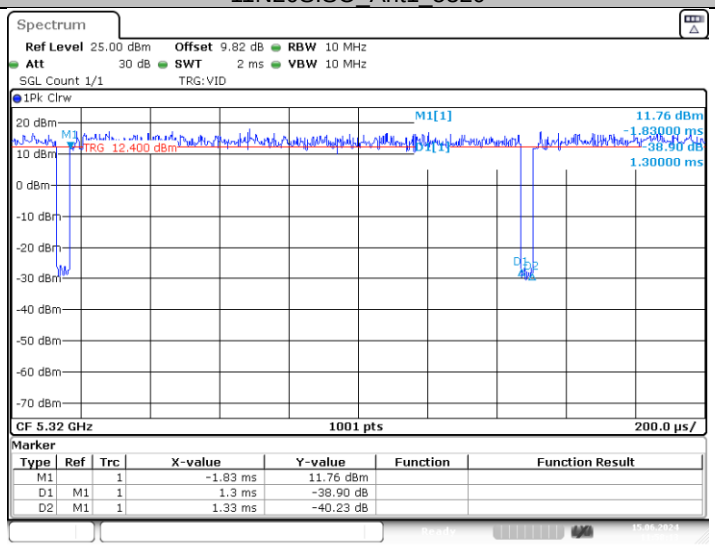
11N20SISO_Ant1_5260



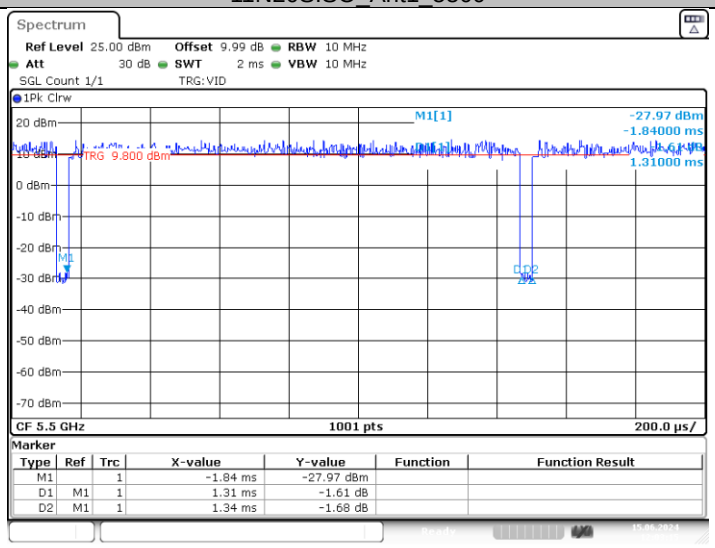
11N20SISO_Ant1_5300



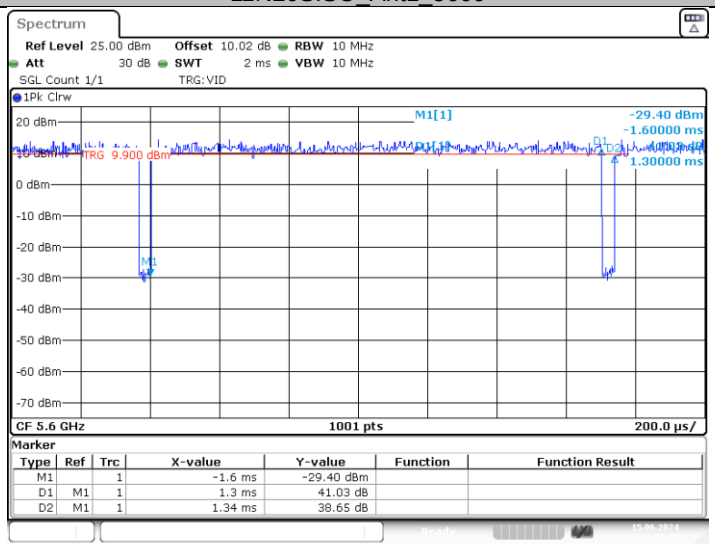
11N20SISO_Ant1_5320



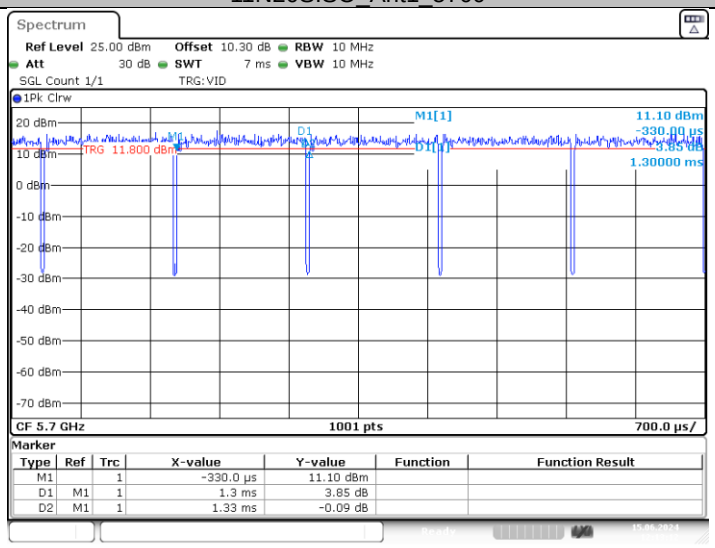
11N20SISO_Ant1_5500



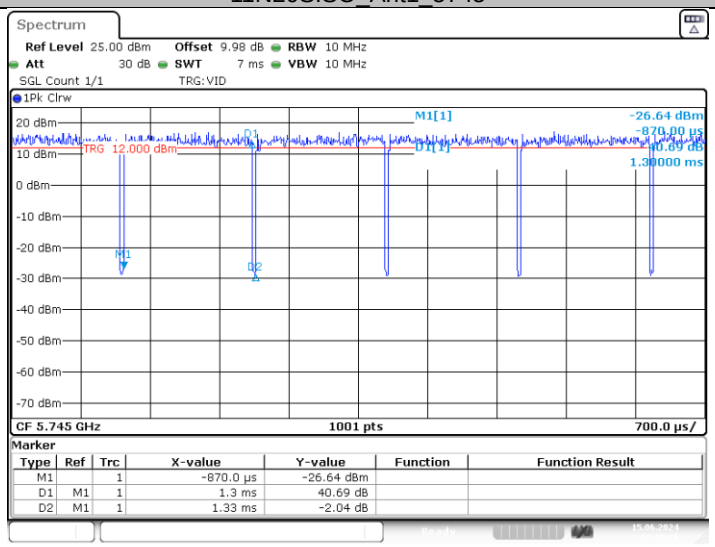
11N20SISO_Ant1_5600



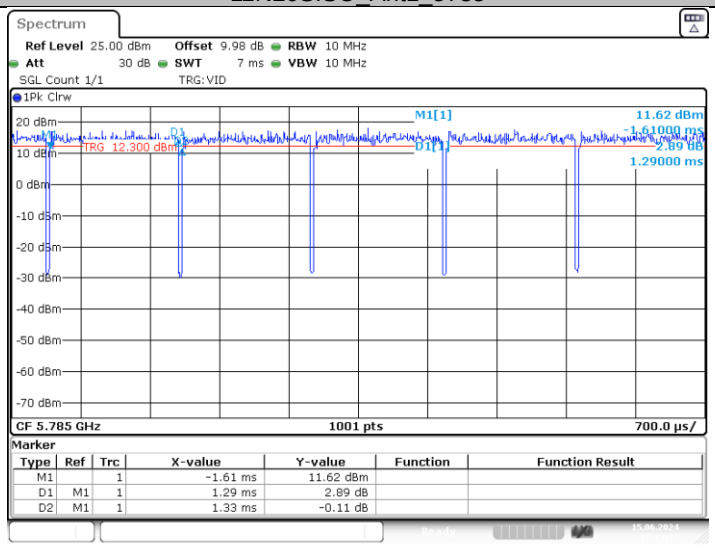
11N20SISO_Ant1_5700



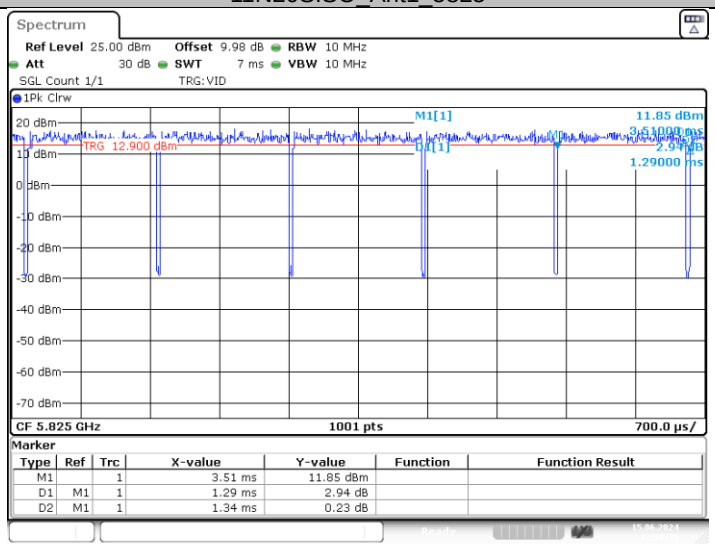
11N20SISO_Ant1_5745



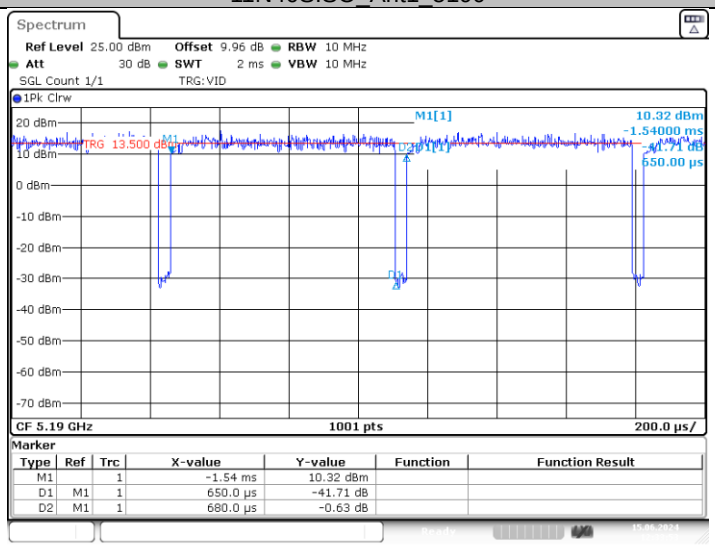
11N20SISO_Ant1_5785



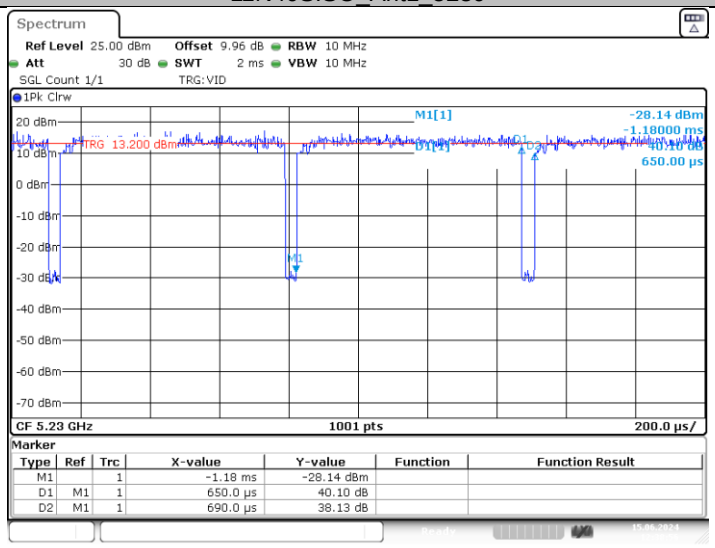
11N20SISO_Ant1_5825



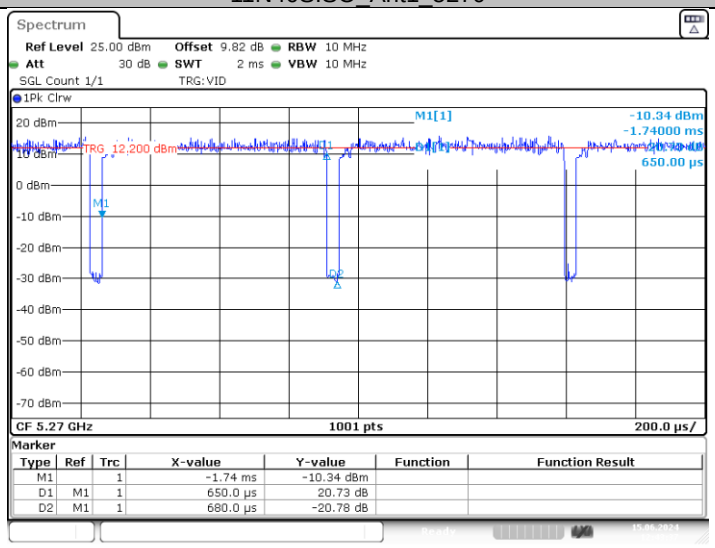
11N40SISO_Ant1_5190



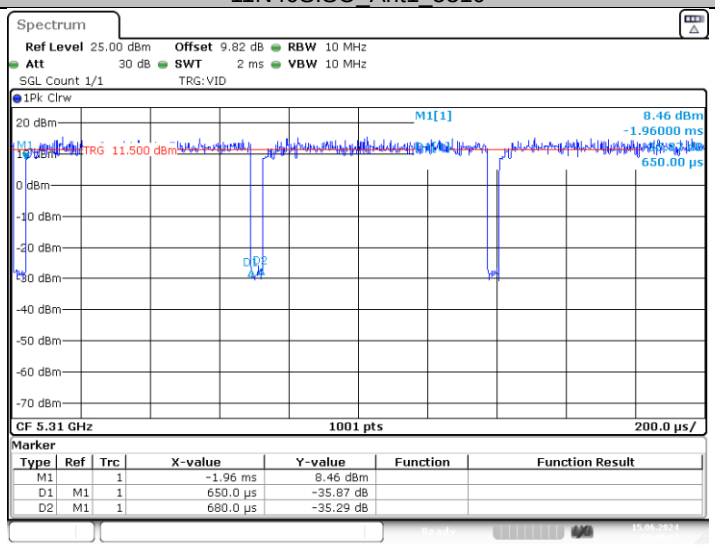
11N40SISO_Ant1_5230



11N40SISO_Ant1_5270

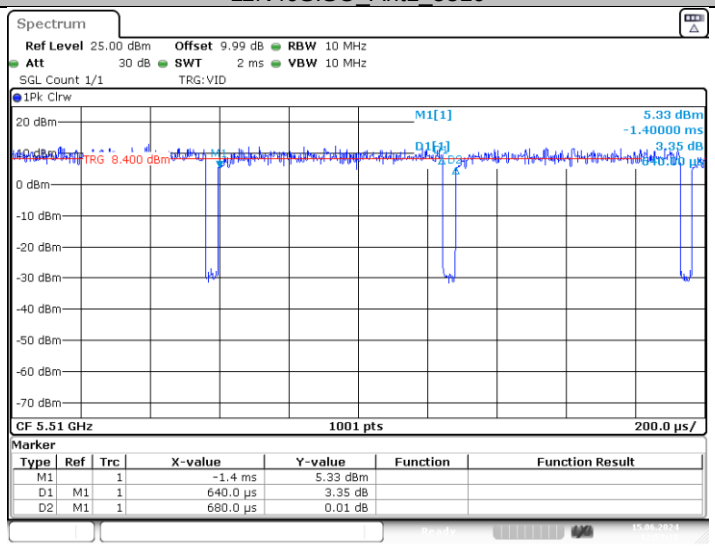


11N40SISO_Ant1_5310



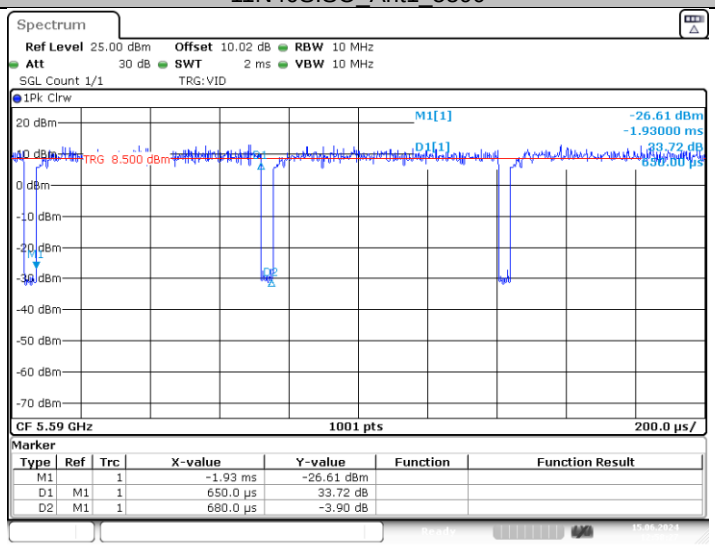
Date: 15.JUN.2024 12:48:18

11N40SISO_Ant1_5510



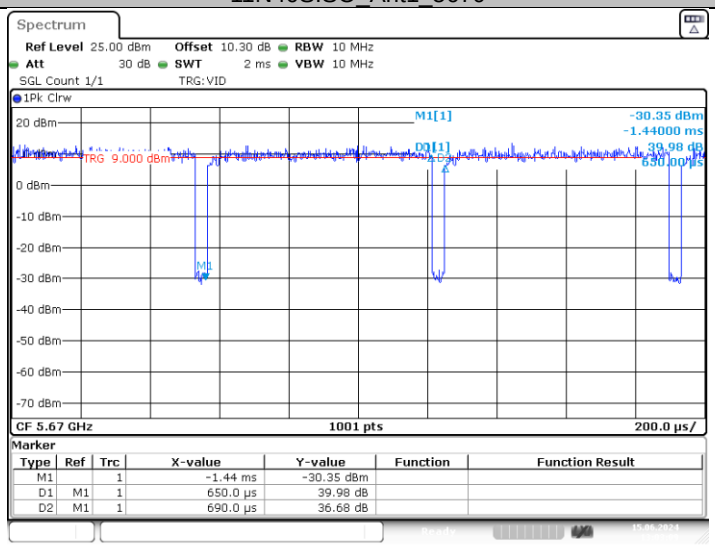
Date: 15.JUN.2024 12:53:18

11N40SISO_Ant1_5590



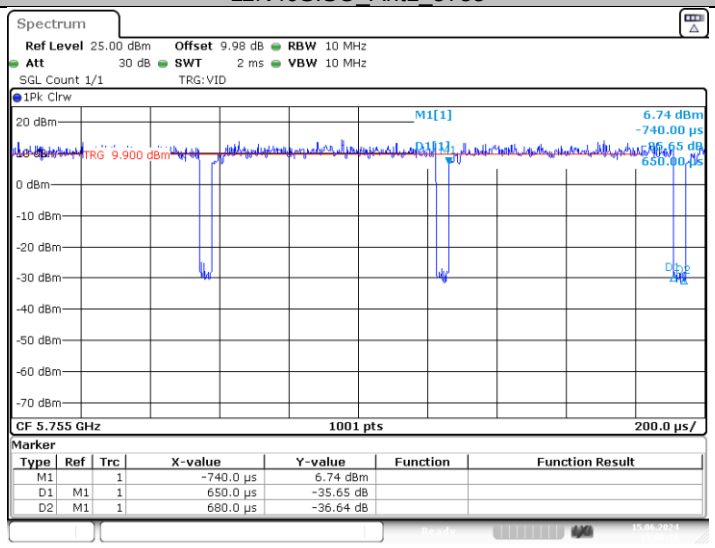
Date: 15.JUN.2024 12:58:27

11N40SISO_Ant1_5670



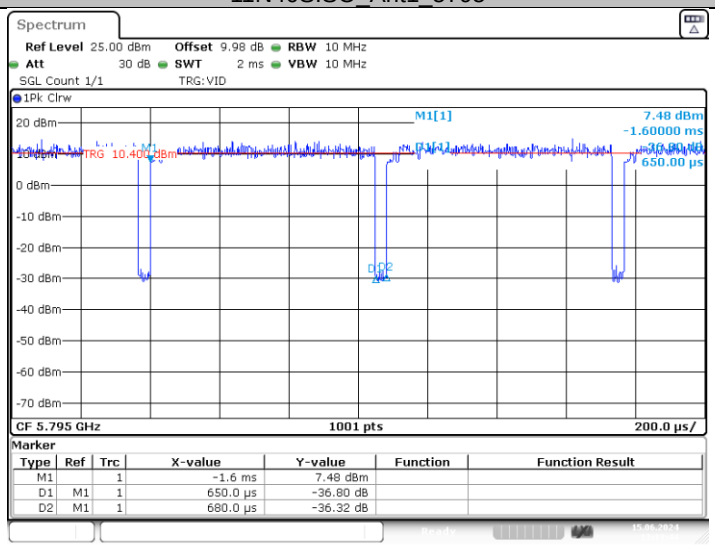
Date: 15.JUN.2024 13:03:09

11N40SISO_Ant1_5755



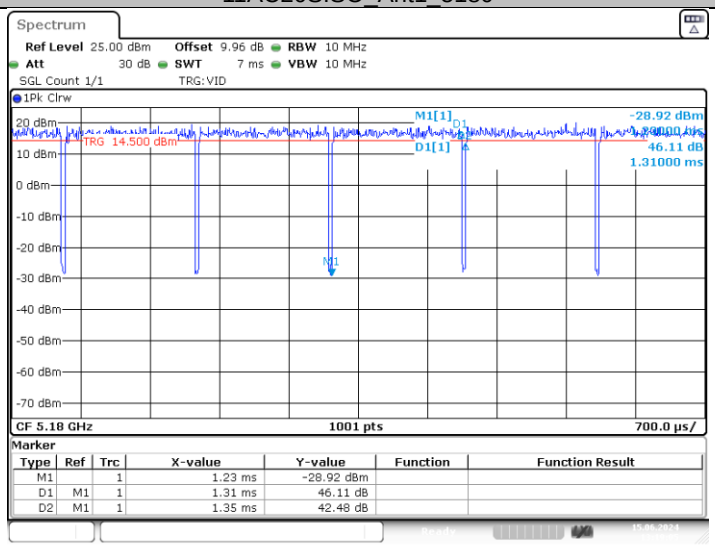
Date: 15.JUN.2024 13:08:16

11N40SISO_Ant1_5795

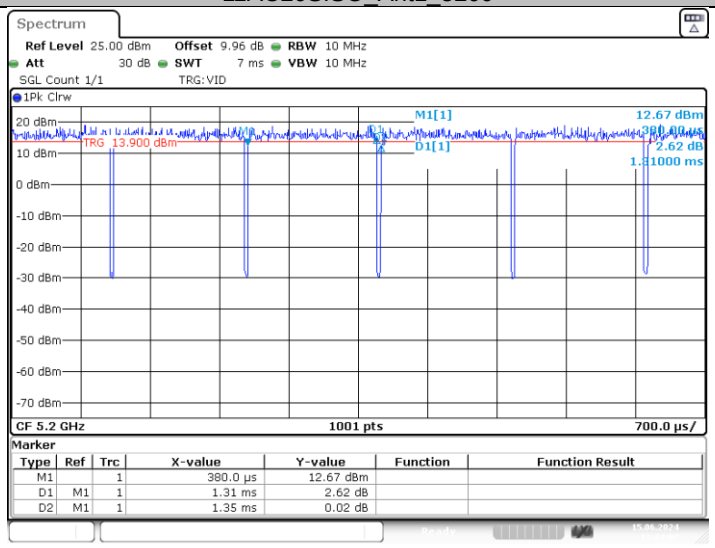


Date: 15.JUN.2024 13:13:44

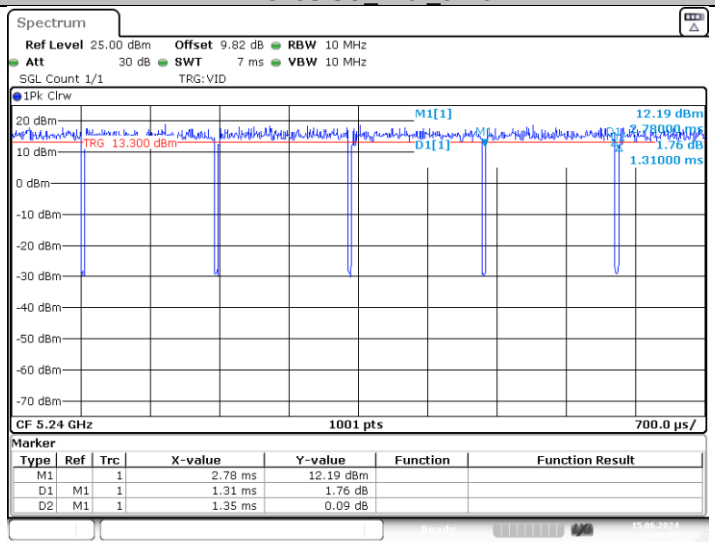
11AC20SISO_Ant1_5180



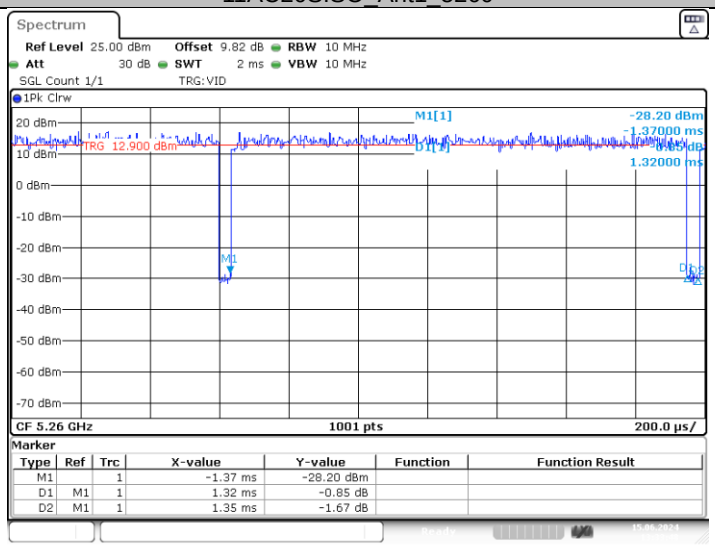
11AC20SISO_Ant1_5200



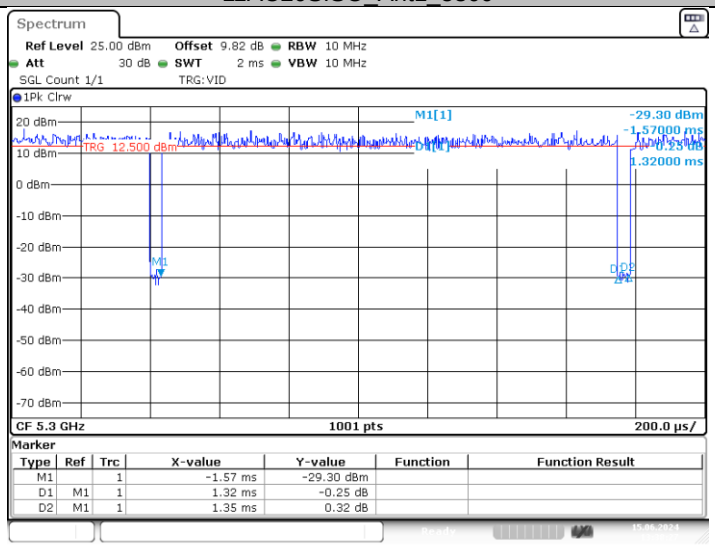
11AC20SISO_Ant1_5240



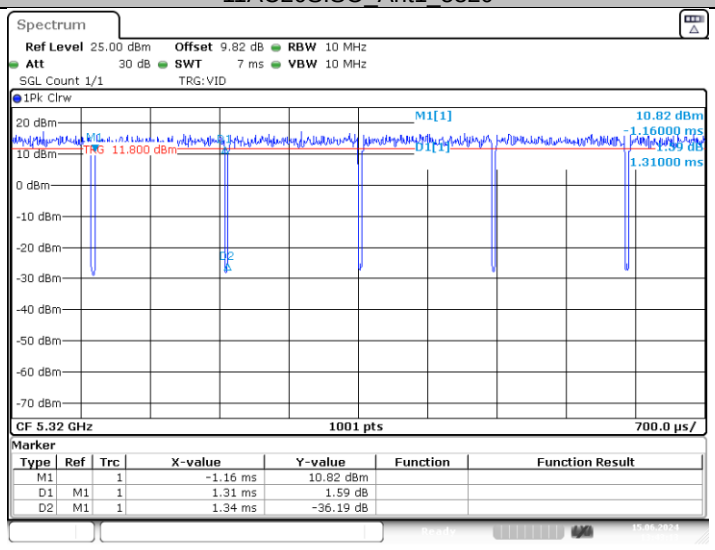
11AC20SISO_Ant1_5260



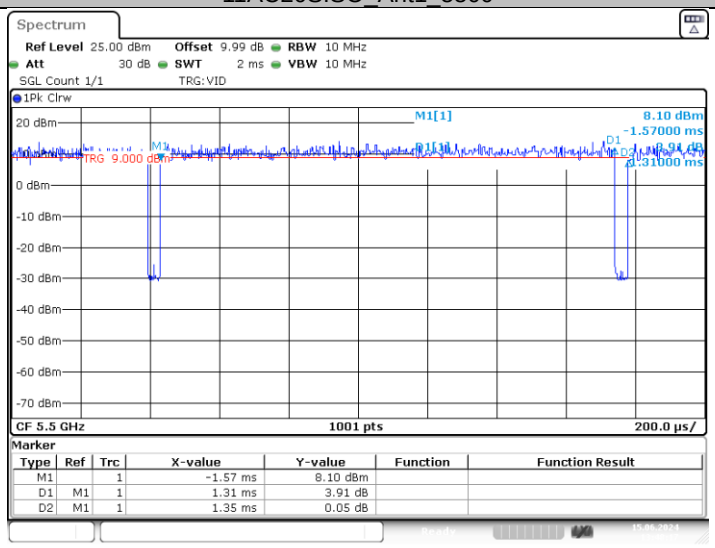
11AC20SISO_Ant1_5300



11AC20SISO_Ant1_5320

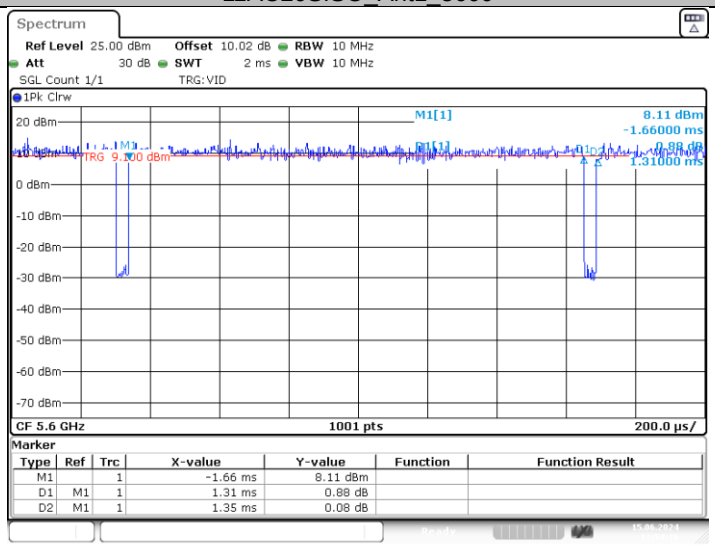


11AC20SISO_Ant1_5500



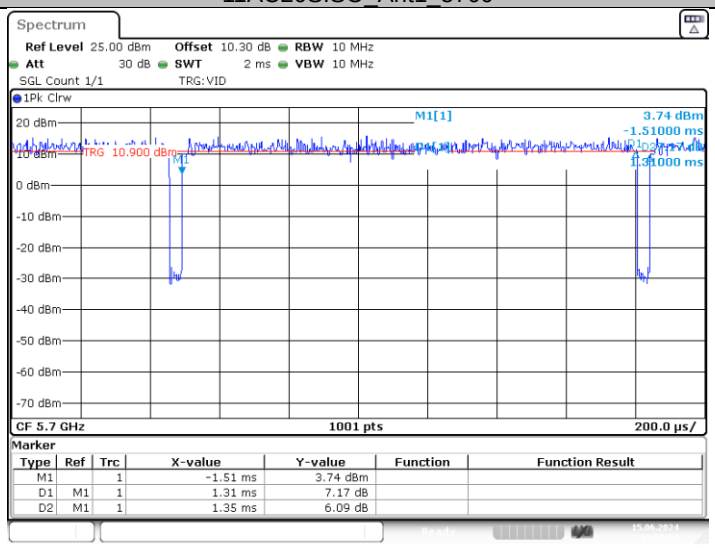
Date: 15.JUN.2024 13:48:17

11AC20SISO_Ant1_5600



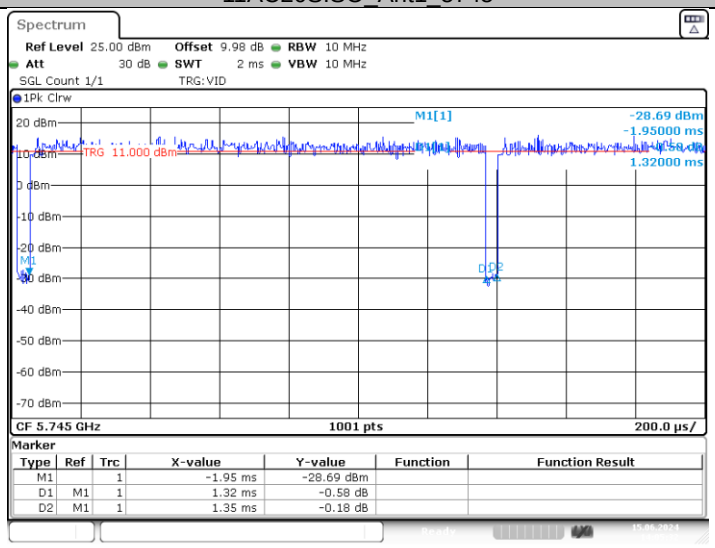
Date: 15.JUN.2024 13:54:16

11AC20SISO_Ant1_5700



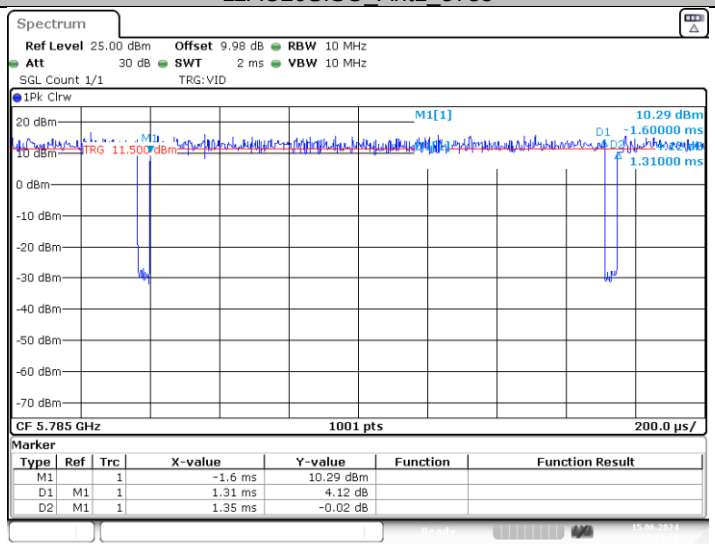
Date: 15.JUN.2024 13:58:55

11AC20SISO_Ant1_5745



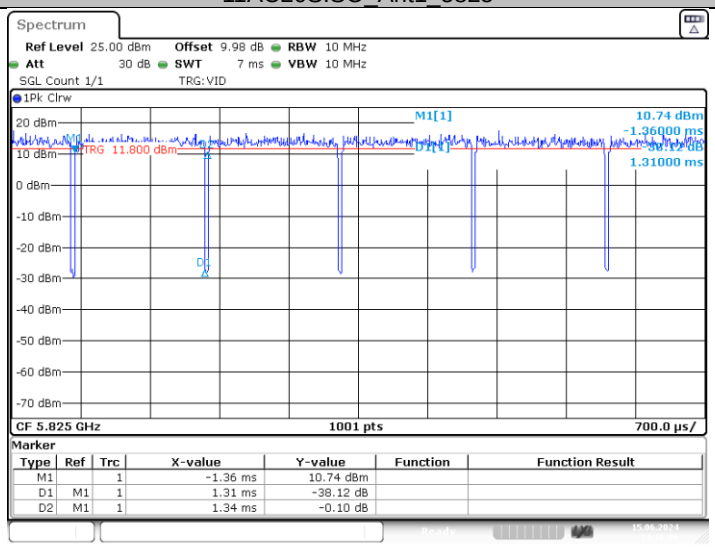
Date: 15.JUN.2024 14:05:32

11AC20SISO_Ant1_5785



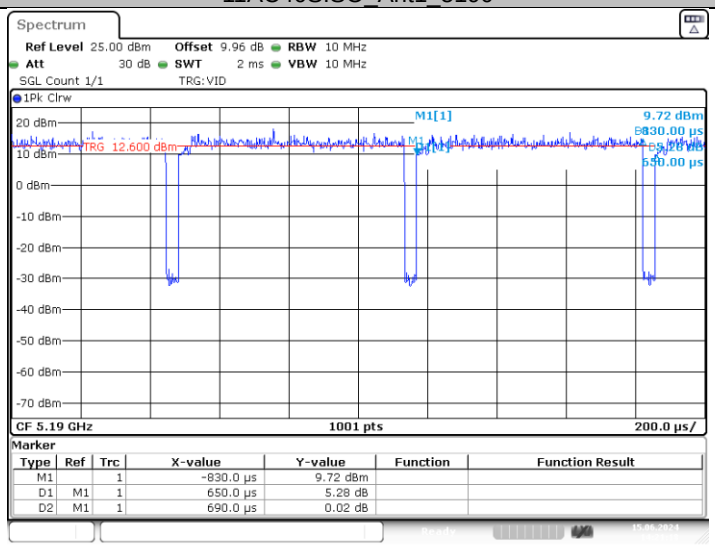
Date: 15.JUN.2024 14:11:20

11AC20SISO_Ant1_5825

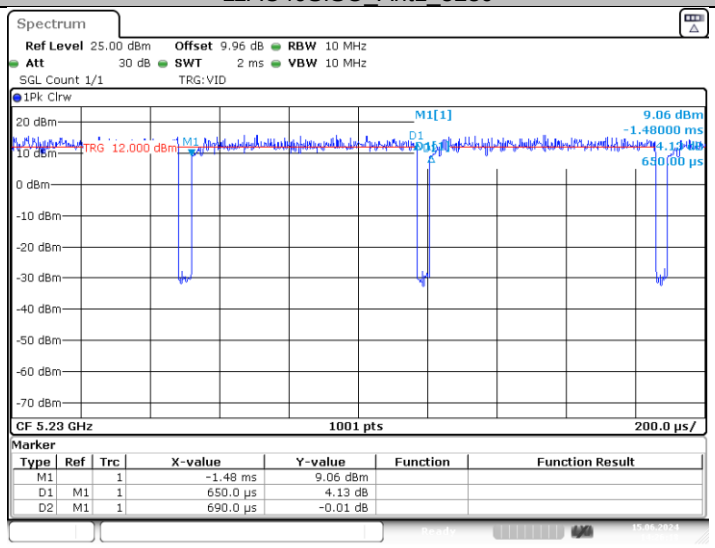


Date: 15.JUN.2024 14:16:06

11AC40SISO_Ant1_5190



11AC40SISO_Ant1_5230



11AC40SISO_Ant1_5270