FCC TEST REPORT

(PART 22)

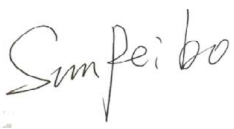
Applicant:	KYOCERA Corporation
Address:	Yokohama Office 2-1-1 Kagahara,Tsuzuki-ku Yokohama-shi,Kanagawa,Japan

Manufacturer or Supplier:	KYOCERA Corporation
Address:	Yokohama Office 2-1-1 Kagahara,Tsuzuki-ku Yokohama-shi,Kanagawa,Japan
Product:	Mobile Phone
Brand Name:	KYOCERA
Model Name:	EB1217
FCC ID	JOYEB1217
Date of tests	Oct. 21, 2024~Dec. 05, 2024

The tests have been carried out according to the requirements of the following standard:

☒ **FCC PART 22, Subpart H** ☒ **ANSI/TIA/EIA-603-D** ☒ **ANSI/TIA/EIA-603-E**	☒ **FCC Part 2** ☒ **ANSI C63.26-2015**

CONCLUSION: The submitted sample was found to COMPLY with the test requirement

Prepared by Hanwen Xu Engineer / Mobile Department	Approved by Peibo Sun Manager / Mobile Department
	
Date:Dec. 05, 2024	Date:Dec. 05, 2024

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
PSU-QBJ2409140110RF01	Original release	Dec. 05, 2024

1 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC Part 22 & Part 2			
STANDARD SECTION	**TEST TYPE**	**RESULT**	**Test lab***
§2.1046	Coduncted Output Power	Compliance	A
§22.913 (a)(5)	Equivalent Isotropic Radiated Power	Compliance	A
§2.1055 §22.355	Frequency Stability	Compliance	A
§2.1049	Occupied Bandwidth	Compliance	A
§22.913 (d)	Peak to average ratio*	Compliance	A
§2.1051 §22.917(a)	Band Edge Measurements	Compliance	A
§2.1051 §22.917(a)	Conducted Spurious Emissions	Compliance	A
§2.1053 §22.917(a)	Radiated Spurious Emissions	Compliance	A

* Refer to KDB 971168 D01 Power Meas License Digital Systems v03r01.

***Test Lab Information Reference**

Lab A:

Huarui 7Layers High Technology (Suzhou) Co., Ltd.

Lab Address:

Tower N, Innovation Center, 88 Zuyi Road, High-tech District, Suzhou City, Anhui Province

Accredited Test Lab Cert 6613.01

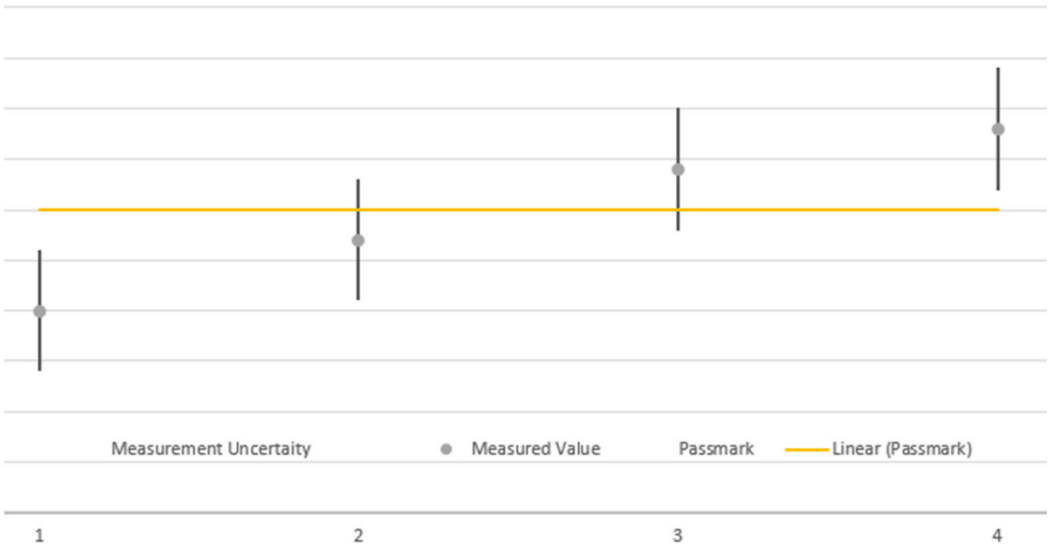
The FCC Site Registration No. is 434559; The Designation No. is CN1325.

1.1 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

MEASUREMENT	UNCERTAINTY
Maximum Peak Output Power	±2.06dB
Frequency Stability	±76.97Hz
Radiated emissions (9KHz~30MHz)	±2.68dB
Radiated emissions (30MHz~1GHz)	±4.98dB
Radiated emissions (1GHz ~6GHz)	±4.70dB
Radiated emissions (6GHz ~18GHz)	±4.60dB
Radiated emissions (18GHz ~40GHz)	±4.12dB
Conducted emissions	±4.01dB
Occupied Channel Bandwidth	±43.58KHz
Band Edge Measurements	±4.70dB
Peak to average ratio	±0.76dB

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.



The verdicts in this test report are given according the above diagram:

Case	Measured Value	Uncertainty Range	Verdict
1	below pass mark	below pass mark	Passed
2	below pass mark	within pass mark	Passed
3	above pass mark	within pass mark	Failed
4	above pass mark	above pass mark	Failed

That means, the laboratory applies, as decision rule (see ISO/IEC 17025:2017), the so-called shared risk principle.

1.2 TEST SITE AND INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Pre-Amplifier	R&S	SCU18F1	100815	Aug.29,24	Aug.28,26
Pre-Amplifier	R&S	SCU08F1	101028	Sep.15,24	Sep.14,26
Vector Signal Generator	R&S	SMBV100B	102176	Mar.29,24	Mar.28,26
Signal Generator	R&S	SMB100A	182185	Mar.29,24	Mar.28,26
3m Fully-anechoic Chamber	TDK	9m*6m*6m	HRSW-SZ-EMC-01Chamber	Nov.25,22	Nov.24,25
3m Semi-anechoic Chamber	TDK	9m*6m*6m	HRSW-SZ-EMC-02Chamber	Nov.25,22	Nov.24,25
EMI TEST Receiver	R&S	ESR26	101734	Mar.28,24	Mar.27,26
EMI TEST Receiver	R&S	ESW44	101973	Mar.28,24	Mar.27,26
Bilog Antenna	SCHWARZBECK	VULB 9163	1264	Dec.26,23	Dec.25,25
Horn Antenna	ETS-LINDGREN	3117	227836	Aug.21,24	Aug.20,26
Horn Antenna (18GHz-40GHz)	Steatite Q-par Antennas	QMS 00880	23486	Jul.15,24	Jul.14,26
Horn Antenna	Steatite Q-par Antennas	QMS 00208	23485	Aug.21,24	Aug.20,26
Loop Antenna	SCHWARZ	HFH2-Z2/Z2E	100976	Feb.22,24	Feb.21,26
WIDEBANDRADIO COMMUNICATION TESTER	R&S	CMW500	169399	Jun.19,24	Jun.18,26
Test Software	EMC32	EMC32	N/A	N/A	N/A
6DB attenuator	Tonscend Technology Co., Ltd	N/A	23062787	N/A	N/A
Test Software	ELEKTRA	ELEKTRA4.32	N/A	N/A	N/A
Open Switch and Control Unit	R&S	OSP220	101964	Sep.30,24	Sep.29,26
DC Source	HYELEC	HY3010B	551016	Aug.30,24	Aug.29,26
Hygrothermograph	DELI	20210528	SZ014	Sep.05,24	Sep.04,26
PC	LENOVO	E14	HRSW0024	N/A	N/A
TMC-AMI18843A(CABLE)	R&S	HF290-NMNM-7.00M	N/A	N/A	N/A
TMC-AMI18843A(CABLE)	R&S	HF290-NMNM-4.00M	N/A	N/A	N/A
CABLE	R&S	W13.02	N/A	Apr.27,24	Apr.26,25
CABLE	R&S	W12.14	N/A	Apr.27,24	Apr.26,25
CABLE	R&S	J12J103539-00-1	SEP-03-20-069	Apr.27,24	Apr.26,25
CABLE	R&S	J12J103539-00-1	SEP-03-20-070	Apr.27,24	Apr.26,25
Temperature Chamber	votsch	VT4002	585660781000050	May.30,24	May.29,26

NOTE:

1. The calibration interval of the above test instruments is 12 /24/ 36 months and the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.

2. The test was performed in 3m Semi-anechoic Chamber and RF Oven Room.
3. The horn antenna is used only for the measurement of emission frequency above 1GHz if tested.
4. The FCC Site Registration No. is 434559; The Designation No. is CN1325.

2 GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

PRODUCT*	Mobile Phone	
BRAND NAME*	KYOCERA	
MODEL NAME*	EB1217	
NOMINAL VOLTAGE*	3.91Vdc (Battery)	
MODULATION TYPE	**GSM/GPRS/EDGE**	GMSK,8PSK
	WCDMA	QPSK, 16QAM
FREQUENCY RANGE	**GSM/GPRS/EDGE**	824.2MHz ~ 848.8MHz
	WCDMA	826.4MHz ~ 846.6MHz
MAX. ERP POWER	**GSM/GPRS850**	477.53mW
	EDGE850	150.31mW
	WCDMA B5	70.47mW
EMISSION DESIGNATORGOGN	**GSM /GPRS850**	247KGXW
	EDGE850	250KG7W
	WCDMA B5	4M15F9W
ANTENNA GAIN*	GSM850	-3.3dBi
	WCDMA V	-3.3dBi
ANTENNA TYPE*	IFA Antenna	
HW VERSION*	DVT2	
SW VERSION*	0.330SR	
I/O PORTS*	Refer to user's manual	
CABLE SUPPLIED*	N/A	
EXTREME TEMPERATURE*	-20℃ ~ 60℃	
EXTREME VOLTAGE*	3.4V~ 4.48V	

NOTE:

1. ***Since the above data and/or information is provided by the client relevant results or conclusions of this report are only made for these data and/or information, Test Lab is not responsible for the authenticity, integrity and results of the data and information and/or the validity of the conclusion.
2. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.

3. The EUT incorporates a SISO function. Physically, the EUT provides one completed transmitter and one receiver.

MODULATION MODE	TX FUNCTION
GSM/GPRS/EDGE	1TX/1RX
WCDMA	1TX/1RX

4. For the test results, the EUT had been tested with all conditions. But only the worst case was shown in the test report.

5. The detail differences from the Main manufacturer and Secondary manufacturer are as listed below:

Description	Main manufacturer	Secondary manufacturer
LCM	ShenZhen LIDE Communications Ltd.	Wannian Lianchuang Display Technology Co. , Ltd.
Audio jack FPC	Shenzhen Xinyu Tengyue Electronics Co.,Ltd.	Jiangxi Zhiboxin Technology Limited Company
MIC	AAC	Gettop
Memory	Samsung	Biwin
Radio frequency switch_DFN-6_0.4-4.2 GHz_SPDT_GPIO_patch	Innowave	Champhill

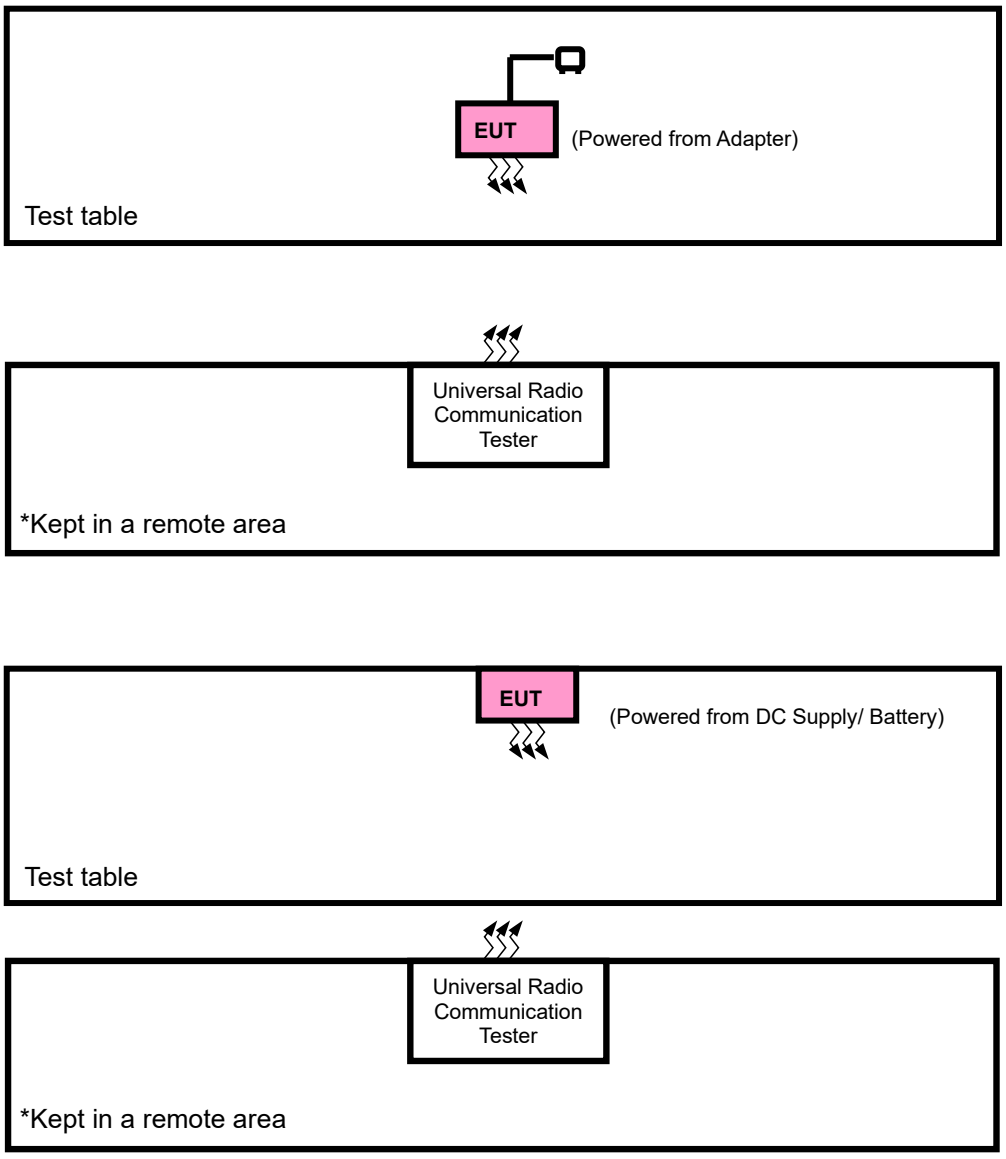
The above materials have only manufacturer differences, and the functions are the same.Other than these changes, other RF performance is the same and does not affect the RF results.

6. **List of Accessory:**

ACCESSORIES	BRAND	MODEL	SPECIFICATION
CPU	MTK	MT6835T	N/A
eMMC 1 (=ROM 1)	samsung	KM5P9001DM-B424	N/A
eMMC 2 (=ROM 2)	biwin	BW2A2KZC02-64G	N/A
RAM 1	samsun	KM5P9001DM-B424	N/A
RAM 2	biwin	BW2A2KZC02-64G	N/A
Battery	KYOCERA	5AAXBT152	Capacity：3.91Vdc, 4400mAh/17.3Wh

2.2 CONFIGURATION OF SYSTEM UNDER TEST

FOR RADIATION EMISSION



2.3 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	Adapter	N/A	N/A	N/A	N/A
2	Earphone	N/A	N/A	N/A	N/A

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	USB Line: Unshielded, Detachable, 1.0m;

2.4 TEST ITEM AND TEST CONFIGURATION

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, XYZ axis and antenna ports.The worst case in ERP and radiated emission was found when positioned on X-plane for GSM /EDGE, Y-plane for WCDMA. Following channel(s) was (were) selected for the final test as listed below:

EUT CONFIGURE MODE	DESCRIPTION
A	EUT + Adapter with GSM or WCDMA link
B	EUT + DC Supply/Battery with GSM or WCDMA link

GSM MODE

EUT CONFIGURE MODE	TEST ITEM	Available Channel	Tested Channel	MODE
A	ERP	128 to 251	128, 189, 251	GSM,EDGE
B	FREQUENCY STABILITY	128 to 251	128, 189, 251	GSM,EDGE
A	OCCUPIED BANDWIDTH	128 to 251	128, 189, 251	GSM,EDGE
A	BAND EDGE	128 to 251	128, 251	GSM,EDGE
A	CONDUCTED EMISSION	128 to 251	128, 189, 251	GSM,EDGE
A	RADIATED EMISSION	128 to 251	128, 189, 251	GSM,EDGE
A	PEAK TO AVERAGE RATIO	128 to 251	128, 189, 251	GSM,EDGE

WCDMA MODE

EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	MODE
A	ERP	4132 to 4233	4132, 4182, 4233	WCDMA
B	FREQUENCY STABILITY	4132 to 4233	4132, 4182, 4233	WCDMA
A	OCCUPIED BANDWIDTH	4132 to 4233	4132, 4182, 4233	WCDMA
A	BAND EDGE	4132 to 4233	4132, 4233	WCDMA
A	CONDCUDETED EMISSION	4132 to 4233	4132, 4182, 4233	WCDMA
A	RADIATED EMISSION	4132 to 4233	4132, 4182, 4233	WCDMA
A	PEAK TO AVERAGE RATIO	4132 to 4233	4132, 4182, 4233	WCDMA

TEST CONDITION			
TEST ITEM	**ENVIRONMENTAL CONDITIONS**	**INPUT POWER**	**TESTED BY**
ERP	23deg. C, 70%RH	DC 5V By Adapter	Hanwen Xu
FREQUENCY STABILITY	23deg. C, 70%RH	DC 3.4V/ 3.91V/ 4.48V By Battery	Hanwen Xu
OCCUPIED BANDWIDTH	23deg. C, 70%RH	DC 5V By Adapter	Hanwen Xu
BAND EDGE	23deg. C, 70%RH	DC 5V By Adapter	Hanwen Xu
CONDCUDETED EMISSION	23deg. C, 70%RH	DC 5V By Adapter	Hanwen Xu
RADIATED EMISSION	23deg. C, 70%RH	DC 5V By Adapter	Hanwen Xu
PEAK TO AVERAGE RATIO	23deg. C, 70%RH	DC 5V By Adapter	Hanwen Xu

2.5 EUT OPERATING CONDITIONS

The EUT makes a call to the communication simulator. The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency

2.6 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a RF product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

FCC 47 CFR Part 2

FCC 47 CFR Part 22

KDB 971168 D01 Power Meas License Digital Systems v03r01

ANSI/TIA/EIA-603-D

ANSI/TIA/EIA-603-E

ANSI C63.26-2015

NOTE: All test items have been performed and recorded as per the above standards.

3 TEST TYPES AND RESULTS

3.1 OUTPUT POWER MEASUREMENT

3.1.1 LIMITS OF OUTPUT POWER MEASUREMENT

Mobile / Portable station are limited to 7 watts e.r.p.

3.1.2 TEST PROCEDURES

EIRP / ERP MEASUREMENT:

Per KDB 971168 D01 Power Meas License Digital Systems v03r01 or subclause 5.2.5.5 of ANSI C63.26-2015, the relevant equation for determing the ERP or EIRP from the conducted RF output power measured using the guidance provided above is:

ERP or EIRP = $P_{Meas} + G_T – L_C$

Where:

ERP or EIRP = effective radiated power or equivalent isotropically radiated power, respectively

(expressed in the same units as P_{Meas}, typically dBW or dBm);

P_{Meas} = measured transmitter output power or PSD, in dBm or dBW;

G_T = gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP);

L_C = signal attenuation in the connecting cable between the transmitter and antenna, in dB.

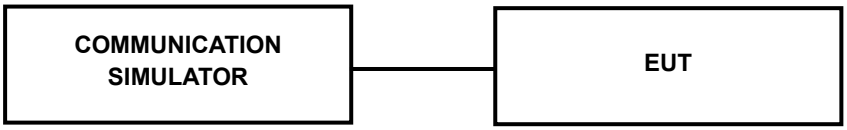
CONDUCTED POWER MEASUREMENT:

The EUT was set up for the maximum power with WCDMA link data modulation and link up with simulator. Set the EUT to transmit under low, middle and high channel and record the power level shown on simulator.

3.1.3 TEST SETUP

EIRP / ERP Measurement:

CONDUCTED POWER MEASUREMENT:



3.1.4 TEST RESULTS

CONDUCTED OUTPUT POWER (dBm):

Band	GSM850(ANT0)		
Channel	128	189	251
Frequency	824.2	836.4	848.8
GSM	32.21	32.22	32.09
GPRS 1Tx Slot	**32.24**	32.21	32.11
GPRS 2Tx Slot	31.69	31.68	31.60
GPRS 3Tx Slot	30.40	30.05	29.94
GPRS 4Tx Slot	28.90	28.88	28.78
EDGE 1Tx Slot	27.21	27.22	27.02
EDGE 2Tx Slot	26.10	26.17	25.65
EDGE 3Tx Slot	23.98	24.01	23.76
EDGE 4Tx Slot	22.83	22.72	22.55

Band	WCDMA V(ANT0)		
TX Channel	4132	4182	4233
Rx Channel	4357	4407	4458
Frequency	826.4	836.4	846.6
RMC 12.2K	23.92	**23.93**	23.83
HSDPA Subtest-1	22.93	22.97	22.91
HSDPA Subtest-2	22.89	22.93	22.95
HSDPA Subtest-3	22.56	22.59	22.51
HSDPA Subtest-4	22.40	22.45	22.36
DC-HSDPA Subtest-1	22.90	22.89	22.85
DC-HSDPA Subtest-2	22.82	22.88	22.87
DC-HSDPA Subtest-3	22.46	22.48	22.40
DC-HSDPA Subtest-4	22.27	22.40	22.26
HSUPA Subtest-1	21.36	21.38	21.32
HSUPA Subtest-2	20.90	20.91	20.84
HSUPA Subtest-3	20.91	20.90	20.83
HSUPA Subtest-4	20.40	20.41	20.34
HSUPA Subtest-5	21.85	21.87	21.79
HSPA+ Subtest-1	22.49	22.53	22.41

ERP POWER (dBm)

GSM 850						
Channel	**Frequency (MHz)**	**Conducted Power (dBm)**	**G_T-L_C (dB)**	**ERP (dBm)**	**ERP (mW)**	**Limit (W)**
128	824.2	32.24	-3.3	26.79	477.53	7
189	836.4	32.22	-3.3	26.77	475.34	7
251	848.8	32.11	-3.3	26.66	463.45	7

EDGE 850						
Channel	**Frequency (MHz)**	**Conducted Power (dBm)**	**G_T-L_C (dB)**	**ERP (dBm)**	**ERP (mW)**	**Limit (W)**
128	824.2	27.21	-3.3	21.76	149.97	7
189	836.4	27.22	-3.3	21.77	150.31	7
251	848.8	27.02	-3.3	21.57	143.55	7

WCDMA B5						
Channel	**Frequency (MHz)**	**Conducted Power (dBm)**	**G_T-L_C (dB)**	**ERP (dBm)**	**ERP (mW)**	**Limit (W)**
4132	826.4	23.92	-3.3	18.47	70.31	7
4182	836.4	23.93	-3.3	18.48	70.47	7
4233	846.6	23.83	-3.3	18.38	68.87	7

REMARKS: ERP Output Power (dBm) = EIRP (dBm) -2.15(dB).

3.2 FREQUENCY STABILITY MEASUREMENT

3.2.1 LIMITS OF FREQUENCY STABILIITY MEASUREMENT

1.5 ppm is for base and fixed station. 2.5 ppm is for mobile station.

3.2.2 TEST PROCEDURE

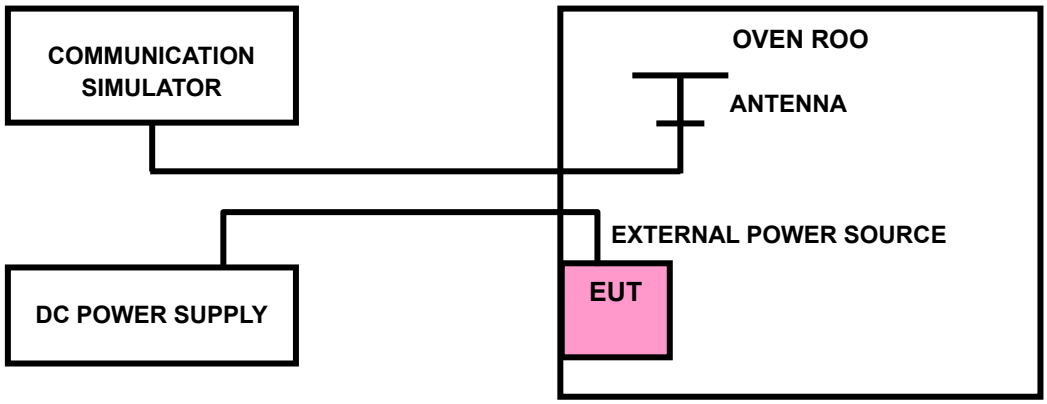
a. Device is placed at the oven room. The oven room could control the temperatures and humidity. Power warm up is at least 15 min and power applied should perform before recording frequency error.

b. EUT is connected the external power supply to control the DC input power. The test voltage range is from minimum to maximum working voltage. Each step shall be record the frequency error rate.

c. The temperature range step is 10 degrees in this test items. All temperature levels shall be hold the ±0.5℃ during the measurement testing. The each temperature step shall be at least 0.5 hours, consider the EUT could be test under the stability condition.

NOTE: The frequency error was recorded frequency error from the communication simulator.

3.2.3 TEST SETUP



3.2.4 TEST RESULTS

Please Refer to Appendix of this test report.

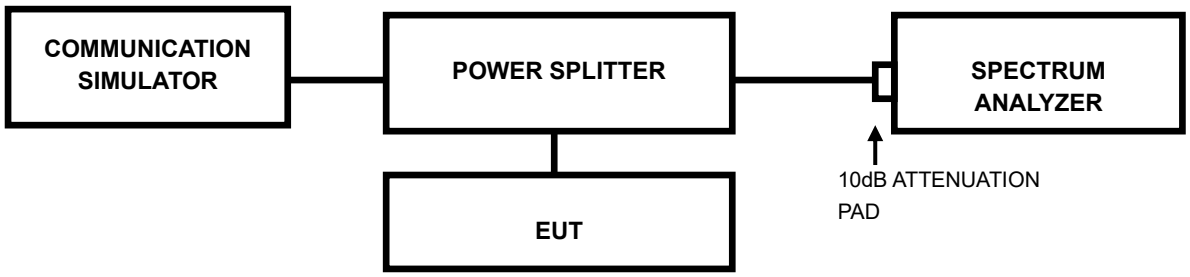
Note: VL = Low voltage(3.4V); VN/NV = Normal voltage(3.91V); VH = High voltage(4.48V);
NT = Normal temperature (25℃)

3.3 OCCUPIED BANDWIDTH MEASUREMENT

3.3.1 LIMITS OF OCCUPIED BANDWIDTH MEASUREMENT

The width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5 %of the total mean power of a given emission.

3.3.2 TEST SETUP



3.3.3 TEST PROCEDURES

a. The conducted occupied bandwidth used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.
b. Use OBW measurement function of Spectrum analyzer to measure 99 % occupied bandwidth.

3.3.4 TEST RESULTS

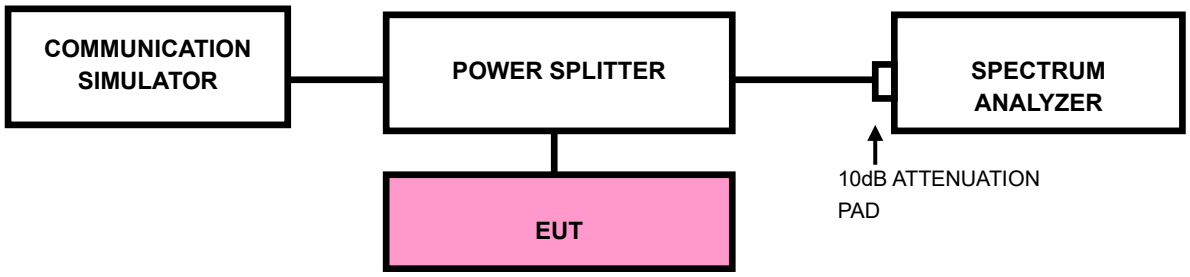
Please Refer to Appendix of this test report.

3.4 BAND EDGE MEASUREMENT

3.4.1 LIMITS OF BAND EDGE MEASUREMENT

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. In the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

3.4.2 TEST SETUP



3.4.3 TEST PROCEDURES

a) All measurements were done at low and high operational frequency range

b) Connect the transmitter to the spectrum analyzer via coaxial cable while ensuring proper impedance matching.

c) Tune the analyzer to the nominal center frequency of the emission bandwidth

(EBW)

d) .Set the resolution bandwidth (RBW) ≧ 1% EBW in the 1MHz band immediately outside and adjacent to the band edge.

e) Beyond the 1MHz band from the band edge, RBW=1MHz was used.

f) Set the video bandwidth (VBW) to ≧3 x RBW.

g) Select the average power (RMS) display detector.

h) Set the number of measurement points to ≧ 1001.

i) Use auto-coupled sweep time.

j) Perform the measurement over an interval of time when the transmission is continuous and at its maximum power level.

k) The RF fundamental frequency should be excluded against the limit line in the operating frequency band and use RBW is 10KHz or 100KHz.

l) Record the max trace plot into the test report.

3.4.4 TEST RESULTS

Please Refer to Appendix of this test report.

3.5 CONDUCTED SPURIOUS EMISSIONS

3.5.1 LIMITS OF CONDUCTED SPURIOUS EMISSIONS MEASUREMENT

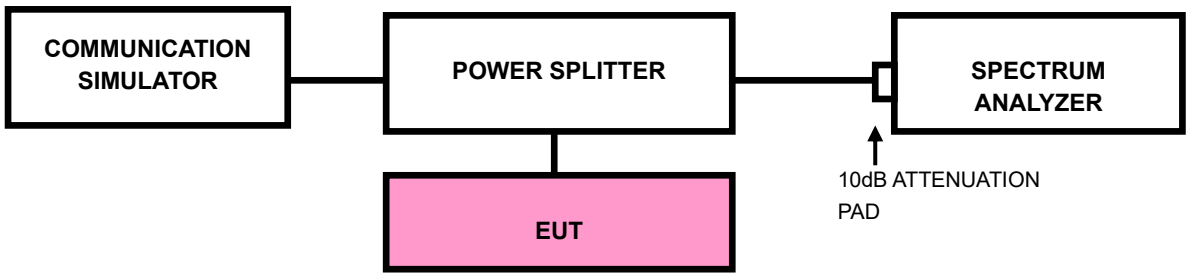
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB. The emission limit equal to –13dBm.

3.5.2 TEST PROCEDURE

a. The EUT makes a phone call to the communication simulator. All measurements were done at low, middle and high operational frequency range.

b. Measuring frequency range is from 9kHz up to a frequency including its 10 th harmonic. 10dB attenuation pad is connected with spectrum. RBW=1MHz and VBW=3MHz is used for conducted emission measurement.

3.5.3 TEST SETUP



3.5.4 TEST RESULTS

NOTE： The 9K~30MHz amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required in the report.

Please Refer to Appendix of this test report.

3.6 RADIATED EMISSION MEASUREMENT

3.6.1 LIMITS OF RADIATED EMISSION MEASUREMENT

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. The emission limit equal to –13dBm.

3.6.2 TEST PROCEDURES

a. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The “Read Value” is the spectrum reading the maximum power value.

b. The substitution horn antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a TX cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to “Read Value “ of step a. Record the power level of S.G

c. EIRP = Output power level of S.G – TX cable loss + Antenna gain of substitution horn.

d. E.R.P power can be calculated form E.I.R.P power by subtracting the gain of dipole, E.R.P power = E.I.P.R power - 2.15dBi.

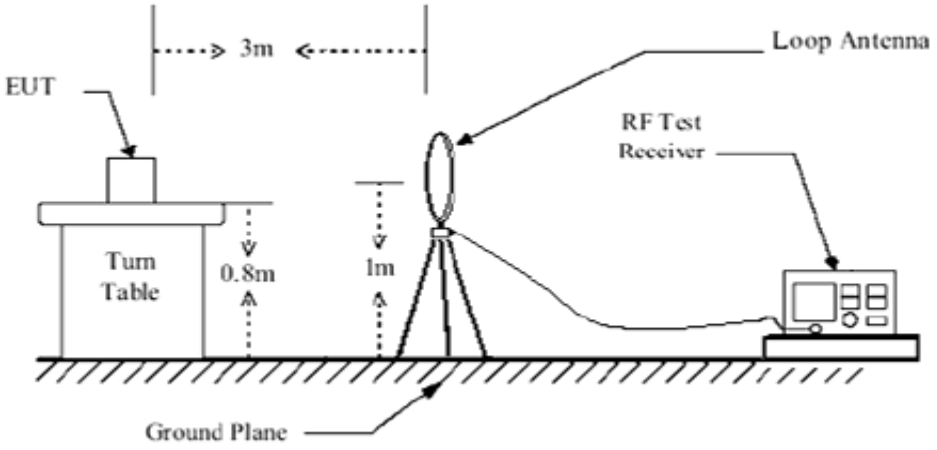
NOTE: The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1MHz/3MHz.

3.6.3 DEVIATION FROM TEST STANDARD

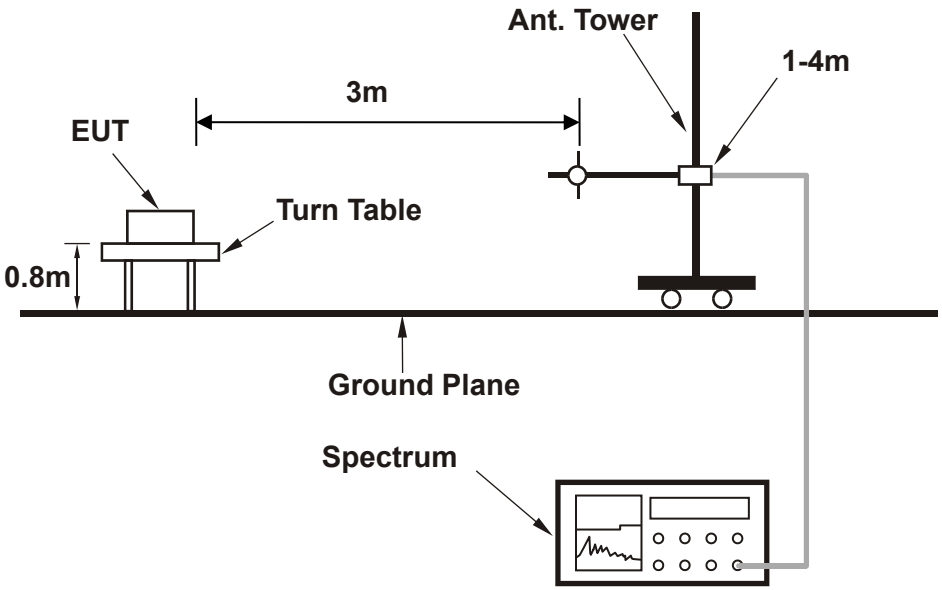
No deviation

3.6.4 TEST SETUP

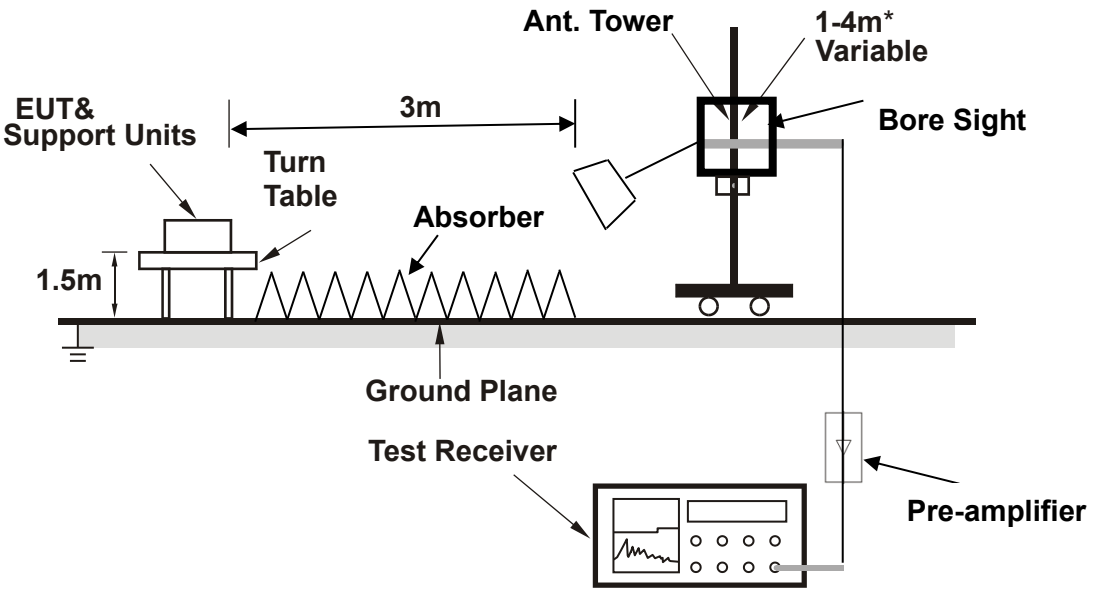
< Frequency Range below 30MHz >



< Frequency Range 30MHz~1GHz >



<Frequency Range above 1GHz>



Note: Above 1G is a directional antenna

Depends on the EUT height and the antenna 3dB beamwidth both, refer to section 7.3 of CISPR 16-2-3.

For the actual test configuration, please refer to the attached file (Test Setup Photo).

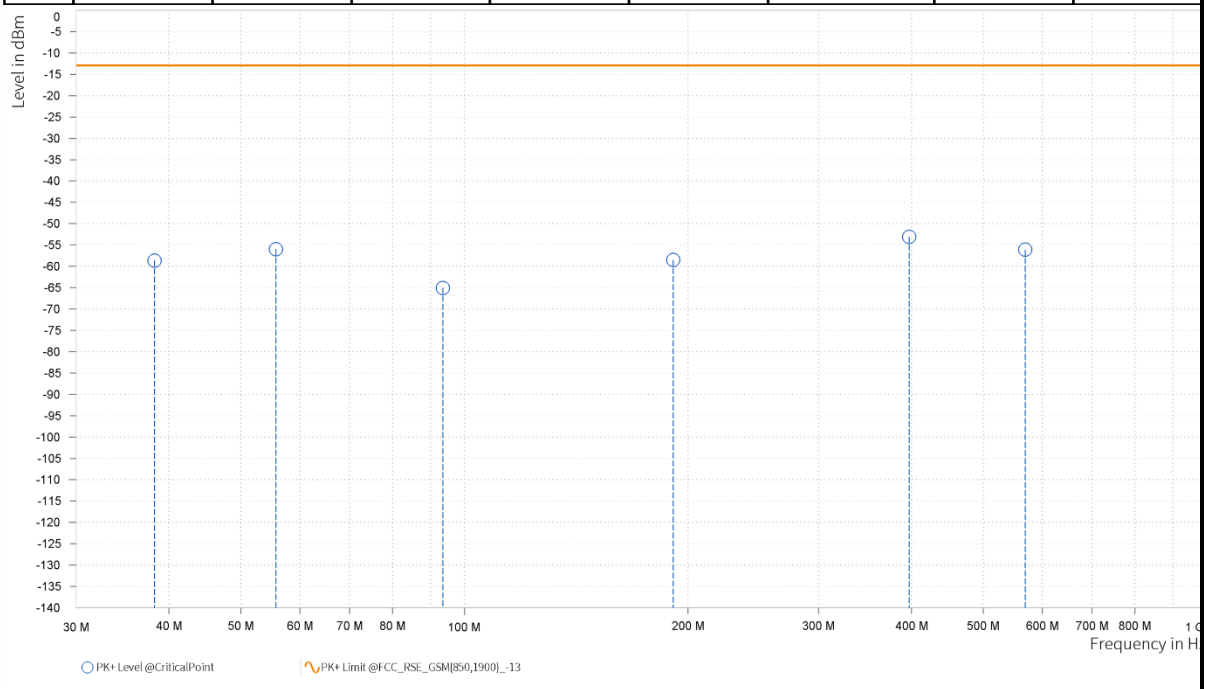
3.6.5 TEST RESULTS

NOTE： The 9K~30MHz amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required in the report.

BELOW 1GHz WORST-CASE DATA			
EDGE 850			
MODE	TX channel 128	**FREQUENCY RANGE**	Below 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	120Vac 60HZ
TESTED BY	Hanwen Xu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

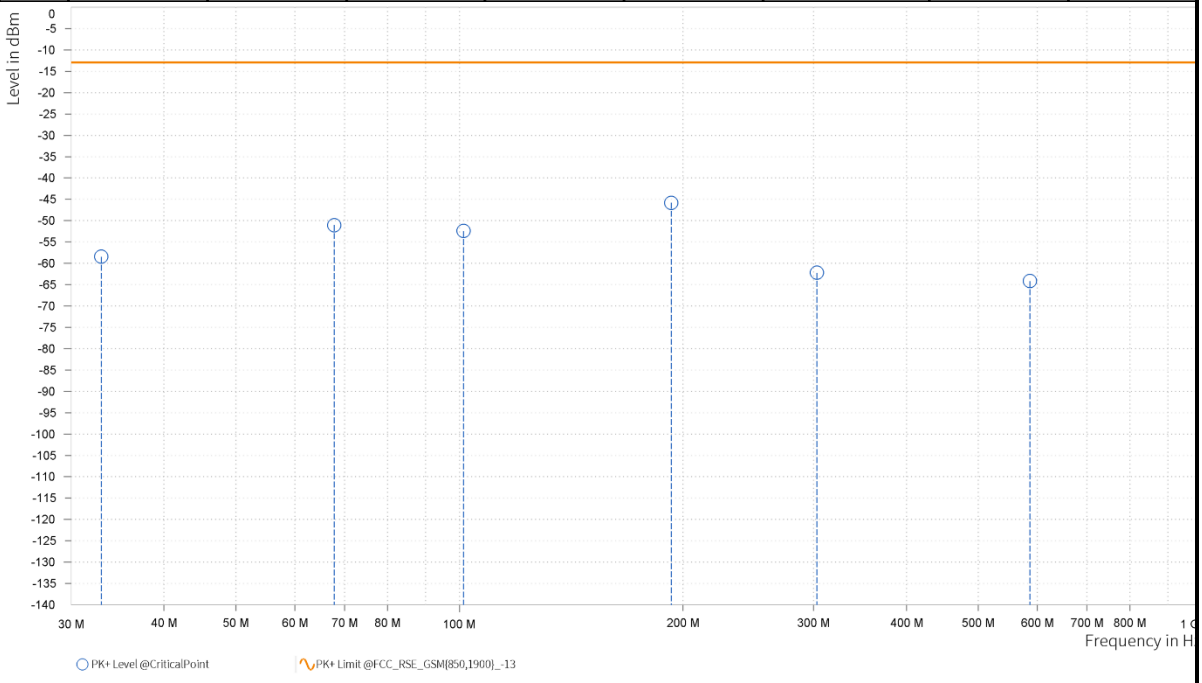
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	38.245	-58.64	-13.00	45.64	-1.64	H	170.2	1.00
1	55.705	-56.02	-13.00	43.02	-7.60	H	278.2	2.00
1	93.535	-65.04	-13.00	52.04	-13.03	H	256.2	1.00
1	191.020	-58.52	-13.00	45.52	-5.62	H	278.2	2.00
1	397.145	-53.07	-13.00	40.07	-0.21	H	278.2	2.00
1	569.320	-56.11	-13.00	43.11	-1.52	H	19.6	2.00



MODE	TX channel 128	FREQUENCY RANGE	Below 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	120Vac 60HZ
TESTED BY	Hanwen Xu		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	32.910	-58.44	-13.00	45.44	-8.13	V	84.2	1.00
1	67.830	-51.07	-13.00	38.07	-9.34	V	278.3	2.00
1	101.295	-52.43	-13.00	39.43	1.99	V	1	1.00
1	192.960	-45.82	-13.00	32.82	-8.10	V	17.8	2.00
1	303.055	-62.20	-13.00	49.20	-2.21	V	17.8	2.00
1	586.780	-64.16	-13.00	51.16	1.29	V	84.2	1.00



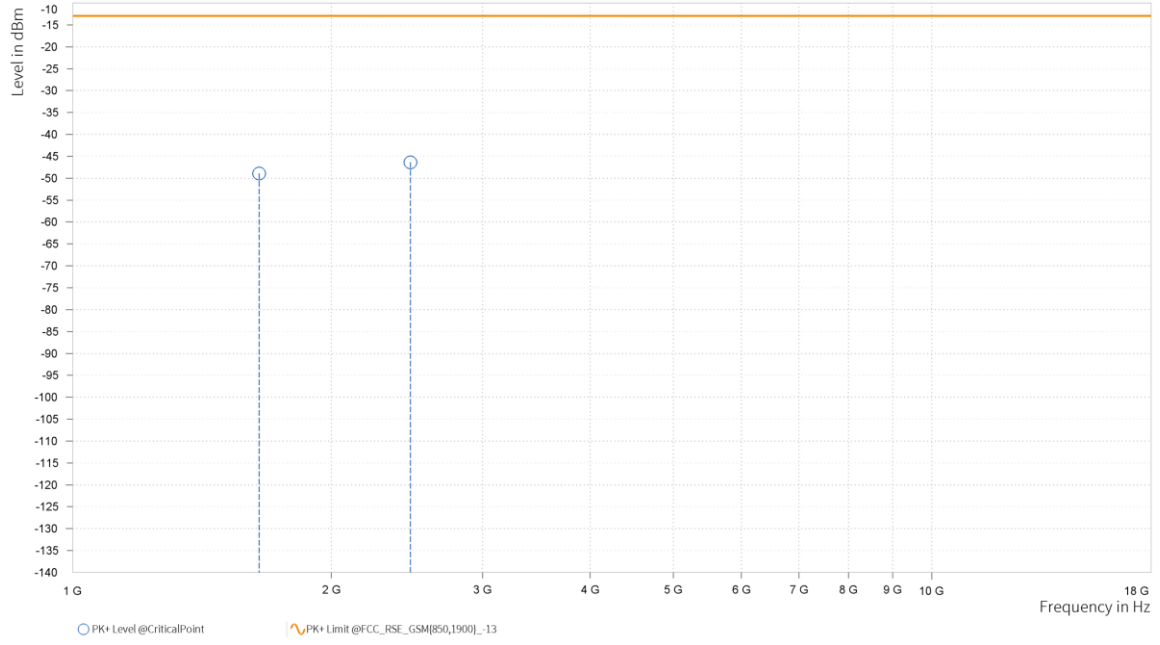
ABOVE 1GHz DATA

Note: For higher frequency, the emission is too low to be detected.

GSM 850			
MODE	TX channel 128	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	120Vac 60HZ
TESTED BY	Hanwen Xu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

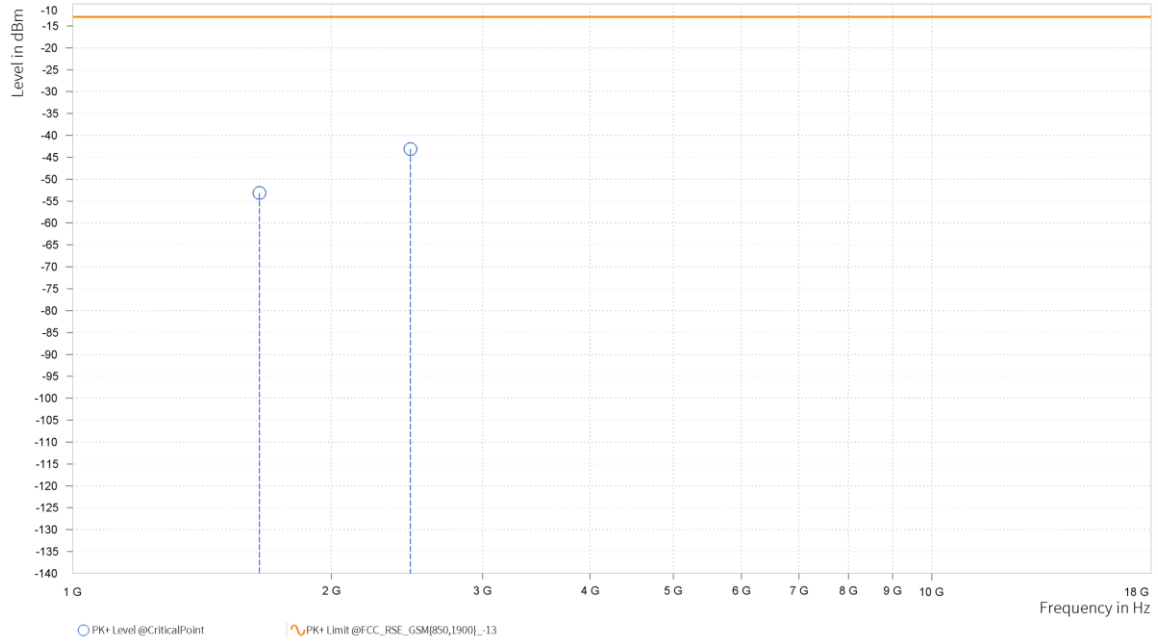
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,648.000	-48.93	-13.00	35.93	15.90	H	88.8	1.00
3	2,472.600	-46.35	-13.00	33.35	20.69	H	161.8	1.00



MODE	TX channel 128	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	120Vac 60HZ
TESTED BY	Hanwen Xu		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

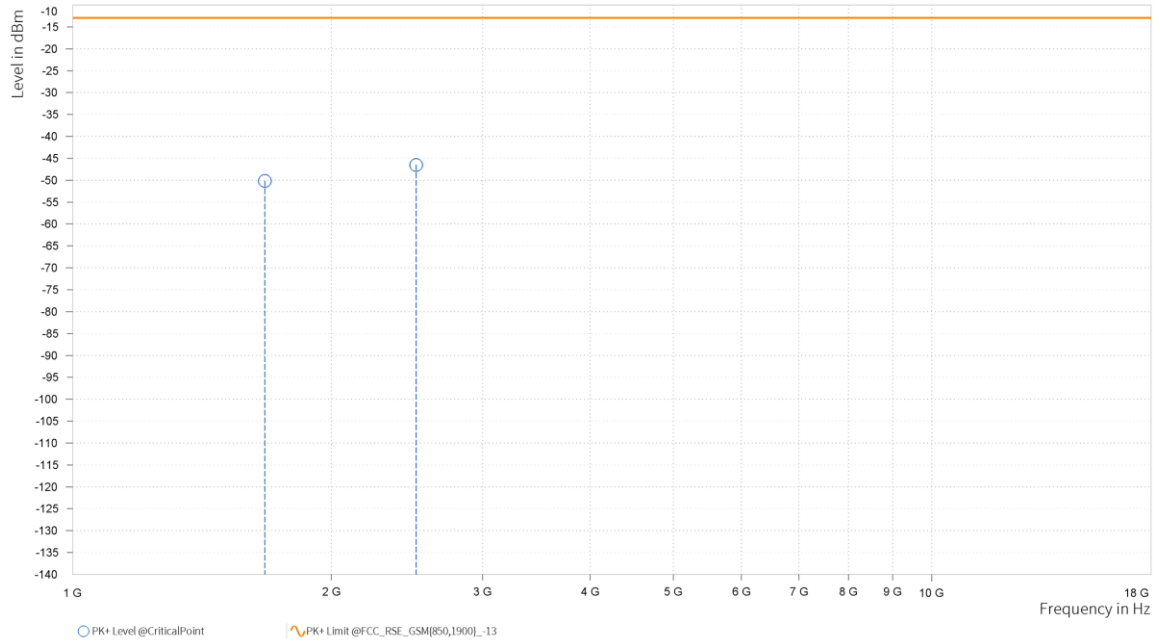
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,648.400	-53.16	-13.00	40.16	15.51	V	1.7	2.00
3	2,472.600	-43.08	-13.00	30.08	20.95	V	1	1.00



MODE	TX channel 189	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	120Vac 60HZ
TESTED BY	Hanwen Xu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

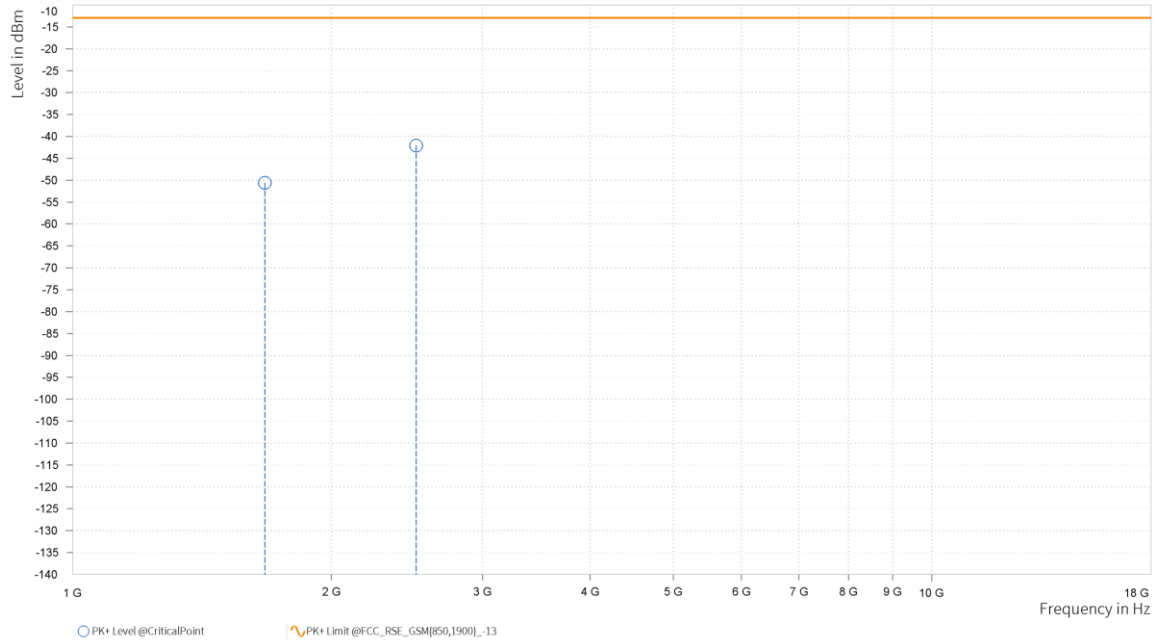
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,672.800	-50.16	-13.00	37.16	16.68	H	1.9	2.00
3	2,509.200	-46.53	-13.00	33.53	21.00	H	0.9	2.00



MODE	TX channel 189	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	120Vac 60HZ
TESTED BY	Hanwen Xu		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

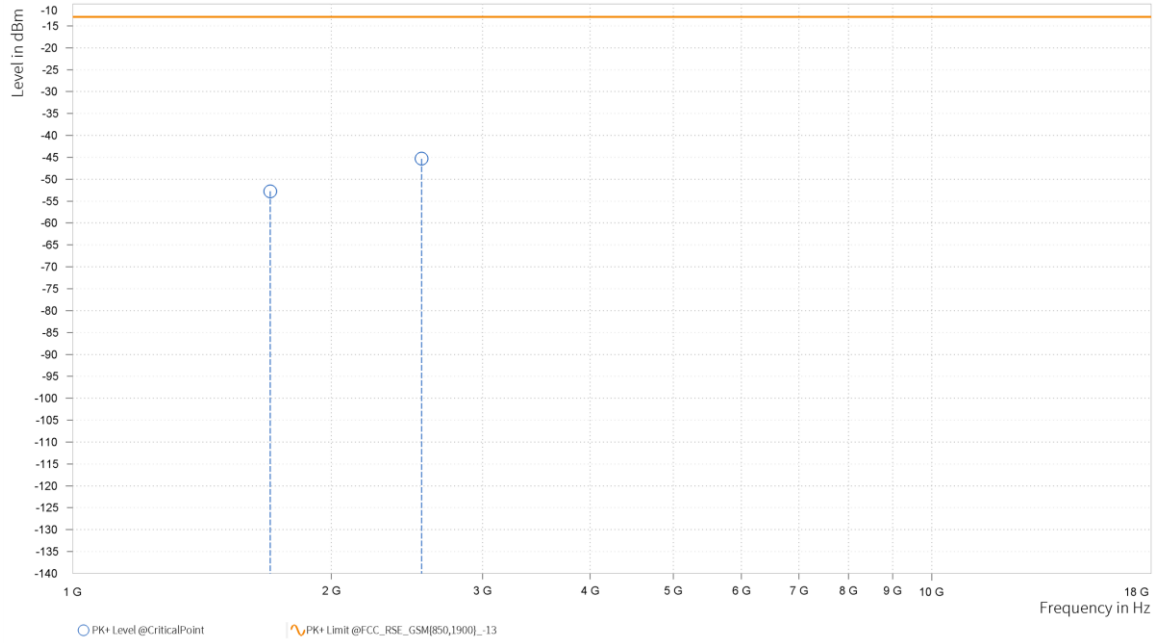
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,672.800	-50.61	-13.00	37.61	15.57	V	272.2	2.00
3	2,509.200	-42.10	-13.00	29.10	21.61	V	1	1.00



MODE	TX channel 251	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	120Vac 60HZ
TESTED BY	Hanwen Xu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

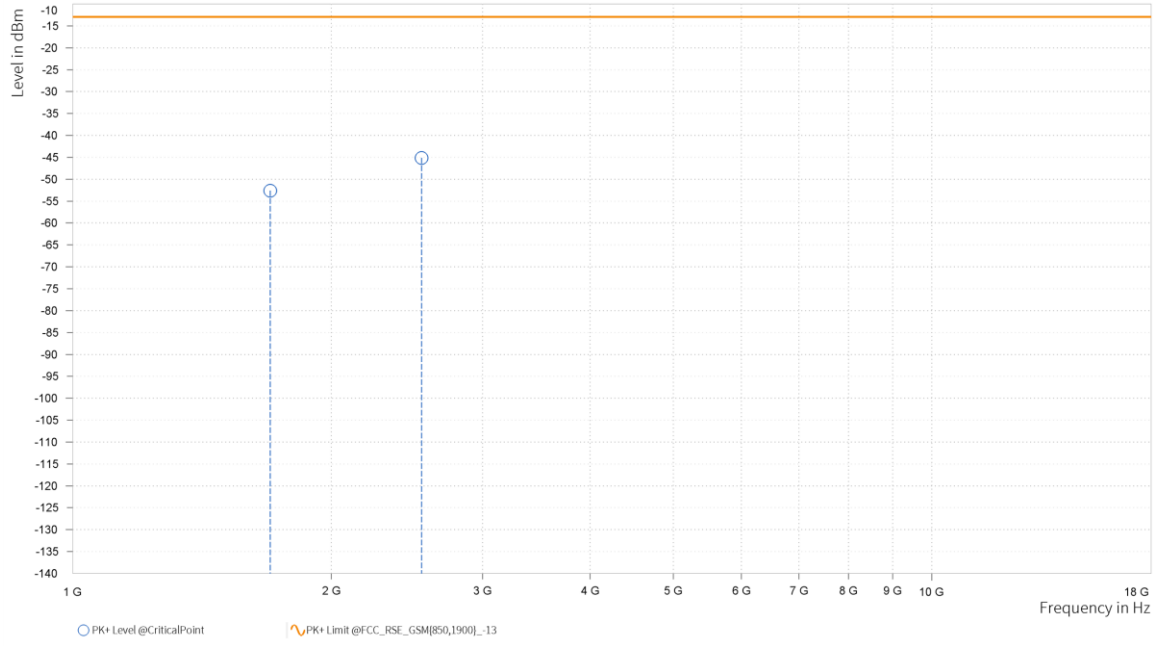
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,697.600	-52.75	-13.00	39.75	17.07	H	359	2.00
3	2,546.400	-45.33	-13.00	32.33	20.95	H	112	2.00



MODE	TX channel 251	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	120Vac 60HZ
TESTED BY	Hanwen Xu		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

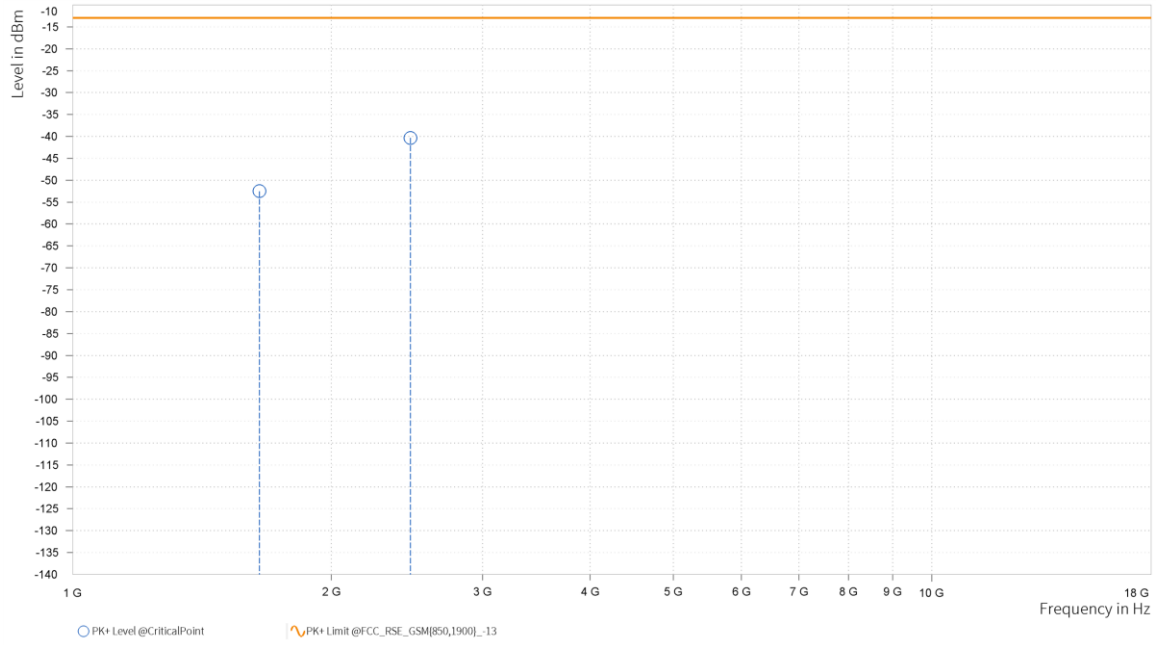
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,697.600	-52.61	-13.00	39.61	16.29	V	1	2.00
3	2,546.400	-45.14	-13.00	32.14	21.56	V	359	2.00



EDGE 850			
MODE	TX channel 128	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	120Vac 60HZ
TESTED BY	Hanwen Xu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

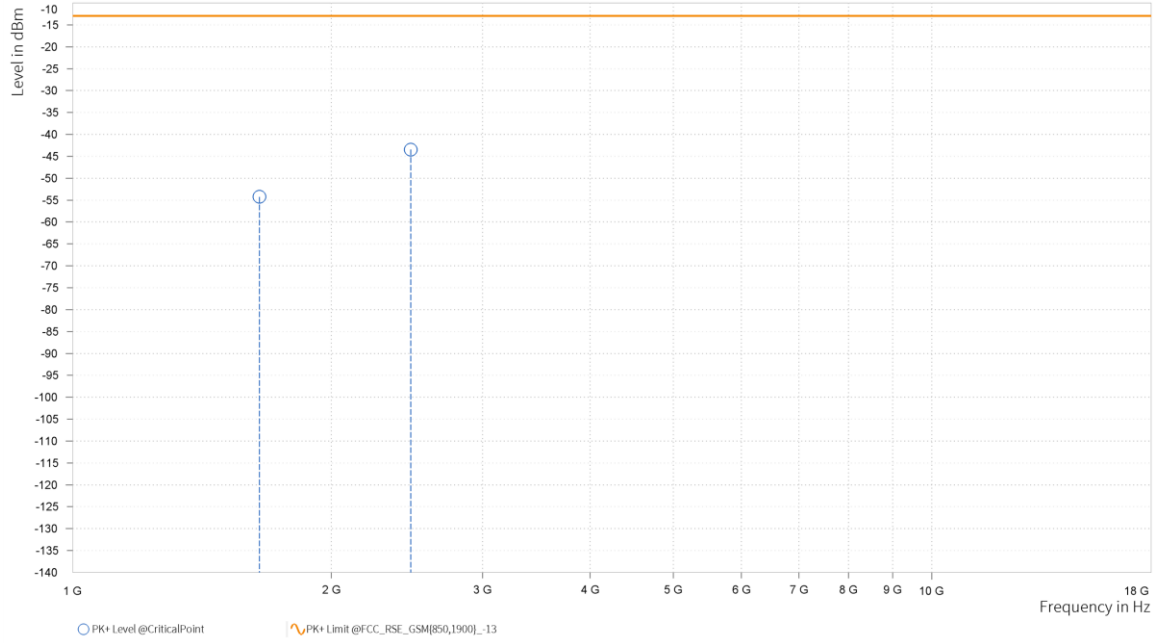
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,648.400	-52.49	-13.00	39.49	15.93	H	358.2	1.00
3	2,472.500	-40.32	-13.00	27.32	20.69	H	359	1.00



MODE	TX channel 128	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	120Vac 60HZ
TESTED BY	Hanwen Xu		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

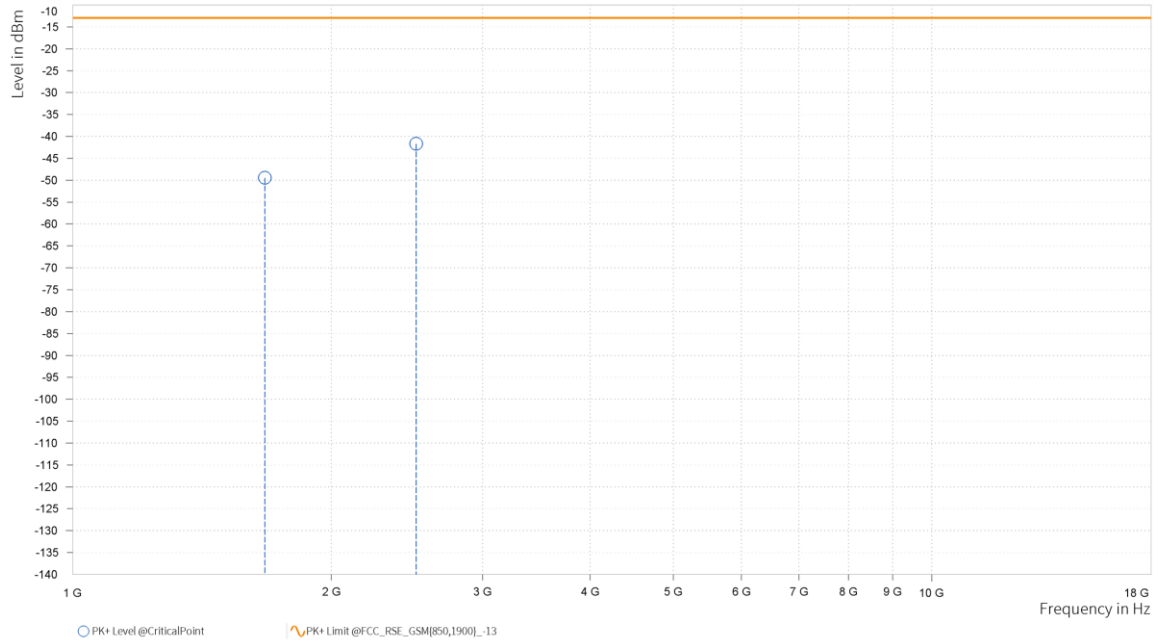
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,648.400	-54.23	-13.00	41.23	15.51	V	272.2	2.00
3	2,473.000	-43.48	-13.00	30.48	20.95	V	199.4	2.00



MODE	TX channel 189	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	120Vac 60HZ
TESTED BY	Hanwen Xu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

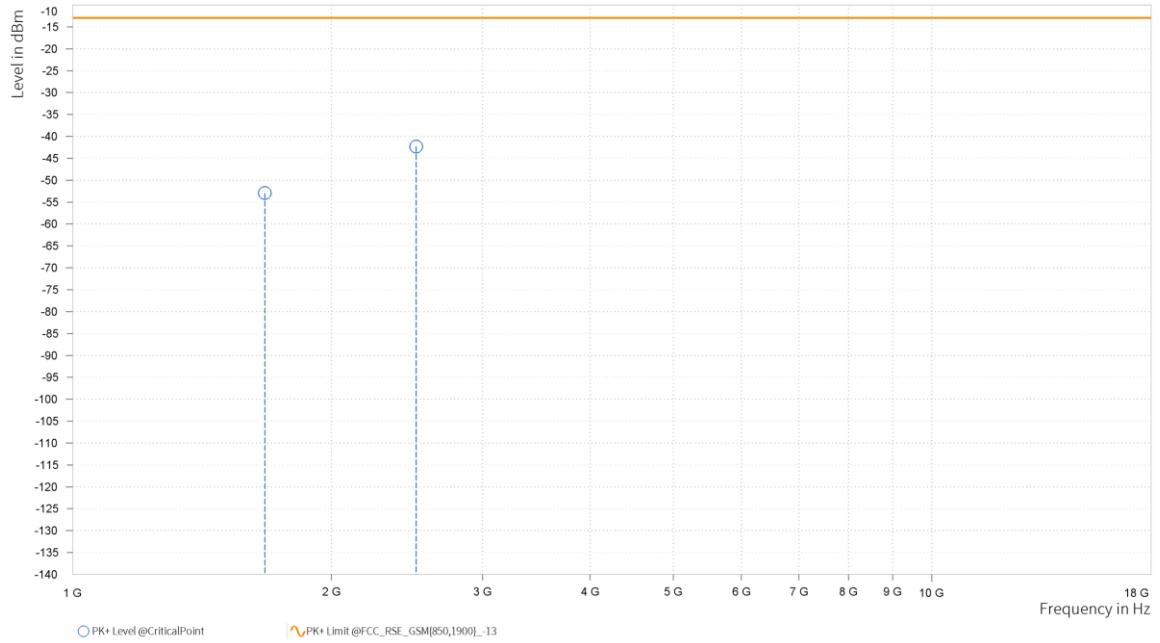
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,672.800	-49.47	-13.00	36.47	16.68	H	359	2.00
3	2,509.000	-41.70	-13.00	28.70	21.00	H	1	1.00



MODE	TX channel 189	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	120Vac 60HZ
TESTED BY	Hanwen Xu		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

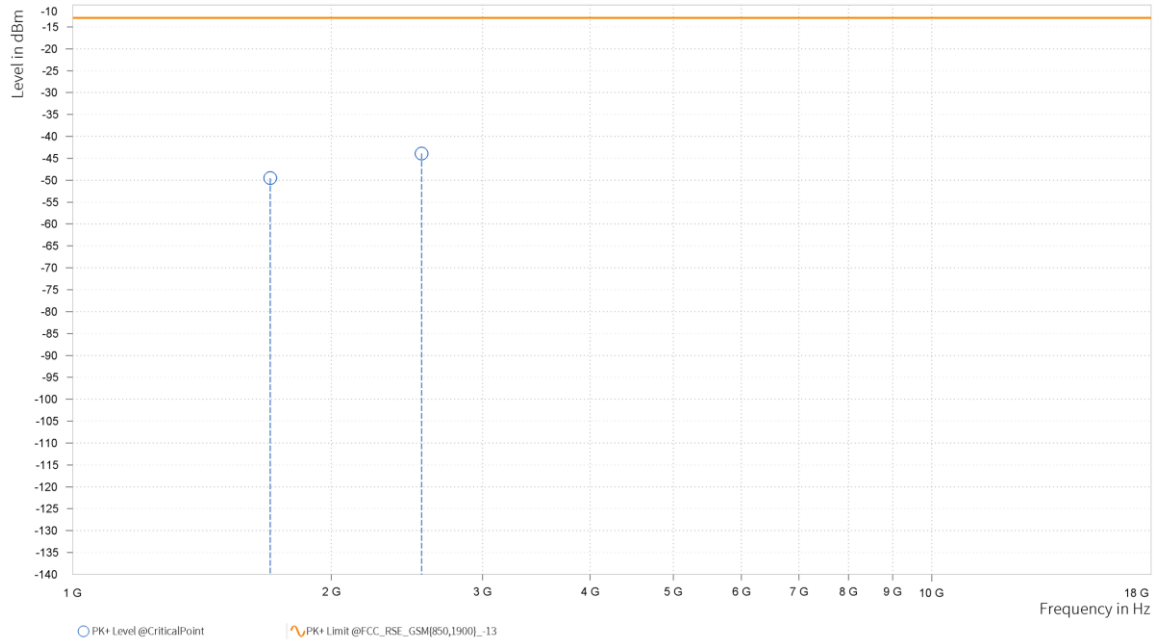
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,672.800	-52.92	-13.00	39.92	15.57	V	358.5	1.00
3	2,509.000	-42.29	-13.00	29.29	21.61	V	197	2.00



MODE	TX channel 251	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	120Vac 60HZ
TESTED BY	Hanwen Xu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

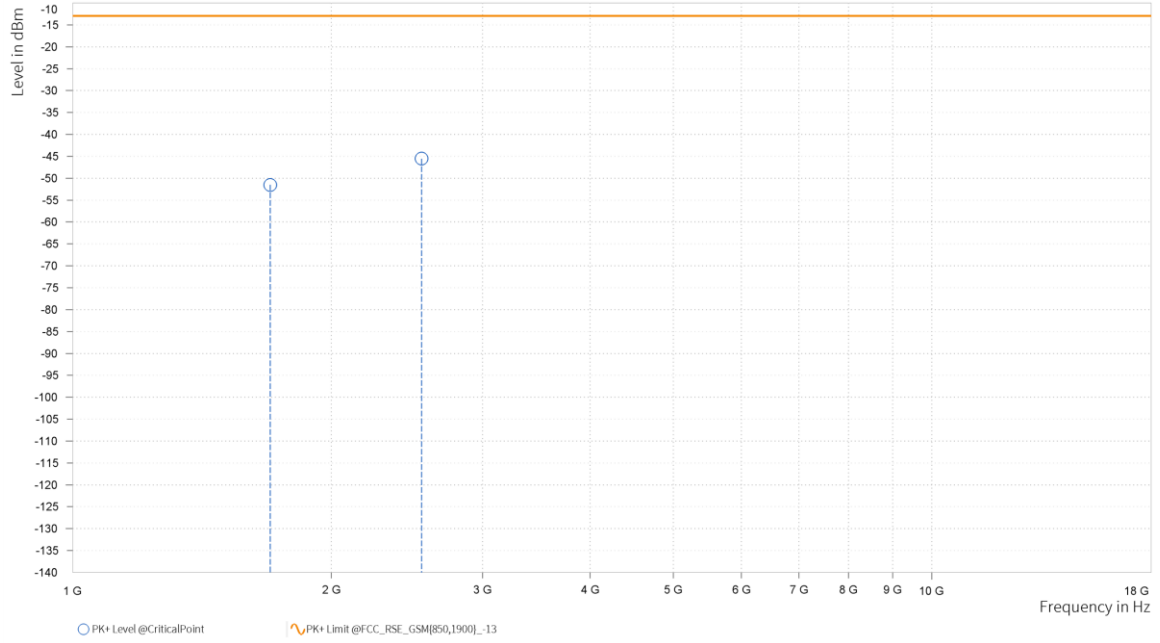
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,697.600	-49.54	-13.00	36.54	17.07	H	1	1.00
3	2,546.500	-43.90	-13.00	30.90	20.94	H	359.1	1.00



MODE	TX channel 251	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	120Vac 60HZ
TESTED BY	Hanwen Xu		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

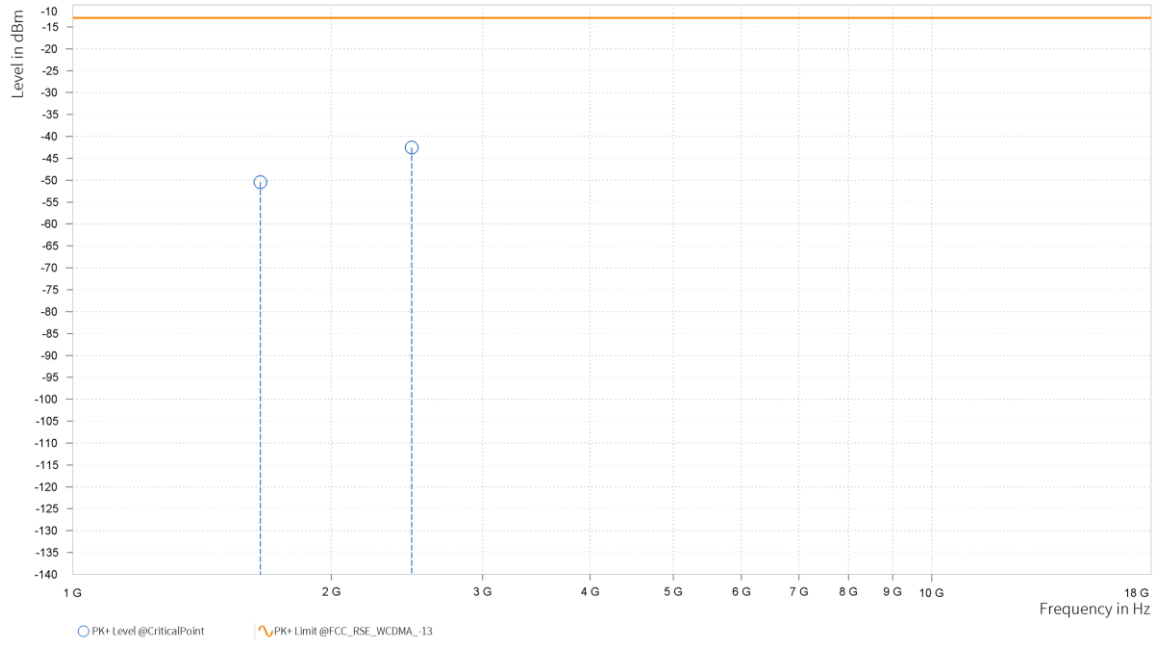
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,697.600	-51.54	-13.00	38.54	16.29	V	272.2	2.00
3	2,546.500	-45.53	-13.00	32.53	21.56	V	1	2.00



WCDMA Band V			
MODE	TX channel 4132	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	120Vac 60HZ
TESTED BY	Hanwen Xu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

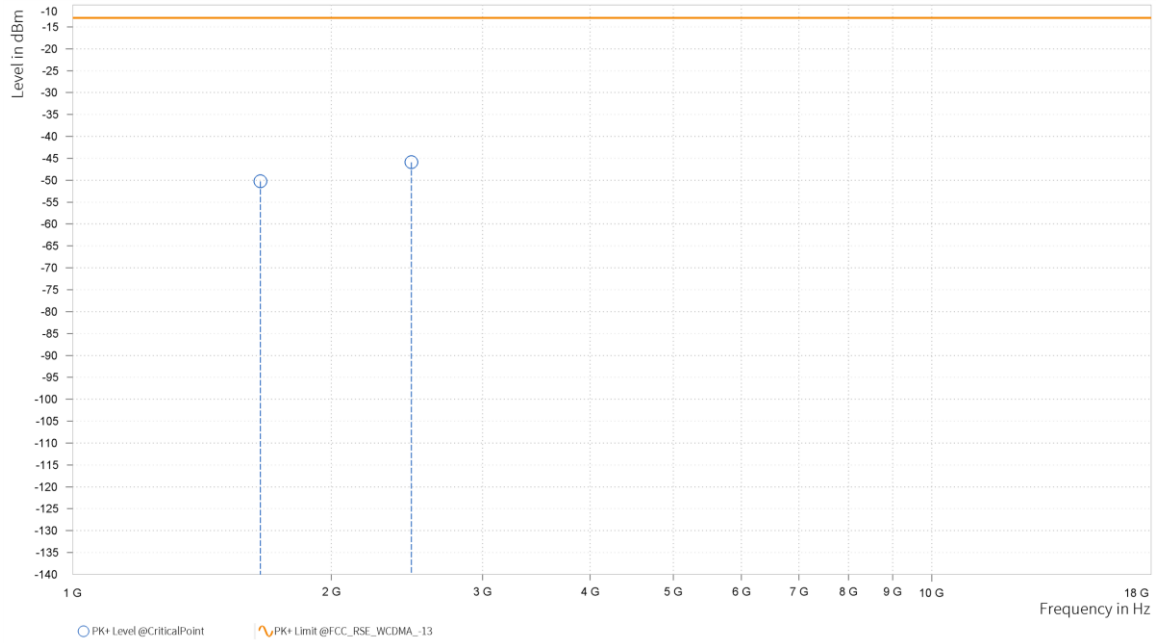
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,652.800	-50.45	-13.00	37.45	14.36	H	171.9	1.00
3	2,479.200	-42.56	-13.00	29.56	19.47	H	341	1.00



MODE	TX channel 4132	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	120Vac 60HZ
TESTED BY	Hanwen Xu		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

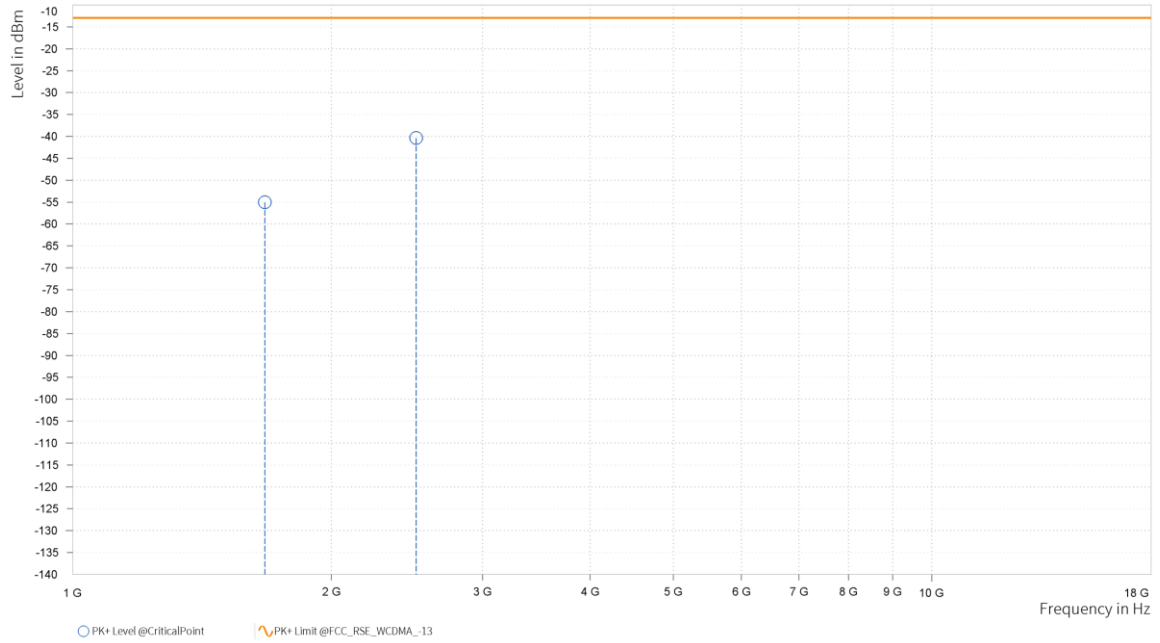
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,652.800	-50.26	-13.00	37.26	13.62	V	325.4	2.00
3	2,479.200	-45.91	-13.00	32.91	19.70	V	1	2.00



MODE	TX channel 4182	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	120Vac 60HZ
TESTED BY	Hanwen Xu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

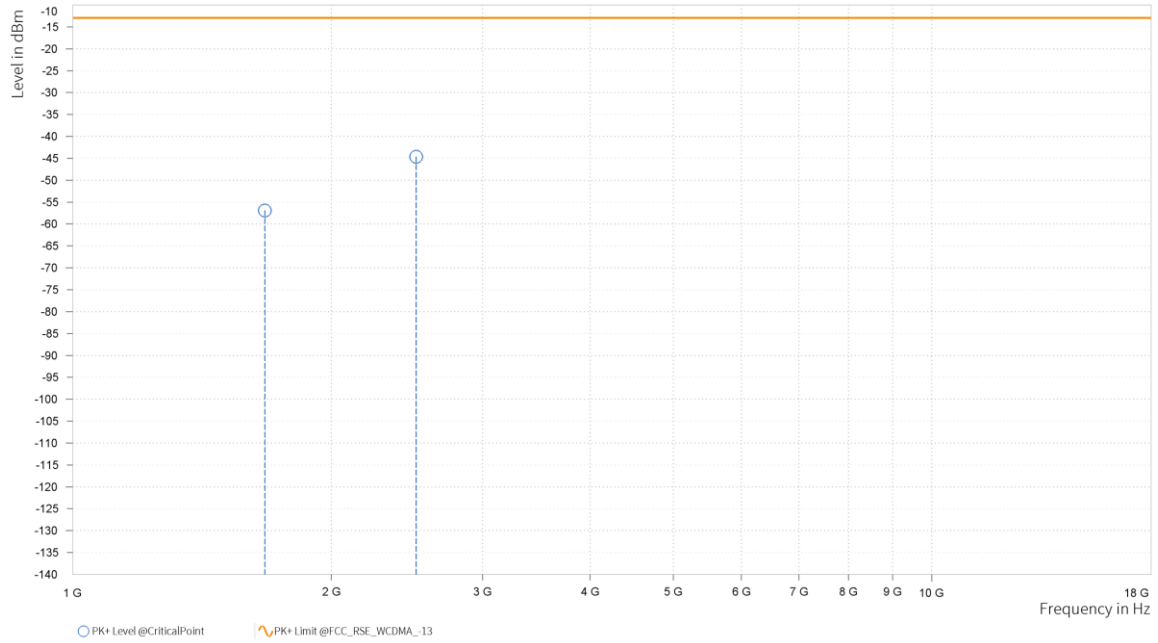
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,673.200	-55.04	-13.00	42.04	14.80	H	1	1.00
3	2,509.800	-40.38	-13.00	27.38	19.73	H	1	1.00



MODE	TX channel 4182	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	120Vac 60HZ
TESTED BY	Hanwen Xu		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

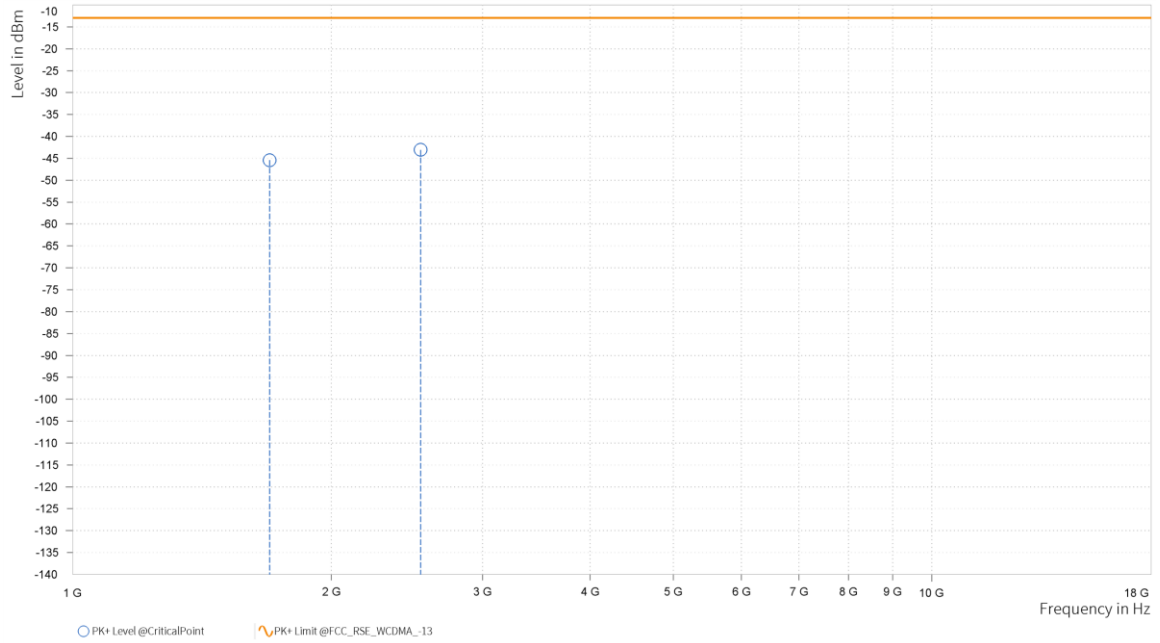
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,673.200	-56.90	-13.00	43.90	13.69	V	186.6	2.00
3	2,509.800	-44.63	-13.00	31.63	20.28	V	123.7	2.00



MODE	TX channel 4233	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	120Vac 60HZ
TESTED BY	Hanwen Xu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

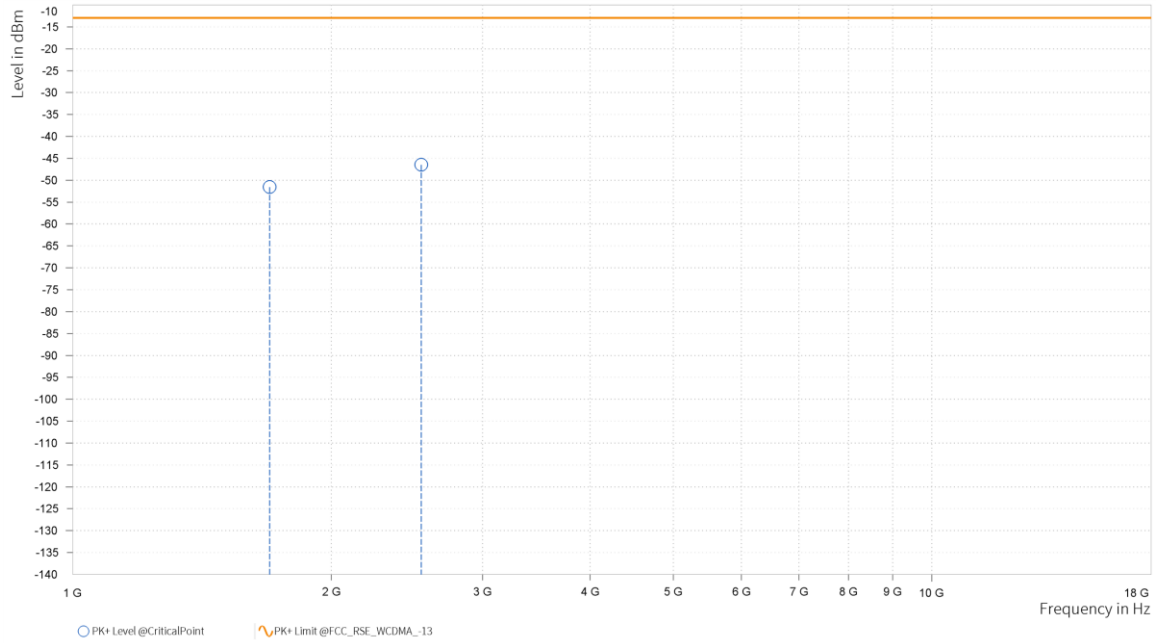
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,695.000	-45.43	-13.00	32.43	15.14	H	185.9	2.00
3	2,540.000	-43.06	-13.00	30.06	19.36	H	198.8	1.00



MODE	TX channel 4233	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	120Vac 60HZ
TESTED BY	Hanwen Xu		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,695.000	-51.55	-13.00	38.55	14.23	V	171.9	1.00
3	2,540.000	-46.48	-13.00	33.48	20.01	V	63.6	1.00

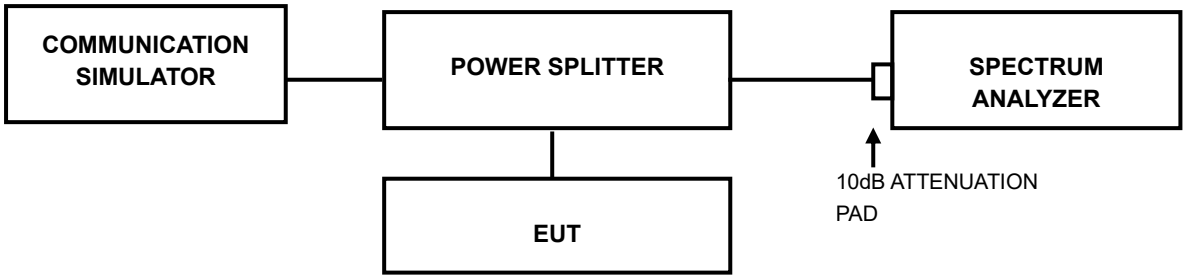


3.7 PEAK TO AVERAGE RATIO

3.7.1 LIMITS OF PEAK TO AVERAGE RATIO MEASUREMENT

In measuring transmissions in this band using an average power technique, the peak to-average ratio (PAR) of the transmission may not exceed 13 dB

3.7.2 TEST SETUP



3.7.3 TEST PROCEDURES

1. Set resolution/measurement bandwidth ≥ signal's occupied bandwidth;
2. Set the number of counts to a value that stabilizes the measured CCDF curve;
3. Record the maximum PAPR level associated with a probability of 0.1%.

3.7.4 TEST RESULTS

Please Refer to Appendix of this test report.

4 PHOTOGRAPHS OF THE TEST CONFIGURATION

Please refer to the attached file (Test Setup Photo).

5 INFORMATION ON THE TESTING LABORATORIES

We, Huarui 7layers High Technology (Suzhou) Co., Ltd. ,were founded in 2020 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved according to ISO/IEC 17025.

Huarui 7Layers High Technology (Suzhou) Co., Ltd.
Lab Address:
Tower N, Innovation Center, 88 Zuyi Road, High-tech District, Suzhou City, Anhui Province
Accredited Test Lab Cert 6613.01

If you have any comments, please feel free to contact us at the following:

Suzhou EMC/RF Lab:
Tel: +86 (0557) 368 1008

6 MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

No any modifications are made to the EUT by the lab during the test.

7 APPENDIX:

GSM 850

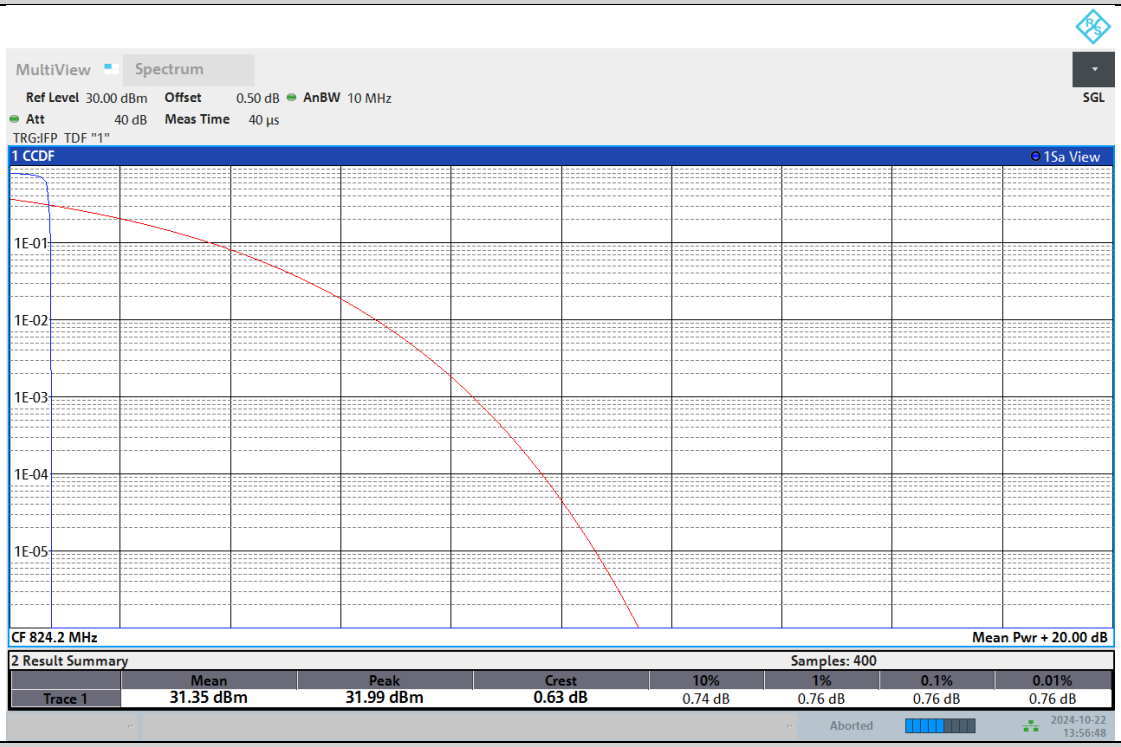
PEAK-TO-AVERAGE RATIO(CCDF)

Test Result

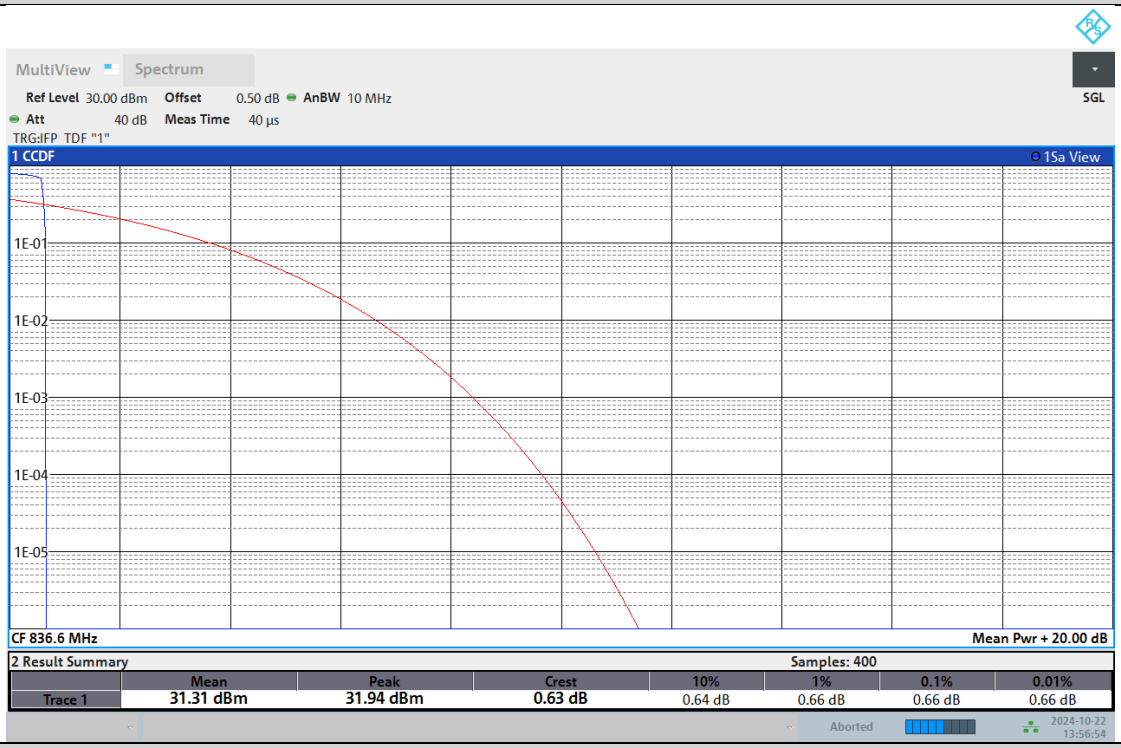
Band	Channel	Result(dB)	Limit(dB)	Verdict
GSM850	128	0.76	13	PASS
GSM850	189	0.66	13	PASS
GSM850	251	0.76	13	PASS
GPRS850	128	0.76	13	PASS
GPRS850	189	0.76	13	PASS
GPRS850	251	0.76	13	PASS
EGPRS850	128	2.64	13	PASS
EGPRS850	189	3.66	13	PASS
EGPRS850	251	2.46	13	PASS

Test Graphs

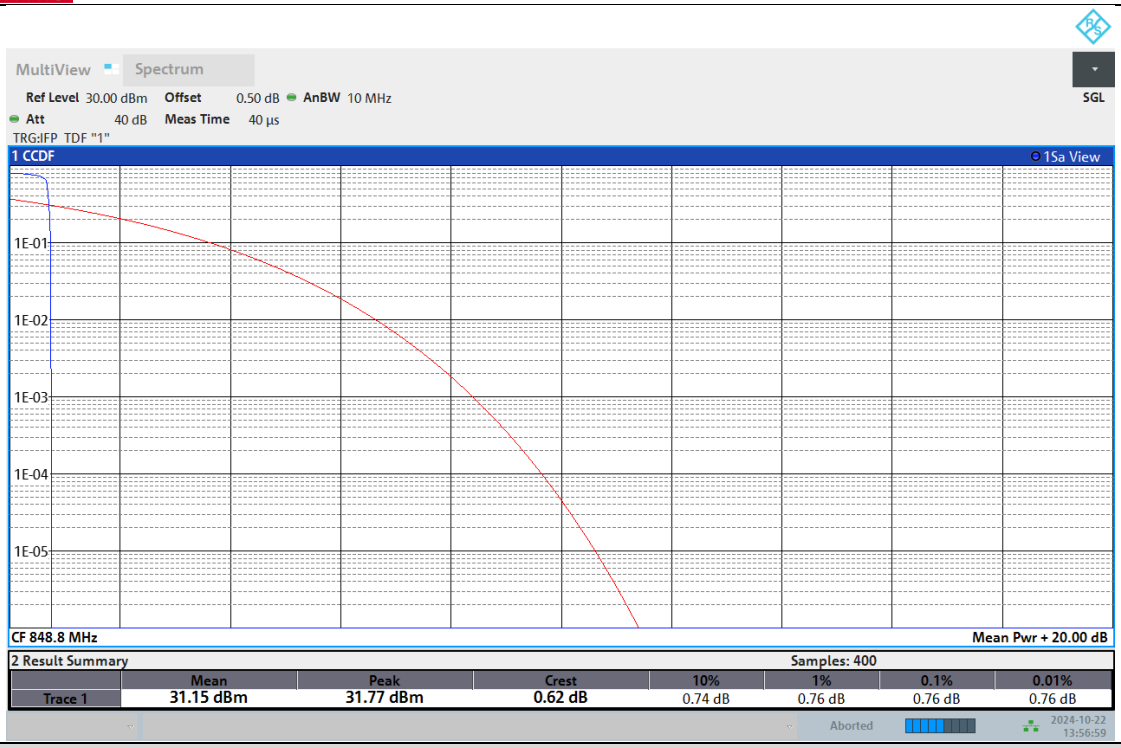
GSM850-128



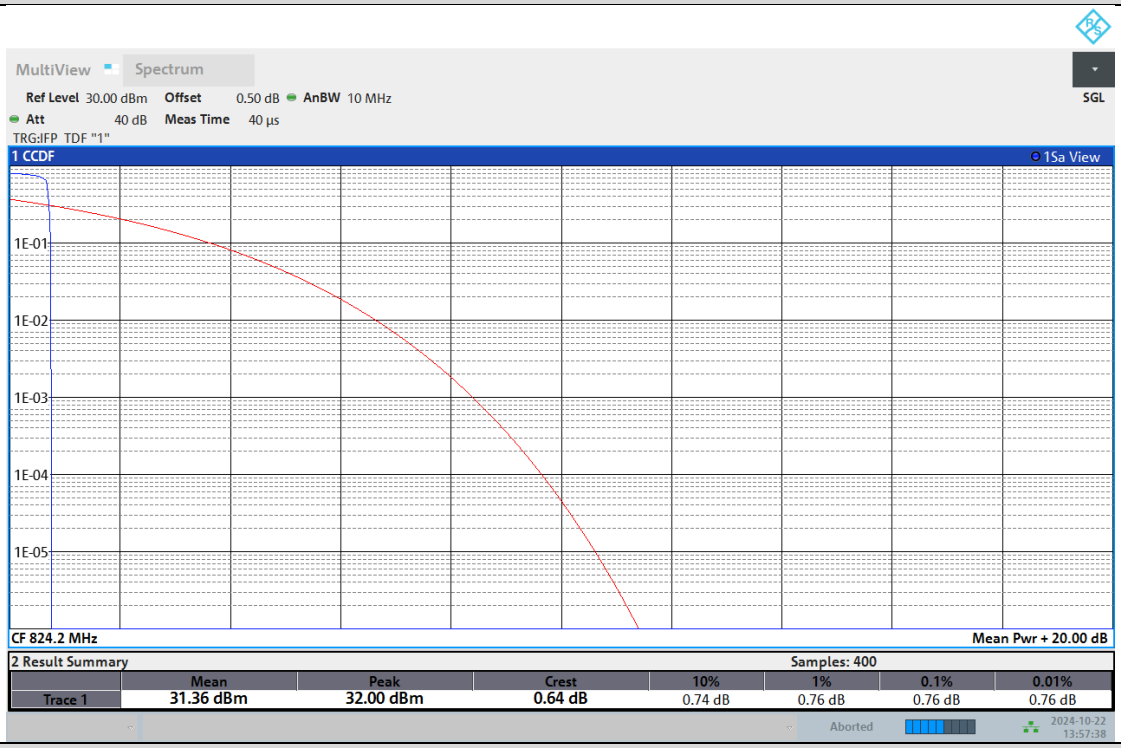
GSM850-189



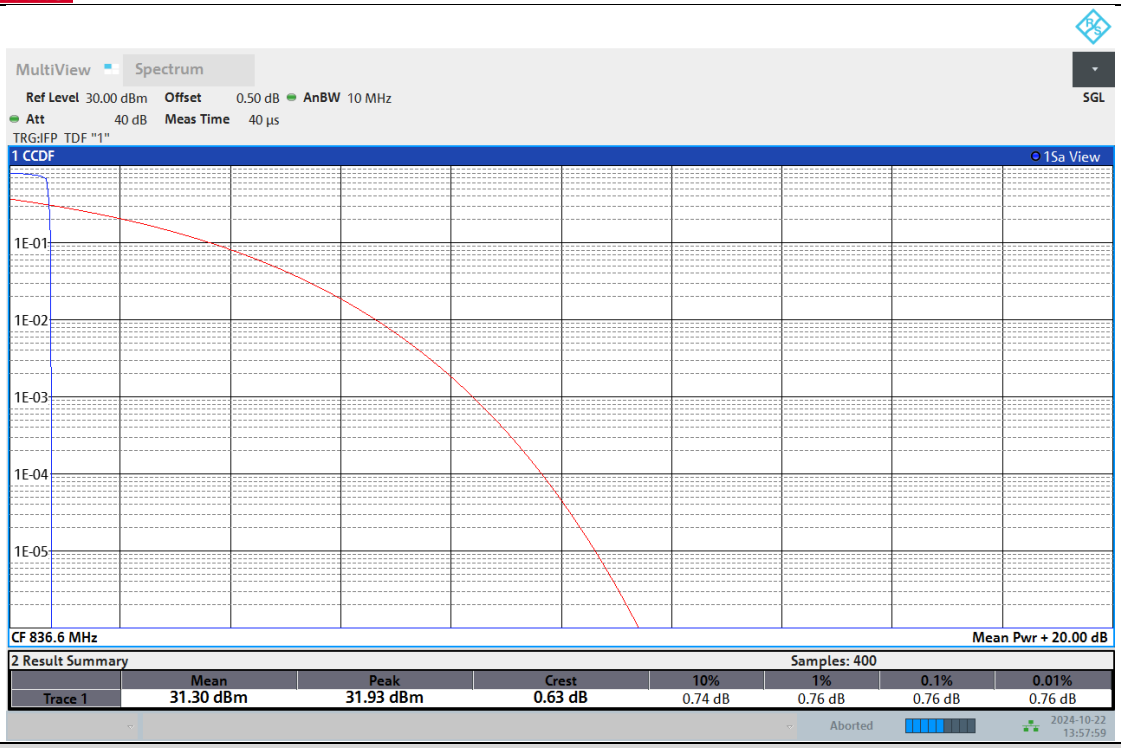
GSM850-189



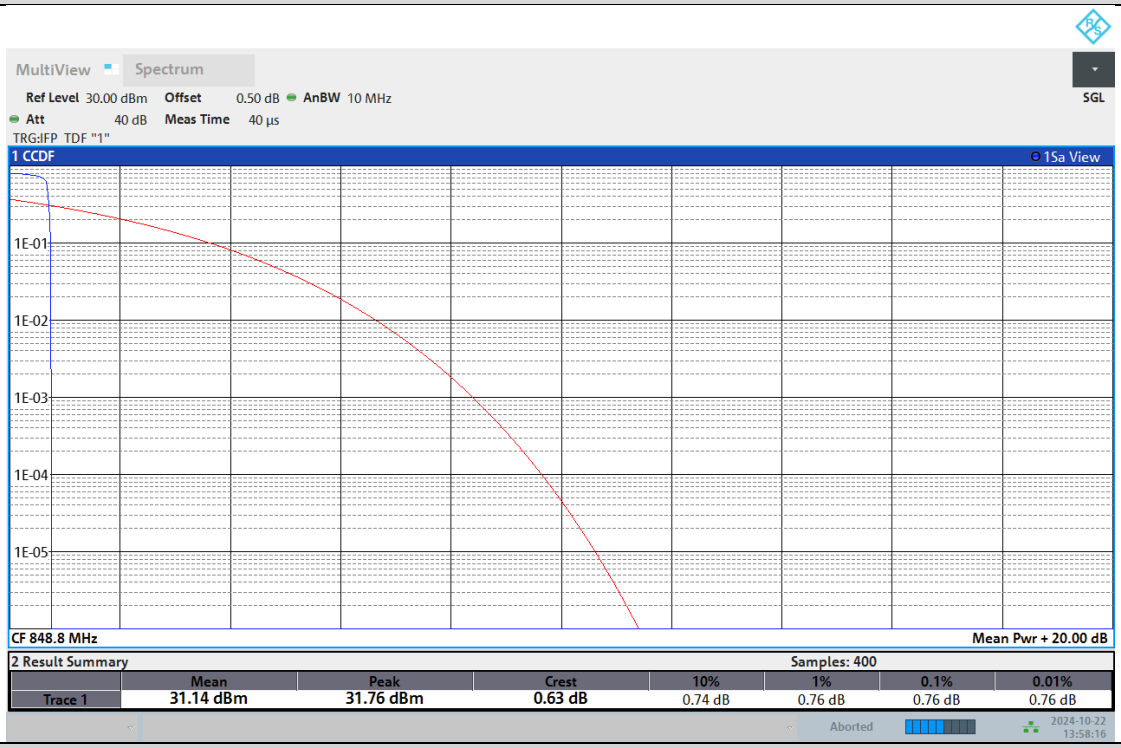
GPRS850-128



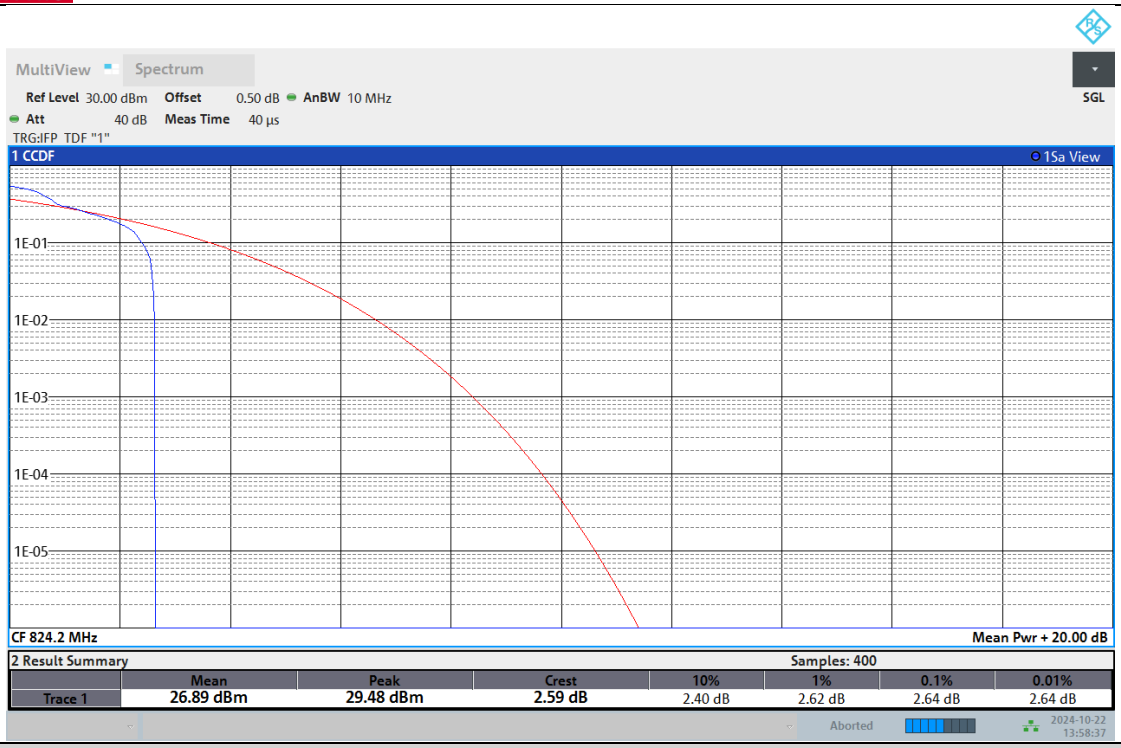
GPRS850-189



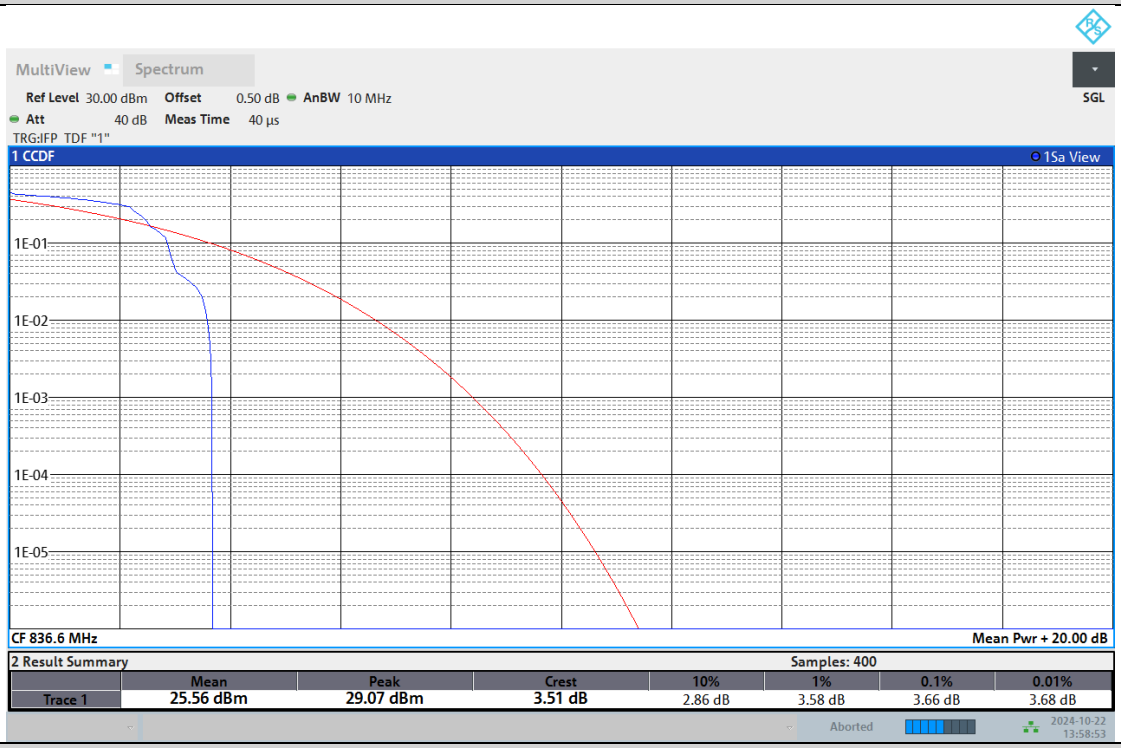
GPRS850-251



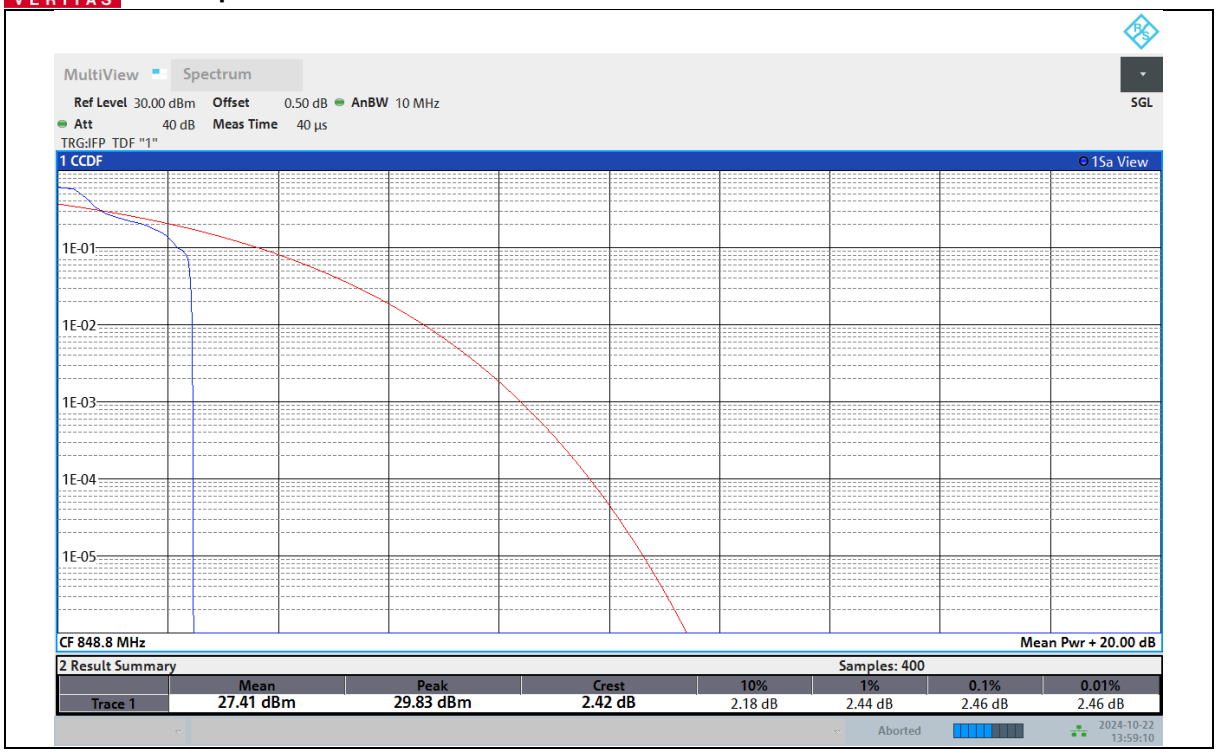
EGPRS850-128



EGPRS850-189



EGPRS850-251


MultiView
Spectrum
Ref Level 30.00 dBm Offset 0.50 dB AnBW 10 MHz
Att 40 dB Meas Time 40 µs
SGL
TRG:IFP TDF "1"
1 CCDF
1Sa View
1E-01
1E-02
1E-03
1E-04
1E-05
CF 848.8 MHz
Mean Pwr + 20.00 dB
2 Result Summary
Samples: 400
Mean Peak Crest 10% 1% 0.1% 0.01%
Trace 1 27.41 dBm 29.83 dBm 2.42 dB 2.18 dB 2.44 dB 2.46 dB 2.46 dB
Aborted
2024-10-22
13:59:10

26DB BANDWIDTH AND OCCUPIED BANDWIDTH

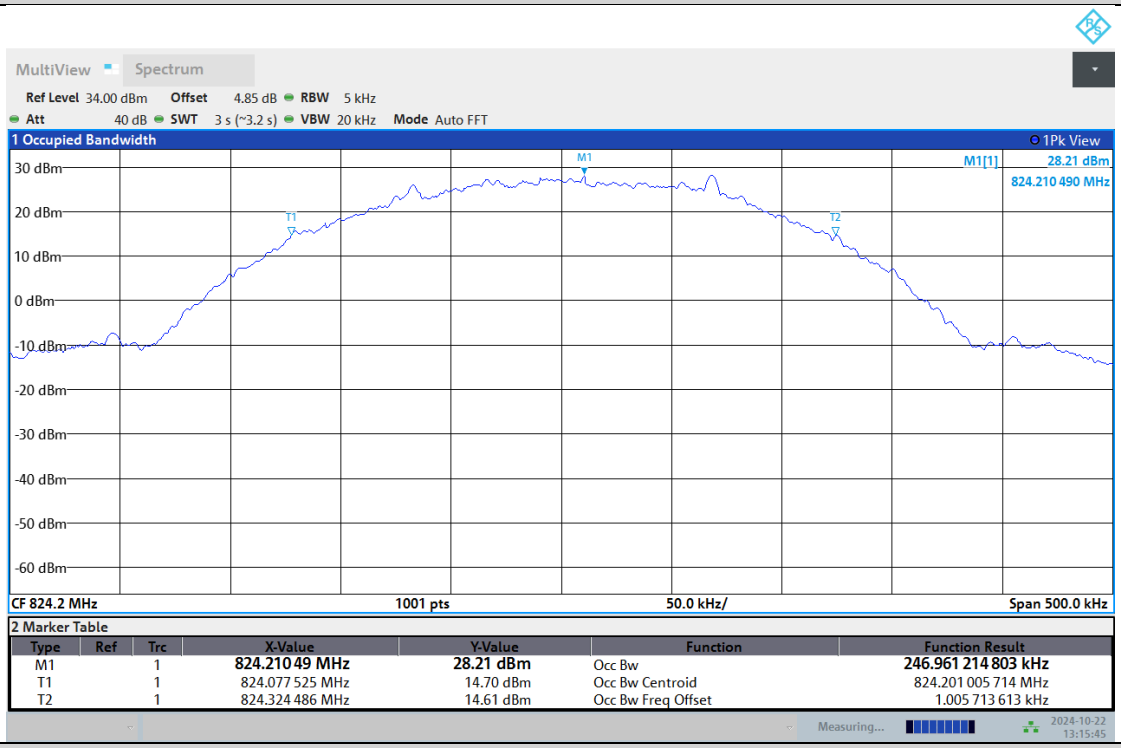
Test Result

Band	Channel	Occupied Bandwidth (KHz)	26dB Bandwidth (KHz)	Verdict
GSM850	128	246.961	316.18	PASS
GSM850	189	244.456	316.68	PASS
GSM850	251	245.842	315.68	PASS
GPRS850	128	246.262	318.18	PASS
GPRS850	189	246.005	320.68	PASS
GPRS850	251	245.986	319.68	PASS
EGPRS850	128	247.745	317.18	PASS
EGPRS850	189	248.944	319.68	PASS
EGPRS850	251	249.961	317.18	PASS

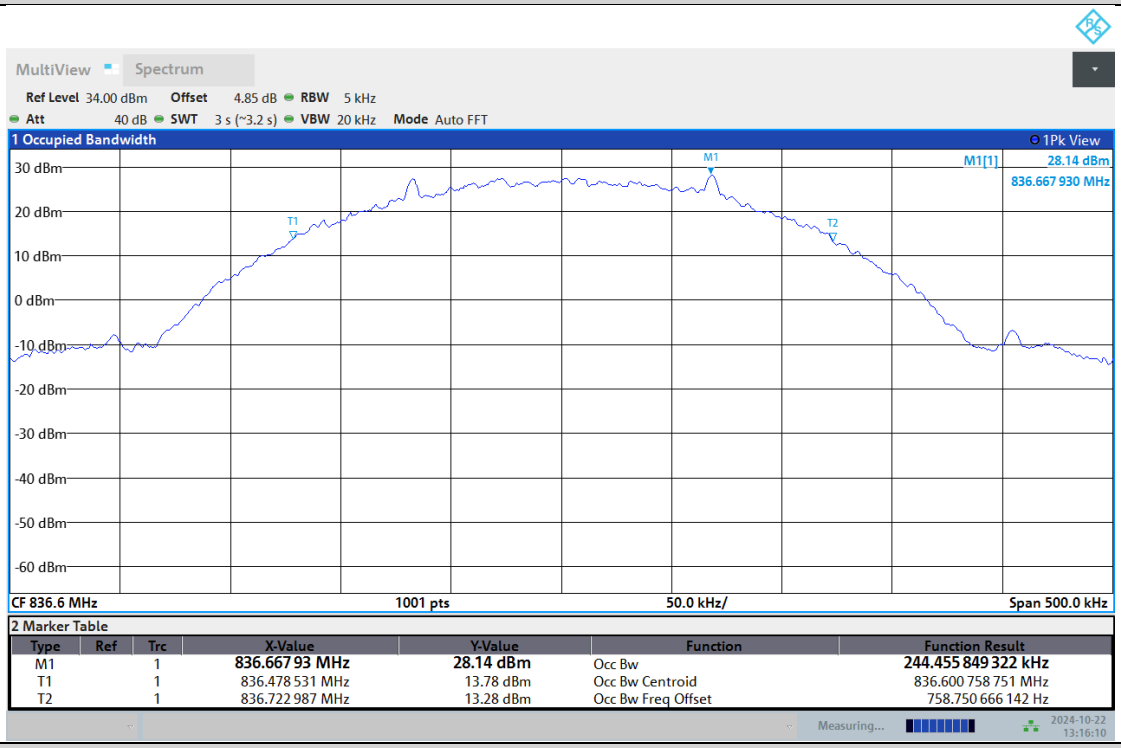
Test Graphs

Occupied Bandwidth

GSM850-128



GSM850-189



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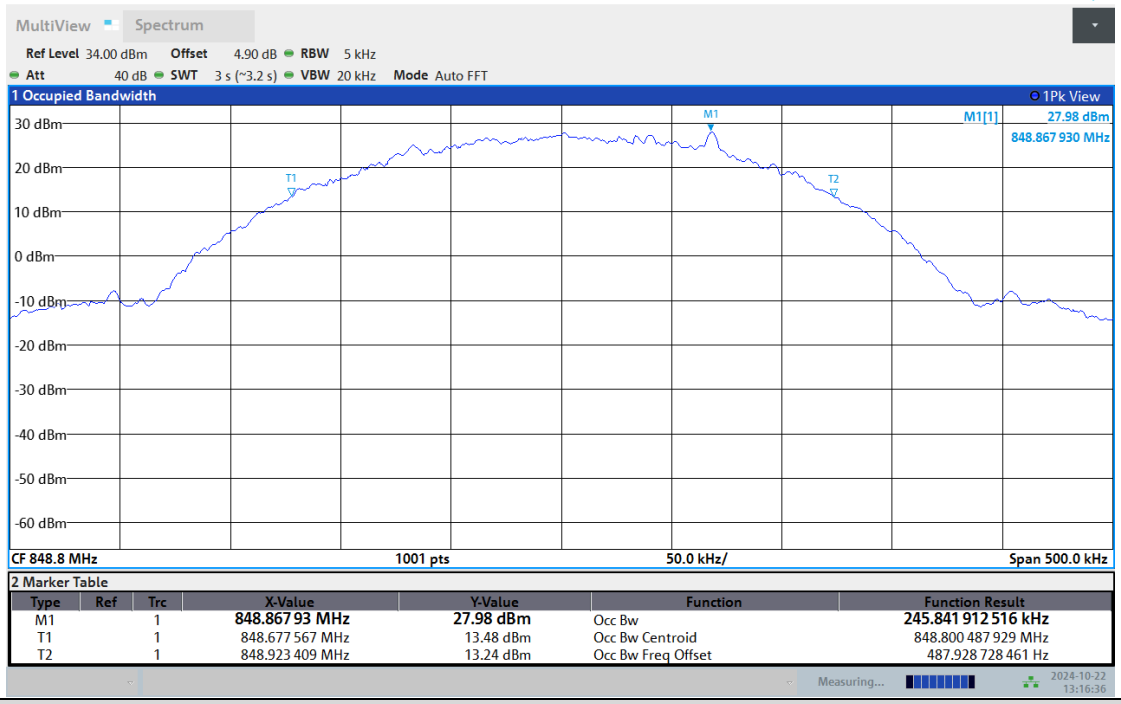
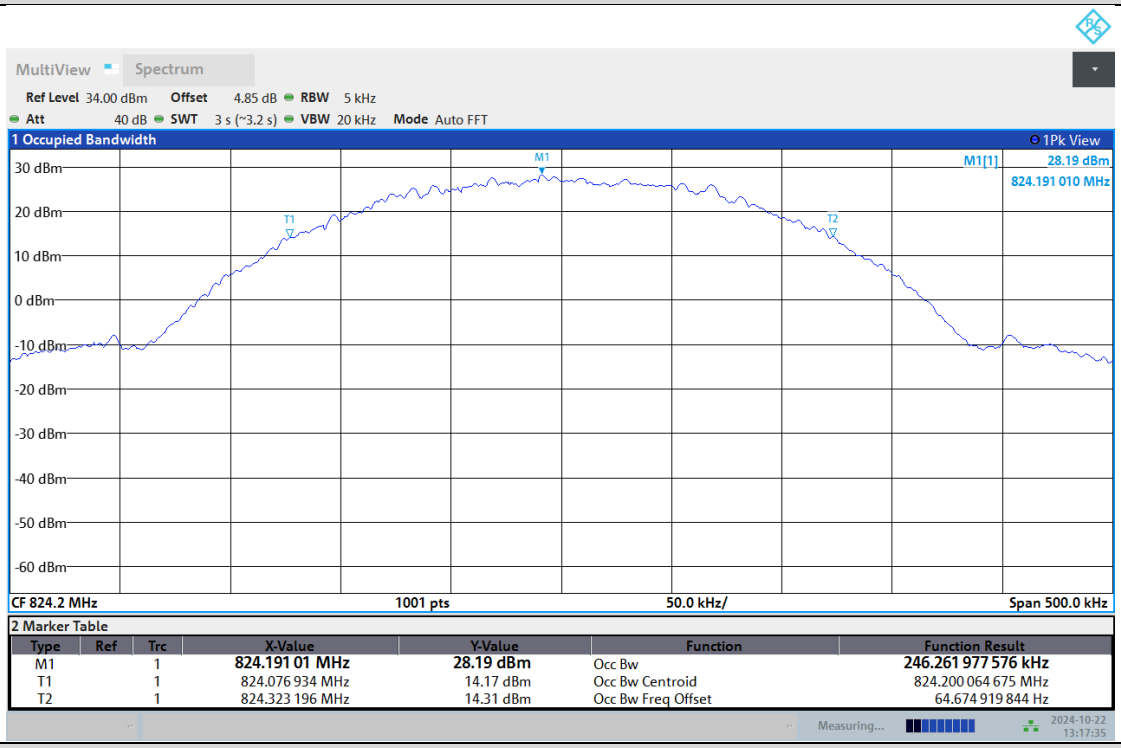
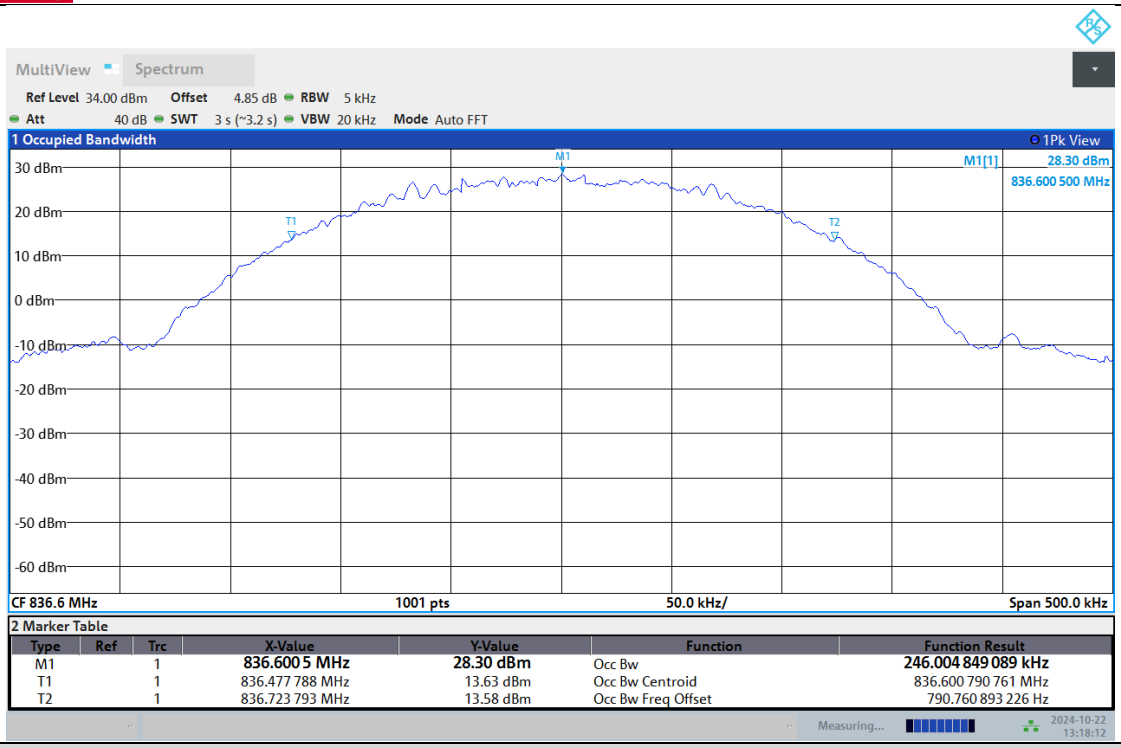


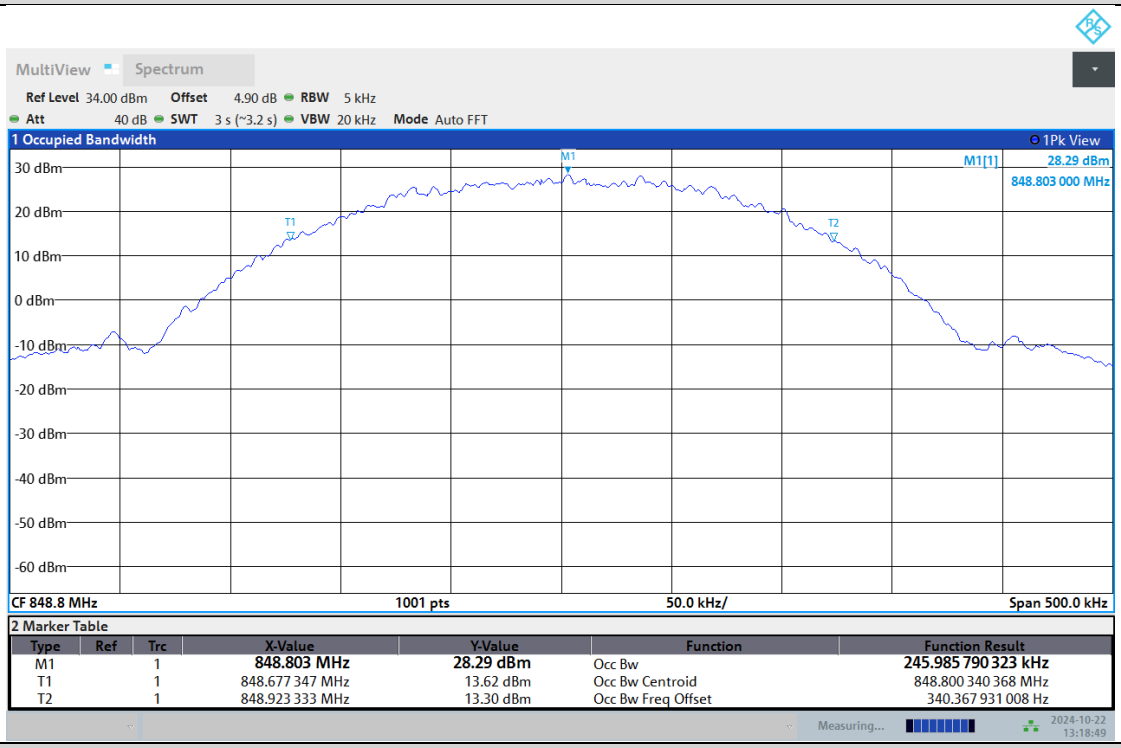
GPRS850-128



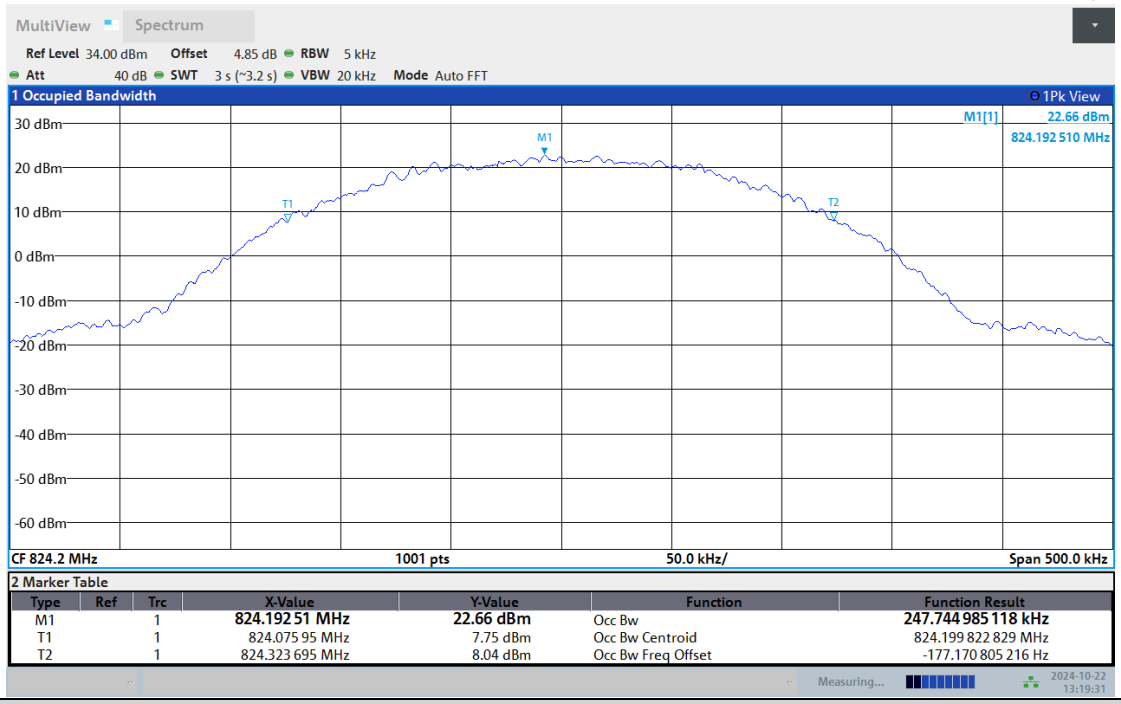
GPRS850-189



GPRS850-251



EGPRS850-128



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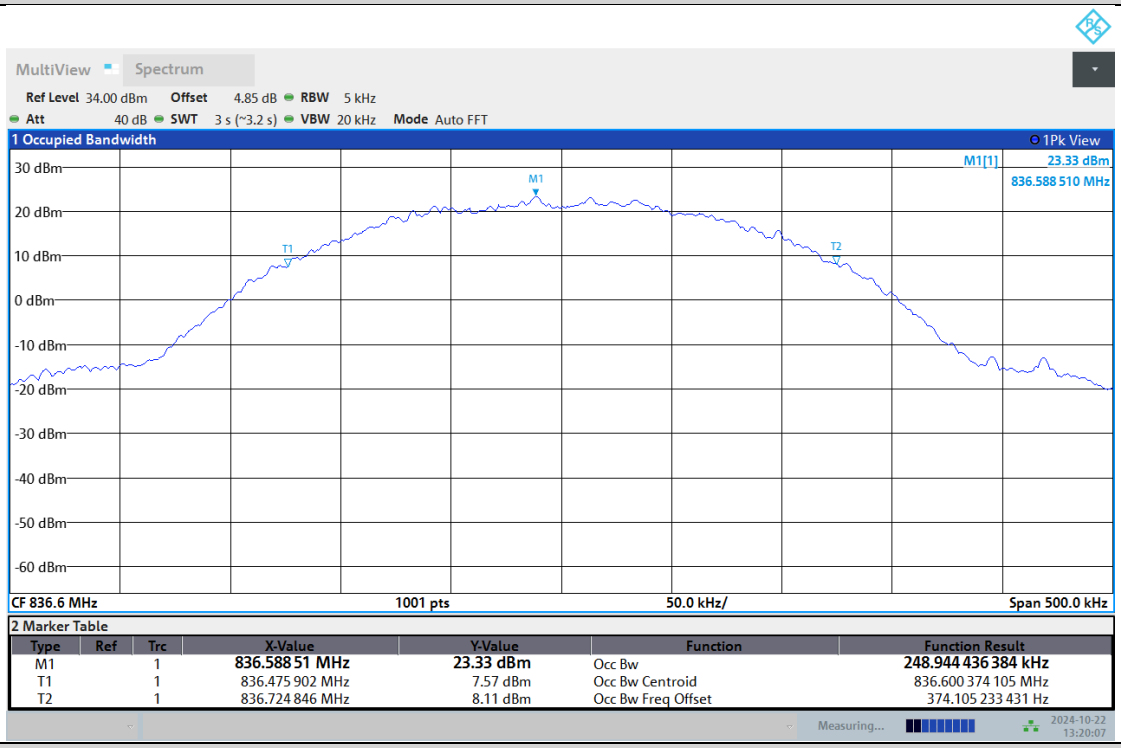
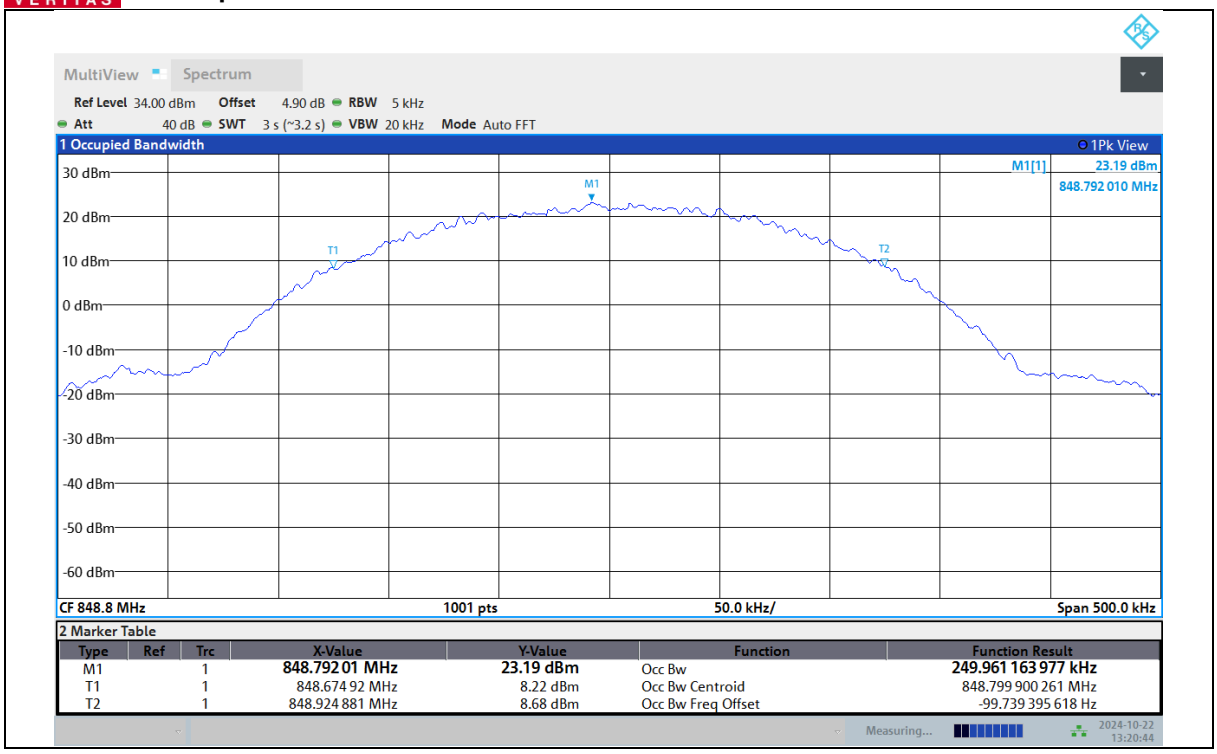
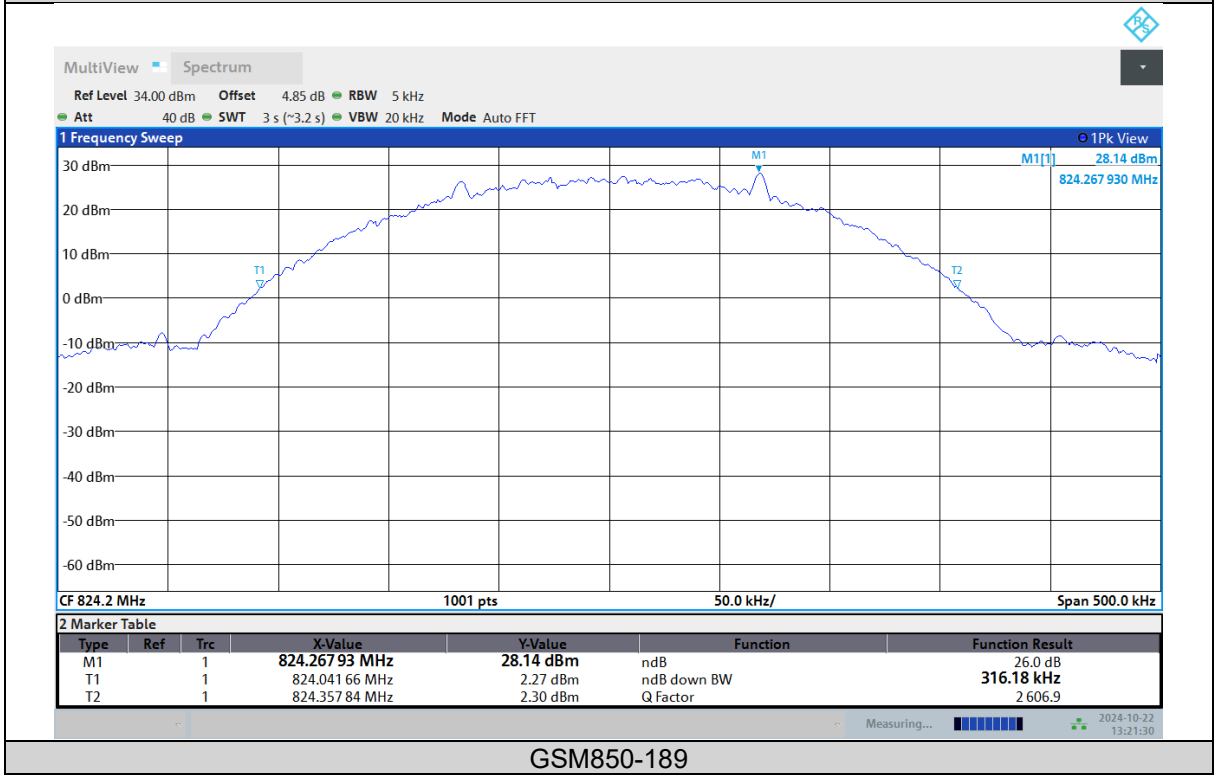


EGPRS850-251

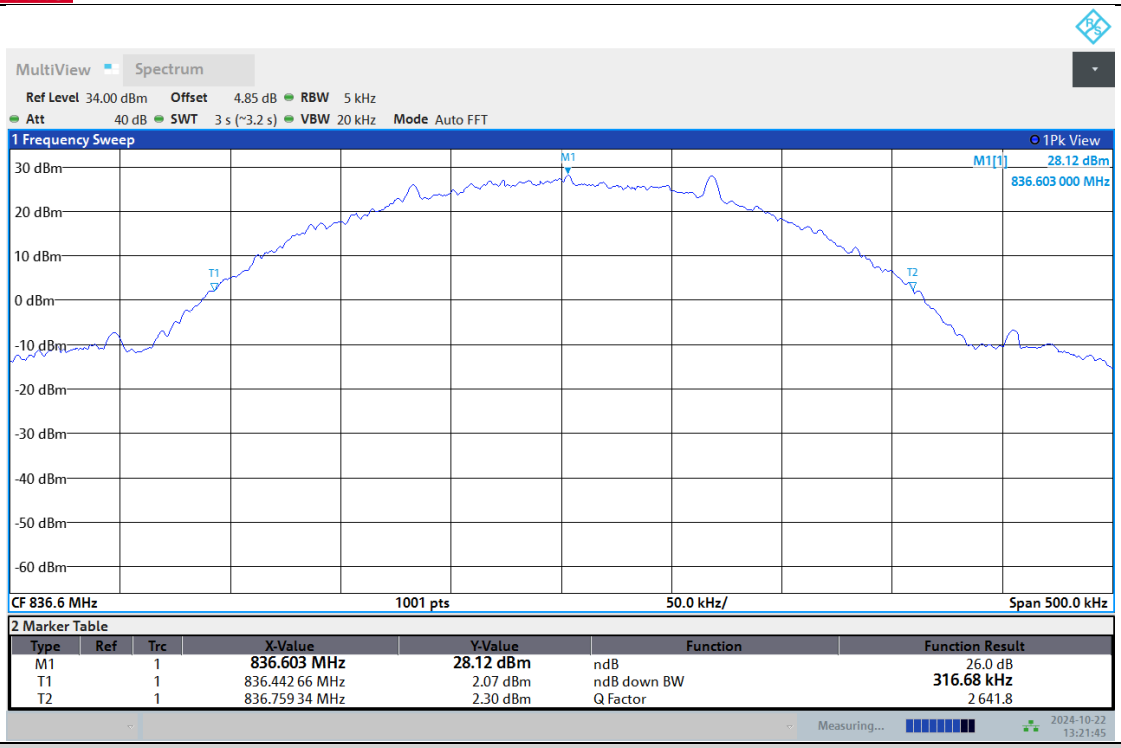


26dB Bandwidth

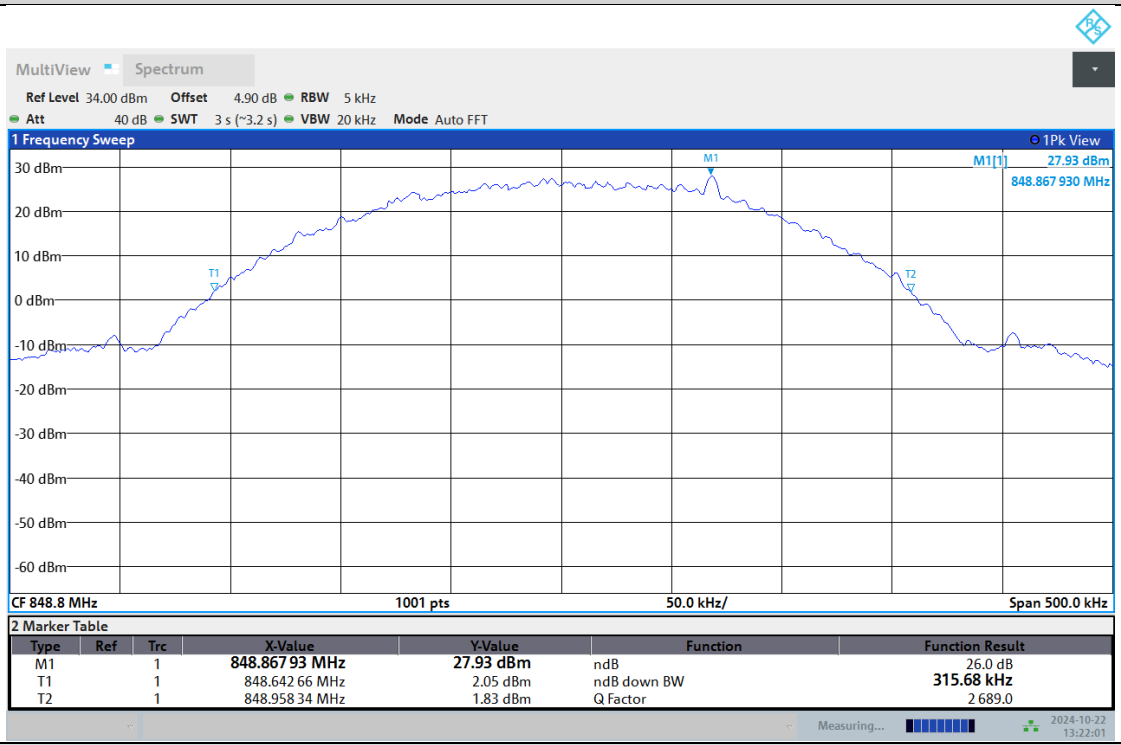
GSM850-128



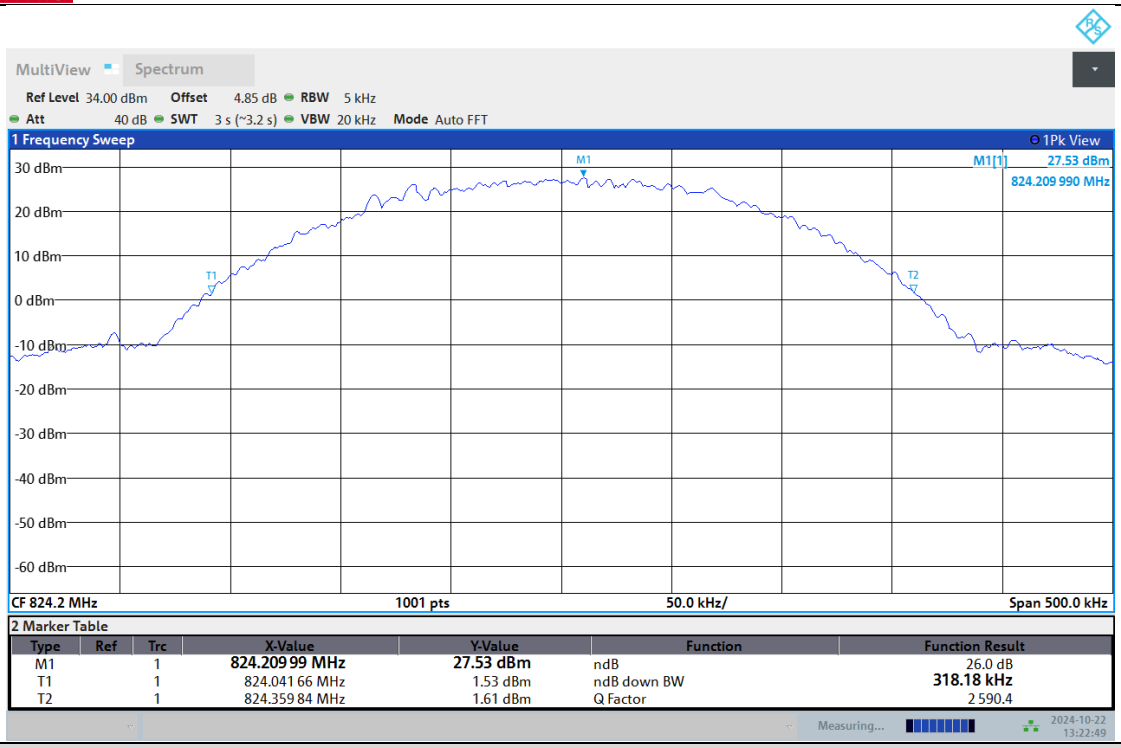
GSM850-189



GSM850-251



GPRS850-128



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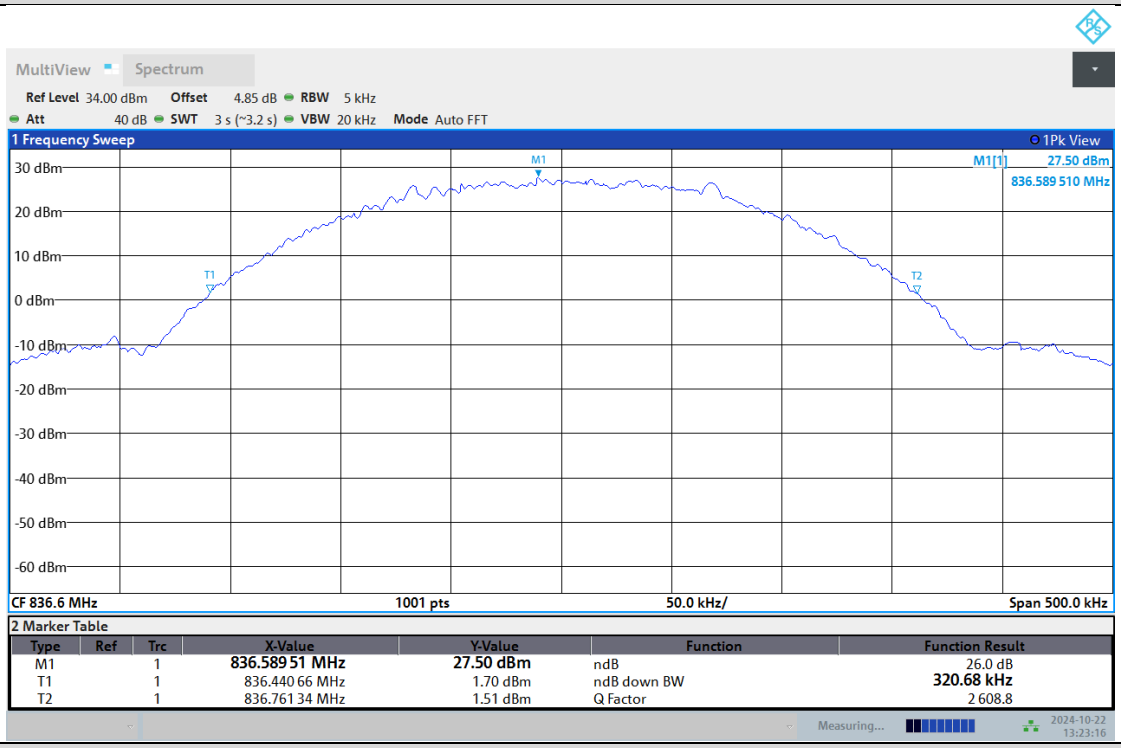

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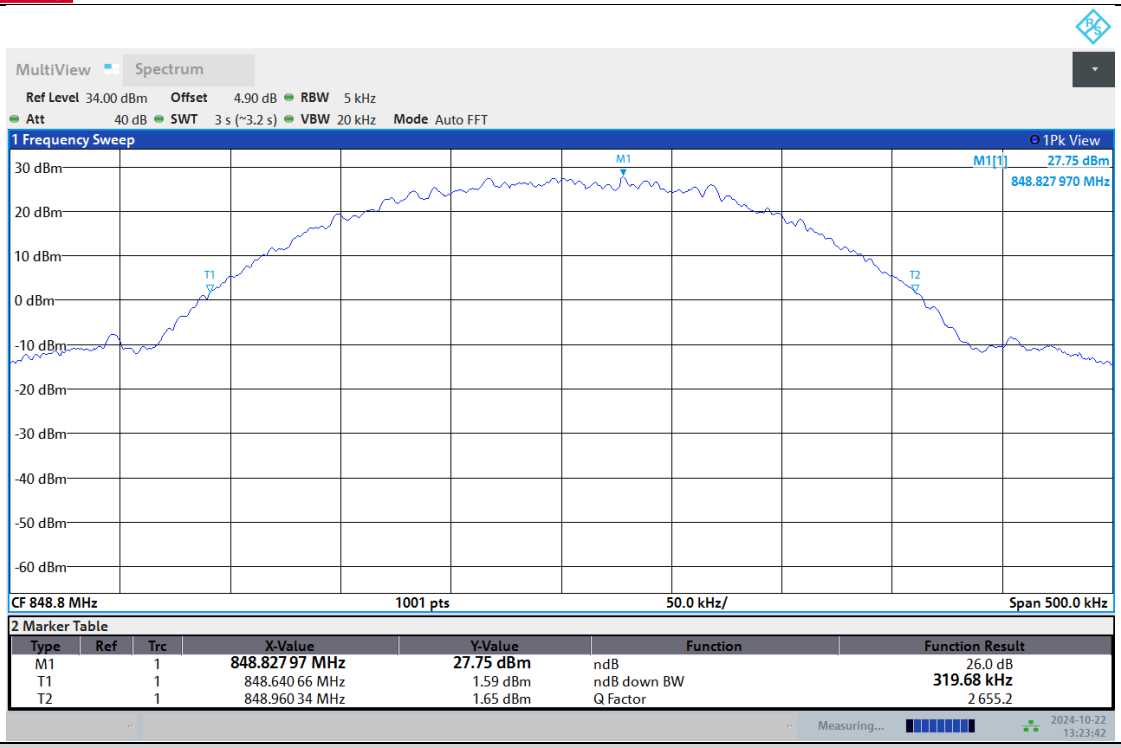
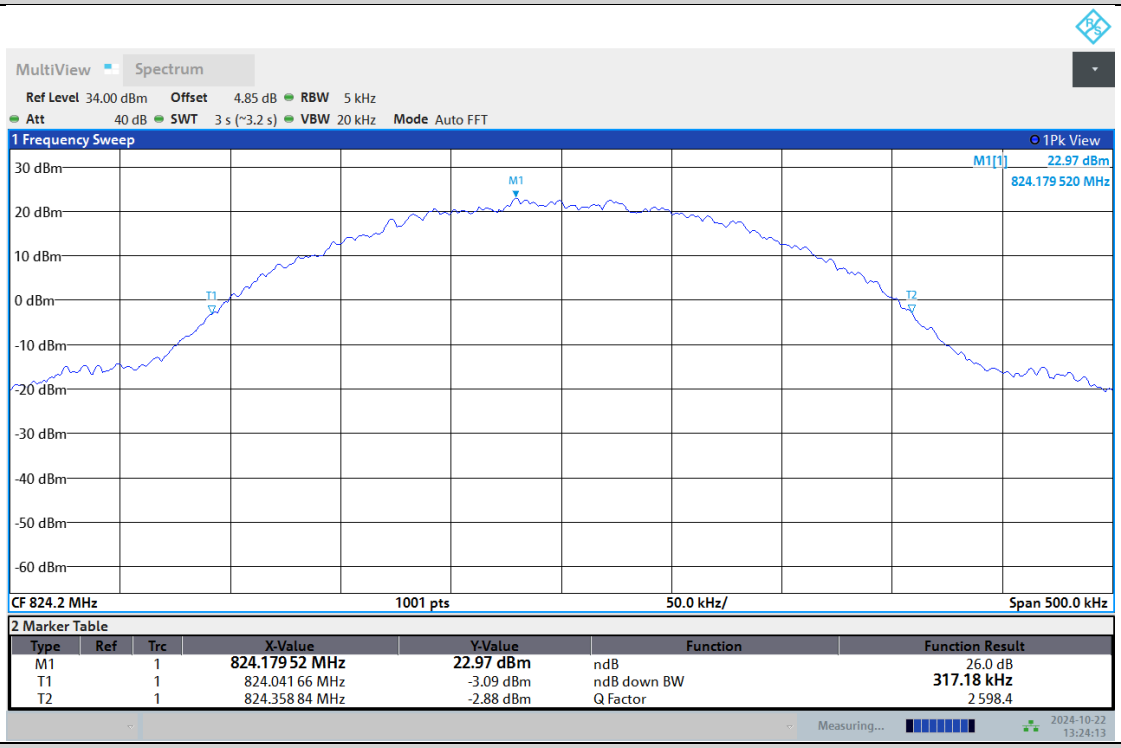
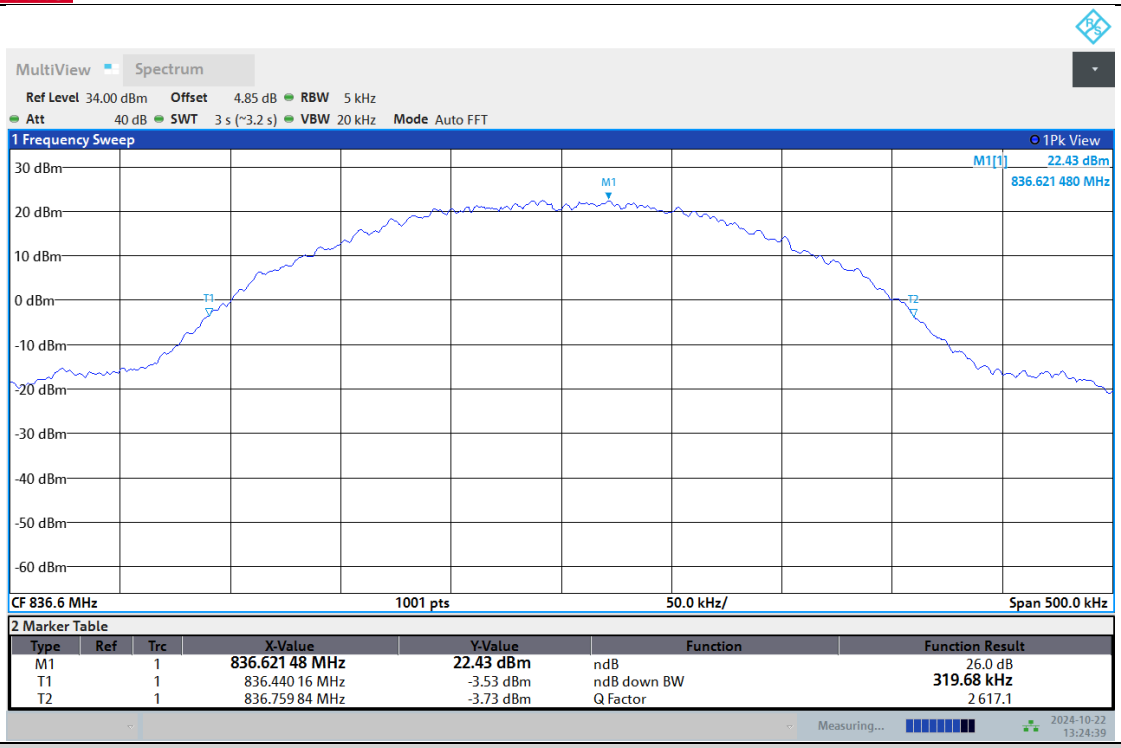


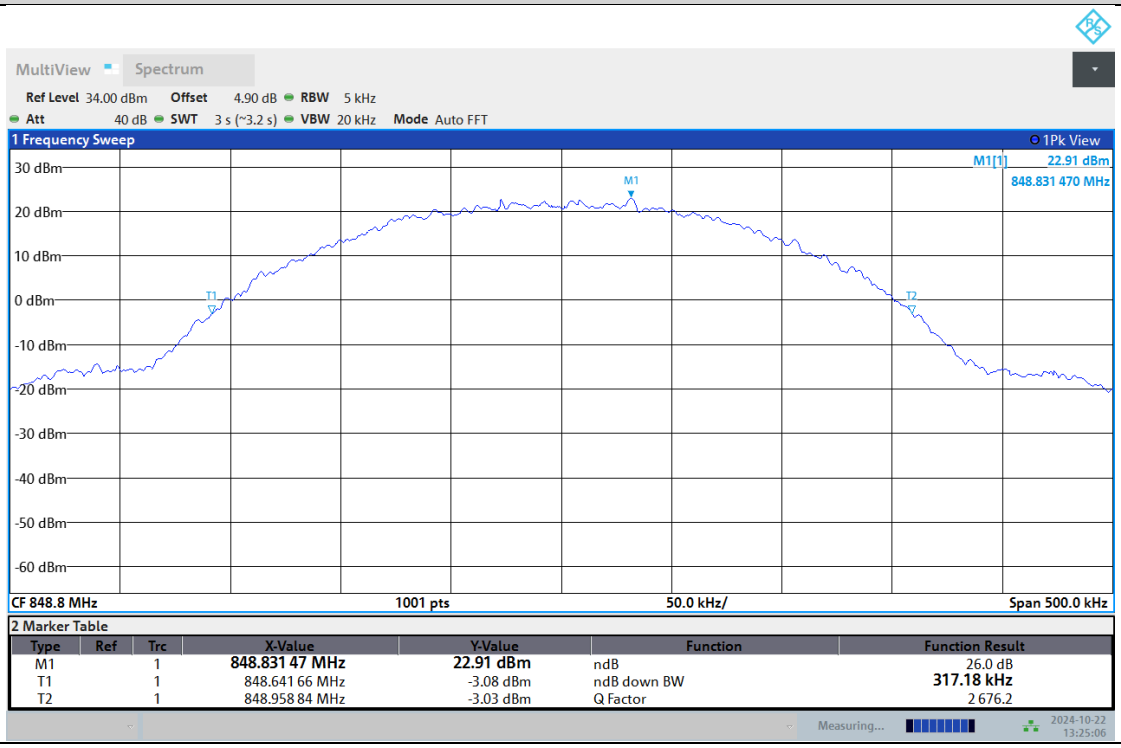
EGPRS850-128



EGPRS850-189



EGPRS850-251



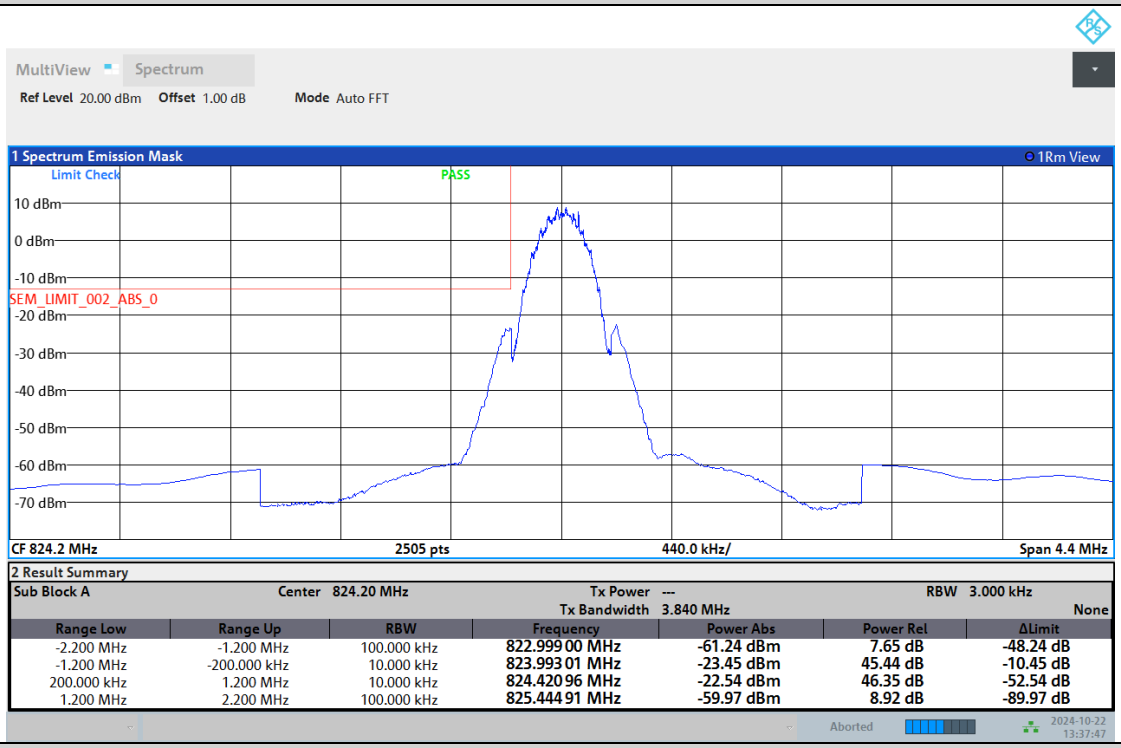
BAND EDGE

Test Result

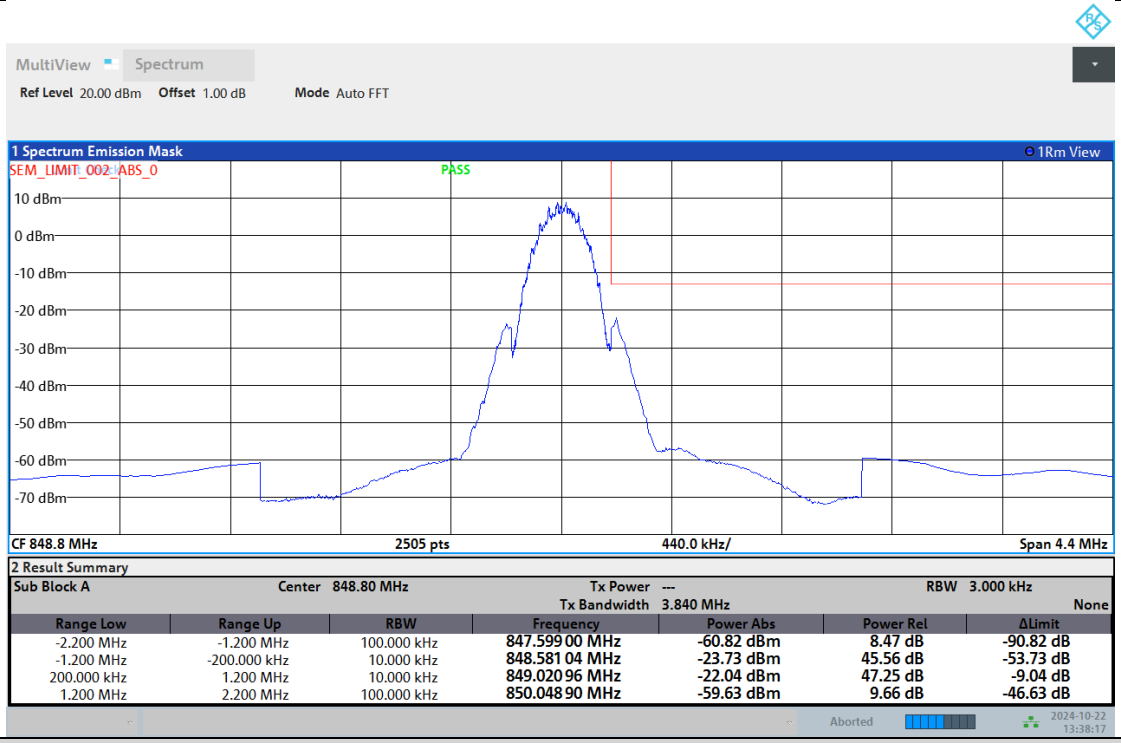
Band	Channel	Result (dBm)	Limit(dBm)	Verdict
GSM850	128	See Graph	-13	PASS
GSM850	251	See Graph	-13	PASS
GPRS850	128	See Graph	-13	PASS
GPRS850	251	See Graph	-13	PASS
EGPRS850	128	See Graph	-13	PASS
EGPRS850	251	See Graph	-13	PASS

Test Graphs

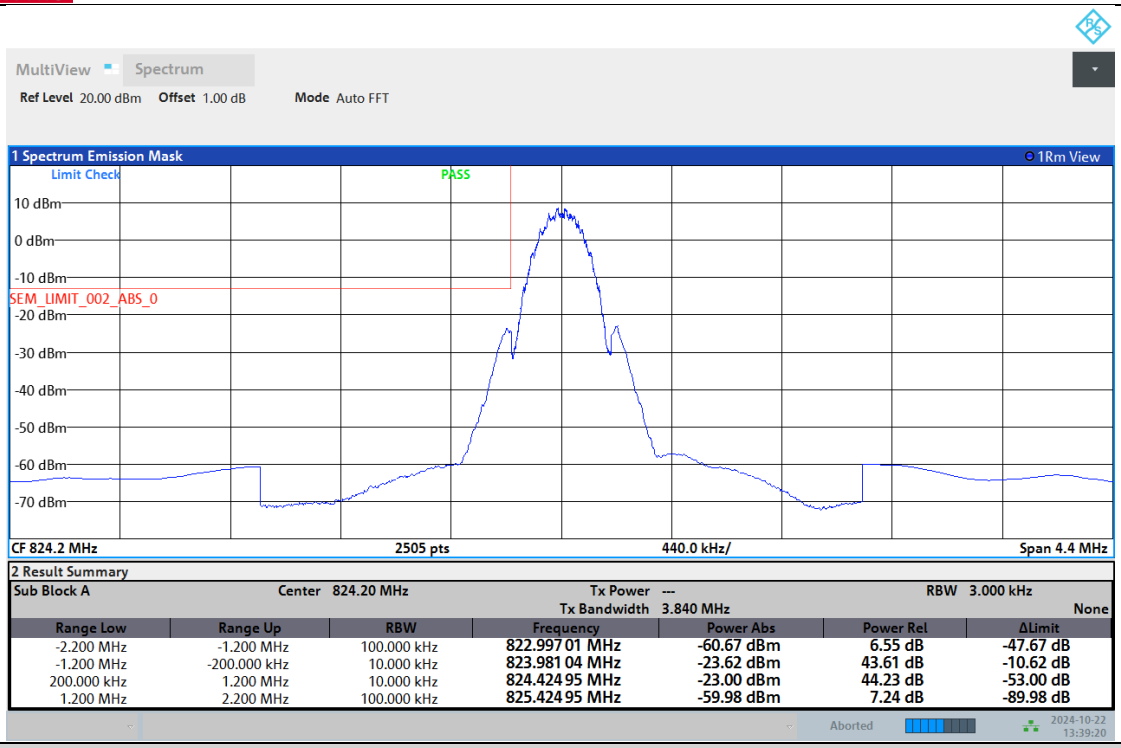
GSM850-128



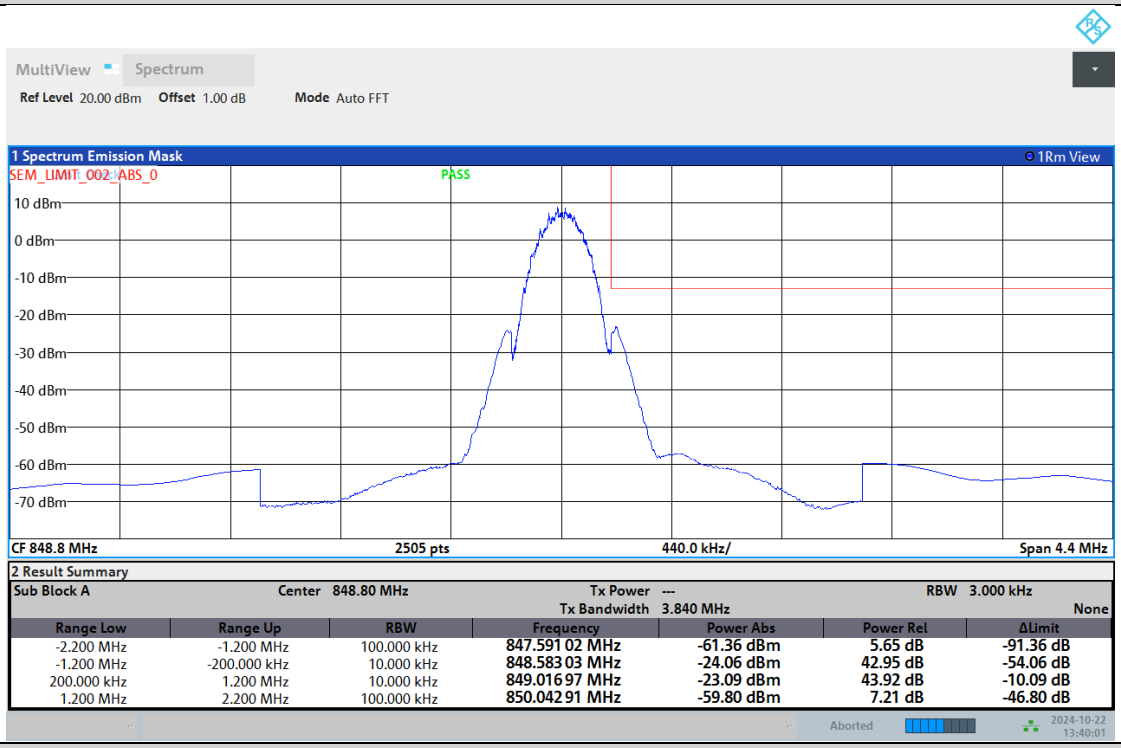
GSM850-251



GPRS850-128



GPRS850-251



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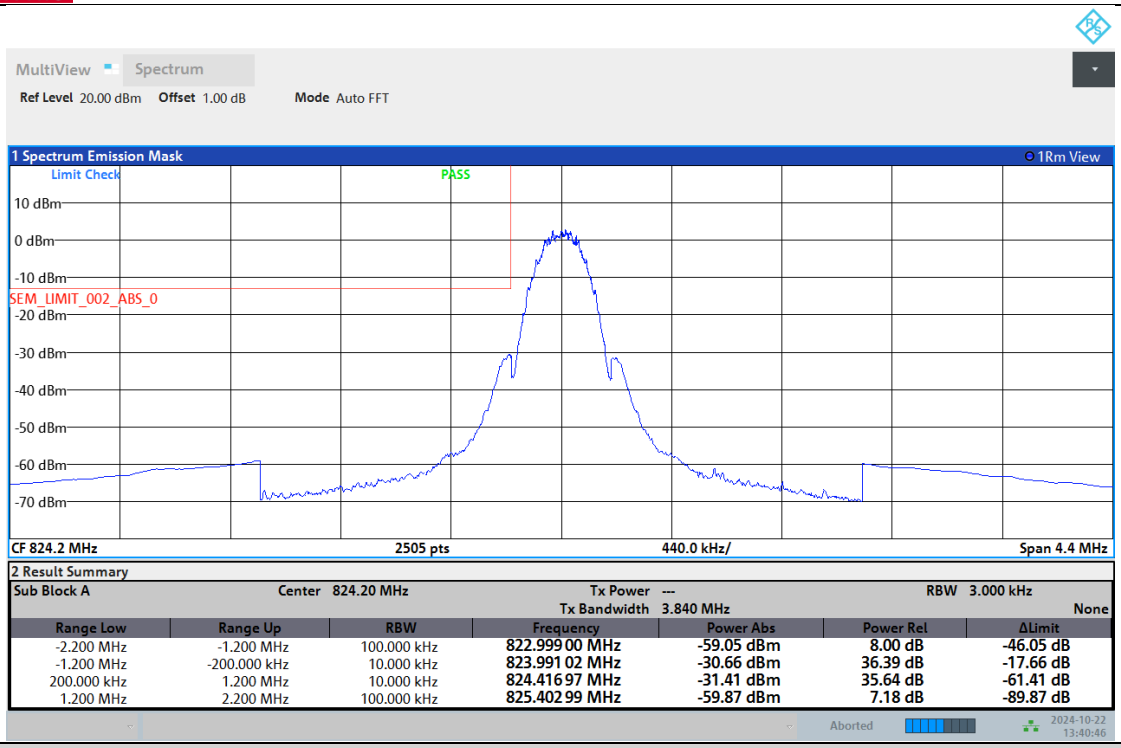

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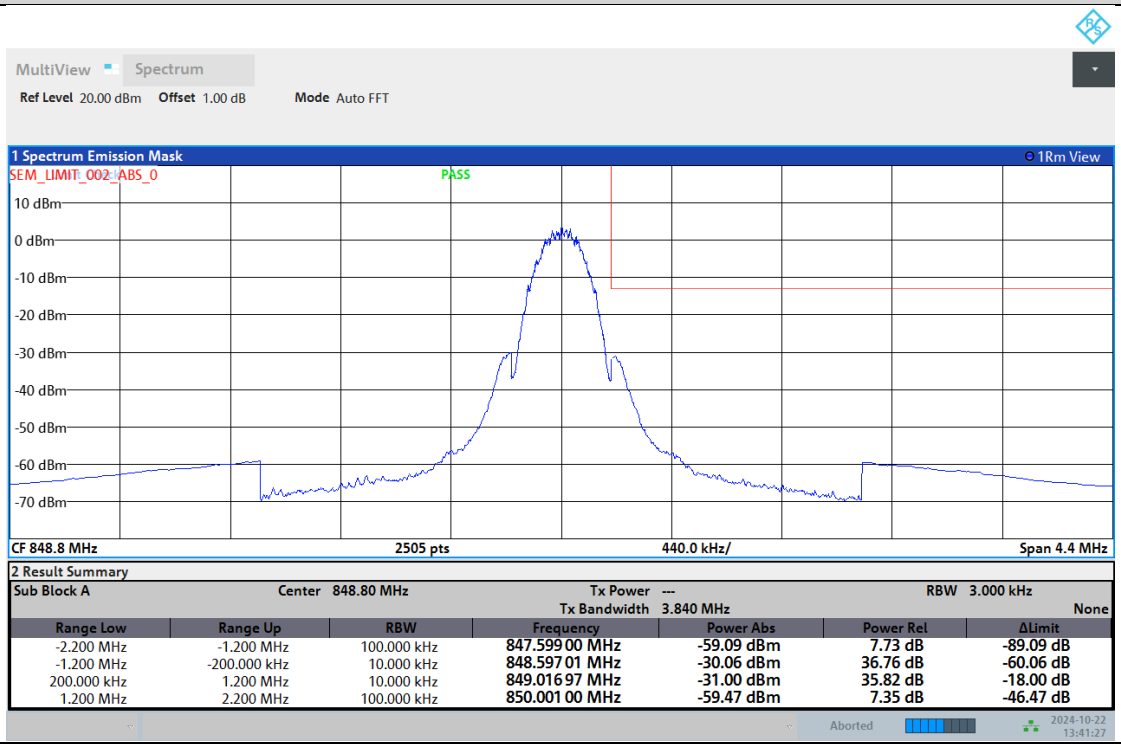


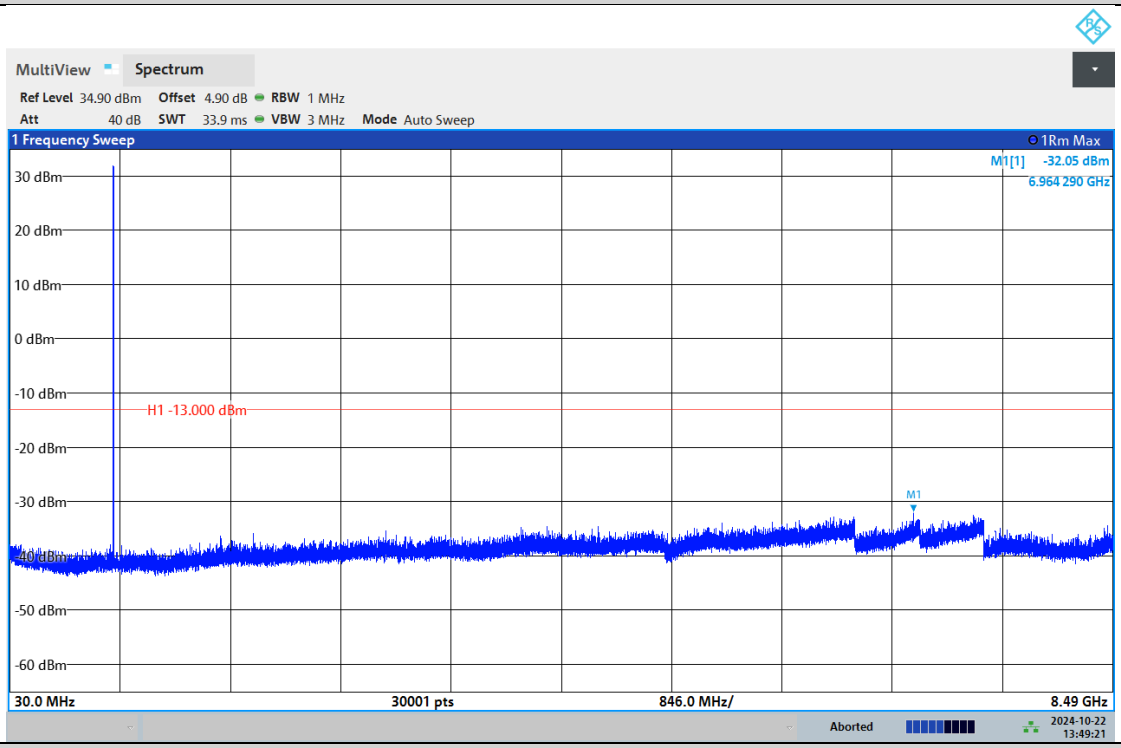
CONDUCTED SPURIOUS EMISSION

Test Result

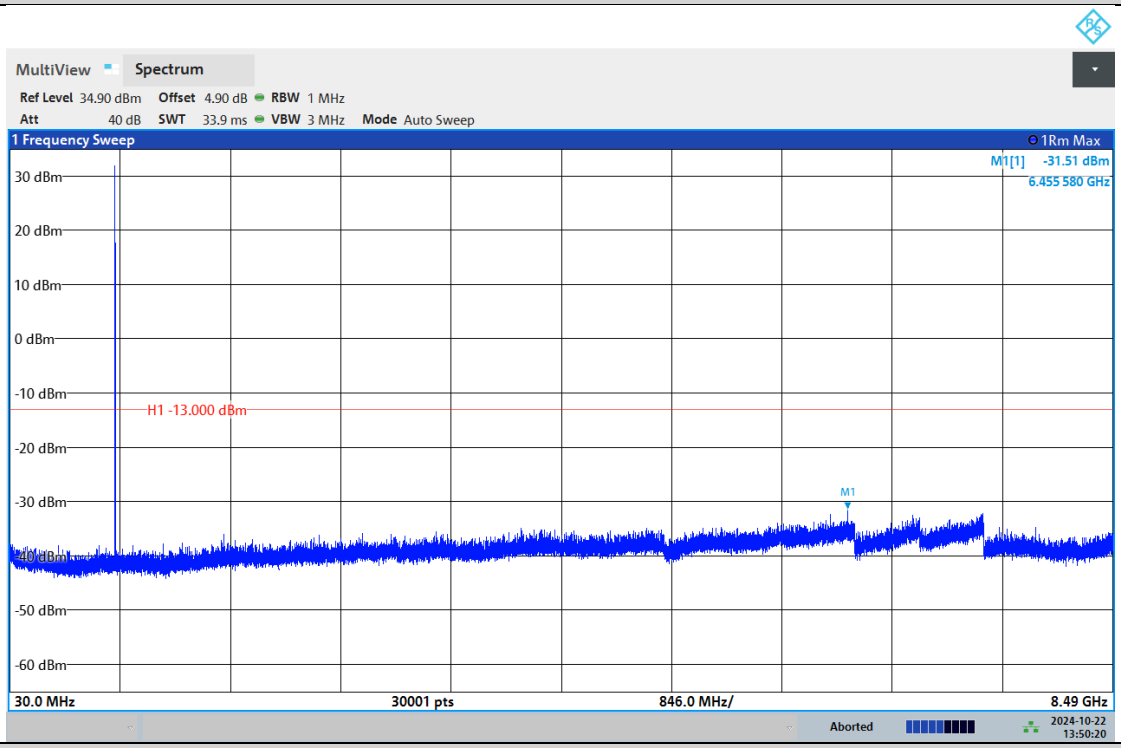
Band	Channel	Frequency Range(MHz)	Result (dBm)	Limit (dBm)	Verdict
GSM850	128	30~8490MHz	See Graph	-13	PASS
GSM850	189	30~8490MHz	See Graph	-13	PASS
GSM850	251	30~8490MHz	See Graph	-13	PASS
GPRS850	128	30~8490MHz	See Graph	-13	PASS
GPRS850	189	30~8490MHz	See Graph	-13	PASS
GPRS850	251	30~8490MHz	See Graph	-13	PASS
EGPRS850	128	30~8490MHz	See Graph	-13	PASS
EGPRS850	189	30~8490MHz	See Graph	-13	PASS
EGPRS850	251	30~8490MHz	See Graph	-13	PASS

Test Graphs

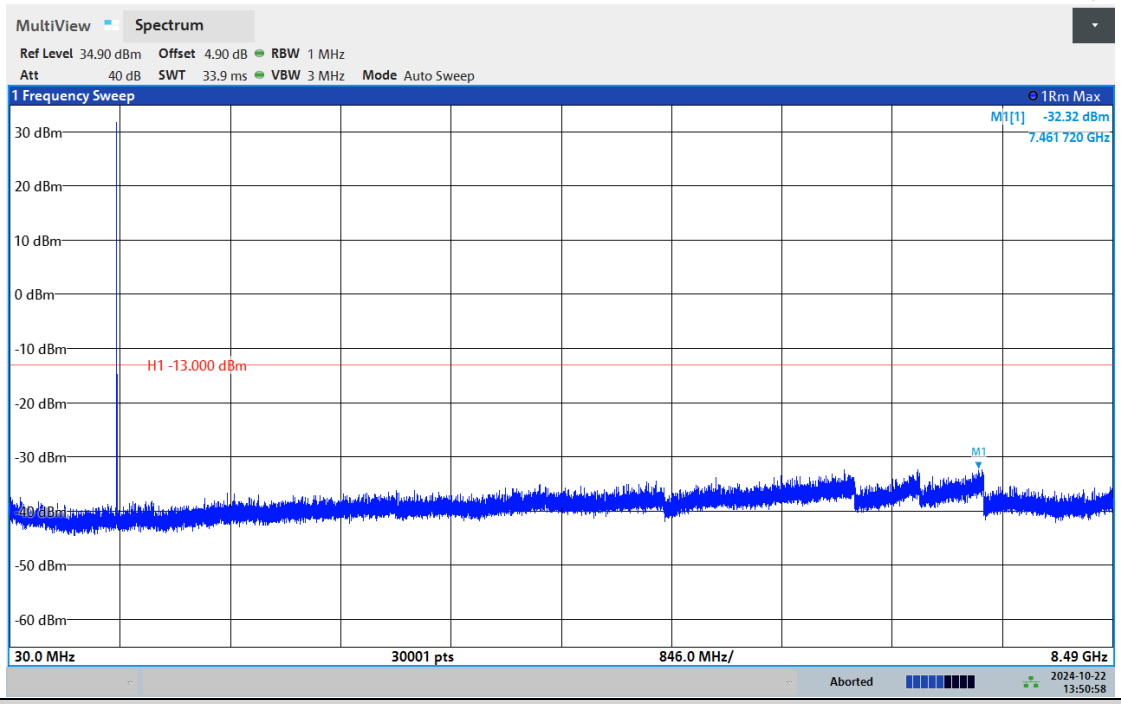
GSM850-128-30~8490MHz



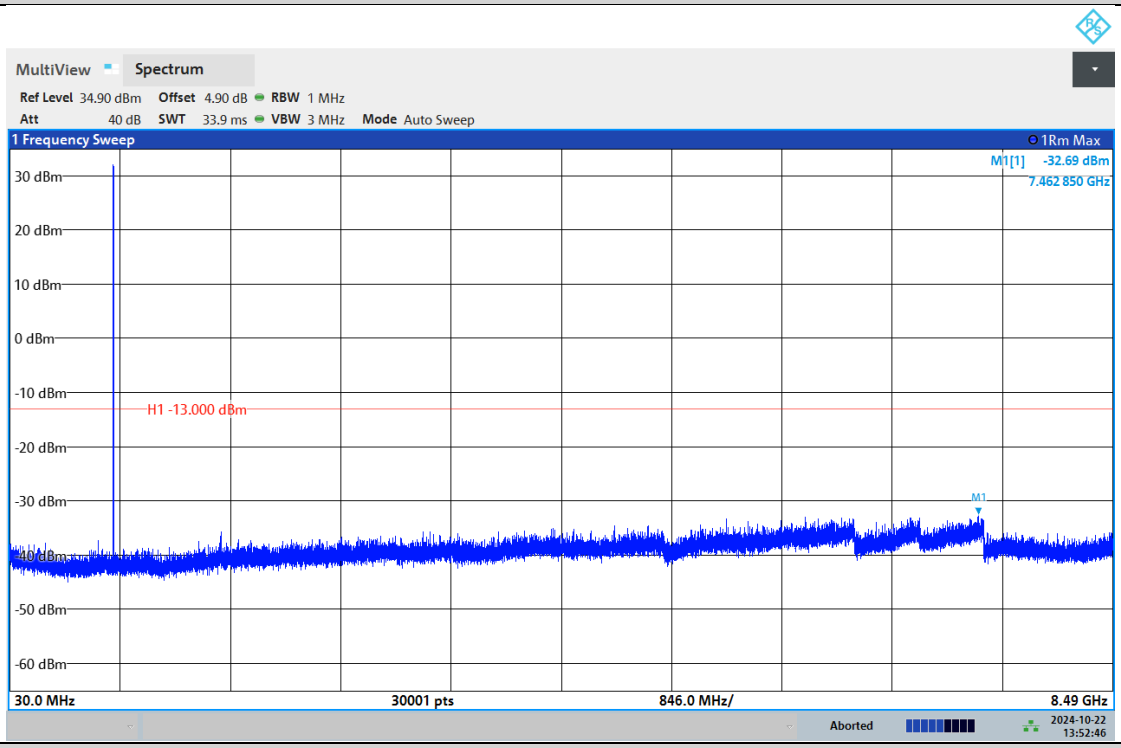
GSM850-189-30~8490MHz



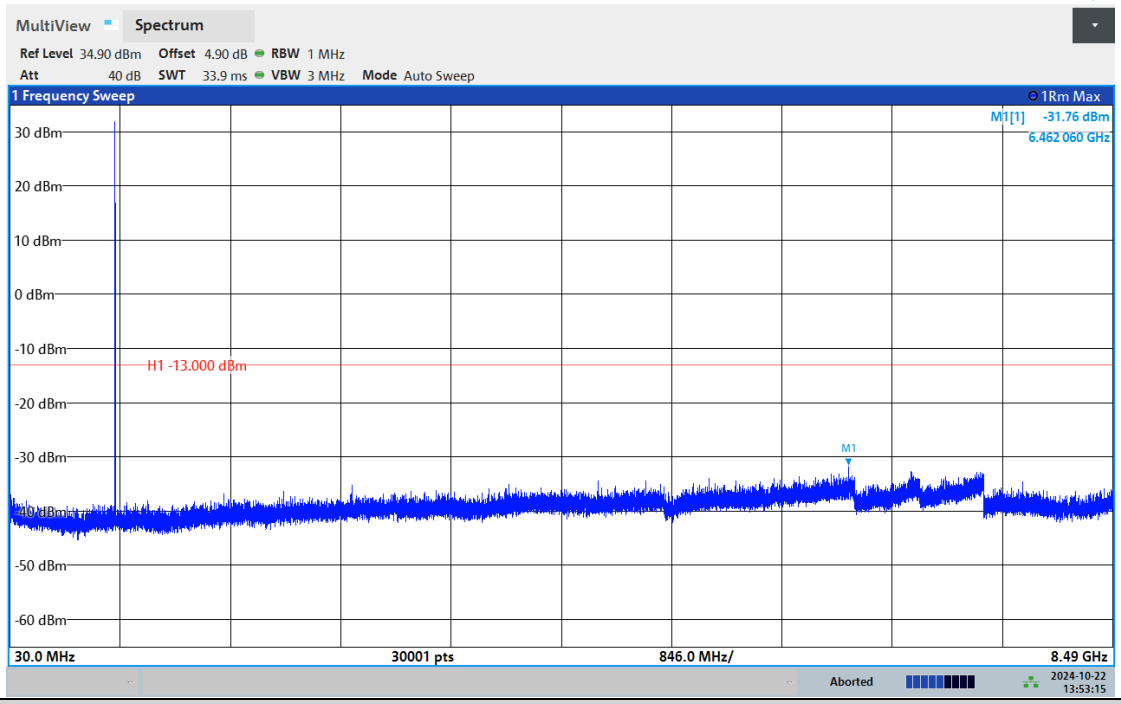
GSM850-251-30~8490MHz



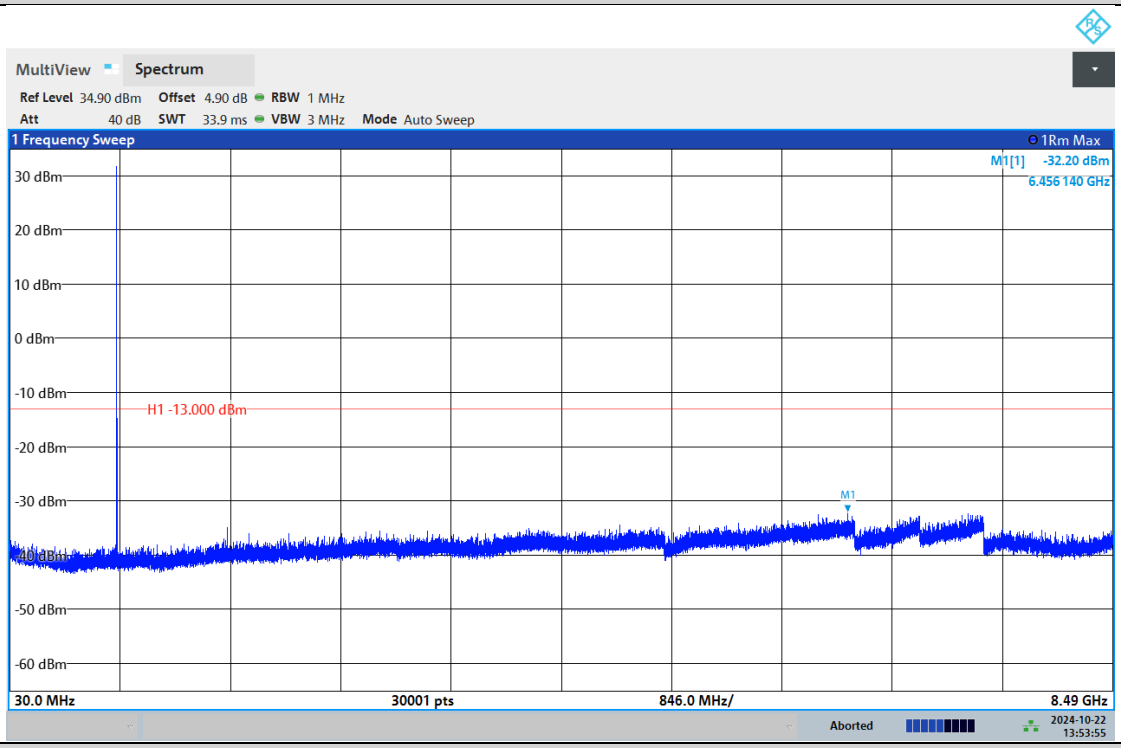
GPRS850-128-30~8490MHz



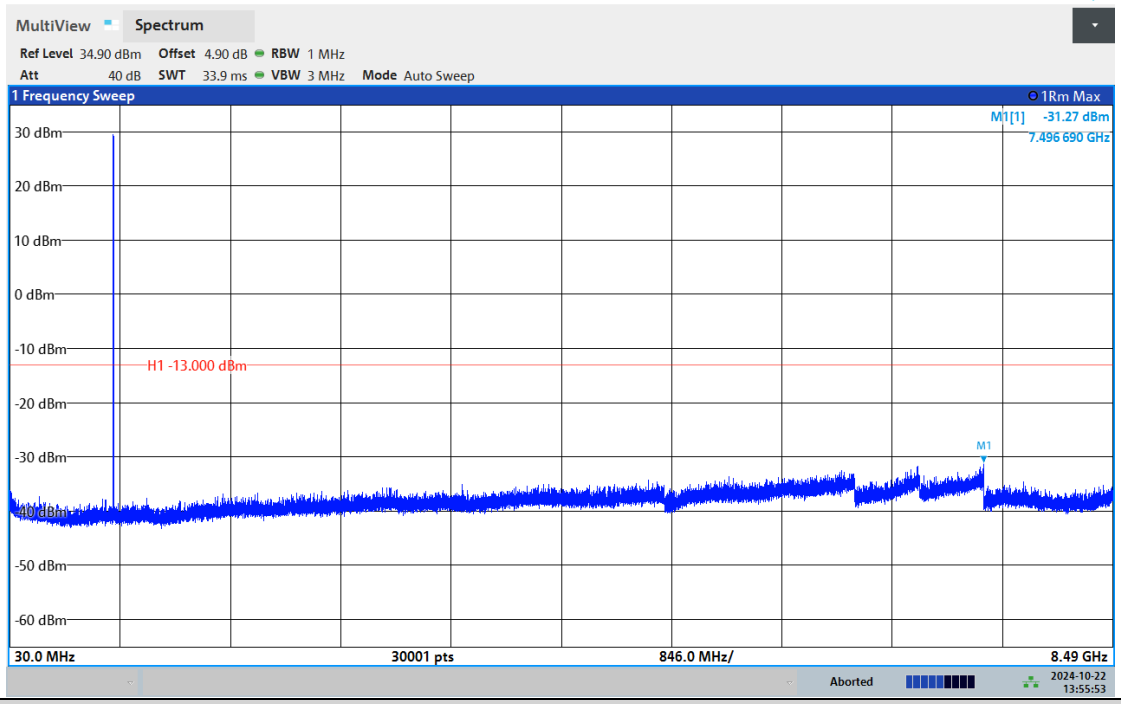
GPRS850-189-30~8490MHz



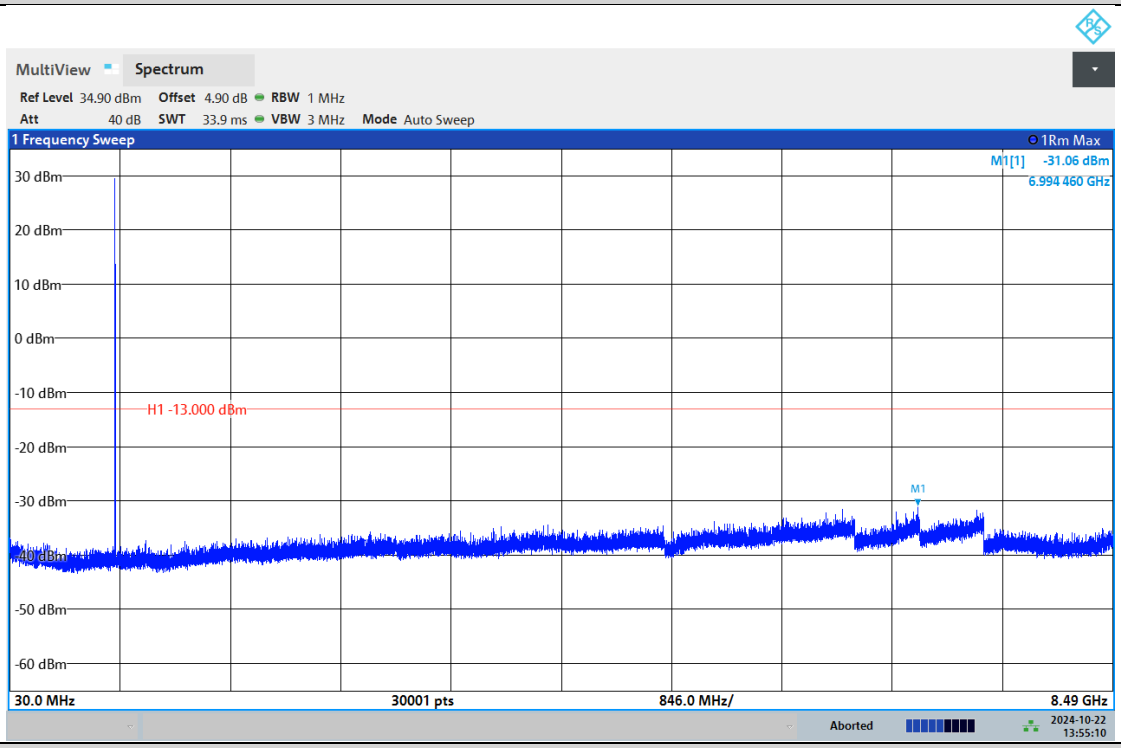
GPRS850-251-30~8490MHz



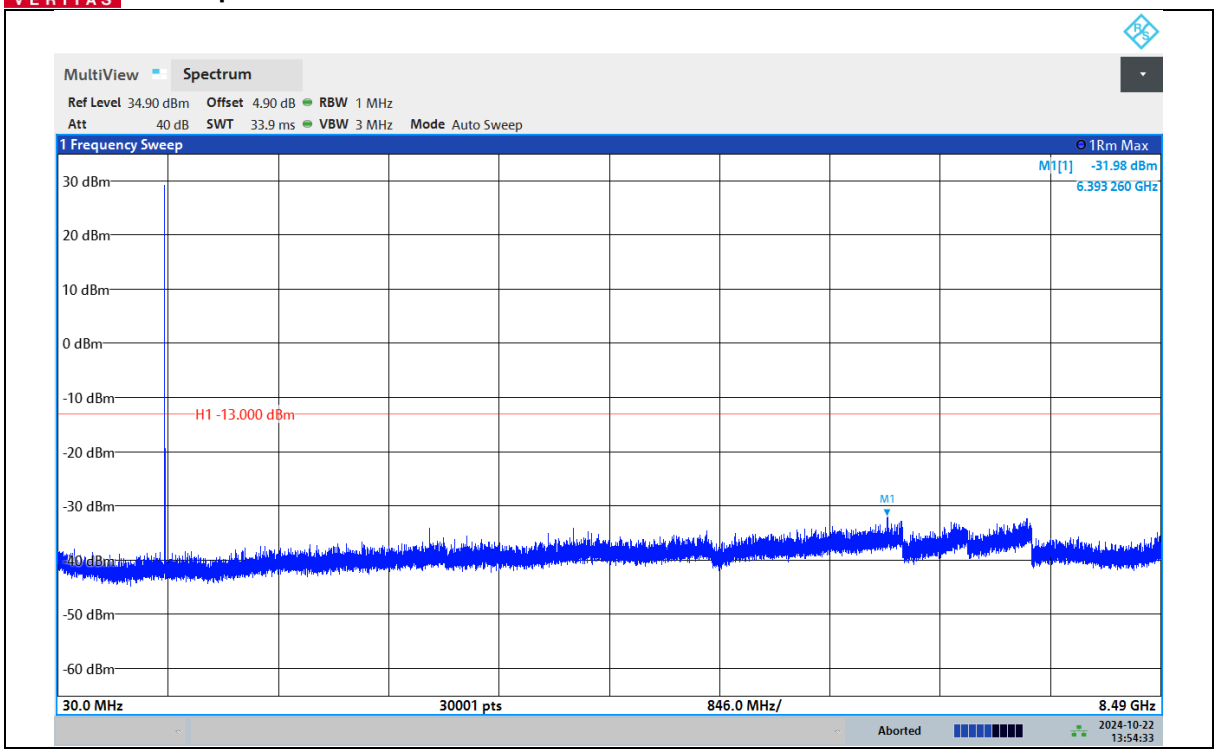
EGPRS850-128-30~8490MHz



EGPRS850-189-30~8490MHz



EGPRS850-251-30~8490MHz


MultiView
Spectrum
Ref Level 34.90 dBm Offset 4.90 dB RBW 1 MHz
Att 40 dB SWT 33.9 ms VBW 3 MHz Mode Auto Sweep
1 Frequency Sweep
1Rm Max
M1[1] -31.98 dBm
6.393 260 GHz
30 dBm
20 dBm
10 dBm
0 dBm
-10 dBm
H1 -13.000 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
M1
30.0 MHz
30001 pts
846.0 MHz/
8.49 GHz
Aborted
2024-10-22
13:54:33

FREQUENCY STABILITY

Test Result

Voltage							
Band	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
GSM850	189	LV	NT	6.53	0.0079	±2.5	PASS
GSM850	189	NV	NT	-8.11	-0.0098	±2.5	PASS
GSM850	189	HV	NT	-5.28	-0.0064	±2.5	PASS
GSM850	128	LV	NT	6.29	0.0075	±2.5	PASS
GSM850	128	NV	NT	-2.18	-0.0026	±2.5	PASS
GSM850	128	HV	NT	8.54	0.0102	±2.5	PASS
GSM850	251	LV	NT	-3.77	-0.0044	±2.5	PASS
GSM850	251	NV	NT	-8.52	-0.0100	±2.5	PASS
GSM850	251	HV	NT	-8.98	-0.0106	±2.5	PASS

Temperature							
Band	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
GSM850	189	NV	-30	0.51	0.0006	±2.5	PASS
GSM850	189	NV	-20	5.72	0.0069	±2.5	PASS
GSM850	189	NV	-10	-1.03	-0.0012	±2.5	PASS
GSM850	189	NV	0	6.94	0.0084	±2.5	PASS
GSM850	189	NV	10	-5.91	-0.0072	±2.5	PASS
GSM850	189	NV	20	-5.46	-0.0066	±2.5	PASS
GSM850	189	NV	30	0.75	0.0009	±2.5	PASS
GSM850	189	NV	40	-0.70	-0.0008	±2.5	PASS
GSM850	189	NV	50	-3.97	-0.0048	±2.5	PASS
GSM850	128	NV	-30	-0.27	-0.0003	±2.5	PASS
GSM850	128	NV	-20	-3.80	-0.0045	±2.5	PASS
GSM850	128	NV	-10	2.23	0.0027	±2.5	PASS
GSM850	128	NV	0	-6.36	-0.0076	±2.5	PASS
GSM850	128	NV	10	6.96	0.0083	±2.5	PASS
GSM850	128	NV	20	3.19	0.0038	±2.5	PASS
GSM850	128	NV	30	-7.14	-0.0085	±2.5	PASS
GSM850	128	NV	40	-6.77	-0.0081	±2.5	PASS
GSM850	128	NV	50	8.36	0.0100	±2.5	PASS
GSM850	251	NV	-30	-3.61	-0.0043	±2.5	PASS
GSM850	251	NV	-20	8.31	0.0098	±2.5	PASS
GSM850	251	NV	-10	-4.40	-0.0052	±2.5	PASS
GSM850	251	NV	0	4.83	0.0057	±2.5	PASS
GSM850	251	NV	10	5.99	0.0071	±2.5	PASS
GSM850	251	NV	20	7.41	0.0087	±2.5	PASS
GSM850	251	NV	30	8.59	0.0101	±2.5	PASS
GSM850	251	NV	40	4.20	0.0049	±2.5	PASS
GSM850	251	NV	50	-2.00	-0.0024	±2.5	PASS

WCMDA BAND5

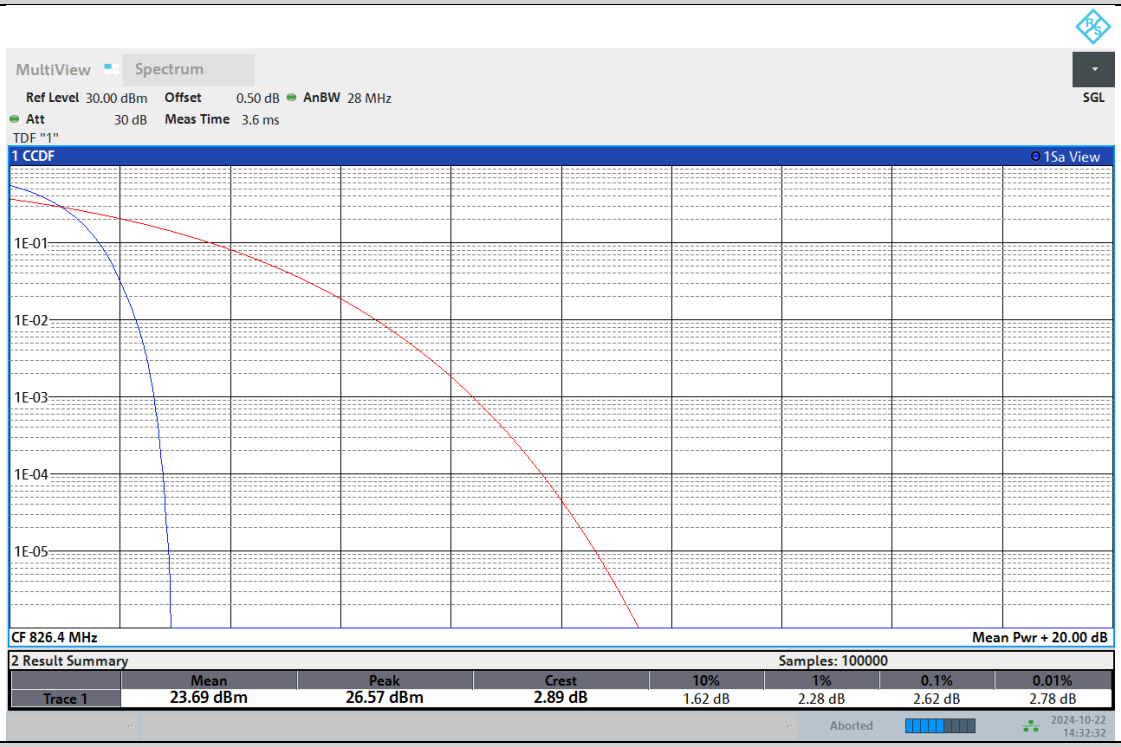
PEAK-TO-AVERAGE RATIO

Test Result

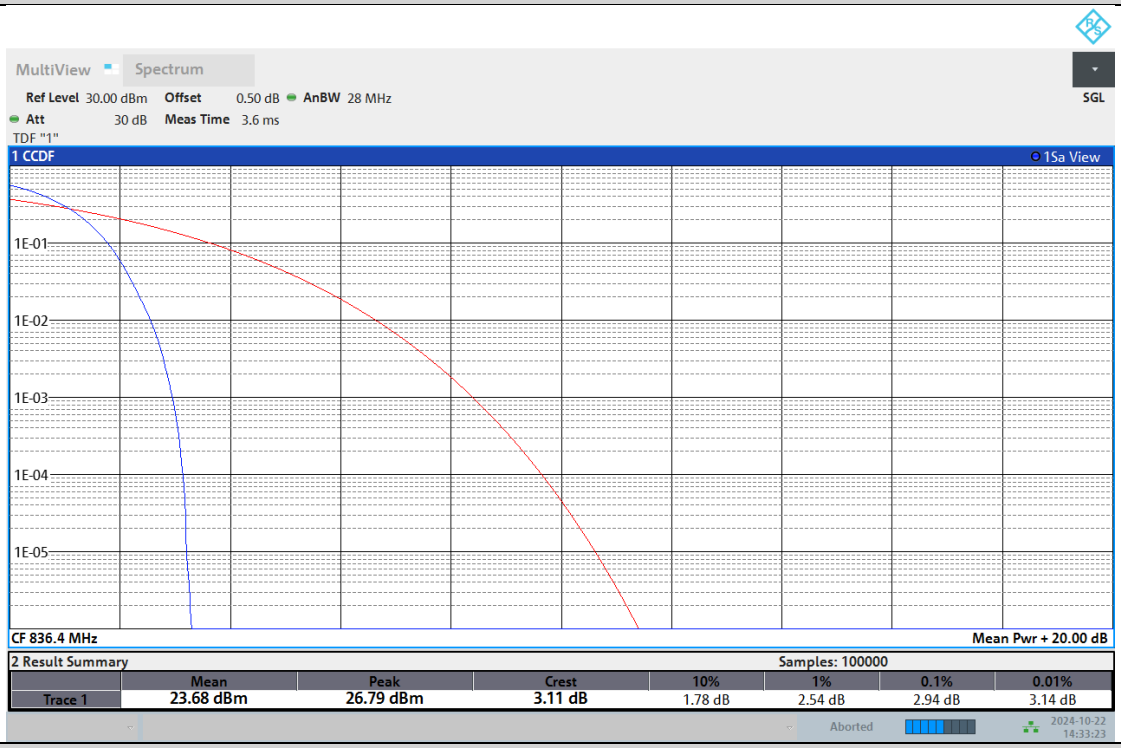
Band	Channel	Peak-to-Average Ratio(dB)	Limit(dBm)	Verdict
Band5	4132	2.62	13	PASS
Band5	4182	2.94	13	PASS
Band5	4233	2.94	13	PASS

Test Graphs

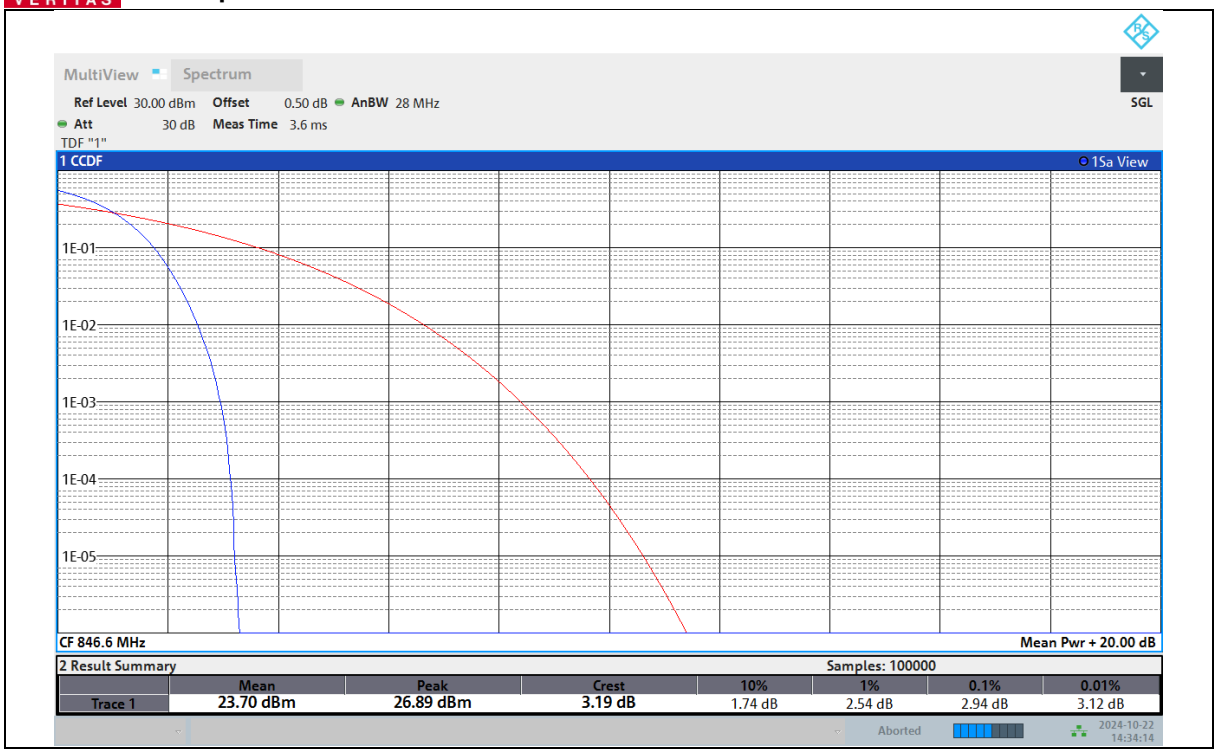
Band5-4132



Band5-4182



Band5-4233


MultiView
Spectrum
Ref Level 30.00 dBm Offset 0.50 dB AnBW 28 MHz
Att 30 dB Meas Time 3.6 ms
TDF "1"
SGL
1 CCDF
1Sa View
1E-01
1E-02
1E-03
1E-04
1E-05
CF 846.6 MHz
Mean Pwr + 20.00 dB
2 Result Summary
Samples: 100000
Mean Peak Crest 10% 1% 0.1% 0.01%
Trace 1 23.70 dBm 26.89 dBm 3.19 dB 1.74 dB 2.54 dB 2.94 dB 3.12 dB
Aborted
2024-10-22
14:34:14

26DB BANDWIDTH AND OCCUPIED BANDWIDTH

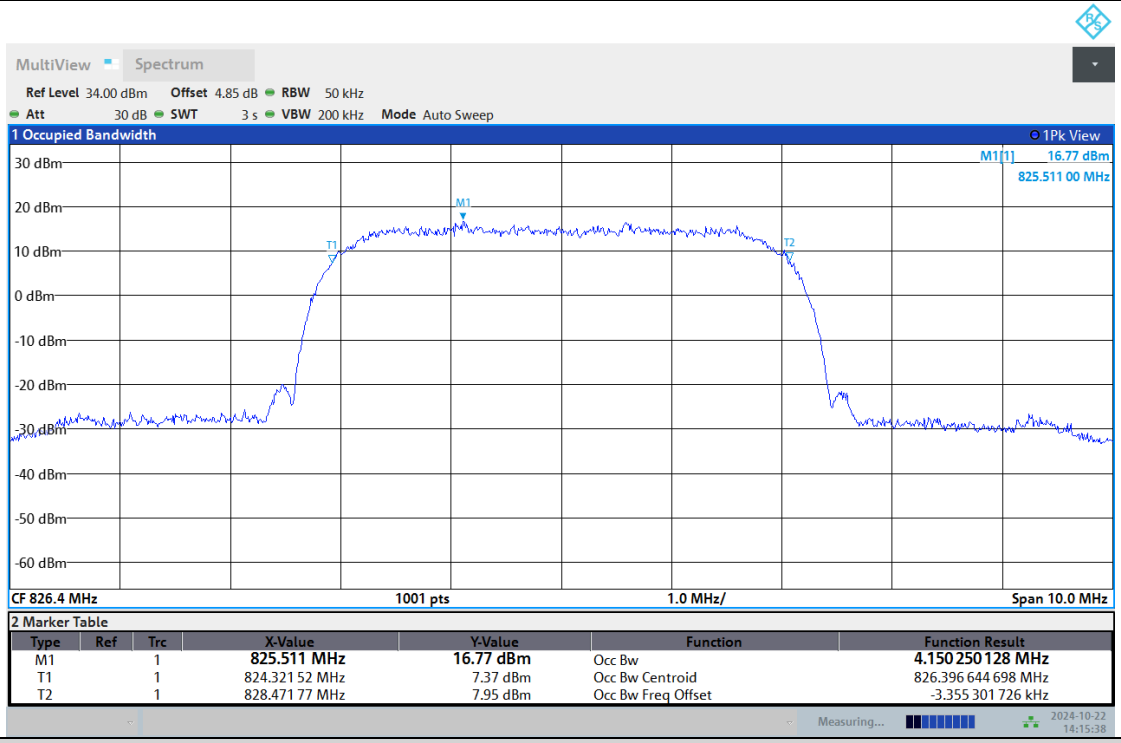
Test Result

Band	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
Band5	4132	4.150	4.67	PASS
Band5	4182	4.140	4.67	PASS
Band5	4233	4.140	4.66	PASS

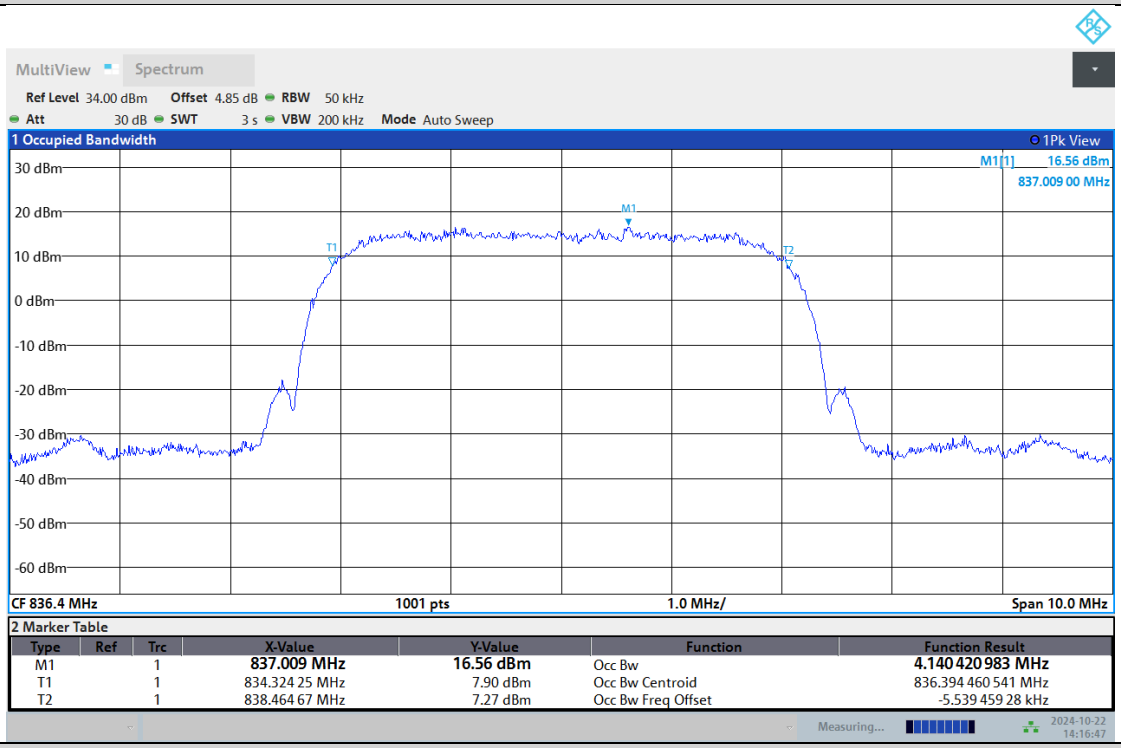
Test Graphs

Occupied Bandwidth

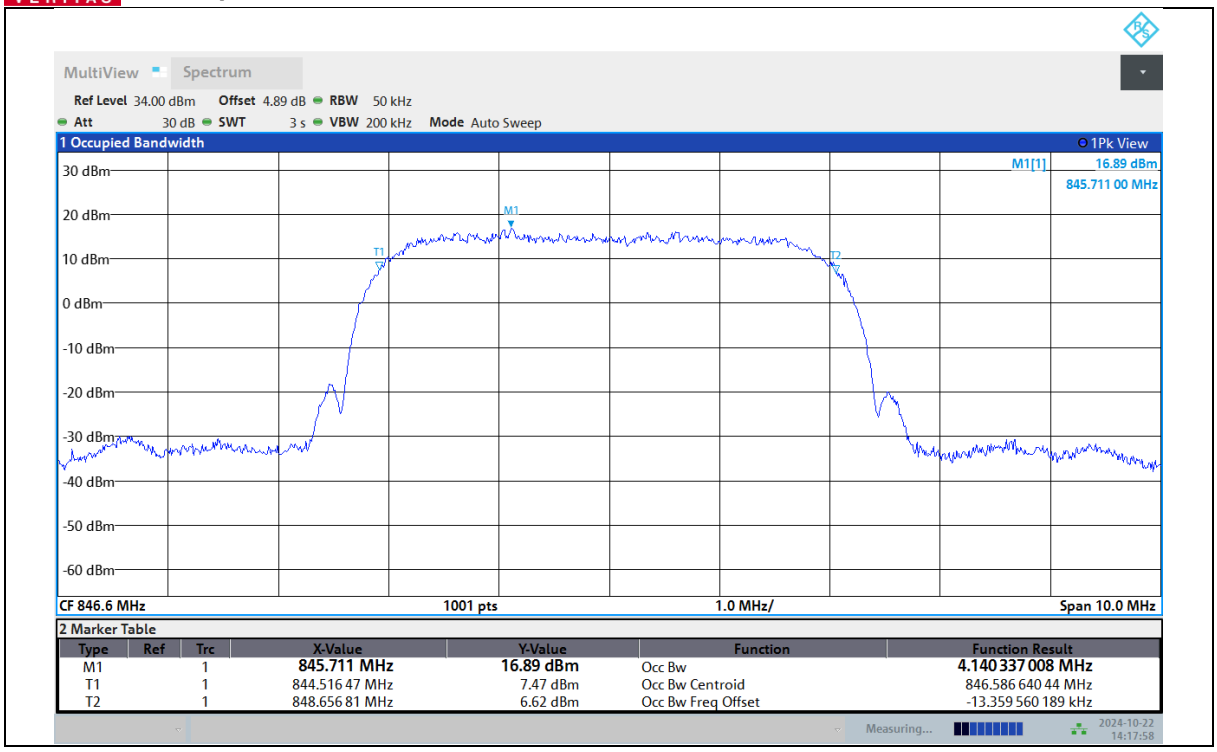
Band5-4132



Band5-4182

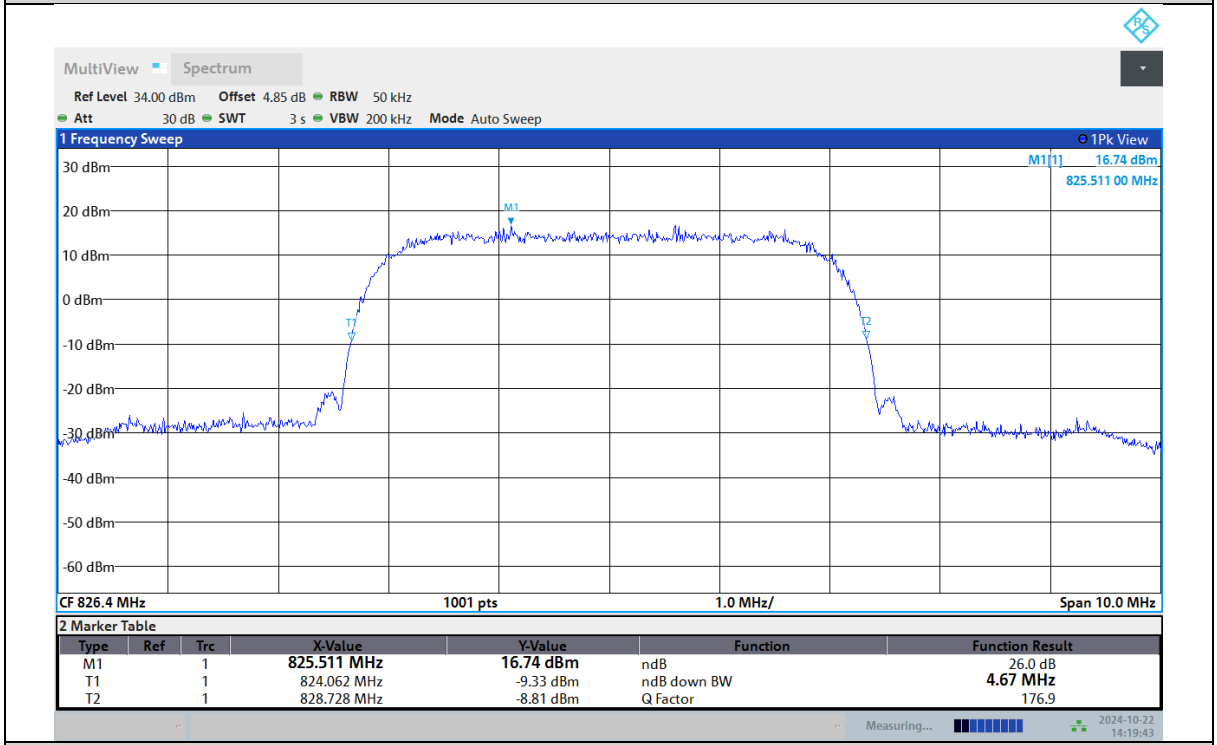


Band5-4233

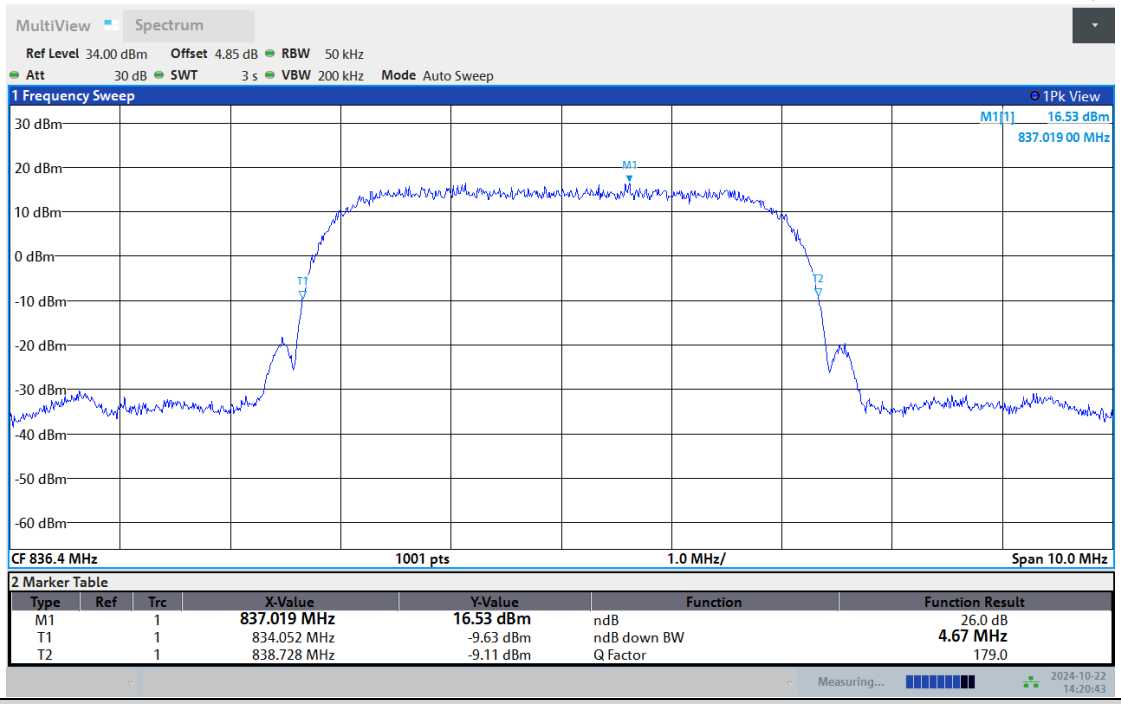


26dB Bandwidth

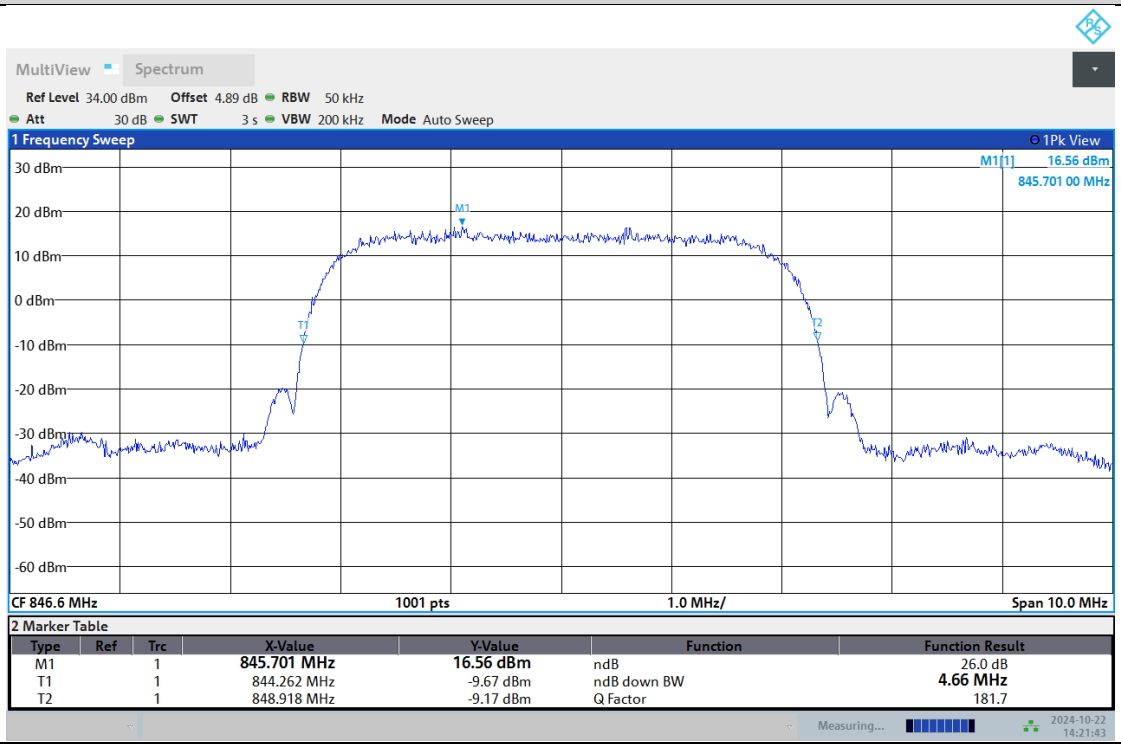
Band5-4132



Band5-4182


MultiView
Spectrum
Ref Level 34.00 dBm Offset 4.85 dB RBW 50 kHz
Att 30 dB SWT 3 s VBW 200 kHz Mode Auto Sweep
1 Frequency Sweep
1Pk View
M1[1] 16.53 dBm
837.019 00 MHz
30 dBm
20 dBm
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
CF 836.4 MHz
1001 pts
1.0 MHz/
Span 10.0 MHz
2 Marker Table
Type Ref Trc X-Value Y-Value Function Function Result
M1 1 837.019 MHz 16.53 dBm ndB 26.0 dB
T1 1 834.052 MHz -9.63 dBm ndB down BW 4.67 MHz
T2 1 838.728 MHz -9.11 dBm Q Factor 179.0
Measuring...
2024-10-22
14:20:43

Band5-4233


MultiView
Spectrum
Ref Level 34.00 dBm Offset 4.89 dB RBW 50 kHz
Att 30 dB SWT 3 s VBW 200 kHz Mode Auto Sweep
1 Frequency Sweep
1Pk View
M1[1] 16.56 dBm
845.701 00 MHz
30 dBm
20 dBm
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
CF 846.6 MHz
1001 pts
1.0 MHz/
Span 10.0 MHz
2 Marker Table
Type Ref Trc X-Value Y-Value Function Function Result
M1 1 845.701 MHz 16.56 dBm ndB 26.0 dB
T1 1 844.262 MHz -9.67 dBm ndB down BW 4.66 MHz
T2 1 848.918 MHz -9.17 dBm Q Factor 181.7
Measuring...
2024-10-22
14:21:43

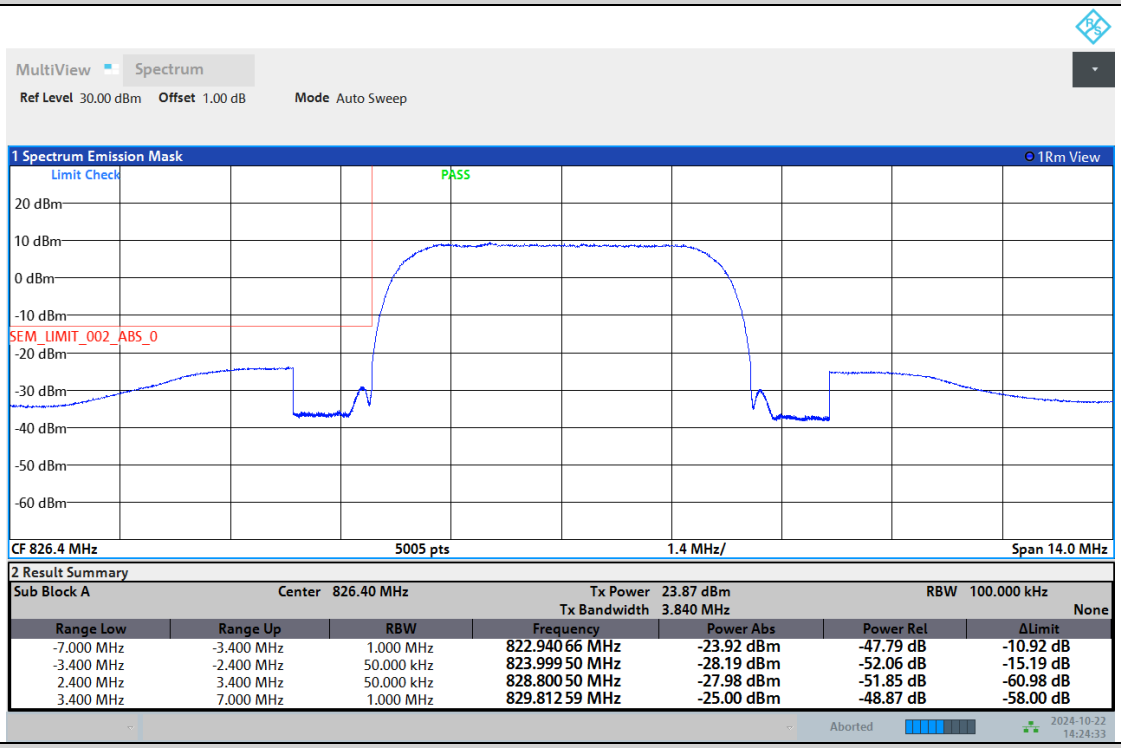
BAND EDGE

Test Result

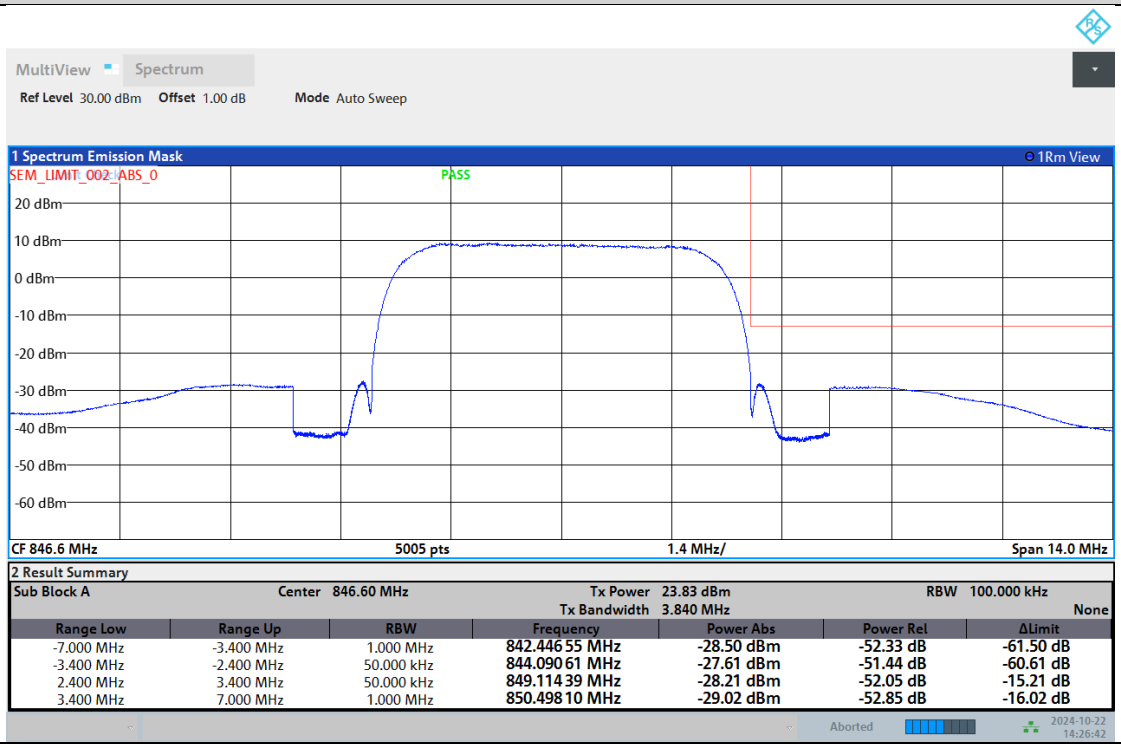
Band	Channel	Result (dBm)	Limit(dBm)	Verdict
Band5	4132	See Graph	-13	PASS
Band5	4233	See Graph	-13	PASS

Test Graphs

Band5-4132



Band5-4233



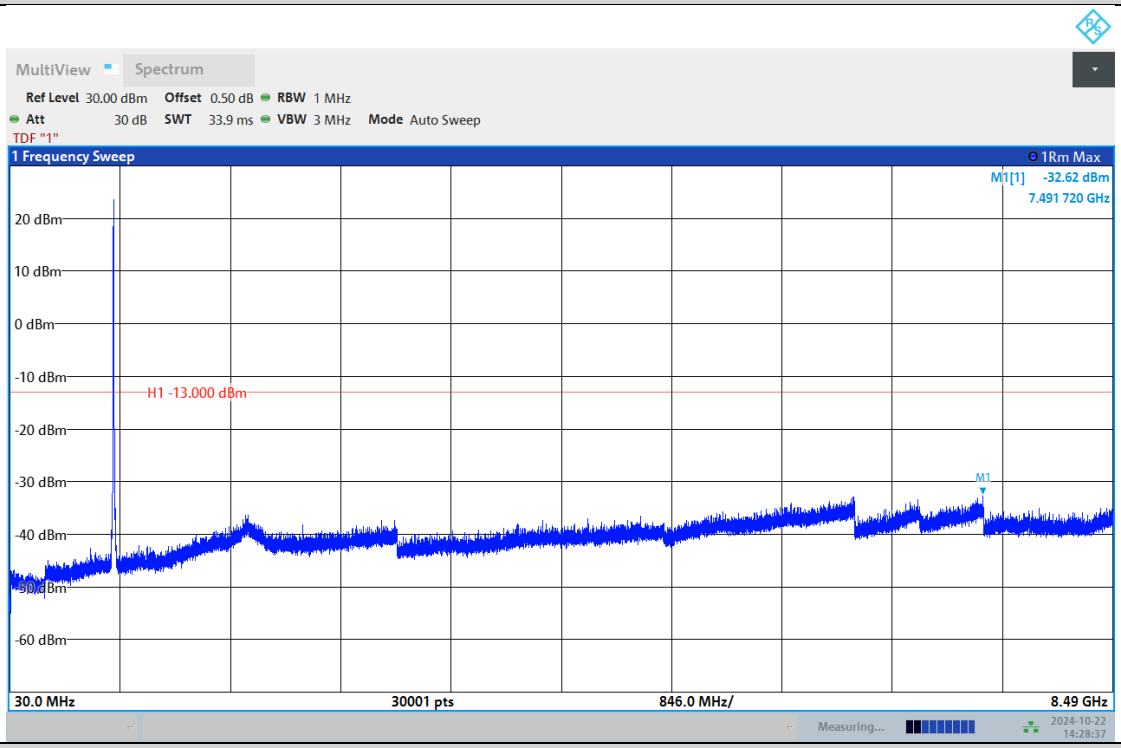
CONDUCTED SPURIOUS EMISSION

Test Result

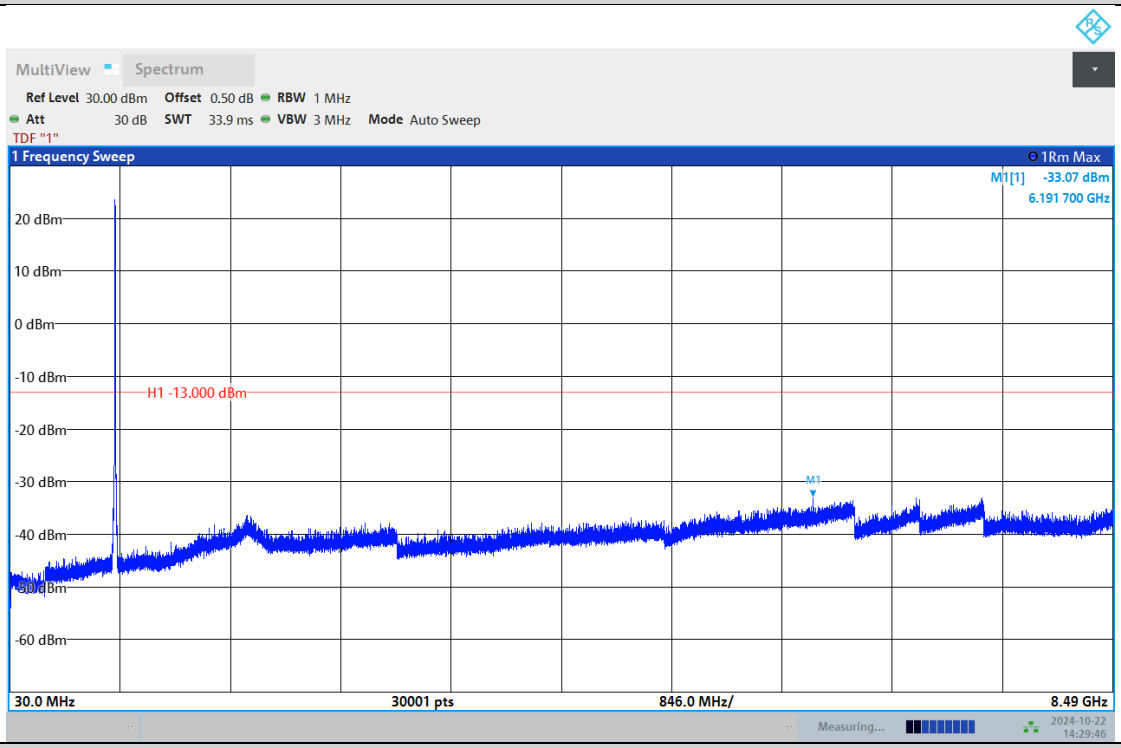
Band	Channel	Frequency Range (Mhz)	Result (dBm)	Limit (dBm)	Verdict
Band5	4132	30~8490MHZ	See Graph	-13	PASS
Band5	4182	30~8490MHZ	See Graph	-13	PASS
Band5	4233	30~8490MHZ	See Graph	-13	PASS

Test Graphs

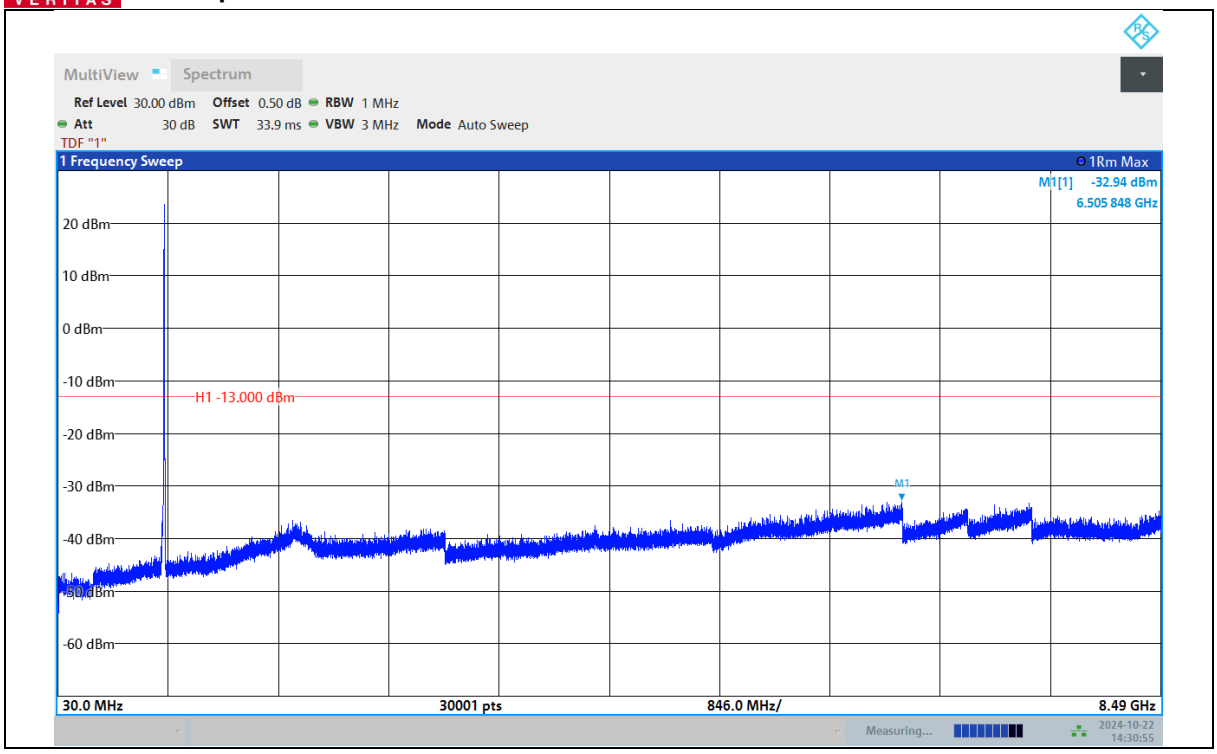
Band5-4132-30~8490MHZ



Band5-4182-30~8490MHZ



Band5-4233-30~8490MHZ


MultiView
Spectrum
Ref Level 30.00 dBm Offset 0.50 dB RBW 1 MHz
Att 30 dB SWT 33.9 ms VBW 3 MHz Mode Auto Sweep
TDF "1"
1 Frequency Sweep
1Rm Max
M1[1] -32.94 dBm
6.505 848 GHz
20 dBm
10 dBm
0 dBm
-10 dBm
H1 -13.000 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
M1
30.0 MHz
30001 pts
846.0 MHz/
8.49 GHz
Measuring...
2024-10-22
14:30:55

FREQUENCY STABILITY

Test Result

Voltage							
Band	Channel	Voltage (Vdc)	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band5	4132	VL	NT	1.81	0.0022	±2.5	PASS
Band5	4132	VN	NT	-8.92	-0.0108	±2.5	PASS
Band5	4132	VH	NT	0.69	0.0008	±2.5	PASS
Band5	4182	VL	NT	-5.71	-0.0068	±2.5	PASS
Band5	4182	VN	NT	-9.21	-0.0110	±2.5	PASS
Band5	4182	VH	NT	5.65	0.0068	±2.5	PASS
Band5	4233	VL	NT	-1.13	-0.0013	±2.5	PASS
Band5	4233	VN	NT	-3.36	-0.0040	±2.5	PASS
Band5	4233	VH	NT	-7.39	-0.0087	±2.5	PASS

Temperature							
Band	Channel	Voltage (Vdc)	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band5	4132	NV	-30	-5.49	0.0131	±2.5	PASS
Band5	4132	NV	-20	-5.49	0.0131	±2.5	PASS
Band5	4132	NV	-10	4.58	0.0055	±2.5	PASS
Band5	4132	NV	0	-0.50	-0.0006	±2.5	PASS
Band5	4132	NV	10	-4.67	-0.0057	±2.5	PASS
Band5	4132	NV	20	1.60	0.0019	±2.5	PASS
Band5	4132	NV	30	7.75	0.0094	±2.5	PASS
Band5	4132	NV	40	0.18	0.0002	±2.5	PASS
Band5	4132	NV	50	-8.84	-0.0107	±2.5	PASS
Band5	4182	NV	-30	-7.10	-0.0085	±2.5	PASS
Band5	4182	NV	-20	0.20	0.0002	±2.5	PASS
Band5	4182	NV	-10	-7.47	-0.0089	±2.5	PASS
Band5	4182	NV	0	4.64	0.0055	±2.5	PASS
Band5	4182	NV	10	-2.73	-0.0033	±2.5	PASS
Band5	4182	NV	20	2.96	0.0035	±2.5	PASS
Band5	4182	NV	30	5.94	0.0071	±2.5	PASS
Band5	4182	NV	40	-0.59	-0.0007	±2.5	PASS
Band5	4182	NV	50	0.98	0.0012	±2.5	PASS
Band5	4233	NV	-30	0.75	0.0009	±2.5	PASS
Band5	4233	NV	-20	4.21	0.0050	±2.5	PASS
Band5	4233	NV	-10	6.22	0.0073	±2.5	PASS
Band5	4233	NV	0	4.42	0.0052	±2.5	PASS
Band5	4233	NV	10	-6.97	-0.0082	±2.5	PASS
Band5	4233	NV	20	4.53	0.0054	±2.5	PASS
Band5	4233	NV	30	7.44	0.0088	±2.5	PASS
Band5	4233	NV	40	8.76	0.0103	±2.5	PASS
Band5	4233	NV	50	8.16	0.0096	±2.5	PASS

--END--