GSM TEST REPORT

No.25T04Z100488-004

for

TCL Communication Ltd.

GSM Mobile phone

Model Name: T319E

FCC ID: 2ACCJB238

with

Hardware Version: 1896_MB_V1.0

Software Version: T319E_ALAV_2SIM_V07_20250408_UNLOCK

Issued Date: 2025-05-07

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 CTTL.

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REPORT HISTORY

Report Number	Revision	Description	Issue Date
25T04Z100488-004	Rev.0	1st edition	2025-05-07

Note: the latest revision of the test report supersedes all previous version.

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CONTENTS

1. TEST LABORATORY 4
1.1. INTRODUCTION & ACCREDITATION 4
1.2. TESTING LOCATION 4
1.3. TESTING ENVIRONMENT 4
1.4. PROJECT DATA 4
1.5. SIGNATURE 4
2. CLIENT INFORMATION 5
2.1. APPLICANT INFORMATION 5
2.2. MANUFACTURER INFORMATION 5
3. EQUIPMENT UNDER TEST (EUT) AND ANCILLARY EQUIPMENT (AE) 6
3.1. ABOUT EUT 6
3.2. INTERNAL IDENTIFICATION OF EUT USED DURING THE TEST 6
3.3. INTERNAL IDENTIFICATION OF AE USED DURING THE TEST 6
4. REFERENCE DOCUMENTS 7
4.1. DOCUMENTS SUPPLIED BY APPLICANT 7
4.2. REFERENCE DOCUMENTS FOR TESTING 7
5. SUMMARY OF TEST RESULT 8
6. TEST EQUIPMENT UTILIZED 9
7. MEASUREMENT UNCERTAINTY 10
ANNEX A: MEASUREMENT RESULTS 11
A.1 OUTPUT POWER 11
A.2 EMISSION LIMIT 15
A.3 FREQUENCY STABILITY 20
A.4 OCCUPIED BANDWIDTH 22
A.5 EMISSION BANDWIDTH 31
A.6 BAND EDGE COMPLIANCE 40
A.7 CONDUCTED SPURIOUS EMISSION 45
A.8 PEAK-TO-AVERAGE POWER RATIO 51
ANNEX B: ACCREDITATION CERTIFICATE 52

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1. Test Laboratory

1.1. Introduction & Accreditation

Telecommunication Technology Labs, CAICT is an ISO/IEC 17025:2017 accredited test laboratory under American Association for Laboratory Accreditation (A2LA) with lab code 7049.01, and is also an FCC accredited test laboratory (CN1349), and ISED accredited test laboratory (CAB identifier:CN0066). The detail accreditation scope can be found on A2LA website.

1.2. Testing Location

Location 1: CTTL (huayuan North Road)

Address: No. 52, Huayuan North Road, Haidian District, Beijing, P. R. China 100191

Location 2: CTTL (BDA)

Address: No.18A, Kangding Street, Beijing Economic-Technology Development Area, Beijing, P. R. China 100176

1.3. Testing Environment

Normal Temperature: 15-35℃

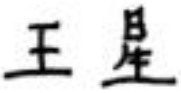
Relative Humidity: 20-75%

1.4. Project Data

Testing Start Date: 2025-04-01

Testing End Date: 2025-04-29

1.5. Signature



Wang Xing

(Prepared this test report)

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(Reviewed this test report)

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(Approved this test report)

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2. Client Information

2.1. Applicant Information

Company Name:	TCL Communication Ltd.
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Contact Person:	Ting Wang
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2.2. Manufacturer Information

Company Name:	TCL Communication Ltd.
Address/Post:	5/F, Building 22E, 22 Science Park East Avenue, Hong Kong Science Park, Shatin, NT, Hong Kong
Contact Person:	Ting Wang
Contact Email:	ting.wang.hz@tcl.com
Telephone:	+86 752 2639091
Fax:	0086-755-36612000-81722

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

3.1. About EUT

Description	GSM Mobile phone
Model Name	T319E
FCC ID	2ACCJB238
Antenna	Embedded
Output power	30.58dBm maximum EIRP measured for GSM850MHz
Extreme Voltage	3.6VDC to 4.2VDC (nominal: 3.8VDC)
Extreme Temperature	0°C to +80°C

Note: Components list, please refer to documents of the manufacturer; it is also included in the original test record of CTTL.

3.2. Internal Identification of EUT used during the test

EUT ID*	IMEI	HW Version	SW Version	Date of receipt
UT17a	353104320022281/ 353104320022282	1896_MB_V1.0	T319E_ALAV_2SIM_V07_ 20250408_UNLOCK	2025-03-31
UT14a	353104320020160/ 353104320024162	1896_MB_V1.0	T319E_ALAV_2SIM_V07_ 20250408_UNLOCK	2025-04-03

UT14a was used for emission limit test and UT17a was used for other testing cases.

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

3.3. Internal Identification of AE used during the test

AE ID*	Description
AE1	Battery
AE2	Battery

AE1

Model	TLi010CB
Manufacturer	ShenzhenAerospaceElectronic Co.,Ltd.
Capacitance	1030mAh

AE2

Model	TLi010F5
Manufacturer	SHEN ZHEN UTILITY ENERGY CO.,LTD.
Capacitance	1030mAh

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

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4. Reference Documents

4.1. Documents supplied by applicant

EUT parameters are supplied by the customer, which are the bases of testing. CAICT is not responsible for the accuracy of customer supplied technical information that may affect the test results (for example, antenna gain and loss of customer supplied cable).

4.2. Reference Documents for testing

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

Reference	Title	Version
FCC Part 22	PUBLIC MOBILE SERVICES	10-1-23 Edition
FCC Part 24	PERSONAL COMMUNICATIONS SERVICES	10-1-23 Edition
ANSI/TIA-603-E	Land Mobile FM or PM Communications Equipment Measurement and Performance Standards	2016
ANSI C63.26	American National Standard for Compliance Testing of Transmitters Used in Licensed Radio Services	2015
KDB 971168 D01	MEASUREMENT GUIDANCE FOR CERTIFICATION OF LICENSED DIGITAL TRANSMITTERS	v03r01

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5. Summary of Test Result

GSM850

Items	Test Name	Clause in FCC rules	Verdict
1	Output Power	22.913	P
2	Emission Limit	2.1051/22.917	P
3	Frequency Stability	2.1055	P
4	Occupied Bandwidth	2.1049	P
5	Emission Bandwidth	22.917	P
6	Band Edge Compliance	22.917	P
7	Conducted Spurious Emission	22.917	P

PCS1900

Items	Test Name	Clause in FCC rules	Verdict
1	Output Power	24.232	P
2	Emission Limit	2.1051/24.238	P
3	Frequency Stability	2.1055	P
4	Occupied Bandwidth	2.1049	P
5	Emission Bandwidth	24.238	P
6	Band Edge Compliance	24.238	P
7	Conducted Spurious Emission	24.238	P
8	Peak-to-Average Power Ratio	24.232	P

Terms used in Verdict column

P	Pass. The EUT complies with the essential requirements in the standard.
NP	Not Performed. The test was not performed by CTTL.
NA	Not Applicable. The test was not applicable.
BR	Re-use test data from basic model report.
F	Fail. The EUT does not comply with the essential requirements in the standard.

All the test results are based on normal power.

Measurement uncertainty is not taken into account when stating conformity with a specified requirement.

Explanation of worst-case configuration

The worst-case scenario for all measurements is based on the conducted output power measurement investigation results unless otherwise stated. The test results shown in the following sections represent the worst case emission.

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6. Test Equipment Utilized

Description	Type	Series Number	Manufacture	Cal Due Date	Calibration Interval
Wideband Radio Communication Tester	CMW500	159082	R&S	2025-12-03	1 year
Spectrum Analyzer	FSV	101576	R&S	2025-05-08	1 year
Climate chamber	SH-241	92004642	ESPEC	2025-10-29	1 year
Spectrum Analyzer	ESW44	103144	R&S	2026-01-05	1 year
Antenna	VULB9163	9163-482	Schwarzbeck	2025-05-19	1 year
Antenna	9117	167	Schwarzbeck	2026-10-15	3 years
Antenna	LB-7180-NF	J20300130000 05	A-INFO	2025-05-16	1 year
Antenna	3115	00146404	ETS-Lindgren	2025-05-16	1 year
Signal generator	SMF100A	101295	R&S	2026-02-16	1 year

Test Item	Test Software	Software Vendor
Emission Limit	ELEKTRA 5.00.2	R&S

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7. Measurement Uncertainty

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.26. All measurement uncertainty values are shown with a coverage factor of k = 2 to indicate a 95% level of confidence. Measurement uncertainty is not taken into account when stating conformity with a specified requirement.

Test item		Measurement uncertainty
Output Power(dB)		1.17
Emission Limit(dB)		3.44
Frequency Stability	FE(ppm)	1.16
	F_LF_H(kHz)	6.10
Occupied Bandwidth(%)		0.35
Emission Bandwidth(%)		0.39
Band Edge Compliance(dB)		1.59
Conducted Spurious Emission(dB)		4.78
Peak-to-Average Power Ratio(dB)		1.44

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Annex A: Measurement Results

A.1 Output Power

A.1.1 Summary

During the process of testing, the EUT was controlled via communication tester to ensure max power transmission and proper modulation.

In all cases, output power is within the specified limits.

A.1.2 Conducted

A.1.2.1 Method of Measurements

The EUT was set up for the max output power with pseudo random data modulation.

These measurements were done at 3 frequencies (bottom, middle and top of operational frequency range) for each bandwidth.

The results below include a correction factor for cable loss that is provided by the customer.

A.1.2.2 Measurement Result

GSM850

GSM(GMSK)

Frequency (MHz)	Power Step	Output power (dBm)
824.2	5	33.13
836.6	5	33.08
848.8	5	33.02

GPRS(GMSK,1Slot)

Frequency (MHz)	Power Step	Output power (dBm)
824.2	3	33.09
836.6	3	33.03
848.8	3	32.98

PCS1900

GSM(GMSK)

Frequency (MHz)	Power Step	Output power (dBm)
1850.2	0	28.84
1880.0	0	28.80
1909.8	0	28.78

GPRS(GMSK,1Slot)

Frequency (MHz)	Power Step	Output power (dBm)

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1850.2	3	28.87
1880.0	3	28.81
1909.8	3	28.76

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A.1.3 Radiated

A.1.3.1 Description

This is the test for the maximum radiated power from the EUT.

Part 22.913(a) specifies "The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 watts".

Part 24.232(c) specifies "Mobile and portable stations are limited to 2 watts EIRP".

A.1.3.2 Method of Measurement

According to KDB 412172 D01 and ANSI C63.26 the relevant equation for determining the maximum ERP or EIRP from the measured RF output power is given in Equation as follows:

$$\mathbf{ERP\ or\ EIRP} = \mathbf{P_T} + \mathbf{G_T} - \mathbf{L_C}$$

where;

- $\mathbf{ERP\ or\ EIRP} =$ effective radiated power or equivalent isotropically radiated power(expressed in the same units as P_T.
- $\mathbf{P_T} =$ transmitter output power, in this report the unit express as dBm;
- $\mathbf{G_T} =$ gain of the transmitting antenna, in dBd(ERP) or dBi(EIRP);
- $\mathbf{L_C} =$ signal attenuation in the connecting cable between the transmitter and antenna, in dB.

Alternatively, the EIRP can be determined from Equation above and then converted to ERP based on the maximum antenna gain relationship by applying the following equation:

$$\mathbf{ERP} = \mathbf{EIRP} - \mathbf{2.15dB}$$

Note: The antenna gain information was provided by the client. The laboratory is not responsible for identifying its authenticity during the test.

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A.1.3.3 Limits and Measurement Results

GSM 850-ERP

Modulation	Power Step	Burst Peak ERP (dBm)
GSM	5	≤38.45dBm (7W)
GPRS	3	

GSM(GMSK)

Frequency (MHz)	Power Step	Output power (dBm)	ERP(dBm) (G_T – L_C = -0.4dBi)
824.2	5	33.13	30.58
836.6	5	33.08	30.53
848.8	5	33.02	30.47

GPRS(GMSK,1Slot)

Frequency (MHz)	Power Step	Output power (dBm)	ERP(dBm) (G_T – L_C = -0.4dBi)
824.2	3	33.09	30.54
836.6	3	33.03	30.48
848.8	3	32.98	30.43

PCS1900-EIRP

Modulation	Power Step	Burst Peak EIRP (dBm)
GSM	0	≤33dBm (2W)
GPRS	3	

PCS1900-EIRP

GSM(GMSK)

Frequency (MHz)	Power Step	Output power (dBm)	EIRP(dBm) (G_T – L_C = 0.1dBi)
1850.2	0	28.84	28.94
1880	0	28.80	28.90
1909.8	0	28.78	28.88

GPRS(GMSK,1Slot)

Frequency (MHz)	Power Step	Output power (dBm)	EIRP(dBm) (G_T – L_C = 0.1dBi)
1850.2	3	28.87	28.97
1880	3	28.81	28.91
1909.8	3	28.76	28.86

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A.2 Emission Limit

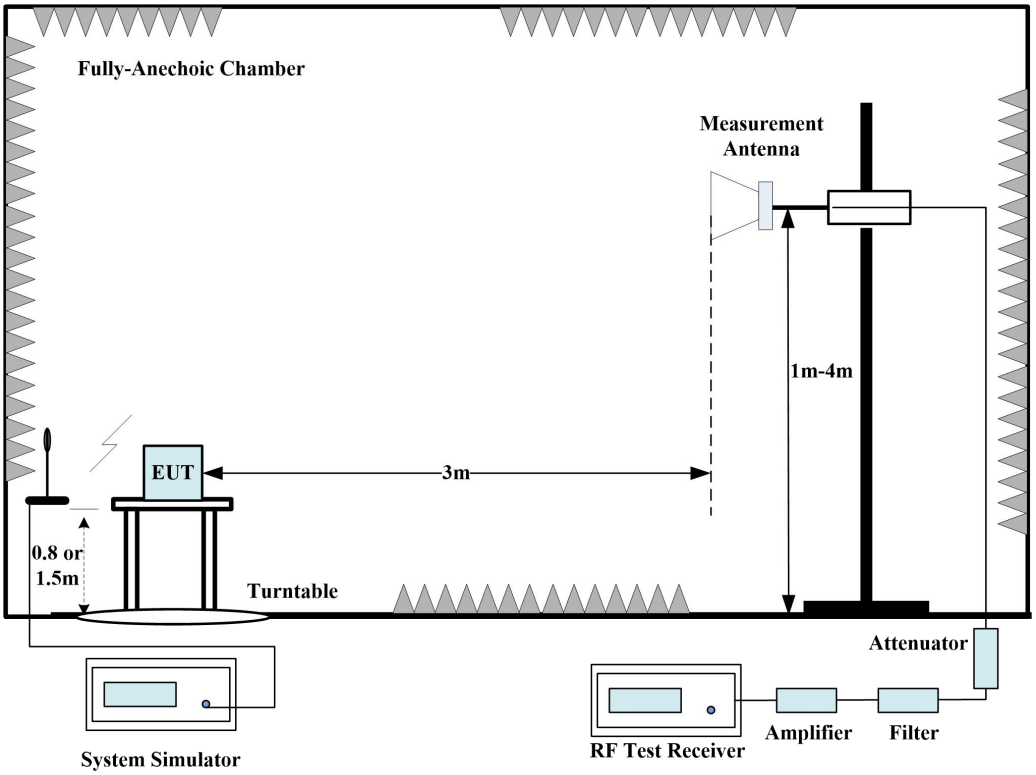
A.2.1 Measurement Method

The measurement procedures in C63.26 are used.

The spectrum was scanned from 30 MHz to the 10th harmonic of the highest frequency generated within the equipment. The resolution bandwidth is set as outlined in Part 24.238 and Part 22.917. The spectrum is scanned with the mobile station transmitting at carrier frequencies that pertain to low, mid and high channels of PCS1900 and GSM850.

The procedure of radiated spurious emissions is as follows:

For measurements performed at frequencies less than or equal to 1 GHz, the EUT was placed on a 80cm-high non-conductive support; For measurements performed at frequencies above 1GHz, EUT was placed on a 1.5-meter-high non-conductive support. A measurement antenna was placed on the antenna mast 3 meters from the EUT for emission measurements. In the initial test, the height of the measurement antenna was varied from 1 m to 4 m for the relative positioning that produces the maximum radiated signal level. The test setup refers to figure below. Detected emissions were maximized at each frequency by rotating the EUT through 360° and adjusting the receiving antenna polarization. The radiated emission measurements of all non-harmonic and harmonics of the transmit frequency through the 10th harmonic were measured with peak detector.



1. The EUT is then put into continuously transmitting mode at its maximum power level during the test. And the maximum value of the receiver should be recorded as (Pr).
2. The EUT shall be replaced by a substitution antenna. The test setup refers to figure below.

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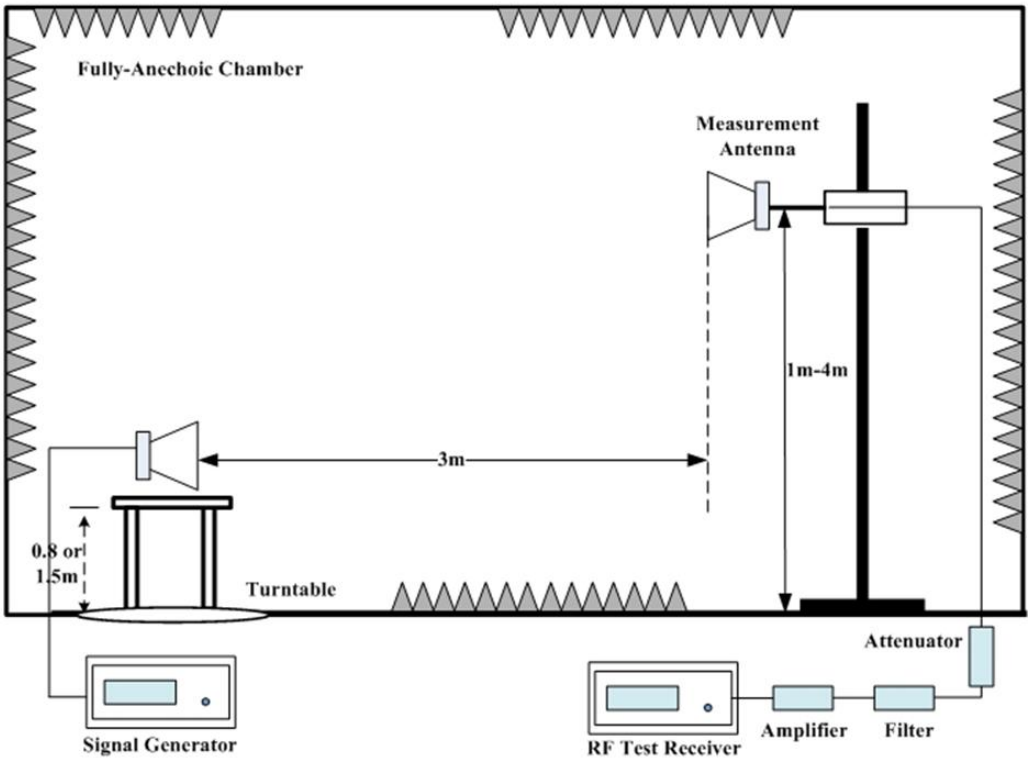

In the chamber, a substitution antenna for the frequency band of interest is placed at the reference point of the chamber. An RF Signal source for the frequency band of interest is connected to the substitution antenna with a cable that has been constructed to not interfere with the radiation pattern of the antenna. The height of measurement antenna varied between 1 m to 4 m to maximize the received signal amplitude for each emission that was detected and measured in the initial test. A power (P_{Mea}) is applied to the input of the substitution antenna and adjusts the level of the signal generator output until the value of the receiver reach the previously recorded (P_r). The power of signal source (P_{Mea}) is recorded. The test was performed with the measurement antenna in both vertical and horizontal polarization.

3. The Path loss (P_{pl}) between the Signal Source and the Substitution Antenna and the Substitution Antenna Gain (G_a) were recorded after test.A amplifier was connected in for the test. The Path loss (P_{pl}) is the summation of the cable loss and the gain of the amplifier.
4. The measurement results are obtained as described below:

$$\text{Power (EIRP)} = P_{Mea} - P_{pl} + G_a$$

This value is EIRP since the measurement is calibrated using an antenna of known gain (2.15 dBi) and known input power.ERP can be calculated from EIRP by subtracting the gain of the dipole, ERP = EIRP -2.15dBi.

A.2.2 Measurement Limit

Part 22.917 and Part 24.238 specify that 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.

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A.2.3 Measurement Results

Radiated emissions measurements were made only at the upper, middle, and lower carrier frequencies of the PCS1900 band (1850.2 MHz, 1880 MHz and 1909.8 MHz) and GSM850 band (824.2MHz, 836.6MHz, 848.8MHz). It was decided that measurements at these three carrier frequencies would be sufficient to demonstrate compliance with emissions limits because it was seen that all the significant spurs occur well outside the band and no radiation was seen from a carrier in one block of the PCS1900, GSM850 into any of the other blocks. The equipment must still, however, meet emissions requirements with the carrier at all frequencies over which it is capable of operating and it is the manufacturer's responsibility to verify this.

A.2.4 Measurement Results Table

Frequency	Channel	Frequency Range	Result
GSM 850MHz	Low	9kHz-10GHz	Pass
	Middle	9kHz-10GHz	Pass
	High	9kHz-10GHz	Pass
GSM 1900MHz	Low	9kHz-20GHz	Pass
	Middle	9kHz-20GHz	Pass
	High	9kHz-20GHz	Pass

A.2.5 Sweep Table

Subrange	RBW	VBW
9~150 kHz	0.2kHz	0.6kHz
150kHz~30MHz	9kHz	27kHz
30MHz~1 GHz	100KHz	300KHz
1~20 GHz	1 MHz	3 MHz

Test note

Investigation has been done on all modes and modulations/data rates. In total, three EUT elevation positions are measured. Only the radiated emissions of the configuration that produced the worst case emissions are reported in this section.

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A.2.6 Measurement Result

GSM Mode Channel 128/824.2MHz

Frequency (MHz)	P_{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Correction (dB)	Peak ERP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1648.50	-22.52	5.88	6.54	2.15	-24.01	-13.00	11.01	V
2473.00	-44.67	7.44	5.96	2.15	-48.30	-13.00	35.30	H
3296.50	-44.50	8.85	7.53	2.15	-47.97	-13.00	34.97	V
4121.00	-55.21	9.46	9.05	2.15	-57.76	-13.00	44.76	H
4945.50	-52.28	11.40	10.18	2.15	-55.66	-13.00	42.66	V
5769.00	-50.35	11.60	10.98	2.15	-53.12	-13.00	40.12	H

GSM Mode Channel 190/836.6MHz

Frequency (MHz)	P_{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Correction (dB)	Peak ERP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1673.00	-19.01	5.89	6.32	2.15	-20.73	-13.00	7.73	V
2510.50	-40.99	7.60	6.02	2.15	-44.72	-13.00	31.72	V
3346.00	-43.53	8.55	7.96	2.15	-46.28	-13.00	33.28	H
4183.00	-45.85	9.81	9.23	2.15	-48.58	-13.00	35.58	V
5019.00	-50.88	10.51	10.23	2.15	-53.31	-13.00	40.31	V
5855.50	-52.62	11.43	10.79	2.15	-55.40	-13.00	42.40	H

GSM Mode Channel 251/848.8MHz

Frequency (MHz)	P_{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Correction (dB)	Peak ERP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1697.50	-17.72	5.94	6.27	2.15	-19.54	-13.00	6.54	V
2546.50	-39.57	7.30	6.09	2.15	-42.93	-13.00	29.93	V
3394.50	-42.75	8.89	8.04	2.15	-45.74	-13.00	32.74	H
4243.50	-49.64	9.64	9.32	2.15	-52.11	-13.00	39.11	V
5093.00	-51.52	10.60	10.34	2.15	-53.93	-13.00	40.93	V
5941.50	-51.16	11.44	10.88	2.15	-53.87	-13.00	40.87	H

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GSM Mode Channel 512/1850.2MHz

Frequency (MHz)	P_{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3700.00	-25.74	9.15	8.30	0.00	-26.59	-13.00	13.59
5550.50	-43.03	11.01	10.87	0.00	-43.17	-13.00	30.17
7400.50	-42.25	12.67	11.90	0.00	-43.02	-13.00	30.02
9251.00	-42.60	14.51	13.37	0.00	-43.74	-13.00	30.74
11100.50	-44.14	16.01	13.23	0.00	-46.92	-13.00	33.92
12952.50	-43.30	17.73	13.71	0.00	-47.33	-13.00	34.33

GSM Mode Channel 661/1880.0MHz

Frequency (MHz)	P_{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3760.00	-37.25	9.28	8.46	0.00	-38.06	-13.00	25.06
5640.00	-44.63	11.21	10.67	0.00	-45.17	-13.00	32.17
7519.50	-48.74	12.68	12.05	0.00	-49.37	-13.00	36.37
9400.00	-47.49	14.74	13.27	0.00	-48.97	-13.00	35.97
11294.50	-45.55	16.30	13.43	0.00	-48.42	-13.00	35.42
13162.00	-45.07	17.58	14.03	0.00	-48.63	-13.00	35.63

GSM Mode Channel 810/1909.8MHz

Frequency (MHz)	P_{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3819.50	-25.55	9.09	8.57	0.00	-26.07	-13.00	13.07
5729.50	-44.63	11.33	11.05	0.00	-44.91	-13.00	31.91
7639.00	-49.68	13.15	12.17	0.00	-50.66	-13.00	37.66
9549.00	-45.29	15.03	13.28	0.00	-47.03	-13.00	34.03
11462.50	-47.31	16.33	13.37	0.00	-50.27	-13.00	37.27
13368.50	-43.90	17.92	14.24	0.00	-47.58	-13.00	34.58

Note: Peak EIRP (dBm) = PMea(dBm) - Path Loss(dB) + Antenna Gain(dBi)

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A.3 Frequency Stability

A.3.1 Method of Measurement

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 F_L and F_H 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 mid channel of each 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. Remeasure carrier frequency at room temperature with nominal voltage. Vary supply voltage from minimum voltage to maximum voltage, in 0.1Volt increments remeasuring 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 centre 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℃ decrements 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.

The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block. As this transceiver is considered "Hand carried, battery powered equipment" Section 2.1055(d)(2) applies. This requires that the lower voltage for frequency stability testing be specified by the manufacturer. This transceiver is specified to operate with an input voltage of the lower, higher and nominal voltage. Operation above or below these voltage limits is prohibited by transceiver software in order to prevent improper operation as well as to protect components from overstress.

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A.3.2 Measurement results

GSM850

Frequency Error vs Temperature

Temperature(℃)	Voltage(V)	FL(MHz)	FH(MHz)	Offset(Hz)	Frequency error(ppm)
20	3.8	824.042	848.958		
50				4.39	0.0052
40				8.94	0.0107
30				1.78	0.0021
10				2.16	0.0026
0				-2.29	0.0027
-10				11.85	0.0142
-20				-0.06	0.0001
-30				5.71	0.0068

Frequency Error vs Voltage

Voltage(V)	Temperature(℃)	FL(MHz)	FH(MHz)	Offset(Hz)	Frequency error(ppm)
3.6	20	824.042	848.958	-1.71	0.0020
4.2				7.07	0.0085

PCS1900

Frequency Error vs Temperature

Temperature(℃)	Voltage(V)	FL(MHz)	FH(MHz)	Offset(Hz)	Frequency error(ppm)
20	3.8	1850.053	1909.953		
50				-2.97	0.0016
40				4.55	0.0024
30				-1.61	0.0009
10				-6.10	0.0032
0				21.92	0.0117
-10				22.57	0.0120
-20				6.17	0.0033
-30				3.20	0.0017

Frequency Error vs Voltage

Voltage(V)	Temperature(℃)	FL(MHz)	FH(MHz)	Offset(Hz)	Frequency error(ppm)
3.6	20	1850.053	1909.953	0.23	0.0001
4.2				-1.45	0.0008

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A.4 Occupied Bandwidth

Occupied bandwidth measurements are only provided for selected frequencies in order to reduce the amount of submitted data. Data were taken at the extreme and mid frequency. The table below lists the measured 99% BW. Spectrum analyzer plots are included on the following pages.
The measurement method is from ANSI C63.26:
a) The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The frequency span for the spectrum analyzer shall be set wide enough to capture all modulation products including the emission skirts.
b) The nominal IF filter 3 dB bandwidth (RBW) shall be in the range of 1% to 5% of the anticipated OBW, and the VBW shall be set ≥ 3 × RBW.
c) Set the reference level of the instrument as required to prevent the signal amplitude from exceeding the maximum spectrum analyzer input mixer level for linear operation.
d) Set the detection mode to peak, and the trace mode to max-hold.

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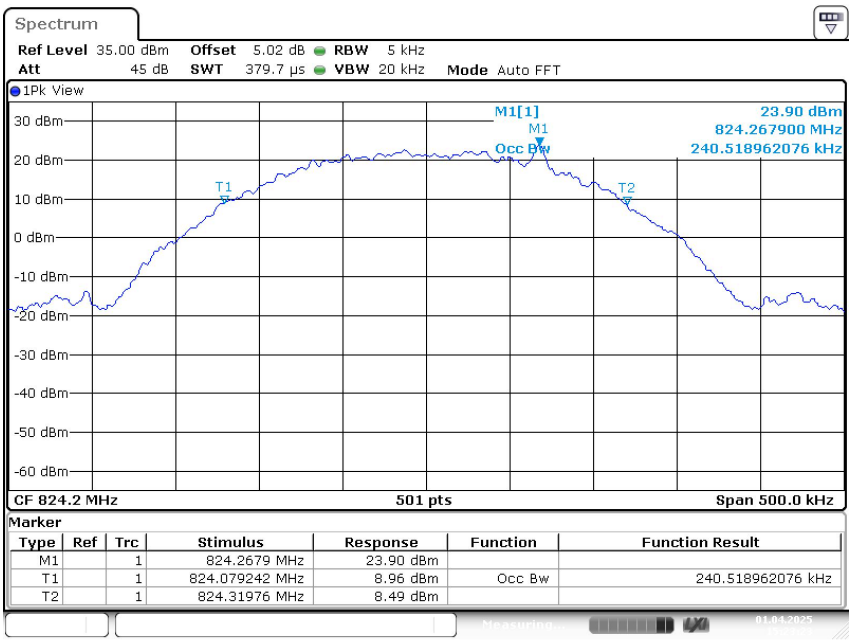
GSM850 (99 %)

GSM

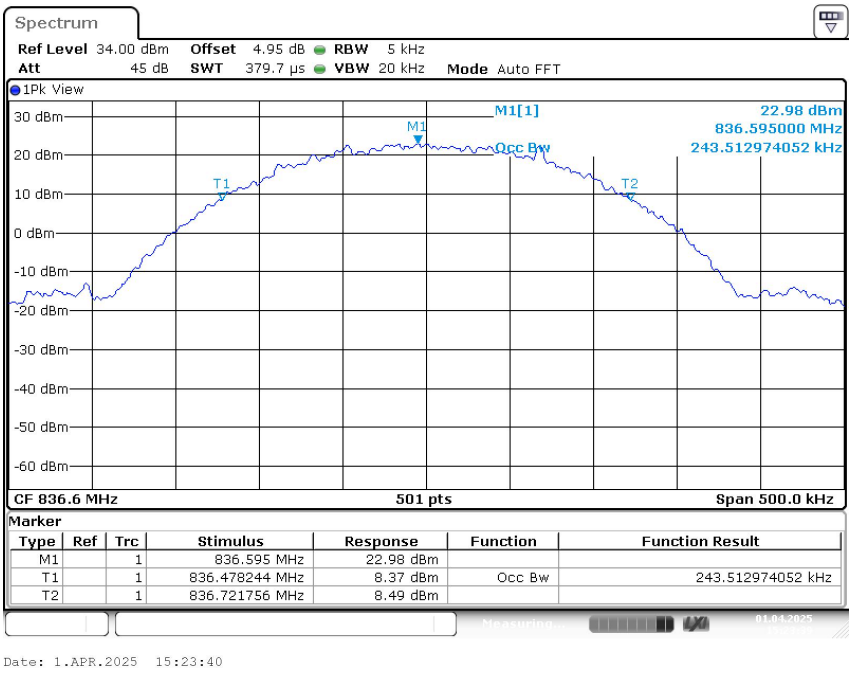
Frequency (MHz)	Occupied Bandwidth (99%) (kHz)
824.2	240.519
836.6	243.513
848.8	243.513

GSM850

Channel 128-Occupied Bandwidth (99% BW)



Channel 190-Occupied Bandwidth (99% BW)



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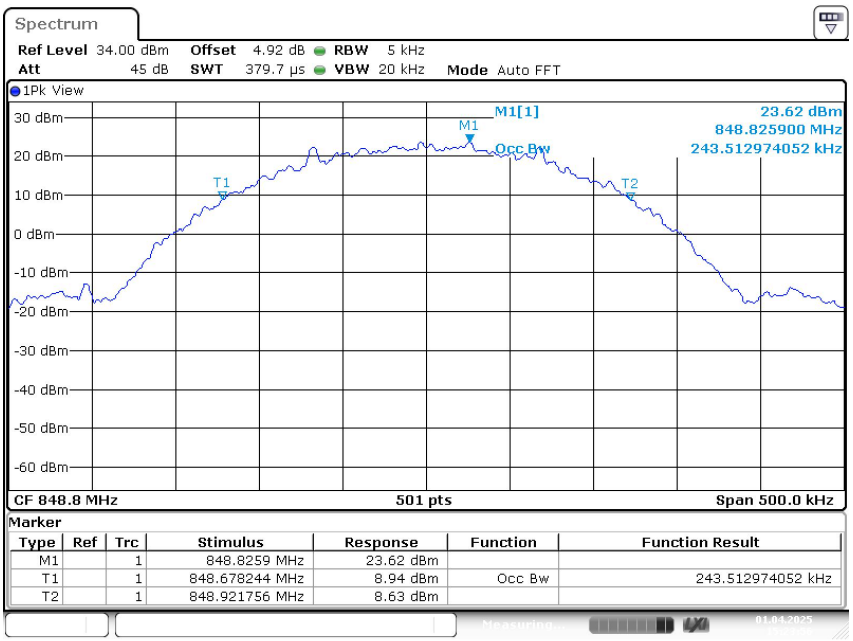
Channel 251-Occupied Bandwidth (99% BW)



Date: 1.APR.2025 15:23:56

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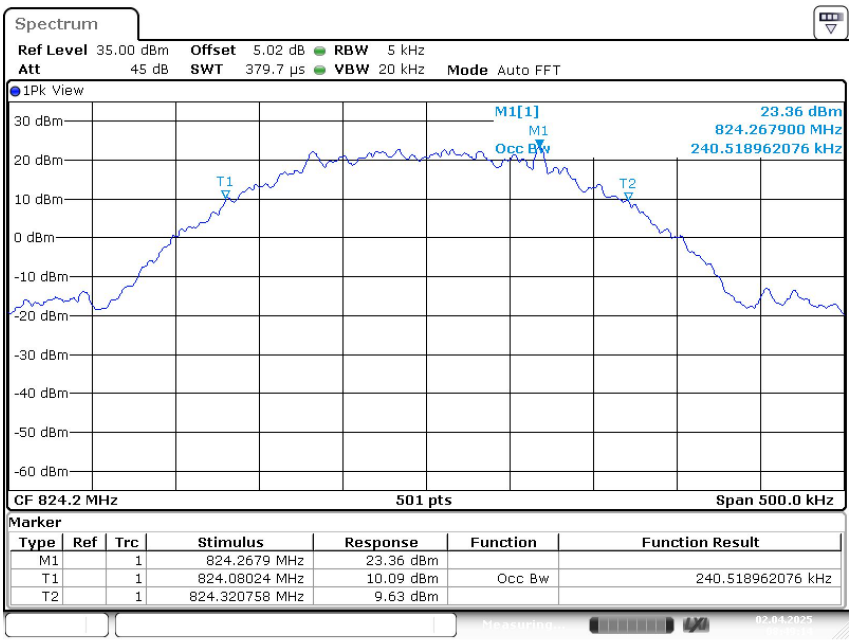
GSM850 (99 %)

GPRS

Frequency (MHz)	Occupied Bandwidth (99%) (kHz)
824.2	240.519
836.6	242.515
848.8	241.517

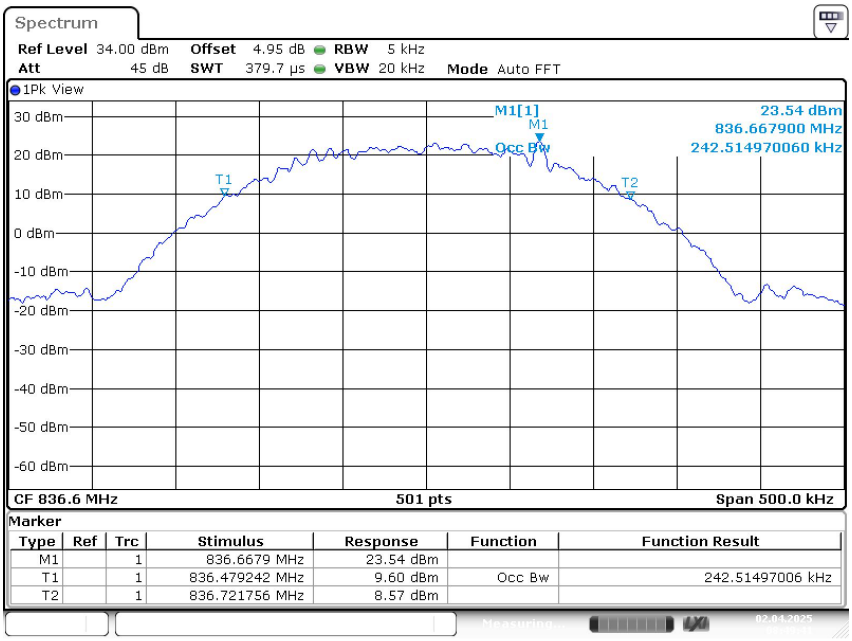
GSM850

Channel 128-Occupied Bandwidth (99% BW)



Date: 2.APR.2025 08:49:14

Channel 190-Occupied Bandwidth (99% BW)



Date: 2.APR.2025 08:49:42

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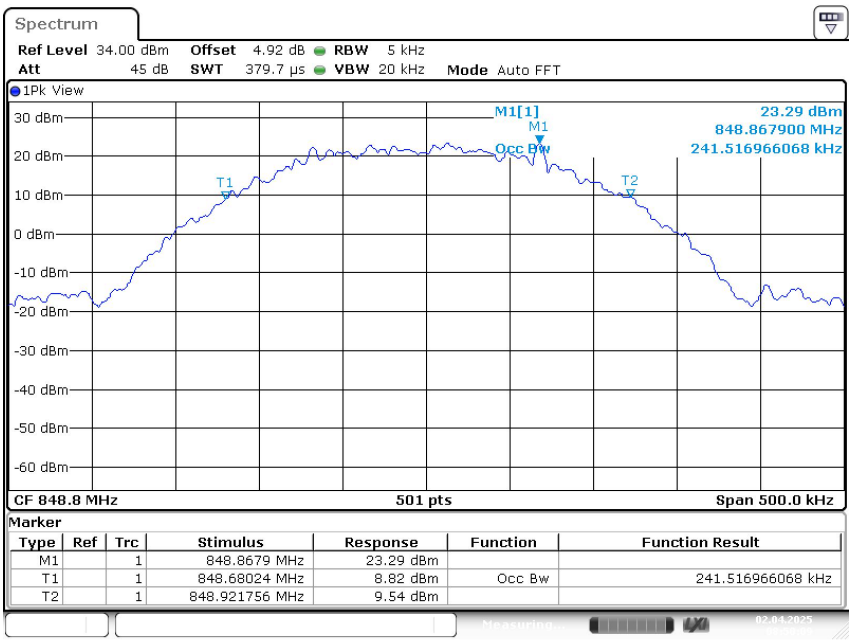
Channel 251-Occupied Bandwidth (99% BW)



Date: 2.APR.2025 08:50:09

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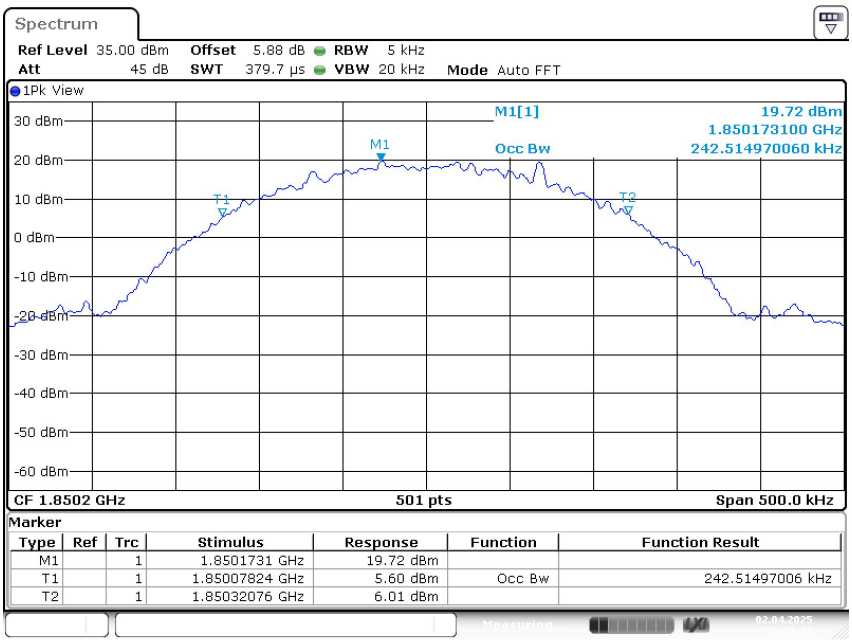
PCS1900 (99 %)

GSM

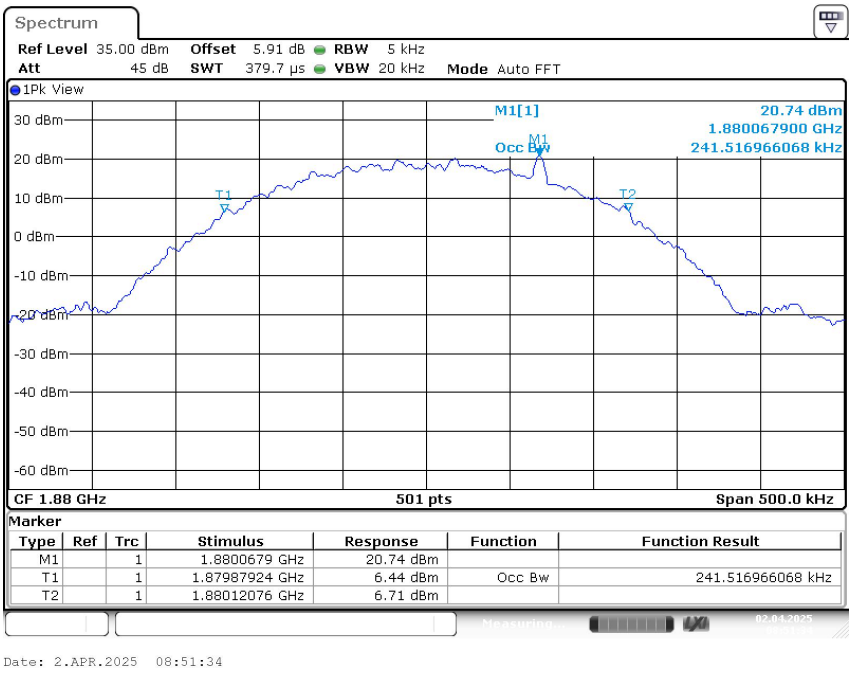
Frequency (MHz)	Occupied Bandwidth (99%) (kHz)
1850.2	242.515
1880	241.517
1909.8	243.513

PCS1900

Channel 512-Occupied Bandwidth (99% BW)



Channel 661-Occupied Bandwidth (99% BW)



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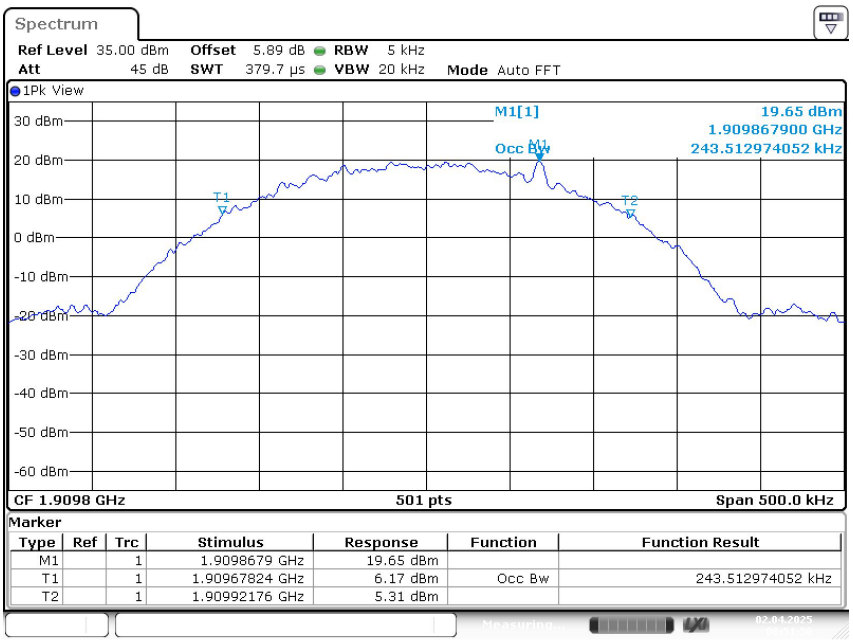
Channel 810-Occupied Bandwidth (99% BW)



Date: 2.APR.2025 08:51:51

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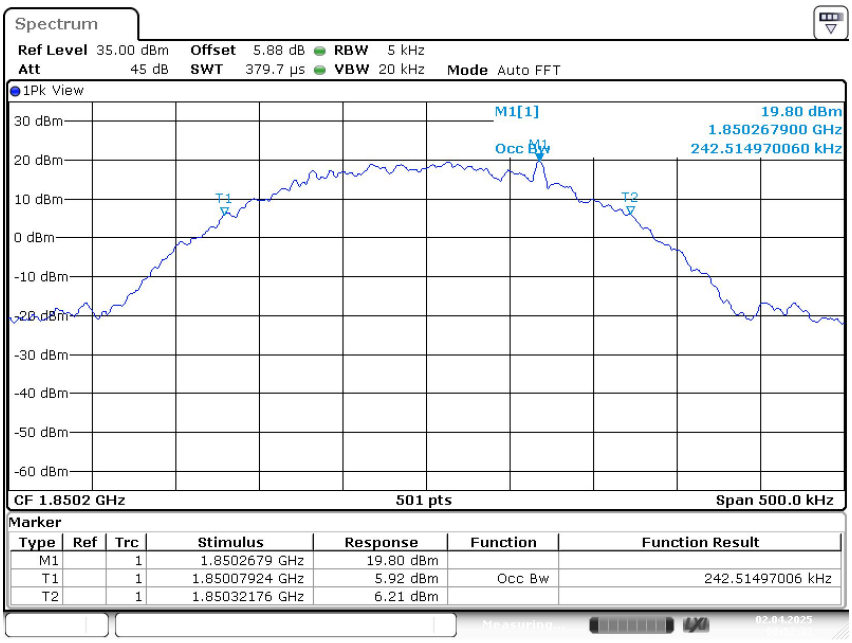
PCS1900 (99 %)

GPRS

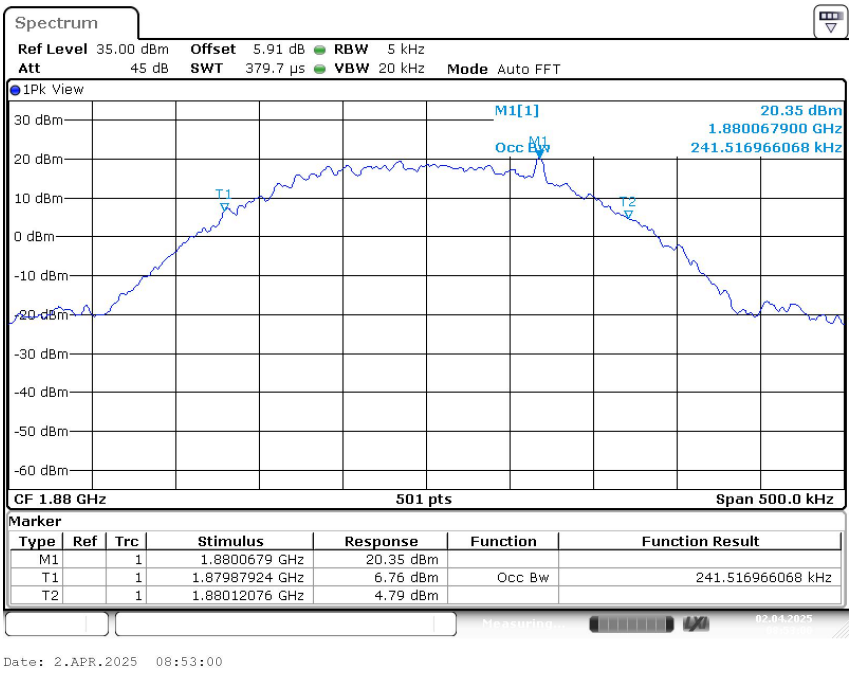
Frequency (MHz)	Occupied Bandwidth (99%) (kHz)
1850.2	242.515
1880	241.517
1909.8	241.517

PCS1900

Channel 512-Occupied Bandwidth (99% BW)



Channel 661-Occupied Bandwidth (99% BW)



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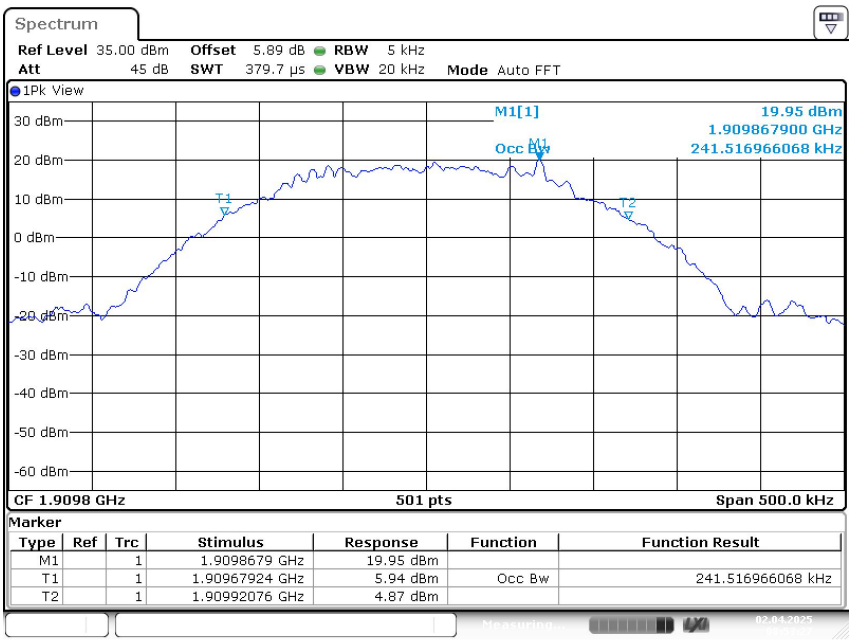
Channel 810-Occupied Bandwidth (99% BW)



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A.5 Emission Bandwidth

The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.
The measurement method is from ANSI C63.26:
a) The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The span range for the spectrum analyzer shall be wide enough to see sufficient roll off of the signal to make the measurement.
b) The nominal RBW shall be in the range of 1% to 5% of the anticipated OBW, and the VBW shall be set ≥ 3 × RBW.
c) Set the reference level of the instrument as required to prevent the signal amplitude from exceeding the maximum spectrum analyzer input mixer level for linear operation.
d) The dynamic range of the spectrum analyzer at the selected RBW shall be more than 10 dB below the target "−X dB" requirement, i.e., if the requirement calls for measuring the −26 dB OBW, the spectrum analyzer noise floor at the selected RBW shall be at least 36 dB below the reference level.
e) Set spectrum analyzer detection mode to peak, and the trace mode to max hold.

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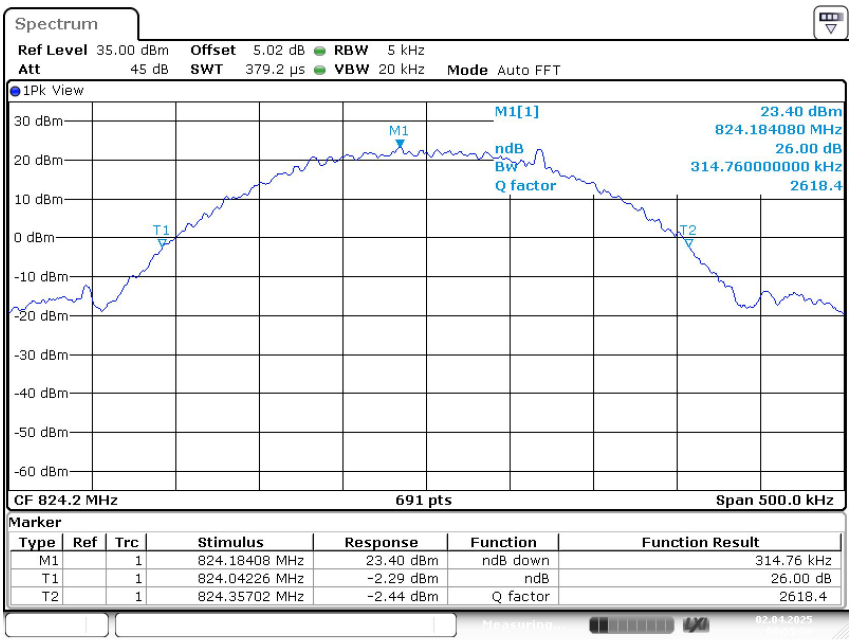
GSM850 (-26dBc)

GSM

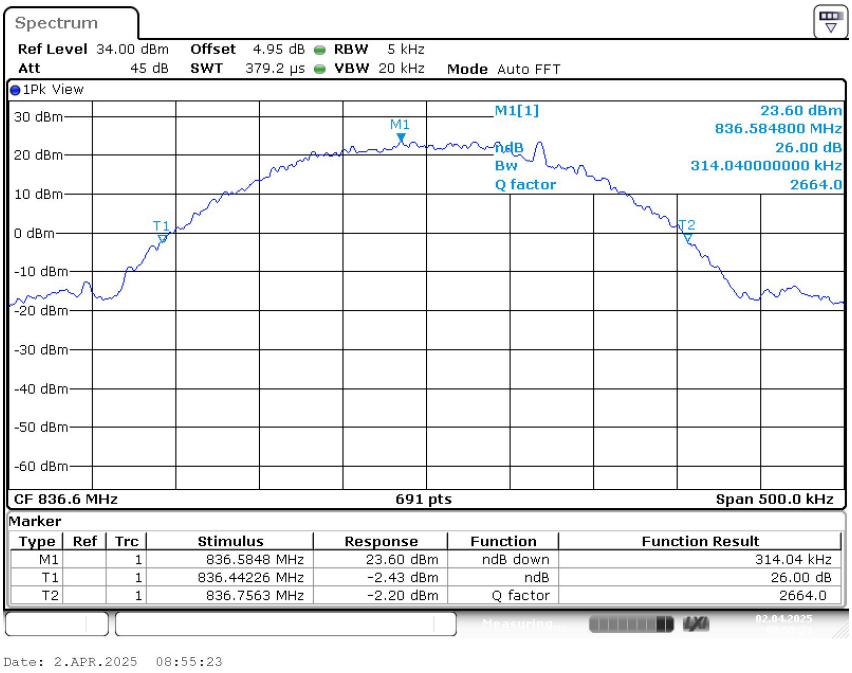
Frequency (MHz)	Emission Bandwidth (-26dBc)(kHz)
824.2	314.760
836.6	314.040
848.8	314.760

GSM850

Channel 128-Emission Bandwidth (-26dBc BW)



Channel 190-Emission Bandwidth (-26dBc BW)



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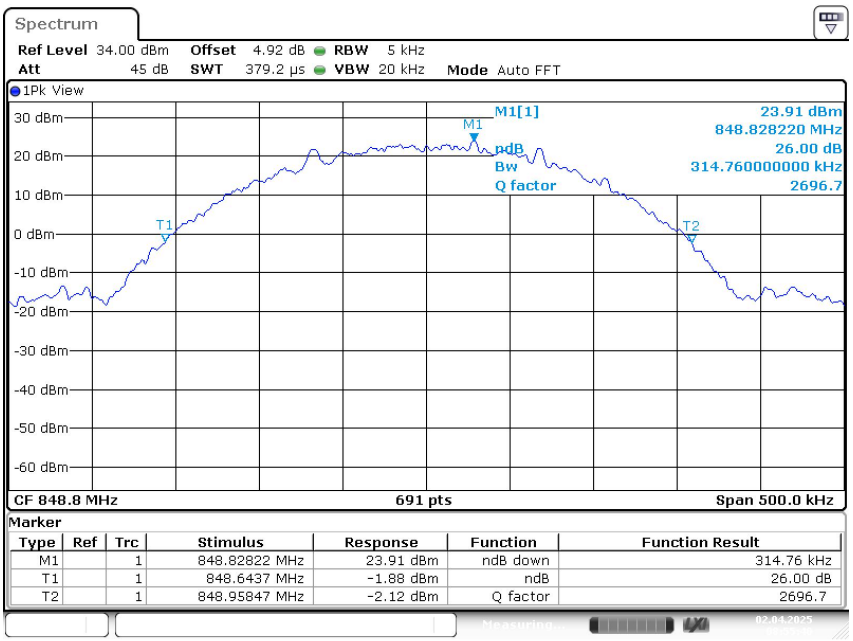
Channel 251-Emission Bandwidth (-26dBc BW)



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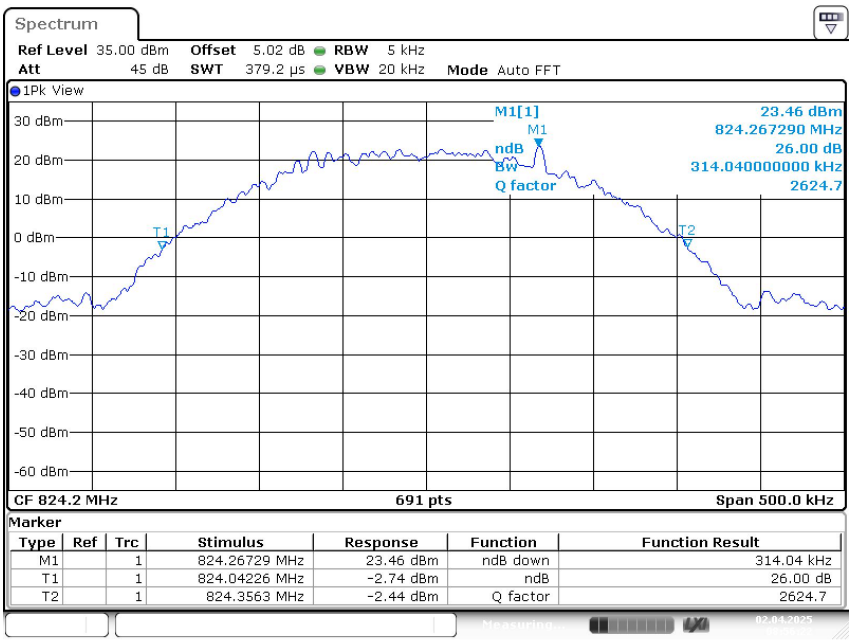
GSM850 (-26dBc)

GPRS

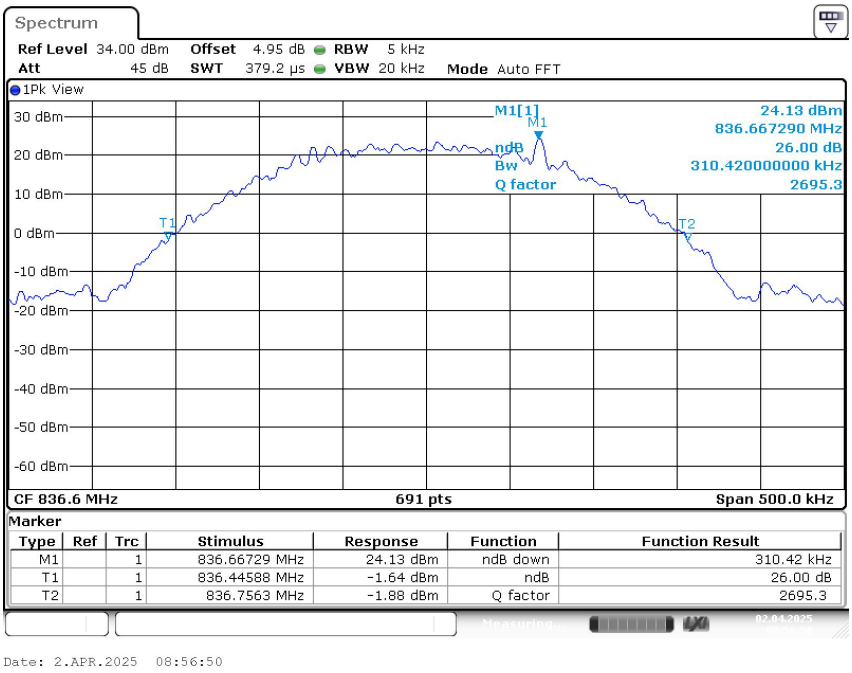
Frequency (MHz)	Emission Bandwidth (-26dBc)(kHz)
824.2	314.040
836.6	310.420
848.8	316.930

GSM850

Channel 128-Emission Bandwidth (-26dBc BW)



Channel 190-Emission Bandwidth (-26dBc BW)



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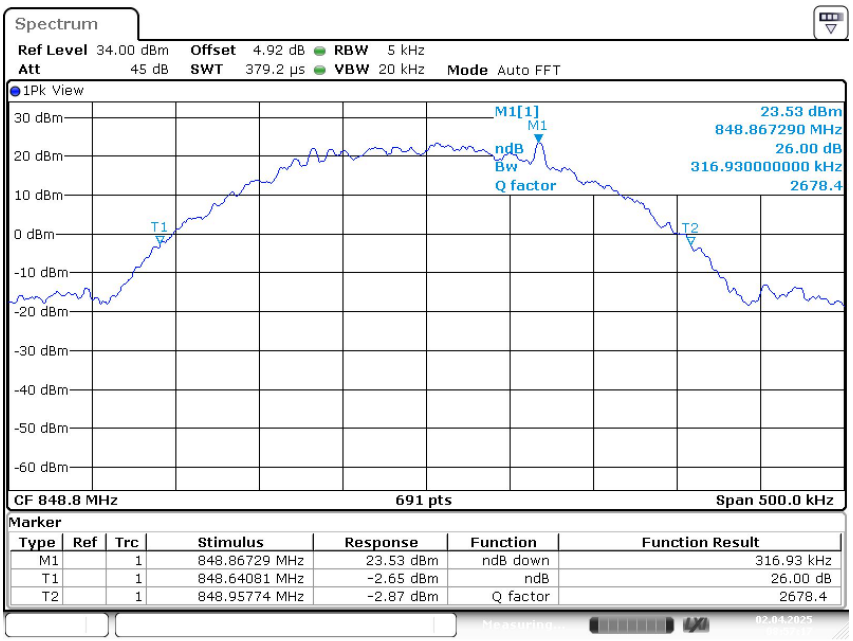
Channel 251-Emission Bandwidth (-26dBc BW)



Date: 2.APR.2025 08:57:18

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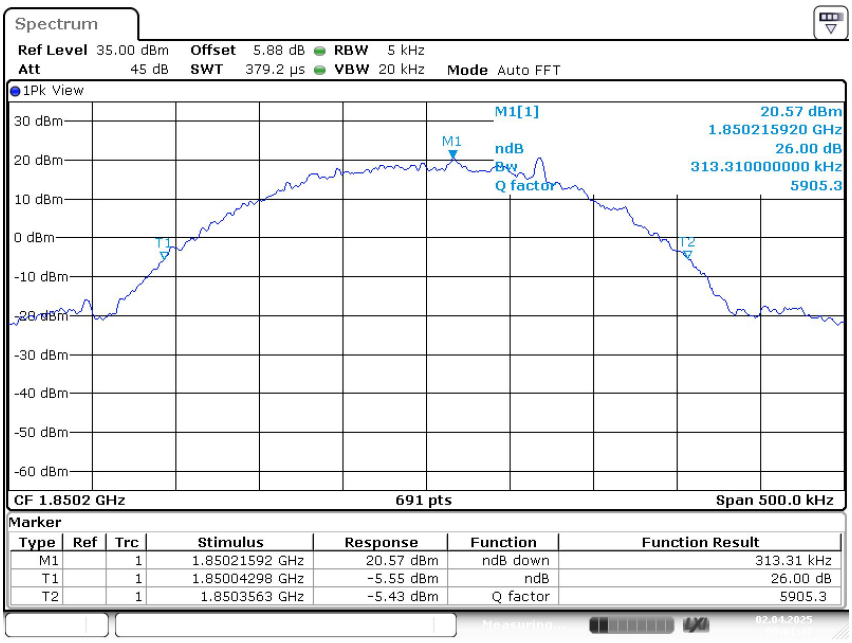
PCS1900 (-26dBc)

GSM

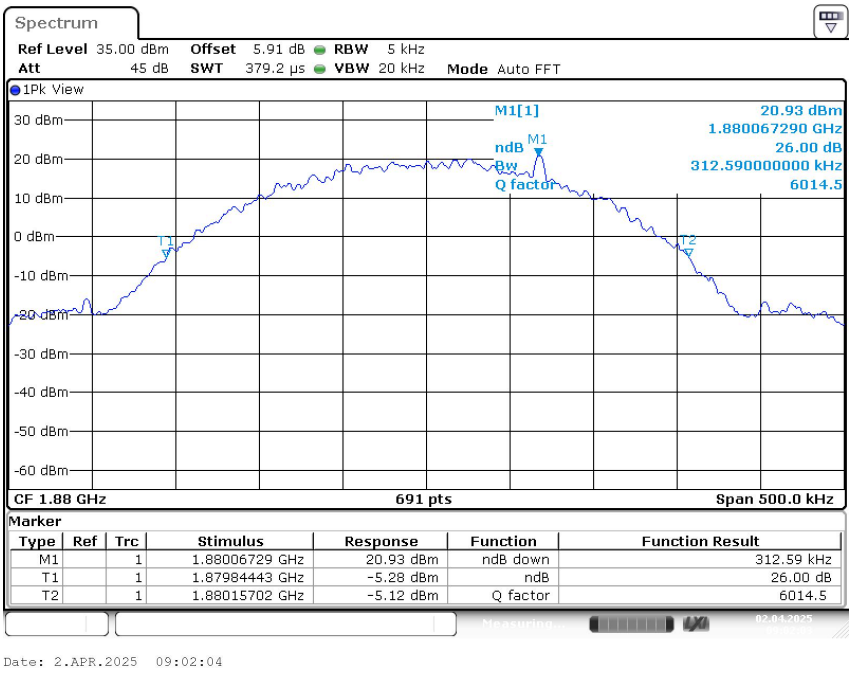
Frequency (MHz)	Emission Bandwidth (-26dBc)(kHz)
1850.2	313.310
1880	312.590
1909.8	314.040

PCS1900

Channel 512-Emission Bandwidth (-26dBc BW)



Channel 661-Emission Bandwidth (-26dBc BW)



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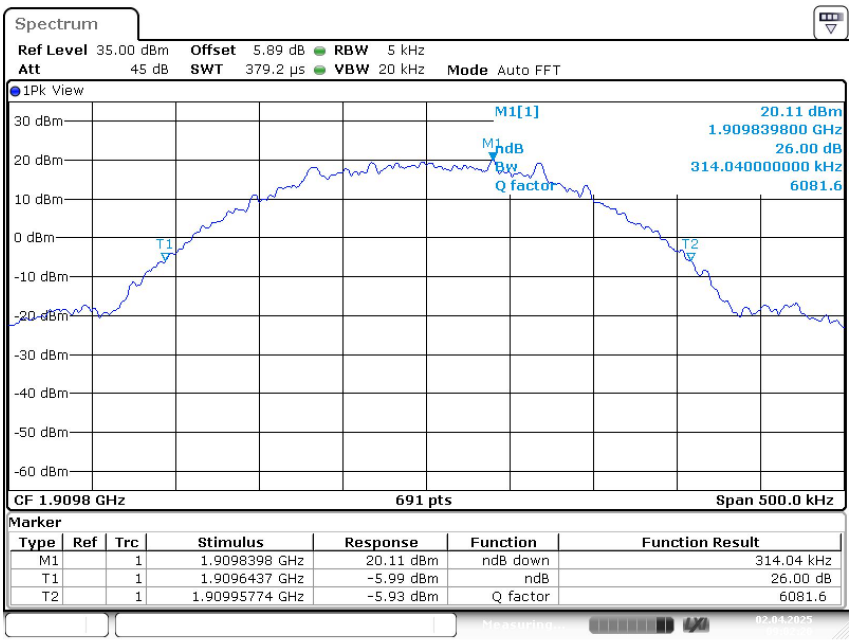
Channel 810-Emission Bandwidth (-26dBc BW)



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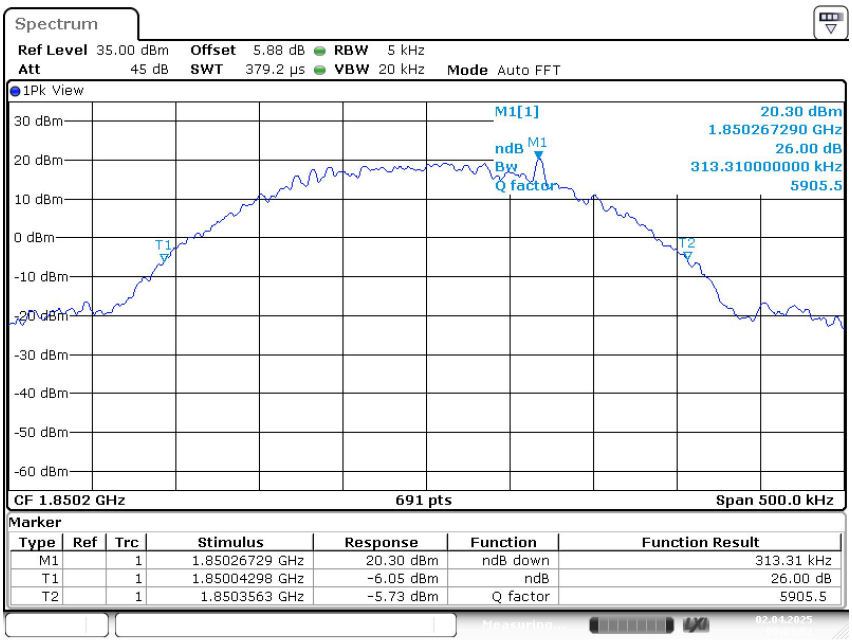
PCS1900 (-26dBc)

GPRS

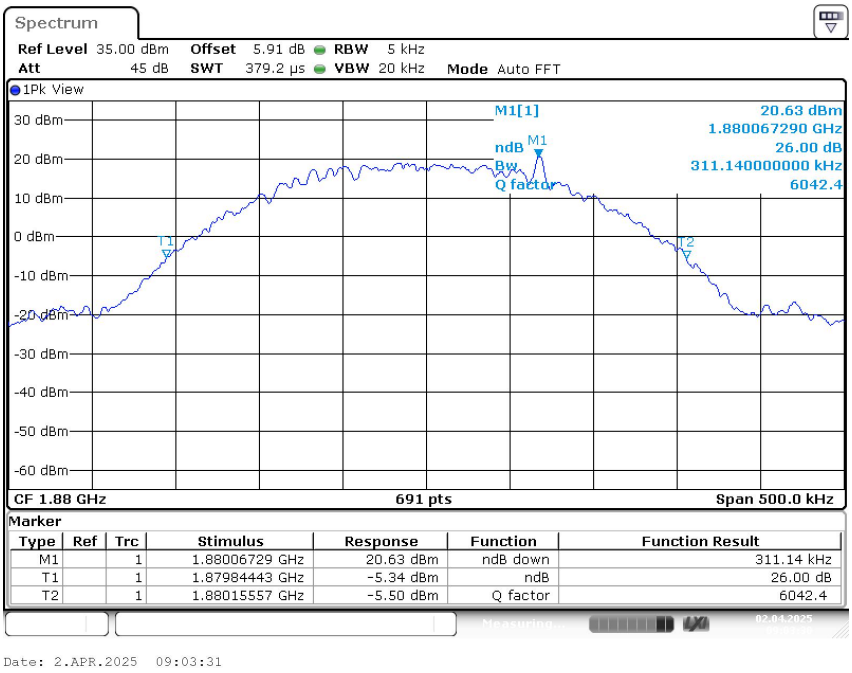
Frequency (MHz)	Emission Bandwidth (-26dBc)(kHz)
1850.2	313.310
1880	311.140
1909.8	314.760

PCS1900

Channel 512-Emission Bandwidth (-26dBc BW)



Channel 661-Emission Bandwidth (-26dBc BW)



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