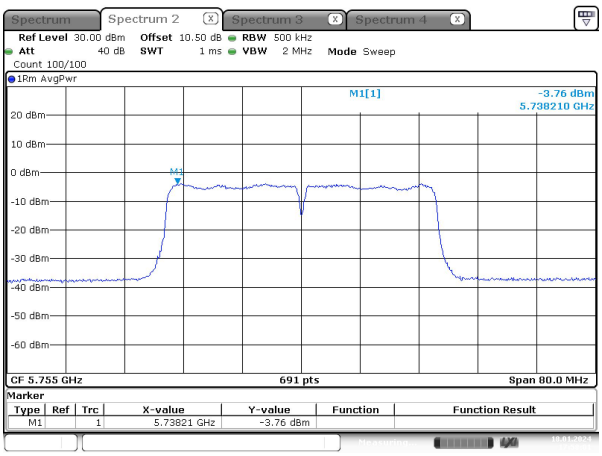
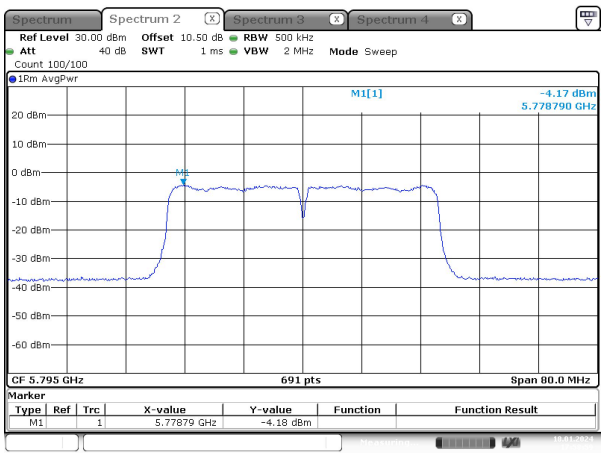
n40_5755MHz_Chain 0



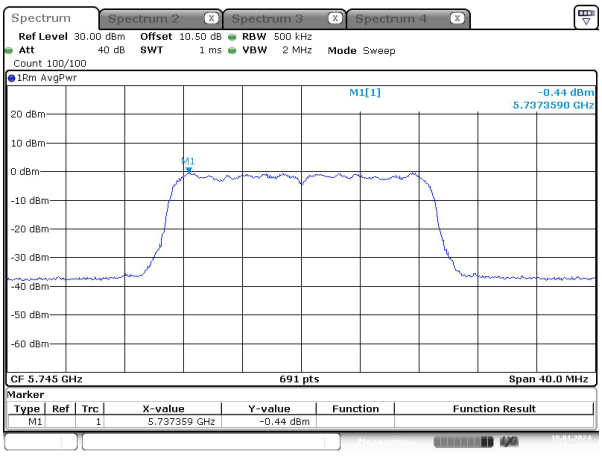
ProjectNo.:DG2231214-75420E-RF Tester:Jojo Zhou
Date: 18.JAN.2024 17:58:01

n40_5795MHz_Chain 0



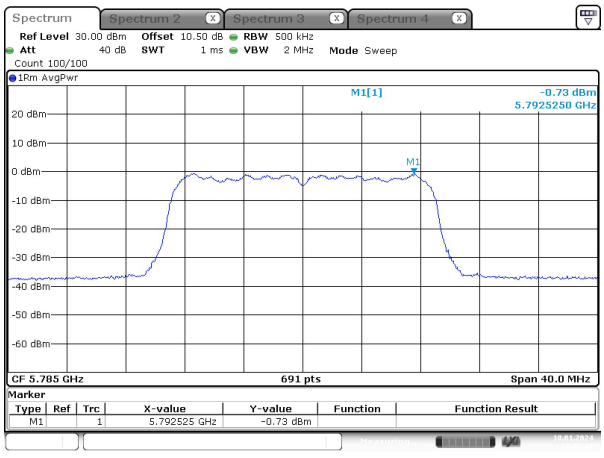
ProjectNo.:DG2231214-75420E-RF Tester:Jojo Zhou
Date: 18.JAN.2024 17:58:59

ac20_5745MHz_Chain 0



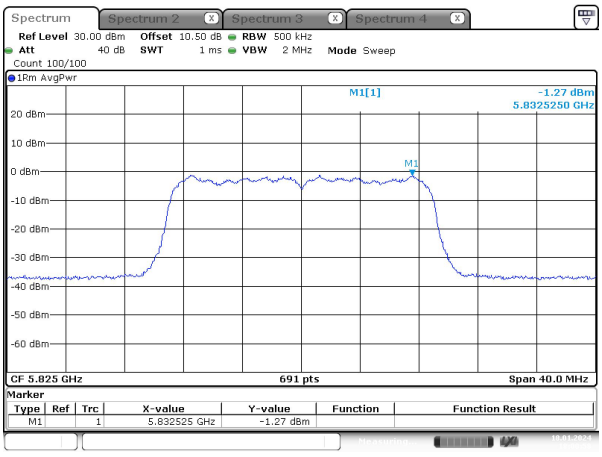
ProjectNo.:DG2231214-75420E-RF Tester:Jojo Zhou
Date: 18.JAN.2024 17:59:55

ac20_5785MHz_Chain 0



ProjectNo.:DG2231214-75420E-RF Tester:Jojo Zhou
Date: 18.JAN.2024 18:00:31

ac20_5825MHz_Chain 0



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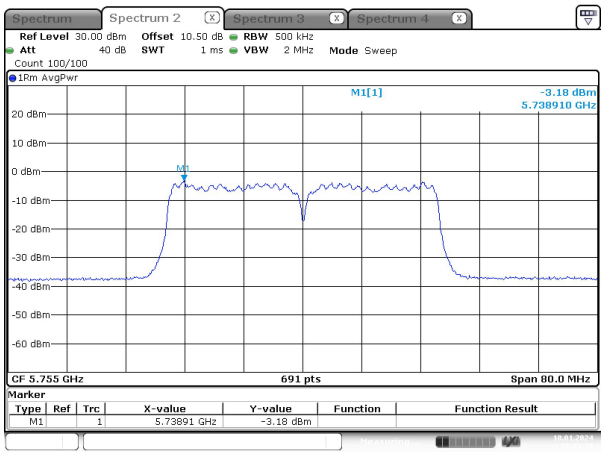
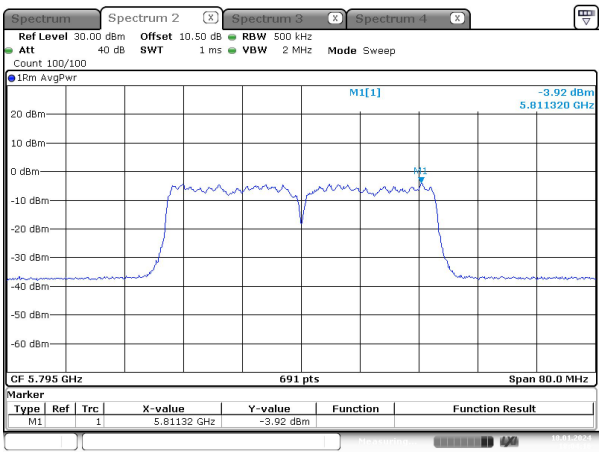
Date: 18.JAN.2024 18:00:58

ac40_5755MHz_Chain 0



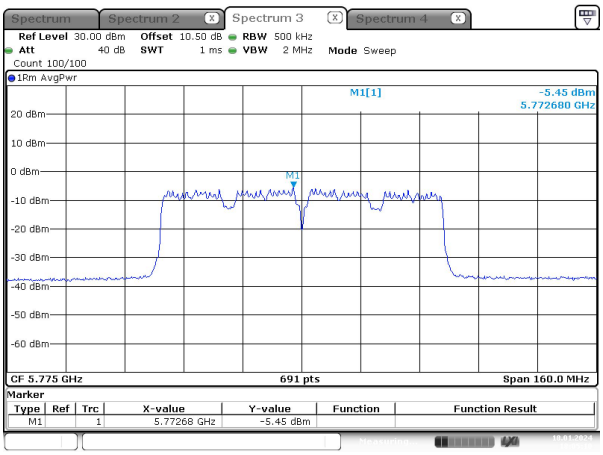
ProjectNo.:DG2231214-75420E-RF Tester:Jojo Zhou
Date: 18.JAN.2024 18:03:17

ac40_5795MHz_Chain 0



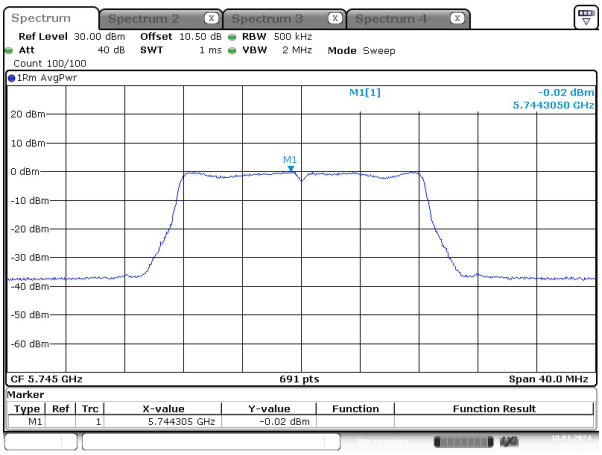
ProjectNo.:DG2231214-75420E-RF Tester:Jojo Zhou
Date: 18.JAN.2024 18:04:16

ac80_5775MHz_Chain 0



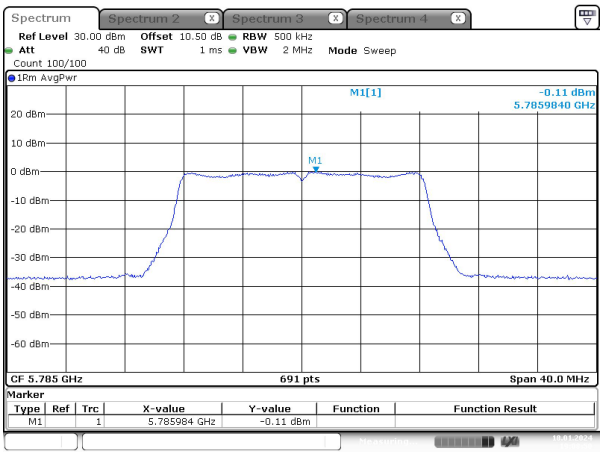
ProjectNo.:DG2231214-75420E-RF Tester:Jojo Zhou
Date: 18.JAN.2024 18:05:10

a_ 5745 MHz_Chain 1



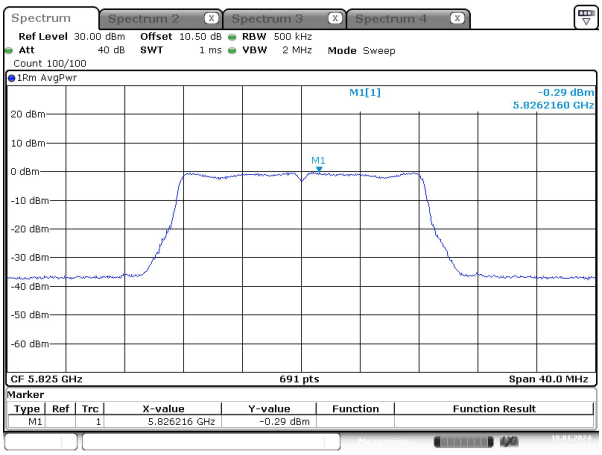
ProjectNo.:DG2231214-75420E-RF Tester:Jojo Zhou
Date: 18.JAN.2024 19:07:49

a_5785MHz_Chain 1



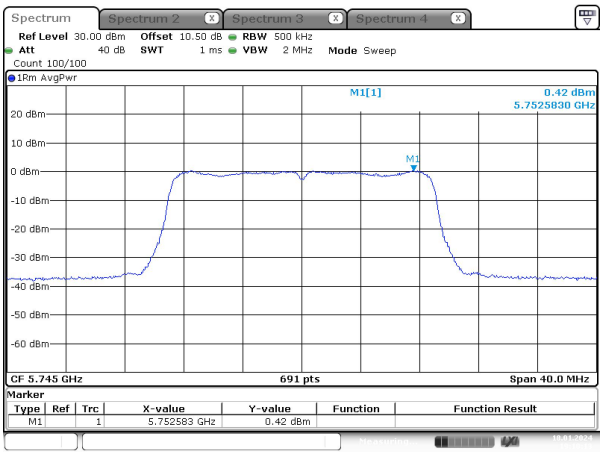
ProjectNo.:DG2231214-75420E-RF Tester:Jojo Zhou
Date: 18.JAN.2024 19:08:50

a_5825MHz_Chain 1



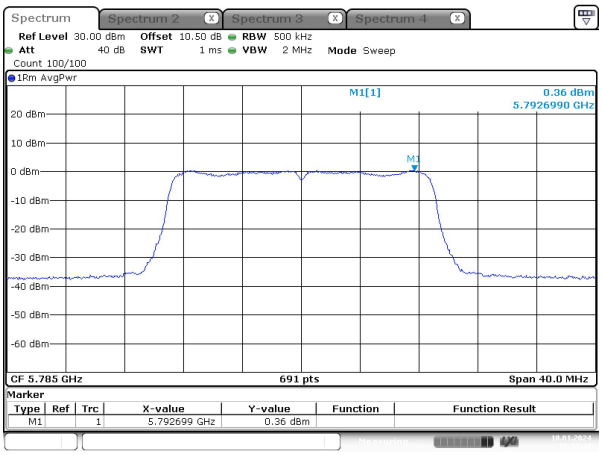
ProjectNo.:DG2231214-75420E-RF Tester:Jojo Zhou
Date: 18.JAN.2024 19:09:31

n20_5745MHz_Chain 1



ProjectNo.:DG2231214-75420E-RF Tester:Jojo Zhou
Date: 18.JAN.2024 19:10:14

n20_5785MHz_Chain 1



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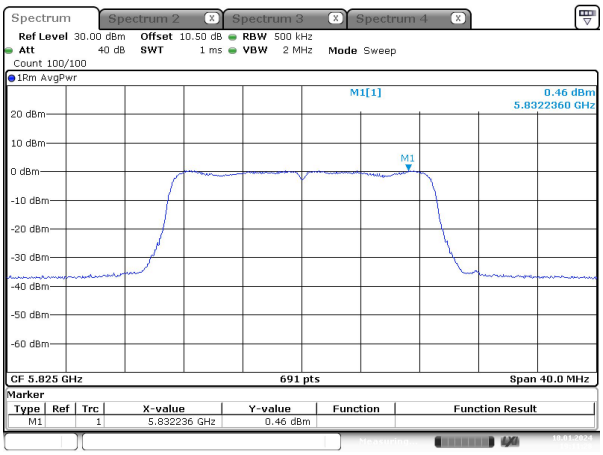
Date: 18.JAN.2024 19:10:47

n20_5825MHz_Chain 1



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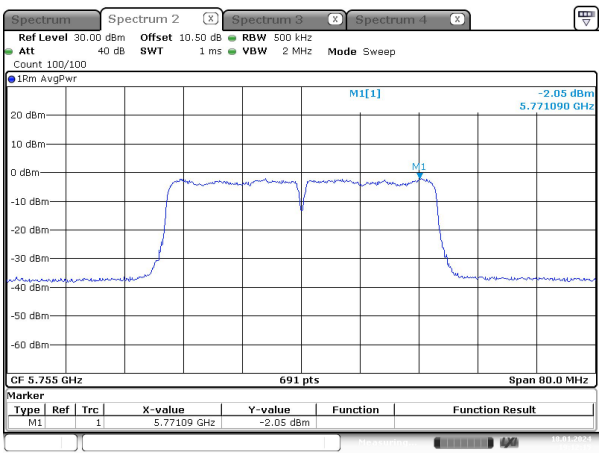
Date: 18.JAN.2024 19:11:28

n40_5755MHz_Chain 1



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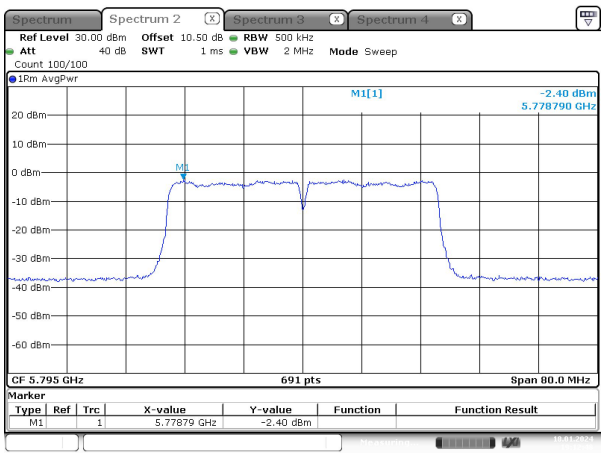
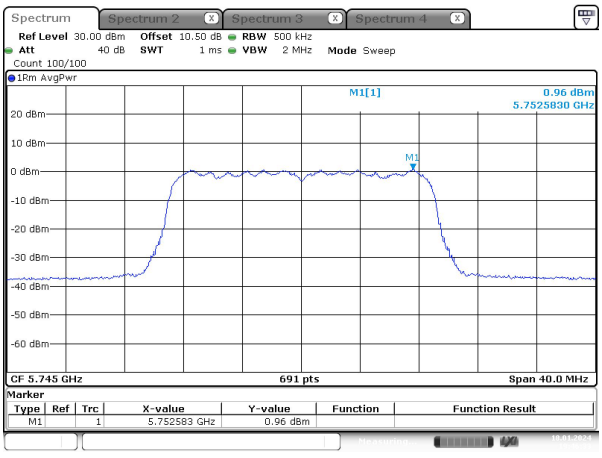
Date: 18.JAN.2024 19:12:15

n40_5795MHz_Chain 1



ProjectNo.:DG2231214-75420E-RF Tester:Jojo Zhou
Date: 18.JAN.2024 19:12:48

ac20_5745MHz_Chain 1



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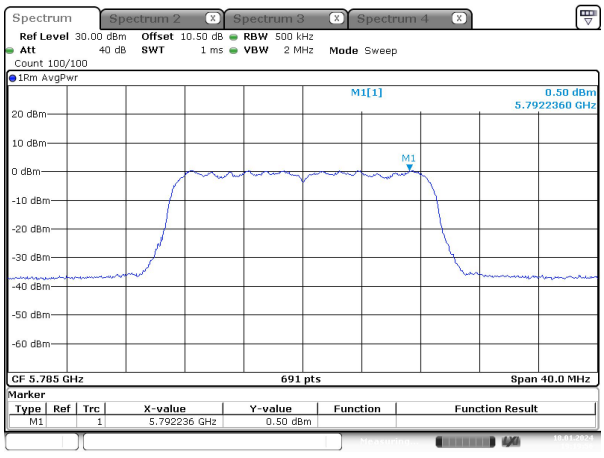
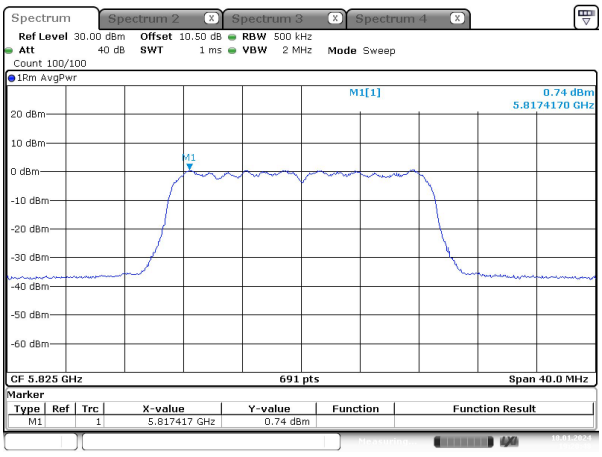
Date: 18.JAN.2024 19:46:33

ac20_5785MHz_Chain 1



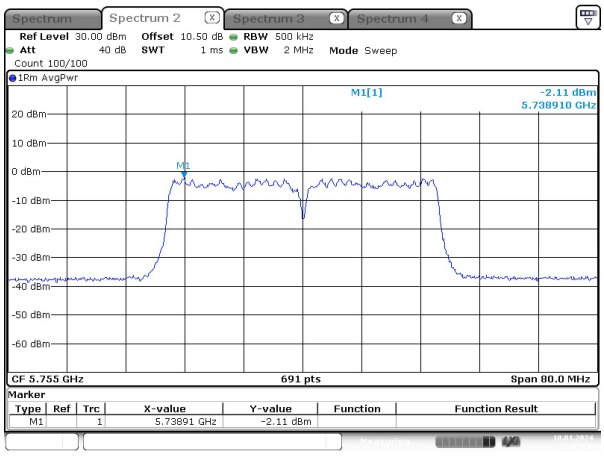
ProjectNo.:DG2231214-75420E-RF Tester:Jojo Zhou
Date: 18.JAN.2024 19:19:56

ac20_5825MHz_Chain 1



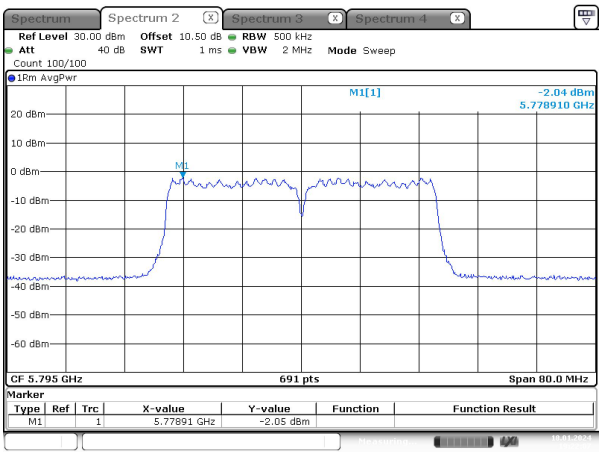
ProjectNo.:DG2231214-75420E-RF Tester:Jojo Zhou
Date: 18.JAN.2024 19:20:48

ac40_5755MHz_Chain 1



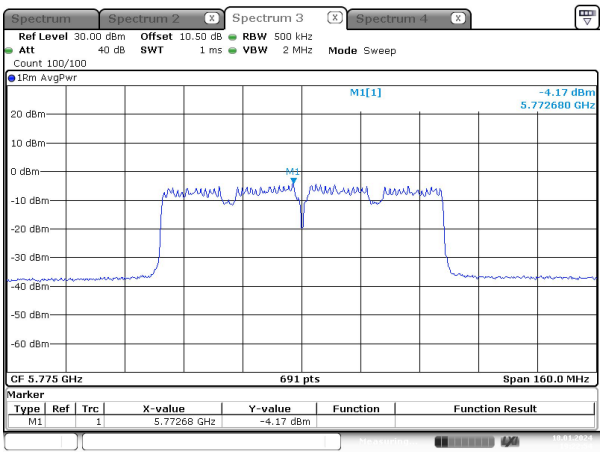
ProjectNo.:DG2231214-75420E-RF Tester:Jojo Zhou
Date: 18.JAN.2024 19:21:30

ac40_5795MHz_Chain 1



ProjectNo.:DG2231214-75420E-RF Tester:Jojo Zhou
Date: 18.JAN.2024 19:22:07

ac80_5775MHz_Chain 1



ProjectNo.:DG2231214-75420E-RF Tester:Jojo Zhou
Date: 18.JAN.2024 19:22:54

5.7 Duty Cycle

Serial No.:	2F7N-2	**Test Date:**	2024-01-18
Test Site:	RF	**Test Mode:**	Transmitting
Tester:	Jojo Zhou	**Test Result:**	N/A

Environmental Conditions:

Temperature: (℃)	25.7	**Relative Humidity: (%)**	43	**ATM Pressure: (kPa)**	101.8

Test Equipment List and Details:

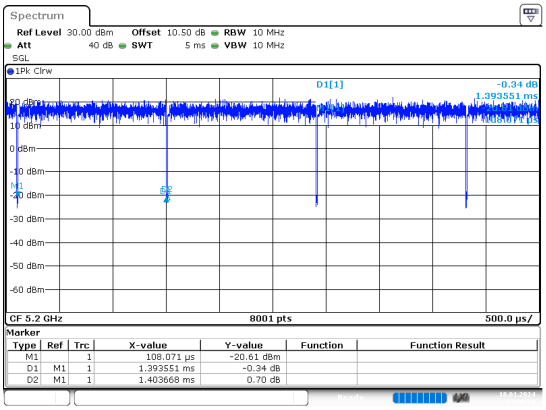
Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSV40	101947	2023-10-18	2024-10-17
E-Microwave	Blocking Control	EMDCB-00036	OE01201047	2023-05-06	2024-05-05
yzjingcheng	Coaxial Cable	KTRFBU-141-50	41010012	2023-09-01	2024-08-31
E-Microwave	Coaxial Attenuators	EMCA10-5RN-6	OE01203239	2023-09-01	2024-08-31

** Statement of Traceability: Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).*

Test Data:

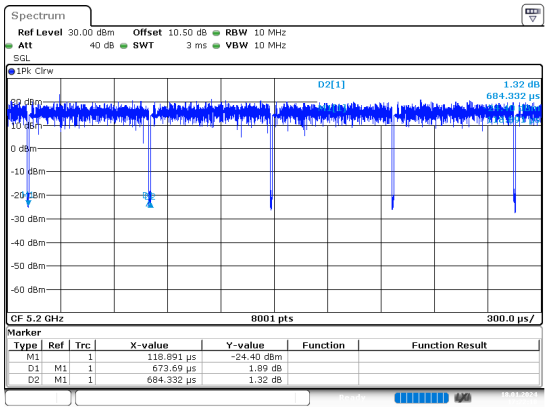
Test Modes	Ton (ms)	Ton+off (ms)	Duty cycle (%)	1/T (Hz)	Duty cycle Factor (dB)	VBW Setting (kHz)
802.11a	1.394	1.404	99.29	/	/	0.01
802.11n ht20	0.674	0.684	98.54	/	/	0.01
802.11n ht40	0.349	0.36	96.94	2865	0.13	3.0
802.11ac vht20	0.101	0.111	90.99	9901	0.41	10.0
802.11ac vht40	0.072	0.084	85.71	13889	0.67	20.0
802.11ac vht80	0.057	0.066	86.36	17544	0.64	20.0

a_5200MHz_Chain 0



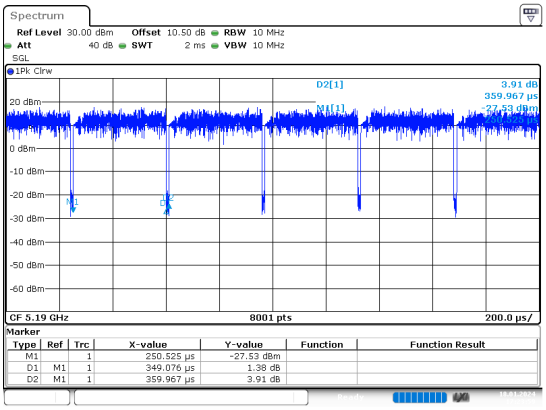
ProjectNo.:DG2231214-75420E-RF Tester:Jojo Zhou
Date: 18.JAN.2024 17:20:11

n20_5200MHz_Chain 0



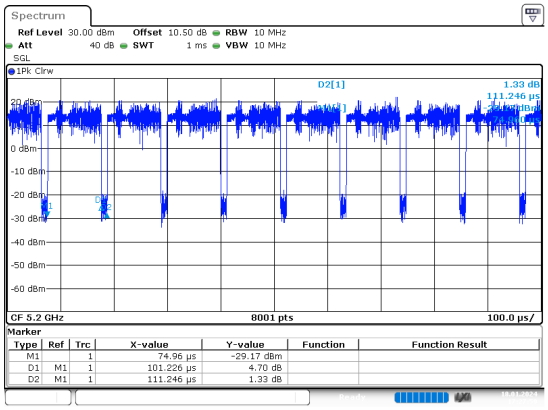
ProjectNo.:DG2231214-75420E-RF Tester:Jojo Zhou
Date: 18.JAN.2024 17:22:18

n40_5190MHz_Chain 0



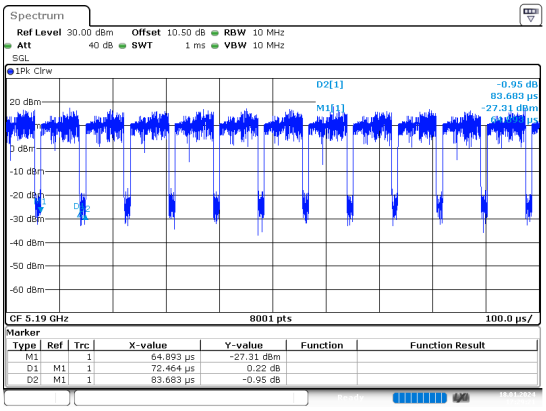
ProjectNo.:DG2231214-75420E-RF Tester:Jojo Zhou
Date: 18.JAN.2024 17:23:59

ac20_5200MHz_Chain 0



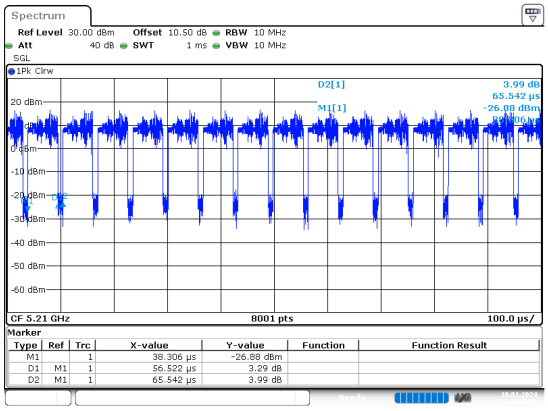
ProjectNo.:DG2231214-75420E-RF Tester:Jojo Zhou
Date: 18.JAN.2024 17:27:59

ac40_5190MHz_Chain 0



ProjectNo.:DG2231214-75420E-RF Tester:Jojo Zhou
Date: 18.JAN.2024 17:29:21

ac80_5210MHz_Chain 0



ProjectNo.:DG2231214-75420E-RF Tester:Jojo Zhou
Date: 18.JAN.2024 17:25:50

APPENDIX A - EUT PHOTOGRAPHS

Please refer to the attachment DG2231214-75420E-RF-EXP EUT EXTERNAL PHOTOGRAPHS and DG2231214-75420E-RF-INP EUT INTERNAL PHOTOGRAPHS.

APPENDIX B - TEST SETUP PHOTOGRAPHS

Please refer to the attachment DG2231214-75420E-RF-00C-TSP TEST SETUP PHOTOGRAPHS.

APPENDIX C - RF EXPOSURE EVALUATION

Applicable Standard

According to subpart §1.1310, systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

Limits for Maximum Permissible Exposure (MPE) (§1.1310, §2.1091)

(B) Limits for General Population/Uncontrolled Exposure				
Frequency Range (MHz)	**Electric Field Strength (V/m)**	**Magnetic Field Strength (A/m)**	**Power Density (mW/cm^2)**	**Averaging Time (minutes)**
0.3–1.34	614	1.63	*(100)	30
1.34–30	824/f	2.19/f	*(180/f^2)	30
30–300	27.5	0.073	0.2	30
300–1500	/	/	f/1500	30
1500–100,000	/	/	1.0	30

f = frequency in MHz; * = Plane-wave equivalent power density;

According to §1.1310 and §2.1091 RF exposure is calculated.

Calculation formula:

Prediction of power density at the distance of the applicable MPE limit
$S = PG/4\pi R^2$ = power density (in appropriate units, e.g. mW/cm^2);
P = power input to the antenna (in appropriate units, e.g., mW);
G = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor, is normally numeric gain;
R = distance to the center of radiation of the antenna (appropriate units, e.g., cm);

For simultaneously transmit system, the calculated power density should comply with:

$$\sum_i \frac{S_i}{S_{Limit,i}} \leq 1$$

Calculated Data:

Frequency (MHz)	Antenna Gain		Conducted output power including Tune-up Tolerance		Evaluation Distance (cm)	Power Density (mW/cm^2)	MPE Limit (mW/cm^2)
	(dBi)	(numeric)	(dBm)	(mW)			
2412-2462	8.00	6.31	25.00	316.23	20.00	0.40	1.0
5150-5250	8.00	6.31	17.00	50.12	20.00	0.06	1.0
5725-5850	8.00	6.31	18.00	63.10	20.00	0.08	1.0

The Conducted output power including Tune-up Tolerance provided by manufacturer

The WLAN 2.4G and 5G can transmit simultaneously:

$$\sum_i \frac{S_i}{S_{Limit,i}}$$

$=S_{2.4}/S_{limit-2.4}+ S_5/S_{limit-5}$

=0.40/1+0.08/1

=0.48

< 1.0

Result: The device meet FCC MPE at 20 cm distance

===== END OF REPORT ====