TEST REPORT

REPORT NUMBER: I22W00078-GSM-RF-FCC

ON

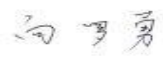
Type of Equipment:	LTE Cat1 Module
Type of Designation:	L501
Brand Name：	LYNQ
Manufacturer:	Shanghai MobileTek Communication Ltd.
FCC ID:	2AK9DL501G

ACCORDING TO

FCC CFR Part 2, FREQUENCY ALLOCATIONS AND RADIO TREATY MATTERS; GENERAL RULES AND REGULATIONS，e-CFR
PART 22, PUBLIC MOBILE SERVICES，e-CFR
PART 24, PERSONAL COMMUNICATIONS SERVICES，e-CFR
ANSI C63.26-2015 American National Standard for Complicance Testing of Transmitters Used in Licensed Radio Services

Chongqing Academy of Information and Communications Technology

Month date, year
Nov, 27, 2022
Signature



Xiang Luoyong
Director

Note:
The test results in this test report relate only to the devices specified in this report. This report shall not be reproduced except in full without the written approval of Chongqing Academy of Information and Communications Technology.

Revision Version

Report Number	Revision	Date	Memo
I22W00078-GSM-RF-FCC	00	2022-11-27	Initial creation of test report

CONTENTS

1. Test Laboratory

1.1. Testing Location

Name:	Chongqing Academy of Information and Communications Technology
Registration Number:	CN1239
Address:	Building C, Technology Innovation Center, No.8, Yuma Road, Chayuan New Area, Nan'an District, Chongqing, People's Republic of China
	No.19 East Road, Xiantao Big-data Valley, Yubei District, Chongqing, People's Republic of China
Postal Code:	401336
Telephone:	0086-23-88069965
Fax:	0086-23-88608777

1.2. Testing Environment

Normal Temperature:	15-35℃
Relative Humidity:	30-60%

1.3. Project data

Testing Start Date:	2022-11-19
Testing End Date:	2022-11-20

1.4. Signature

	2022-11-27
Dong Junxin **(Prepared this test report)**	**Date**
	2022-11-27
Li Xu **(Reviewed this test report)**	**Date**
	2022-11-27
Xiang Luoyong **Director of the laboratory** **(Approved this test report)**	**Date**

2. Client Information

2.1. Applicant Information

Company name:	Shanghai MobileTek Communication Ltd.
Address /Post:	Free Trade Zone No. 33, No. 17 building 6H3 Xiya Road China (Shanghai)
City:	Shanghai
Country:	China
Telephone:	15821966417
Fax:	--
Email:	qh.zhang@mobiletek.cn
Contact Person:	Qinghua Zhang

2.2. Manufacturer Information

Company Name:	Shanghai MobileTek Communication Ltd.
Address /Post:	Free Trade Zone No. 33, No. 17 building 6H3 Xiya Road China (Shanghai)
City:	Shanghai
Country:	China
Telephone:	15821966417
Fax:	--
Email:	qh.zhang@mobiletek.cn
Contact Person:	Qinghua Zhang

3. Equipment under Test (EUT) and Ancillary Equipment (AE)

3.1. About EUT

EUT Description	LTE Cat1 Module
Model name	L501
Brand name	LYNQ
GSM Frequency Band	GSM850/GSM1900
LTE Frequency Band	2/4/5/7/41/66
Type of modulation	GMSK/8PSK/QPSK/16QAM
Extreme Temperature	-40/+85℃
Nominal Voltage	3.8
Extreme High Voltage	4.5
Extreme Low Voltage	3.3

Note: Photographs of EUT are shown in ANNEX A of this test report.
Note: High and low voltage values in extreme condition test are given by manufacturer.

3.2. Internal Identification of EUT used during the test

EUT ID	SN or IMEI	HW Version	SW Version	Date of receipt
S1	IMEI:868070047049113	V3	L501GN_3Sv05.01b01	2022-11-09
S5	IMEI:868070047049493	V3	L501GN_3Sv05.01b01	2022-11-09

*EUT ID: is used to identify the test sample in the lab internally.

3.3. Outline of Equipment under Test

Technology	Band	UL Freq.(MHz)	DL Freq.(MHz)	Note
GSM	GSM1900	1850.2-1909.8	1930.2-1989.8	--
	GSM850	824.2-848.8	869.2-893.8	--
LTE	B2	1850-1910	1930-1990	--
	B4	1710-1755	2110-2155	--
	B5	824-849	869-894	--
	B7	2500-2570	2620-2690	--
	B41	2496-2690	2496-2690	--
	B66	1710-1780	2110-2200	--

3.4. Internal Identification of AE used during the test

AE ID	Instrument	Manufacturer	Model
--	--	--	--

*AE ID: is used to identify the test sample in the lab internally.

Band	Antenna Gain (dBi)
GSM850	0±2
GSM1900	0±2

Antenna gain： is provided customer.

4. Reference Documents

4.1. Documents supplied by applicant

PICS/PIXIT, referring to Annex B for detailed information, is supplied by the client or manufacturer, which is the basis of testing.

4.2. Reference Documents for testing

The following documents listed in this section are referred for testing.

Reference	Title	Version
FCC CFR Part 2	FREQUENCY ALLOCATIONS AND RADIO TREATY MATTERS; GENERAL RULES AND REGULATIONS，e-CFR	--
FCC CFR Part 22	PUBLIC MOBILE SERVICES	--
FCC CFR Part 24	PERSONAL COMMUNICATIONS SERVICES ，e-CFR	--
ANSI C63.26	American National Standard for Complicance Testing of Transmitters Used in Licensed Radio Services	2015

5. Test Equipments Utilized

5.1. RF Test System

No.	Equipment	Model	SN	HW Version	SW Version	Manufacture	Cal.Due Date
1	Spectrum analyzer	FSQ 26	201137/026	--	--	R&S	2023-06-29
2	DC Power Supply	3303D	801128	--	--	Topward	2023-06-29
3	Universal Radio Communication Tester	CMW500	152395	--	--	R&S	2023-06-29

5.2. RSE Test System

No.	Equipment	Model	SN	HW Version	SW Version	Manufacture	Cal.Due Date
1	Test Receiver	ESU26	100367	1	4.43 SP3	R&S	2023-06-29
2	Ultra-wideband Log Periodic Antenna	VULB 9163	1392	--	--	Schwarzbeck	2024-05-04
3	Double Ridged Guide Antenna	HF907	100357	--	--	R&S	2023-02-10
4	Universal Radio Communication Tester	CMW500	128181	--	--	R&S	2023-06-29
5	Double Ridged Guide Antenna	HF907	100356	--	--	R&S	2023-07-07
6	Generator	SMU 200A	104517	--	--	R&S	2023-06-29
7	Ultra-wideband Log Periodic Antenna	VULB 9163	995	--	--	R&S	2023-04-03
8	Amplifier1	150A	1429	--	--	Beehive	2023-06-18
9	Amplifier2	SCU 18	10141	--	--	R&S	--

5.3. Climate Chamber

No.	Name	Type	SN	Manufacture	Cal.Due Date
1	Climate chamber	SH-241	92010759	ESPEC	2023-06-29
2	Fully-Anechoic Chamber	FACT3-2	--	ETS	2025-04-29

5.4. Vibration table

No.	Name	Type	SN	Manufacture	Cal.Due Date
--	--	--	--	--	--

5.5. Test software

No.	Name	version	SN	Manufacture
1	EMC32	V 8.51.00	--	R&S
2	T-RFS500	V2.0	--	Manufacturer:Beijing Zhiwang Xince Technology Co., Ltd.

6. Test Results

6.1. Summary of Test Results

A brief summary of the tests carried out is shown as following.

FCC Rules	Name of Test	Result
2.1046,22.913(a),24.232(c)	Conducted RF Power Output	Pass
2.1046,22.913(a),24.232(c)	ERP and EIRP	Pass
2.1049,22.917(b), 24.238(b)	Occupied Bandwidth	*Note 1
2.1051,24.238,2.1053,22.917	Conducted spurious emissions	Pass
2.1051,24.238,2.1053,22.917	Radiated Spurious Emission	Pass
2.1051,24.238, 2.1053, 22.917	Band Edge	Pass
2.1055, 22.355,24.235	Frequency Stability	Pass
24.232	Peak to Average Ratio	Pass
Note 1: No applicable performance criteria. Note 2：Explanation of worst-case configuration The worst-case scenario for all measurements is based on the conducted output power. Output power was measured on GMSK,8PSK modulations. It was found that GMSK was the worst case. All testing was performed using GMSK modulations to represent the worst case unless otherwise stated.		

6.2. Conducted RF Power Output

Specifications:	FCC Part 2.1046, 22.913(a), 24.232(c)
DUT Serial Number:	868070047049113
Test conditions:	Ambient Temperature:15℃-35℃ Relative Humidity:30%-60% Air pressure: 86-106kPa
Test Results:	Pass

Limit Level Construction:

According to Part 22.913(a), the ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.

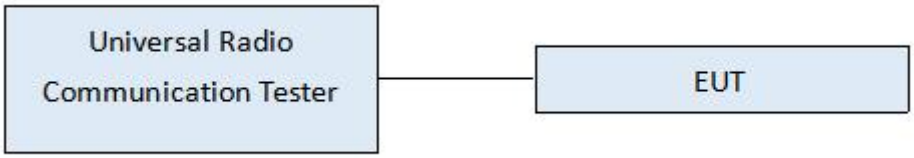
According to Part24.232(c), mobile and portable stations are limited to 2 watts EIRP and the equipment must employ a means for limiting power to the minimum necessary for successful communications.

Measurement Uncertainty:

Item	Uncertainty
Expanded Uncertainty	0.6 dB (k=2)

Test Setup:

During the test, the EUT was controlled via the Wireless Telecommunications Test Set to ensure max power transmission and proper modulation



Test Method:

The EUT is connected to the Universal Radio Communication Tester through the RF cable, and the average power and peak power are obtained through the Universal Radio Communication Tester.

Note: --

6.2.1 Conducted RF Power Output Results

GSM850

GSM(GMSK)

Frequency (MHz)	Power Step	Avg Power (dBm)	Peak Power (dBm)
824.2	5	32.69	32.70
836.6	5	32.41	32.46
848.8	5	32.56	32.57

GSM850

GPRS(GMSK)

Frequency (MHz)	Power Step	Slot	Avg Power (dBm)	Peak Power (dBm)
824.2	3	1TS	32.60	32.69
824.2	3	2TS	32.45	32.53
824.2	3	3TS	30.50	30.54
824.2	3	4TS	28.87	28.95
836.6	3	1TS	32.45	32.49
836.6	3	2TS	32.21	32.22
836.6	3	3TS	30.19	30.26
836.6	3	4TS	28.56	28.61
848.8	3	1TS	32.52	32.56
848.8	3	2TS	32.36	32.45
848.8	3	3TS	30.28	30.41
848.8	3	4TS	28.66	28.75

GSM850

EGPRS(GMSK)

Frequency (MHz)	Power Step	Slot	Avg Power (dBm)	Peak Power (dBm)
824.2	3	1TS	32.63	32.66
824.2	3	2TS	32.39	32.50
824.2	3	3TS	30.34	30.50
824.2	3	4TS	28.87	28.95
836.6	3	1TS	32.35	32.41
836.6	3	2TS	32.19	32.24
836.6	3	3TS	30.18	30.20
836.6	3	4TS	28.57	28.67
848.8	3	1TS	32.52	32.51
848.8	3	2TS	32.37	32.39
848.8	3	3TS	30.27	30.36

848.8	3	4TS	28.62	28.69

GSM850

EGPRS(8PSK)

Frequency (MHz)	Power Step	Slot	Avg Power (dBm)	Peak Power (dBm)
824.2	6	1TS	27.33	27.40
824.2	6	2TS	25.22	25.29
824.2	6	3TS	24.14	23.19
824.2	6	4TS	20.13	20.33
836.6	6	1TS	26.88	26.92
836.6	6	2TS	24.77	24.83
836.6	6	3TS	23.82	22.78
836.6	6	4TS	19.61	19.82
848.8	6	1TS	27.90	27.98
848.8	6	2TS	25.86	25.96
848.8	6	3TS	23.64	23.79
848.8	6	4TS	20.66	20.88

PCS1900

GSM(GMSK)

Frequency (MHz)	Power Step	Avg Power (dBm)	Peak Power (dBm)
1850.2	0	29.57	29.57
1880	0	29.55	29.46
1909.8	0	29.43	29.56

PCS1900

GPRS(GMSK)

Frequency (MHz)	Power Step	Slot	Avg Power (dBm)	Peak Power (dBm)
1850.2	3	1TS	29.58	29.61
1850.2	3	2TS	29.31	29.37
1850.2	3	3TS	27.66	27.76
1850.2	3	4TS	25.54	25.67
1880	3	1TS	29.42	29.57
1880	3	2TS	29.24	29.42
1880	3	3TS	27.53	27.73
1880	3	4TS	25.34	25.63
1909.8	3	1TS	29.42	29.53
1909.8	3	2TS	29.21	29.28

1909.8	3	3TS	27.39	27.57
1909.8	3	4TS	25.24	25.43

PCS1900

EGPRS(GMSK)

Frequency (MHz)	Power Step	Slot	Avg Power (dBm)	Peak Power (dBm)
1850.2	3	1TS	29.54	29.56
1850.2	3	2TS	29.30	29.34
1850.2	3	3TS	27.67	27.72
1850.2	3	4TS	25.51	25.62
1880	3	1TS	29.45	29.47
1880	3	2TS	29.25	29.31
1880	3	3TS	27.58	27.65
1880	3	4TS	25.35	25.65
1909.8	3	1TS	29.37	29.41
1909.8	3	2TS	29.14	29.21
1909.8	3	3TS	27.49	27.49
1909.8	3	4TS	25.24	25.36

PCS1900

EGPRS(8PSK)

Frequency (MHz)	Power Step	Slot	Avg Power (dBm)	Peak Power (dBm)
1850.2	5	1TS	25.69	25.73
1850.2	5	2TS	23.70	23.85
1850.2	5	3TS	22.08	21.30
1850.2	5	4TS	18.73	19.09
1880	5	1TS	25.58	25.63
1880	5	2TS	23.70	23.83
1880	5	3TS	21.08	21.35
1880	5	4TS	18.79	19.12
1909.8	5	1TS	25.77	25.83
1909.8	5	2TS	24.18	24.38
1909.8	5	3TS	21.21	21.41
1909.8	5	4TS	18.86	19.21

6.3. ERP and EIRP

Specifications:	FCC Part 22.913(a), 24.232(b)
DUT Serial Number:	868070047049113
Test conditions:	Ambient Temperature:15℃-35℃ Relative Humidity:30%-60% Air pressure: 86-106kPa
Test Results:	Pass

Frequency Band	Max Antenna Gain (dBi)	Max Antenna Gain (dBd)
GSM 1900	2	N/A
GSM 850	N/A	-0.15

Conducted RF Power+Antenna Gain(dBi)=EIRP

Conducted RF Power+Antenna Gain(dBd)=ERP

Antenna Gain(dBd)= Antenna Gain(dBi)-2.15

6.3.1 GSM 850 result

Limits 38.5dBm(7w)

Max ERP:32.54dBm

GSM850

GSM(GMSK)

Frequency (MHz)	Power Step	Avg Power (dBm)	Radiated Power(dBm) G_T= -0.15dBd
824.2	5	32.69	32.54
836.6	5	32.41	32.26
848.8	5	32.56	32.41

GSM850

GPRS(GMSK)

Frequency (MHz)	Power Step	Slot	Avg power (dBm)	Radiated Power(dBm) G_T= -0.15dBd
824.2	3	1TS	32.60	32.45
824.2	3	2TS	32.45	32.30
824.2	3	3TS	30.50	30.35
824.2	3	4TS	28.87	28.72
836.6	3	1TS	32.45	32.30
836.6	3	2TS	32.21	32.06
836.6	3	3TS	30.19	30.04
836.6	3	4TS	28.56	28.41
848.8	3	1TS	32.52	32.37
848.8	3	2TS	32.36	32.21
848.8	3	3TS	30.28	30.13
848.8	3	4TS	28.66	28.51

GSM850

EGPRS(GMSK)

Frequency (MHz)	Power Step	Slot	Avg Power (dBm)	Radiated Power(dBm) G_T= -0.15dBd
824.2	3	1TS	32.63	32.48
824.2	3	2TS	32.39	32.24
824.2	3	3TS	30.34	30.19
824.2	3	4TS	28.87	28.72
836.6	3	1TS	32.35	32.20
836.6	3	2TS	32.19	32.04
836.6	3	3TS	30.18	30.03
836.6	3	4TS	28.57	28.42
848.8	3	1TS	32.52	32.37
848.8	3	2TS	32.37	32.22
848.8	3	3TS	30.27	30.12
848.8	3	4TS	28.62	28.47

GSM850

EGPRS(8PSK)

Frequency (MHz)	Power Step	Slot	Avg power (dBm)	Radiated Power(dBm) G_T= -0.15dBd
824.2	6	1TS	27.33	27.18
824.2	6	2TS	25.22	25.07
824.2	6	3TS	24.14	23.99
824.2	6	4TS	20.13	19.98
836.6	6	1TS	26.88	26.73
836.6	6	2TS	24.77	24.62
836.6	6	3TS	23.82	23.67
836.6	6	4TS	19.61	19.46
848.8	6	1TS	27.90	27.75
848.8	6	2TS	25.86	25.71
848.8	6	3TS	23.64	23.49
848.8	6	4TS	20.66	20.51

6.3.2 PCS 1900 result

GSM GMSK Mode

Limits 33.0dBm(2w)

Max EIRP:31.58dBm

GSM(GMSK)

Frequency (MHz)	Power Step	Avg Power (dBm)	Radiated Power(dBm) G_T= 2dBi
1850.2	0	29.57	31.57
1880	0	29.55	31.55
1909.8	0	29.43	31.43

PCS1900

GPRS(GMSK)

Frequency (MHz)	Power Step	Slot	Avg power (dBm)	Radiated Power(dBm) G_T= 2dBi
1850.2	3	1TS	29.58	31.58
1850.2	3	2TS	29.31	31.31
1850.2	3	3TS	27.66	29.66
1850.2	3	4TS	25.54	27.54
1880	3	1TS	29.42	31.42
1880	3	2TS	29.24	31.24
1880	3	3TS	27.53	29.53
1880	3	4TS	25.34	27.34
1909.8	3	1TS	29.42	31.42
1909.8	3	2TS	29.21	31.21
1909.8	3	3TS	27.39	29.39
1909.8	3	4TS	25.24	27.24

PCS1900

EGPRS(GMSK)

Frequency (MHz)	Power Step	Slot	Avg Power (dBm)	Radiated Power(dBm) G_T= 2dBi
1850.2	3	1TS	29.54	31.54
1850.2	3	2TS	29.30	31.30
1850.2	3	3TS	27.67	29.67
1850.2	3	4TS	25.51	27.51
1880	3	1TS	29.45	31.45
1880	3	2TS	29.25	31.25
1880	3	3TS	27.58	29.58
1880	3	4TS	25.35	27.35
1909.8	3	1TS	29.37	31.37
1909.8	3	2TS	29.14	31.14
1909.8	3	3TS	27.49	29.49
1909.8	3	4TS	25.24	27.24

PCS1900

EGPRS(8PSK)

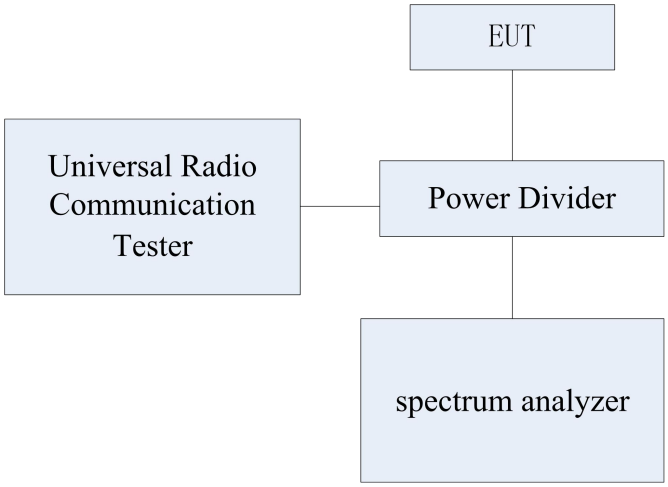
Frequency (MHz)	Power Step	Slot	Avg power (dBm)	Radiated Power(dBm) G_T= 2dBi
1850.2	5	1TS	25.69	27.69
1850.2	5	2TS	23.70	25.70
1850.2	5	3TS	22.08	24.08
1850.2	5	4TS	18.73	20.73
1880	5	1TS	25.58	27.58
1880	5	2TS	23.70	25.70
1880	5	3TS	21.08	23.08
1880	5	4TS	18.79	20.79
1909.8	5	1TS	25.77	27.77
1909.8	5	2TS	24.18	26.18
1909.8	5	3TS	21.21	23.21
1909.8	5	4TS	18.86	20.86

6.4. Occupied Bandwidth

Specifications:	FCC Part 2.1049, 22.917(b), 24.238(b)
DUT Serial Number:	868070047049113
Test conditions:	Ambient Temperature:15℃-35℃ Relative Humidity:30%-60% Air pressure: 86-106kPa
Test Results:	--

Test Setup

During the test, the EUT was controlled via the Wireless Communications Test Set to ensure max power transmission and proper modulation and measured by spectrum analyzer.



Measurement Uncertainty:

Item	Uncertainty
Expanded Uncertainty	70.04 Hz (k=2)

Test Method

The 99% occupied Bandwidth was calculated from the spectrum analyzer. Markers in the spectrum analyzer were then placed between the calculated frequencies to show the calculated 99% power Band. The 26dB Bandwidth was also measured and recorded.

Note: --

6.4.1 Occupied bandwidth Results

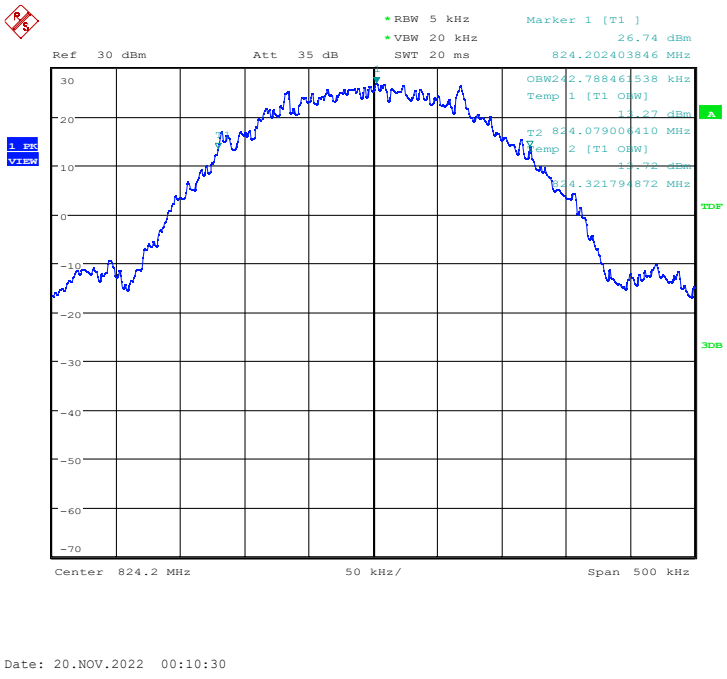
GSM850 (99%)

GSM

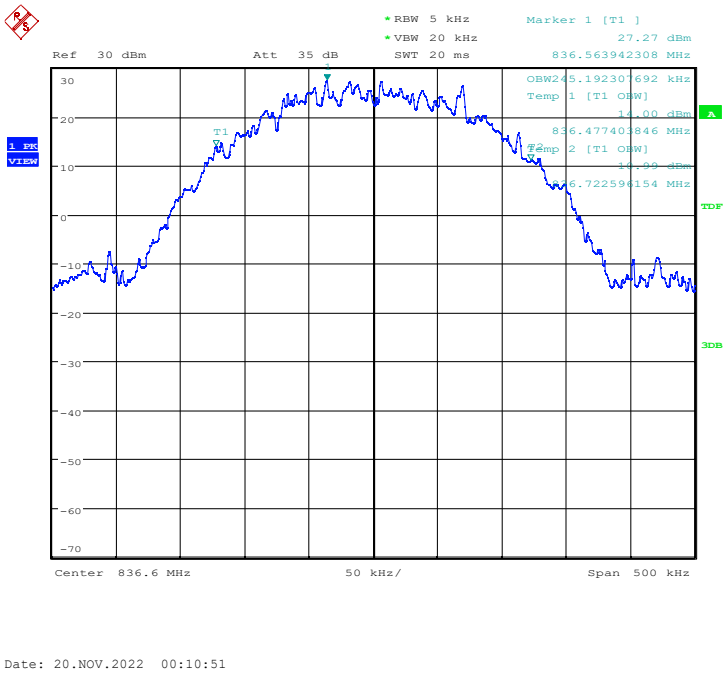
Frequency (MHz)	Occupied Bandwidth (99%) (kHz)
824.2	242.788
836.6	245.192
848.2	241.987

GSM850

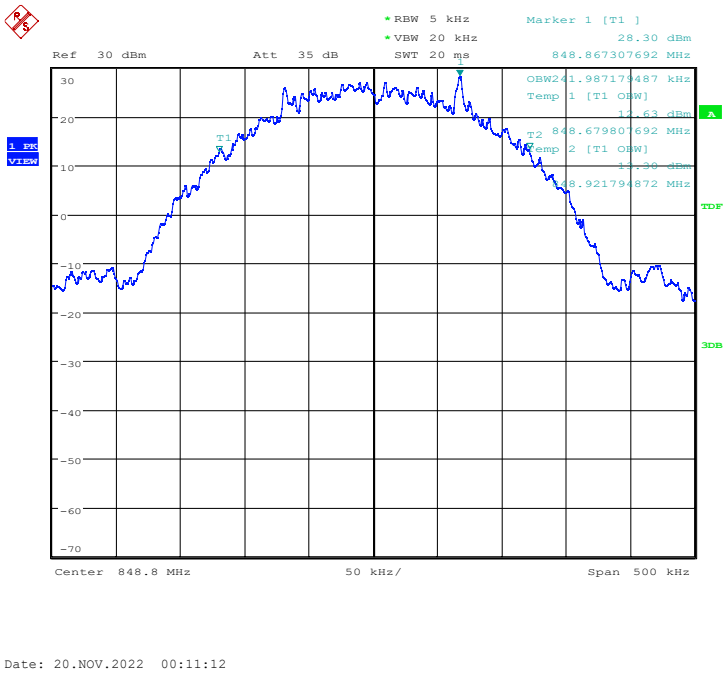
Channel 128-Occupied Bandwidth (99% BW)



Channel 190-Occupied Bandwidth (99% BW)



Channel 251-Occupied Bandwidth (99% BW)



GSM850 (99 %)

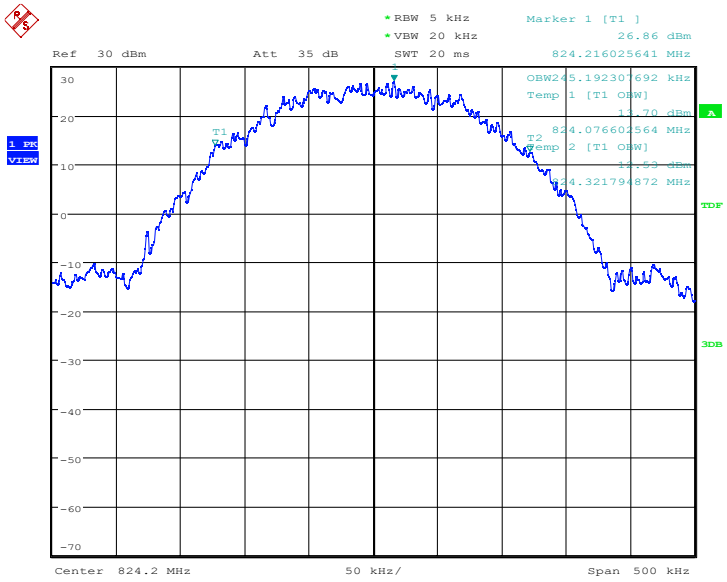
GPRS

Frequency (MHz)	Occupied Bandwidth (99%) (kHz)
824.2	245.192
836.6	246.795

848.8	243.590

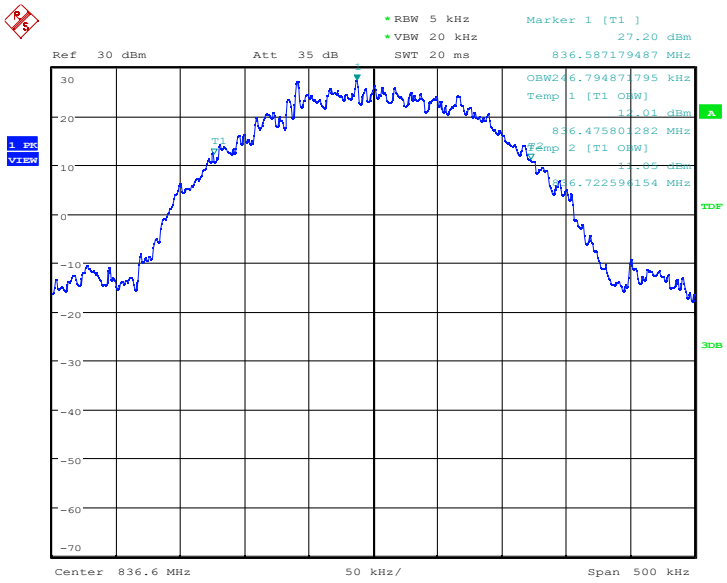
GSM850

Channel 128-Occupied Bandwidth (99% BW)



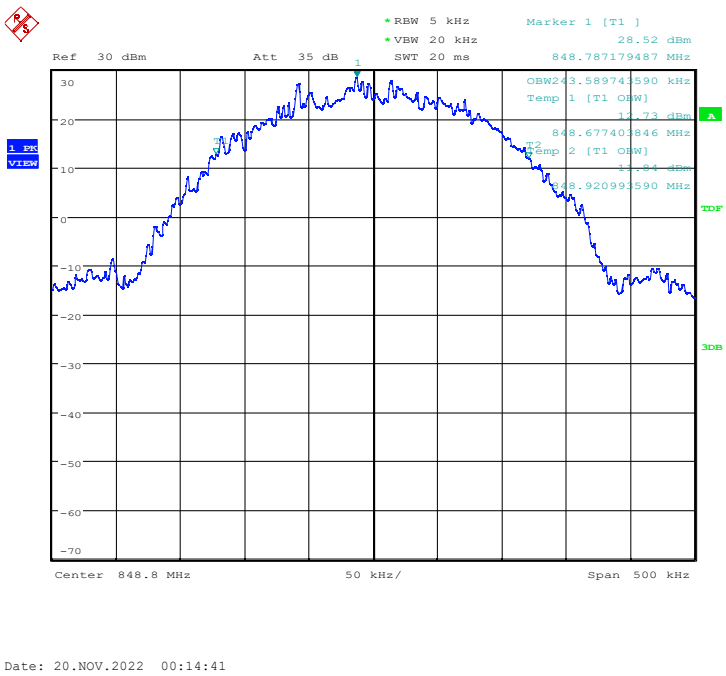
Date: 20.NOV.2022 00:13:37

Channel 190-Occupied Bandwidth (99% BW)



Date: 20.NOV.2022 00:14:09

Channel 251-Occupied Bandwidth (99% BW)



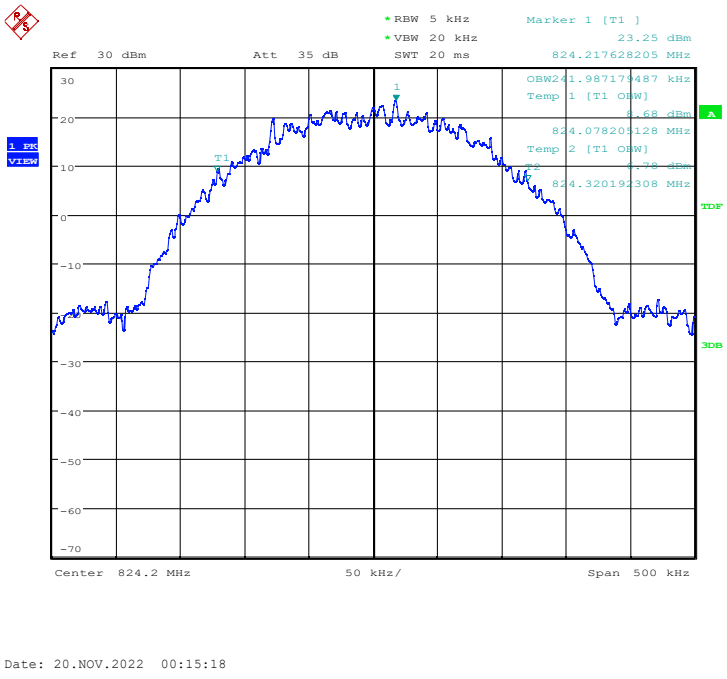
GSM850 (99 %)

EGPRS

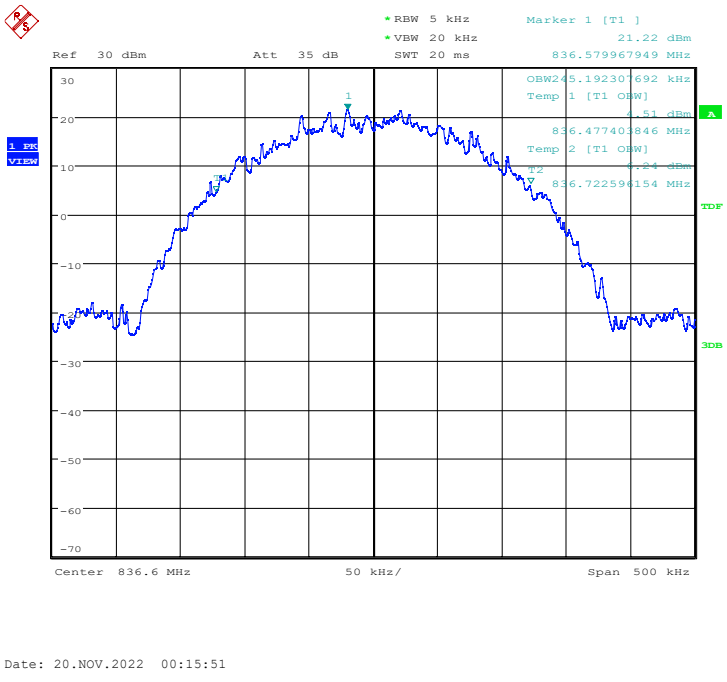
Frequency (MHz)	Occupied Bandwidth (99%) (kHz)
824.2	241.987
836.6	245.192
848.8	244.391

GSM850

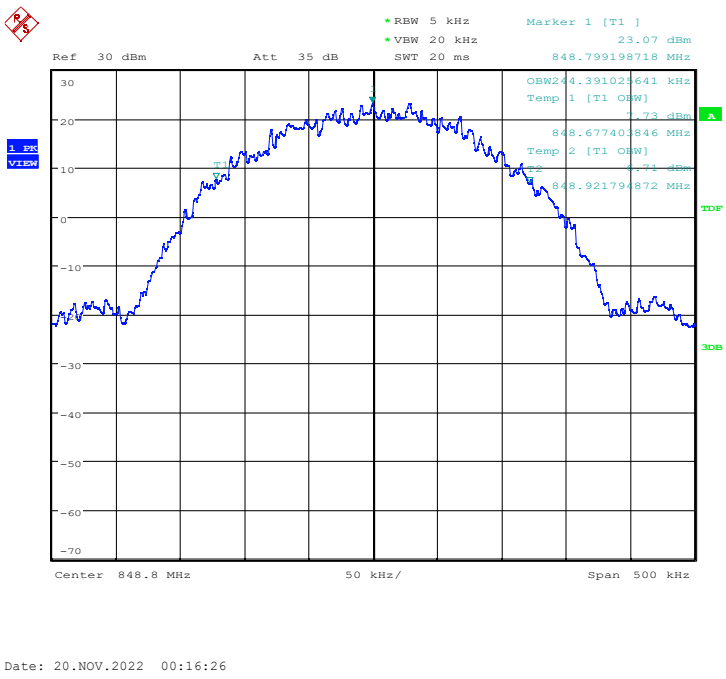
Channel 128-Occupied Bandwidth (99% BW)



Channel 190-Occupied Bandwidth (99% BW)



Channel 251-Occupied Bandwidth (99% BW)



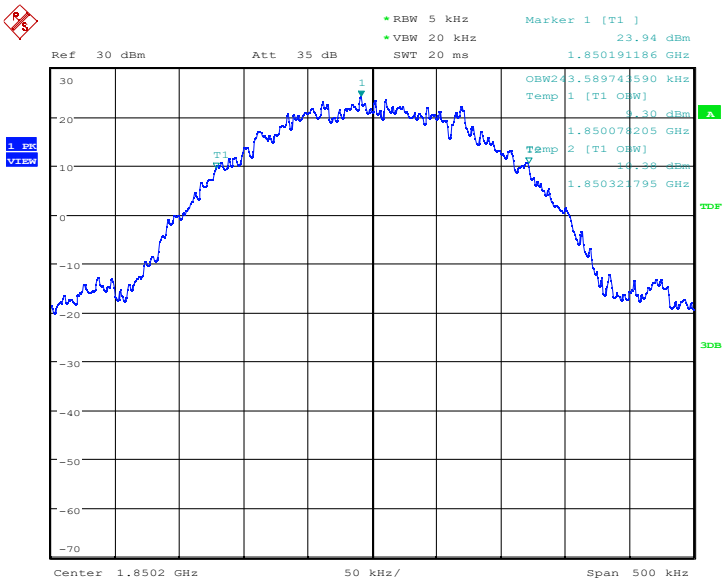
PCS1900 (99 %)

GSM

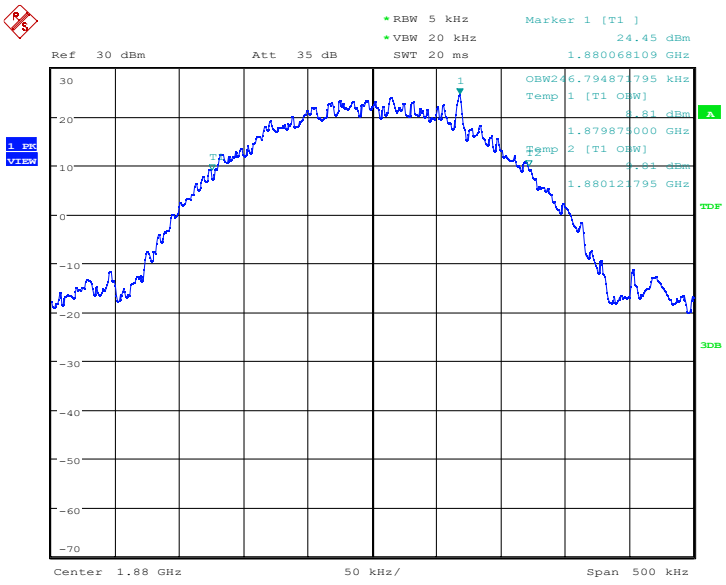
Frequency (MHz)	Occupied Bandwidth (99%) (kHz)
1850.2	243.590
1880	246.795
1909.8	244.391

PCS1900

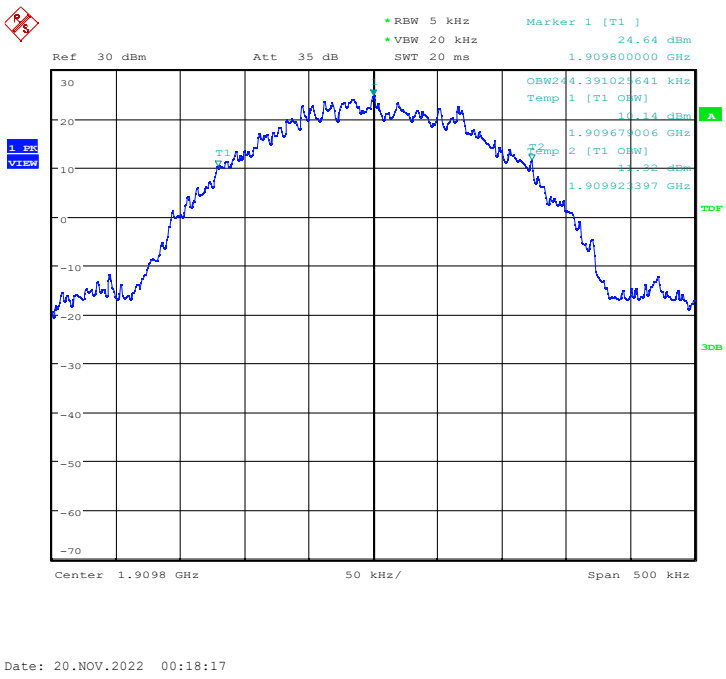
Channel 512-Occupied Bandwidth (99% BW)



Channel 661-Occupied Bandwidth (99% BW)



Channel 810-Occupied Bandwidth (99% BW)



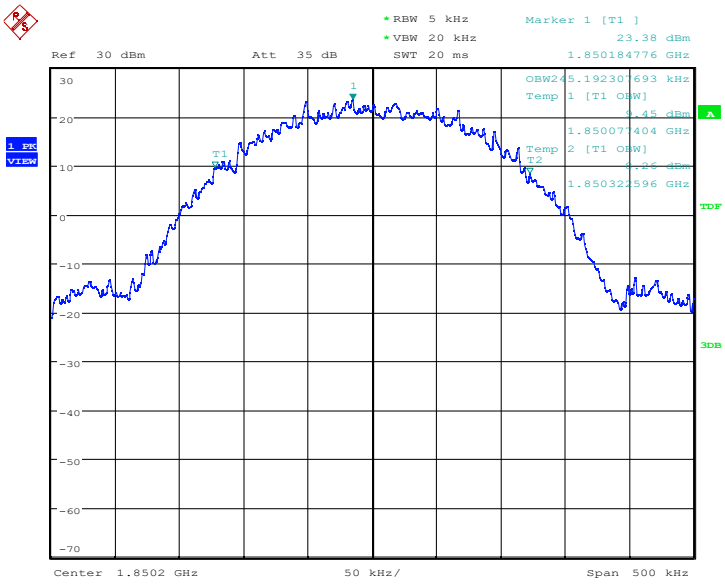
PCS1900 (99 %)

GPRS

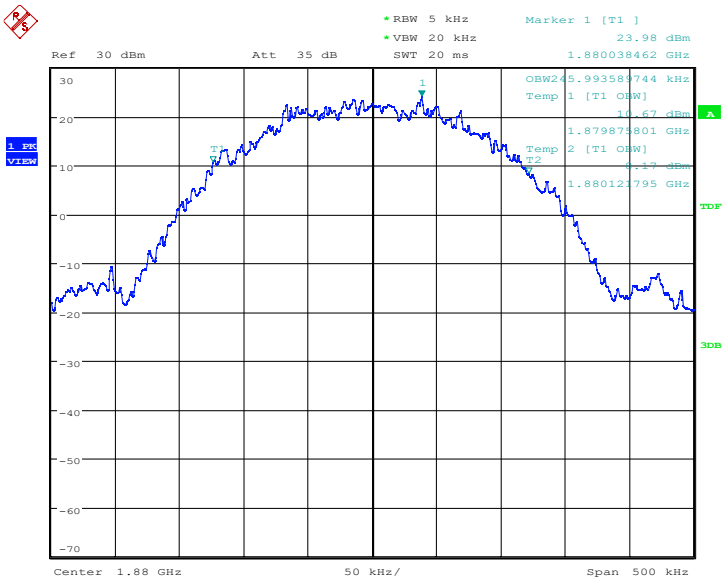
Frequency (MHz)	Occupied Bandwidth (99%) (kHz)
1850.2	245.192
1880	245.994
1909.8	245.192

PCS1900

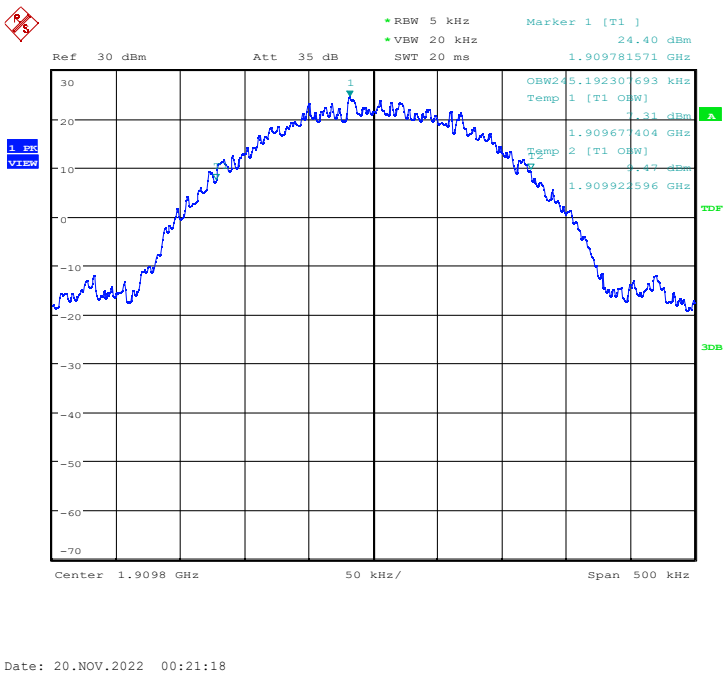
Channel 512-Occupied Bandwidth (99% BW)



Channel 661-Occupied Bandwidth (99% BW)



Channel 810-Occupied Bandwidth (99% BW)



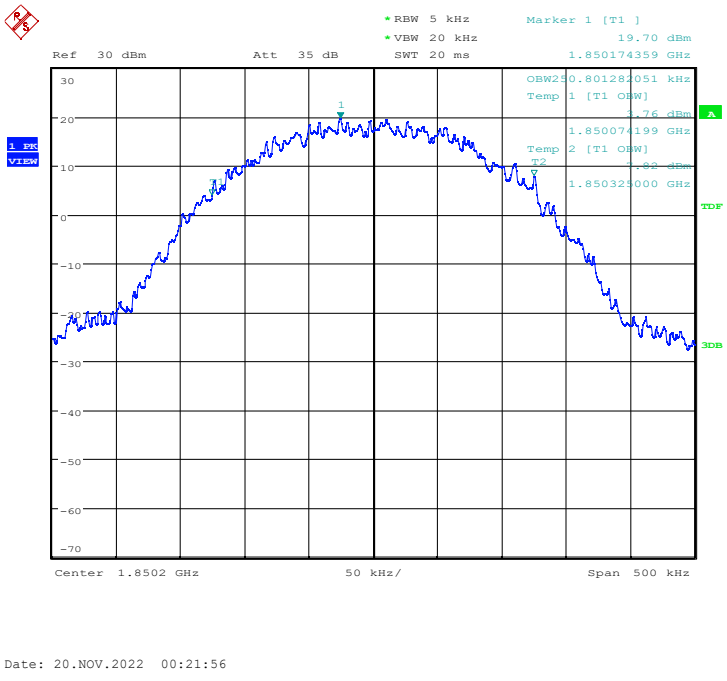
PCS1900 (99 %)

EGPRS

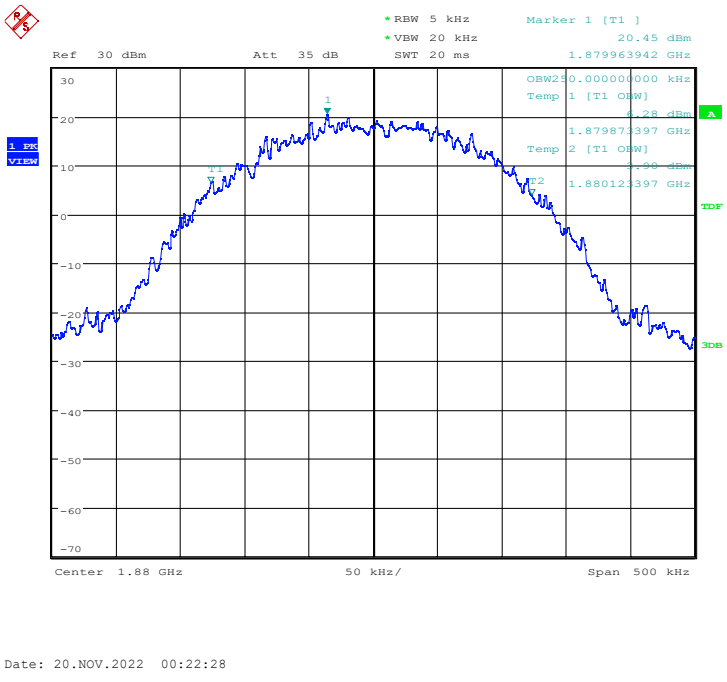
Frequency (MHz)	Occupied Bandwidth (99%) (kHz)
1850.2	250.801
1880	250.000
1909.8	250.000

PCS1900

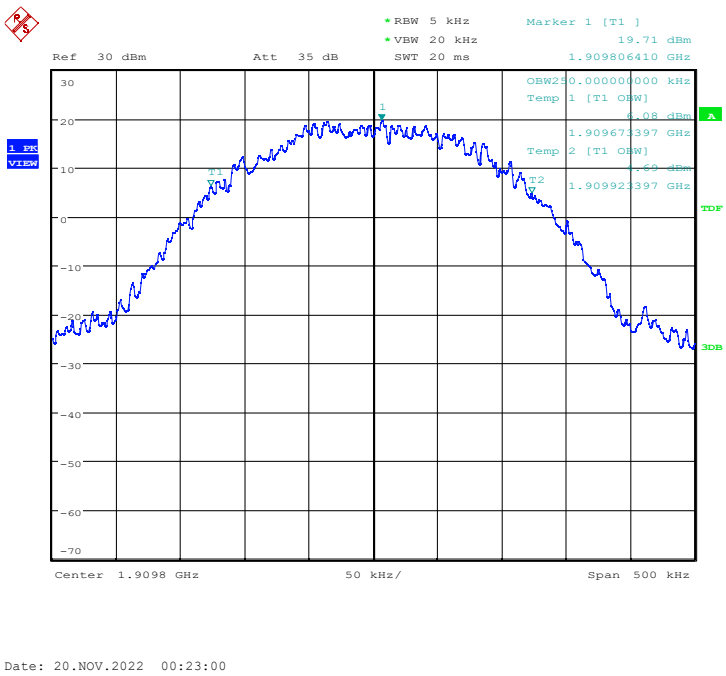
Channel 512-Occupied Bandwidth (99% BW)



Channel 661-Occupied Bandwidth (99% BW)



Channel 810-Occupied Bandwidth (99% BW)



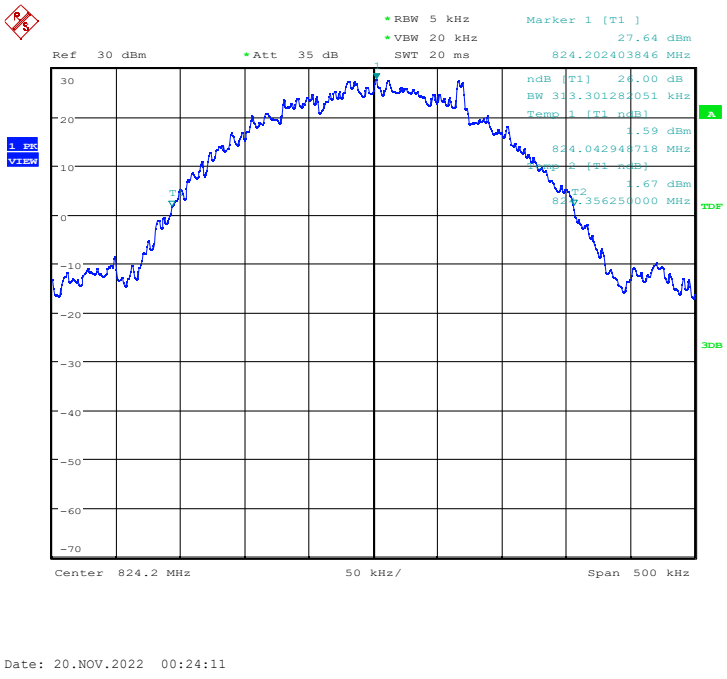
GSM850 (-26dBc)

GSM

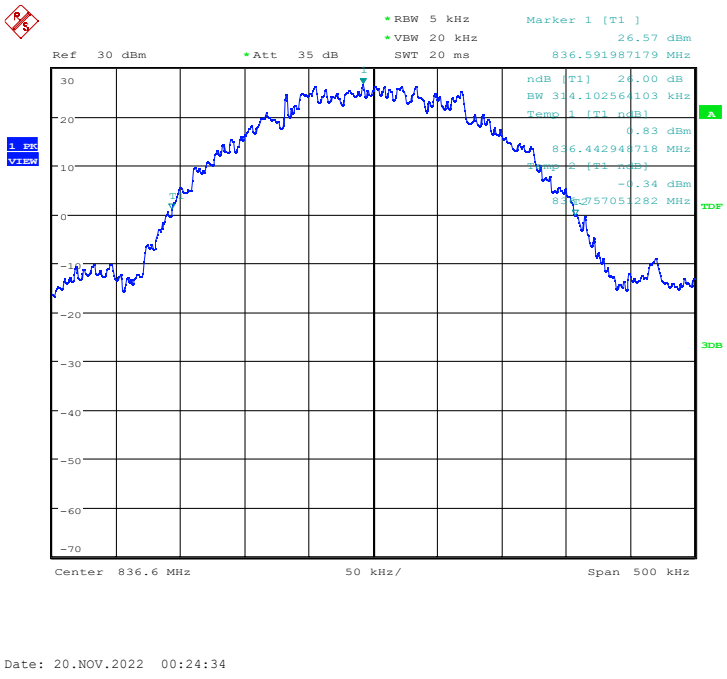
Frequency (MHz)	Emission Bandwidth (-26dBc)(kHz)
824.2	313.301
836.6	314.103
848.8	316.506

GSM850

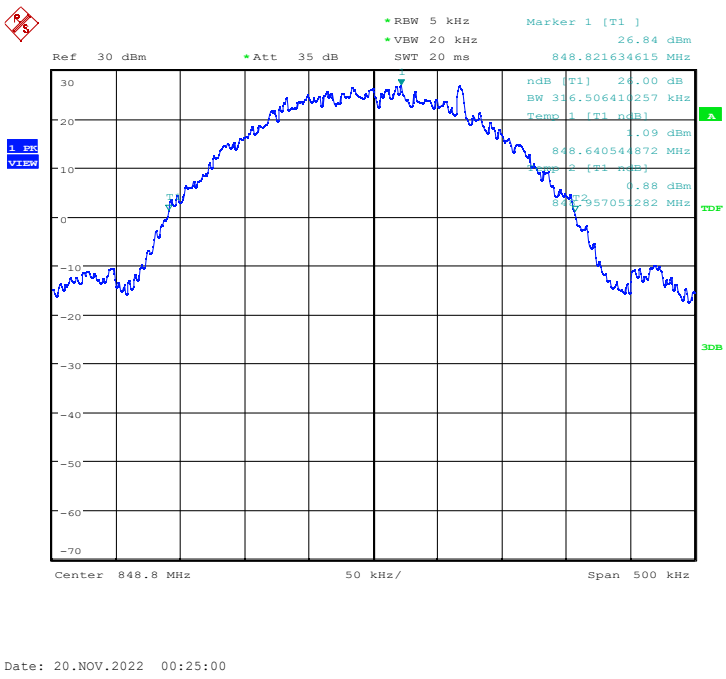
Channel 128-Emission Bandwidth (-26dBc BW)



Channel 190-Emission Bandwidth (-26dBc BW)



Channel 251-Emission Bandwidth (-26dBc BW)



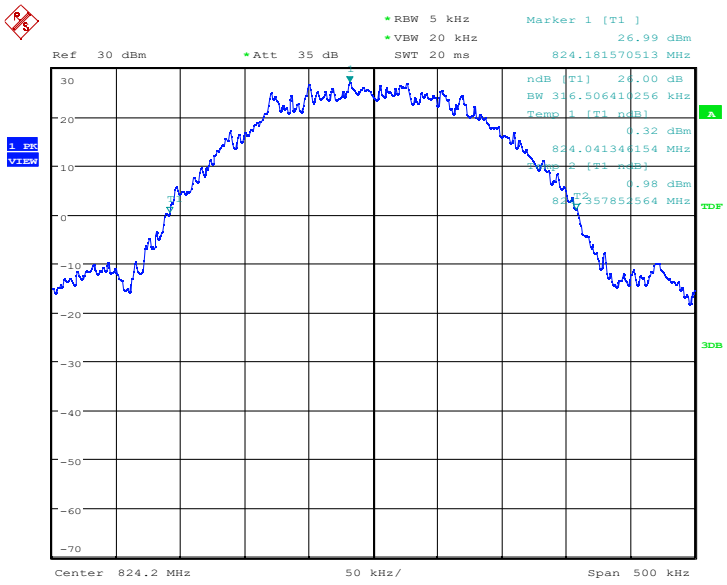
GSM850 (-26dBc)

GPRS

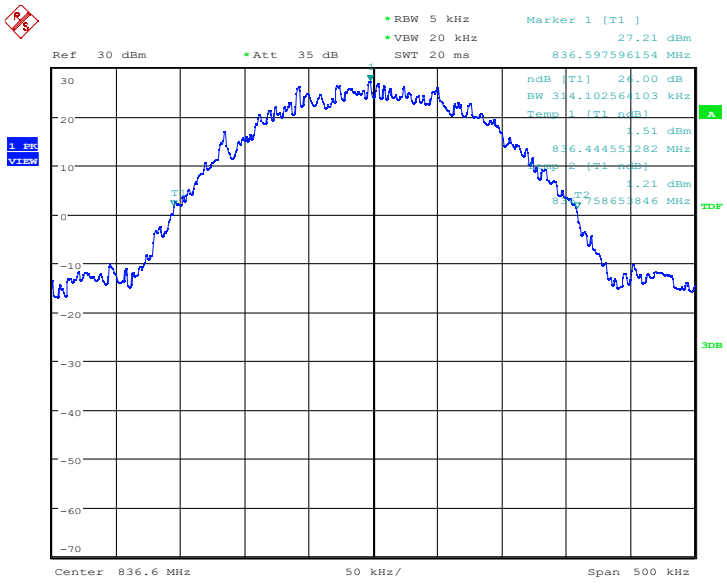
Frequency (MHz)	Emission Bandwidth (-26dBc)(kHz)
824.2	316.506
836.6	314.103
848.8	318.109

GSM850

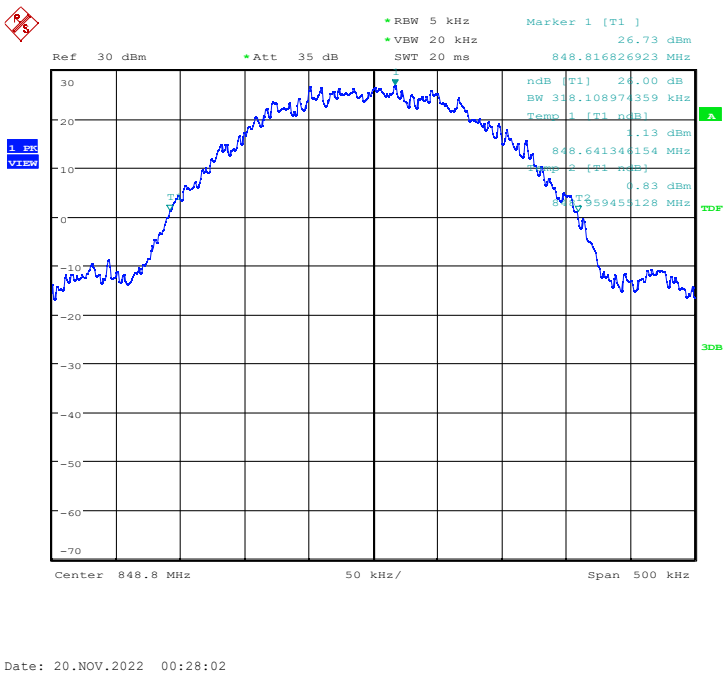
Channel 128-Emission Bandwidth (-26dBc BW)



Channel 190-Emission Bandwidth (-26dBc BW)



Channel 251-Emission Bandwidth (-26dBc BW)



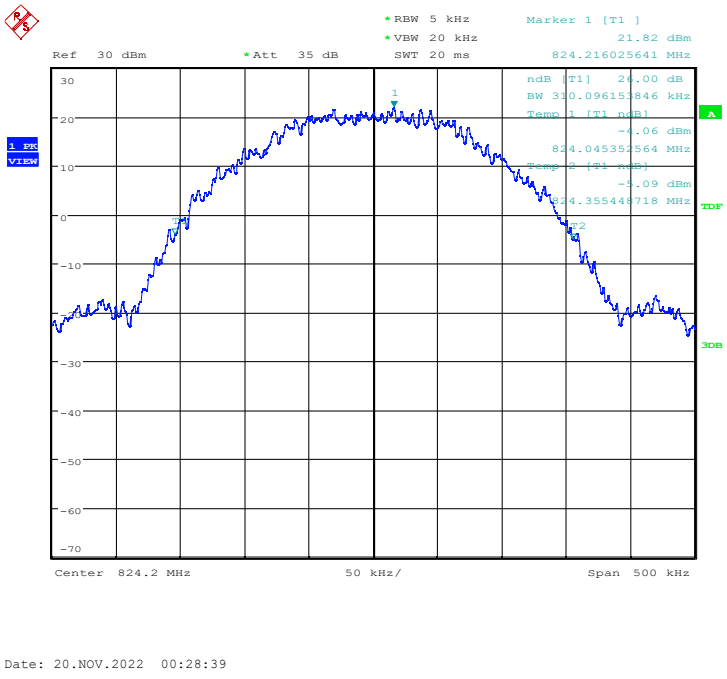
GSM850 (-26dBc)

EGPRS

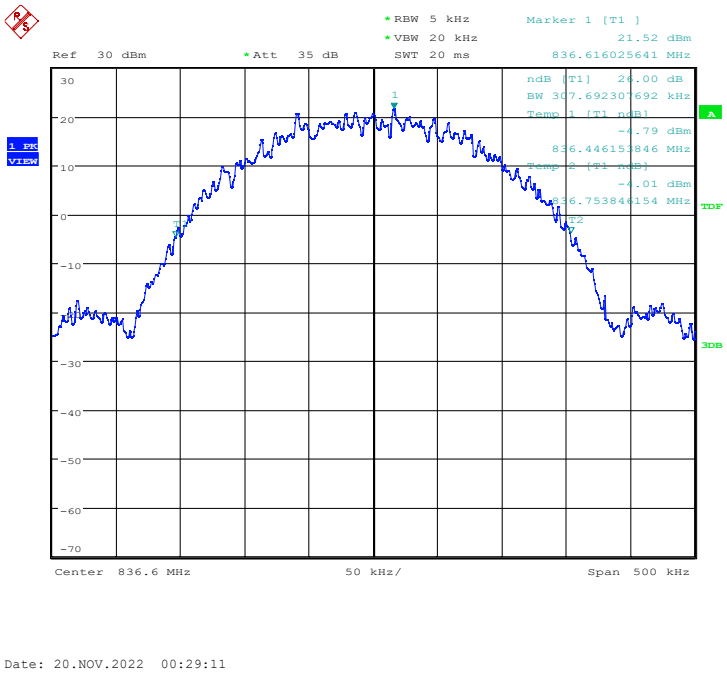
Frequency (MHz)	Emission Bandwidth (-26dBc)(kHz)
824.2	310.096
836.6	307.692
848.8	302.885

GSM850

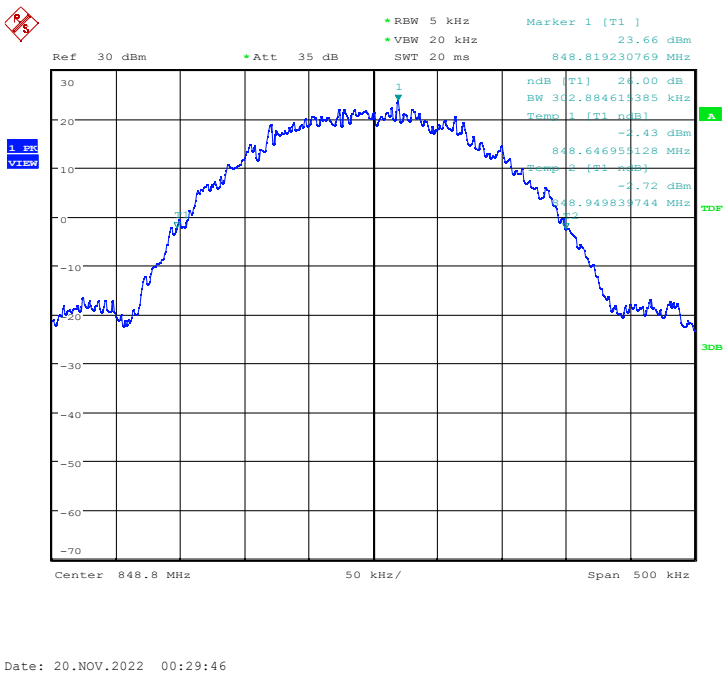
Channel 128-Emission Bandwidth (-26dBc BW)



Channel 190-Emission Bandwidth (-26dBc BW)



Channel 251-Emission Bandwidth (-26dBc BW)



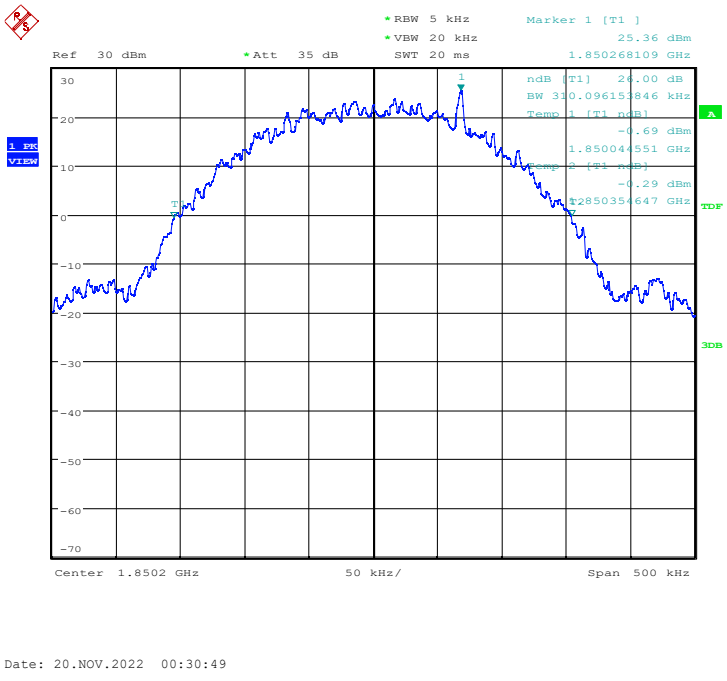
PCS1900 (-26dBc)

GSM

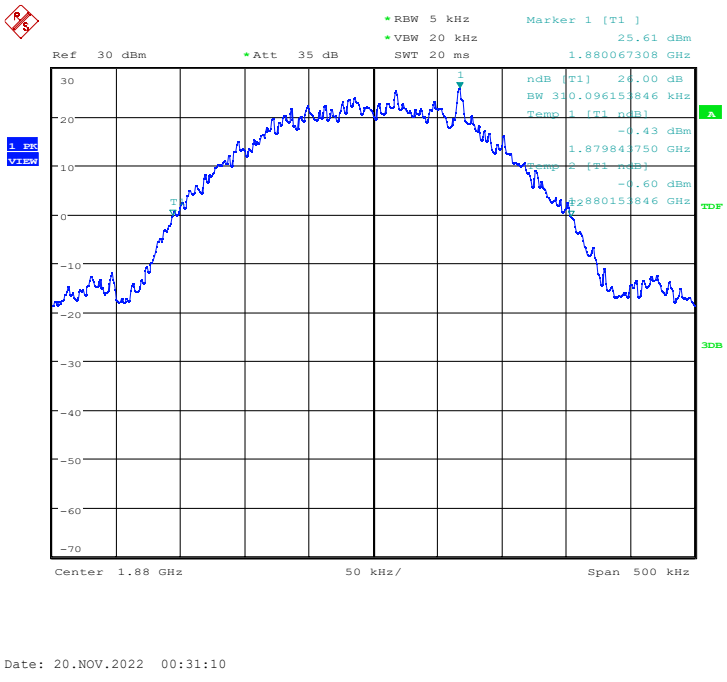
Frequency (MHz)	Emission Bandwidth (-26dBc)(kHz)
1850.2	310.096
1880	310.096
1909.8	312.500

PCS1900

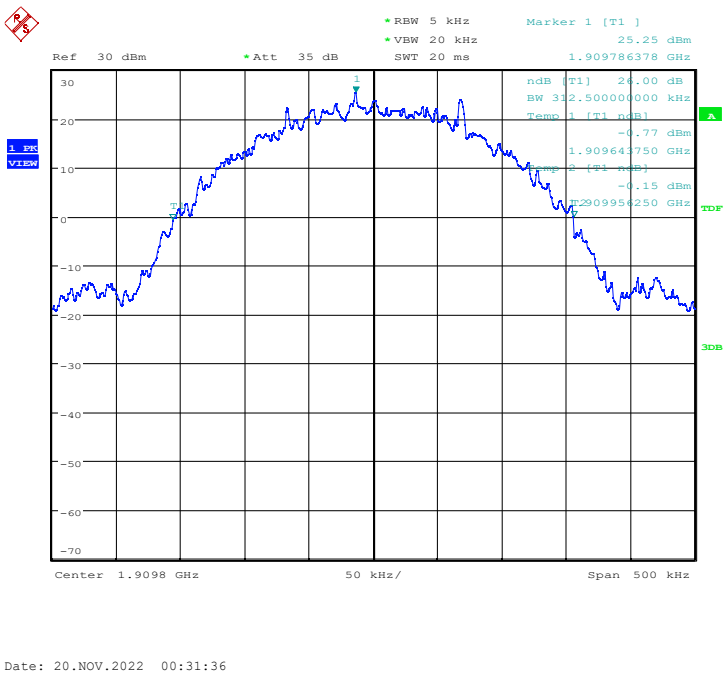
Channel 512-Emission Bandwidth (-26dBc BW)



Channel 661-Emission Bandwidth (-26dBc BW)



Channel 810-Emission Bandwidth (-26dBc BW)



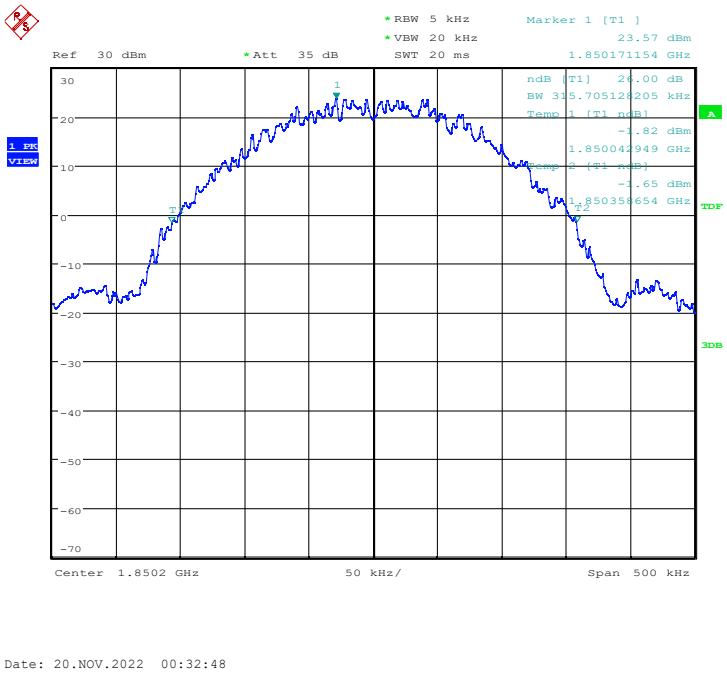
PCS1900 (-26dBc)

GPRS

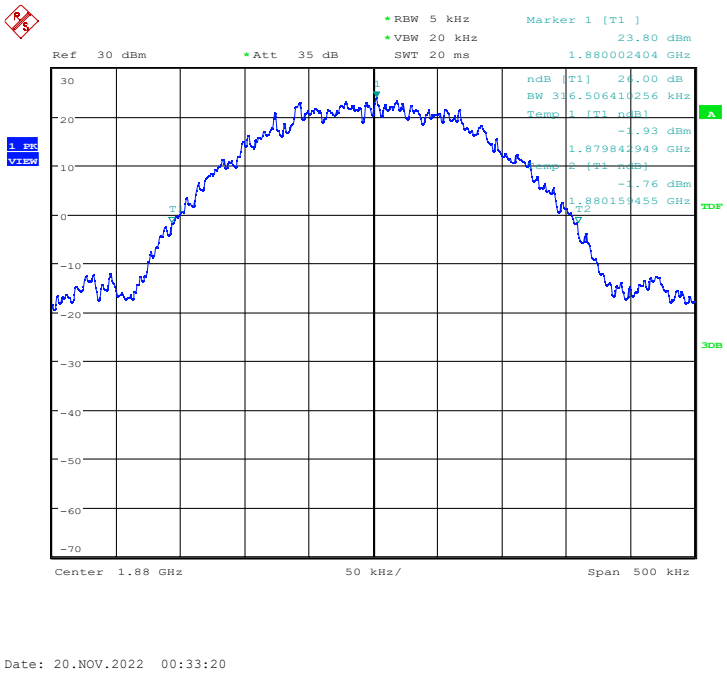
Frequency (MHz)	Emission Bandwidth (-26dBc)(kHz)
1850.2	315.705
1880	316.506
1909.8	314.904

PCS1900

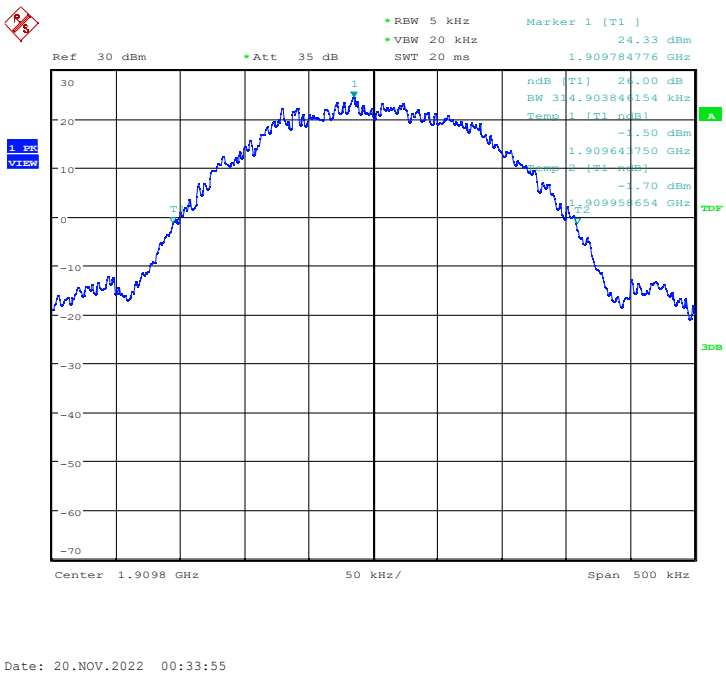
Channel 512-Emission Bandwidth (-26dBc BW)



Channel 661-Emission Bandwidth (-26dBc BW)



Channel 810-Emission Bandwidth (-26dBc BW)



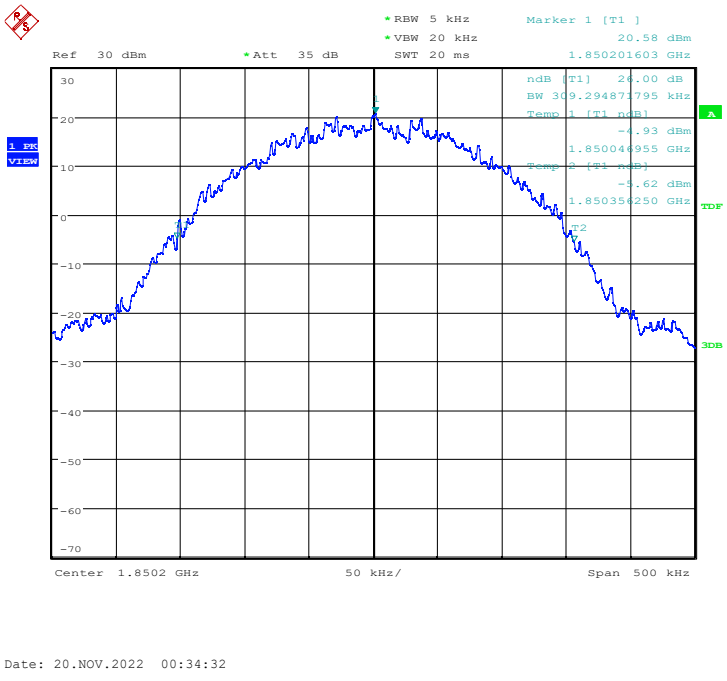
PCS1900 (-26dBc)

EGPRS

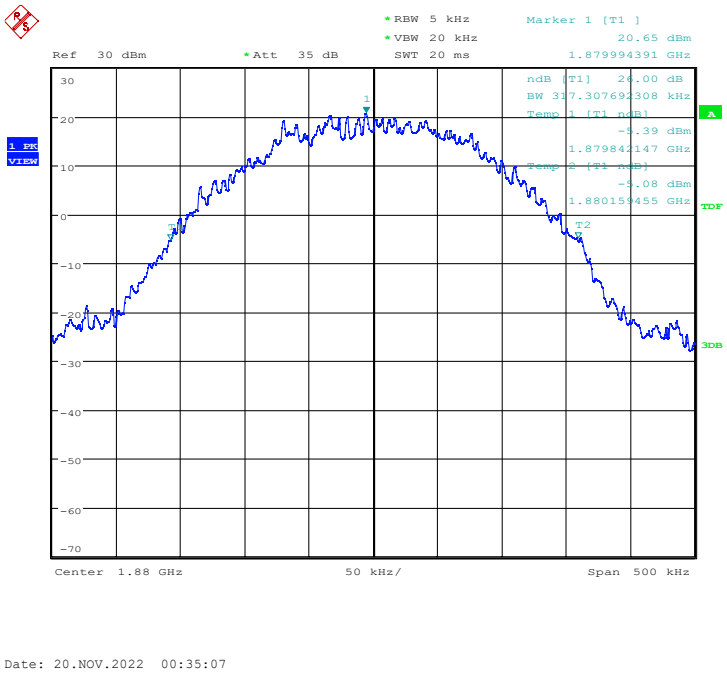
Frequency (MHz)	Emission Bandwidth (-26dBc)(kHz)
1850.2	309.295
1880	317.308
1909.8	320.513

PCS1900

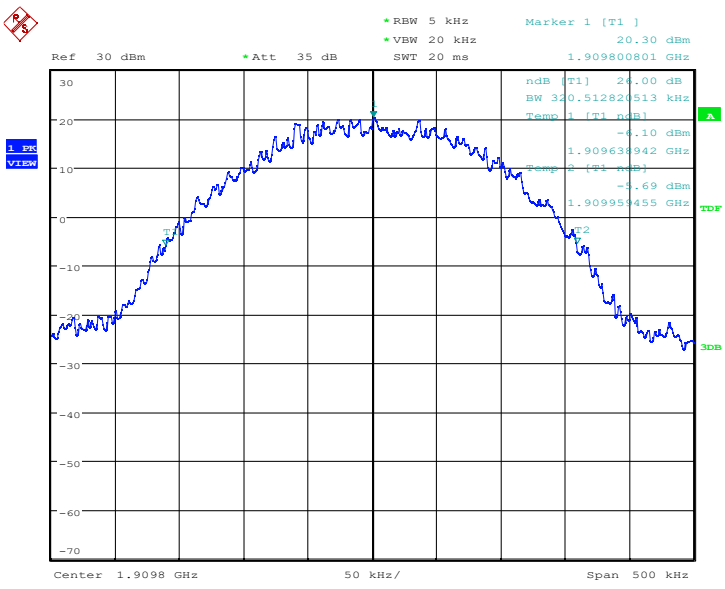
Channel 512-Emission Bandwidth (-26dBc BW)



Channel 661-Emission Bandwidth (-26dBc BW)



Channel 810-Emission Bandwidth (-26dBc BW)


RBW 5 kHz
VBW 20 kHz
SWT 20 ms
Marker 1 [T1]
20.30 dBm
1.909800801 GHz
Ref 30 dBm
Att 35 dB
ndB [T1] 26.00 dB
BW 320.512820513 kHz
Temp 1 [T1 ndB]
-6.10 dBm
1.909638942 GHz
Temp 2 [T1 ndB]
-5.69 dBm
1.909959455 GHz
1 PK VIEW
A
TDF
3DB
Center 1.9098 GHz
50 kHz/
Span 500 kHz
Date: 20.NOV.2022 00:35:42

6.5. Conducted spurious emissions

Specifications:	FCC Part 2.1051, 24.238, 2.1053, 22.917
DUT Serial Number:	868070047049113
Test conditions:	Ambient Temperature:15℃-35℃ Relative Humidity:30%-60% Air pressure: 86-106kPa
Test Results:	Pass

Limit Level Construction:

According to Part 22.917 (a), i.e., Out of Band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB.

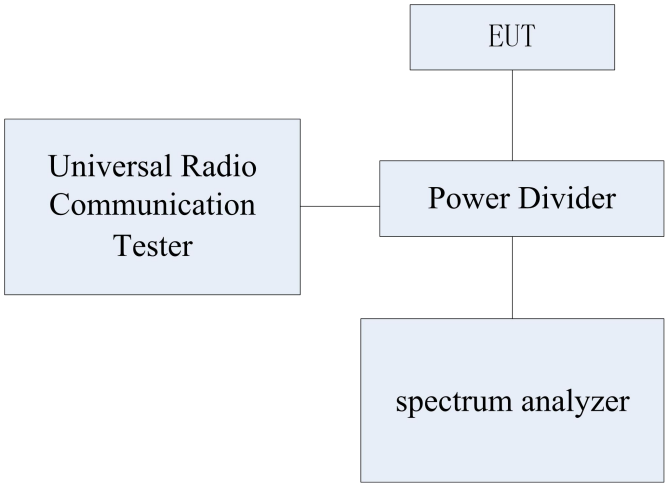
According to Part 24.238 (a), i.e., Out of Band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB, so the limit level is: P(dBm)– (43 + 10 log(P)) dB= -13dBm.

Measurement Uncertainty:

Item	Uncertainty
Expanded Uncertainty	1.74 dB (k=2)

Test Setup:

During the test, the EUT was controlled via the Wireless Communications Test Set to ensure max power transmission and proper modulation and measured by spectrum analyzer.



Test Method:

The RF output of the transmitter was connected to a spectrum analyzer through a calibrated coaxial cable. Sufficient scans were taken to show the out-of-Band emissions, if any, up to 10th harmonic. The EUT was scanned for spurious emissions from 30MHz to 20GHz with sufficient Bandwidth and video resolution. The spectrum analyzer was set to Maximum hold mode to ensure that the worst-case emissions were captured.

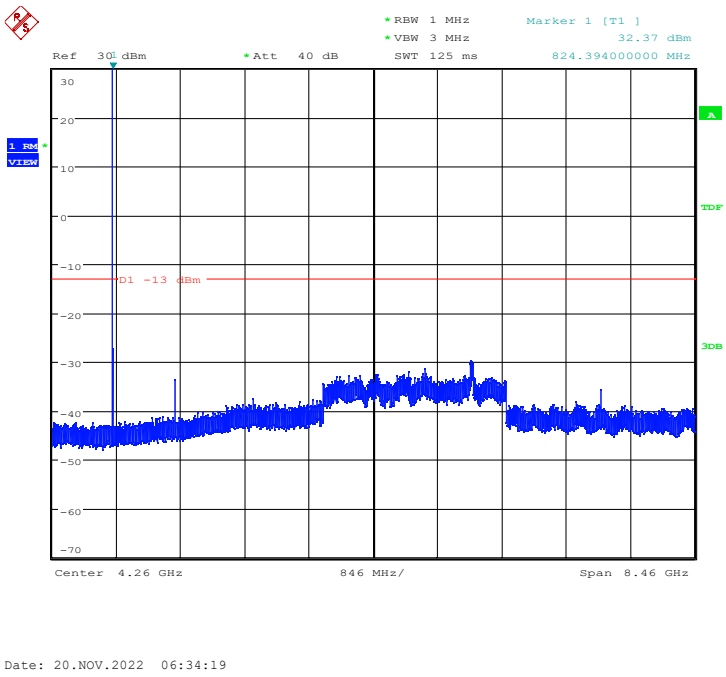
Note: --

6.5.1 Conducted Spurious Emission Results

GSM850

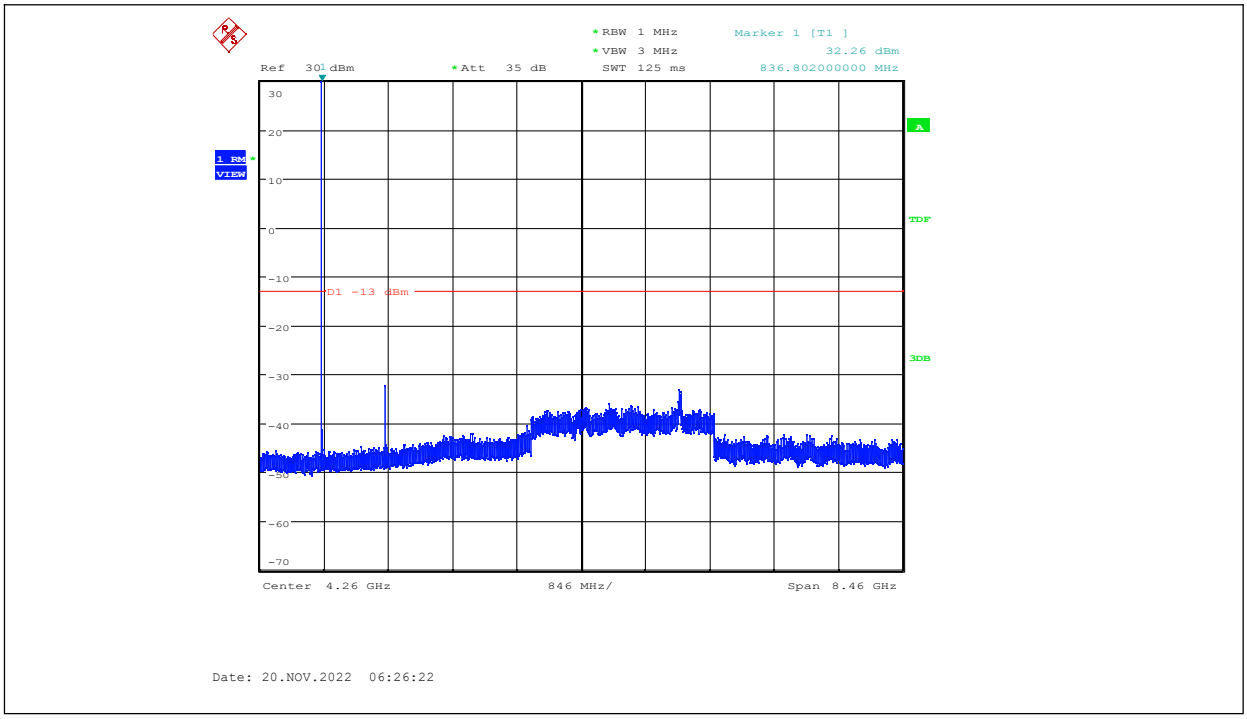
Channel 128:30MHZ - 8490MHZ

NOTE: peak above the limit line is the carrier frequency.



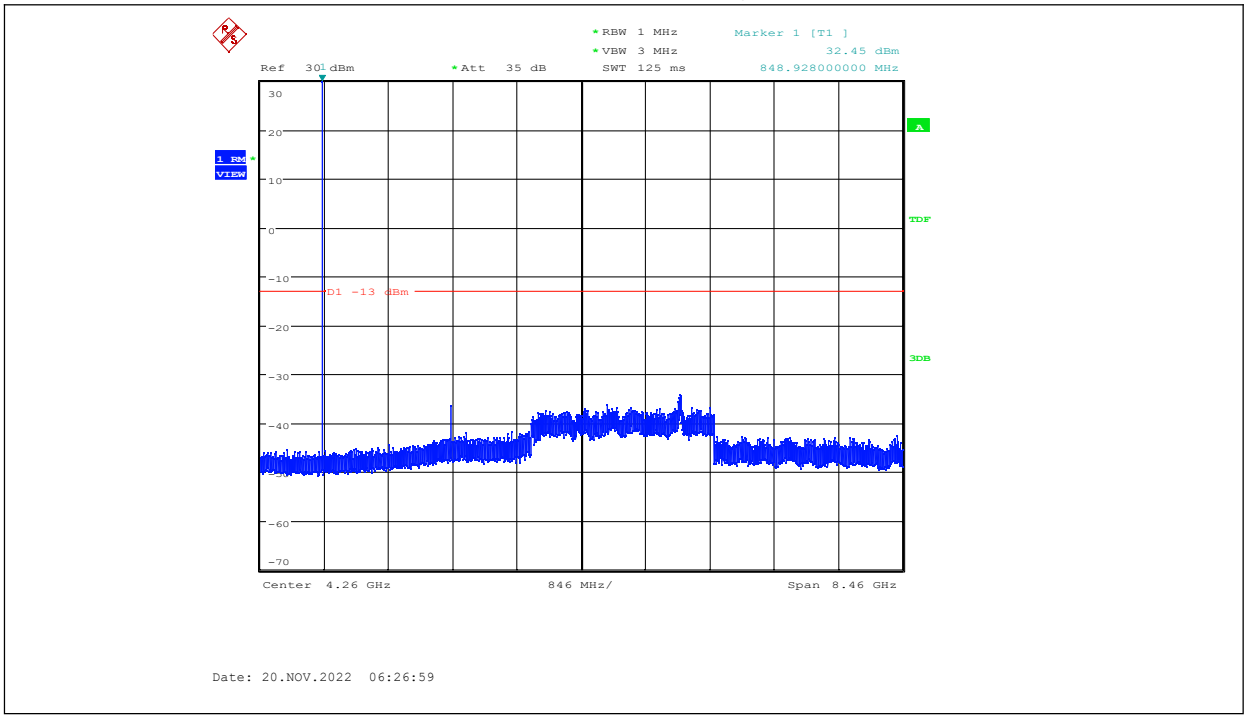
Channel 190:30MHZ - 8490MHZ

NOTE: peak above the limit line is the carrier frequency.



Channel 251:30MHZ - 8490MHZ

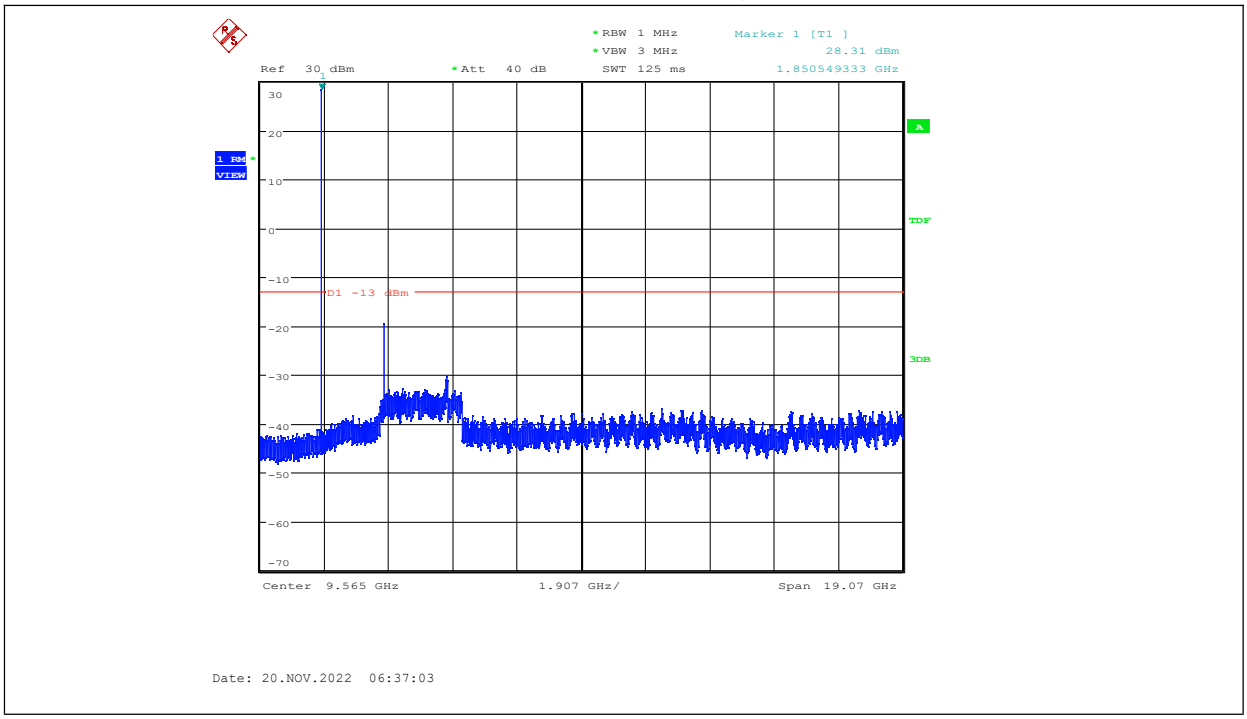
NOTE: peak above the limit line is the carrier frequency.



PCS1900

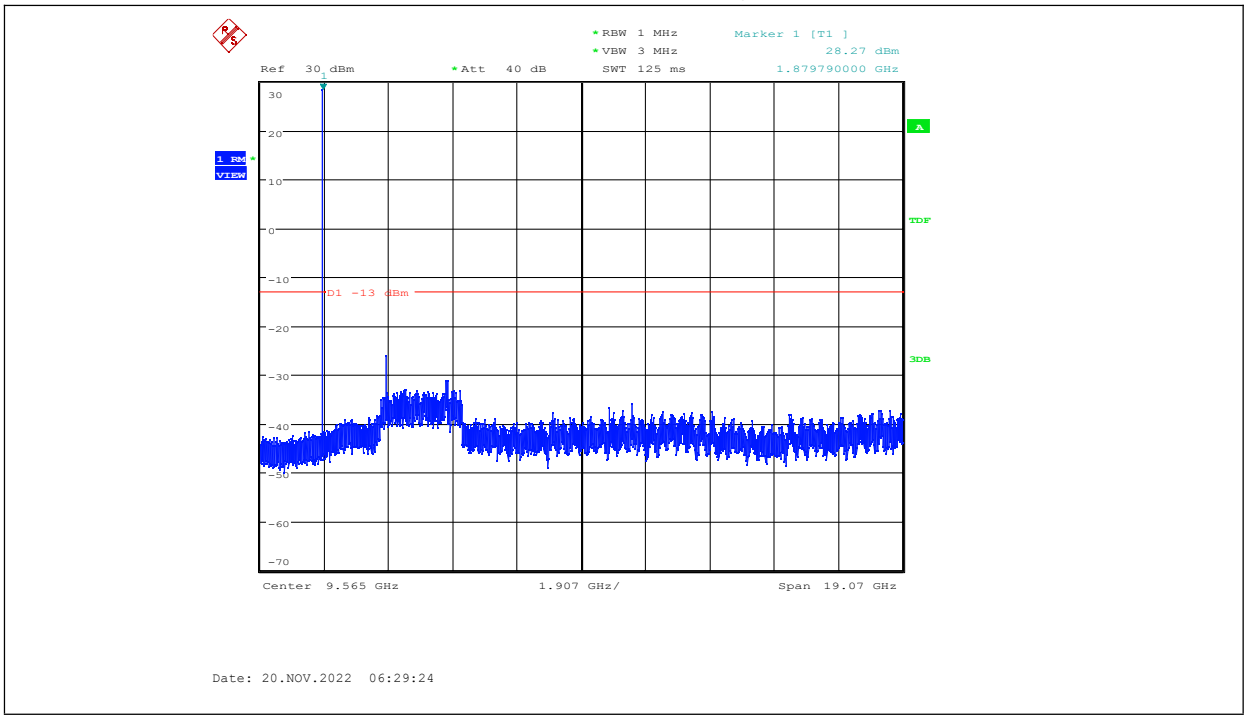
Channel 512:30MHZ - 19100MHZ

NOTE: peak above the limit line is the carrier frequency.



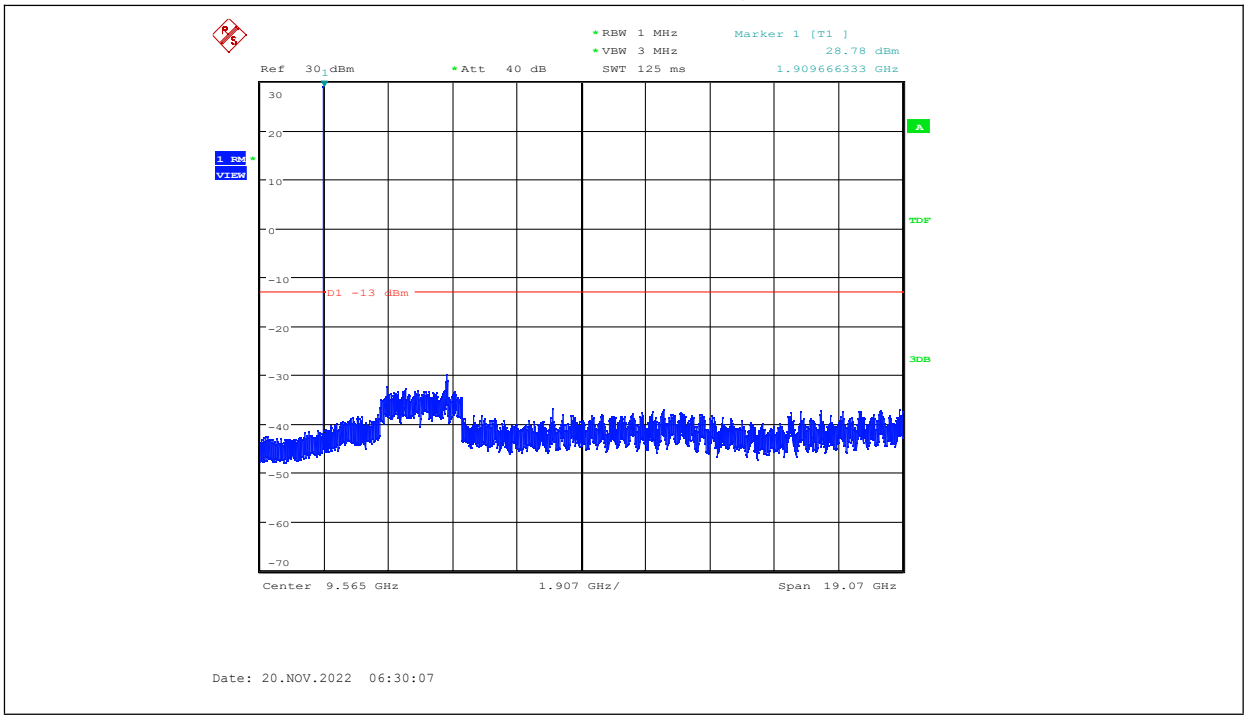
Channel 661:30MHZ - 19100MHZ

NOTE: peak above the limit line is the carrier frequency.



Channel 810:30MHZ - 19100MHZ

NOTE: peak above the limit line is the carrier frequency.



6.6. Radiated Spurious Emission

Specifications:	FCC 24.238, 22.917
DUT Serial Number:	IMEI:868070047049493
Test conditions:	Ambient Temperature:21.7℃-22.2℃ Relative Humidity:54.0%-58.0% Air pressure: 97.2-97.4kPa
Test Results:	Pass

Limit Level Construction:

According to Part 22.917 (a), i.e., Out of Band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB.

According to Part 24.238 (a), i.e., Out of Band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB, so the limit level is: P(dBm)– (43 + 10 log(P)) dB= -13dBm.

Measurement Uncertainty:

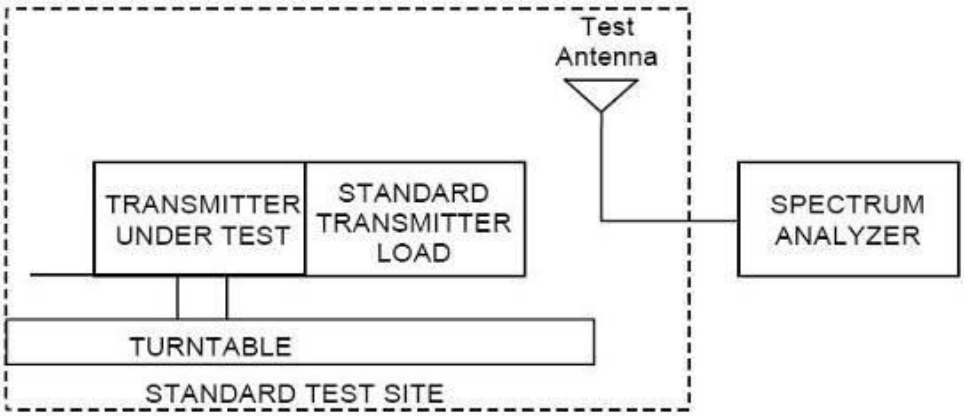
Item	Uncertainty
Expanded Uncertainty（30MHz-150MHz）	5.15 dB (k=2)
Expanded Uncertainty（150MHz-1GHz）	4.09dB (k=2)
Expanded Uncertainty（1GHz-3GHz）	2.92dB (k=2)
Expanded Uncertainty（3GHz-6GHz）	2.93dB (k=2)
Expanded Uncertainty（6GHz-12.75GHz）	2.69dB (k=2)

Test Setup:

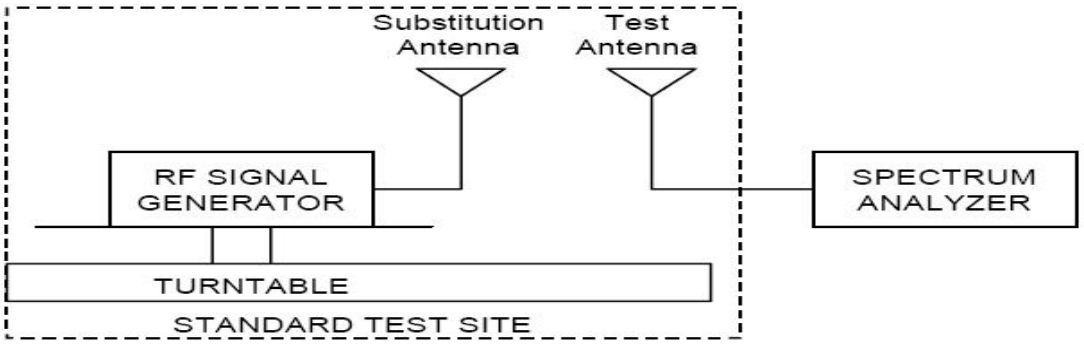
The EUT was placed in an anechoic chamber. The Wireless Communications Test Set was used to set the TX channel and power level and modulate the TX signal with different bit patterns.

Test Method:

(a) Connect the equipment as illustrated and measure the spurious emissions as the method as above. The distance from the device to the antenna is 3 m .



(b) Reconnect the equipment as illustrated.



(c) Remove the transmitter and replace it with a substitution antenna. The center of the substitution antenna should be approximately at the same location as the center of the transmitter.

(d) Feed the substitution antenna at the transmitter end with a signal generator connected to the antenna by means of a non-radiating cable. With the antennas at both ends horizontally polarized, and with the signal generator tuned to a particular spurious frequency, raise and lower the test antenna to obtain a maximum reading at the spectrum analyzer. Adjust the level of the signal generator output until the previously recorded maximum reading for this set of conditions is obtained. This should be done carefully repeating the adjustment of the test antenna and generator output.

(e) Repeat step d) with both antennas vertically polarized for each spurious frequency.

(f) Calculate power in dBm into a reference ideal half-wave dipole antenna by reducing the readings obtained in steps d) and e) by the power loss in the cable between the generator and the antenna, and further corrected for the gain of the substitution antenna used relative to an ideal half-wave dipole antenna by the following formula:

P_d(dBm) = P_g(dBm) – cable loss (dB) + antenna gain (dB)

where:

Pd is the dipole equivalent power and Pg is the generator output power into the substitution antenna.

6.6.1 Radiated Spurious Emission Results

Test frequency：30MHz-20GHz

All modes were tested,only the worst case of each band was reported.

GSM 850 Radiated Spurious Emission Results

Test Data （GPRS GMSK Mode CH128）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3648.80	-58.15	1.59	9.20	-50.54	V
4466.40	-56.69	1.83	9.66	-48.86	V
5708.40	-55.27	2.13	10.94	-46.46	V
6528.00	-54.05	2.37	11.16	-45.26	V
8358.40	-52.10	2.65	12.01	-42.74	V
11681.90	-47.67	3.46	13.83	-37.30	V

GSM 850 Radiated Spurious Emission Results

Test Data （GPRS GMSK Mode CH190）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
3894.00	-57.35	1.67	9.03	-49.99	V
5079.60	-55.88	1.97	10.14	-47.71	V
6104.00	-56.00	2.29	10.88	-47.41	V
7652.80	-53.04	2.54	11.54	-44.04	V
9352.00	-51.29	3.39	12.27	-42.41	V
11754.50	-48.50	3.53	13.55	-38.48	V

GSM 850 Radiated Spurious Emission Results

Test Data （GPRS GMSK Mode CH251）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
65.44	-69.11	0.17	-5.31	-74.59	V
138.20	-75.30	0.27	4.93	-70.64	V
234.76	-71.63	0.36	5.35	-66.64	H
714.85	-64.57	0.66	7.32	-57.91	H
1240.38	-58.14	0.88	7.57	-51.45	V
2173.20	-50.66	1.21	6.68	-45.19	V

GSM 850 Radiated Spurious Emission Results

Test Data （EGPRS 8PSK Mode CH128）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
138.44	-74.32	0.27	4.93	-69.56	V
653.60	-64.06	0.63	6.95	-57.38	V
1626.00	-56.53	1.02	7.58	-49.31	H
3979.20	-56.70	1.69	9.27	-49.12	V
6467.20	-54.51	2.39	11.16	-45.74	V
10152.90	-50.76	3.29	13.07	-40.98	V

GSM 850 Radiated Spurious Emission Results

Test Data （EGPRS 8PSK Mode CH190）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
30.57	-68.46	0.12	-10.14	-78.77	H
52.56	-71.98	0.16	-9.45	-81.70	H
66.08	-68.29	0.17	-4.68	-73.33	V
151.00	-78.51	0.29	5.81	-73.36	H
235.040	-71.96	0.36	5.35	-67.49	H
1822.00	-54.35	1.09	6.94	-48.62	V

GSM 850 Radiated Spurious Emission Results

Test Data （EGPRS 8PSK Mode CH251）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
53.56	-71.60	0.16	-9.18	-80.78	H
138.28	-77.62	0.27	4.93	-72.69	V
238.88	-73.42	0.37	5.23	-68.19	H
714.84	-65.23	0.66	7.32	-57.91	H
2173.20	-51.87	1.21	6.68	-45.19	V
2696.40	-47.42	1.33	5.46	-41.96	H

GSM 1900 Radiated Spurious Emission Results

Test Data （GPRS GMSK Mode CH512）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
30.66	-68.08	0.12	-10.14	-78.22	H
65.59	-77.99	0.17	-4.68	-82.67	V
375.06	-81.75	0.47	6.61	-75.14	V
1106.80	-74.80	0.83	7.43	-67.37	V
2408.20	-62.74	1.26	5.83	-56.91	V
2728.00	-62.66	1.33	5.46	-57.20	H

GSM 1900 Radiated Spurious Emission Results

Test Data （GPRS GMSK Mode CH661）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
30.59	-68.86	0.12	-10.14	-79.00	H
136.93	-84.68	0.27	4.60	-80.08	V
239.49	-82.35	0.37	5.23	-77.12	H
375.06	-82.52	0.47	6.61	-75.91	V
1484.60	-72.95	0.96	7.76	-65.19	H
2963.60	-62.28	1.42	5.93	-56.35	V

GSM 1900 Radiated Spurious Emission Results

Test Data （GPRS GMSK Mode CH810）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
65.59	-77.99	0.17	-4.68	-82.67	V
234.68	-79.96	0.36	5.35	-74.61	H
1484.60	-73.08	0.96	7.45	-65.63	H
4298.40	-57.79	1.74	8.76	-50.77	V
6526.50	-55.64	2.37	11.16	-46.85	V
9404.70	-52.15	3.28	12.27	-43.16	V

GSM 1900 Radiated Spurious Emission Results

Test Data （EGPRS 8PSK Mode CH512）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
139.00	-83.83	0.27	4.89	-78.94	V
230.61	-81.14	0.36	5.36	-75.78	H
1485.20	-72.89	0.96	7.45	-65.44	V
3979.20	-57.00	1.69	9.27	-49.42	V
6526.50	-54.92	2.40	11.16	-46.16	V
10023.00	-51.99	3.09	12.82	-42.26	V

GSM 1900 Radiated Spurious Emission Results

Test Data （EGPRS 8PSK Mode CH661）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
139.15	-83.89	0.27	4.89	-79.00	V
235.28	-81.36	0.36	5.35	-76.01	H
1484.60	-72.64	0.96	7.45	-65.19	H
3985.20	-58.19	1.71	9.27	-50.63	V
6521.10	-54.55	2.40	11.16	-45.79	V
11359.50	-50.95	3.33	13.81	-40.47	V

GSM 1900 Radiated Spurious Emission Results

Test Data （EGPRS 8PSK Mode CH810）

Frequency [MHz]	Generator output power(Pg) [dBm]	Cable loss [dB]	Antenna Gain [dB]	Spurious Emission Power (Pd) [dBm]	Antenna Polarization [H/V]
91.49	-82.94	0.22	-0.69	-83.63	V
235.72	-80.49	0.36	5.35	-75.14	H
1485.00	-73.03	0.96	7.45	-65.58	V
3945.60	-58.88	1.70	9.03	-51.55	V
6564.30	-56.12	2.39	11.11	-47.40	V
9415.50	-52.80	3.30	12.27	-43.83	V

6.7. Band Edge

Specifications:	FCC Part 2.1051, 24.238, 2.1053, 22.917
DUT Serial Number:	868070047049113
Test conditions:	Ambient Temperature:15℃-35℃ Relative Humidity:30%-60% Air pressure: 86-106kPa
Test Results:	Pass

Limit Level Construction:

According to Part 22.917 (a), i.e., Out of Band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB.

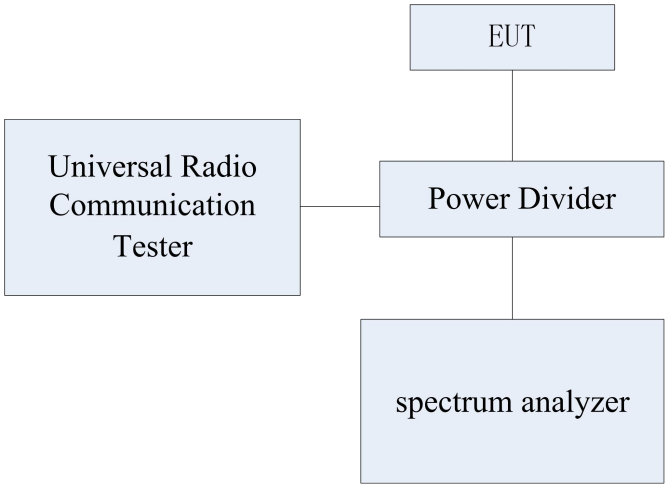
According to Part 24.238 (a), i.e., Out of Band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB, so the limit level is: P(dBm)– (43 + 10 log(P)) dB= -13dBm.

Measurement Uncertainty:

Item	Uncertainty
Expanded Uncertainty	1.28 dB (k=2)

Test Setup:

During the test, the EUT was controlled via the Wireless Communications Test Set to ensure max power transmission and proper modulation and measured by spectrum analyzer.



Test Method:

1) The EUT was coupled to the EMI test receiver analyzer mode and the base station simulator through a

power divider. The lost of the cables the test system is calibrated to correct the readings.

2) The spectrum analyzer was set to Average Detector function and Maximum hold mode.

3) The resolution Bandwidth of the spectrum analyzer was a little greater than 1% of the emission Bandwidth.

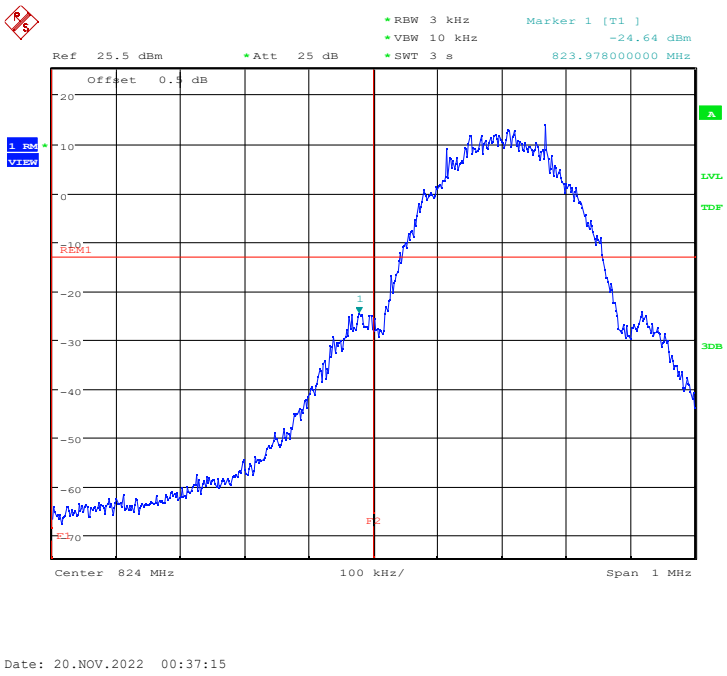
Note: --

6.7.1 Band Edge Results

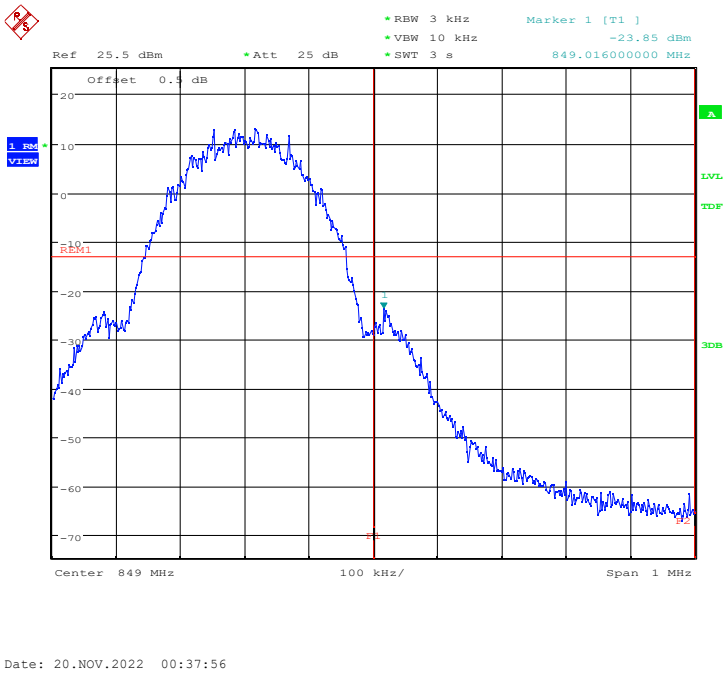
GSM850

GSM

Channel 128



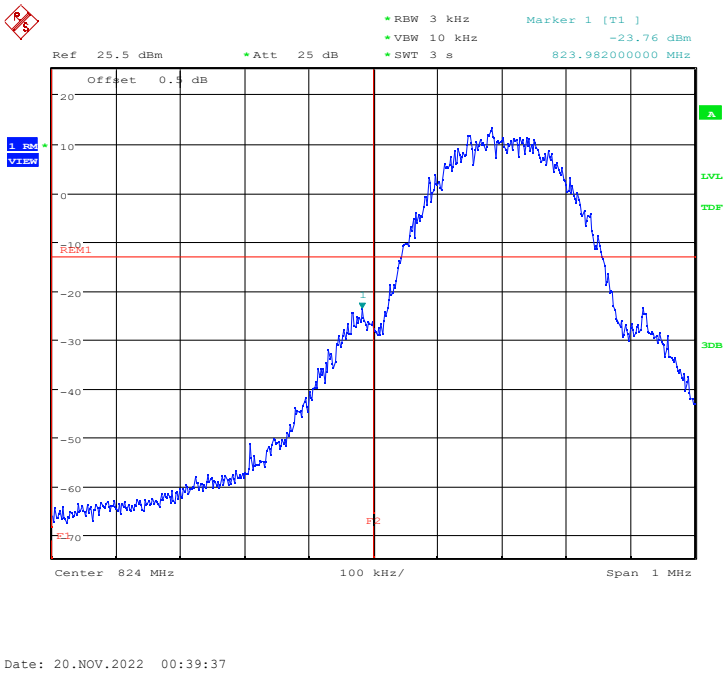
Channel 251



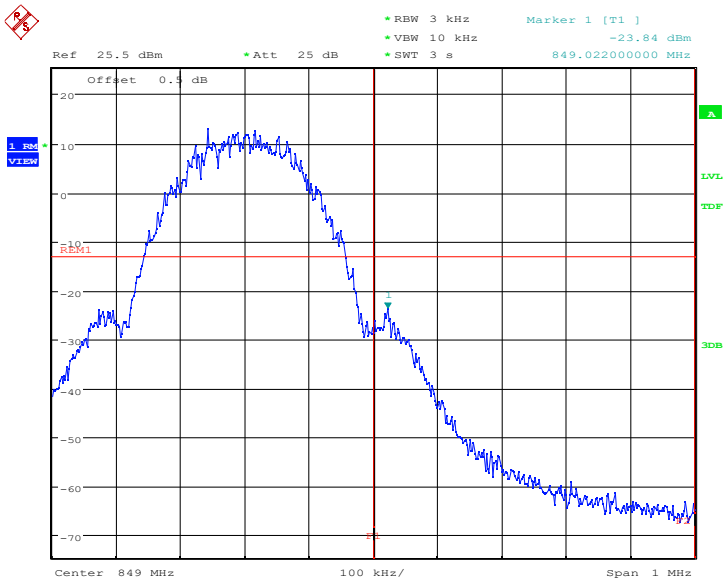
GSM850

GPRS

Channel 128



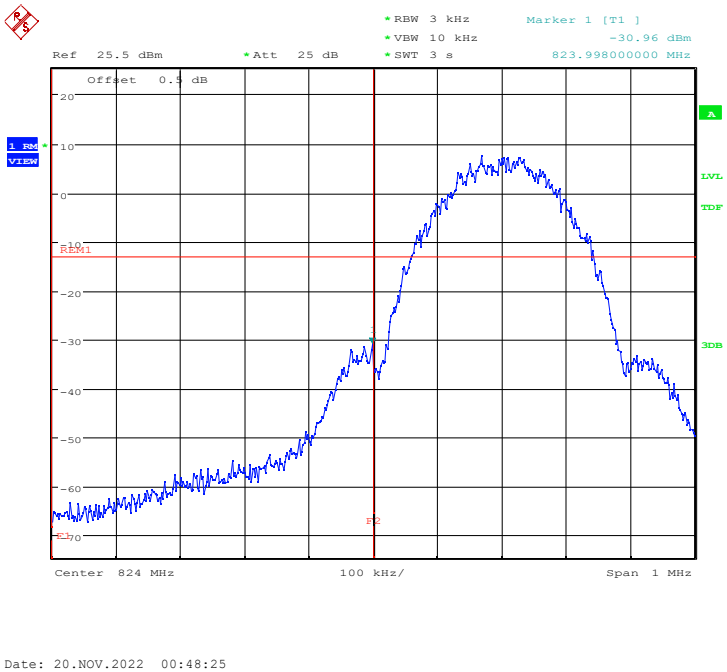
Channel 251



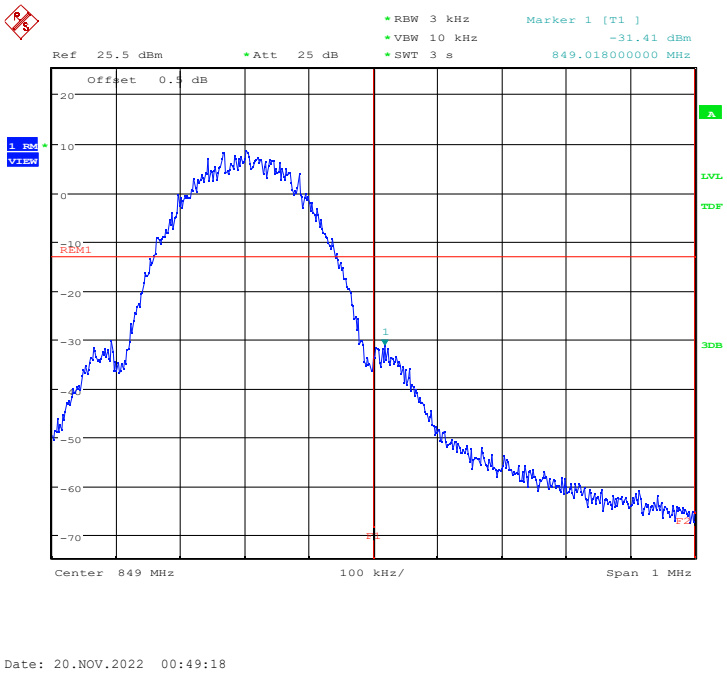
GSM850

EGPRS

Channel 128



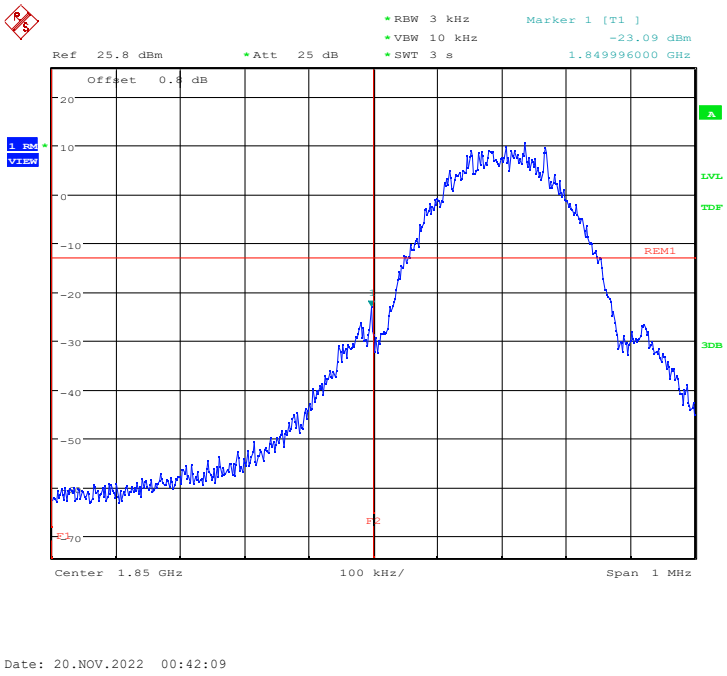
Channel 251



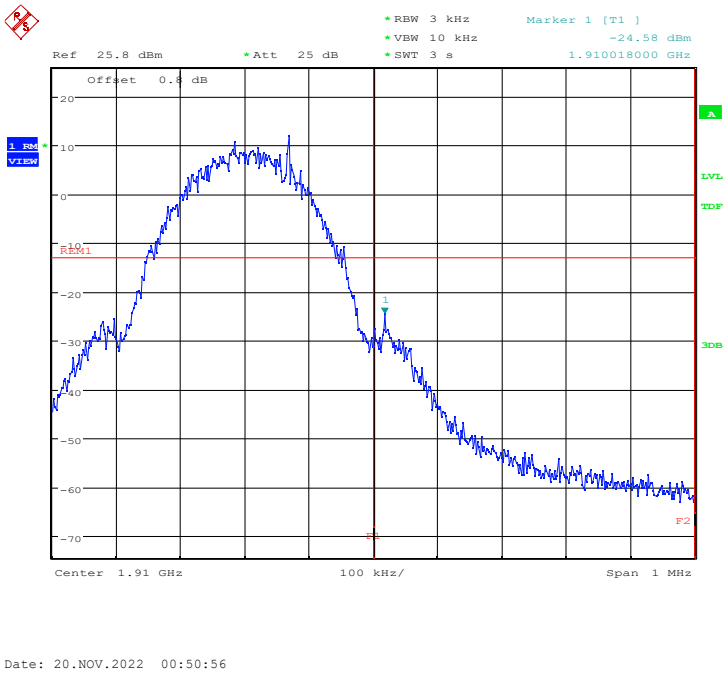
PCS1900

GSM

Channel 512



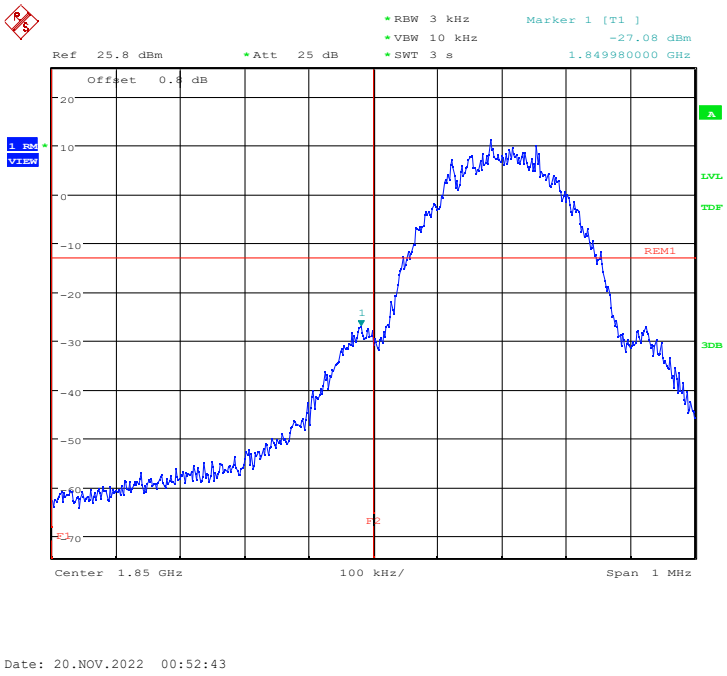
Channel 810



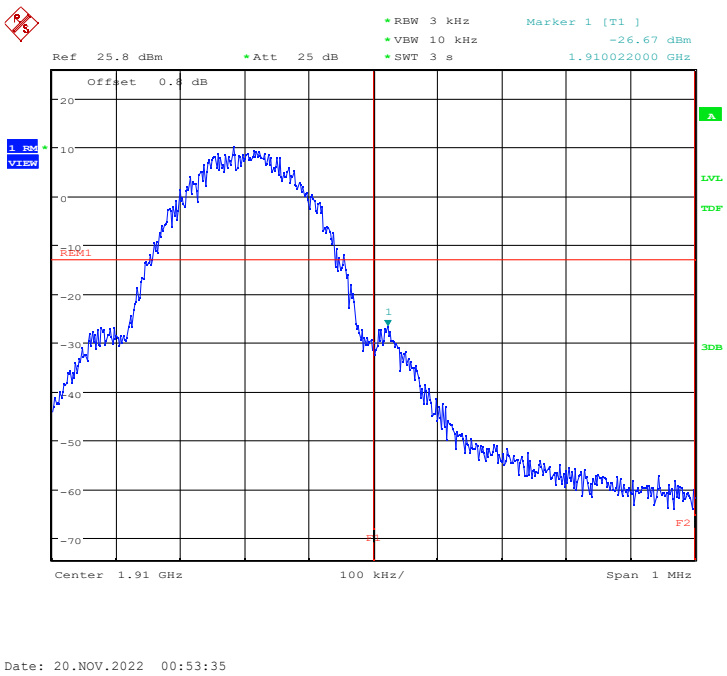
PCS1900

GPRS

Channel 512



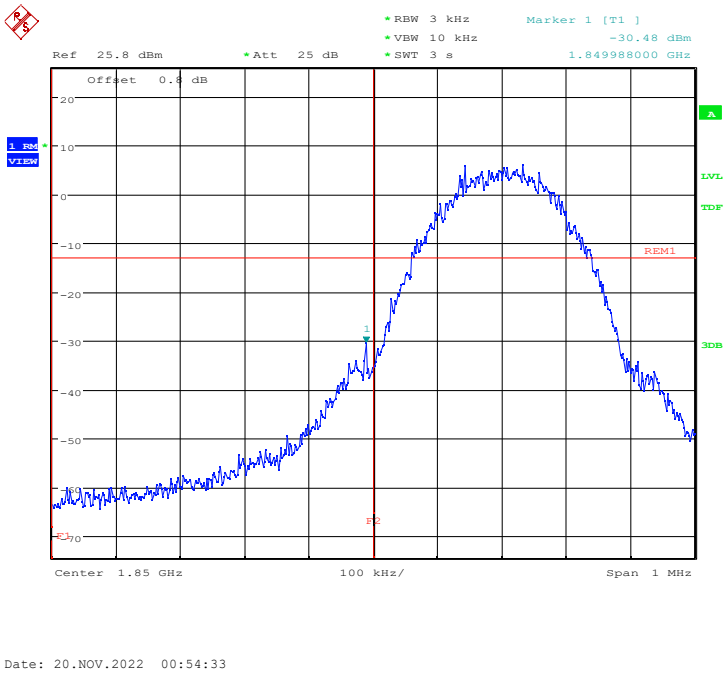
Channel 810



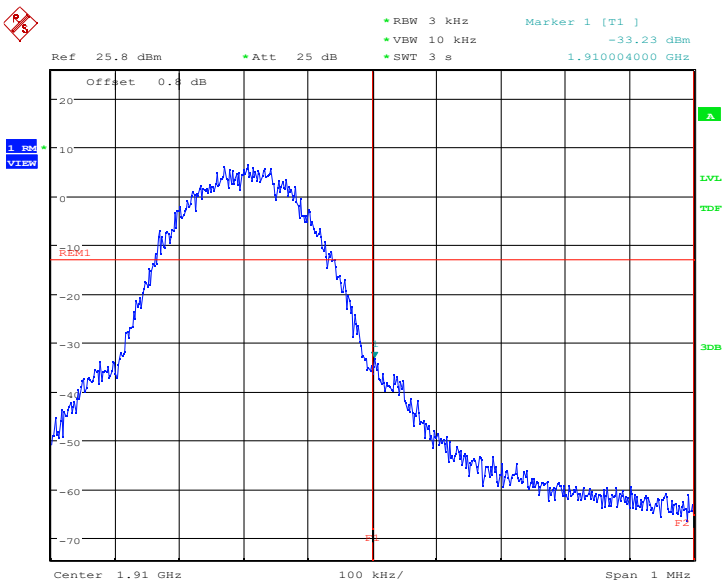
PCS1900

EGPRS

Channel 512



Channel 810


RBW 3 kHz
VBW 10 kHz
SWT 3 s
Marker 1 [T1]
-33.23 dBm
1.910004000 GHz
Ref 25.8 dBm
Att 25 dB
Offset 0.8 dB
1 RM VIEW
A
LVL
TDF
3DB
REM1
Center 1.91 GHz
100 kHz/
Span 1 MHz
Date: 20.NOV.2022 00:55:25

6.8. Frequency Stability

Specifications:	FCC Part 2.1055, 22.355, 24.235
DUT Serial Number:	868070047049113
Test conditions:	Ambient Temperature:15℃-35℃ Relative Humidity:30%-60% Air pressure: 86-106kPa
Test Results:	Pass

Limit	
Frequency deviation [ppm]	±2.5

Measurement Uncertainty:

Item	Uncertainty
Expanded Uncertainty	1.54 Hz (k=2)

Test Method

Frequency stability is a measure of the frequency drift due to temperature and supply voltage variations, with reference to the frequency measured at +20 °C and rated supply voltage. Two reference points are established at the applicable unwanted emissions limit using a RBW equal to the RBW required by the unwanted emissions specification of the applicable regulatory standard. These reference points measured using the lowest and highest channel of operation shall be identified as FL and FH respectively.

In order to measure the carrier frequency under the condition of AFC lock, it is necessary to make measurements with the EUT in a “call mode”. This is accomplished with the use of CMW500.

1. Measure the carrier frequency at room temperature.
2. Subject the EUT to overnight soak at -30℃.
3. With the EUT, powered via nominal voltage, connected to the CMW500, and in a simulated call on middle channel for each LTE band, measure the carrier frequency. These measurements should be made within 2 minutes of Powering up the EUT, to prevent significant self-warming.
4. Repeat the above measurements at 10℃ increments from -30℃ to +50℃. Allow at least 1.5 hours at each temperature, unpowered, before making measurements.
5. Re-measure carrier frequency at room temperature with nominal voltage. Vary supply voltage from minimum voltage to maximum voltage, in 0.1Volt increments re-measuring carrier frequency at each voltage. Pause at nominal voltage for 1.5 hours unpowered, to allow any

self-heating to stabilize, before continuing.
6. Subject the EUT to overnight soak at +50℃.
7. With the EUT, powered via nominal voltage, connected to the CMW500 and in a simulated call on the center channel, measure the carrier frequency. These measurements should be made within 2 minutes of Powering up the EUT, to prevent significant self-warming.
8. Repeat the above measurements at 10 ℃increments from +50℃ to -30℃. Allow at least 1.5 hours at each temperature, unpowered, before making measurements.
9. At all temperature levels hold the temperature to +/- 0.5℃ during the measurement procedure.

6.8.1 Frequency Stability over Temperature Variation Results

GSM850

Frequency Error vs Temperature

Temperature(℃)	Voltage(V)	Center frequency(MHz)	Offset(Hz)	Frequency error(ppm)
20	3.8	836.6	-7.98	-0.0095
50			5.91	0.0071
40			7.81	0.0093
30			5.13	0.0061
10			6.68	0.0080
0			1.00	0.0012
-10			2.58	0.0031
-20			8.14	0.0097
-30			10.40	0.0124

Frequency Error vs Voltage

Voltage(V)	Temperature(℃)	Center frequency(MHz)	Offset(Hz)	Frequency error(ppm)
3.3	20	836.6	1.42	0.0017
4.5			0.61	0.0007

PCS1900

Frequency Error vs Temperature

Temperature(℃)	Voltage(V)	Center frequency(MHz)	Offset(Hz)	Frequency error(ppm)
20	3.8	1880	-0.36	-0.0002
50			-6.04	-0.0032
40			-11.07	-0.0059
30			3.20	0.0017
10			-4.71	-0.0025
0			3.23	0.0017
-10			-8.01	-0.0043

-20			-1.07	-0.0006
-30			-17.95	-0.0095

Frequency Error vs Voltage

Voltage(V)	Temperature(℃)	Center frequency(MHz)	Offset(Hz)	Frequency error(ppm)
3.3	20	1880	2.91	0.0015
4.5			-4.04	-0.0021

6.9. Peak to Average Ratio

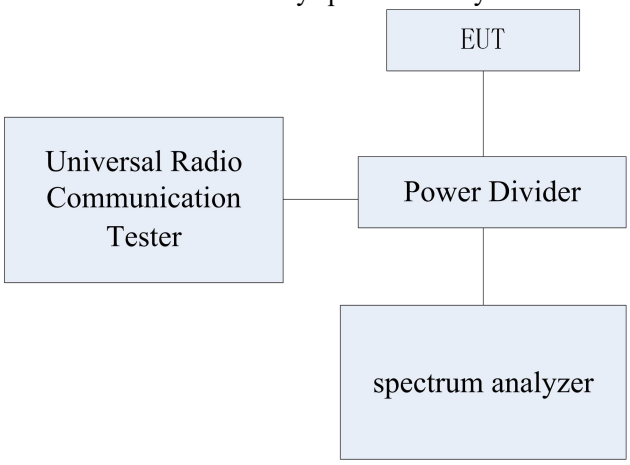
Specifications:	FCC Part 24.232
DUT Serial Number:	868070047049113
Test conditions:	Ambient Temperature:15℃-35℃ Relative Humidity:30%-60% Air pressure: 86-106kPa
Test Results:	Pass

Limit

The EUT meets the requirement of having a peak to average ratio of less than 13dB.

Test Setup

During the test, the EUT was controlled via the Wireless Communications Test Set to ensure max power transmission and proper modulation and measured by spectrum analyzer.



Measurement Uncertainty:

Item	Uncertainty
Expanded Uncertainty	0.22 dB (k=2)

Test Method

The transmitter output was connected to a CMW500 through a coaxial RF cable and directional coupler, and configured to operate at maximum power. The peak to average ratio was measured at the required operating frequencies in each Band on the Spectrum Analyzer.

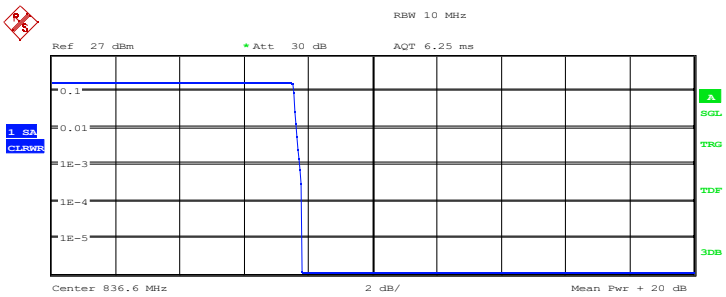
6.9.1 Peak to Average Ratio Results

GSM850

Measurement result

GSM850	Frequency (MHz)	PAPR (dB)
GSM	836.6	7.76
GSM	824.2	7.72
GSM	848.8	7.72

Channel GSM-836.6MHz

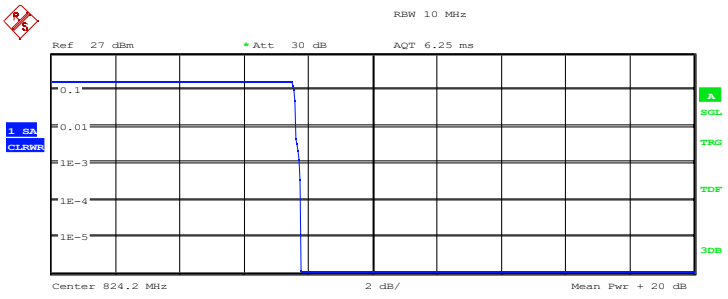


Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 11.2MHz

	Trace 1
Mean	24.78 dBm
Peak	32.57 dBm
Crest	7.80 dB
10 %	7.56 dB
1 %	7.63 dB
.1 %	7.76 dB
.01 %	7.82 dB

Date: 20.NOV.2022 06:32:27

Channel GSM-824.2MHz

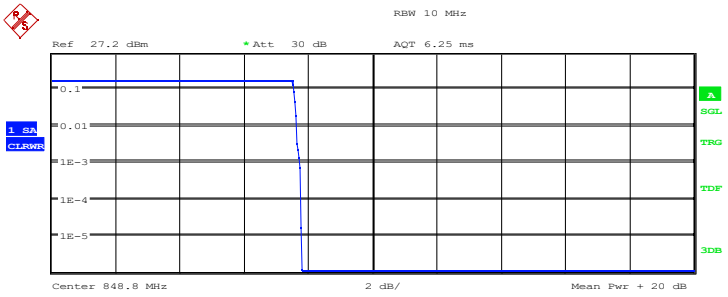


Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 11.2MHz

	Trace 1
Mean	24.90 dBm
Peak	32.66 dBm
Crest	7.76 dB
10 %	7.56 dB
1 %	7.63 dB
.1 %	7.72 dB
.01 %	7.79 dB

Date: 20.NOV.2022 06:39:41

Channel GSM-848.8MHz



Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 11.2MHz

	Trace 1
Mean	24.84 dBm
Peak	32.62 dBm
Crest	7.78 dB
10 %	7.56 dB
1 %	7.66 dB
.1 %	7.72 dB
.01 %	7.79 dB

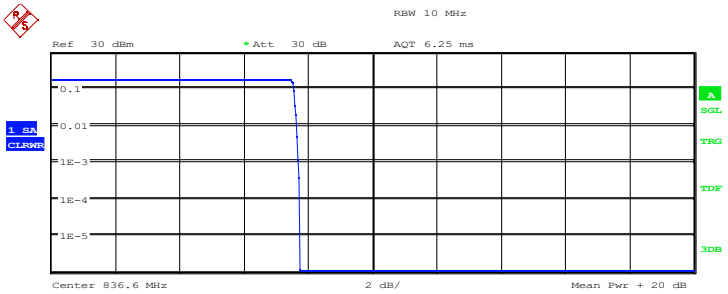
Date: 20.NOV.2022 06:40:07

GPRS850

Measurement result

GSM850	Frequency (MHz)	PAPR (dB)
GPRS	836.6	7.69
GPRS	824.2	7.69
GPRS	848.8	7.72

Channel GPRS-836.6MHz

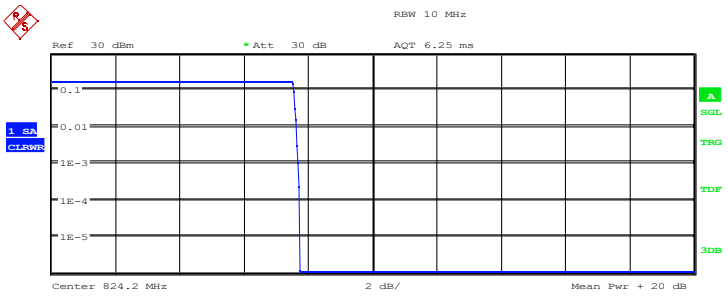


Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 11.2MHz

	Trace 1
Mean	24.94 dBm
Peak	32.66 dBm
Crest	7.73 dB
10 %	7.56 dB
1 %	7.66 dB
.1 %	7.69 dB
.01 %	7.76 dB

Date: 20.NOV.2022 01:04:17

Channel GPRS-824.2MHz

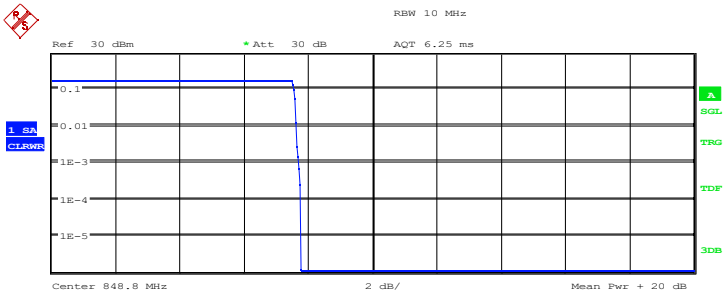


Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 11.2MHz

	Trace 1
Mean	25.09 dBm
Peak	32.81 dBm
Crest	7.72 dB
10 %	7.56 dB
1 %	7.63 dB
.1 %	7.69 dB
.01 %	7.76 dB

Date: 20.NOV.2022 01:03:53

Channel GPRS-848.8MHz



Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 11.2MHz

	Trace 1
Mean	25.01 dBm
Peak	32.78 dBm
Crest	7.76 dB
10 %	7.56 dB
1 %	7.63 dB
.1 %	7.72 dB
.01 %	7.79 dB

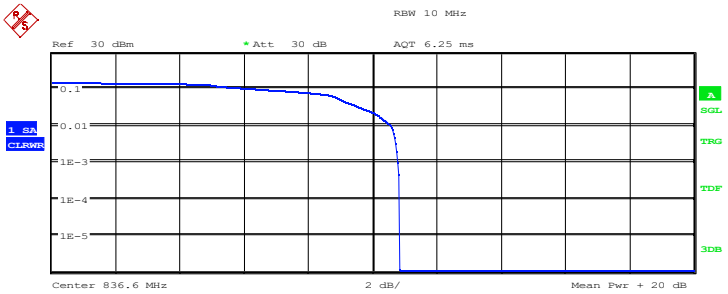
Date: 20.NOV.2022 01:04:42

EGPRS850

Measurement result

GSM850	Frequency (MHz)	PAPR (dB)
EGPRS	836.6	10.80
EGPRS	824.2	10.42
EGPRS	848.8	10.32

Channel EGPRS-836.6MHz

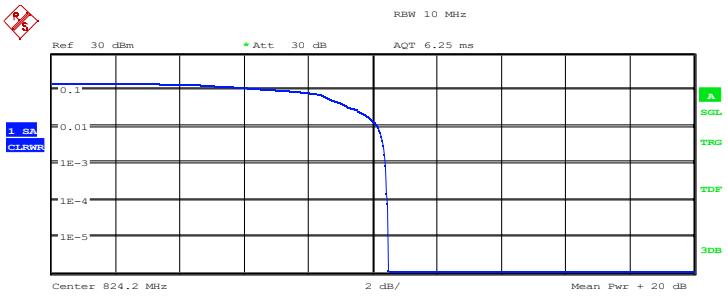


Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 11.2MHz

	Trace 1
Mean	18.93 dBm
Peak	29.77 dBm
Crest	10.84 dB
10 %	6.54 dB
1 %	10.54 dB
.1 %	10.80 dB
.01 %	10.87 dB

Date: 20.NOV.2022 01:05:40

Channel EGPRS-824.2MHz

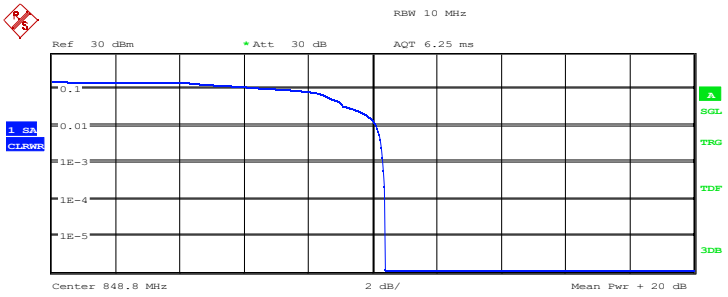


Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 11.2MHz

	Trace 1
Mean	20.27 dBm
Peak	30.77 dBm
Crest	10.50 dB
10 %	7.18 dB
1 %	10.16 dB
.1 %	10.42 dB
.01 %	10.48 dB

Date: 20.NOV.2022 01:05:11

Channel EGPRS-848.8MHz



Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 11.2MHz

	Trace 1
Mean	20.91 dBm
Peak	31.29 dBm
Crest	10.39 dB
10 %	7.18 dB
1 %	10.13 dB
.1 %	10.32 dB
.01 %	10.42 dB

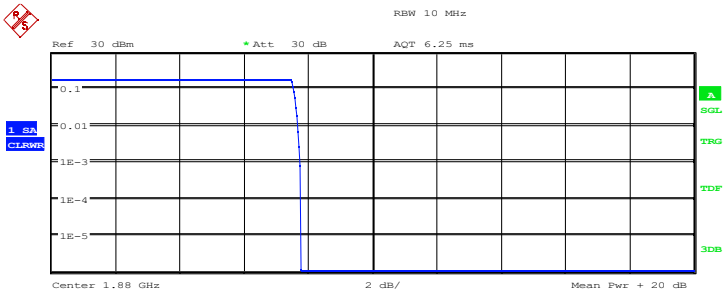
Date: 20.NOV.2022 01:06:11

PCS1900

Measurement result

PCS1900	Frequency (MHz)	PAPR (dB)
GSM	1880	7.76
GSM	1850.2	7.76
GSM	1909.8	7.76

Channel GSM-1880MHz

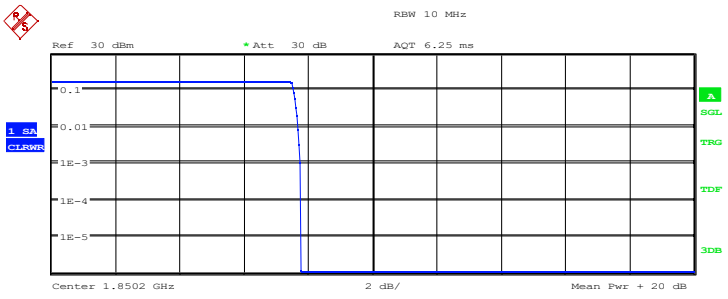


Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 11.2MHz

	Trace 1
Mean	21.94 dBm
Peak	29.70 dBm
Crest	7.76 dB
10 %	7.53 dB
1 %	7.69 dB
.1 %	7.76 dB
.01 %	7.79 dB

Date: 20.NOV.2022 01:07:34

Channel GSM-1850.2MHz

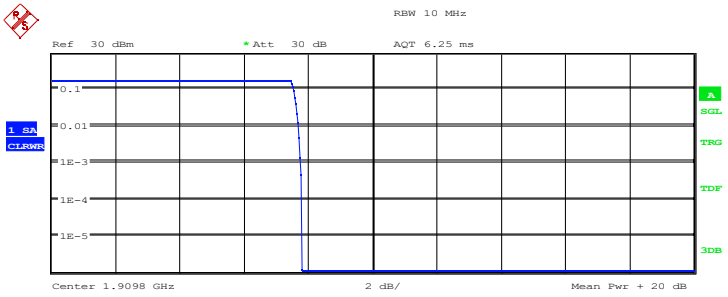


Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 11.2MHz

	Trace 1
Mean	21.51 dBm
Peak	29.27 dBm
Crest	7.76 dB
10 %	7.53 dB
1 %	7.69 dB
.1 %	7.76 dB
.01 %	7.79 dB

Date: 20.NOV.2022 01:07:21

Channel GSM-1909.8MHz



Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 11.2MHz

	Trace 1
Mean	22.00 dBm
Peak	29.80 dBm
Crest	7.79 dB
10 %	7.56 dB
1 %	7.69 dB
.1 %	7.76 dB
.01 %	7.82 dB

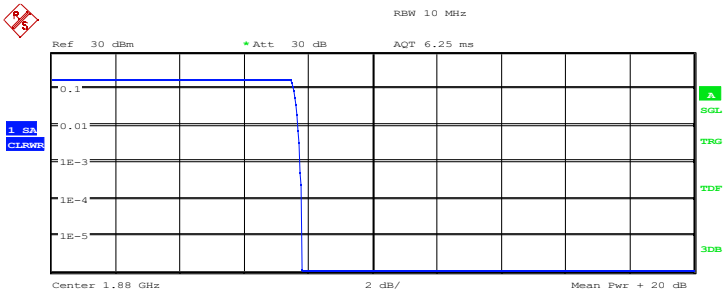
Date: 20.NOV.2022 01:07:49

PCS1900

Measurement result

PCS1900	Frequency (MHz)	PAPR (dB)
GPRS	1880	7.76
GPRS	1850.2	7.76
GPRS	1909.8	7.79

Channel GPRS-1880MHz

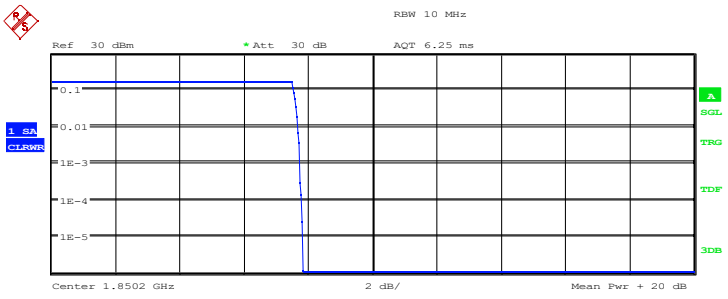


Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 11.2MHz

	Trace 1
Mean	21.96 dBm
Peak	29.77 dBm
Crest	7.81 dB
10 %	7.56 dB
1 %	7.69 dB
.1 %	7.76 dB
.01 %	7.82 dB

Date: 20.NOV.2022 01:09:22

Channel GPRS-1850.2MHz

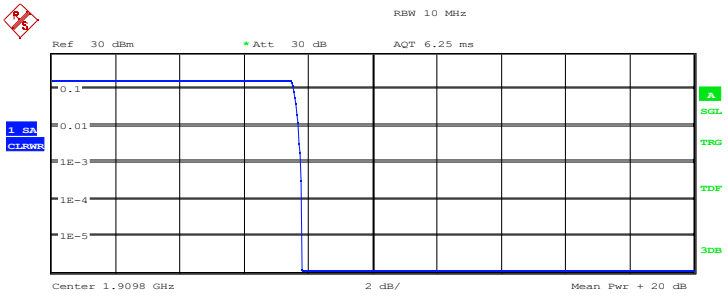


Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 11.2MHz

	Trace 1
Mean	21.53 dBm
Peak	29.34 dBm
Crest	7.81 dB
10 %	7.53 dB
1 %	7.69 dB
.1 %	7.76 dB
.01 %	7.79 dB

Date: 20.NOV.2022 01:08:56

Channel GPRS-1909.8MHz



Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 11.2MHz

	Trace 1
Mean	22.01 dBm
Peak	29.80 dBm
Crest	7.78 dB
10 %	7.56 dB
1 %	7.69 dB
.1 %	7.79 dB
.01 %	7.82 dB

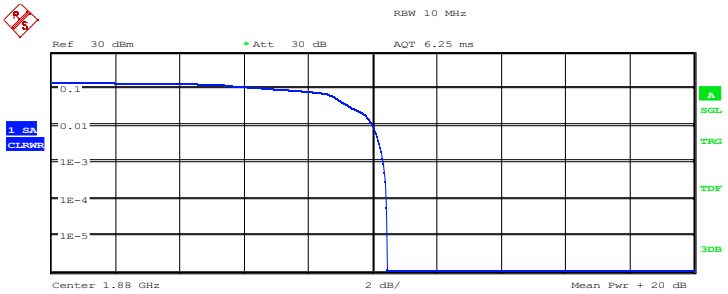
Date: 20.NOV.2022 01:09:50

PCS1900

Measurement result

PCS1900	Frequency (MHz)	PAPR (dB)
EGPRS	1880	10.35
EGPRS	1850.2	10.32
EGPRS	1909.8	10.19

Channel EGPRS-1880MHz

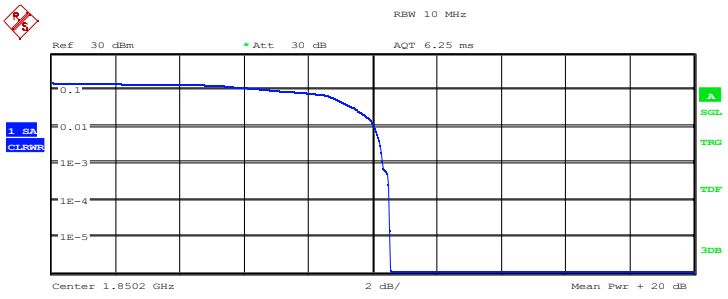


Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 11.2MHz

	Trace 1
Mean	18.13 dBm
Peak	28.57 dBm
Crest	10.44 dB
10 %	7.12 dB
1 %	10.00 dB
.1 %	10.35 dB
.01 %	10.45 dB

Date: 20.NOV.2022 01:10:55

Channel EGPRS-1850.2MHz

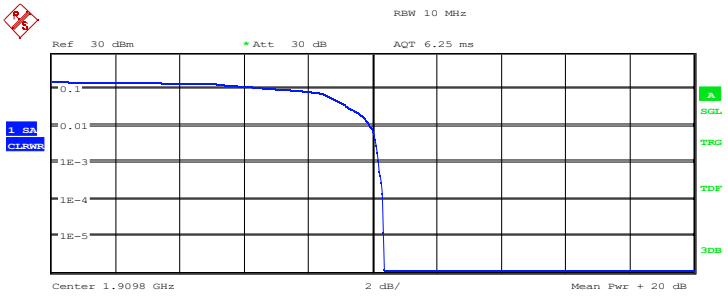


Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 11.2MHz

	Trace 1
Mean	17.82 dBm
Peak	28.35 dBm
Crest	10.53 dB
10 %	6.92 dB
1 %	10.06 dB
.1 %	10.32 dB
.01 %	10.54 dB

Date: 20.NOV.2022 01:10:25

Channel EGPRS-1909.8MHz



Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 11.2MHz

	Trace 1
Mean	18.47 dBm
Peak	28.81 dBm
Crest	10.34 dB
10 %	7.18 dB
1 %	9.90 dB
.1 %	10.19 dB
.01 %	10.32 dB

Date: 20.NOV.2022 01:11:23

Annex A EUT Photos

See the document" I22W00078-External Photos".
See the document" I22W00078-Internal Photos ".

ANNEX B Deviations from Prescribed Test Methods

No deviation from Prescribed Test Methods.

*****END OF REPORT*****