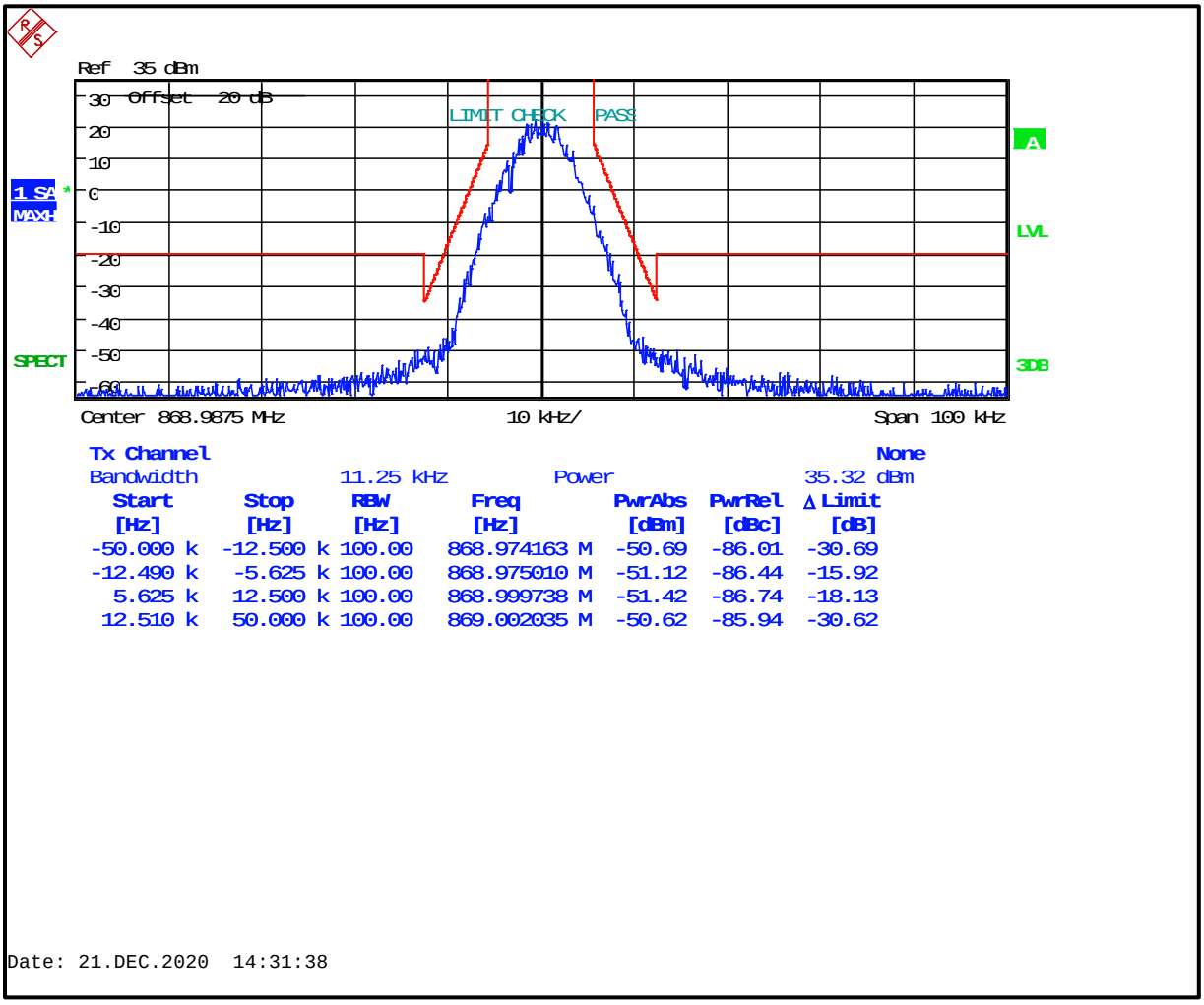
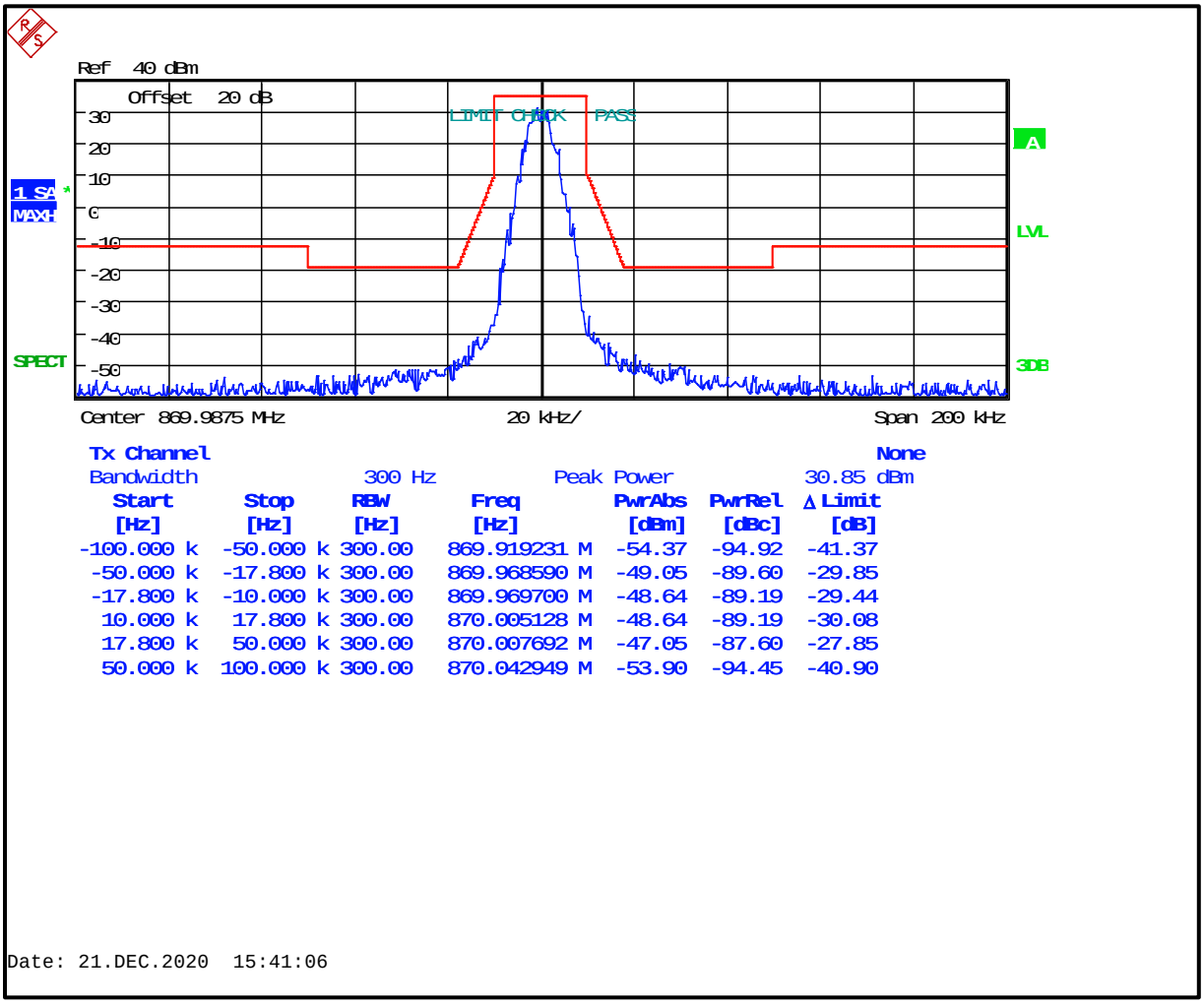
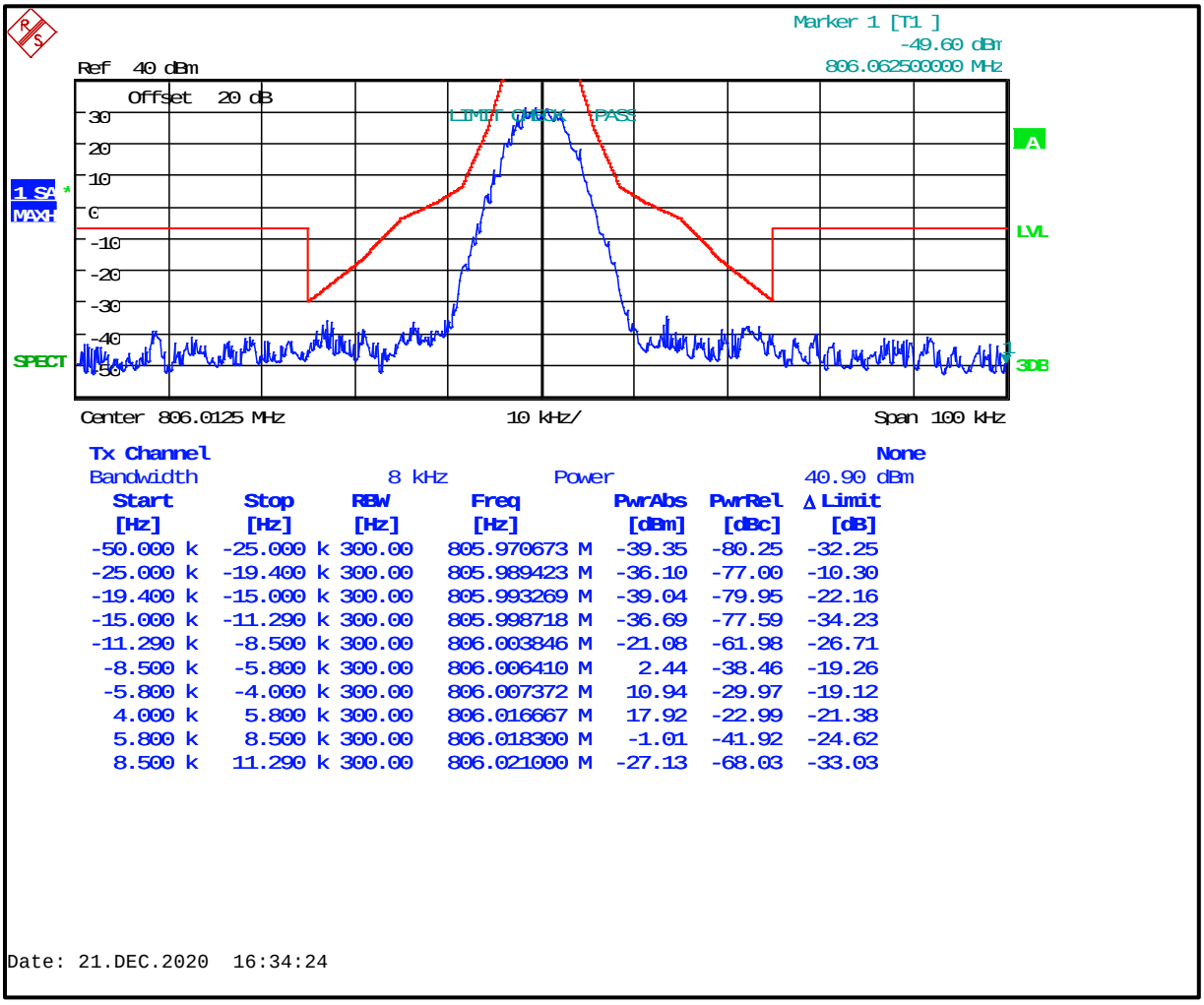
Plot 8-65: Occupied Bandwidth – 868.9875 MHz; C4FM; Mask D (ISED)



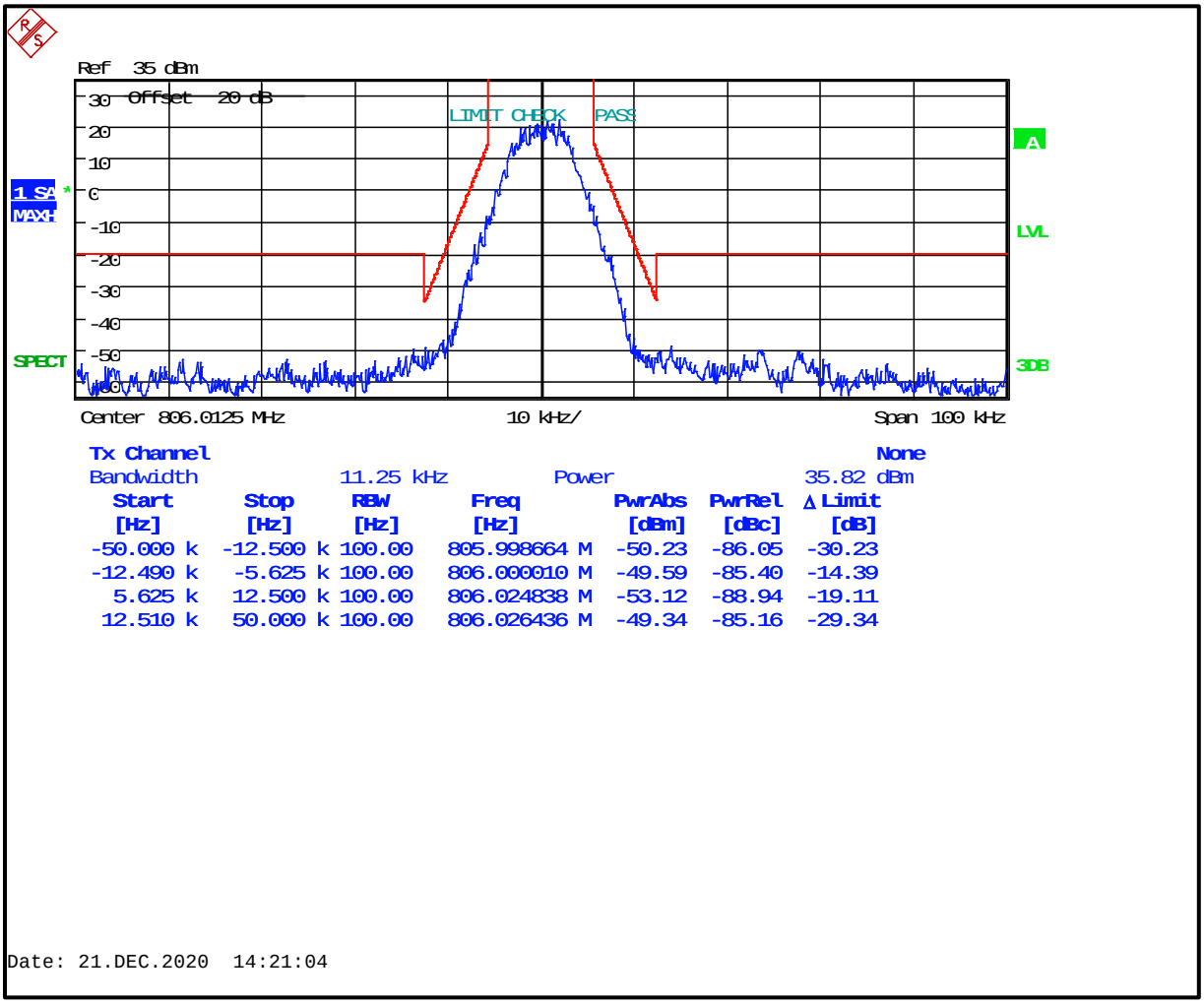
Plot 8-66: Occupied Bandwidth – 869.9875 MHz (EF); C4FM; Mask G



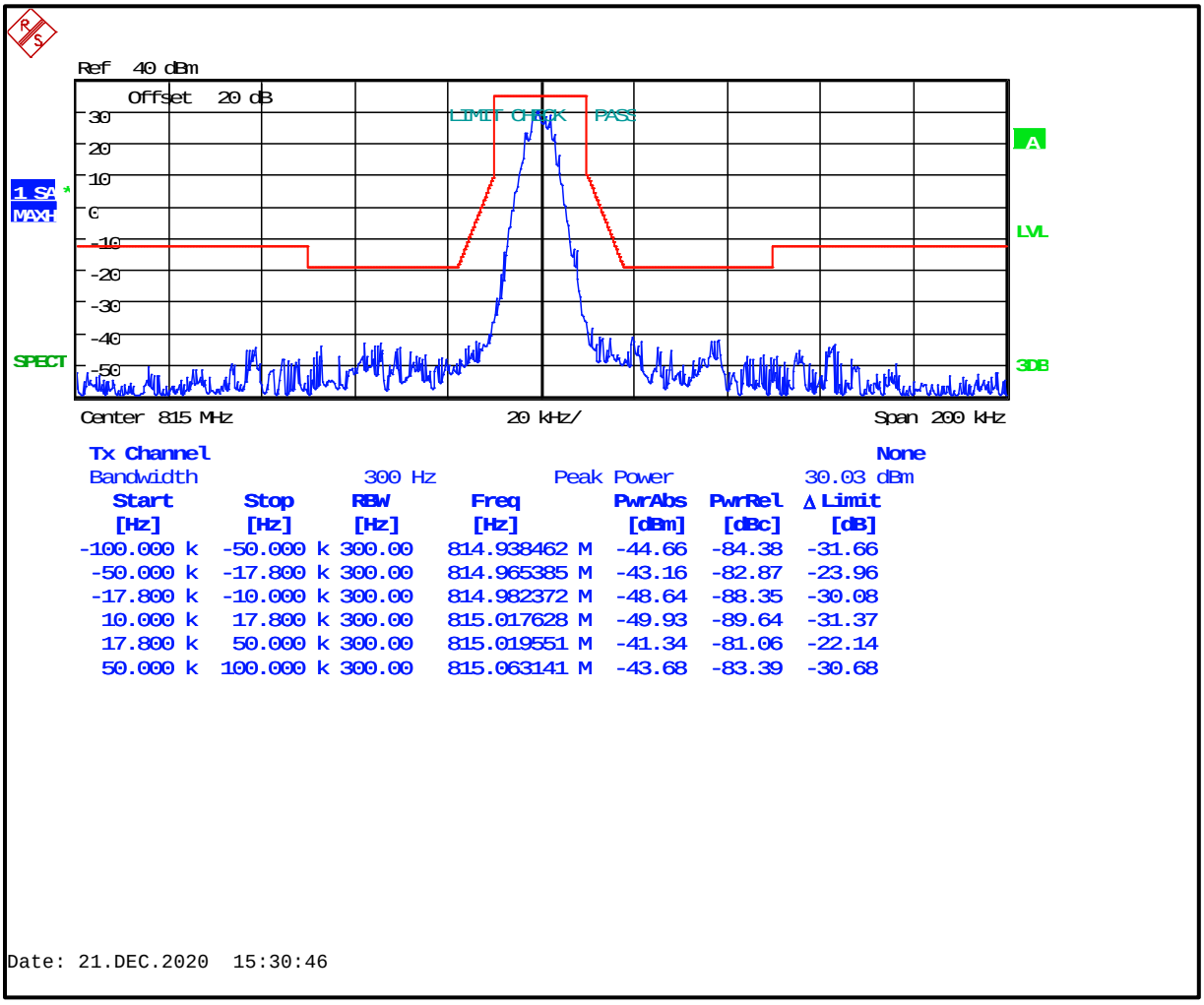
Plot 8-67: Occupied Bandwidth – 806.0125 MHz; H-CPM (TDMA); Mask H



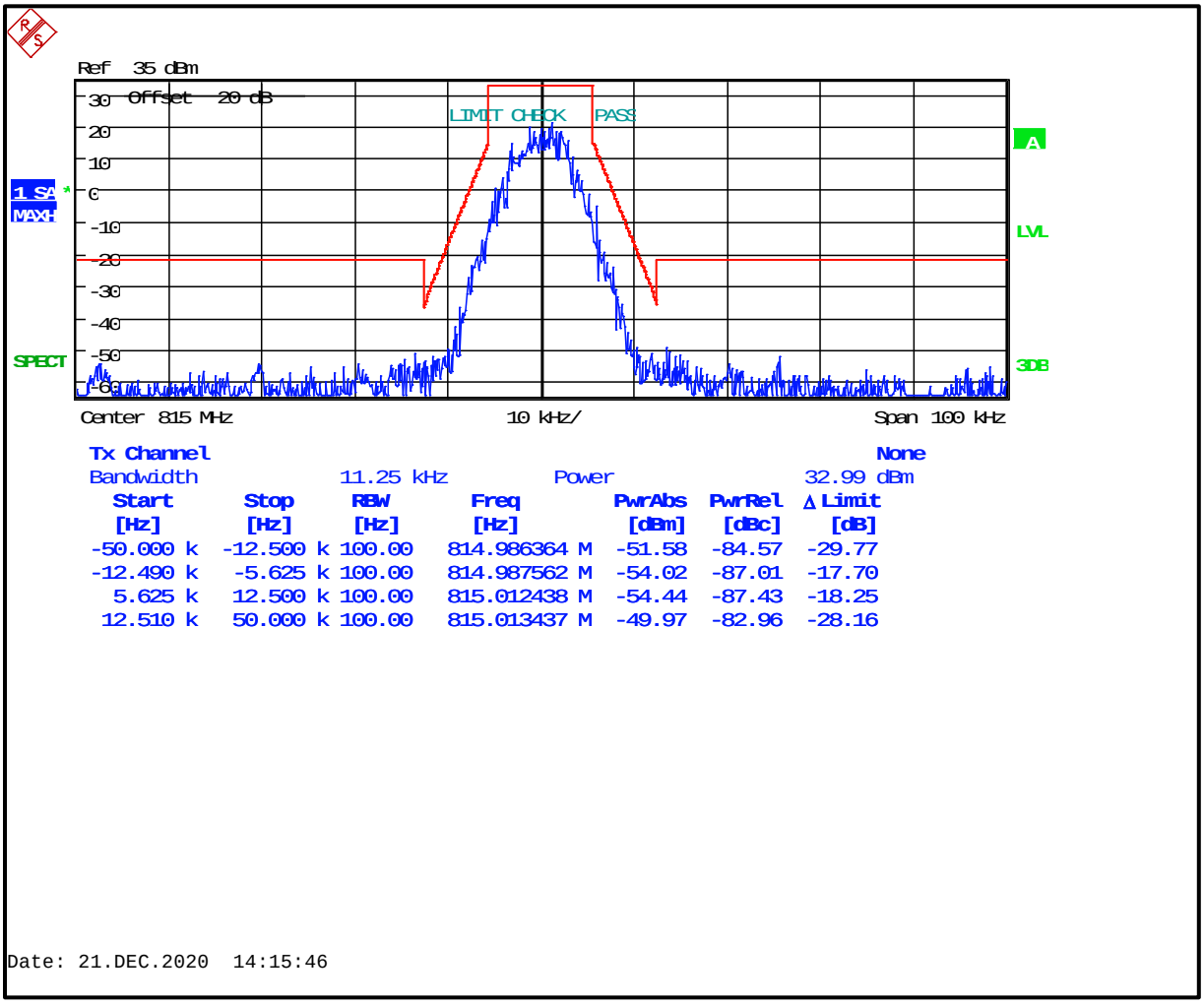
Plot 8-68: Occupied Bandwidth – 806.0125 MHz; H-CPM (TDMA); Mask D (ISED)



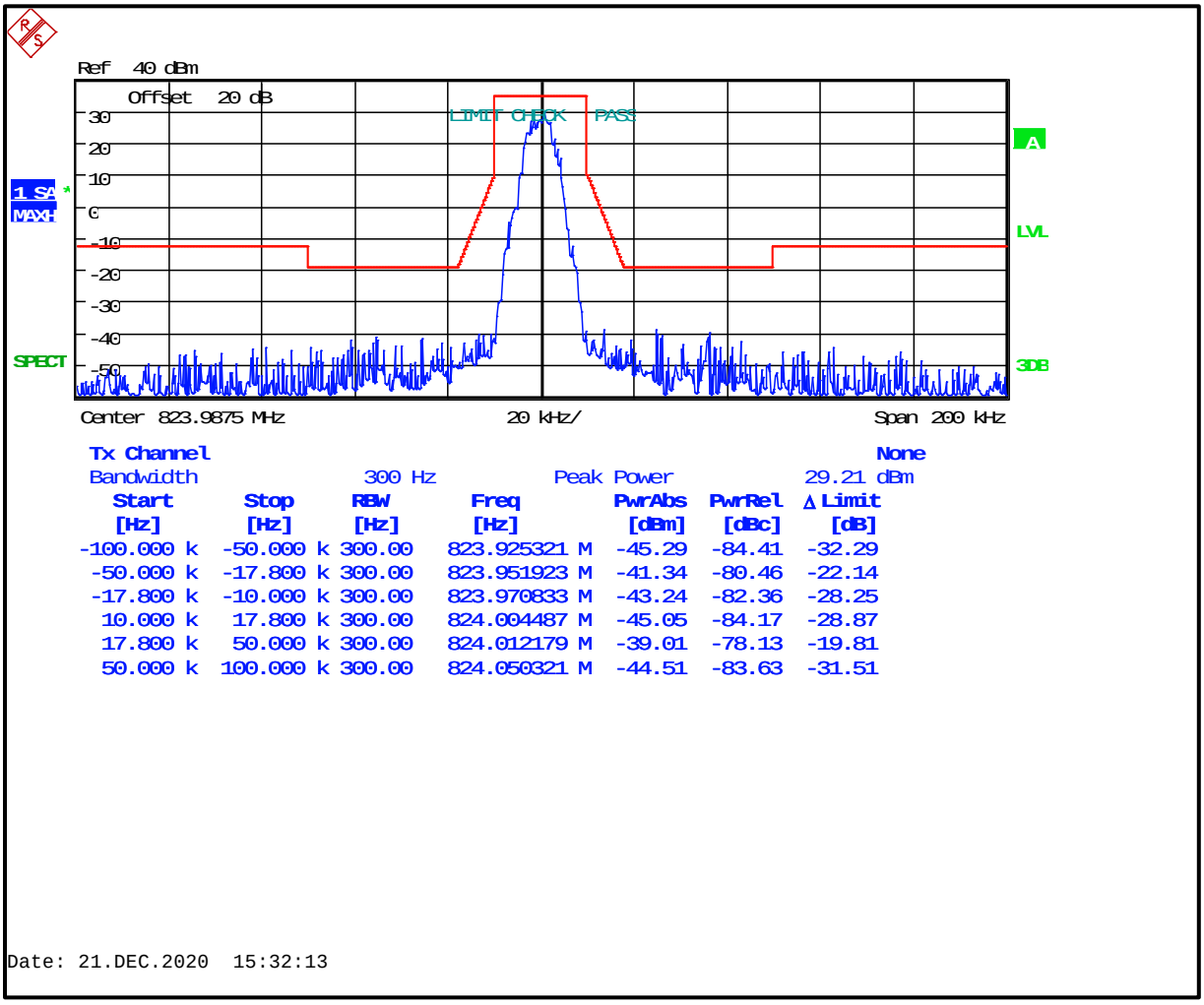
Plot 8-69: Occupied Bandwidth – 815.0000 MHz; H-CPM (TDMA);; Mask G



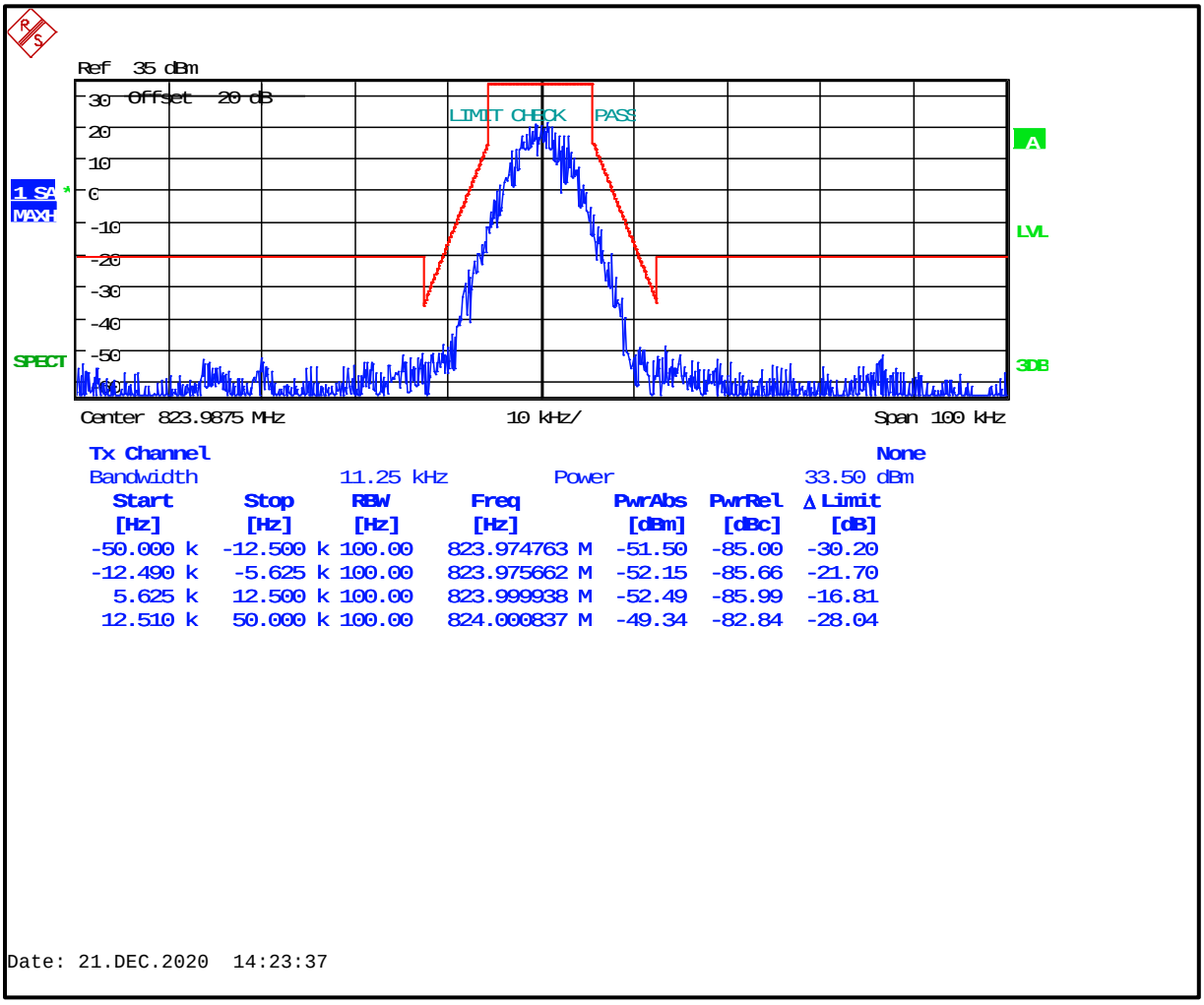
Plot 8-70: Occupied Bandwidth – 815.0000 MHz; H-CPM (TDMA); Mask D (ISED)



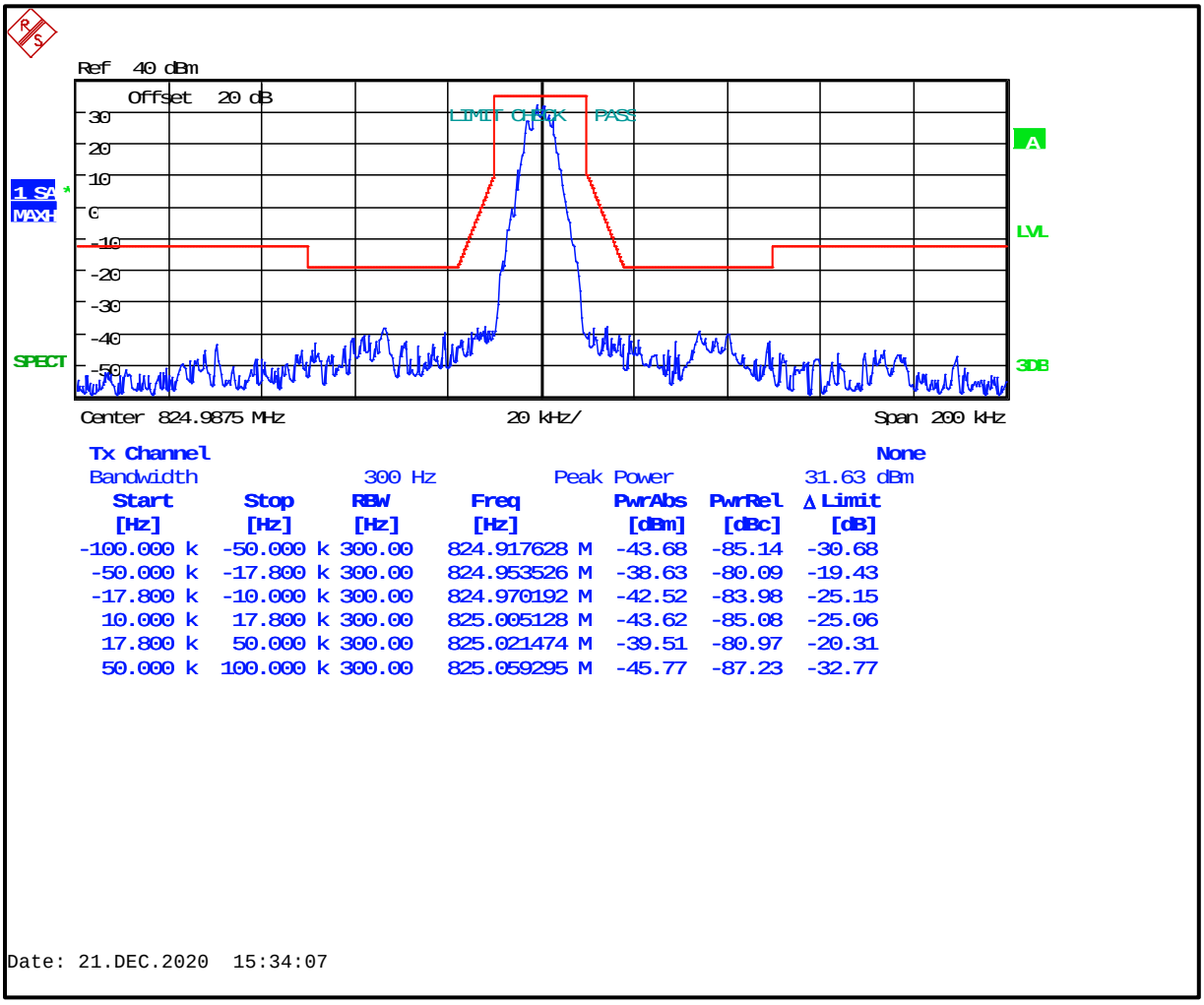
Plot 8-71: Occupied Bandwidth – 823.0125 MHz; H-CPM (TDMA); Mask G



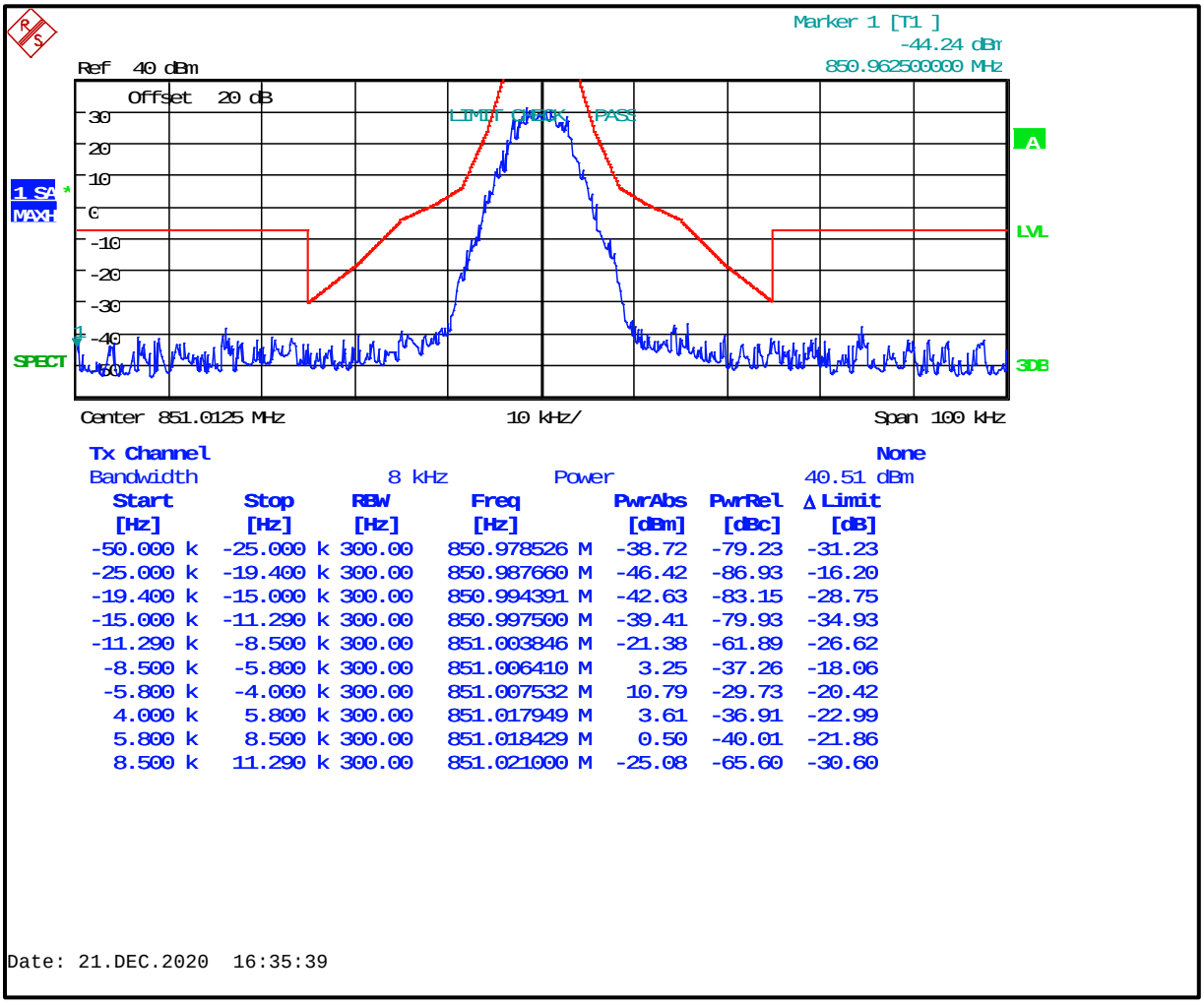
Plot 8-72: Occupied Bandwidth – 823.0125 MHz; H-CPM (TDMA); Mask D (ISED)



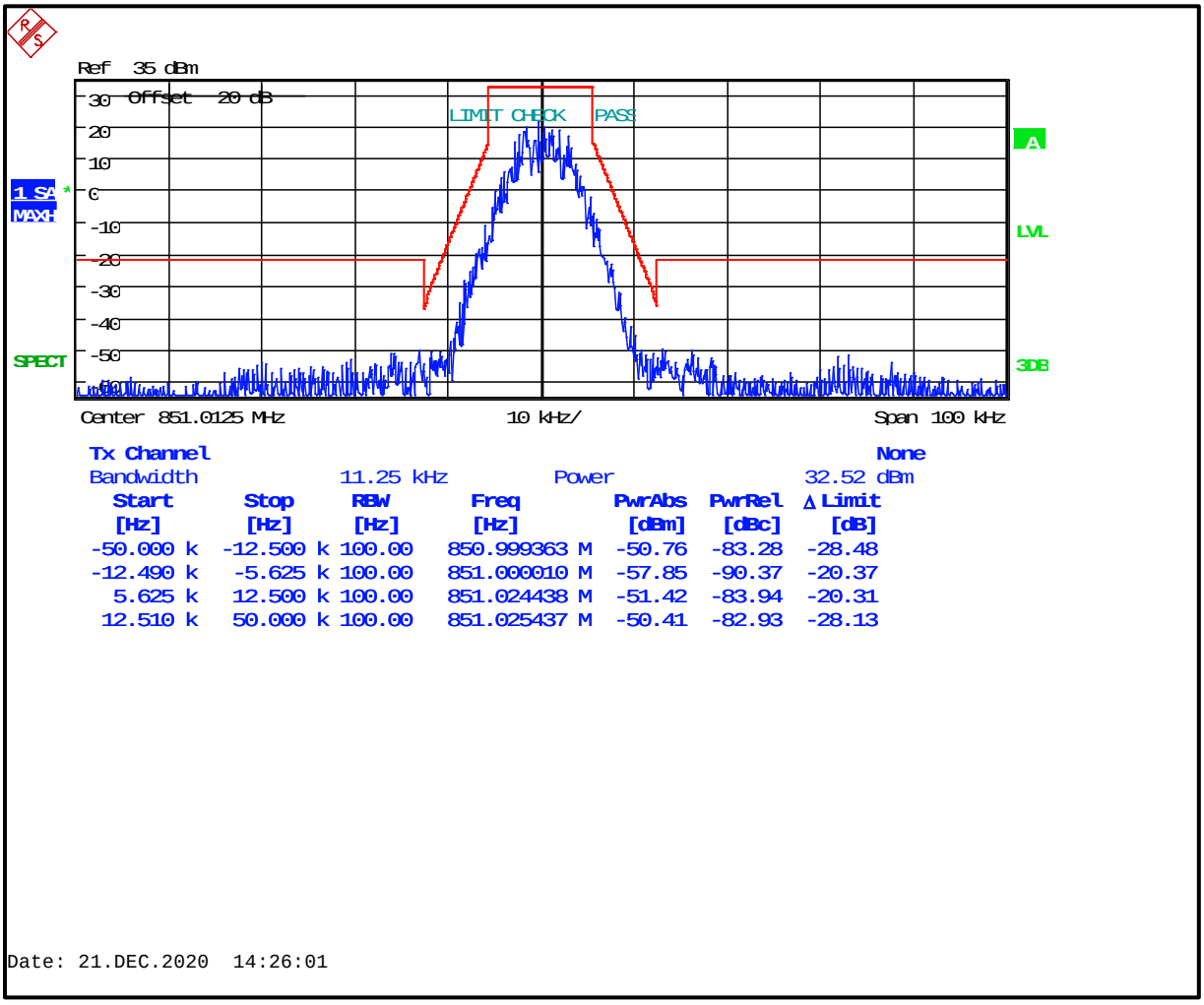
Plot 8-73: Occupied Bandwidth – 824.0125 MHz (EF); H-CPM (TDMA); Mask G



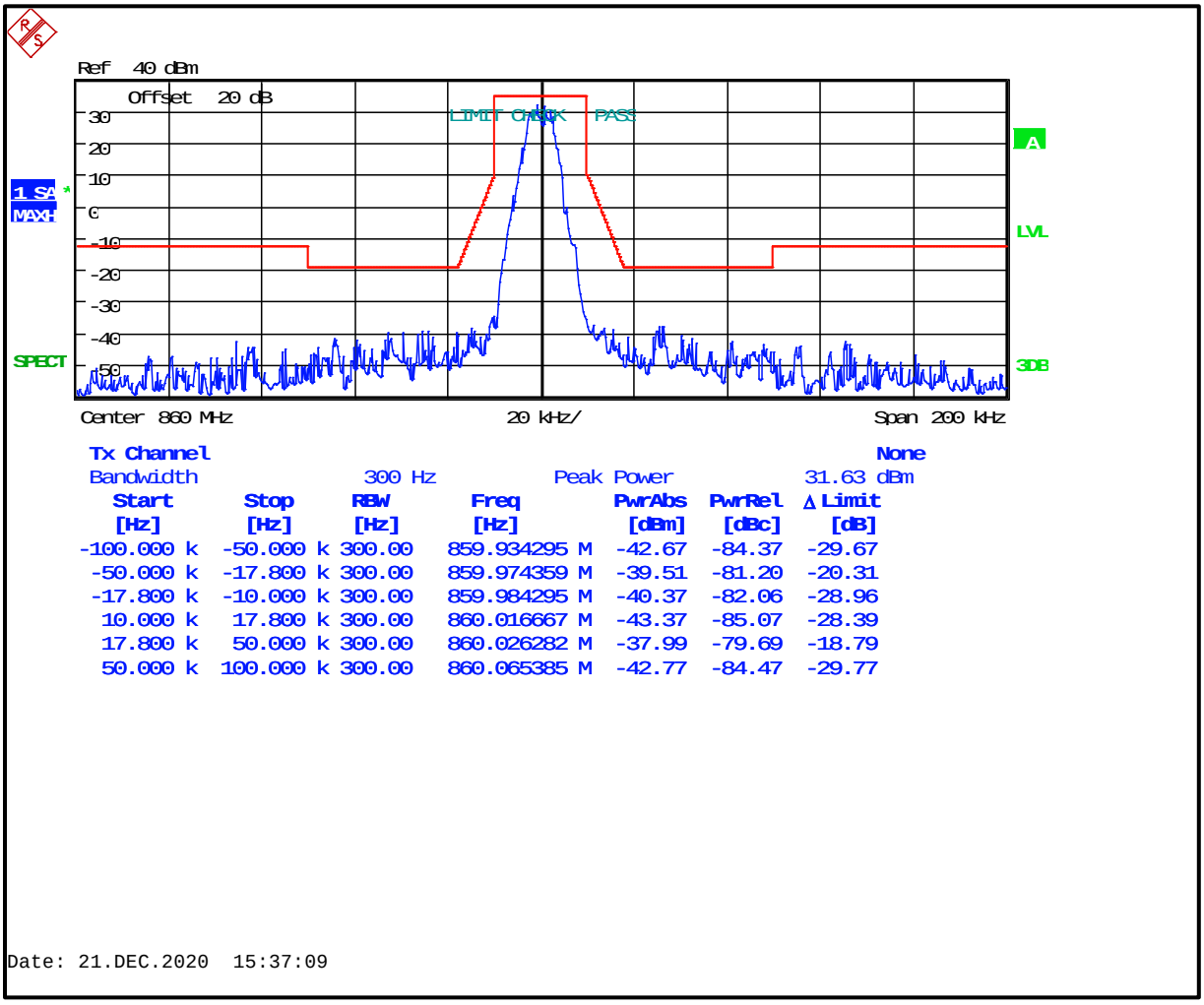
Plot 8-74: Occupied Bandwidth – 851.0125 MHz; H-CPM (TDMA); Mask H



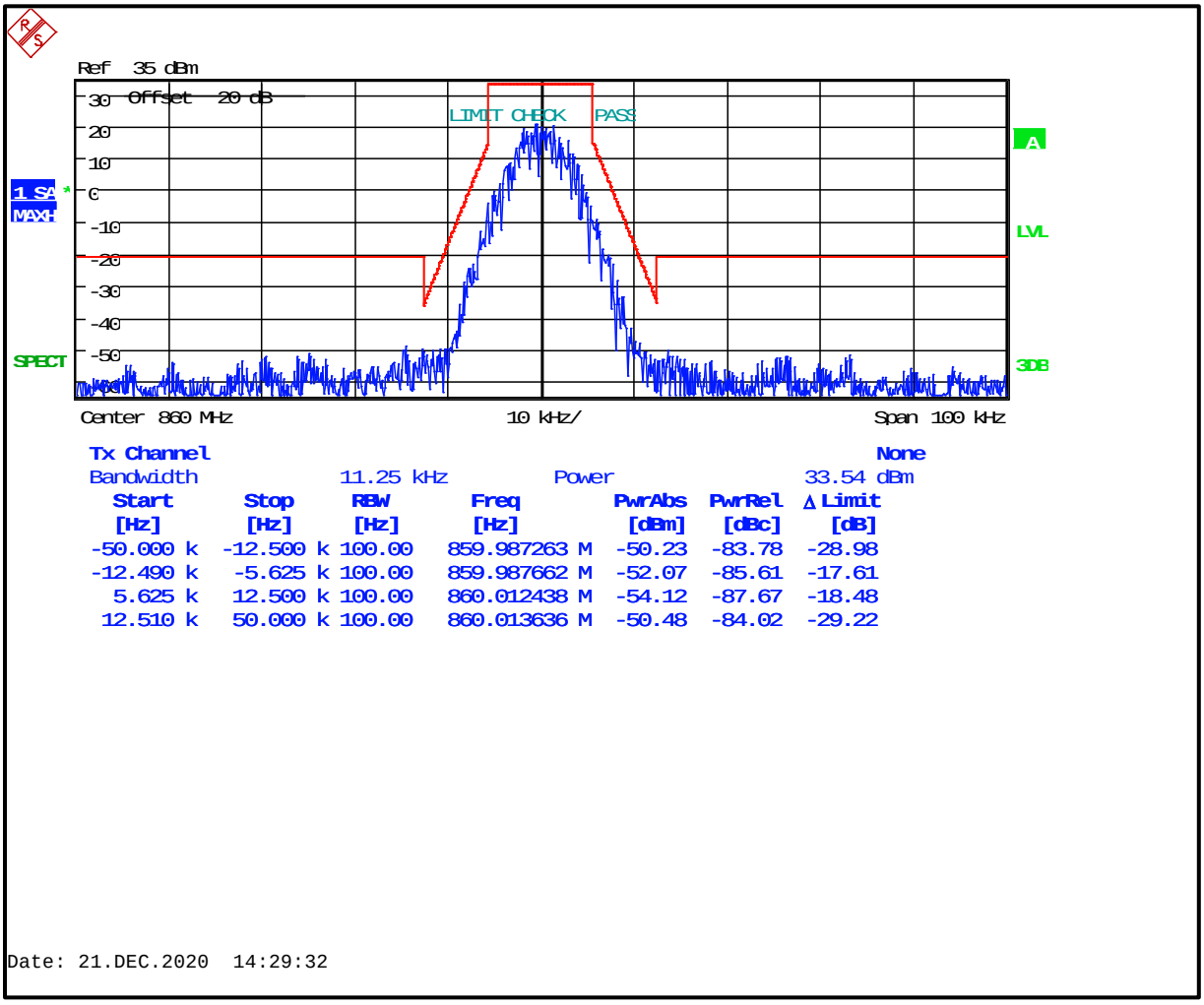
Plot 8-75: Occupied Bandwidth – 851.0125 MHz; H-CPM (TDMA); Mask D (ISED)



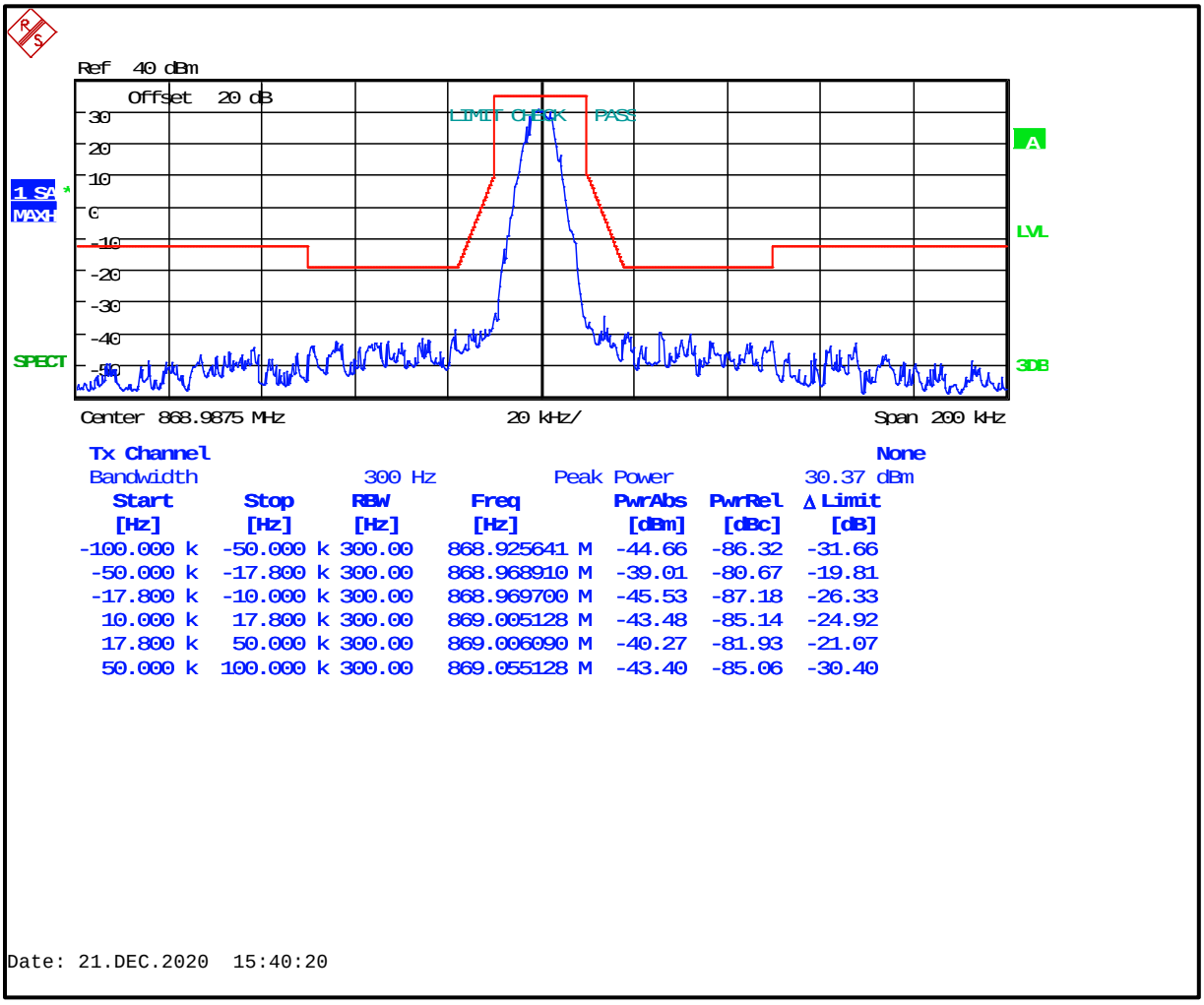
Plot 8-76: Occupied Bandwidth – 860.0000 MHz; H-CPM (TDMA); Mask G



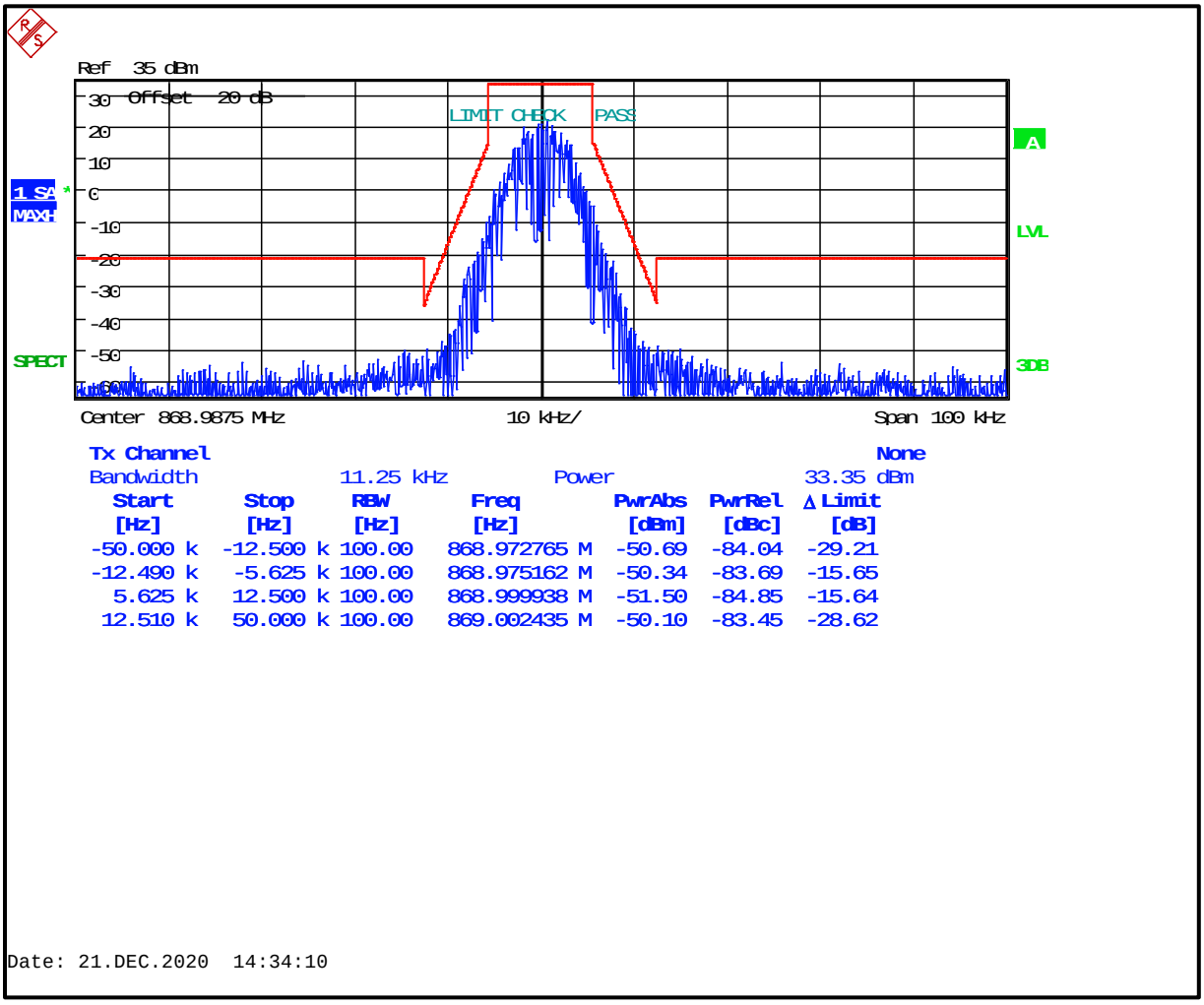
Plot 8-77: Occupied Bandwidth – 860.0000 MHz; H-CPM (TDMA); Mask D (ISED)



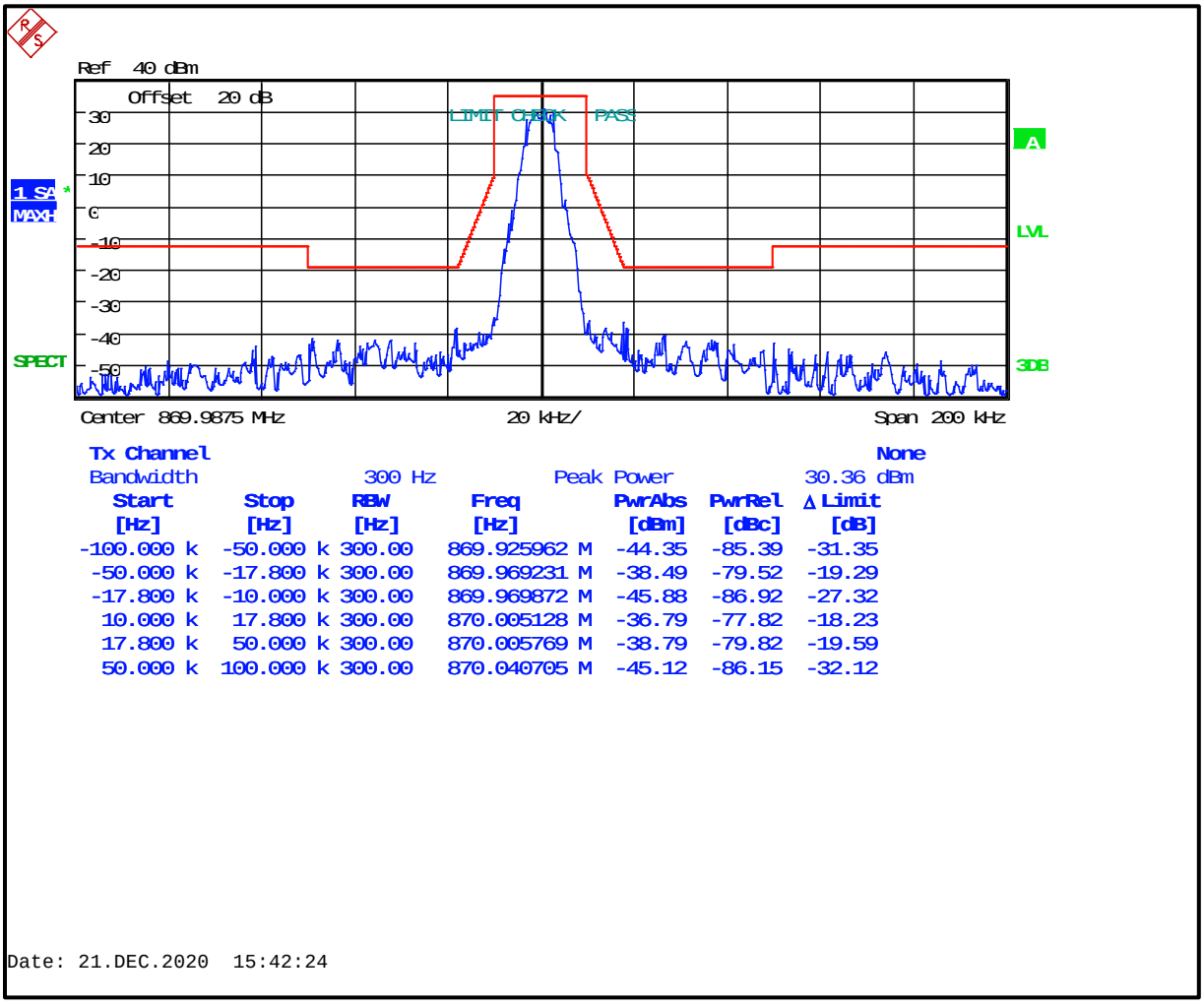
Plot 8-78: Occupied Bandwidth – 868.9875 MHz; H-CPM (TDMA); Mask G



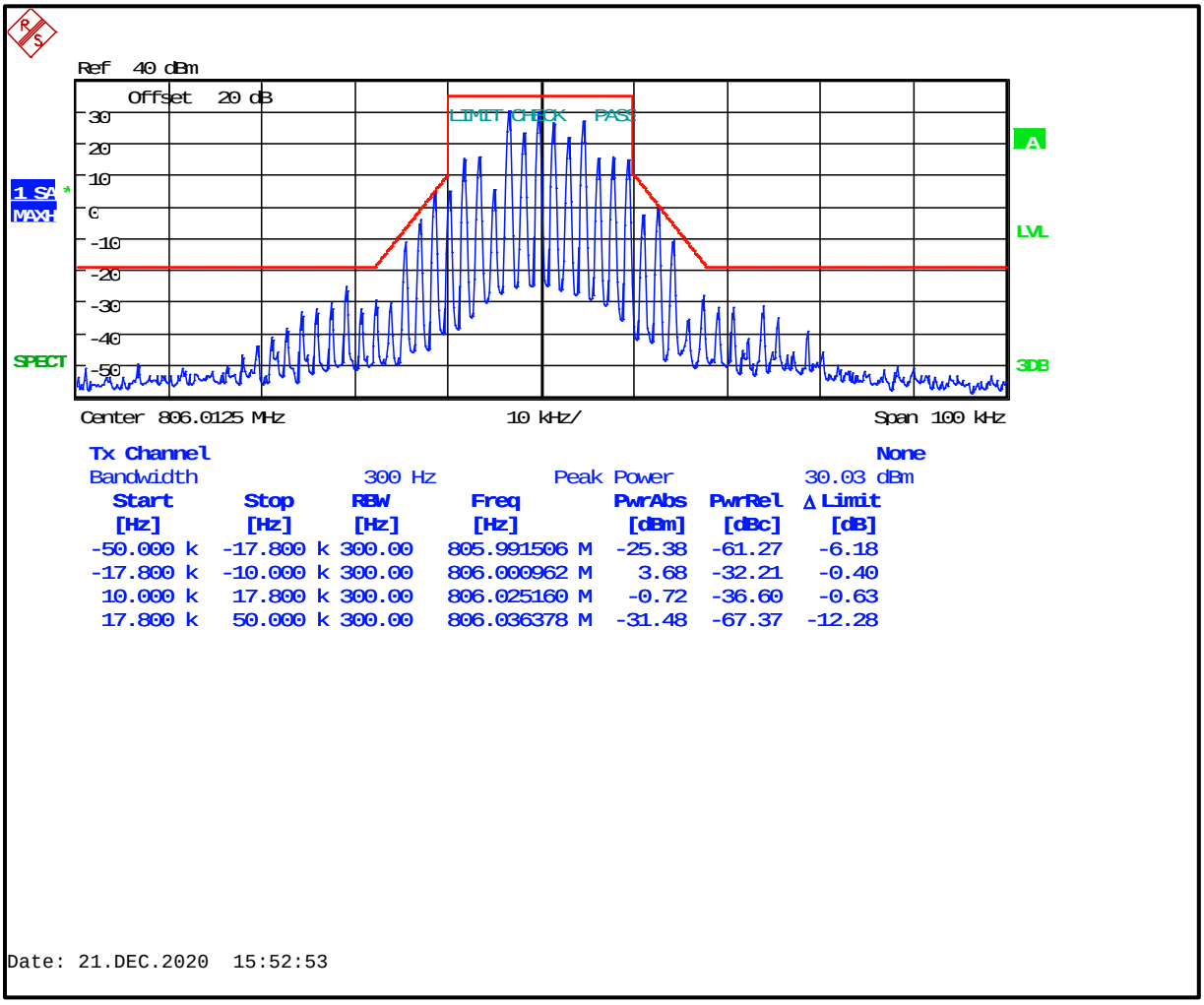
Plot 8-79: Occupied Bandwidth – 868.9875 MHz; H-CPM (TDMA); Mask D (ISED)



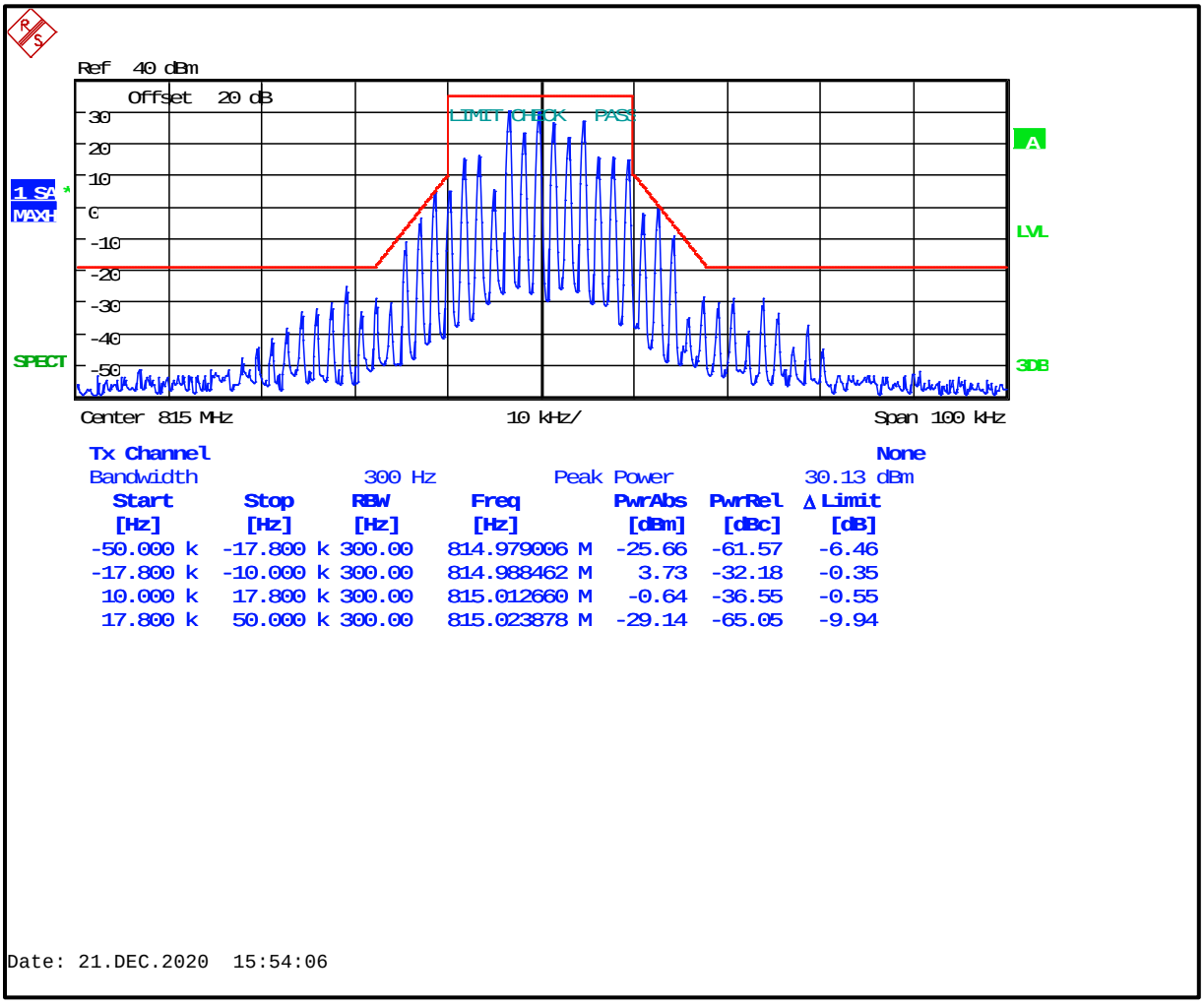
Plot 8-80: Occupied Bandwidth – 869.9875 MHz (EF); H-CPM (TDMA); Mask G



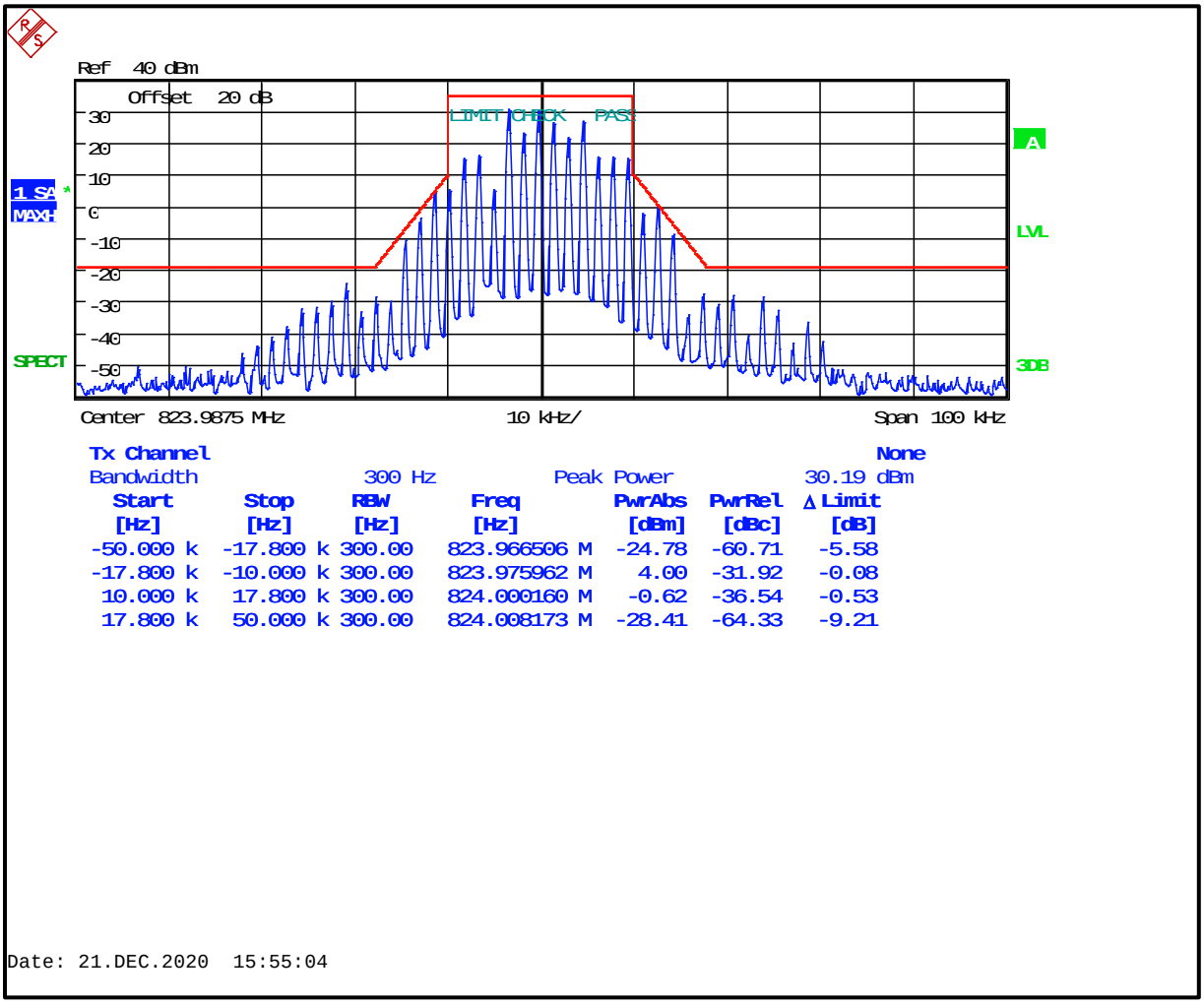
Plot 8-81: Occupied Bandwidth – 806.0125 MHz; HVD SMR; Mask G (ISED)



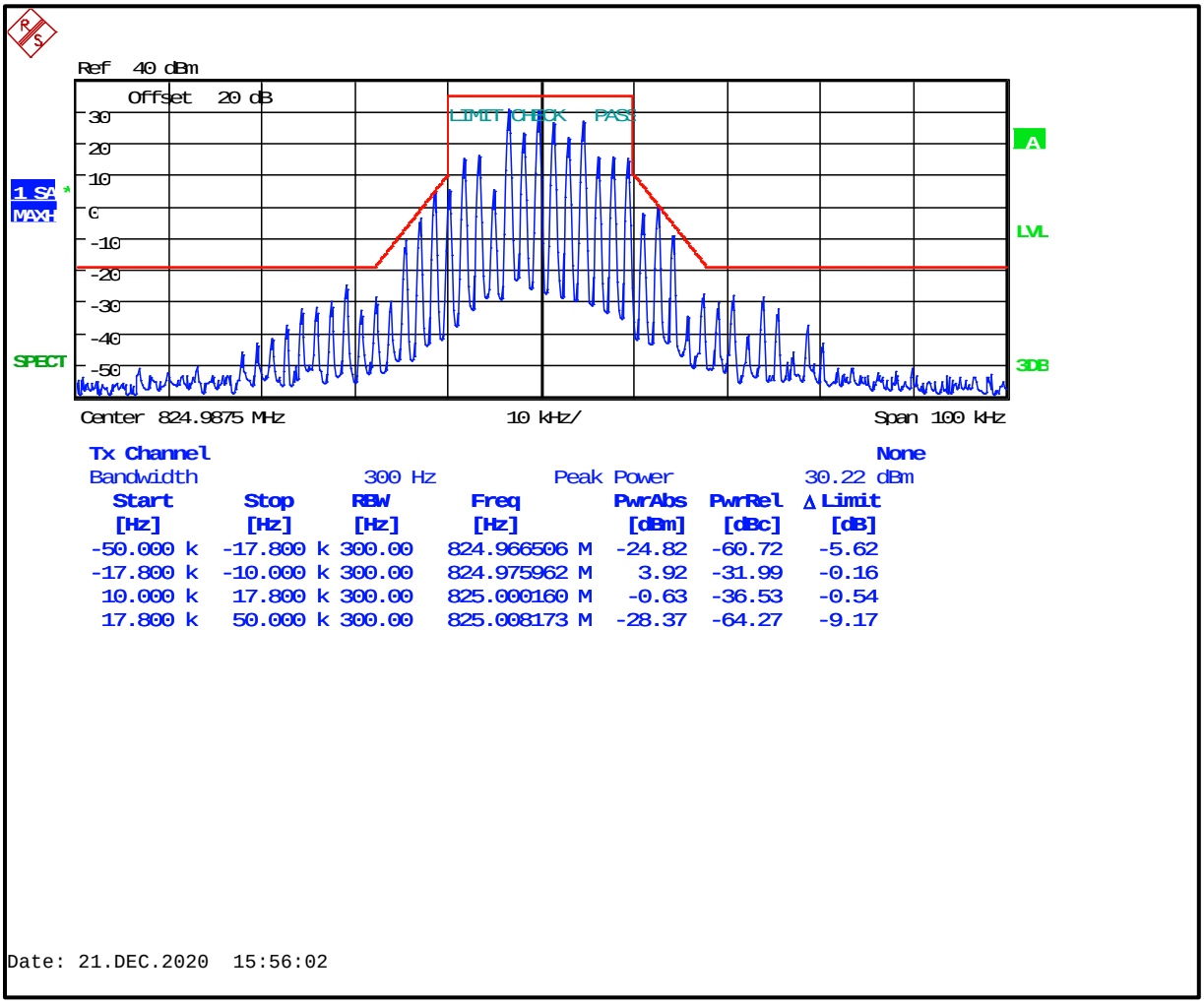
Plot 8-82: Occupied Bandwidth – 815.0000 MHz; HVD SMR; Mask G



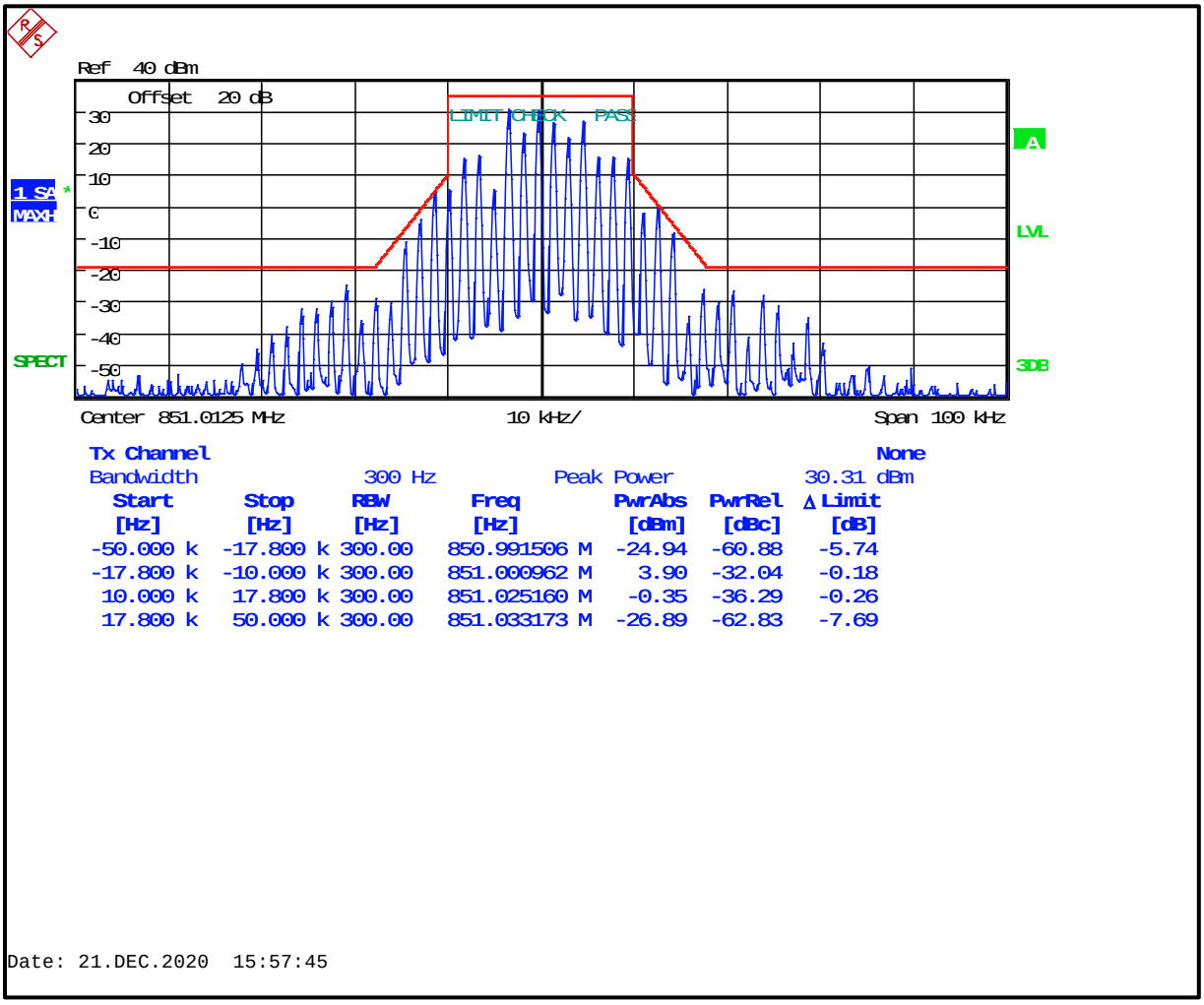
Plot 8-83: Occupied Bandwidth – 823.0125 MHz; HVD SMR; Mask G



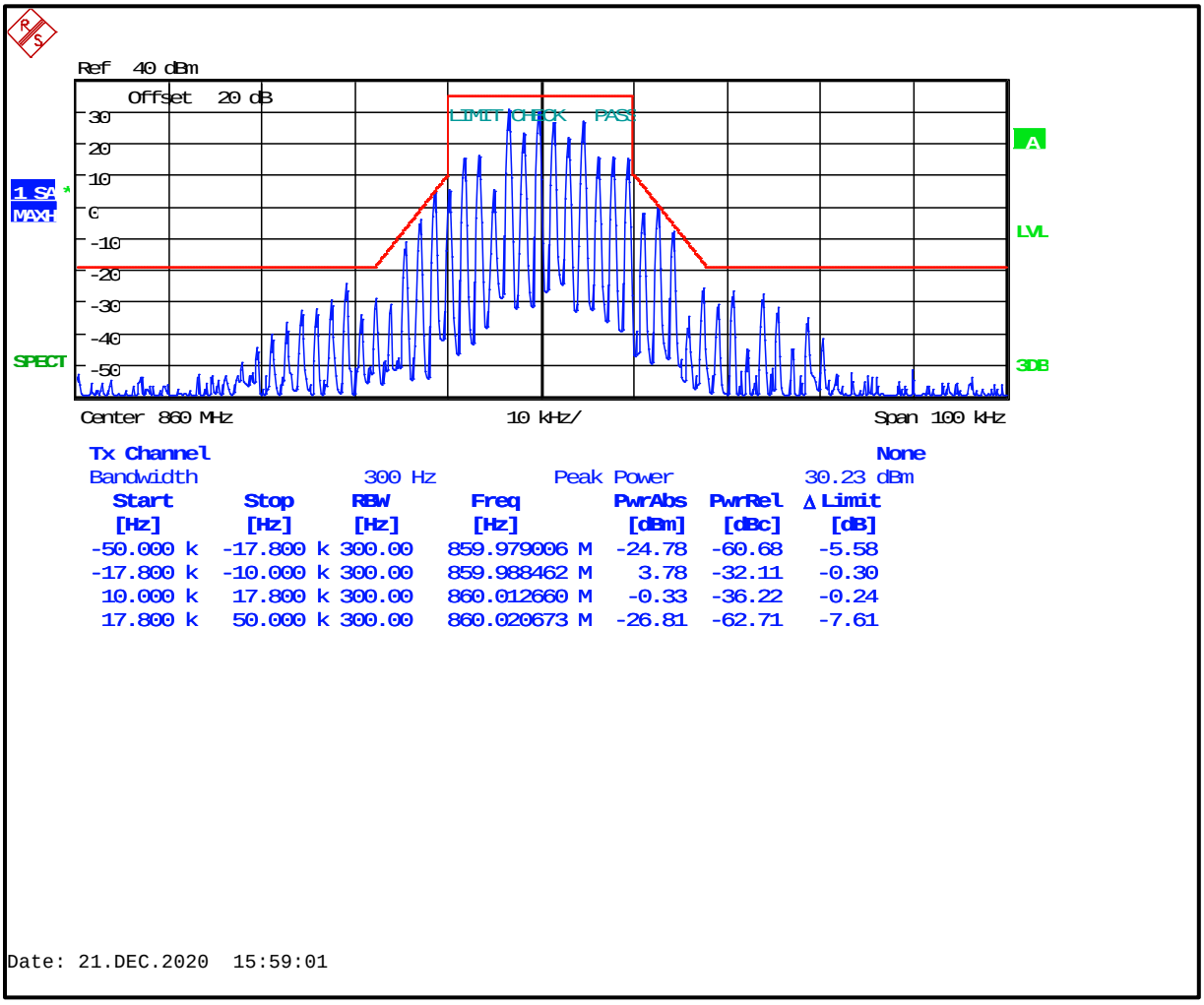
Plot 8-84: Occupied Bandwidth – 824.9875 MHz 9 (EF); HVD SMR; Mask G



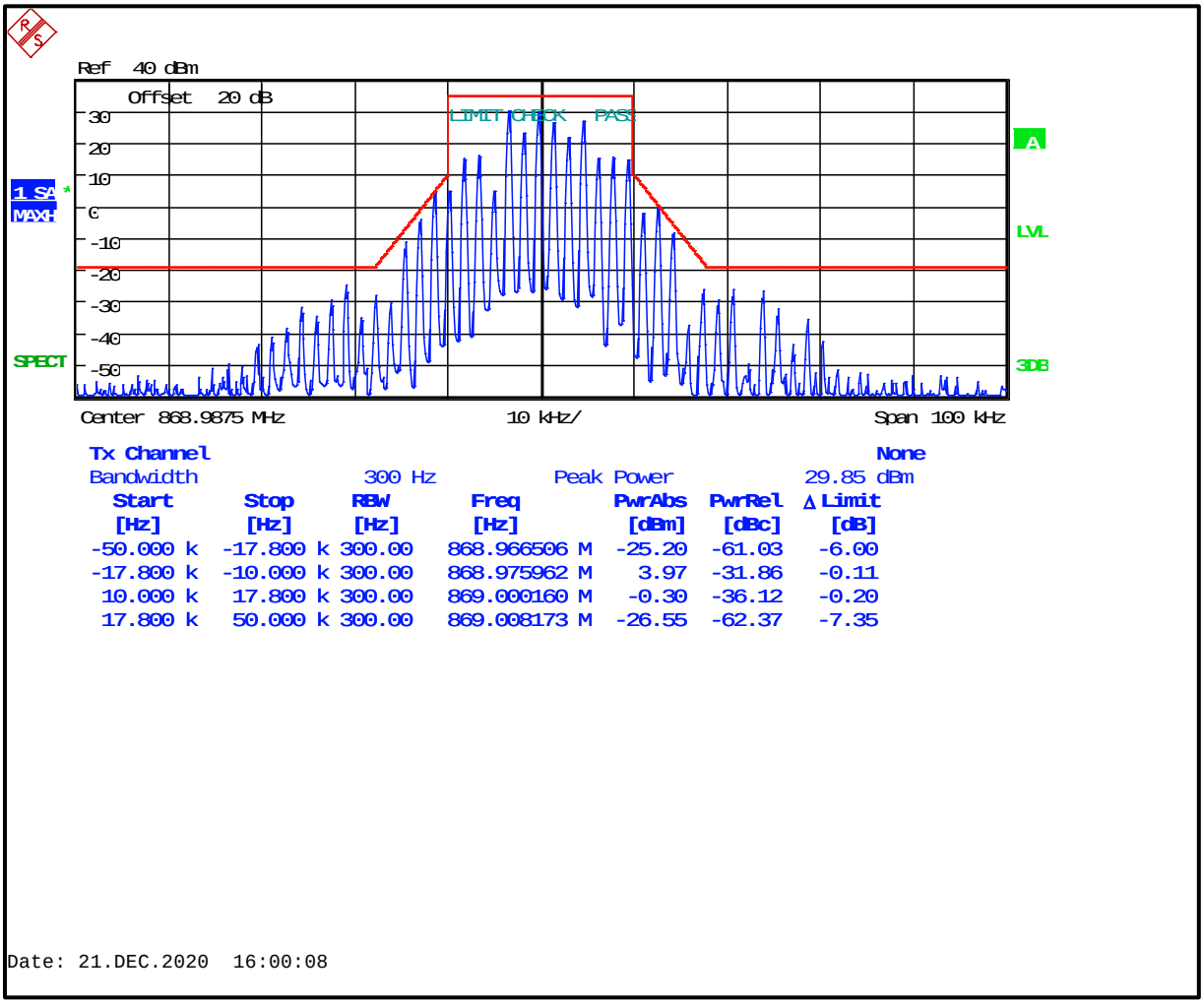
Plot 8-85: Occupied Bandwidth – 851.0125 MHz; HVD SMR; Mask G (ISED)



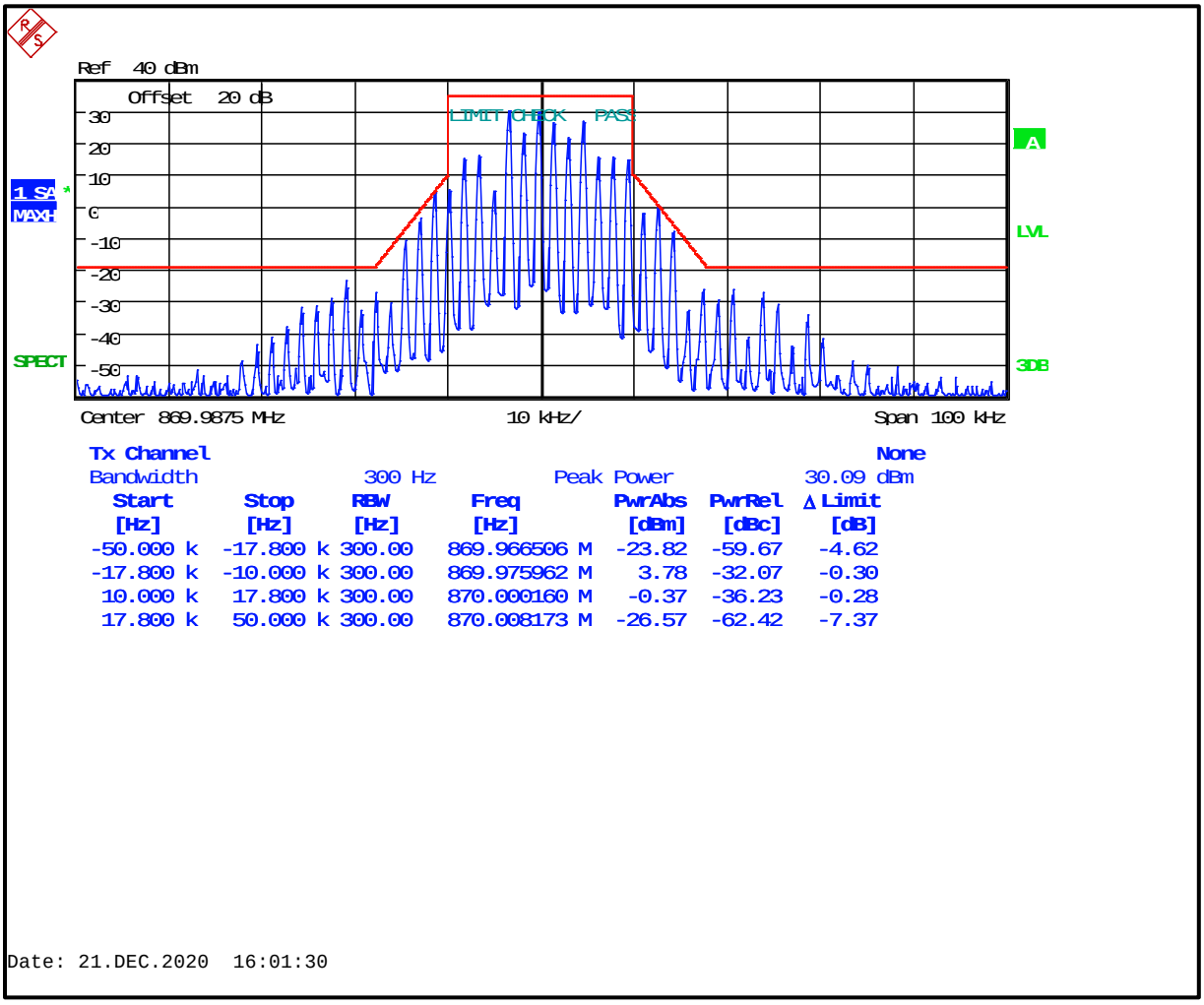
Plot 8-86: Occupied Bandwidth – 860.0000 MHz; HVD SMR; Mask G



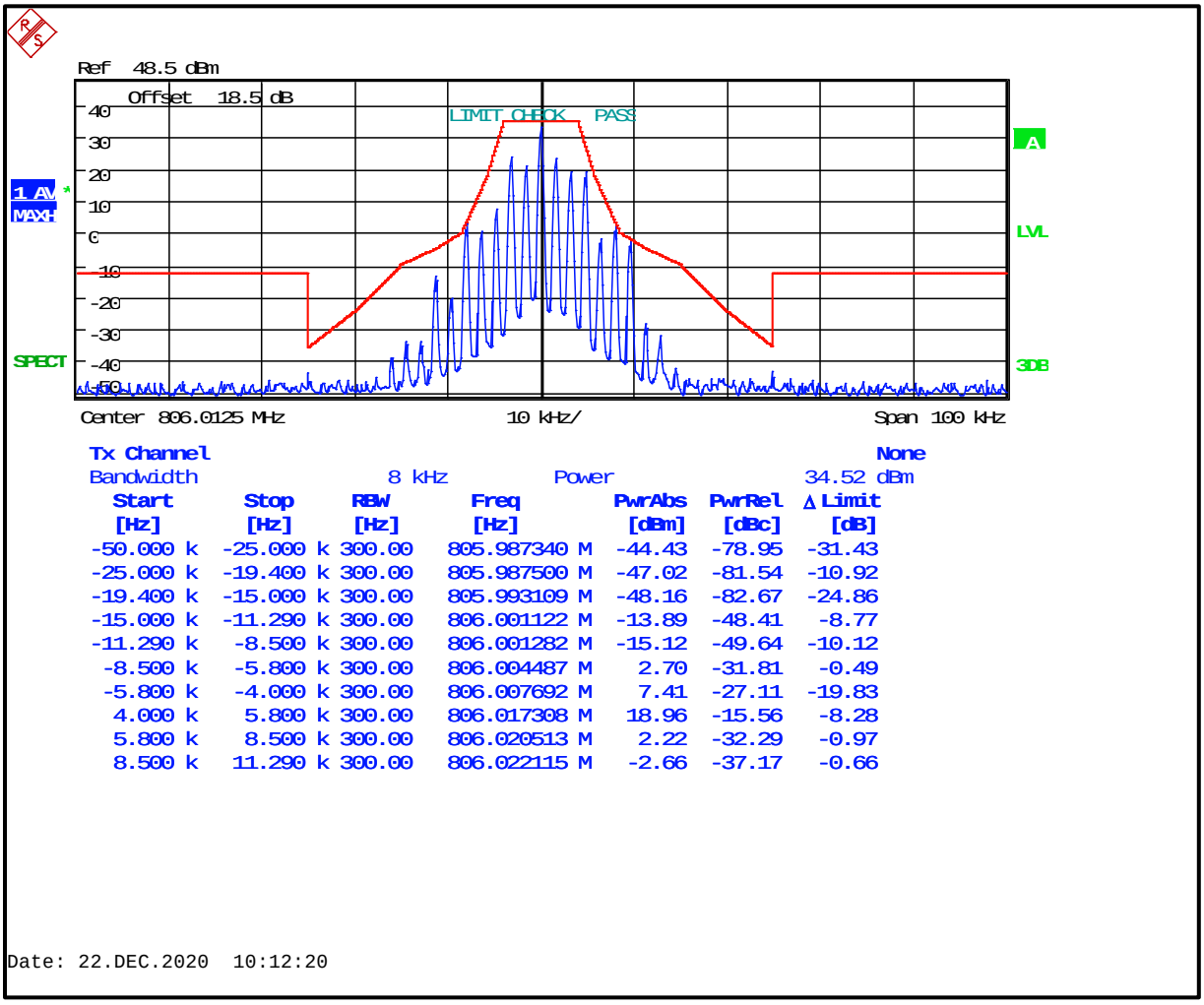
Plot 8-87: Occupied Bandwidth – 868.9875 MHz; HVD SMR; Mask G



Plot 8-88: Occupied Bandwidth – 869.9875 MHz (EF); HVD SMR; Mask G



Plot 8-89: Occupied Bandwidth – 806.0125 MHz; HVD NPSPAC; Mask H



Tx Channel **None**
Bandwidth 8 kHz Power 34.52 dBm

Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	PwrRel [dBc]	Δ Limit [dB]
-50.000 k	-25.000 k	300.00	805.987340 M	-44.43	-78.95	-31.43
-25.000 k	-19.400 k	300.00	805.987500 M	-47.02	-81.54	-10.92
-19.400 k	-15.000 k	300.00	805.993109 M	-48.16	-82.67	-24.86
-15.000 k	-11.290 k	300.00	806.001122 M	-13.89	-48.41	-8.77
-11.290 k	-8.500 k	300.00	806.001282 M	-15.12	-49.64	-10.12
-8.500 k	-5.800 k	300.00	806.004487 M	2.70	-31.81	-0.49
-5.800 k	-4.000 k	300.00	806.007692 M	7.41	-27.11	-19.83
4.000 k	5.800 k	300.00	806.017308 M	18.96	-15.56	-8.28
5.800 k	8.500 k	300.00	806.020513 M	2.22	-32.29	-0.97
8.500 k	11.290 k	300.00	806.022115 M	-2.66	-37.17	-0.66

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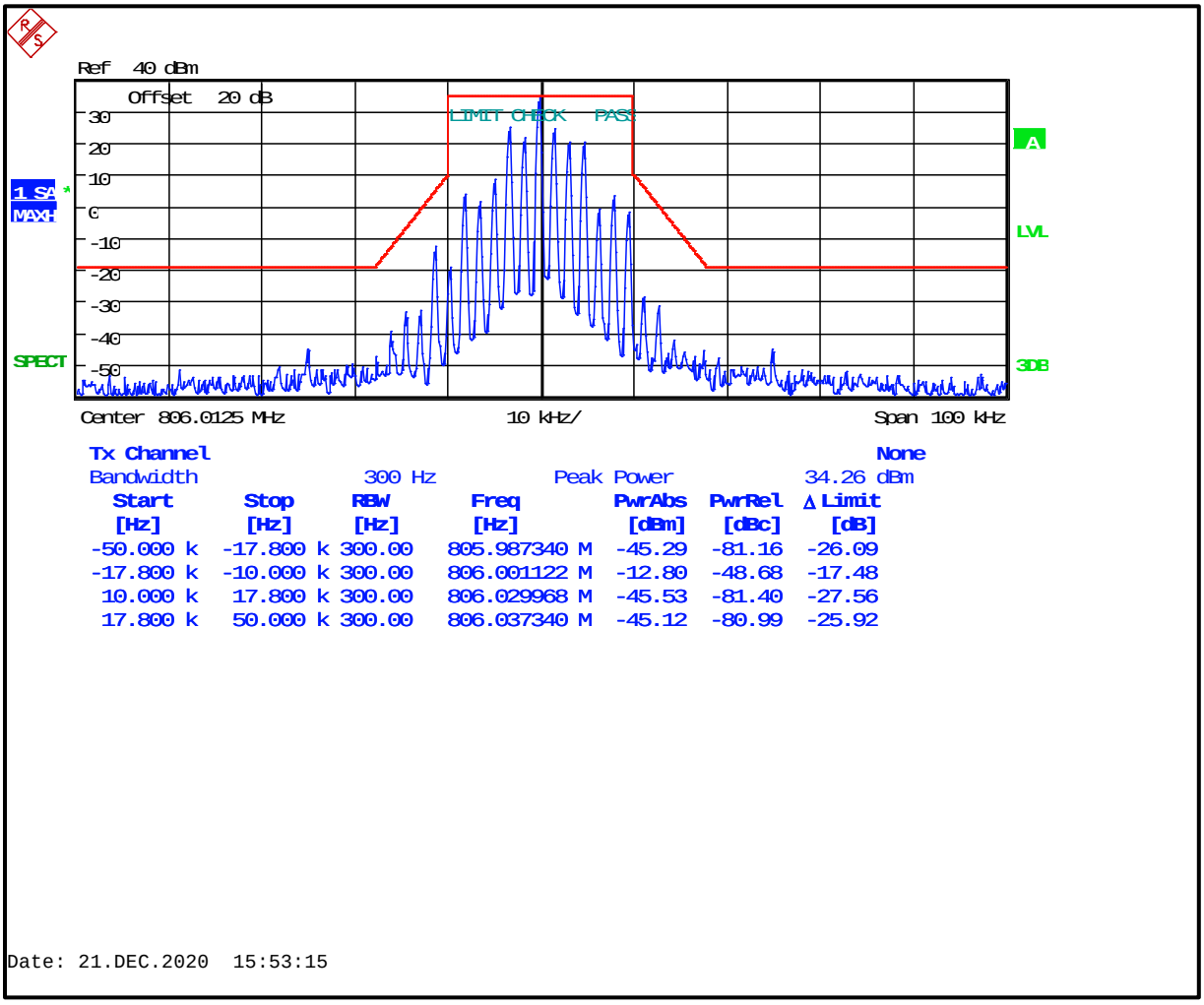
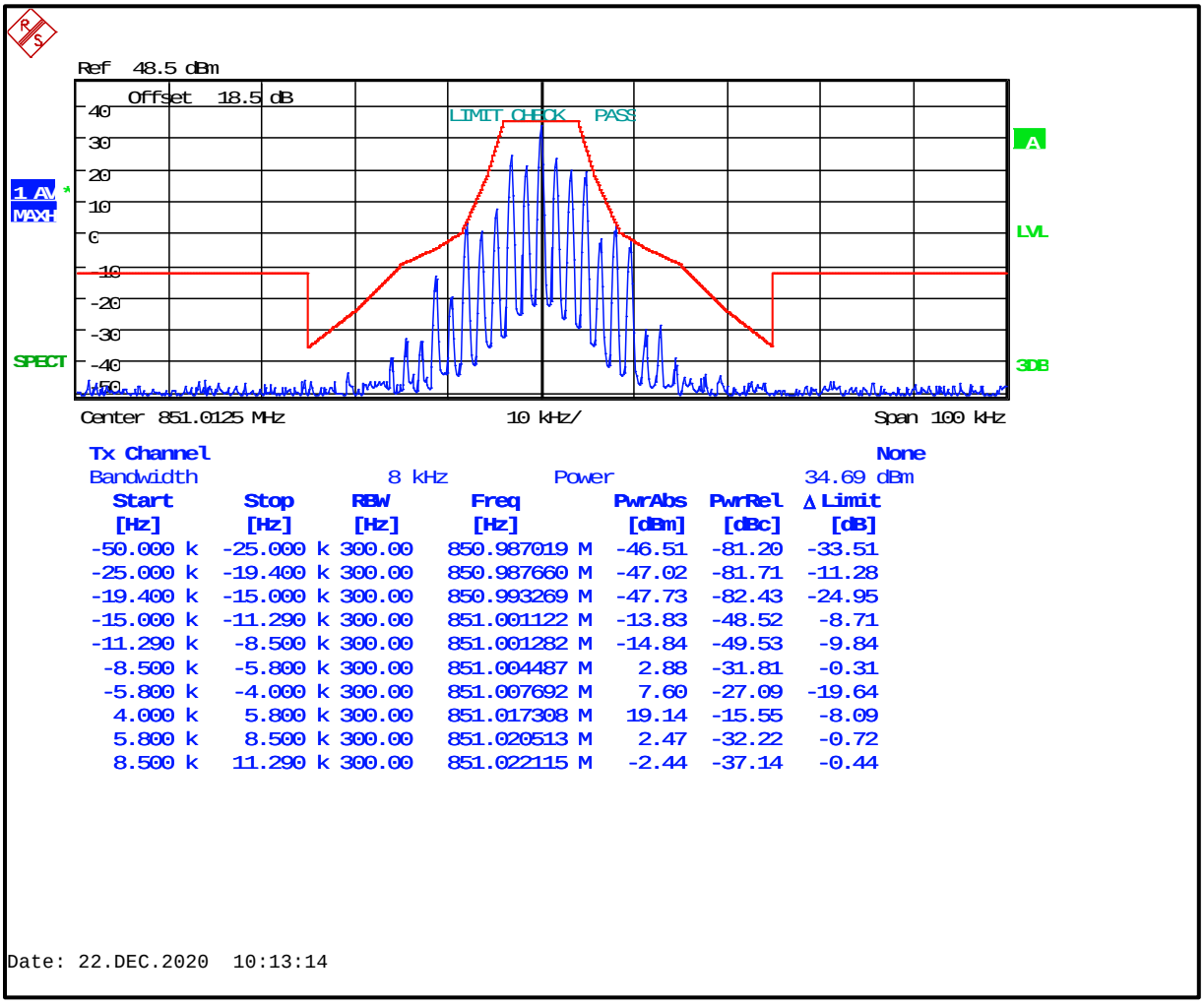
Plot 8-90: Occupied Bandwidth – 806.0125 MHz; HVD NPSPAC; Mask G (ISED)



Plot 8-91: Occupied Bandwidth – 851.0125 MHz; HVD NPSPAC; Mask H

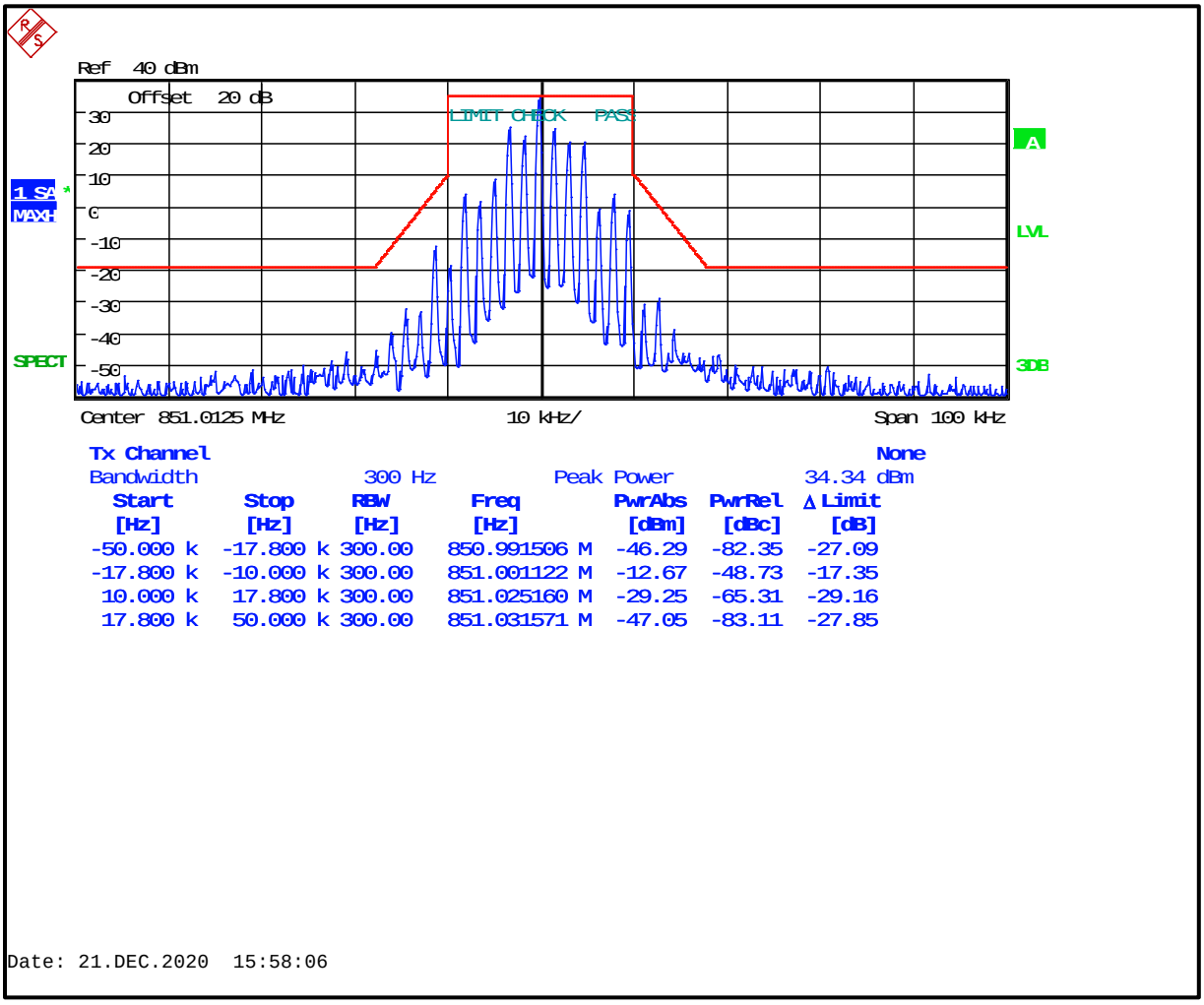


Tx Channel None
Bandwidth 8 kHz Power 34.69 dBm

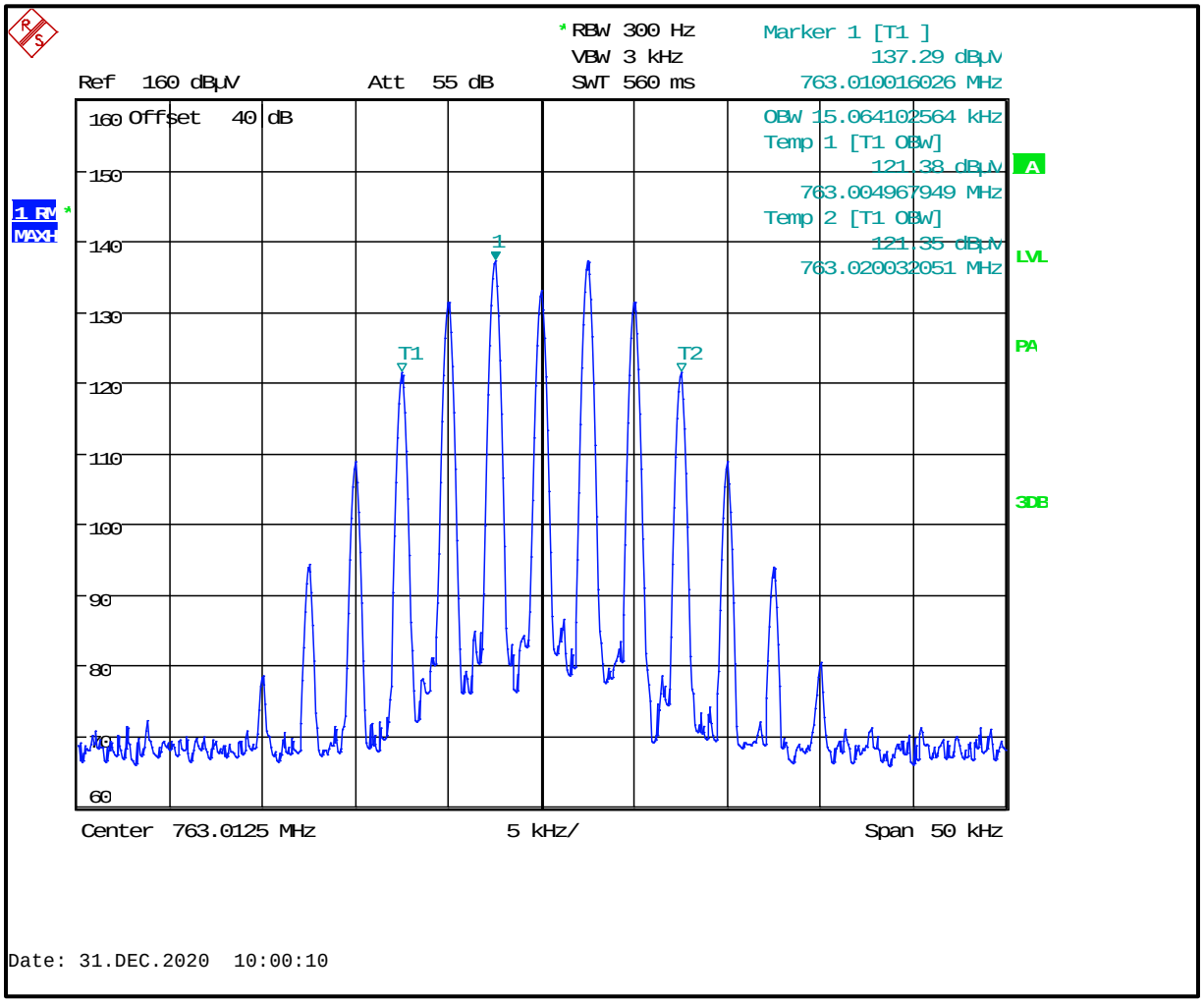
Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	PwrRel [dBc]	Δ Limit [dB]
-50.000 k	-25.000 k	300.00	850.987019 M	-46.51	-81.20	-33.51
-25.000 k	-19.400 k	300.00	850.987660 M	-47.02	-81.71	-11.28
-19.400 k	-15.000 k	300.00	850.993269 M	-47.73	-82.43	-24.95
-15.000 k	-11.290 k	300.00	851.001122 M	-13.83	-48.52	-8.71
-11.290 k	-8.500 k	300.00	851.001282 M	-14.84	-49.53	-9.84
-8.500 k	-5.800 k	300.00	851.004487 M	2.88	-31.81	-0.31
-5.800 k	-4.000 k	300.00	851.007692 M	7.60	-27.09	-19.64
4.000 k	5.800 k	300.00	851.017308 M	19.14	-15.55	-8.09
5.800 k	8.500 k	300.00	851.020513 M	2.47	-32.22	-0.72
8.500 k	11.290 k	300.00	851.022115 M	-2.44	-37.14	-0.44

Date: 22.DEC.2020 10:13:14

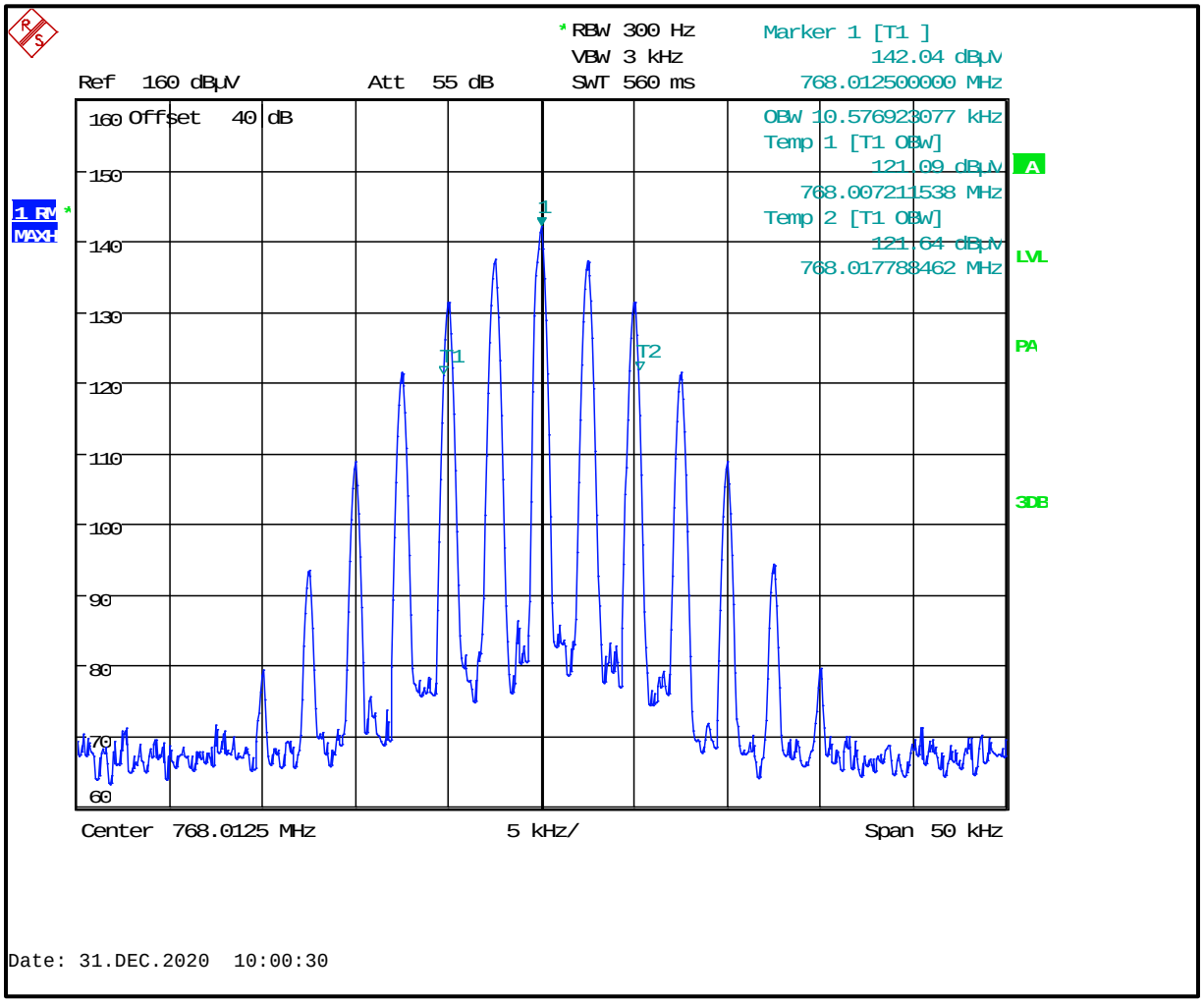
Plot 8-92: Occupied Bandwidth – 851.0125 MHz; HVD NPSPAC; Mask G (ISED)



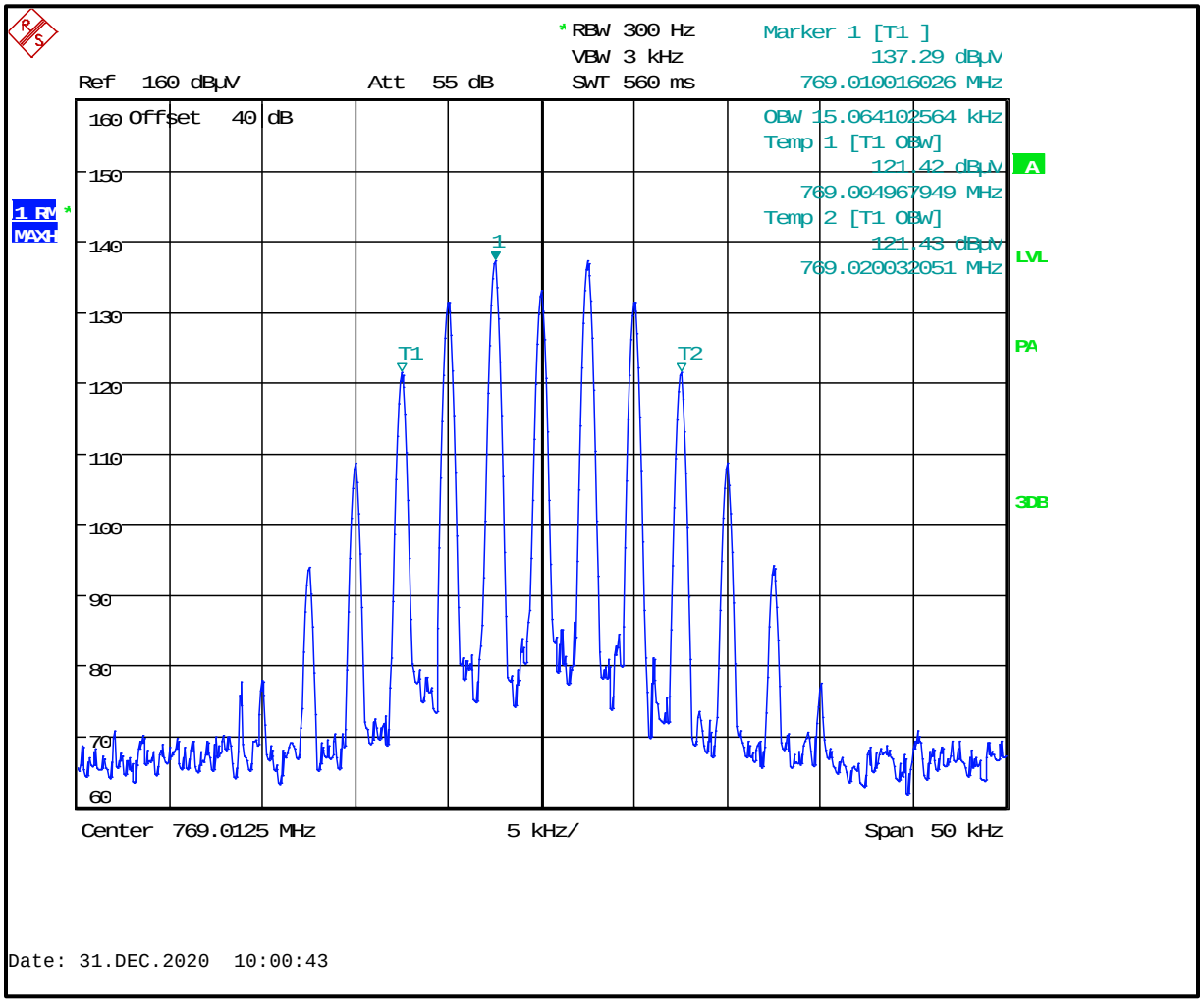
Plot 8-93: 99% Occupied Bandwidth – 763.0125 MHz; WB Analog



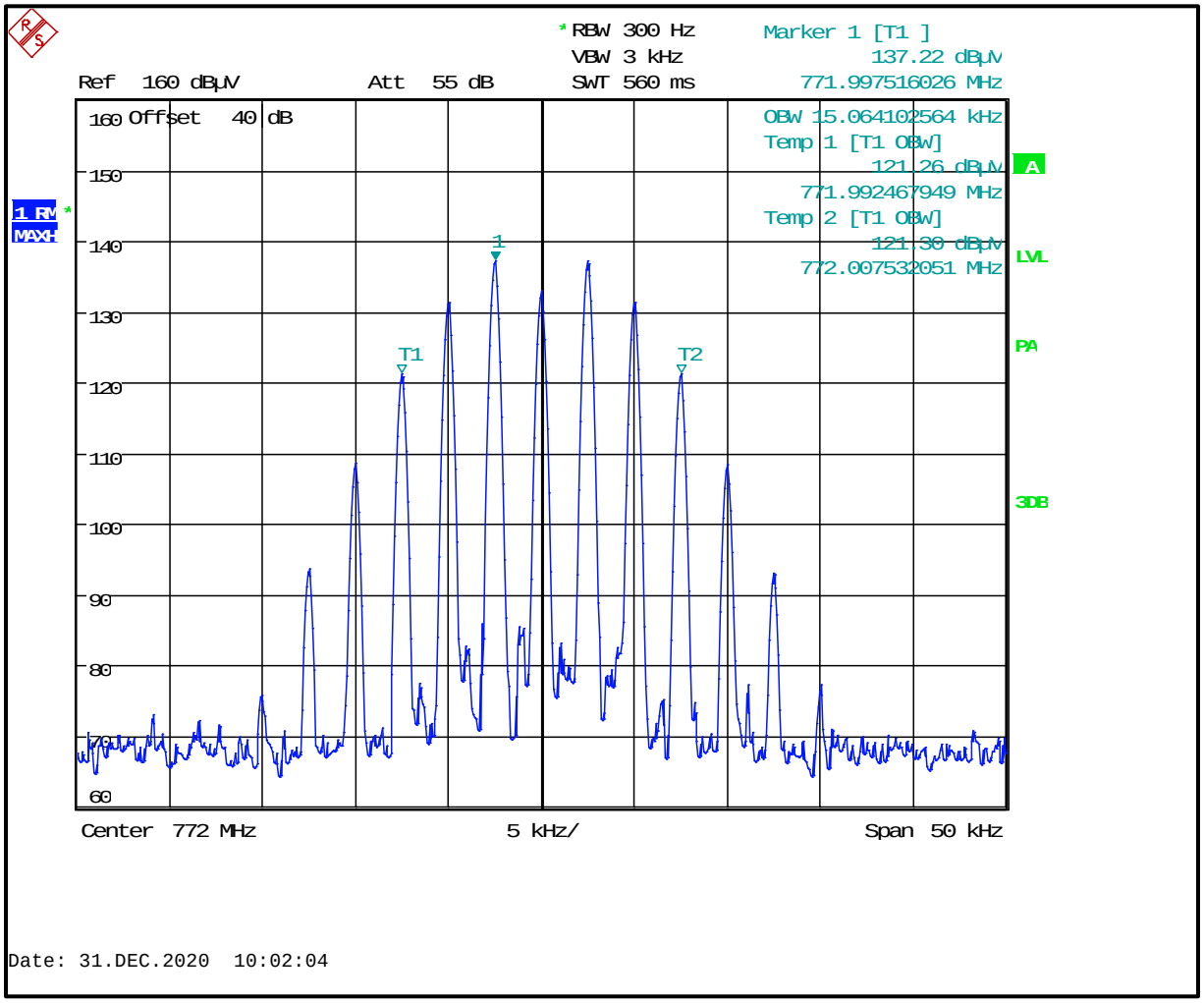
Plot 8-94: 99% Occupied Bandwidth – 768.0125 MHz; WB Analog



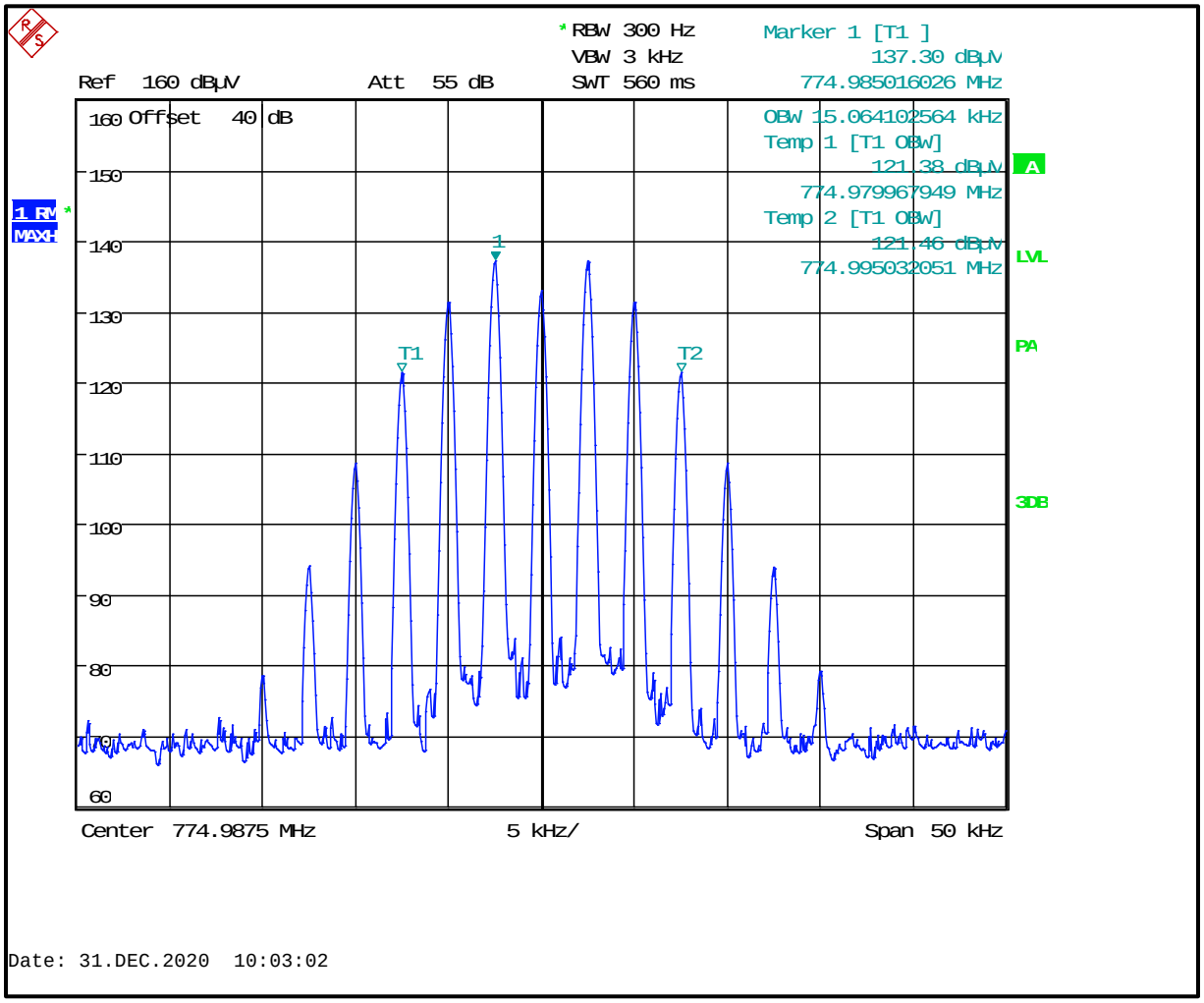
Plot 8-95: 99% Occupied Bandwidth – 769.0125 MHz; WB Analog



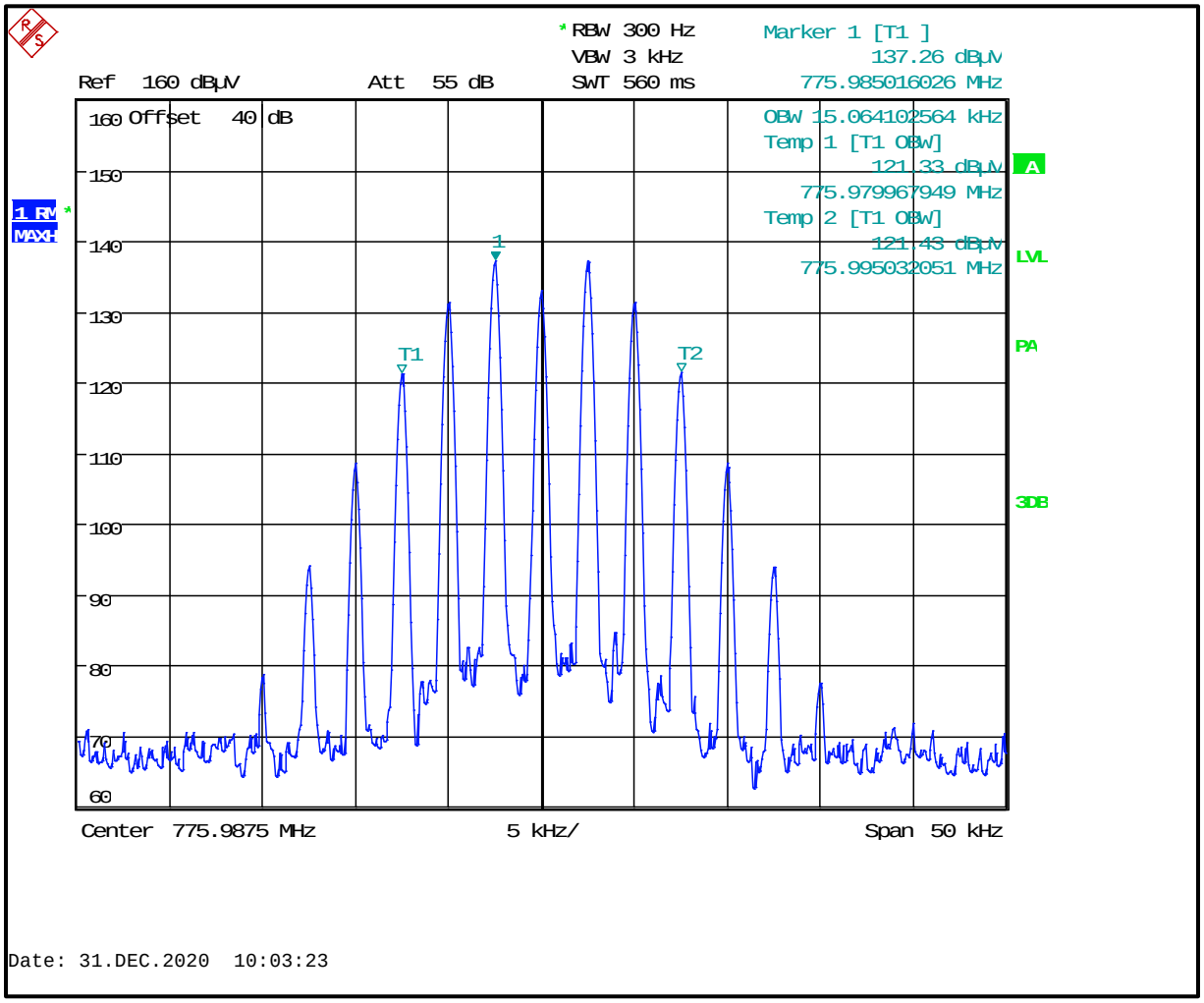
Plot 8-96: 99% Occupied Bandwidth – 772.0000 MHz; WB Analog



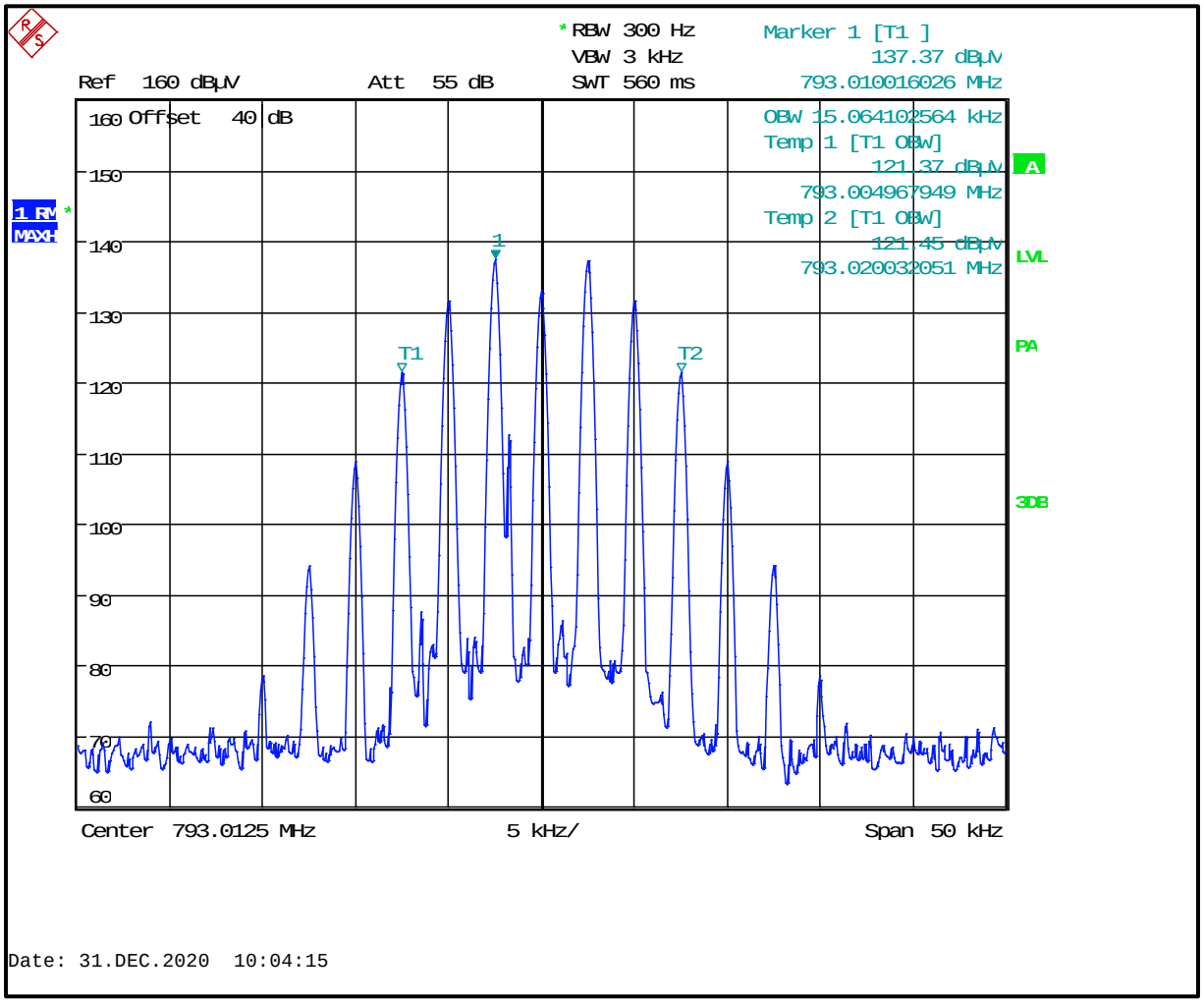
Plot 8-97: 99% Occupied Bandwidth – 774.9875 MHz; WB Analog



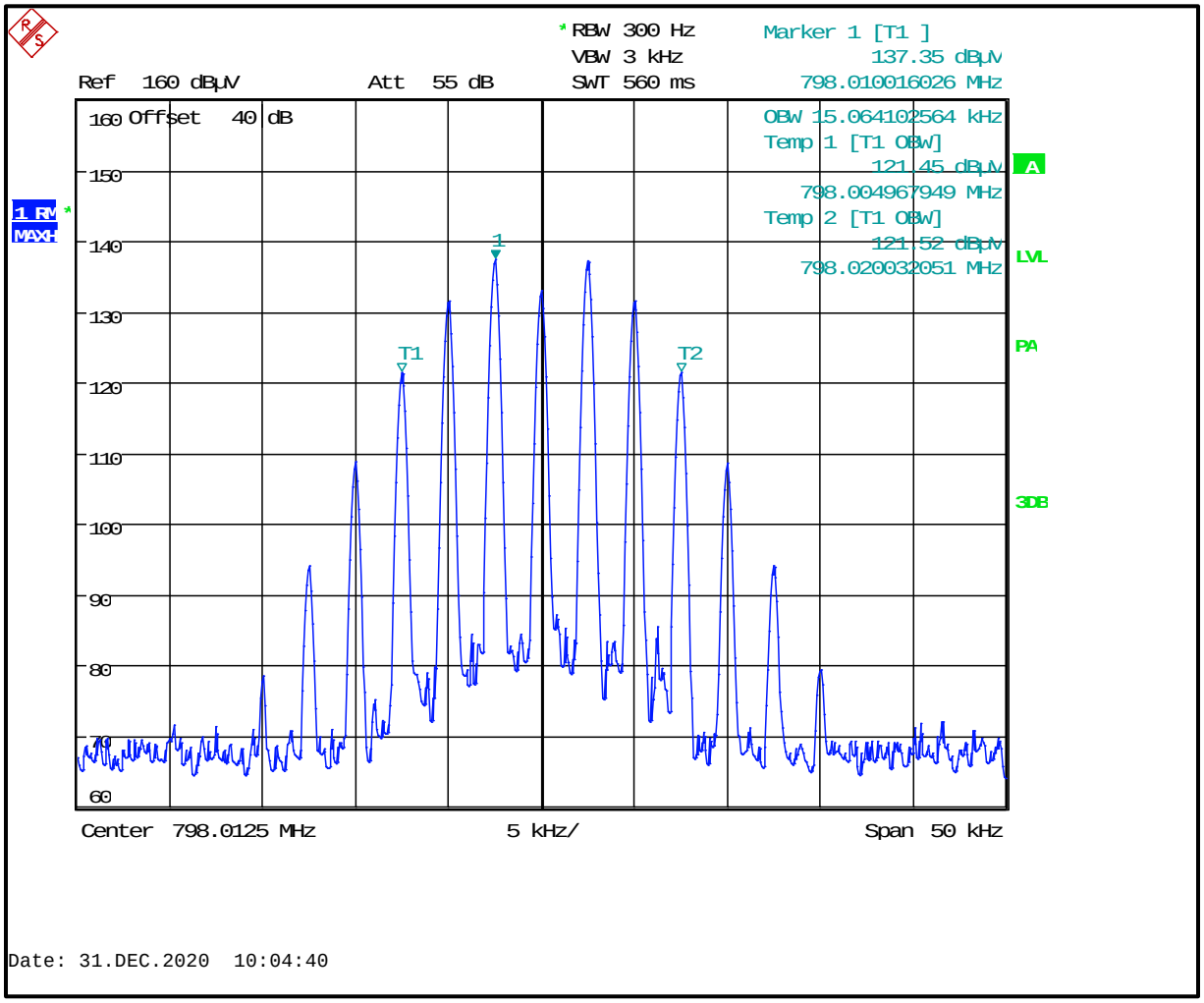
Plot 8-98: 99% Occupied Bandwidth – 775.9875 MHz; WB Analog



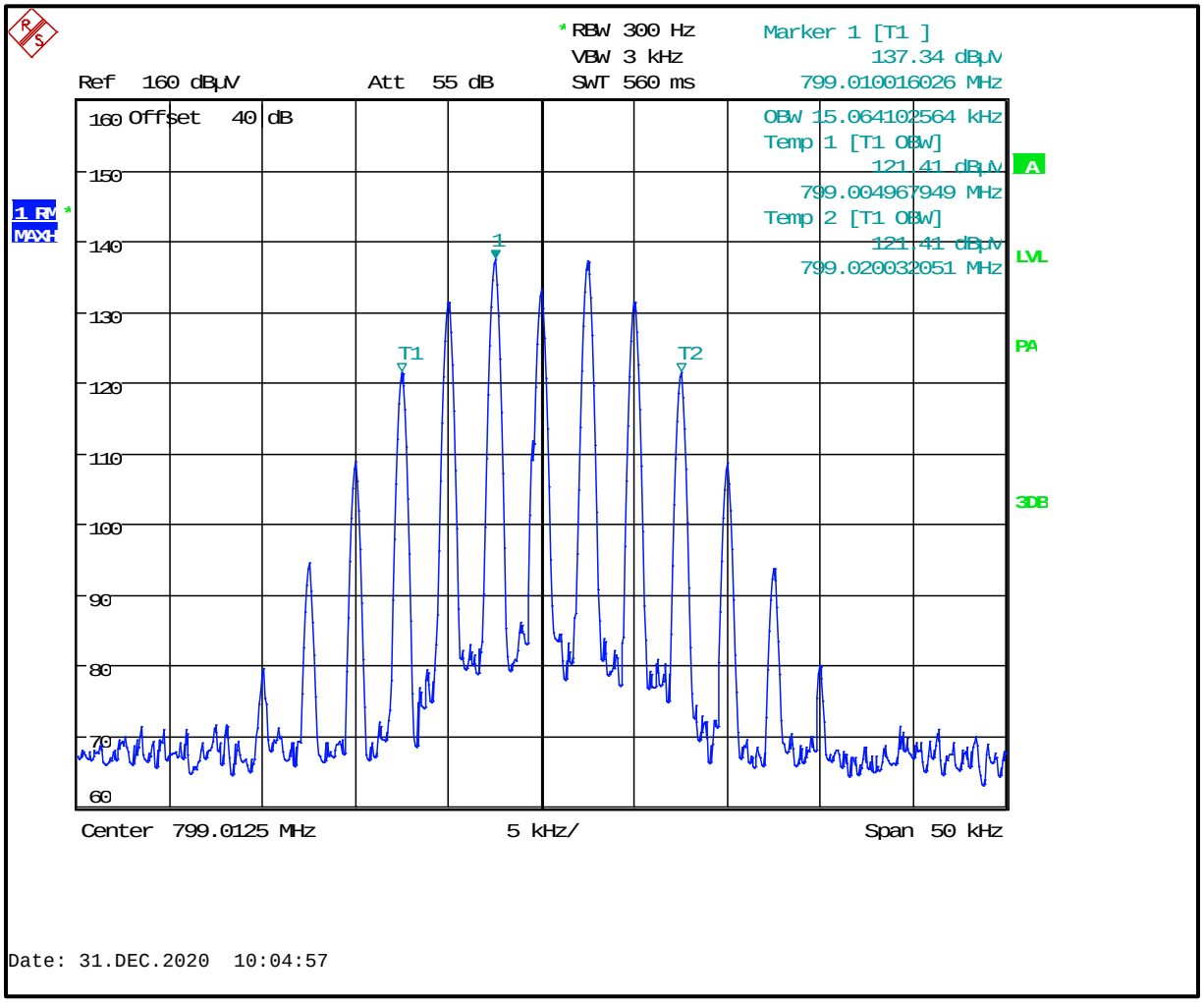
Plot 8-99: 99% Occupied Bandwidth – 793.0125 MHz; WB Analog



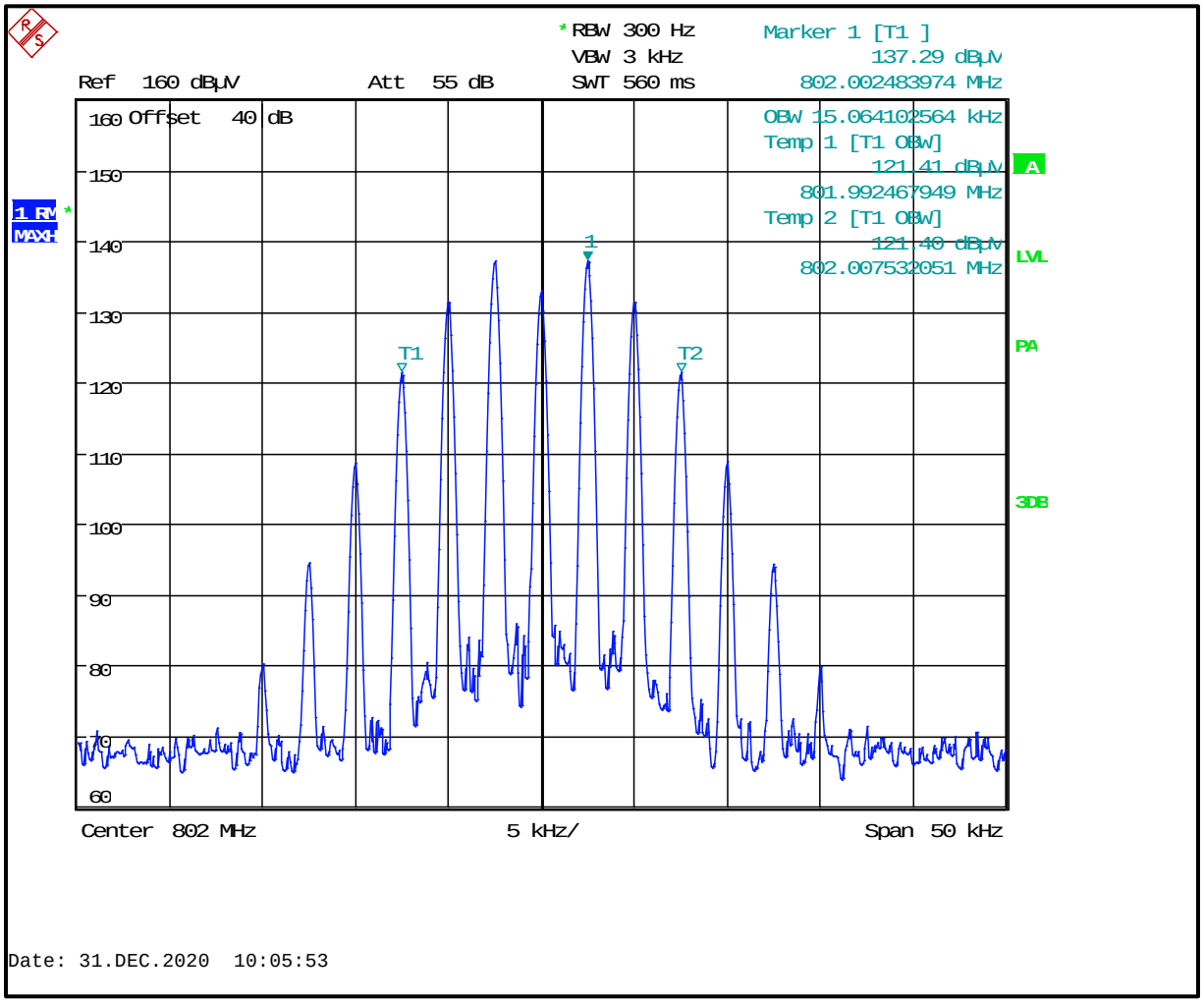
Plot 8-100: 99% Occupied Bandwidth – 798.0125 MHz; WB Analog



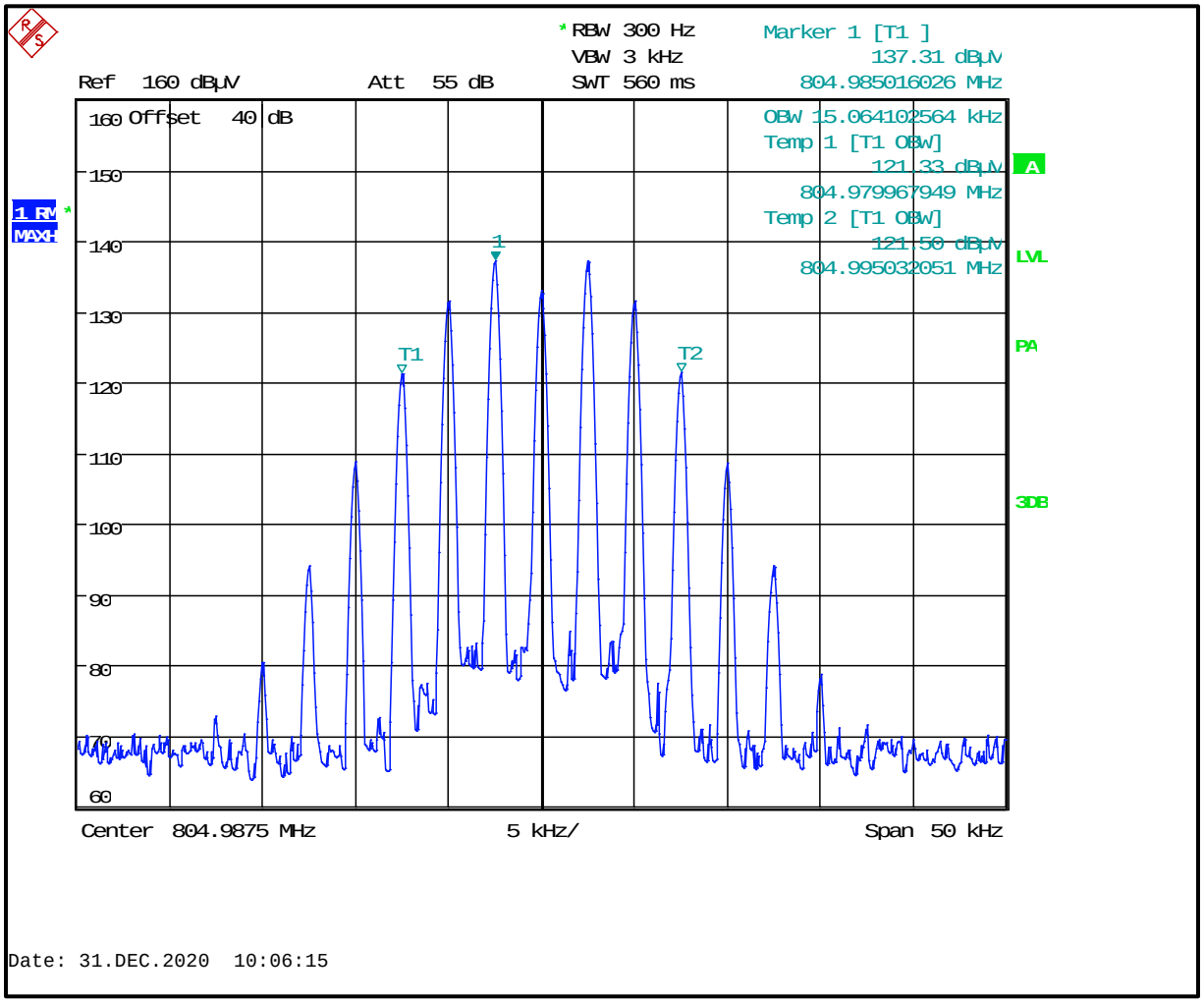
Plot 8-101: 99% Occupied Bandwidth – 799.0125 MHz; WB Analog



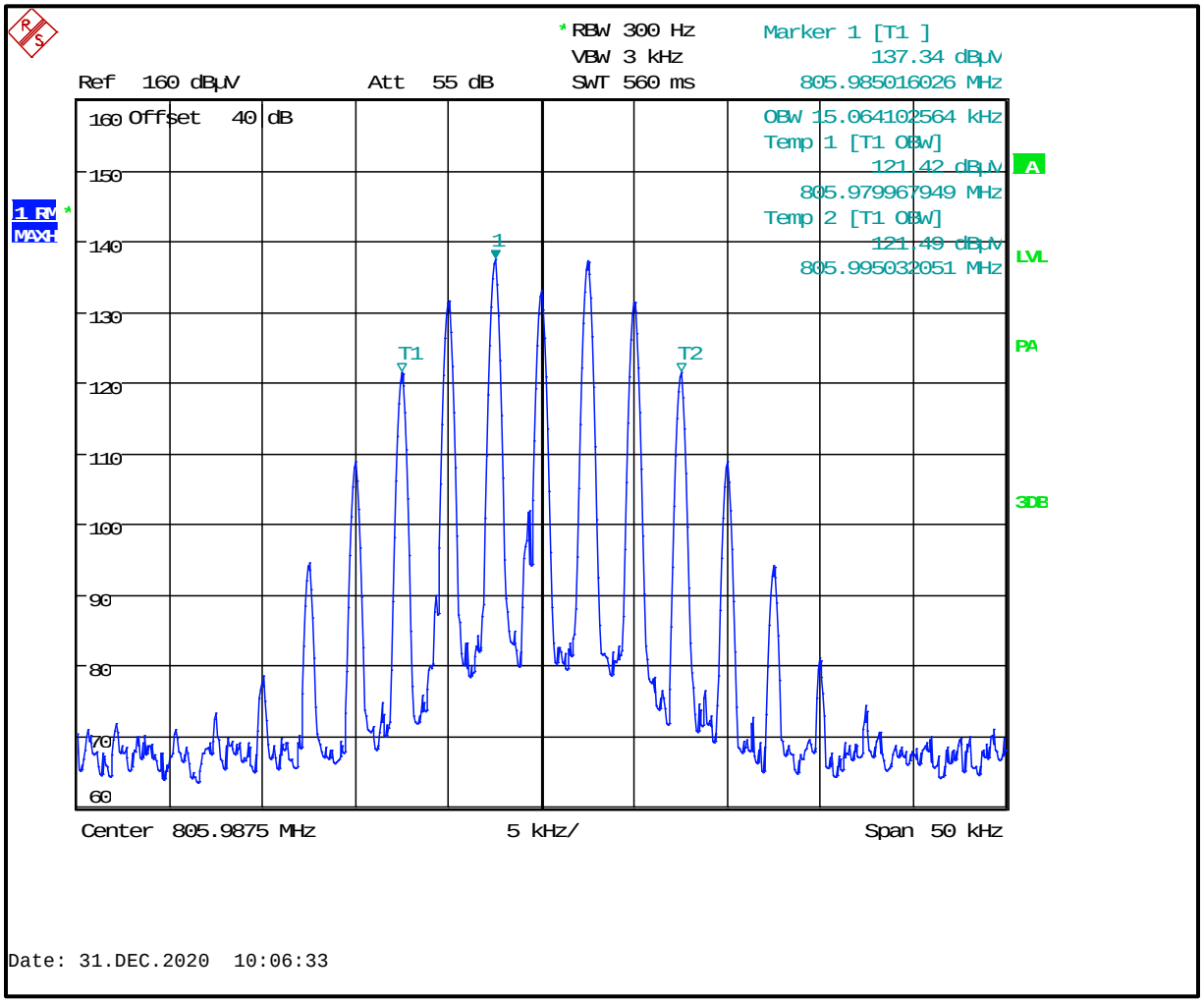
Plot 8-102: 99% Occupied Bandwidth – 802.0000 MHz; WB Analog



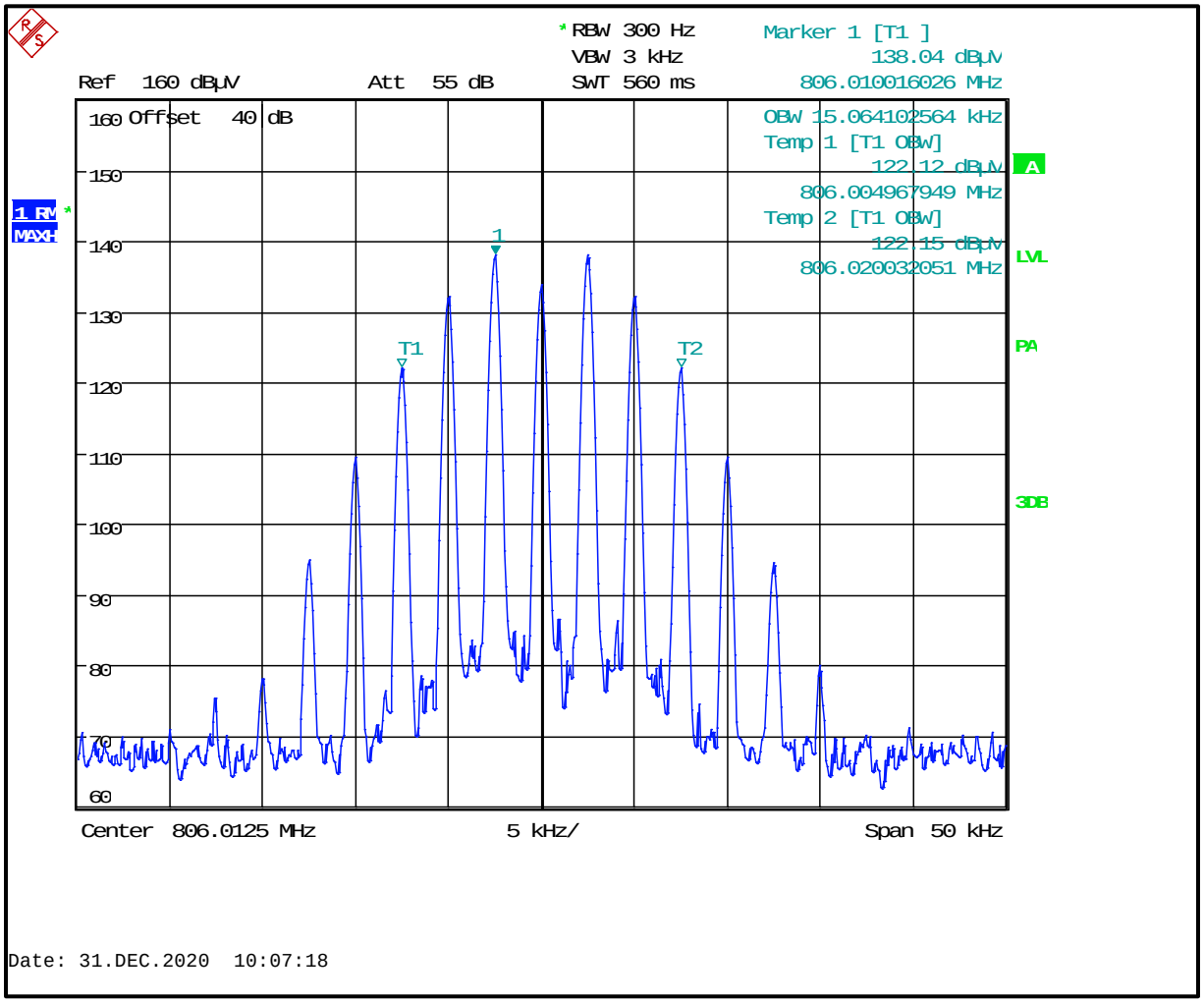
Plot 8-103: 99% Occupied Bandwidth – 804.9875 MHz; WB Analog



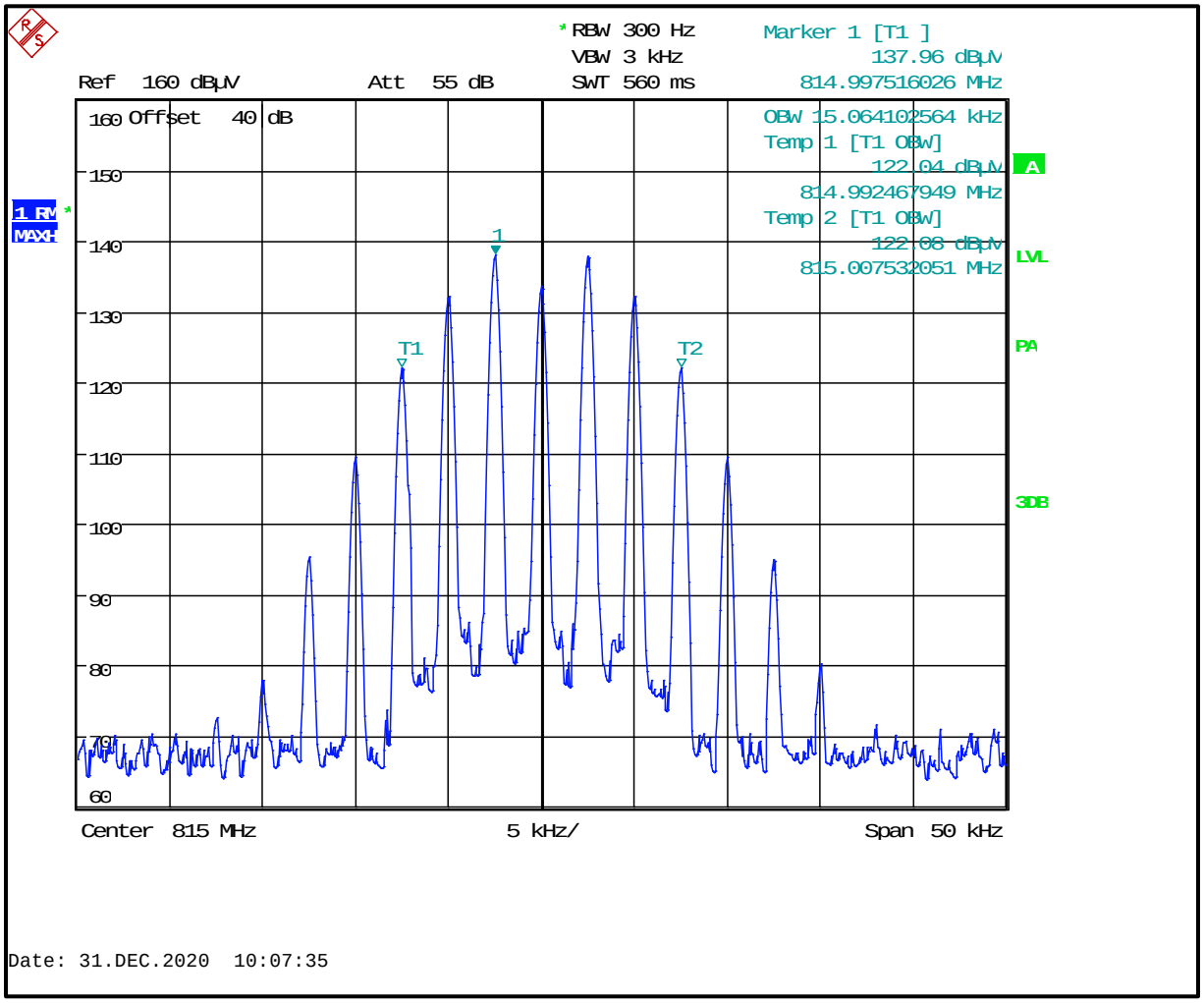
Plot 8-104: 99% Occupied Bandwidth – 805.9875 MHz; WB Analog



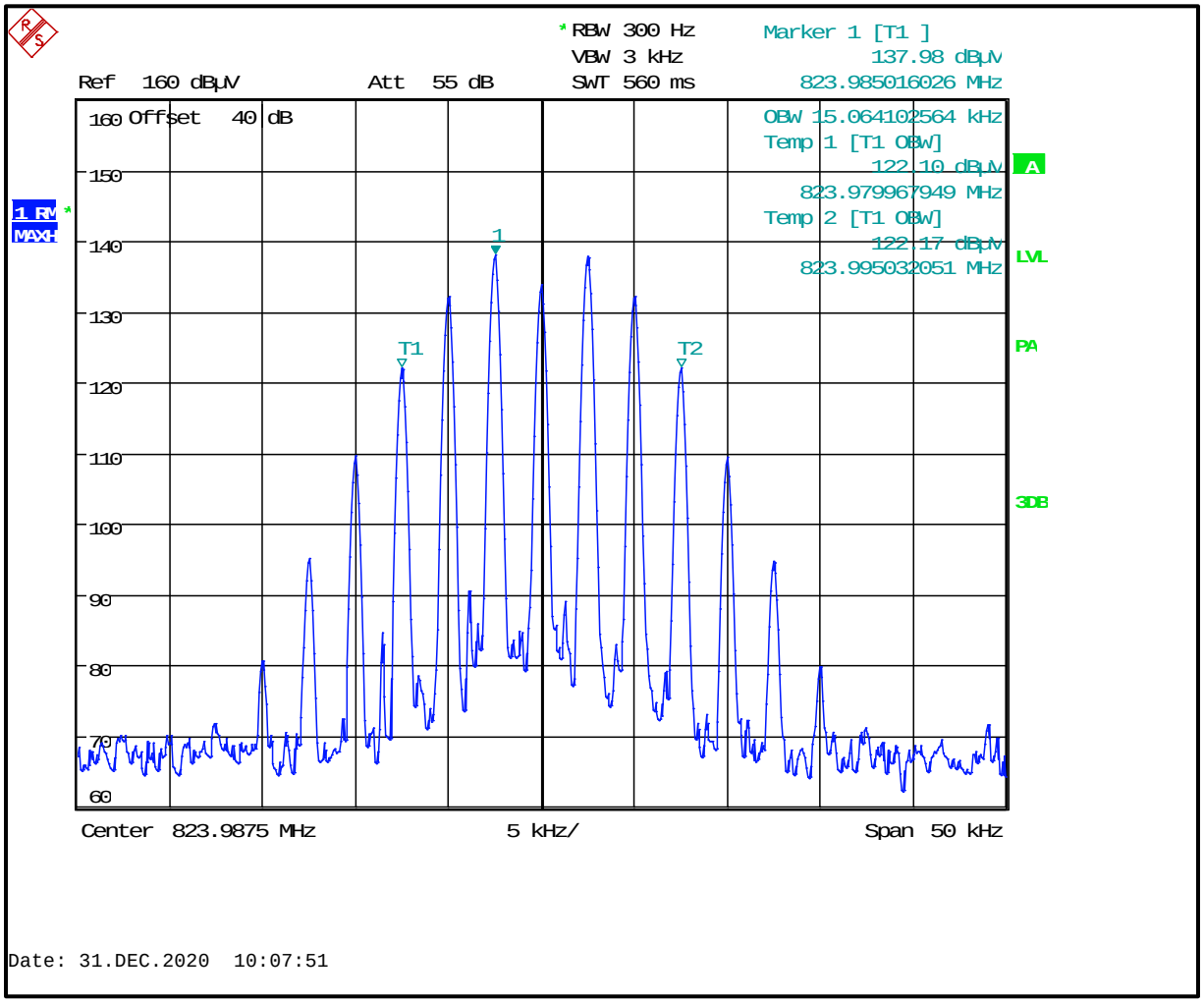
Plot 8-105: 99% Occupied Bandwidth – 806.0125 MHz; WB Analog



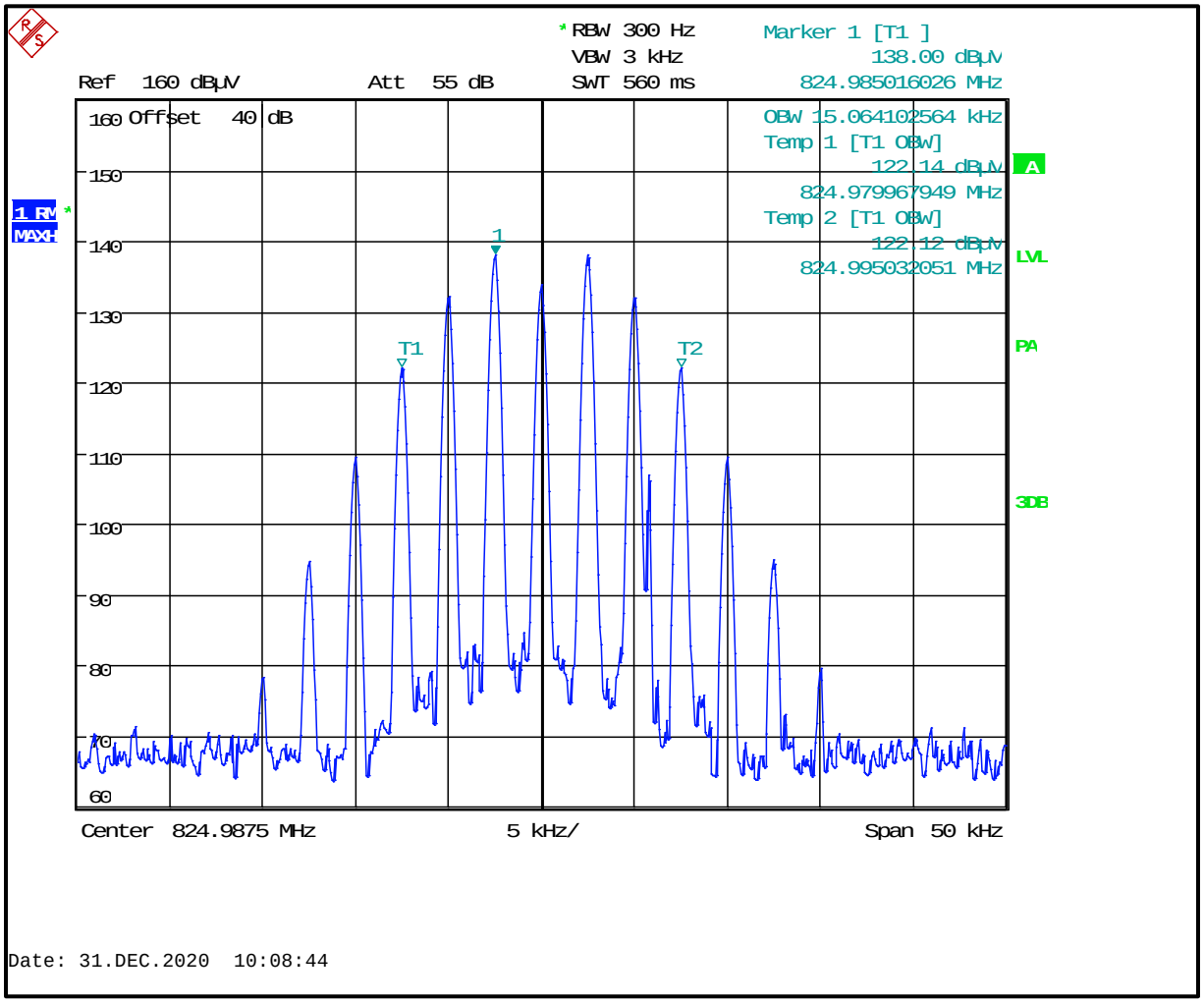
Plot 8-106: 99% Occupied Bandwidth – 815.0000 MHz; WB Analog



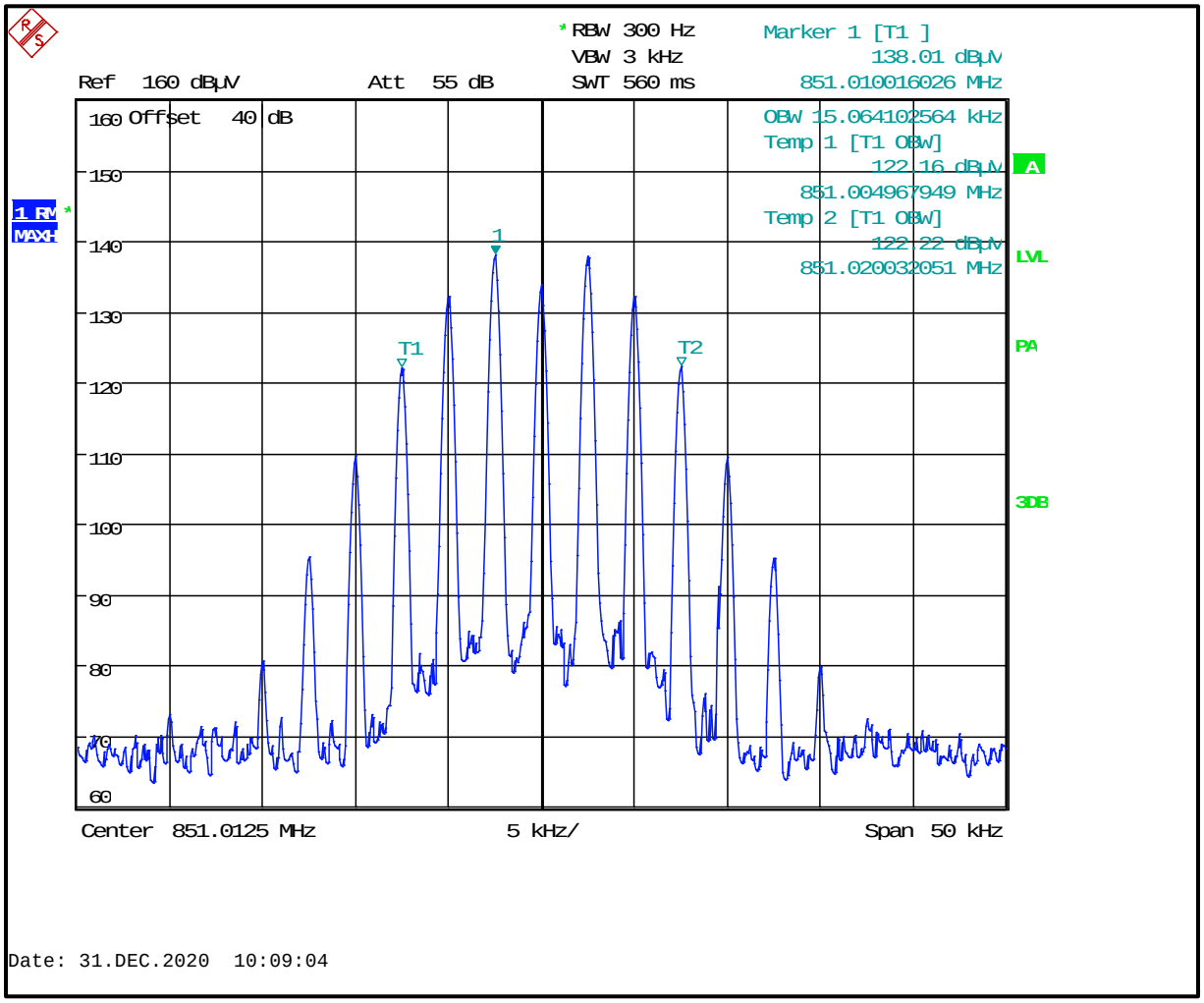
Plot 8-107: 99% Occupied Bandwidth – 823.9875 MHz; WB Analog



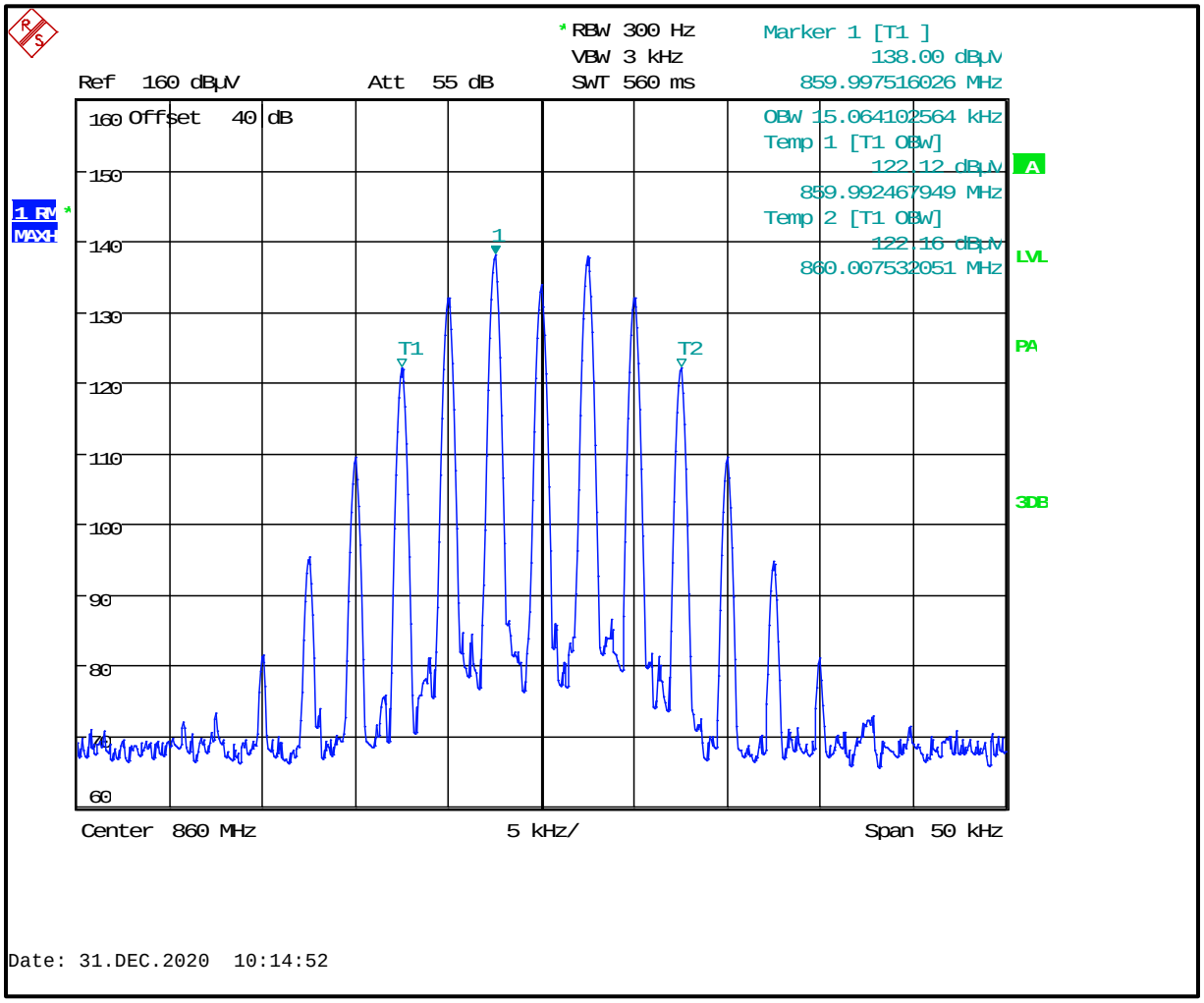
Plot 8-108: 99% Occupied Bandwidth – 824.9875 MHz; WB Analog



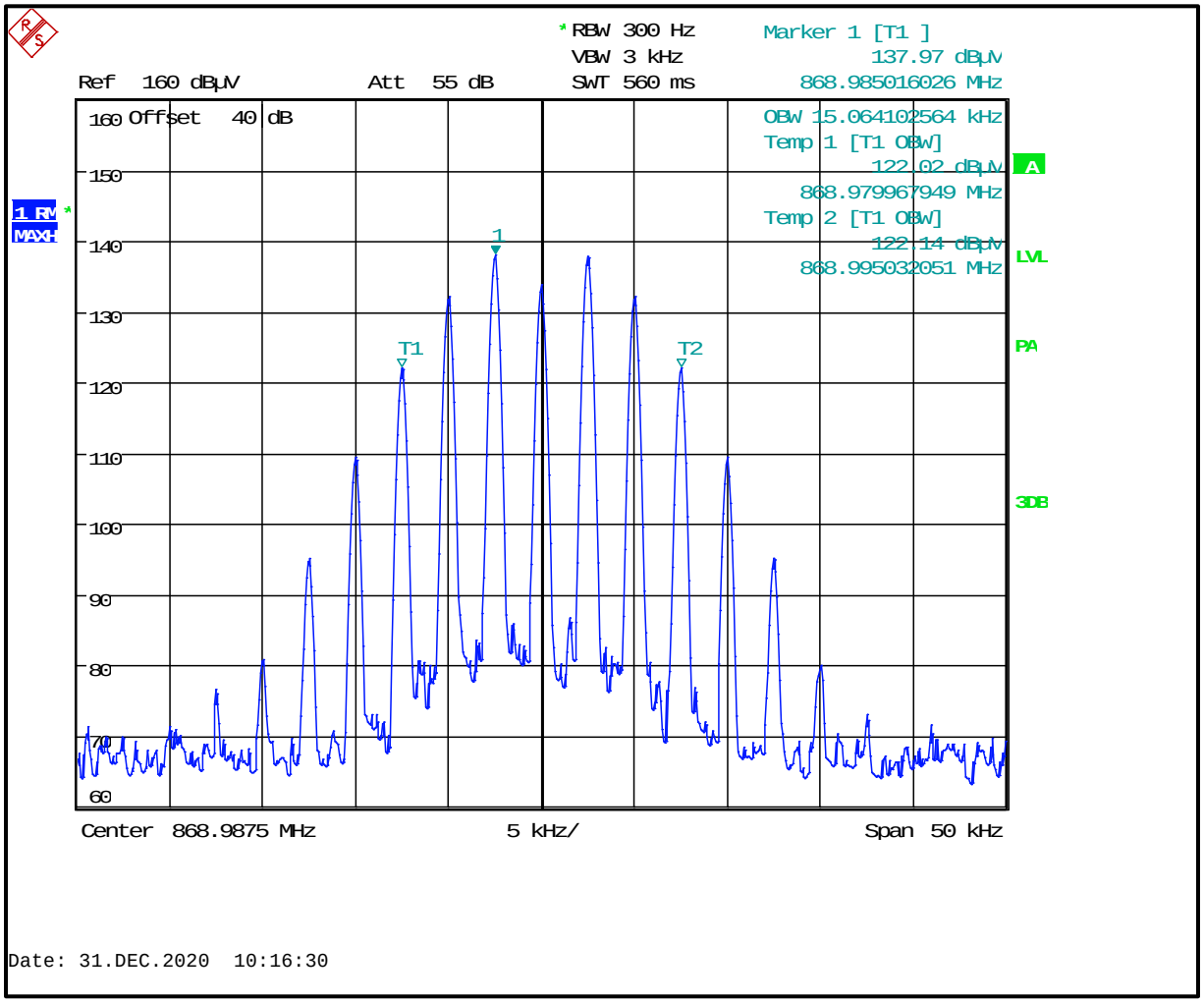
Plot 8-109: 99% Occupied Bandwidth – 851.0125 MHz; WB Analog



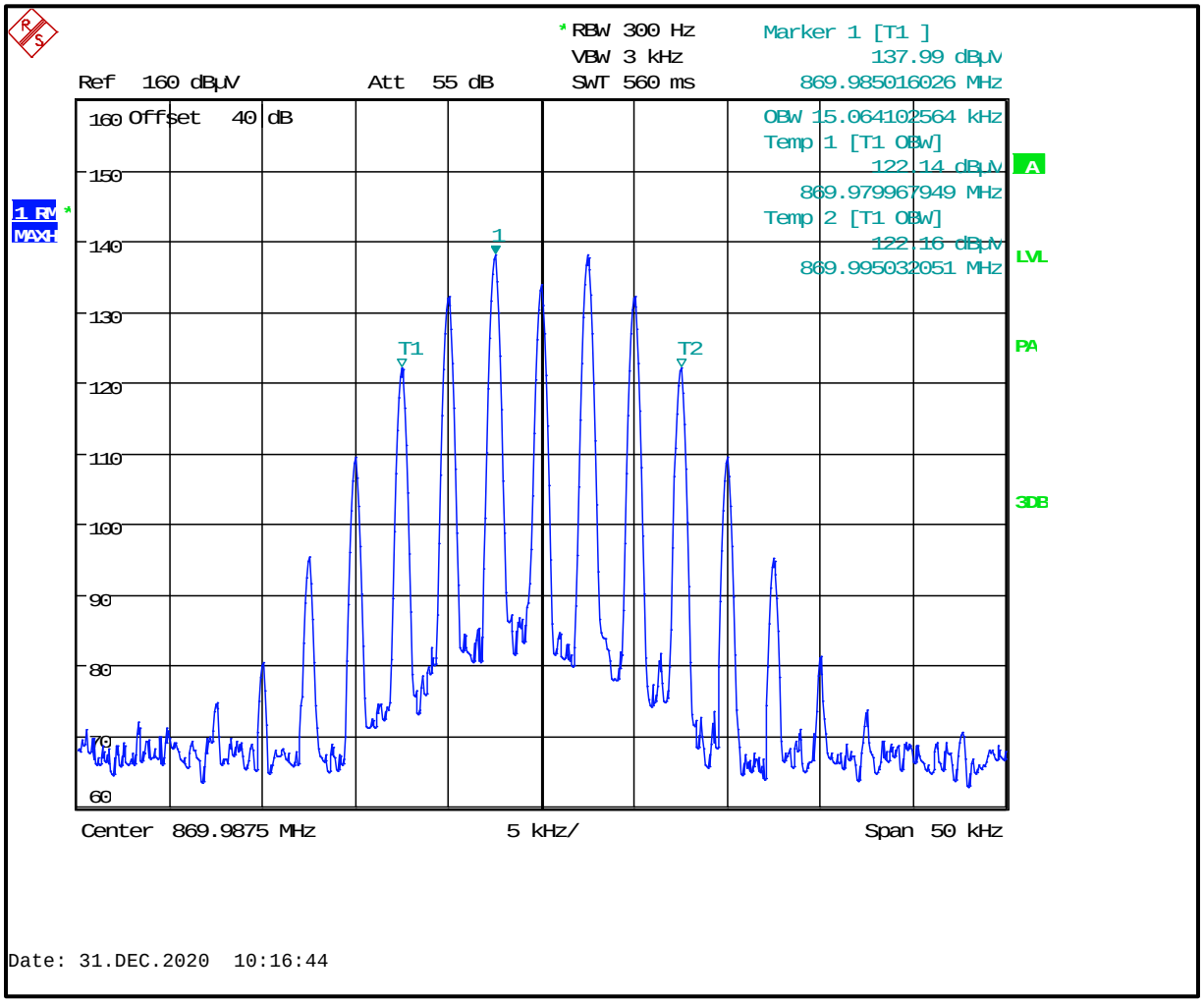
Plot 8-110: 99% Occupied Bandwidth – 860.0000 MHz; WB Analog



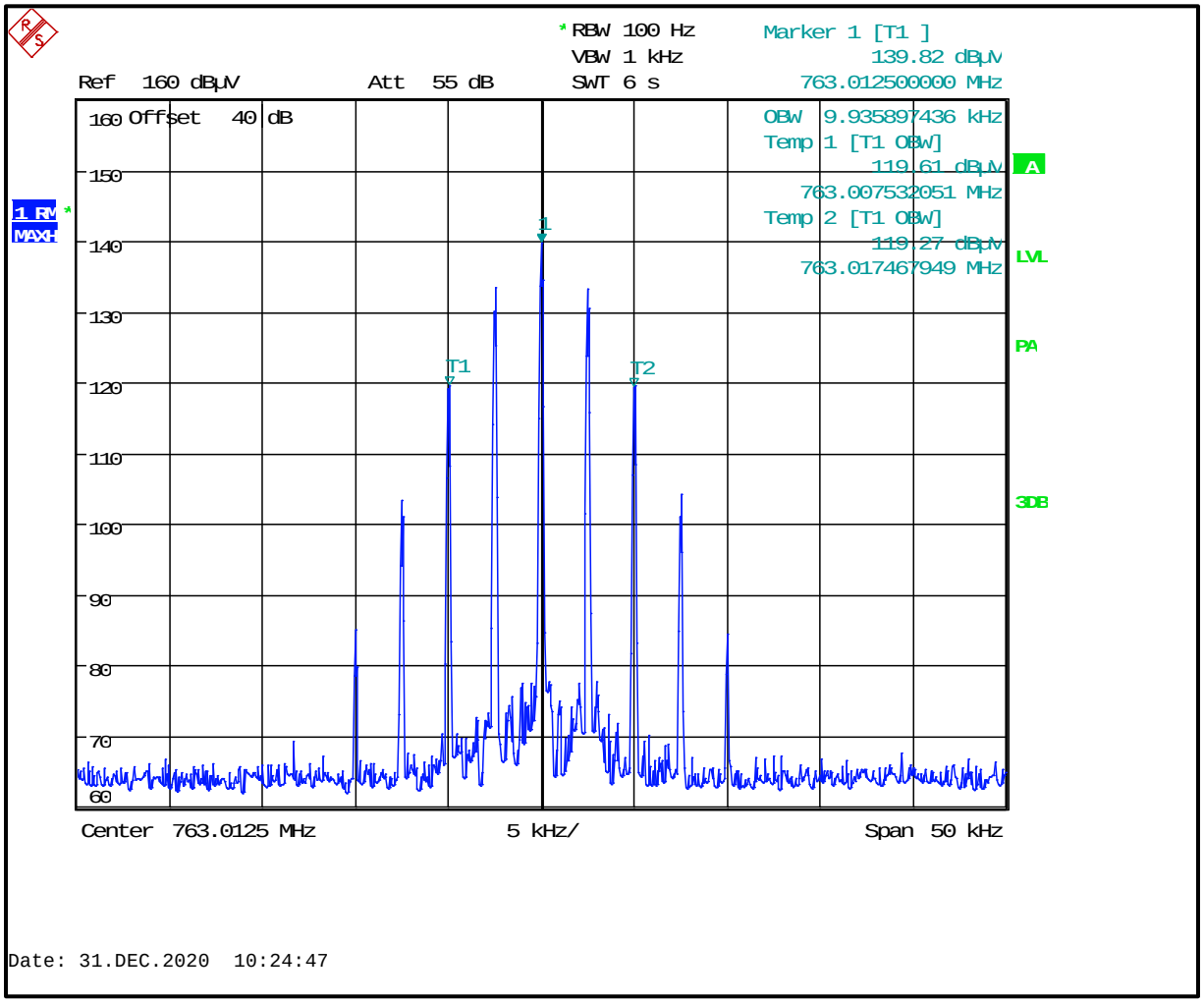
Plot 8-111: 99% Occupied Bandwidth – 868.9875 MHz; WB Analog



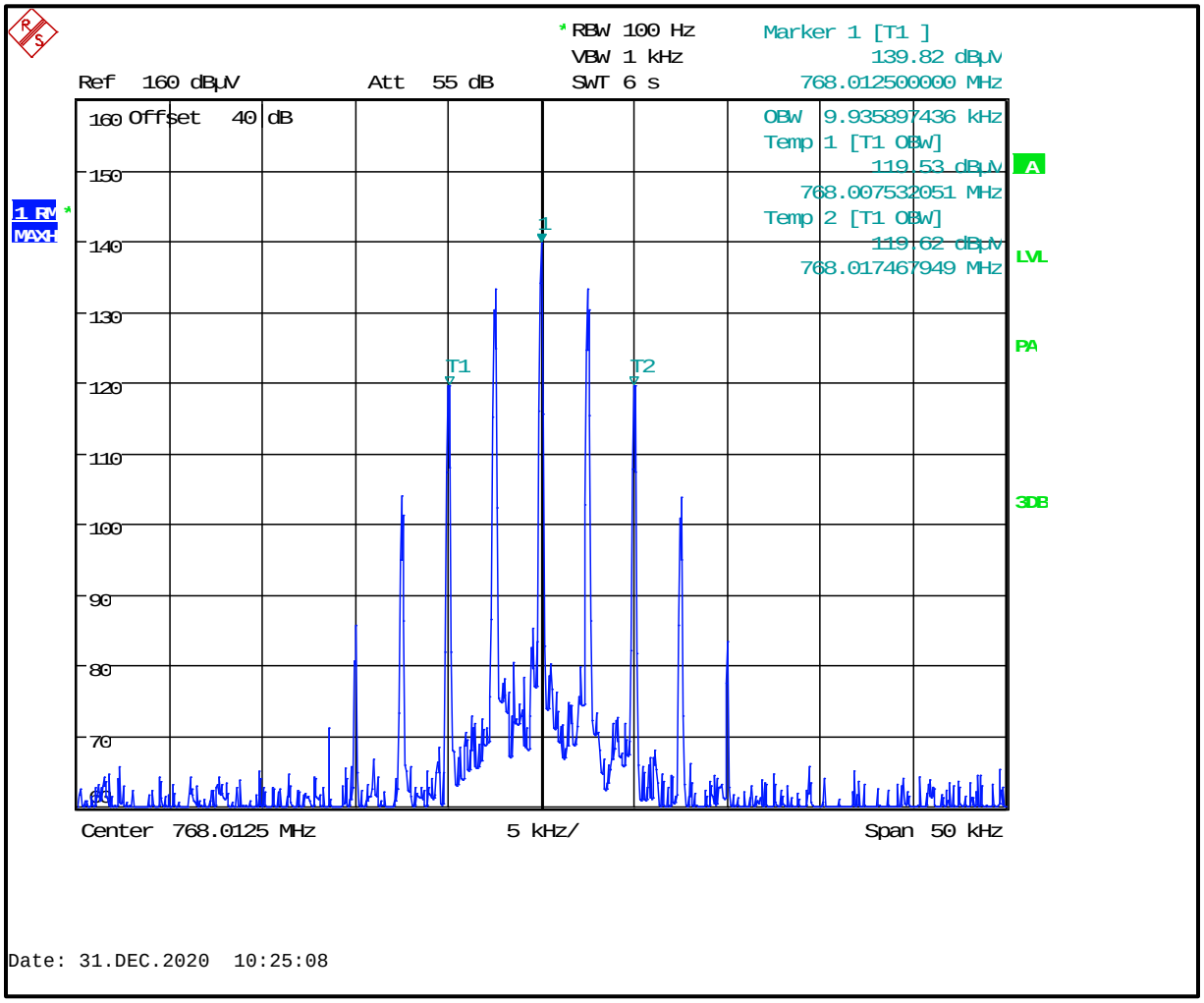
Plot 8-112: 99% Occupied Bandwidth – 869.9875 MHz; WB Analog



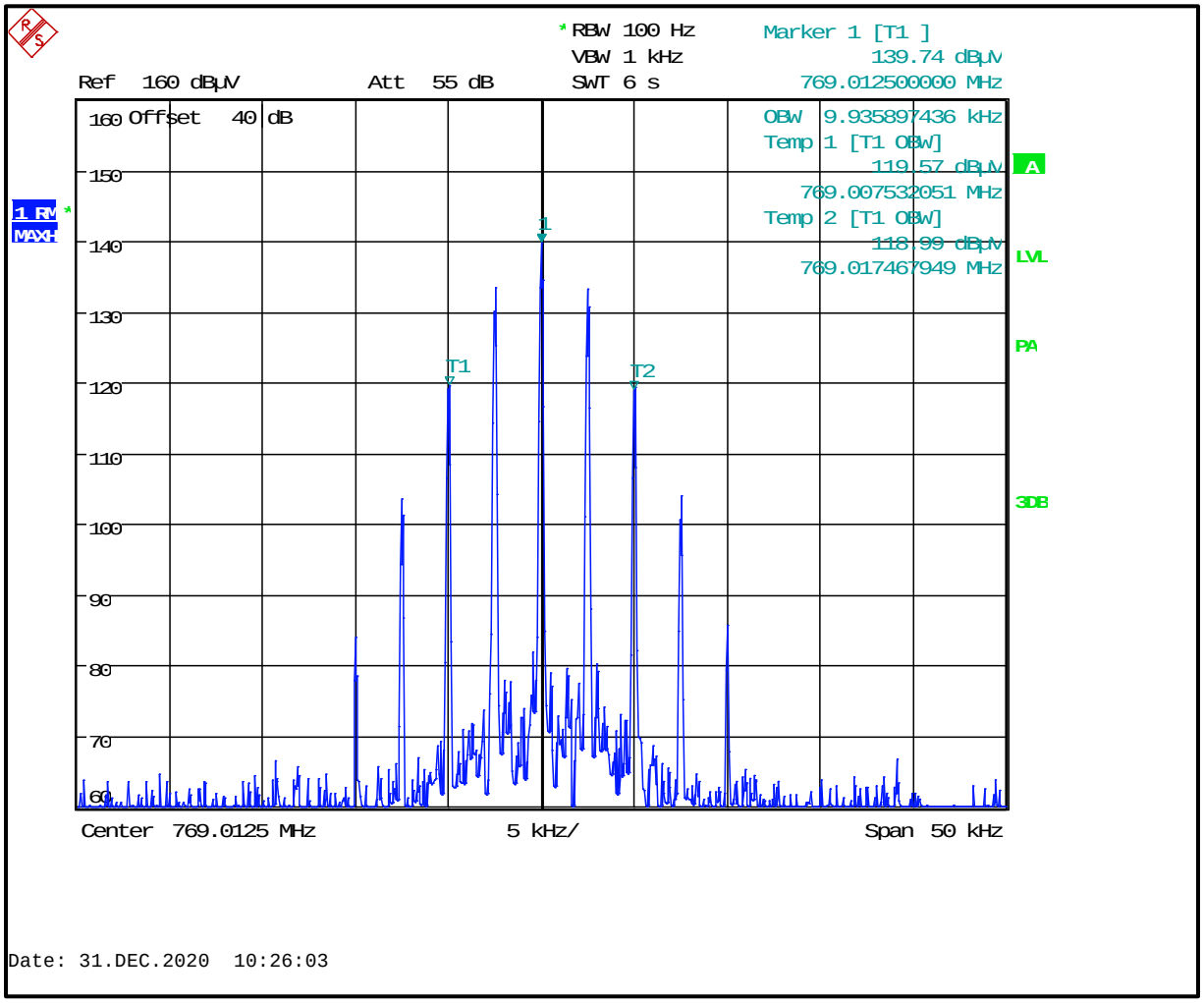
Plot 8-113: 99% Occupied Bandwidth – 763.0125 MHz; NB Analog



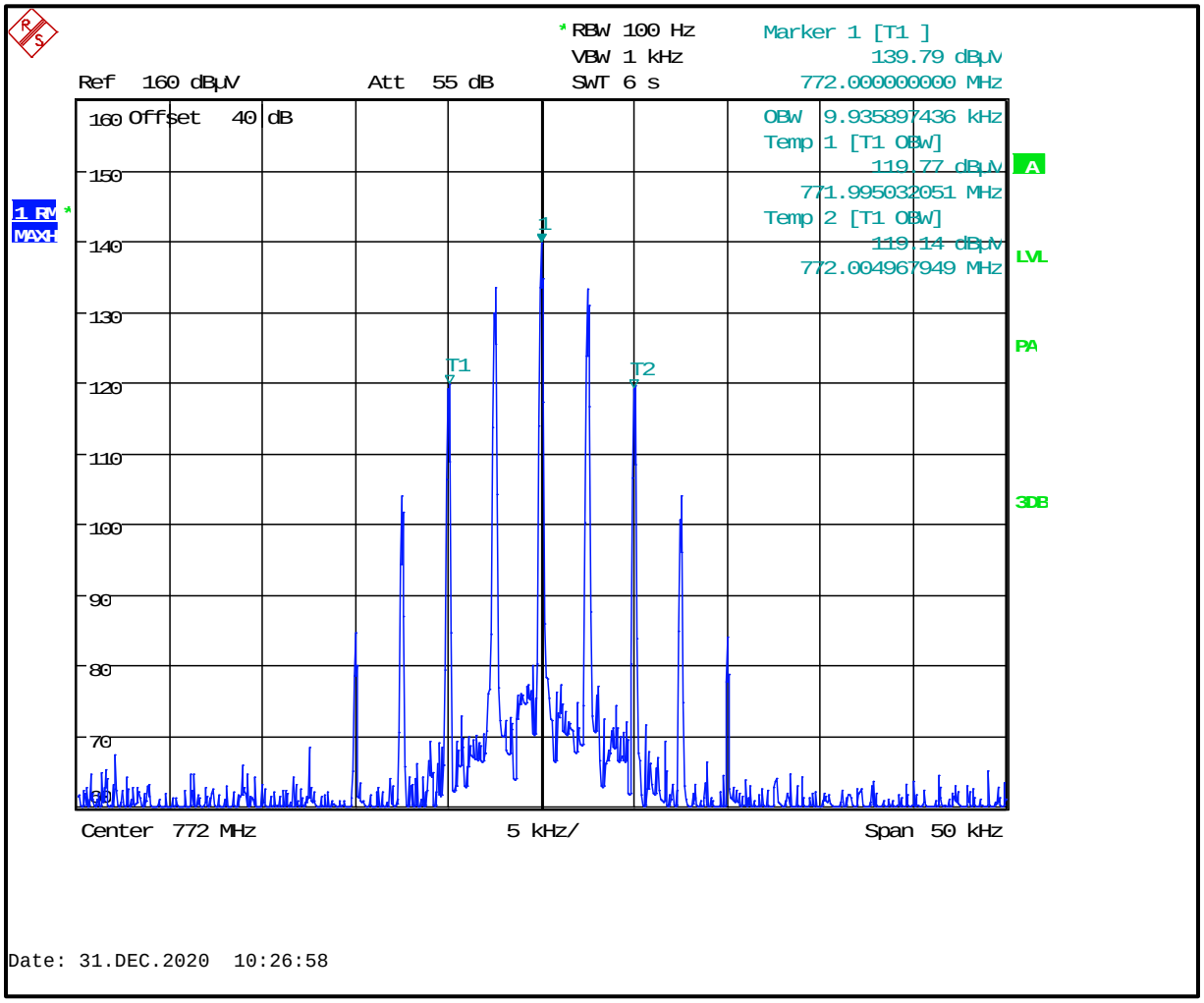
Plot 8-114: 99% Occupied Bandwidth – 768.0125 MHz; NB Analog



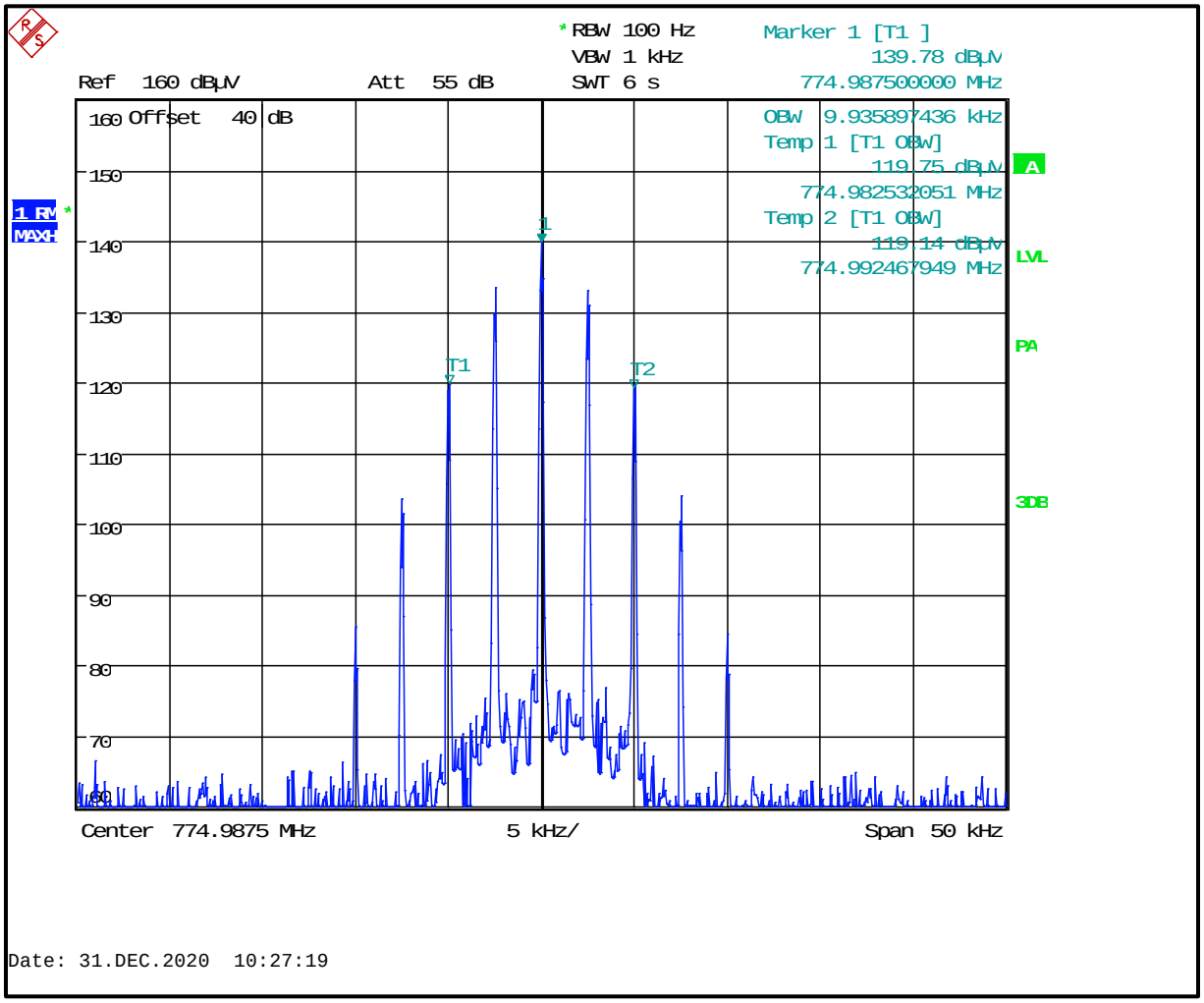
Plot 8-115: 99% Occupied Bandwidth – 769.0125 MHz; NB Analog



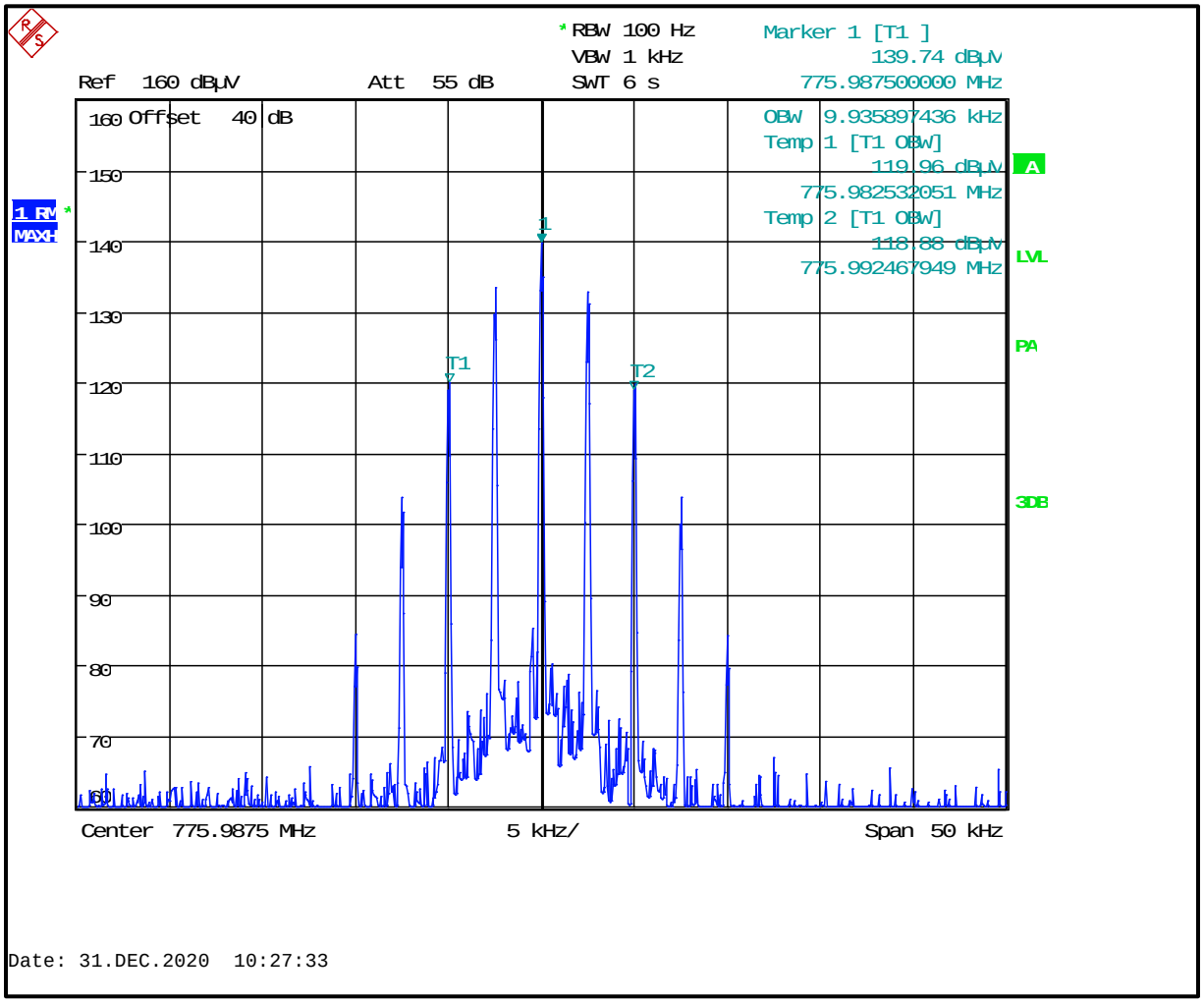
Plot 8-116: 99% Occupied Bandwidth – 772.0000 MHz; NB Analog



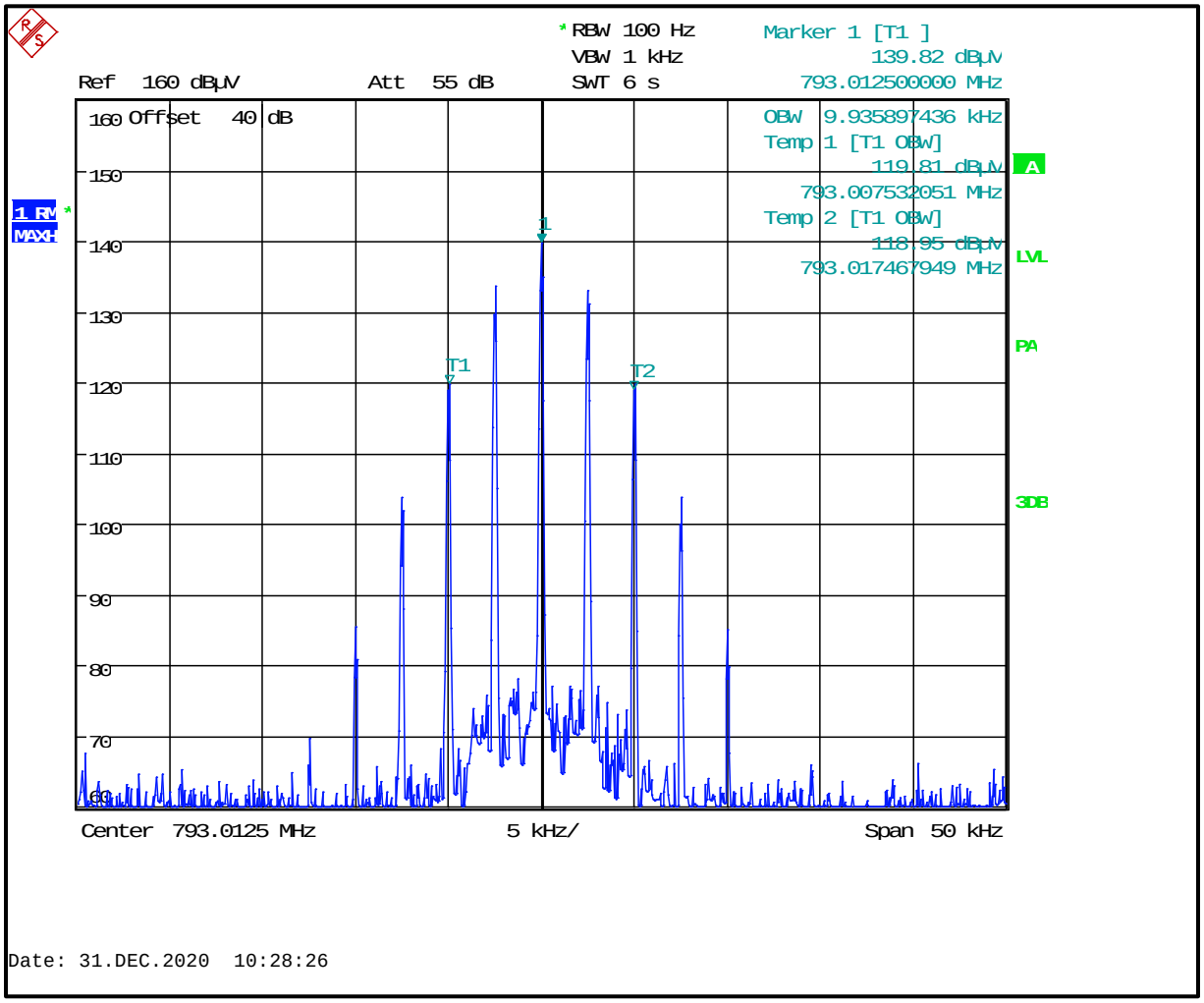
Plot 8-117: 99% Occupied Bandwidth – 774.9875 MHz; NB Analog



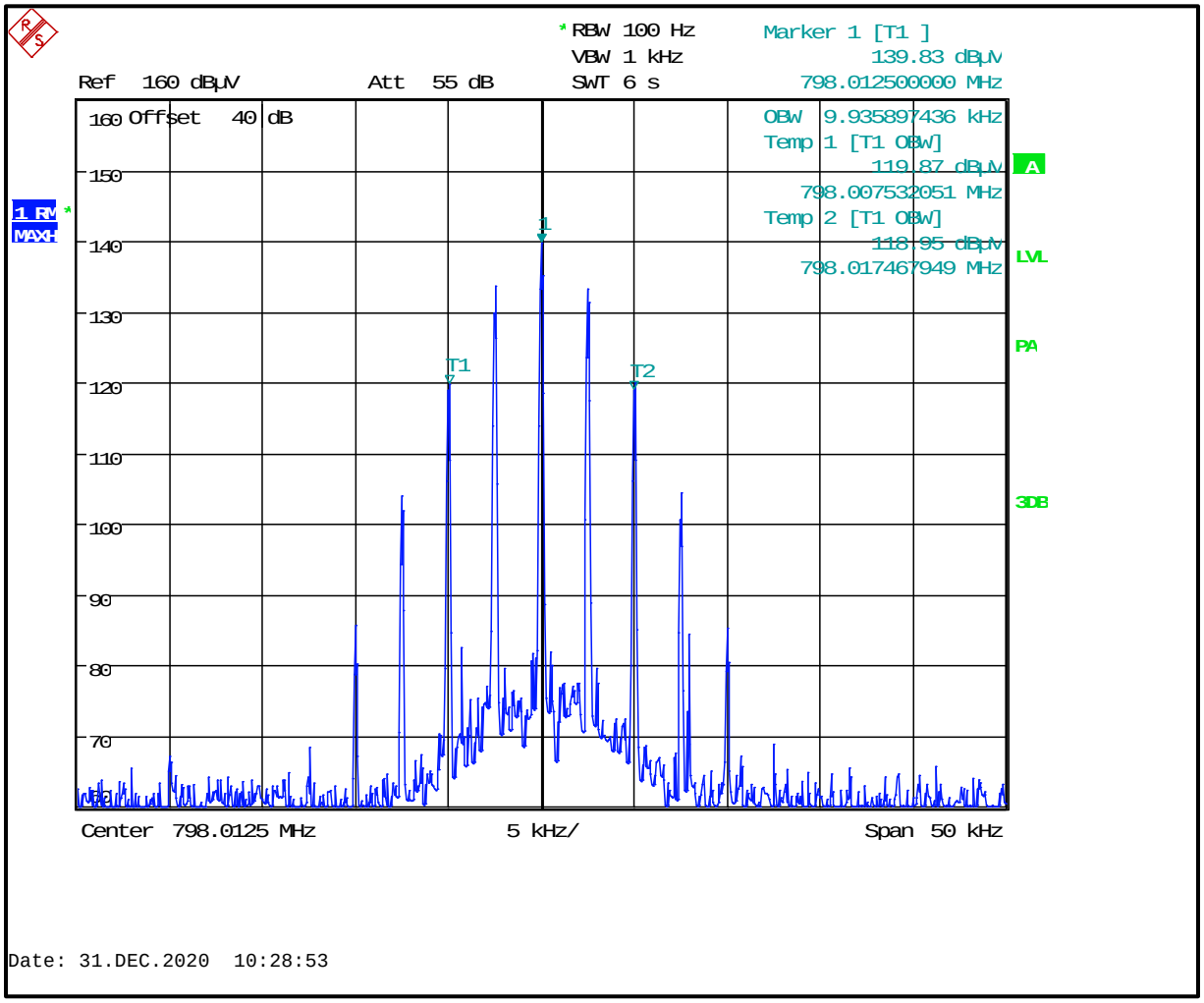
Plot 8-118: 99% Occupied Bandwidth – 775.9875 MHz; NB Analog



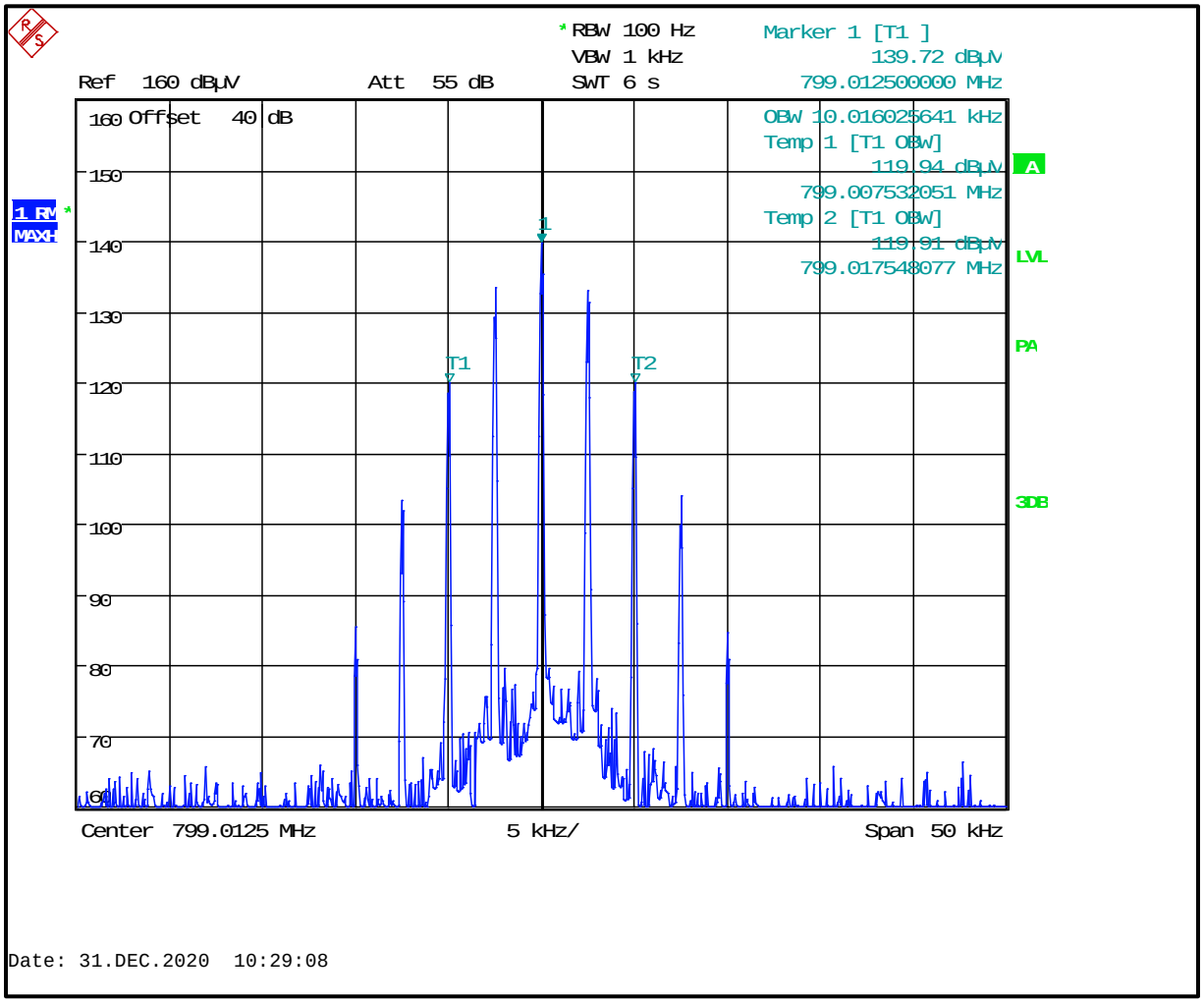
Plot 8-119: 99% Occupied Bandwidth – 793.0125 MHz; NB Analog



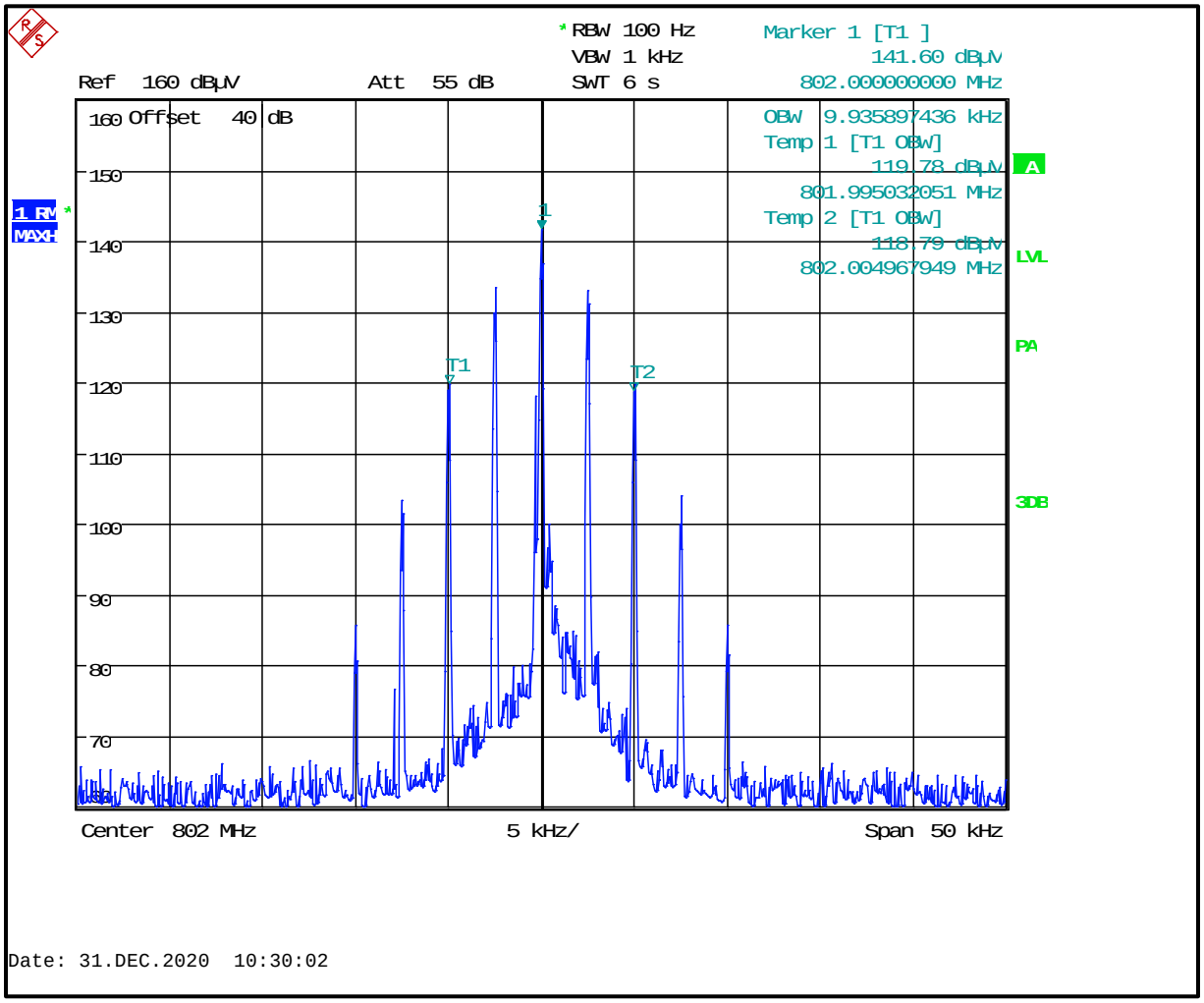
Plot 8-120: 99% Occupied Bandwidth – 798.0125 MHz; NB Analog



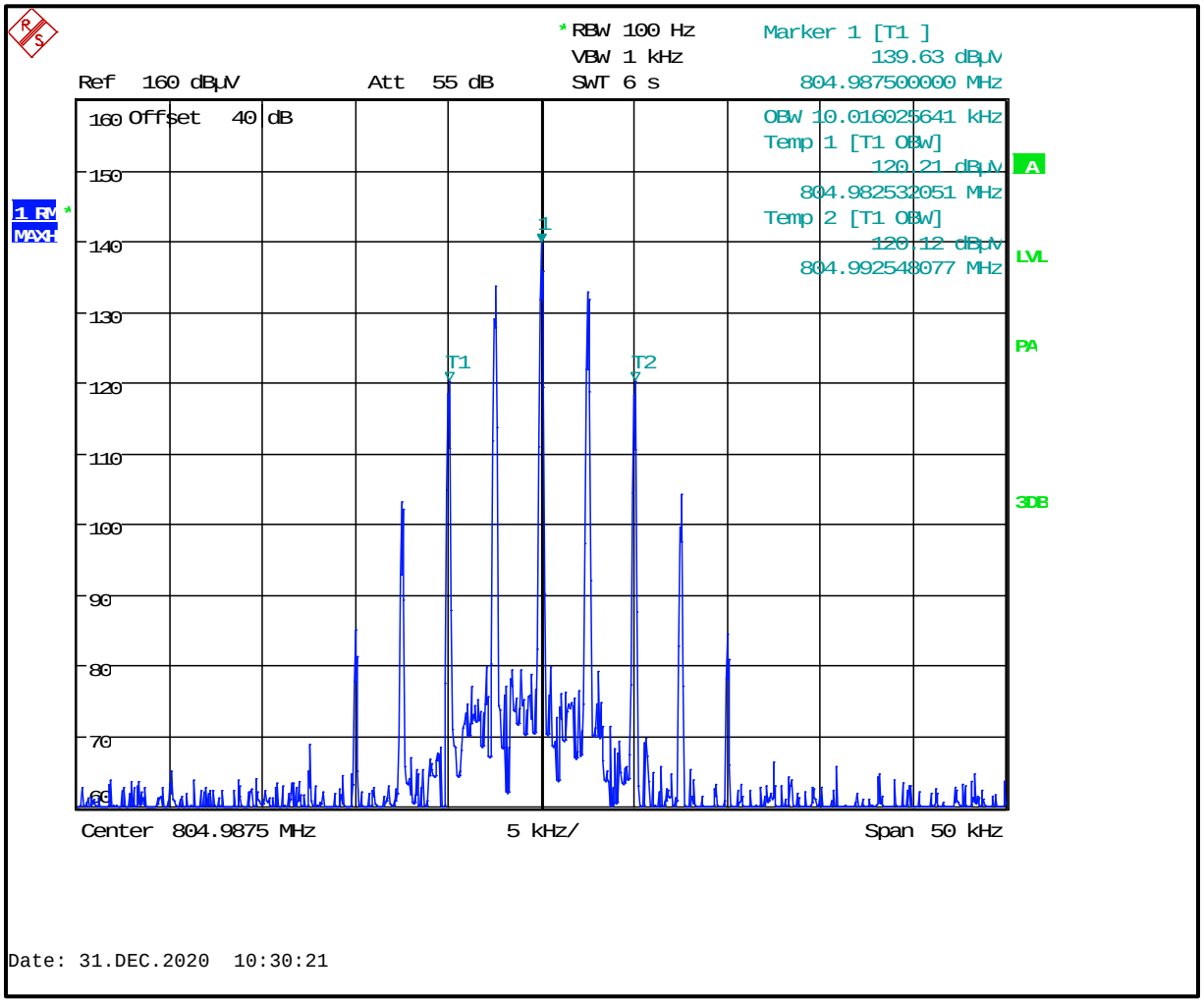
Plot 8-121: 99% Occupied Bandwidth – 799.0125 MHz; NB Analog



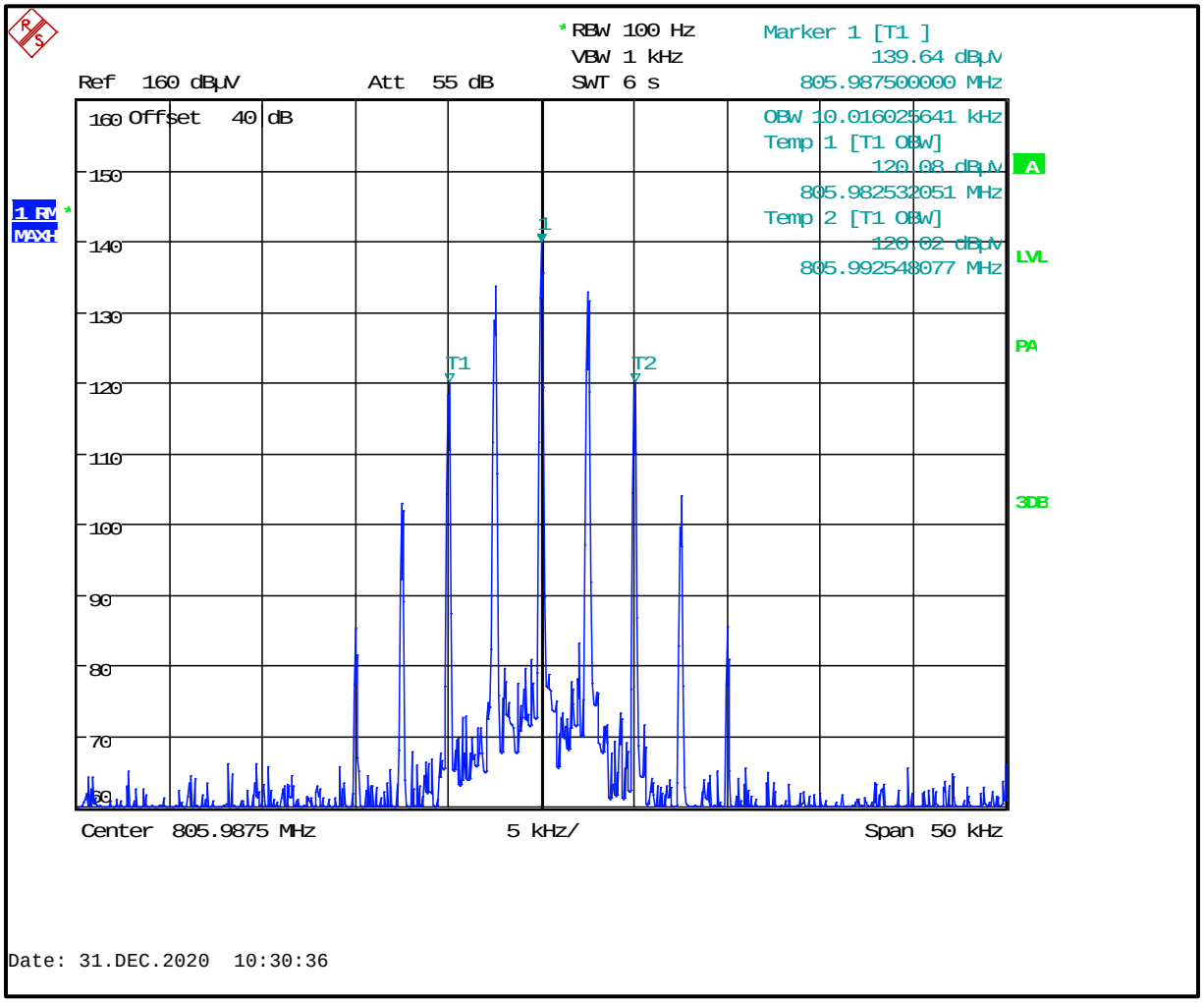
Plot 8-122: 99% Occupied Bandwidth – 802.0000 MHz; NB Analog



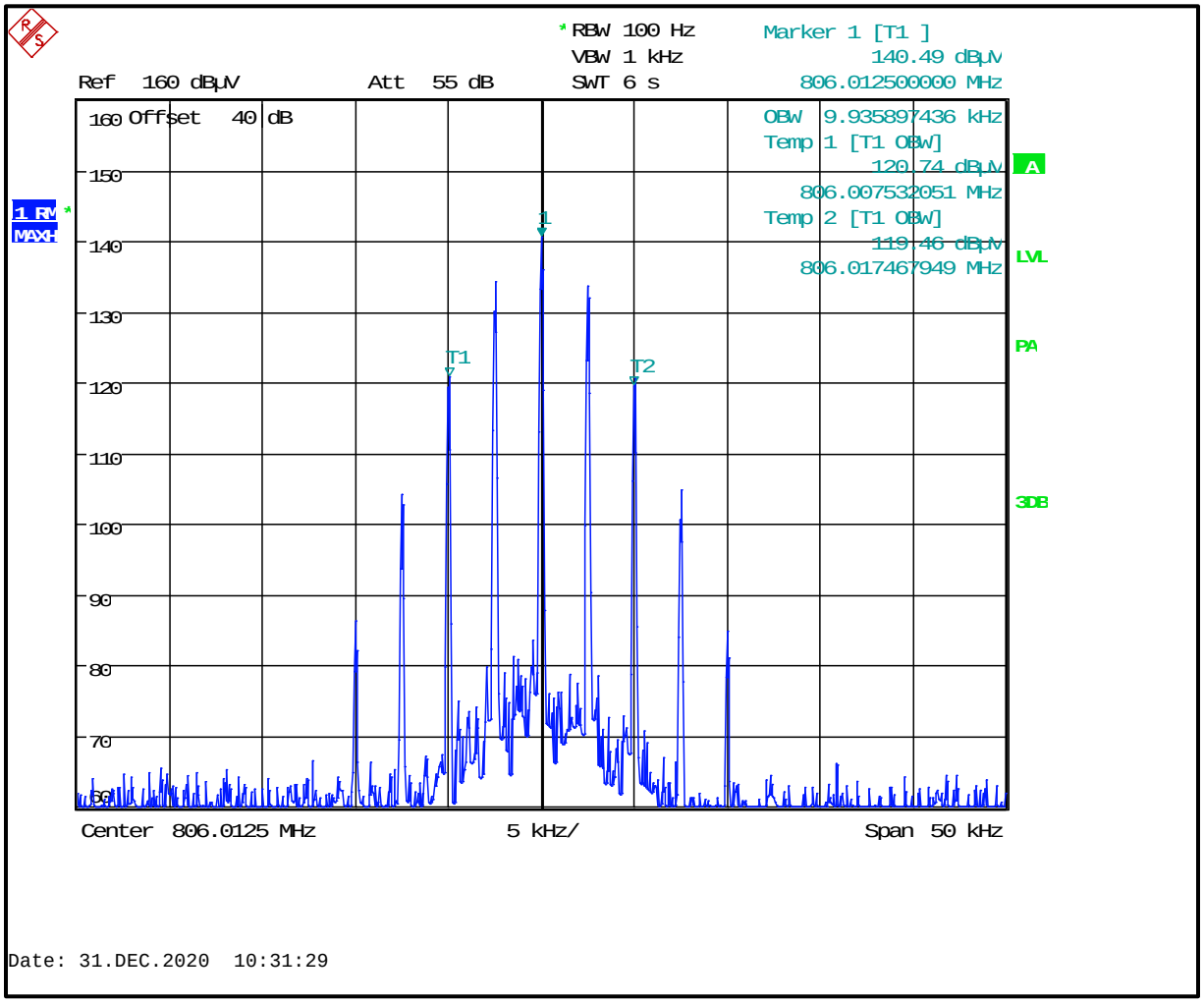
Plot 8-123: 99% Occupied Bandwidth – 804.9875 MHz; NB Analog



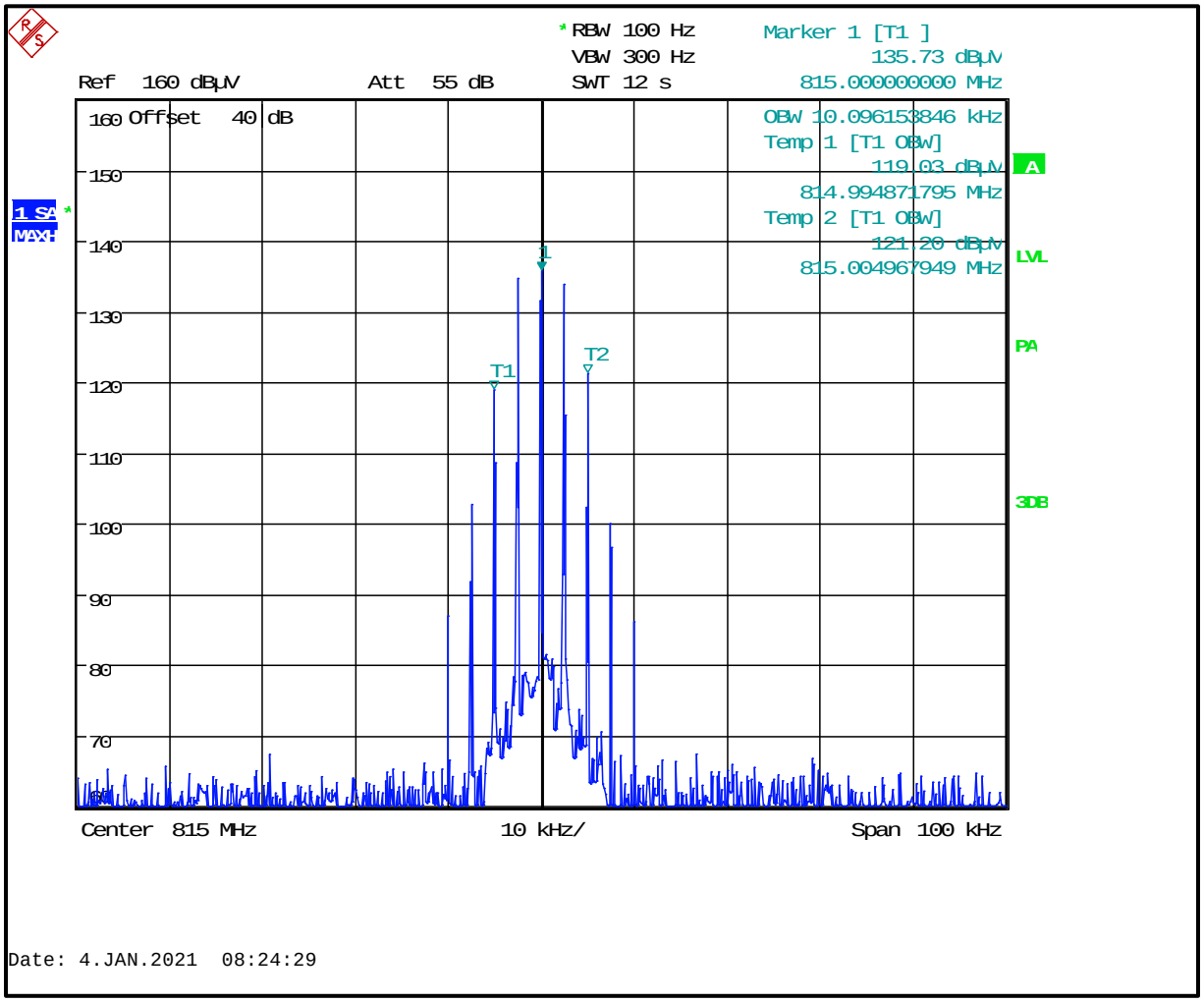
Plot 8-124: 99% Occupied Bandwidth – 805.9875 MHz; NB Analog



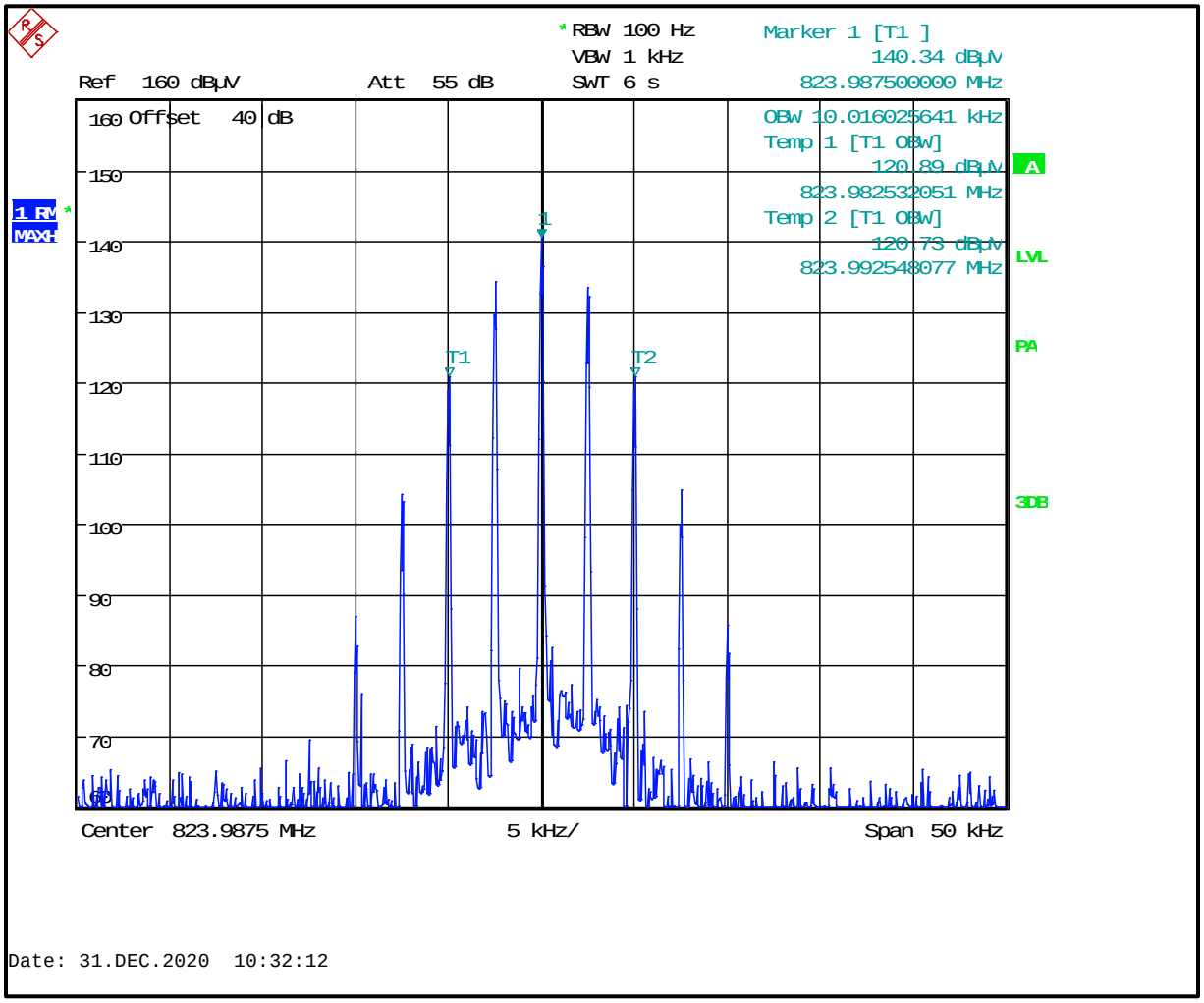
Plot 8-125: 99% Occupied Bandwidth – 806.0125 MHz; NB Analog



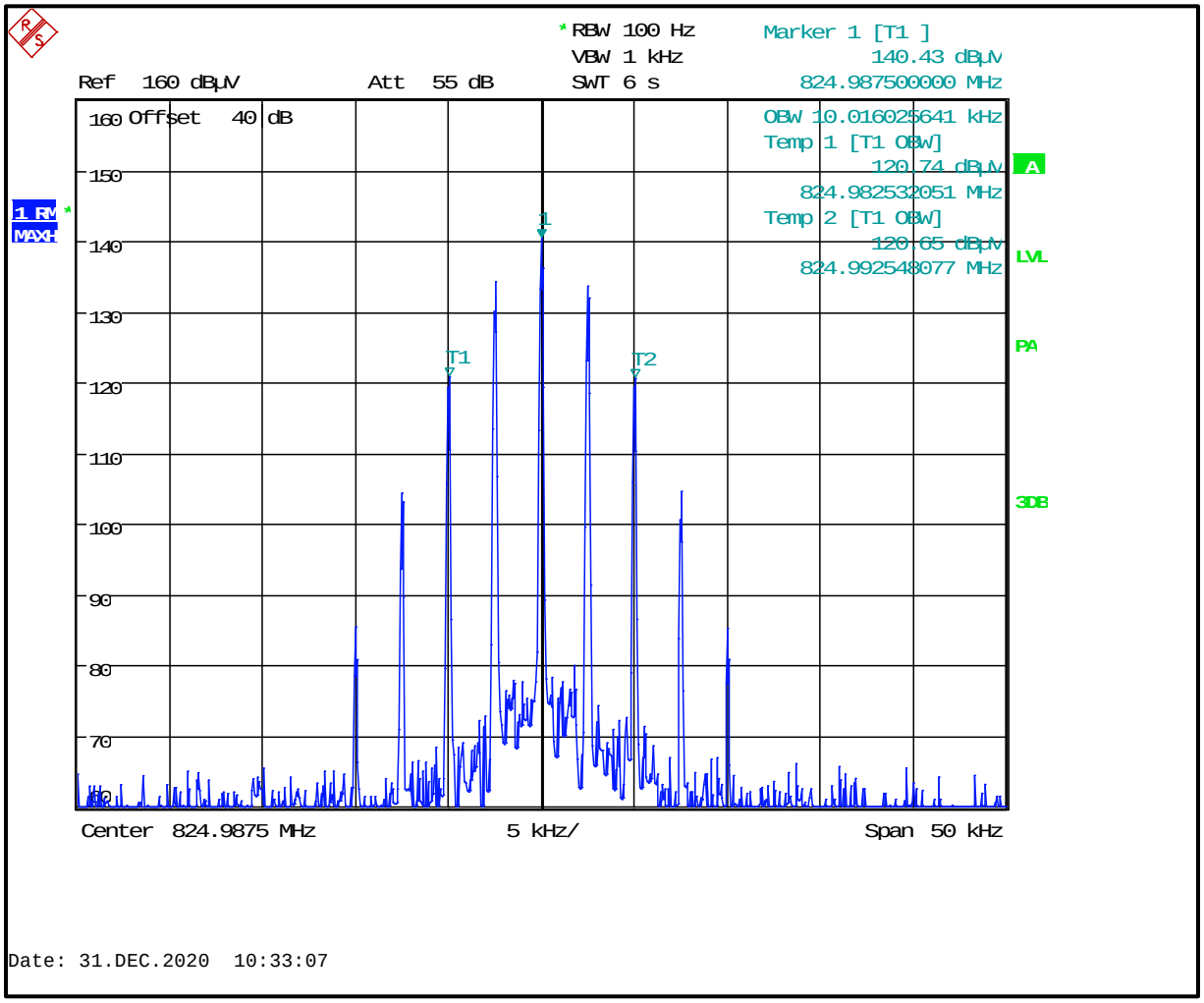
Plot 8-126: 99% Occupied Bandwidth – 815.0000 MHz; NB Analog



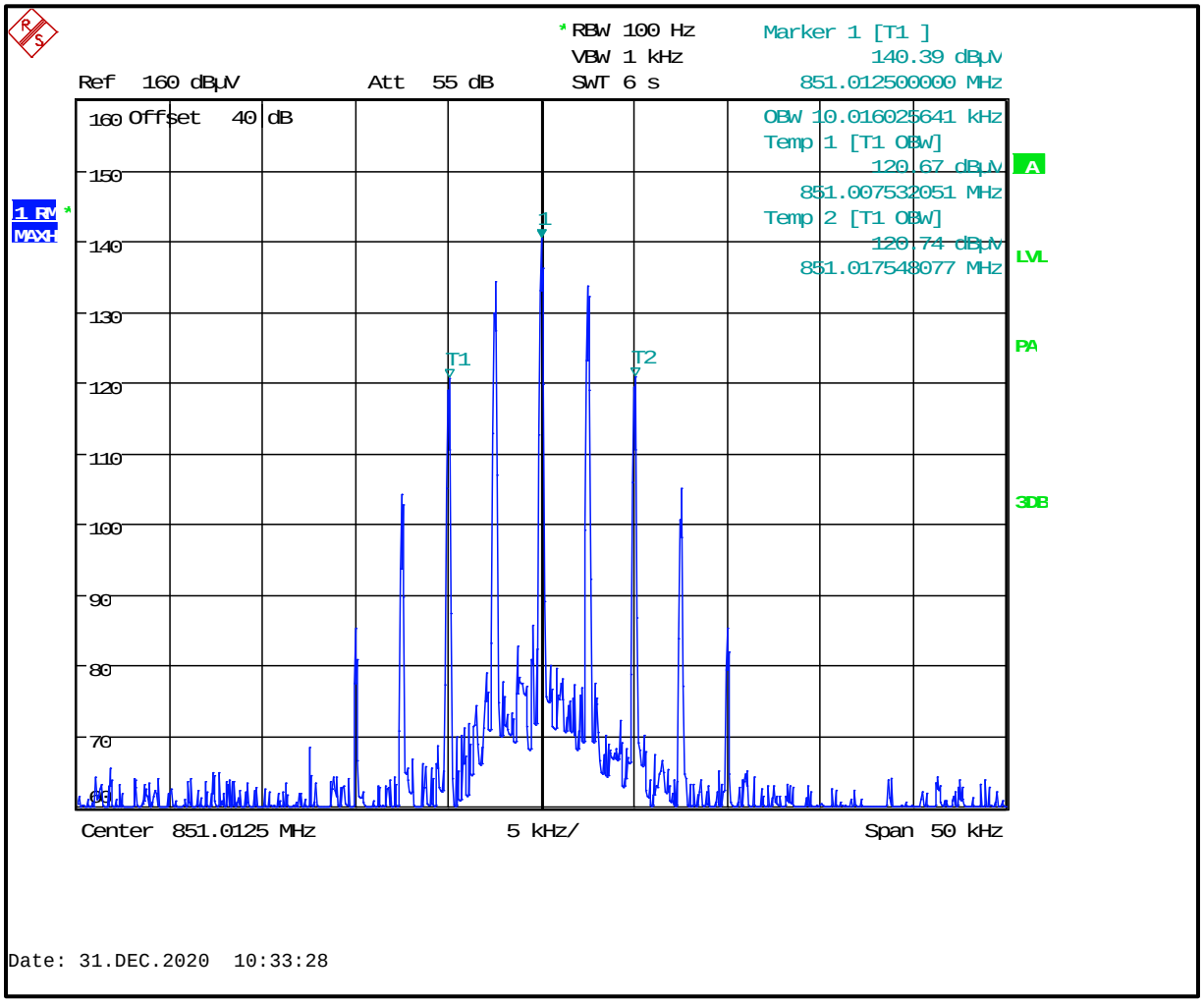
Plot 8-127: 99% Occupied Bandwidth – 823.9875 MHz; NB Analog



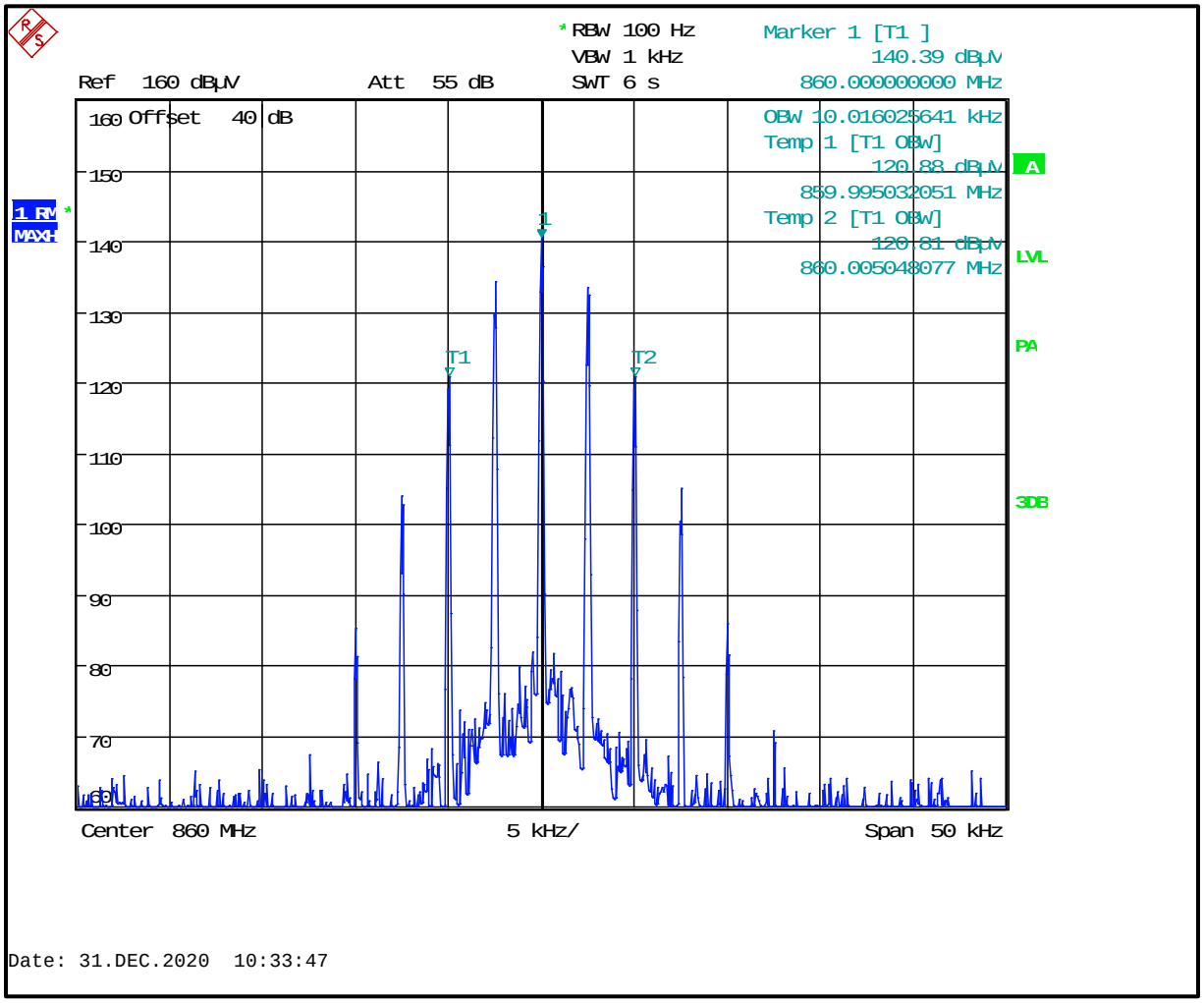
Plot 8-128: 99% Occupied Bandwidth – 824.9875 MHz; NB Analog



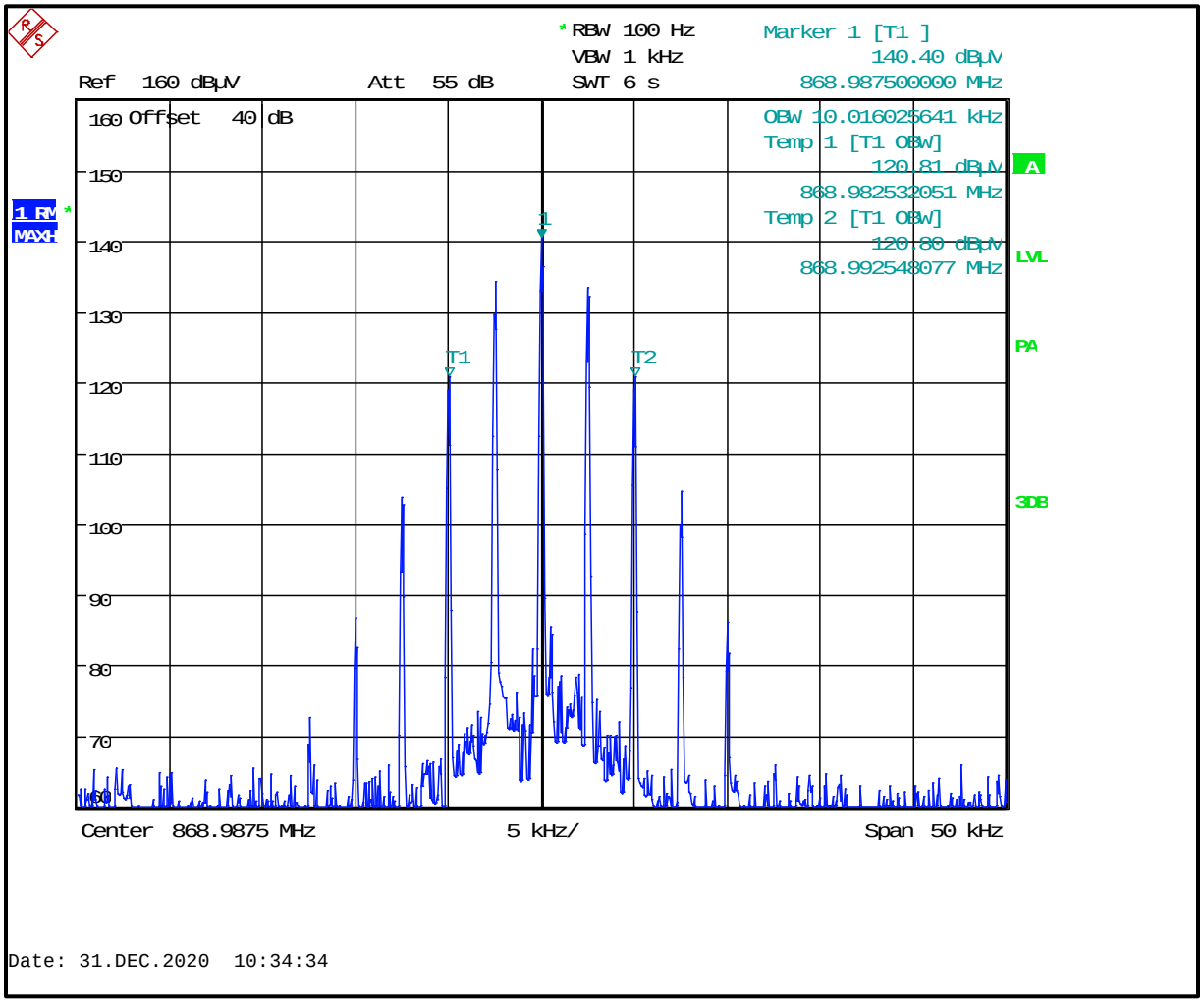
Plot 8-129: 99% Occupied Bandwidth – 851.0125 MHz; NB Analog



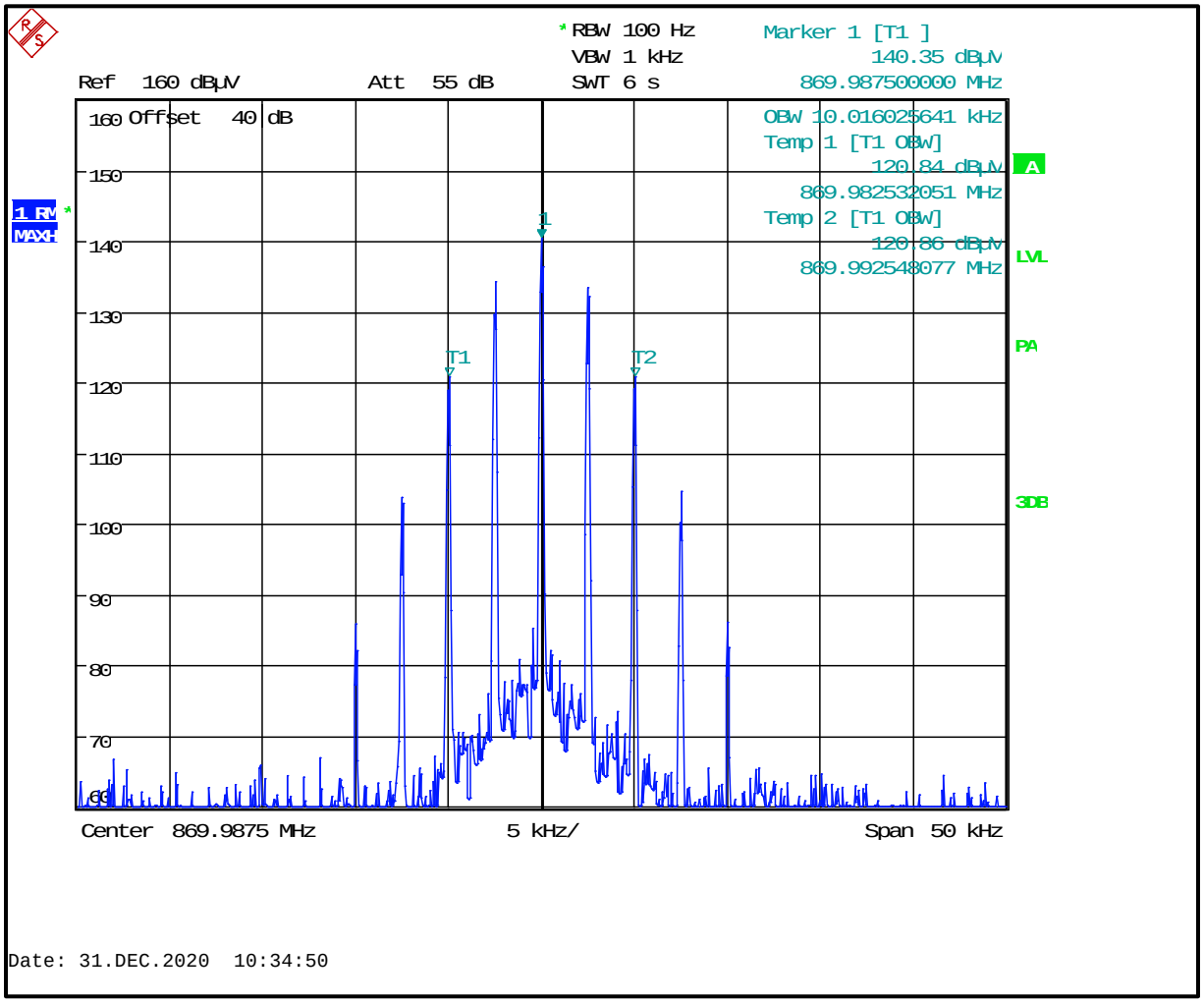
Plot 8-130: 99% Occupied Bandwidth – 860.0000 MHz; NB Analog



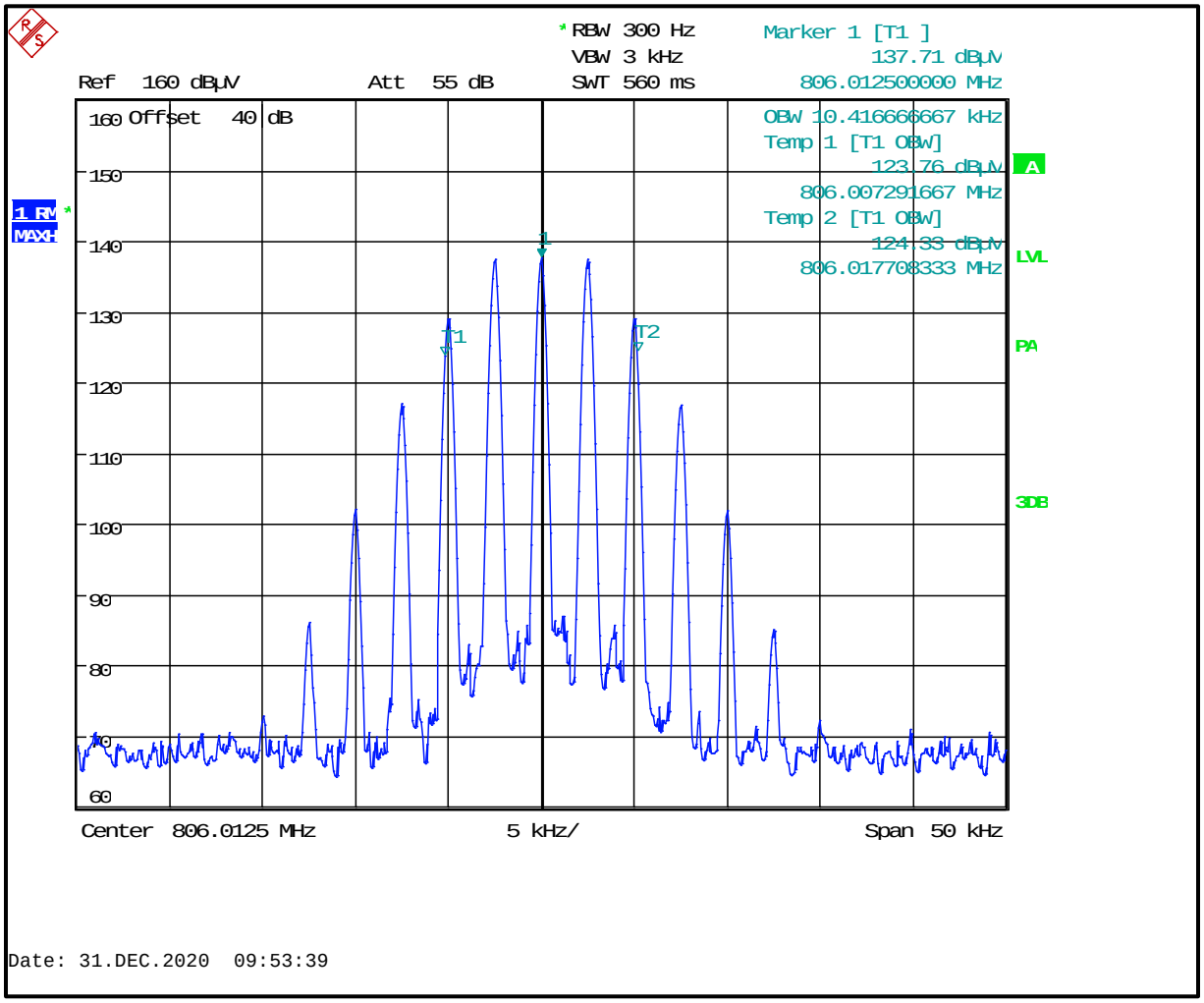
Plot 8-131: 99% Occupied Bandwidth – 868.9875 MHz; NB Analog



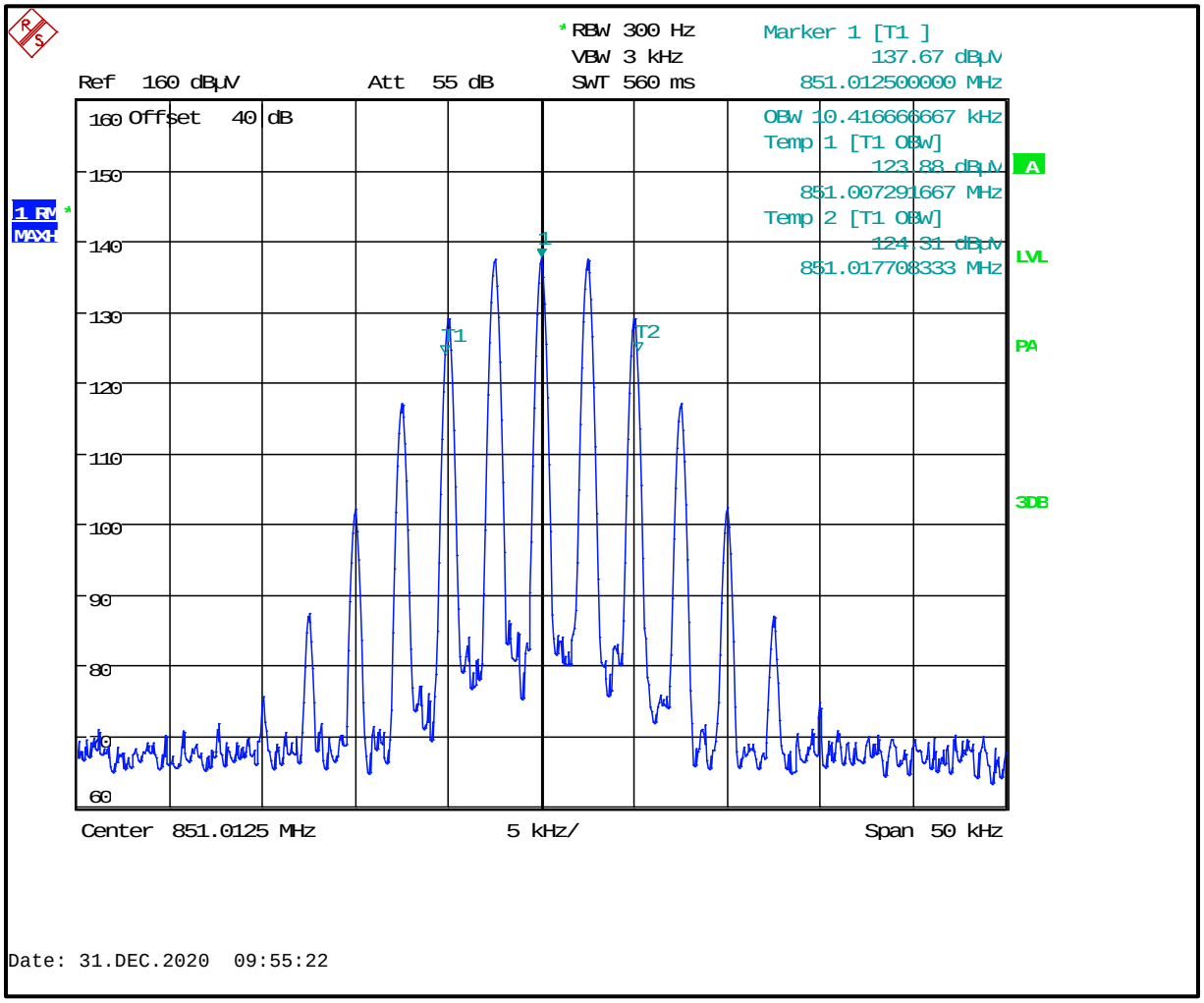
Plot 8-132: 99% Occupied Bandwidth – 869.9875 MHz; NB Analog



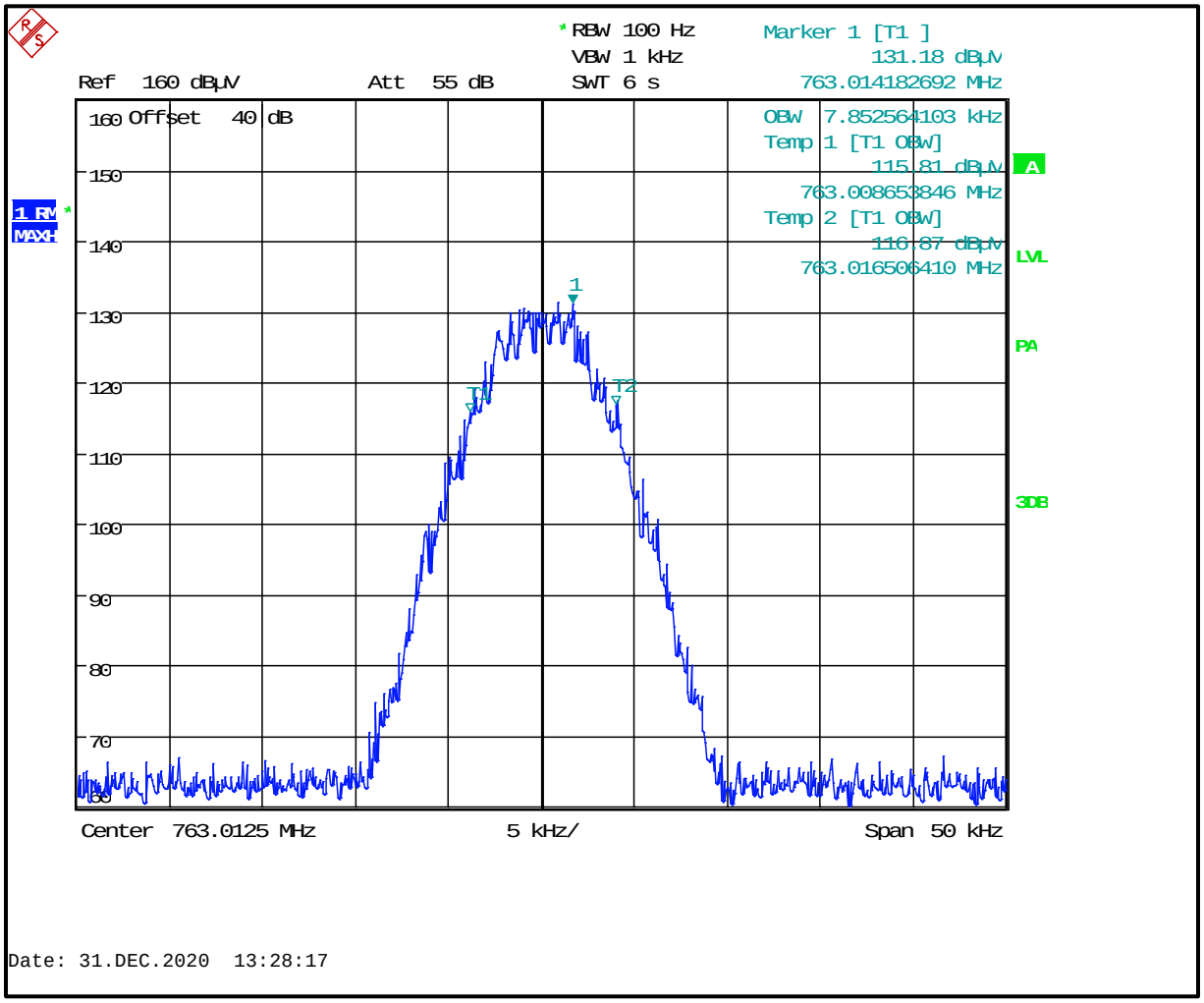
Plot 8-133: 99% Occupied Bandwidth – 806.0125 MHz; NPSPAC Analog



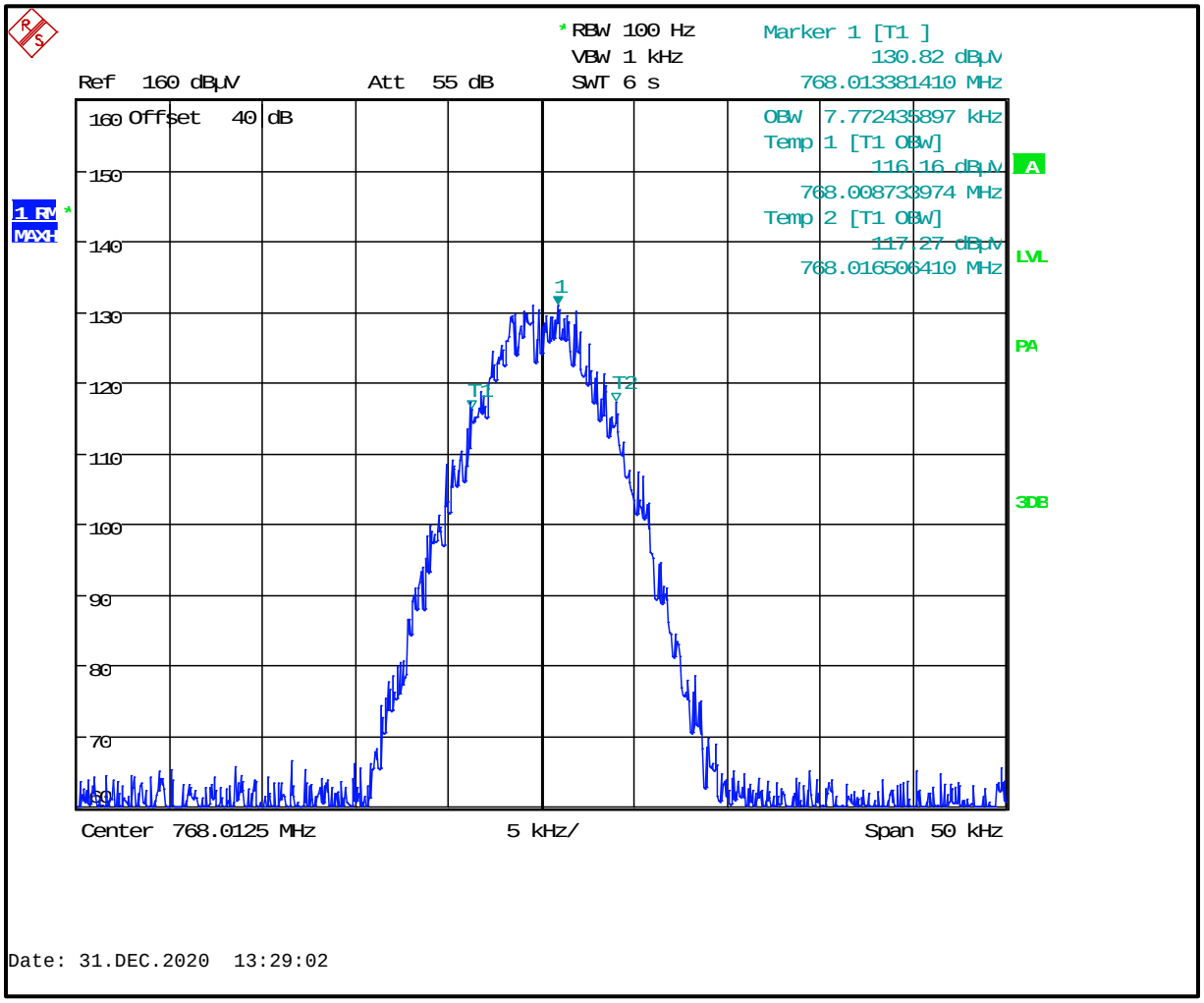
Plot 8-134: 99% Occupied Bandwidth – 851.0125 MHz; NPSPAC Analog



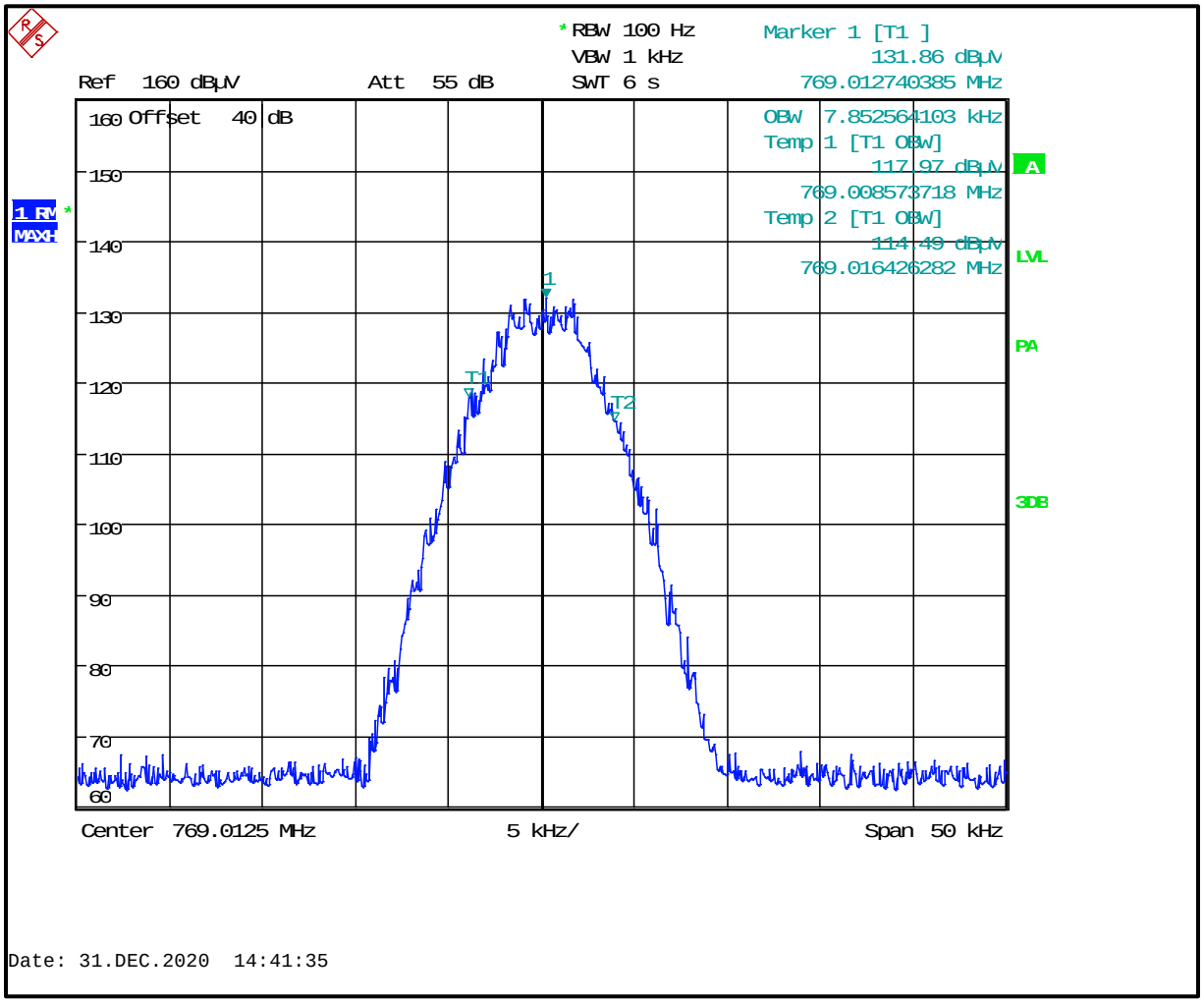
Plot 8-135: 99% Occupied Bandwidth – 763.0125 MHz; C4FM



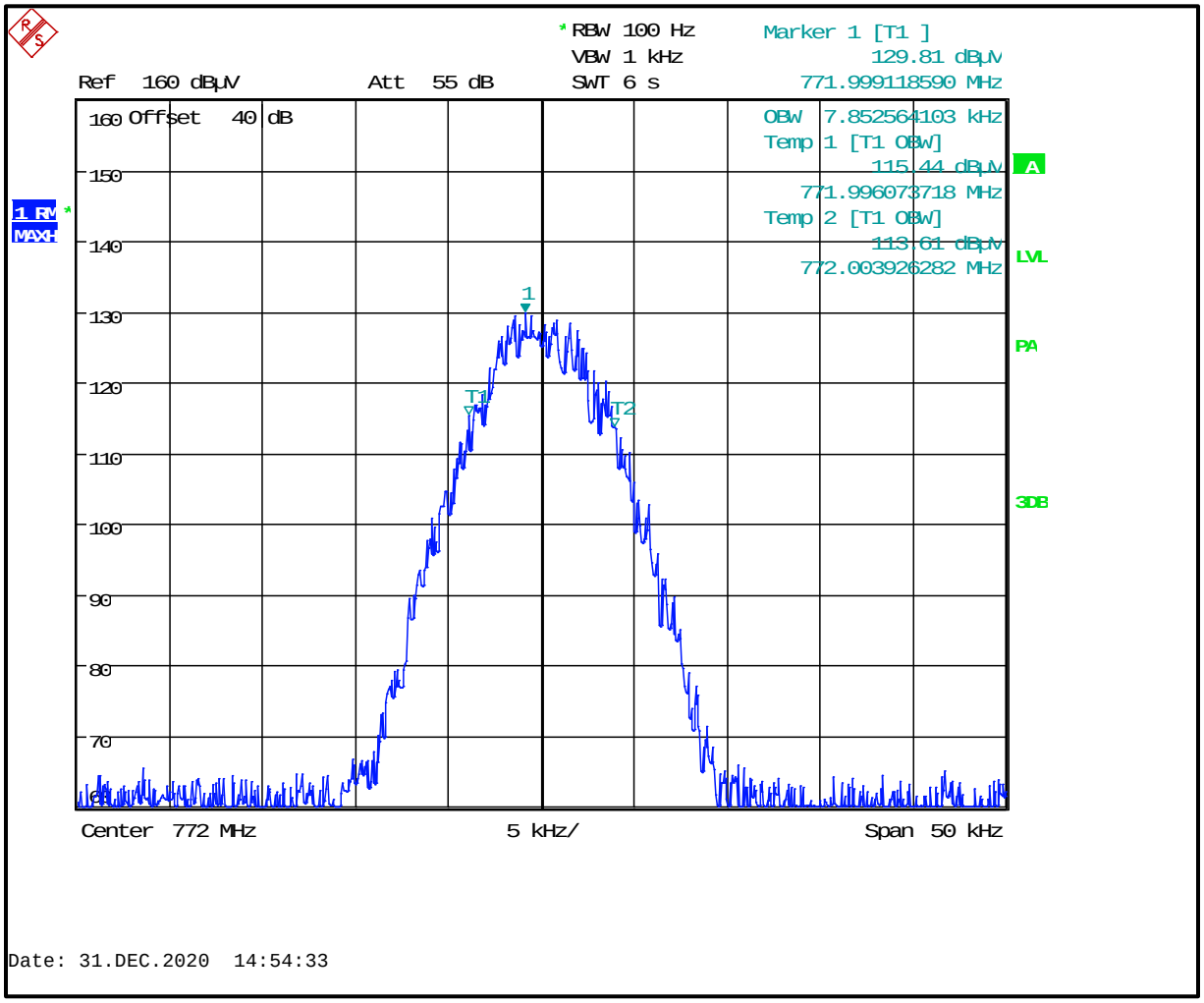
Plot 8-136: 99% Occupied Bandwidth – 768.0125 MHz; C4FM



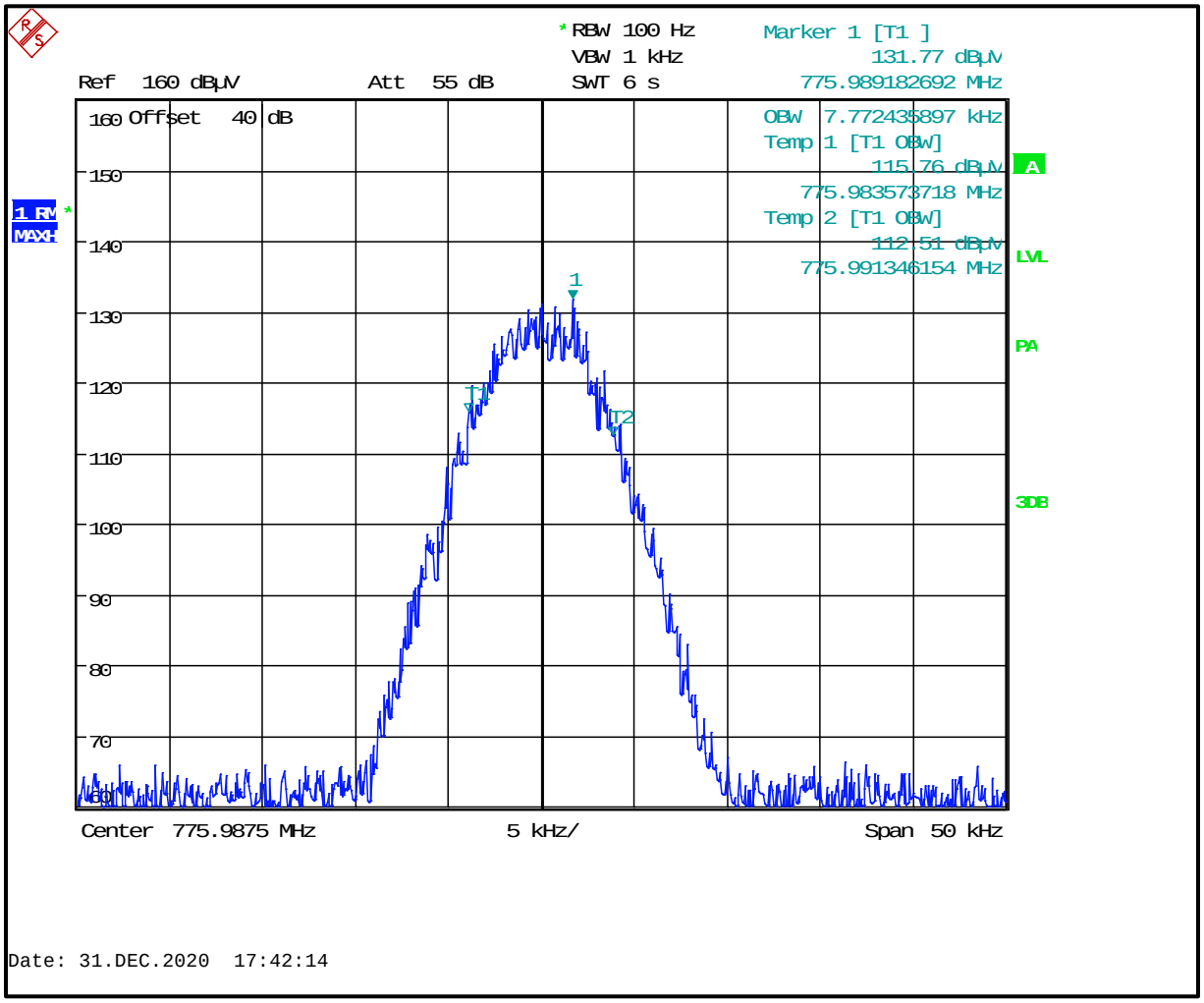
Plot 8-137: 99% Occupied Bandwidth – 769.0125 MHz; C4FM



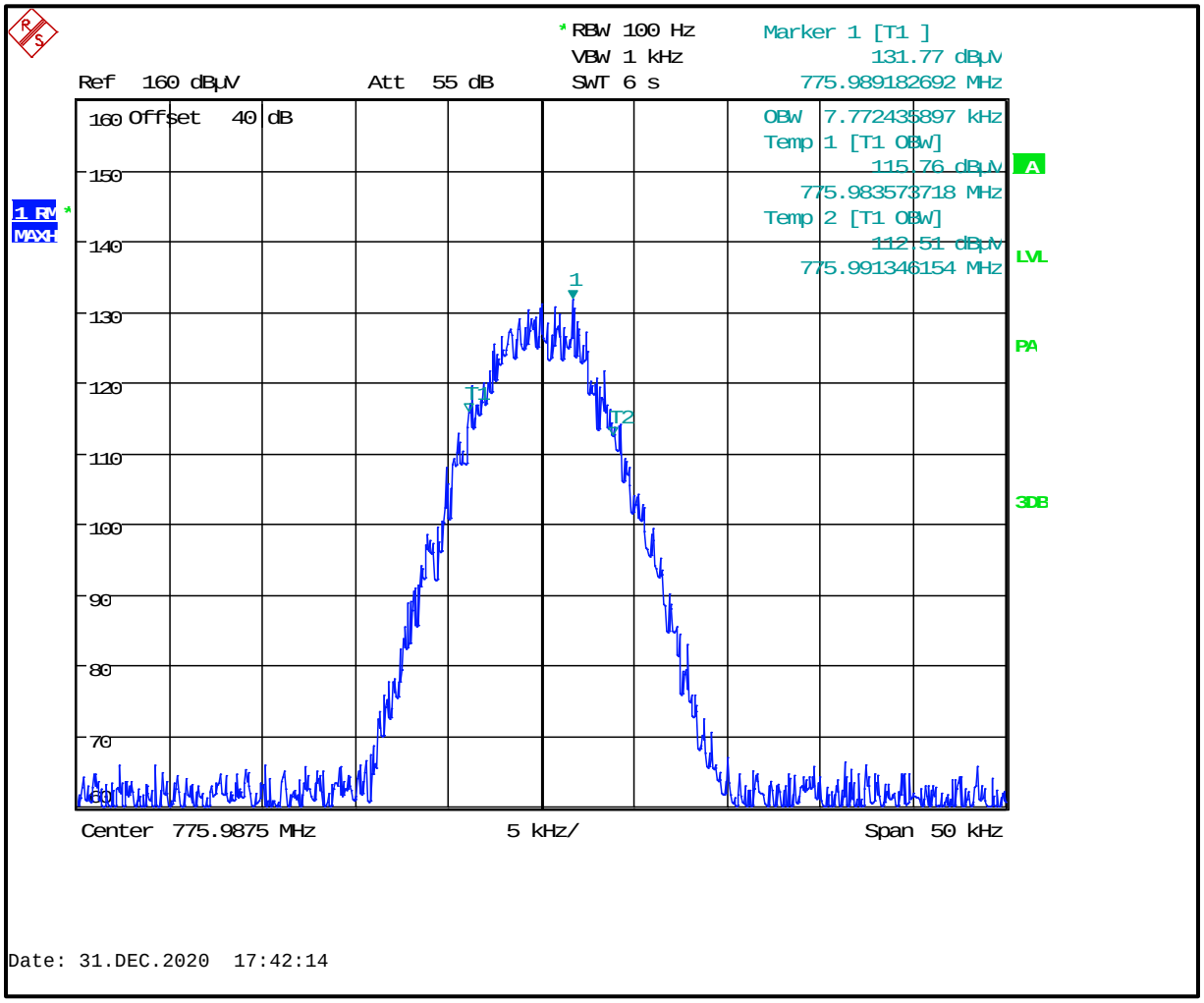
Plot 8-138: 99% Occupied Bandwidth – 772.0000 MHz; C4FM



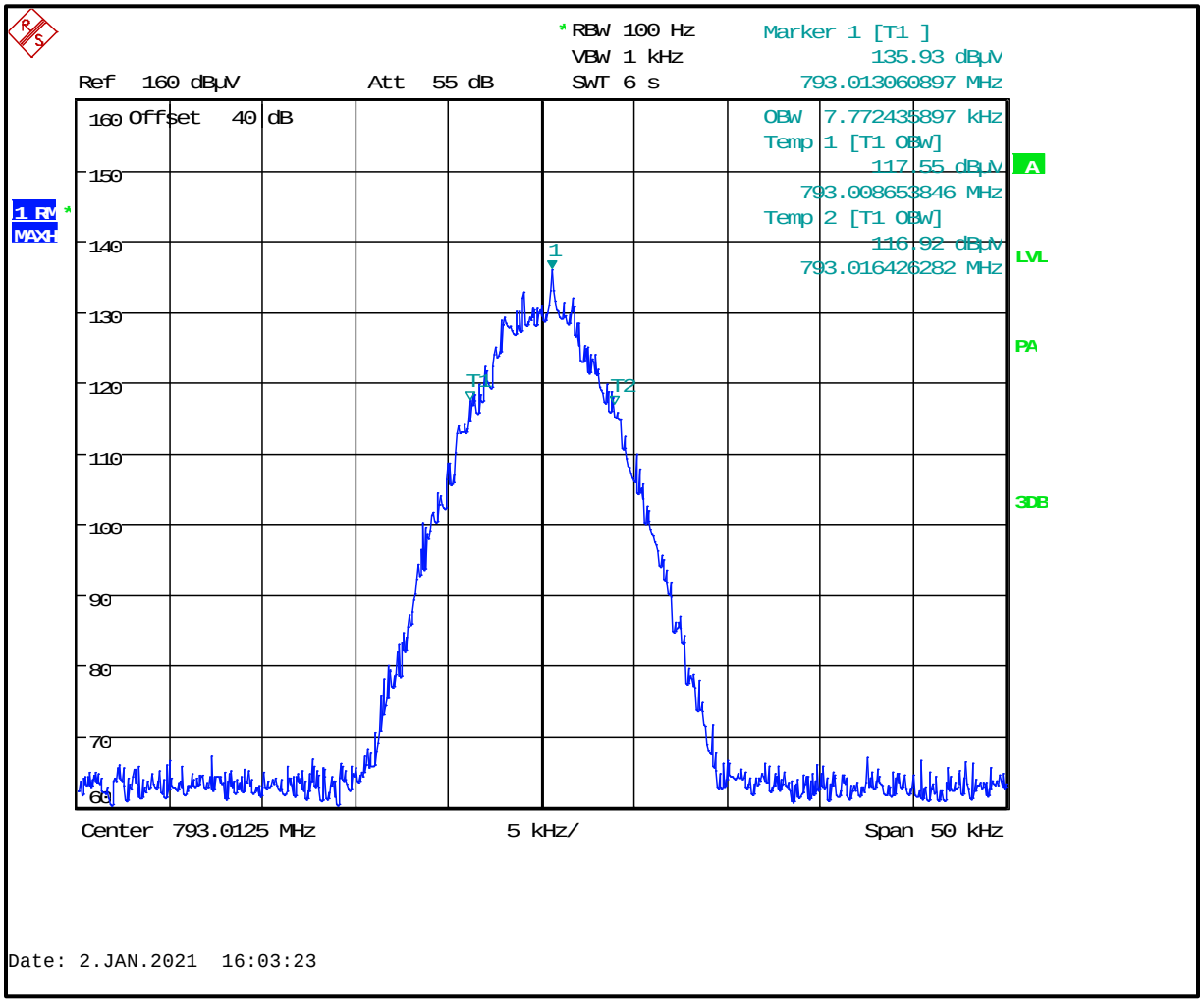
Plot 8-139: 99% Occupied Bandwidth – 774.9875 MHz; C4FM



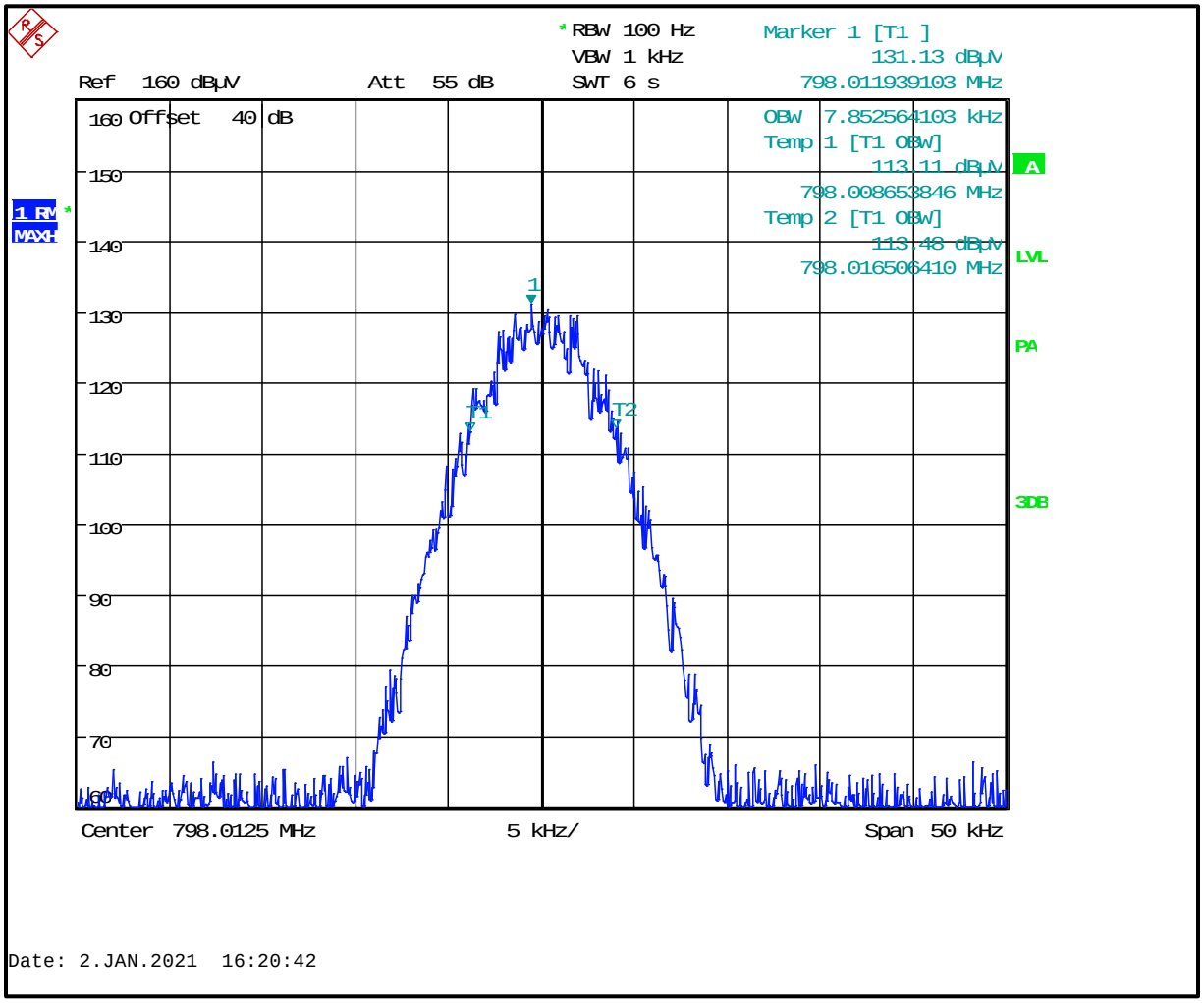
Plot 8-140: 99% Occupied Bandwidth – 775.9875 MHz; C4FM



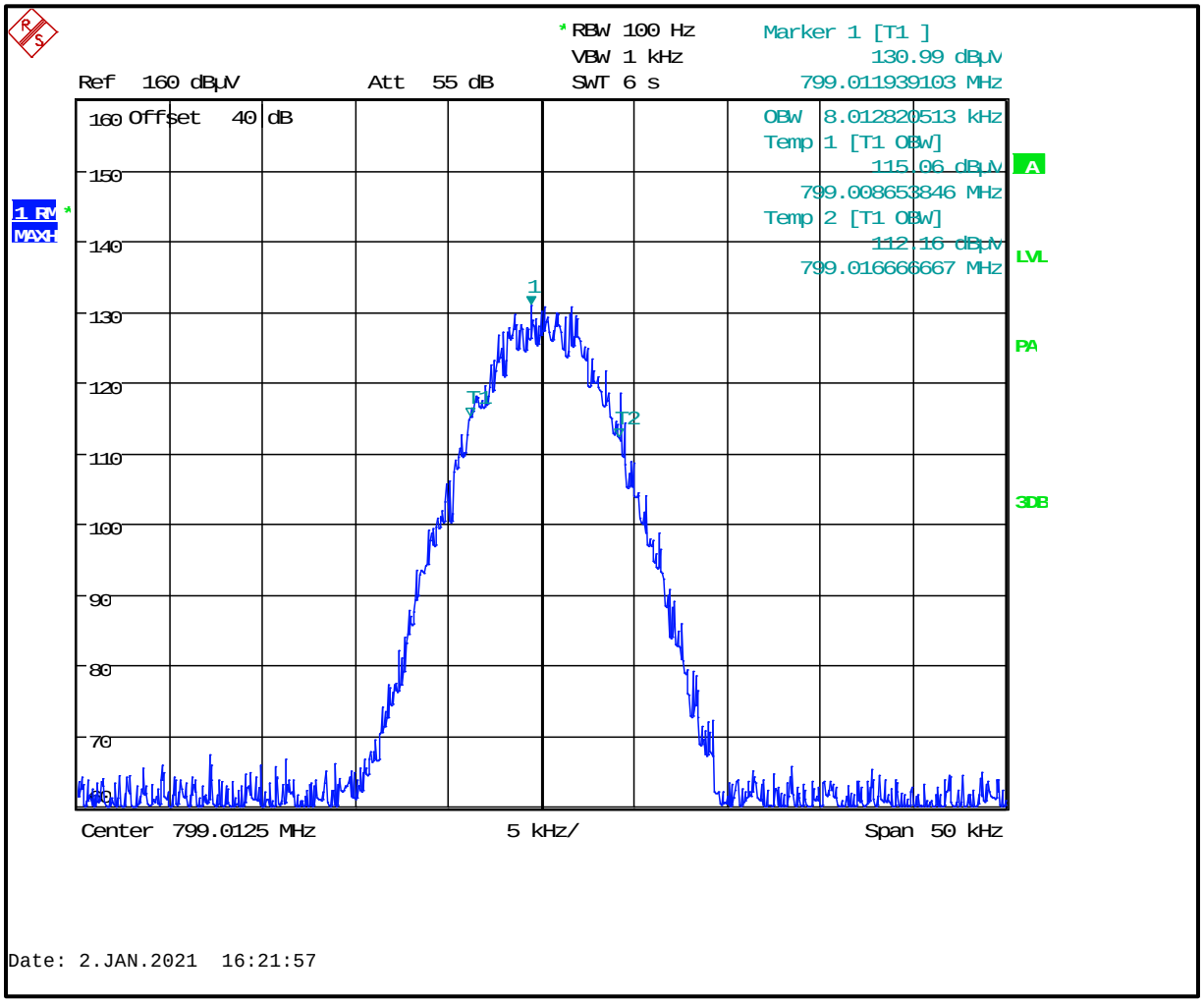
Plot 8-141: 99% Occupied Bandwidth – 793.0125 MHz; C4FM



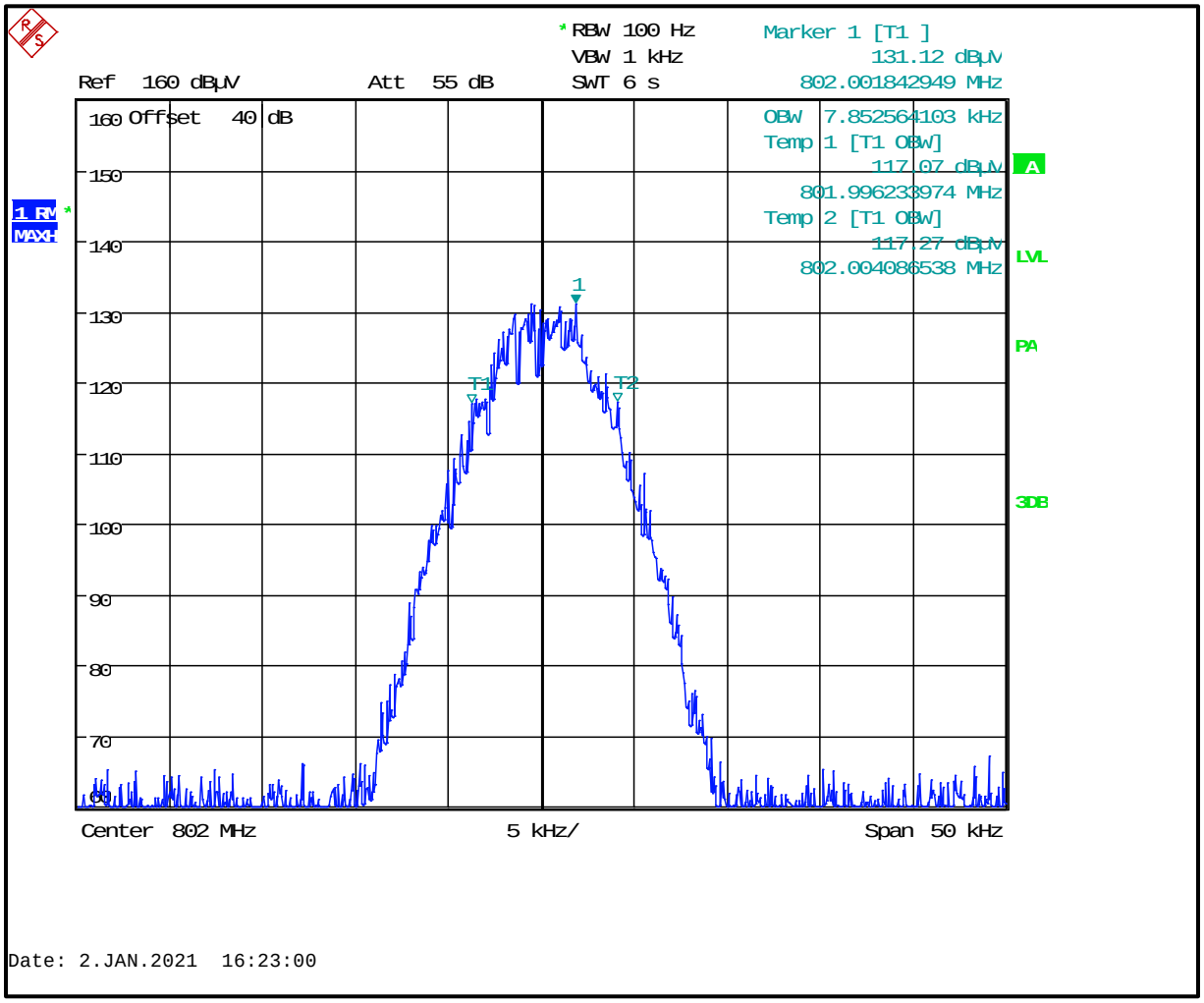
Plot 8-142: 99% Occupied Bandwidth – 798.0125 MHz; C4FM



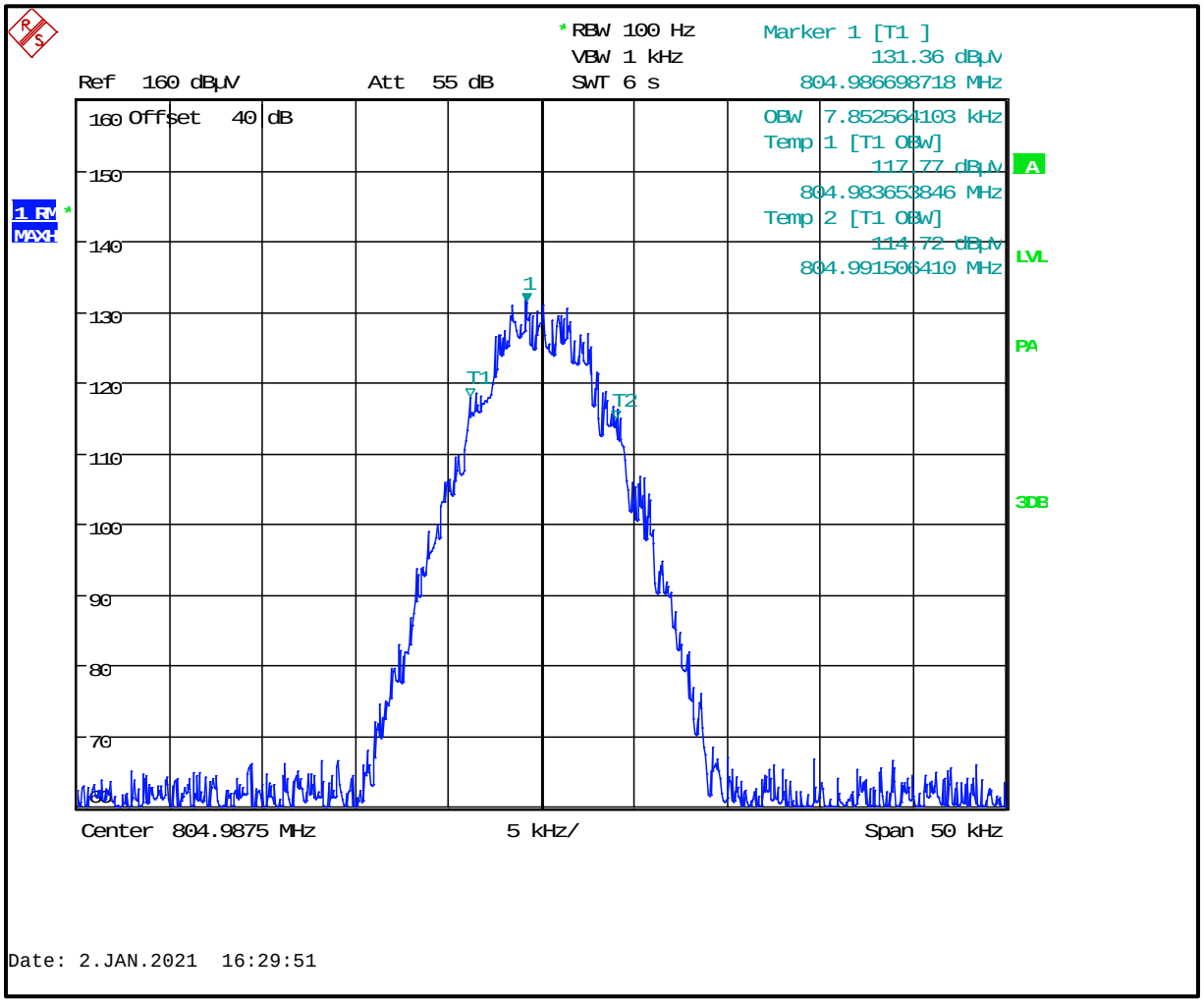
Plot 8-143: 99% Occupied Bandwidth – 799.0125 MHz; C4FM



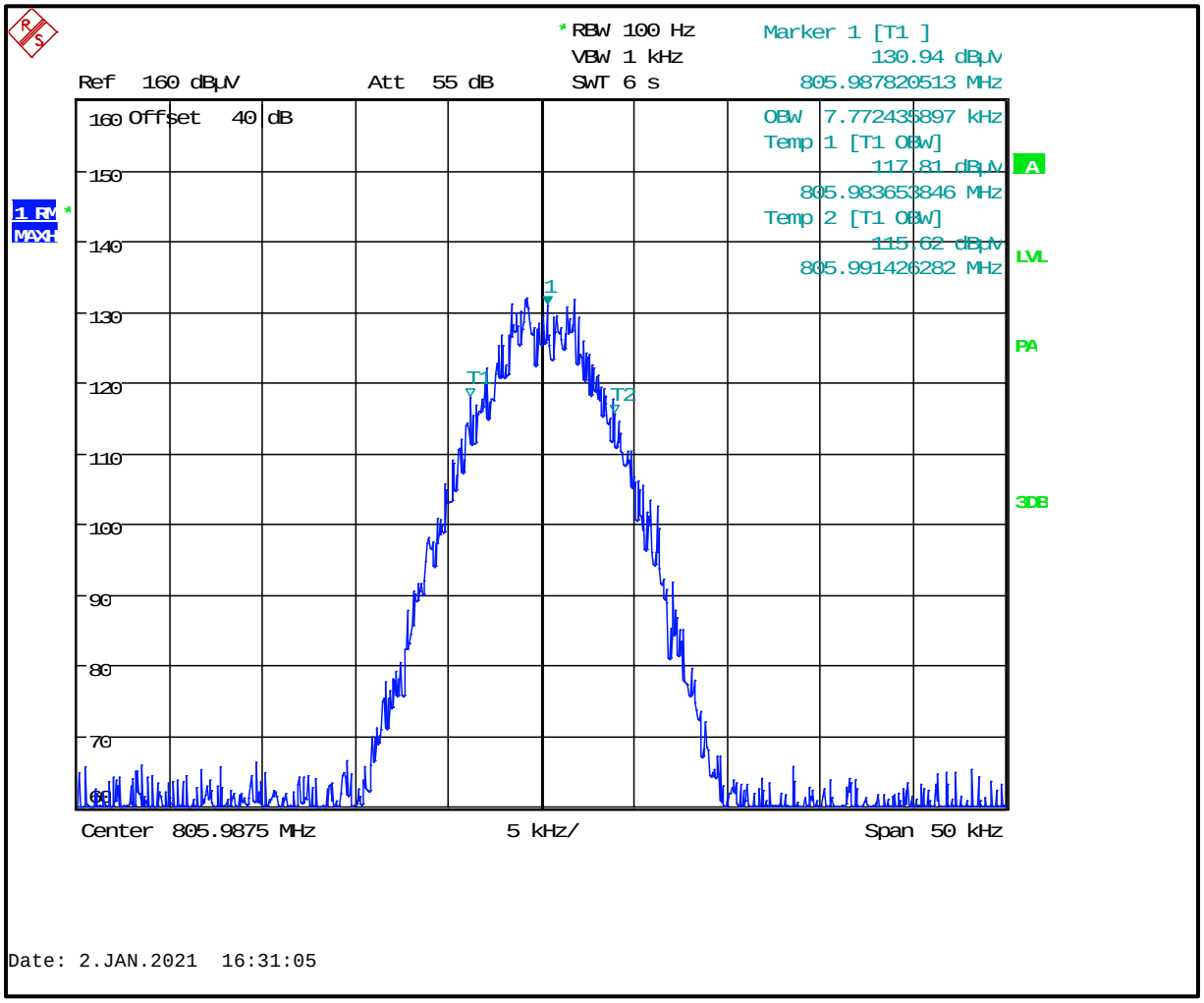
Plot 8-144: 99% Occupied Bandwidth – 802.0000 MHz; C4FM



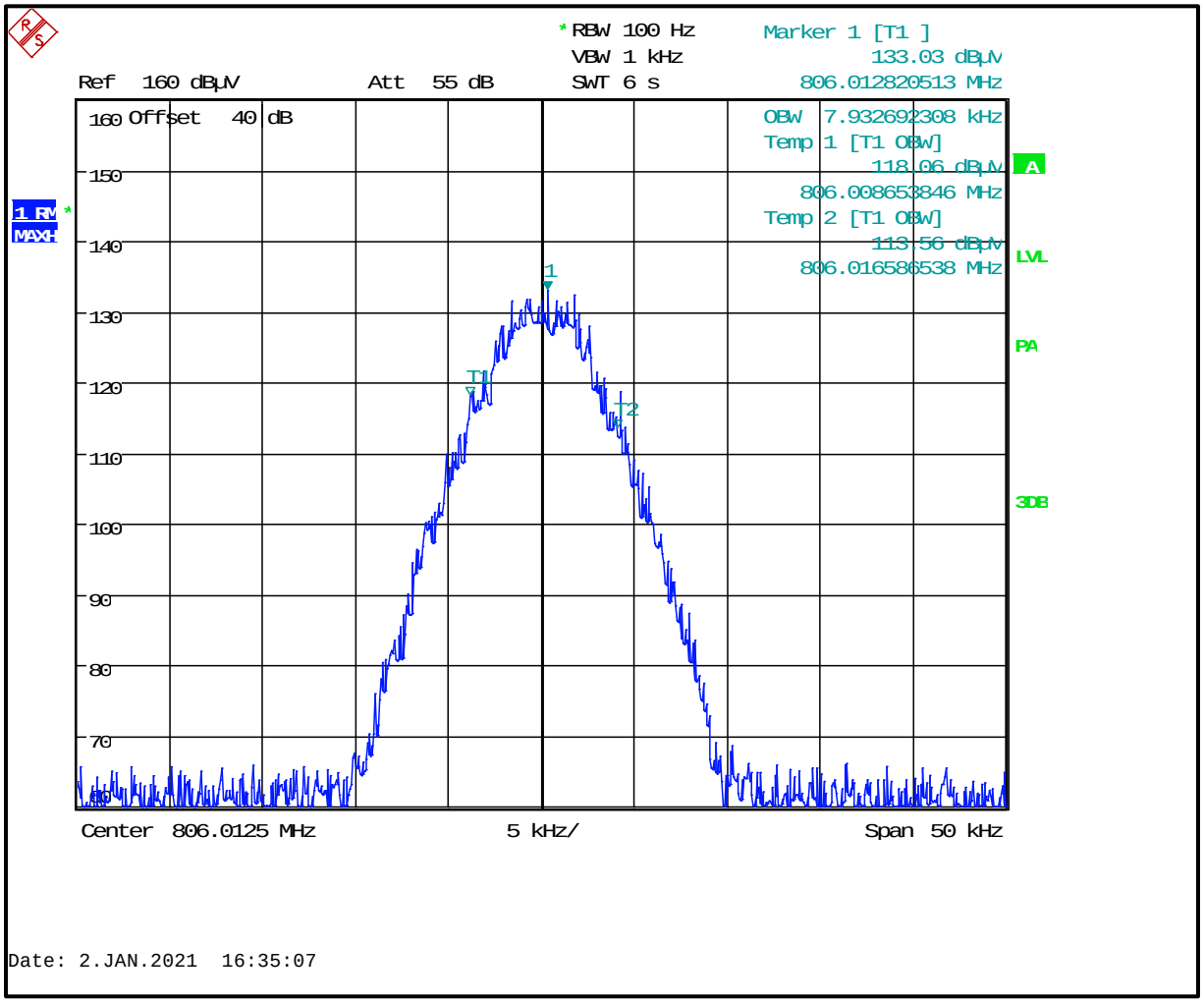
Plot 8-145: 99% Occupied Bandwidth – 804.9875 MHz; C4FM



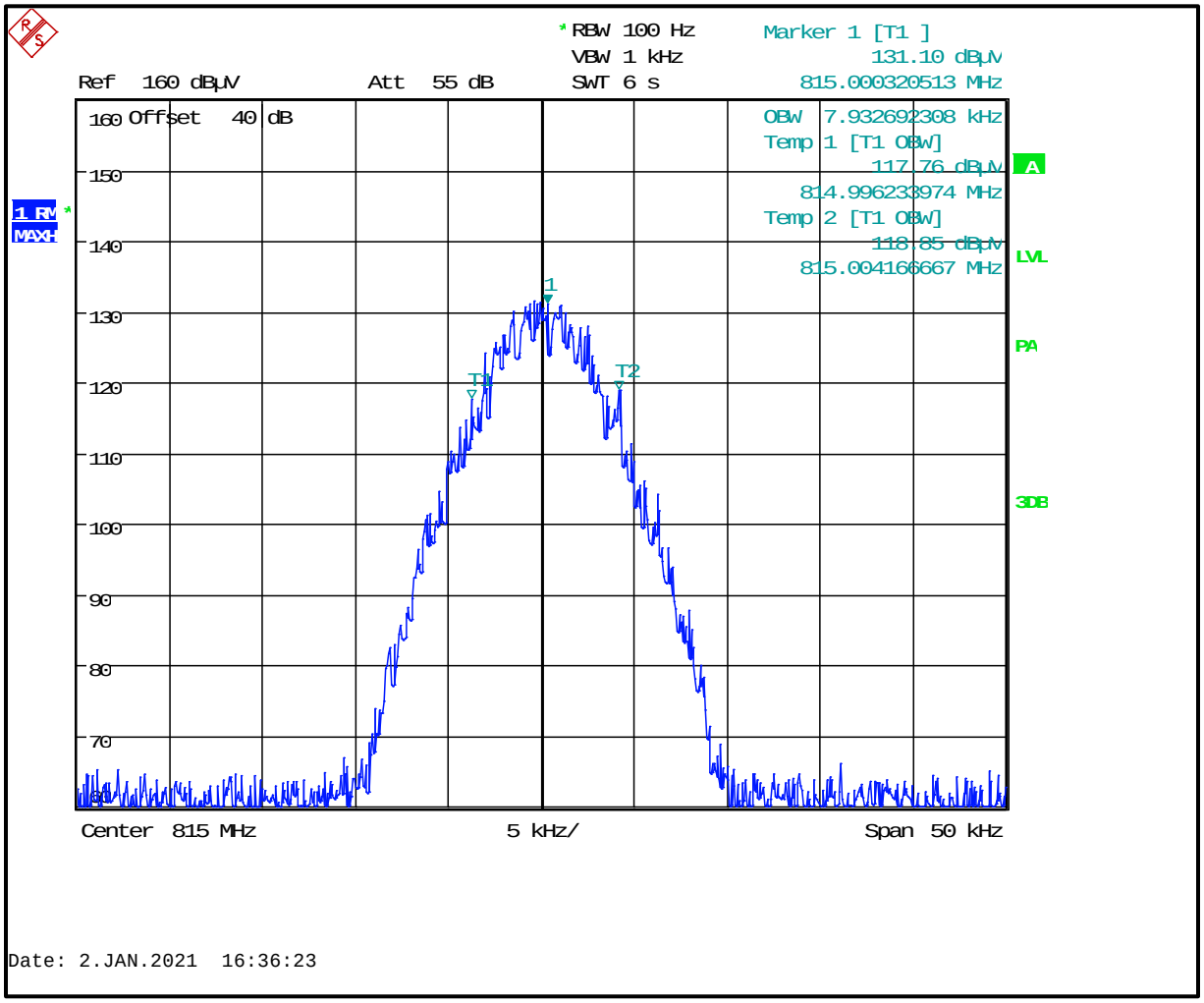
Plot 8-146: 99% Occupied Bandwidth – 805.9875 MHz; C4FM



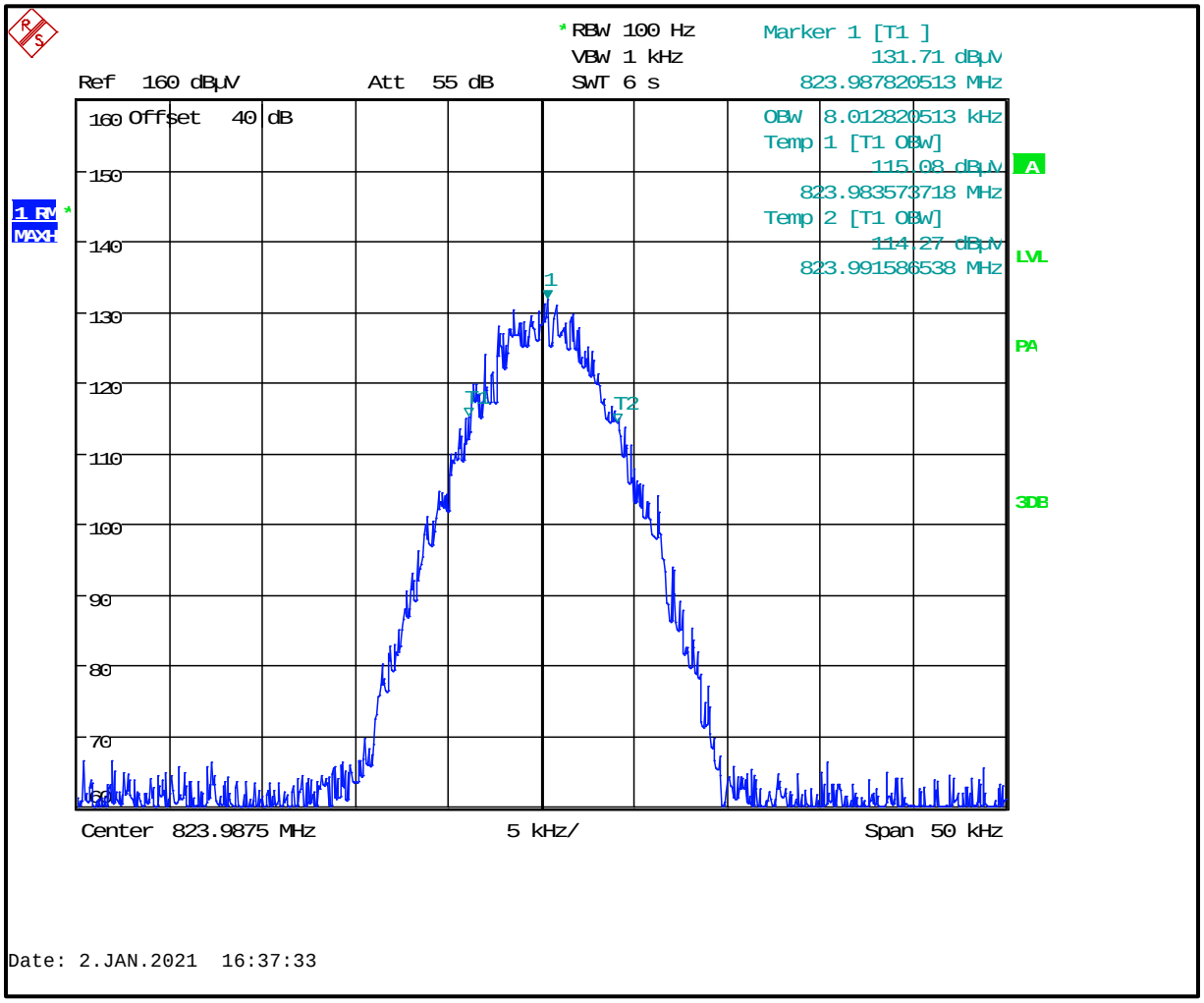
Plot 8-147: 99% Occupied Bandwidth – 806.0125 MHz; C4FM



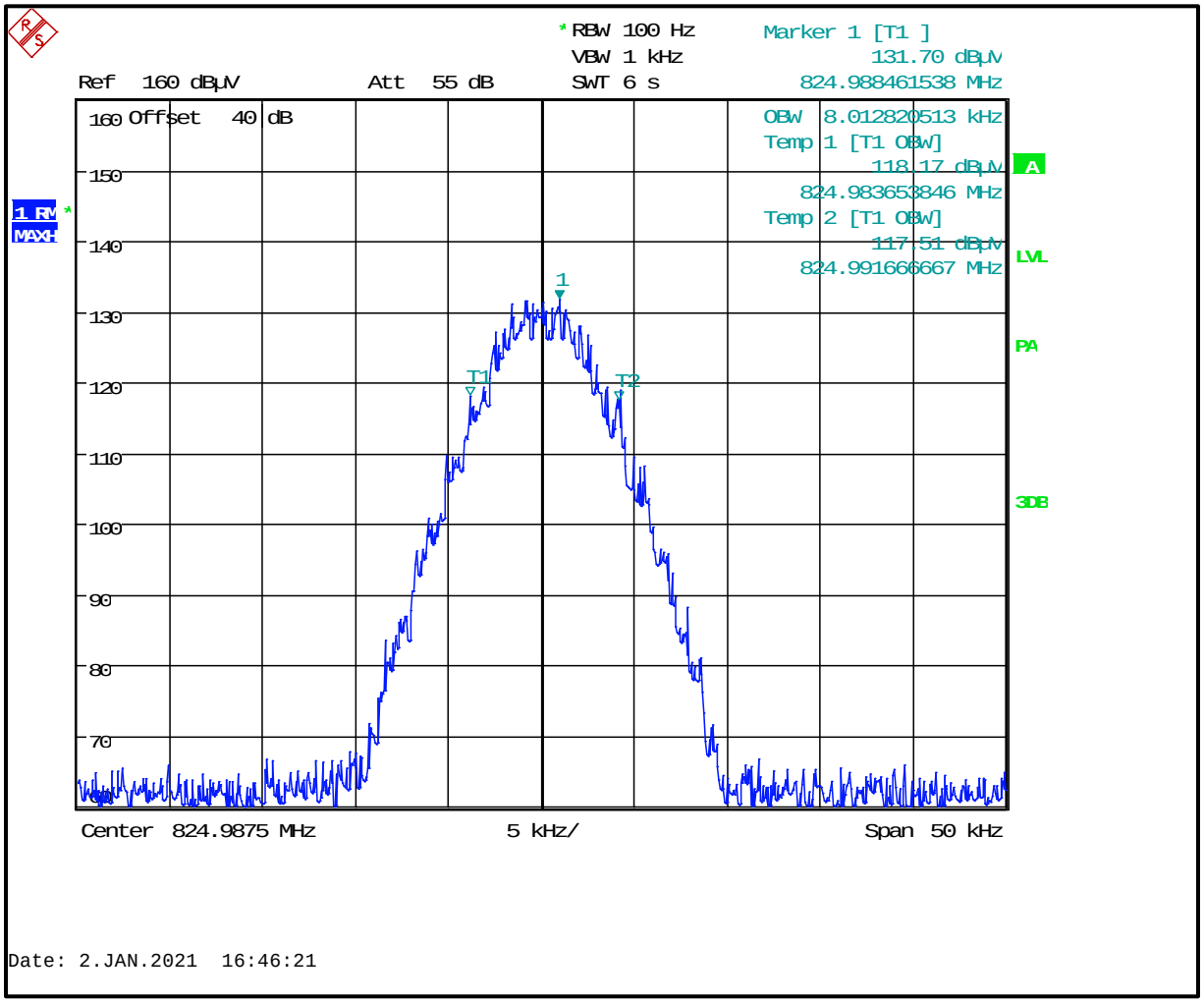
Plot 8-148: 99% Occupied Bandwidth – 815.0000 MHz; C4FM



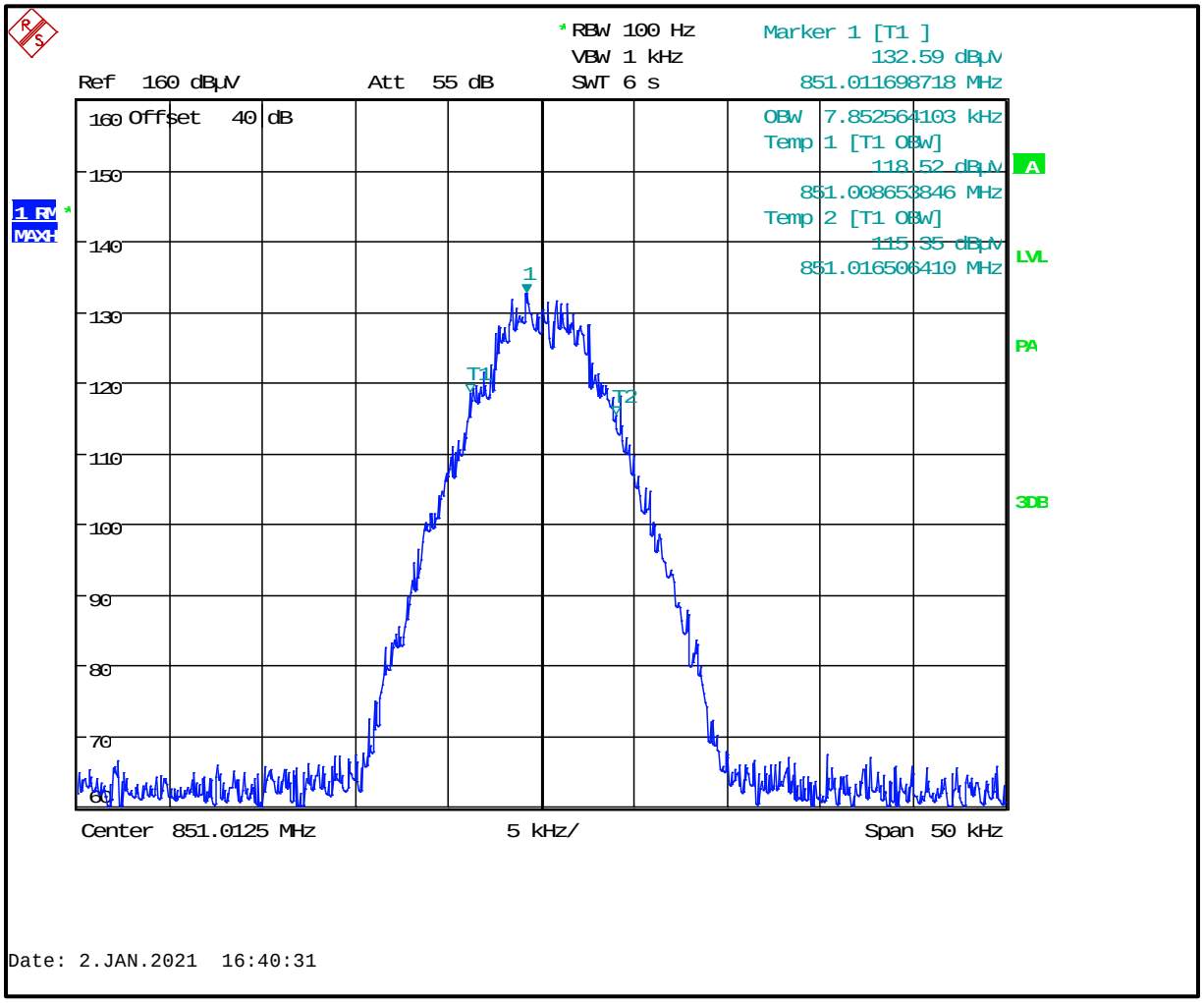
Plot 8-149: 99% Occupied Bandwidth – 823.9875 MHz; C4FM



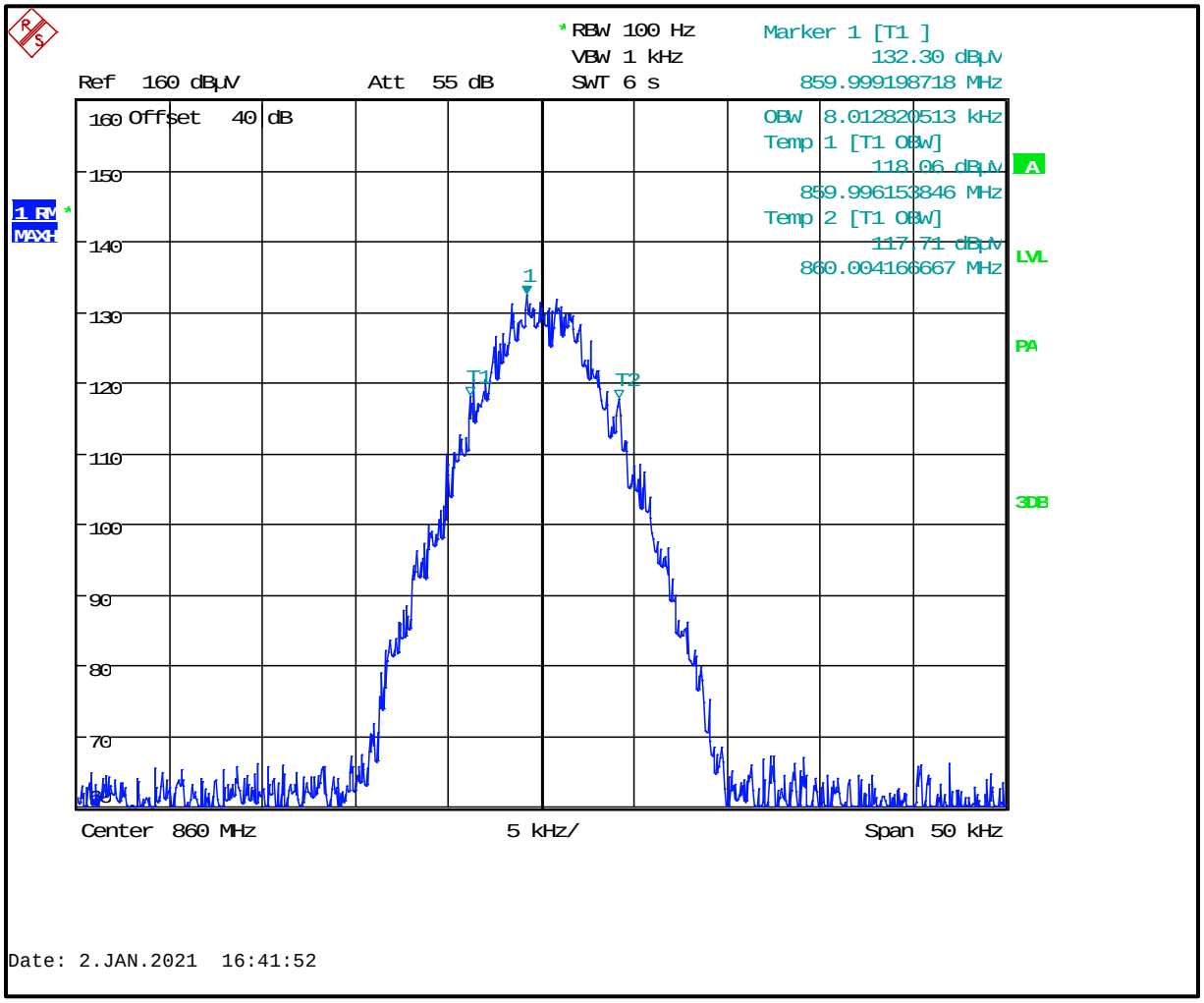
Plot 8-150: 99% Occupied Bandwidth – 824.9875 MHz; C4FM



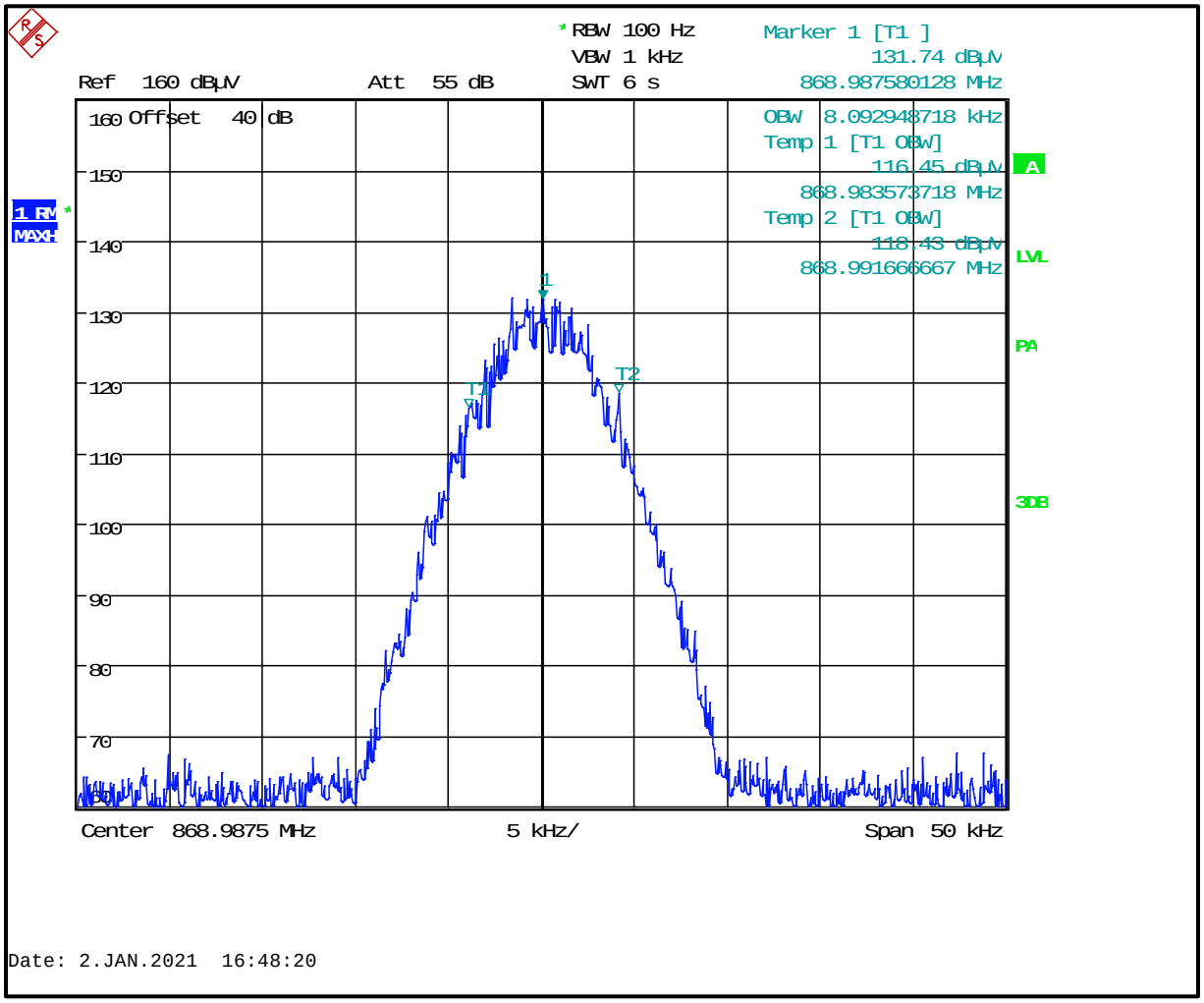
Plot 8-151: 99% Occupied Bandwidth – 851.0125 MHz; C4FM



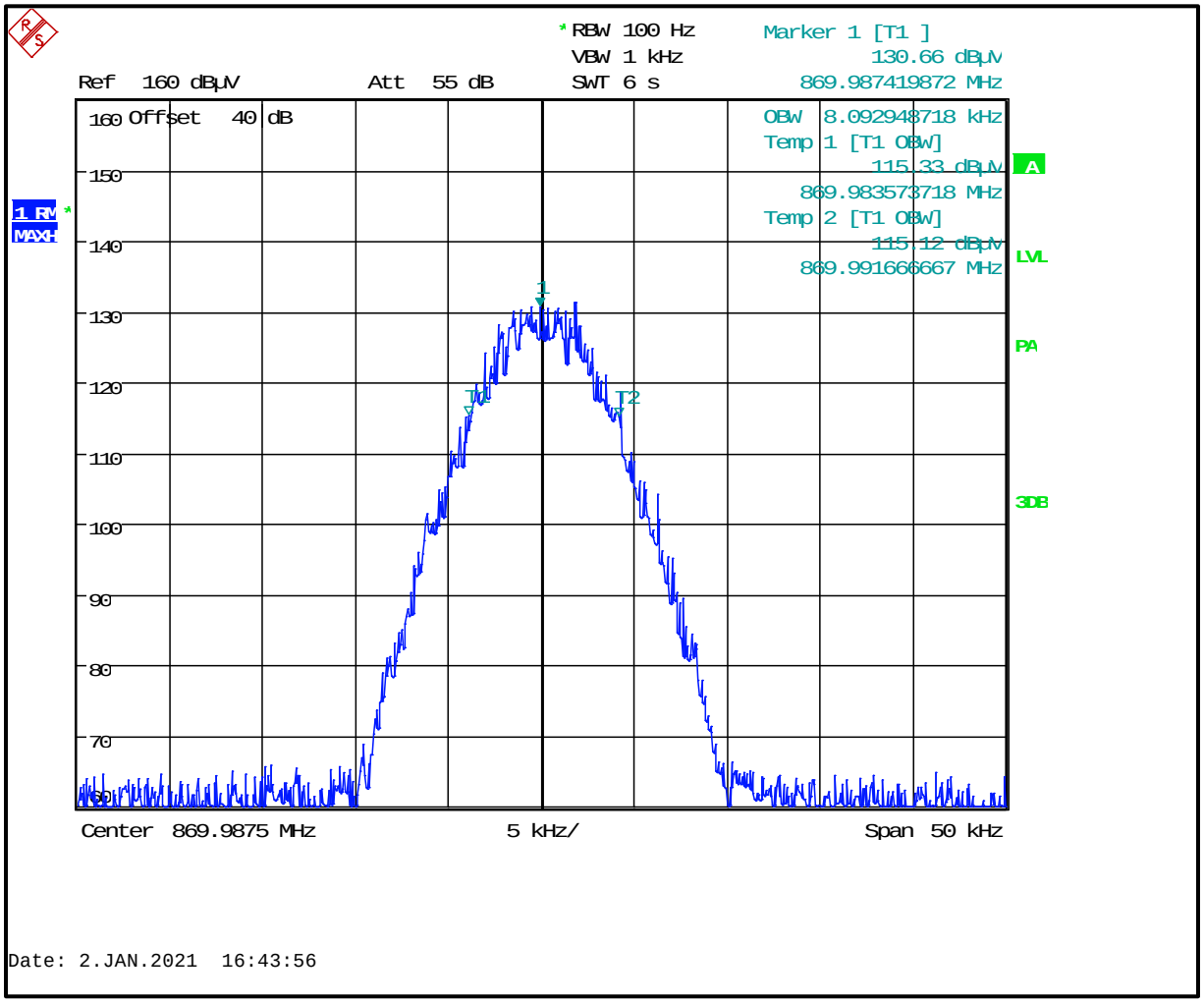
Plot 8-152: 99% Occupied Bandwidth – 860.0000 MHz; C4FM



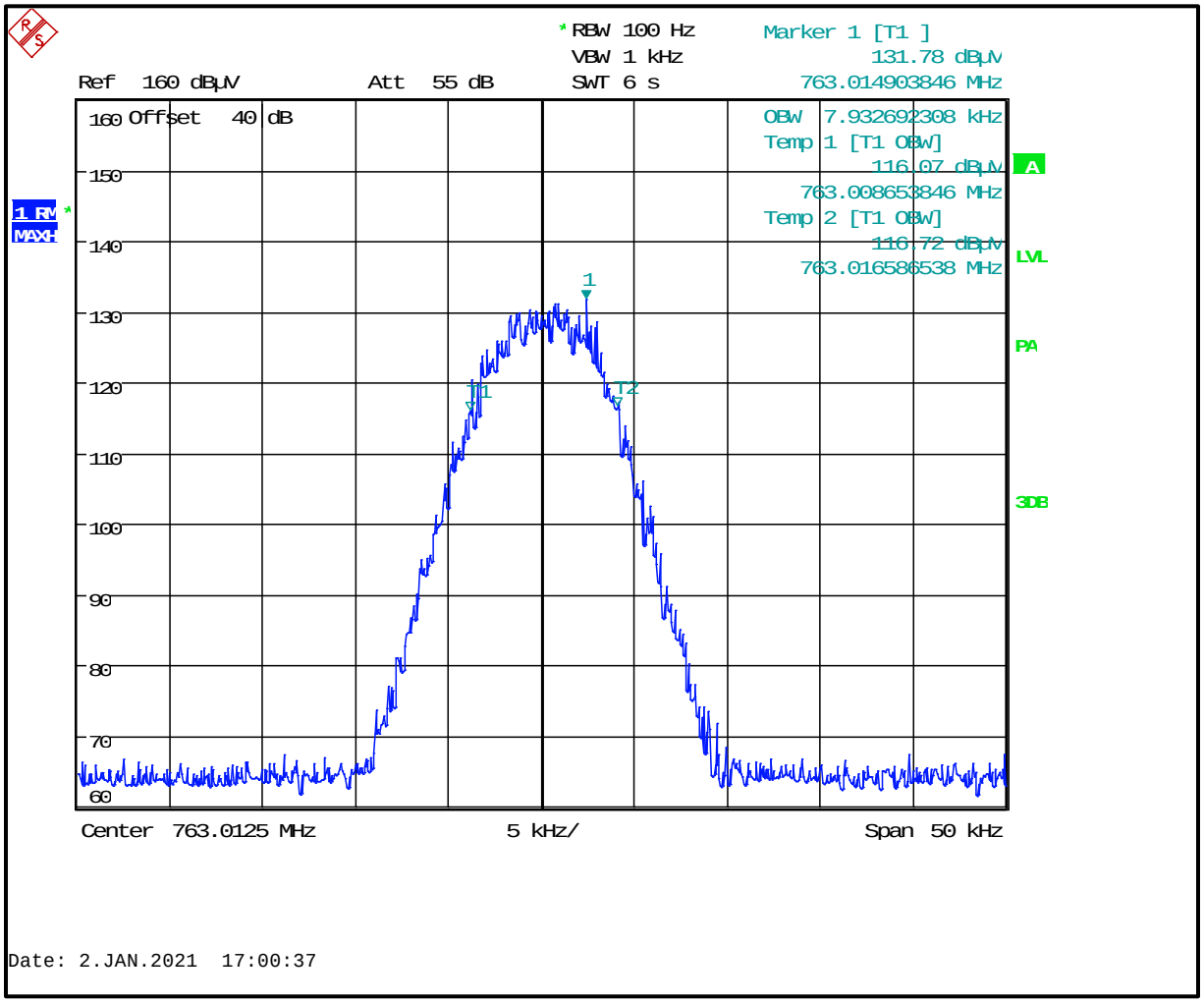
Plot 8-153: 99% Occupied Bandwidth – 868.9875 MHz; C4FM



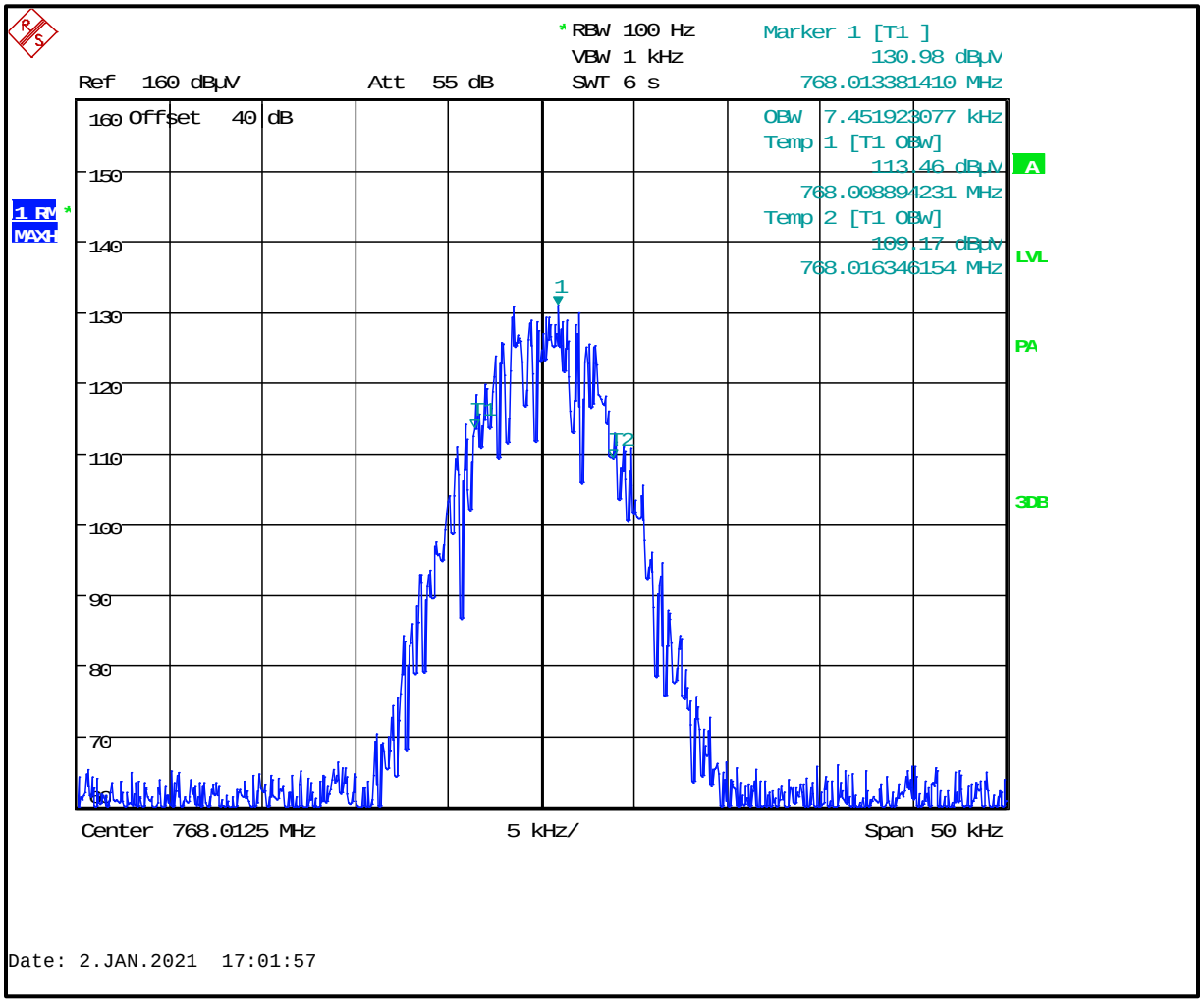
Plot 8-154: 99% Occupied Bandwidth – 869.9875 MHz; C4FM



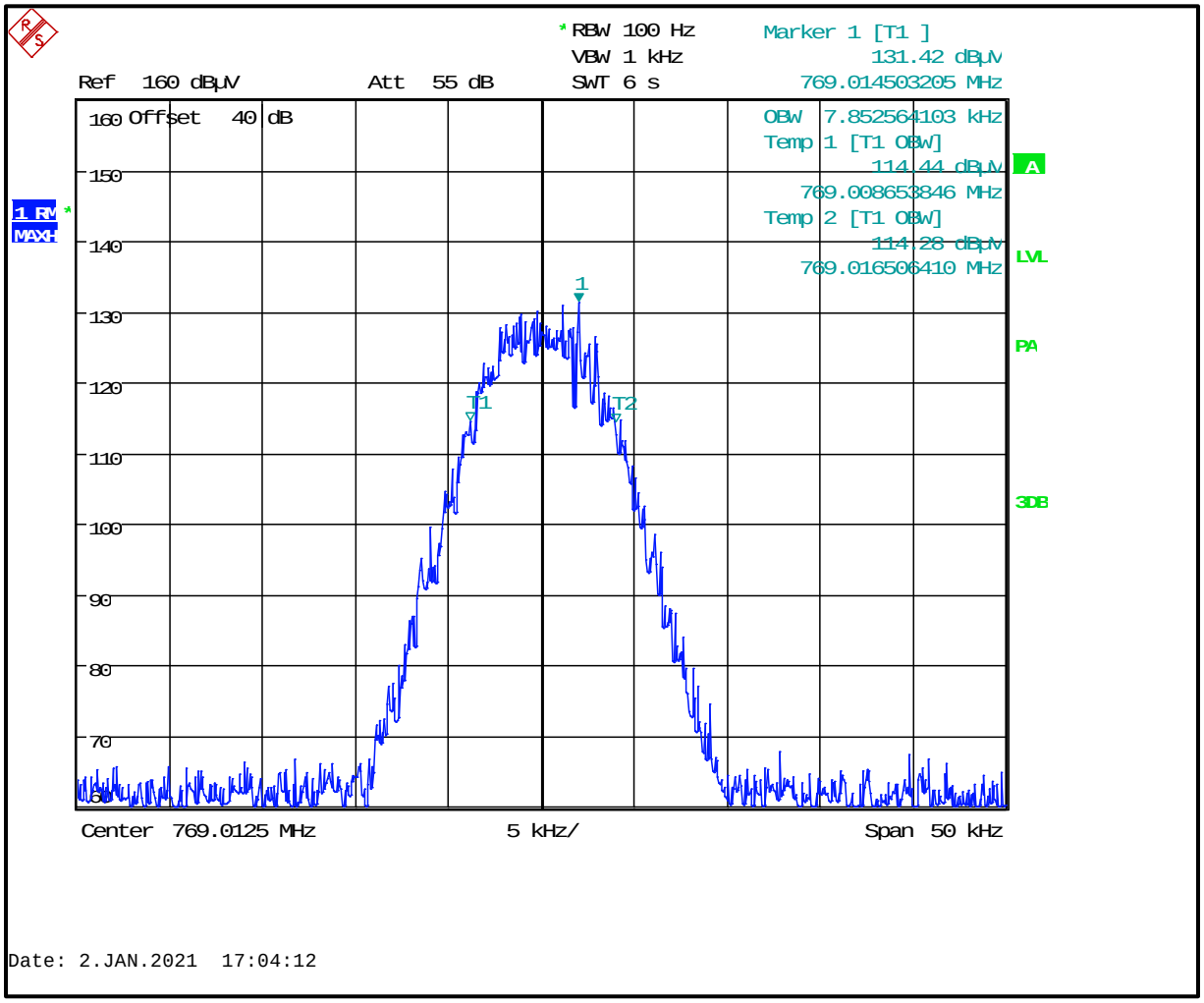
Plot 8-155: 99% Occupied Bandwidth – 763.0125 MHz; H-CPM (TDMA)



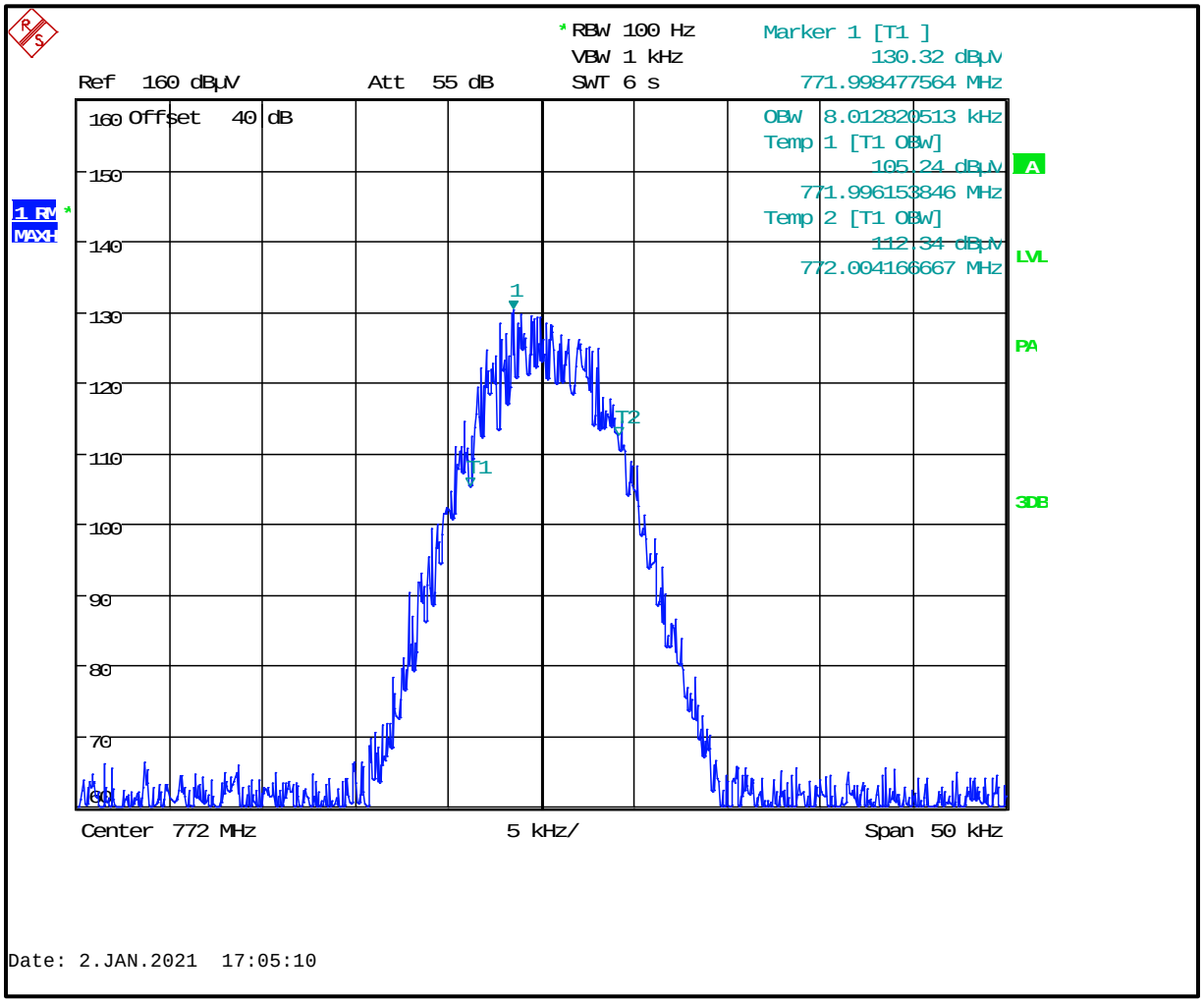
Plot 8-156: 99% Occupied Bandwidth – 768.0125 MHz; H-CPM (TDMA)



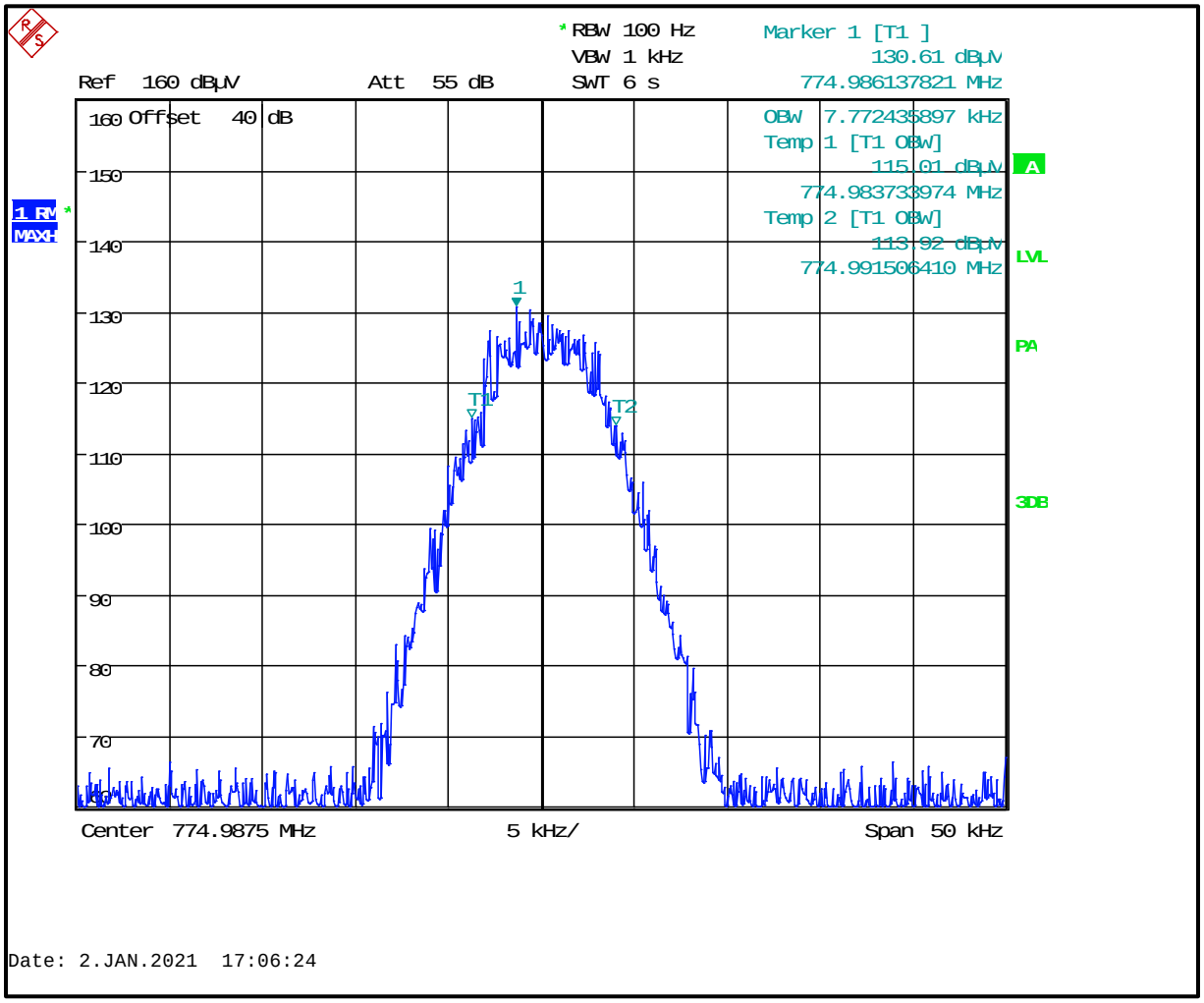
Plot 8-157: 99% Occupied Bandwidth – 769.0125 MHz; H-CPM (TDMA)



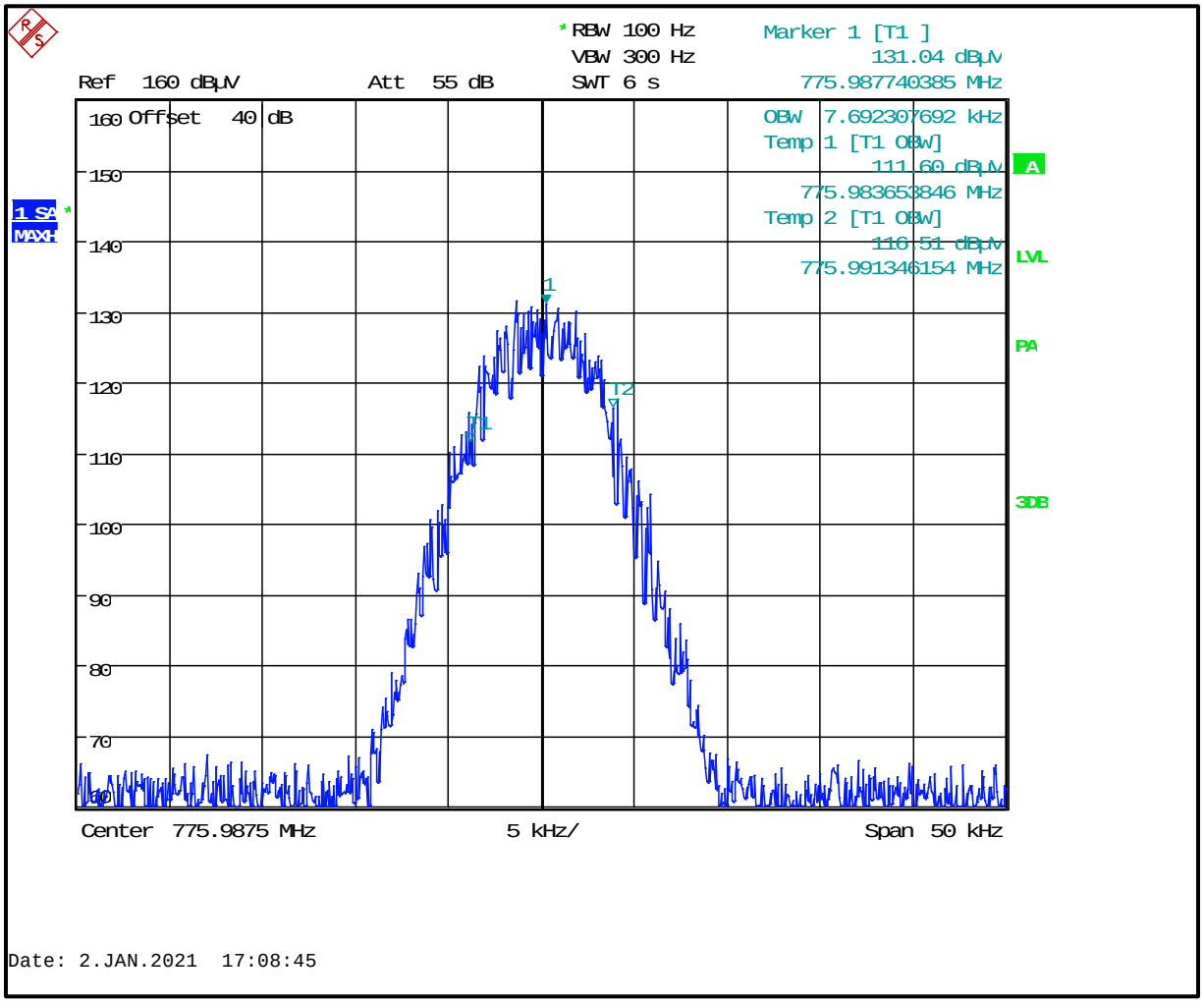
Plot 8-158: 99% Occupied Bandwidth – 772.0000 MHz; H-CPM (TDMA)



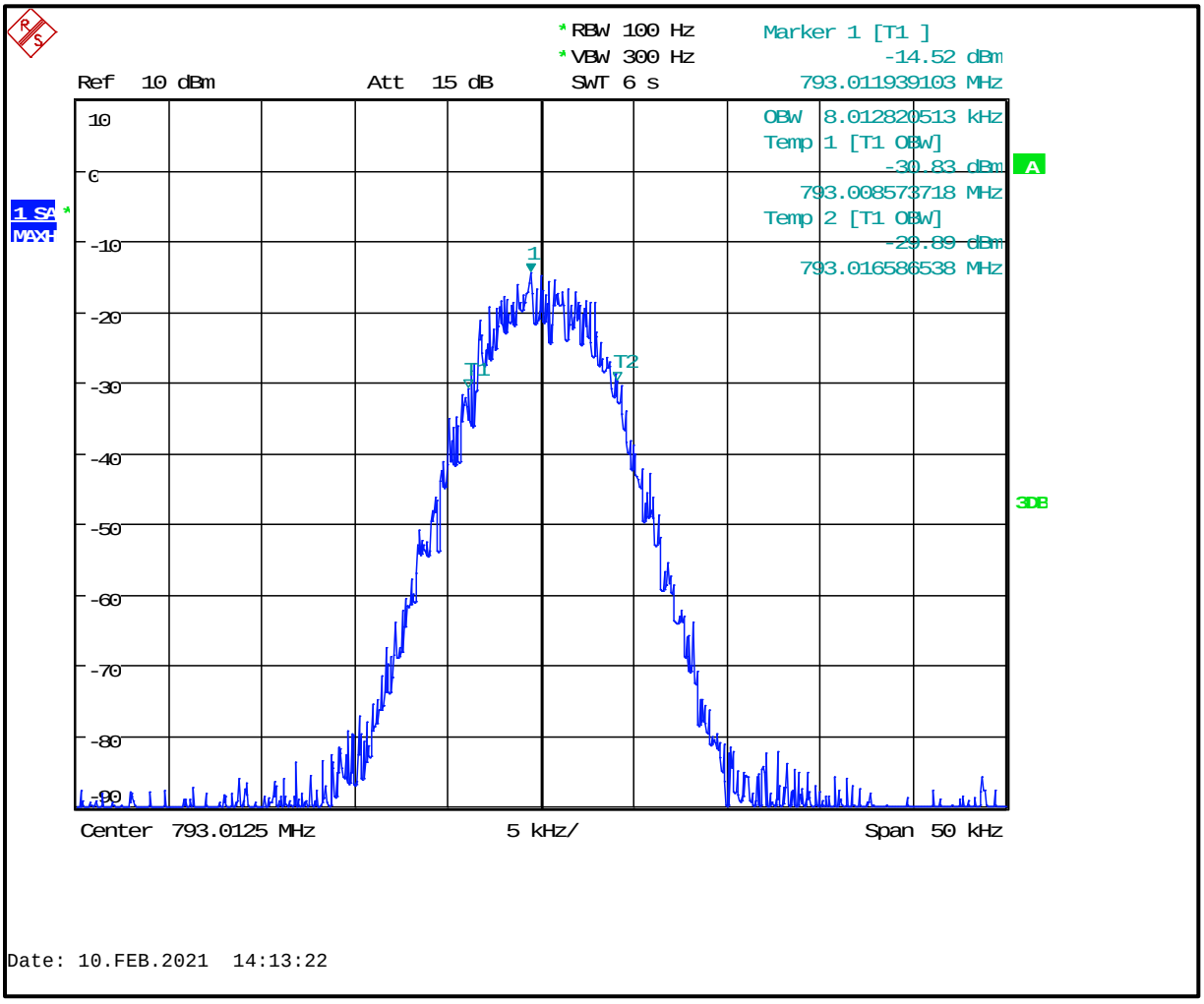
Plot 8-159: 99% Occupied Bandwidth – 774.9875 MHz; H-CPM (TDMA)



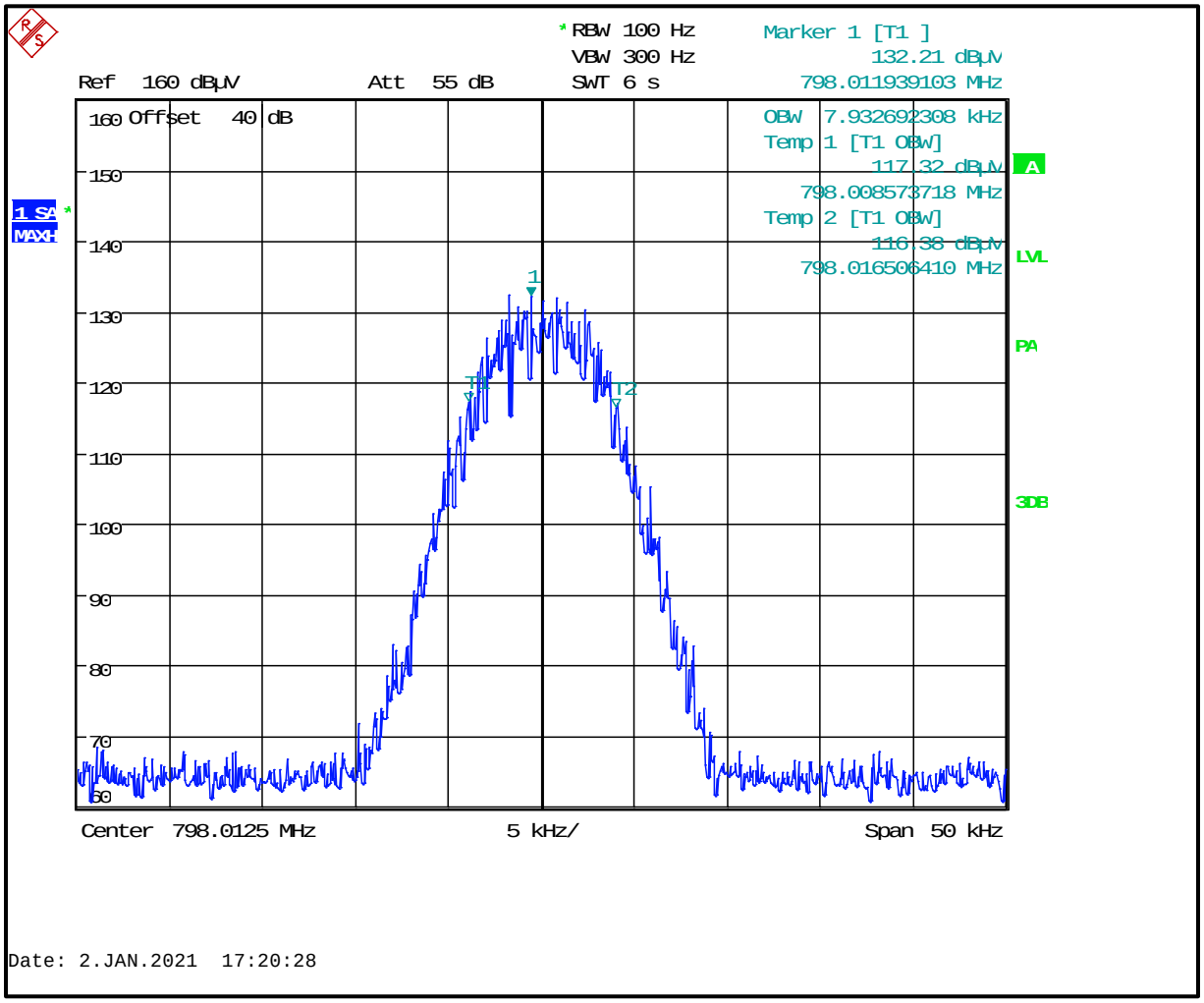
Plot 8-160: 99% Occupied Bandwidth – 775.9875 MHz; H-CPM (TDMA)



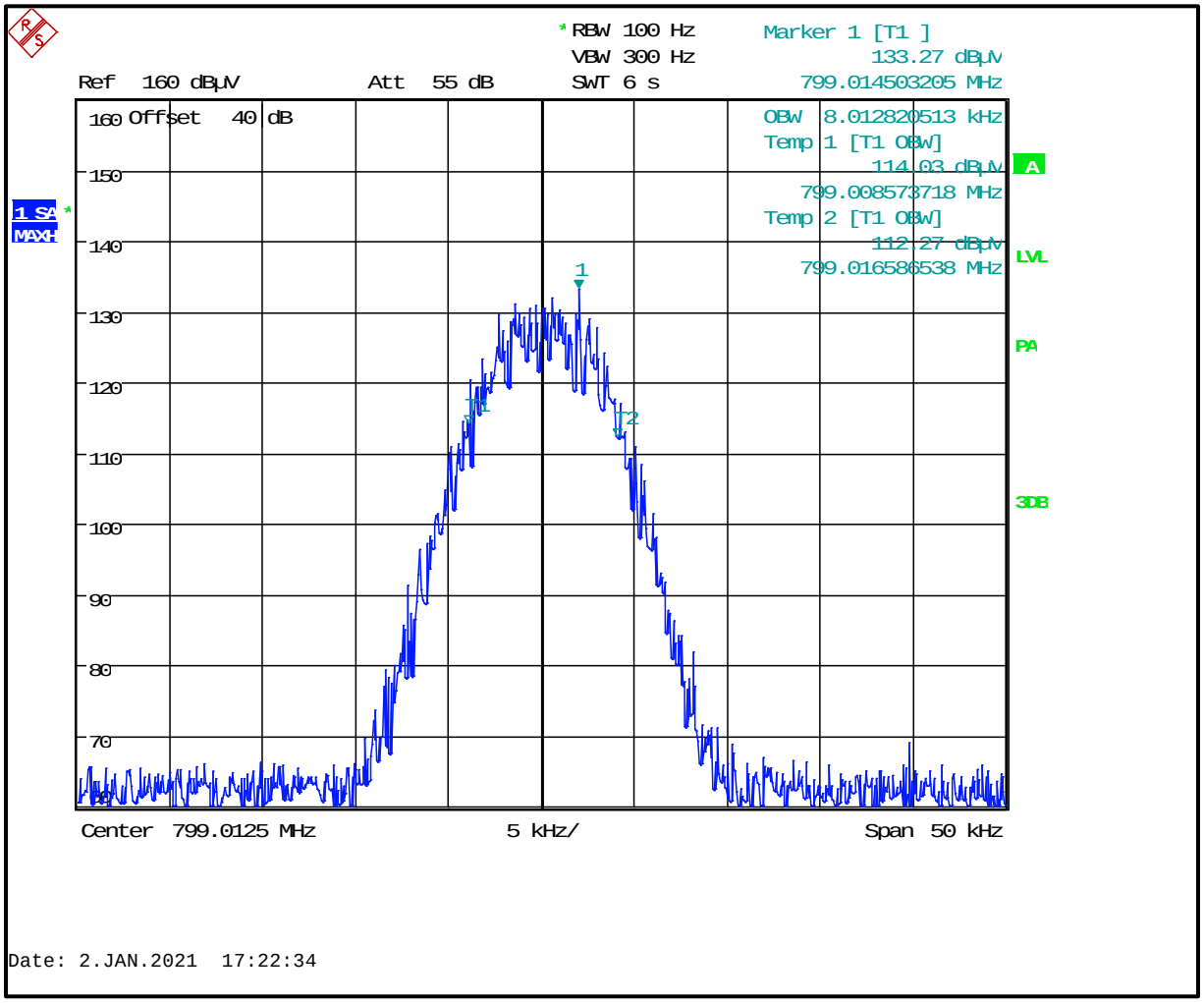
Plot 8-161: 99% Occupied Bandwidth – 793.0125 MHz; H-CPM (TDMA)



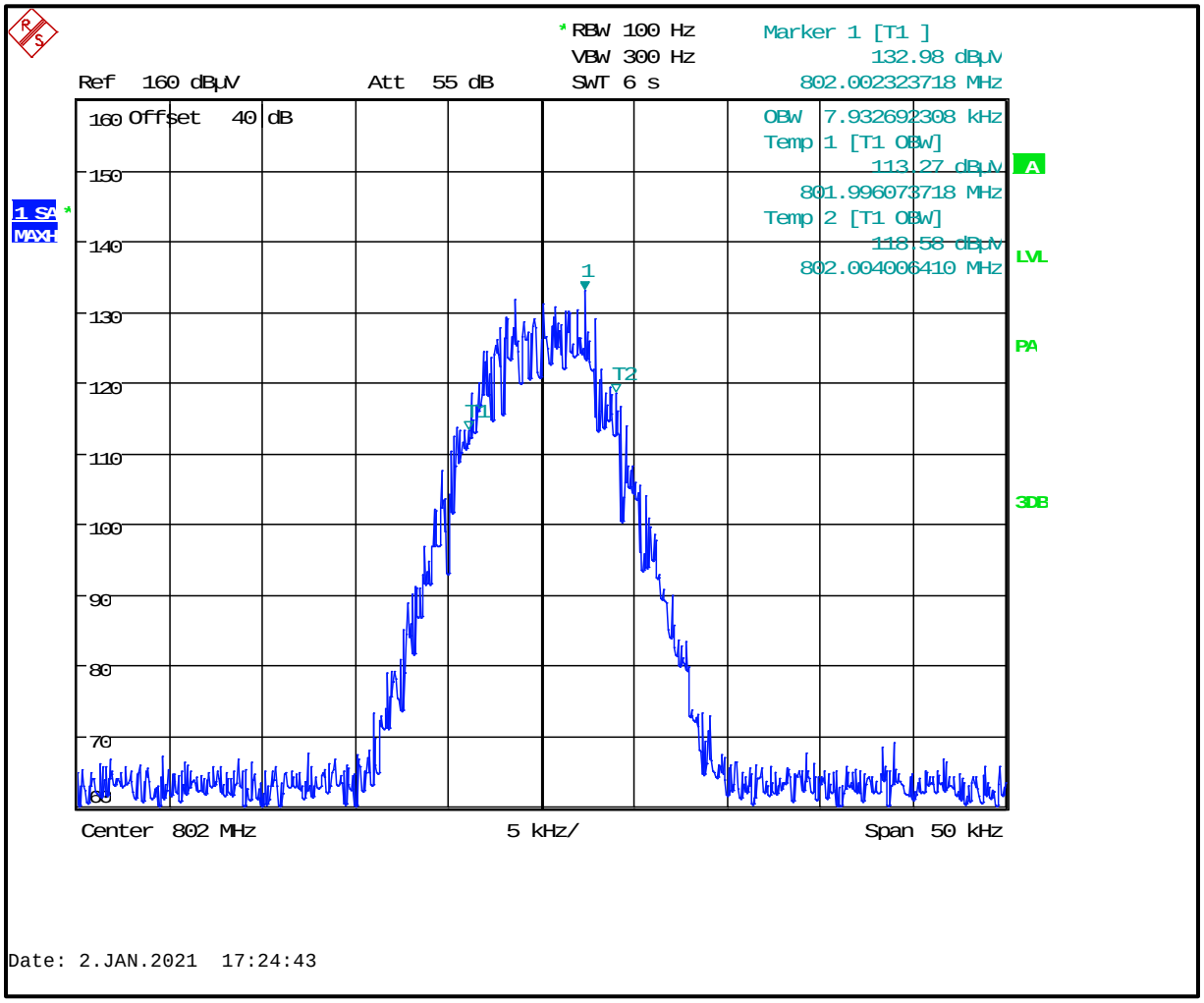
Plot 8-162: 99% Occupied Bandwidth – 798.0125 MHz; H-CPM (TDMA)



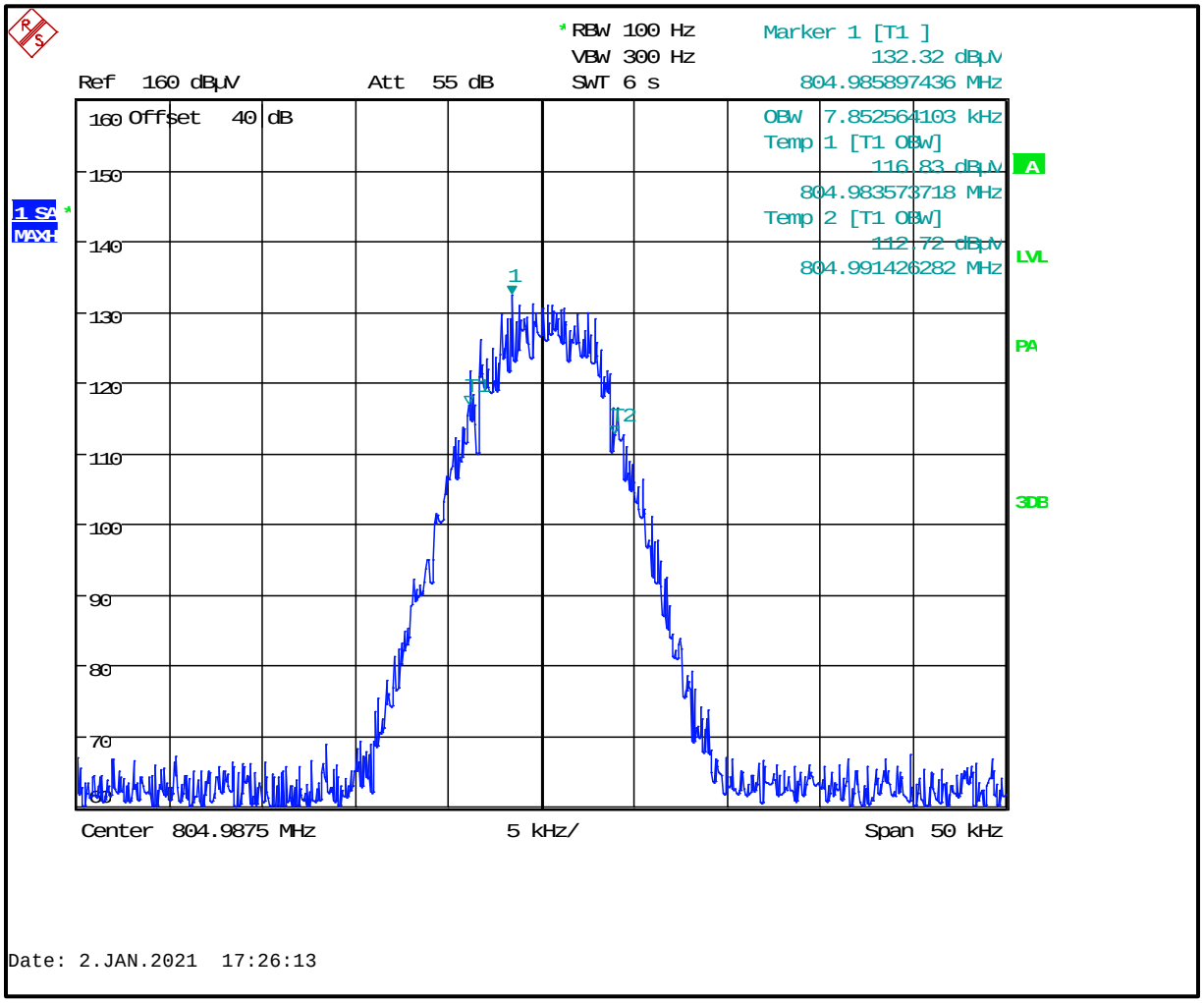
Plot 8-163: 99% Occupied Bandwidth – 799.0125 MHz; H-CPM (TDMA)



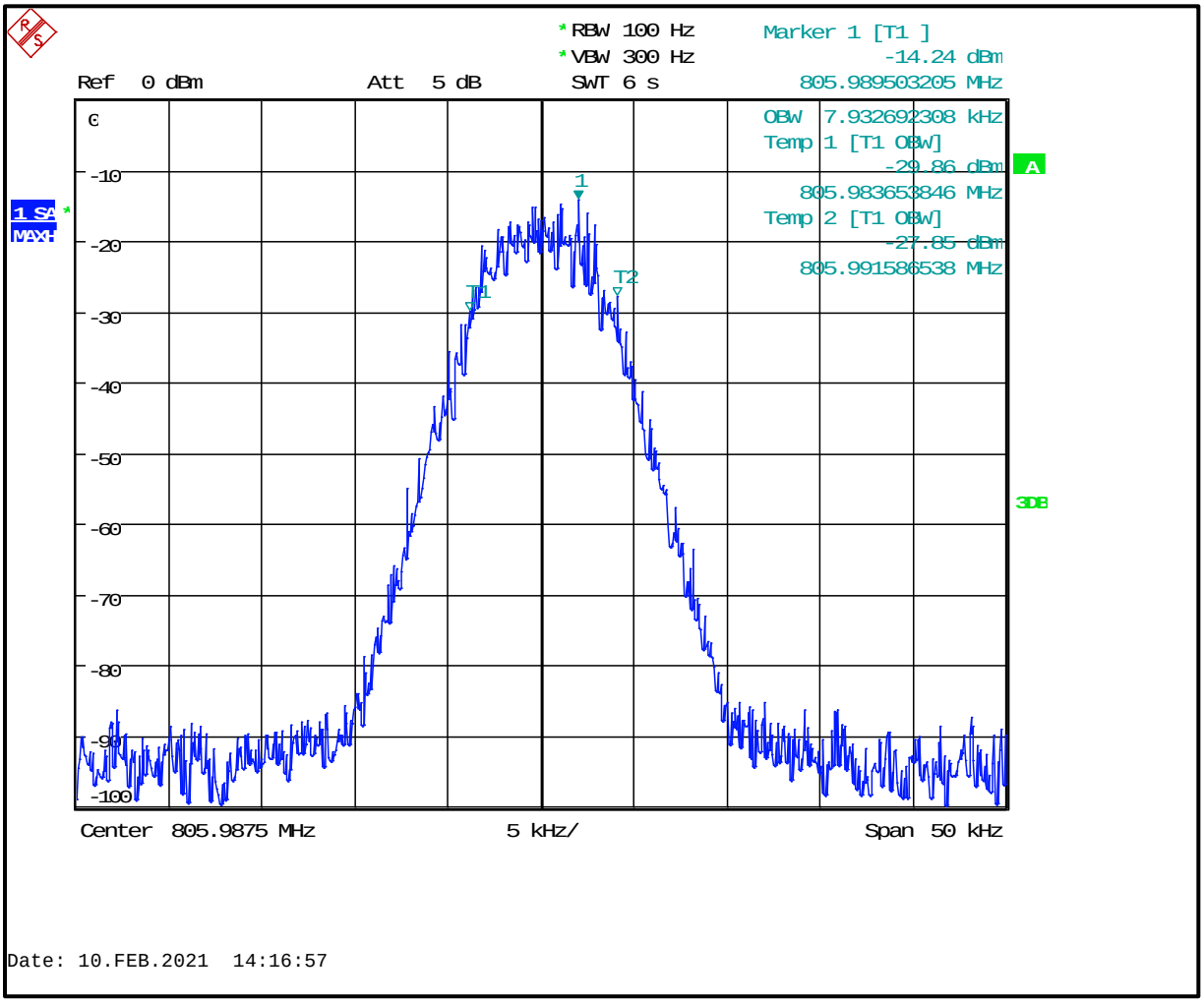
Plot 8-164: 99% Occupied Bandwidth – 802.0000 MHz; H-CPM (TDMA)



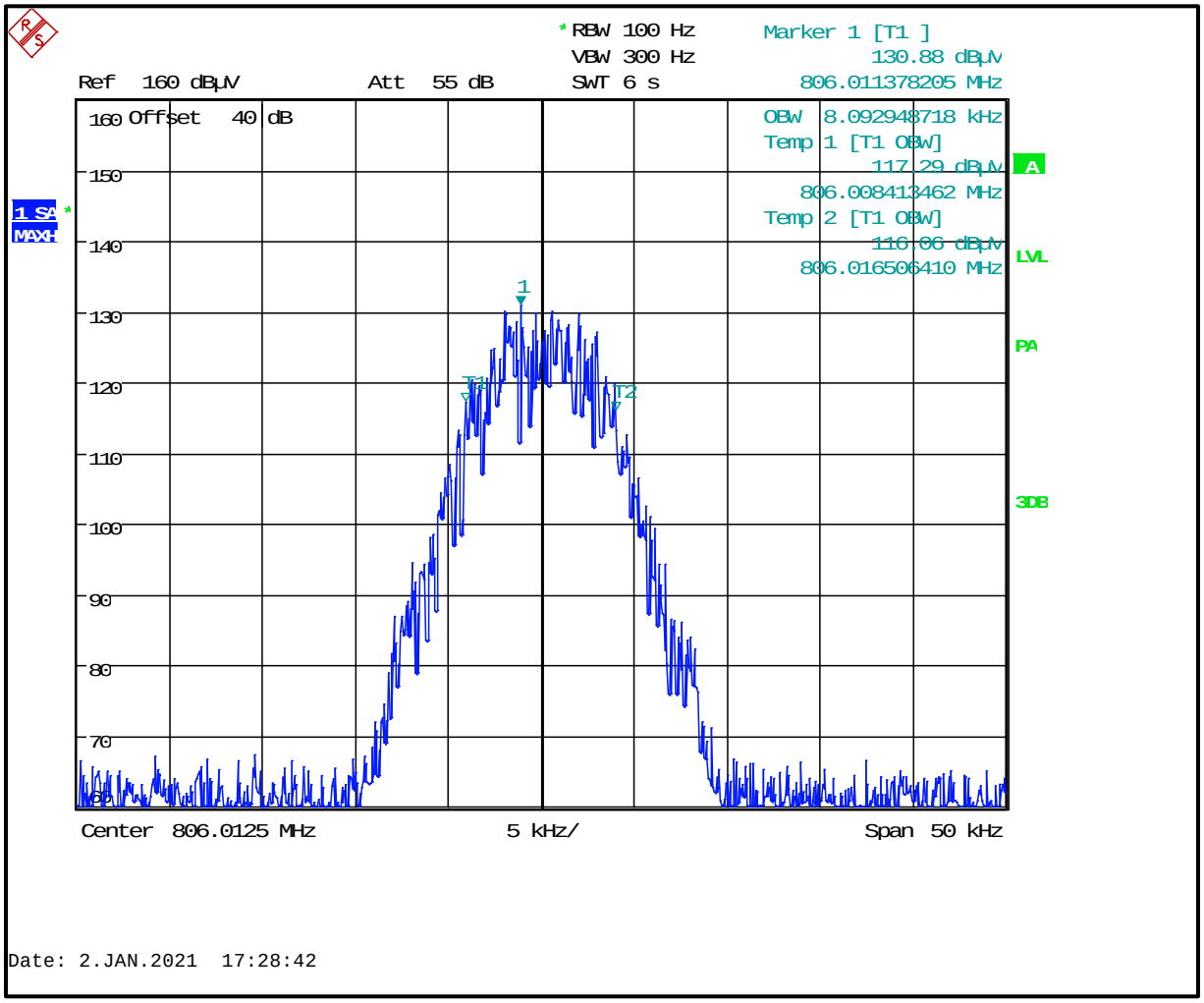
Plot 8-165: 99% Occupied Bandwidth – 804.9875 MHz; H-CPM (TDMA)



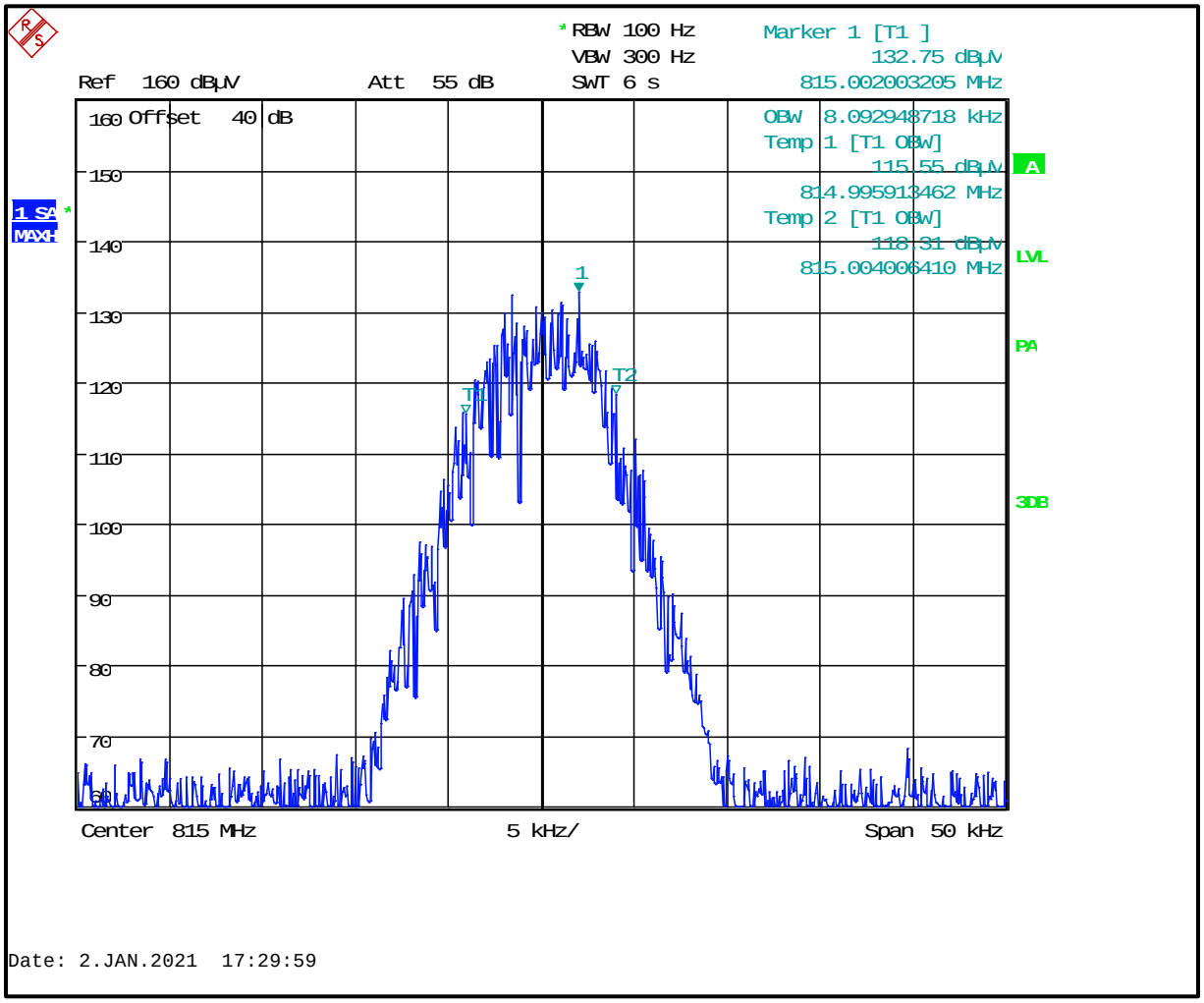
Plot 8-166: 99% Occupied Bandwidth – 805.9875 MHz; H-CPM (TDMA)



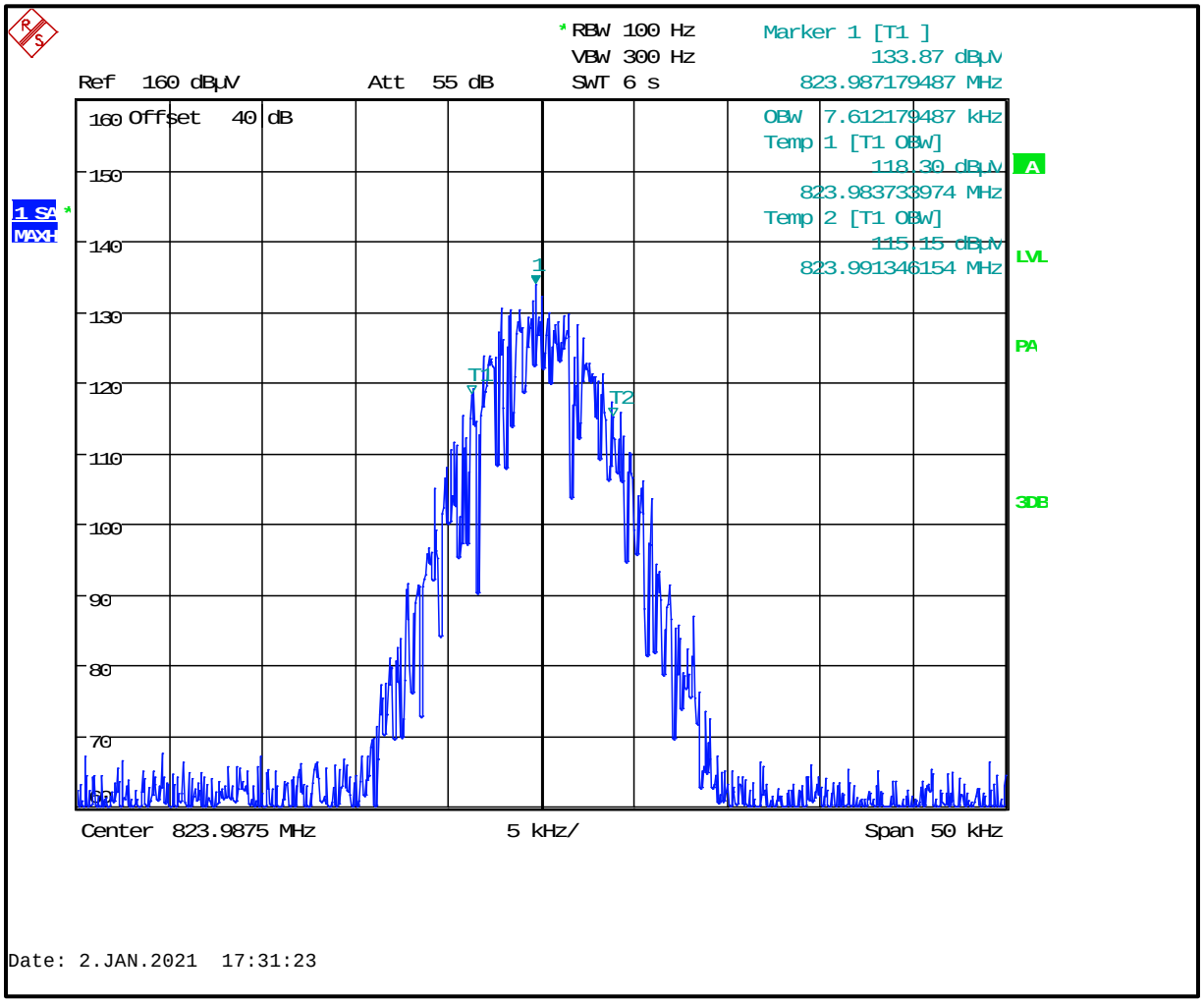
Plot 8-167: 99% Occupied Bandwidth – 806.0125 MHz; H-CPM (TDMA)



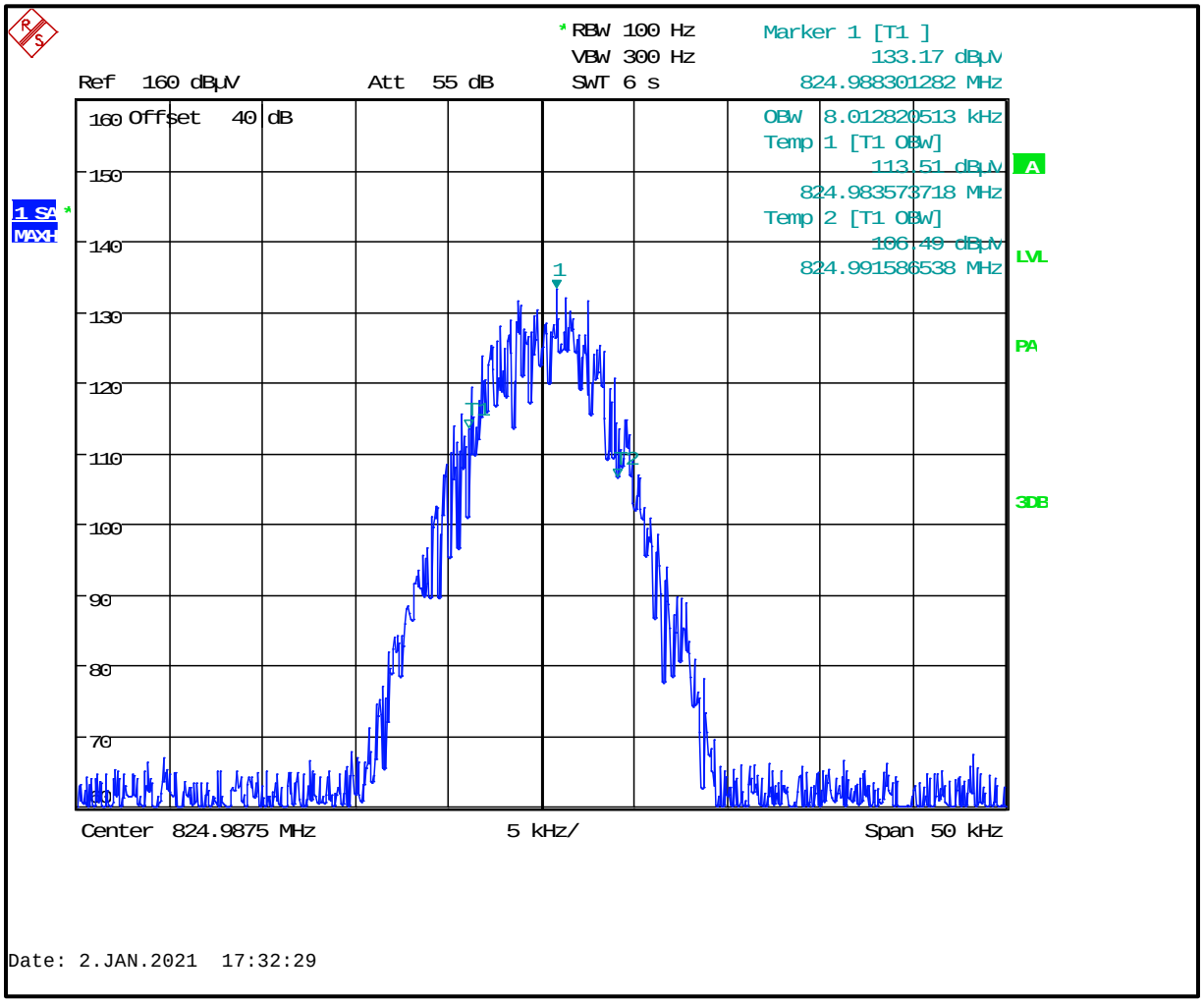
Plot 8-168: 99% Occupied Bandwidth – 815.0000 MHz; H-CPM (TDMA)



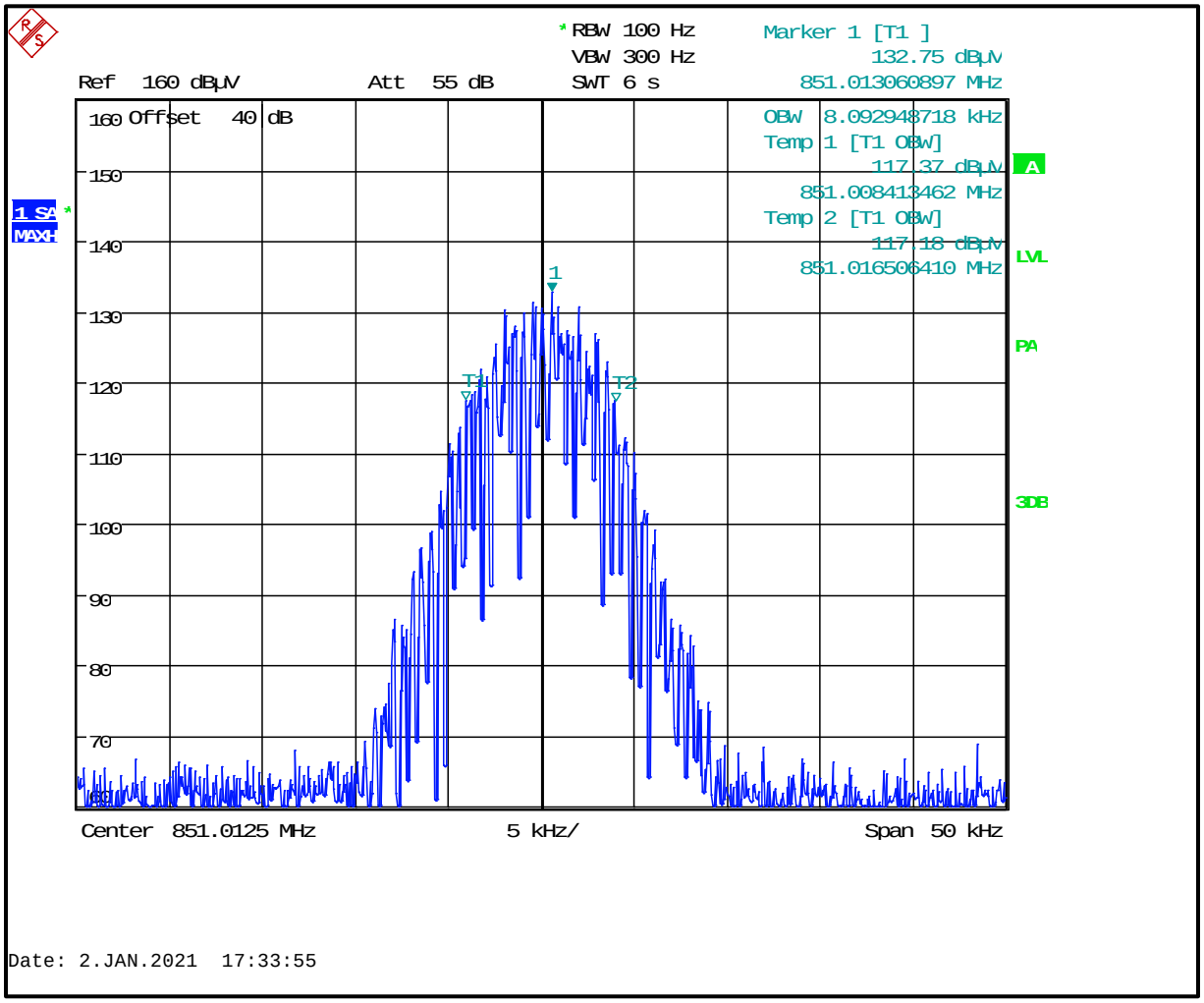
Plot 8-169: 99% Occupied Bandwidth – 823.9875 MHz; H-CPM (TDMA)



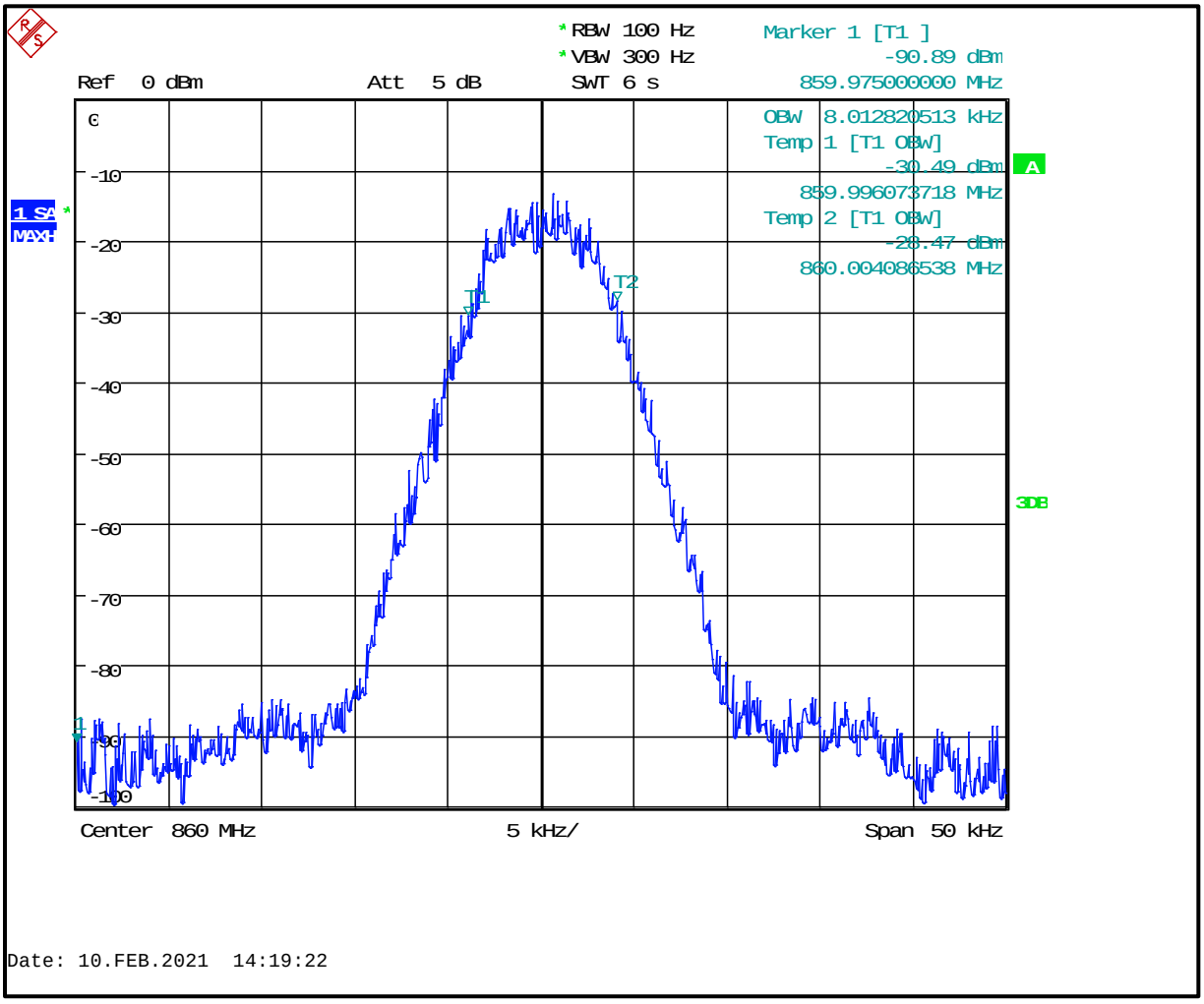
Plot 8-170: 99% Occupied Bandwidth – 824.9875 MHz; H-CPM (TDMA)



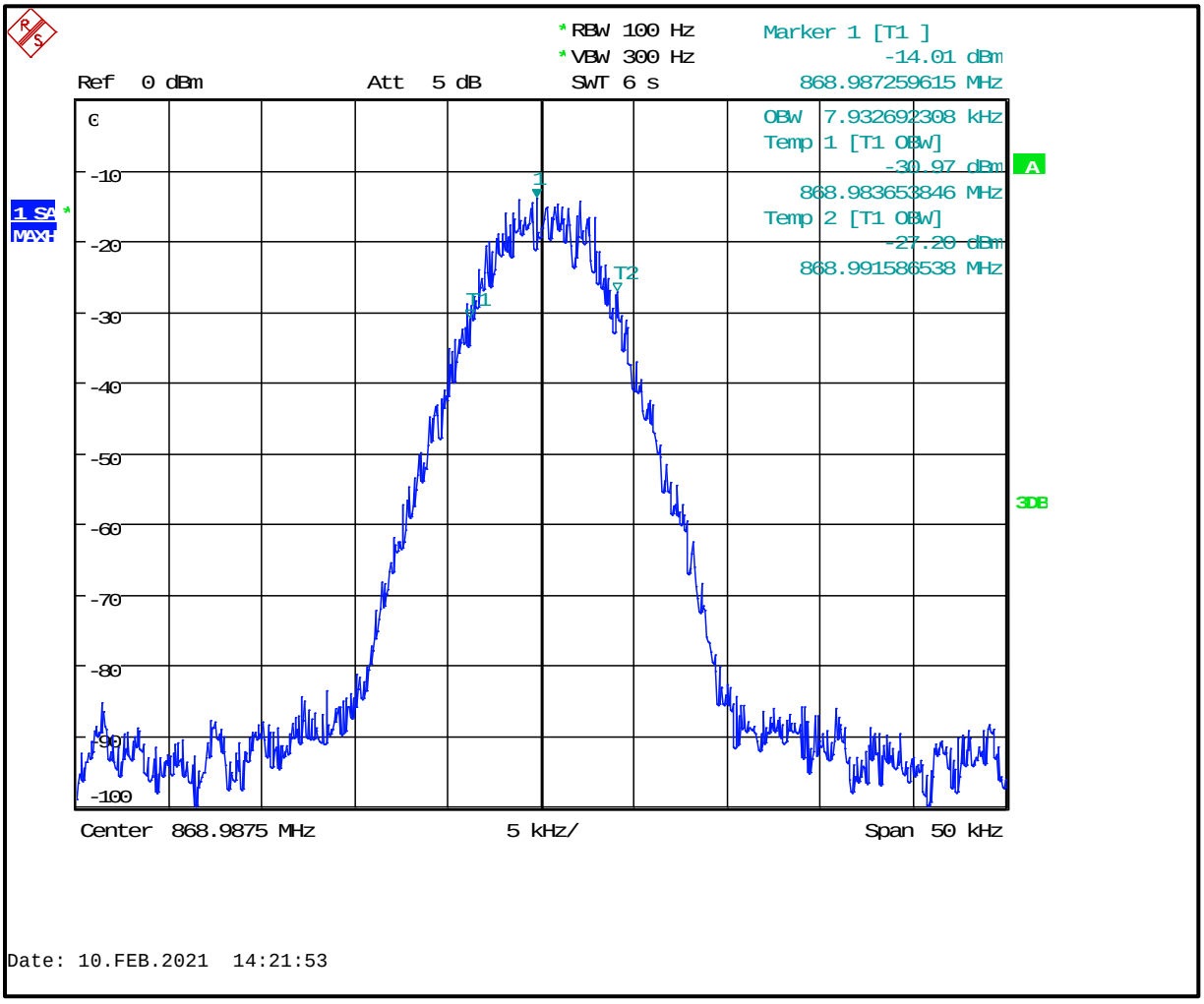
Plot 8-171: 99% Occupied Bandwidth – 851.0125 MHz; H-CPM (TDMA)



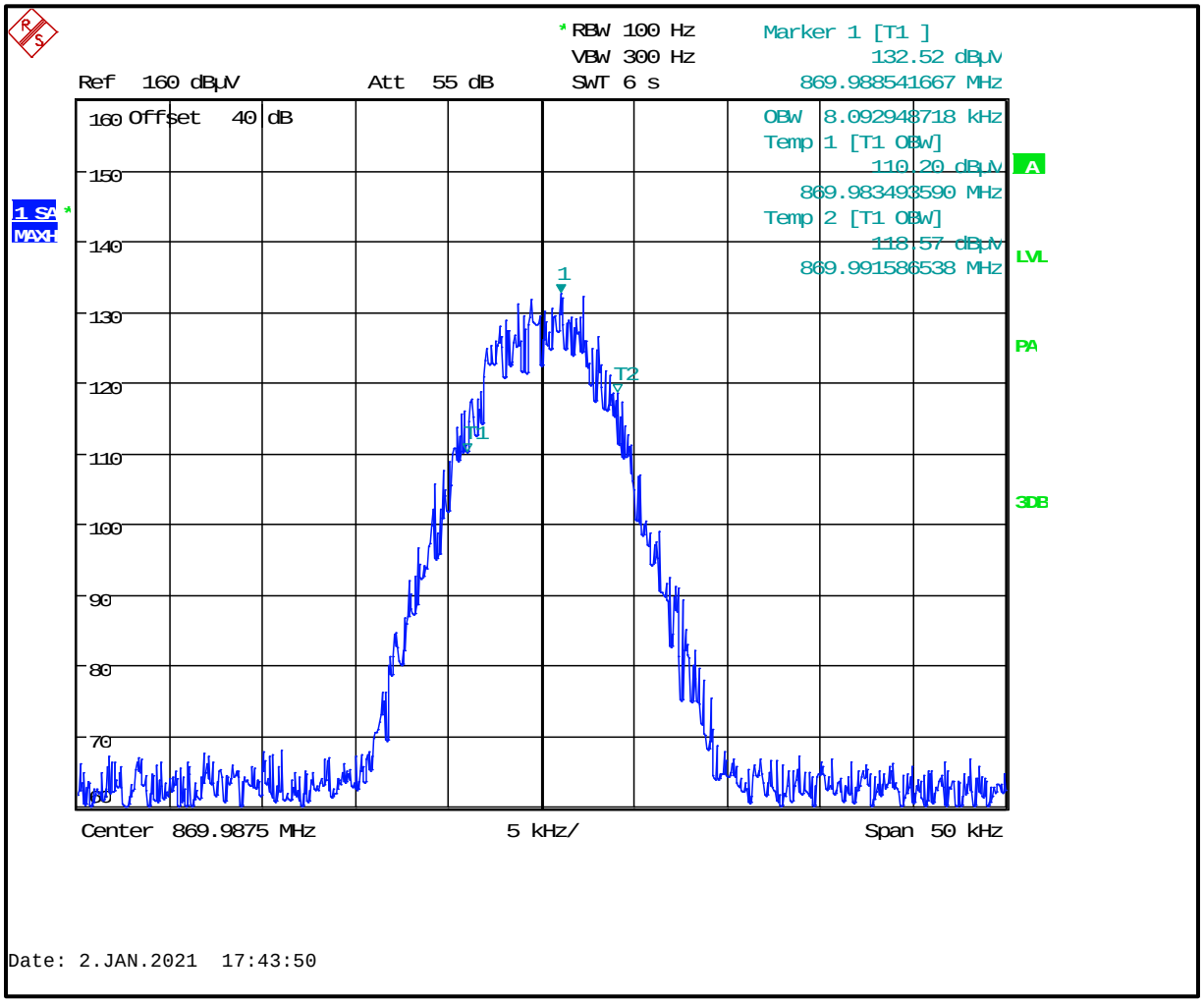
Plot 8-172: 99% Occupied Bandwidth – 860.0000 MHz; H-CPM (TDMA)



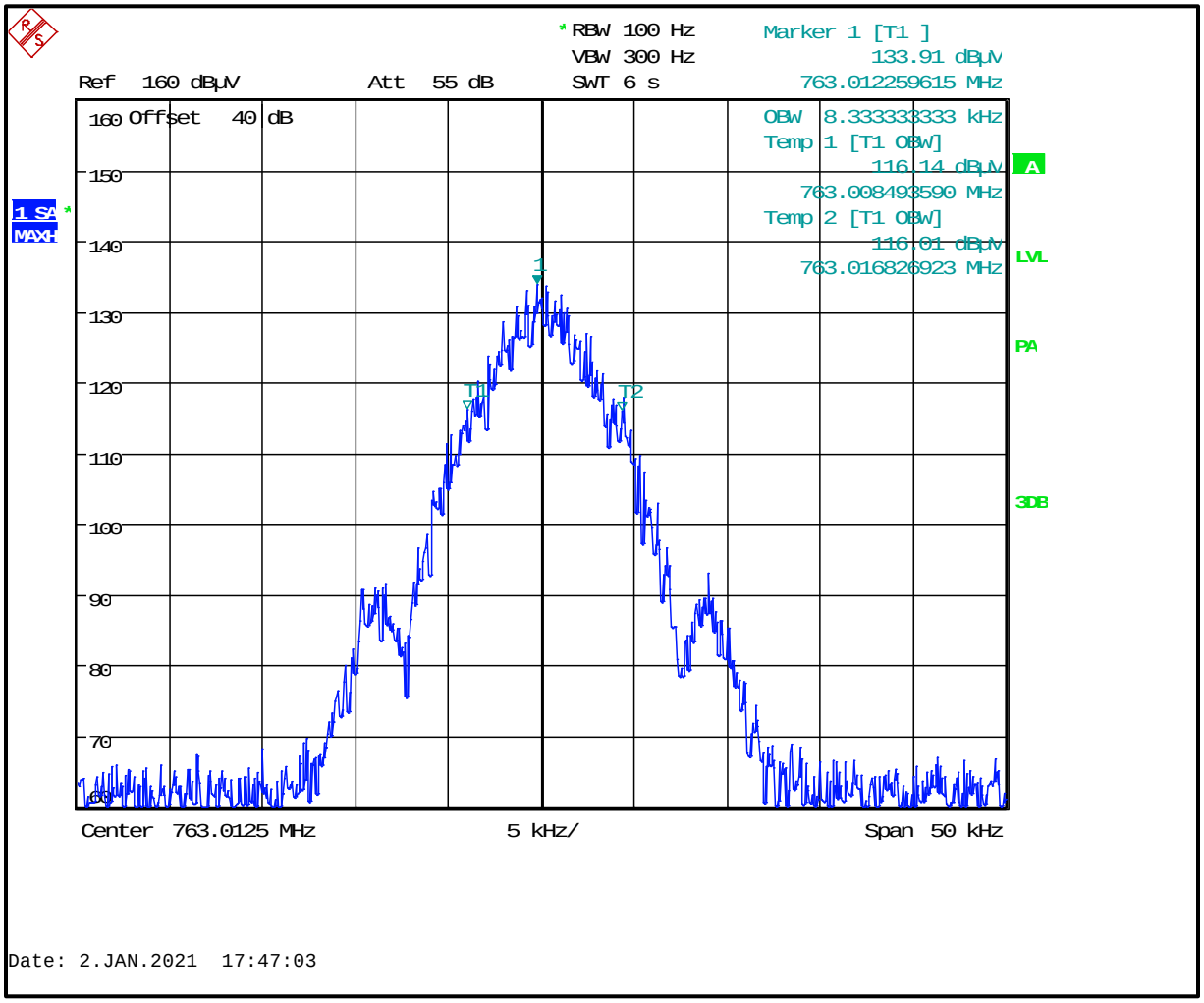
Plot 8-173: 99% Occupied Bandwidth – 868.9875 MHz; H-CPM (TDMA)



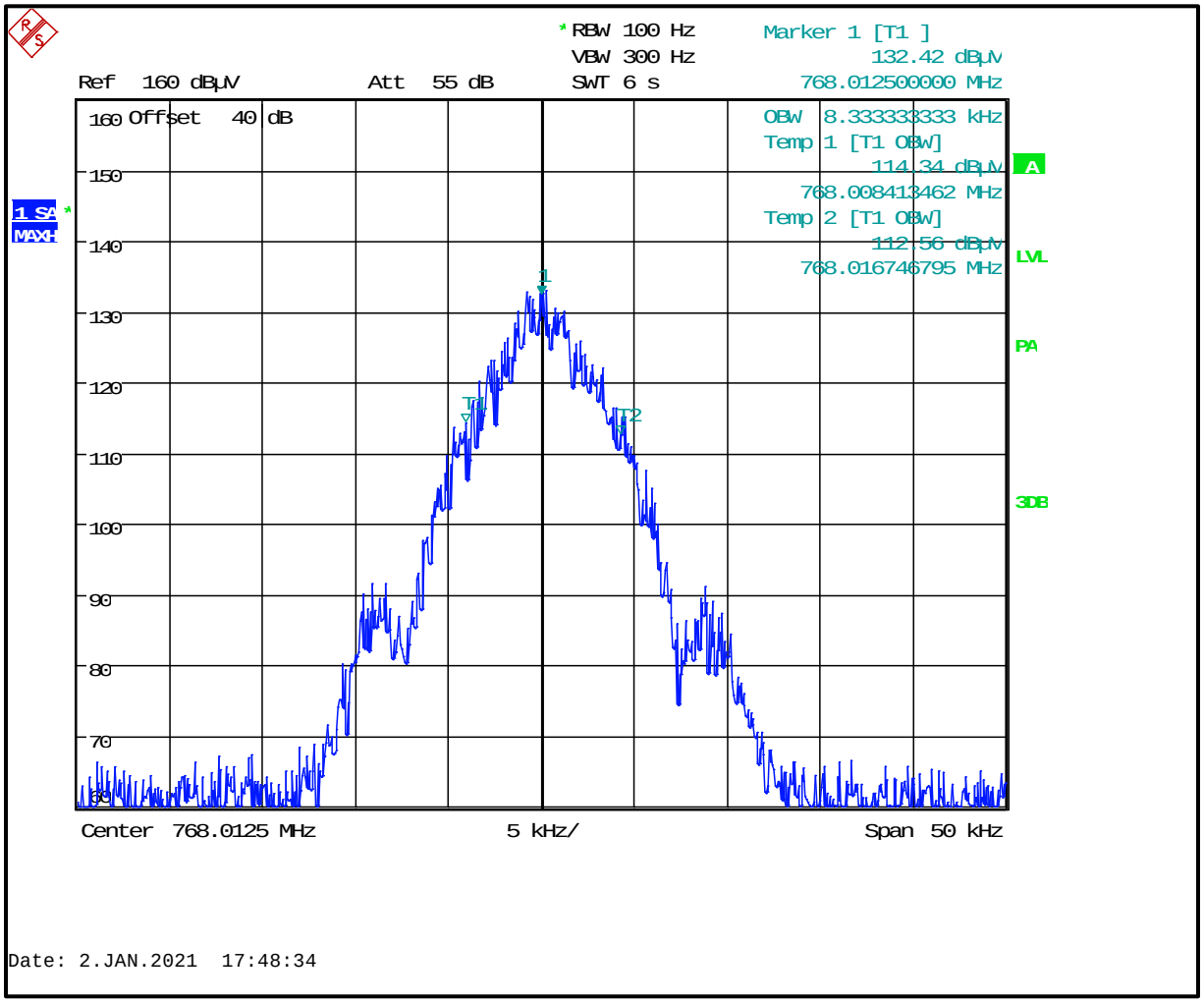
Plot 8-174: 99% Occupied Bandwidth – 869.9875 MHz; H-CPM (TDMA)



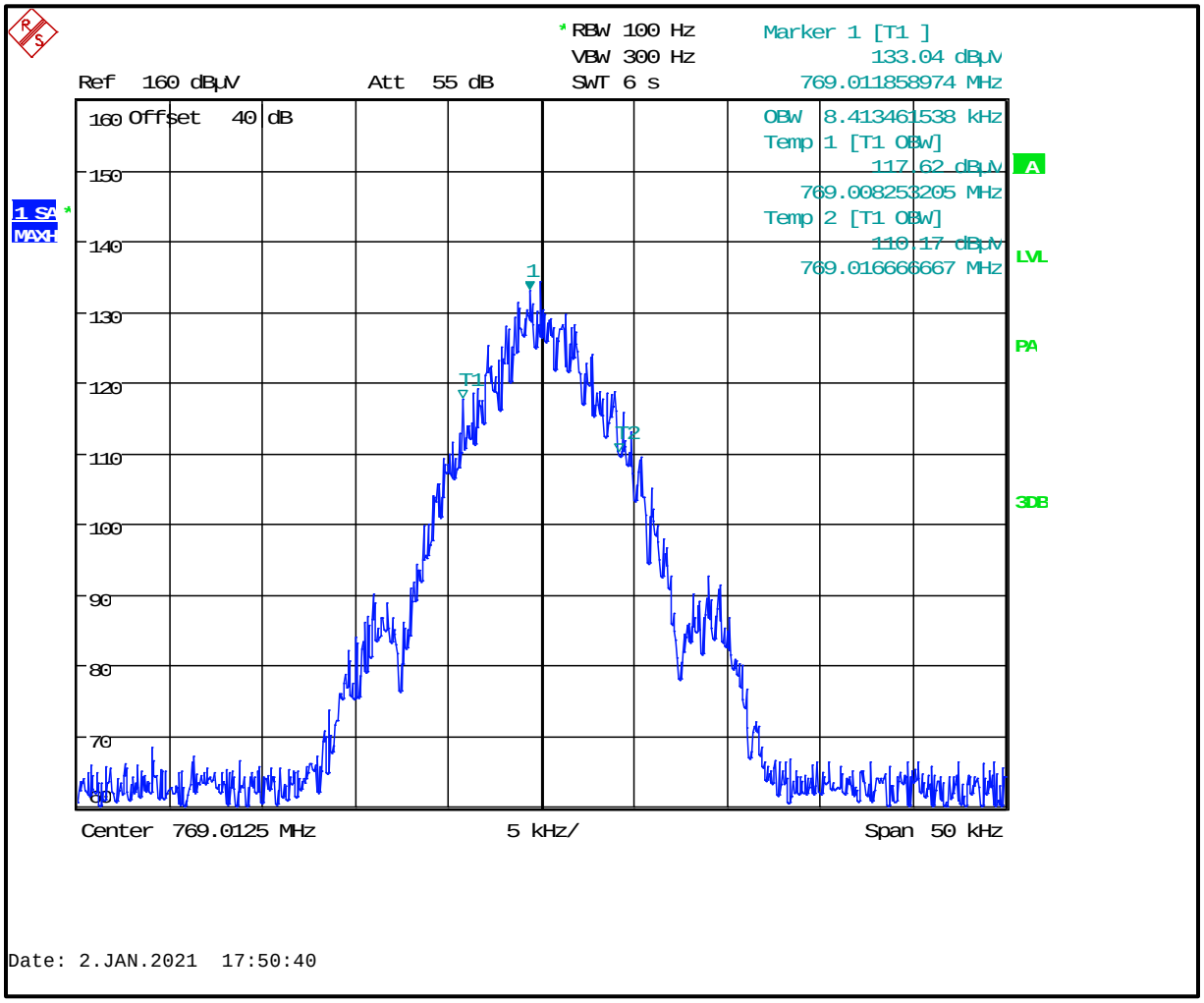
Plot 8-175: 99% Occupied Bandwidth – 763.0125 MHz; NB 2-LVL FSK 9600



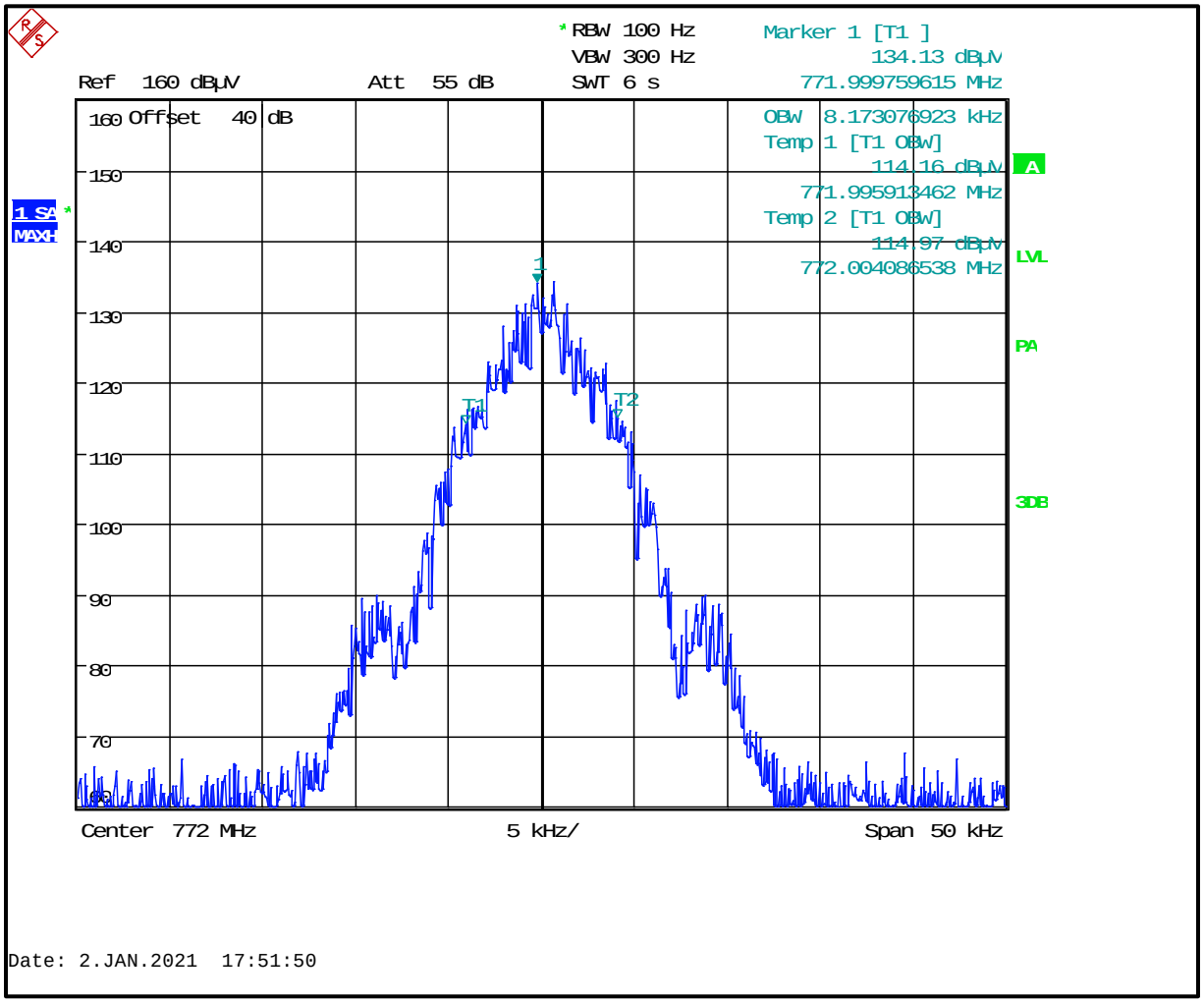
Plot 8-176: 99% Occupied Bandwidth – 768.0125 MHz; NB 2-LVL FSK 9600



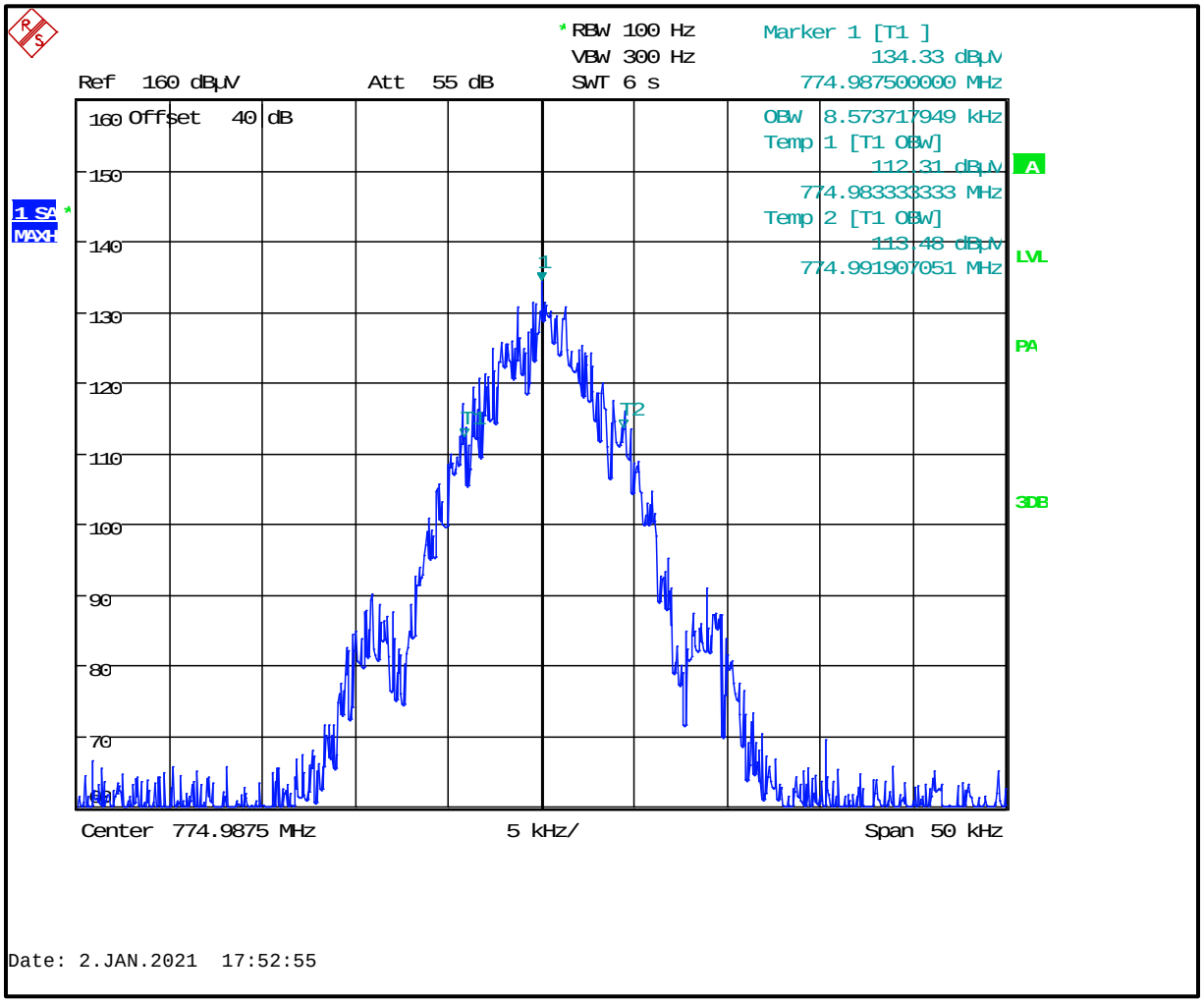
Plot 8-177: 99% Occupied Bandwidth – 769.0125 MHz; NB 2-LVL FSK 9600



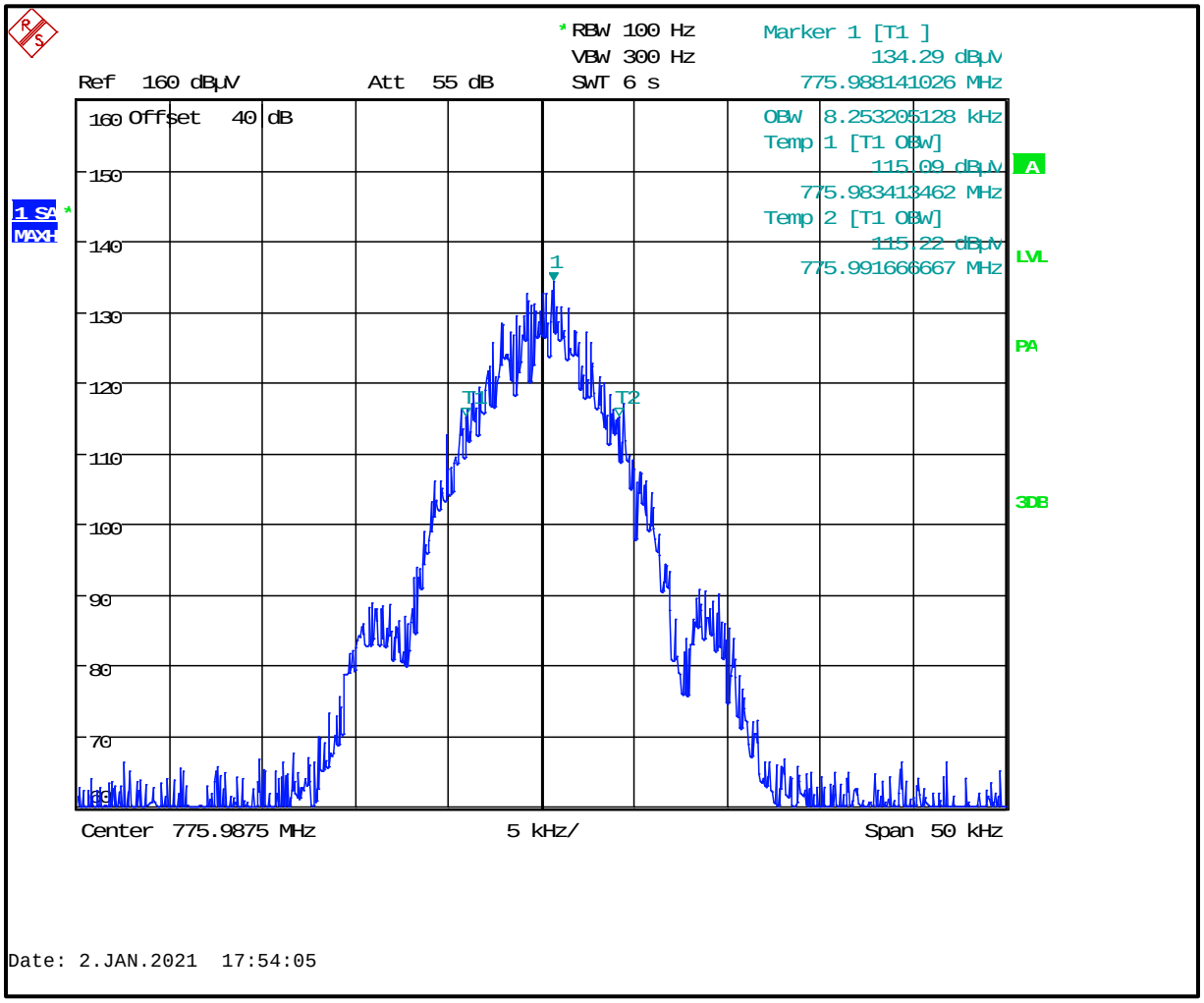
Plot 8-178: 99% Occupied Bandwidth – 772.0000 MHz; NB 2-LVL FSK 9600



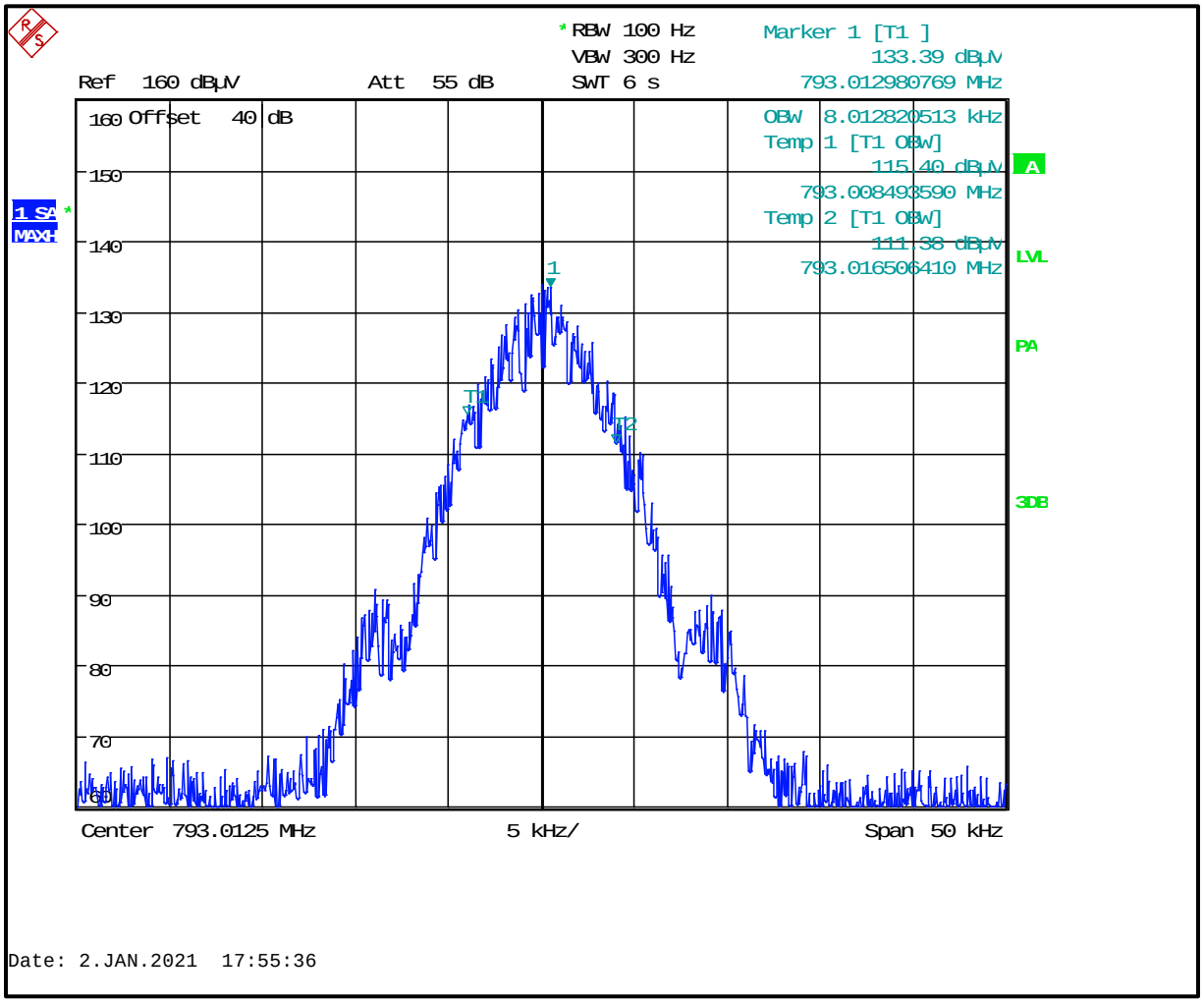
Plot 8-179: 99% Occupied Bandwidth – 774.9875 MHz; NB 2-LVL FSK 9600



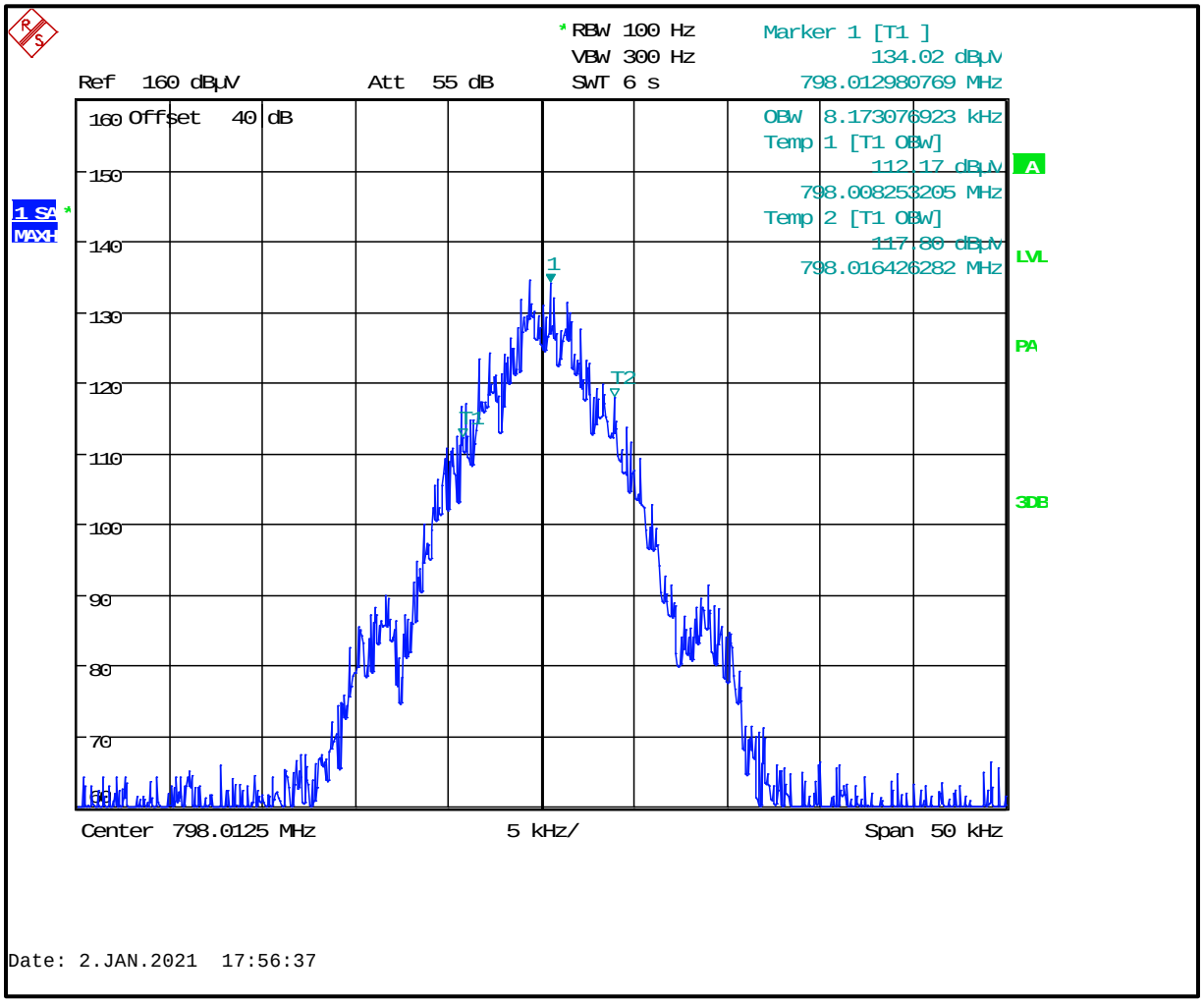
Plot 8-180: 99% Occupied Bandwidth – 775.9875 MHz; NB 2-LVL FSK 9600



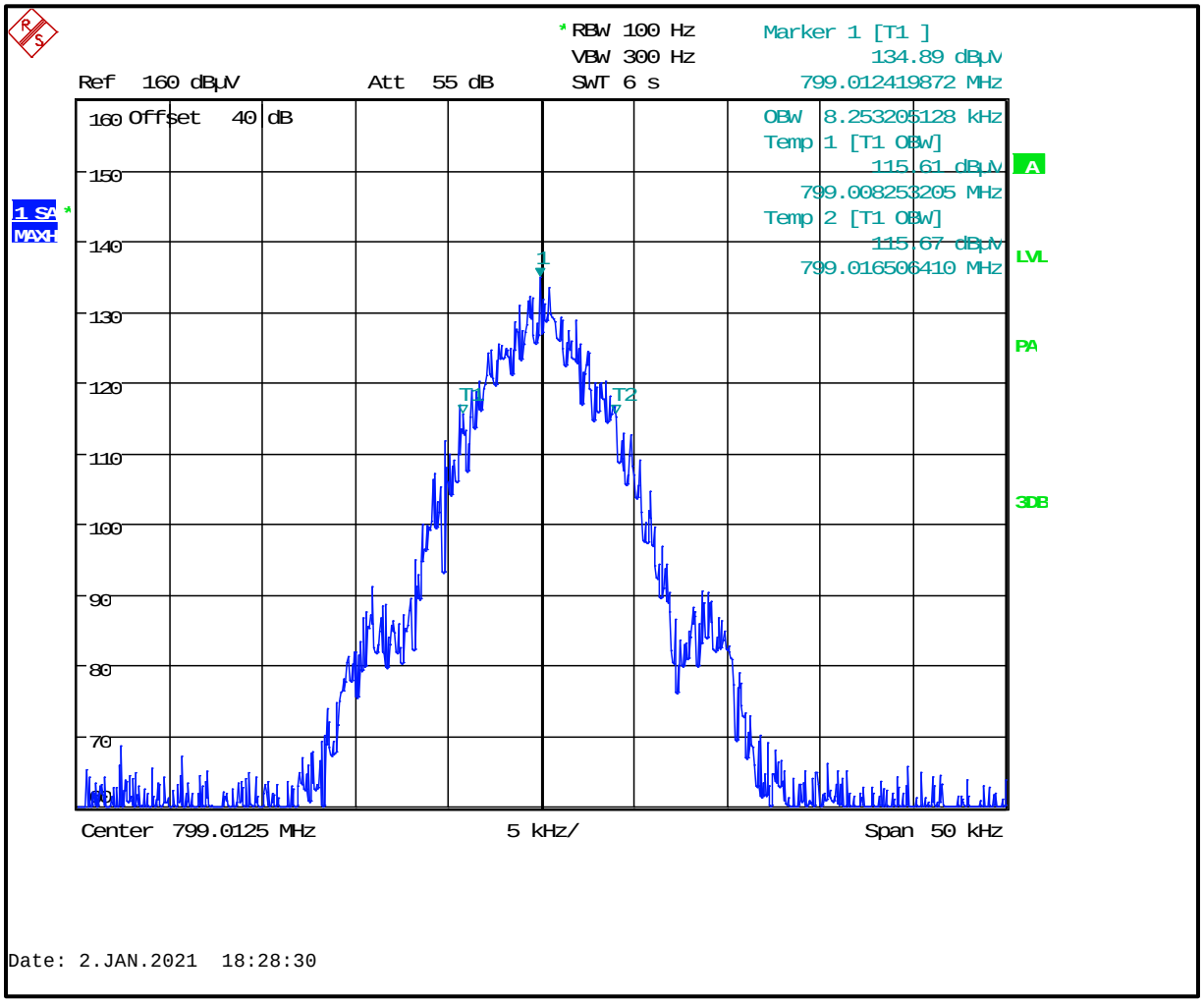
Plot 8-181: 99% Occupied Bandwidth – 793.0125 MHz; NB 2-LVL FSK 9600



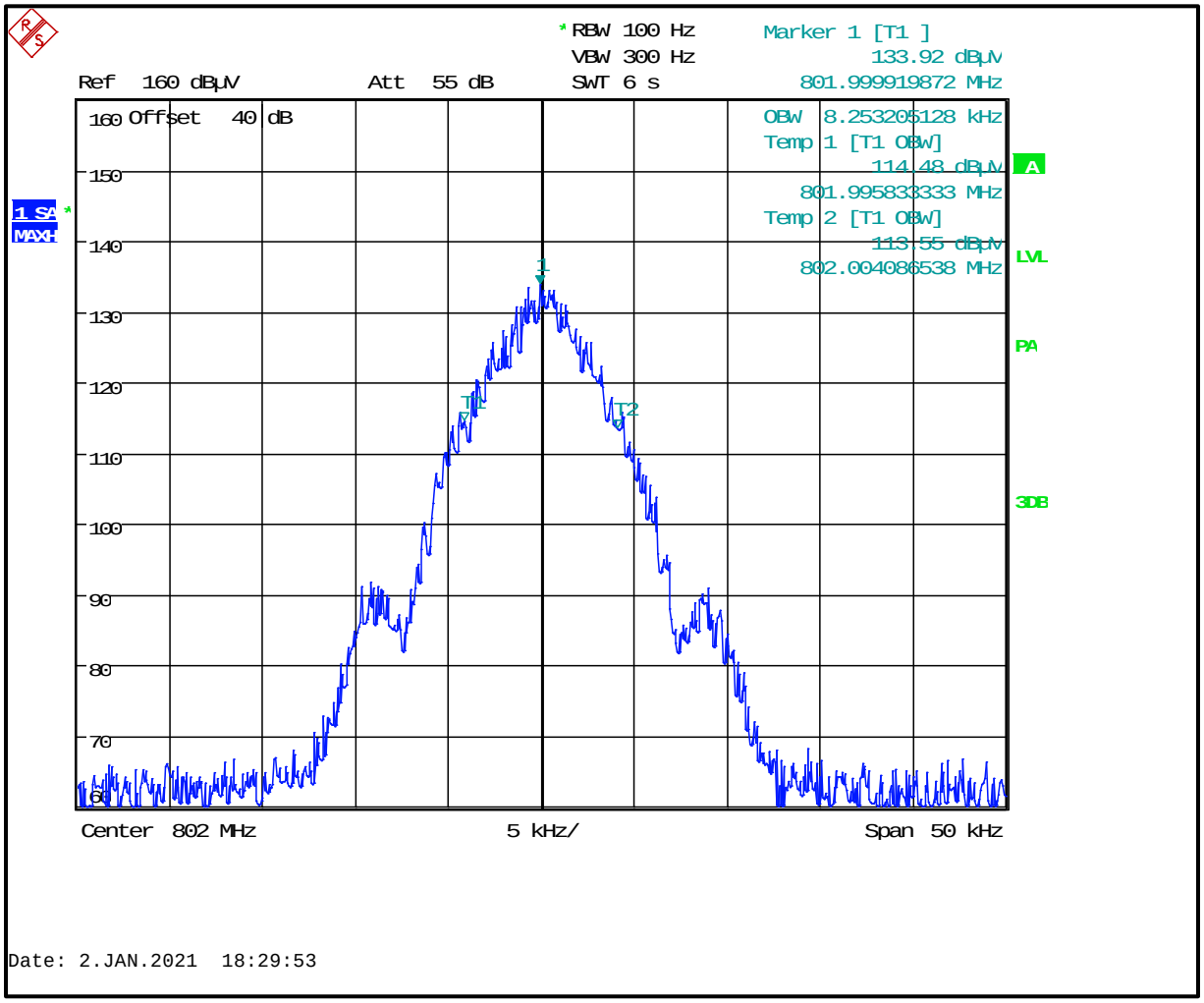
Plot 8-182: 99% Occupied Bandwidth – 798.0125 MHz; NB 2-LVL FSK 9600



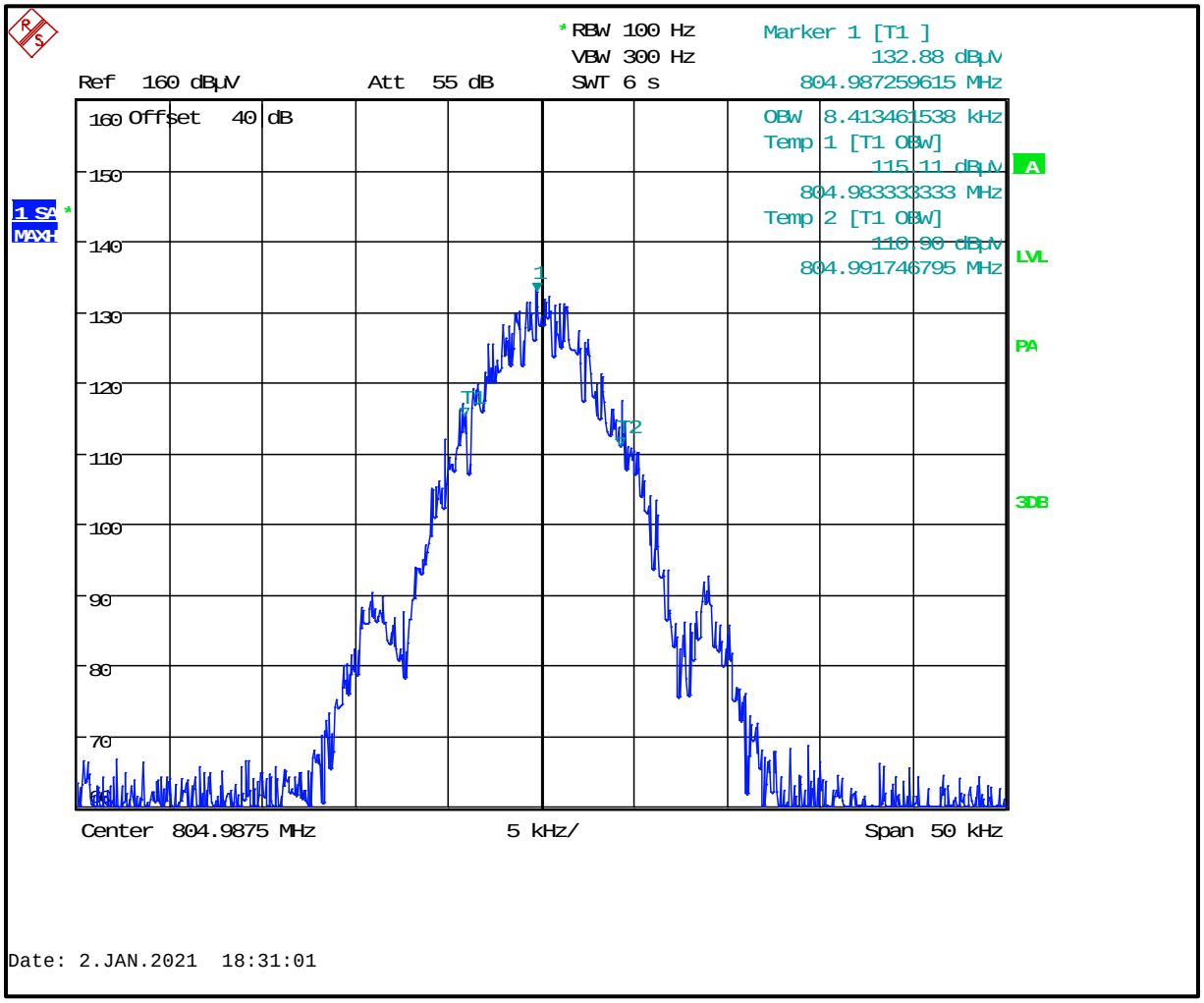
Plot 8-183: 99% Occupied Bandwidth – 799.0125 MHz; NB 2-LVL FSK 9600



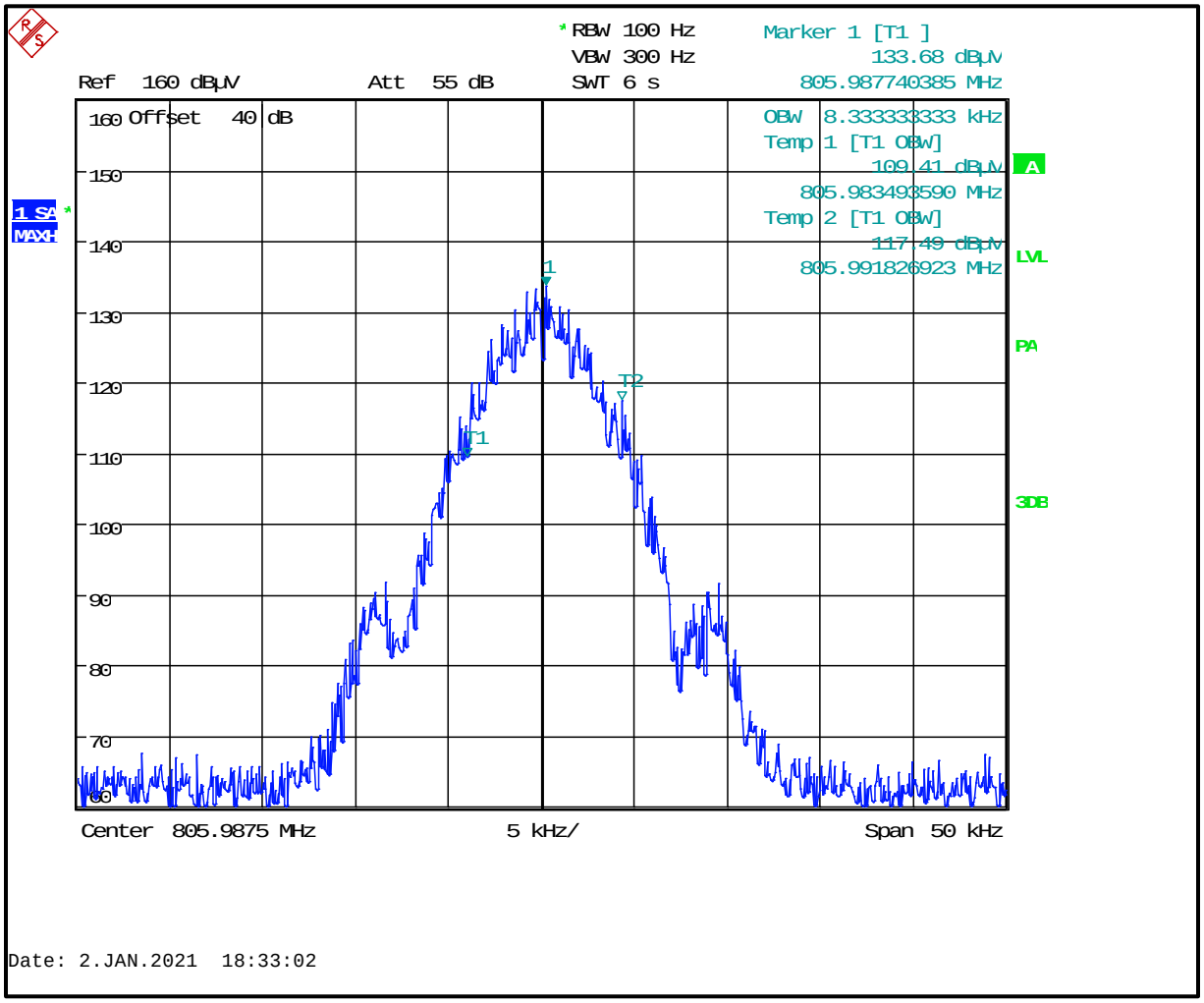
Plot 8-184: 99% Occupied Bandwidth – 802.0000 MHz; NB 2-LVL FSK 9600



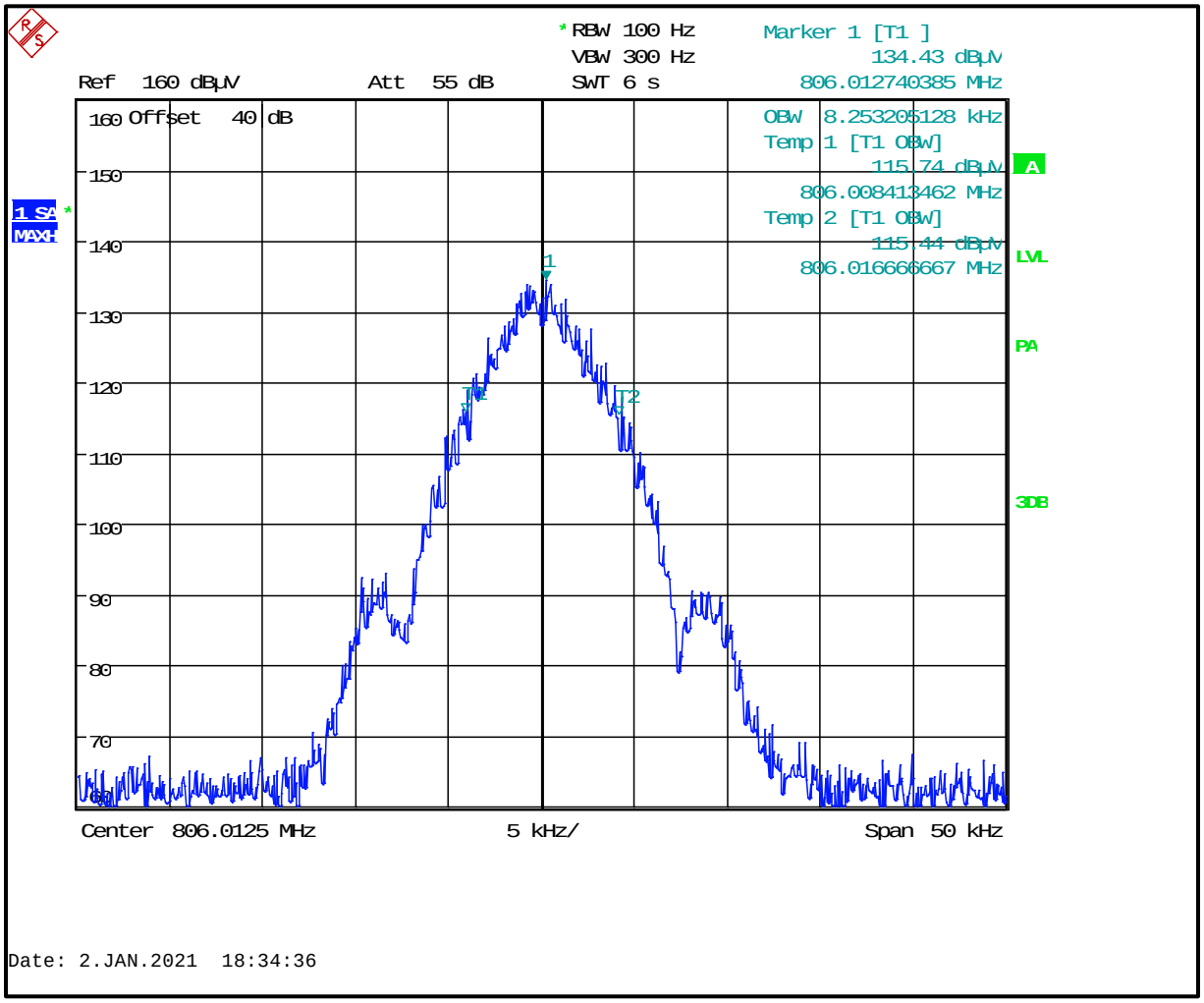
Plot 8-185: 99% Occupied Bandwidth – 804.9875 MHz; NB 2-LVL FSK 9600



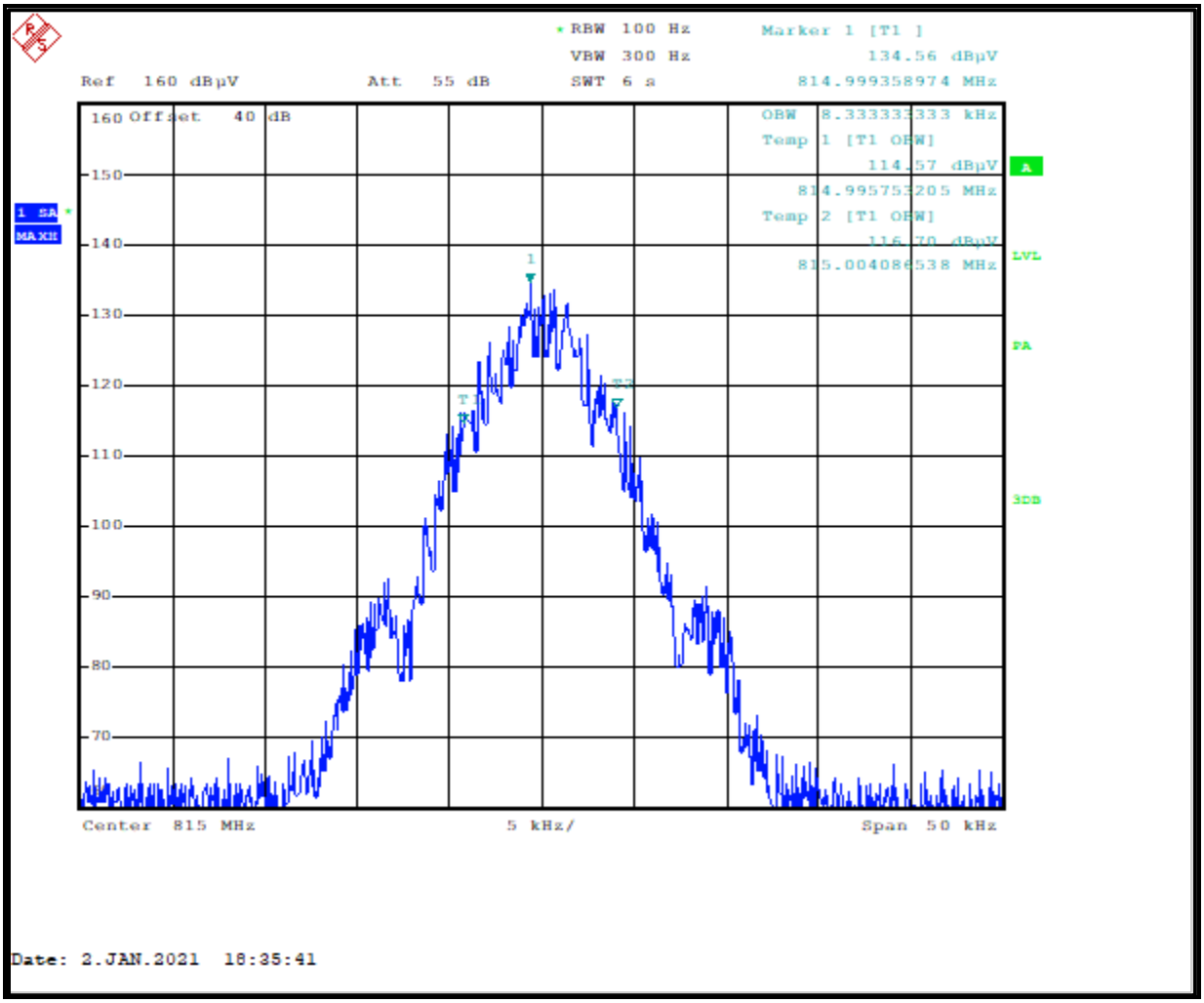
Plot 8-186: 99% Occupied Bandwidth – 805.9875 MHz; NB 2-LVL FSK 9600



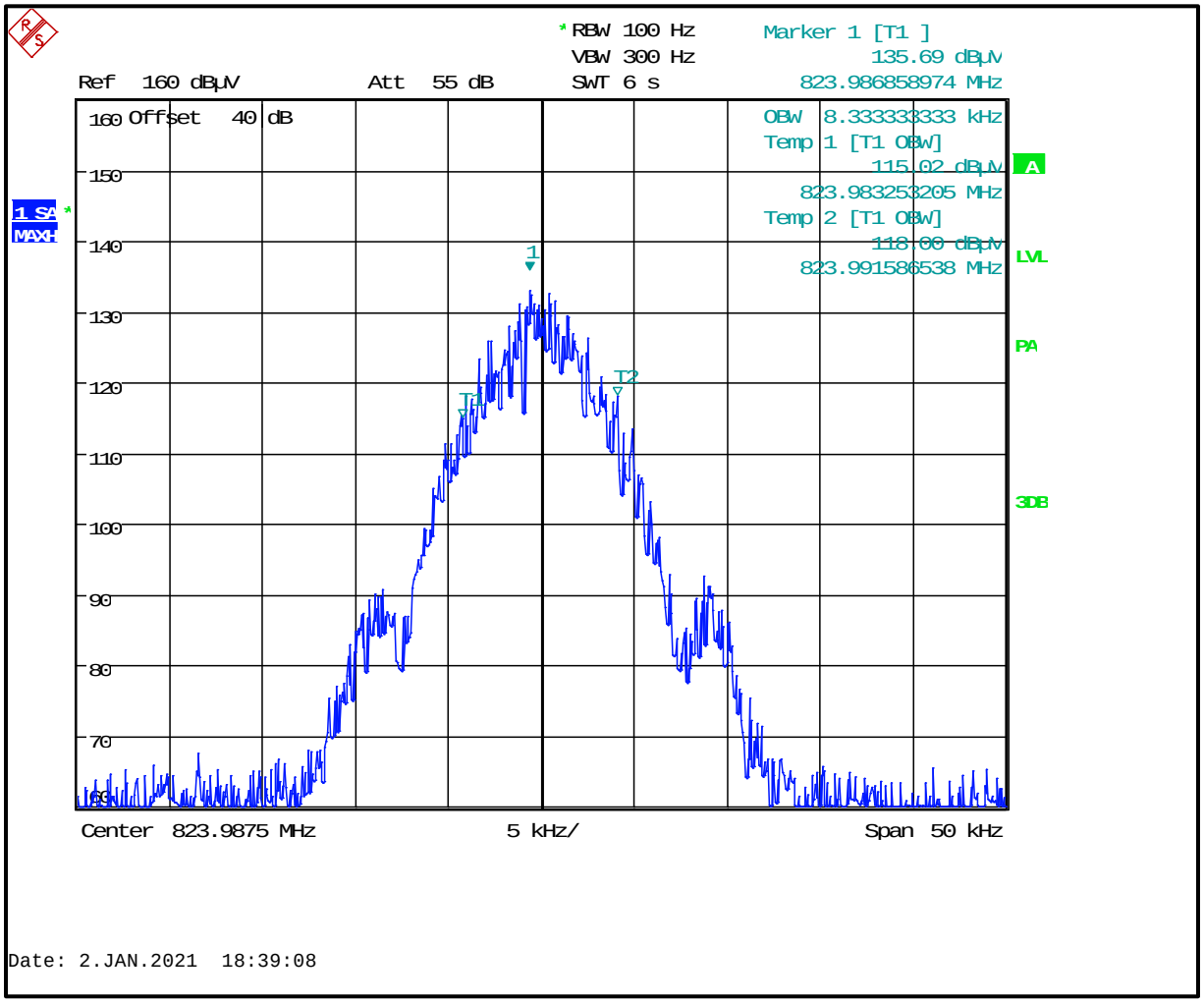
Plot 8-187: 99% Occupied Bandwidth – 806.0125 MHz; NB 2-LVL FSK 9600



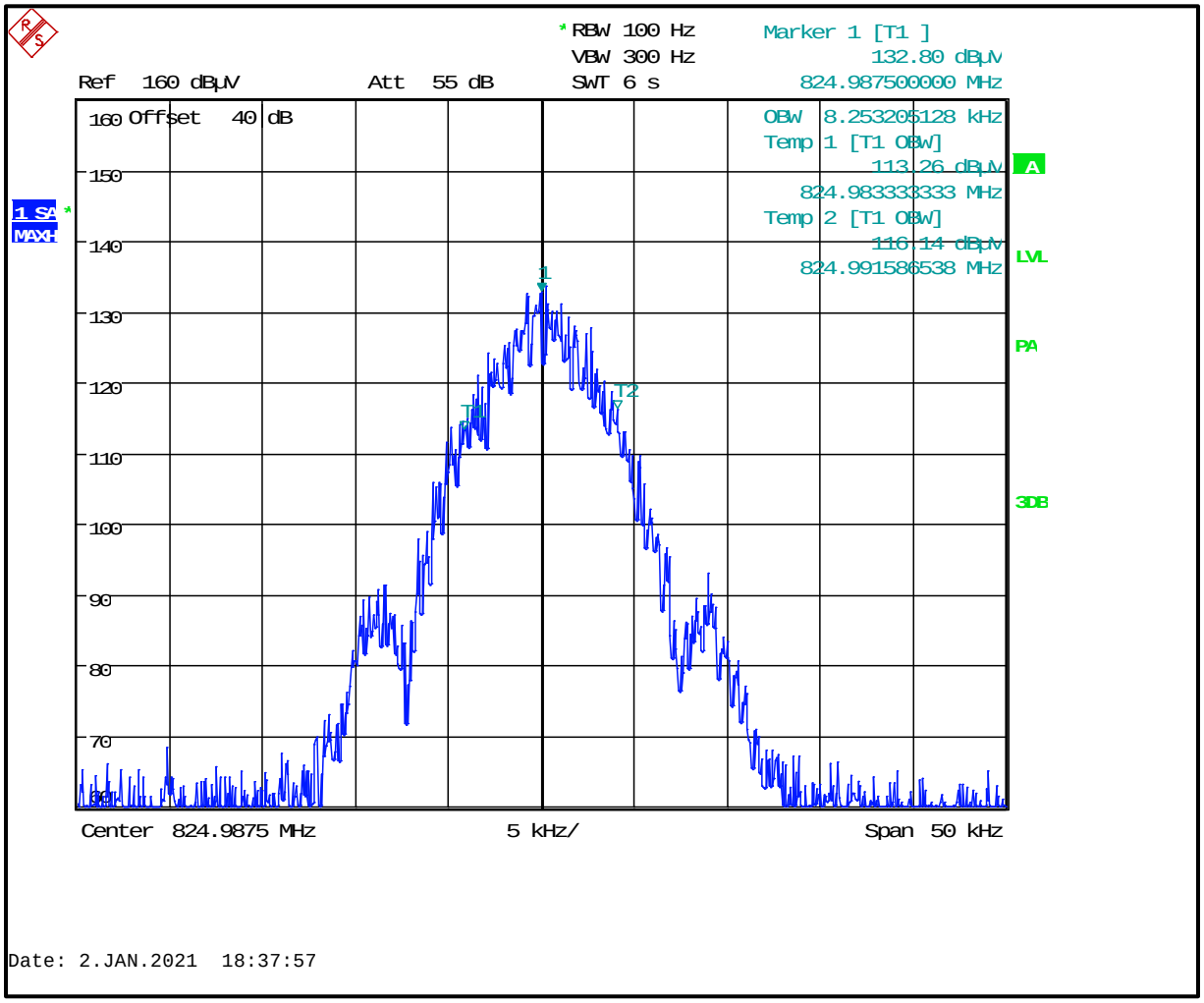
Plot 8-188: 99% Occupied Bandwidth – 815.0000 MHz; NB 2-LVL FSK 9600



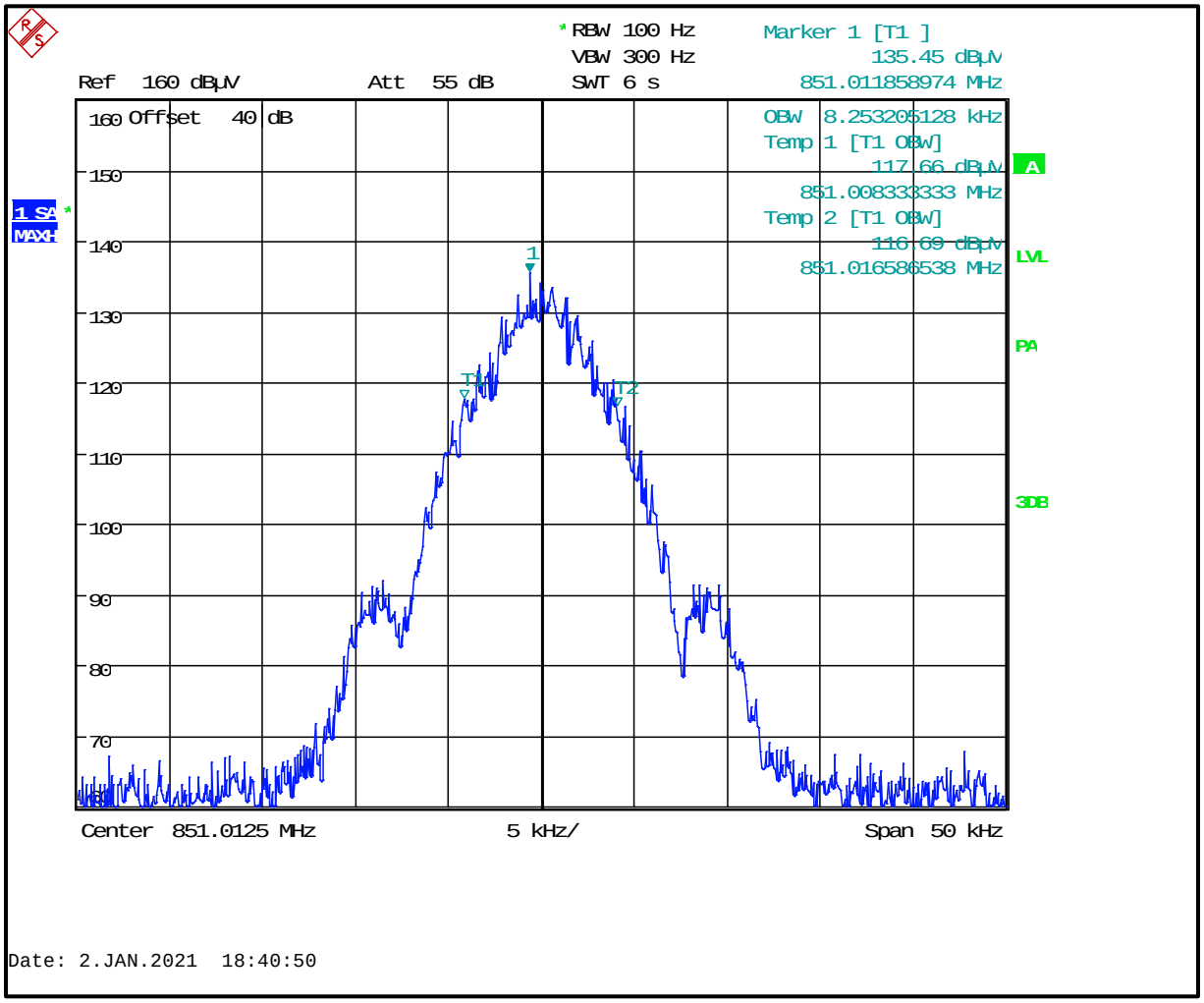
Plot 8-189: 99% Occupied Bandwidth – 823.9875 MHz; NB 2-LVL FSK 9600



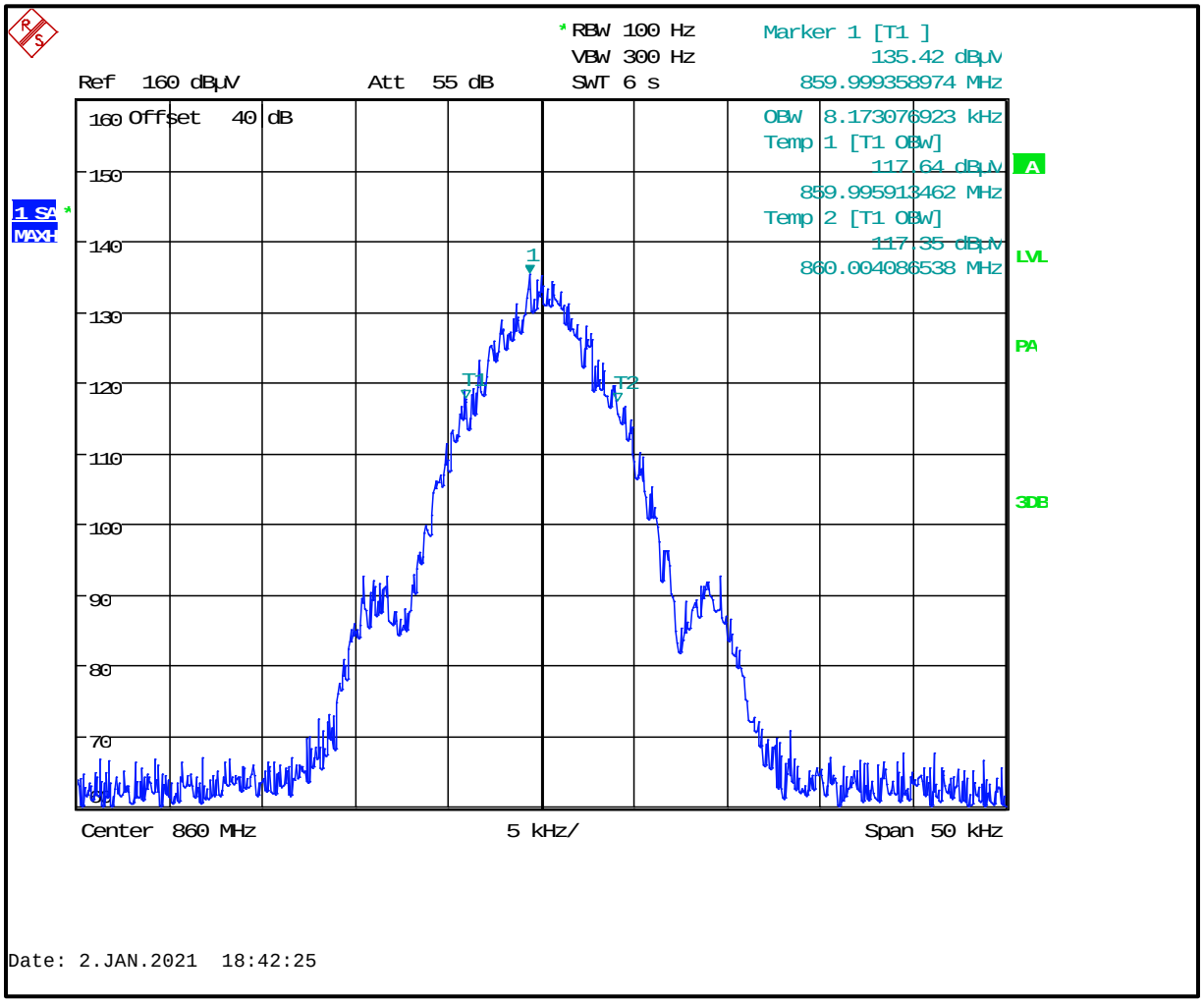
Plot 8-190: 99% Occupied Bandwidth – 824.9875 MHz; NB 2-LVL FSK 9600



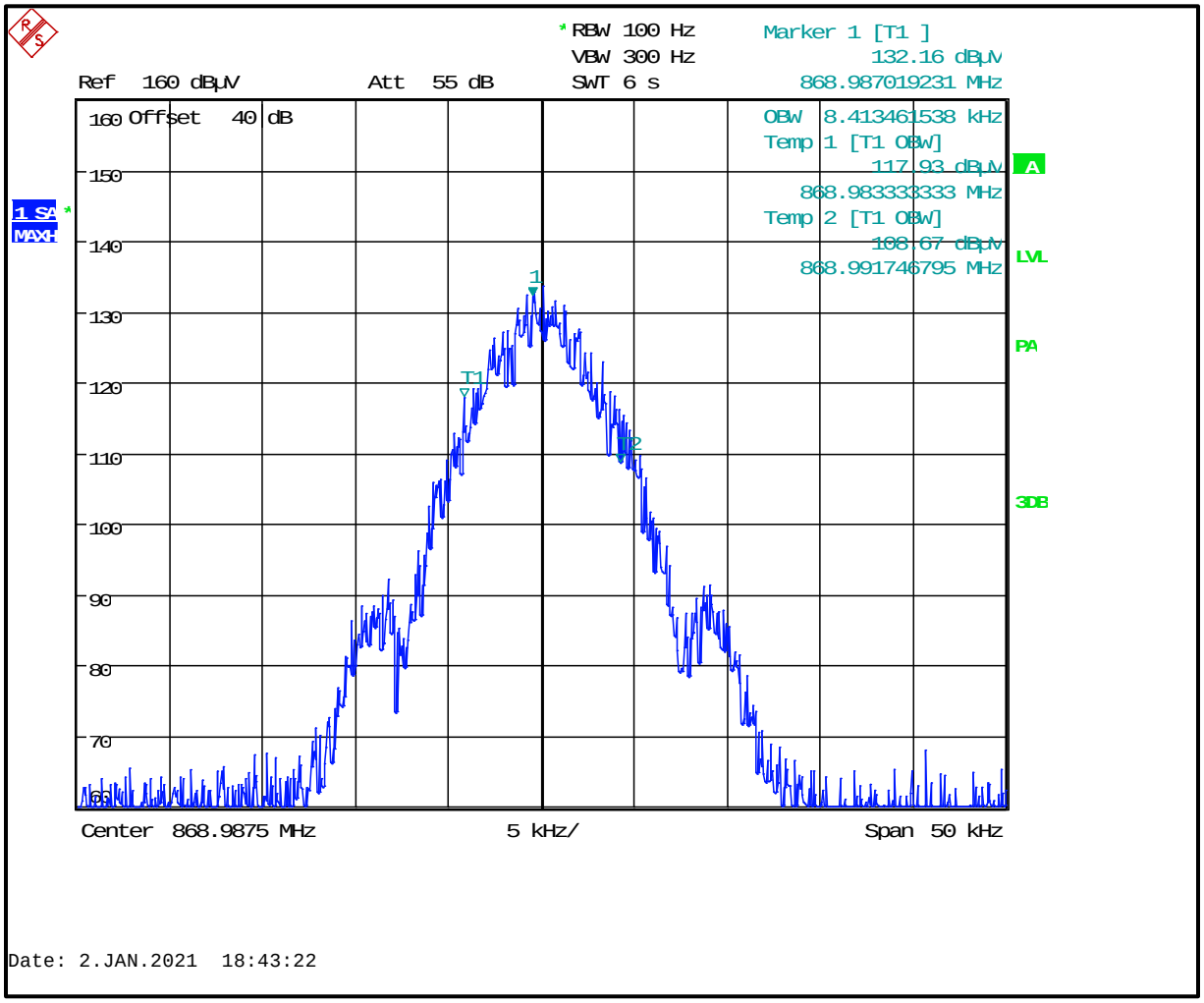
Plot 8-191: 99% Occupied Bandwidth – 851.0125 MHz; NB 2-LVL FSK 9600



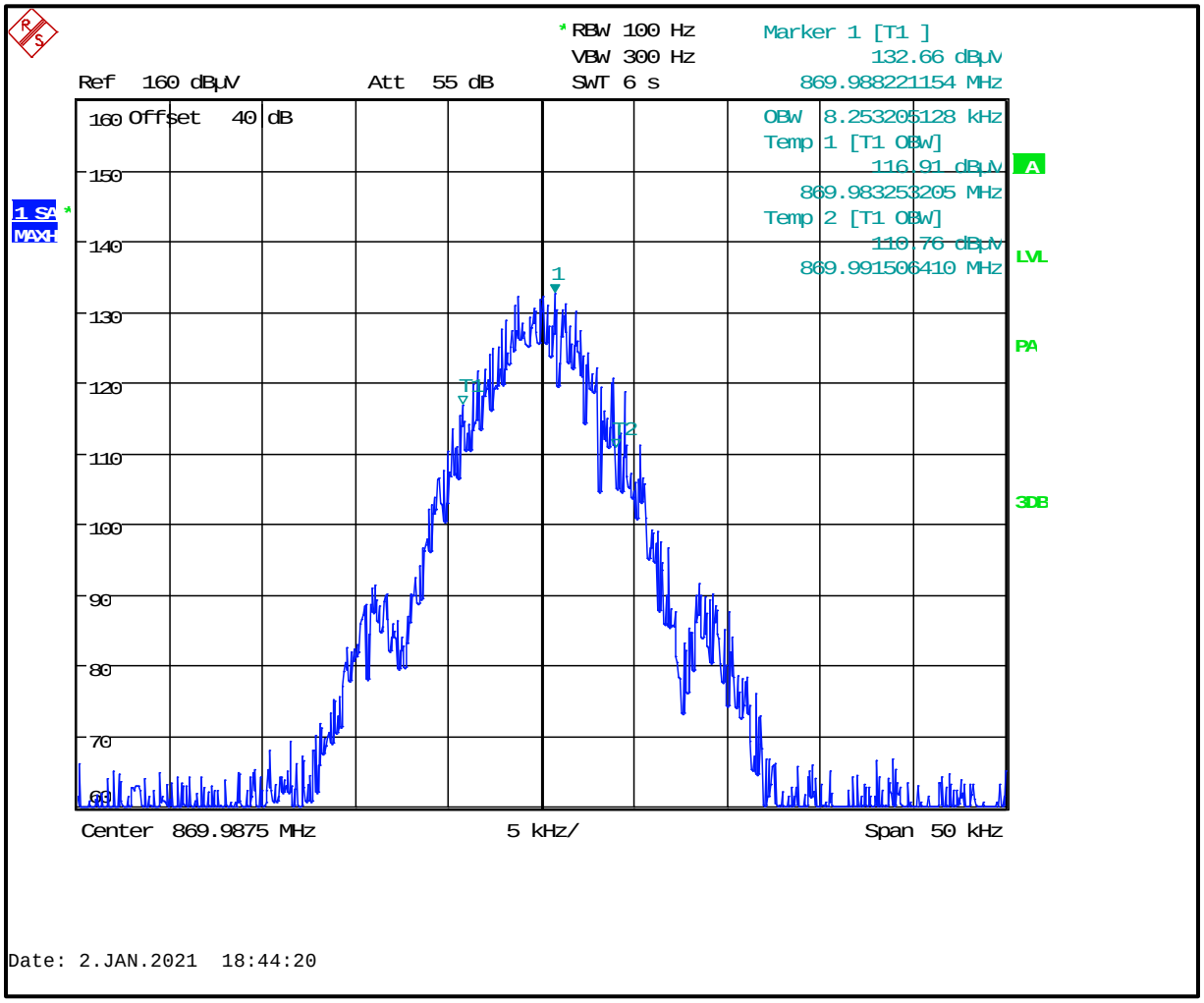
Plot 8-192: 99% Occupied Bandwidth – 860.0000 MHz; NB 2-LVL FSK 9600



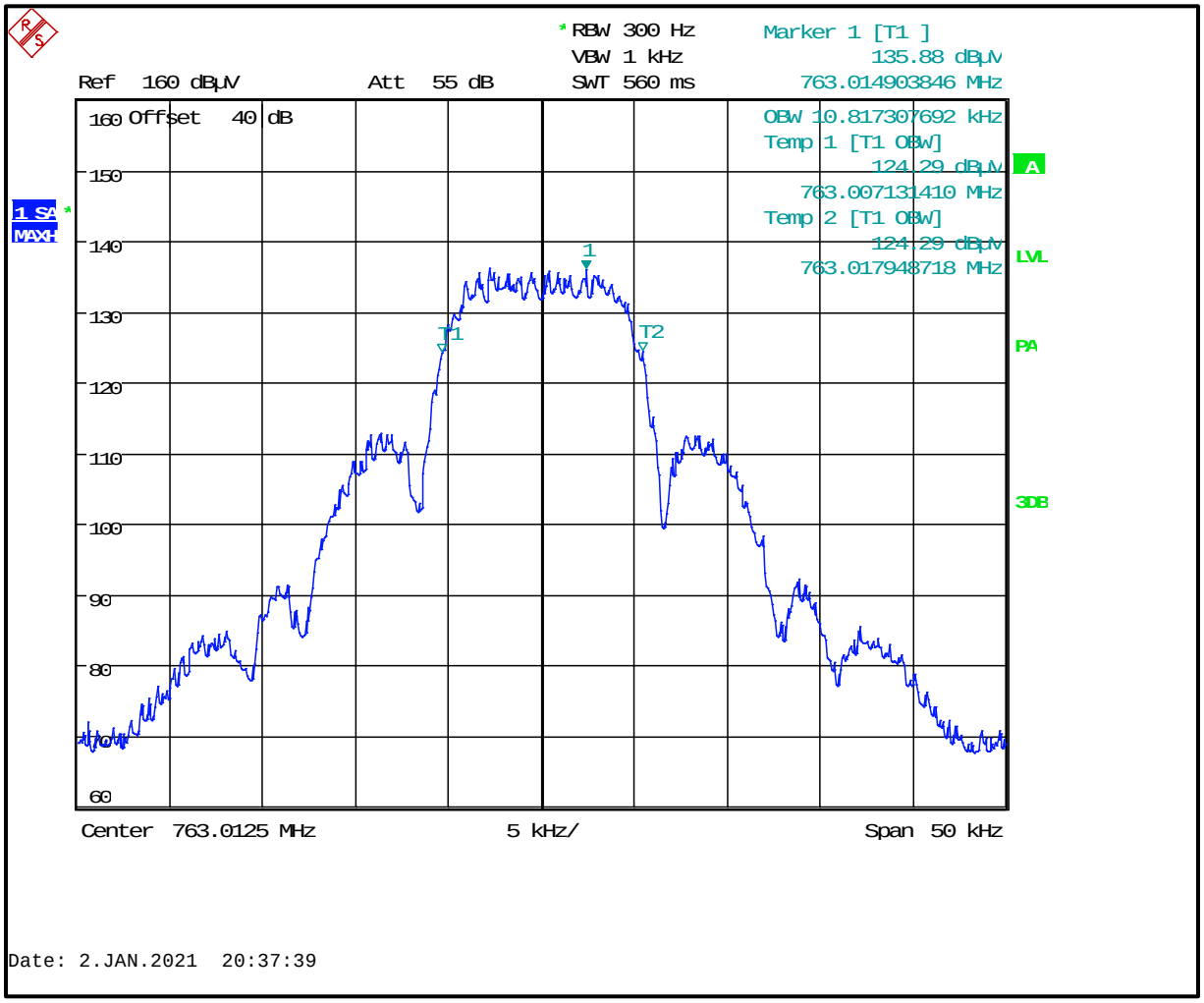
Plot 8-193: 99% Occupied Bandwidth – 868.9875 MHz; NB 2-LVL FSK 9600



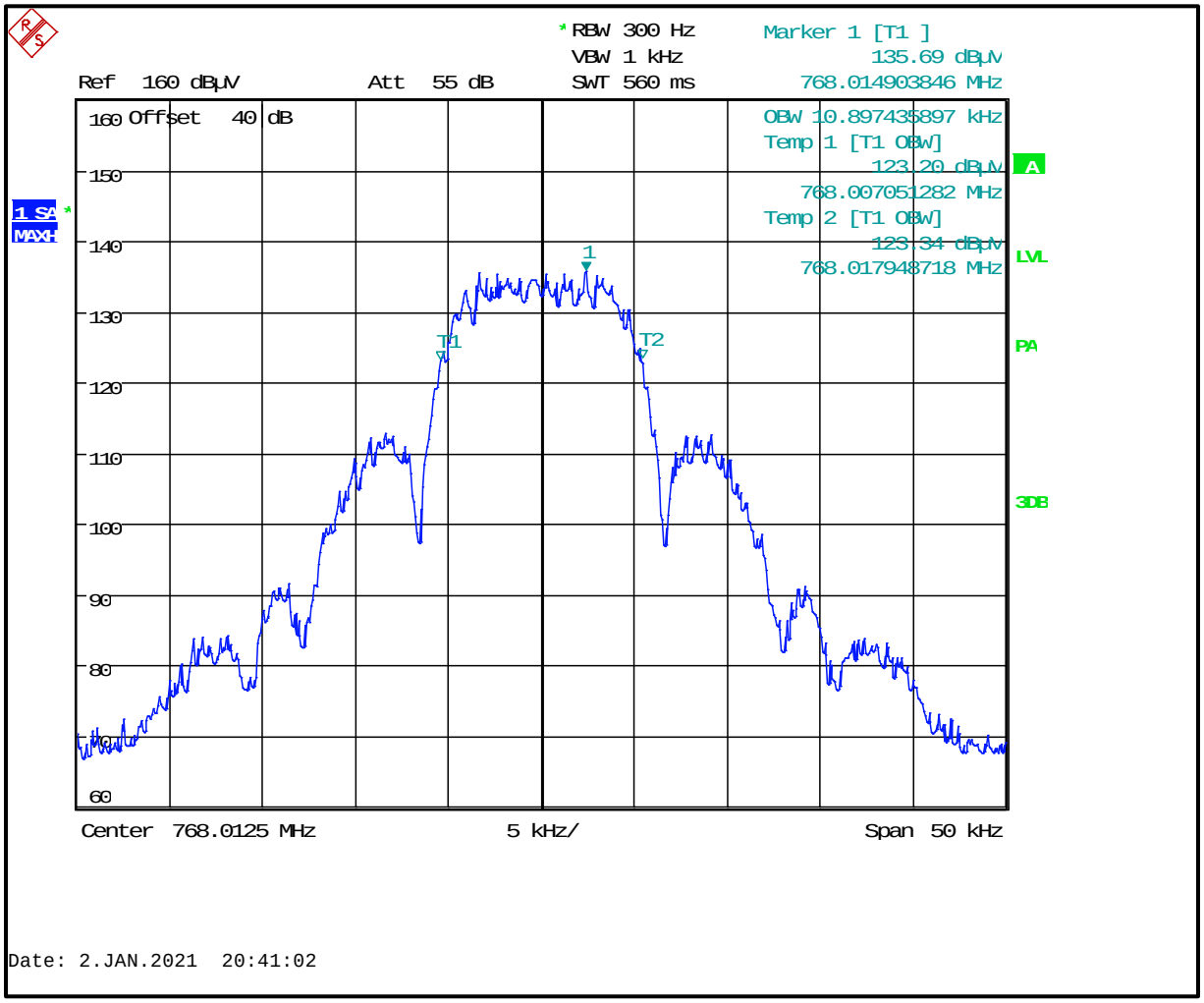
Plot 8-194: 99% Occupied Bandwidth – 869.9875 MHz; NB 2-LVL FSK 9600



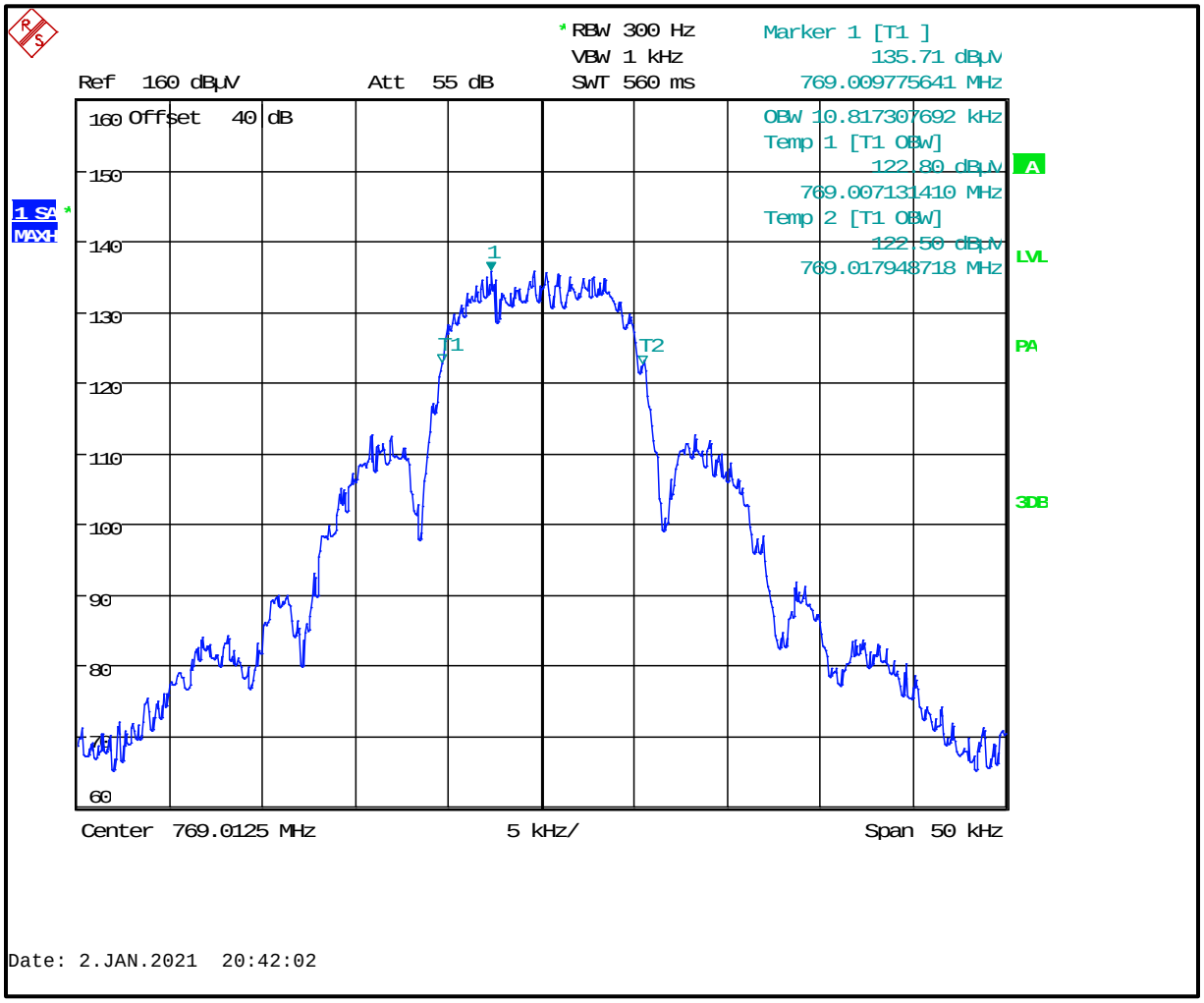
Plot 8-195: 99% Occupied Bandwidth – 763.0125 MHz; WB 2-LVL FSK 9600



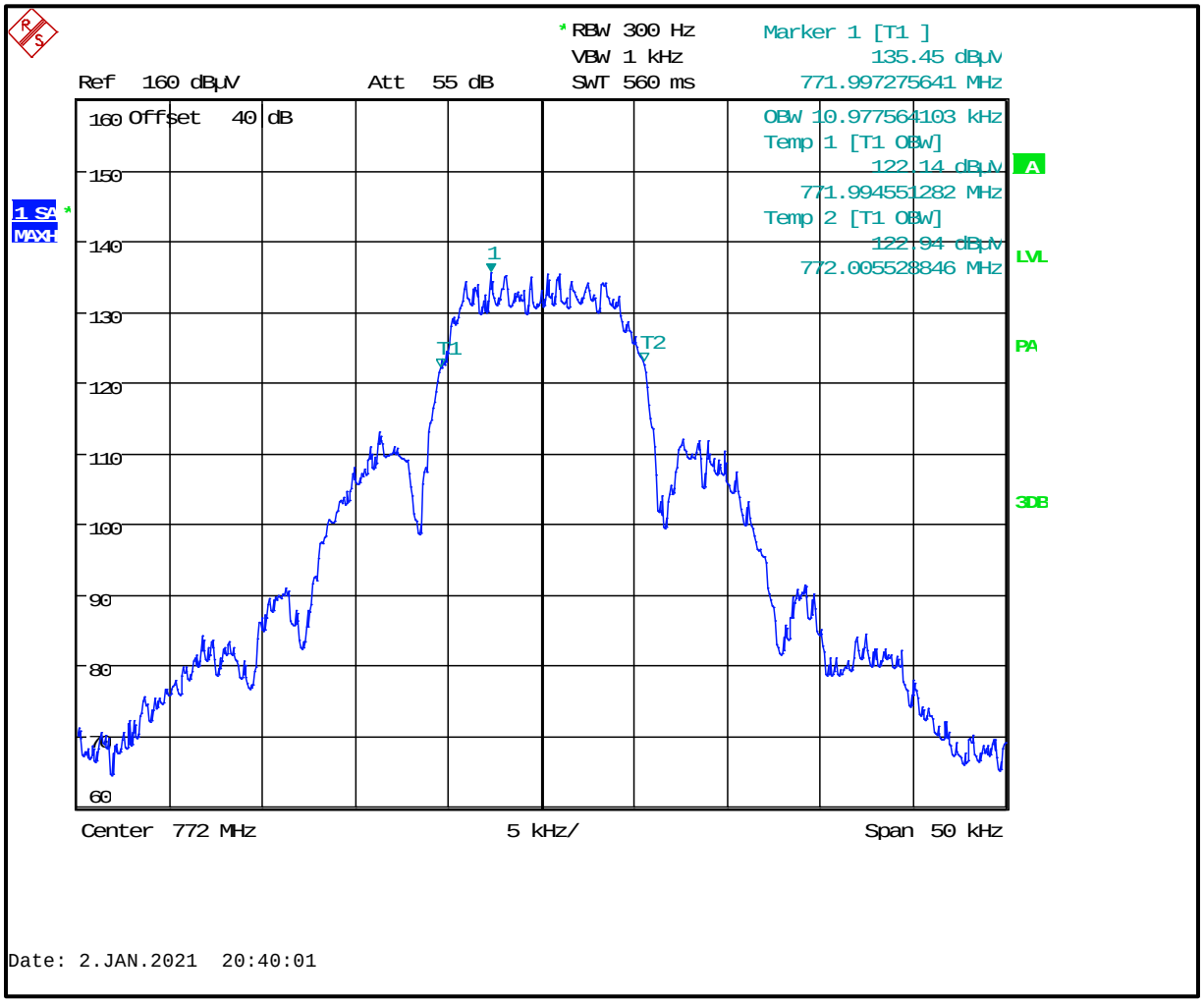
Plot 8-196: 99% Occupied Bandwidth – 768.0125 MHz; WB 2-LVL FSK 9600



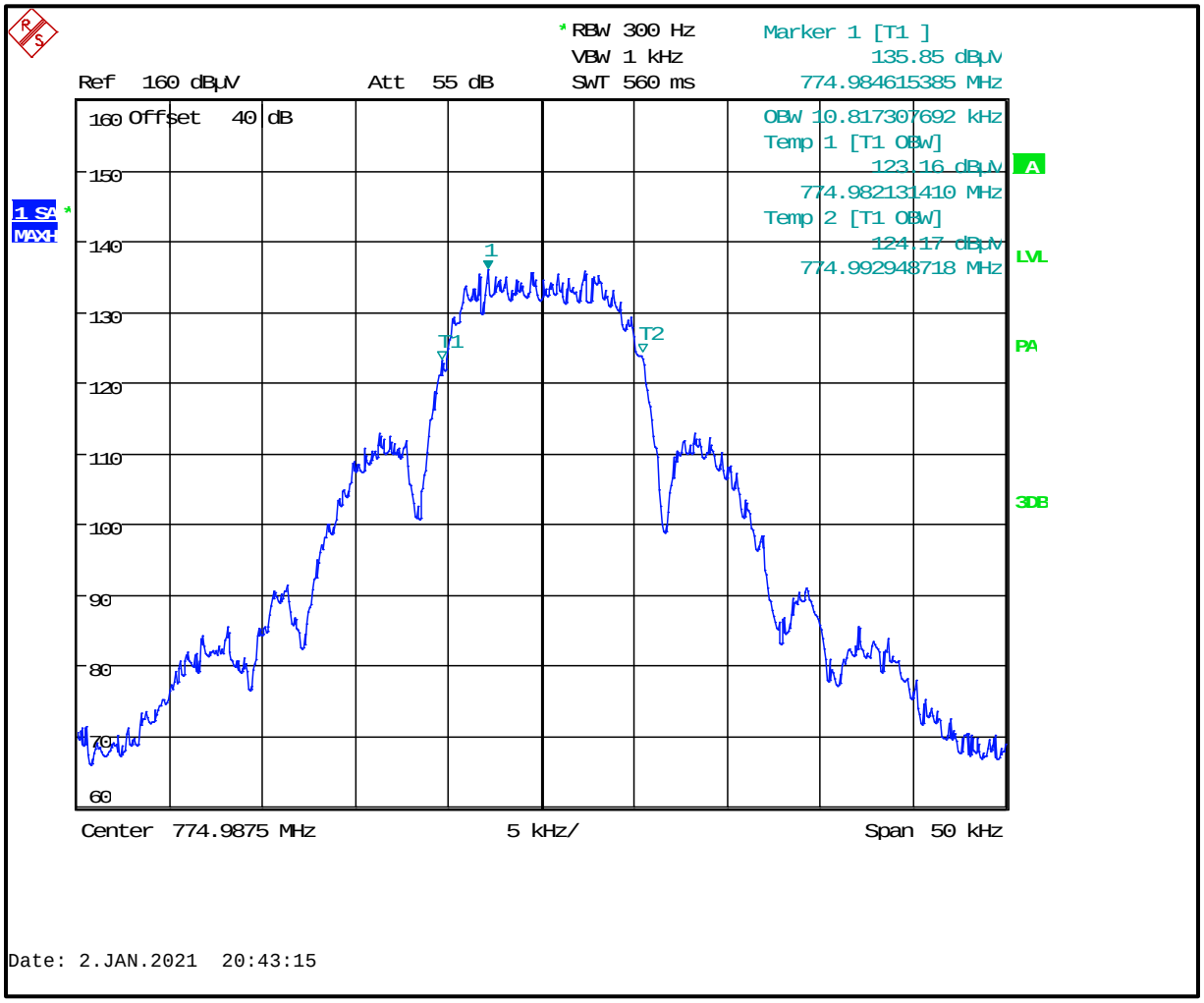
Plot 8-197: 99% Occupied Bandwidth – 769.0125 MHz; WB 2-LVL FSK 9600



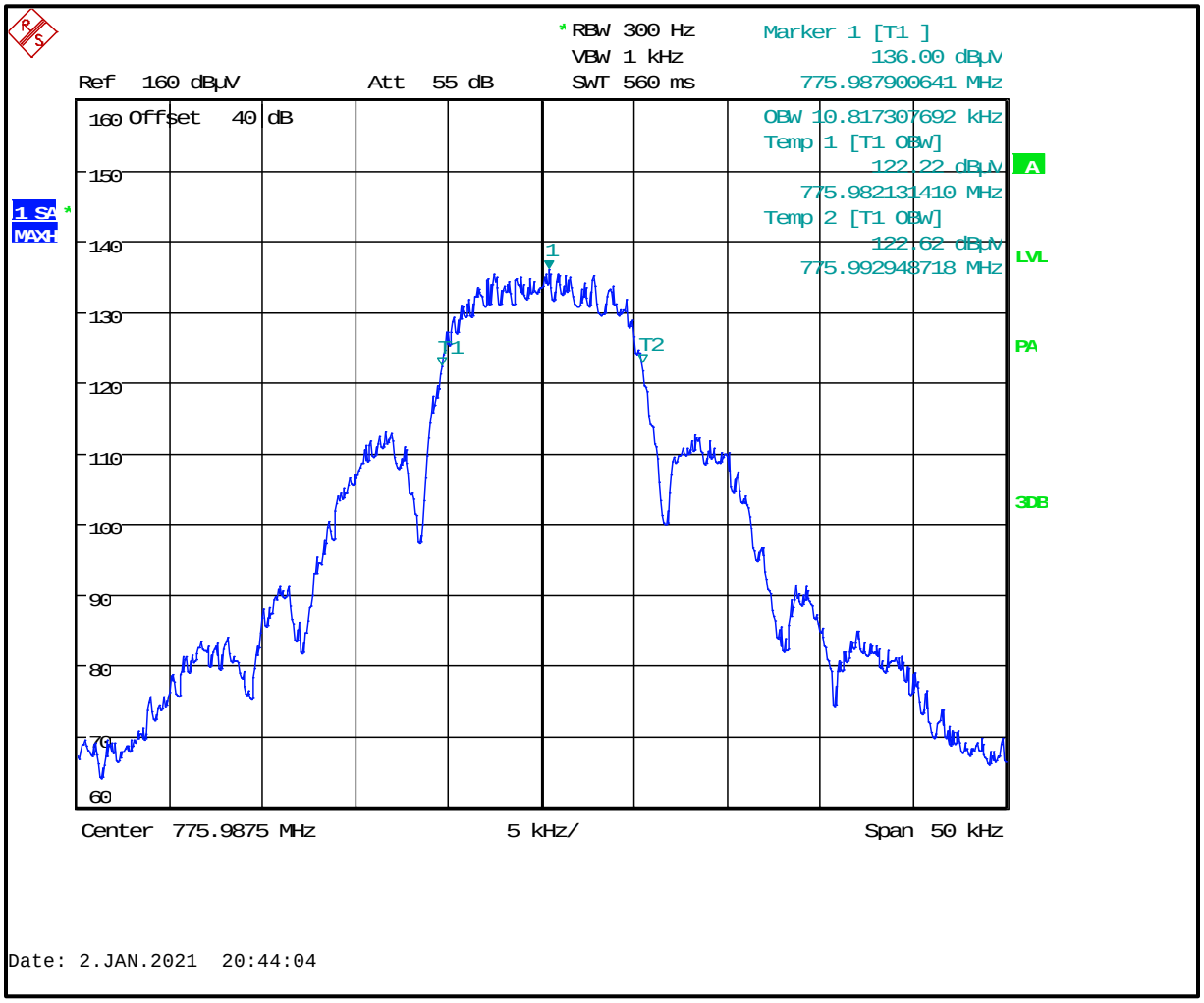
Plot 8-198: 99% Occupied Bandwidth – 772.0000 MHz; WB 2-LVL FSK 9600



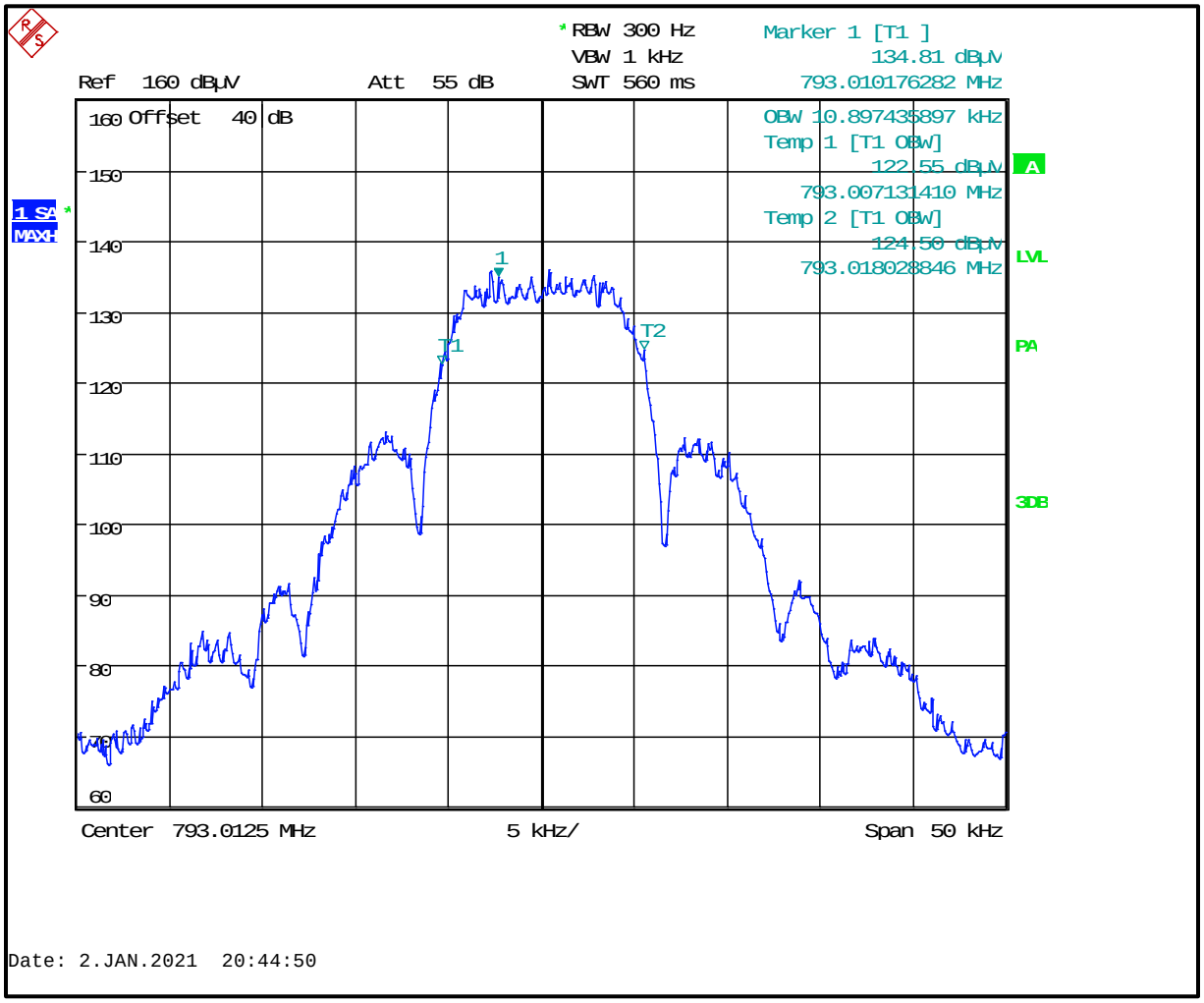
Plot 8-199: 99% Occupied Bandwidth – 774.9875 MHz; WB 2-LVL FSK 9600



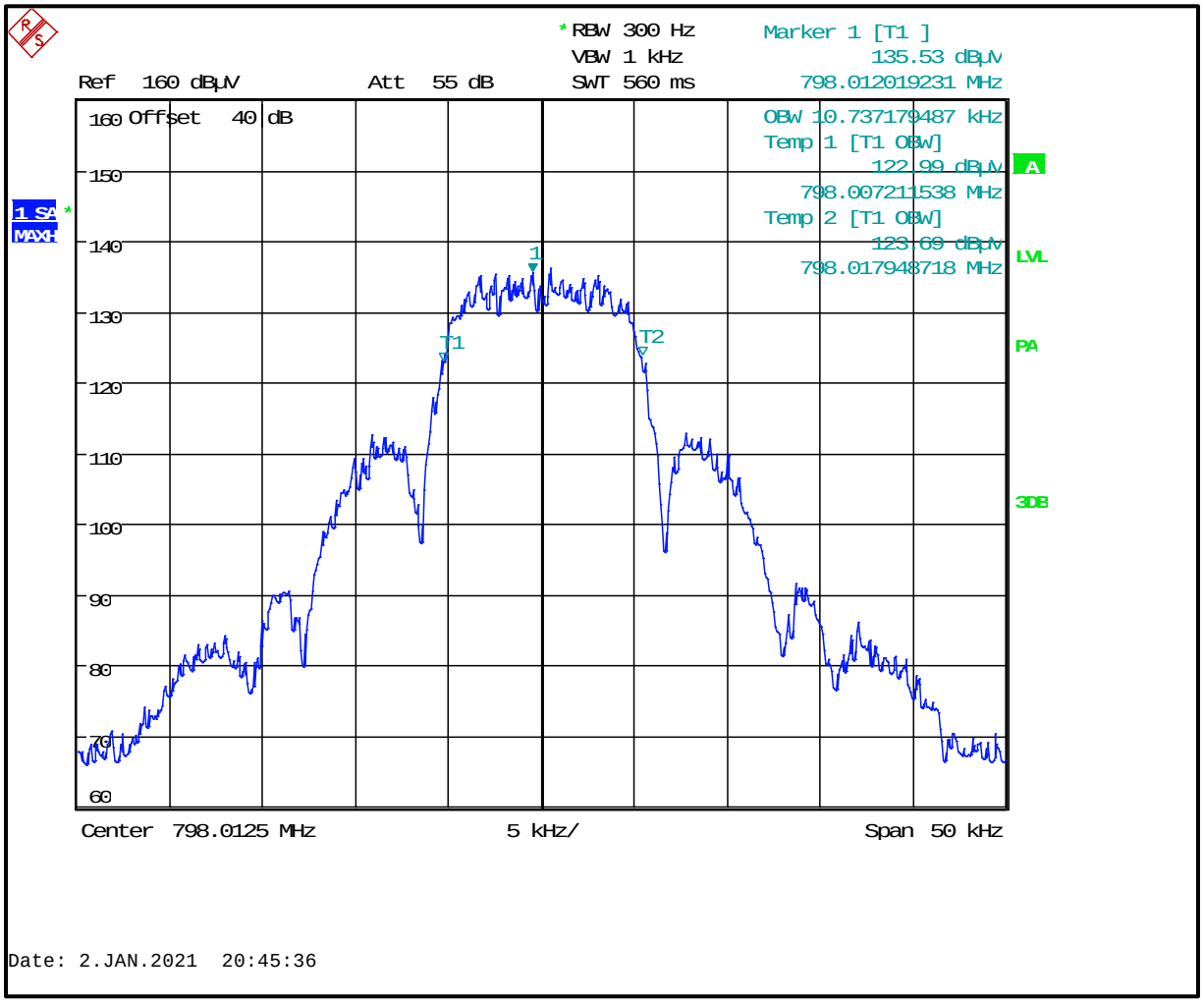
Plot 8-200: 99% Occupied Bandwidth – 775.9875 MHz; WB 2-LVL FSK 9600



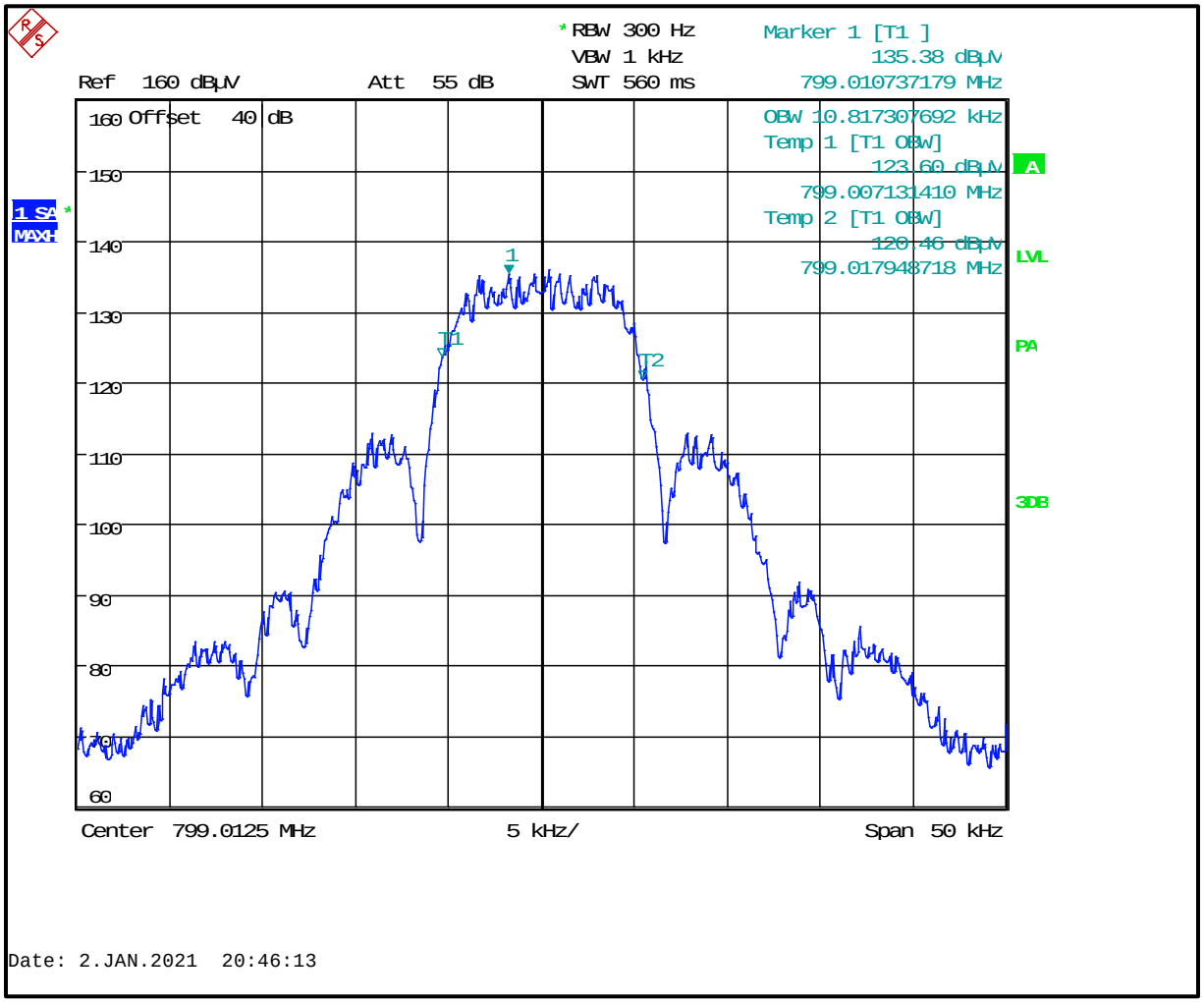
Plot 8-201: 99% Occupied Bandwidth – 793.0125 MHz; WB 2-LVL FSK 9600



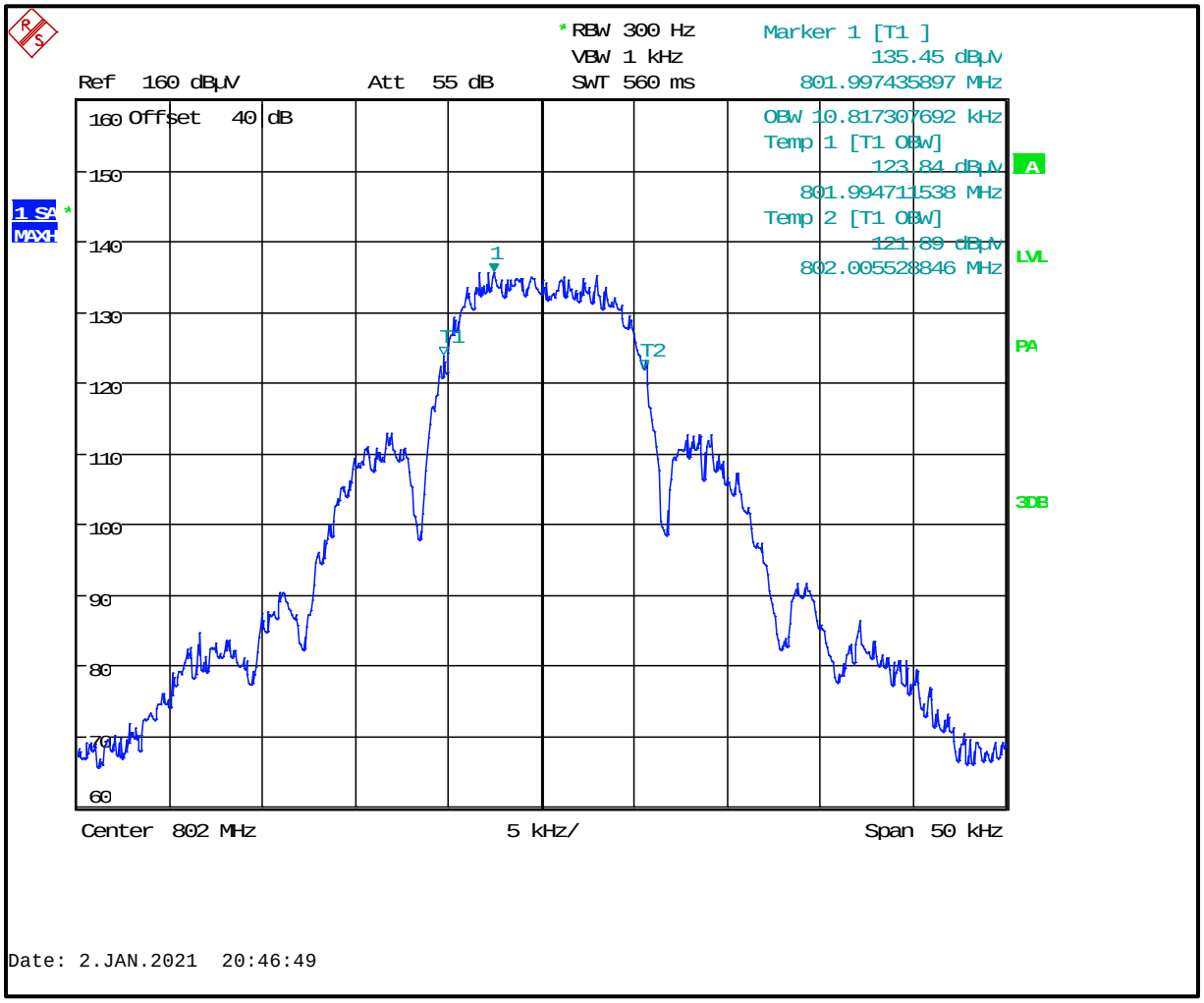
Plot 8-202: 99% Occupied Bandwidth – 798.0125 MHz; WB 2-LVL FSK 9600



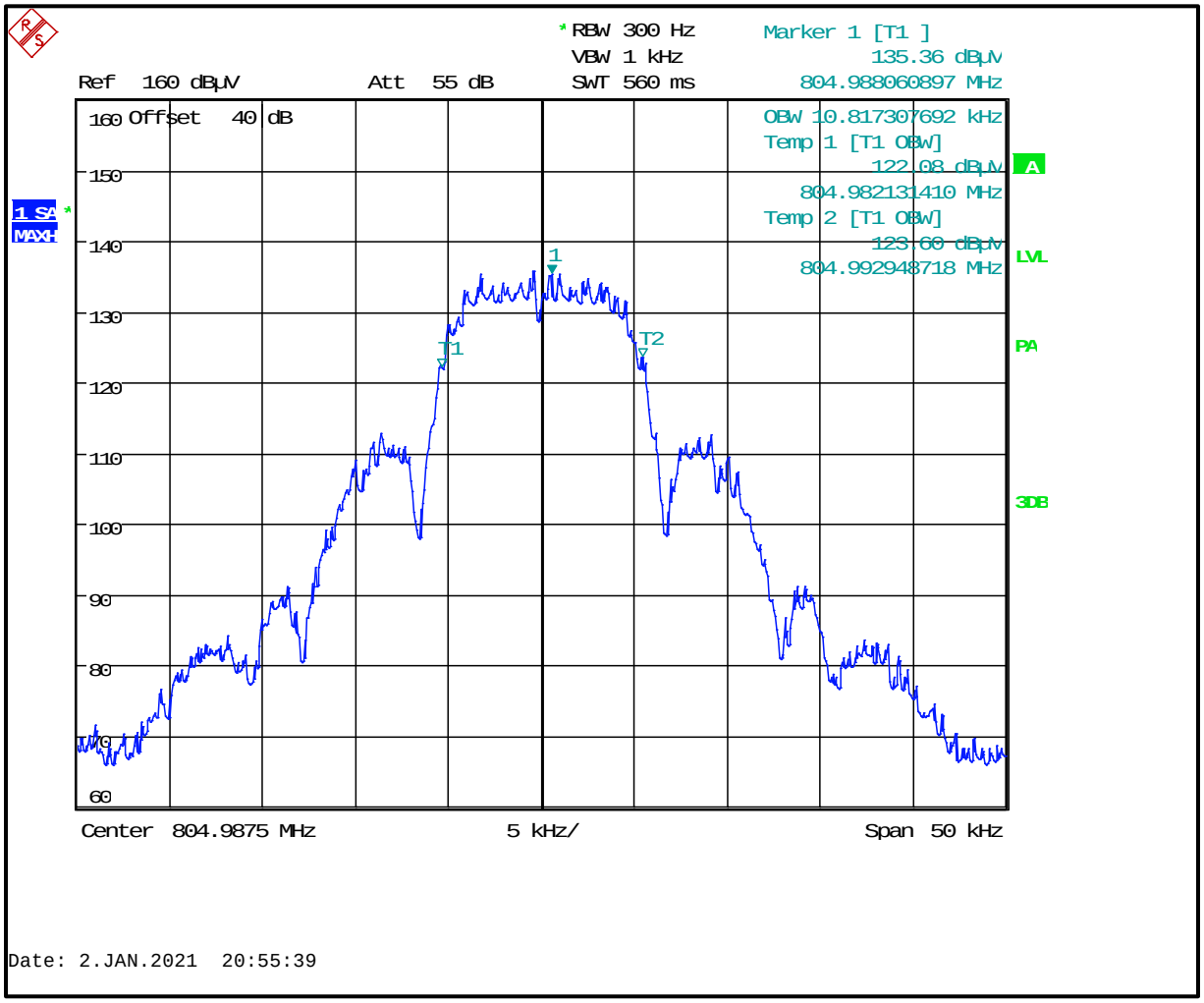
Plot 8-203: 99% Occupied Bandwidth – 799.0125 MHz; WB 2-LVL FSK 9600



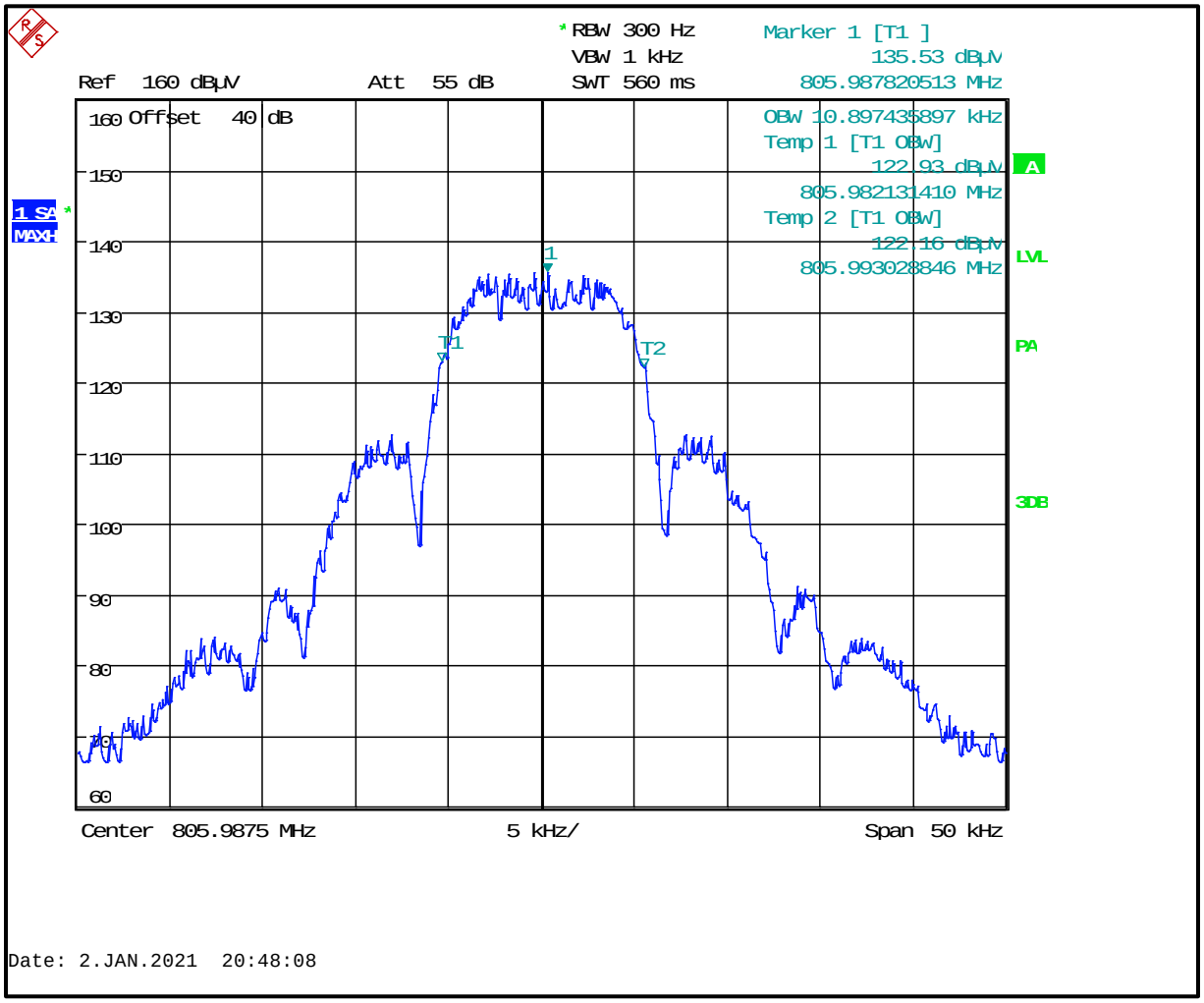
Plot 8-204: 99% Occupied Bandwidth – 802.0000 MHz; WB 2-LVL FSK 9600



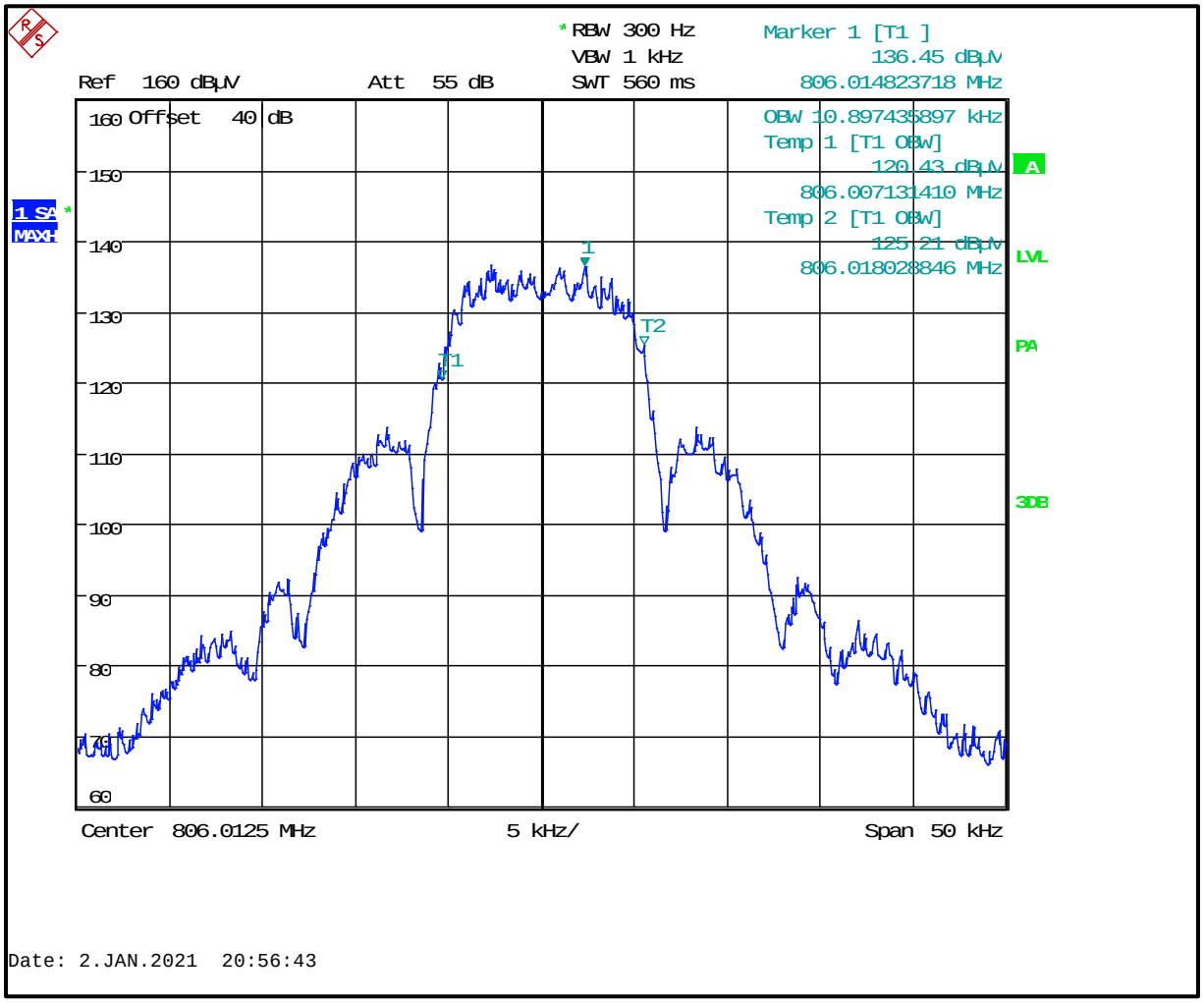
Plot 8-205: 99% Occupied Bandwidth – 804.9875 MHz; WB 2-LVL FSK 9600



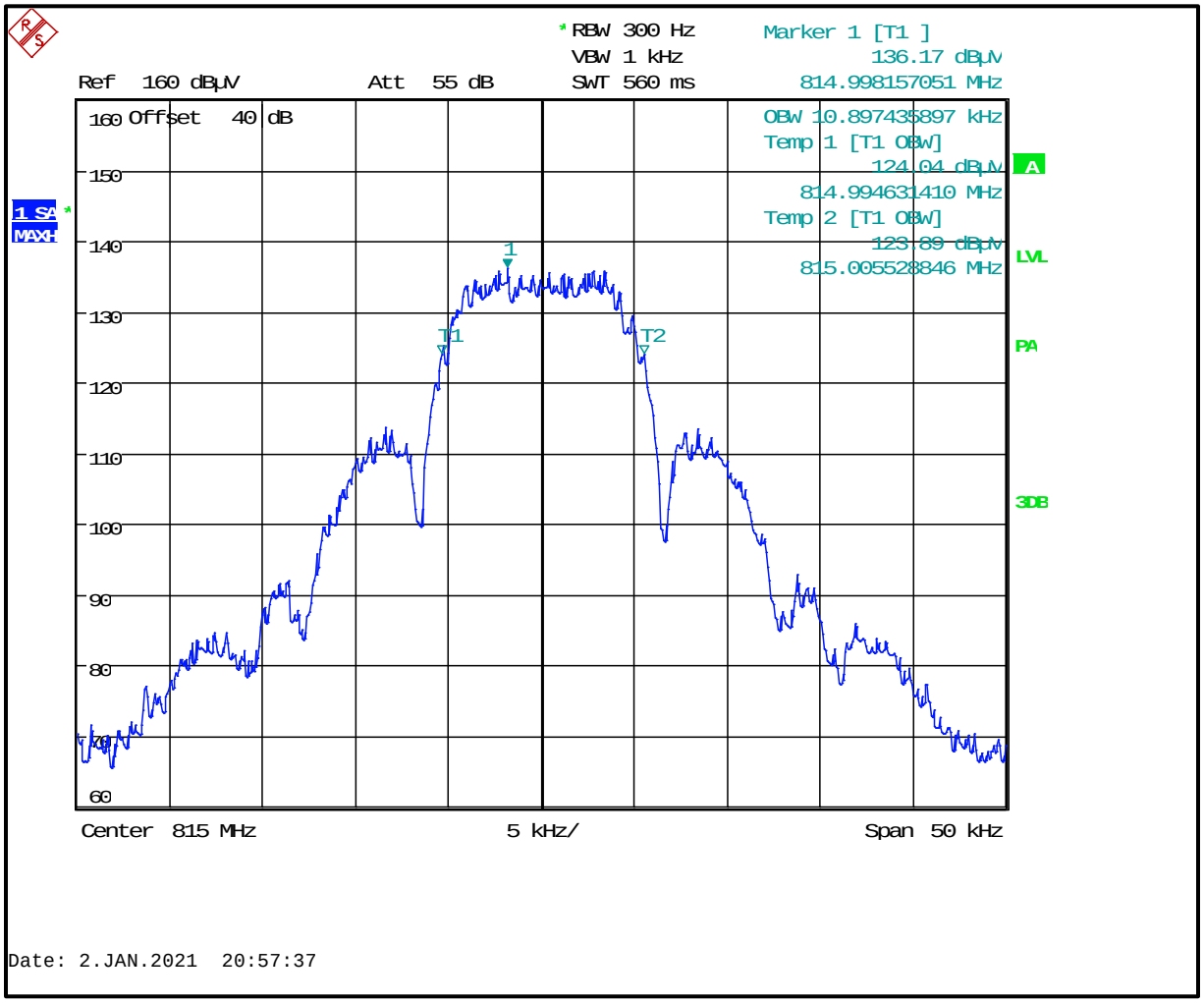
Plot 8-206: 99% Occupied Bandwidth – 805.9875 MHz; WB 2-LVL FSK 9600



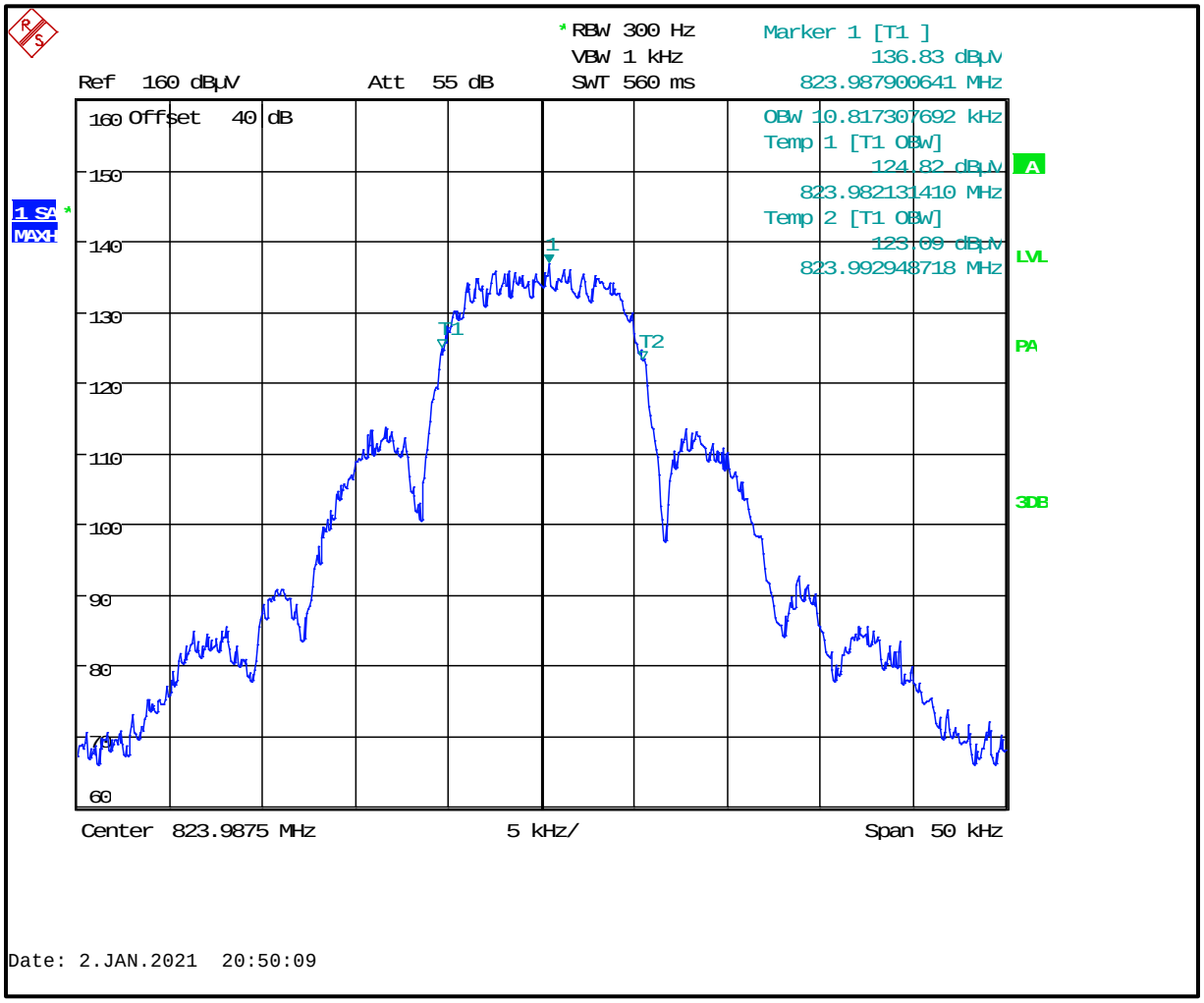
Plot 8-207: 99% Occupied Bandwidth – 806.0125 MHz; WB 2-LVL FSK 9600



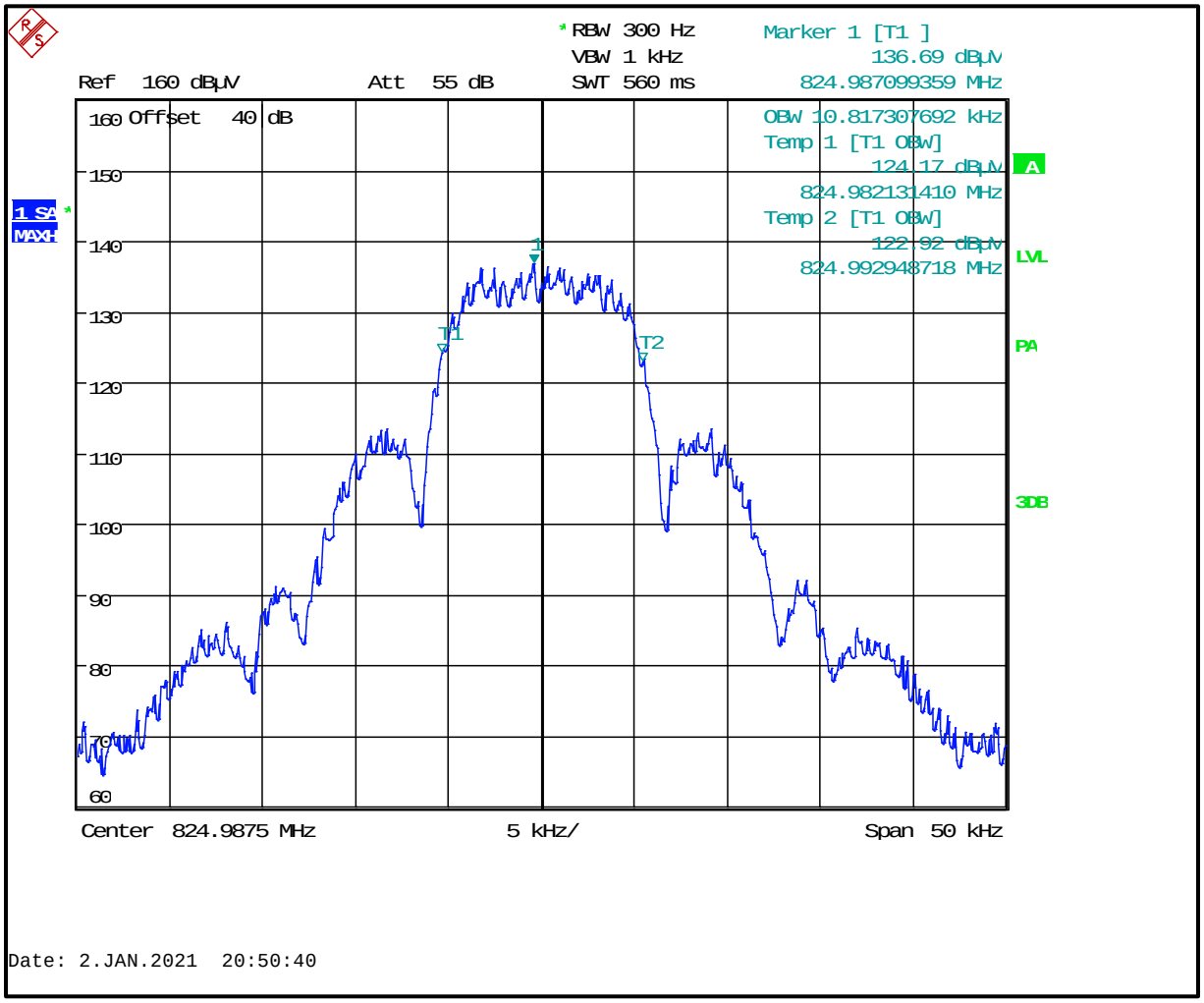
Plot 8-208: 99% Occupied Bandwidth – 815.0000 MHz; WB 2-LVL FSK 9600



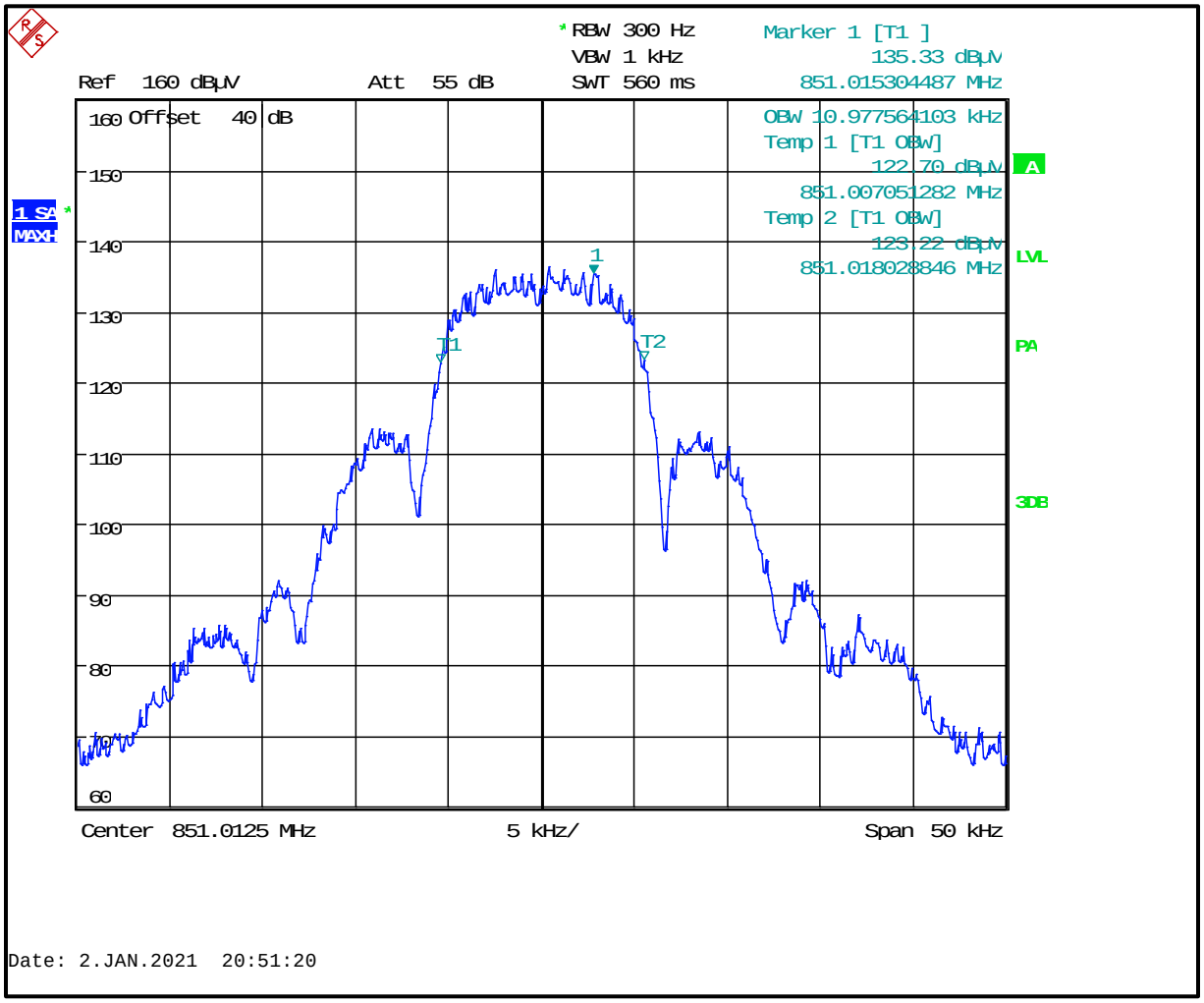
Plot 8-209: 99% Occupied Bandwidth – 823.9875 MHz; WB 2-LVL FSK 9600



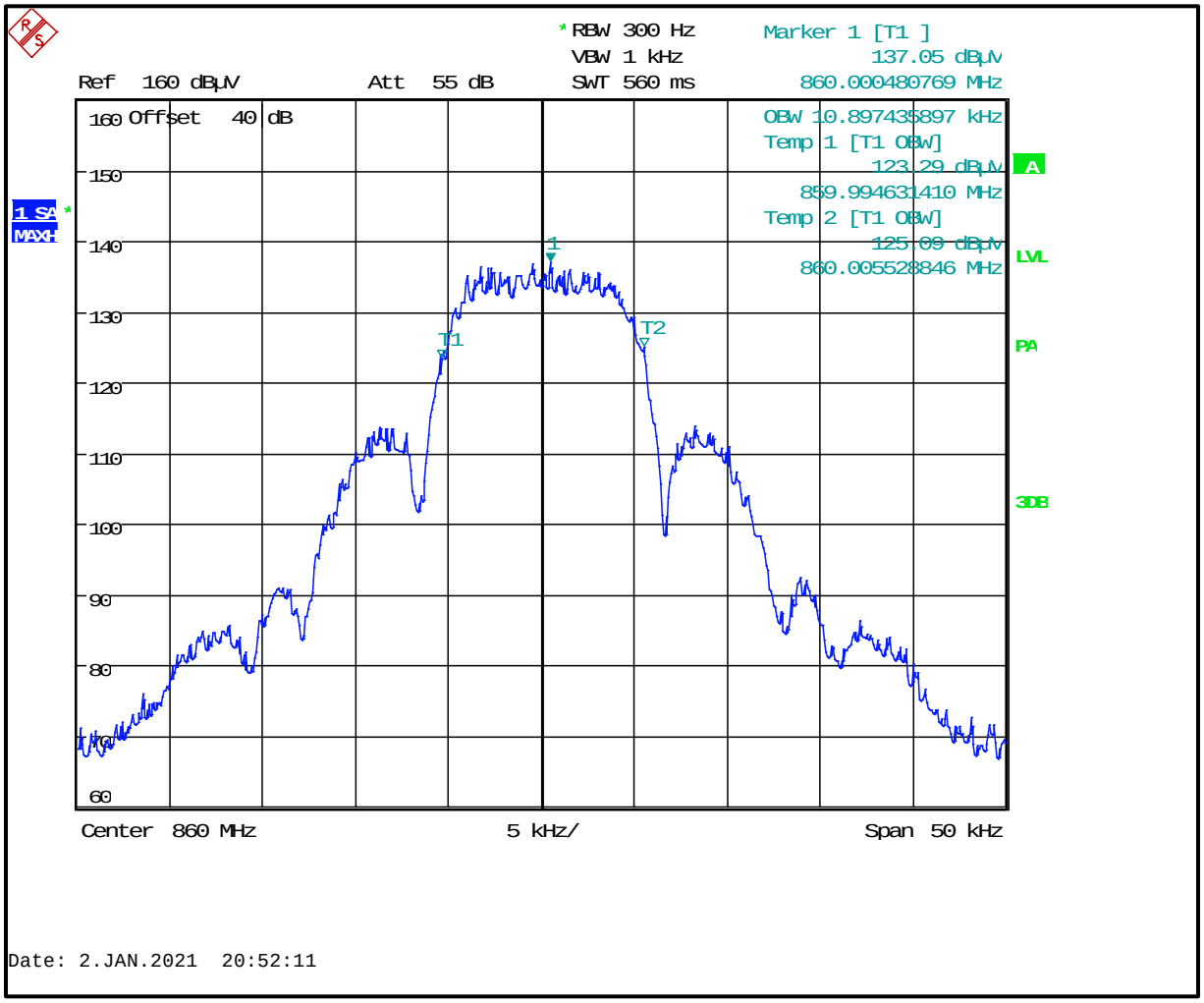
Plot 8-210: 99% Occupied Bandwidth – 824.9875 MHz; WB 2-LVL FSK 9600



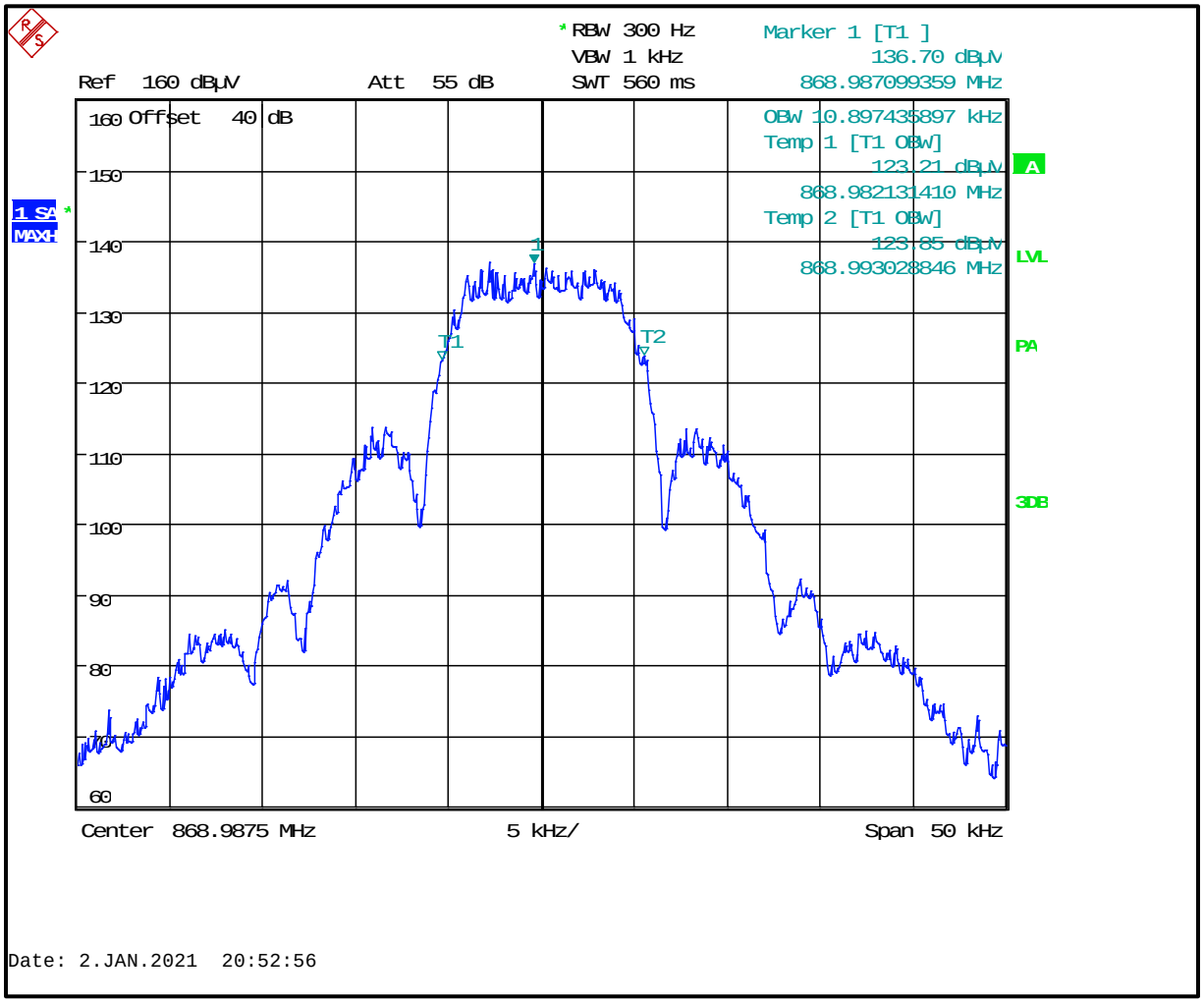
Plot 8-211: 99% Occupied Bandwidth – 851.0125 MHz; WB 2-LVL FSK 9600



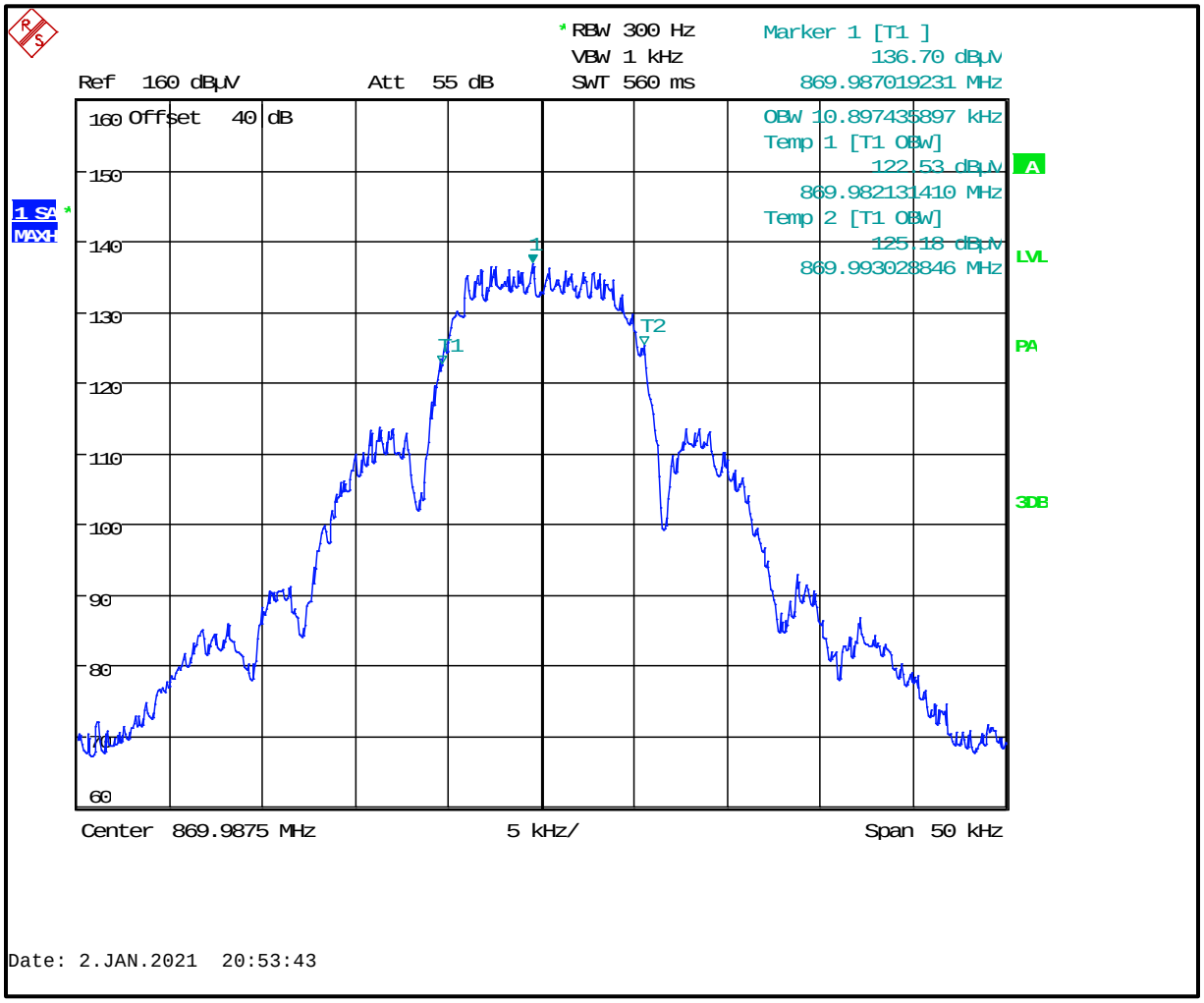
Plot 8-212: 99% Occupied Bandwidth – 860.0000 MHz; WB 2-LVL FSK 9600



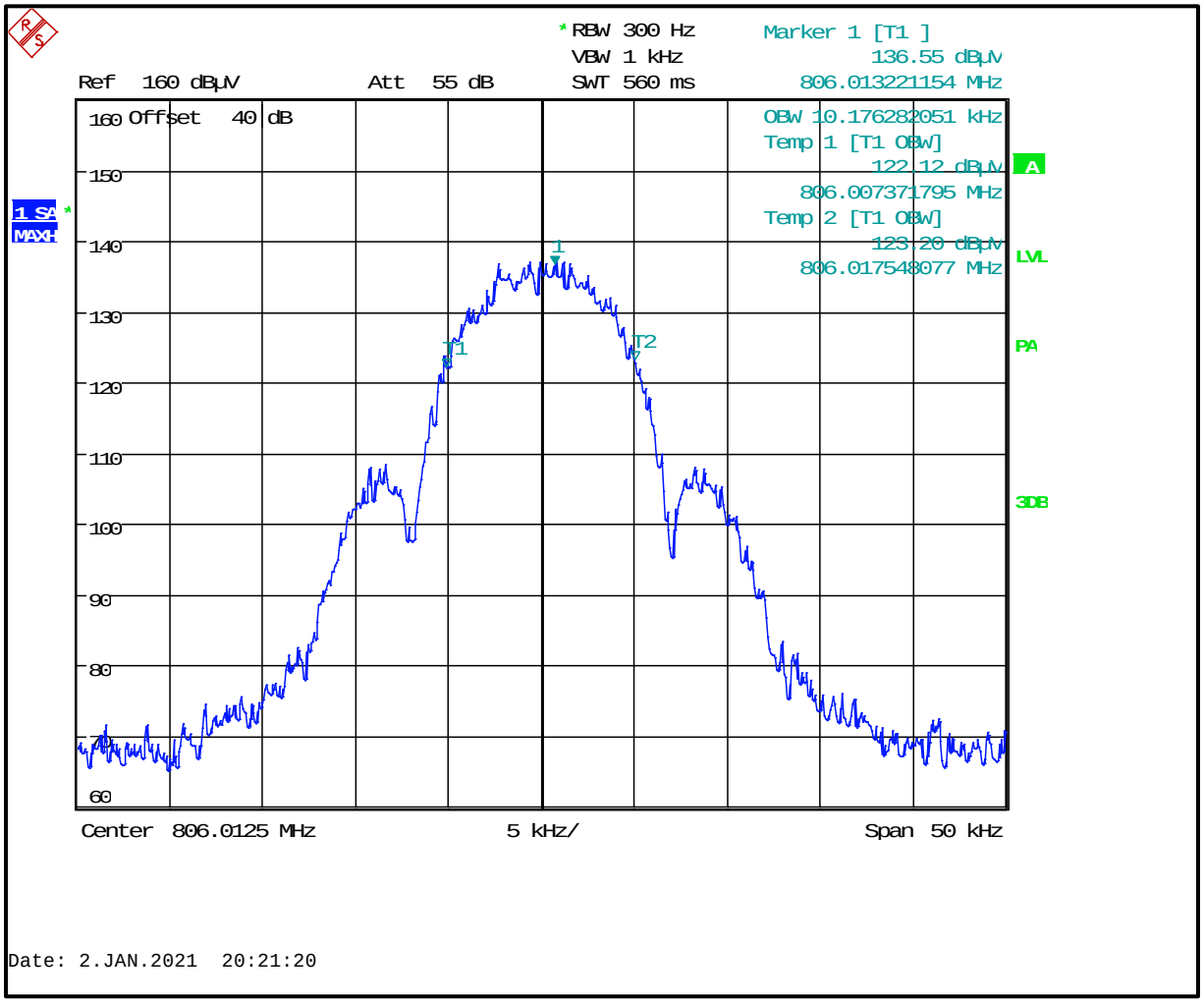
Plot 8-213: 99% Occupied Bandwidth – 868.9875 MHz; WB 2-LVL FSK 9600



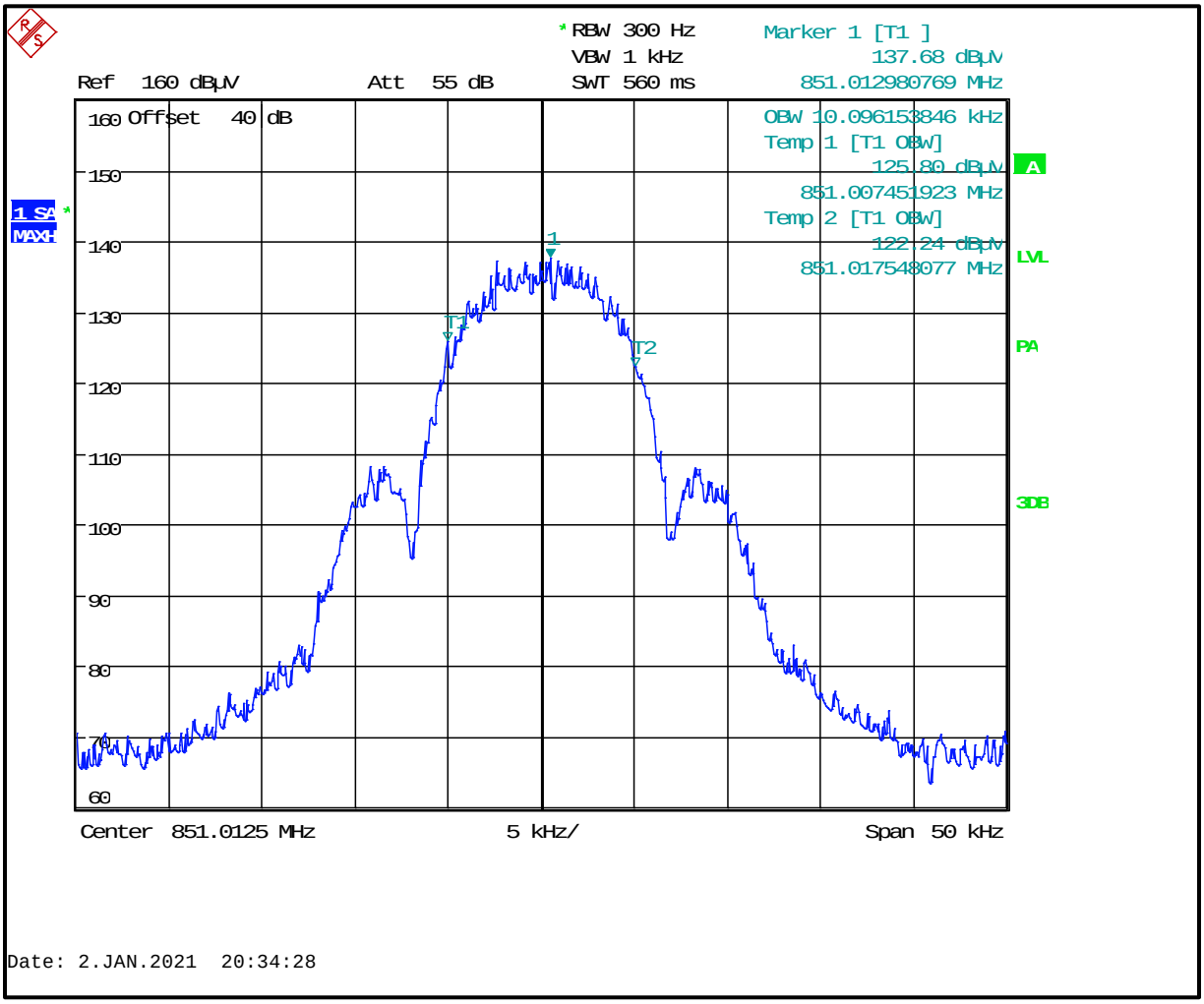
Plot 8-214: 99% Occupied Bandwidth – 869.9875 MHz; WB 2-LVL FSK 9600



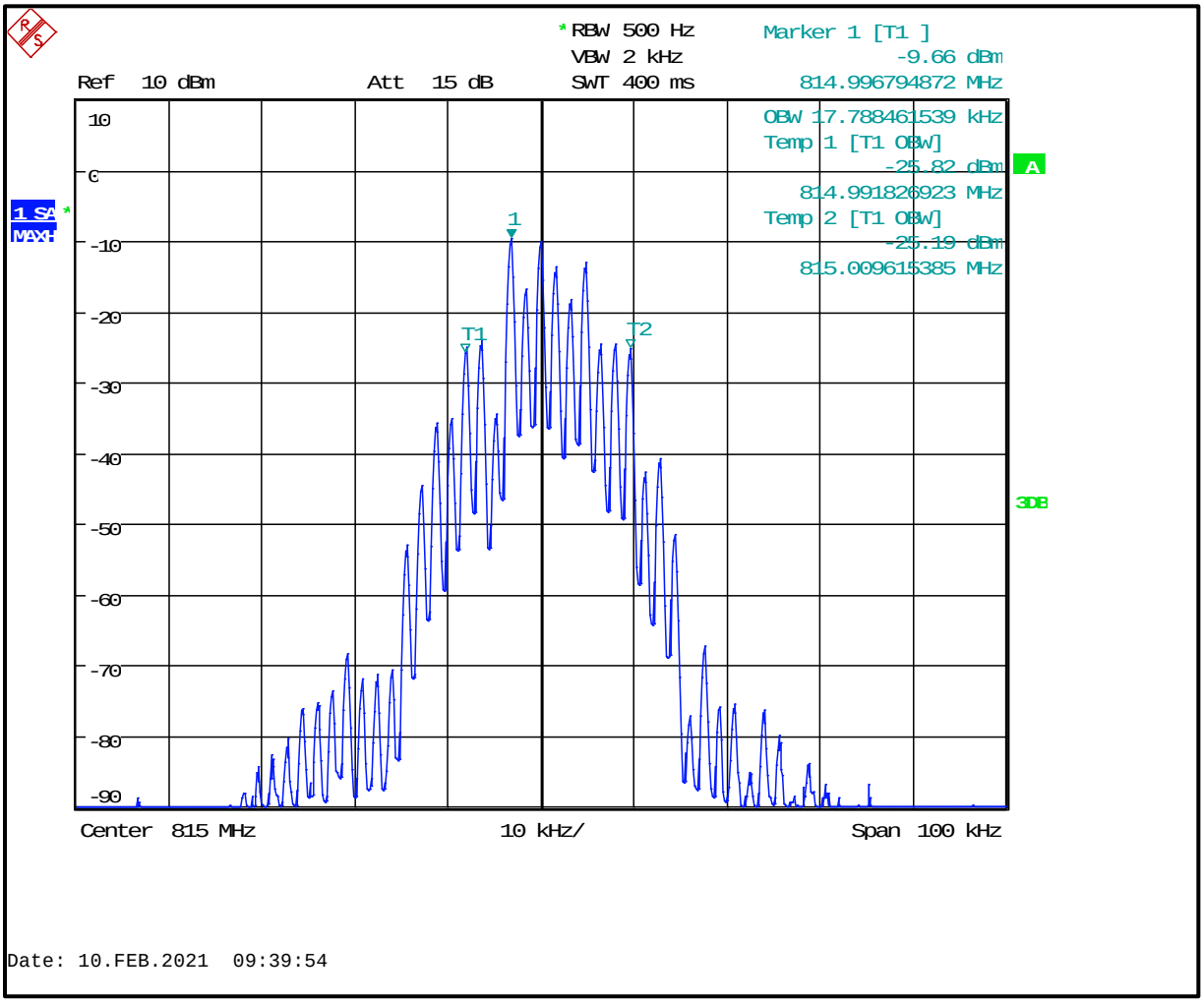
Plot 8-215: 99% Occupied Bandwidth – 806.0125 MHz; NPSPAC 2-LVL FSK 9600



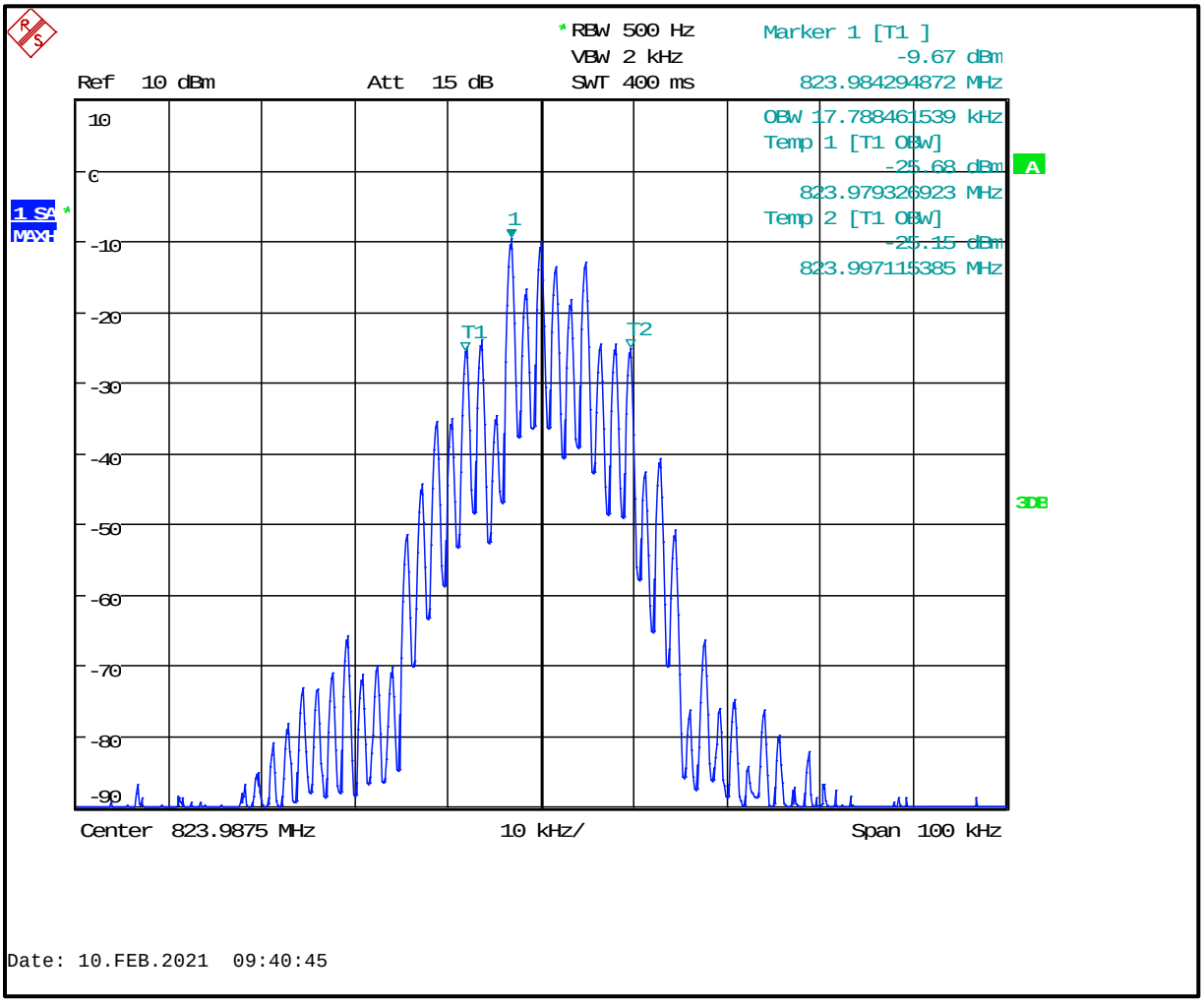
Plot 8-216: 99% Occupied Bandwidth – 851.0125 MHz; NPSPAC 2-LVL FSK 9600



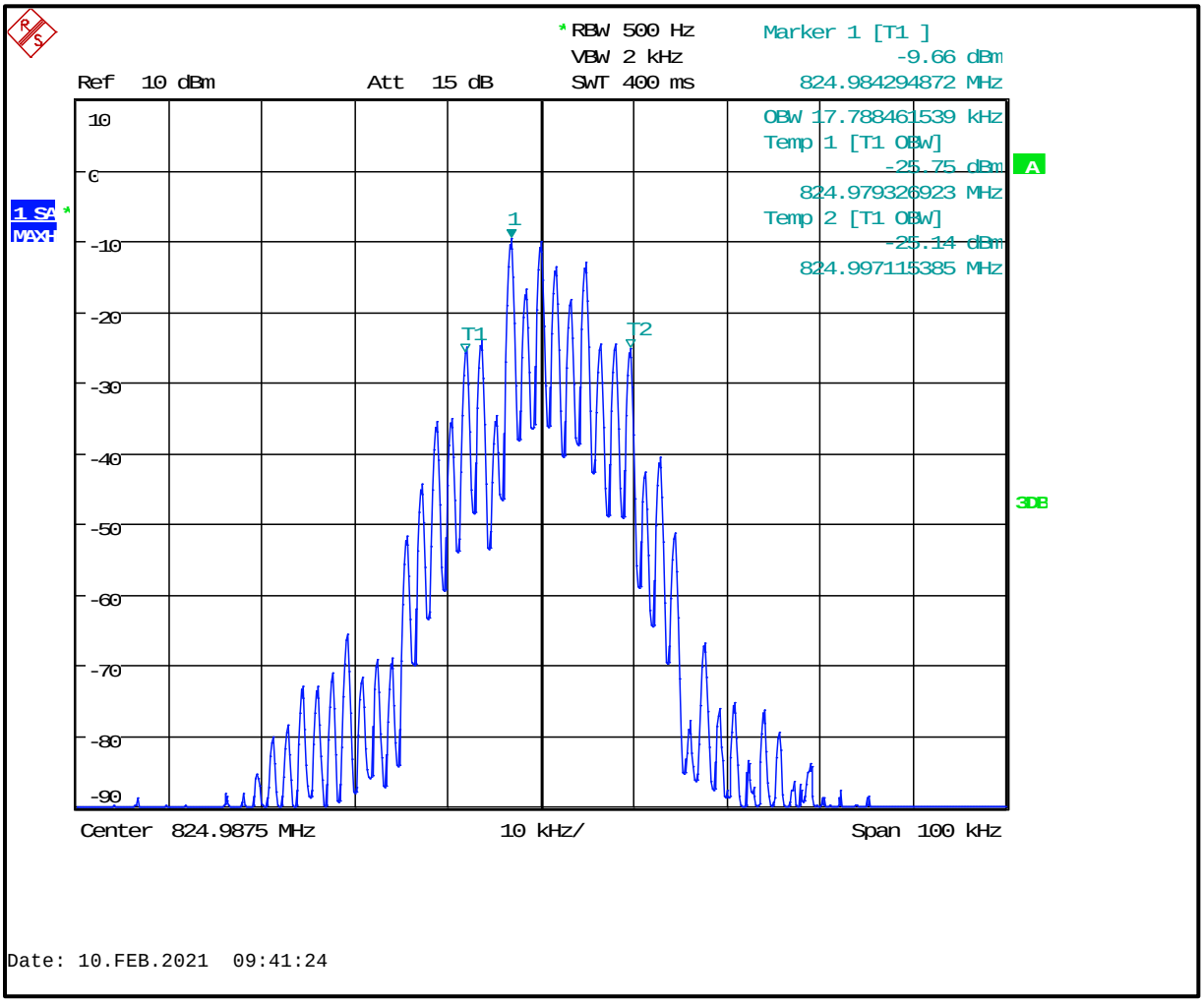
Plot 8-217: 99% Occupied Bandwidth – 815.0000 MHz; HVD SMR



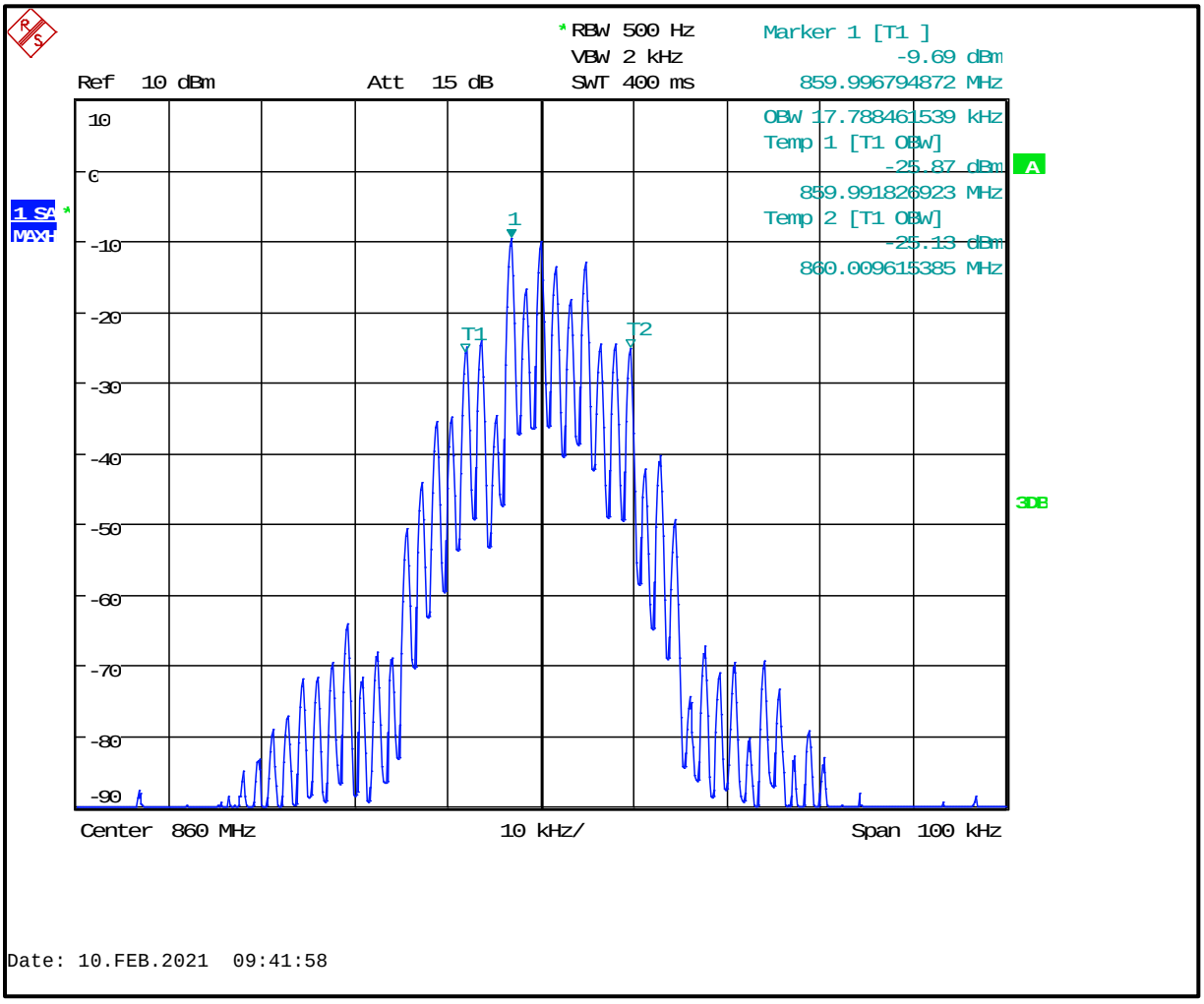
Plot 8-218: 99% Occupied Bandwidth – 823.9875 MHz; HVD SMR



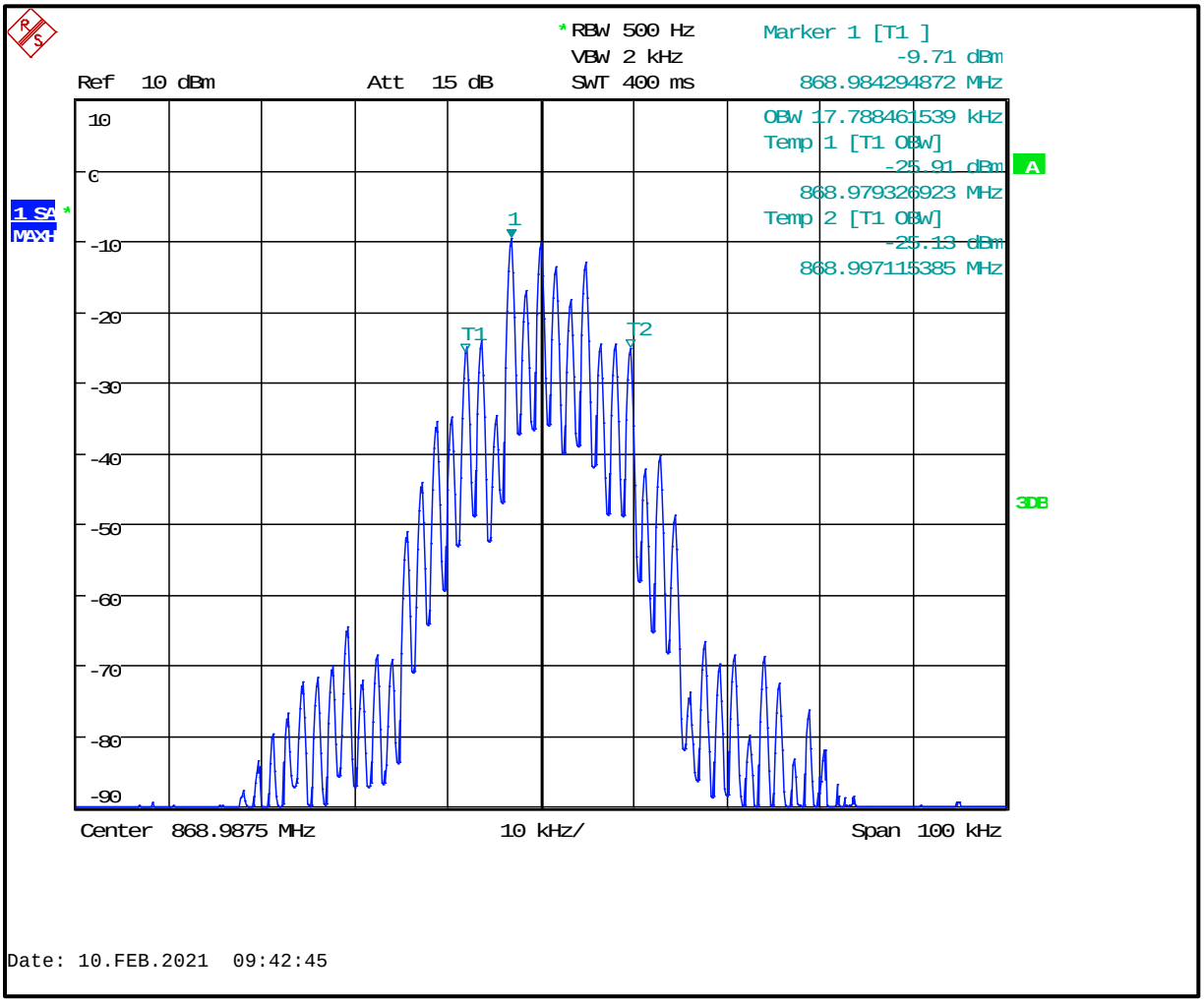
Plot 8-219: 99% Occupied Bandwidth – 824.9875 MHz; HVD SMR



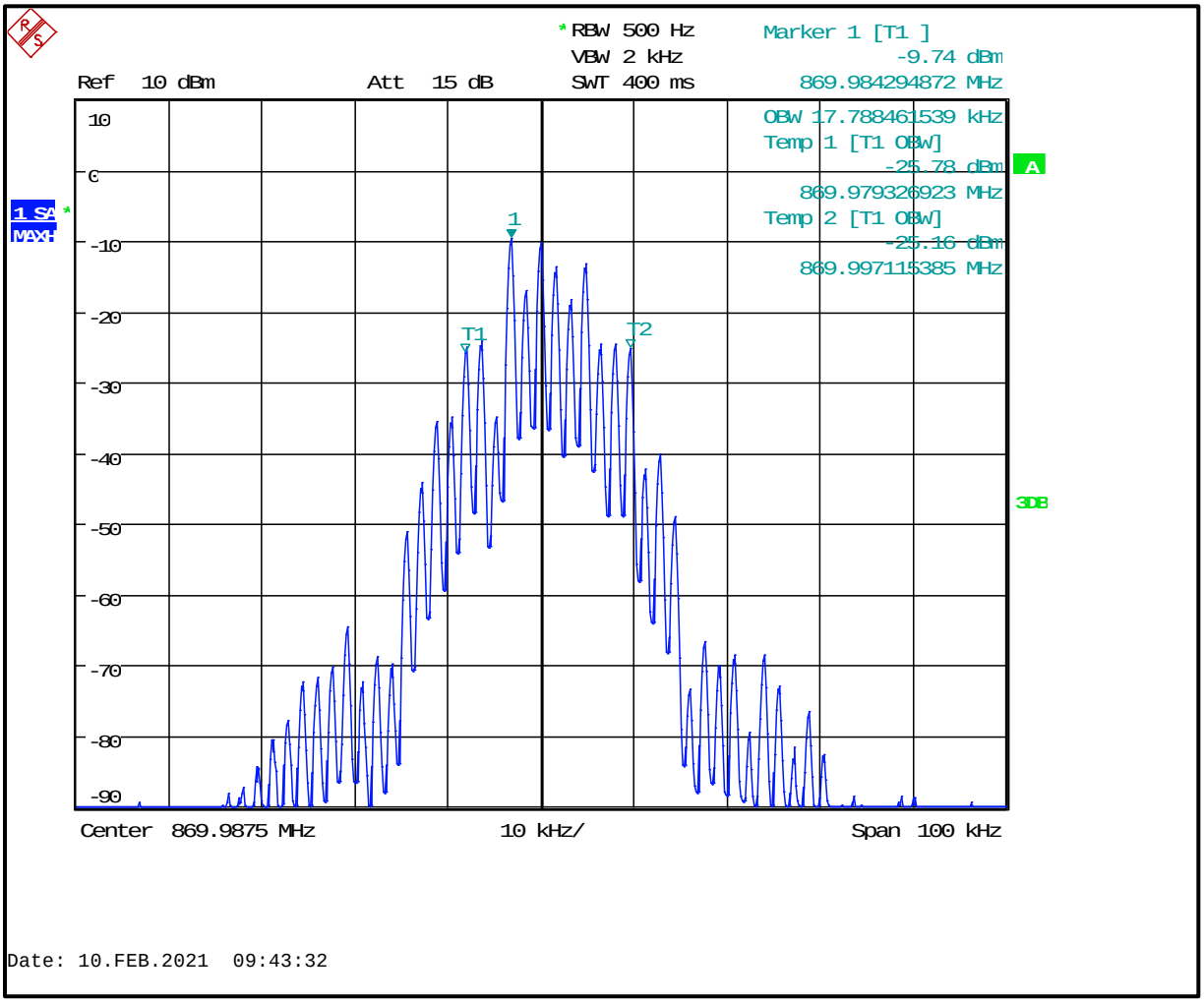
Plot 8-220: 99% Occupied Bandwidth – 860.0000 MHz; HVD SMR



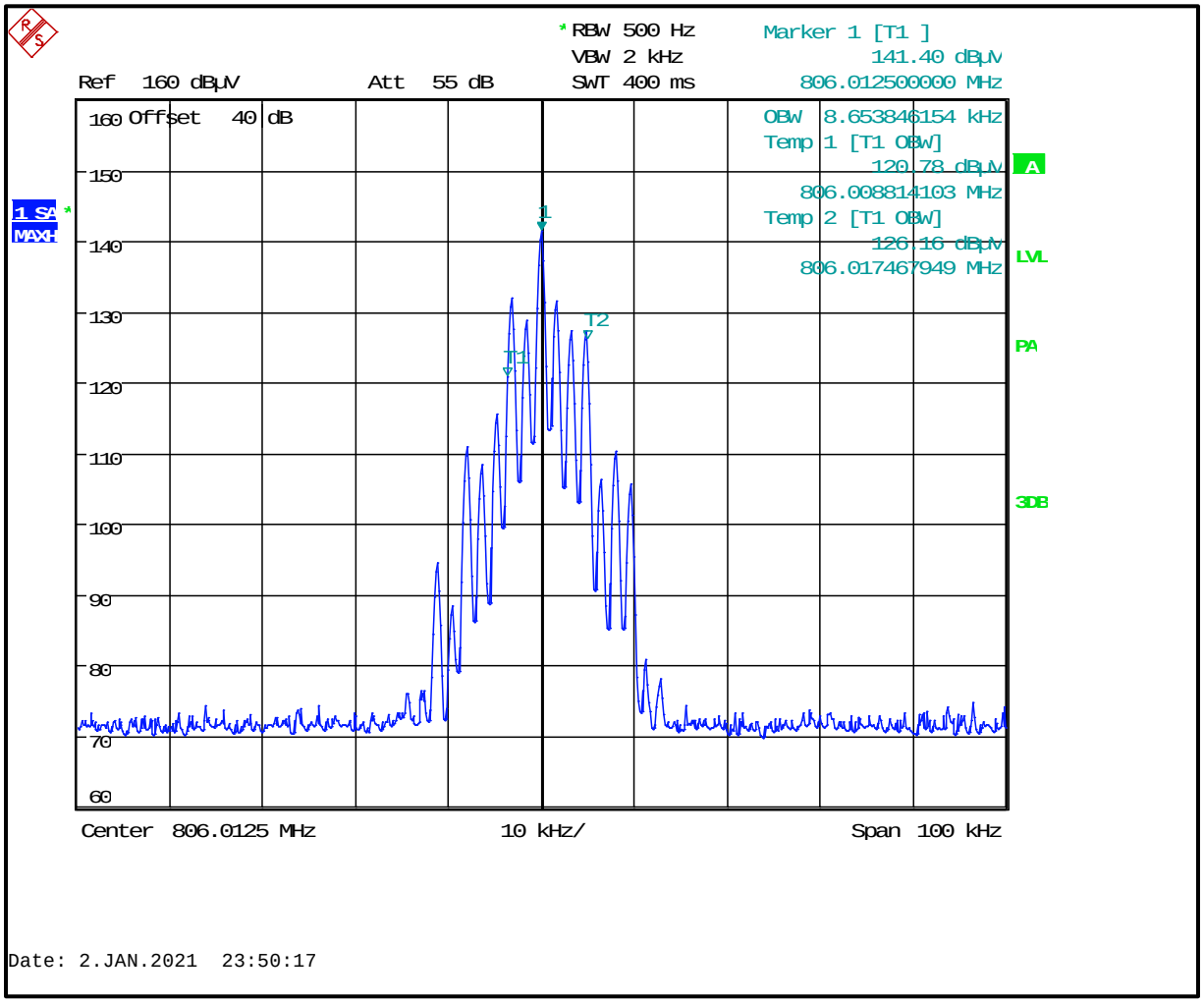
Plot 8-221: 99% Occupied Bandwidth – 868.9875 MHz; HVD SMR



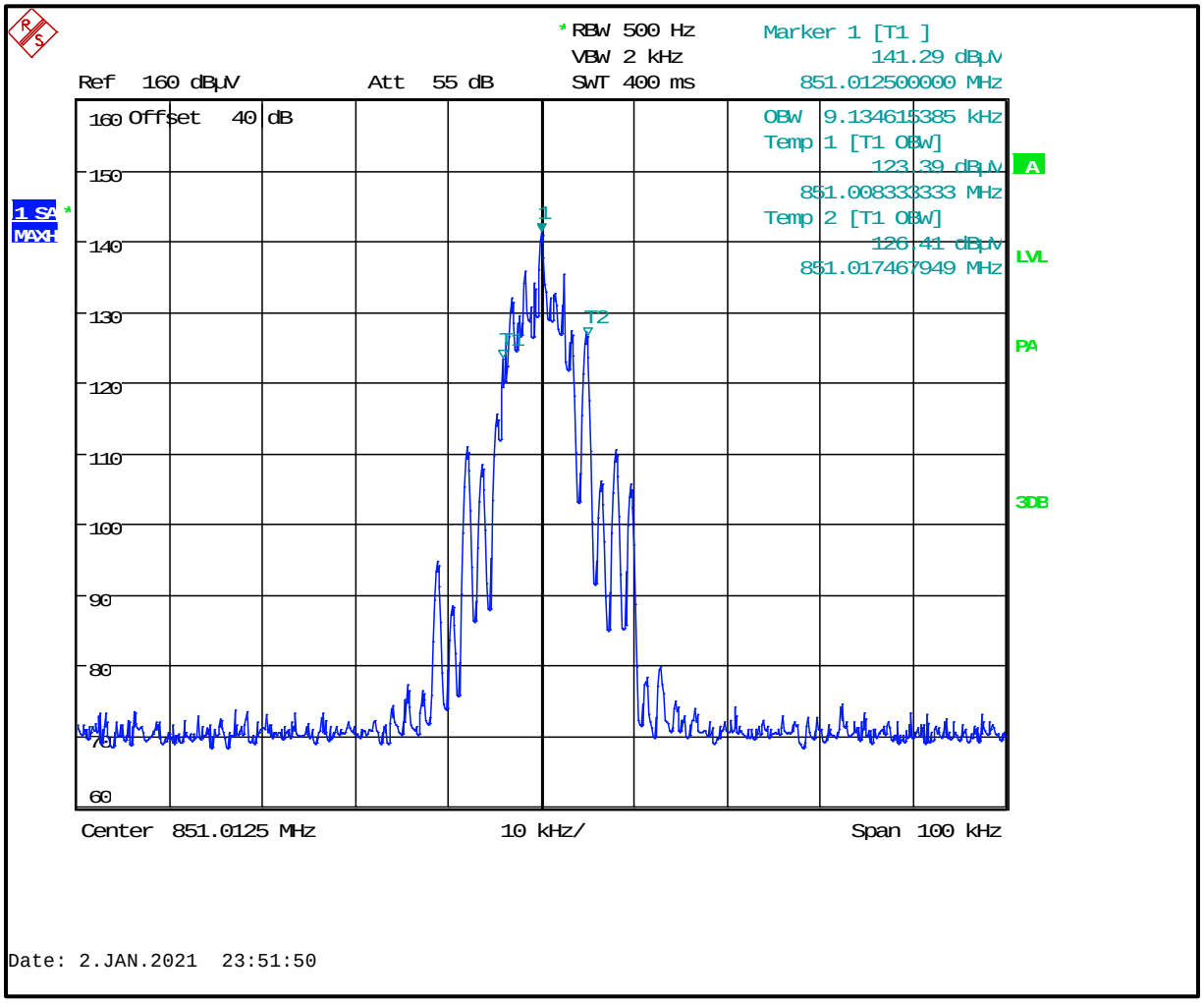
Plot 8-222: 99% Occupied Bandwidth – 869.9875 MHz; HVD SMR



Plot 8-223: 99% Occupied Bandwidth – 806.0125 MHz; HVD NPSPAC



Plot 8-224: 99% Occupied Bandwidth – 851.0125 MHz; HVD NPSPAC



Measurement uncertainties shown for these tests are expanded uncertainties expressed at the 95% confidence level using a coverage factor K=2. Measurement uncertainty: ±0.5 Hz

Results: Pass

Table 8-1: Test Equipment Used For Testing Occupied Bandwidth

RTL Asset #	Manufacturer	Model	Part Type	Serial Number	Calibration Due Date
901581	Rohde & Schwarz	FSU	Spectrum Analyzer	1166.1660.50	4/26/21
901139	Weinschel Corporation	48-20-34	Attenuator DC-18 GHz 20 dB 100W	BK5859	5/4/21
901057	Hewlett Packard	3336B	Synthesizer/ Level Generator	2514A02585	1/31/21

Test Personnel:

Daniel W. Baltzell		December 21-22, 31, 2020; January 2 & 4, 2021; February 10, 2021
EMC Test Engineer	Signature	Dates of Test

9 FCC Part 2.1055: Frequency Stability; Part 90.213, Part 90.539: Frequency Stability; ISED RSS-119 5.3: Transmitter Frequency Stability

9.1 Test Procedure

ANSI C63.26, section 5.6

The carrier frequency stability is the ability of the transmitter to maintain an assigned carrier frequency.

The EUT was evaluated over the temperature range -30°C to +60°C. The AFC was not locked to the base station.

The temperature was initially set to -30°C and a 1-hour period was observed for stabilization of the EUT. The frequency stability was measured within one minute after application of primary power to the transmitter. The temperature was raised at intervals of 10 degrees centigrade through the range. A ½-hour period was observed to stabilize the EUT at each measurement step and the frequency stability was measured within one minute after application of primary power to the transmitter. Additionally, the power supply voltage of the EUT was varied +/-15% nominal input voltage.

Part 90.213 Frequency Stability

(a) Unless noted elsewhere, transmitters used in the services governed by this part must have a minimum frequency stability as specified in the following table.

MINIMUM FREQUENCY STABILITY
[Parts per million (ppm)]

Frequency range (MHz)	Fixed and base stations	Mobile stations	
		Over 2 watts output power	2 watts or less output power
Below 25	[1,2,3] 100	100	200
25–50	20	20	50
72–76	5	.....	50
150–174	[5,11] 5	[6] 5	[4,6] 50
216–220	1.0	.....	1.0
220–222 [12]	0.1	1.5	1.5
421–512	[7,11,14] 2.5	[8] 5	[8] 5
806–809	[14] 1.0	1.5	1.5
809–824	[14] 1.5	2.5	2.5
851–854	1.0	1.5	1.5
854–869	1.5	2.5	2.5
896–901	[14] 0.1	1.5	1.5
902–928	2.5	2.5	2.5
902–928 [13]	2.5	2.5	2.5
929–930	1.5	.....	.....
935–940	0.1	1.5	1.5
1427–1435	[9] 300	300	300
Above 2450 [10]	.....	.....	.....

Part 90.213: Mobile stations over 2 W operating power - 1.5 ppm (806-809 MHz, 851-854 MHz, 896-901 MHz, and 935-940 MHz); 2.5 ppm (809-824 MHz, and 854-869 MHz)

Part 90.539 Frequency Stability

Transmitters designed to operate in 769–775 MHz and 799–805 MHz frequency bands must meet the frequency stability requirements in this section.

(a) Mobile, portable and control transmitters must normally use automatic frequency control (AFC) to lock on to the base station signal.
(b) The frequency stability of base transmitters operating in the narrowband segment must be 100 parts per billion or better.

(c) The frequency stability of mobile, portable and control transmitters operating in the narrowband segment must be 400 parts per billion or better when AFC is locked to the base station. When AFC is not locked to the base station, the frequency stability must be at least 1.0 ppm for 6.25 kHz, 1.5 ppm for 12.5 kHz (2 channel aggregate), and 2.5 ppm for 25 kHz (4 channel aggregate).

The EUT was tested while the AFC was not locked, therefore, the limit is 1.5 ppm. The worst-case deviation was found to be -0.18 ppm.

9.2 Test Data

Table 9-1: Temperature Frequency Stability – 772 MHz

Temperature (°C)	Measured Frequency (Hz)	ppm
-30	772.000036	0.05
-20	772.000024	0.03
-10	772.000036	0.05
0	772.000059	0.08
10	772.000059	0.08
20 (reference)	772.000000	0.00
30	771.999953	-0.06
40	771.999929	-0.09
50	771.999941	-0.08
55	771.999917	-0.11
60	771.999858	-0.18

Table 9-2: Temperature Frequency Stability – 815 MHz

Temperature (°C)	Measured Frequency (Hz)	ppm
-30	815.000036	0.04
-20	815.000024	0.03
-10	815.000036	0.04
0	815.000071	0.09
10	815.000059	0.07
20 (reference)	815.000000	0.00
30	814.999965	-0.04
40	814.999929	-0.09
50	814.999941	-0.07
55	814.999905	-0.12
60	814.999858	-0.17

Measurement uncertainties shown for these tests are expanded uncertainties expressed at the 95% confidence level using a coverage factor K=2. Measurement uncertainty: ±0.5 Hz

Results: Pass

Table 9-3: Test Equipment Used For Testing Temperature Frequency Stability

RTL Asset #	Manufacturer	Model	Part Type	Serial Number	Calibration Due Date
901350	Meterman	33XR	Multimeter	040402802	9/20/21
901672	Rohde & Schwarz	FSEM30	Spectrum Analyzer	FSEM30	4/25/22
901338	Weinschel Corp.	46-40-34	Attenuator (DC-18GHz, 40 dB, 25W)	BM0556	1/29/21
N/A	GW Instek	PSS-3203	Power Supply	2679	Not Required
900946	Tenney Engineering, Inc	TH65	Temperature Chamber with Humidity	11380	4/7/22

Test Personnel:

Daniel W. Baltzell		December 22, 2020
EMC Test Engineer	Signature	Date of Test

9.2.1 Frequency Stability/Voltage Variation

Table 9-4: Frequency Stability/Voltage Variation – 772 MHz

Voltage (VDC)	Measured Frequency (Hz)	ppm
BEP 5.36	772.000003	0.00
6.29	771.999998	0.00
7.4(reference)	772.000000	0.00
8.51	771.999997	0.00

Table 9-5: Frequency Stability/Voltage Variation – 815 MHz

Voltage (VDC)	Measured Frequency (Hz)	ppm
BEP 5.31	815.000010	0.01
6.29	815.000003	0.00
7.4(reference)	815.000000	0.00
8.51	815.000002	0.00

Measurement uncertainties shown for these tests are expanded uncertainties expressed at the 95% confidence level using a coverage factor K=2. Measurement uncertainty: ±0.5 Hz

Results: Pass

Table 9-6: Test Equipment Used For Testing Frequency Stability/Voltage Variation

RTL Asset #	Manufacturer	Model	Part Type	Serial Number	Calibration Due Date
901350	Meterman	33XR	Multimeter	040402802	9/20/21
901581	Rohde & Schwarz	FSU	Spectrum Analyzer	1166.1660.50	4/26/21
901139	Weinschel Corporation	48-20-34	Attenuator DC-18 GHz 20 dB 100W	BK5859	5/4/21
N/A	GW Instek	PSS-3203	Power Supply	2679	Not Required

Test Personnel:

Daniel W. Baltzell		December 22, 2020
EMC Test Engineer	Signature	Date of Test

10 FCC Part 2.1047: Modulation Characteristics; ISED RSS-119 5.2: Types of Modulation

10.1 Test Procedures

10.1.1 Audio Frequency Response

ANSI C63.26 2015, section 5.3.3

The audio frequency response is the degree of closeness to which the frequency deviation of the transmitter follows a prescribed characteristic.

The input audio level at 1000 Hz was set to produce 20% of the rated system deviation. This point is shown as the 0 dB reference level, noted DEVref. The audio signal generator was varied from 100 Hz to 5 kHz with the input level held constant. The deviation in kHz was recorded using a modulation analyzer as DEVfreq. The response in dB relative to 1 kHz was calculated as follows:

Audio Frequency Response = 20 LOG (DEVfreq/DEVref)

10.1.2 Audio Low Pass Filter Response

ANSI C63.26 2015, section 5.3

The Audio Low Pass Filter Response is the frequency response of the post limiter low pass filter circuit above 3000 Hz.

10.1.3 Modulation Limiting

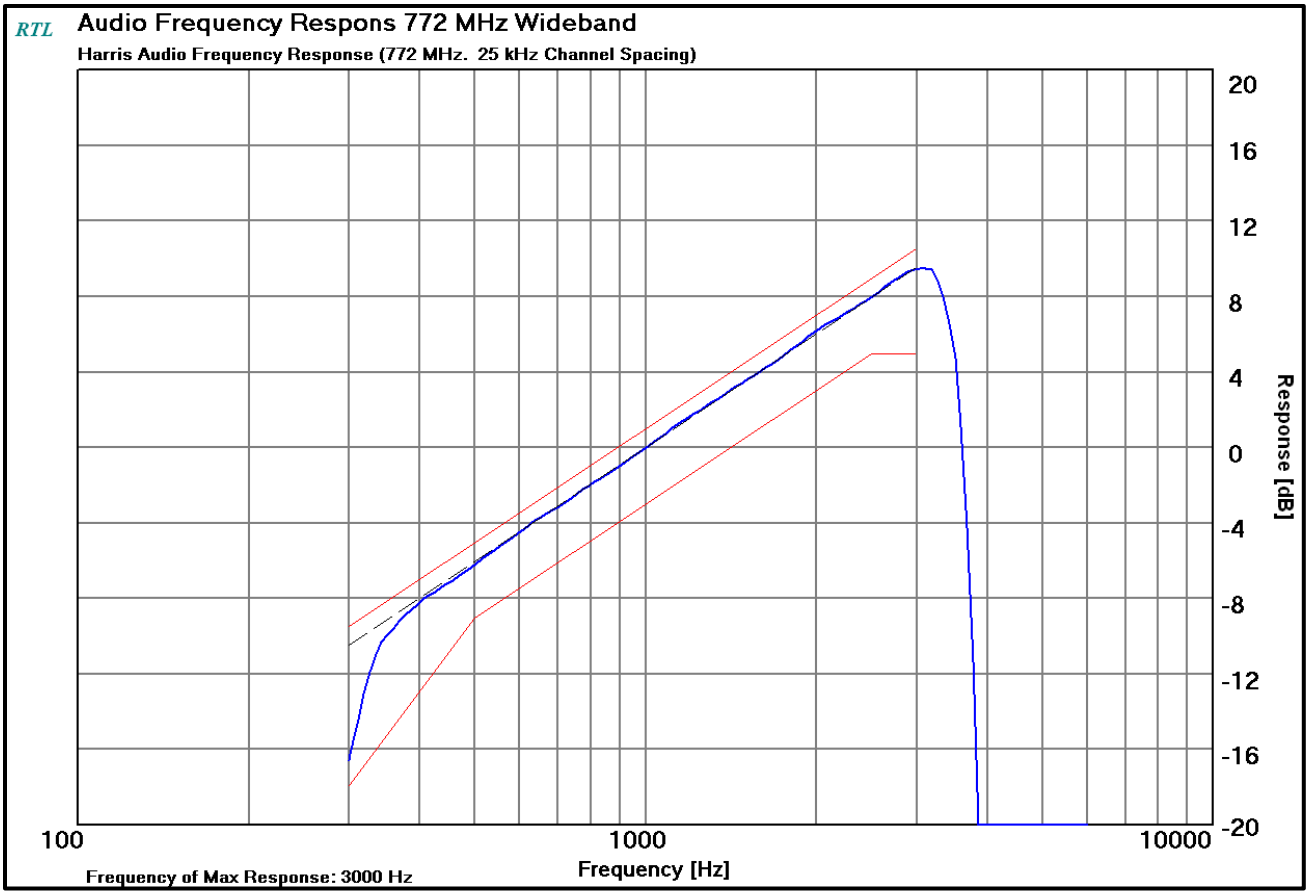
ANSI C63.26 2015, section 5.3.2

The transmitter was adjusted for full rated system deviation. The audio input level was adjusted for 60% of rated system deviation at 1000 Hz. Using this level (0 dB) as a reference, the audio input level was varied from the reference +/-20 dB for modulation frequencies of 300 Hz, 1,000 Hz, and 2,500 Hz. The system deviation obtained as a function of the input level was recorded. Both positive and negative peak deviations were recorded.

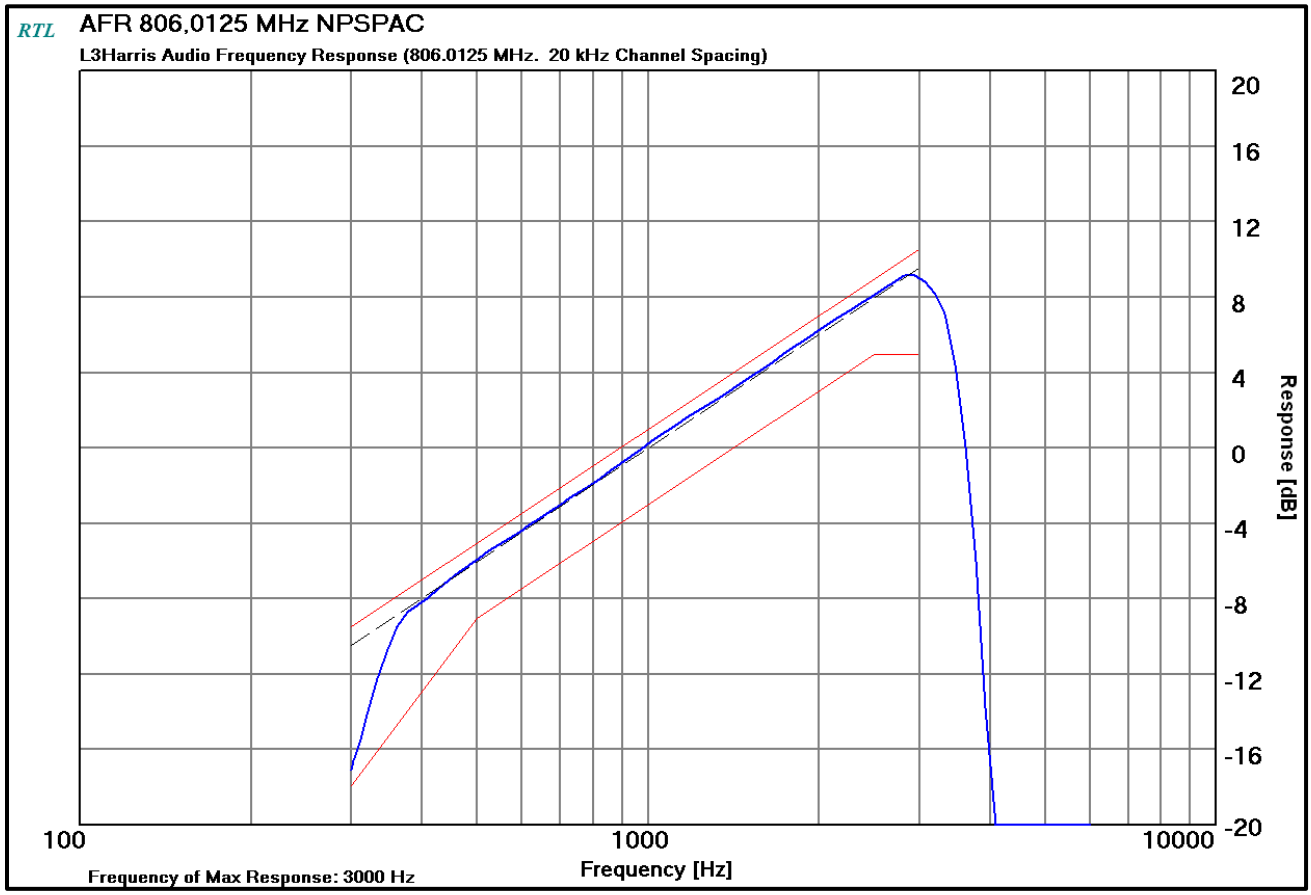
10.2 Test Data

10.2.1 Audio Frequency Response

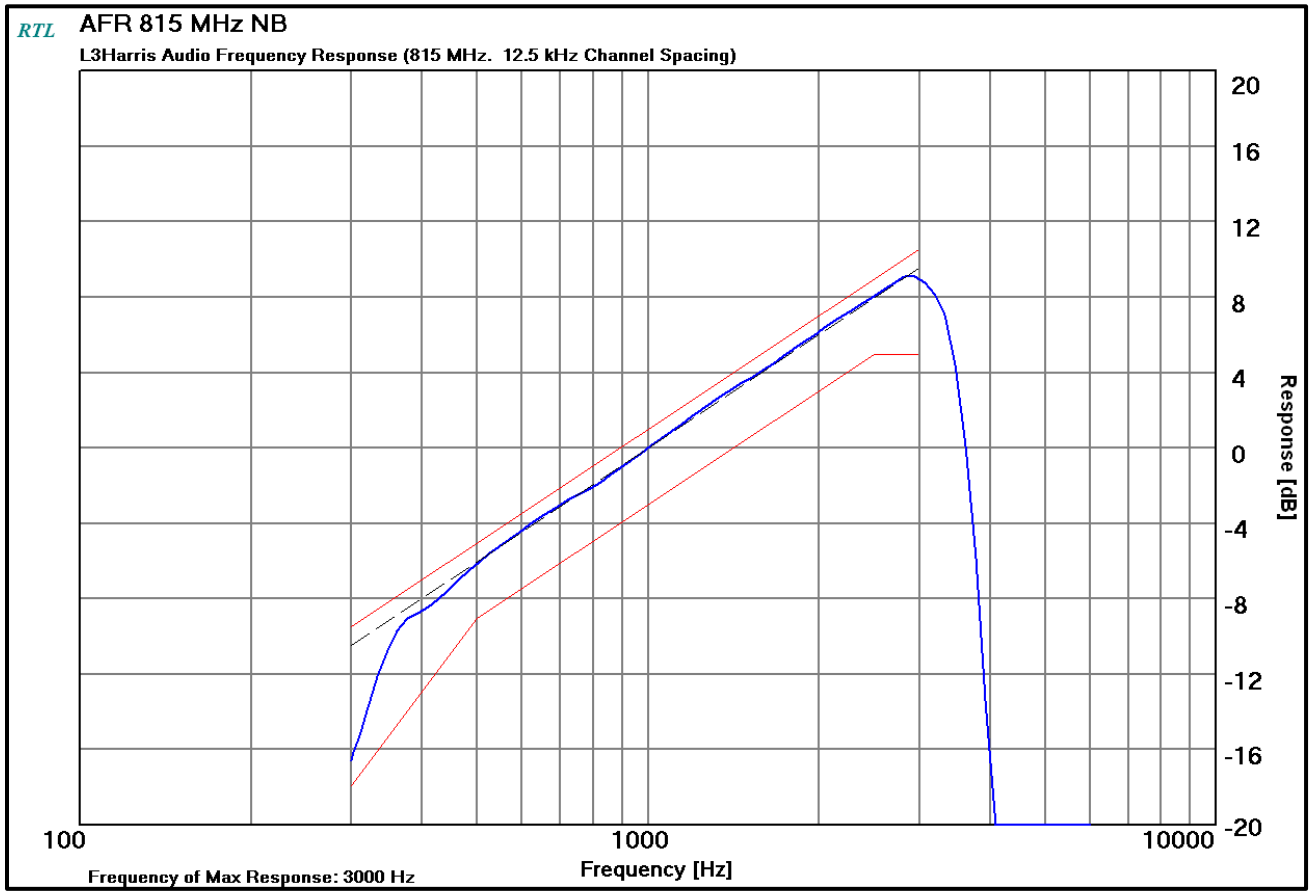
Plot 10-1: Modulation Characteristics - Audio Frequency Response – 772.0000 MHz (WB)



Plot 10-2: Modulation Characteristics - Audio Frequency Response – 806.0125 MHz (NPSPAC)

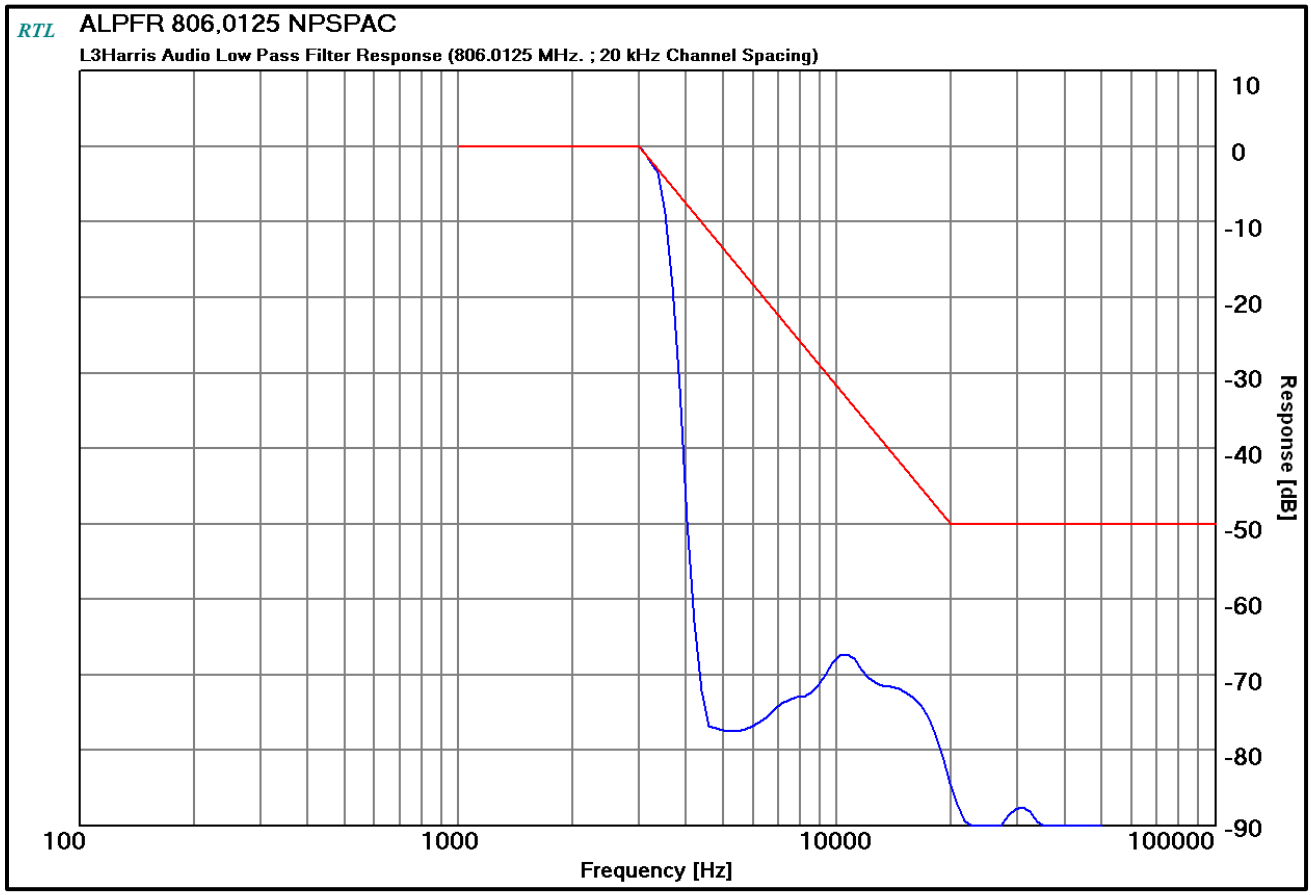


Plot 10-3: Modulation Characteristics - Audio Frequency Response – 815.0000 MHz (NB)

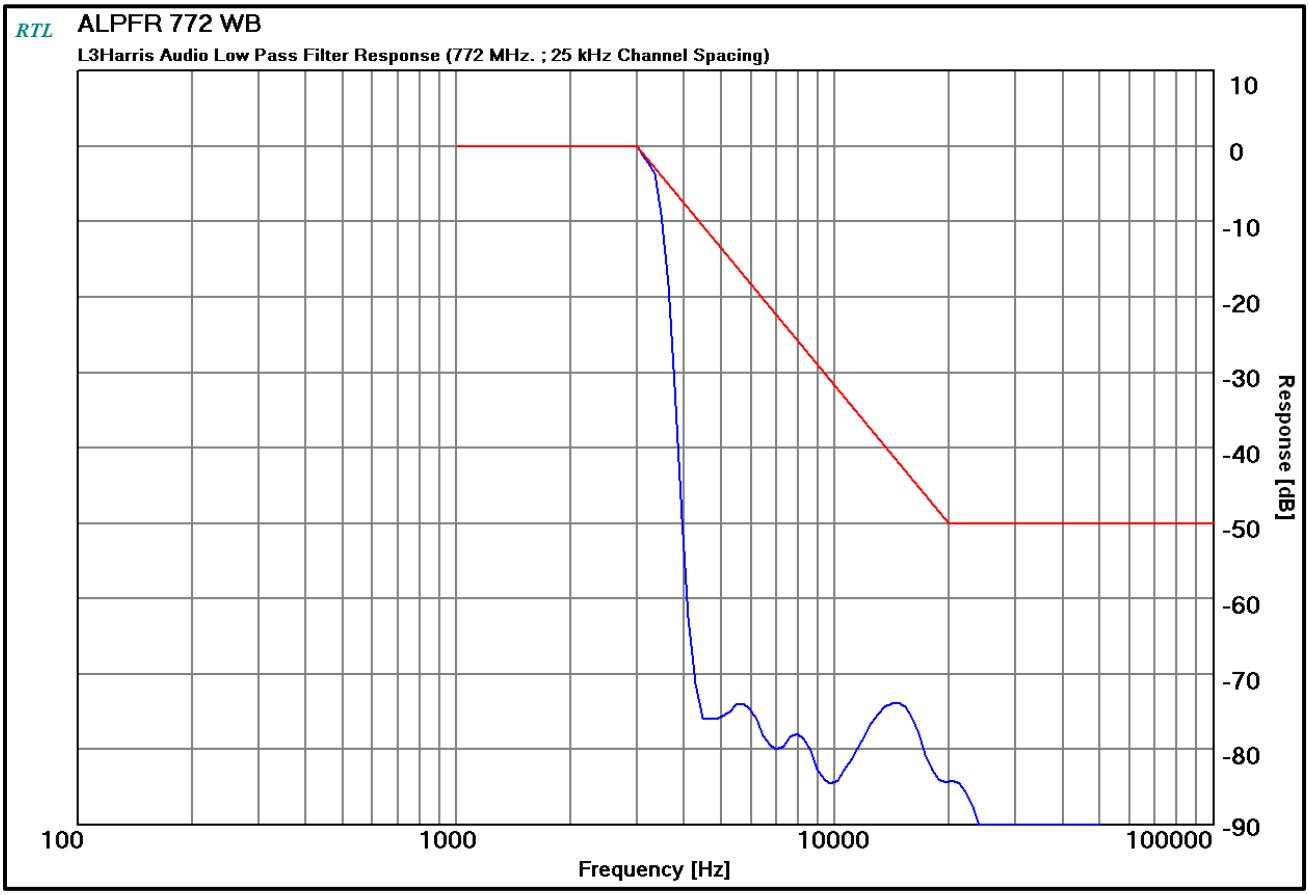


10.2.2 Audio Low Pass Filter Response

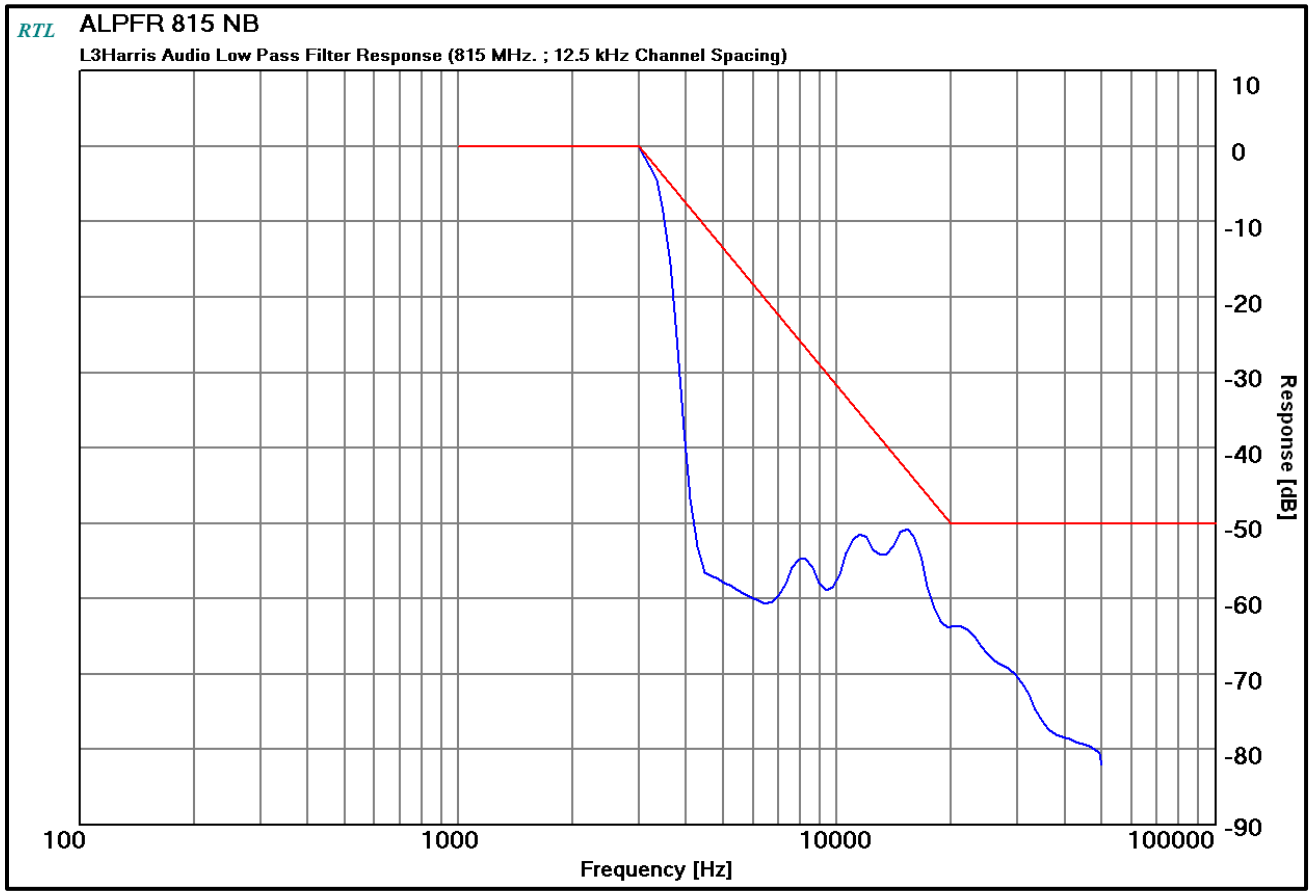
Plot 10-4: Modulation Characteristics – Audio Low Pass Filter – 806.0125 MHz (NPSPAC)



Plot 10-5: Modulation Characteristics – Audio Low Pass Filter – 772.0000 MHz (WB)

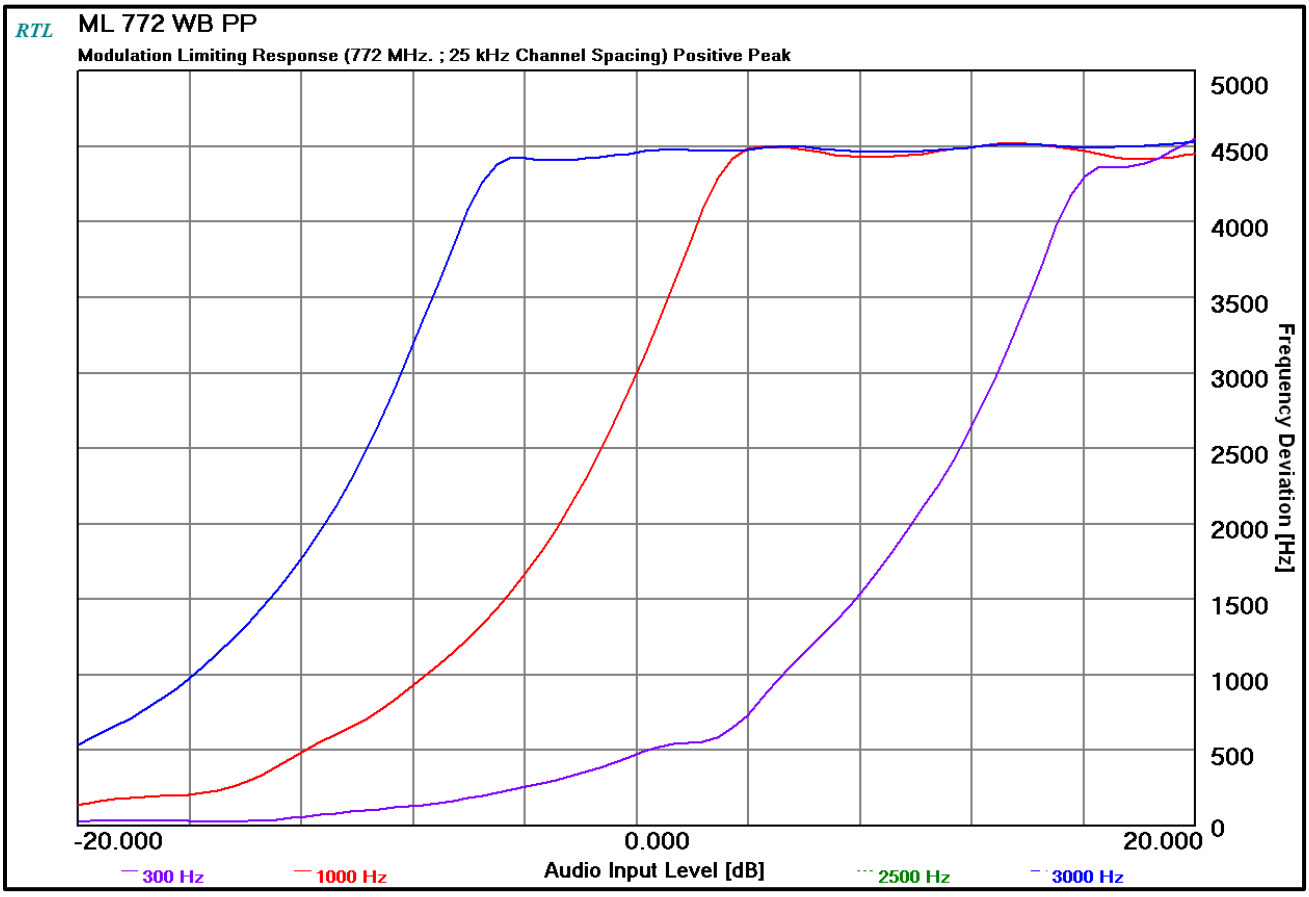


Plot 10-6: Modulation Characteristics – Audio Low Pass Filter – 815.0000 MHz (NB)

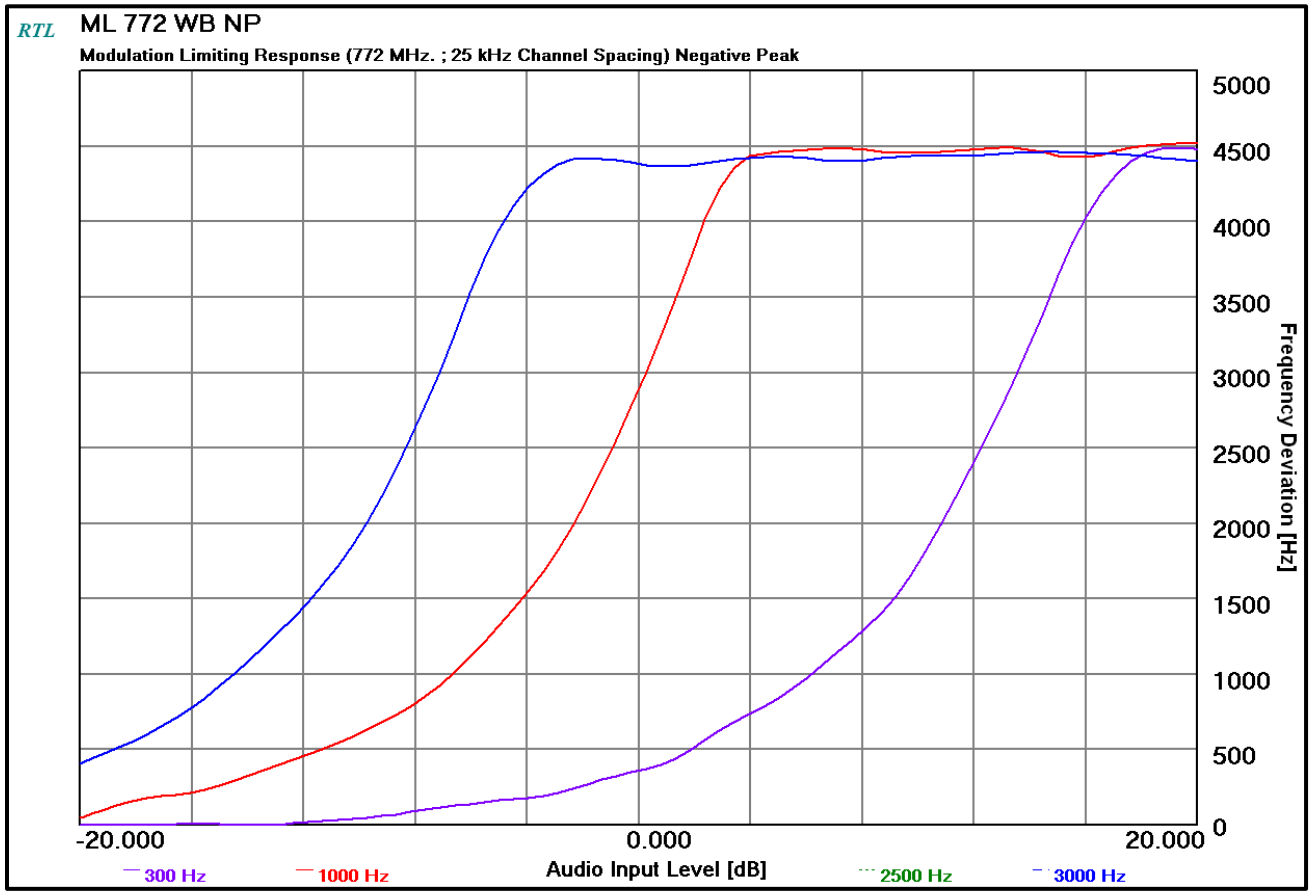


10.2.3 Modulation Limiting

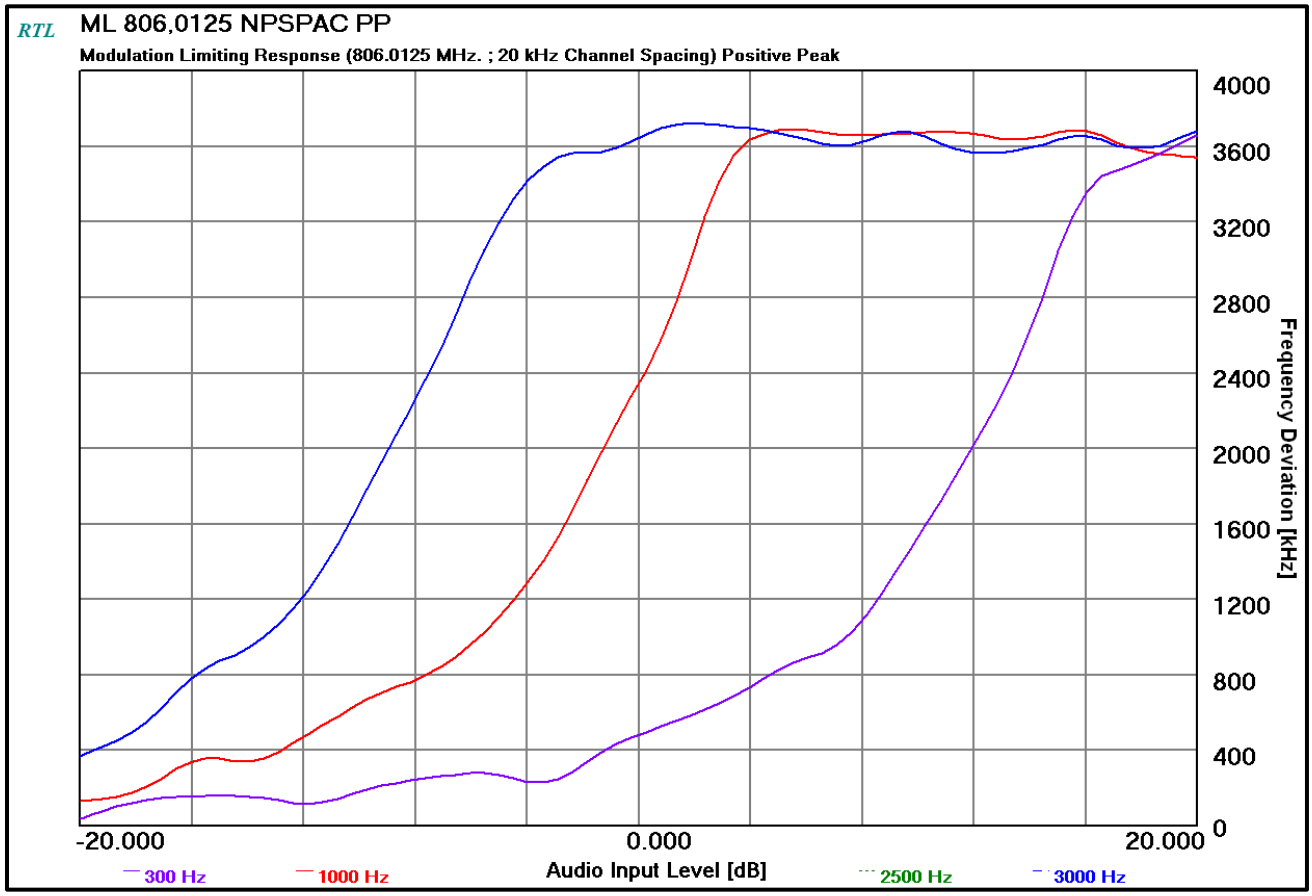
Plot 10-7: Modulation Characteristics – Modulation Limiting – 772.0000 MHz; (WB); Positive Peak



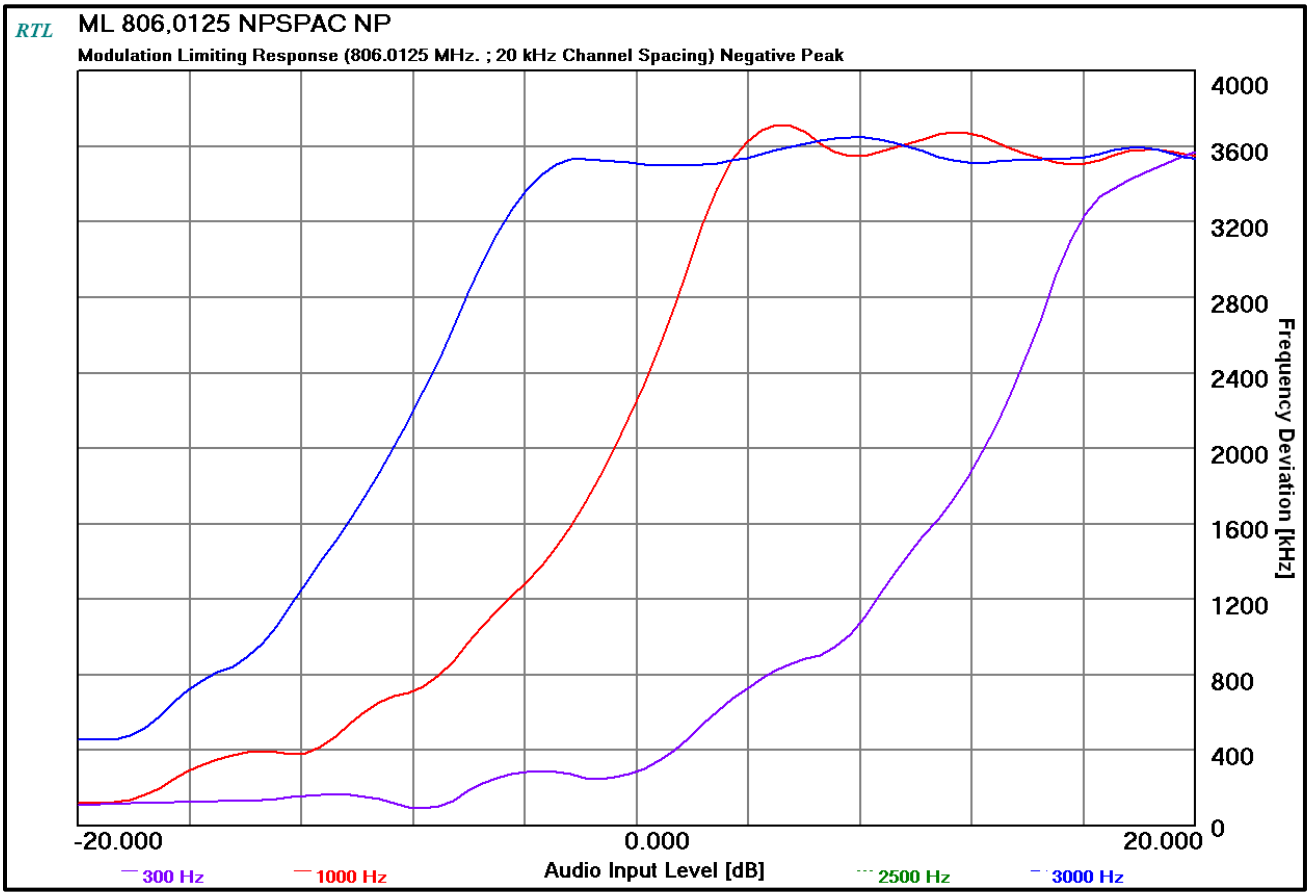
Plot 10-8: Modulation Characteristics – Modulation Limiting - 772.0000 MHz; (WB) Negative Peak



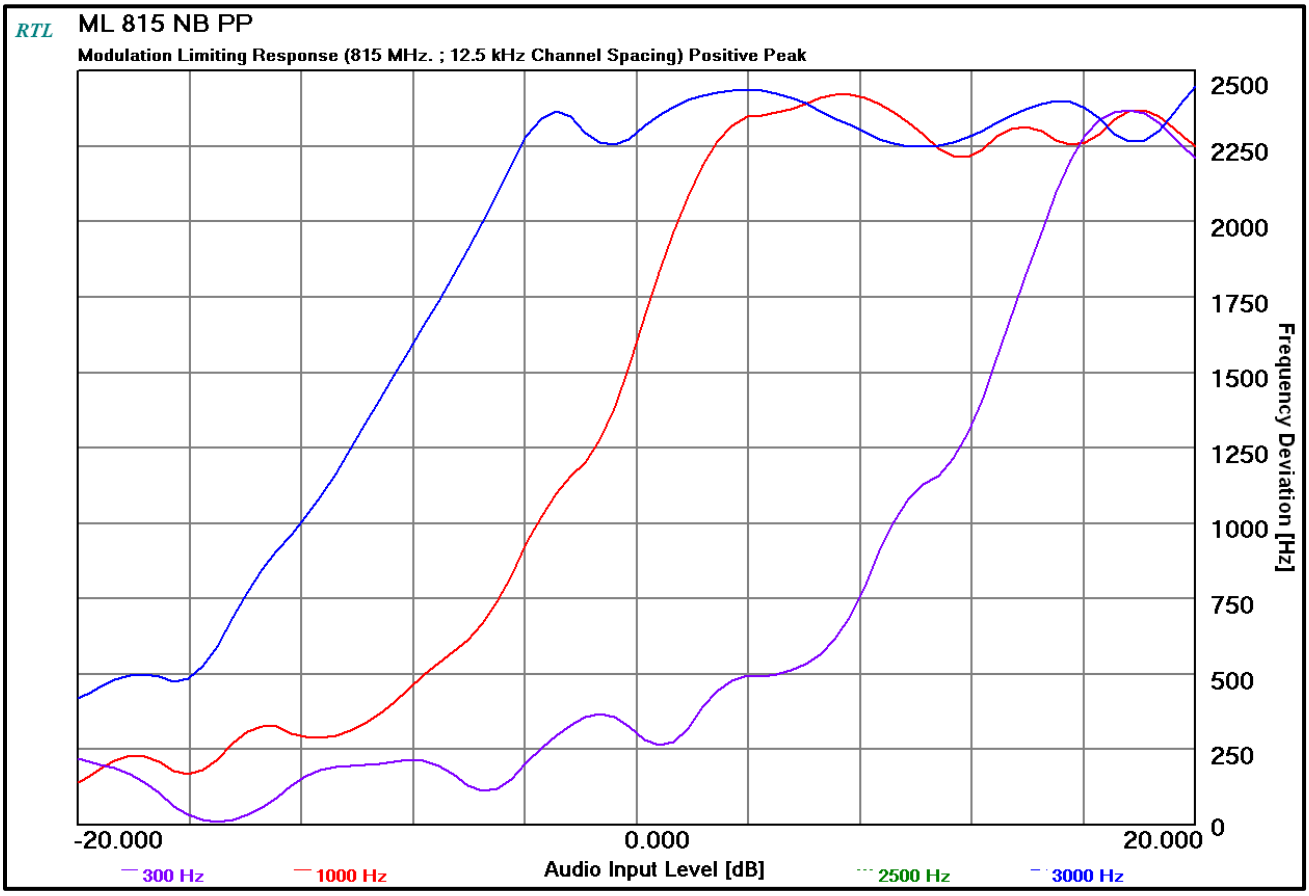
Plot 10-9: Modulation Characteristics – Modulation Limiting – 806.0125 MHz; (NPSPAC); Positive Peak



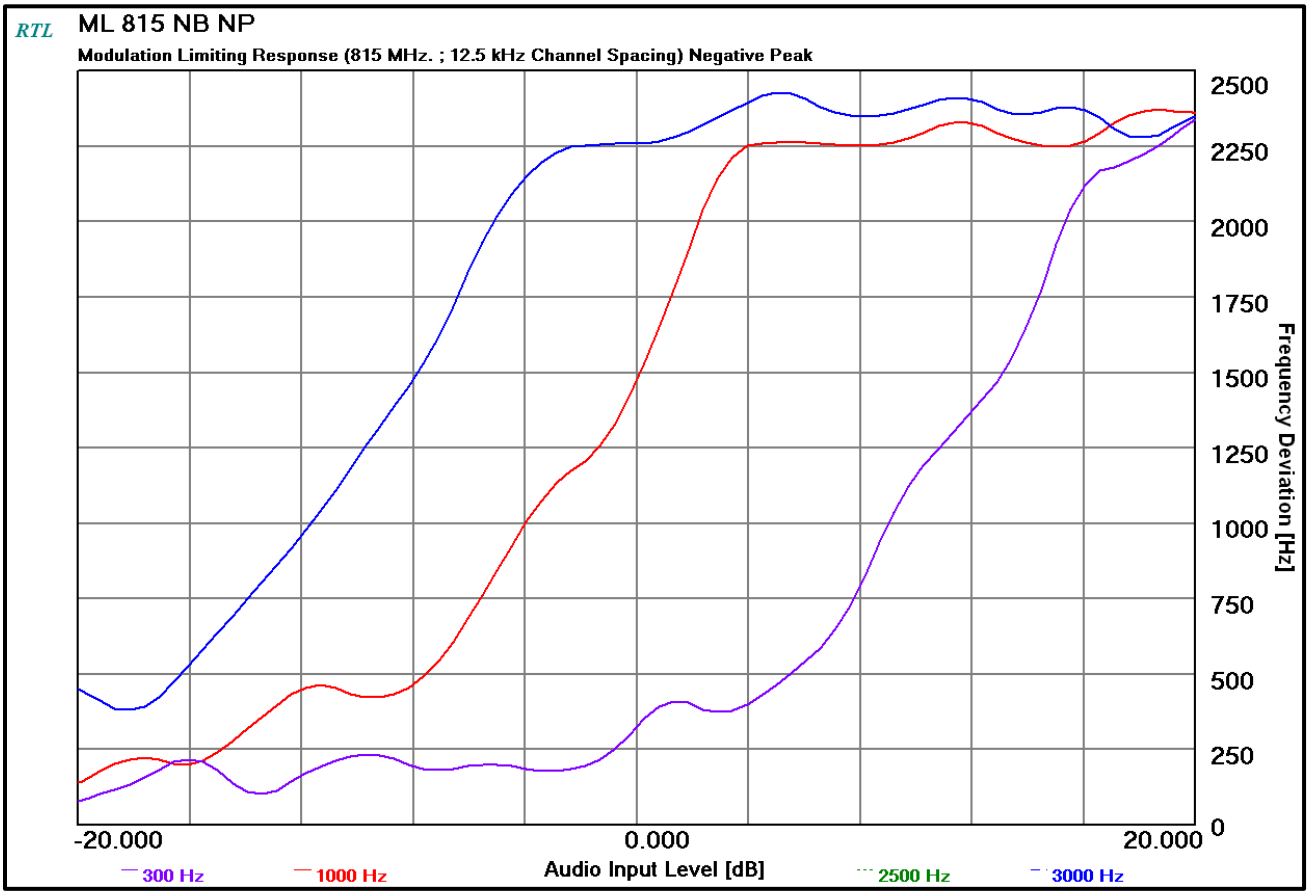
Plot 10-10: Modulation Characteristics – Modulation Limiting – 806.0125 MHz; (NPSPAC); Negative Peak



Plot 10-11: Modulation Characteristics – Modulation Limiting – 815.0000 MHz; (NB); Positive Peak



Plot 10-12: Modulation Characteristics – Modulation Limiting – 815.0000 MHz; (NB); Negative Peak



Measurement uncertainties shown for these tests are expanded uncertainties expressed at the 95% confidence level using a coverage factor K=2. Measurement uncertainty: ±0.5 Hz/±0.5 dB

Results: Pass

Table 10-1: Test Equipment Used For Testing Modulation Requirements

RTL Asset #	Manufacturer	Model	Part Type	Serial Number	Calibration Due Date
901057	Hewlett Packard	3336B	Synthesizer/ Level Generator	2514A02585	1/31/21
901118	Hewlett Packard	8901A Opt. 002-003	Modulation Analyzer	2406A00178	2/1/21
901139	Weinschel Corporation	48-20-34	Attenuator DC-18 GHz 20 dB 100W	BK5859	5/4/21

Test Personnel:

Daniel W. Baltzell		December 24, 2020
EMC Test Engineer	Signature	Date of Test

11 FCC Part 2.202: Necessary Bandwidth and Emission Bandwidth

Analog FM (Wideband)
Calculation:
Max modulation (M) in kHz: 3.0
Max deviation (D) in kHz: 5
Constant factor (K): 1 (assumed)
Bn = 2M+2DK = 16.0 kHz
Emission designator: 16K0F3E

2-level FSK 9600 Data/Digital Voice (Wideband)
Calculation:
Data rate in bps (R) = 9600
Peak deviation of carrier (D) = 5600
Bn = [9600/log2(4) + 2 (5600) (1) = 16.000 kHz
Emission designator: 16K0F1D, 16K0F1E

Analog FM (NPSPAC)
Calculation:
Max modulation (M) in kHz: 3.0
Max deviation (D) in kHz: 4
Constant factor (K): 1 (assumed)
Bn = 2xM+2xDK = 14.0 kHz
Emission designator: 14K0F3E

2-level FSK 9600 Data/Digital Voice (NPSPAC)
Calculation:
Data rate in bps (R) = 9600
Peak deviation of carrier (D) = 4600
Bn = [9600/log2(4) + 2 (4600) (1) = 14.000 kHz
Emission designator: 14K0F1D, 14K0F1E

Analog FM (Narrowband)
Calculation:
Max modulation (M) in kHz: 3.0
Max deviation (D) in kHz: 2.5
Constant factor (K): 1 (assumed)
Bn = 2xM+2xDK = 11.0 kHz
Emission designator: 11K0F3E

2-level FSK 9600 Data/Digital Voice (Narrowband)
Calculation:
Data rate in bps (R) = 9600
Peak deviation of carrier (D) = 3450
Bn = [9600/log2(4) + 2 (3450) (1) = 11.700 kHz
Emission designator: 11K7F1D, 11K7F1E

C4FM Data/Voice
Calculation:
Data rate in bps (R) = 9600
Peak deviation of carrier (D) = 1800
Bn = [9600/$\log_2$(4) + 2 (1800) (1) = 8.400 kHz
Emission designator: 8K40F1D, 8K40F1E

H-CPM (TDMA) Data/Voice
Calculation:
Data rate in bps (R) =12000
Peak deviation of carrier (D) = 1050
Bn = [12000/$\log_2$(4) + 2 (1050) (1) = 8.1 kHz
Emission designator: 8K10DXW

HVD-SMR
Calculation:
Data rate in bps (R) = 19200
Signaling states (S) = 4
B_n = 2(19200)(.96)/$\log_2$(4) = 18.5 kHz
Emission designator: 18K5F1W

HVD-NPSPAC
Calculation:
Data rate in bps (R) = 19200
Signaling states (S) = 4
B_n = 2(19200)(.67)/$\log_2$(4) = 12.9 kHz
Emission designator: 12K9F1W

12 Conclusion

The data in this measurement report shows that the Harris Corporation XL-95P, Model #/HVIN XL-x5-7/8, FCC ID: OWDTR-0162-E, IC: 3636B-0162, complies with the applicable requirements of Parts 2 and 90 of the FCC Rules and ISED RSS-119.