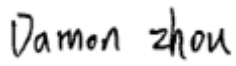
TEST REPORT

Application No.:	KSCR2309001745AT
FCC ID:	2AH25T1721
Applicant:	Shanghai Sunmi Technology Co.,Ltd.
Address of Applicant:	Room 505, No.388, Song Hu Road, Yang Pu District, Shanghai, China
Manufacturer:	Shanghai Sunmi Technology Co.,Ltd.
Address of Manufacturer:	Room 505, No.388, Song Hu Road, Yang Pu District, Shanghai, China
Equipment Under Test (EUT):	
EUT Name:	POS System
Model No.:	T1721
Trade Mark:	SUNMI
Standard(s) :	47 CFR Part 2 47 CFR Part 22 47 CFR Part 24
Date of Receipt:	2023-09-26
Date of Test:	2023-11-01 to 2023-11-15
Date of Issue:	2023-11-16
Test Result:	**Pass***

* In the configuration tested, the EUT complied with the standards specified above.

Revision Record			
Version	**Description**	***Date***	***Remark***
00	Original	2023-11-16	/

Authorized for issue by:				
Tested By				
		Damon_Zhou/Project Engineer		
Approved By				
		Terry Hou /Reviewer		

2 Test Summary

Test Item	FCC Rule No.	Requirements	Verdict
Effective (Isotropic) Radiated Power Output Data	§2.1046, §22.913, §24.232	ERP≤7W(GSM850) EIRP≤2W(GSM1900)	PASS
Peak-Average Ratio	§24.232	≤13dB	PASS
Bandwidth	§2.1049(h)	OBW: No limit EBW: No limit	PASS
Band Edge Compliance	§2.1051, §22.917, §24.238	≤ -13dBm/1%*EBW, in 1 MHz bands immediately outside and adjacent to the frequency block.	PASS
Spurious emissions at antenna terminals	§2.1051, §22.917, §24.238	≤ -13dBm	PASS
Radiated spurious emissions	§2.1051, §22.917, §24.238	≤ -13dBm	PASS
Frequency stability	§2.1055, §22.355, §24.235	≤ ±2.5ppm.	PASS

3 Contents

4 General Information

4.1 Details of E.U.T.

Power supply:	Adapter Model: CYZS36-240150 Input: 100-240V~50/60Hz 1.5A Output: 24V 1.5A 36W Battery Model: LKPA Nominal Voltage: 7.2Vdc Limited Charge Voltage: 8.4V Rated Capacity: 2500mAh,18.0Wh Nominal Capacity: 2600mAh,18.72Wh
Test voltage:	DC 7.2V
Serial Number:	DE06D38140108
Firmware version:	D3mini_IO_V2.0
Support Network:	GPRS, EGPRS
Operation Frequency Band:	GSM850/GSM1900
Modulation Type:	GMSK for GSM/GPRS/EGPRS 8PSK for EGPRS
GPRS Class:	8/10/12
EGPRS Class:	8/10/12
Antenna Type:	PIFA Antenna
Antenna Gain:	GSM850: -0.36dBi (Provided by the manufacturer) GSM1900: 3.62dBi (Provided by the manufacturer)
Extreme vol. Limits:	6.12V DC to 8.28V DC (nominal: 7.2V DC)
IMEI:	867863060000885

4.2 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
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The EUT has been tested as an independent unit.			

4.3 Test Frequency

Test mode:	TX / RX	RF Channel		
		Low (L)	Middle (M)	High (H)
GSM850	TX	Channel 128	Channel 190	Channel 251
		824.2MHz	836.6 MHz	848.8 MHz
	RX	Channel 128	Channel 190	Channel 251
		869.2 MHz	881.6 MHz	893.8 MHz
Test mode:	TX / RX	RF Channel		
		Low (L)	Middle (M)	High (H)
GSM1900	TX	Channel 512	Channel 661	Channel 810
		1850.2MHz	1880.0 MHz	1909.8 MHz
	RX	Channel 512	Channel 661	Channel 810
		1930.2 MHz	1960.0 MHz	1989.8 MHz

4.4 Test Environment

Environment Parameter	Selected Values During Tests	
Relative Humidity	48%	
Atmospheric Pressure:	101kPa	
Temperature:	TN	25 °C
Voltage:	VL	6.12V
	VN	7.20V
	VH	8.28V

NOTE: VL= lower extreme test voltage
VN= nominal voltage
VH= upper extreme test voltage
TN= normal temperature

4.5 Measurement Uncertainty

No.	Item	Measurement Uncertainty
1	Radio Frequency	8.4×10^{-8}
2	Timeout	2s
3	Duty Cycle	0.37%
4	Occupied Bandwidth	3%
5	RF Conducted Power	0.6dB
6	RF Power Density	2.9dB
7	Conducted Spurious Emissions	0.75dB
8	RF Radiated Power	5.2dB (Below 1GHz)
		5.9dB (Above 1GHz)
9	Radiated Spurious Emission Test	4.2dB (Below 30MHz)
		4.5dB (30MHz-1GHz)
		5.1dB (1GHz-18GHz)
		5.4dB (Above 18GHz)
10	Temperature Test	1°C
11	Humidity Test	3%
12	Supply Voltages	1.5%
13	Time	3%
Note: The measurement uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.		

4.6 Test Location

All tests were performed at:

Compliance Certification Services (Kunshan) Inc.

No.10 Weiye Rd, Innovation park, Eco&Tec, Development Zone, Kunshan City, Jiangsu, China.

Tel: +86 512 5735 5888 Fax: +86 512 5737 0818

No tests were sub-contracted.

Note:

1. SGS is not responsible for wrong test results due to incorrect information (e.g., max. internal working frequency, antenna gain, cable loss, etc) is provided by the applicant. (If applicable).

2. SGS is not responsible for the authenticity, integrity and the validity of the conclusion based on results of the data provided by applicant. (If applicable).

3. Sample source: sent by customer.

4.7 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

• A2LA

Compliance Certification Services (Kunshan) Inc. is accredited by the American Association for Laboratory Accreditation (A2LA). Certificate No. 2541.01.

• FCC

Compliance Certification Services (Kunshan) Inc. has been recognized as an accredited testing laboratory. Designation Number: CN1172.

• ISED

Compliance Certification Services (Kunshan) Inc. has been recognized by Innovation, Science and Economic Development Canada (ISED) as an accredited testing laboratory. Company Number: 2324E

• VCCI

The 3m and 10m Semi-anechoic chamber and Shielded Room of Compliance Certification Services (Kunshan) Inc. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-20134, R-11600, C-11707, T-11499, G-10216 respectively.

4.8 Deviation from Standards

None

4.9 Abnormalities from Standard Conditions

None

5 Equipment List

Item	Equipment	Manufacturer	Model	Inventory No	Cal Date	Cal. Due Date
Conducted Emission at Mains Terminals (150kHz-30MHz)						
1	EMI Test Receive	R&S	ESCI	KS301101	02/03/2023	02/02/2024
2	LISN	R&S	ENV216	KS301197	01/17/2023	01/16/2024
3	LISN	Schwarzbeck	NNLK 8129	KS301091	01/17/2023	01/16/2024
4	Pulse Limiter	R&S	ESH3-Z2	KUS1902E001	01/17/2023	01/16/2024
5	CE test Cable	Thermax	/	CZ301102	01/17/2023	01/16/2024
6	Test Software	Farad	EZ-EMC	/	N.C.R	N.C.R
RF Conducted Test						
1	Spectrum Analyzer	Keysight	N9020A	KUS1911E004-2	08/24/2023	08/23/2024
2	Spectrum Analyzer	Keysight	N9020A	KUS2001M001-2	08/24/2023	08/23/2024
3	Spectrum Analyzer	Keysight	N9030B	KSEM021-1	02/03/2023	02/02/2024
4	Signal Generator	R&S	SMBV100B	KSEM032	03/16/2023	03/15/2024
5	Signal Generator	R&S	SMW200A	KSEM020-1	08/24/2023	08/23/2024
6	Signal Generator	Agilent	N5182A	KUS2001M001-1	08/24/2023	08/23/2024
7	Radio Communication Test Station	Anritsu	MT8000A	KSEM001-1	08/24/2023	08/23/2024
8	Radio Communication Analyzer	Anritsu	MT8821C	KSEM002-1	03/16/2023	03/15/2024
9	Universal Radio Communication Tester	R&S	CMW500	KUS1911E004-1	08/24/2023	08/23/2024
10	Switcher	CCSRF	FY562	KUS2001M001-3	08/24/2023	08/23/2024
11	AC Power Source	EXTECH	6605	KS301178	N.C.R	N.C.R
12	DC Power Supply	Aglient	E3632A	KS301180	N.C.R	N.C.R
13	Conducted Test Cable	Thermax	RF01-RF04	CZ301111-CZ301120	02/03/2023	02/02/2024
14	Temp. / Humidity Chamber	TERCHY	MHK-120AK	KS301190	08/24/2023	08/23/2024
15	Temperature & Humidity Recorder	Renke Control	RS-WS-N01-6J	KSEM024-5	03/22/2023	03/21/2024
16	Software	BST	TST-PASS	/	N/A	N/A
RF Radiated Test						
1	Spectrum Analyzer	R&S	FSV40	KUS1806E003	08/24/2023	08/23/2024
2	Universal Radio Communication Tester	R&S	CMW500	KSEM009-1	03/16/2023	03/15/2024
3	Signal Generator	Agilent	E8257C	KS301066	08/24/2023	08/23/2024
4	Loop Antenna	COM-POWER	AL-130R	KUS1806E001	03/18/2023	03/17/2025
5	Bilog Antenna	TESEQ	CBL 6112D	KUS1806E005	06/29/2023	06/28/2025
6	Bilog Antenna	SCHWARZBECK	VULB9160	CZ301016	04/13/2021	04/12/2024
7	Horn-antenna(1-18GHz)	Schwarzbeck	BBHA9120D	KS301079	08/24/2023	08/23/2024
8	Horn-antenna(1-18GHz)	ETS-LINDGREN	3117	KS301186	02/21/2023	02/20/2024
9	Horn Antenna(18-40GHz)	Schwarzbeck	BBHA9170	CZ301058	02/26/2023	02/25/2024
10	Amplifier(30MHz~18GHz)	PANSHAN TECHNOLOGY	LNA:1~18G	KSEM010-1	01/17/2023	01/16/2024
11	Amplifier(18~40GHz)	COM-POWER	PAM-840A	KUS1710E001	01/21/2023	01/20/2024
12	RE Test Cable	REBES MICROWAVE	/	CZ301097	08/24/2023	08/23/2024
13	Temperature & Humidity Recorder	Renke Control	RS-WS-N01-6J	KSEM024-4	03/22/2023	03/21/2024
14	Software	Faratronic	EZ_EMC-v 3A1	/	N/A	N/A

6 Radio Spectrum Matter Test Results

6.1 Effective (Isotropic) Radiated Power Output Data

Test Requirement §2.1046, §22.913, §24.232
Test Method: ANSI C63.26, KDB 971168 D01 v03
Limit: ERP≤7W(GPRS850)
EIRP ≤ 2W(GPRS1900)

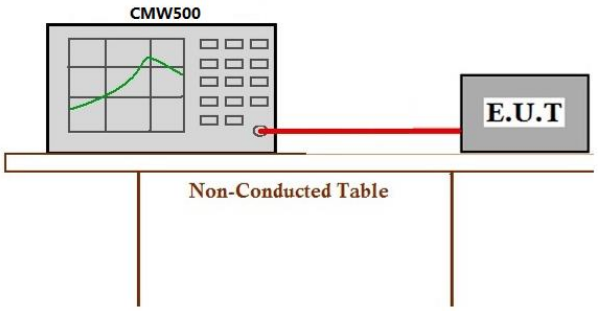
6.1.1 E.U.T. Operation

Operating Environment:
Temperature: 24.3 °C Humidity: 50.2 % RH Atmospheric Pressure: 1010 mbar

6.1.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	10	TX mode_Keep the EUT in transmitting mode

6.1.3 Test Setup Diagram



6.1.4 Measurement Procedure and Data

Please Refer to Appendix for Details

6.2 Peak-Average Ratio

Test Requirement §24.232
Test Method: ANSI C63.26, KDB 971168 D01 v03
Limit: ≤13dB

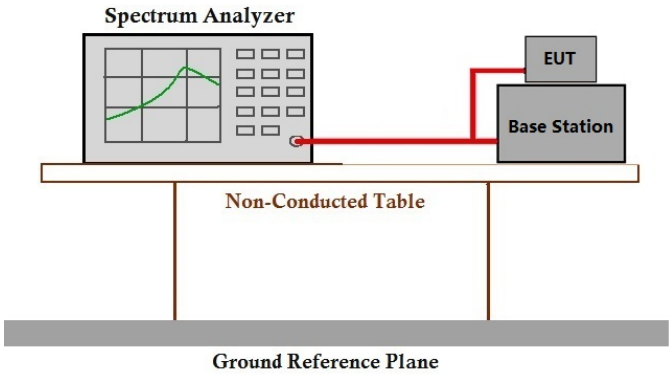
6.2.1 E.U.T. Operation

Operating Environment:
Temperature: 21.2 °C Humidity: 50.3 % RH Atmospheric Pressure: 1010 mbar

6.2.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	10	TX mode_Keep the EUT in transmitting mode

6.2.3 Test Setup Diagram



6.2.4 Measurement Procedure and Data

Please Refer to Appendix for Details

6.3 Bandwidth

Test Requirement §2.1049(h), §22.917, §24.238
Test Method: ANSI C63.26, KDB 971168 D01 v03
Limit: OBW: No limit
EBW: No limit

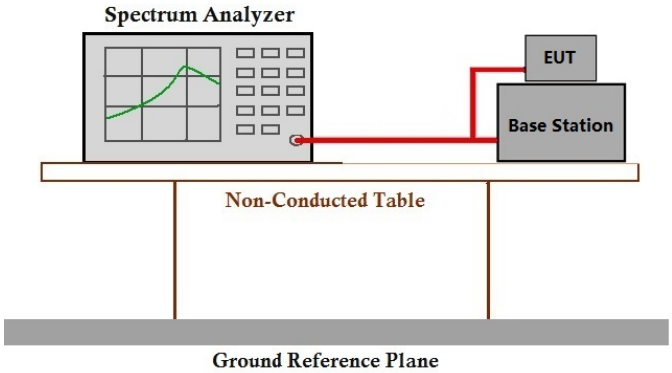
6.3.1 E.U.T. Operation

Operating Environment:
Temperature: 21.2 °C Humidity: 53.2 % RH Atmospheric Pressure: 1010 mbar

6.3.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	10	TX mode_Keep the EUT in transmitting mode

6.3.3 Test Setup Diagram



6.3.4 Measurement Procedure and Data

Please Refer to Appendix for Details

6.4 Band Edge Compliance

Test Requirement §2.1051, §22.917, §24.238
Test Method: ANSI C63.26, KDB 971168 D01 v03
Limit: ≤ -13dBm/1%*EBW, in 1 MHz bands immediately outside and adjacent to the frequency block.

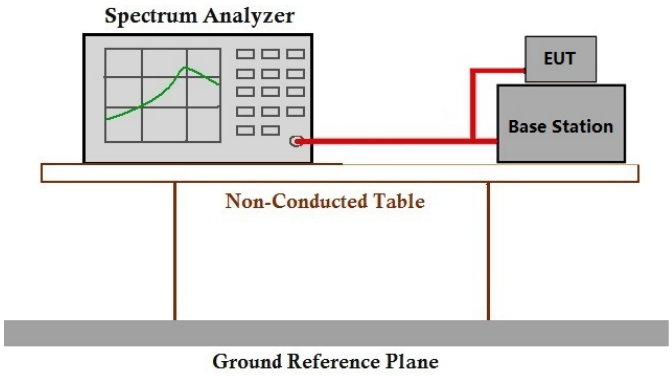
6.4.1 E.U.T. Operation

Operating Environment:
Temperature: 21.2 °C Humidity: 50.3 % RH Atmospheric Pressure: 1010 mbar

6.4.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	10	TX mode_Keep the EUT in transmitting mode

6.4.3 Test Setup Diagram



6.4.4 Measurement Procedure and Data

Please Refer to Appendix for Details

6.5 Spurious emissions at antenna terminals

Test Requirement §2.1051, §22.917, §24.238
Test Method: ANSI C63.26, KDB 971168 D01 v03
Limit: ≤ -13dBm

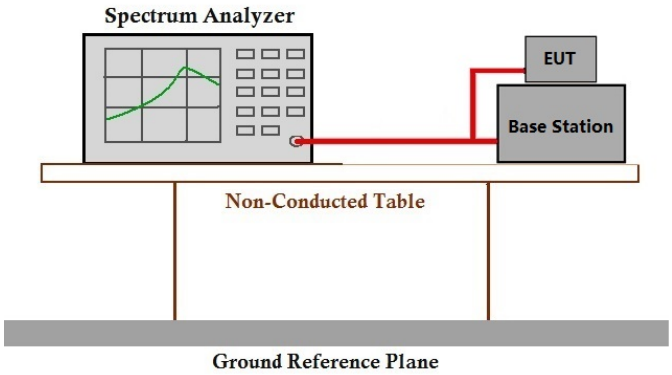
6.5.1 E.U.T. Operation

Operating Environment:
Temperature: 24.3 °C Humidity: 50.2 % RH Atmospheric Pressure: 1010 mbar

6.5.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	10	TX mode_Keep the EUT in transmitting mode

6.5.3 Test Setup Diagram



6.5.4 Measurement Procedure and Data

Please Refer to Appendix for Details

6.6 Field strength of spurious radiation

Test Requirement §2.1051, §22.917, §24.238,
Test Method: ANSI C63.26, KDB 971168 D01 v03
Limit: ≤ -13dBm

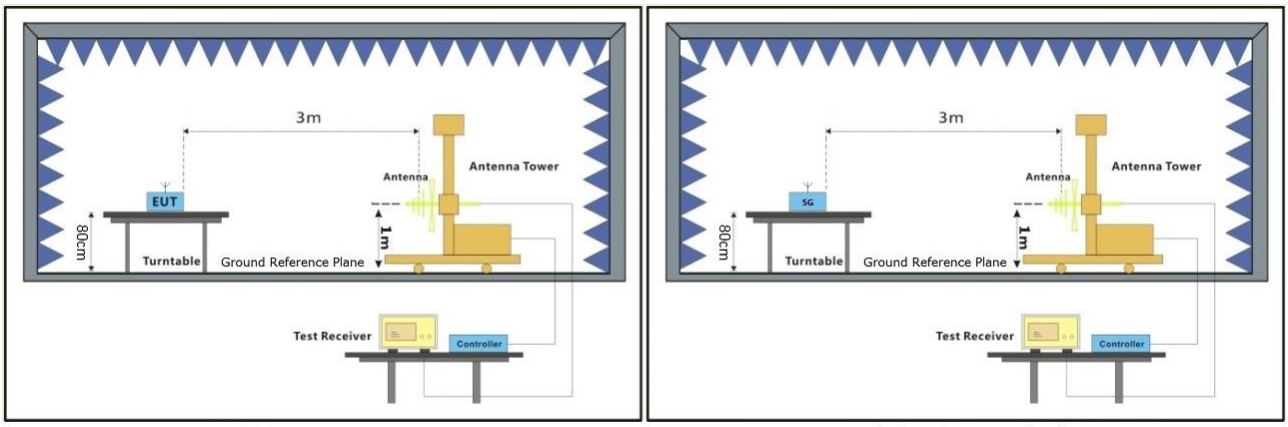
6.6.1 E.U.T. Operation

Operating Environment:
Temperature: 24.3 °C Humidity: 50.2 % RH Atmospheric Pressure: 1010 mbar

6.6.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	10	TX mode_Keep the EUT in transmitting mode

6.6.3 Test Setup Diagram



EUT Substiute Antenna+Signal Generator

6.6.4 Measurement Procedure and Data

Test Procedure:

(1)On a test site, the EUT shall be placed on a turntable and in the position closest to the normal use as declared by the user.
(2)The test antenna shall be oriented initially for vertical polarization located 3m from the EUT to correspond to the transmitter.
(3)The output of the antenna shall be connected to the measuring receiver and either a peak or quasi-peak detector was used for the measurement as indicated on the report. The detector selection is based on how close the emission level was approaching the limit.
(4)The transmitter shall be switched on; if possible, without the modulation and the measurement receiver shall be tuned to the frequency of the transmitter under test.
(5)The test antenna shall be raised and lowered through the specified range of height until the measuring receiver detects a maximum signal level.
(6)The transmitter shall than be rotated through 360°in the horizontal plane, until the maximum signal level is detected by the measuring receiver.
(7)The test antenna shall be raised and lowered again through the specified range of height until the measuring receiver detects a maximum signal level.
(8)The maximum signal level detected by the measuring receiver shall be noted.
(9)The measurement shall be repeated with the test antenna set to horizontal polarization.
(10) Replace the antenna with a proper Antenna (substitution antenna).
(11)The substitution antenna shall be oriented for vertical polarization and, if necessary, the length of the substitution antenna shall be adjusted to correspond to the frequency of transmitting.
(12)The substitution antenna shall be connected to a calibrated signal generator.
(13)If necessary, the input attenuator setting of the measuring receiver shall be adjusted in order to increase the sensitivity of the measuring receiver.
(14)The test antenna shall be raised and lowered through the specified range of the height to ensure that the maximum signal is received.
(15)The input signal to substitution antenna shall be adjusted to the level that produces a level detected by the measuring receiver, that is equal to the level noted while the transmitter radiated power was measured, corrected for the change of input attenuation setting of the measuring receiver.
(16)The input level to the substitution antenna shall be recorded as power level in dBm, corrected for any change of input attenuator setting of the measuring receiver.
(17)The measurement shall be repeated with the test antenna and the substitution antenna oriented for horizontal polarization.

Remark: We have evaluated different adapters and battery modes. The battery mode is the worst, and only the battery mode is tested finally.

GSM850-Low channel				
Frequency (MHz)	Level (dBm)	Limit (dBm)	Over Limit (dB)	Polarization
1648.400	-52.42	-13	-39.42	Horizontal
2472.600	-57.12	-13	-44.12	Horizontal
3296.800	-54.44	-13	-41.44	Horizontal
1648.400	-58.74	-13	-45.74	Vertical
2472.600	-57.05	-13	-44.05	Vertical
3296.800	-56.73	-13	-43.73	Vertical

GSM850-Middle channe				
Frequency (MHz)	Level (dBm)	Limit (dBm)	Over Limit (dB)	Polarization
1672.800	-56.83	-13	-43.83	Horizontal
2509.200	-60.53	-13	-47.53	Horizontal
3345.600	-58.22	-13	-45.22	Horizontal
1672.800	-52.89	-13	-39.89	Vertical
2509.200	-59.49	-13	-46.49	Vertical
3345.600	-56.86	-13	-43.86	Vertical

GSM850- High channel				
Frequency (MHz)	Level (dBm)	Limit (dBm)	Over Limit (dB)	Polarization
1697.600	-58.21	-13	-45.21	Horizontal
2546.400	-63.55	-13	-50.55	Horizontal
3395.200	-52.55	-13	-39.55	Horizontal
1697.600	-52.39	-13	-39.39	Vertical
2546.400	-61.50	-13	-48.50	Vertical
3395.200	-57.10	-13	-44.10	Vertical

GSM1900-Low channel				
Frequency (MHz)	Level (dBm)	Limit (dBm)	Over Limit (dB)	Polarization
3700.400	-45.56	-13	-32.56	Horizontal
5550.600	-46.64	-13	-33.64	Horizontal
7400.800	-47.97	-13	-34.97	Horizontal
3700.400	-54.32	-13	-41.32	Vertical
5550.600	-46.85	-13	-33.85	Vertical
7400.800	-47.86	-13	-34.86	Vertical

GSM1900-Middle channel				
Frequency (MHz)	Level (dBm)	Limit (dBm)	Over Limit (dB)	Polarization
3760.000	-42.93	-13	-29.93	Horizontal
5640.000	-50.39	-13	-37.39	Horizontal
7520.000	-46.39	-13	-33.39	Horizontal
3760.000	-41.01	-13	-28.01	Vertical
5640.000	-50.98	-13	-37.98	Vertical
7520.000	-48.68	-13	-35.68	Vertical

GSM1900-High channel				
Frequency (MHz)	Level (dBm)	Limit (dBm)	Over Limit (dB)	Polarization
3819.600	-54.62	-13	-41.62	Horizontal
5729.400	-48.79	-13	-35.79	Horizontal
7639.200	-40.68	-13	-27.68	Horizontal
3819.600	-46.40	-13	-33.40	Vertical
5729.400	-53.09	-13	-40.09	Vertical
7639.200	-41.03	-13	-28.03	Vertical

6.7 Frequency stability

Test Requirement §2.1055, §22.355, §24.235
Test Method: ANSI C63.26, KDB 971168 D01 v03
Limit: ±2.5ppm.

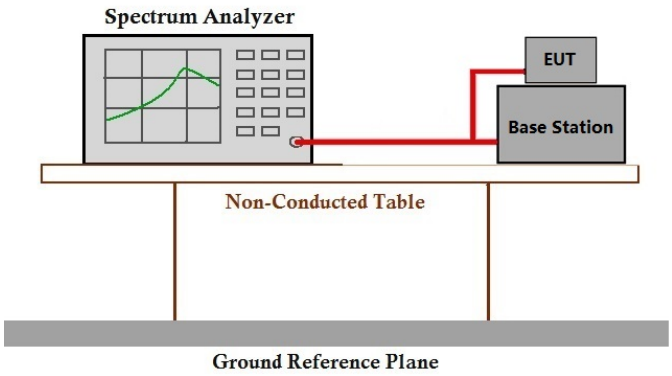
6.7.1 E.U.T. Operation

Operating Environment:
Temperature: 21.2 °C Humidity: 53.2 % RH Atmospheric Pressure: 1010 mbar

6.7.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	10	TX mode_Keep the EUT in transmitting mode

6.7.3 Test Setup Diagram



6.7.4 Measurement Procedure and Data

Please Refer to Appendix for Details

7 Test Setup Photo

Refer to Appendix - Test Setup Photo for KSCR2309001745AT

8 EUT Constructional Details (EUT Photos)

Refer to Appendix - Photographs of EUT Constructional Details for KSCR2309001745AT

9 Appendix

1. Effective (Isotropic) Radiated Power Output Data

1.1 GSM850_ERP

1.1.1 Test Result

Band: GSM850								
ENV	Mode		Frequency (MHz)	Conducted Power (dBm)	Gain (dBi)	ERP (dBm)		Verdict
	Network	Subset				Result	Limit	
NTNV	GPRS	1 TX Slot	824.2	33.29	-0.36	30.78	<=38.45	Pass
		2 TX Slots	824.2	31.74	-0.36	29.23	<=38.45	Pass
		3 TX Slots	824.2	30.08	-0.36	27.57	<=38.45	Pass
		4 TX Slots	824.2	28.70	-0.36	26.19	<=38.45	Pass
		1 TX Slot	836.6	33.18	-0.36	30.67	<=38.45	Pass
		2 TX Slots	836.6	31.79	-0.36	29.28	<=38.45	Pass
		3 TX Slots	836.6	30.04	-0.36	27.53	<=38.45	Pass
		4 TX Slots	836.6	28.67	-0.36	26.16	<=38.45	Pass
		1 TX Slot	848.8	33.28	-0.36	30.77	<=38.45	Pass
		2 TX Slots	848.8	31.87	-0.36	29.36	<=38.45	Pass
		3 TX Slots	848.8	29.90	-0.36	27.39	<=38.45	Pass
		4 TX Slots	848.8	28.82	-0.36	26.31	<=38.45	Pass
	EGPRS	1 TX Slot	824.2	26.17	-0.36	23.66	<=38.45	Pass
		2 TX Slots	824.2	26.15	-0.36	23.64	<=38.45	Pass
		3 TX Slots	824.2	24.76	-0.36	22.25	<=38.45	Pass
		4 TX Slots	824.2	23.68	-0.36	21.17	<=38.45	Pass
		1 TX Slot	836.6	26.14	-0.36	23.63	<=38.45	Pass
		2 TX Slots	836.6	26.02	-0.36	23.51	<=38.45	Pass
		3 TX Slots	836.6	24.75	-0.36	22.24	<=38.45	Pass
		4 TX Slots	836.6	23.48	-0.36	20.97	<=38.45	Pass
		1 TX Slot	848.8	26.17	-0.36	23.66	<=38.45	Pass
		2 TX Slots	848.8	26.08	-0.36	23.57	<=38.45	Pass
		3 TX Slots	848.8	24.68	-0.36	22.17	<=38.45	Pass
		4 TX Slots	848.8	23.58	-0.36	21.07	<=38.45	Pass
Note1: ERP=Conducted Power+Antenna Gain-2.15								

2. Frequency Stability

2.1 GSM850

2.1.1 Test Result

Band: GSM850							
Network	Frequency (MHz)	Temp. (°C)	Voltage (VDC)	Freq. Error (Hz)	Freq. vs. Rated (ppm)		Verdict
					Result	Limit	
GPRS	824.2	20	6.12	30.090	0.0365	-2.5 to 2.5	Pass
			7.20	28.315	0.0344	-2.5 to 2.5	Pass

			8.28	28.702	0.0348	-2.5 to 2.5	Pass
		-30	7.20	27.604	0.0335	-2.5 to 2.5	Pass
		-20	7.20	29.057	0.0353	-2.5 to 2.5	Pass
		-10	7.20	25.893	0.0314	-2.5 to 2.5	Pass
		0	7.20	26.571	0.0322	-2.5 to 2.5	Pass
		10	7.20	26.765	0.0325	-2.5 to 2.5	Pass
		30	7.20	28.379	0.0344	-2.5 to 2.5	Pass
		40	7.20	28.412	0.0345	-2.5 to 2.5	Pass
		50	7.20	27.992	0.0340	-2.5 to 2.5	Pass
	836.6	20	6.12	26.926	0.0322	-2.5 to 2.5	Pass
			7.20	26.248	0.0314	-2.5 to 2.5	Pass
			8.28	26.959	0.0322	-2.5 to 2.5	Pass
		-30	7.20	25.926	0.0310	-2.5 to 2.5	Pass
		-20	7.20	25.151	0.0301	-2.5 to 2.5	Pass
		-10	7.20	25.635	0.0306	-2.5 to 2.5	Pass
		0	7.20	26.604	0.0318	-2.5 to 2.5	Pass
		10	7.20	26.474	0.0316	-2.5 to 2.5	Pass
		30	7.20	25.990	0.0311	-2.5 to 2.5	Pass
		40	7.20	26.830	0.0321	-2.5 to 2.5	Pass
		50	7.20	27.378	0.0327	-2.5 to 2.5	Pass
	848.8	20	6.12	29.445	0.0347	-2.5 to 2.5	Pass
			7.20	29.509	0.0348	-2.5 to 2.5	Pass
			8.28	29.477	0.0347	-2.5 to 2.5	Pass
		-30	7.20	31.091	0.0366	-2.5 to 2.5	Pass
		-20	7.20	27.411	0.0323	-2.5 to 2.5	Pass
		-10	7.20	29.283	0.0345	-2.5 to 2.5	Pass
		0	7.20	27.120	0.0320	-2.5 to 2.5	Pass
		10	7.20	29.961	0.0353	-2.5 to 2.5	Pass
		30	7.20	27.508	0.0324	-2.5 to 2.5	Pass
		40	7.20	28.638	0.0337	-2.5 to 2.5	Pass
		50	7.20	26.636	0.0314	-2.5 to 2.5	Pass
EGPRS	824.2	20	6.12	34.707	0.0421	-2.5 to 2.5	Pass
			7.20	35.159	0.0427	-2.5 to 2.5	Pass
			8.28	33.190	0.0403	-2.5 to 2.5	Pass
		-30	7.20	35.547	0.0431	-2.5 to 2.5	Pass
		-20	7.20	31.866	0.0387	-2.5 to 2.5	Pass
		-10	7.20	35.966	0.0436	-2.5 to 2.5	Pass
		0	7.20	33.836	0.0411	-2.5 to 2.5	Pass
		10	7.20	34.158	0.0414	-2.5 to 2.5	Pass
		30	7.20	36.580	0.0444	-2.5 to 2.5	Pass
		40	7.20	32.835	0.0398	-2.5 to 2.5	Pass
		50	7.20	36.128	0.0438	-2.5 to 2.5	Pass
	836.6	20	6.12	33.480	0.0400	-2.5 to 2.5	Pass
			7.20	34.481	0.0412	-2.5 to 2.5	Pass
			8.28	34.255	0.0409	-2.5 to 2.5	Pass
		-30	7.20	32.899	0.0393	-2.5 to 2.5	Pass
		-20	7.20	34.772	0.0416	-2.5 to 2.5	Pass
		-10	7.20	34.901	0.0417	-2.5 to 2.5	Pass
		0	7.20	34.514	0.0413	-2.5 to 2.5	Pass
		10	7.20	33.577	0.0401	-2.5 to 2.5	Pass
		30	7.20	35.450	0.0424	-2.5 to 2.5	Pass
		40	7.20	33.384	0.0399	-2.5 to 2.5	Pass

		50	7.20	33.190	0.0397	-2.5 to 2.5	Pass
	848.8	20	6.12	33.771	0.0398	-2.5 to 2.5	Pass
			7.20	34.772	0.0410	-2.5 to 2.5	Pass
			8.28	31.091	0.0366	-2.5 to 2.5	Pass
		-30	7.20	35.353	0.0417	-2.5 to 2.5	Pass
		-20	7.20	34.966	0.0412	-2.5 to 2.5	Pass
		-10	7.20	32.899	0.0388	-2.5 to 2.5	Pass
		0	7.20	34.643	0.0408	-2.5 to 2.5	Pass
		10	7.20	31.156	0.0367	-2.5 to 2.5	Pass
		30	7.20	36.128	0.0426	-2.5 to 2.5	Pass
		40	7.20	34.062	0.0401	-2.5 to 2.5	Pass
		50	7.20	32.286	0.0380	-2.5 to 2.5	Pass

3. 99% & 26dB Bandwidth

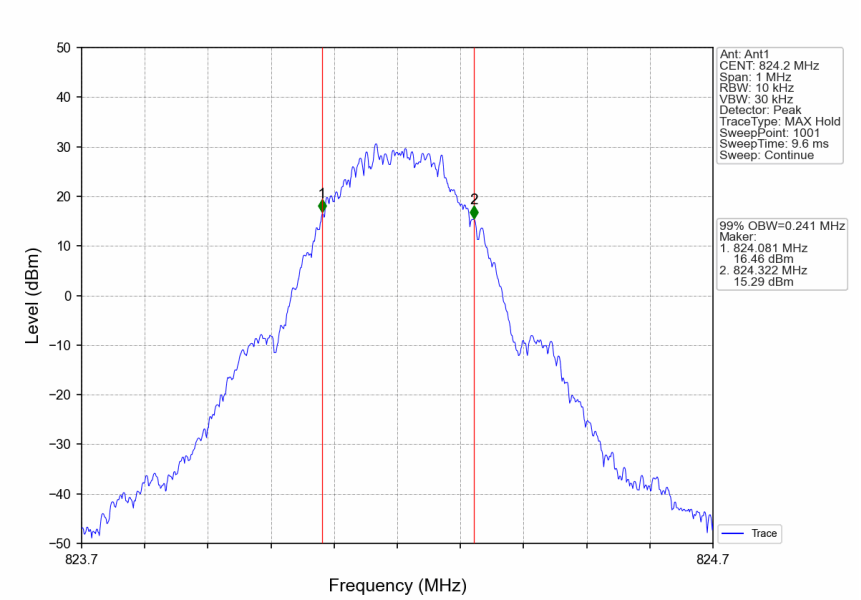
3.1 GSM850_OBW

3.1.1 Test Result

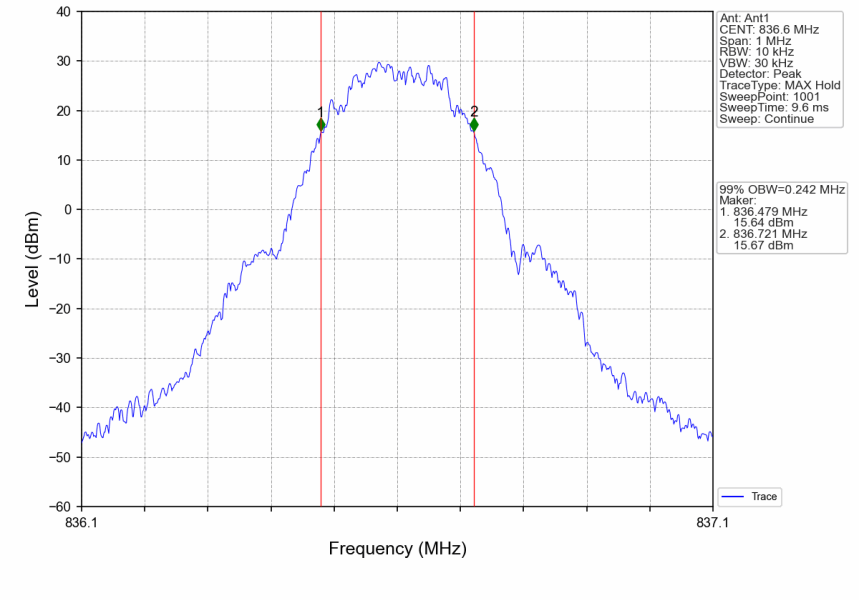
Band: GSM850						
ENV	Mode		Frequency (MHz)	99% Occupied Bandwidth (MHz)		Verdict
	Network	Subset		Result	Limit	
NTNV	GPRS	1 TX Slot	824.2	0.241	/	Pass
			836.6	0.242	/	Pass
			848.8	0.241	/	Pass
	EGPRS	1 TX Slot	824.2	0.248	/	Pass
			836.6	0.244	/	Pass
			848.8	0.239	/	Pass

3.1.2 Test Graph

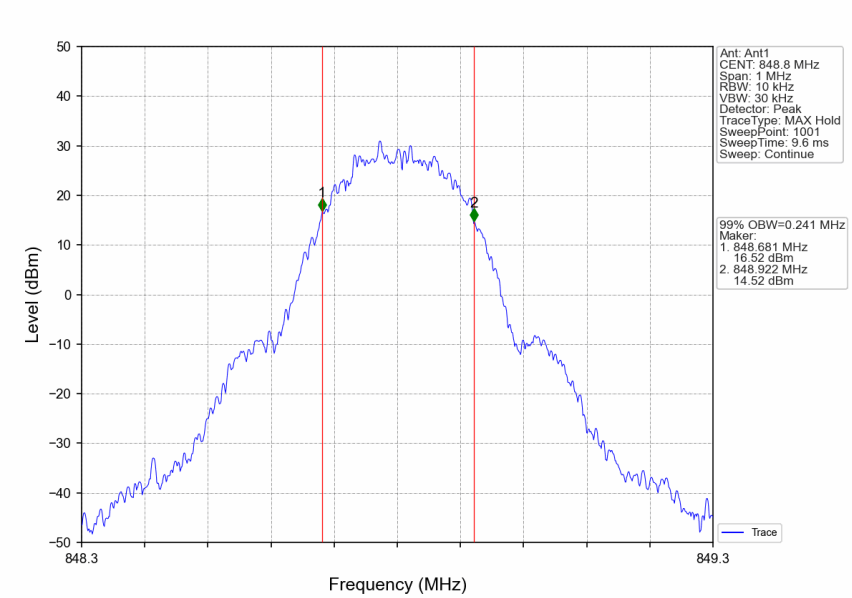
GSM850_GPRS_LCH_824.2MHz_1 TX Slot_NTNV



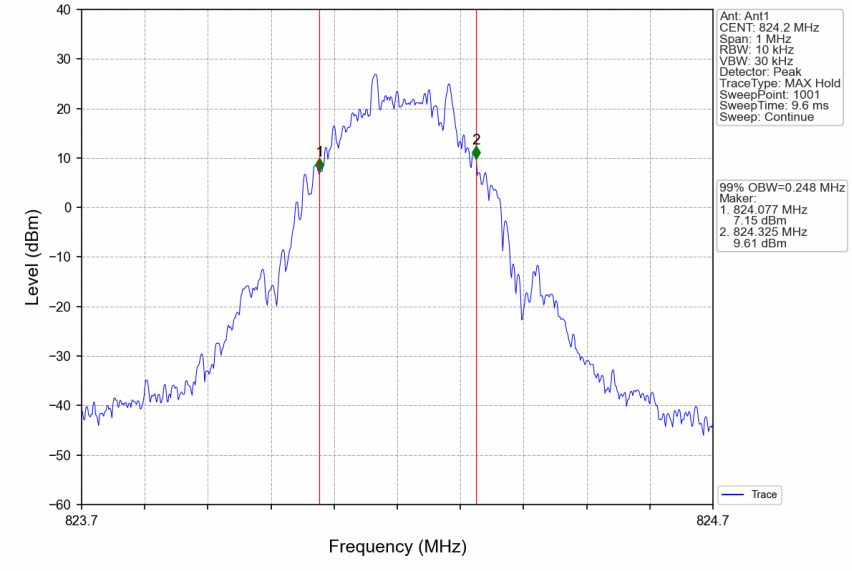
GSM850_GPRS_MCH_836.6MHz_1 TX Slot_NTNV



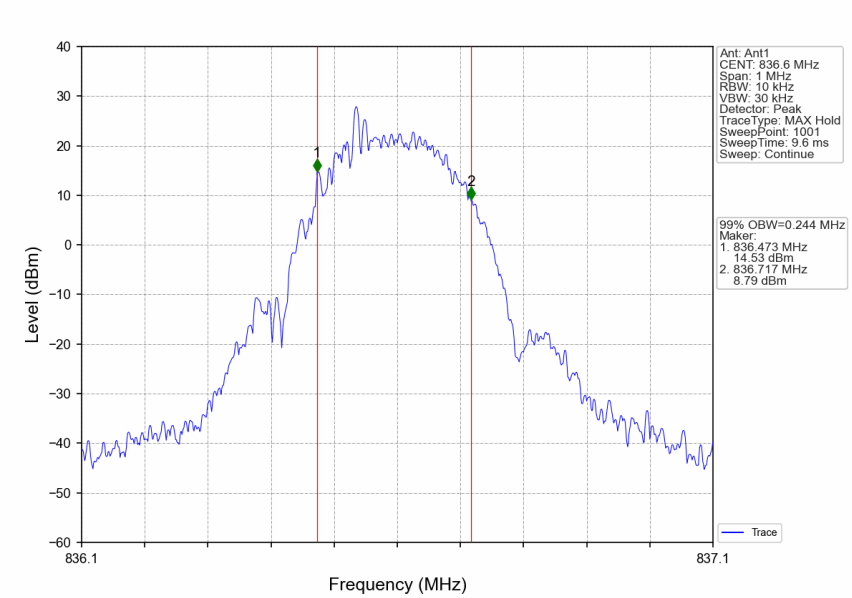
GSM850_GPRS_HCH_848.8MHz_1 TX Slot_NTNV



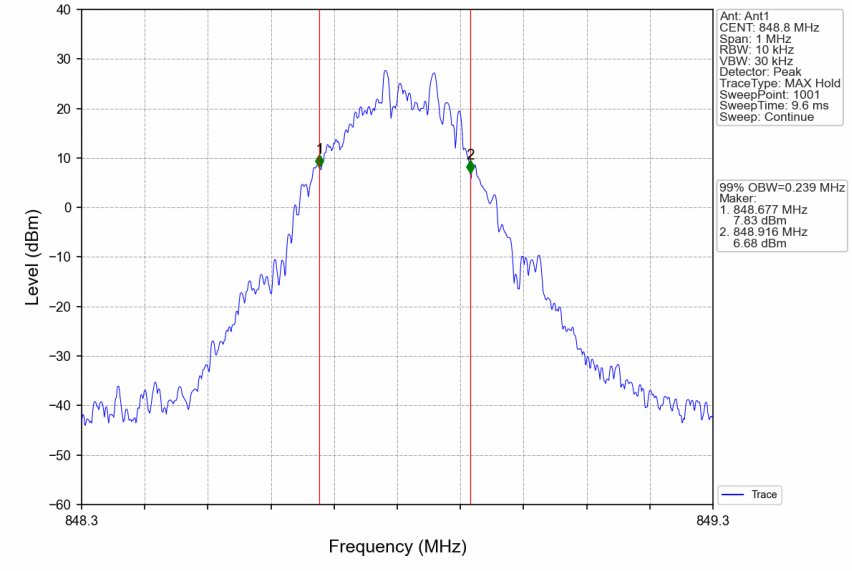
GSM850_EGPRS_LCH_824.2MHz_1 TX Slot_NTNV



GSM850_EGPRS_MCH_836.6MHz_1 TX Slot_NTNV



GSM850_EGPRS_HCH_848.8MHz_1 TX Slot_NTNV



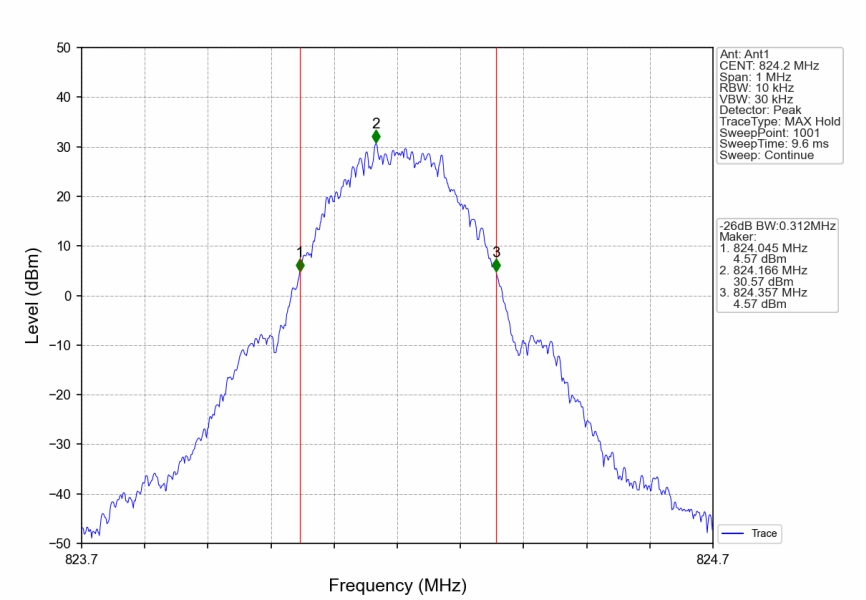
3.2 GSM850_XDB

3.2.1 Test Result

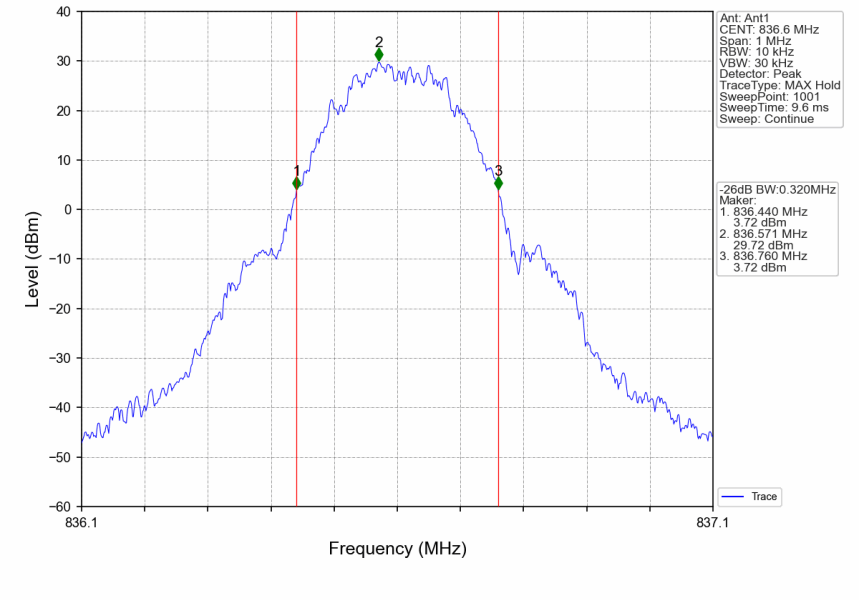
Band: GSM850						
ENV	Mode		Frequency (MHz)	26dB Bandwidth (MHz)		Verdict
	Network	Subset		Result	Limit	
NTNV	GPRS	1 TX Slot	824.2	0.312	/	Pass
			836.6	0.320	/	Pass
			848.8	0.310	/	Pass
	EGPRS	1 TX Slot	824.2	0.323	/	Pass
			836.6	0.300	/	Pass
			848.8	0.311	/	Pass

3.2.2 Test Graph

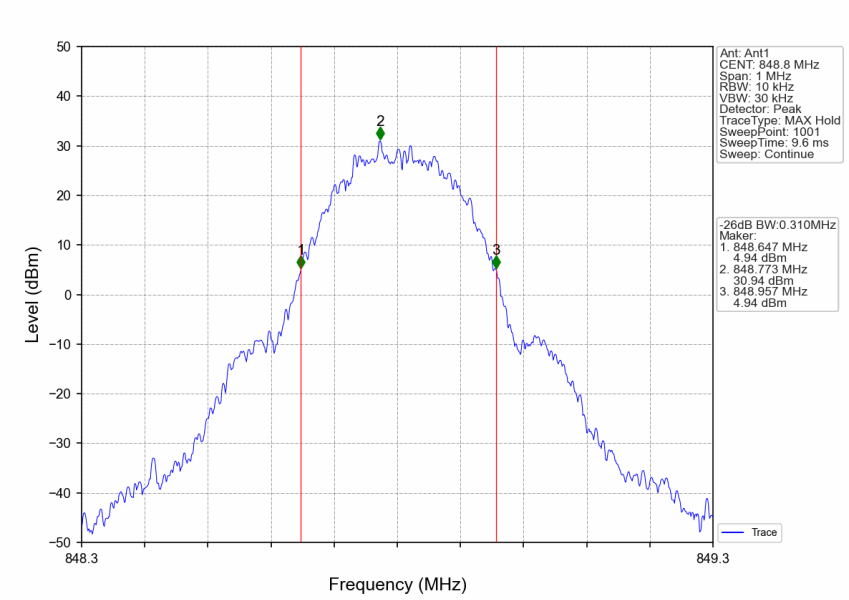
GSM850_GPRS_LCH_824.2MHz_1 TX Slot_NTNV



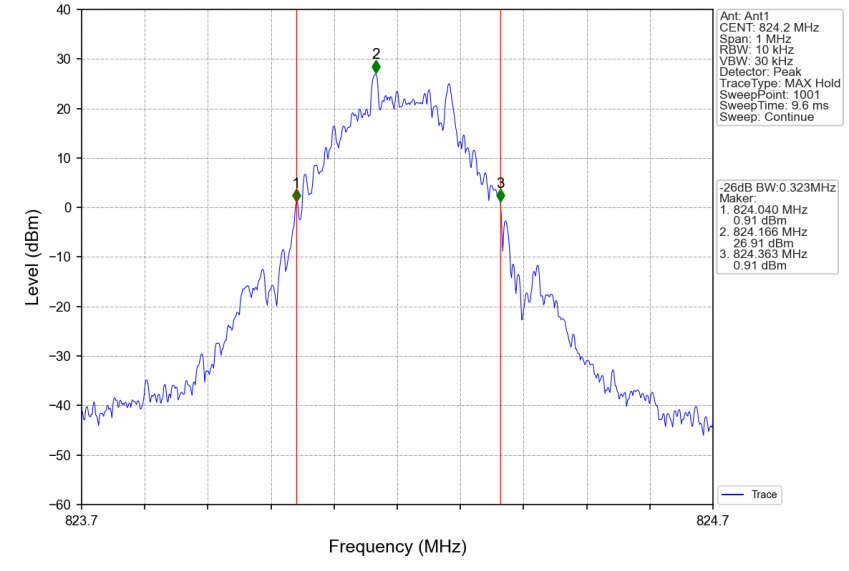
GSM850_GPRS_MCH_836.6MHz_1 TX Slot_NTNV



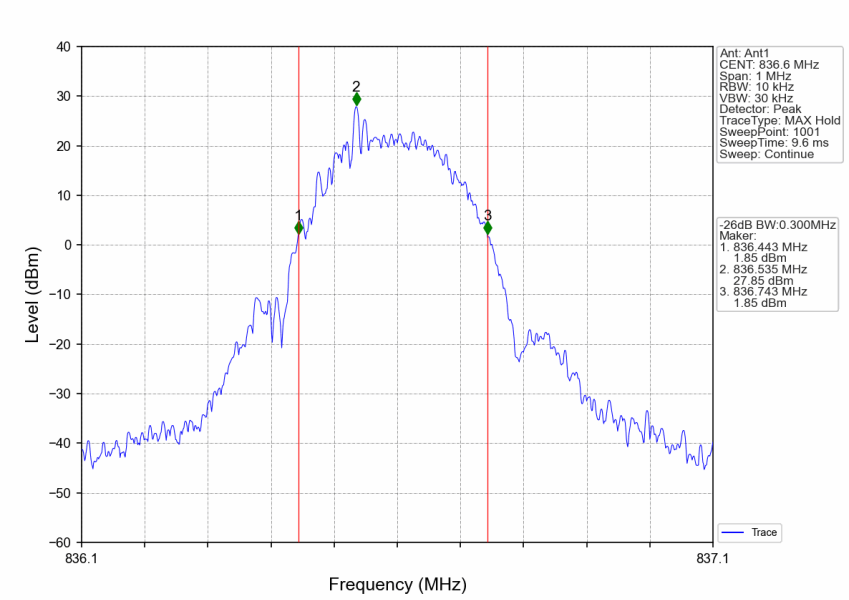
GSM850_GPRS_HCH_848.8MHz_1 TX Slot_NTNV



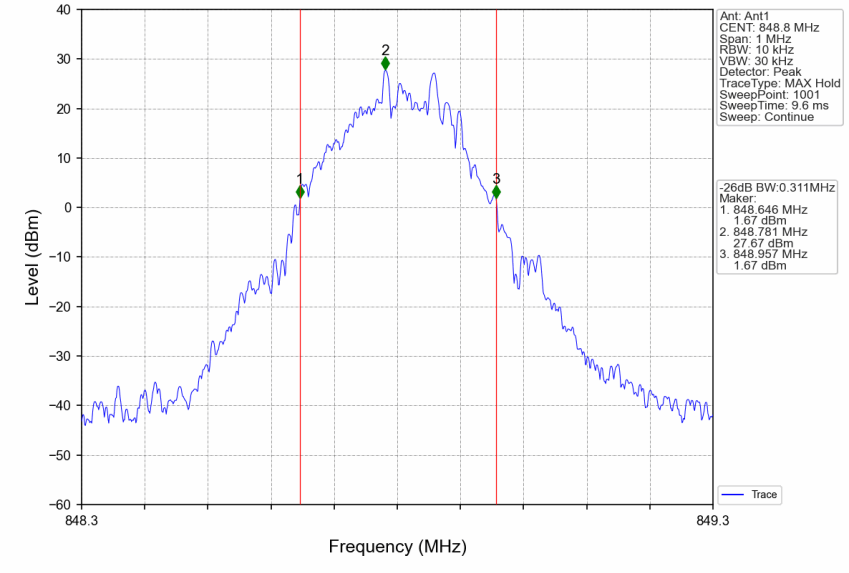
GSM850_EGPRS_LCH_824.2MHz_1 TX Slot_NTNV



GSM850_EGPRS_MCH_836.6MHz_1 TX Slot_NTNV



GSM850_EGPRS_HCH_848.8MHz_1 TX Slot_NTNV



4. Peak-Average Ratio

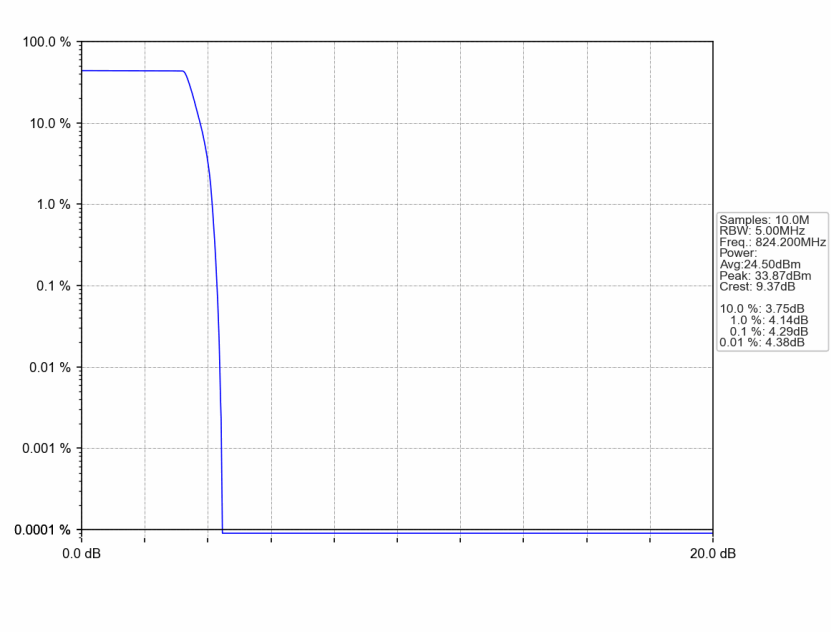
4.1 GSM850

4.1.1 Test Result

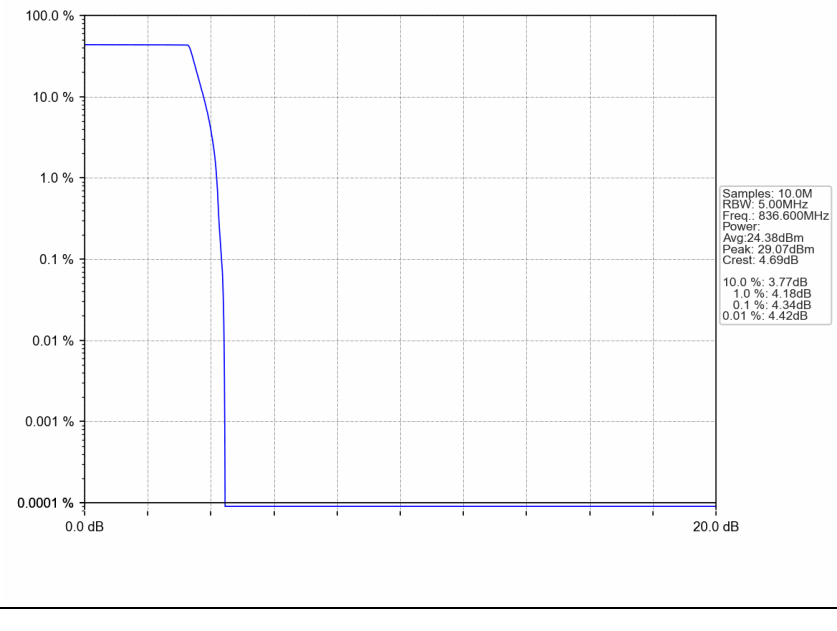
Band: GSM850						
ENV	Mode		Frequency (MHz)	Peak-Average Ratio (dB)		Verdict
	Network	Subset		Result	Limit	
NTNV	GPRS	4 TX Slots	824.2	4.29	<=13	Pass
			836.6	4.34	<=13	Pass
			848.8	4.36	<=13	Pass
	EGPRS	4 TX Slots	824.2	9.04	<=13	Pass
			836.6	9.03	<=13	Pass
			848.8	9.07	<=13	Pass

4.1.2 Test Graph

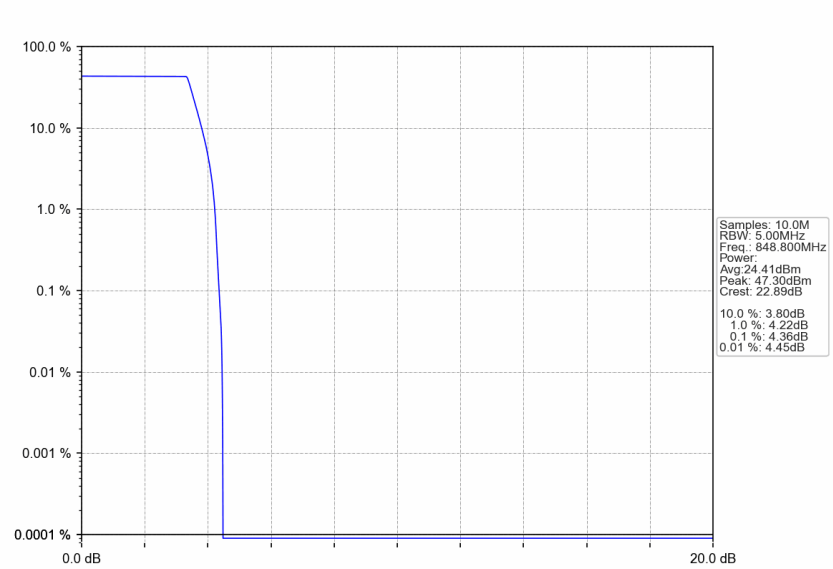
GSM850_GPRS_LCH_824.2MHz_4 TX Slots_NTNV



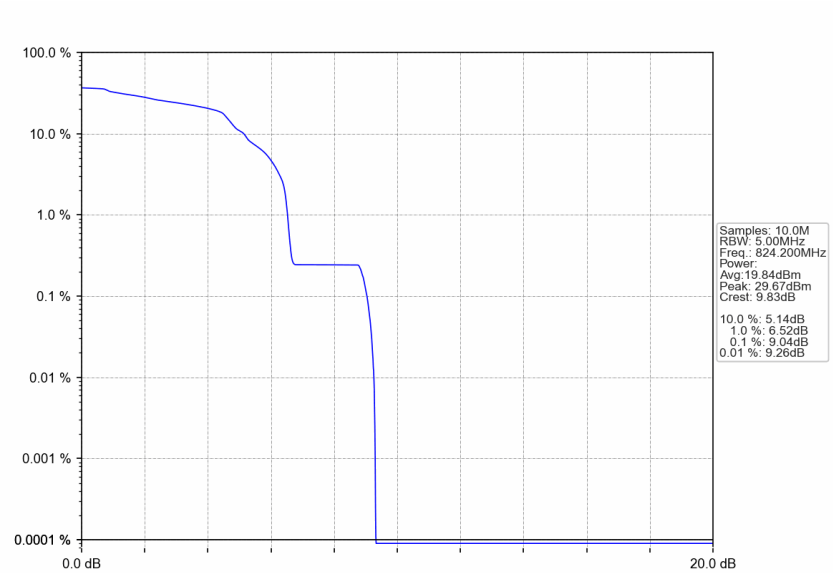
GSM850_GPRS_MCH_836.6MHz_4 TX Slots_NTNV



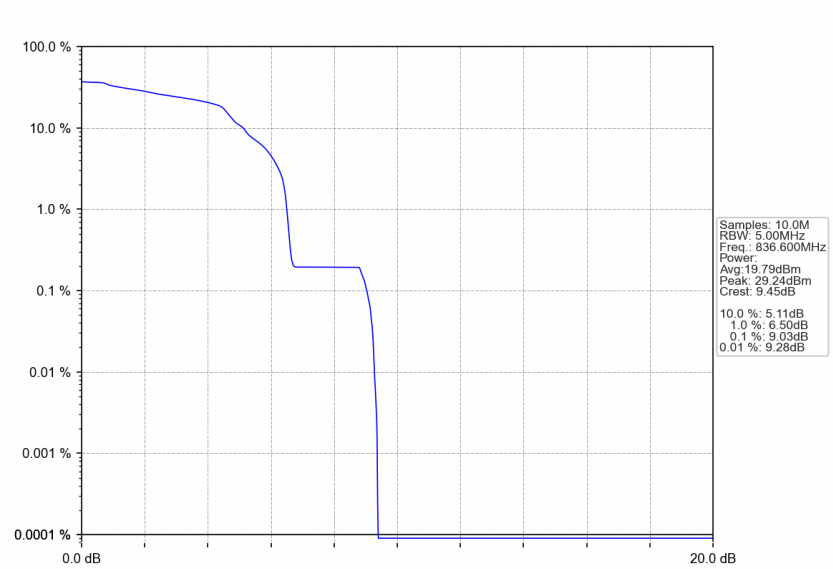
GSM850_GPRS_HCH_848.8MHz_4 TX Slots_NTNV



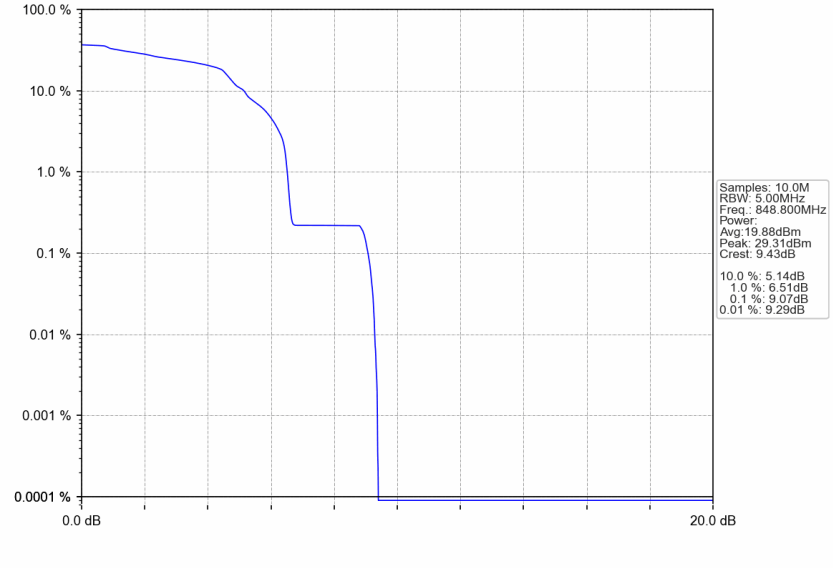
GSM850_EGPRS_LCH_824.2MHz_4 TX Slots_NTNV



GSM850_EGPRS_MCH_836.6MHz_4 TX Slots_NTNV



GSM850_EGPRS_HCH_848.8MHz_4 TX Slots_NTNV



5. Spurious Emission

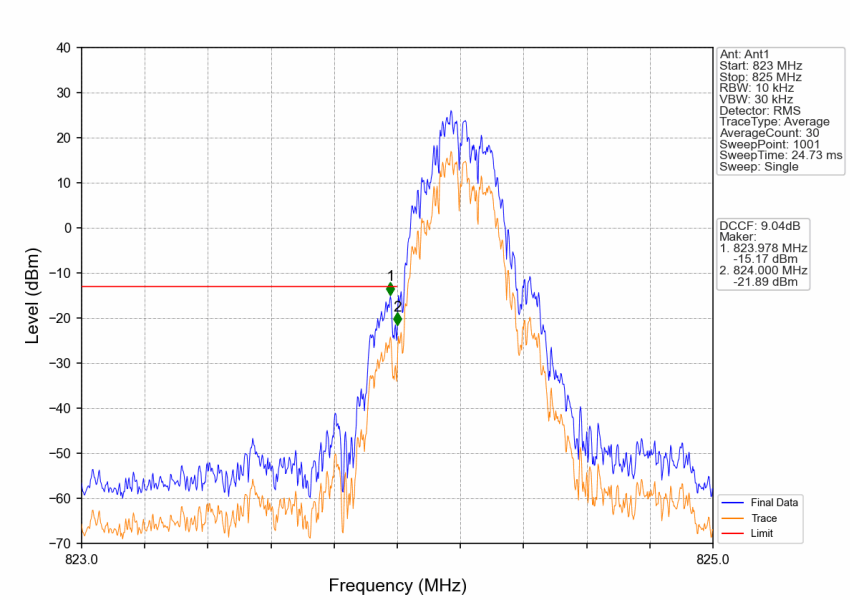
5.1 GSM850

5.1.1 Test Result

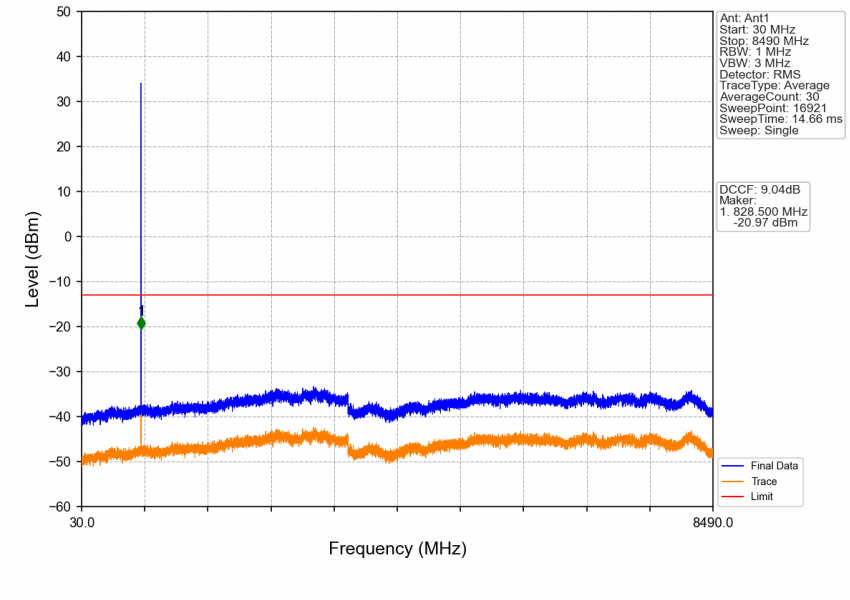
Band: GSM850						
ENV	Mode		Frequency (MHz)	Spurious Emission		Verdict
	Network	Subset		Result	Limit	
NTNV	GPRS	1 TX Slot	824.2	Refer To Test Graph		Pass
			836.6	Refer To Test Graph		Pass
			848.8	Refer To Test Graph		Pass
	EGPRS	1 TX Slot	824.2	Refer To Test Graph		Pass
			836.6	Refer To Test Graph		Pass
			848.8	Refer To Test Graph		Pass

5.1.2 Test Graph

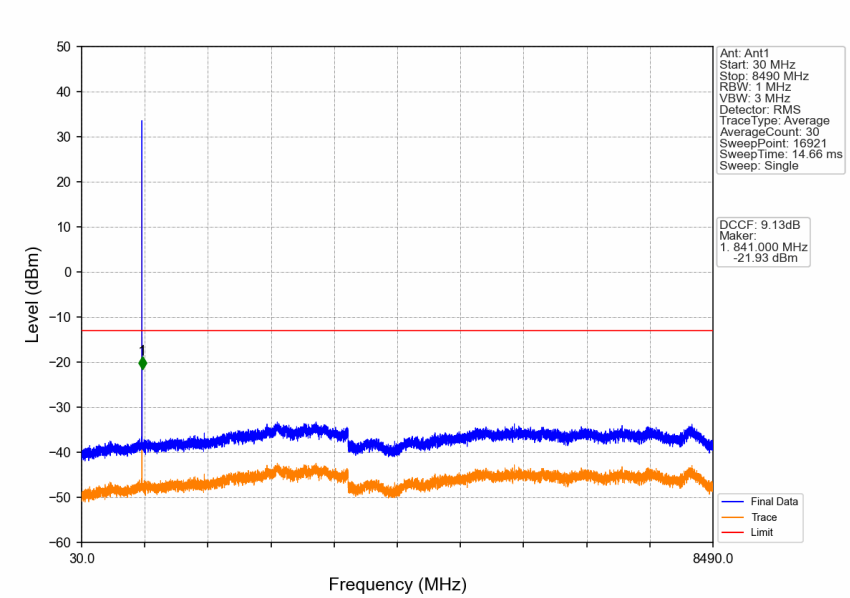
GSM850_GPRS_LCH_824.2MHz_1 TX Slot_NTNV



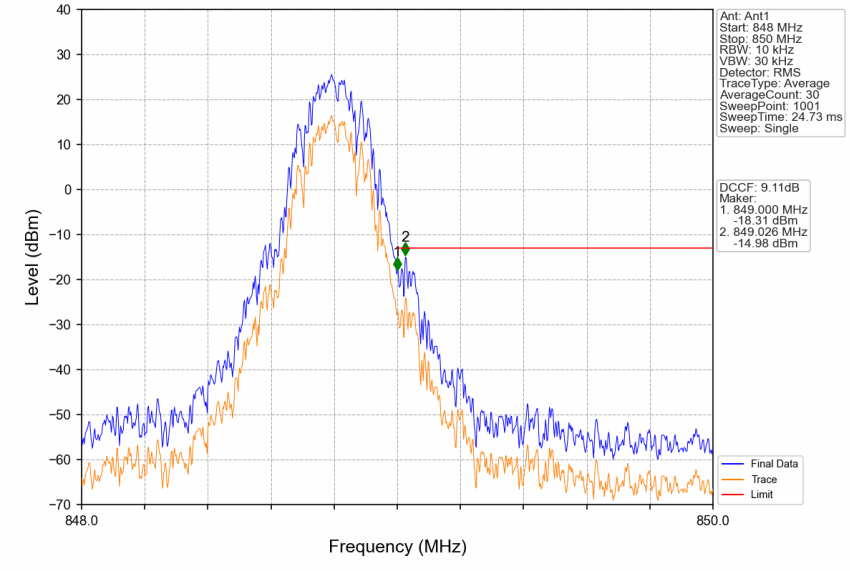
GSM850_GPRS_LCH_824.2MHz_1 TX Slot_NTNV



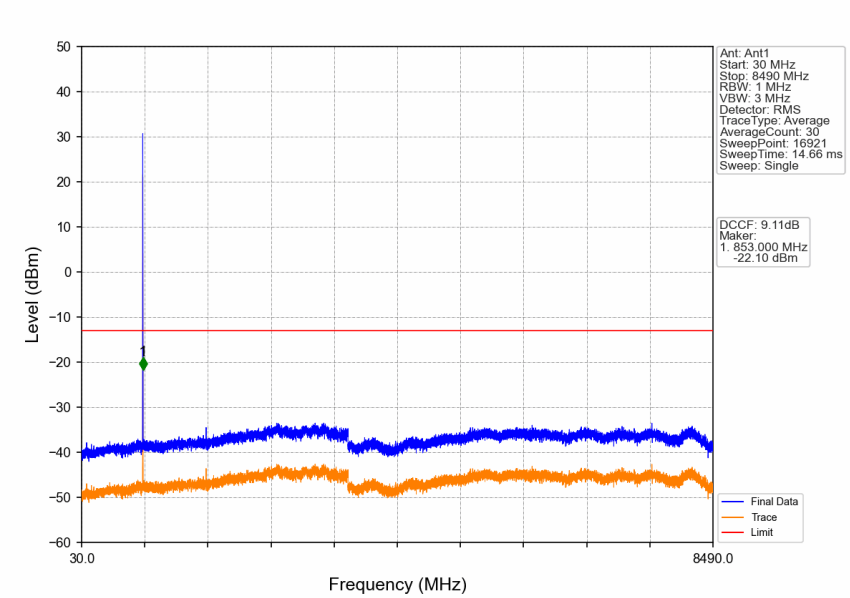
GSM850_GPRS_MCH_836.6MHz_1 TX Slot_NTNV



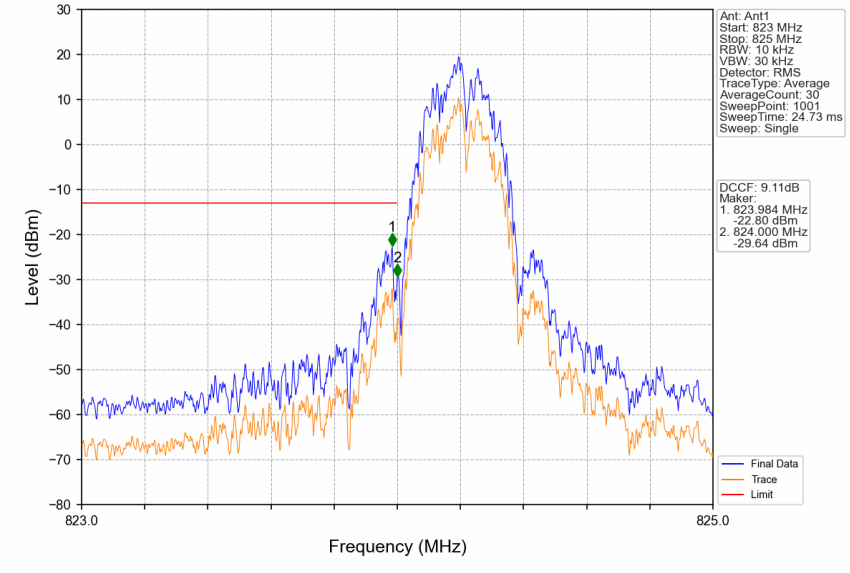
GSM850_GPRS_HCH_848.8MHz_1 TX Slot_NTNV



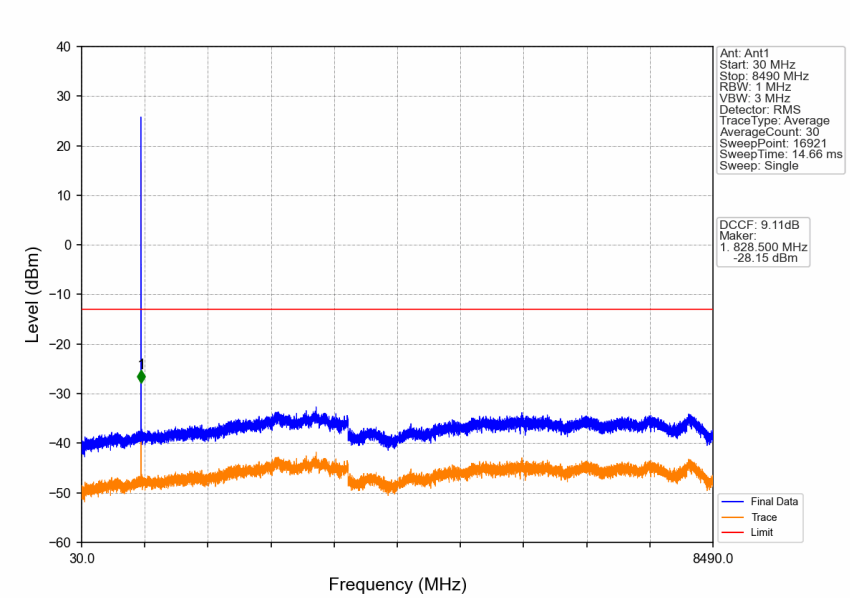
GSM850_GPRS_HCH_848.8MHz_1 TX Slot_NTNV



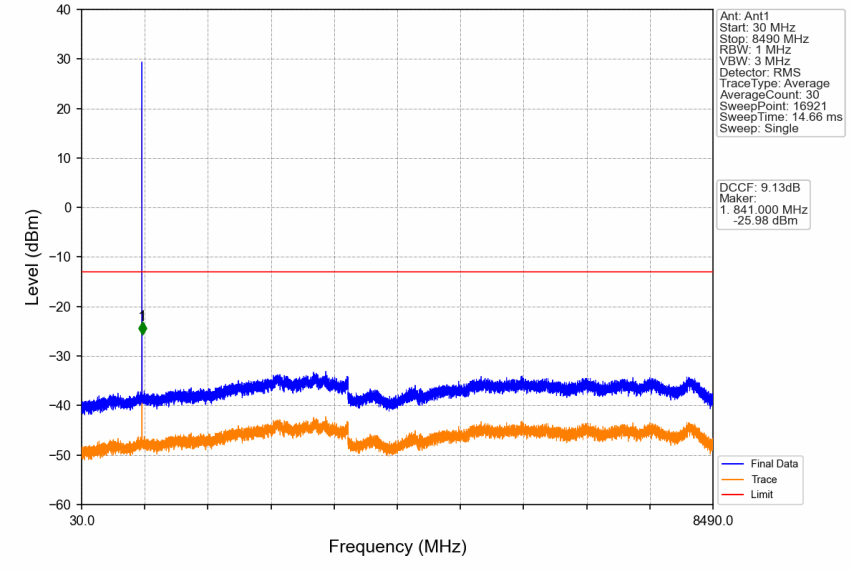
GSM850_EGPRS_LCH_824.2MHz_1 TX Slot_NTNV



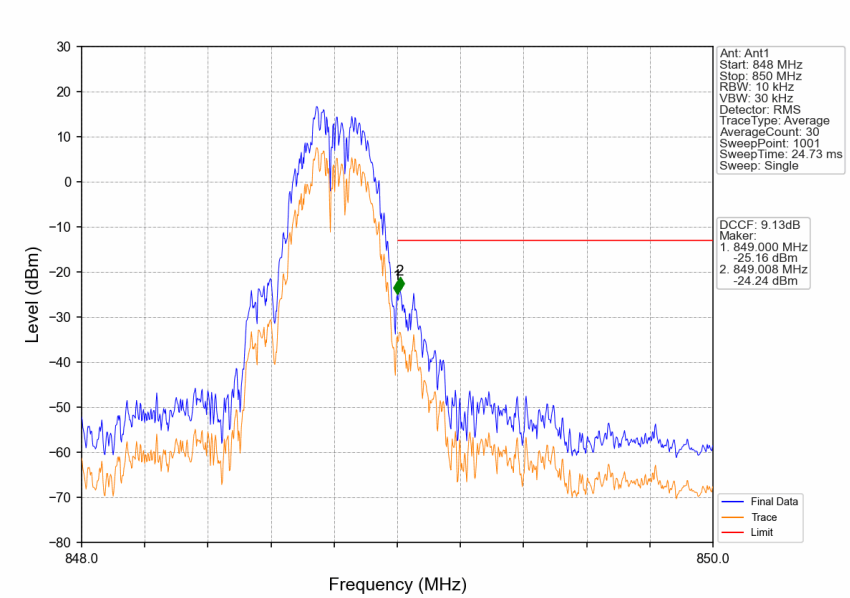
GSM850_EGPRS_LCH_824.2MHz_1 TX Slot_NTNV



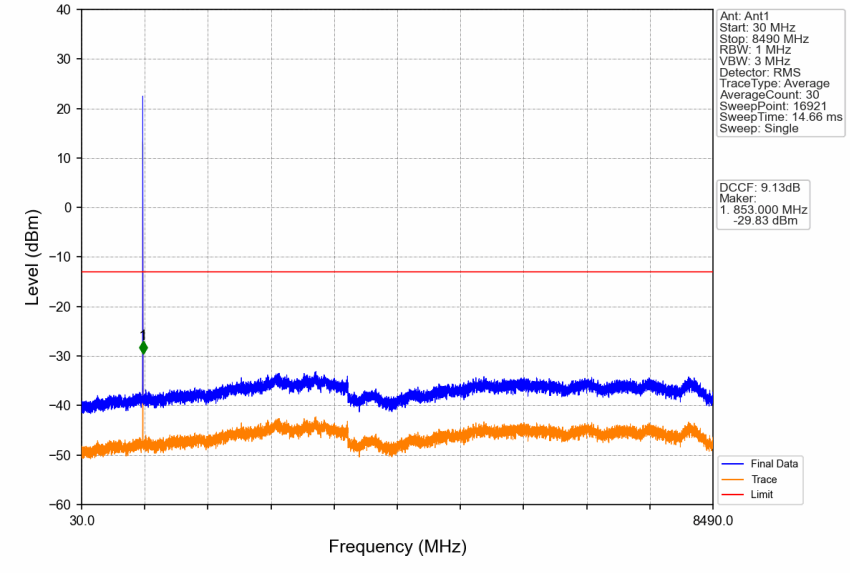
GSM850_EGPRS_MCH_836.6MHz_1 TX Slot_NTNV



GSM850_EGPRS_HCH_848.8MHz_1 TX Slot_NTNV



GSM850_EGPRS_HCH_848.8MHz_1 TX Slot_NTNV



1. Effective (Isotropic) Radiated Power Output Data

1.1 PCS1900_EIRP

1.1.1 Test Result

Band: PCS1900								
ENV	Mode		Frequency (MHz)	Conducted Power (dBm)	Gain (dBi)	EIRP (dBm)		Verdict
	Network	Subset				Result	Limit	
NTNV	GPRS	1 TX Slot	1850.2	28.69	3.62	32.31	<=33.01	Pass
		2 TX Slots	1850.2	28.07	3.62	31.69	<=33.01	Pass
		3 TX Slots	1850.2	26.92	3.62	30.54	<=33.01	Pass
		4 TX Slots	1850.2	26.41	3.62	30.03	<=33.01	Pass
		1 TX Slot	1880	28.88	3.62	32.50	<=33.01	Pass
		2 TX Slots	1880	28.29	3.62	31.91	<=33.01	Pass
		3 TX Slots	1880	27.45	3.62	31.07	<=33.01	Pass
		4 TX Slots	1880	26.61	3.62	30.23	<=33.01	Pass
		1 TX Slot	1909.8	29.33	3.62	32.95	<=33.01	Pass
		2 TX Slots	1909.8	28.97	3.62	32.59	<=33.01	Pass
		3 TX Slots	1909.8	27.90	3.62	31.52	<=33.01	Pass
		4 TX Slots	1909.8	27.01	3.62	30.63	<=33.01	Pass
	EGPRS	1 TX Slot	1850.2	26.07	3.62	29.69	<=33.01	Pass
		2 TX Slots	1850.2	25.34	3.62	28.96	<=33.01	Pass
		3 TX Slots	1850.2	23.59	3.62	27.21	<=33.01	Pass
		4 TX Slots	1850.2	22.35	3.62	25.97	<=33.01	Pass
		1 TX Slot	1880	26.26	3.62	29.88	<=33.01	Pass
		2 TX Slots	1880	26.28	3.62	29.90	<=33.01	Pass
		3 TX Slots	1880	24.75	3.62	28.37	<=33.01	Pass
		4 TX Slots	1880	22.68	3.62	26.30	<=33.01	Pass
		1 TX Slot	1909.8	26.50	3.62	30.12	<=33.01	Pass
		2 TX Slots	1909.8	25.86	3.62	29.48	<=33.01	Pass
		3 TX Slots	1909.8	24.15	3.62	27.77	<=33.01	Pass
		4 TX Slots	1909.8	22.89	3.62	26.51	<=33.01	Pass
Note1: EIRP=Conducted Power+Antenna Gain								

2. Frequency Stability

2.1 PCS1900

2.1.1 Test Result

Band: PCS1900							
Network	Frequency (MHz)	Temp. (°C)	Voltage (VDC)	Freq. Error (Hz)	Freq. vs. Rated (ppm)		Verdict
					Result	Limit	
GPRS	1850.2	20	6.48	27.378	0.0148	-2.5 to 2.5	Pass

			6.12	24.570	0.0133	-2.5 to 2.5	Pass
			7.20	25.248	0.0136	-2.5 to 2.5	Pass
		-30	8.28	23.795	0.0129	-2.5 to 2.5	Pass
		-20	7.20	24.247	0.0131	-2.5 to 2.5	Pass
		-10	7.20	20.437	0.0110	-2.5 to 2.5	Pass
		0	7.20	20.082	0.0109	-2.5 to 2.5	Pass
		10	7.20	24.505	0.0132	-2.5 to 2.5	Pass
		30	7.20	15.982	0.0086	-2.5 to 2.5	Pass
		40	7.20	22.988	0.0124	-2.5 to 2.5	Pass
		50	7.20	17.499	0.0095	-2.5 to 2.5	Pass
	1880	20	7.20	22.406	0.0119	-2.5 to 2.5	Pass
			6.12	16.337	0.0087	-2.5 to 2.5	Pass
			7.20	17.015	0.0091	-2.5 to 2.5	Pass
		-30	8.28	17.467	0.0093	-2.5 to 2.5	Pass
		-20	7.20	16.111	0.0086	-2.5 to 2.5	Pass
		-10	7.20	19.501	0.0104	-2.5 to 2.5	Pass
		0	7.20	18.629	0.0099	-2.5 to 2.5	Pass
		10	7.20	19.533	0.0104	-2.5 to 2.5	Pass
		30	7.20	14.432	0.0077	-2.5 to 2.5	Pass
		40	7.20	19.888	0.0106	-2.5 to 2.5	Pass
		50	7.20	21.535	0.0115	-2.5 to 2.5	Pass
	1909.8	20	7.20	15.788	0.0083	-2.5 to 2.5	Pass
			6.12	26.152	0.0137	-2.5 to 2.5	Pass
			7.20	25.215	0.0132	-2.5 to 2.5	Pass
		-30	8.28	24.150	0.0126	-2.5 to 2.5	Pass
		-20	7.20	25.441	0.0133	-2.5 to 2.5	Pass
		-10	7.20	24.860	0.0130	-2.5 to 2.5	Pass
		0	7.20	24.279	0.0127	-2.5 to 2.5	Pass
		10	7.20	23.278	0.0122	-2.5 to 2.5	Pass
		30	7.20	24.634	0.0129	-2.5 to 2.5	Pass
		40	7.20	20.792	0.0109	-2.5 to 2.5	Pass
		50	7.20	20.695	0.0108	-2.5 to 2.5	Pass
EGPRS	1850.2	20	7.20	28.379	0.0153	-2.5 to 2.5	Pass
			6.12	29.509	0.0159	-2.5 to 2.5	Pass
			7.20	29.445	0.0159	-2.5 to 2.5	Pass
		-30	8.28	27.992	0.0151	-2.5 to 2.5	Pass
		-20	7.20	27.927	0.0151	-2.5 to 2.5	Pass
		-10	7.20	26.765	0.0145	-2.5 to 2.5	Pass
		0	7.20	28.250	0.0153	-2.5 to 2.5	Pass
		10	7.20	29.703	0.0161	-2.5 to 2.5	Pass
		30	7.20	27.152	0.0147	-2.5 to 2.5	Pass
		40	7.20	25.248	0.0136	-2.5 to 2.5	Pass
		50	7.20	29.768	0.0161	-2.5 to 2.5	Pass
	1880	20	7.20	29.057	0.0155	-2.5 to 2.5	Pass

			6.12	26.378	0.0140	-2.5 to 2.5	Pass
			7.20	29.800	0.0159	-2.5 to 2.5	Pass
		-30	8.28	24.860	0.0132	-2.5 to 2.5	Pass
		-20	7.20	24.860	0.0132	-2.5 to 2.5	Pass
		-10	7.20	25.990	0.0138	-2.5 to 2.5	Pass
		0	7.20	32.932	0.0175	-2.5 to 2.5	Pass
		10	7.20	25.441	0.0135	-2.5 to 2.5	Pass
		30	7.20	28.412	0.0151	-2.5 to 2.5	Pass
		40	7.20	30.155	0.0160	-2.5 to 2.5	Pass
		50	7.20	30.123	0.0160	-2.5 to 2.5	Pass
	1909.8		7.20	22.471	0.0118	-2.5 to 2.5	Pass
		20	6.12	26.087	0.0137	-2.5 to 2.5	Pass
			7.20	26.830	0.0140	-2.5 to 2.5	Pass
		-30	8.28	22.826	0.0120	-2.5 to 2.5	Pass
		-20	7.20	25.118	0.0132	-2.5 to 2.5	Pass
		-10	7.20	29.154	0.0153	-2.5 to 2.5	Pass
		0	7.20	21.664	0.0113	-2.5 to 2.5	Pass
		10	7.20	27.088	0.0142	-2.5 to 2.5	Pass
		30	7.20	28.347	0.0148	-2.5 to 2.5	Pass
		40	7.20	27.056	0.0142	-2.5 to 2.5	Pass
		50	7.20	27.120	0.0142	-2.5 to 2.5	Pass

3. 99% & 26dB Bandwidth

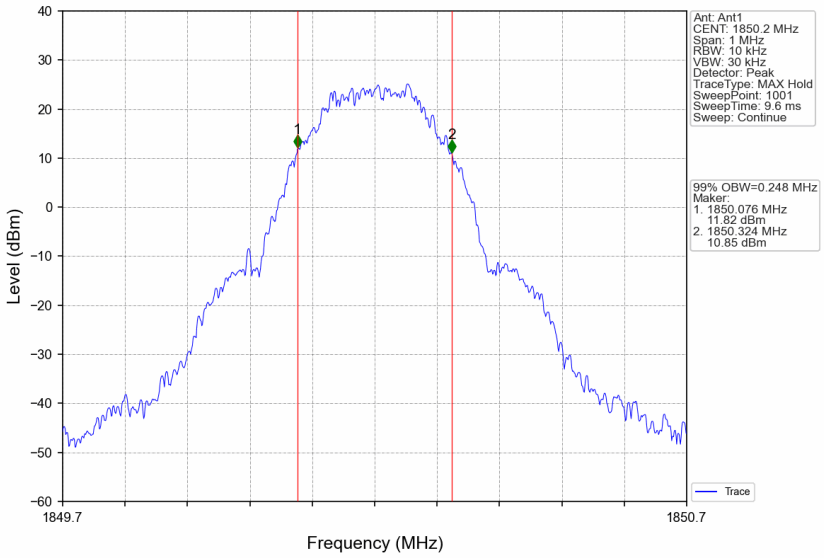
3.1 PCS1900_OBW

3.1.1 Test Result

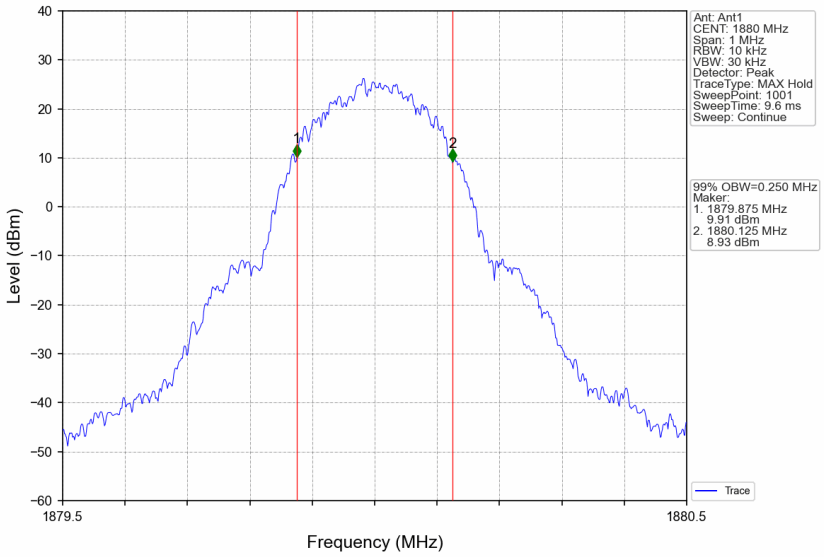
Band: PCS1900						
ENV	Mode		Frequency (MHz)	99% Occupied Bandwidth (MHz)		Verdict
	Network	Subset		Result	Limit	
NTNV	GPRS	1 TX Slot	1850.2	0.248	/	Pass
			1880	0.250	/	Pass
			1909.8	0.248	/	Pass
	EGPRS	1 TX Slot	1850.2	0.253	/	Pass
			1880	0.244	/	Pass
			1909.8	0.242	/	Pass

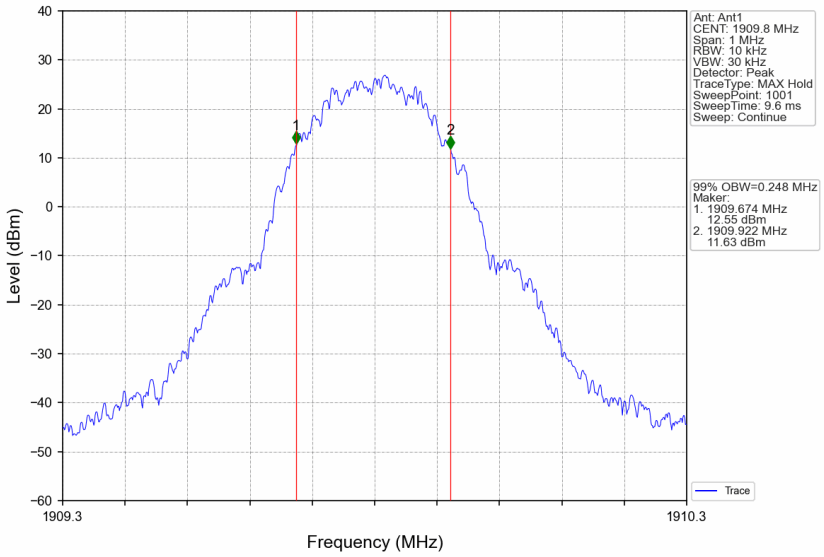
3.1.2 Test Graph

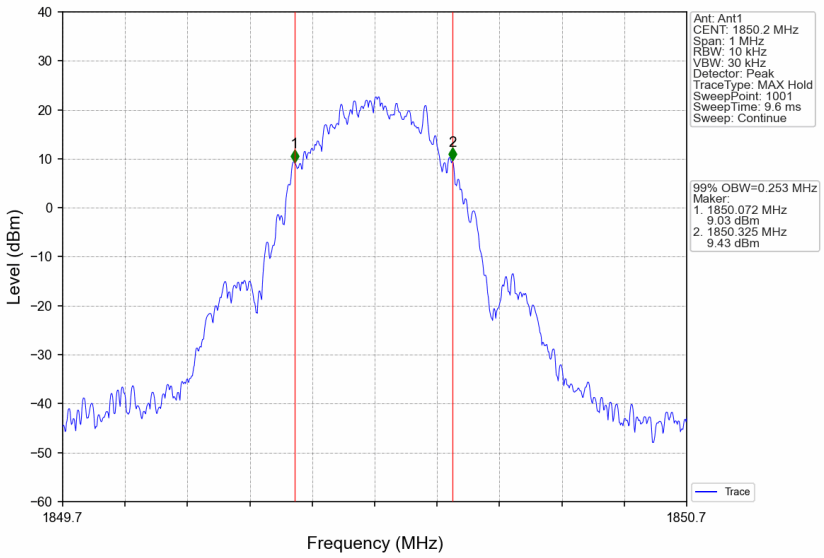
PCS1900_GPRS_LCH_1850.2MHz_1 TX Slot_NTNV



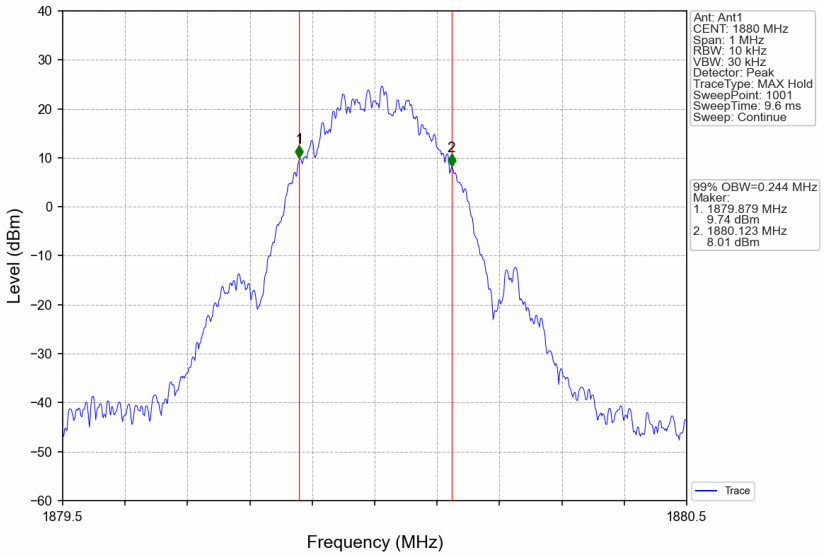
PCS1900_GPRS_MCH_1880MHz_1 TX Slot_NTNV



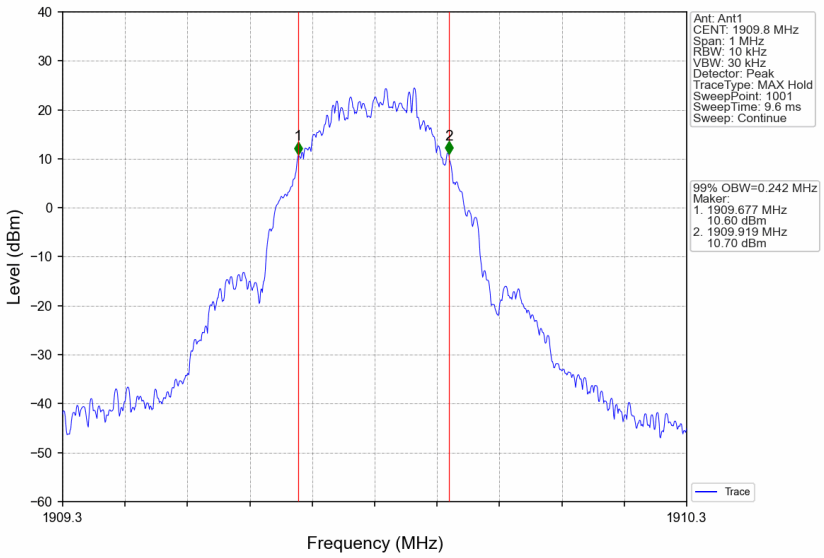
PCS1900_GPRS_HCH_1909.8MHz_1 TX Slot_NTNV


PCS1900_EGPRS_LCH_1850.2MHz_1 TX Slot_NTNV


PCS1900_EGPRS_MCH_1880MHz_1 TX Slot_NTNV



PCS1900_EGPRS_HCH_1909.8MHz_1 TX Slot_NTNV



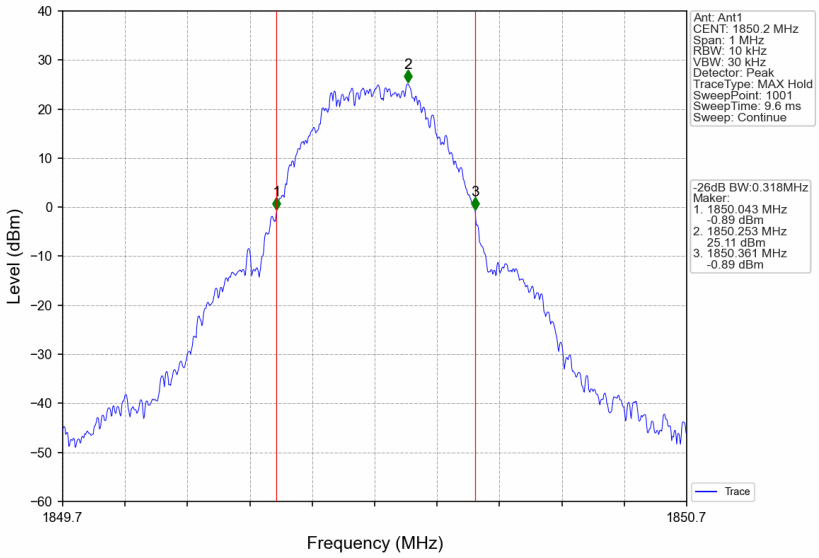
3.2 PCS1900_XDB

3.2.1 Test Result

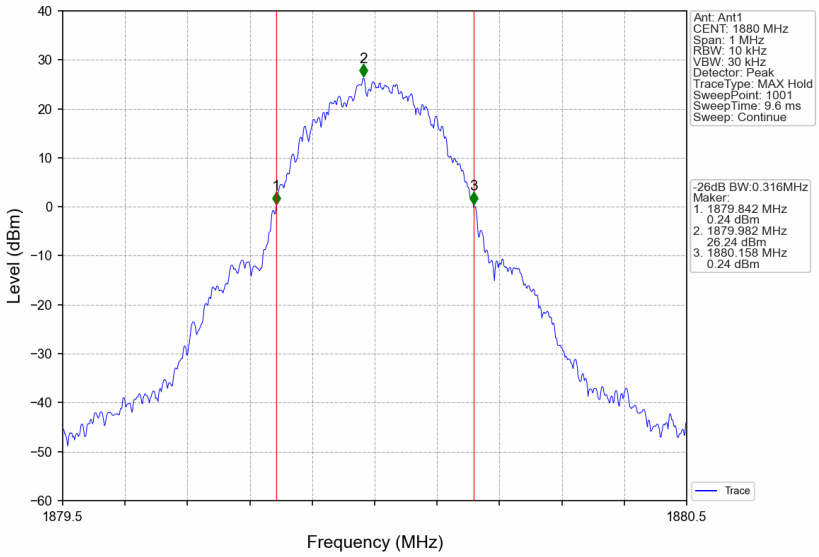
Band: PCS1900						
ENV	Mode		Frequency (MHz)	26dB Bandwidth (MHz)		Verdict
	Network	Subset		Result	Limit	
NTNV	GPRS	1 TX Slot	1850.2	0.318	/	Pass
			1880	0.316	/	Pass
			1909.8	0.319	/	Pass
	EGPRS	1 TX Slot	1850.2	0.322	/	Pass
			1880	0.300	/	Pass
			1909.8	0.315	/	Pass

3.2.2 Test Graph

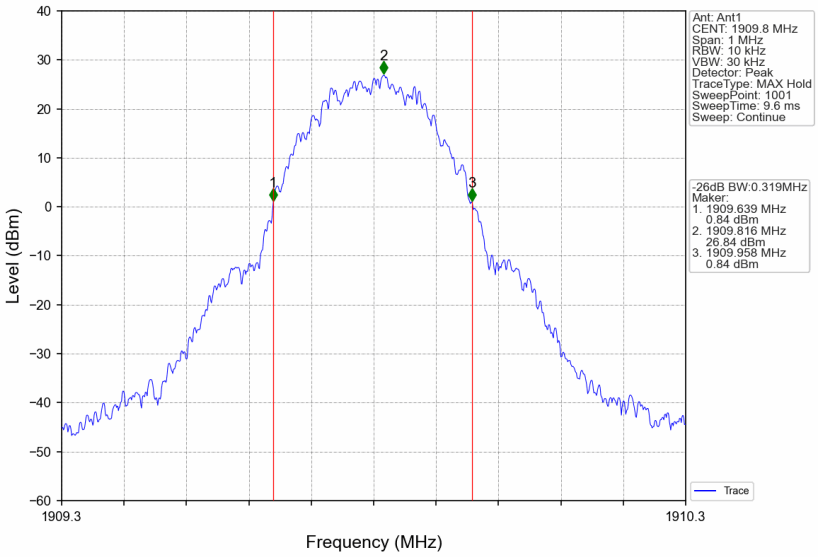
PCS1900_GPRS_LCH_1850.2MHz_1 TX Slot_NTNV



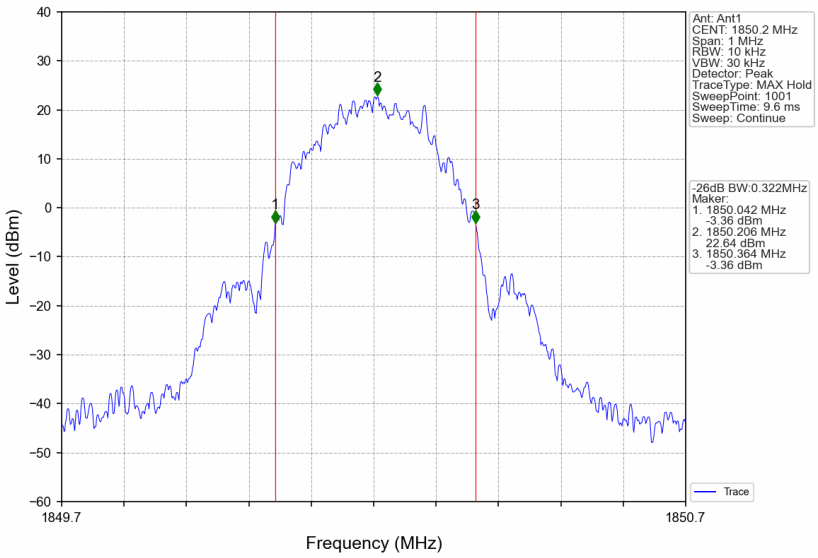
PCS1900_GPRS_MCH_1880MHz_1 TX Slot_NTNV



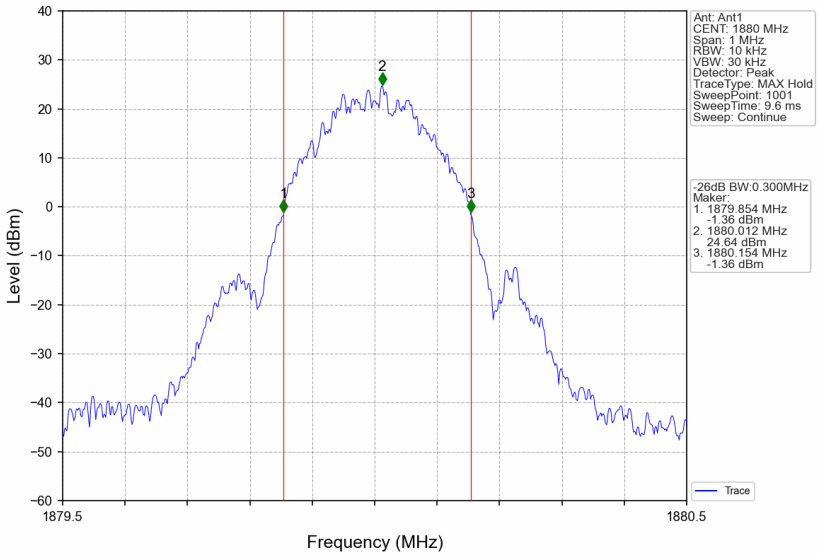
PCS1900_GPRS_HCH_1909.8MHz_1 TX Slot_NTNV



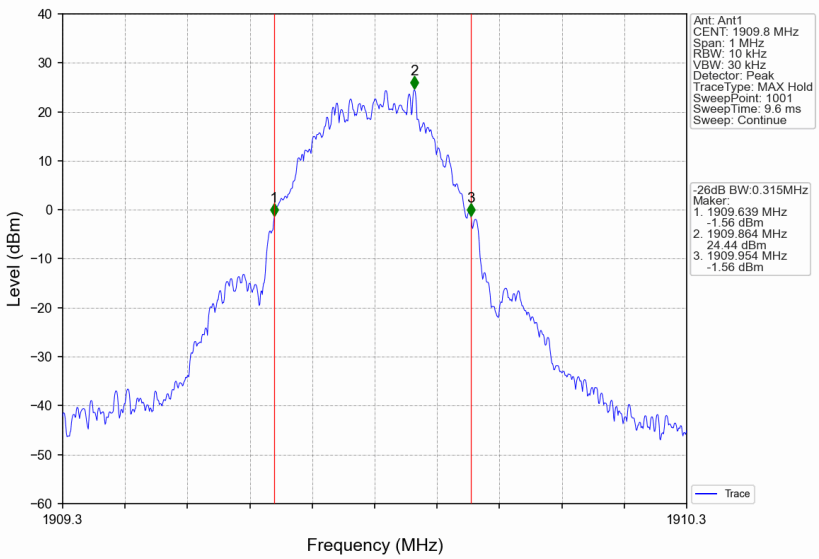
PCS1900_EGPRS_LCH_1850.2MHz_1 TX Slot_NTNV



PCS1900_EGPRS_MCH_1880MHz_1 TX Slot_NTNV



PCS1900_EGPRS_HCH_1909.8MHz_1 TX Slot_NTNV



54 Peak-Average Ratio

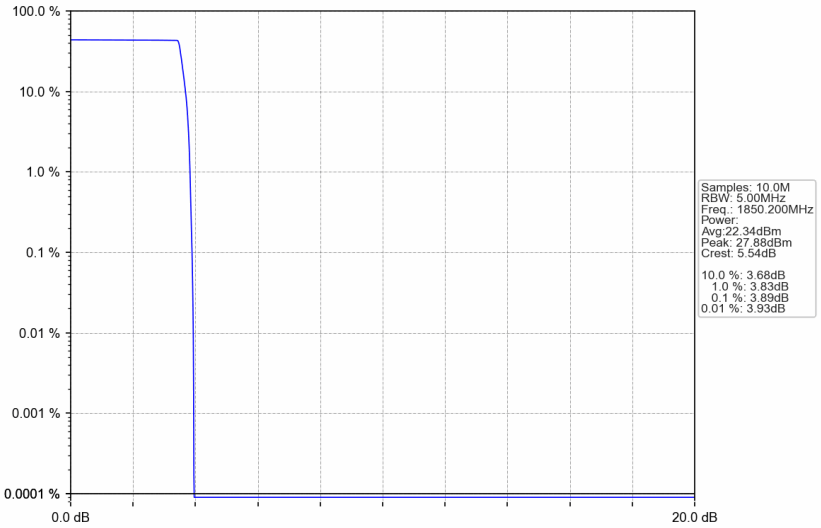
4.1 PCS1900

4.1.1 Test Result

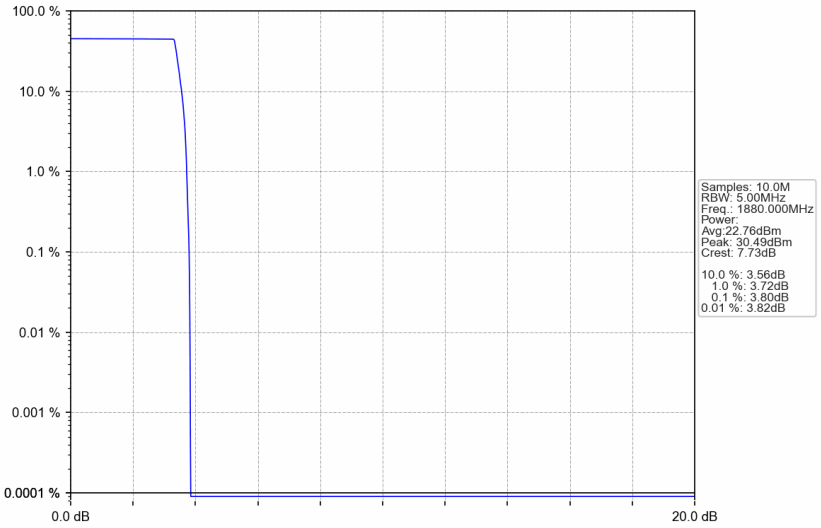
Band: PCS1900						
ENV	Mode		Frequency (MHz)	Peak-Average Ratio (dB)		Verdict
	Network	Subset		Result	Limit	
NTNV	GPRS	4 TX Slots	1850.2	3.89	<=13	Pass
			1880	3.80	<=13	Pass
			1909.8	3.96	<=13	Pass
	EGPRS	4 TX Slots	1850.2	8.50	<=13	Pass
			1880	8.47	<=13	Pass
			1909.8	8.65	<=13	Pass

4.1.2 Test Graph

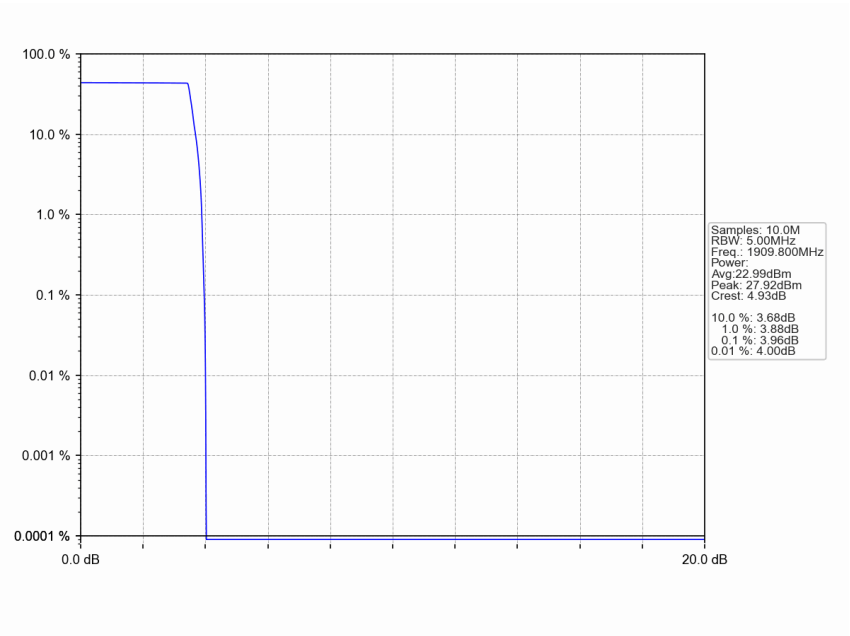
PCS1900_GPRS_LCH_1850.2MHz_4 TX Slots_NTNV



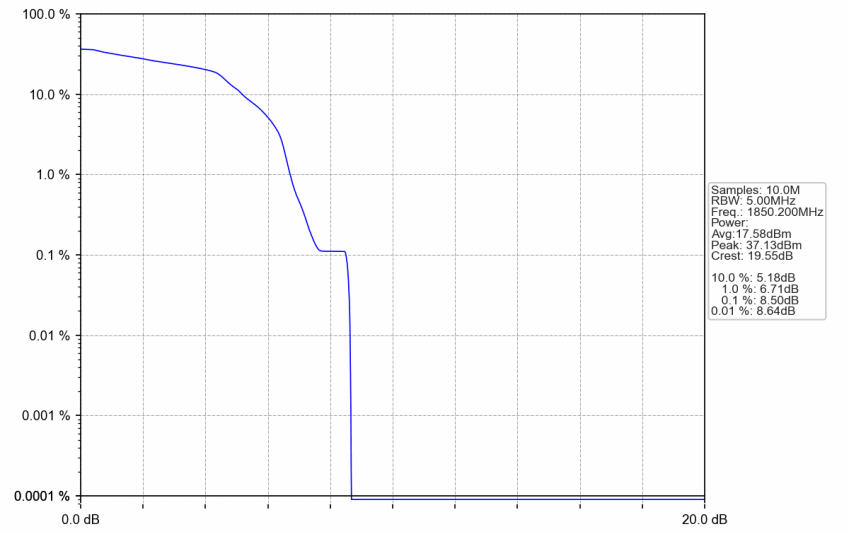
PCS1900_GPRS_MCH_1880MHz_4 TX Slots_NTNV



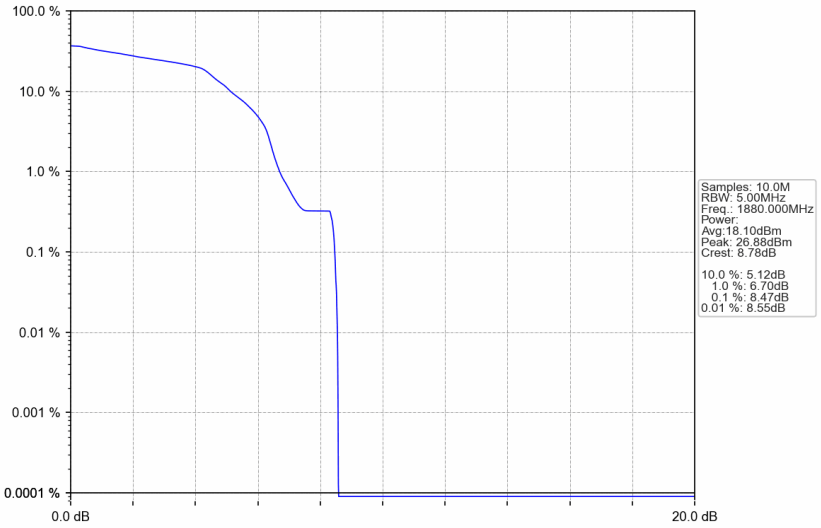
PCS1900_GPRS_HCH_1909.8MHz_4 TX Slots_NTNV



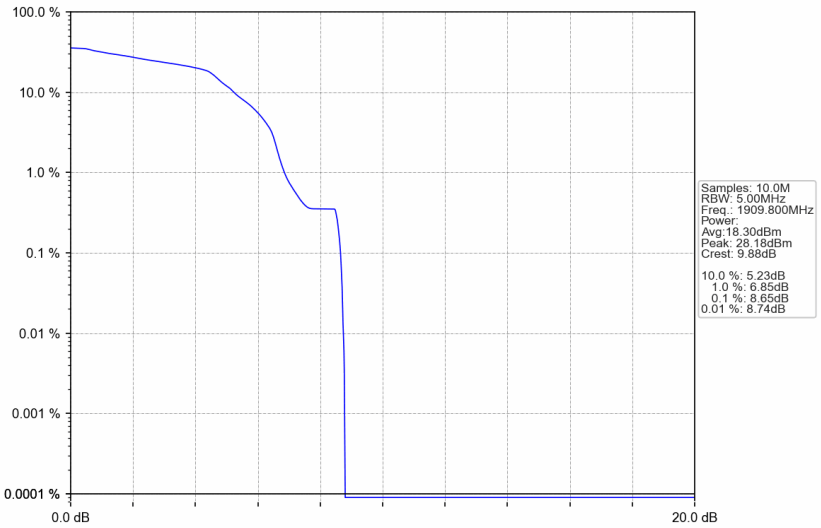
PCS1900_EGPRS_LCH_1850.2MHz_4 TX Slots_NTNV



PCS1900_EGPRS_MCH_1880MHz_4 TX Slots_NTNV



PCS1900_EGPRS_HCH_1909.8MHz_4 TX Slots_NTNV



5. Spurious Emission

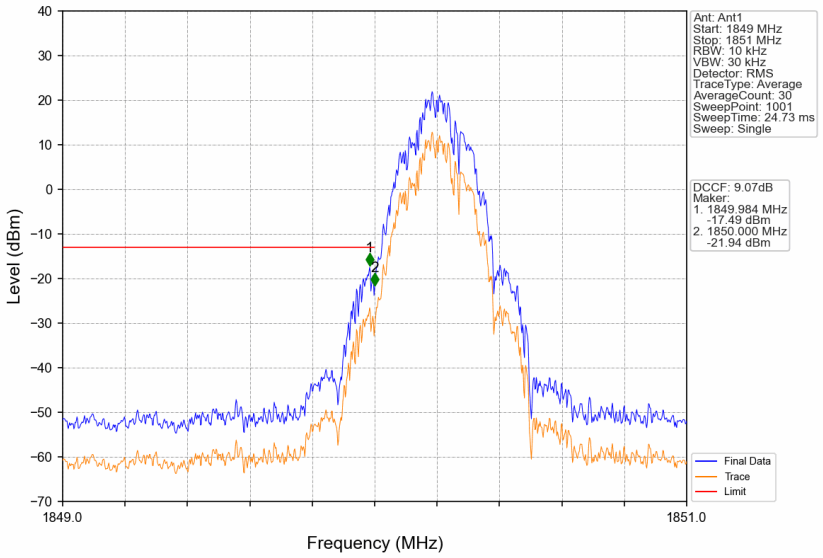
5.1 PCS1900

5.1.1 Test Result

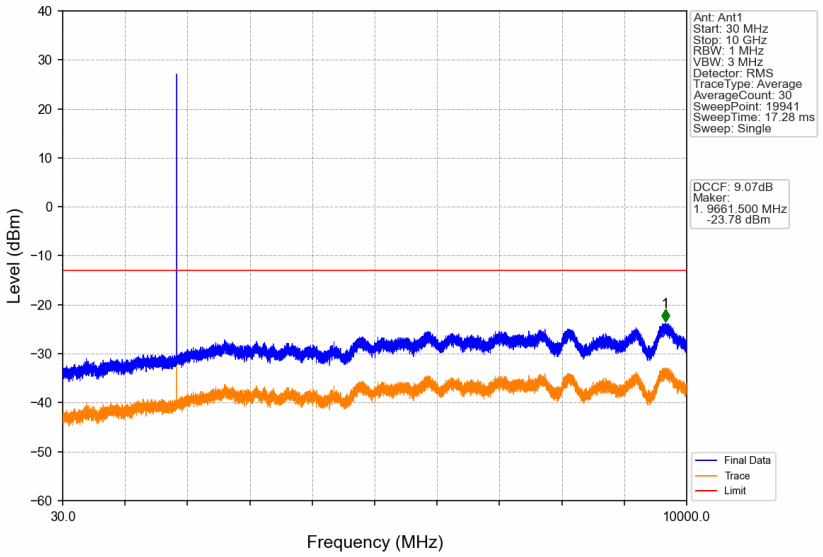
Band: PCS1900						
ENV	Mode		Frequency (MHz)	Spurious Emission		Verdict
	Network	Subset		Result	Limit	
NTNV	GPRS	1 TX Slot	1850.2	Refer To Test Graph		Pass
			1880	Refer To Test Graph		Pass
			1909.8	Refer To Test Graph		Pass
	EGPRS	1 TX Slot	1850.2	Refer To Test Graph		Pass
			1880	Refer To Test Graph		Pass
			1909.8	Refer To Test Graph		Pass

5.1.2 Test Graph

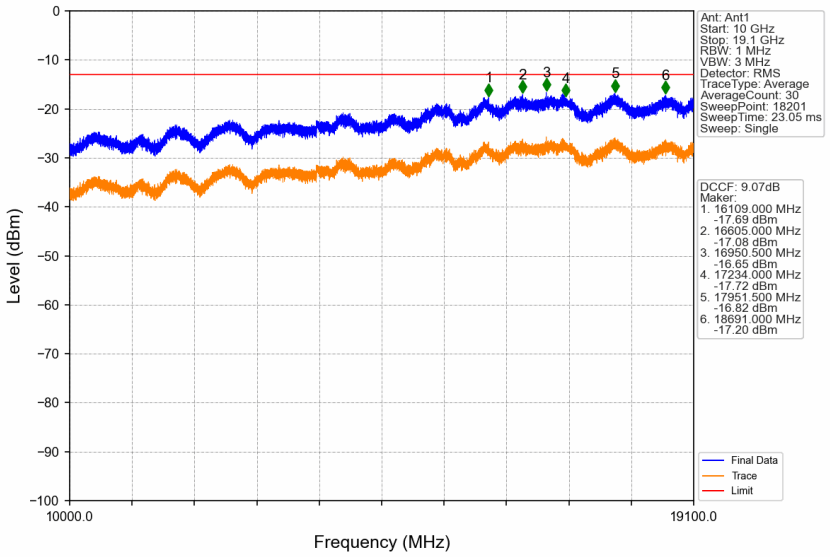
PCS1900_GPRS_LCH_1850.2MHz_1 TX Slot_NTNV



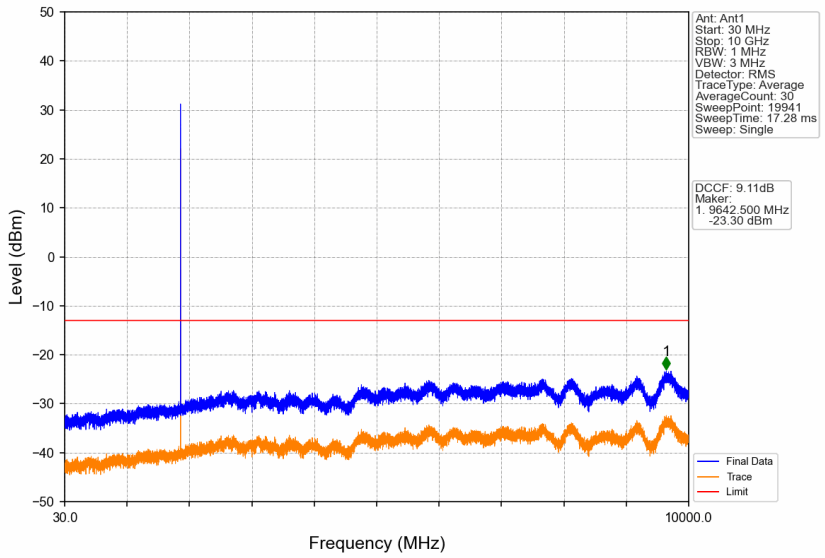
PCS1900_GPRS_LCH_1850.2MHz_1 TX Slot_NTNV



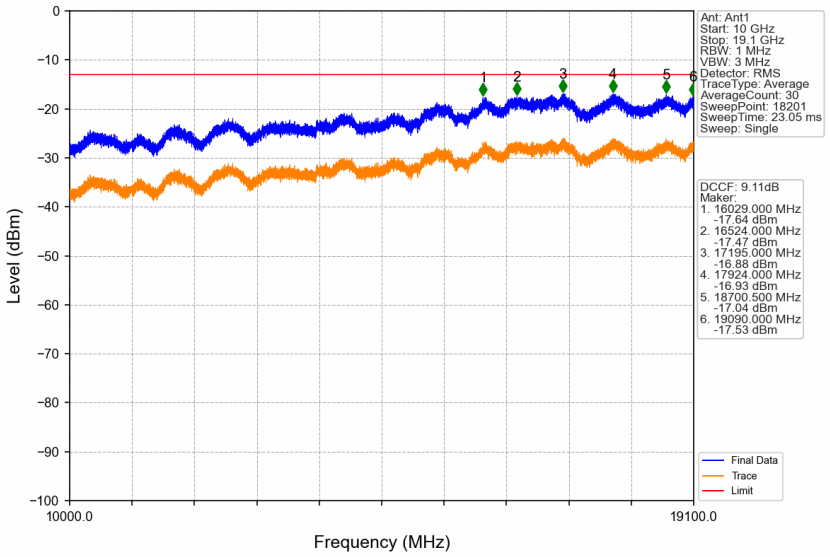
PCS1900_GPRS_LCH_1850.2MHz_1 TX Slot_NTNV



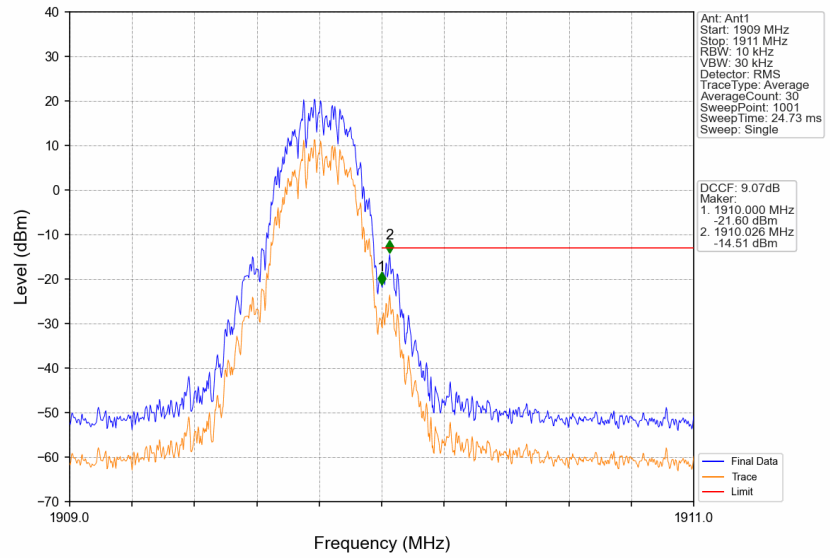
PCS1900_GPRS_MCH_1880MHz_1 TX Slot_NTNV



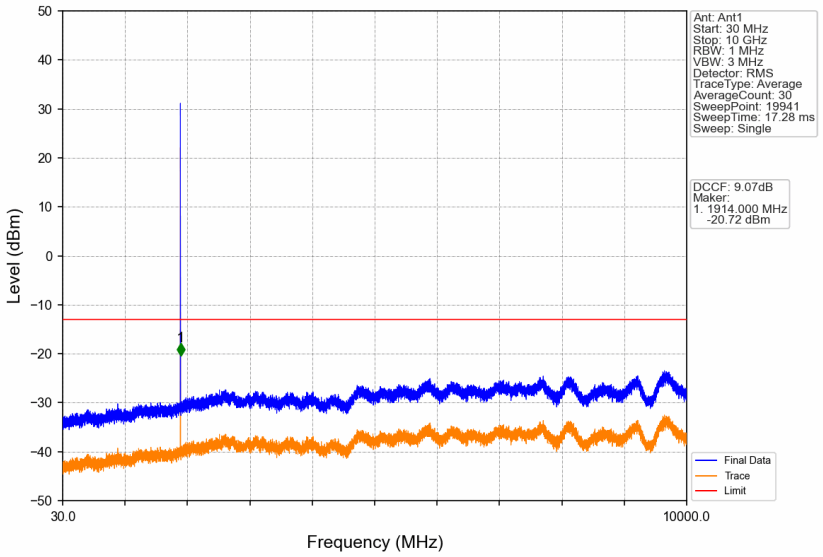
PCS1900_GPRS_MCH_1880MHz_1 TX Slot_NTNV



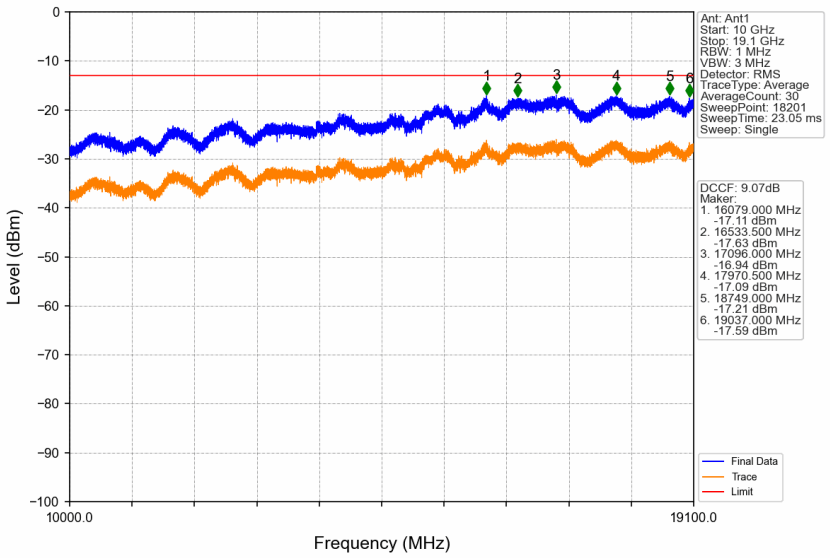
PCS1900_GPRS_HCH_1909.8MHz_1 TX Slot_NTNV



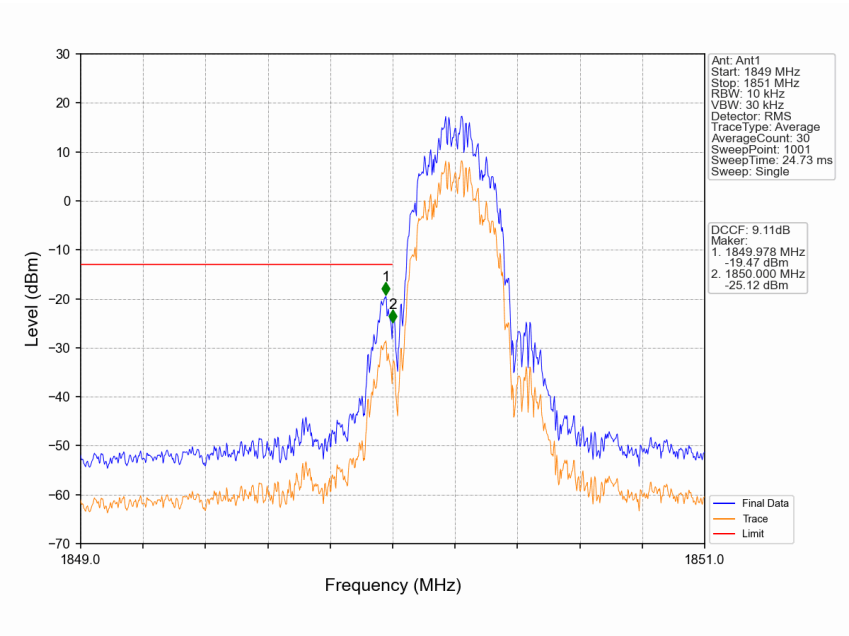
PCS1900_GPRS_HCH_1909.8MHz_1 TX Slot_NTNV



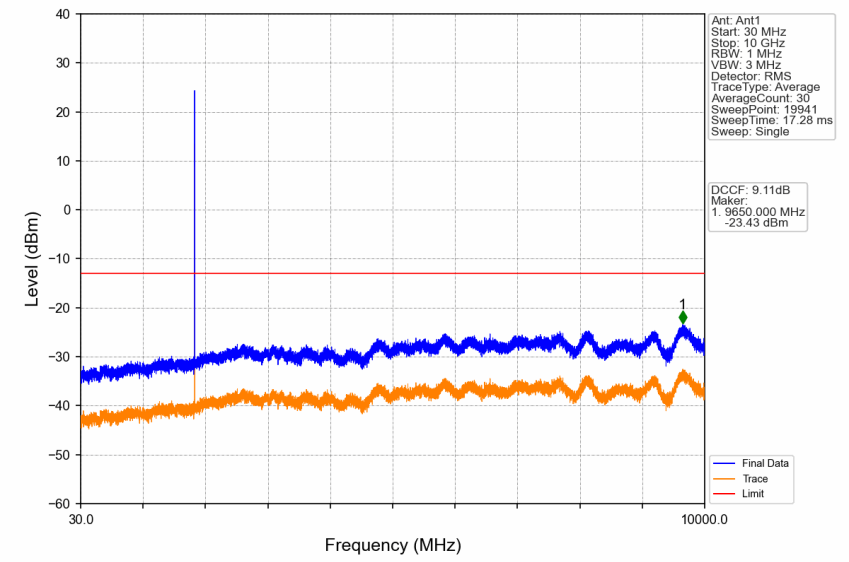
PCS1900_GPRS_HCH_1909.8MHz_1 TX Slot_NTNV



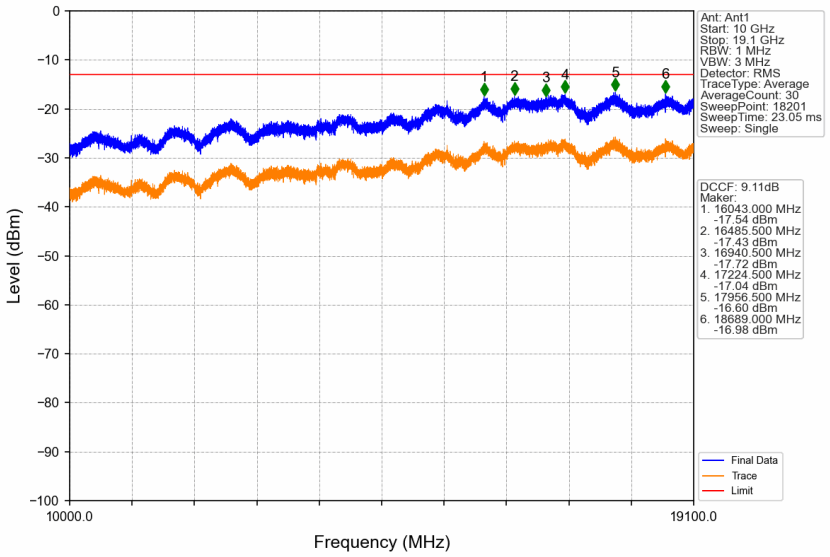
PCS1900_EGPRS_LCH_1850.2MHz_1 TX Slot_NTNV



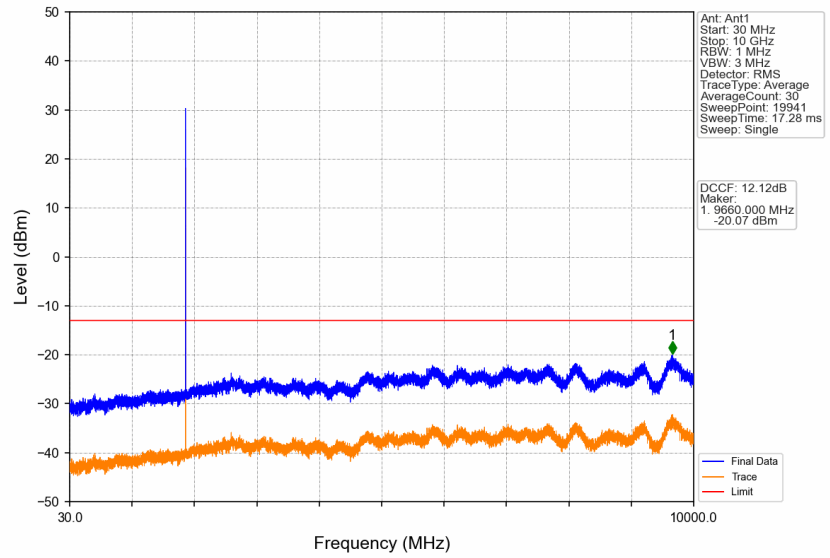
PCS1900_EGPRS_LCH_1850.2MHz_1 TX Slot_NTNV



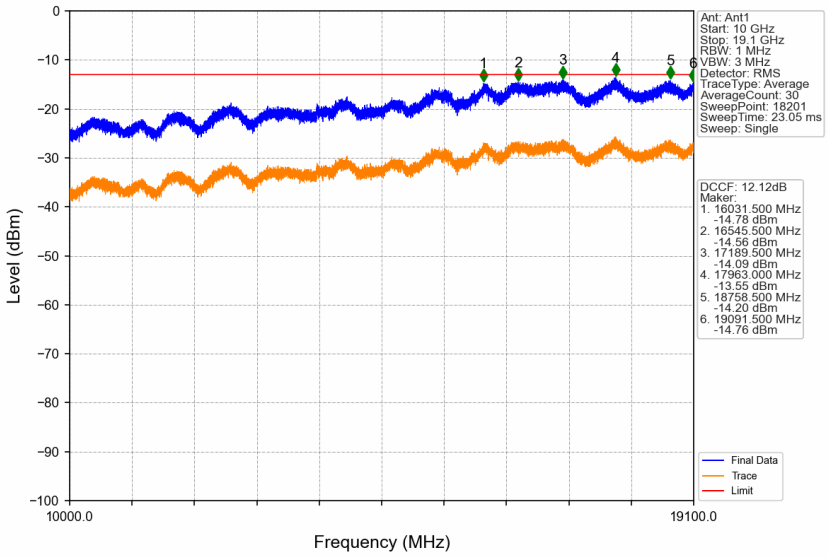
PCS1900_EGPRS_LCH_1850.2MHz_1 TX Slot_NTNV



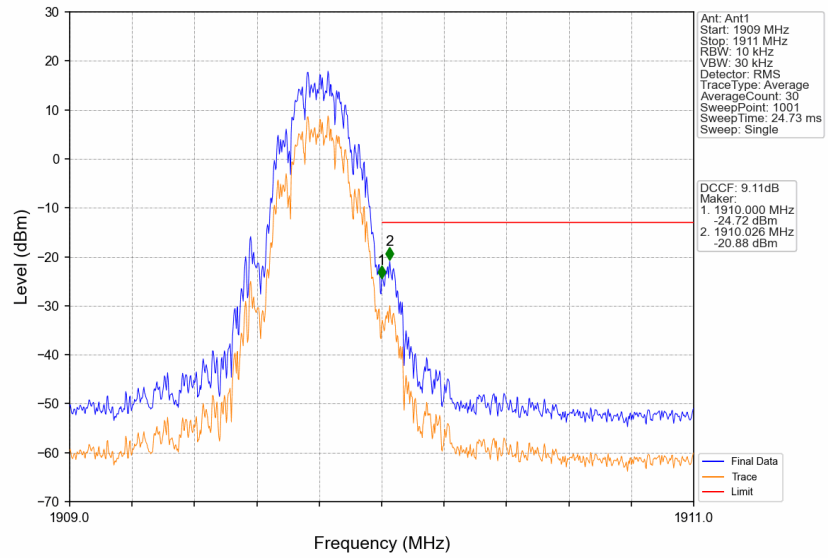
PCS1900_EGPRS_MCH_1880MHz_1 TX Slot_NTNV



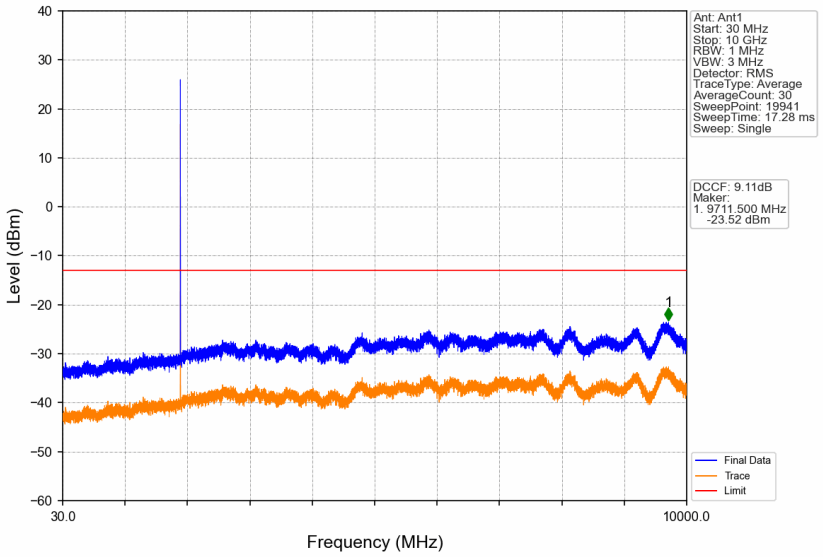
PCS1900_EGPRS_MCH_1880MHz_1 TX Slot_NTNV



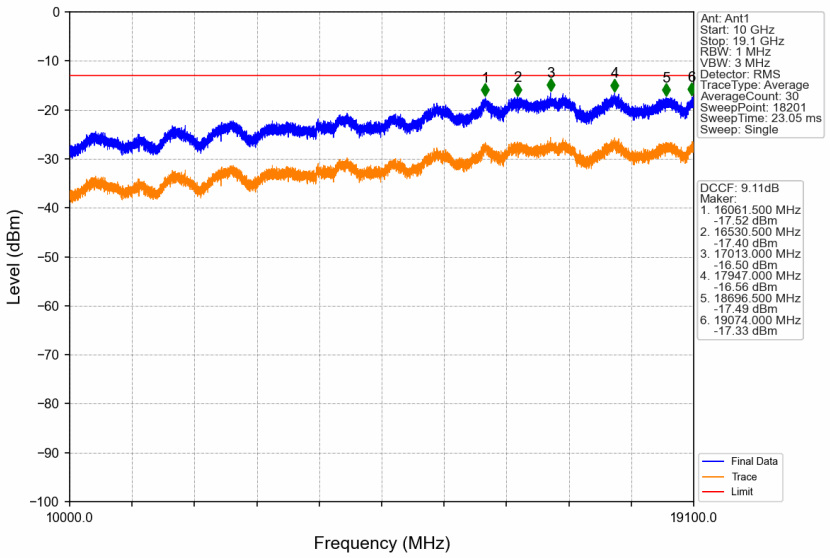
PCS1900_EGPRS_HCH_1909.8MHz_1 TX Slot_NTNV



PCS1900_EGPRS_HCH_1909.8MHz_1 TX Slot_NTNV



PCS1900_EGPRS_HCH_1909.8MHz_1 TX Slot_NTNV



- End of the Report -