



Appendix A: Bandwidth

1 Result Table

1.1 Emission Bandwidth (6 dB)

EUT Conf.	Emission Bandwidth (6 dB) [MHz]	Emission Bandwidth (6 dB) Limit	Verdict
QPSK-B	176.28	---	---
QPSK-M	173.08	---	---
QPSK-T	175.48	---	---
16QAM-B	174.68	---	---
16QAM-M	172.28	---	---
16QAM-T	175.48	---	---
32QAM-B	173.88	---	---
32QAM-M	156.25	---	---
32QAM-T	165.87	---	---

1.2 Occupied Bandwidth (99 %)

The following values are calculated out from the trace points data of the emission bandwidth measurements according to 99% energy ratio.

EUT Conf.	Occupied Bandwidth (99 %) [MHz]	Occupied Bandwidth (99 %) Limit	Verdict
QPSK-B	201	---	---
QPSK-M	197	---	---
QPSK-T	200	---	---
16QAM-B	199	---	---
16QAM-M	196	---	---
16QAM-T	200	---	---
32QAM-B	198	---	---
32QAM-M	178	---	---
32QAM-T	189	---	---



2 Test Plot

2.1 Emission Bandwidth (6 dB)

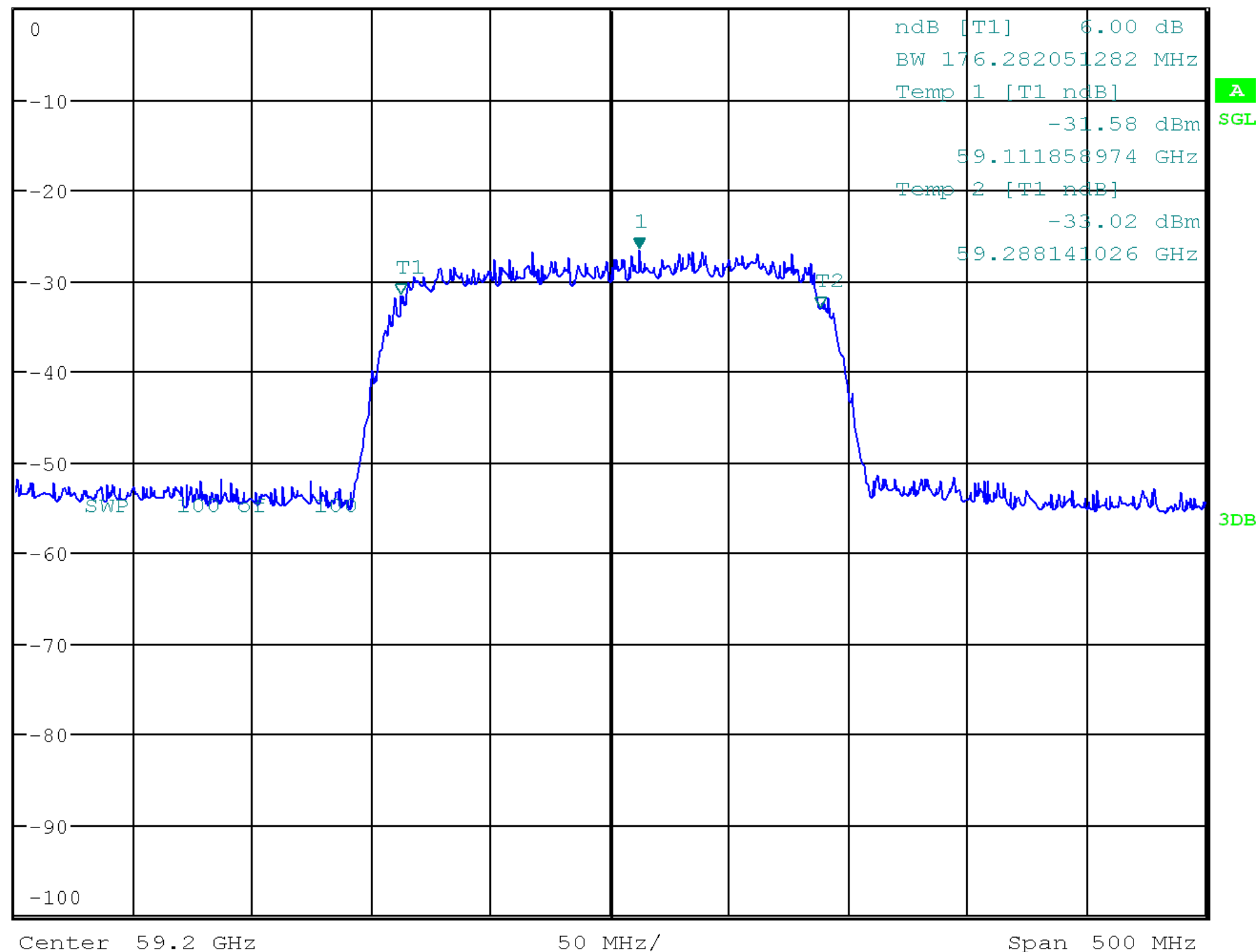
2.1.1 QPSK-B



* RBW 100 kHz
* VBW 300 kHz
Ref 0 dBm Att 25 dB SWT 50 ms

Marker 1 [T1]
-26.66 dBm
59.212019231 GHz

1 PK
MAXH

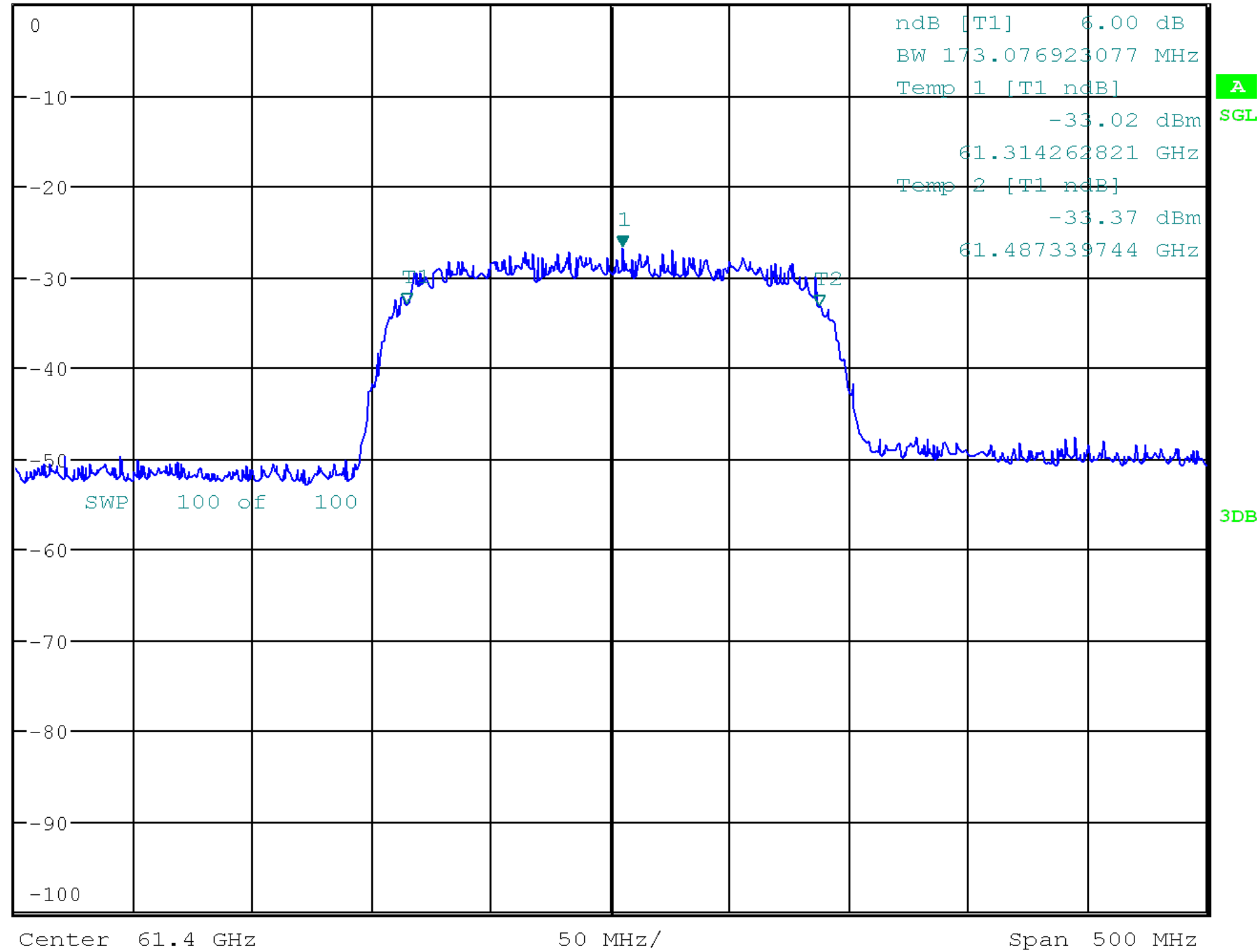


2.1.2 QPSK-M



* RBW 100 kHz Marker 1 [T1]
* VBW 300 kHz -26.79 dBm
Ref 0 dBm Att 25 dB SWT 50 ms 61.404807692 GHz

1 PK
MAXH

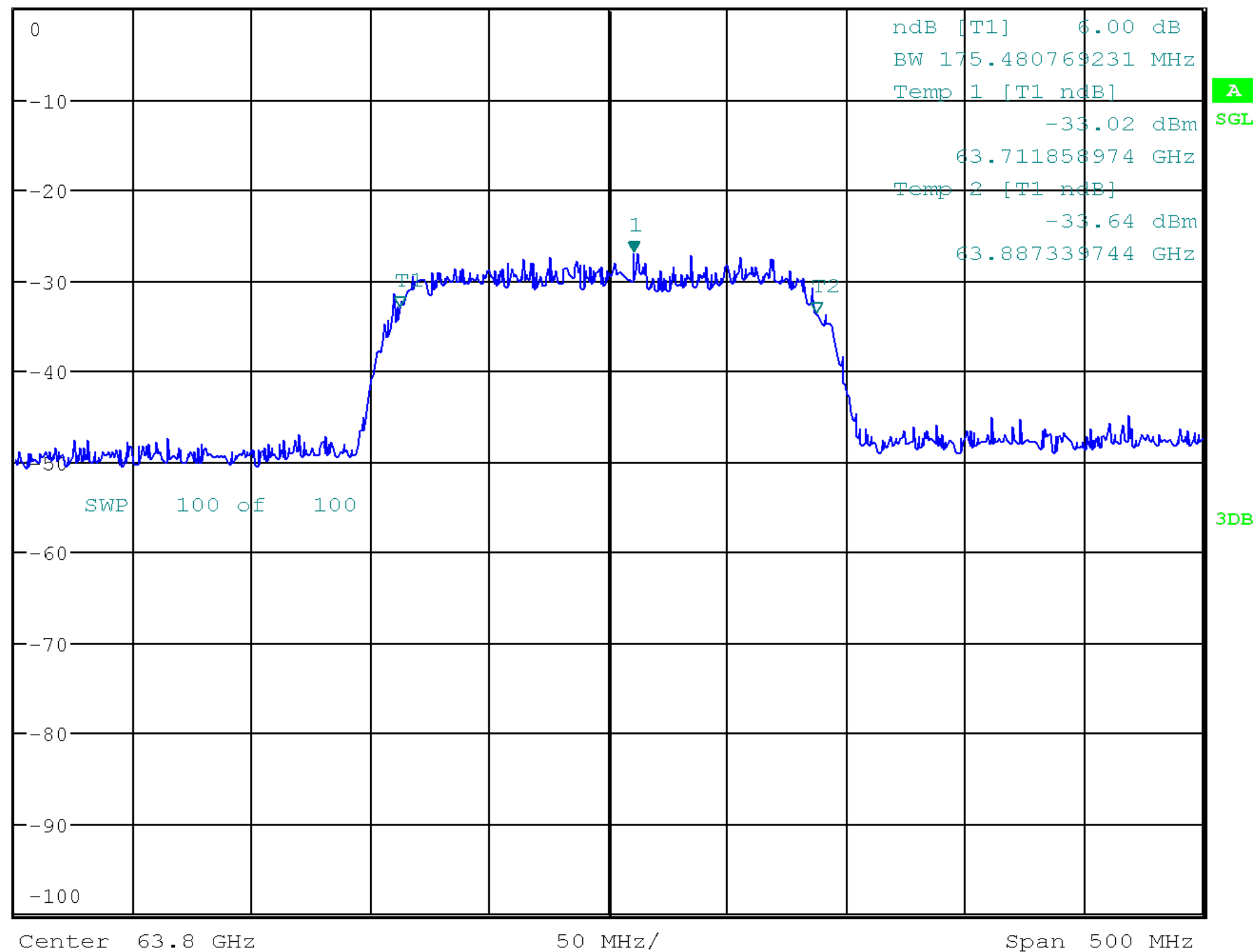


2.1.3 QPSK-T



* RBW 100 kHz Marker 1 [T1]
* VBW 300 kHz -26.95 dBm
Ref 0 dBm Att 25 dB SWT 50 ms 63.810416667 GHz

1 PK
MAXH

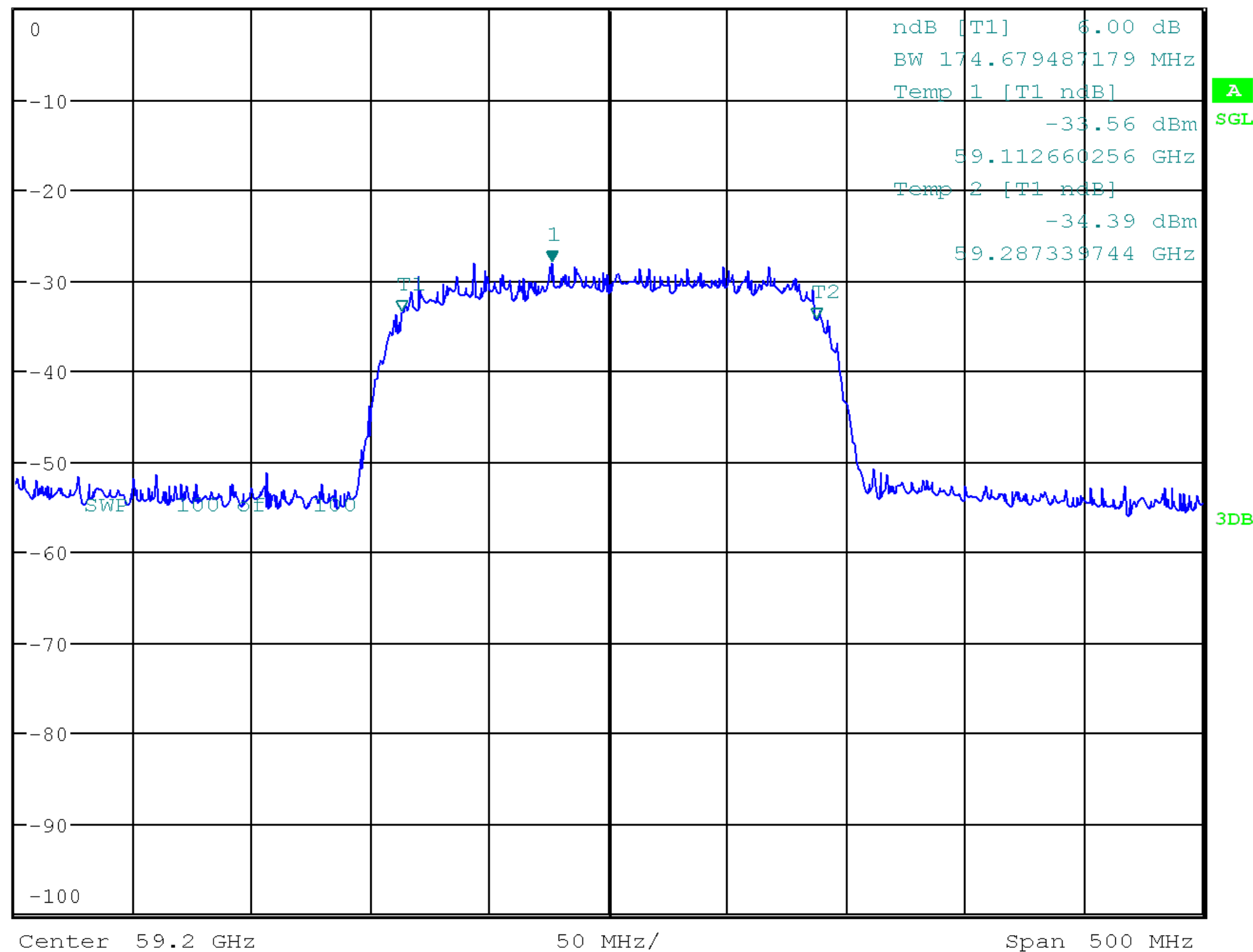


2.1.4 16QAM-B



* RBW 100 kHz Marker 1 [T1]
* VBW 300 kHz -27.99 dBm
Ref 0 dBm Att 25 dB SWT 50 ms 59.175961538 GHz

1 PK
MAXH

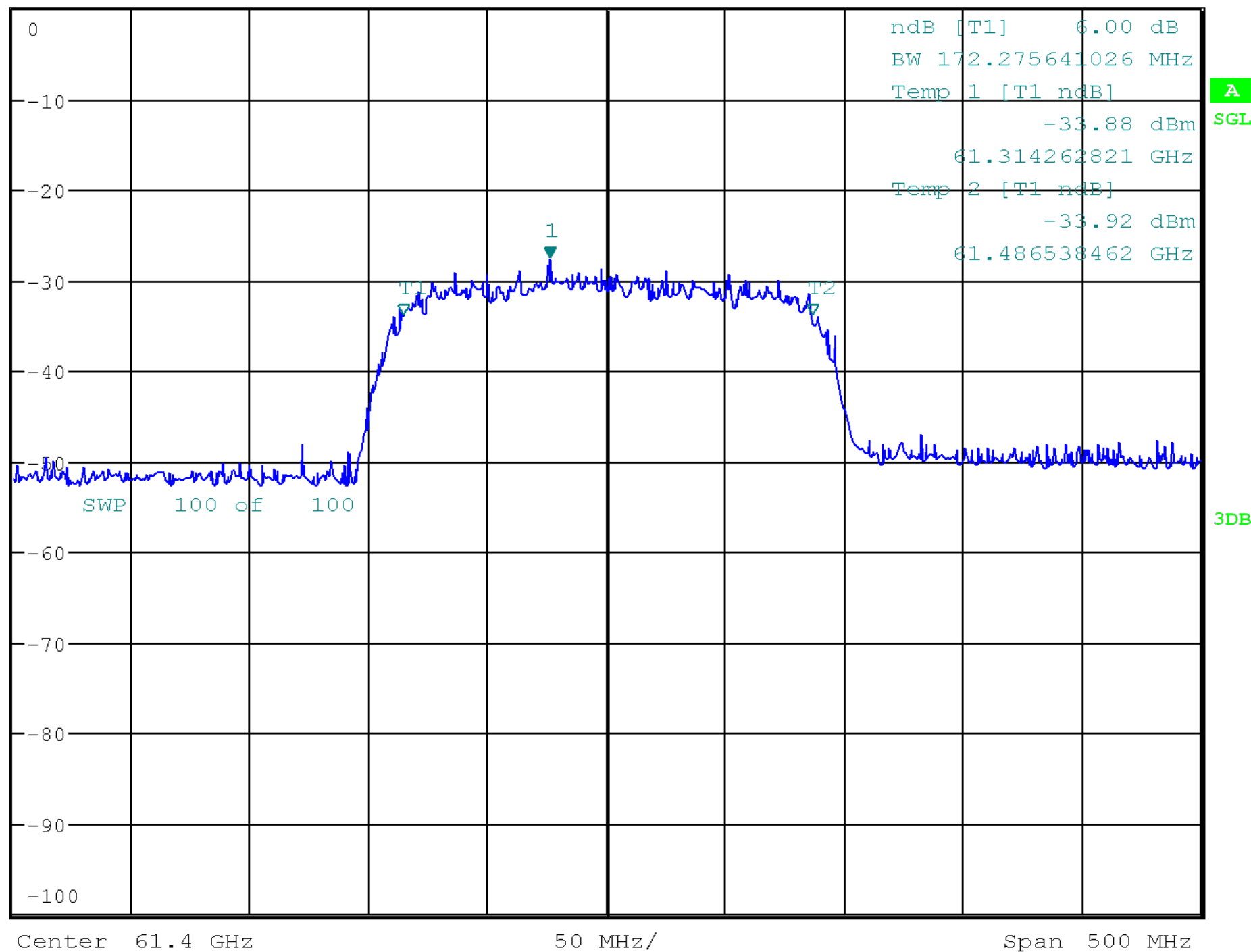


2.1.5 16QAM-M



* RBW 100 kHz Marker 1 [T1]
* VBW 300 kHz -27.72 dBm
Ref 0 dBm Att 25 dB SWT 50 ms 61.375961538 GHz

1 PK
MAXH

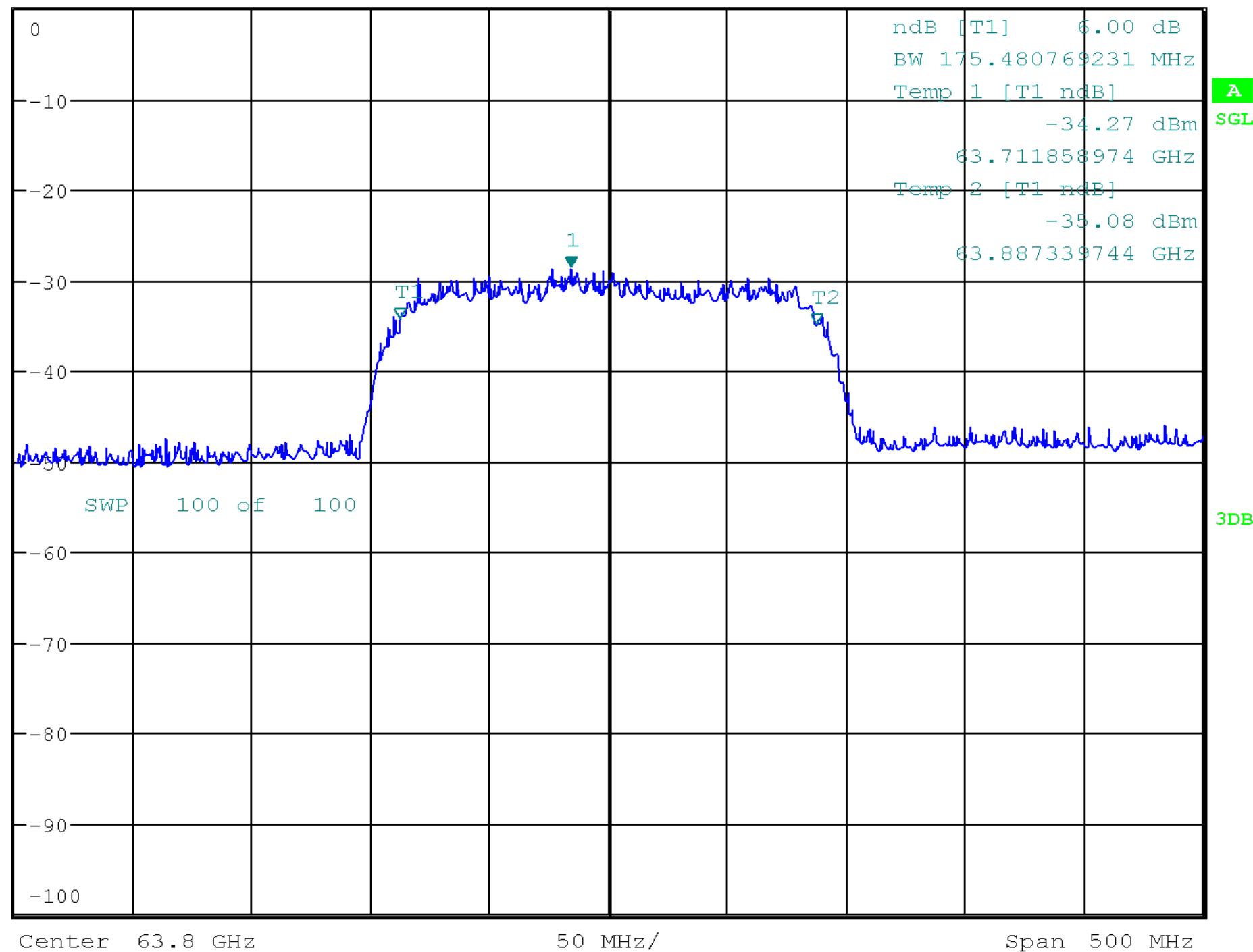


2.1.6 16QAM-T



* RBW 100 kHz Marker 1 [T1]
* VBW 300 kHz -28.62 dBm
Ref 0 dBm Att 25 dB SWT 50 ms 63.783974359 GHz

1 PK
MAXH

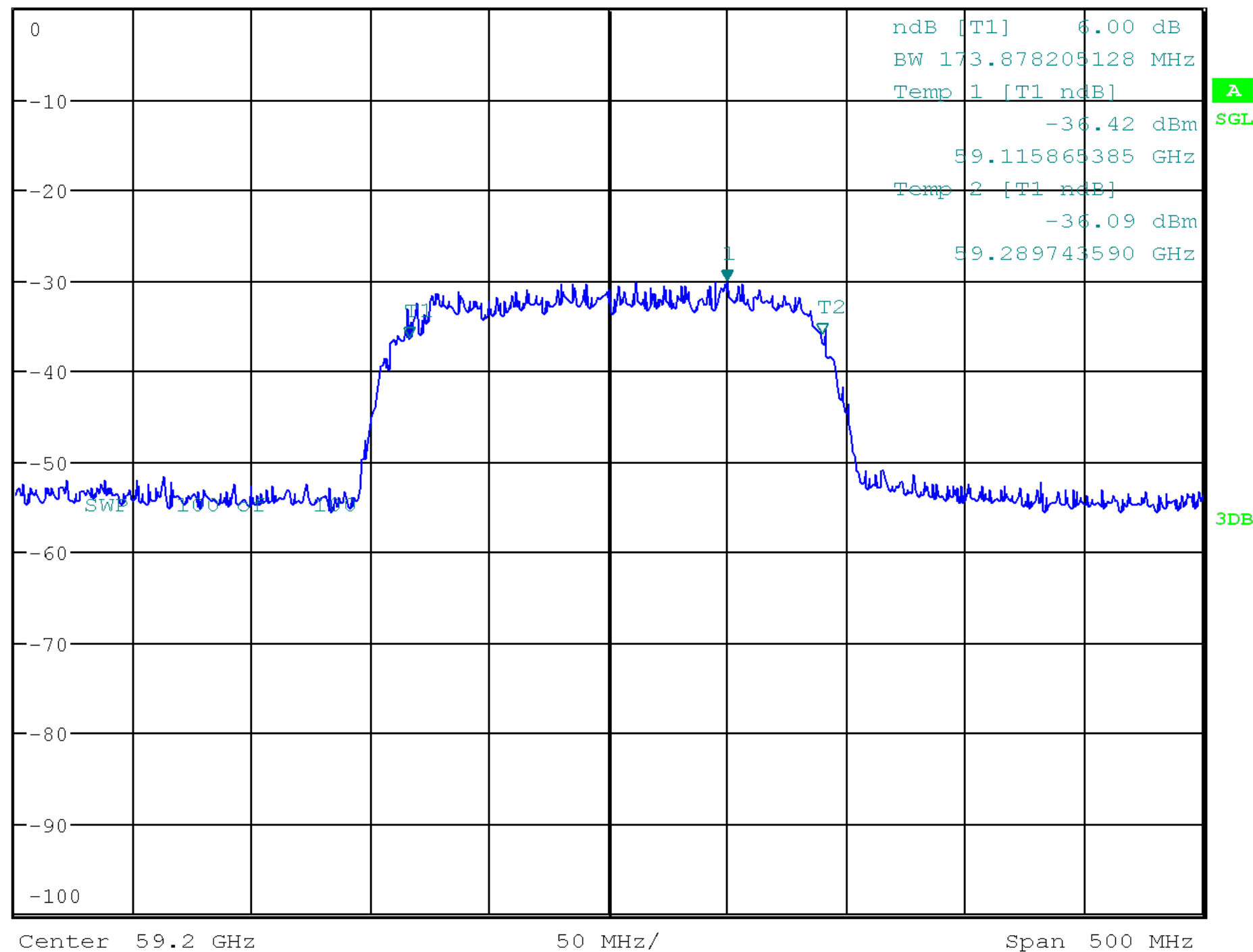


2.1.7 32QAM-B



* RBW 100 kHz Marker 1 [T1]
* VBW 300 kHz -30.14 dBm
Ref 0 dBm Att 25 dB SWT 50 ms 59.249679487 GHz

1 PK
MAXH

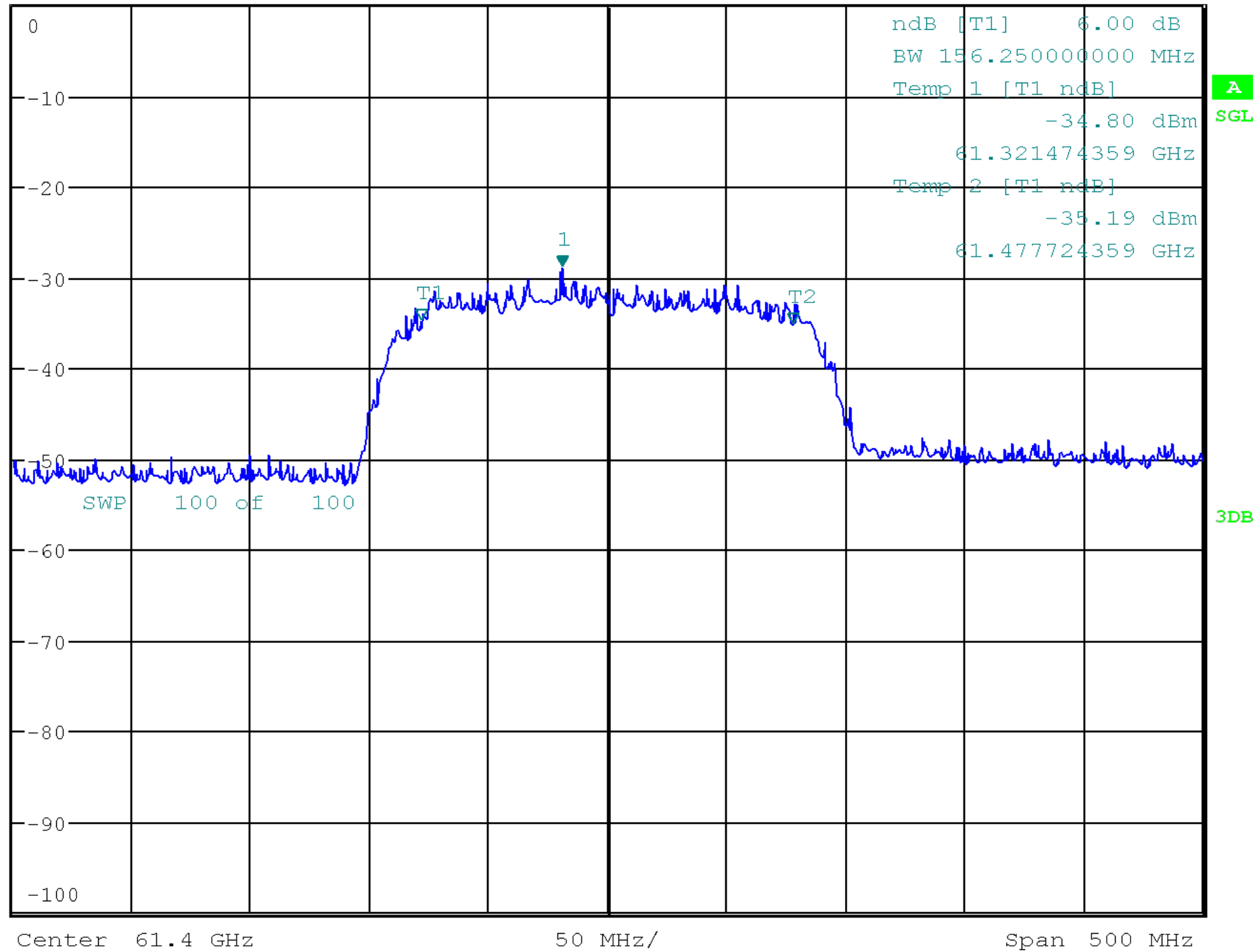


2.1.8 32QAM-M



* RBW 100 kHz Marker 1 [T1]
* VBW 300 kHz -28.97 dBm
Ref 0 dBm Att 25 dB SWT 50 ms 61.380769231 GHz

1 PK
MAXH

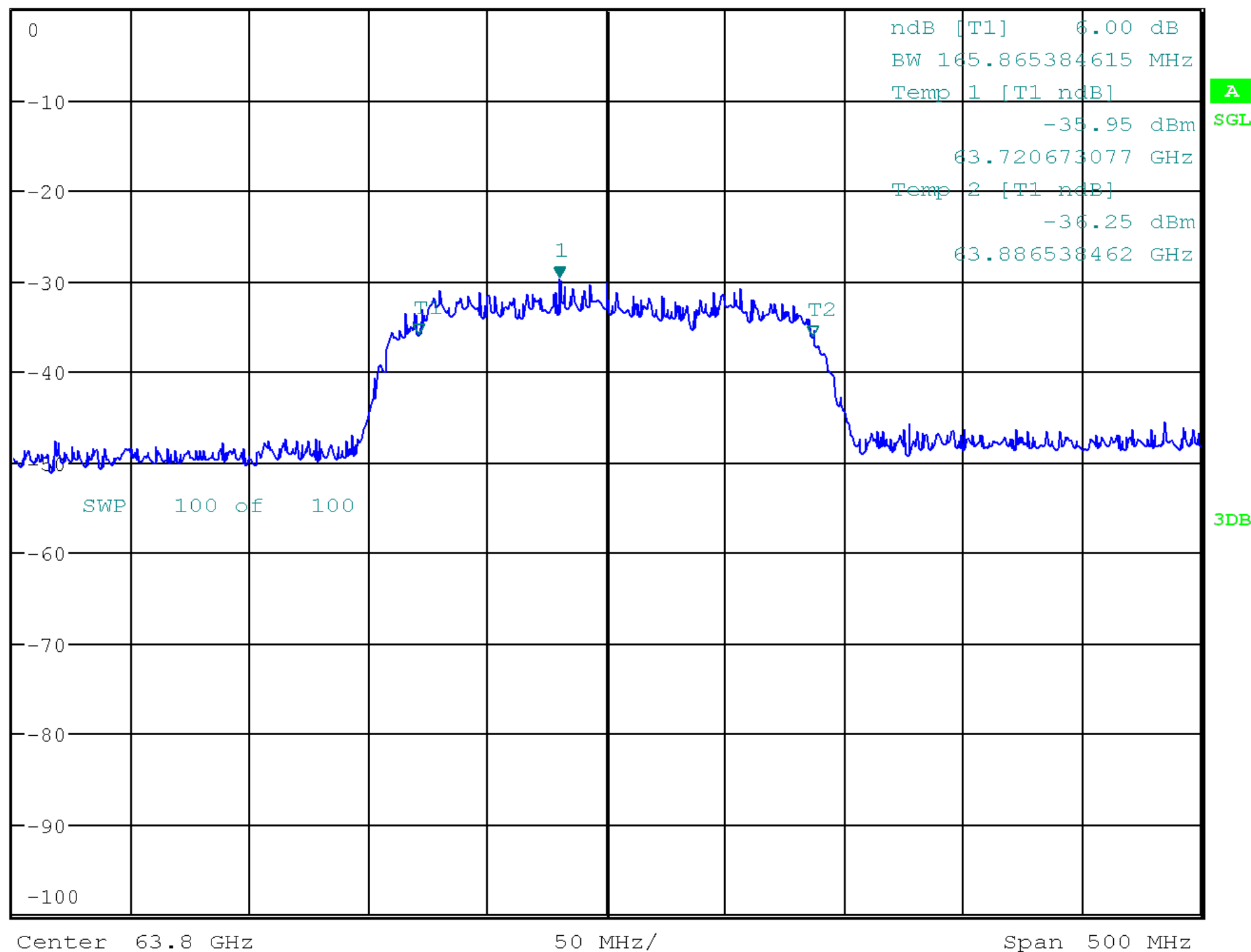


2.1.9 32QAM-T



* RBW 100 kHz Marker 1 [T1]
* VBW 300 kHz -29.75 dBm
Ref 0 dBm Att 25 dB SWT 50 ms 63.779967949 GHz

1 PK
MAXH





2.2 Occupied Bandwidth (99 %)

(No plot supplied)



Appendix B: In-Band Emission



EUT Conf.	Average conducted output power [dBm]	Peak conducted output power [dBm]	Peak conducted output power, limit	G [dBi]	Average EIRP power [dBm]	Peak EIRP power [dBm]	Average EIRP powe, limit	Peak EIRP power, limit	Verdict
QPSK-B	3.43	7.74	≤ 500 mW (= 27 dBm)	36	39.43	43.74	≤ 52 dBm	≤ 55 dBm	Pass
QPSK-M	4.08	8.79	≤ 500 mW (= 27 dBm)	36	40.08	44.79	≤ 52 dBm	≤ 55 dBm	Pass
QPSK-T	3.23	8.32	≤ 500 mW (= 27 dBm)	36	39.23	44.32	≤ 52 dBm	≤ 55 dBm	Pass
16QAM-B	1.91	7.68	≤ 500 mW (= 27 dBm)	36	37.91	43.68	≤ 52 dBm	≤ 55 dBm	Pass
16QAM-M	2.39	8.5	≤ 500 mW (= 27 dBm)	36	38.39	44.5	≤ 52 dBm	≤ 55 dBm	Pass
16QAM-T	1.59	8.16	≤ 500 mW (= 27 dBm)	36	37.59	44.16	≤ 52 dBm	≤ 55 dBm	Pass
32QAM-B	-0.32	6.02	≤ 500 mW (= 27 dBm)	36	35.68	42.02	≤ 52 dBm	≤ 55 dBm	Pass
32QAM-M	0.16	6.93	≤ 500 mW (= 27 dBm)	36	36.16	42.93	≤ 52 dBm	≤ 55 dBm	Pass
32QAM-T	-0.37	6.66	≤ 500 mW (= 27 dBm)	36	35.63	42.66	≤ 52 dBm	≤ 55 dBm	Pass



Appendix C: Spurious Emissions

1 Result Table

Test Range	EUT Conf.	Spurious Emissions	Measurement distance	Spurious Emissions, Limit	Verdict
9 kHz to 30 MHz	Worst Case (QPSK-M)	< Limit	As specified	\$15.209 / RSS-Gen general limit	Pass
30 MHz to 1 GHz	Worst Case (QPSK-M)	< Limit	As specified	\$15.209 / RSS-Gen general limit	Pass
1 GHz to 18 GHz	Worst Case (QPSK-M)	< Limit	As specified	\$15.209 / RSS-Gen general limit	Pass
18 GHz to 26.5 GHz	Worst Case (QPSK-M)	< Limit	As specified	\$15.209 / RSS-Gen general limit	Pass
26.5 GHz to 40 GHz	Worst Case (QPSK-M)	< Limit	1 m	\$15.209 / RSS-Gen general limit	Pass
40 GHz to 50 GHz	Worst Case (QPSK-M)	< Limit	3 m	≤ 90 pW/cm^2 @ 3m (= -10 dBm EIRP)	Pass
50 GHz to 75 GHz	Worst Case (QPSK-M)	< Limit	0.95 m	(1) 57-64GHz: fundamental emissions > spurious emissions (2) Other ranges: ≤ 90 pW/cm^2 @ 3m (= -10 dBm EIRP)	Pass
75 GHz to 110 GHz	Worst Case (QPSK-M)	< Limit	0.38 m	≤ 90 pW/cm^2 @ 3m (= -10 dBm EIRP)	Pass
110 GHz to140 GHz	Worst Case (QPSK-M)	< Limit	0.34 m	≤ 90 pW/cm^2 @ 3m (= -10 dBm EIRP)	Pass
140 GHz to 200 GHz	Worst Case (QPSK-M)	< Limit	0.07 m	≤ 90 pW/cm^2 @ 3m (= -10 dBm EIRP)	Pass

2 Result Plot

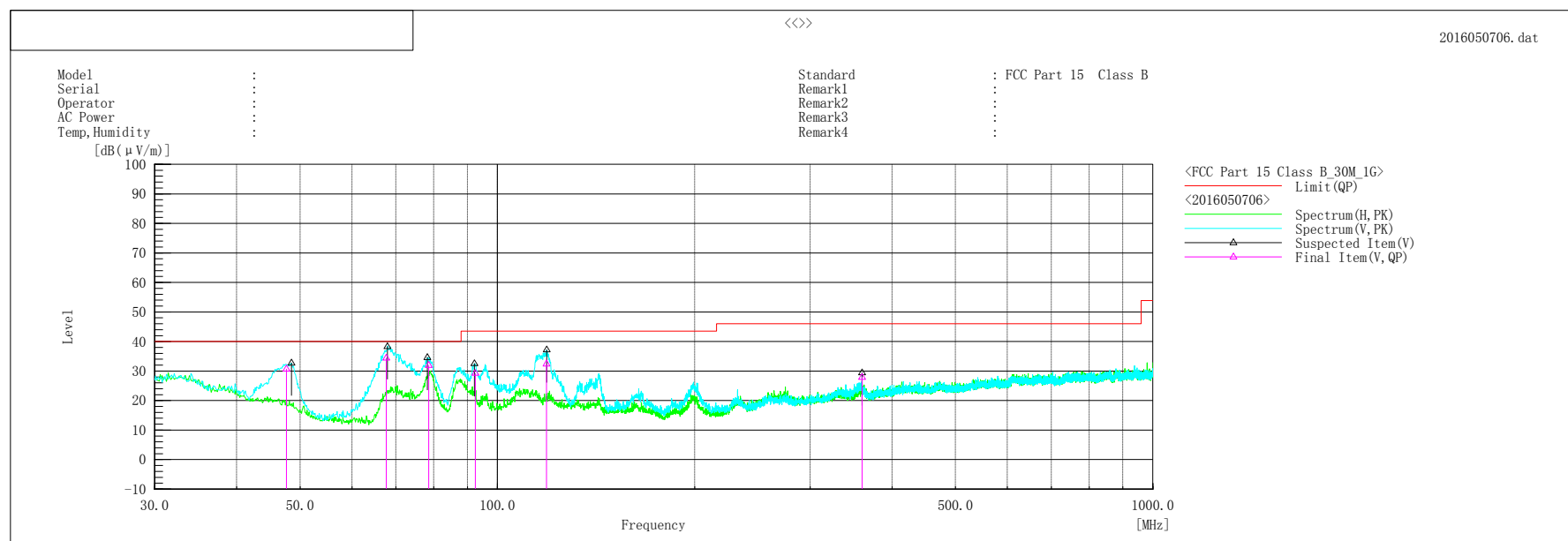
2.1 Test range of “9 kHz to 30 MHz”

2.1.1 Worst Case (QPSK-M)

(No obvious emission found)

2.2 Test range of “30 MHz to 1 GHz”

2.2.1 Worst Case (QPSK-M)

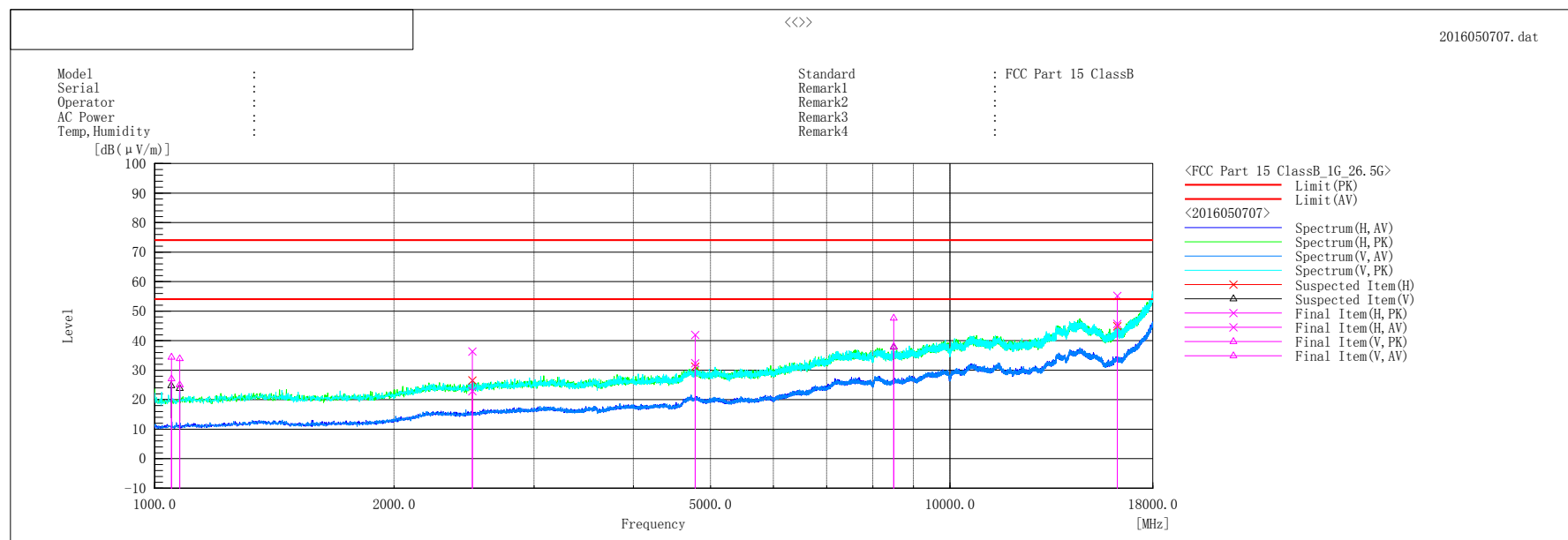


Final Result

No.	Frequency [MHz]	(P)	Reading QP [dB(μV)]	c.f [dB(1/m)]	Result QP [dB(μV/m)]	Limit QP [dB(μV/m)]	Margin QP [dB]	Height [cm]	Angle [°]	Remark
1	47.646	V	53.8	-23.1	30.7	40.0	9.3	102.0	75.0	
2	67.693	V	60.7	-26.4	34.3	40.0	5.7	139.0	85.0	
3	78.536	V	57.0	-25.1	31.9	40.0	8.1	174.0	88.0	
4	92.504	V	51.3	-22.1	29.2	43.5	14.3	115.0	217.0	
5	118.837	V	52.3	-19.9	32.4	43.5	11.1	100.0	108.0	
6	360.002	V	43.5	-15.6	27.9	46.0	18.1	101.0	210.0	

2.3 Test range of “1 GHz to 18 GHz”

2.3.1 Worst Case (QPSK-M)

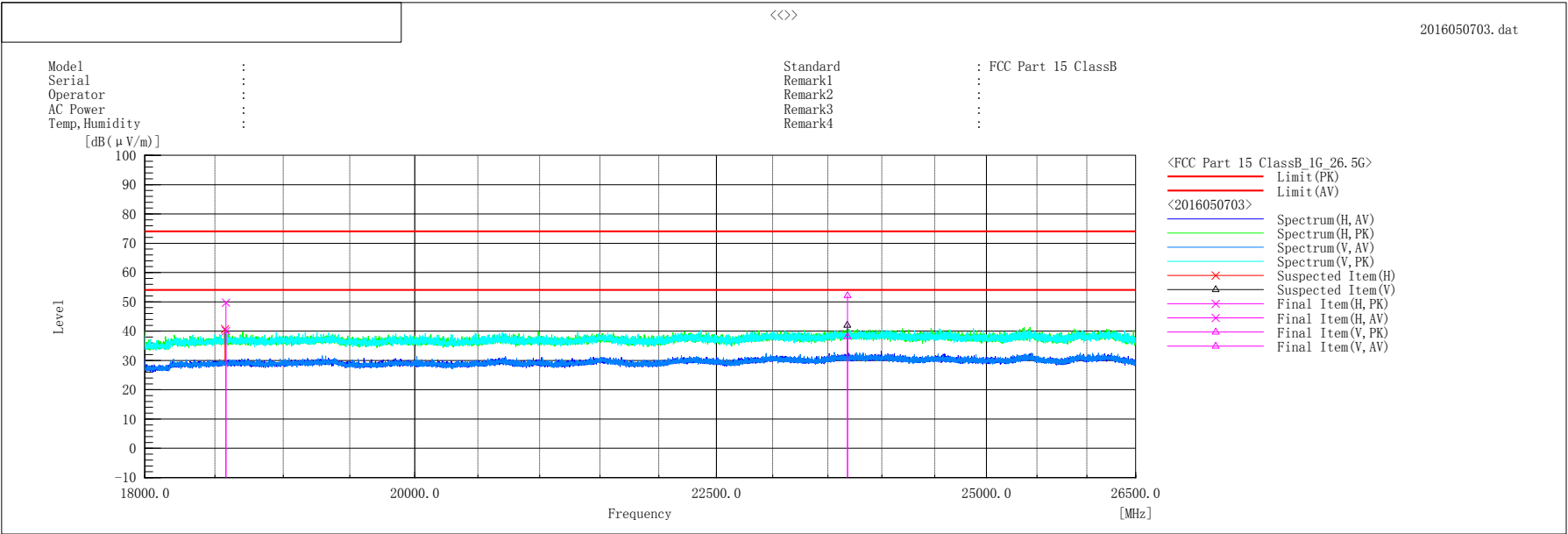


Final Result

No.	Frequency [MHz]	(P)	Reading PK [dB(μV)]	Reading AV [dB(μV)]	c. f [dB(1/m)]	Result PK [dB(μV/m)]	Result AV [dB(μV/m)]	Limit PK [dB(μV/m)]	Limit AV [dB(μV/m)]	Margin PK [dB]	Margin AV [dB]	Height [cm]	Angle [°]	Remark
1	1049.992	V	47.9	40.5	-13.5	34.4	27.0	74.0	54.0	39.6	27.0	202.0	160.0	
2	1075.189	V	47.4	38.5	-13.5	33.9	25.0	74.0	54.0	40.1	29.0	207.0	147.0	
3	2509.453	H	45.1	31.6	-8.7	36.4	22.9	74.0	54.0	37.6	31.1	109.0	18.0	
4	4781.894	H	45.8	36.2	-3.8	42.0	32.4	74.0	54.0	32.0	21.6	111.0	40.0	
5	8500.421	V	43.8	34.1	3.8	47.6	38.0	74.0	54.0	26.4	16.0	130.0	51.0	
6	16238.094	H	43.5	34.0	11.7	55.2	45.7	74.0	54.0	18.8	8.3	119.0	208.0	

2.4 Test range of “18 GHz to 26.5 GHz”

2.4.1 Worst Case (QPSK-M)

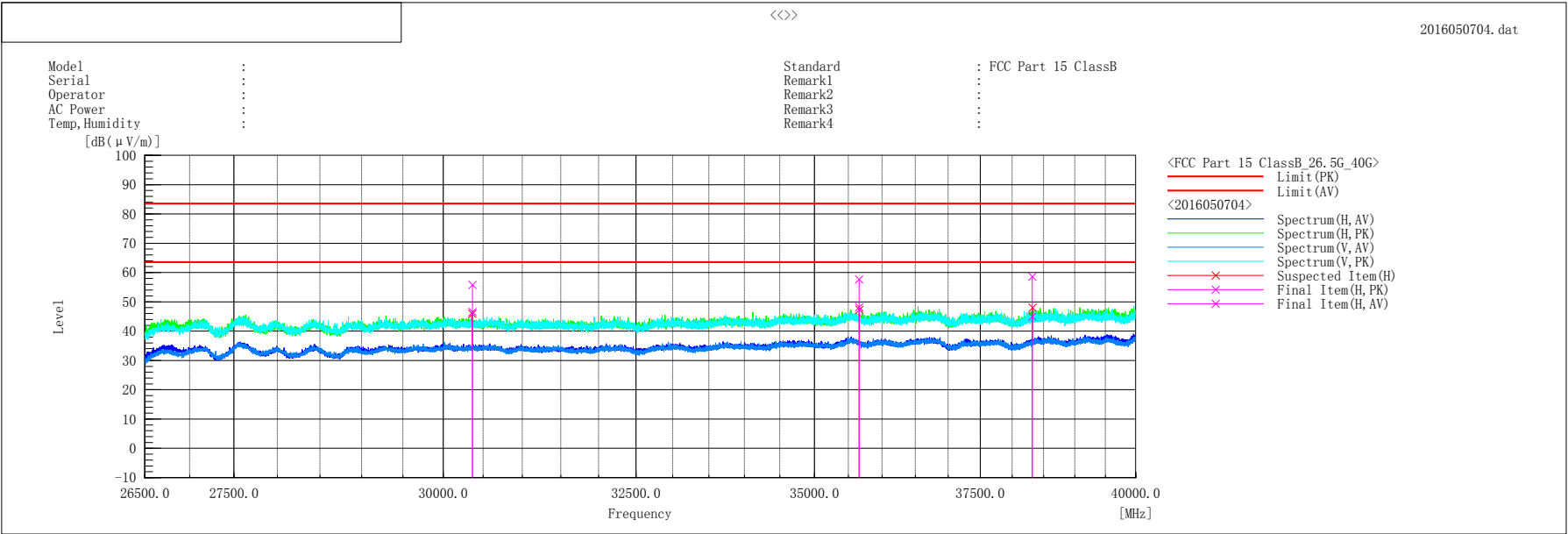


Final Result

No.	Frequency [MHz]	(P)	Reading PK [dB(μV)]	Reading AV [dB(μV)]	c. f [dB(1/m)]	Result PK [dB(μV/m)]	Result AV [dB(μV/m)]	Limit PK [dB(μV/m)]	Limit AV [dB(μV/m)]	Margin PK [dB]	Margin AV [dB]	Height [cm]	Angle [°]	Remark
1	18578.510	H	53.0	43.3	-3.2	49.8	40.1	74.0	54.0	24.2	13.9	101.0	145.0	
2	23679.780	V	52.3	38.4	-0.2	52.1	38.2	74.0	54.0	21.9	15.8	194.0	272.0	

2.5 Test range of “26.5 GHz to 40 GHz”

2.5.1 Worst Case (QPSK-M)

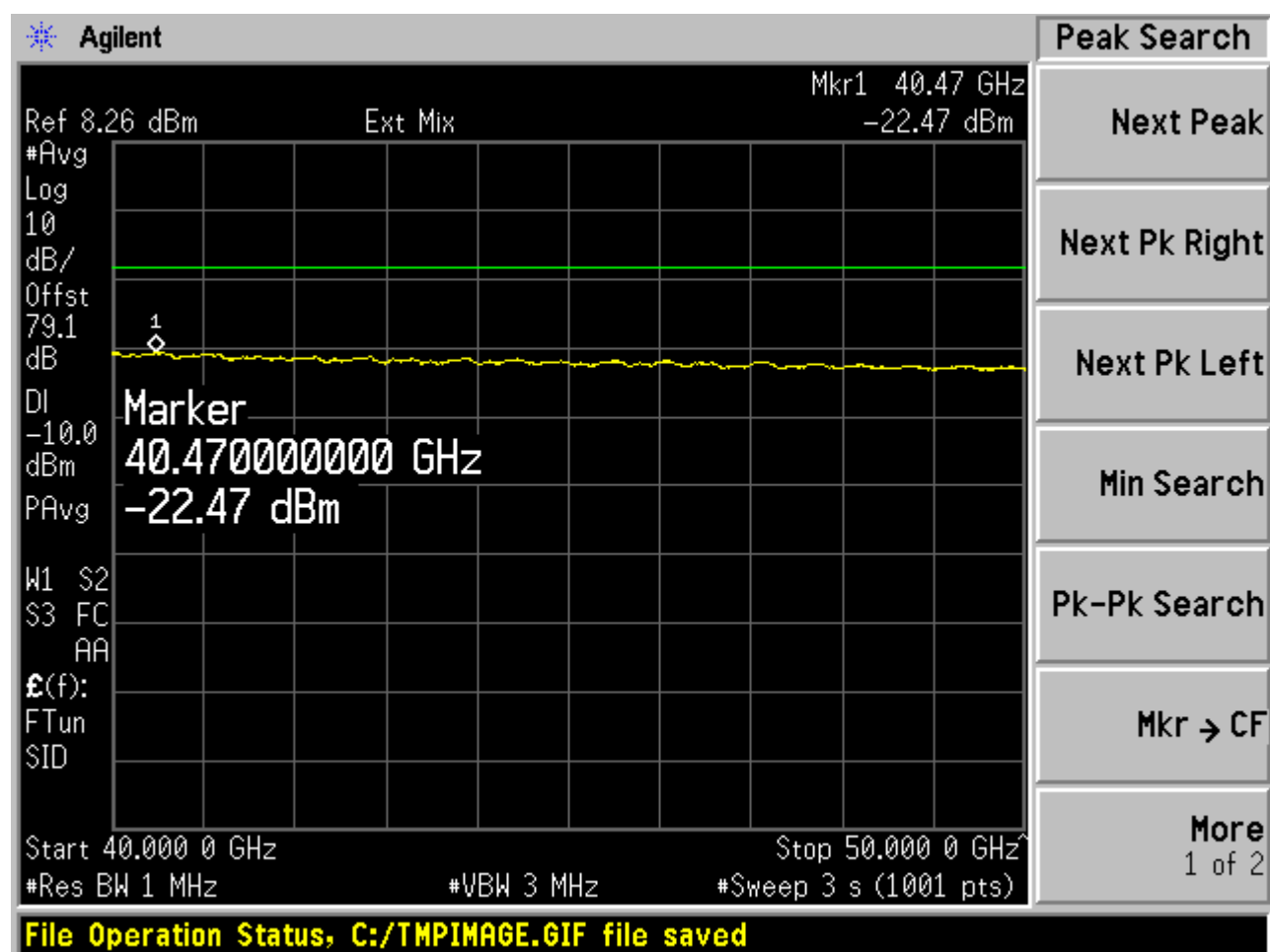


Final Result

No.	Frequency [MHz]	(P)	Reading PK [dB(μV)]	Reading AV [dB(μV)]	c. f [dB(1/m)]	Result PK [dB(μV/m)]	Result AV [dB(μV/m)]	Limit PK [dB(μV/m)]	Limit AV [dB(μV/m)]	Margin PK [dB]	Margin AV [dB]	Height [cm]	Angle [°]	Remark
1	30365.802	H	54.1	44.9	1.7	55.8	46.6	83.5	63.5	27.7	16.9	142.0	74.0	
2	35656.676	H	54.8	45.3	2.9	57.7	48.2	83.5	63.5	25.8	15.3	129.0	353.0	
3	38317.200	H	53.8	40.2	4.8	58.6	45.0	83.5	63.5	24.9	18.5	125.0	248.0	

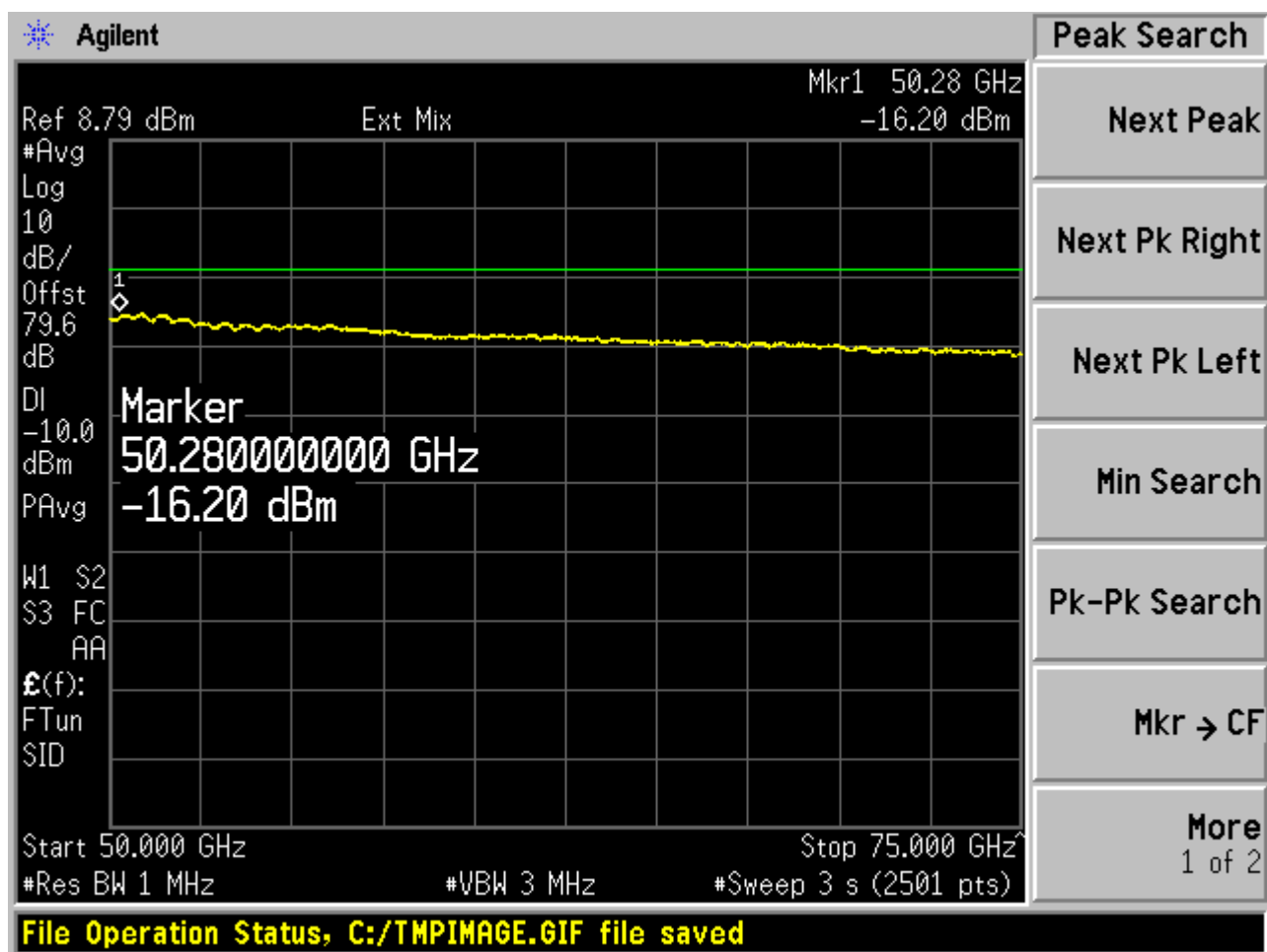
2.6 Test range of “40 GHz to 50 GHz”

2.6.1 Worst Case (QPSK-M)



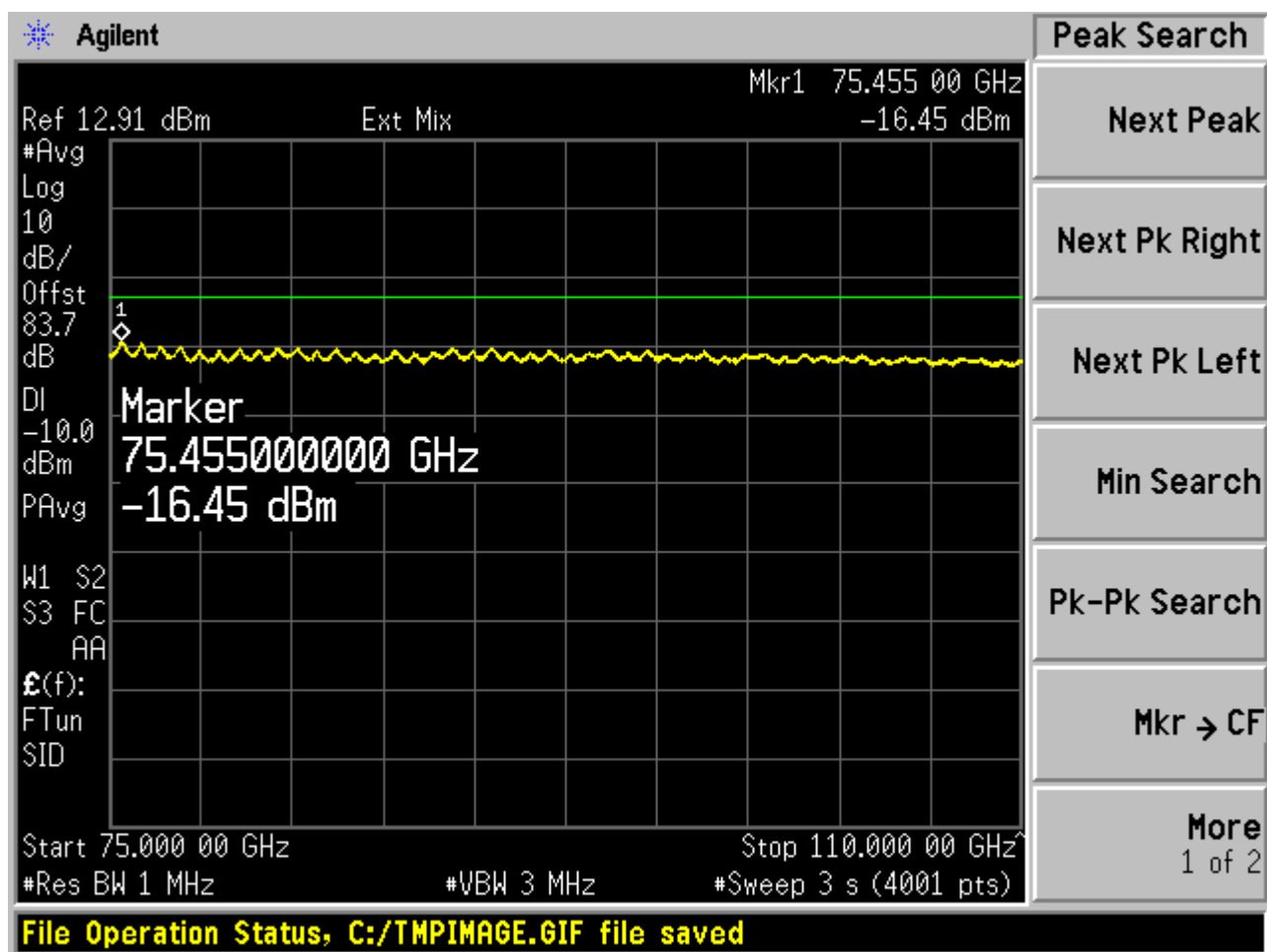
2.7 Test range of “50 GHz to 75 GHz”

2.7.1 Worst Case (QPSK-M)



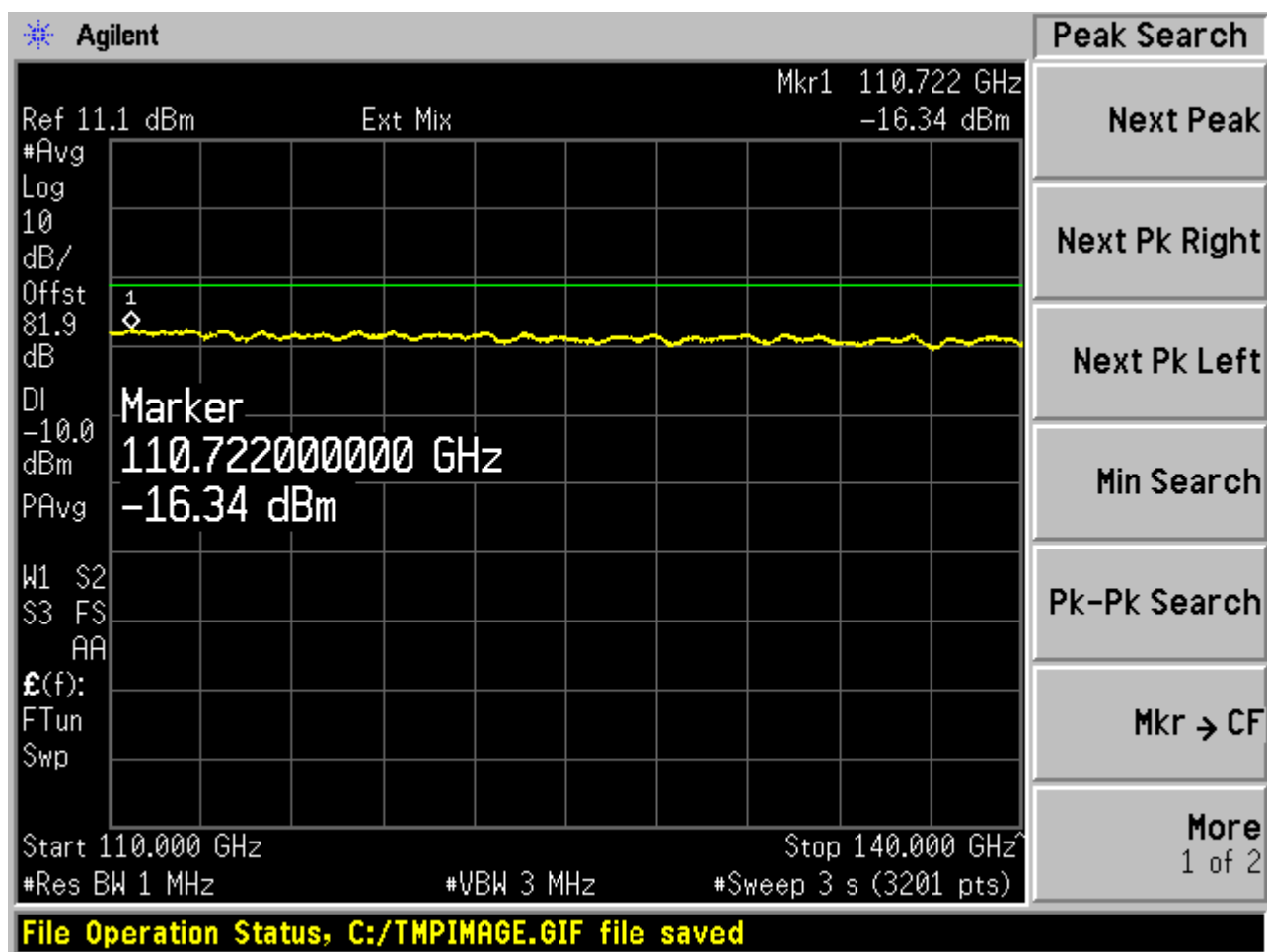
2.8 Test range of “75 GHz to 110 GHz”

2.8.1 Worst Case (QPSK-M)



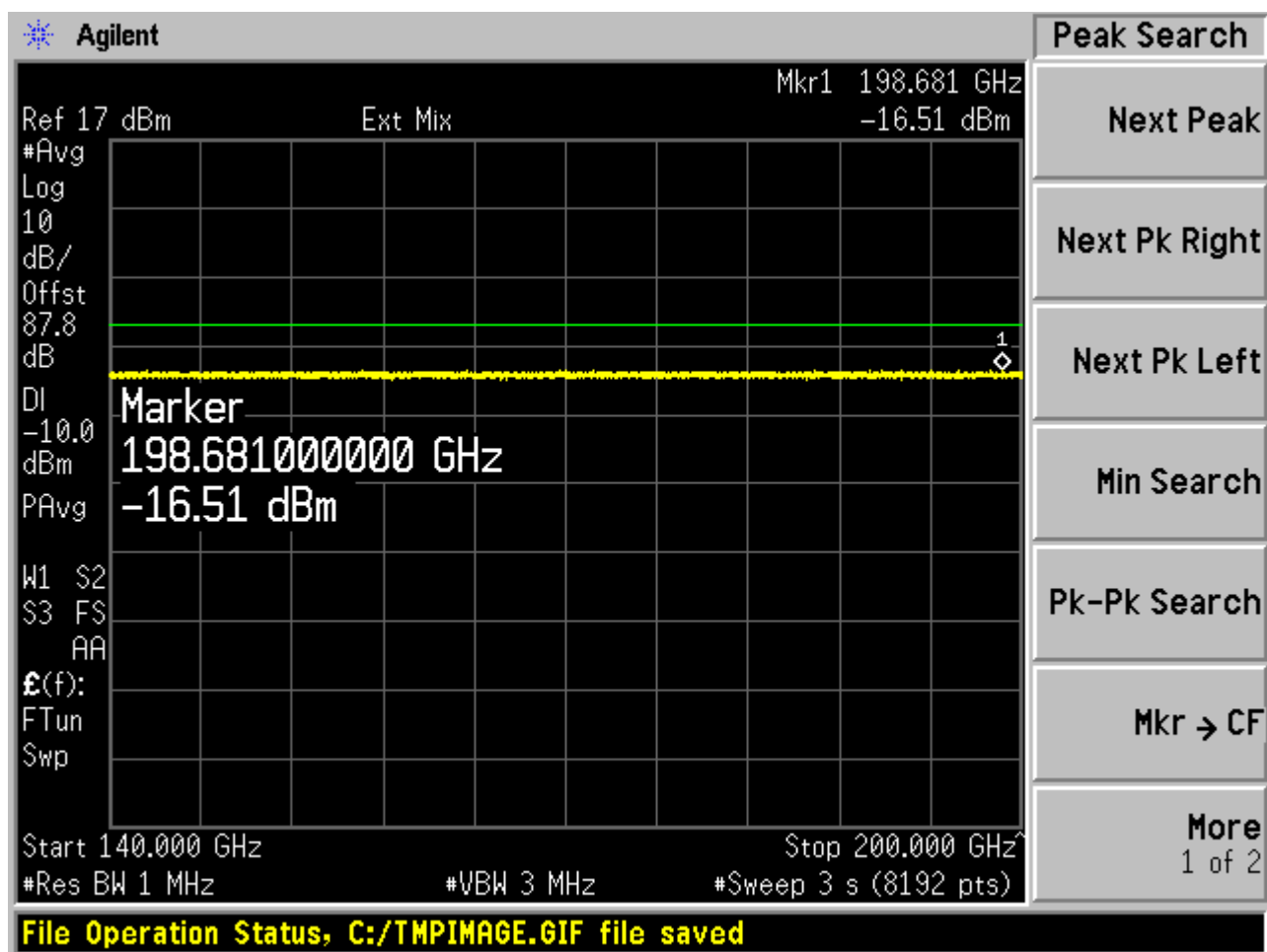
2.9 Test range of “110 GHz to 140 GHz”

2.9.1 Worst Case (QPSK-M)



2.10 Test range of “140 GHz to 200 GHz”

2.10.1 Worst Case (QPSK-M)





Appendix D: Frequency Stability



1 Result Table

1.1 FCC Requirements

EUT Conf.	Temperature	Voltage	FCC fL [GHz]	FCC fL, Limit [GHz]	FCC fH [GHz]	FCC fH, Limit [GHz]	Verdict
QPSK-B	Ambient	85 %	59.10	> 57	59.30	< 64	Pass
	Ambient	100 %	59.10	> 57	59.30	< 64	Pass
	Ambient	115 %	59.10	> 57	59.30	< 64	Pass
	-20 °C	100 %	59.10	> 57	59.30	< 64	Pass
	-10 °C	100 %	59.10	> 57	59.30	< 64	Pass
	0 °C	100 %	59.10	> 57	59.30	< 64	Pass
	+10 °C	100 %	59.10	> 57	59.30	< 64	Pass
	+20 °C	100 %	59.10	> 57	59.30	< 64	Pass
	+30 °C	100 %	59.10	> 57	59.30	< 64	Pass
	+40 °C	100 %	59.10	> 57	59.30	< 64	Pass
	+50 °C	100 %	59.10	> 57	59.30	< 64	Pass
QPSK-T	Ambient	85 %	63.70	> 57	63.90	< 64	Pass
	Ambient	100 %	63.70	> 57	63.90	< 64	Pass
	Ambient	115 %	63.70	> 57	63.90	< 64	Pass
	-20 °C	100 %	63.70	> 57	63.90	< 64	Pass
	-10 °C	100 %	63.70	> 57	63.90	< 64	Pass
	0 °C	100 %	63.70	> 57	63.90	< 64	Pass
	+10 °C	100 %	63.70	> 57	63.90	< 64	Pass
	+20 °C	100 %	63.70	> 57	63.90	< 64	Pass
	+30 °C	100 %	63.70	> 57	63.90	< 64	Pass
	+40 °C	100 %	63.70	> 57	63.90	< 64	Pass
	+50 °C	100 %	63.70	> 57	63.90	< 64	Pass
16QAM-B	Ambient	85 %	59.10	> 57	59.30	< 64	Pass
	Ambient	100 %	59.10	> 57	59.30	< 64	Pass
	Ambient	115 %	59.10	> 57	59.30	< 64	Pass
	-20 °C	100 %	59.10	> 57	59.30	< 64	Pass
	-10 °C	100 %	59.10	> 57	59.30	< 64	Pass
	0 °C	100 %	59.10	> 57	59.30	< 64	Pass
	+10 °C	100 %	59.10	> 57	59.30	< 64	Pass
	+20 °C	100 %	59.10	> 57	59.30	< 64	Pass
	+30 °C	100 %	59.10	> 57	59.30	< 64	Pass
	+40 °C	100 %	59.10	> 57	59.30	< 64	Pass
	+50 °C	100 %	59.10	> 57	59.30	< 64	Pass
16QAM-T	Ambient	85 %	63.70	> 57	63.90	< 64	Pass
	Ambient	100 %	63.70	> 57	63.90	< 64	Pass
	Ambient	115 %	63.70	> 57	63.90	< 64	Pass



EUT Conf.	Temperature	Voltage	FCC fL [GHz]	FCC fL, Limit [GHz]	FCC fH [GHz]	FCC fH, Limit [GHz]	Verdict
	-20 °C	100 %	63.70	> 57	63.90	< 64	Pass
	-10 °C	100 %	63.70	> 57	63.90	< 64	Pass
	0 °C	100 %	63.70	> 57	63.90	< 64	Pass
	+10 °C	100 %	63.70	> 57	63.90	< 64	Pass
	+20 °C	100 %	63.70	> 57	63.90	< 64	Pass
	+30 °C	100 %	63.70	> 57	63.90	< 64	Pass
	+40 °C	100 %	63.70	> 57	63.90	< 64	Pass
	+50 °C	100 %	63.70	> 57	63.90	< 64	Pass
32QAM-B	Ambient	85 %	59.10	> 57	59.30	< 64	Pass
	Ambient	100 %	59.10	> 57	59.30	< 64	Pass
	Ambient	115 %	59.10	> 57	59.30	< 64	Pass
	-20 °C	100 %	59.10	> 57	59.30	< 64	Pass
	-10 °C	100 %	59.10	> 57	59.30	< 64	Pass
	0 °C	100 %	59.10	> 57	59.30	< 64	Pass
	+10 °C	100 %	59.10	> 57	59.30	< 64	Pass
	+20 °C	100 %	59.10	> 57	59.30	< 64	Pass
	+30 °C	100 %	59.10	> 57	59.30	< 64	Pass
	+40 °C	100 %	59.10	> 57	59.30	< 64	Pass
	+50 °C	100 %	59.10	> 57	59.30	< 64	Pass
32QAM-T	Ambient	85 %	63.70	> 57	63.90	< 64	Pass
	Ambient	100 %	63.70	> 57	63.90	< 64	Pass
	Ambient	115 %	63.70	> 57	63.90	< 64	Pass
	-20 °C	100 %	63.70	> 57	63.90	< 64	Pass
	-10 °C	100 %	63.70	> 57	63.90	< 64	Pass
	0 °C	100 %	63.70	> 57	63.90	< 64	Pass
	+10 °C	100 %	63.70	> 57	63.90	< 64	Pass
	+20 °C	100 %	63.70	> 57	63.90	< 64	Pass
	+30 °C	100 %	63.70	> 57	63.90	< 64	Pass
	+40 °C	100 %	63.70	> 57	63.90	< 64	Pass
	+50 °C	100 %	63.70	> 57	63.90	< 64	Pass

1.2 ISED Requirements

EUT Conf.	Temperature	Voltage	fL [GHz]	fL Limit [GHz]	fH [GHz]	fH Limit [GHz]	Verdict
CW-B	-20 °C	100 %	59.20	> 57	---	< 64	Pass
	+20 °C	85 %	59.20	> 57	---	< 64	Pass
	+20 °C	100 %	59.20	> 57	---	< 64	Pass
	+20 °C	115 %	59.20	> 57	---	< 64	Pass
	+50 °C	100 %	59.20	> 57	---	< 64	Pass
CW-T	-20 °C	100 %	---	> 57	63.80	< 64	Pass
	+20 °C	85 %	---	> 57	63.80	< 64	Pass

EUT Conf.	Temperature	Voltage	fL [GHz]	fL Limit [GHz]	fH [GHz]	fH Limit [GHz]	Verdict
	+20 °C	100 %	---	> 57	63.80	< 64	Pass
	+20 °C	115 %	---	> 57	63.80	< 64	Pass
	+50 °C	100 %	---	> 57	63.80	< 64	Pass



2 Test Plot

2.1 FCC Requirements

2.1.1 QPSK-B

2.1.1.1 Temperature = Ambient, Voltage = 85 %



* RBW 3 MHz

Marker 1 [T1]

* VBW 10 MHz

-10.92 dBm

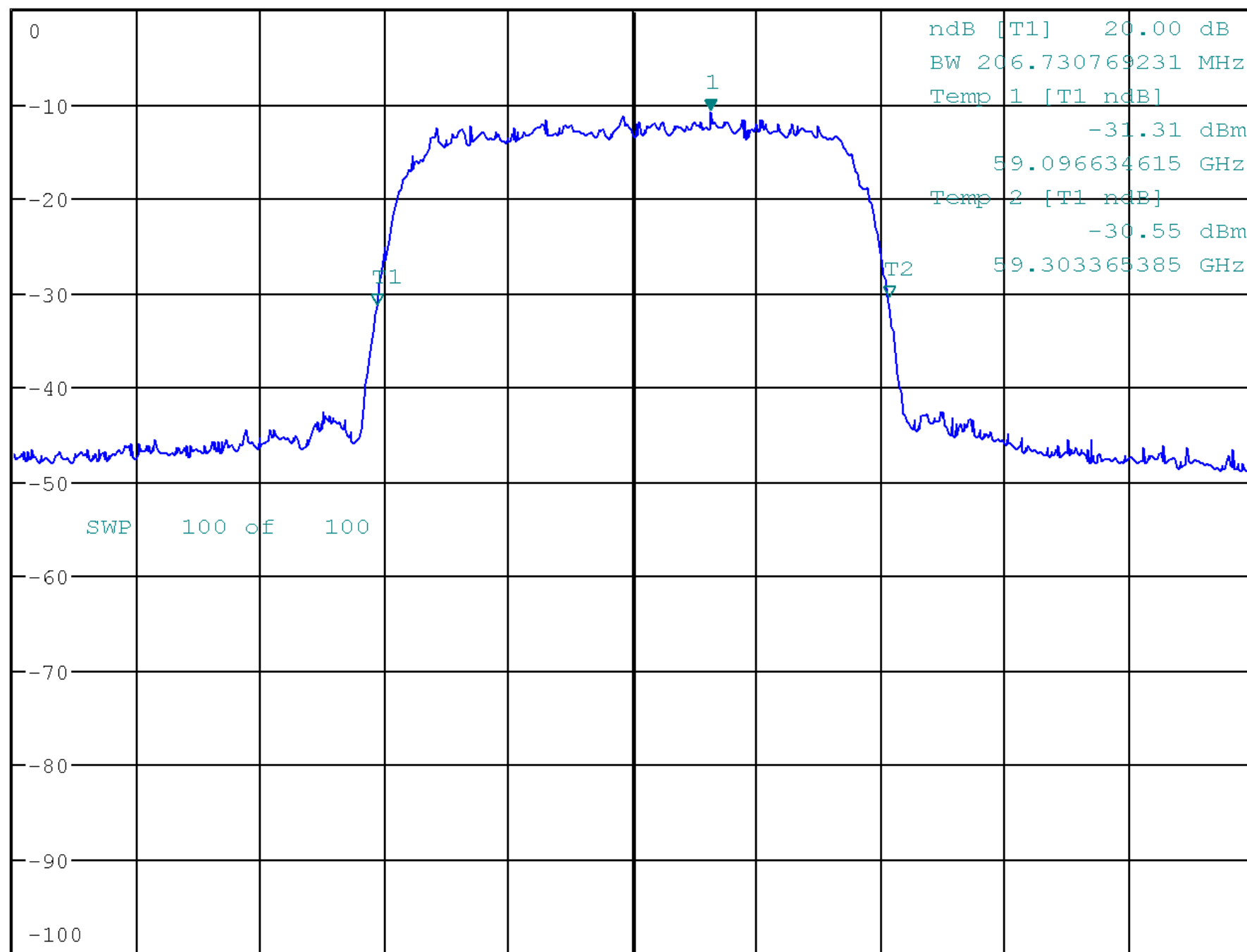
Ref 0 dBm

* Att 15 dB

SWT 20 ms

59.231250000 GHz

1 PK
MAXH



A
SGL

3DB

Center 59.2 GHz

50 MHz/

Span 500 MHz

2.1.1.2 Temperature = Ambient, Voltage = 100 %



* RBW 3 MHz

Marker 1 [T1]

* VBW 10 MHz

-10.91 dBm

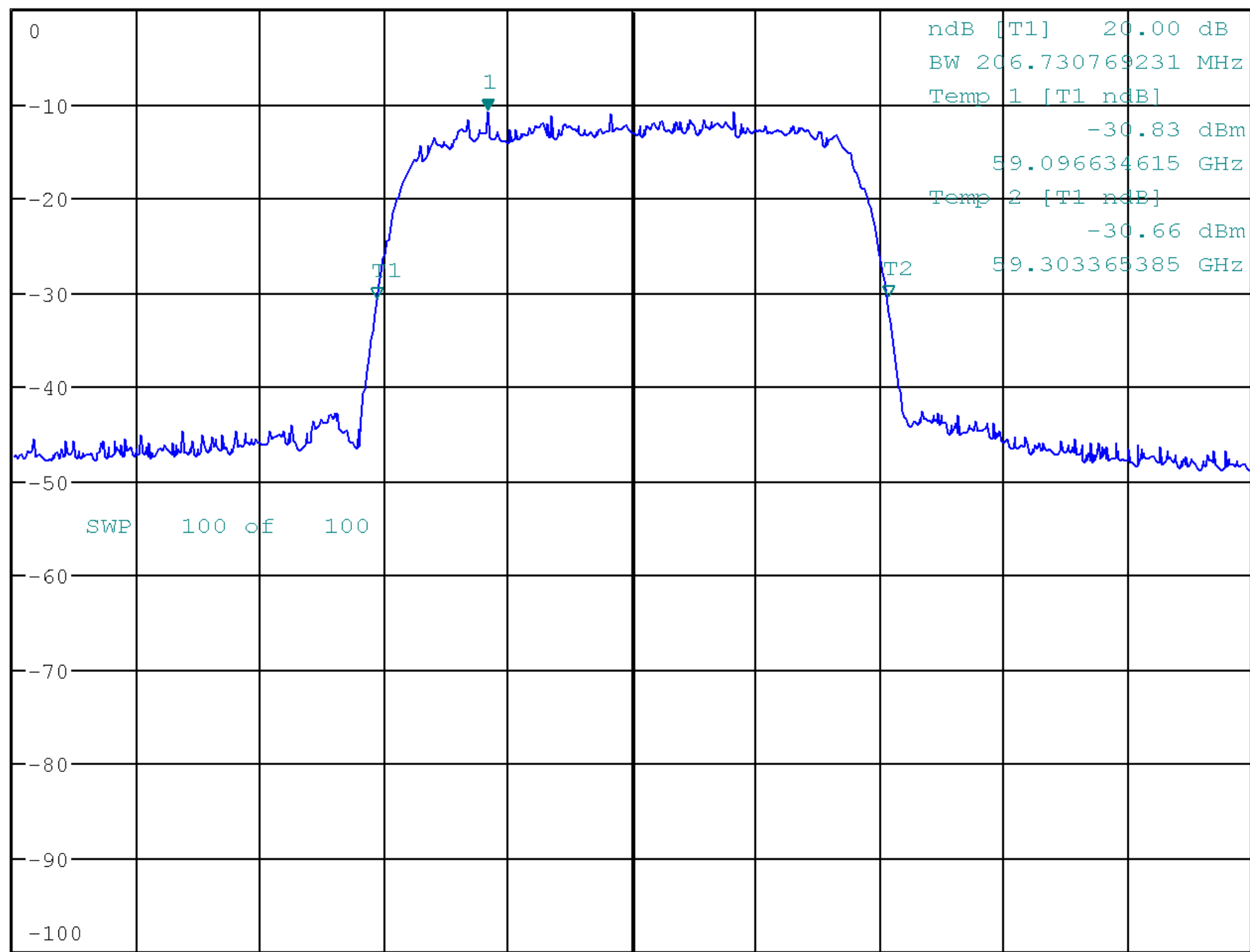
Ref 0 dBm

* Att 15 dB

SWT 20 ms

59.141506410 GHz

1 PK
MAXH



Center 59.2 GHz

50 MHz/

Span 500 MHz

2.1.1.3 Temperature = Ambient, Voltage = 115 %



* RBW 3 MHz
* VBW 10 MHz

Marker 1 [T1]
-11.35 dBm
59.203205128 GHz

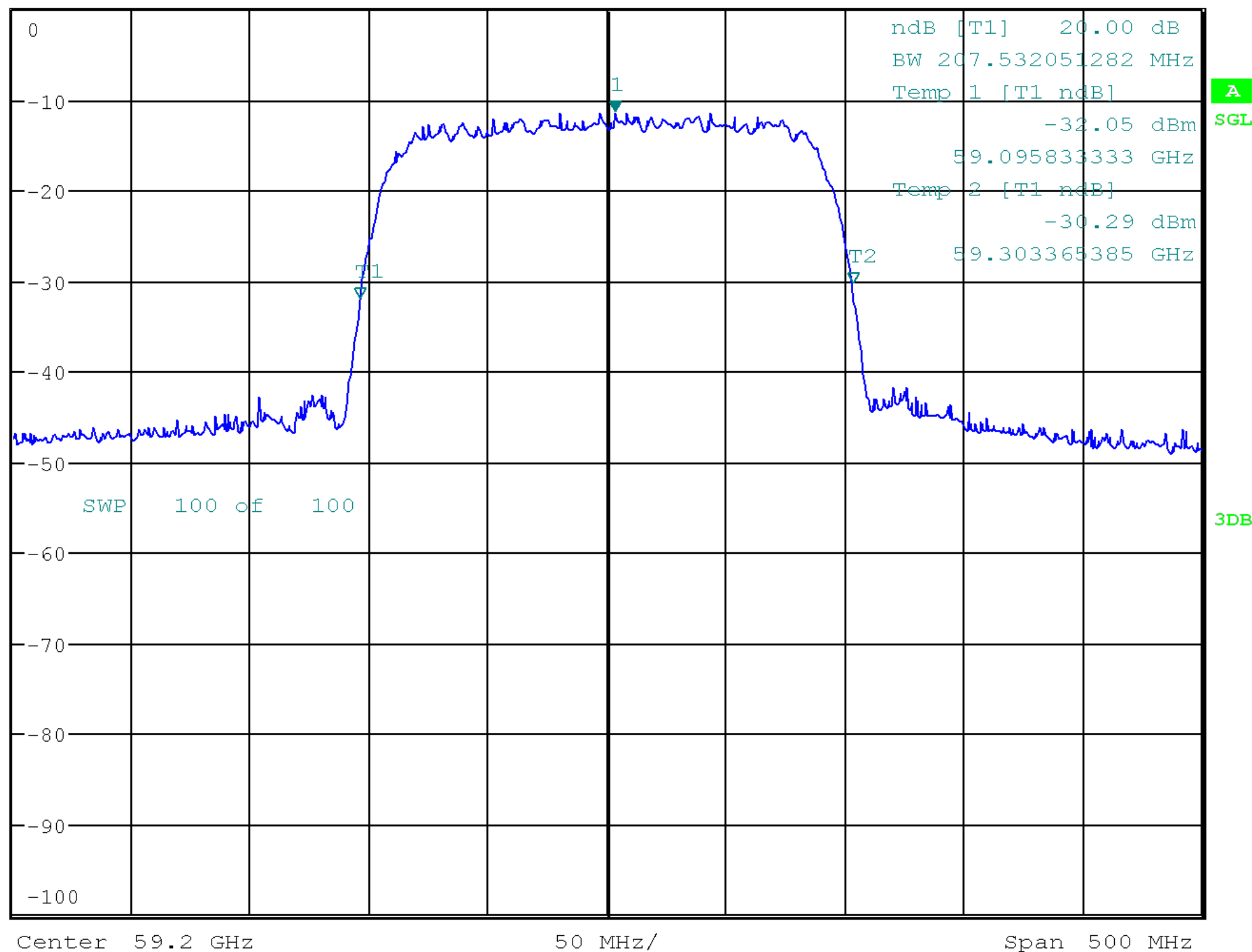
Ref 0 dBm

* Att 15 dB

SWT 20 ms

59.203205128 GHz

1 PK
MAXH



2.1.1.4 Temperature = -20 °C, Voltage = 100 %



* RBW 3 MHz

Marker 1 [T1]

* VBW 10 MHz

-10.29 dBm

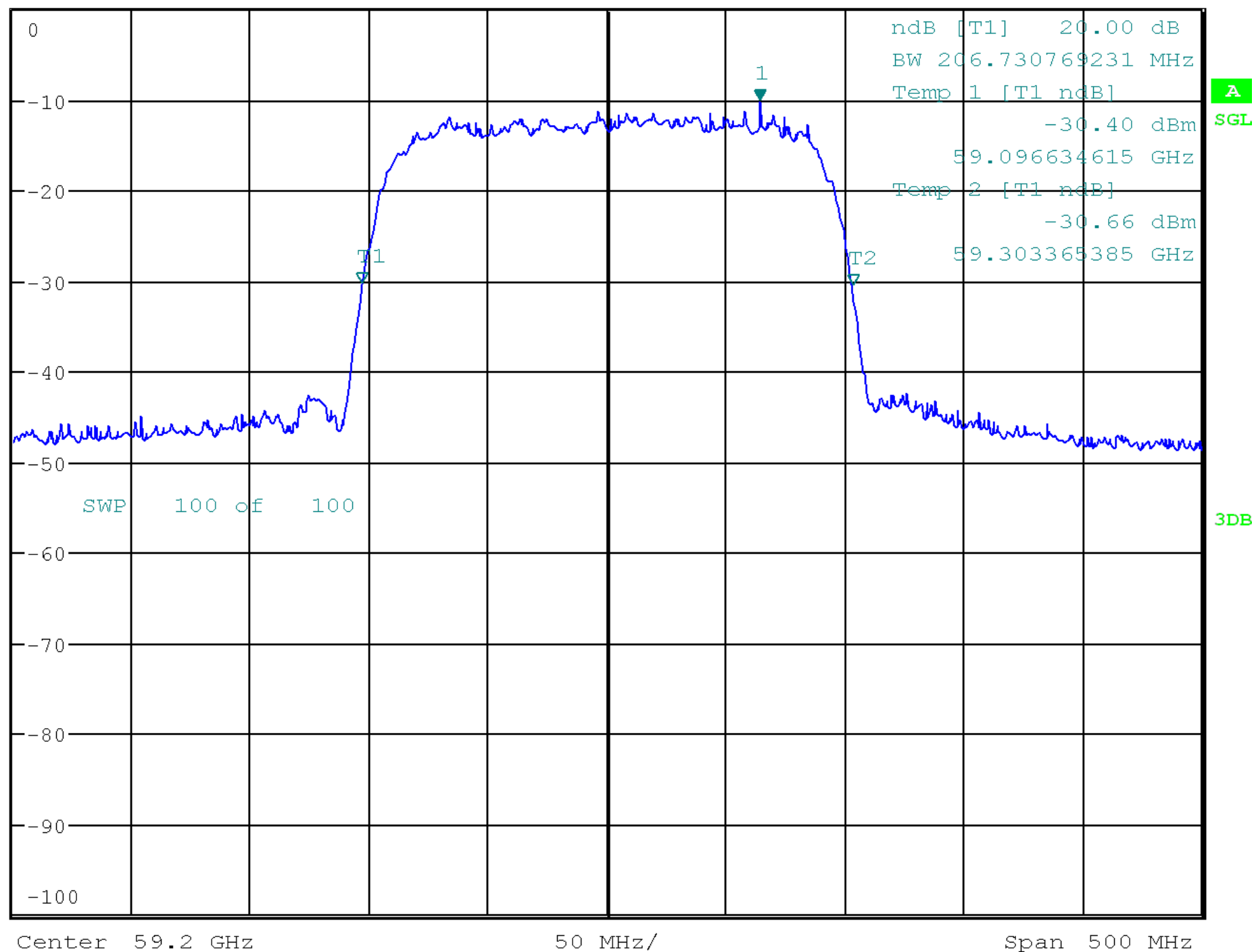
Ref 0 dBm

* Att 15 dB

SWT 20 ms

59.264102564 GHz

1 PK
MAXH



2.1.1.5 Temperature = -10 °C, Voltage = 100 %



* RBW 3 MHz

Marker 1 [T1]

* VBW 10 MHz

-10.83 dBm

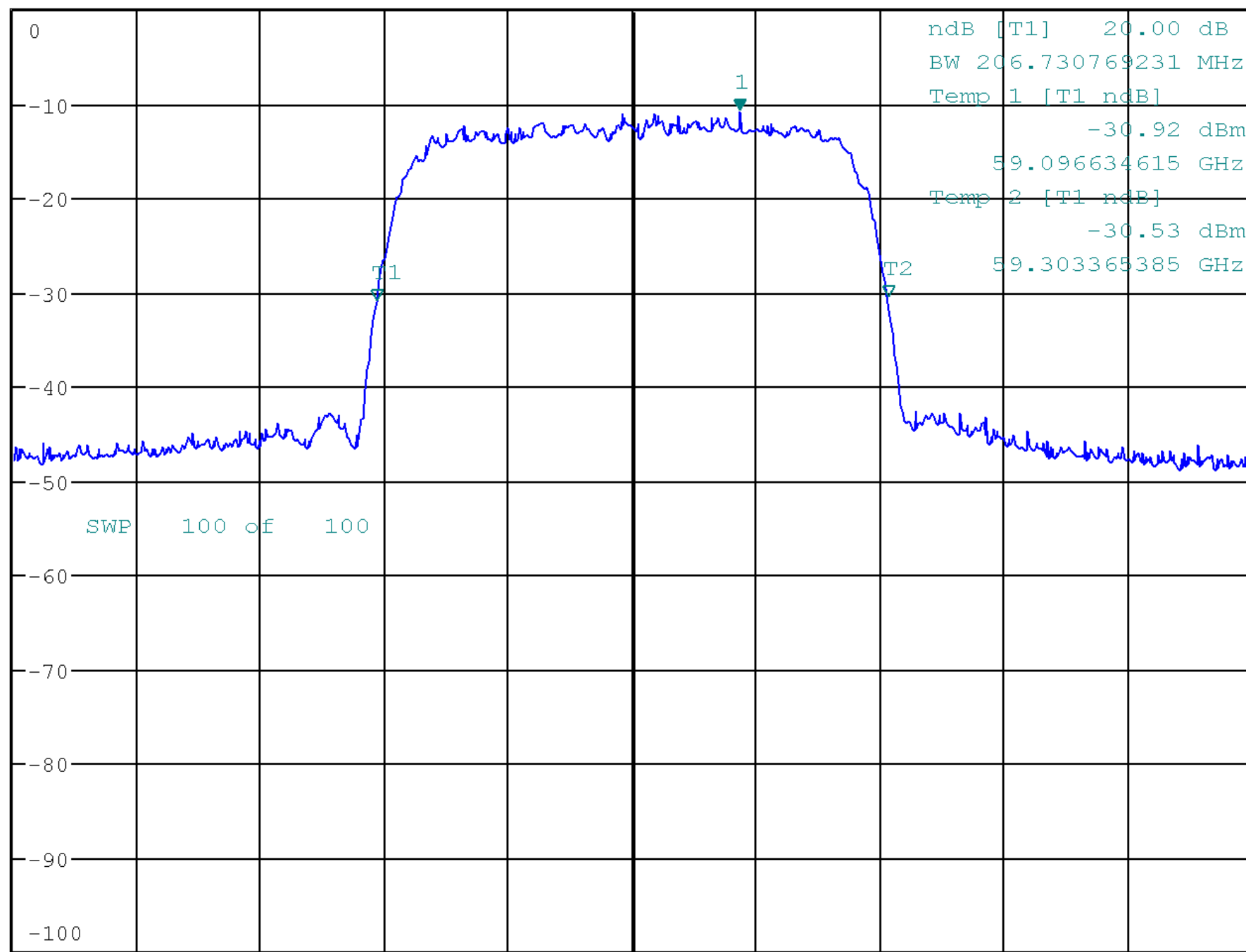
Ref 0 dBm

* Att 15 dB

SWT 20 ms

59.243269231 GHz

1 PK
MAXH



A
SGL

3DB

Center 59.2 GHz

50 MHz/

Span 500 MHz

2.1.1.6 Temperature = 0 °C, Voltage = 100 %



* RBW 3 MHz
* VBW 10 MHz

Marker 1 [T1]
-10.86 dBm
59.197596154 GHz

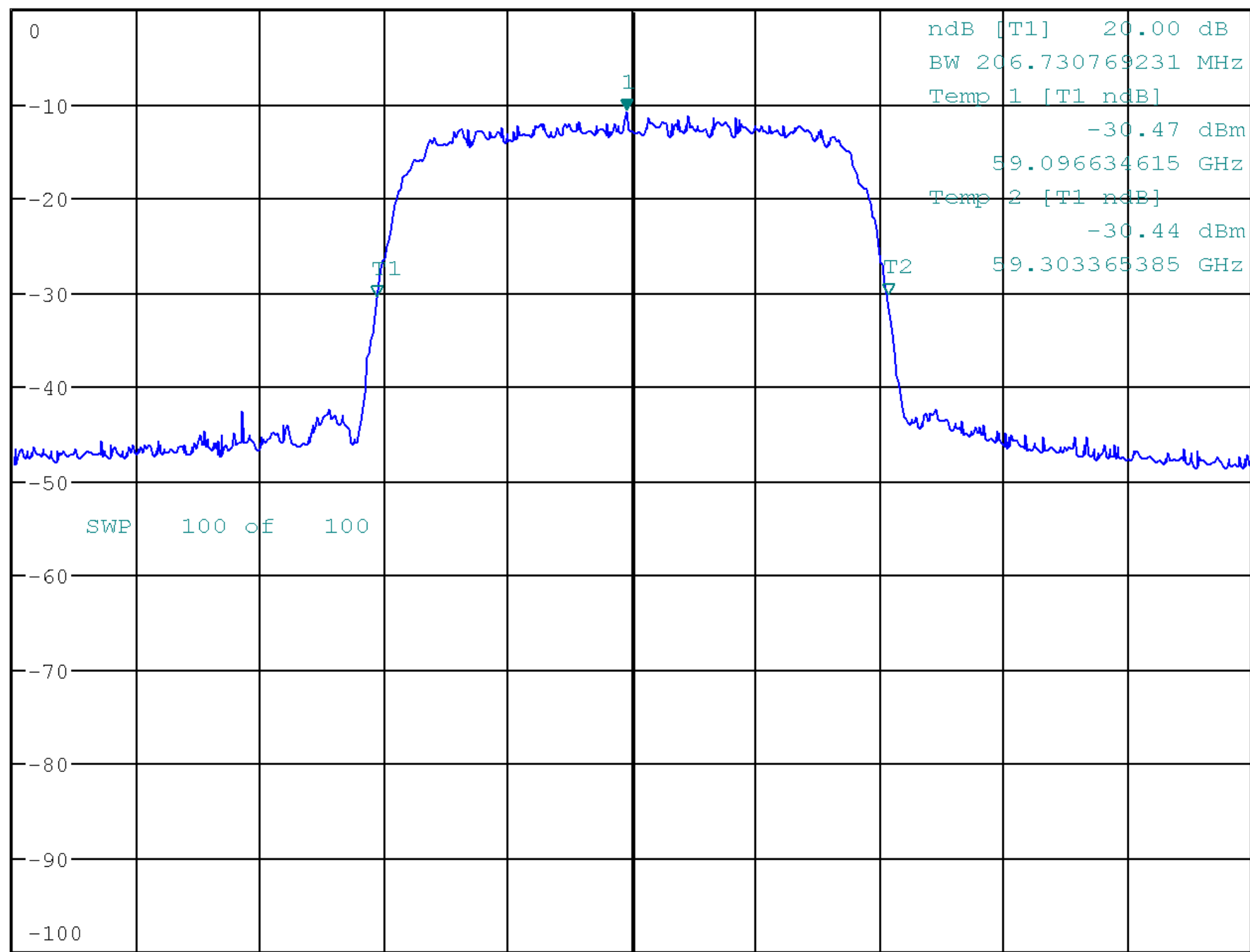
Ref 0 dBm

* Att 15 dB

SWT 20 ms

59.197596154 GHz

1 PK
MAXH



A
SGL

3DB

Center 59.2 GHz

50 MHz/

Span 500 MHz

2.1.1.7 Temperature = +10 °C, Voltage = 100 %



* RBW 3 MHz

Marker 1 [T1]

* VBW 10 MHz

-10.94 dBm

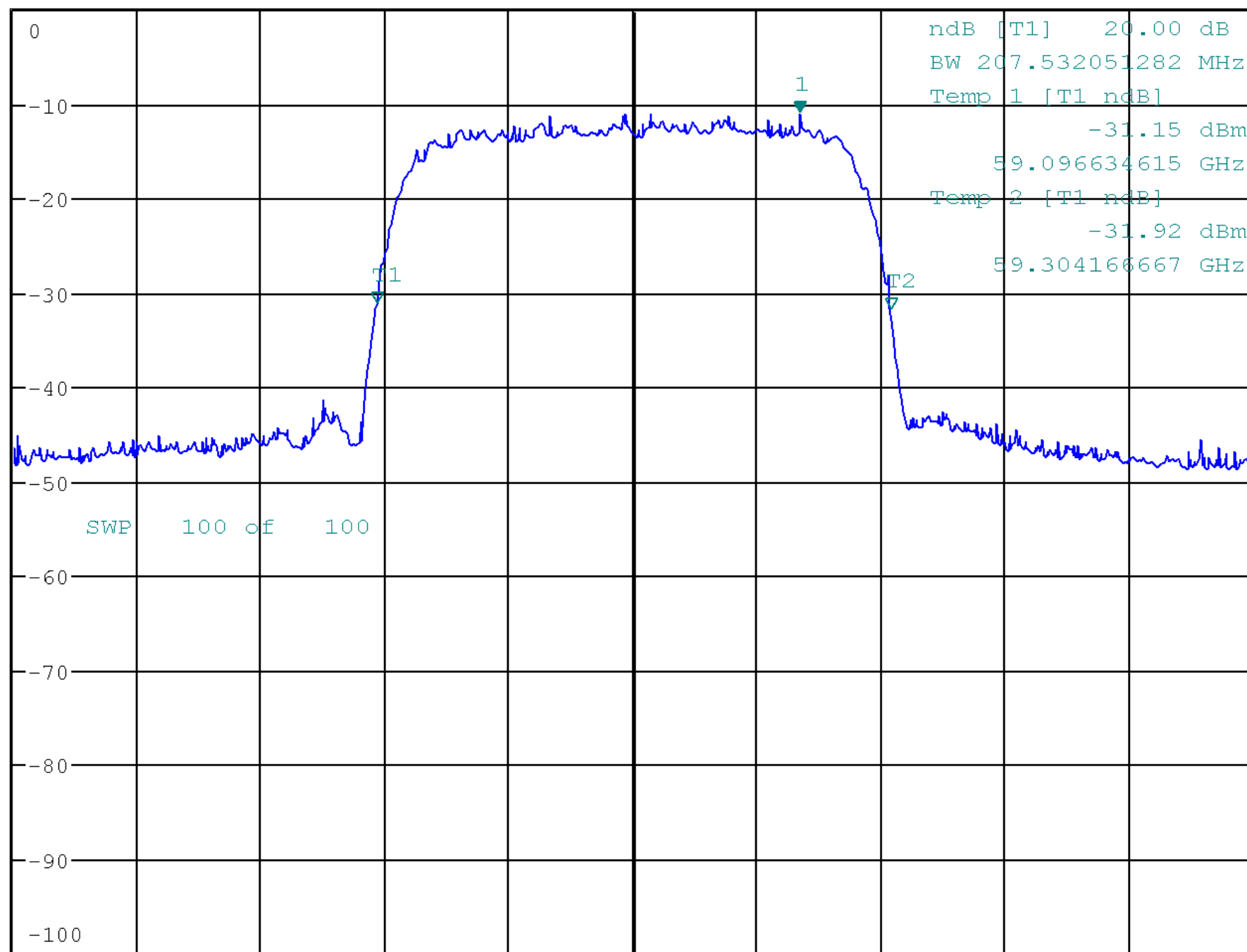
Ref 0 dBm

* Att 15 dB

SWT 20 ms

59.267307692 GHz

1 PK
MAXH



A
SGL

3DB

Center 59.2 GHz

50 MHz/

Span 500 MHz

2.1.1.8 Temperature = +20 °C, Voltage = 100 %



* RBW 3 MHz

Marker 1 [T1]

* VBW 10 MHz

-10.83 dBm

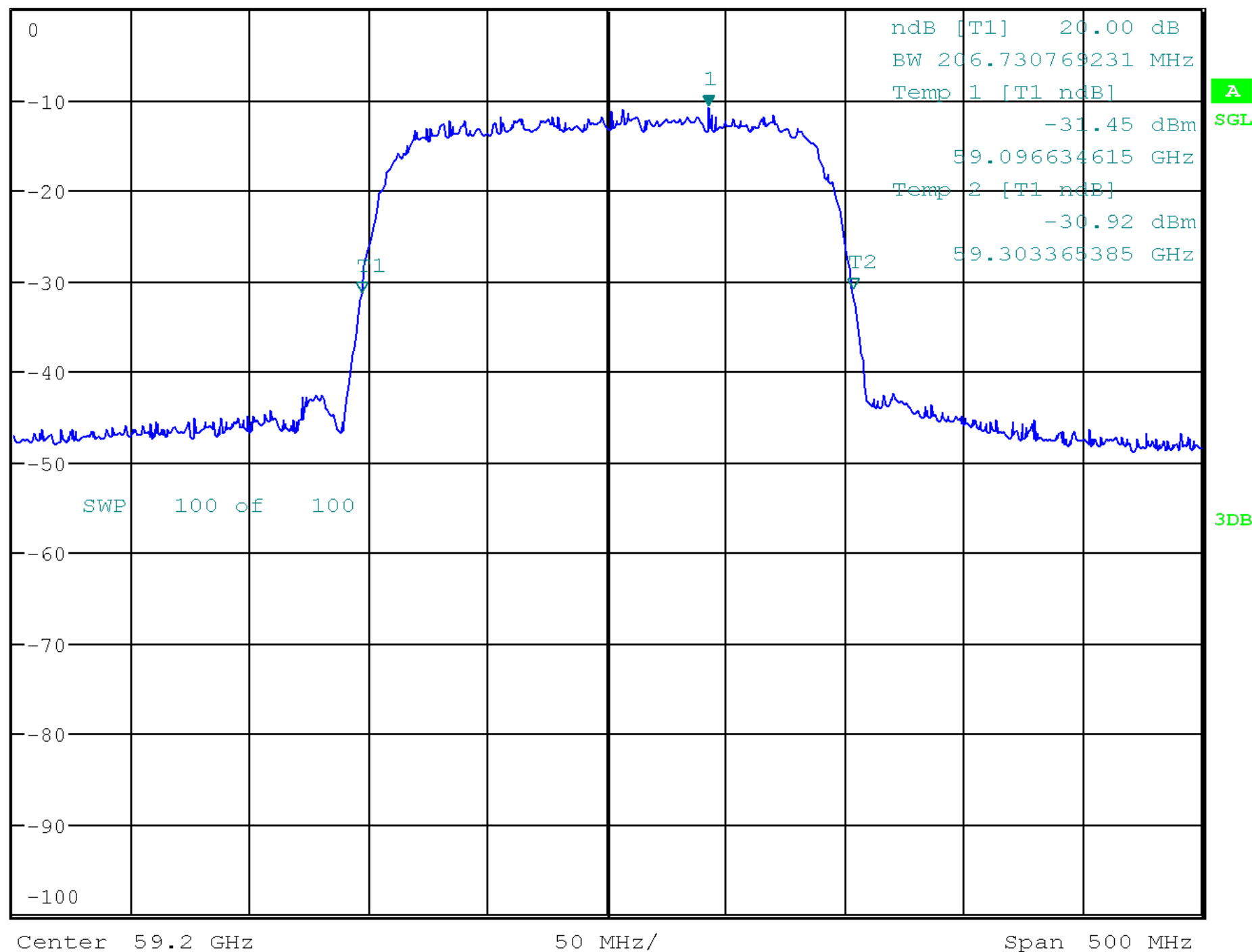
Ref 0 dBm

* Att 15 dB

SWT 20 ms

59.242467949 GHz

1 PK
MAXH



2.1.1.9 Temperature = +30 °C, Voltage = 100 %



* RBW 3 MHz

Marker 1 [T1]

* VBW 10 MHz

-10.05 dBm

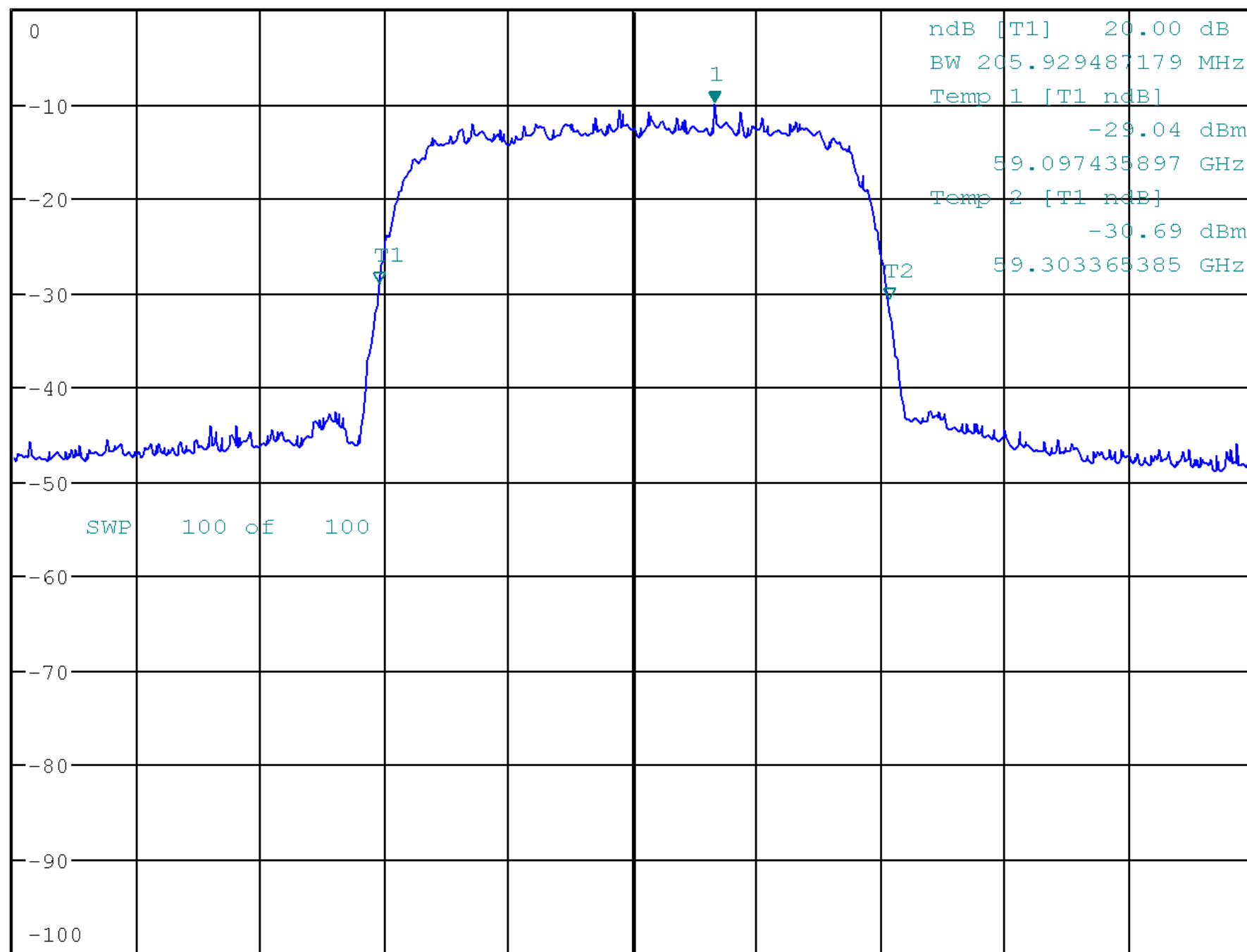
Ref 0 dBm

* Att 15 dB

SWT 20 ms

59.232852564 GHz

1 PK
MAXH



A
SGL

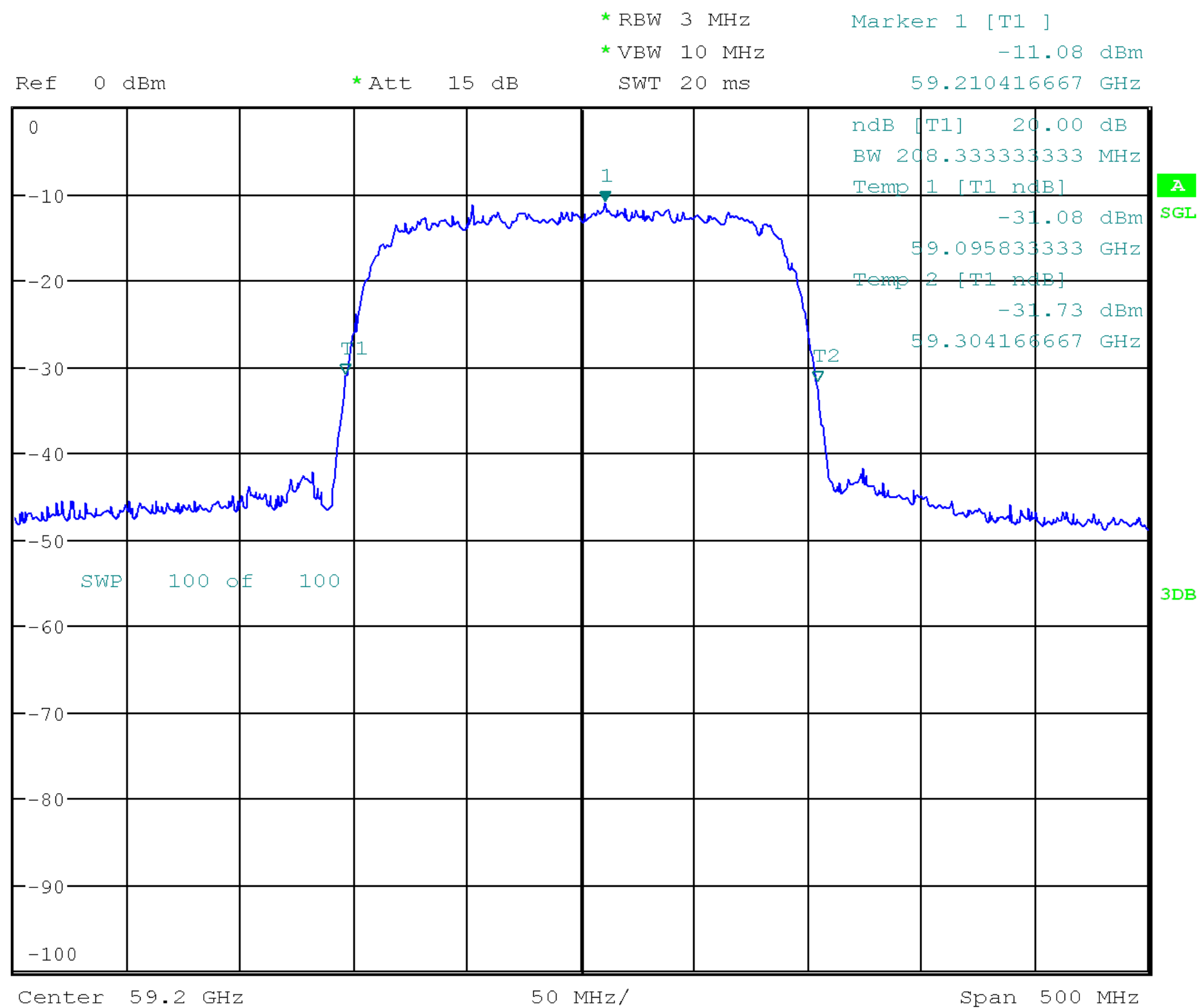
3DB

Center 59.2 GHz

50 MHz/

Span 500 MHz

2.1.1.10 Temperature = +40 °C, Voltage = 100 %



2.1.1.11 Temperature = +50 °C, Voltage = 100 %



* RBW 3 MHz

Marker 1 [T1]

* VBW 10 MHz

-10.25 dBm

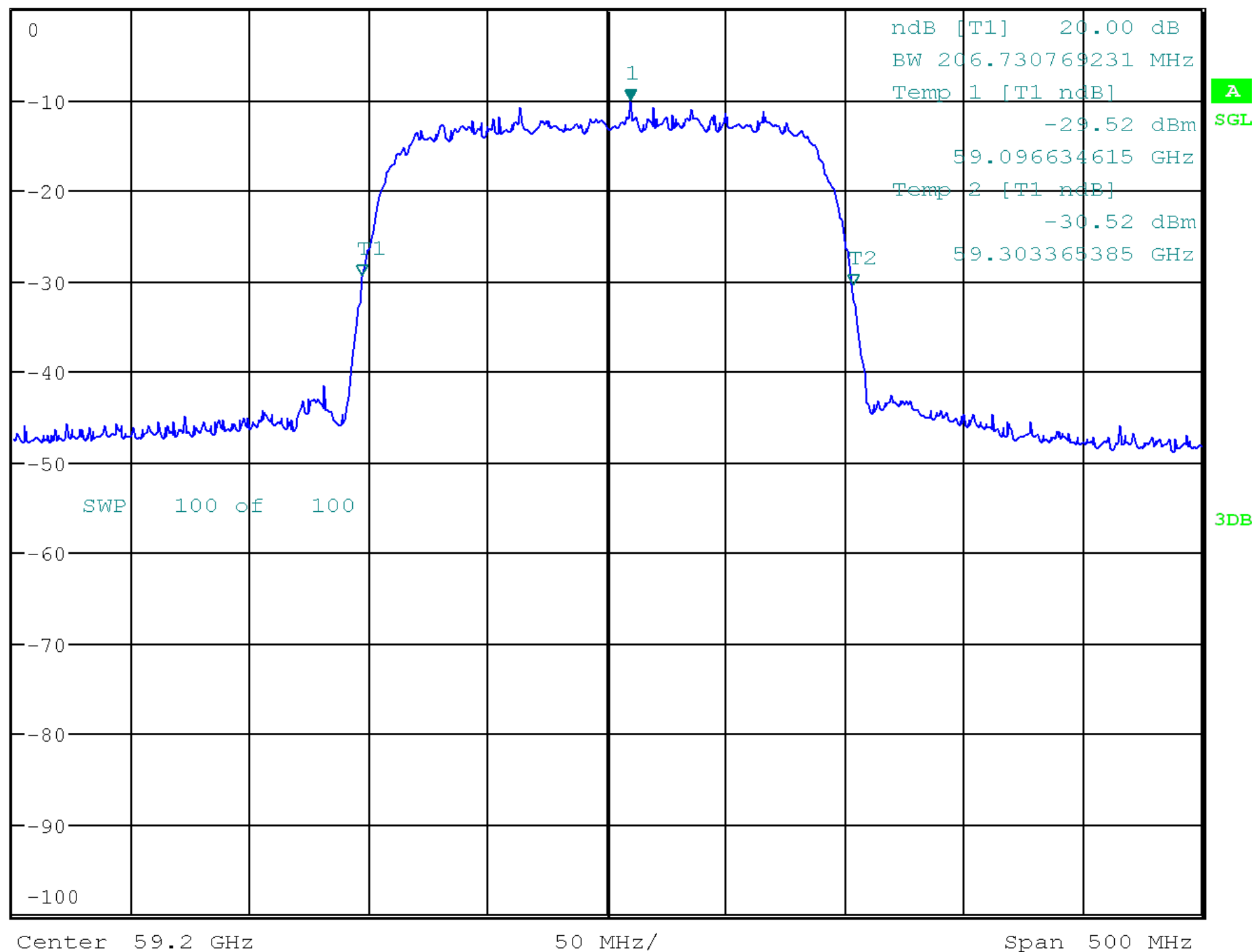
Ref 0 dBm

* Att 15 dB

SWT 20 ms

59.209615385 GHz

1 PK
MAXH



2.1.2 QPSK-T

2.1.2.1 Temperature = Ambient, Voltage = 85 %



* RBW 3 MHz
* VBW 10 MHz

Marker 1 [T1]
-11.79 dBm
63.804006410 GHz

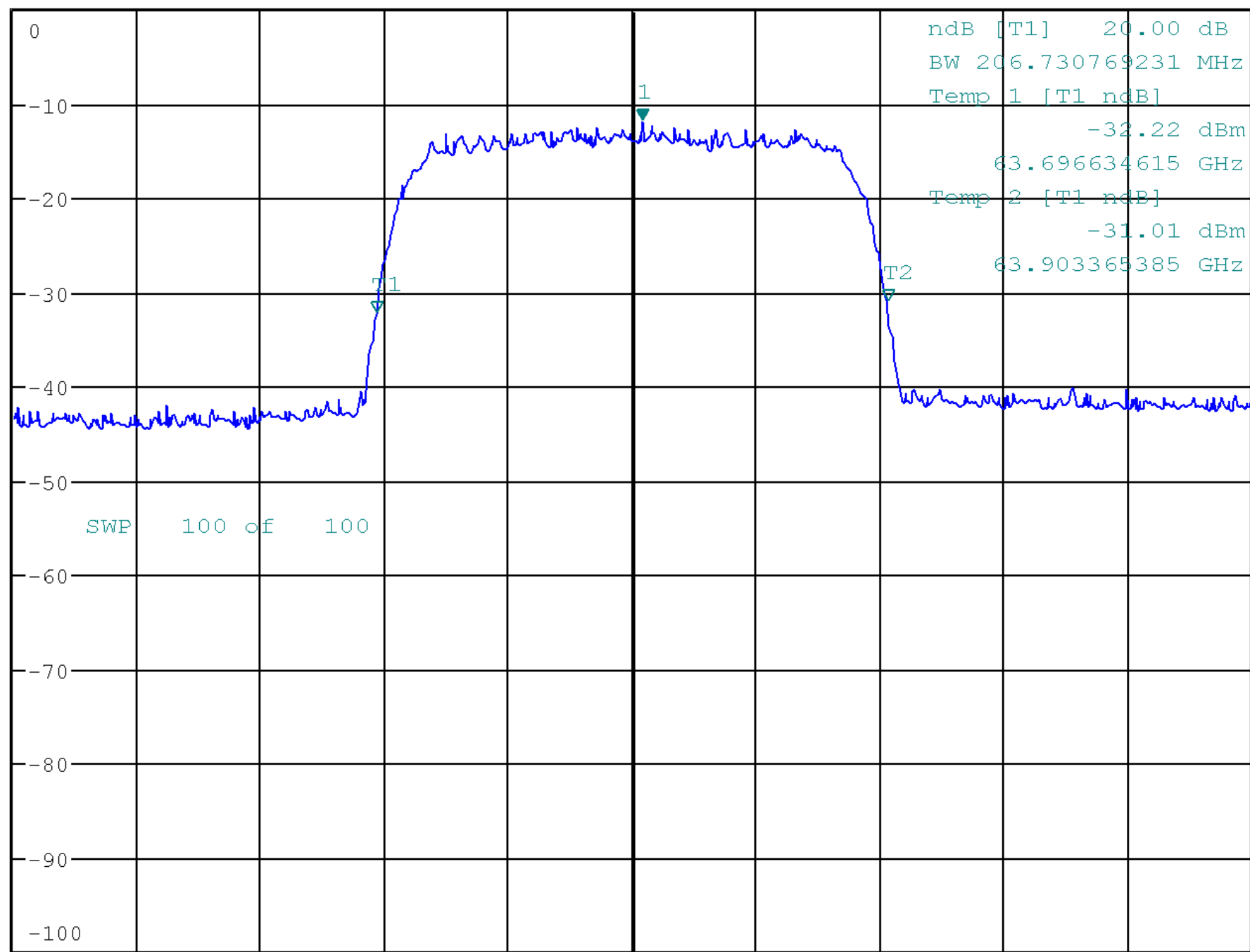
Ref 0 dBm

* Att 15 dB

SWT 20 ms

63.804006410 GHz

1 PK
MAXH



A
SGL

3DB

Center 63.8 GHz

50 MHz/

Span 500 MHz

2.1.2.2 Temperature = Ambient, Voltage = 100 %



* RBW 3 MHz

Marker 1 [T1]

* VBW 10 MHz

-12.19 dBm

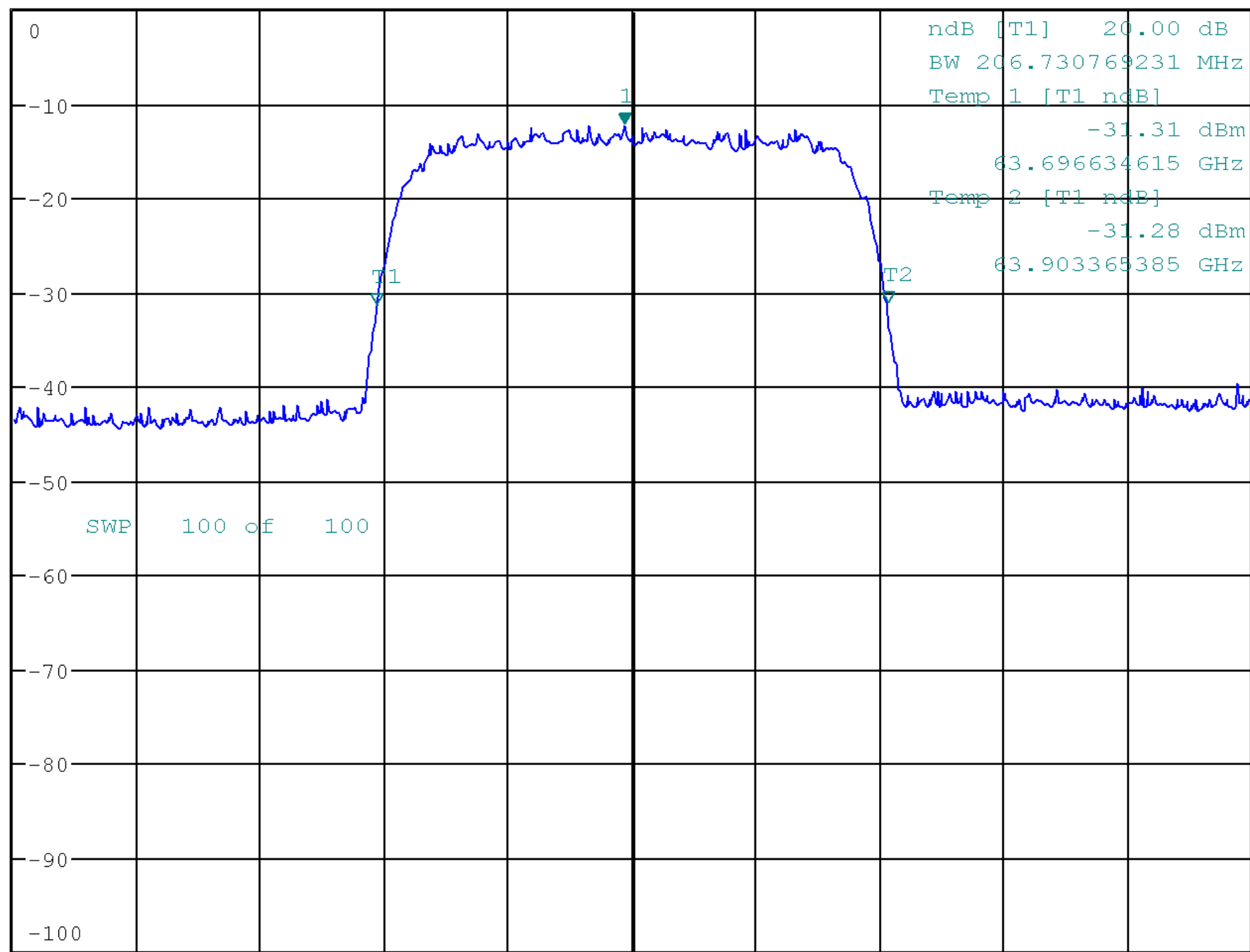
Ref 0 dBm

* Att 15 dB

SWT 20 ms

63.796794872 GHz

1 PK
MAXH



A

SGL

3DB

SWP 100 of 100

Center 63.8 GHz

50 MHz/

Span 500 MHz

2.1.2.3 Temperature = Ambient, Voltage = 115 %



* RBW 3 MHz

Marker 1 [T1]

* VBW 10 MHz

-11.56 dBm

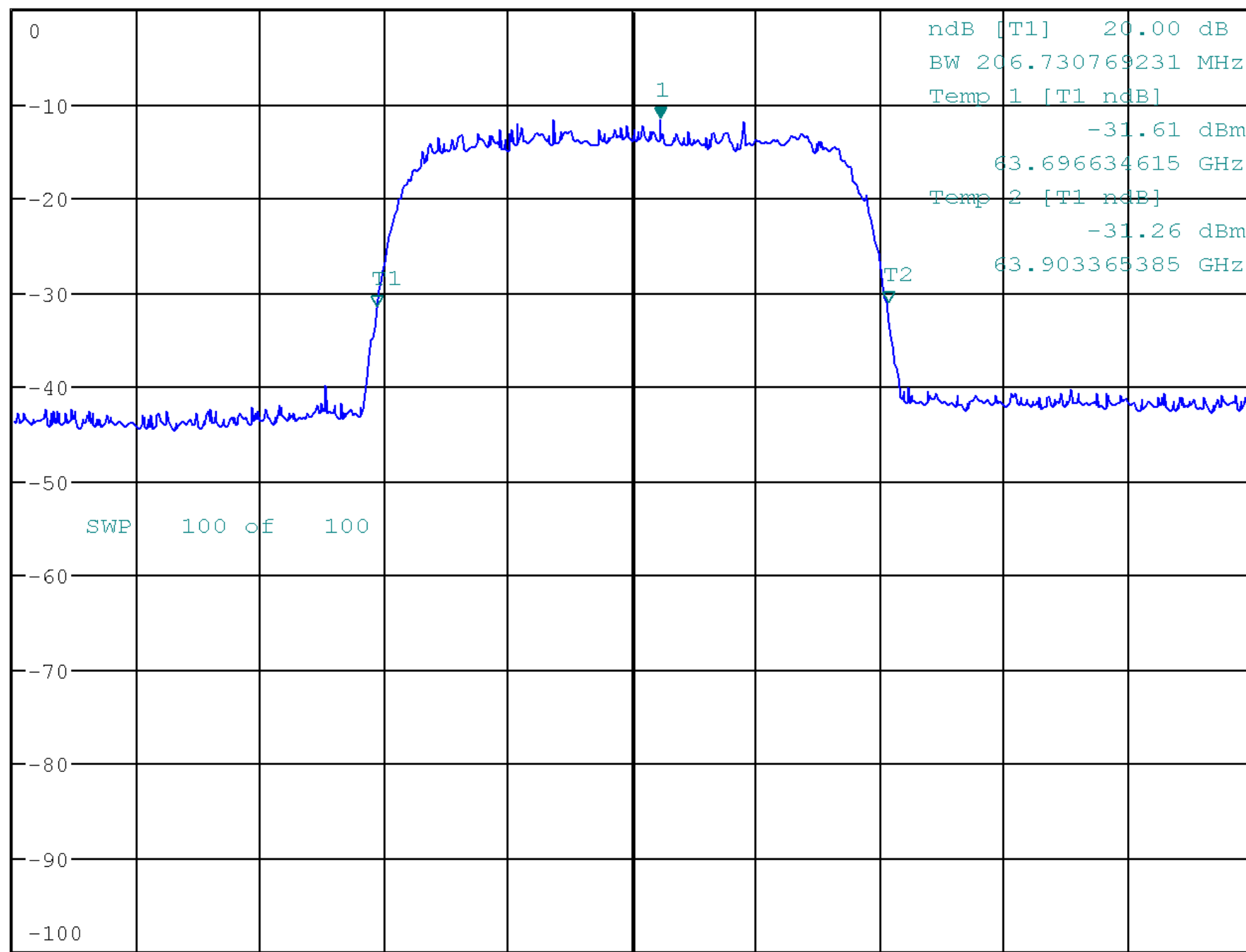
Ref 0 dBm

* Att 15 dB

SWT 20 ms

63.811217949 GHz

1 PK
MAXH



A
SGL

3DB

Center 63.8 GHz

50 MHz/

Span 500 MHz

2.1.2.4 Temperature = -20 °C, Voltage = 100 %



* RBW 3 MHz

Marker 1 [T1]

* VBW 10 MHz

-11.40 dBm

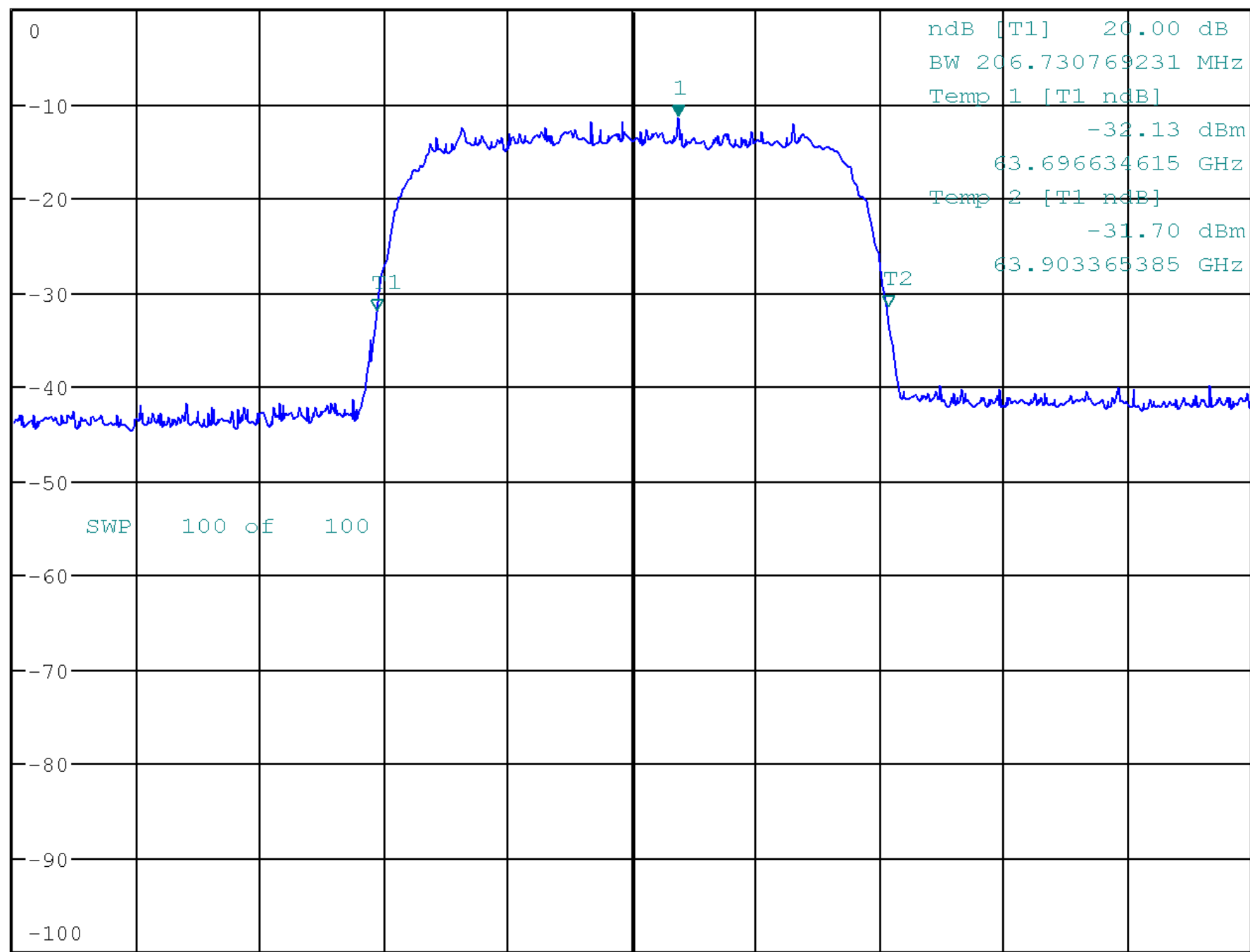
Ref 0 dBm

* Att 15 dB

SWT 20 ms

63.818429487 GHz

1 PK
MAXH



A

SGL

3DB

Center 63.8 GHz

50 MHz/

Span 500 MHz

2.1.2.5 Temperature = -10 °C, Voltage = 100 %



* RBW 3 MHz

Marker 1 [T1]

* VBW 10 MHz

-11.43 dBm

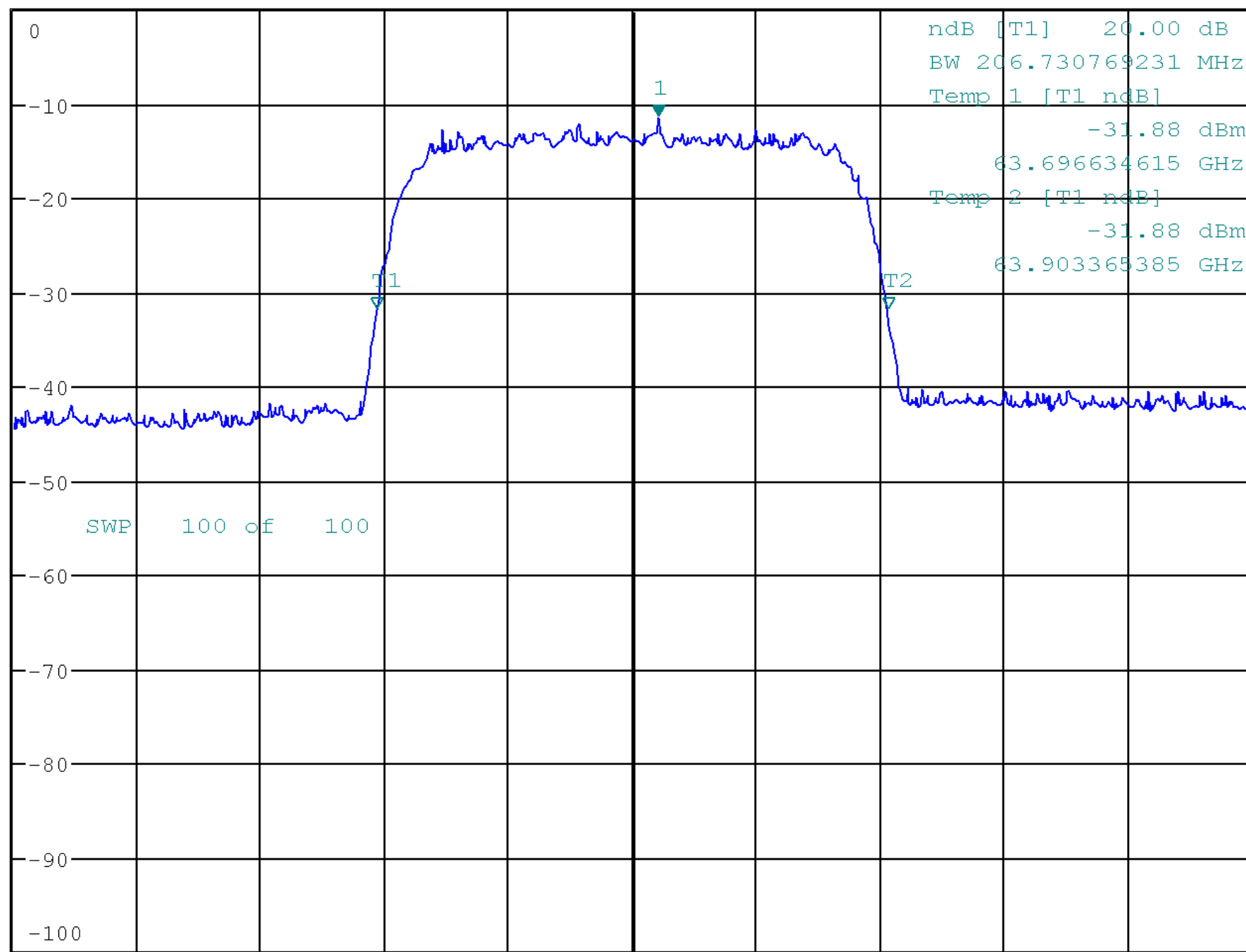
Ref 0 dBm

* Att 15 dB

SWT 20 ms

63.810416667 GHz

1 PK
MAXH



A
SGL

3DB

Center 63.8 GHz

50 MHz/

Span 500 MHz

2.1.2.6 Temperature = 0 °C, Voltage = 100 %



* RBW 3 MHz

Marker 1 [T1]

* VBW 10 MHz

-12.02 dBm

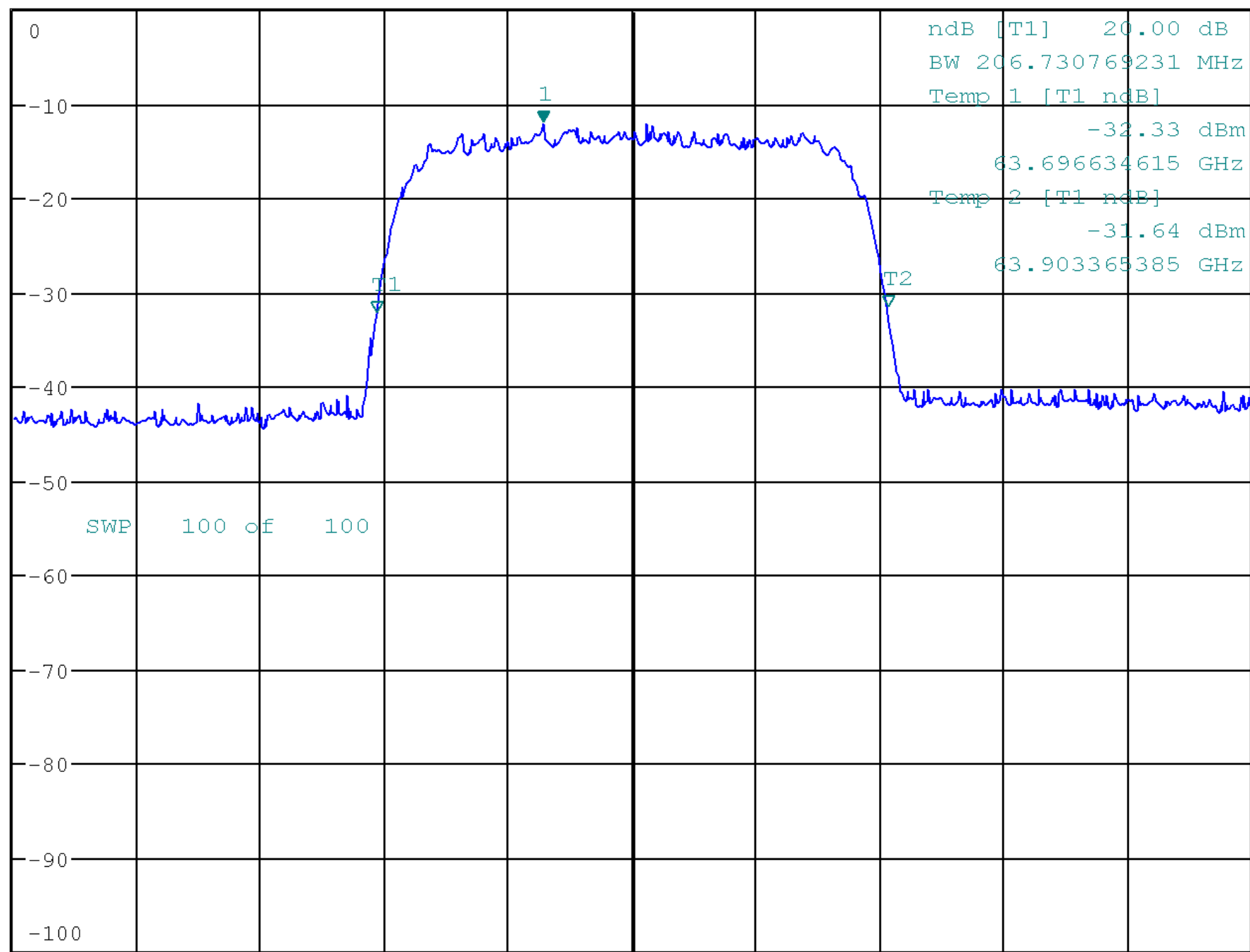
Ref 0 dBm

* Att 15 dB

SWT 20 ms

63.763942308 GHz

1 PK
MAXH



A

SGL

3DB

Center 63.8 GHz

50 MHz/

Span 500 MHz

2.1.2.7 Temperature = +10 °C, Voltage = 100 %



* RBW 3 MHz

Marker 1 [T1]

* VBW 10 MHz

-12.27 dBm

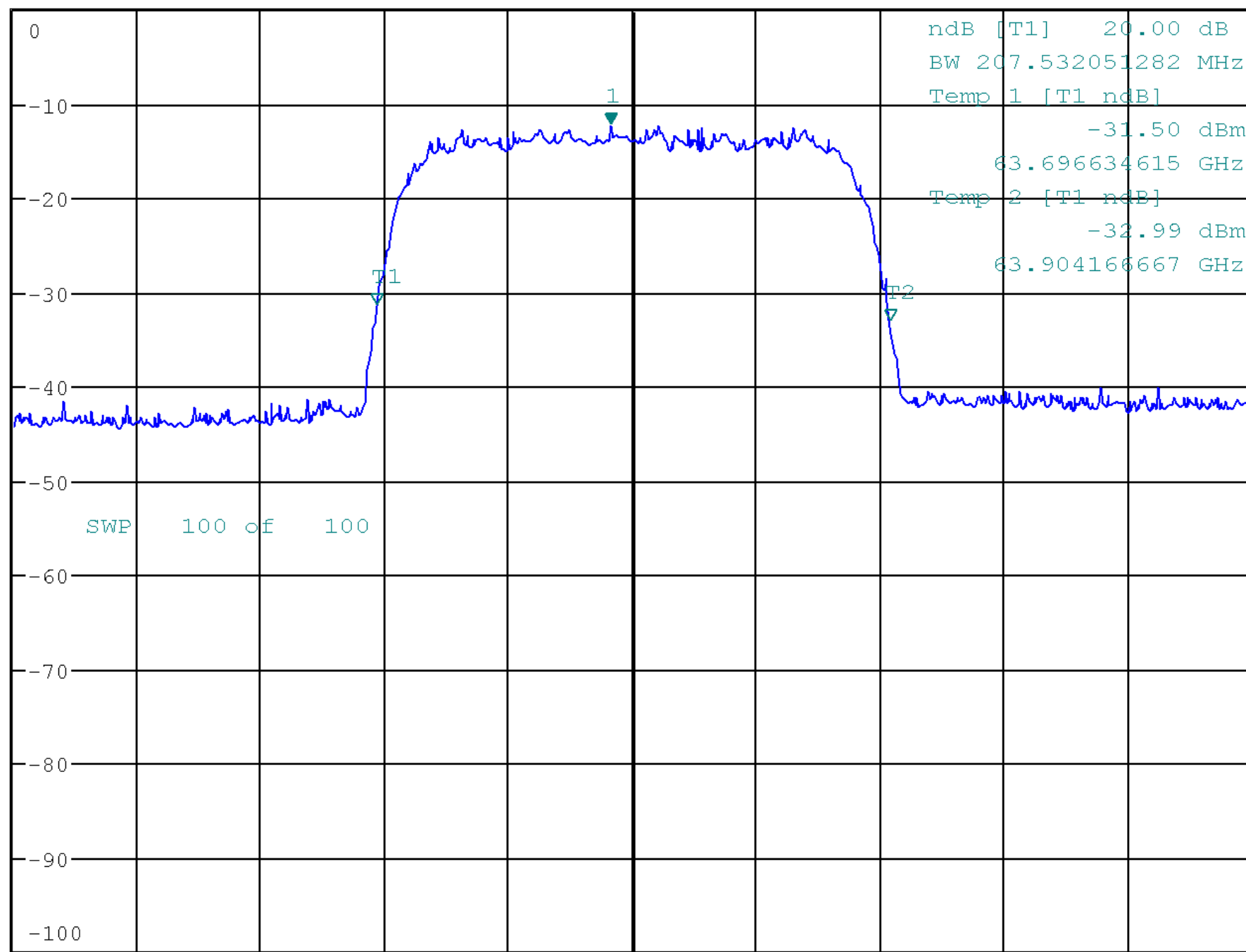
Ref 0 dBm

* Att 15 dB

SWT 20 ms

63.791185897 GHz

1 PK
MAXH



A
SGL

3DB

SWP 100 of 100

Center 63.8 GHz

50 MHz/

Span 500 MHz

2.1.2.8 Temperature = +20 °C, Voltage = 100 %



* RBW 3 MHz

Marker 1 [T1]

* VBW 10 MHz

-12.33 dBm

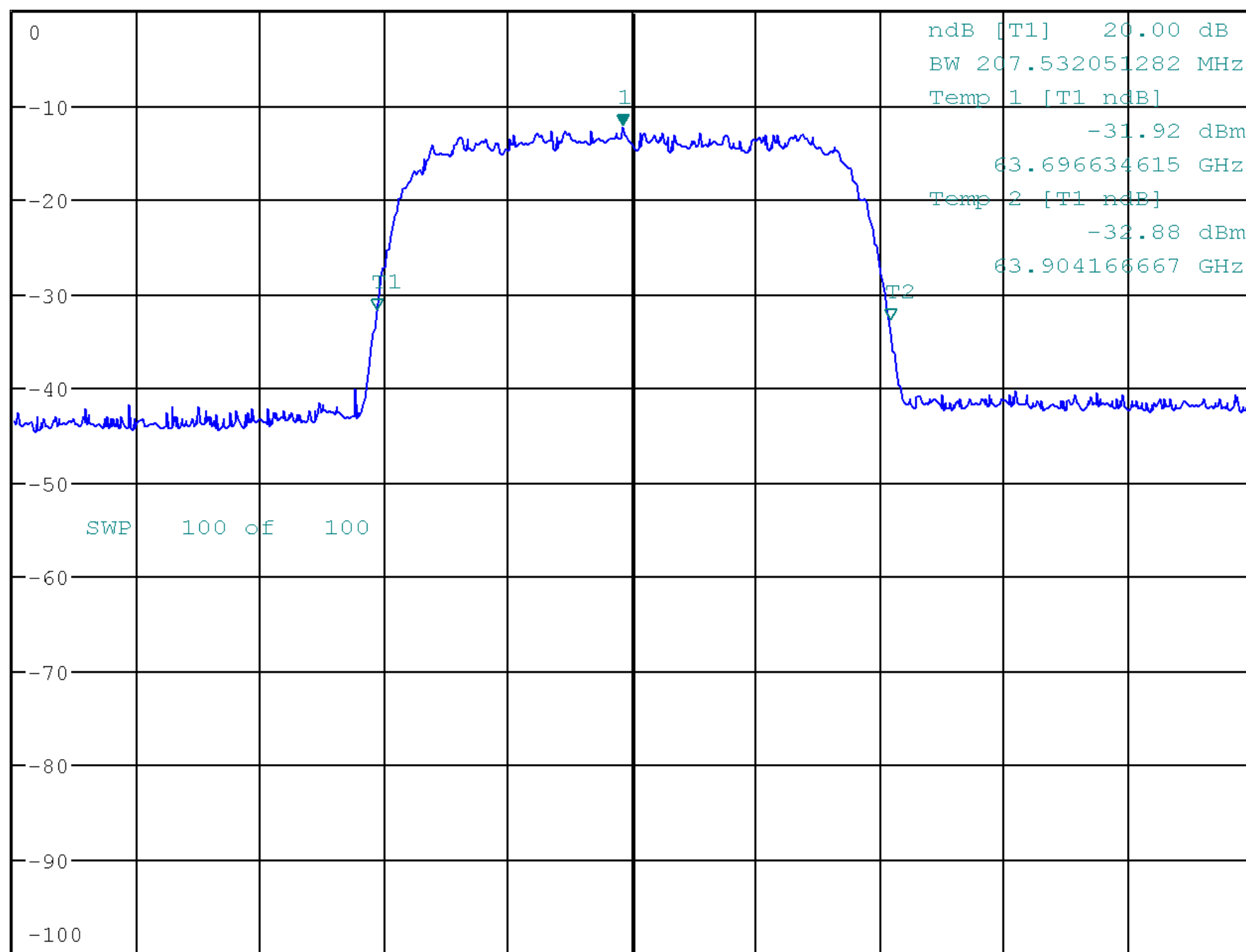
Ref 0 dBm

* Att 15 dB

SWT 20 ms

63.795993590 GHz

1 PK
MAXH



A
SGL

3DB

Center 63.8 GHz

50 MHz/

Span 500 MHz

2.1.2.9 Temperature = +30 °C, Voltage = 100 %



* RBW 3 MHz

Marker 1 [T1]

* VBW 10 MHz

-12.03 dBm

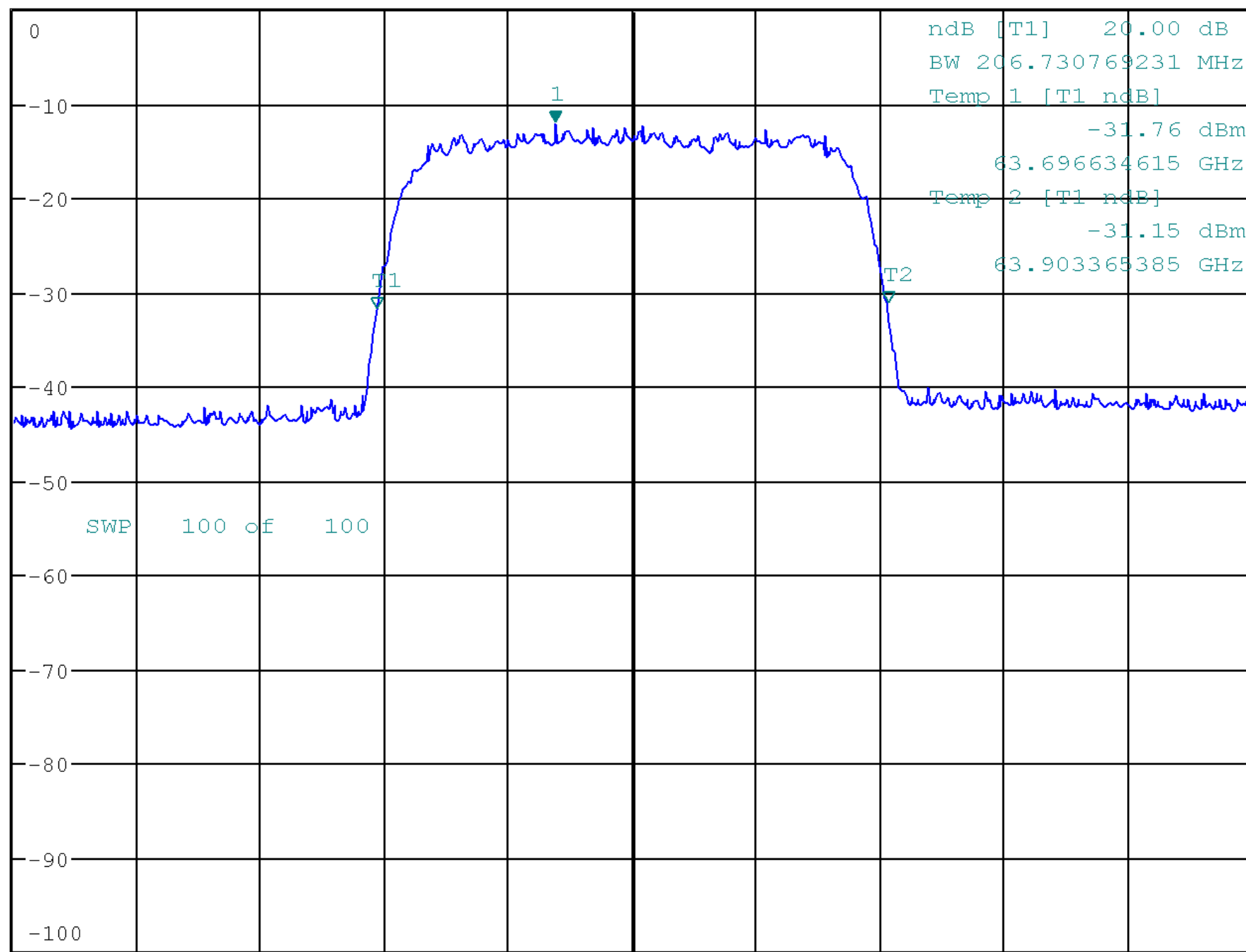
Ref 0 dBm

* Att 15 dB

SWT 20 ms

63.768750000 GHz

1 PK
MAXH



SWP 100 of 100

Center 63.8 GHz

50 MHz/

Span 500 MHz

2.1.2.10 Temperature = +40 °C, Voltage = 100 %



* RBW 3 MHz

Marker 1 [T1]

* VBW 10 MHz

-12.10 dBm

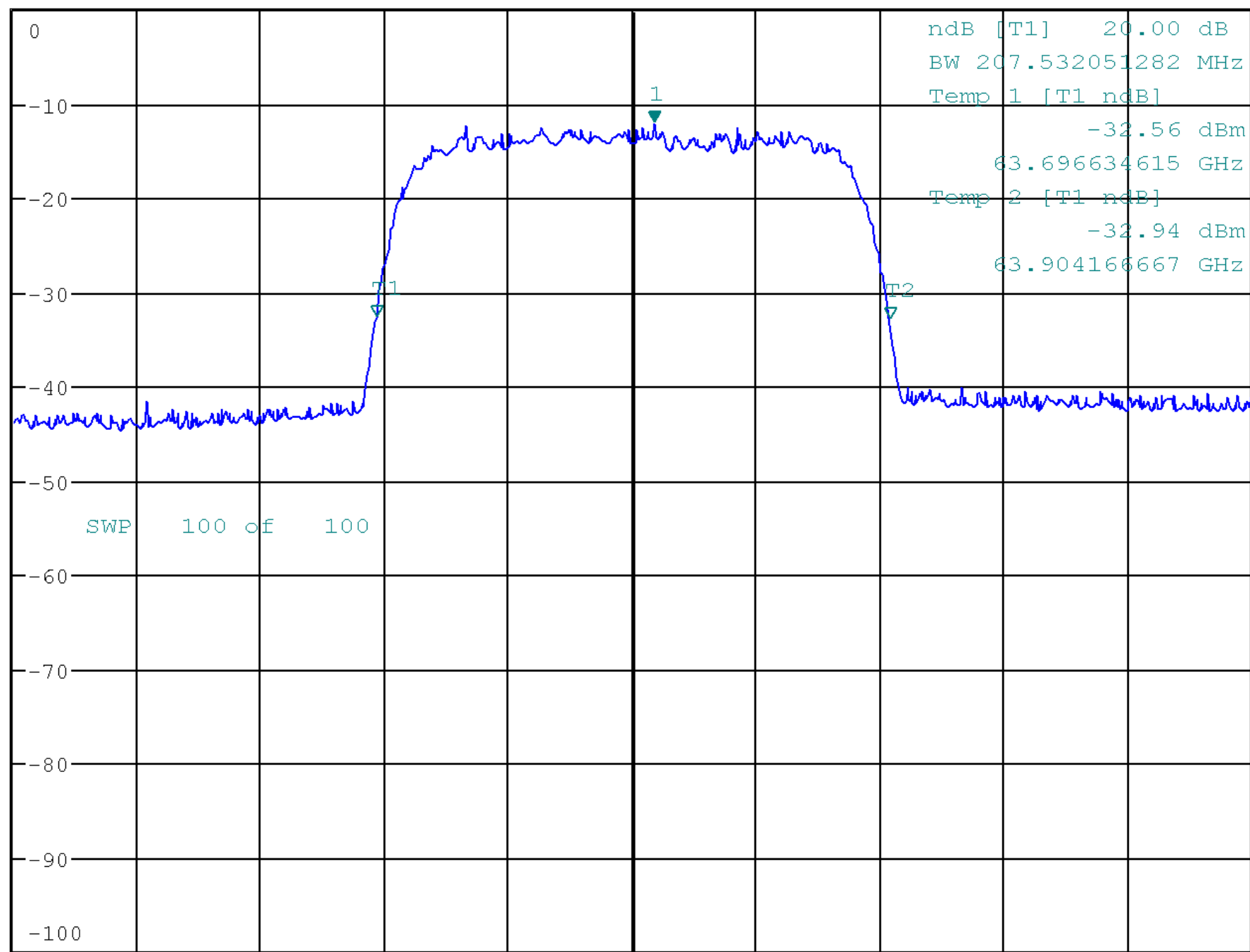
Ref 0 dBm

* Att 15 dB

SWT 20 ms

63.808814103 GHz

1 PK
MAXH



Center 63.8 GHz

50 MHz/

Span 500 MHz

2.1.2.11 Temperature = +50 °C, Voltage = 100 %



* RBW 3 MHz

Marker 1 [T1]

* VBW 10 MHz

-12.15 dBm

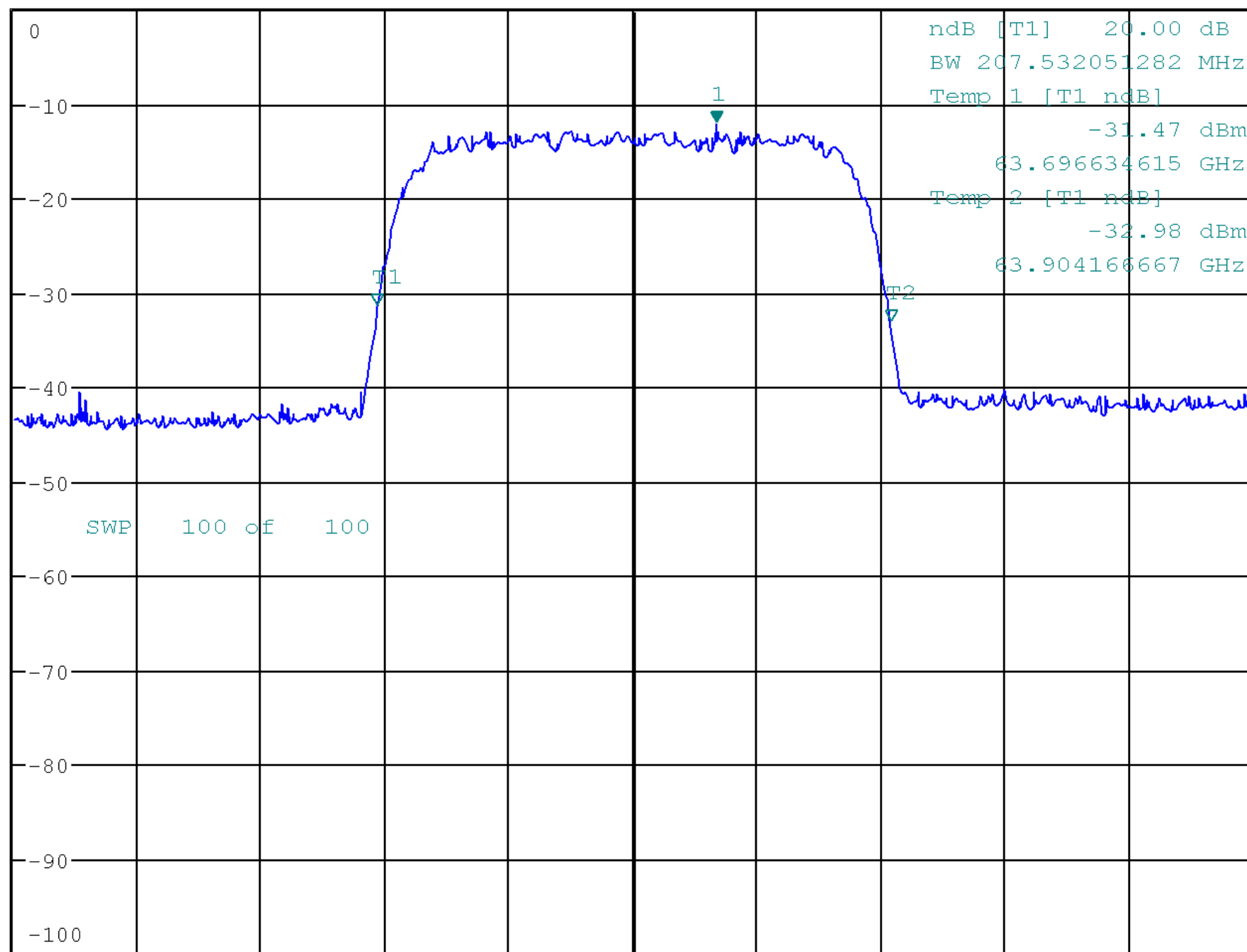
Ref 0 dBm

* Att 15 dB

SWT 20 ms

63.833653846 GHz

1 PK
MAXH



A
SGL

3DB

SWP 100 of 100

Center 63.8 GHz

50 MHz/

Span 500 MHz

2.1.3 16QAM-B

2.1.3.1 Temperature = Ambient, Voltage = 85 %



* RBW 3 MHz

Marker 1 [T1]

* VBW 10 MHz

-12.56 dBm

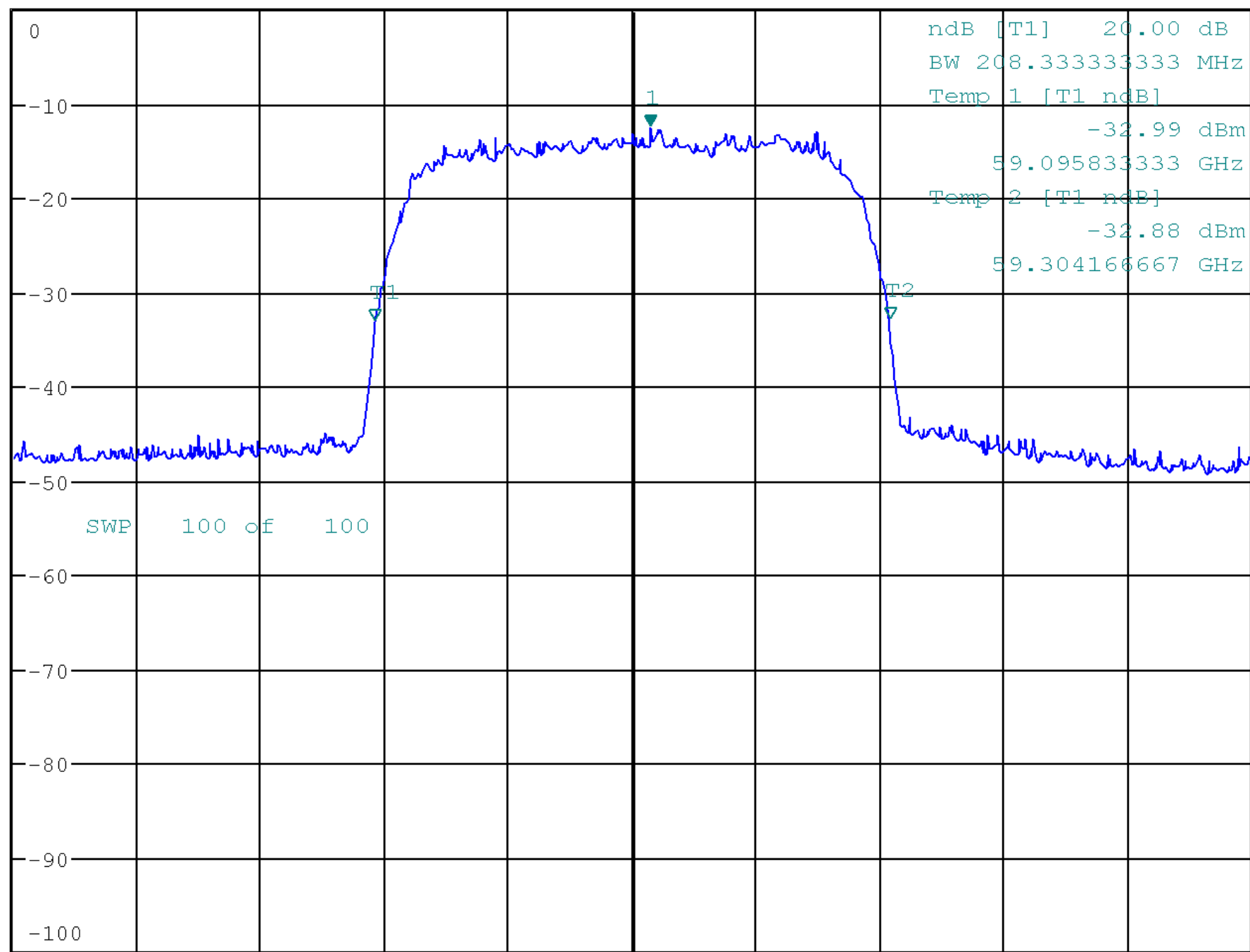
Ref 0 dBm

* Att 15 dB

SWT 20 ms

59.207211538 GHz

1 PK
MAXH



Center 59.2 GHz

50 MHz/

Span 500 MHz

2.1.3.2 Temperature = Ambient, Voltage = 100 %



* RBW 3 MHz

Marker 1 [T1]

* VBW 10 MHz

-12.57 dBm

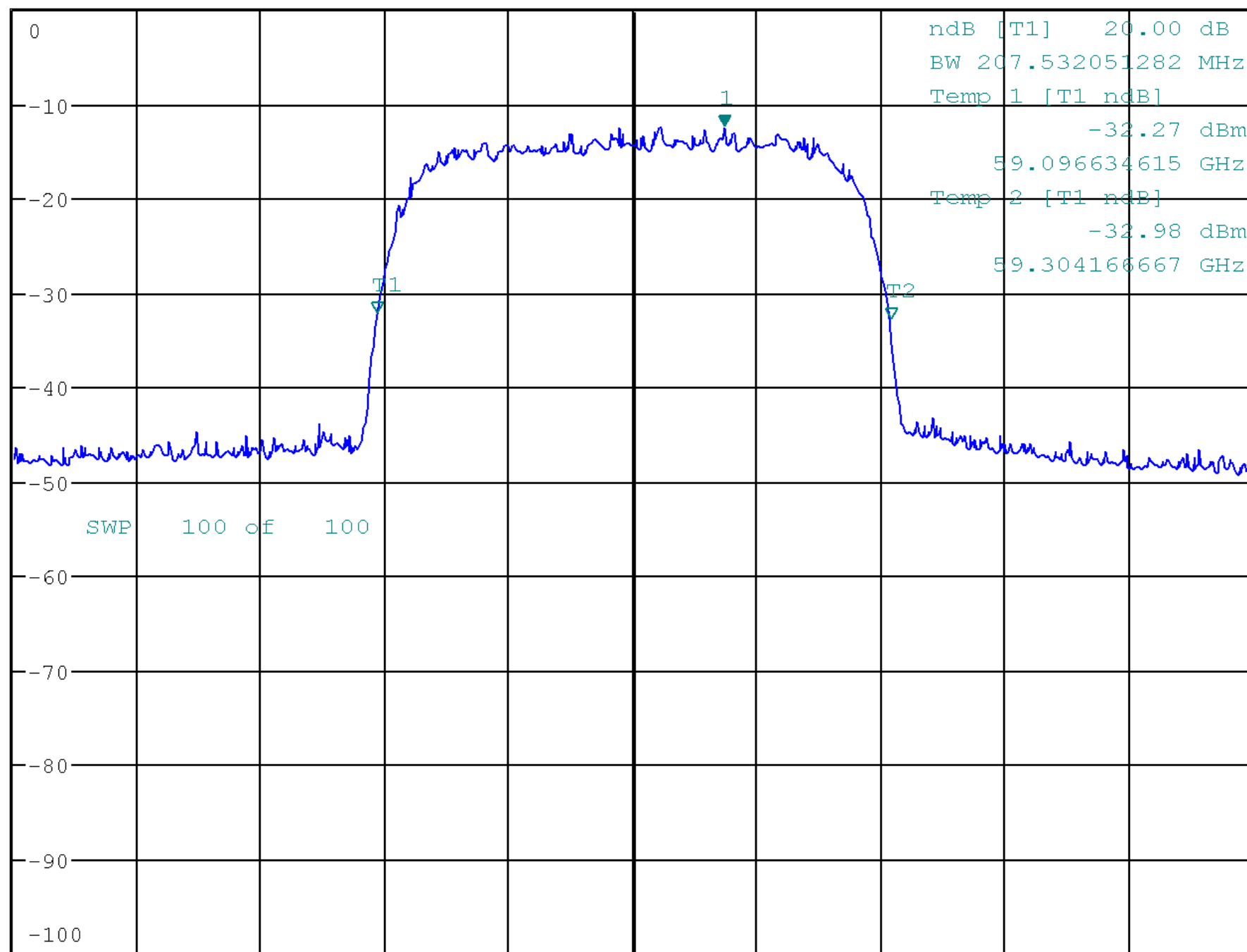
Ref 0 dBm

* Att 15 dB

SWT 20 ms

59.236858974 GHz

1 PK
MAXH



A
SGL

3DB

Center 59.2 GHz

50 MHz/

Span 500 MHz

2.1.3.3 Temperature = Ambient, Voltage = 115 %



* RBW 3 MHz
* VBW 10 MHz

Marker 1 [T1]
-12.08 dBm
59.199198718 GHz

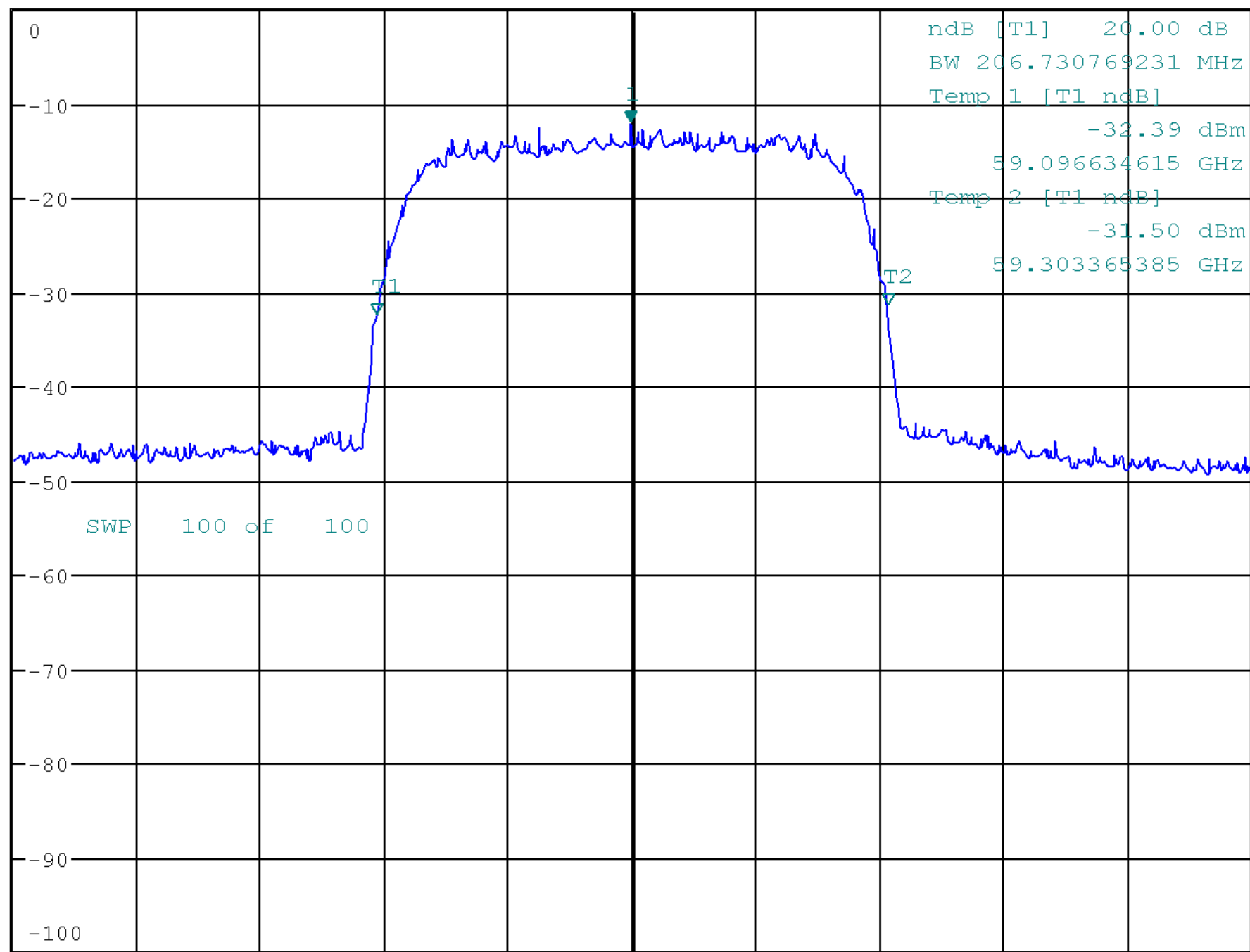
Ref 0 dBm

* Att 15 dB

SWT 20 ms

59.199198718 GHz

1 PK
MAXH



A
SGL

3DB

Center 59.2 GHz

50 MHz/

Span 500 MHz

2.1.3.4 Temperature = -20 °C, Voltage = 100 %



* RBW 3 MHz
* VBW 10 MHz

Marker 1 [T1]
-11.77 dBm
59.184775641 GHz

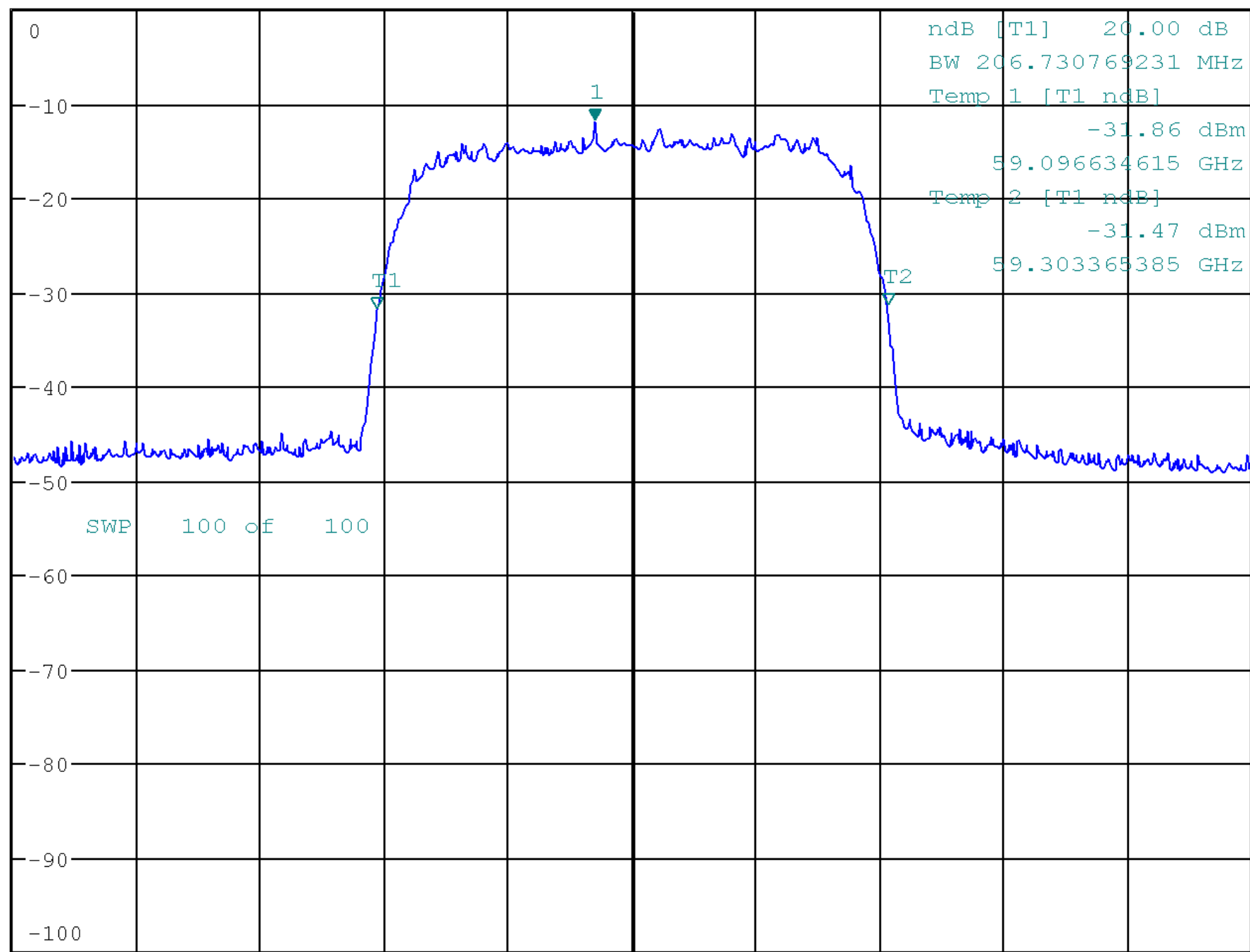
Ref 0 dBm

* Att 15 dB

SWT 20 ms

59.184775641 GHz

1 PK
MAXH



A

SGL

3DB

Center 59.2 GHz

50 MHz/

Span 500 MHz

2.1.3.5 Temperature = -10 °C, Voltage = 100 %



* RBW 3 MHz
* VBW 10 MHz

Marker 1 [T1]
-12.68 dBm
59.213621795 GHz

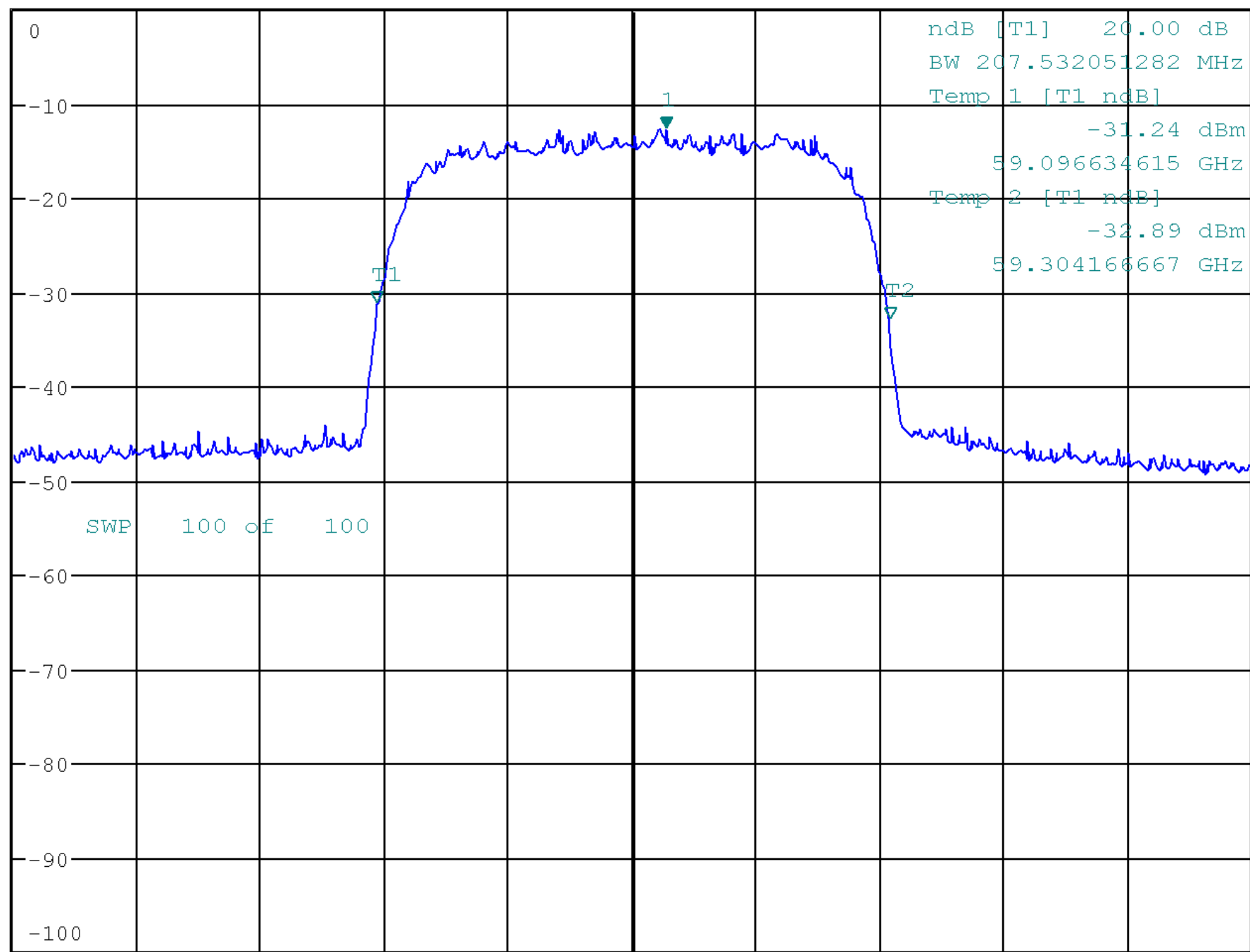
Ref 0 dBm

* Att 15 dB

SWT 20 ms

59.213621795 GHz

1 PK
MAXH



Center 59.2 GHz

50 MHz/

Span 500 MHz

2.1.3.6 Temperature = 0 °C, Voltage = 100 %



* RBW 3 MHz

Marker 1 [T1]

* VBW 10 MHz

-12.60 dBm

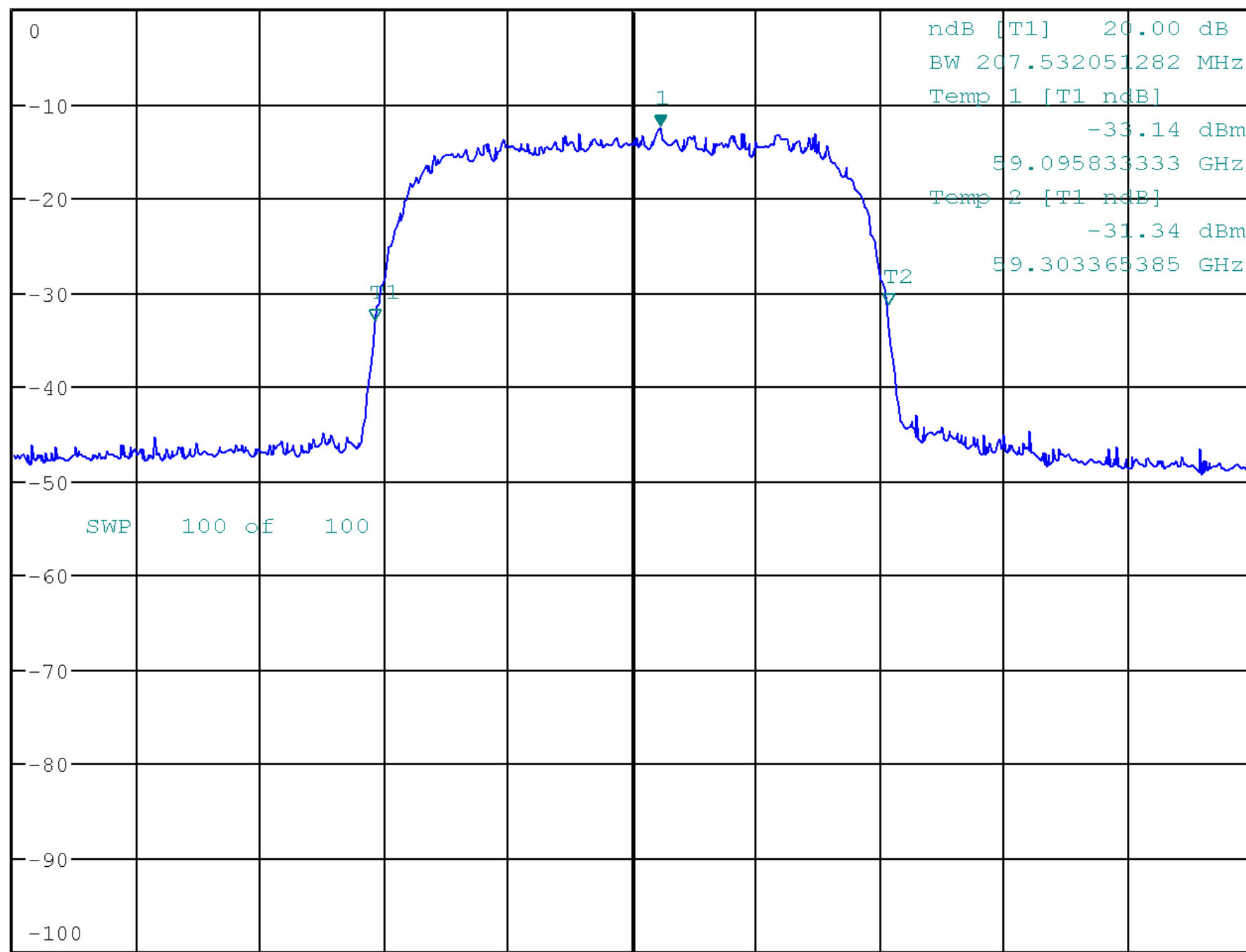
Ref 0 dBm

* Att 15 dB

SWT 20 ms

59.211217949 GHz

1 PK
MAXH



A
SGL

3DB

Center 59.2 GHz

50 MHz/

Span 500 MHz

2.1.3.7 Temperature = +10 °C, Voltage = 100 %



* RBW 3 MHz
* VBW 10 MHz

Marker 1 [T1]
-12.48 dBm
59.236858974 GHz

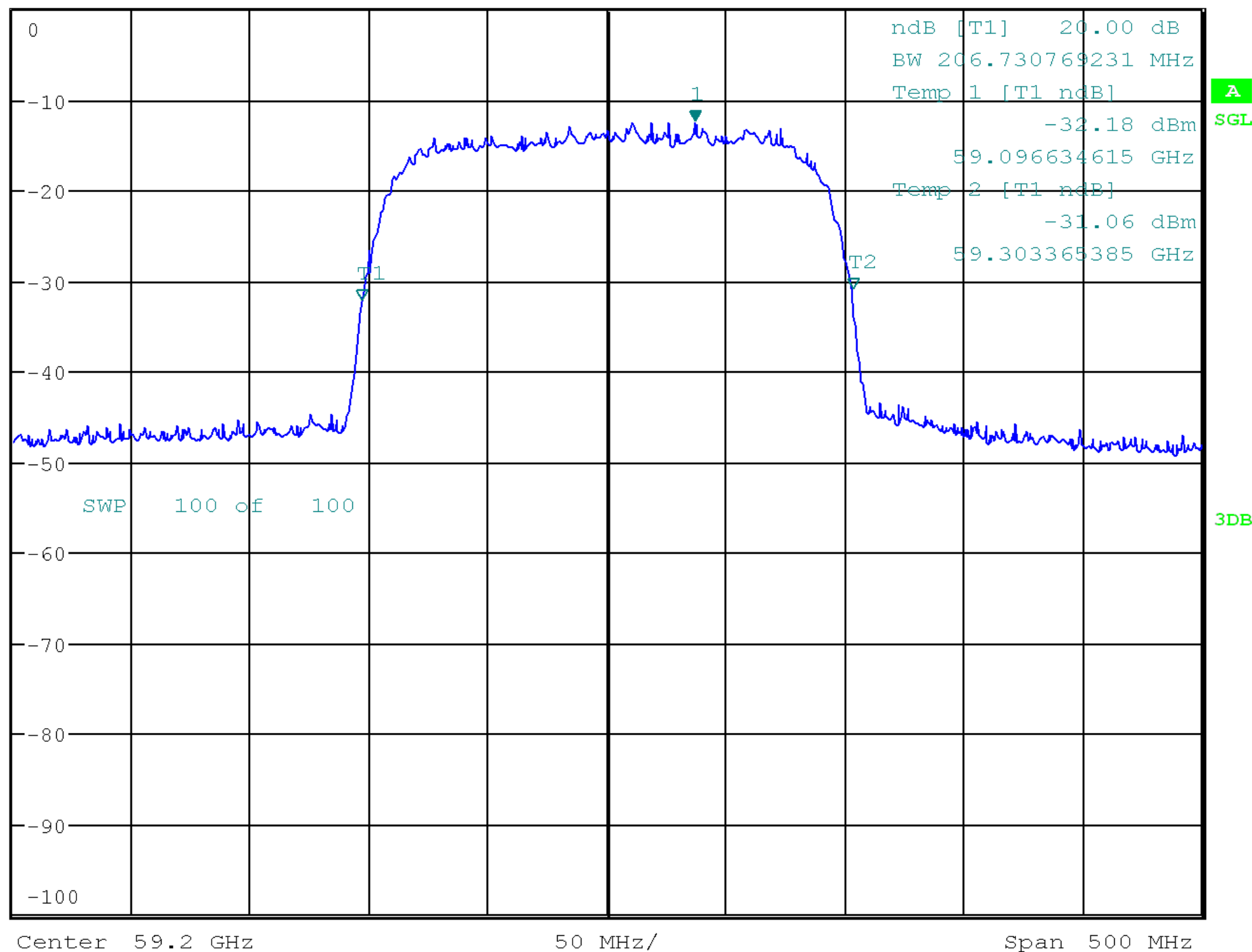
Ref 0 dBm

* Att 15 dB

SWT 20 ms

59.236858974 GHz

1 PK
MAXH



2.1.3.8 Temperature = +20 °C, Voltage = 100 %



* RBW 3 MHz
* VBW 10 MHz

Marker 1 [T1]
-12.57 dBm
59.162339744 GHz

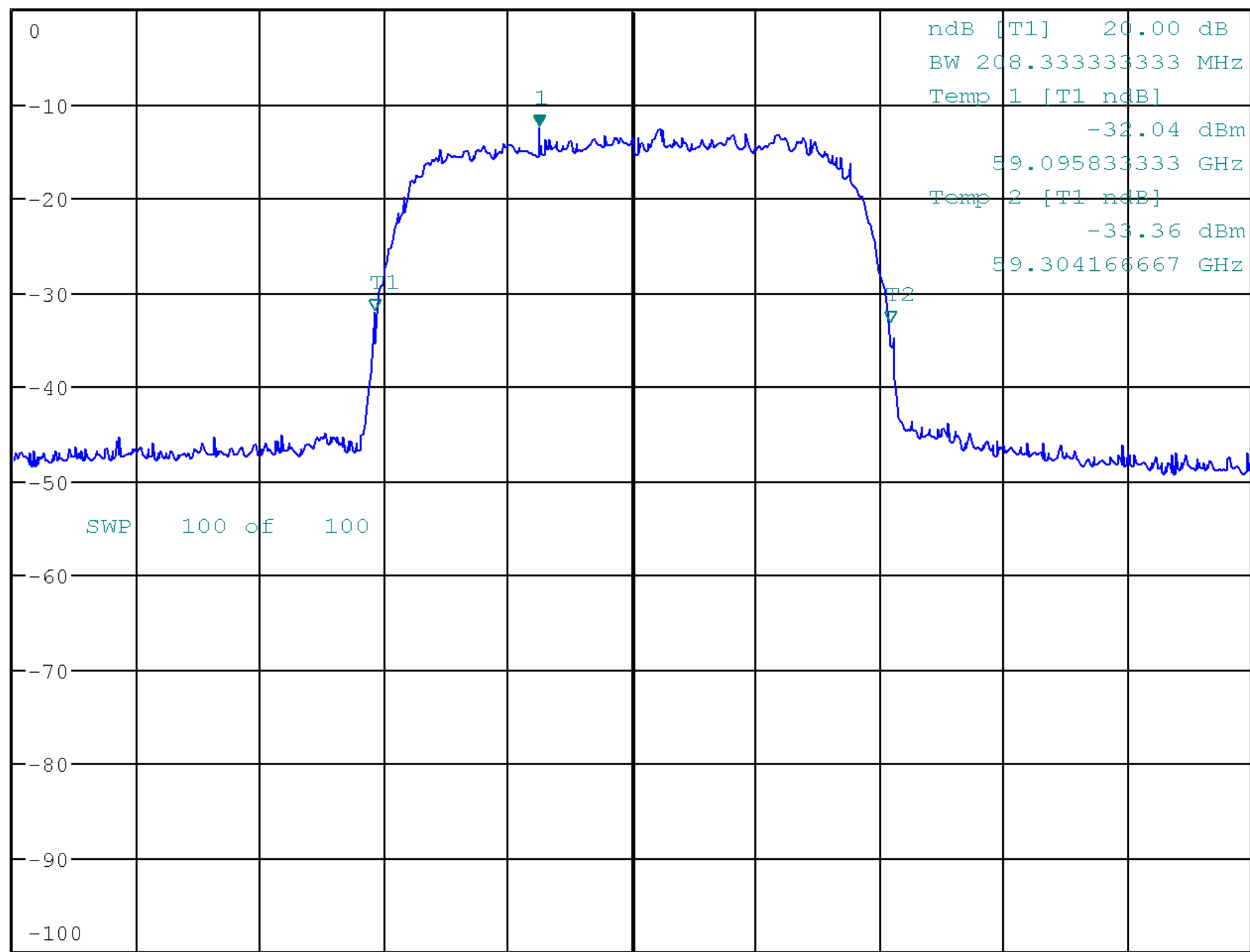
Ref 0 dBm

* Att 15 dB

SWT 20 ms

59.162339744 GHz

1 PK
MAXH



A
SGL

3DB

Center 59.2 GHz

50 MHz/

Span 500 MHz

2.1.3.9 Temperature = +30 °C, Voltage = 100 %



* RBW 3 MHz

Marker 1 [T1]

* VBW 10 MHz

-12.59 dBm

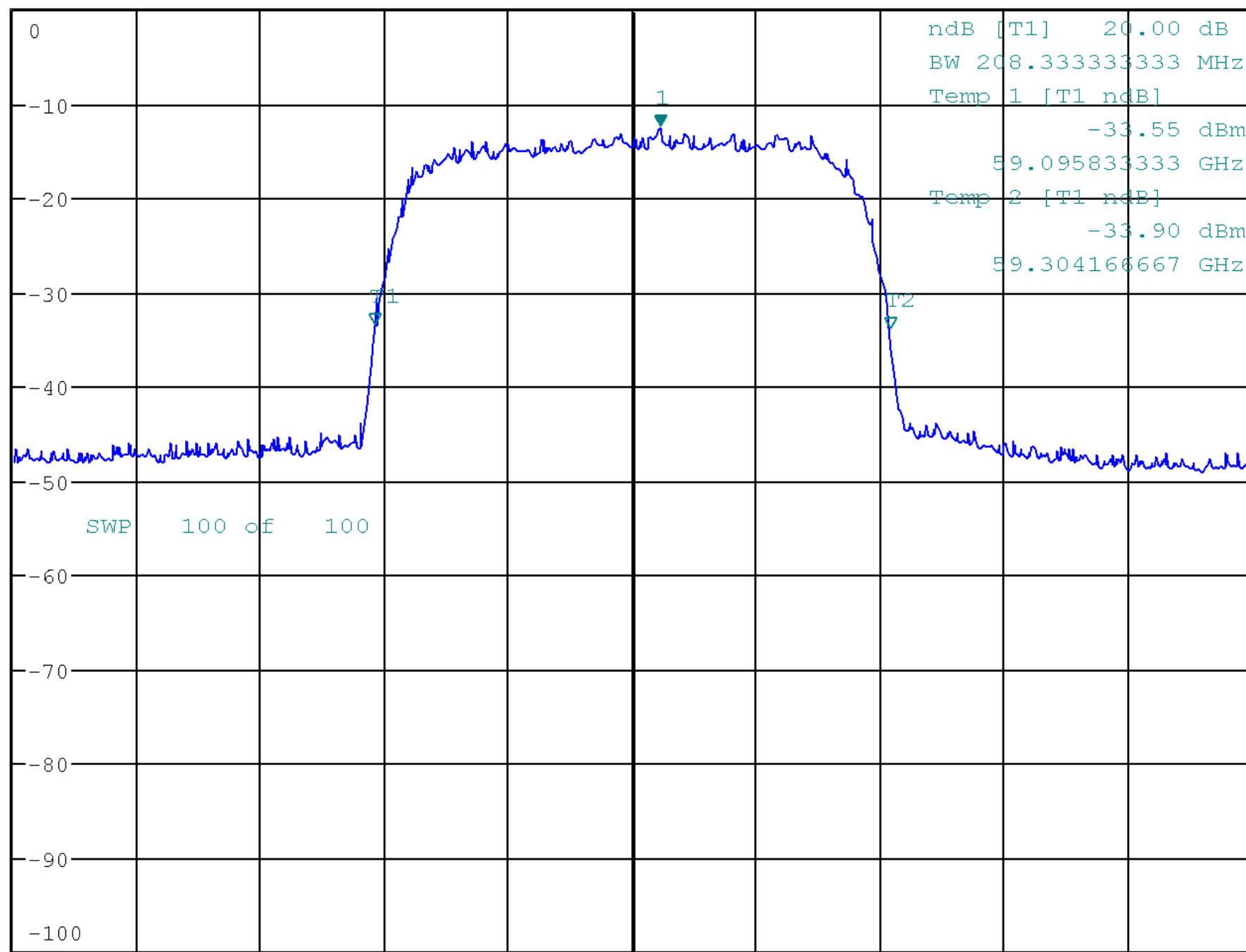
Ref 0 dBm

* Att 15 dB

SWT 20 ms

59.211217949 GHz

1 PK
MAXH



A
SGL

3DB

Center 59.2 GHz

50 MHz/

Span 500 MHz

2.1.3.10 Temperature = +40 °C, Voltage = 100 %



* RBW 3 MHz
* VBW 10 MHz
SWT 20 ms

Marker 1 [T1]
-12.66 dBm
59.211217949 GHz

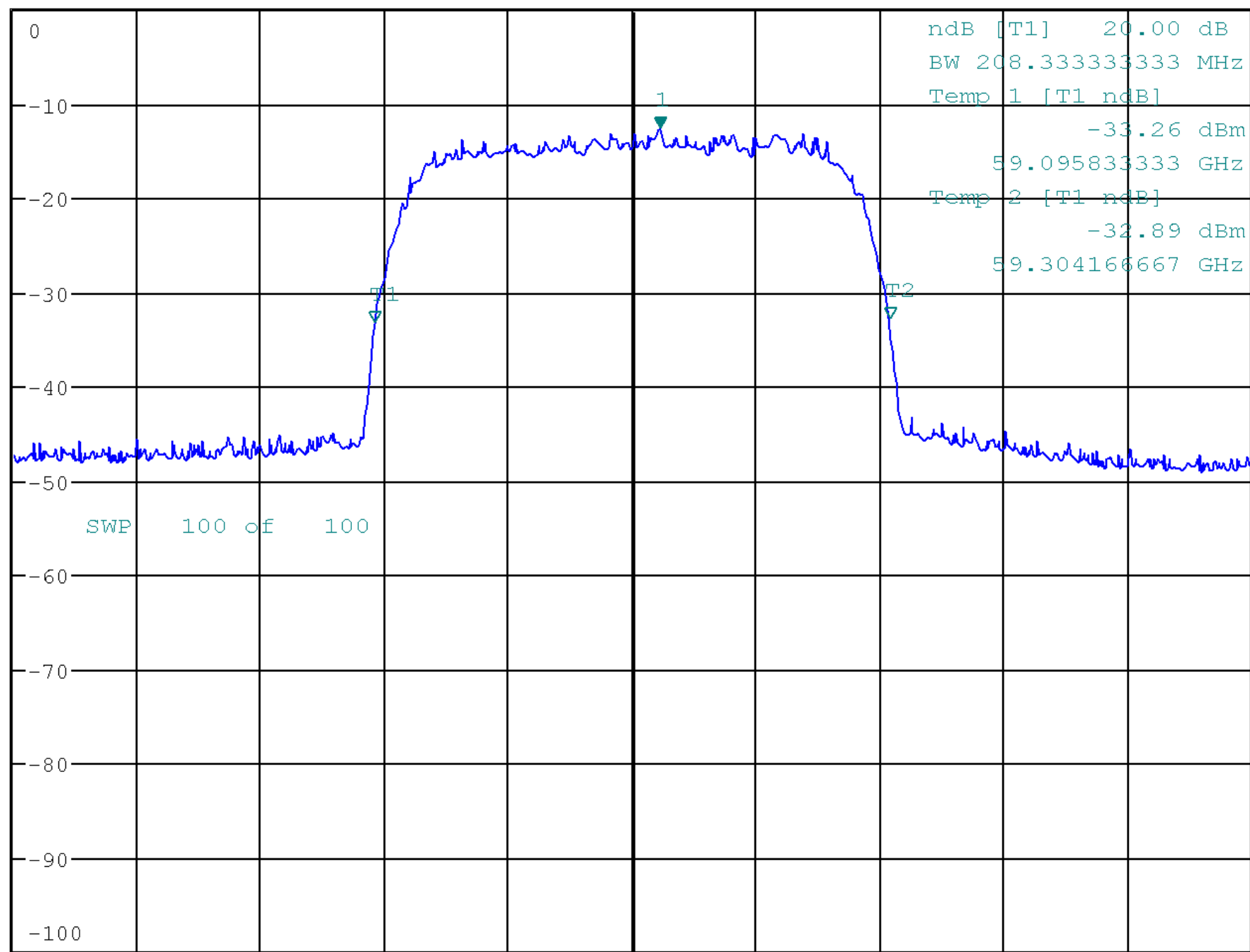
Ref 0 dBm

* Att 15 dB

SWT 20 ms

59.211217949 GHz

1 PK
MAXH



A
SGL

3DB

Center 59.2 GHz

50 MHz/

Span 500 MHz

2.1.3.11 Temperature = +50 °C, Voltage = 100 %



* RBW 3 MHz
* VBW 10 MHz

Marker 1 [T1]
-12.54 dBm
59.211217949 GHz

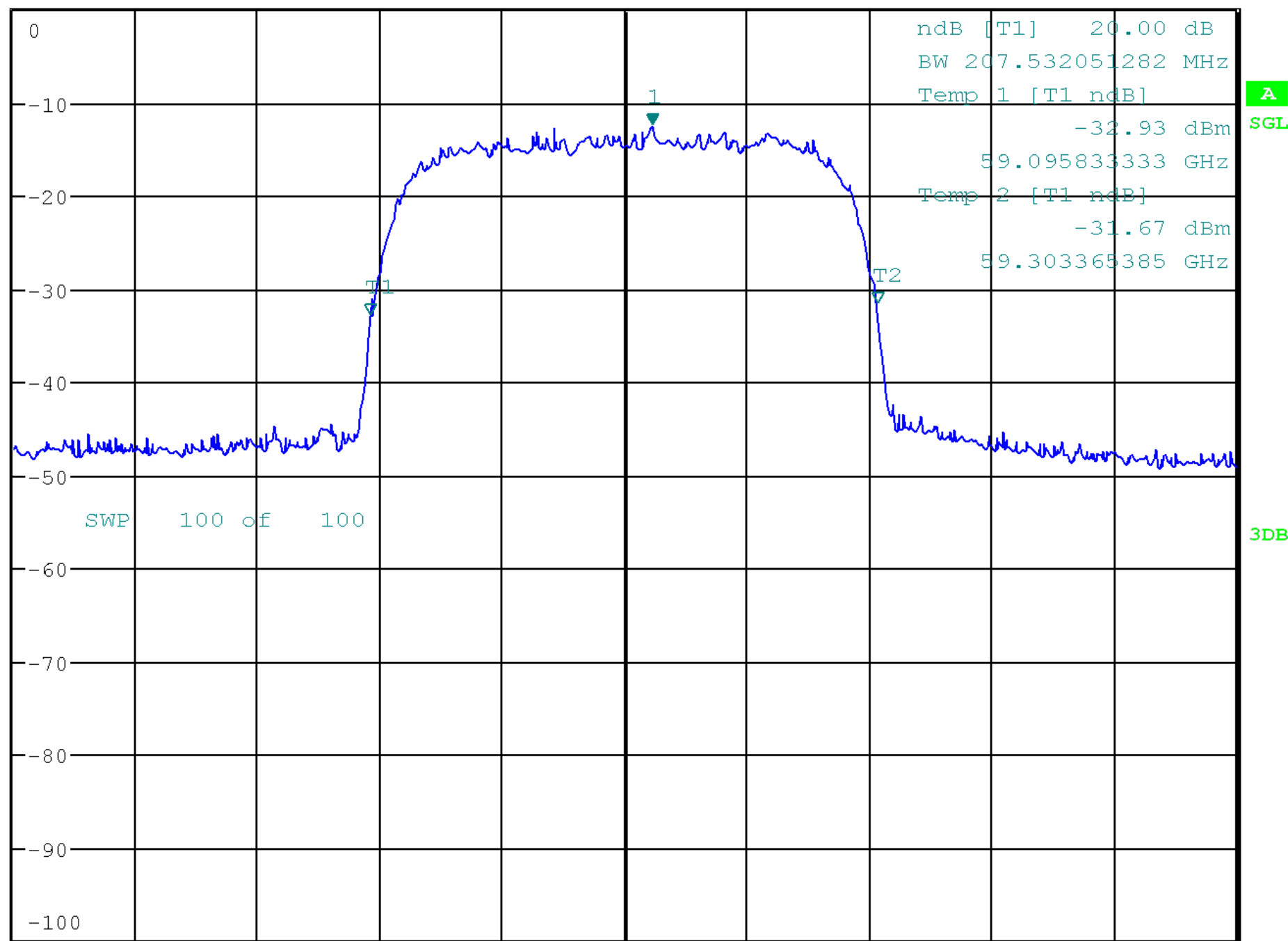
Ref 0 dBm

* Att 15 dB

SWT 20 ms

59.211217949 GHz

1 PK
MAXH



SWP 100 of 100

3DB

Center 59.2 GHz

50 MHz/

Span 500 MHz

2.1.4 16QAM-T

2.1.4.1 Temperature = Ambient, Voltage = 85 %



* RBW 3 MHz
* VBW 10 MHz

Marker 1 [T1]
-13.55 dBm
63.799198718 GHz

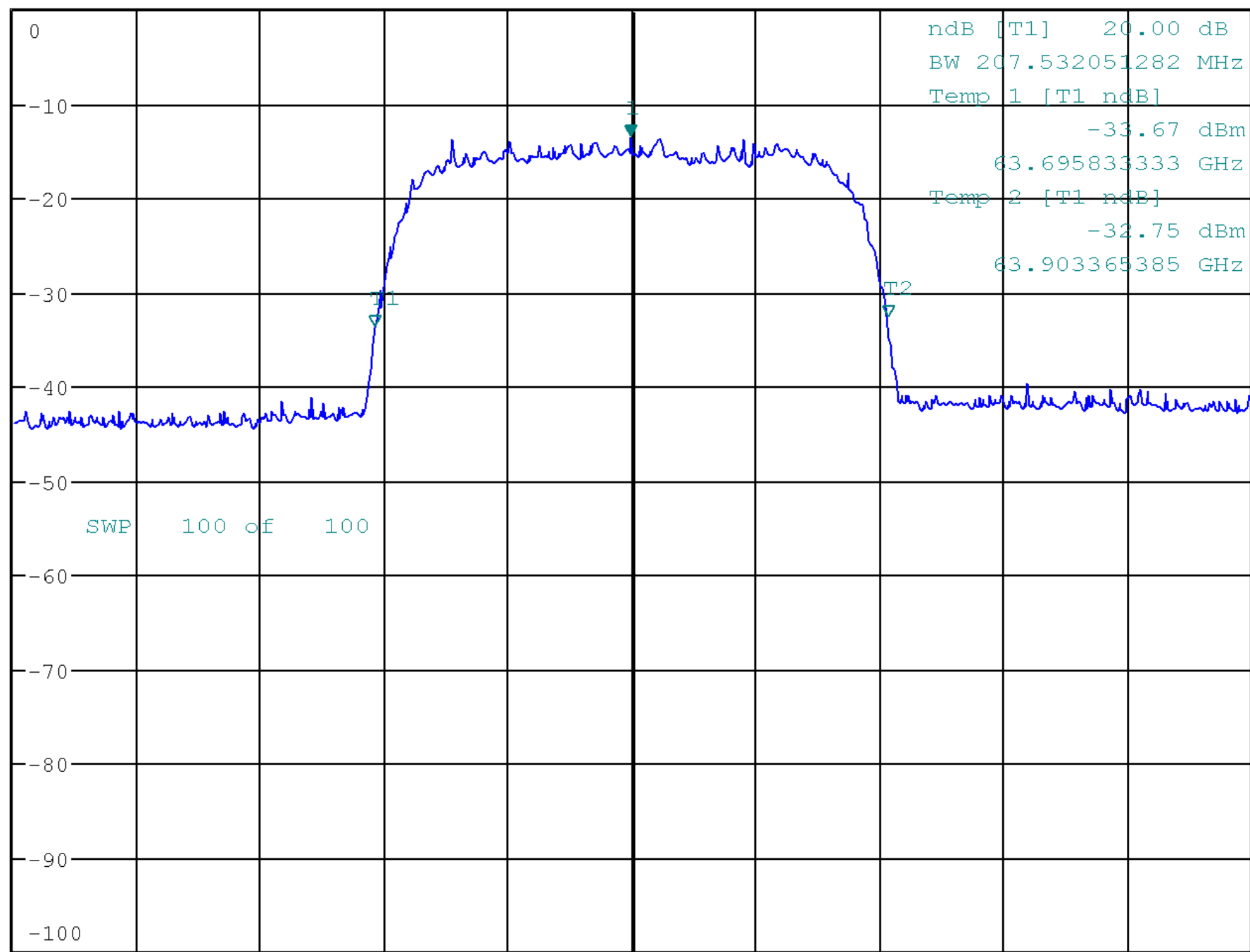
Ref 0 dBm

* Att 15 dB

SWT 20 ms

63.799198718 GHz

1 PK
MAXH



A
SGL

3DB

Center 63.8 GHz

50 MHz/

Span 500 MHz

2.1.4.2 Temperature = Ambient, Voltage = 100 %



* RBW 3 MHz
* VBW 10 MHz

Marker 1 [T1]
-12.72 dBm
63.783974359 GHz

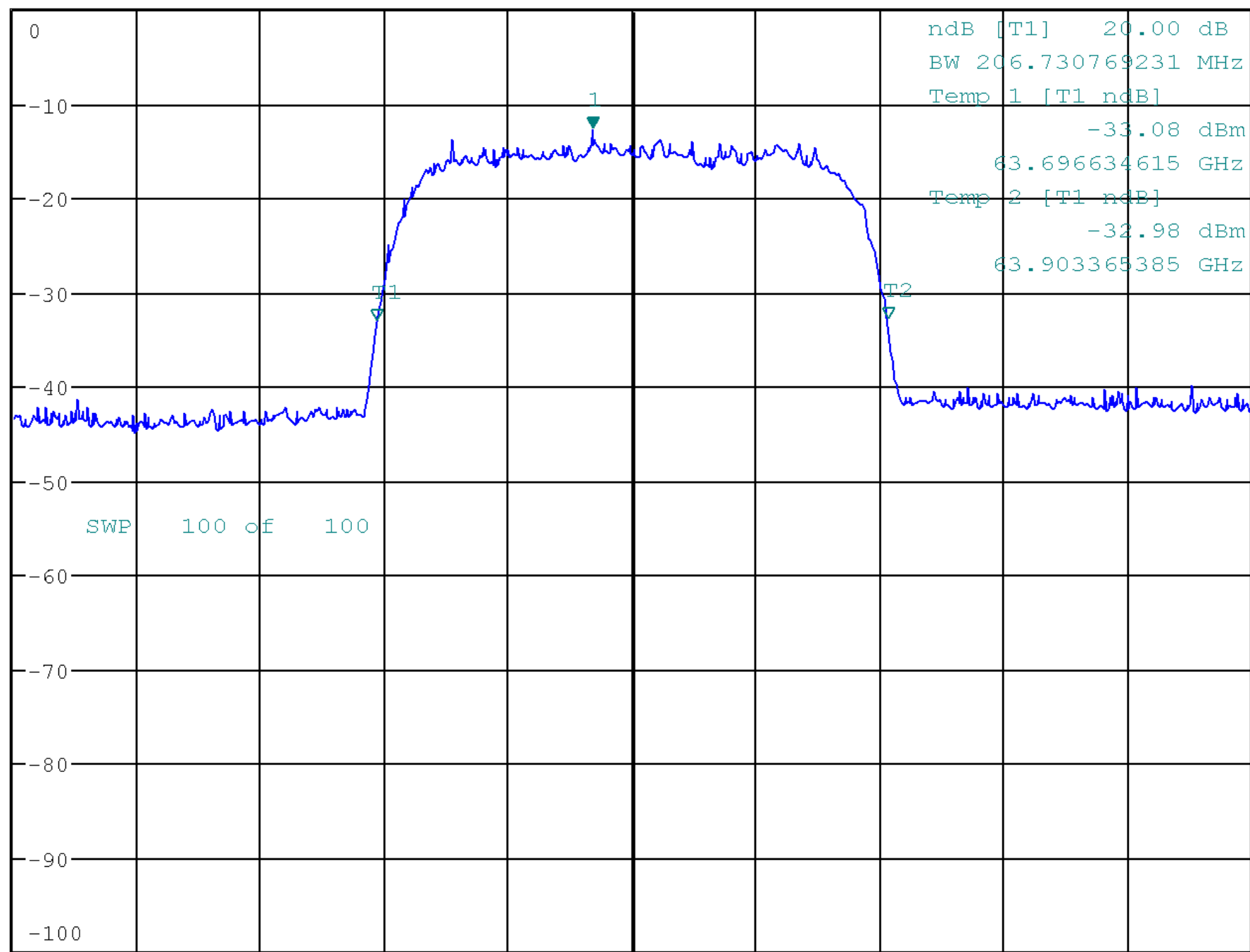
Ref 0 dBm

* Att 15 dB

SWT 20 ms

63.783974359 GHz

1 PK
MAXH



A
SGL

3DB

Center 63.8 GHz

50 MHz/

Span 500 MHz

2.1.4.3 Temperature = Ambient, Voltage = 115 %



* RBW 3 MHz
* VBW 10 MHz

Marker 1 [T1]
-13.78 dBm
63.811217949 GHz

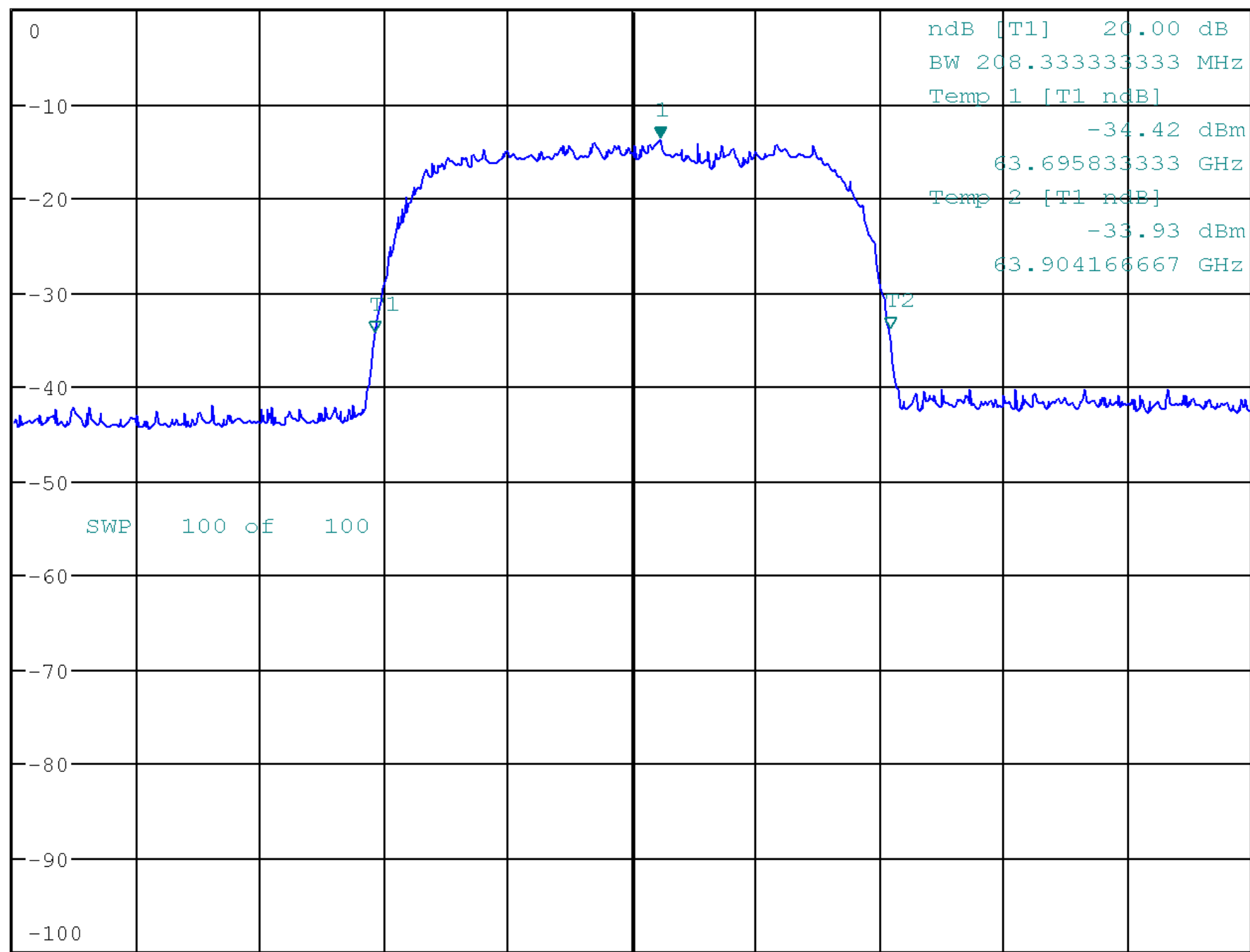
Ref 0 dBm

* Att 15 dB

SWT 20 ms

63.811217949 GHz

1 PK
MAXH



SWP 100 of 100

Center 63.8 GHz

50 MHz/

Span 500 MHz

2.1.4.4 Temperature = -20 °C, Voltage = 100 %



* RBW 3 MHz
* VBW 10 MHz

Marker 1 [T1]
-13.64 dBm
63.810416667 GHz

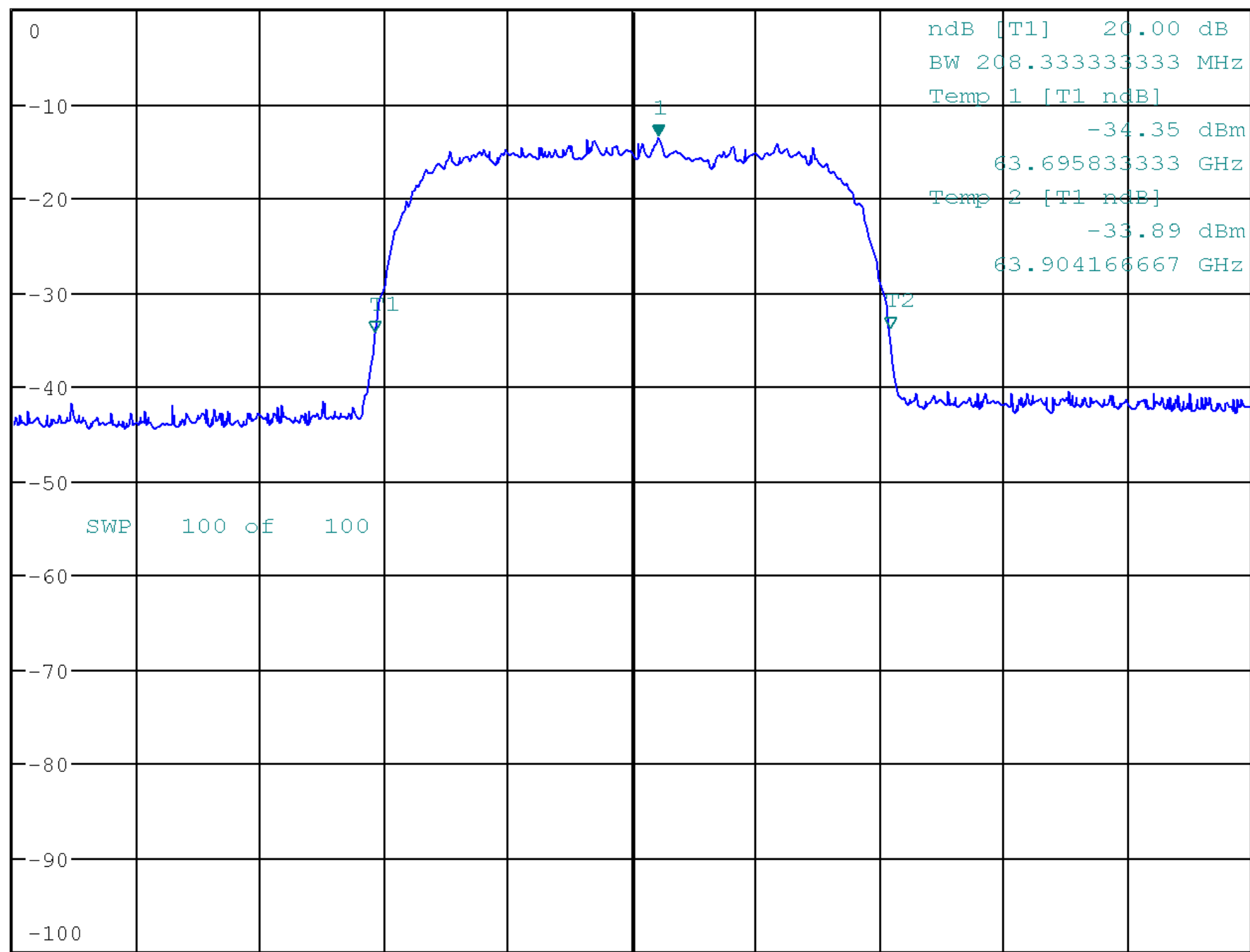
Ref 0 dBm

* Att 15 dB

SWT 20 ms

63.810416667 GHz

1 PK
MAXH



Center 63.8 GHz

50 MHz/

Span 500 MHz

2.1.4.5 Temperature = -10 °C, Voltage = 100 %



* RBW 3 MHz
* VBW 10 MHz

Marker 1 [T1]
-13.02 dBm
63.786378205 GHz

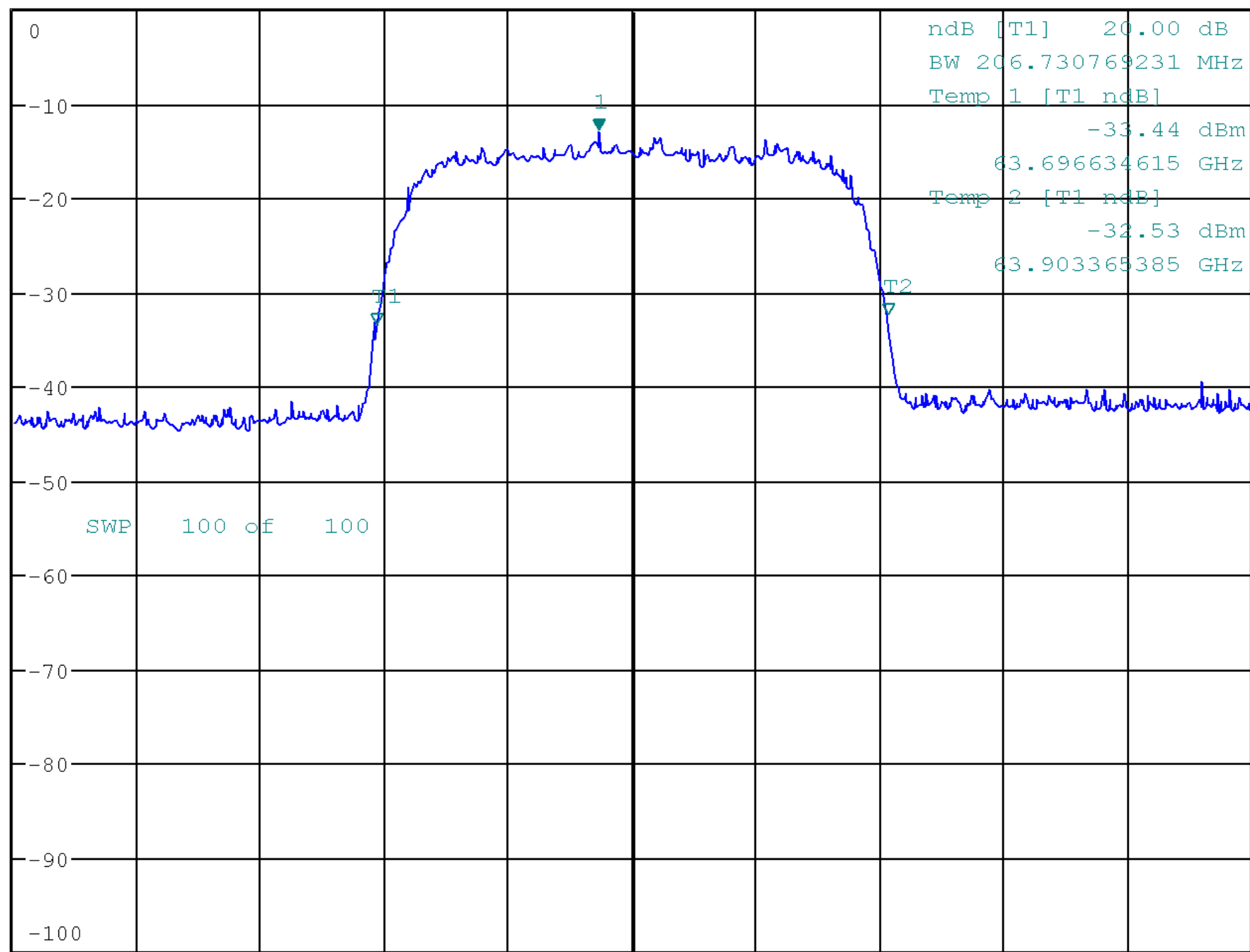
Ref 0 dBm

* Att 15 dB

SWT 20 ms

63.786378205 GHz

1 PK
MAXH



A
SGL

3DB

SWP 100 of 100

Center 63.8 GHz

50 MHz/

Span 500 MHz

2.1.4.6 Temperature = 0 °C, Voltage = 100 %



* RBW 3 MHz
* VBW 10 MHz

Marker 1 [T1]
-13.35 dBm
63.783974359 GHz

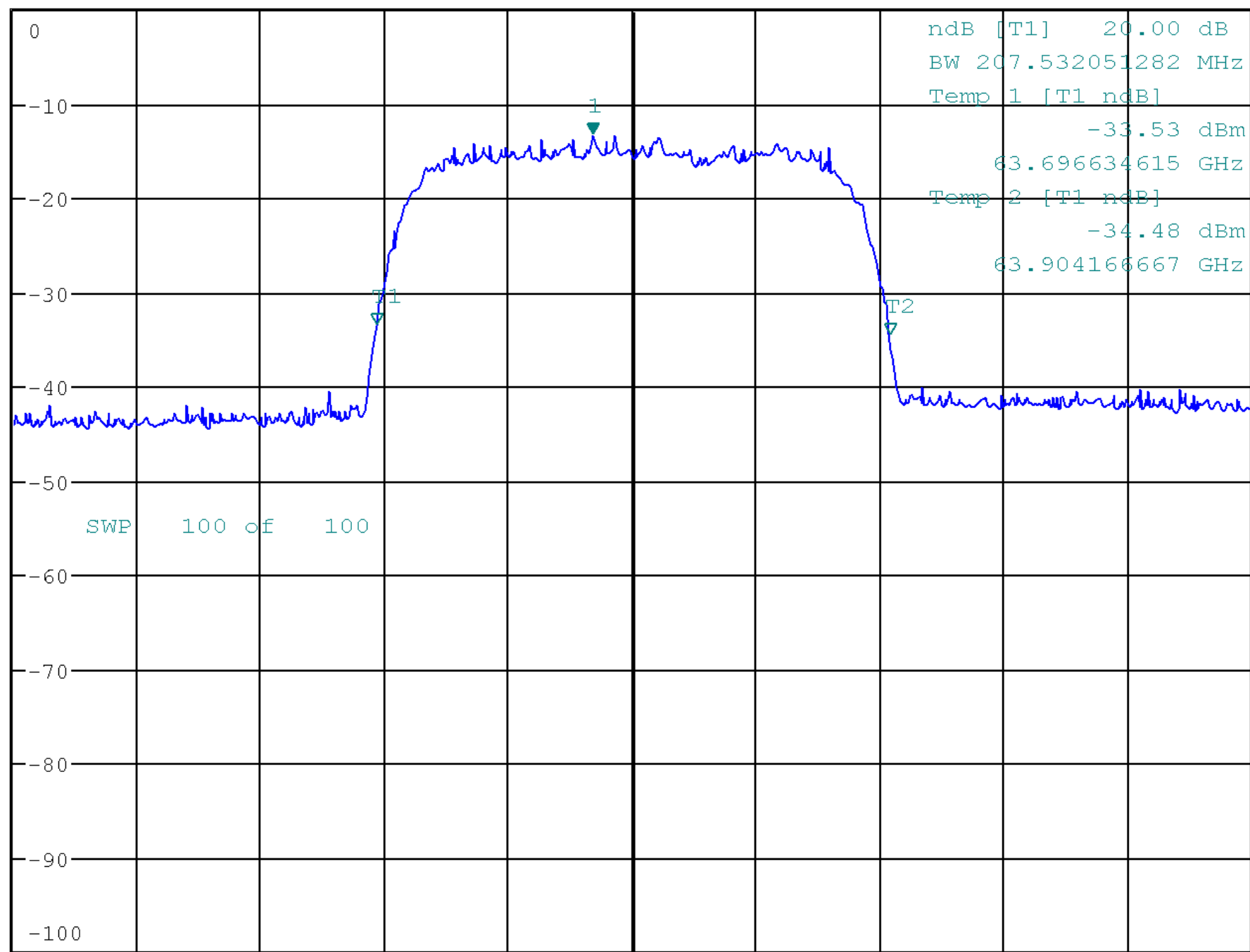
Ref 0 dBm

* Att 15 dB

SWT 20 ms

63.783974359 GHz

1 PK
MAXH



Center 63.8 GHz

50 MHz/

Span 500 MHz

2.1.4.7 Temperature = +10 °C, Voltage = 100 %



* RBW 3 MHz
* VBW 10 MHz

Marker 1 [T1]
-13.66 dBm
63.822435897 GHz

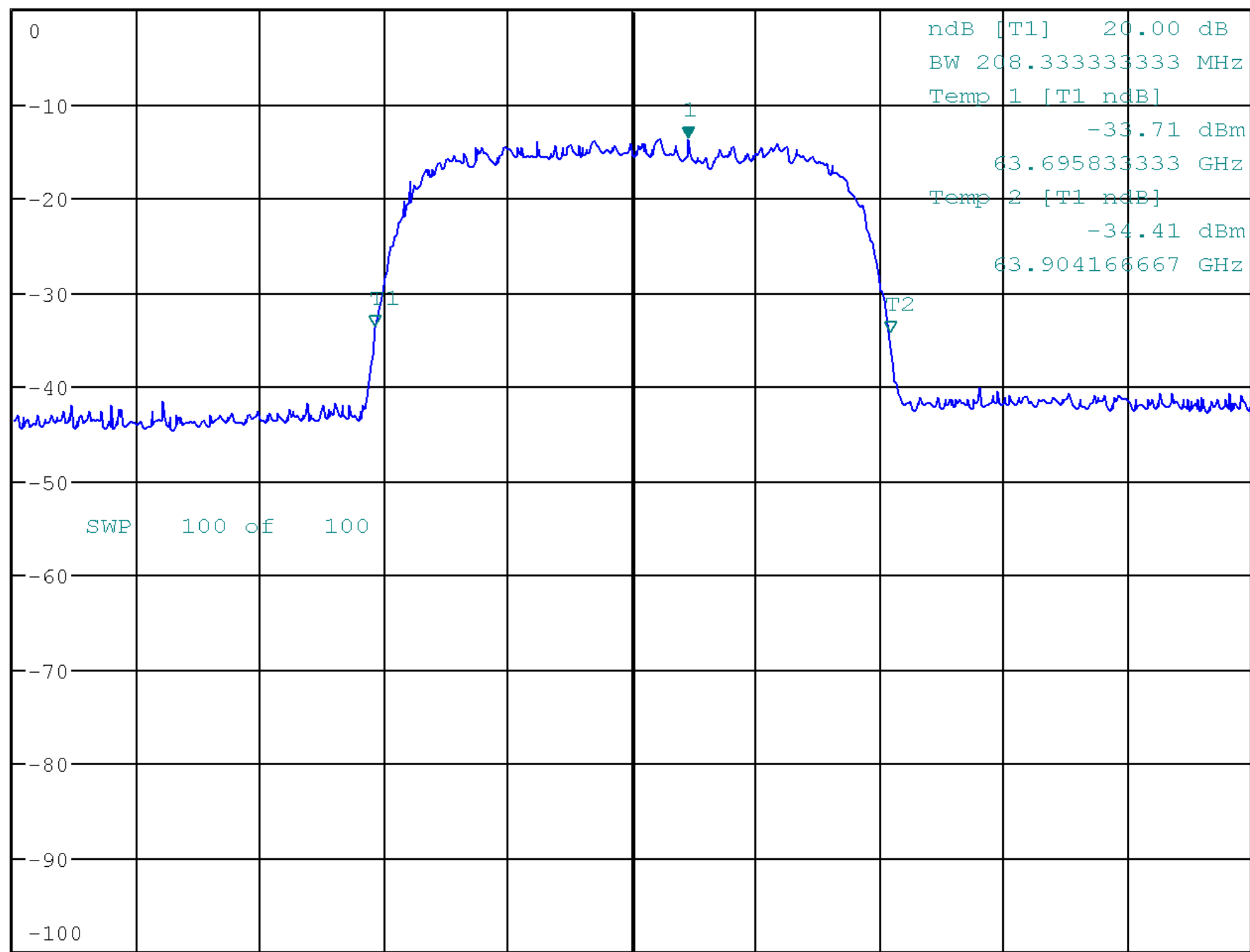
Ref 0 dBm

* Att 15 dB

SWT 20 ms

63.822435897 GHz

1 PK
MAXH



A
SGL

3DB

Center 63.8 GHz

50 MHz/

Span 500 MHz

2.1.4.8 Temperature = +20 °C, Voltage = 100 %



* RBW 3 MHz
* VBW 10 MHz

Marker 1 [T1]
-13.68 dBm
63.811217949 GHz

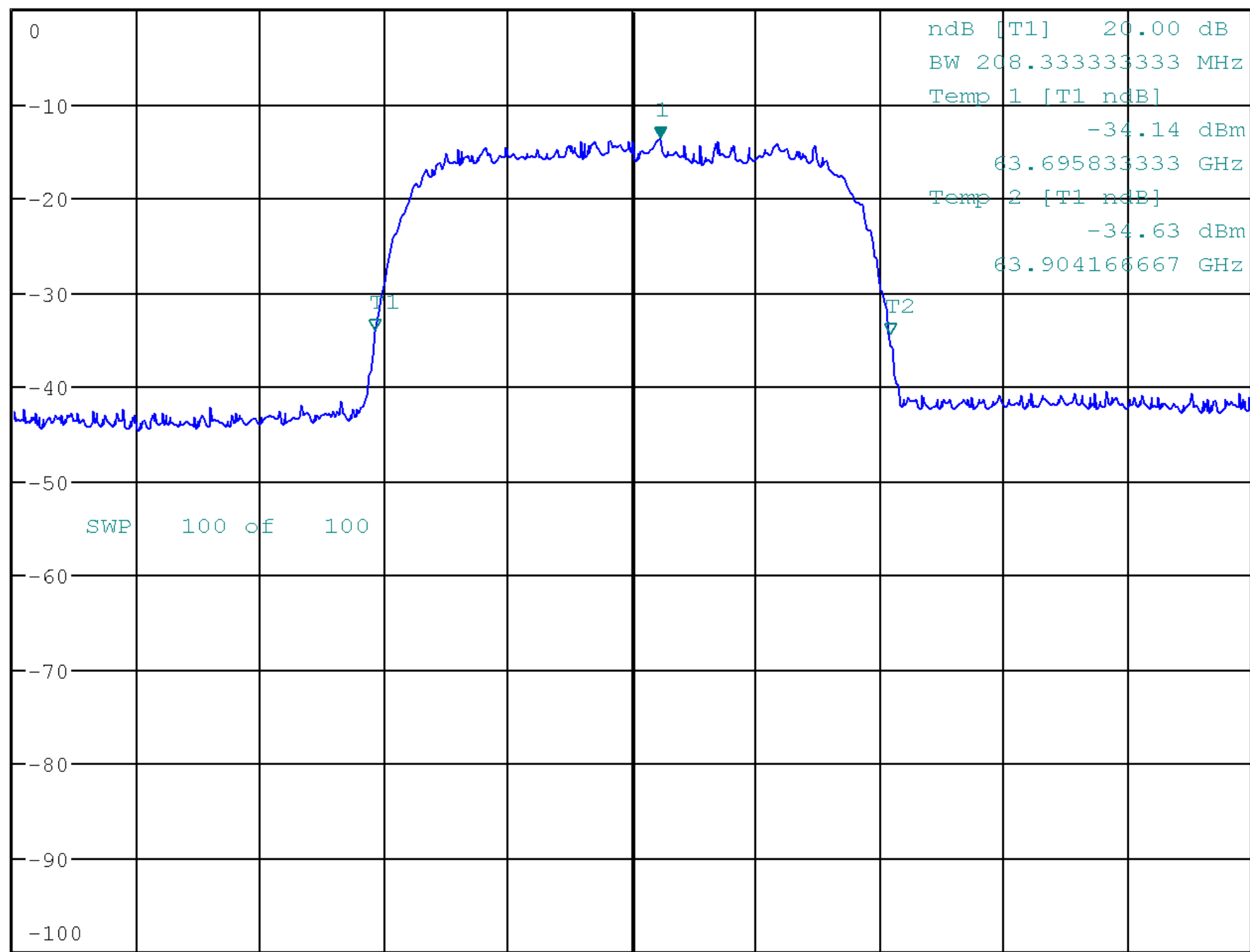
Ref 0 dBm

* Att 15 dB

SWT 20 ms

63.811217949 GHz

1 PK
MAXH



A
SGL

3DB

SWP 100 of 100

Center 63.8 GHz

50 MHz/

Span 500 MHz

2.1.4.9 Temperature = +30 °C, Voltage = 100 %



* RBW 3 MHz
* VBW 10 MHz

Marker 1 [T1]
-13.60 dBm
63.808814103 GHz

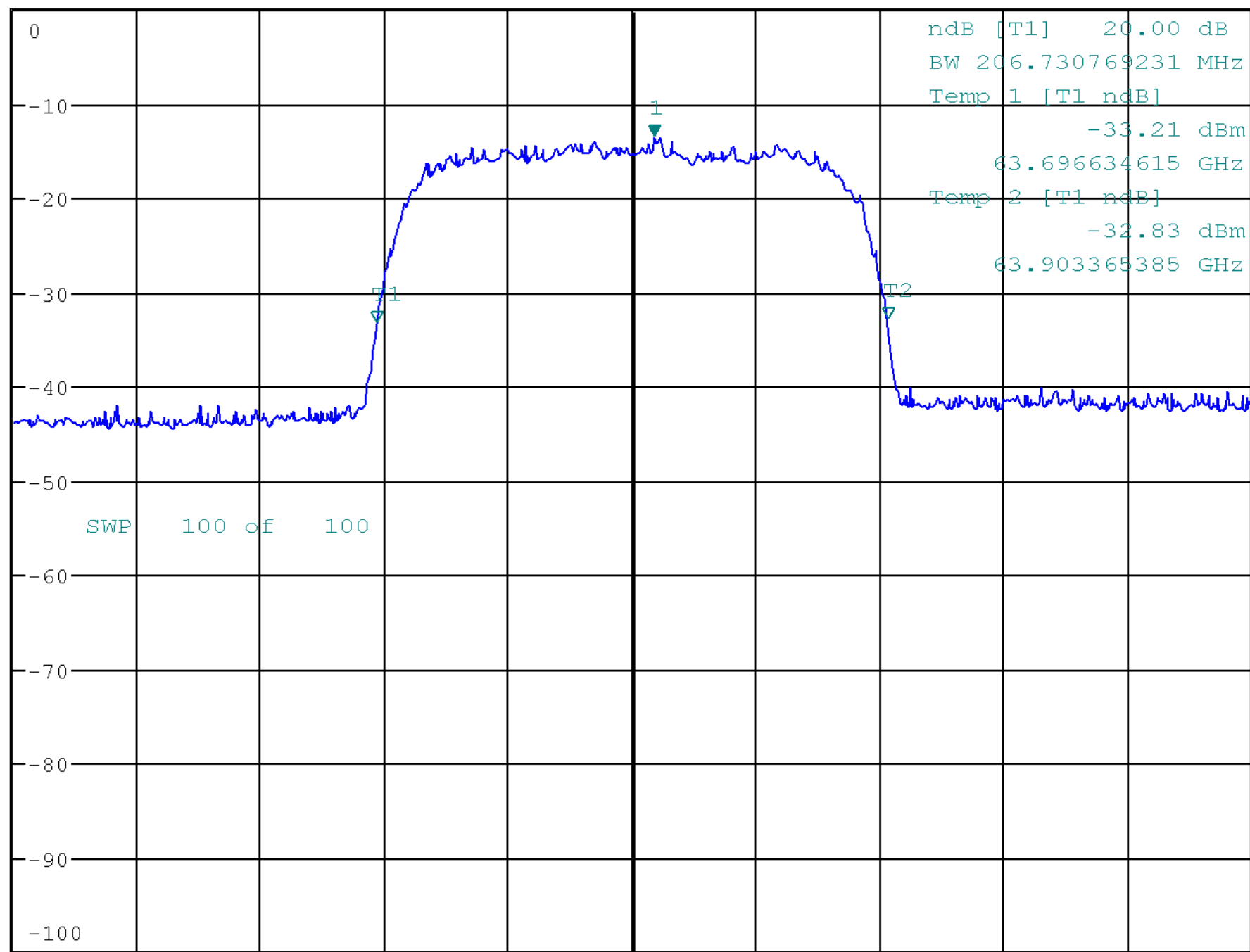
Ref 0 dBm

* Att 15 dB

SWT 20 ms

63.808814103 GHz

1 PK
MAXH



A
SGL

3DB

SWP 100 of 100

Center 63.8 GHz

50 MHz/

Span 500 MHz

2.1.4.10 Temperature = +40 °C, Voltage = 100 %



* RBW 3 MHz
* VBW 10 MHz

Marker 1 [T1]
-13.60 dBm
63.811217949 GHz

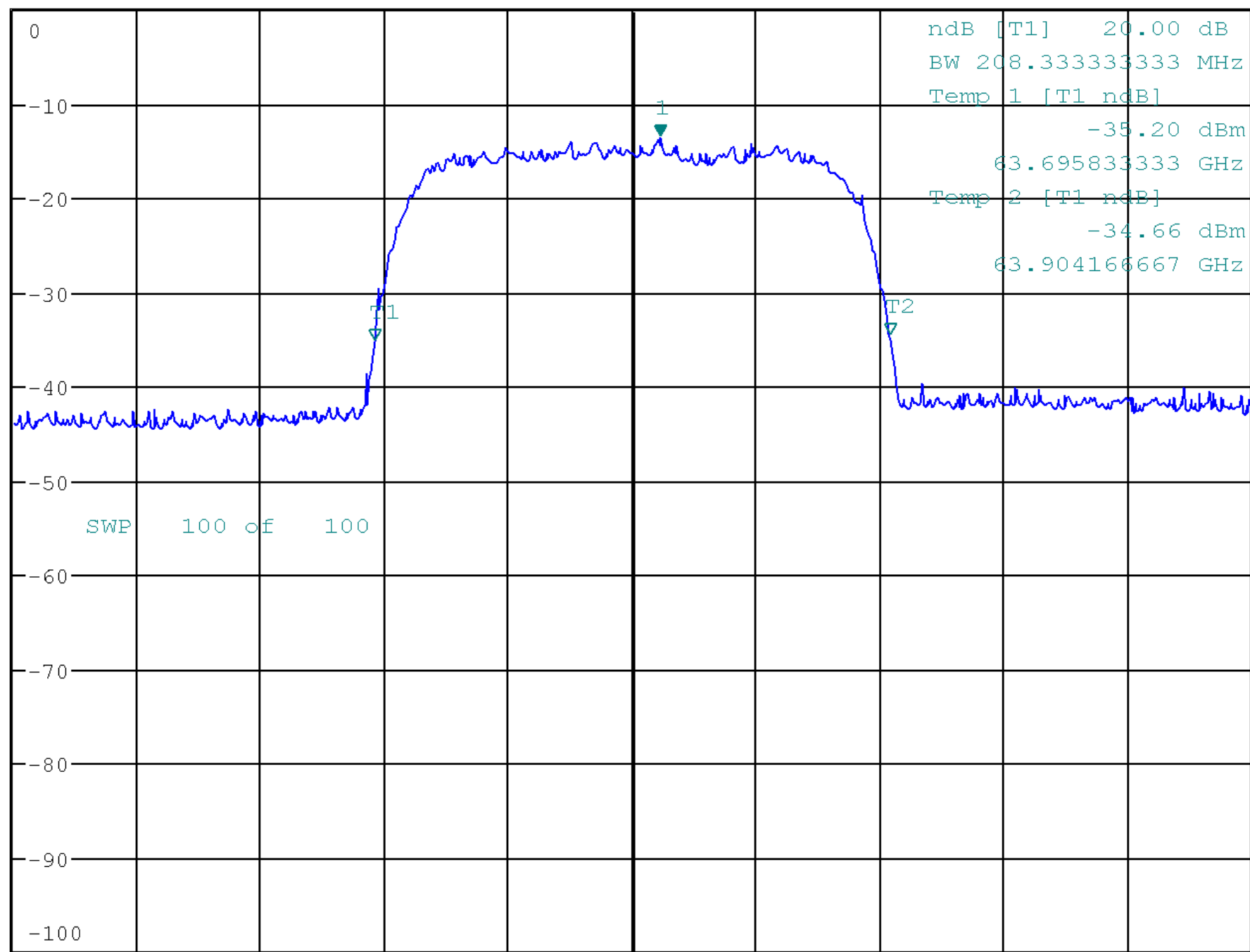
Ref 0 dBm

* Att 15 dB

SWT 20 ms

63.811217949 GHz

1 PK
MAXH



SWP 100 of 100

Center 63.8 GHz

50 MHz/

Span 500 MHz

2.1.4.11 Temperature = +50 °C, Voltage = 100 %



* RBW 3 MHz
* VBW 10 MHz

Marker 1 [T1]
-13.31 dBm
63.784775641 GHz

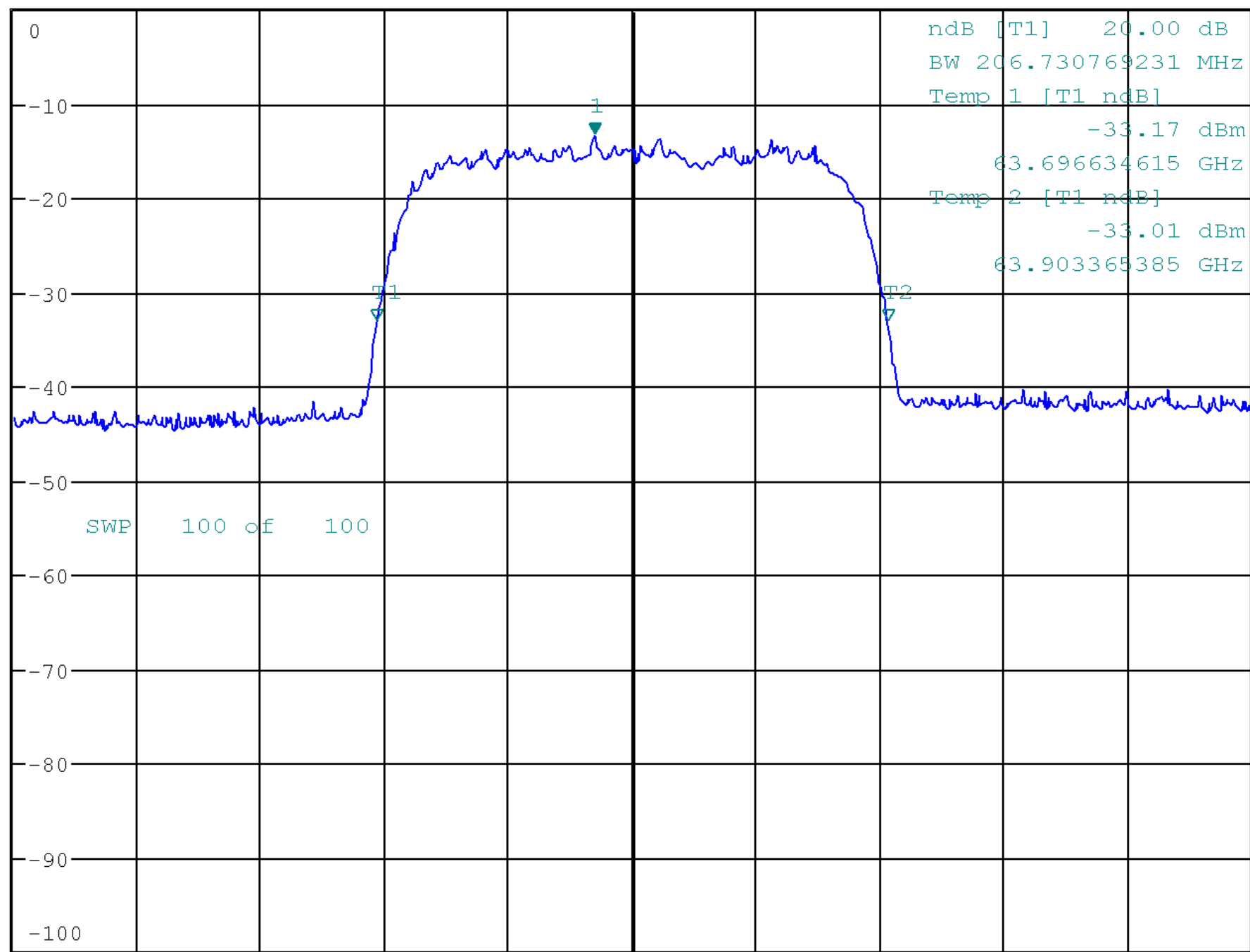
Ref 0 dBm

* Att 15 dB

SWT 20 ms

63.784775641 GHz

1 PK
MAXH



Center 63.8 GHz

50 MHz/

Span 500 MHz

2.1.5 32QAM-B

2.1.5.1 Temperature = Ambient, Voltage = 85 %



* RBW 3 MHz
* VBW 10 MHz

Marker 1 [T1]
-13.59 dBm
59.193589744 GHz

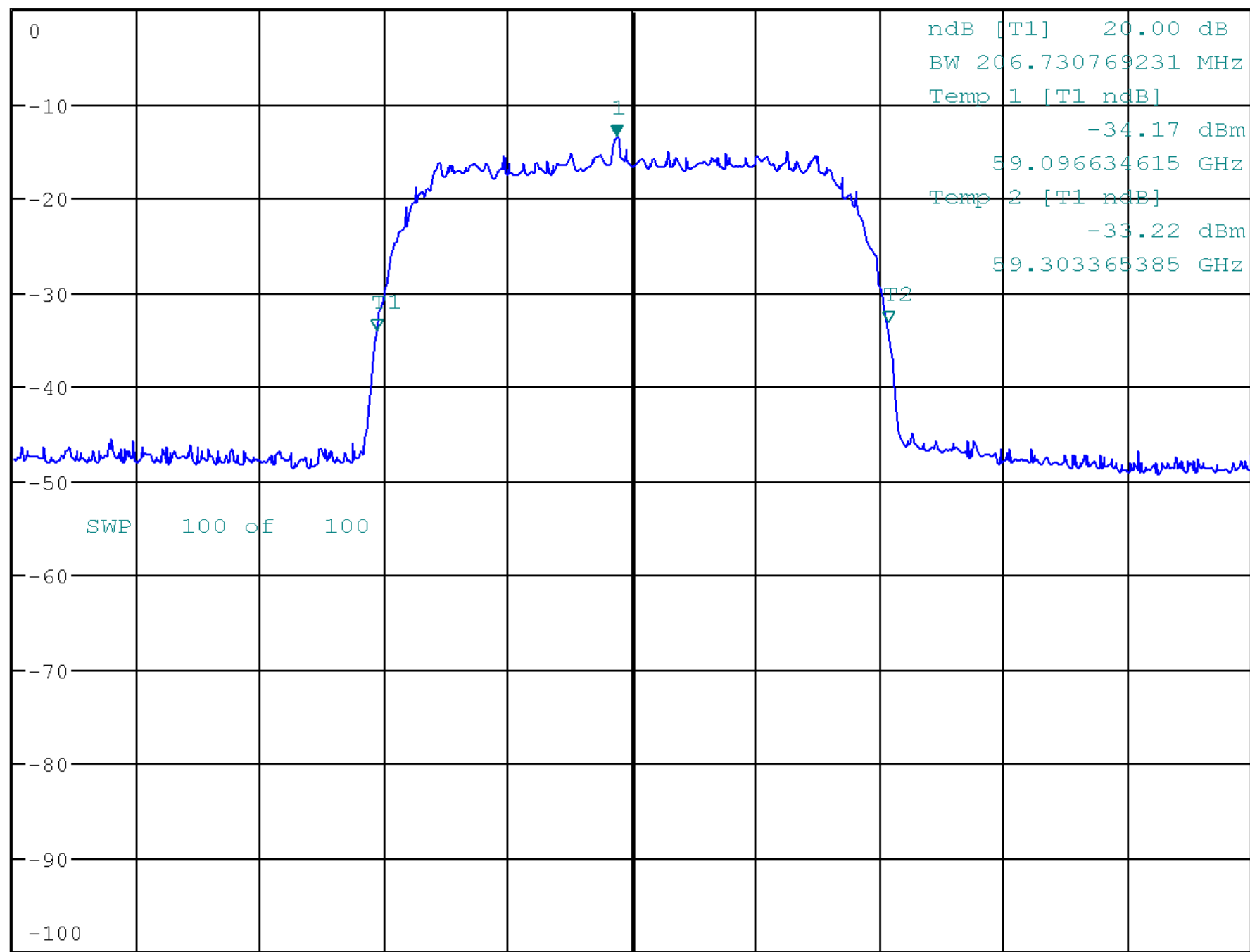
Ref 0 dBm

* Att 15 dB

SWT 20 ms

59.193589744 GHz

1 PK
MAXH



A

SGL

3DB

Center 59.2 GHz

50 MHz/

Span 500 MHz

2.1.5.2 Temperature = Ambient, Voltage = 100 %



* RBW 3 MHz
* VBW 10 MHz

Marker 1 [T1]
-13.57 dBm
59.194391026 GHz

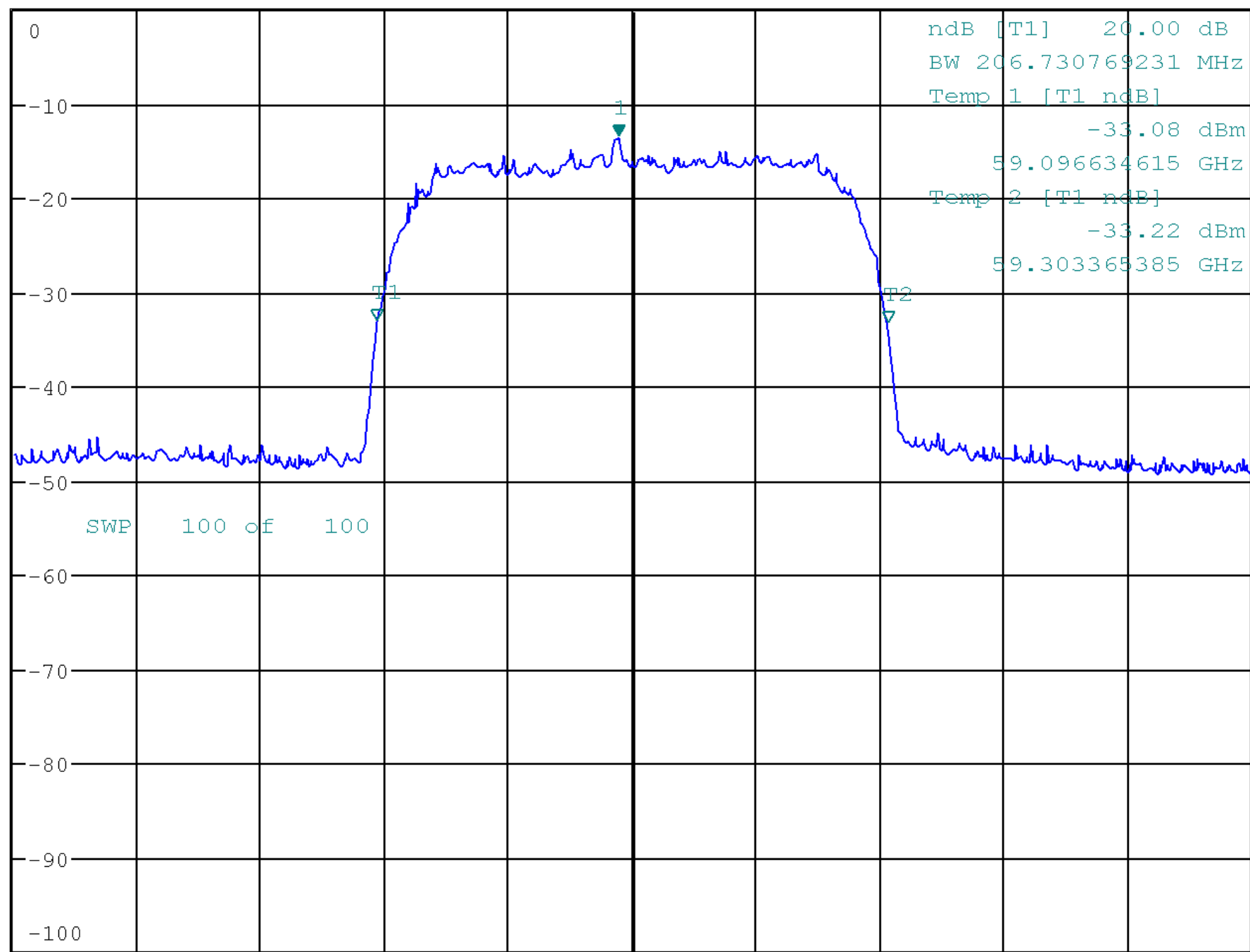
Ref 0 dBm

* Att 15 dB

SWT 20 ms

59.194391026 GHz

1 PK
MAXH



A
SGL

3DB

Center 59.2 GHz

50 MHz/

Span 500 MHz

2.1.5.3 Temperature = Ambient, Voltage = 115 %



* RBW 3 MHz
* VBW 10 MHz

Marker 1 [T1]
-13.58 dBm
59.193589744 GHz

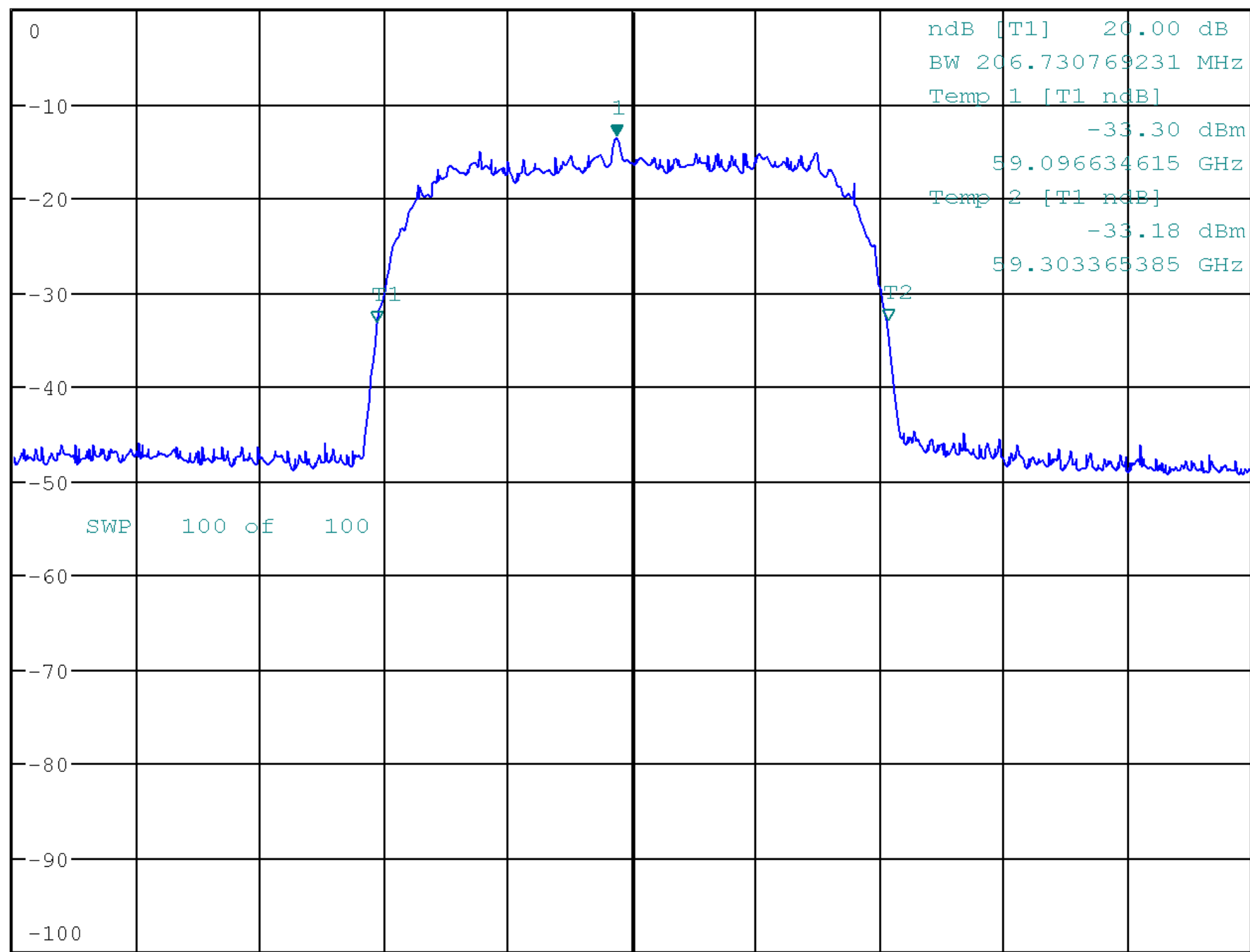
Ref 0 dBm

* Att 15 dB

SWT 20 ms

59.193589744 GHz

1 PK
MAXH



A
SGL

3DB

Center 59.2 GHz

50 MHz/

Span 500 MHz

2.1.5.4 Temperature = -20 °C, Voltage = 100 %



* RBW 3 MHz
* VBW 10 MHz

Marker 1 [T1]
-13.62 dBm
59.193589744 GHz

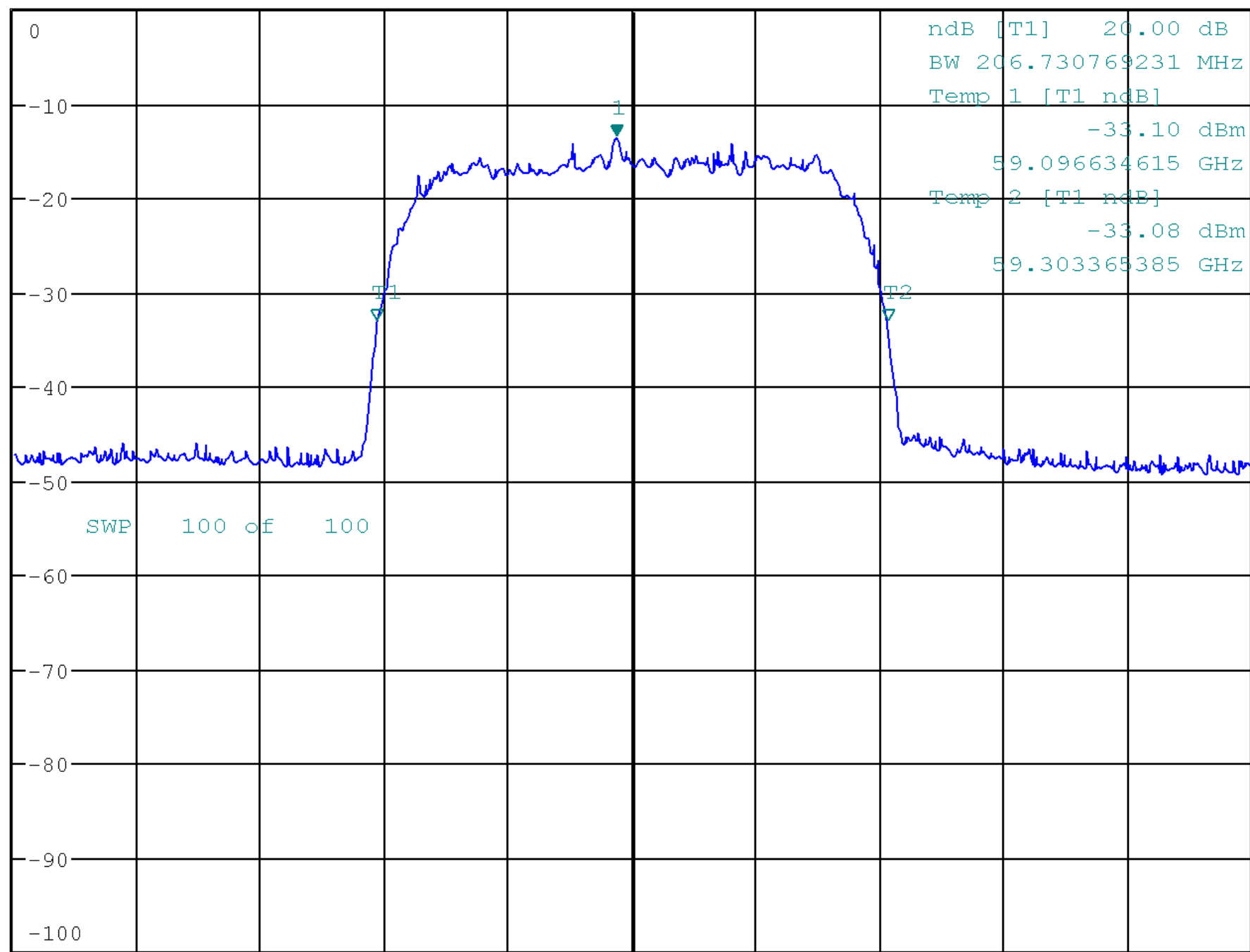
Ref 0 dBm

* Att 15 dB

SWT 20 ms

59.193589744 GHz

1 PK
MAXH



A
SGL

3DB

Center 59.2 GHz

50 MHz/

Span 500 MHz

2.1.5.5 Temperature = -10 °C, Voltage = 100 %



* RBW 3 MHz
* VBW 10 MHz

Marker 1 [T1]
-13.57 dBm
59.193589744 GHz

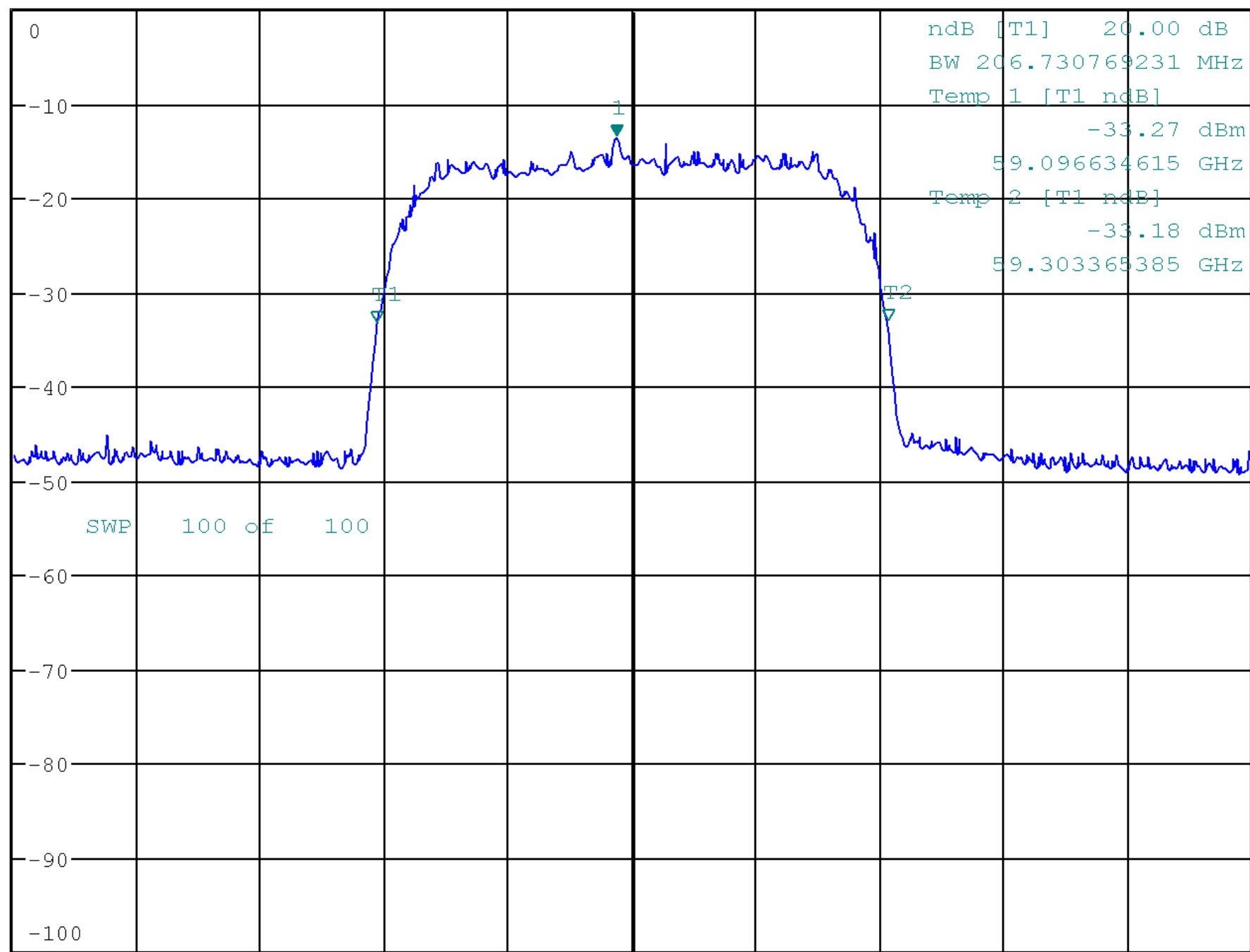
Ref 0 dBm

* Att 15 dB

SWT 20 ms

59.193589744 GHz

1 PK
MAXH



Center 59.2 GHz

50 MHz/

Span 500 MHz

2.1.5.6 Temperature = 0 °C, Voltage = 100 %



* RBW 3 MHz
* VBW 10 MHz

Marker 1 [T1]
-13.57 dBm
59.193589744 GHz

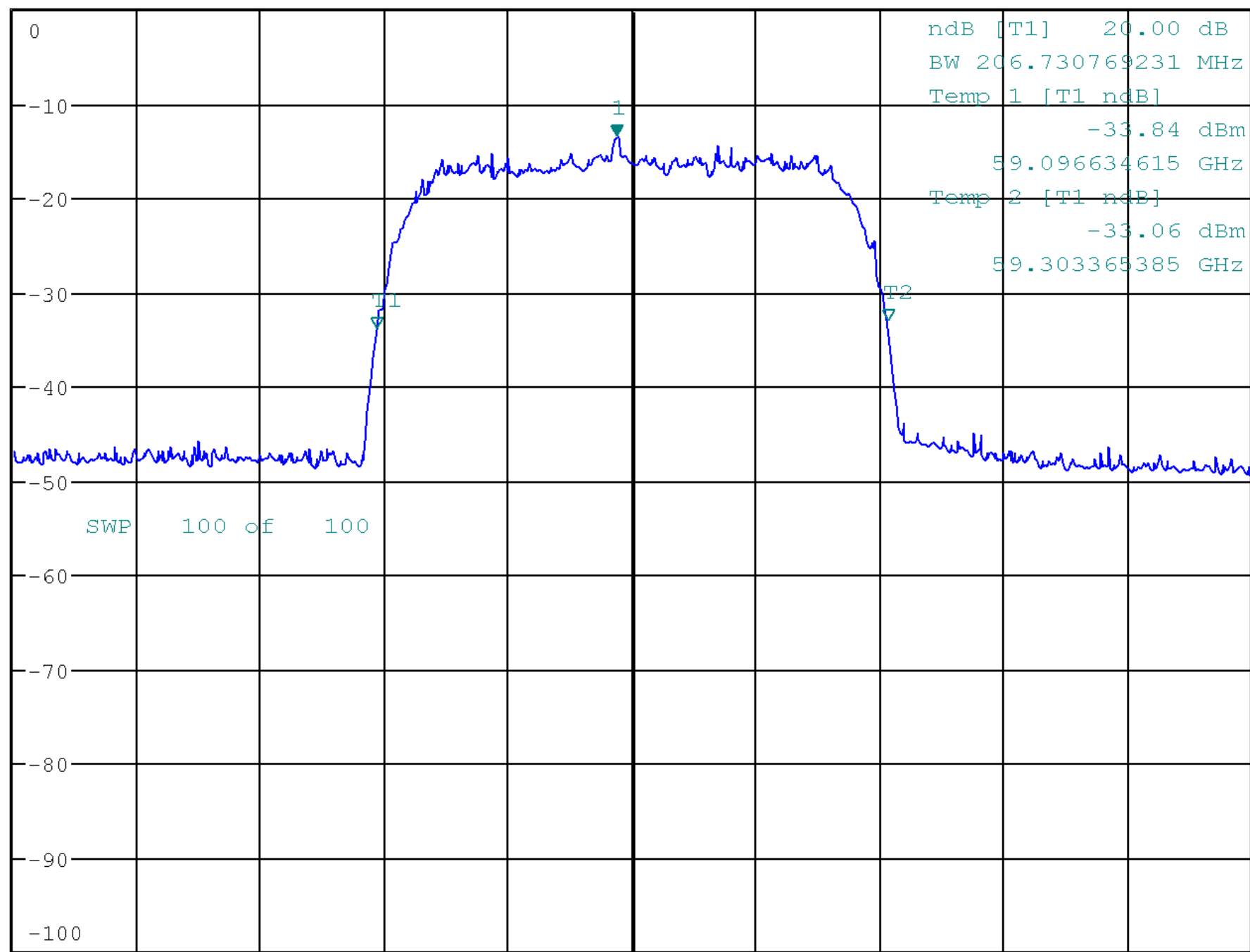
Ref 0 dBm

* Att 15 dB

SWT 20 ms

59.193589744 GHz

1 PK
MAXH



A
SGL

3DB

Center 59.2 GHz

50 MHz/

Span 500 MHz

2.1.5.7 Temperature = +10 °C, Voltage = 100 %



* RBW 3 MHz
* VBW 10 MHz

Marker 1 [T1]
-13.53 dBm
59.193589744 GHz

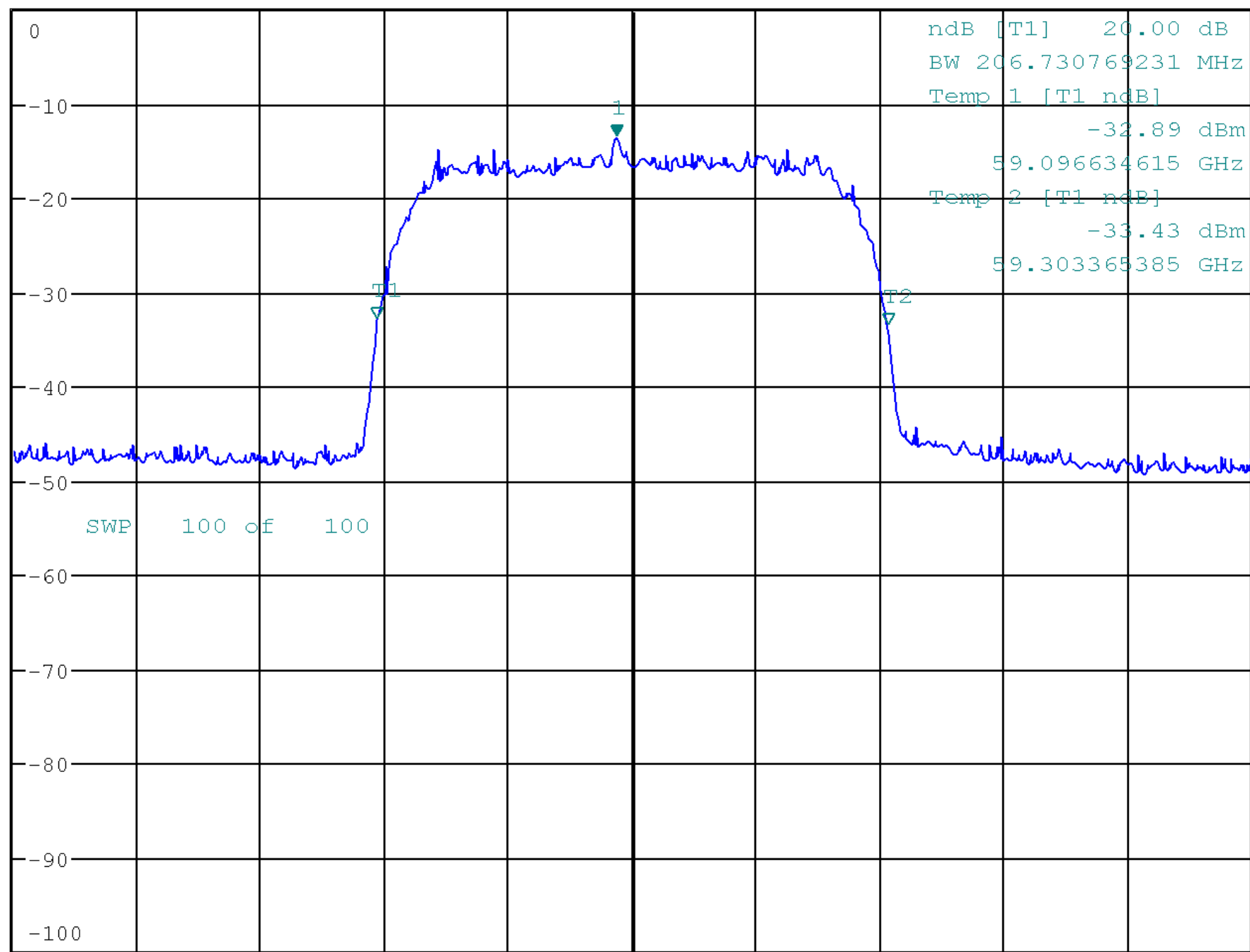
Ref 0 dBm

* Att 15 dB

SWT 20 ms

59.193589744 GHz

1 PK
MAXH



A
SGL

3DB

Center 59.2 GHz

50 MHz/

Span 500 MHz

2.1.5.8 Temperature = +20 °C, Voltage = 100 %



* RBW 3 MHz
* VBW 10 MHz

Marker 1 [T1]
-13.59 dBm
59.193589744 GHz

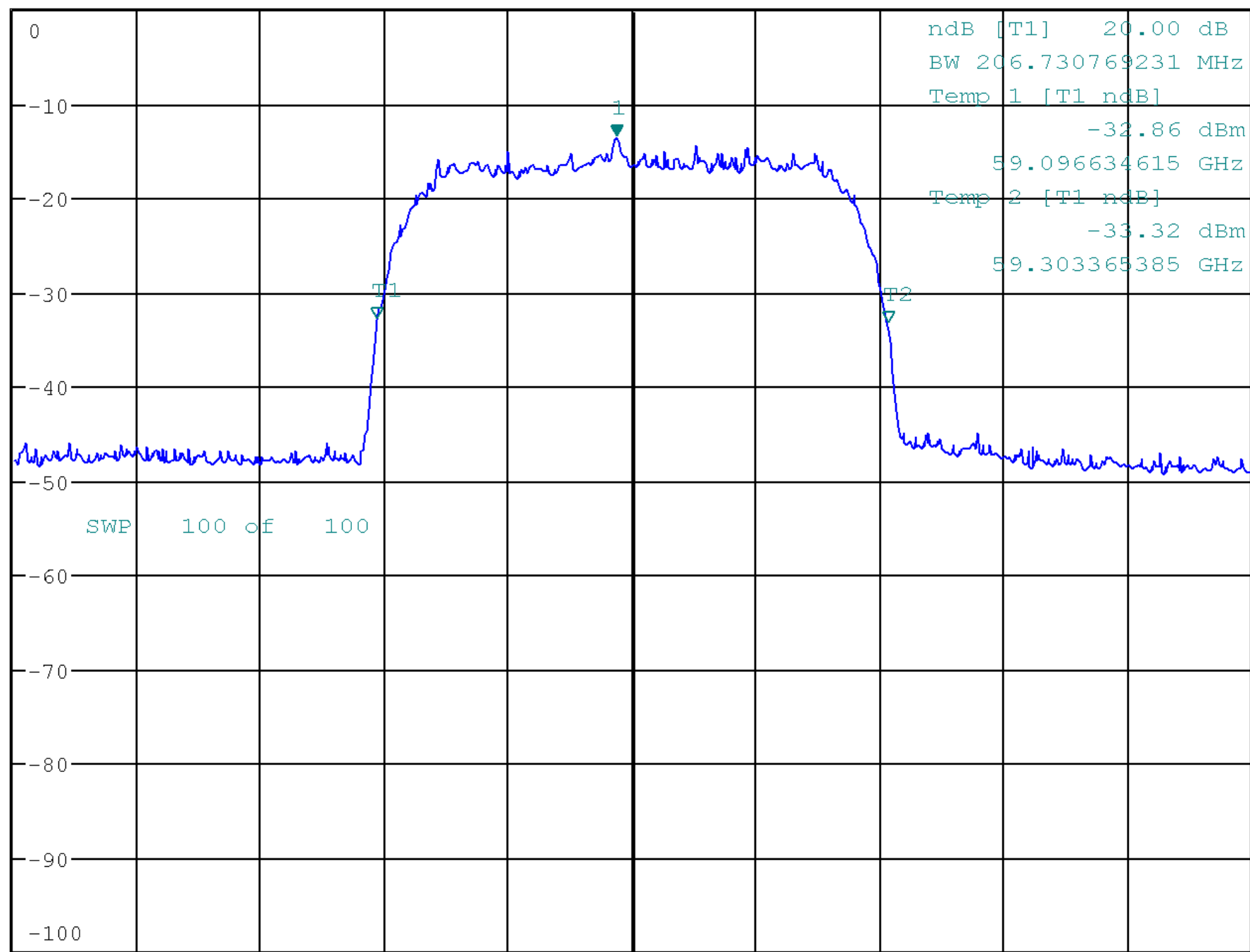
Ref 0 dBm

* Att 15 dB

SWT 20 ms

59.193589744 GHz

1 PK
MAXH



A
SGL

3DB

Center 59.2 GHz

50 MHz/

Span 500 MHz

2.1.5.9 Temperature = +30 °C, Voltage = 100 %



* RBW 3 MHz
* VBW 10 MHz

Marker 1 [T1]
-13.57 dBm
59.193589744 GHz

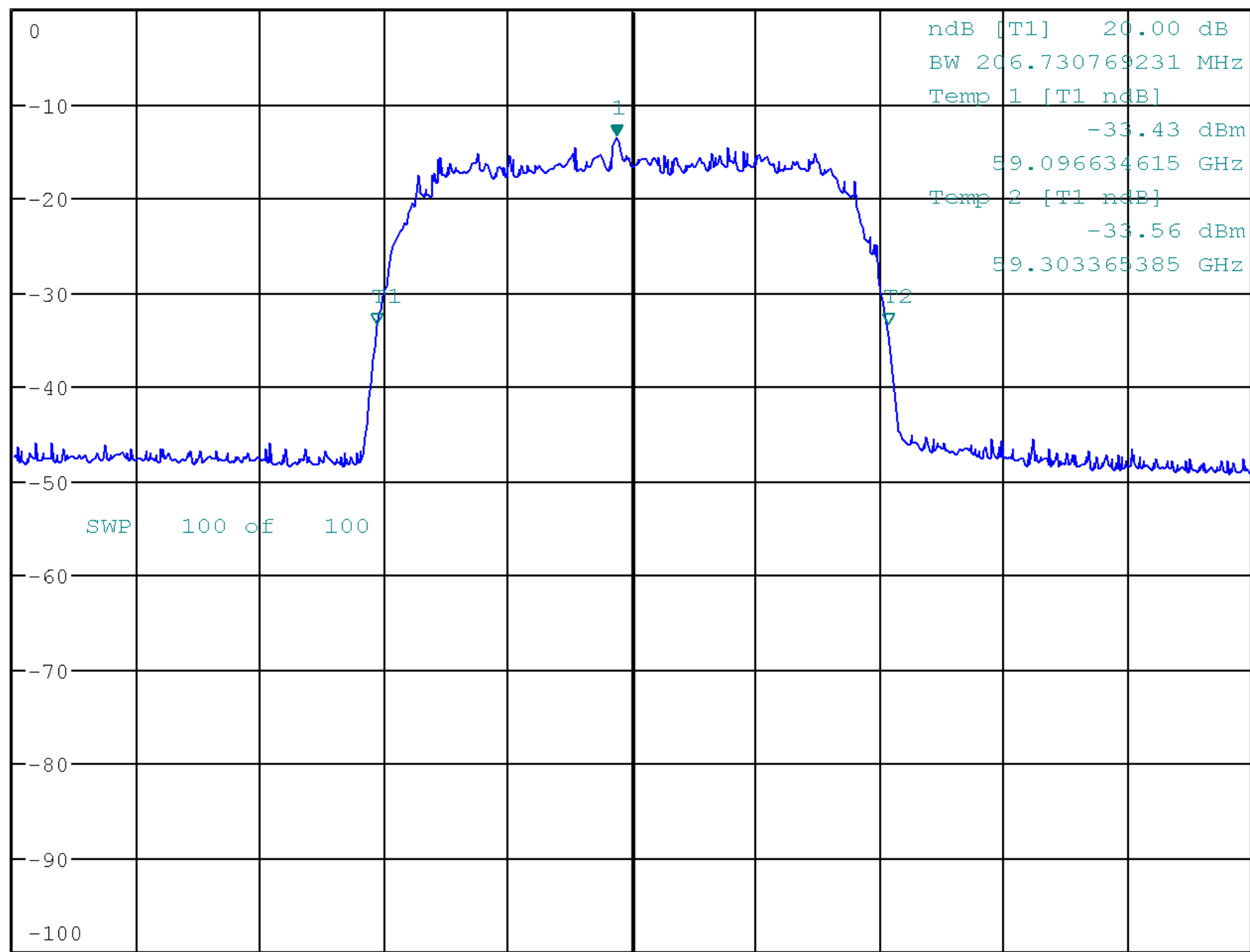
Ref 0 dBm

* Att 15 dB

SWT 20 ms

59.193589744 GHz

1 PK
MAXH



A
SGL

3DB

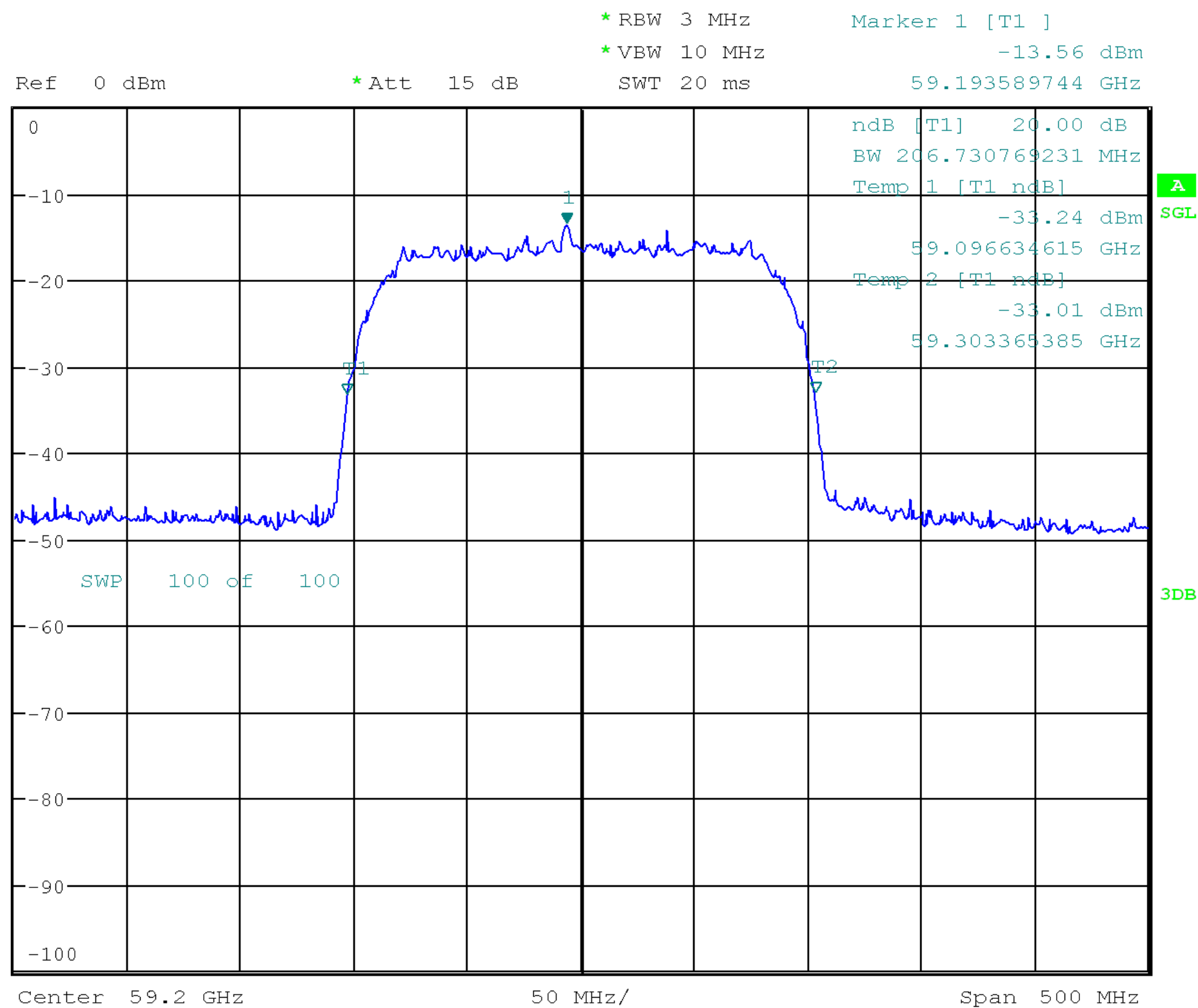
SWP 100 of 100

Center 59.2 GHz

50 MHz/

Span 500 MHz

2.1.5.10 Temperature = +40 °C, Voltage = 100 %



2.1.5.11 Temperature = +50 °C, Voltage = 100 %



* RBW 3 MHz
* VBW 10 MHz

Marker 1 [T1]
-13.54 dBm
59.193589744 GHz

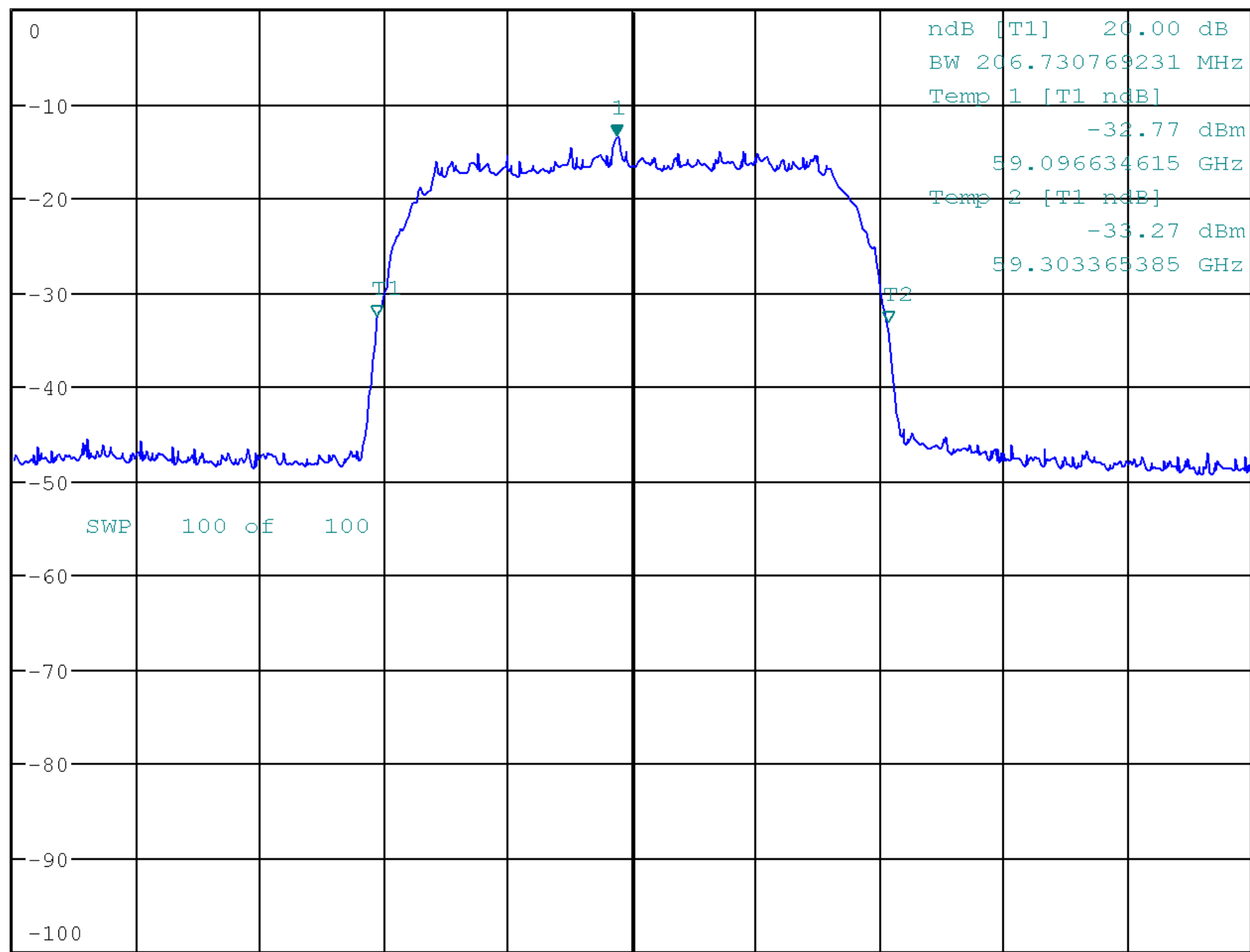
Ref 0 dBm

* Att 15 dB

SWT 20 ms

59.193589744 GHz

1 PK
MAXH



A
SGL

3DB

Center 59.2 GHz

50 MHz/

Span 500 MHz

2.1.6 32QAM-T

2.1.6.1 Temperature = Ambient, Voltage = 85 %



* RBW 3 MHz
* VBW 10 MHz

Marker 1 [T1]
-14.11 dBm
63.793589744 GHz

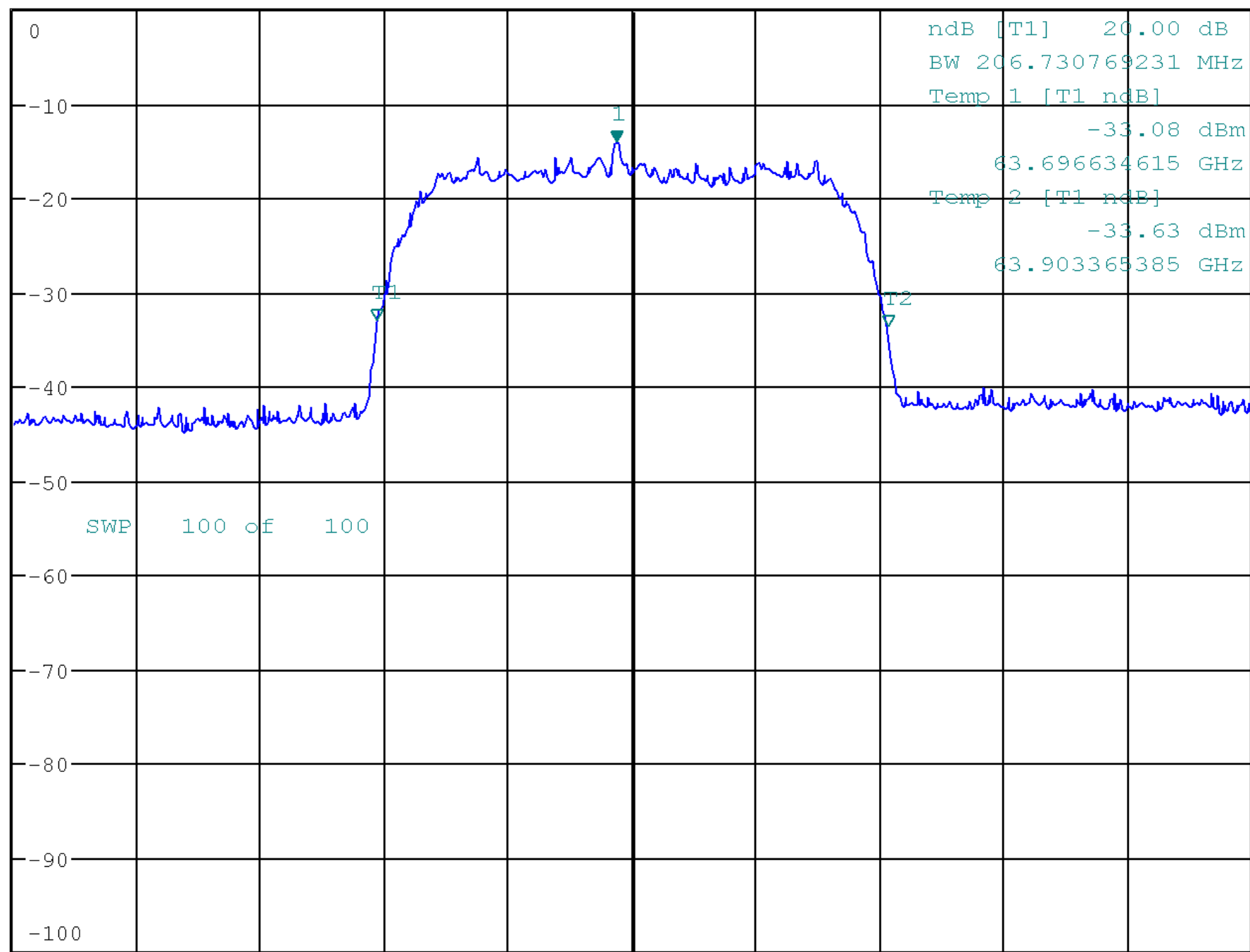
Ref 0 dBm

* Att 15 dB

SWT 20 ms

63.793589744 GHz

1 PK
MAXH



A
SGL

3DB

SWP 100 of 100

Center 63.8 GHz

50 MHz/

Span 500 MHz

2.1.6.2 Temperature = Ambient, Voltage = 100 %



* RBW 3 MHz
* VBW 10 MHz

Marker 1 [T1]
-14.21 dBm
63.793589744 GHz

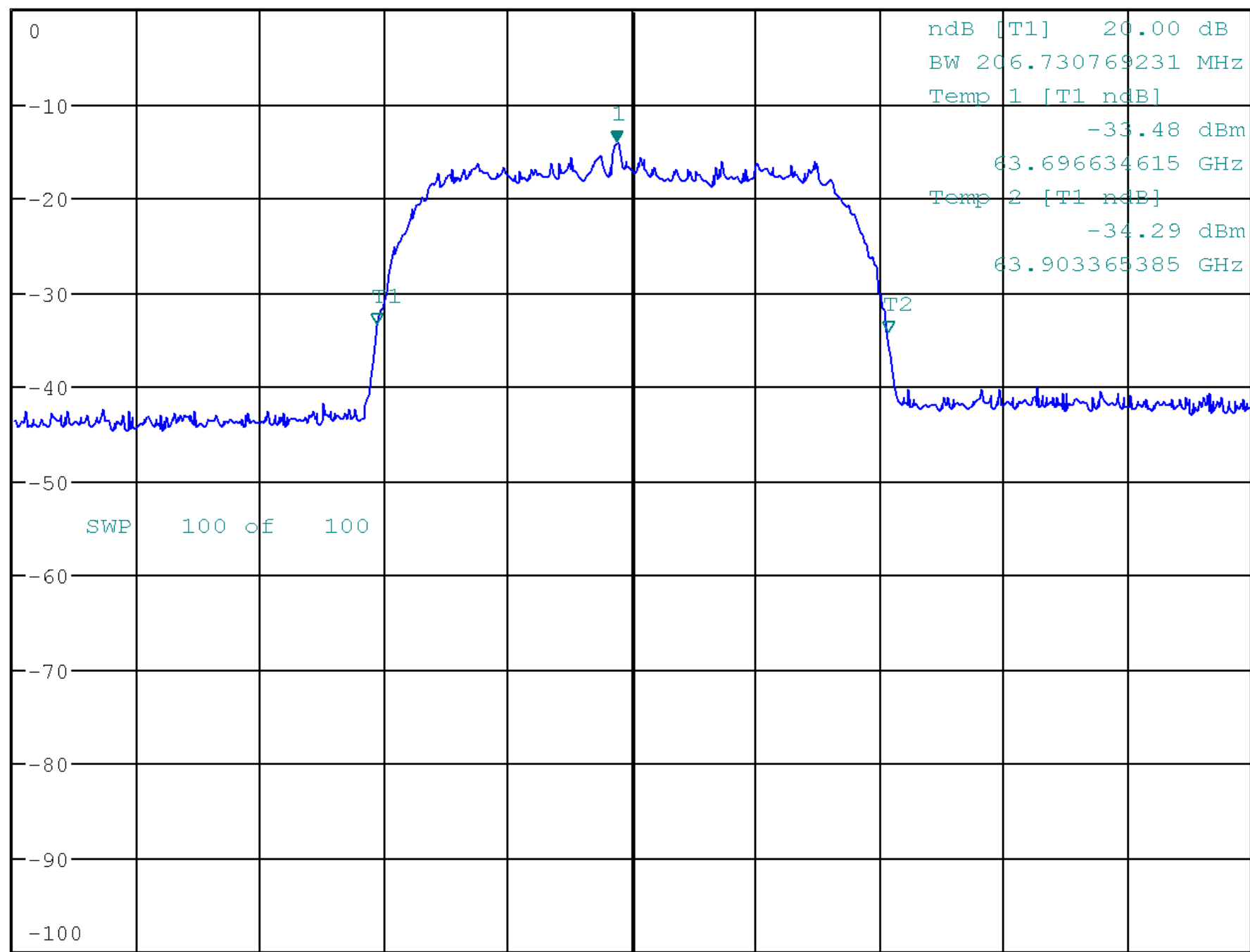
Ref 0 dBm

* Att 15 dB

SWT 20 ms

63.793589744 GHz

1 PK
MAXH



SWP 100 of 100

Center 63.8 GHz

50 MHz/

Span 500 MHz

2.1.6.3 Temperature = Ambient, Voltage = 115 %



* RBW 3 MHz
* VBW 10 MHz

Marker 1 [T1]
-14.14 dBm
63.793589744 GHz

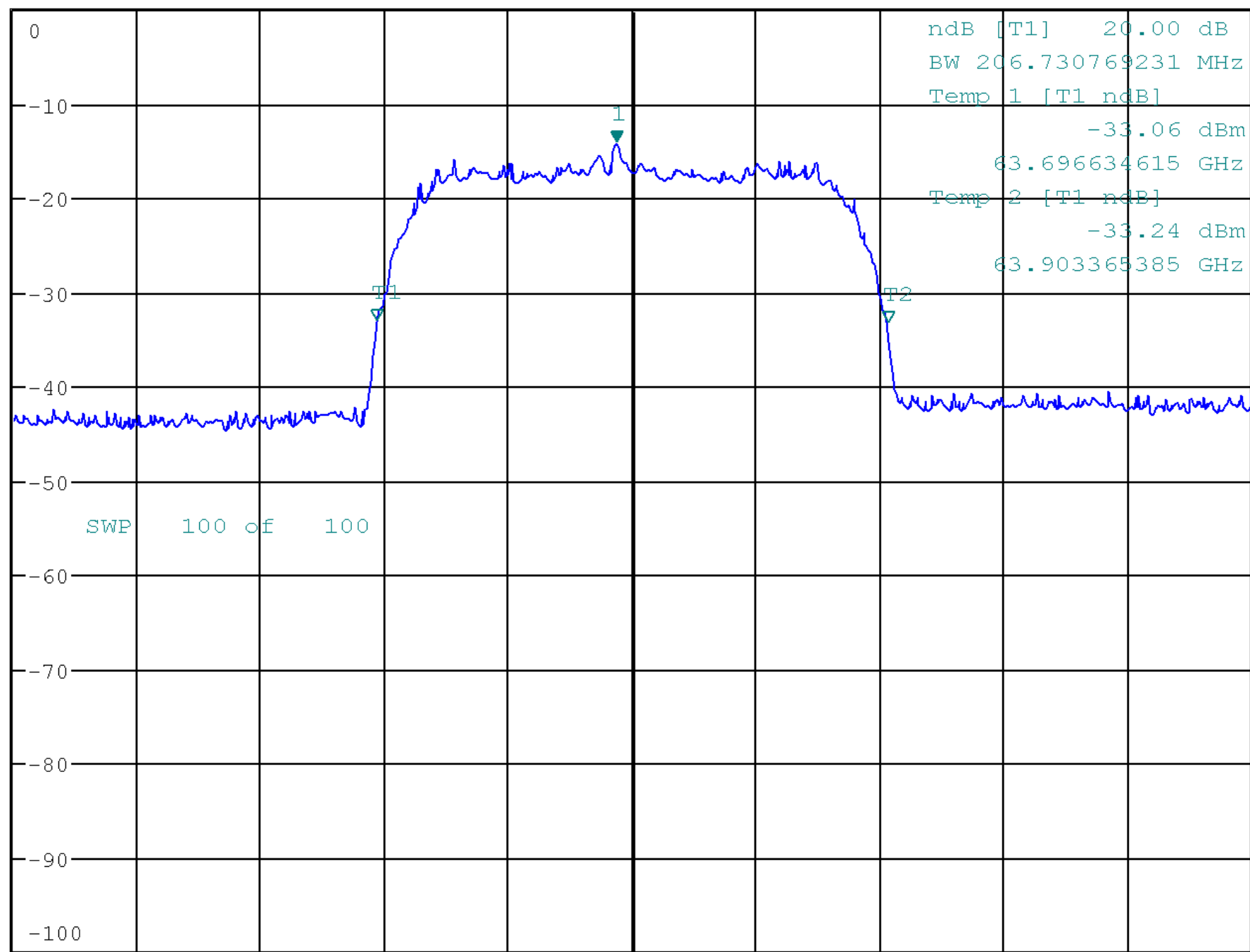
Ref 0 dBm

* Att 15 dB

SWT 20 ms

63.793589744 GHz

1 PK
MAXH



A
SGL

3DB

SWP 100 of 100

Center 63.8 GHz

50 MHz/

Span 500 MHz

2.1.6.4 Temperature = -20 °C, Voltage = 100 %



* RBW 3 MHz

Marker 1 [T1]

* VBW 10 MHz

-14.08 dBm

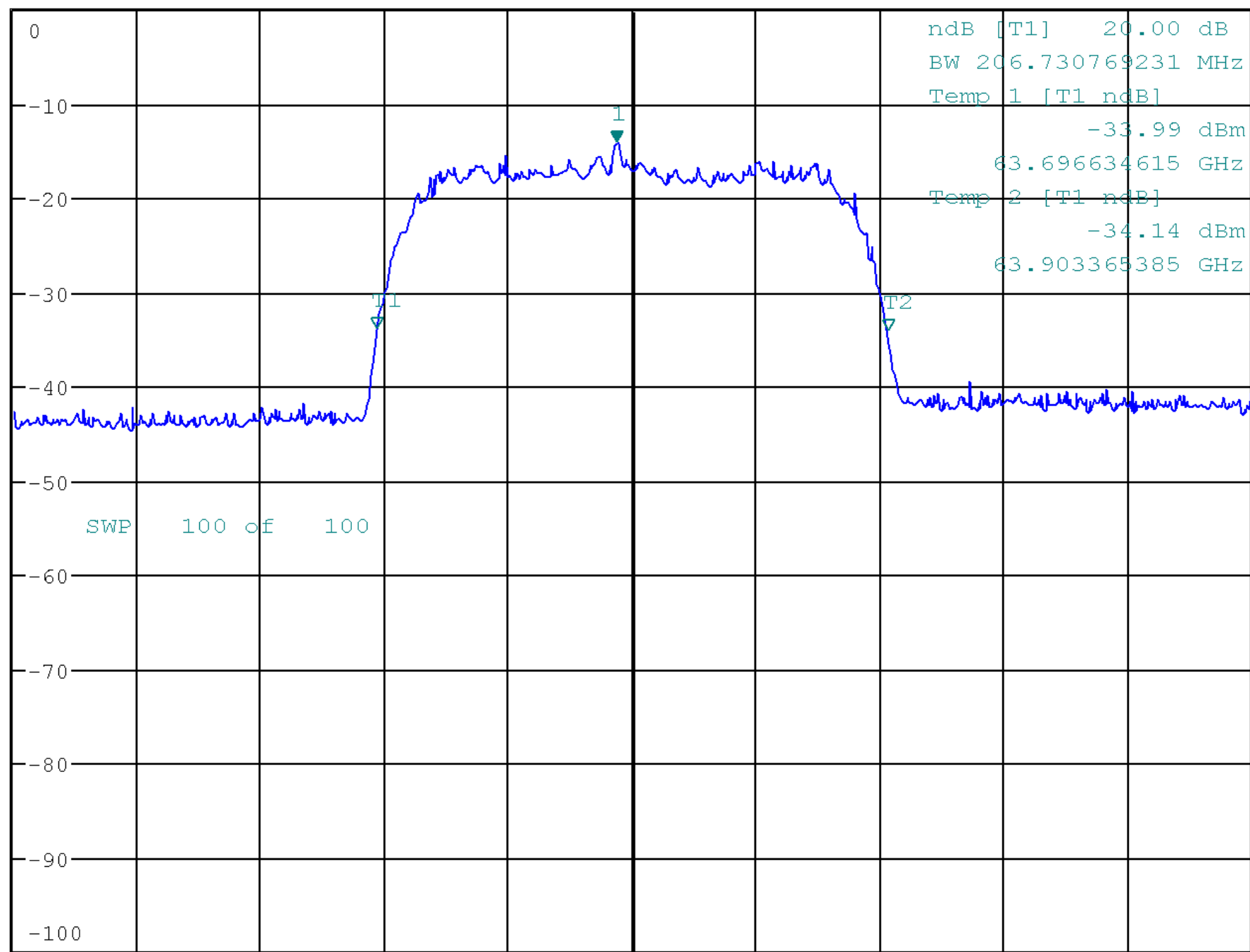
Ref 0 dBm

* Att 15 dB

SWT 20 ms

63.793589744 GHz

1 PK
MAXH



A

SGL

3DB

Center 63.8 GHz

50 MHz/

Span 500 MHz

2.1.6.5 Temperature = -10 °C, Voltage = 100 %



* RBW 3 MHz
* VBW 10 MHz

Marker 1 [T1]
-14.10 dBm
63.793589744 GHz

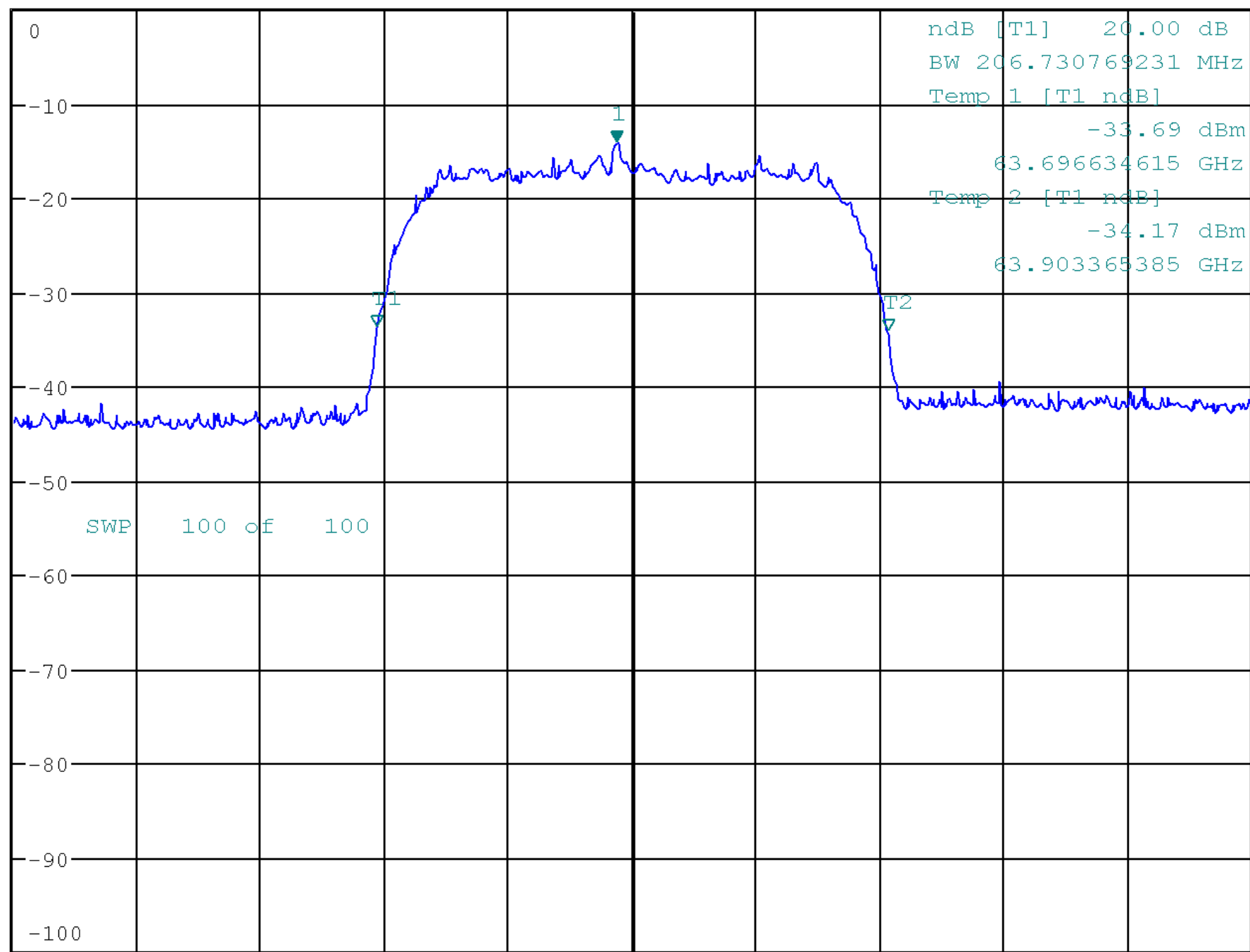
Ref 0 dBm

* Att 15 dB

SWT 20 ms

63.793589744 GHz

1 PK
MAXH



A
SGL

3DB

SWP 100 of 100

Center 63.8 GHz

50 MHz/

Span 500 MHz

2.1.6.6 Temperature = 0 °C, Voltage = 100 %



* RBW 3 MHz
* VBW 10 MHz

Marker 1 [T1]
-14.15 dBm
63.794391026 GHz

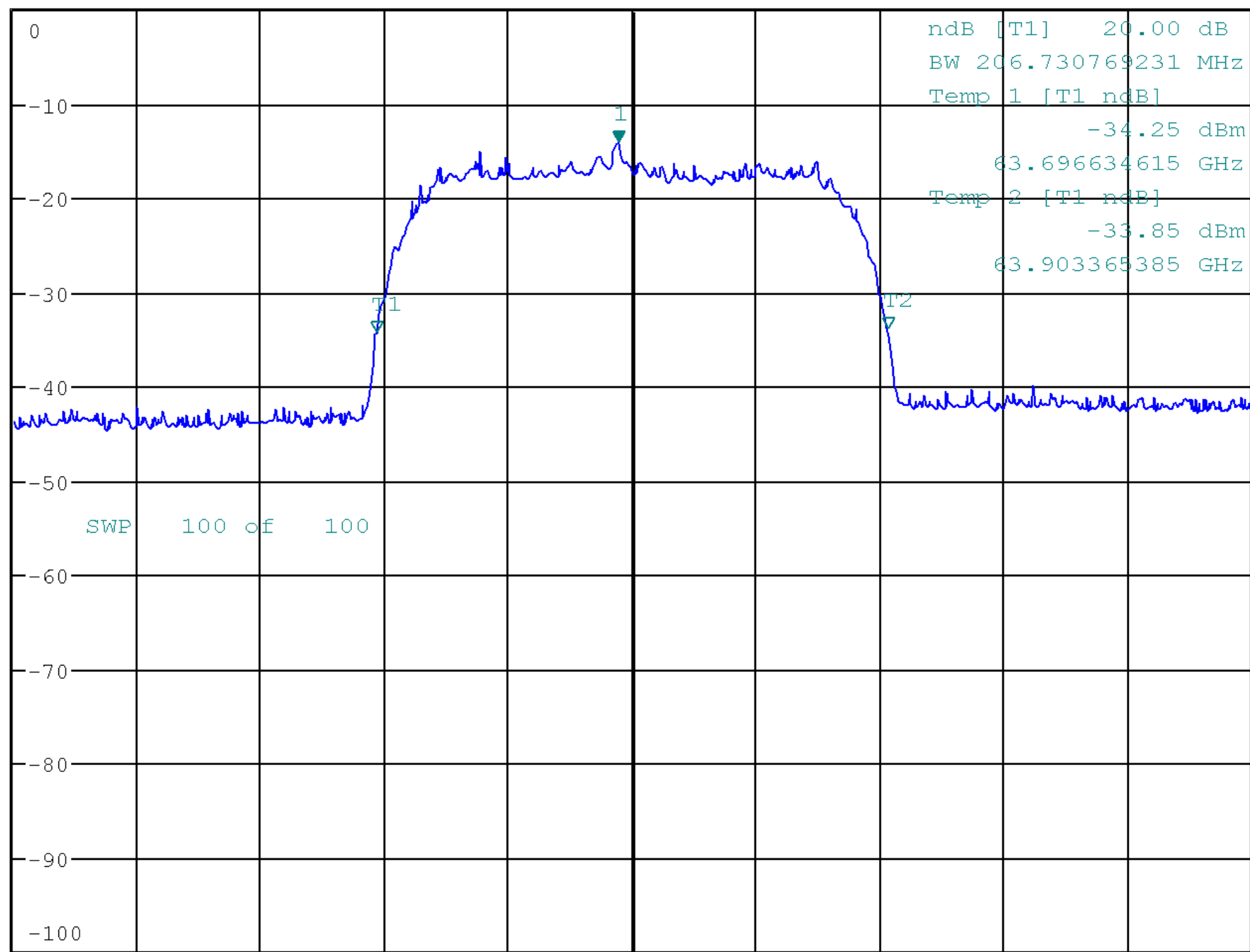
Ref 0 dBm

* Att 15 dB

SWT 20 ms

63.794391026 GHz

1 PK
MAXH



SWP 100 of 100

Center 63.8 GHz

50 MHz/

Span 500 MHz

2.1.6.7 Temperature = +10 °C, Voltage = 100 %



* RBW 3 MHz

Marker 1 [T1]

* VBW 10 MHz

-14.05 dBm

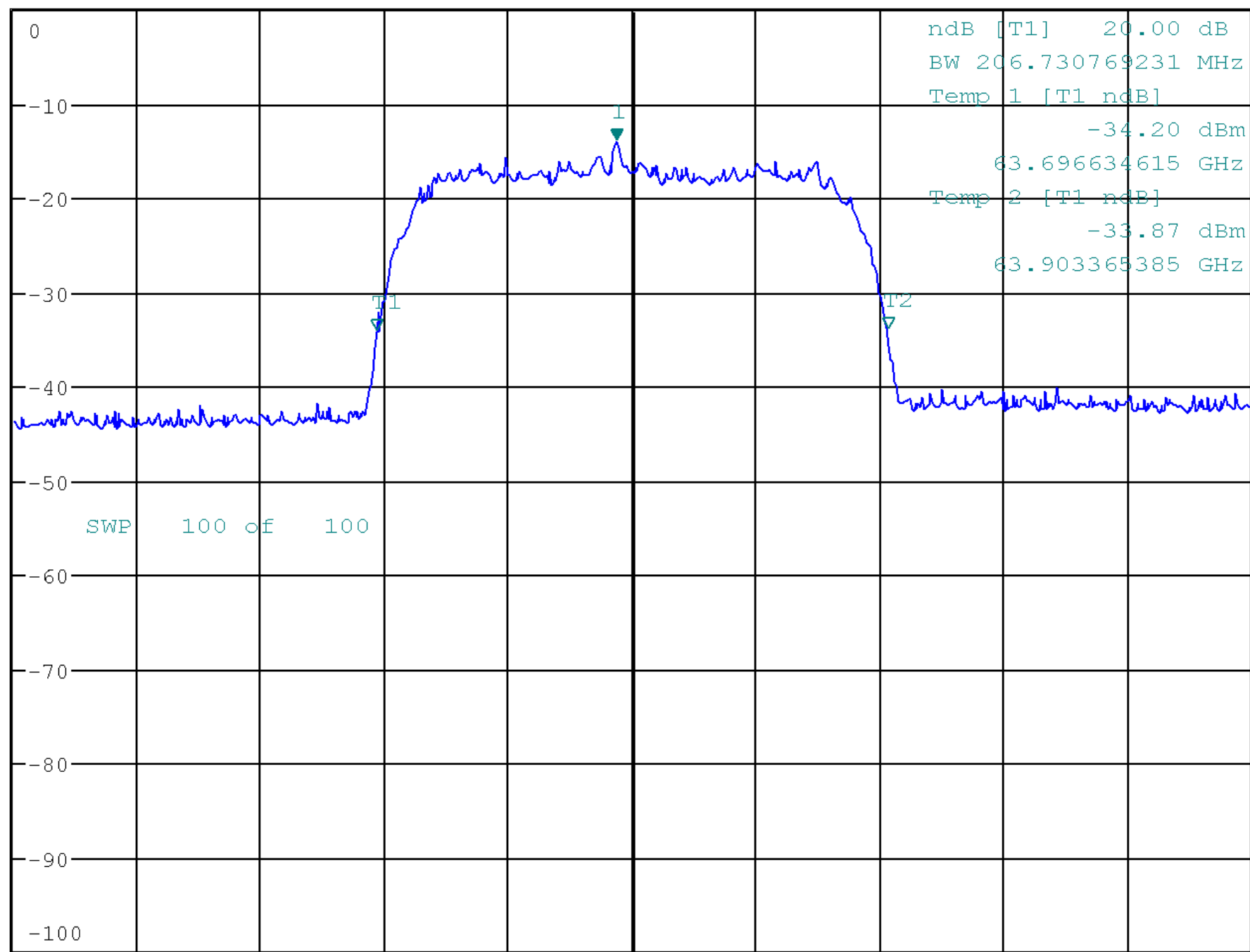
Ref 0 dBm

* Att 15 dB

SWT 20 ms

63.793589744 GHz

1 PK
MAXH



A

SGL

3DB

Center 63.8 GHz

50 MHz/

Span 500 MHz

2.1.6.8 Temperature = +20 °C, Voltage = 100 %



* RBW 3 MHz
* VBW 10 MHz

Marker 1 [T1]
-14.15 dBm
63.793589744 GHz

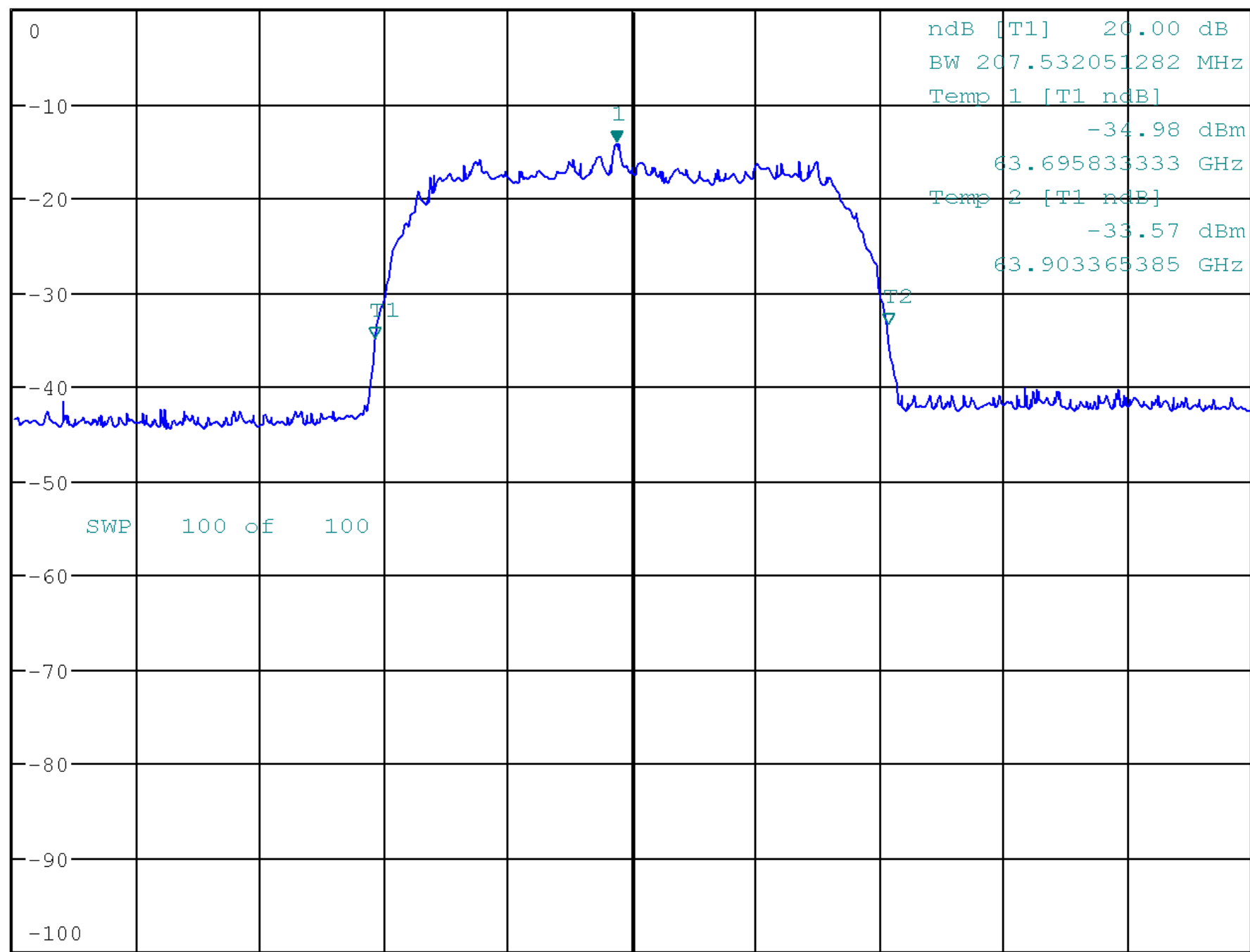
Ref 0 dBm

* Att 15 dB

SWT 20 ms

63.793589744 GHz

1 PK
MAXH



A
SGL

3DB

SWP 100 of 100

Center 63.8 GHz

50 MHz/

Span 500 MHz

2.1.6.9 Temperature = +30 °C, Voltage = 100 %



* RBW 3 MHz
* VBW 10 MHz

Marker 1 [T1]
-14.11 dBm
63.793589744 GHz

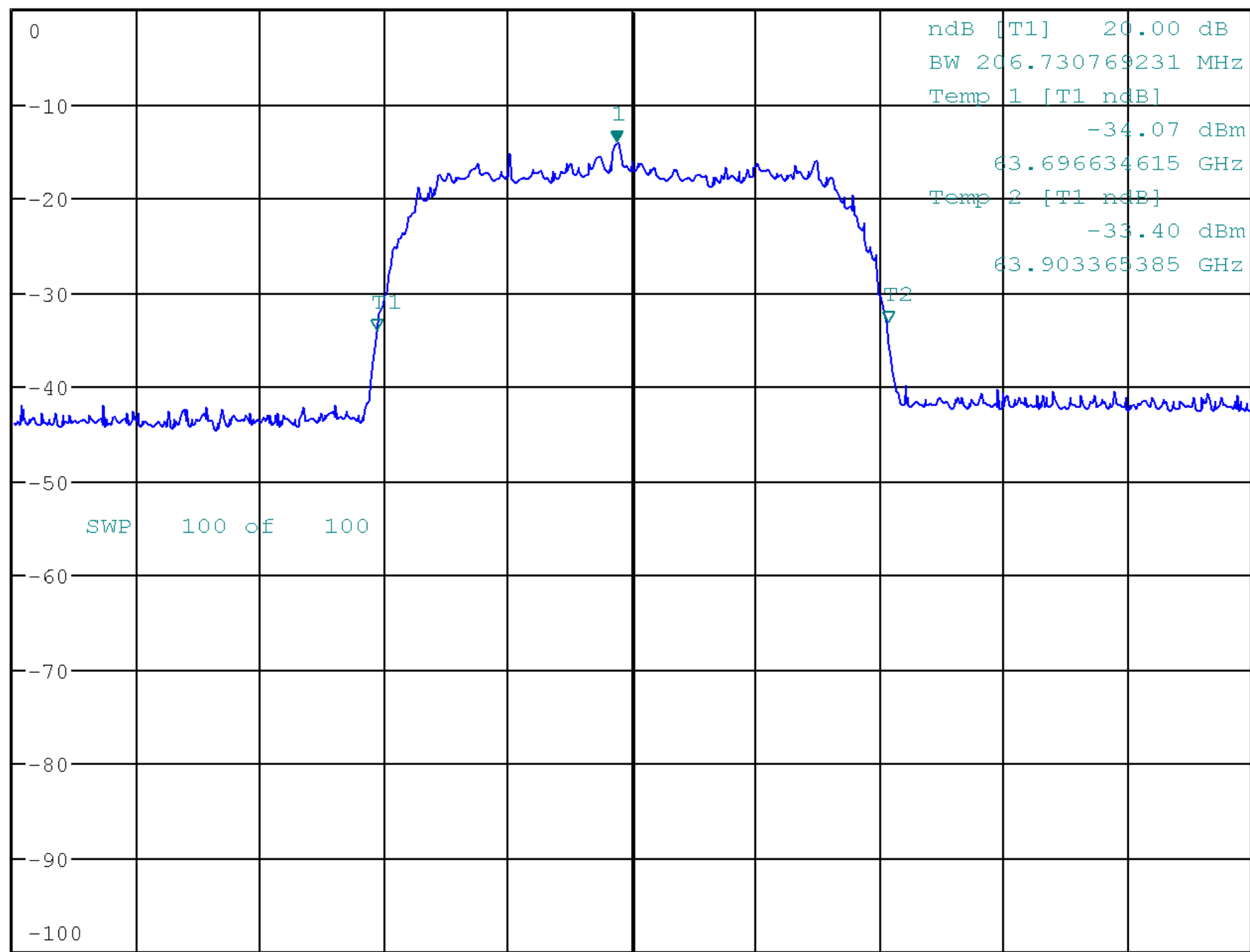
Ref 0 dBm

* Att 15 dB

SWT 20 ms

63.793589744 GHz

1 PK
MAXH



A
SGL

3DB

SWP 100 of 100

Center 63.8 GHz

50 MHz/

Span 500 MHz

2.1.6.10 Temperature = +40 °C, Voltage = 100 %



* RBW 3 MHz
* VBW 10 MHz

Marker 1 [T1]
-14.11 dBm
63.793589744 GHz

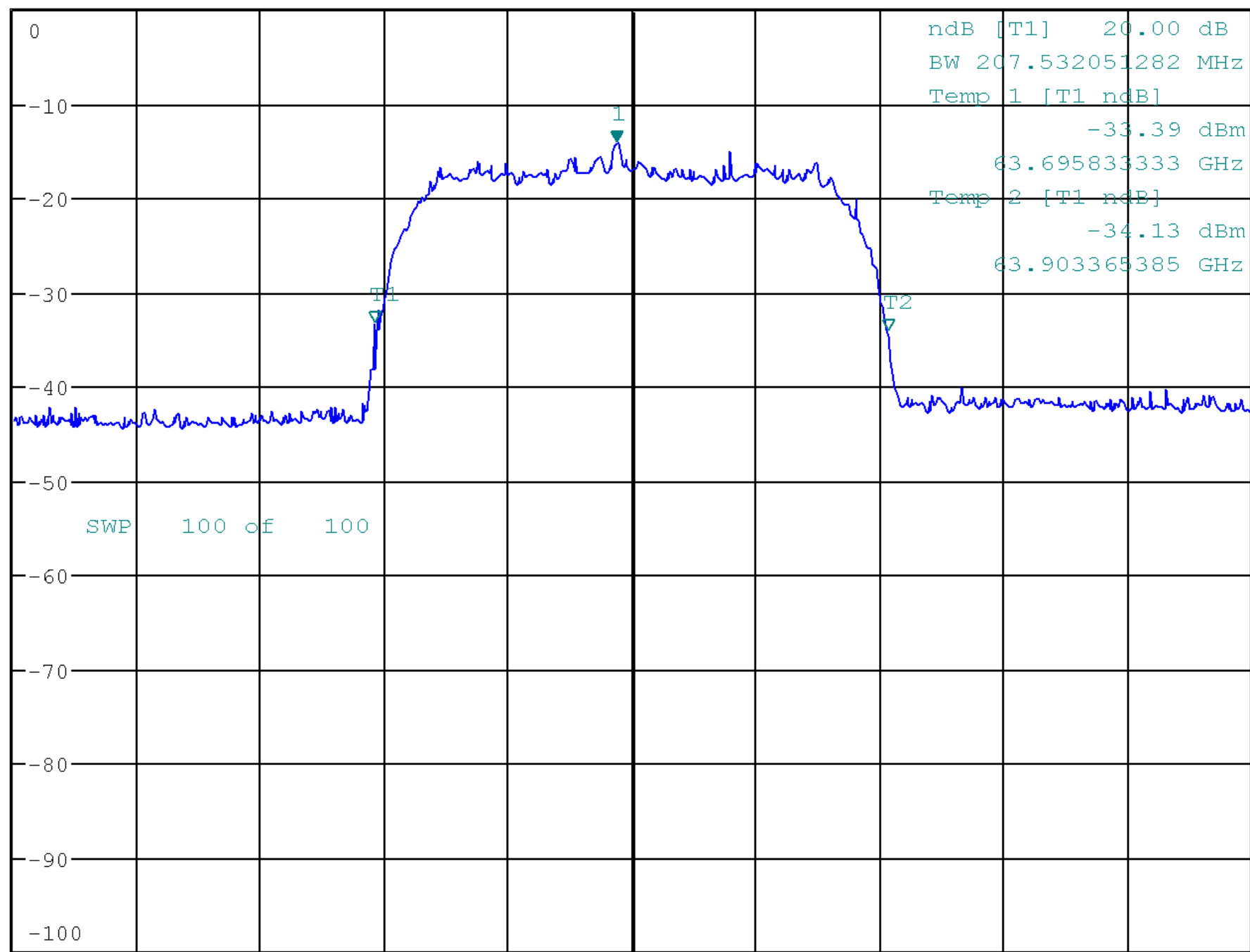
Ref 0 dBm

* Att 15 dB

SWT 20 ms

63.793589744 GHz

1 PK
MAXH



A
SGL

3DB

Center 63.8 GHz

50 MHz/

Span 500 MHz

2.1.6.11 Temperature = +50 °C, Voltage = 100 %



* RBW 3 MHz
* VBW 10 MHz

Marker 1 [T1]
-14.17 dBm
63.793589744 GHz

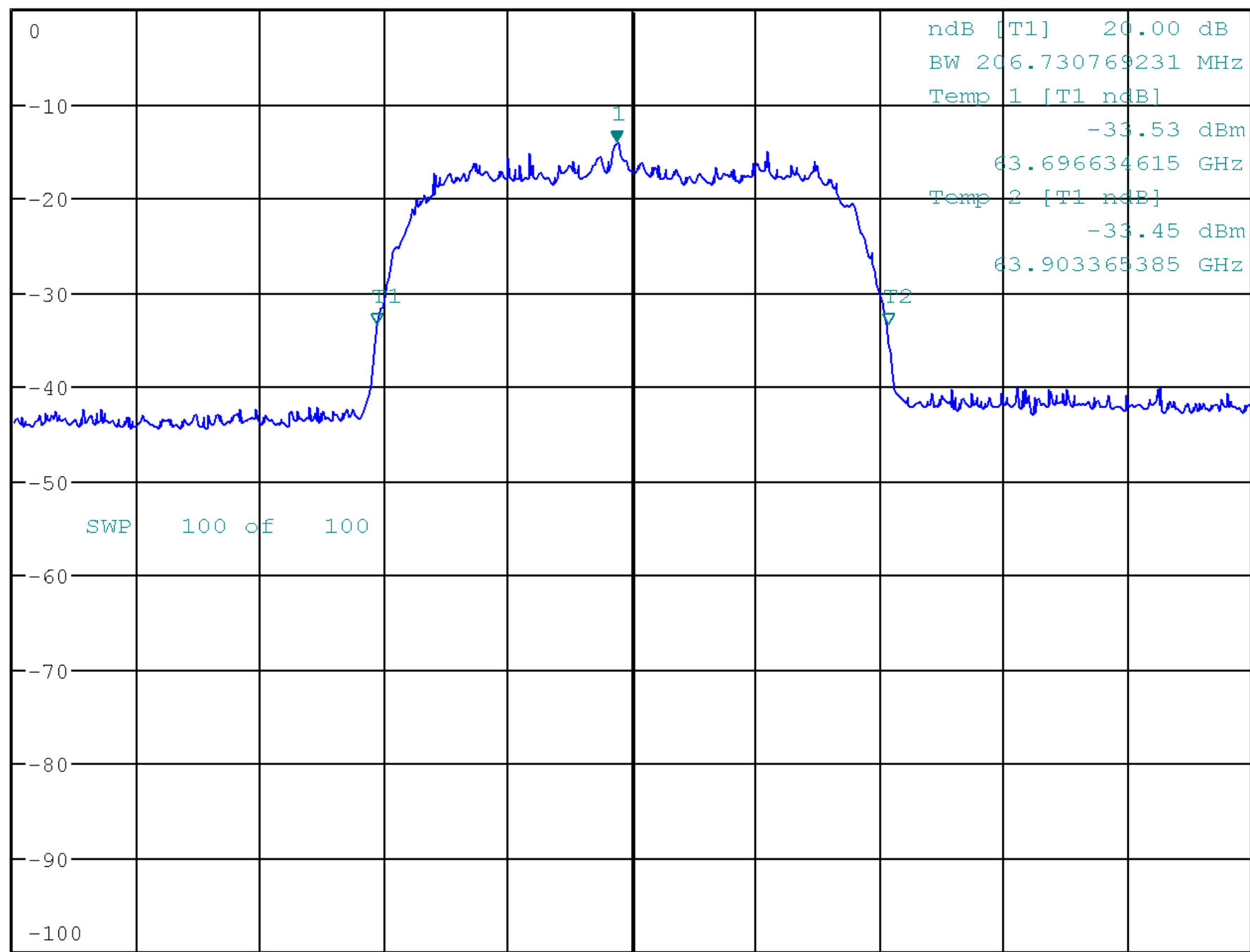
Ref 0 dBm

* Att 15 dB

SWT 20 ms

63.793589744 GHz

1 PK
MAXH



A
SGL

3DB

Center 63.8 GHz

50 MHz/

Span 500 MHz



2.2 ISED Requirements

(No plot supplied)



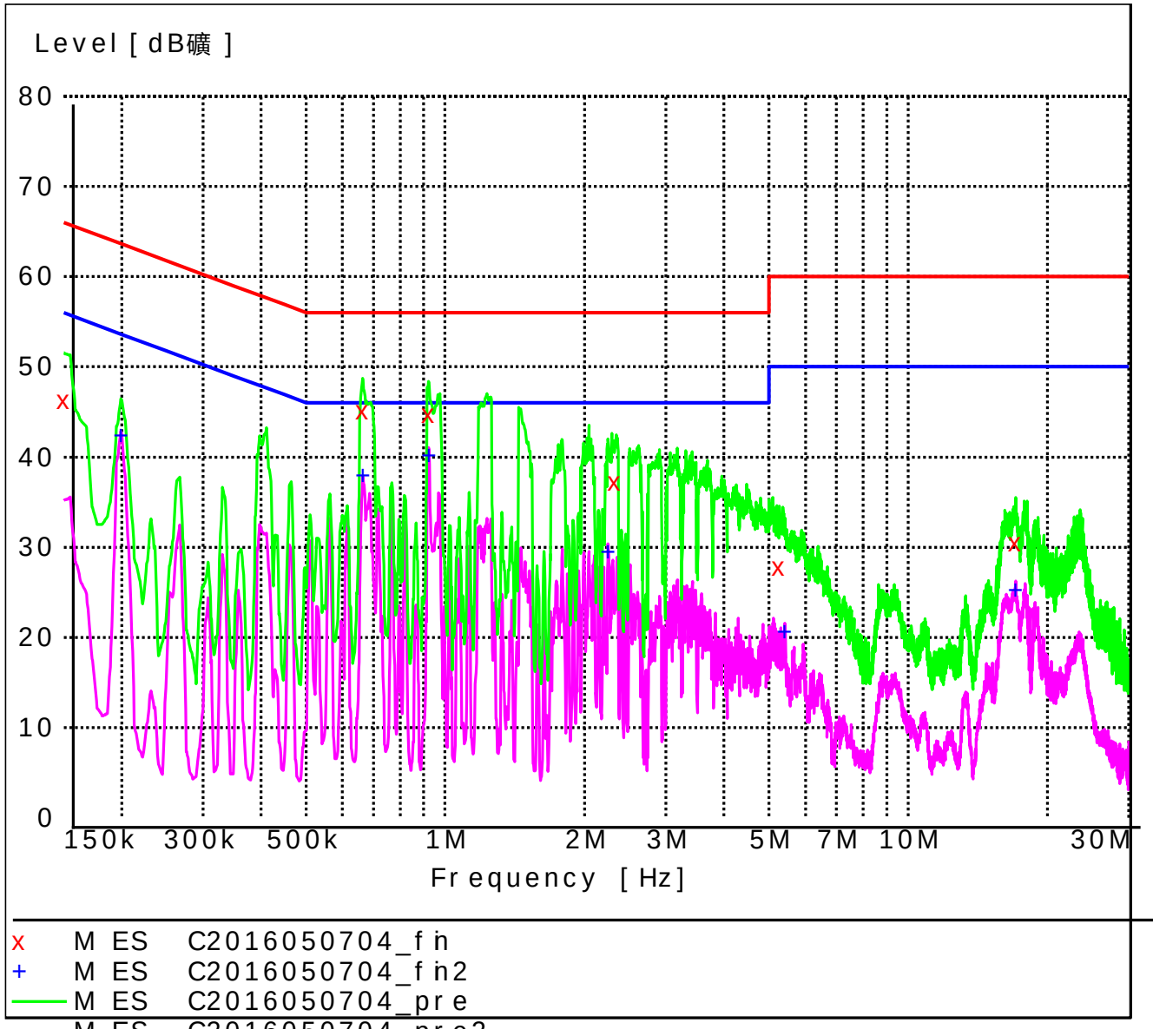
Appendix E: AC Power Line Conducted Emissions

1 Result Table

EUT Conf.	Emissions	Emissions, Limit	Verdict
Worst Case (QPSK-M)	< Limit	§15.207 / RSS-Gen §8.8 limit.	Pass

2 Result Plot

2.1 Worst Case (QPSK-M)



MEASUREMENT RESULT: "C2016050704_fin"

2016-5-7 10:26

Frequency	Level	Transd	Limit	Margin	Detector	Line	PE
MHz	dBμV	dB	dBμV	dB	dB		
0.150000	46.30	10.7	66	19.7	QP	N	GND
0.663000	45.20	10.3	56	10.8	QP	L3	GND
0.919500	44.70	10.3	56	11.3	QP	L3	GND
2.328000	37.20	10.3	56	18.8	QP	L3	GND

5.253000	27.80	10.3	60	32.2	QP	N	GND
17.047500	30.50	10.3	60	29.5	QP	L3	GND

MEASUREMENT RESULT: "C2016050704_fin2"

2016-5-7 10:26

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.199500	42.30	10.6	54	11.3	AV	L3	GND
0.663000	37.90	10.3	46	8.1	AV	N	GND
0.919500	40.10	10.3	46	5.9	AV	L3	GND
2.251500	29.50	10.3	46	16.5	AV	N	GND
5.410500	20.60	10.3	50	29.4	AV	N	GND
17.025000	25.20	10.3	50	24.8	AV	L3	GND

END