RADIO TEST REPORT

Report No.: STS1912245W03

Issued for

Telit Communications S.p.A.

Viale Stazione di Prosecco 5/b, 34010, Trieste, Italy

Product Name:	Data Terminal Module
Brand Name:	Telit
Model Name:	ME910G1-WW
Series Model:	N/A
FCC ID:	RI7ME910G1WW
IC:	5131A-ME910G1WW
Test Standard:	FCC Part 22 FCC Part 24 RSS-132 issue 3 RSS-133 issue 6

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TEST RESULT CERTIFICATION

Applicant's Name.....:	Telit Communications S.p.A.
Address.....:	Viale Stazione di Prosecco 5/b, 34010, Trieste, Italy
Manufacture's Name.....:	Telit Communications S.p.A.
Address.....:	Viale Stazione di Prosecco 5/b, 34010, Trieste, Italy

Product Description

Product Name .....:	Data Terminal Module
Brand Name .....:	Telit
Model Name.....:	ME910G1-WW
Series Model.....:	N/A
Test Standards.....:	FCC Part 22 FCC Part 24 RSS-132 issue 3 RSS-133 issue 6
Test Procedure.....:	KDB 971168 D01 v03r01, ANSI C63.26(2015)

This device described above has been tested by STS, the test results show that the equipment under test (EUT) is in compliance with the FCC/IC requirements. And it is applicable only to the tested sample identified in the report.
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Date of Test.....:

Date of receipt of test item .....:	16 Dec. 2019
Date (s) of performance of tests :	16 Dec. 2019 ~ 4 Mar. 2020
Date of Issue .....:	5 Mar. 2020
Test Result .....:	Pass

Testing Engineer : Chris Chen
(Chris Chen)

Technical Manager : Sean She
(Sean she)

Authorized Signatory : Vita Li
(Vita Li)

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Revision History

Rev.	Issue Date	Report NO.	Effect Page	Contents
00	5 Mar. 2020	STS1912245W03	ALL	Initial Issue

SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

The radiated emission testing was performed according to the procedures of KDB 971168 D01 v03r01 and ANSI C63.26(2015)

FCC Rules	Test Description	Test Result
2.1049, 22.913, 24.232 RSS-132 Issue 3(5.4) RSS-133 Issue 6 (6.4)	Conducted OutputPower Effective Radiated Power/Equivalent Isotropic Radiated Power	PASS
2.0146, 24.232 RSS-132 Issue 3 (5.4) RSS-133 Issue 6 (6.4)	Peak-to-AverageRatio	PASS
2.1049 RSS-Gen (6.7)	Occupied Bandwidth Emissions Bandwidth	PASS
2.1055, 22.355, 24.235 RSS-132 Issue 3 (5.3) RSS-133 Issue 6 (6.3)	Frequency Stability	PASS
2.1051, 22.917, 24.238 RSS-132 Issue 3 (5.5) RSS-133 Issue 6 (6.5)	Spurious Emission at Antenna Terminals	PASS
2.1053, 22.917, 24.238 RSS-132 Issue 3 (5.5) RSS-133 Issue 6 (6.5)	Field Strength of Spurious Radiation	PASS
2.1051, 22.917, 24.238 RSS-132 Issue 3 (5.5) RSS-133 Issue 6 (6.5)	Band Edge	PASS
2.1047 RSS-132 Issue 3 (5.2) RSS-133 Issue 6 (6.2)	Modulation Characteristics	PASS

1 INTRODUCTION

1.1 TEST FACTORY

SHENZHEN STS TEST SERVICES CO., LTD
Add. : A 1/F, Building B, Zhuoke Science Park, No.190 Chongqing Road, HepingShequ, Fuyong Sub-District, Bao'an District, Shenzhen, Guang Dong, China
FCC test Firm Registration Number: 625569
IC test Firm Registration Number: 12108A
A2LA Certificate No.: 4338.01

1.2 MEASUREMENT UNCERTAINTY

The measurement uncertainties shown below were calculated in accordance with the requirements ofANSI C63.4-2014. All measurement uncertainty values are shown with a coverage factor of k = 2 toindicate a 95% level of confidence. The measurement data shown herein meets or exceeds the UCISPRmeasurement uncertainty values specified in CISPR 16-4-2 and, thus, can be compared directly tospecified limits to determine compliance.

No.	Item	Uncertainty
1	RF output power, conducted	±0.68dB
2	Unwanted Emissions, conducted	±2.988dB
3	All emissions, radiated 30-1GHz	±6.7dB
4	All emissions, radiated 1G-6GHz	±5.5dB
5	All emissions, radiated>6G	±5.8dB
6	Conducted Emission (9KHz-150KHz)	±4.43dB
7	Conducted Emission (150KHz-30MHz)	±5dB

2 PRODUCT INFORMATION

Product Name	Data Terminal Module
Trade Name	Telit
Model Name	ME910G1-WW
Model Difference	N/A
Tx Frequency:	GPRS/EDGE: 850: 824 MHz ~ 849MHz 1900: 1850 MHz ~ 1910MHz
Rx Frequency:	GPRS/EDGE: 850: 869 MHz ~ 894 MHz 1900: 1930 MHz ~ 1990MHz
Max Conducted Output Power:	GPRS850:33.23dBm, GPRS1900:30.41dBm EDGE 850:27.84dBm, EDGE 1900:26.72dBm
Type of Emission:	GPRS(850): 246KGXW; GPRS(1900): 246KGXW EDGE(850): 248KG7W; EDGE(1900): 247KG7W
Modulation Mode:	GMSK for GPRS; GMSK and 8PSK for EDGE
SIM Card:	Only support single SIM Card.
Antenna:	External Antenna The EUT doesn't have antenna, The adapter and antenna used for testing in this report is the after-market accessory
Antenna gain:	GPRS 850: 2.14dBi ,PCS 1900: 2.14dBi
Operating Voltage:	DC 3.8V
GPRS/EDGE Class:	Multi-Class12
Extreme Vol. Limits:	3.2V to 4.5V
Extreme Temp. Tolerance:	-40℃ to +85℃

3 TEST CONFIGURATION OF EQUIPMENT UNDER TEST

Antenna port conducted and radiated test items were performed according to KDB 971168 D01 and ANSI C63.26 2015 Power Meas. License Digital Systems with maximum output power.

Radiated measurements were performed with rotating EUT in different three orthogonal test planes to find the maximum emission.

Radiated emissions were investigated as following frequency range:

1. 30 MHz to 10th harmonic for GSM850.

2. 30 MHz to 10th harmonic for GSM1900.

All modes and data rates and positions were investigated.

Test modes are chosen to be reported as the worst case configuration below:

	TEST MODES AND CHANNELS	
BAND	RADIATED TCS	CONDUCTED TCS
GSM 850 (824.2/836.6/848.8MHZ)	GPRS/EDGE CLASS 12 LINK	GPRS/EDGE CLASS 12 LINK
GSM 1900 (1850.2/1880/1909.8MHZ)	GPRS/EDGE CLASS 12 LINK	GPRS/EDGE CLASS 12 LINK

4 MEASUREMENT INSTRUMENTS

Radiation Test equipment

Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
Test Receiver	R&S	ESCI	101427	2019.07.29	2020.07.28
Signal Analyzer	Agilent	N9020A	MY51110105	2019.03.02	2020.03.01
Wireless Communications Test Set	R&S	CMW 500	133884	2019.03.02	2020.03.01
Bilog Antenna	TESEQ	CBL6111D	34678	2017.11.02	2020.11.01
Horn Antenna	SCHWARZBECK	BBHA 9120D(1201)	9120D-1343	2018.10.19	2021.10.18
SHF-EHF Horn Antenna (18G-40GHz)	A-INFO	LB-180400-KF	J211020657	2018.03.11	2021.03.10
Pre-Amplifier (0.1M-3GHz)	EM	EM330	060665	2019.10.09	2020.10.08
Pre-Amplifier (1G-18GHz)	SKET	LNPA-01018G-45	SK2018080901	2019.10.12	2020.10.11
Turn table	EM	SC100_1	60531	N/A	N/A
Antenna mast	EM	SC100	N/A	N/A	N/A
Temperature & Humidity	HH660	Mieo	N/A	2019.10.12	2020.10.11
Test SW	BULUN	BL410-E/18.905			

RF Connected Test

Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
Universal Radio communication tester	R&S	CMU200	11764	2019.10.11	2020.10.10
Wireless Communications Test Set	R&S	CMW 500	133884	2019.03.02	2020.03.01
Signal Analyzer	Agilent	N9020A	MY49100060	2019.10.09	2020.10.08
Temperature & Humidity	HH660	Mieo	N/A	2019.10.12	2020.10.11
Test SW	FARAD	LZ-RF /LzRf-3A3			

Equipment with a calibration date of "NCR" shown in this list was not used to make direct calibrated measurements.

5 TEST ITEMS

5.1 CONDUCTED OUTPUT POWER

TEST OVERVIEW

A system simulator was used to establish communication with the EUT. Its parameters were set to enforce EUT transmitting at the maximum power. The measured power in the radio frequency on the transmitter output terminals shall be reported.

TEST PROCEDURES

1. The transmitter output port was connected to the system simulator.

2. Set eut at maximum power through the system simulator.

3. Select lowest, middle, and highest channels for each band and different modulation.

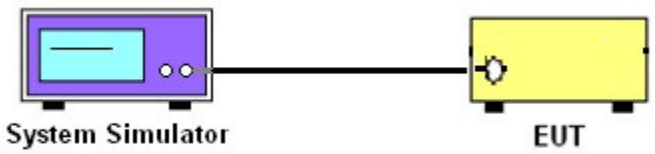
4. Measure and record the power level from the system simulator.

5. Limist

Operating band	FCC Limit	ISED Limit
GPRS/EDGE 850	ERP 7 watts	ERP 11.5 watts
GPRS/EDGE 1900	EIRP 2 watts	EIRP 2 watts

Note: ERP or EIRP = $P_{Meas} + G_T$
where
ERP or EIRP: effective radiated power or equivalent isotropically radiated power, respectively (expressed in the same units as P_{Meas}, e.g. dBm)
P_{Meas}: measured transmitter output power, in dBm
G_T: gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP)

TEST SETUP



TEST RESULT

Note: Test data See Appendix 1.

5.2 PEAK TO AVERAGE RATIO

TEST OVERVIEW

According to §24.232(d), power measurements for transmissions by stations authorized under this section may be made either in accordance with a commission-approved average power technique or in compliance with paragraph € of this section. In both instances, equipment employed must be authorized in accordance with the provisions of §24.51. 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.

TEST PROCEDURES

1. The testing follows FCC KDB 971168 D01 v03r01 Section 5.7 and ANSI C63.26 2015 Section 5.2.6

2. The eut was connected to the and peak and av system simulator & spectrum analysis reads

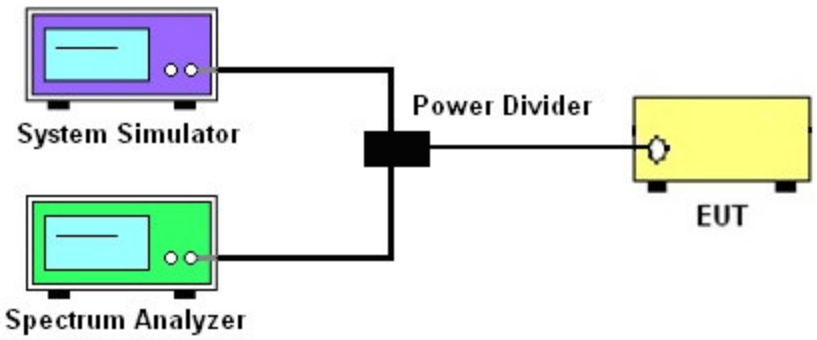
3. Select lowest, middle, and highest channels for each band and different modulation.

4. Set the test probe and measure average power of the spectrum analysis

5. Limist

Operating band	FCC Limit	ISED Limit
GPRS/EDGE 850	PAR ≤ 13 dB	PAR ≤ 13 dB
GPRS/EDGE 1900	PAR ≤ 13 dB	PAR ≤ 13 dB

TEST SETUP



TEST RESULT

Note: Test data See Appendix 2.

5.3 OCCUPIED BANDWIDTH

TEST OVERVIEW

The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power radiated by a given emission shall be measured.

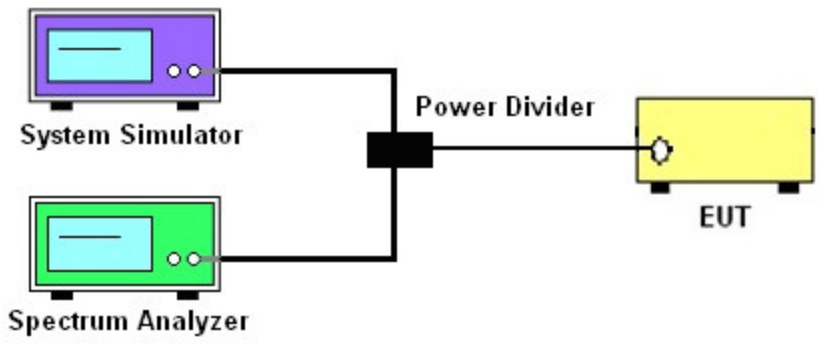
The 26 dB emission bandwidth is defined as the frequency range between two points, one above and one below the carrier frequency, at which the spectral density of the emission is attenuated 26 dB below the maximum in-band spectral density of the modulated signal. Spectral density (power per unit bandwidth) is to be measured with a detector of resolution bandwidth equal to approximately 1.0% of the emission bandwidth.

All modes of operation were investigated and the worst case configuration results are reported in this section.

TEST PROCEDURE

1. The signal analyzer's automatic bandwidth measurement capability was used to perform the 99% occupied bandwidth and the 26dB bandwidth. The bandwidth measurement was not influenced by any intermediate power nulls in the fundamental emission.
2. RBW = 1 – 5% of the expected OBW
3. VBW ≥ 3 x RBW
4. Detector = Peak
5. Trace mode = max hold
6. Sweep = auto couple
7. The trace was allowed to stabilize
8. If necessary, steps 2 – 7 were repeated after changing the RBW such that it would be within 1 – 5% of the 99% occupied bandwidth observed in Step 7
9. Limit:N/A

TEST SETUP



TEST RESULT

Note: Test data See Appendix 3.

5.4 FREQUENCY STABILITY

Test Overview

Frequency stability testing is performed in accordance with the guidelines of ANSI C63.26 2015. The frequency stability of the transmitter is measured by:

a.) Temperature: The temperature is varied from -40°C to +85°C in 10°C increments using an environmental chamber.

b.) Primary Supply Voltage: The primary supply voltage is varied from 85% to 115% of the nominal value for non hand-carried battery and AC powered equipment. For hand-carried, battery-powered equipment, primary supply voltage is reduced to the battery operating end point which shall be specified by the manufacturer.

For Part 22, the frequency stability of the transmitter shall be maintained within ±0.00025% (±2.5 ppm) of the center frequency. For Part 24 the frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

Test Procedure

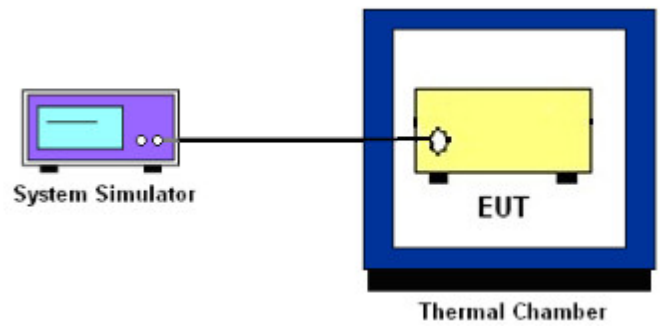
Temperature Variation

1. The testing follows fcckdb 971168 D01 section 9.
2. The EUT was set up in the thermal chamber and connected with the system simulator.
3. With power OFF, the temperature was decreased to -40°C and the EUT was stabilized before testing. Power was applied and the maximum change in frequency was recorded within one minute.
4. With power OFF, the temperature was raised in 10°C steps up to 86°C. The EUT was stabilized at each step for at least half an hour. Power was applied and the maximum frequency change was recorded within one minute.

Voltage Variation

1. The testing follows FCC KDB 971168 D01 Section 9.0.
2. The EUT was placed in a temperature chamber at 25±5° C and connected with the system simulator.
3. The power supply voltage to the EUT was varied from 85% to 115% of the nominal value measured at the input to the EUT.
4. The variation in frequency was measured for the worst case.

TEST SETUP



TEST RESULT

Note: Test data See Appendix 4.

5.5 SPURIOUS EMISSIONS AT ANTENNA TERMINALS

TEST OVERVIEW

The power of any emission outside of the authorized operating frequency ranges must be lower than the transmitter power (P) by a factor of at least 43 + 10 log (P) dB.

It is measured by means of a calibrated spectrum analyzer and scanned from 30 MHz up to a frequency including its 10th harmonic.

TEST PROCEDURE

1. The testing FCC KDB 971168 D01 v03r01 Section 6.0. and ANSI C63.26-2015-Section 5.7.
2. The EUT was connected to the spectrum analyzer and system simulator via a power divider.
3. The RF output of EUT was connected to the spectrum analyzer by an RF cable and attenuator. The path loss was compensated to the results for each measurement.
4. The middle channel for the highest RF power within the transmitting frequency was measured.
5. The conducted spurious emission for the whole frequency range was taken.
6. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
7. Limit

Operating band	FCC Limit	ISED Limit
GPRS/EDGE 850	< - 13 dBm /100kHz@ < 1GHz < - 13 dBm /1MHz@ > 1GHz	< - 13 dBm / 100 kHz
GPRS/EDGE 1900	< - 13 dBm /1MHz	< - 13 dBm /1MHz

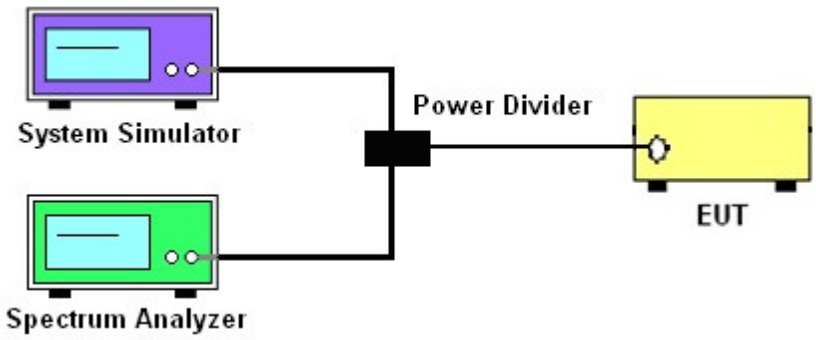
8. The limit line is derived from 43 + 10log(P) dB below the transmitter power P(Watts)

= P(W) - [43 + 10log(P)] (dB)

= [30 + 10log(P)] (dBm) - [43 + 10log(P)] (dB)

= -13dBm.

TEST SETUP



TEST RESULT

Note: Test data See Appendix 5.

5.6 BAND EDGE

OVERVIEW

All out of band emissions are measured with a spectrum analyzer connected to the antenna terminal of the EUT while the EUT is operating at maximum power, and at the appropriate frequencies. All data rates were investigated to determine the worst case configuration. All modes of operation were investigated and the worst case configuration results are reported in this section.

The minimum permissible attenuation level of any spurious emission is 43 + log10(P[Watts]), where P is the transmitter power in Watts.

TEST PROCEDURE

1. The testing FCC KDB 971168 D01 v03r01 Section 6.0. and ANSI C63.26-2015-Section 5.7
2. Start and stop frequency were set such that the band edge would be placed in the center of the Plot.
3. The EUT was connected to the spectrum analyzer and system simulator via a power divider.
4. The RF output of EUT was connected to the spectrum analyzer by an RF cable and attenuator.

The path loss was compensated to the results for each measurement.

5. The band edges of low and high channels for the highest RF powers were measured.
6. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
7. Limit

Operating band	FCC Limit	ISED Limit
GPRS/EDGE 850	< - 13 dBm /1%EBW	< - 13 dBm / 1%OBW
GPRS/EDGE 1900	< - 13 dBm /1%EBW	< - 13 dBm / 1%OBW

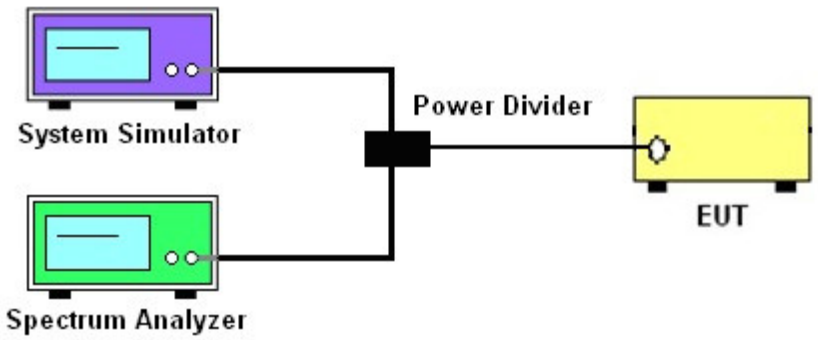
8. The limit line is derived from 43 + 10log(P) dB below the transmitter power P(Watts)

= P(W) - [43 + 10log(P)] (dB)

= [30 + 10log(P)] (dBm) - [43 + 10log(P)] (dB)

= -13dBm.

TEST SETUP



TEST RESULT

Note: Test data See Appendix 6.

5.7 FIELD STRENGTH OF SPURIOUS RADIATION MEASUREMENT

TEST OVERVIEW

Radiated spurious emissions measurements are performed using the substitution method described in ANSI C63.26-2015 with the EUT transmitting into an integral antenna. Measurements on signalsoperating below 1GHz are performed using horizontally and vertically polarized tuned dipole antennas.Measurements on signals operating above 1GHz are performed using vertically and horizontally polarizedhorn antennas. All measurements are performed as peak measurements while the EUT isoperating at maximum power and at the appropriate frequencies.

It is measured by means of a calibrated spectrum analyzer and scanned from 30 MHz up to a frequency including its 10th harmonic.
Note: The radiated spurious emissions which are attenuated more than 20 dB below the permissible Value for above 18GHz, so it's don't need not be reported.

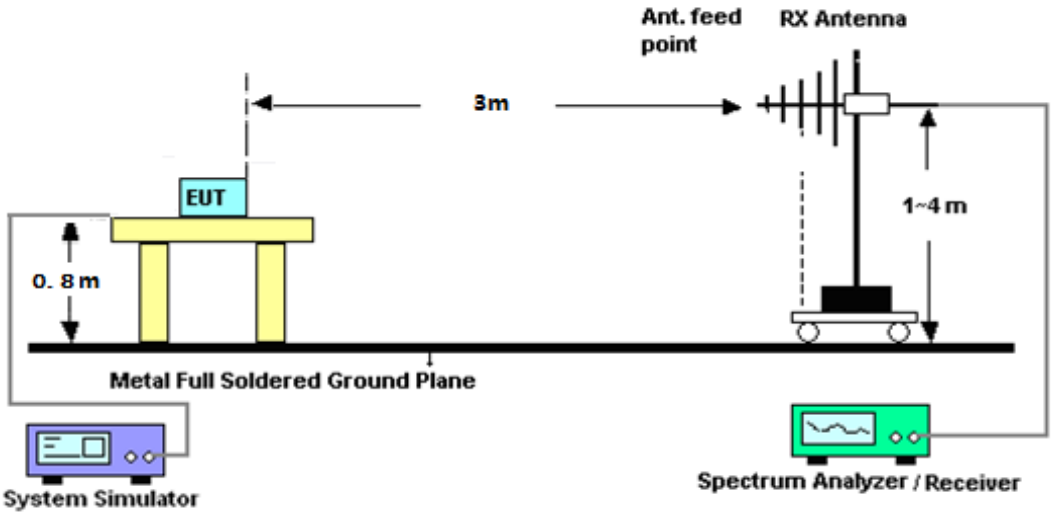
TEST PROCEDURE

1. The testing FCC KDB 971168 D01 Section 7 and ANSI C63.26-2015-Section 5.5.
2. RBW = 100kHz for emissions below 1GHz and 1MHz for emissions above 1GHz
3. VBW ≥ 3 x RBW
4. Span = 1.5 times the OBW
5.No. of sweep points > 2 x span/RBW
6. Detector = Peak
7. Trace mode = max hold
8. The trace was allowed to stabilize
9. Effective Isotropic Spurious Radiation was measured by substitution method according to TIA/EIA-603-D. The EUT was replaced by the substitution antenna at same location, and then a known power from S.G. was applied into the dipole antenna through a Tx cable, and then recorded the maximum Analyzer reading through raised and lowered the test antenna.
The correction factor (in dB) = S.G. - Tx Cable loss + Substitution antenna gain - Analyzer reading. Then the EUT's EIRP/ERP was calculated with the correction factor, ERP/EIRP = P.SG + GT – LC
ERP/EIRP = effective or equivalent radiated power, respectively (expressed in the same units as PMeas, t ypically dBW or dBm);
P.SG = measured transmitter output power or PSD, in dBm or dBW;
GT = gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP);
LC = signal attenuation in the connecting cable between the transmitter and antenna, in dB.
10. Limit

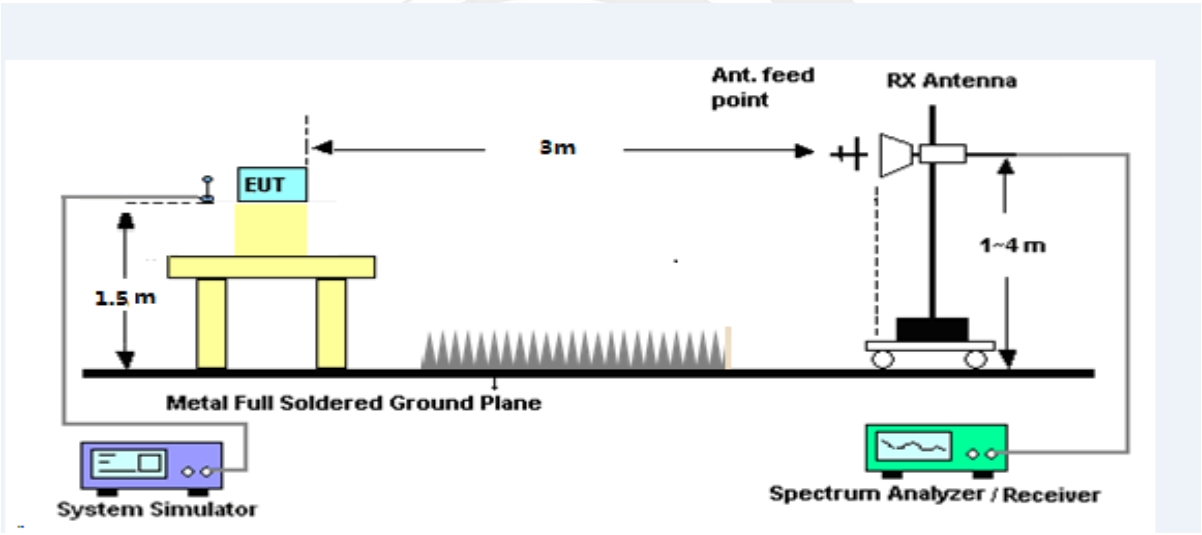
Operating band	FCC Limit	ISED Limit
GPRS/EDGE 850	< - 13 dBm /100kHz @ < 1GHz < - 13 dBm /1MHz @ > 1GHz	< - 13 dBm / 100 kHz
GPRS/EDGE 1900	< - 13 dBm /1MHz	< - 13 dBm /1MHz

TEST SETUP

For radiated test from 30MHz to 1GHz



For radiated test from above 1GHz



TEST RESULT

Note: Test data See Appendix 7.

5.8 MODULATION CHARACTERISTICS

TEST LIMIT

Other types of equipment", the use of higher order modulations such as OFDM or LTE or other modulation are acceptable for use.

Result: PASS

Note: The device implement digital modulation such as GMSK and 8PSK, hence the EUT is deemed to comply with this requirement without additional testing.

APPENDIX A.TESTRESULT

A1.CONDUCTED OUTPUT POWER

Band	Channel	PCL	Slot	Power(dBm)	EIRP (dBm)	EIRP (watts)	Limit (watts) FCC	Limit (watts) IC	Verdict
GPRS850	128	3	1	32.89	35.03	3.18	7	11.5	PASS
GPRS850	128	3	2	31.87	34.01	2.52	7	11.5	PASS
GPRS850	128	3	3	29.91	32.05	1.60	7	11.5	PASS
GPRS850	128	3	4	27.46	29.60	0.91	7	11.5	PASS
GPRS850	190	3	1	33.14	35.28	3.37	7	11.5	PASS
GPRS850	190	3	2	31.68	33.82	2.41	7	11.5	PASS
GPRS850	190	3	3	29.42	31.56	1.43	7	11.5	PASS
GPRS850	190	3	4	27.15	29.29	0.85	7	11.5	PASS
GPRS850	251	3	1	33.23	35.37	3.44	7	11.5	PASS
GPRS850	251	3	2	31.67	33.81	2.40	7	11.5	PASS
GPRS850	251	3	3	29.15	31.29	1.35	7	11.5	PASS
GPRS850	251	3	4	27.67	29.81	0.96	7	11.5	PASS

Band	Channel	PCL	Slot	Power(dBm)	EIRP (dBm)	EIRP (watts)	Limit (watts) FCC	Limit (watts) IC	Verdict
EGPRS850(8PSK)	128	3	1	27.31	29.45	0.88	7	11.5	PASS
EGPRS850(8PSK)	128	3	2	27.52	29.66	0.92	7	11.5	PASS
EGPRS850(8PSK)	128	3	3	27.04	29.18	0.83	7	11.5	PASS
EGPRS850(8PSK)	128	3	4	26.08	28.22	0.66	7	11.5	PASS
EGPRS850(8PSK)	190	3	1	27.08	29.22	0.84	7	11.5	PASS
EGPRS850(8PSK)	190	3	2	27.11	29.25	0.84	7	11.5	PASS
EGPRS850(8PSK)	190	3	3	27.67	29.81	0.96	7	11.5	PASS
EGPRS850(8PSK)	190	3	4	26.74	28.88	0.77	7	11.5	PASS
EGPRS850(8PSK)	251	3	1	27.17	29.31	0.85	7	11.5	PASS
EGPRS850(8PSK)	251	3	2	27.34	29.48	0.89	7	11.5	PASS
EGPRS850(8PSK)	251	3	3	27.84	29.98	1.00	7	11.5	PASS
EGPRS850(8PSK)	251	3	4	26.84	28.98	0.79	7	11.5	PASS

Band	Channel	PCL	Slot	Power(dBm)	EIRP (dBm)	EIRP (watts)	Limit (watts)	Verdict
GPRS1900	512	0	1	29.91	32.05	1.60	2	PASS
GPRS1900	512	0	2	29.71	31.85	1.53	2	PASS
GPRS1900	512	0	3	29.56	31.70	1.48	2	PASS
GPRS1900	512	0	4	28.34	30.48	1.12	2	PASS
GPRS1900	661	0	1	30.26	32.40	1.74	2	PASS
GPRS1900	661	0	2	30.41	32.55	1.80	2	PASS
GPRS1900	661	0	3	29.26	31.40	1.38	2	PASS
GPRS1900	661	0	4	28.98	31.12	1.29	2	PASS
GPRS1900	810	0	1	30.21	32.35	1.72	2	PASS
GPRS1900	810	0	2	30.15	32.29	1.69	2	PASS
GPRS1900	810	0	3	29.04	31.18	1.31	2	PASS
GPRS1900	810	0	4	28.83	30.97	1.25	2	PASS

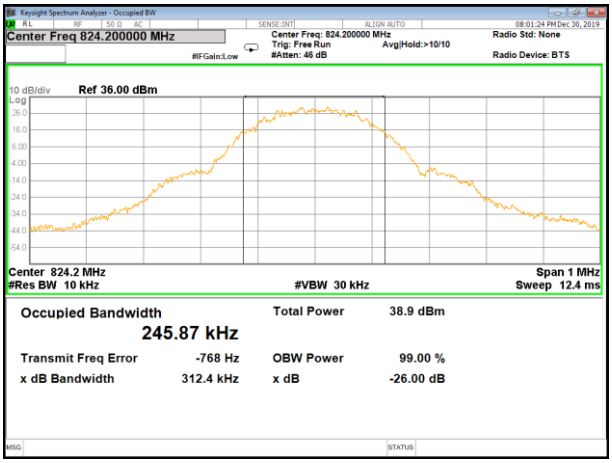
Band	Channel	PCL	Slot	Power(dBm)	EIRP (dBm)	EIRP (watts)	Limit (watts)	Verdict
EGPRS1900(8PSK)	512	2	1	26.40	28.54	0.71	2	PASS
EGPRS1900(8PSK)	512	2	2	26.25	28.39	0.69	2	PASS
EGPRS1900(8PSK)	512	2	3	26.12	28.26	0.67	2	PASS
EGPRS1900(8PSK)	512	2	4	26.22	28.36	0.69	2	PASS
EGPRS1900(8PSK)	661	2	1	26.46	28.60	0.72	2	PASS
EGPRS1900(8PSK)	661	2	2	26.14	28.28	0.67	2	PASS
EGPRS1900(8PSK)	661	2	3	26.20	28.34	0.68	2	PASS
EGPRS1900(8PSK)	661	2	4	26.00	28.14	0.65	2	PASS
EGPRS1900(8PSK)	810	2	1	26.72	28.86	0.77	2	PASS
EGPRS1900(8PSK)	810	2	2	26.53	28.67	0.74	2	PASS
EGPRS1900(8PSK)	810	2	3	26.44	28.58	0.72	2	PASS
EGPRS1900(8PSK)	810	2	4	26.30	28.44	0.70	2	PASS

A2. PEAK-TO-AVERAGE RADIO

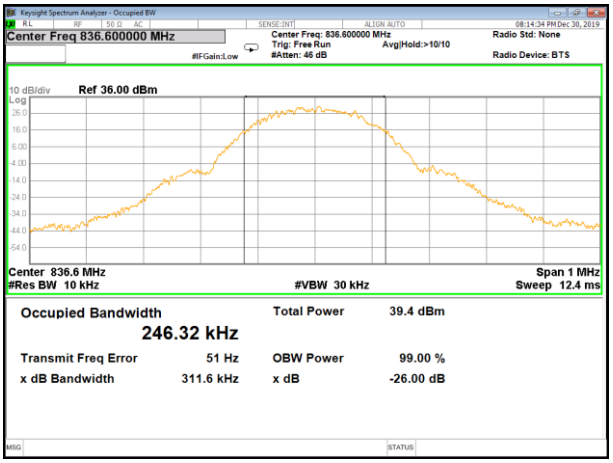
Band	Channel	Peak-to-Average Ratio(dB)	Limit(dBm)	Verdict
GPRS 850	128	0.19	13	PASS
	190	0.20	13	PASS
	251	0.22	13	PASS
EGPRS 850(8PSK)	128	3.21	13	PASS
	190	3.36	13	PASS
	251	3.41	13	PASS
GPRS1900	512	7.83	13	PASS
	661	7.80	13	PASS
	810	7.83	13	PASS
EGPRS1900(8PSK)	512	11.07	13	PASS
	661	10.58	13	PASS
	810	10.72	13	PASS

A3. OCCUPIED BANDWIDTH (99% OCCUPIED BANDWIDTH/26dB BANDWIDTH)

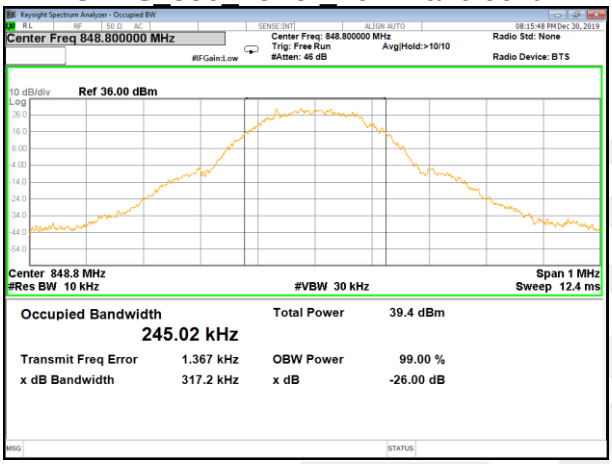
Band	Channel	Occupied Bandwidth (kHz)	26dB Bandwidth (kHz)	Verdict
GPRS 850	128	245.87	312.4	PASS
	190	246.32	311.6	PASS
	251	245.02	317.2	PASS
EGPRS 850(8PSK)	128	248.06	299.4	PASS
	190	245.66	298.8	PASS
	251	240.95	281.4	PASS
GPRS1900	512	246.02	317.39	PASS
	661	246.02	317.39	PASS
	810	246.02	315.94	PASS
EGPRS1900(8PSK)	512	247.47	313.04	PASS
	661	246.02	315.94	PASS
	810	247.47	311.59	PASS



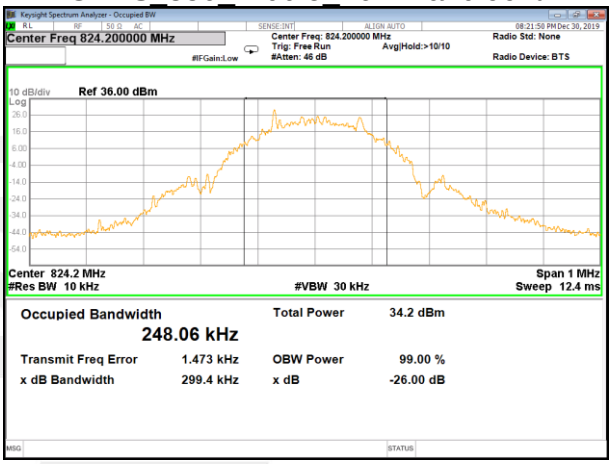
GPRS_850_Lower_26BW and 99%



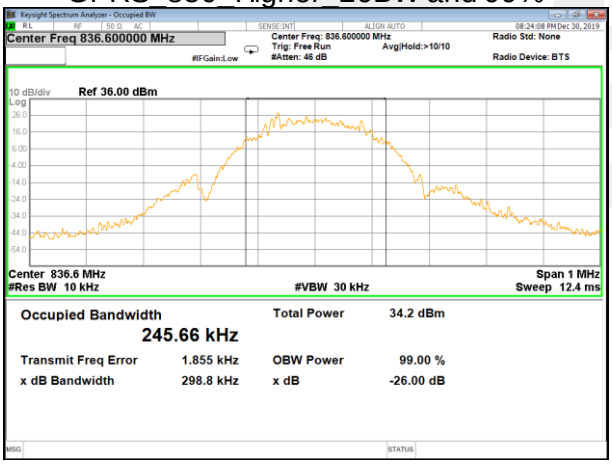
GPRS_850_Middle_26BW and 99%



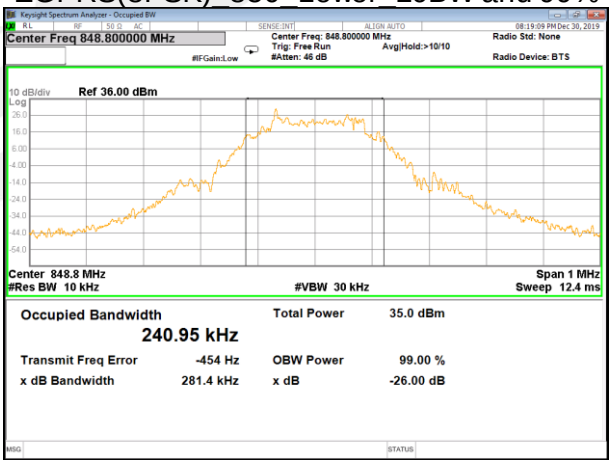
GPRS_850_Higher_26BW and 99%



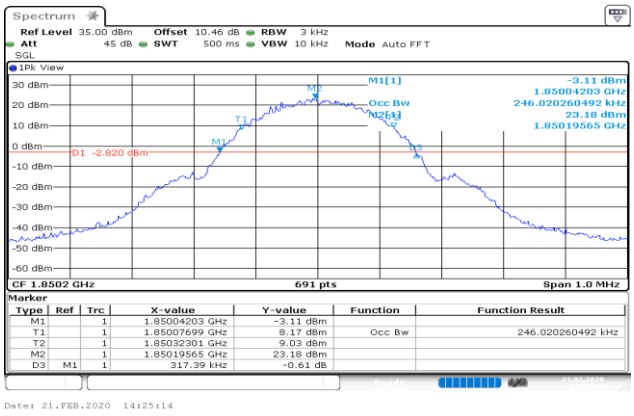
EGPRS(8PSK)_850_Lower_26BW and 99%



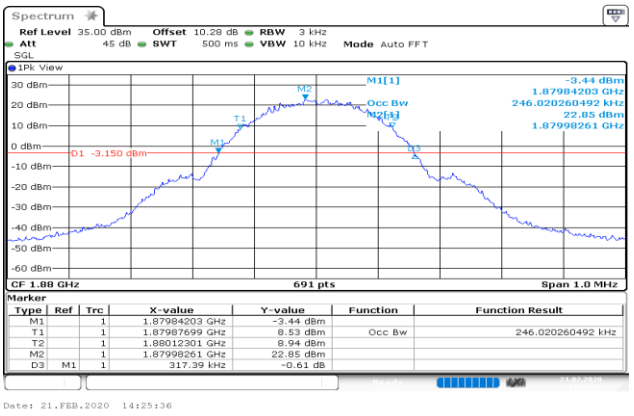
EGPRS(8PSK)_850_Middle_26BW and 99%



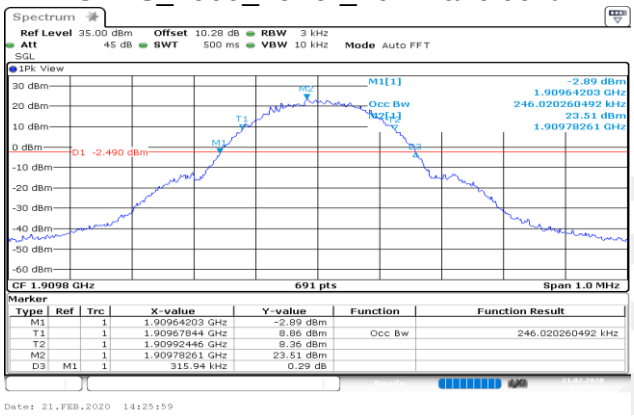
EGPRS(8PSK)_850_Higher_26BW and 99%



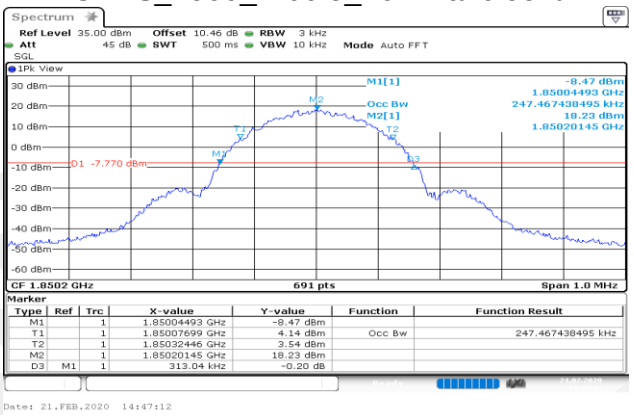
GPRS_1900_Lower_26BW and 99%



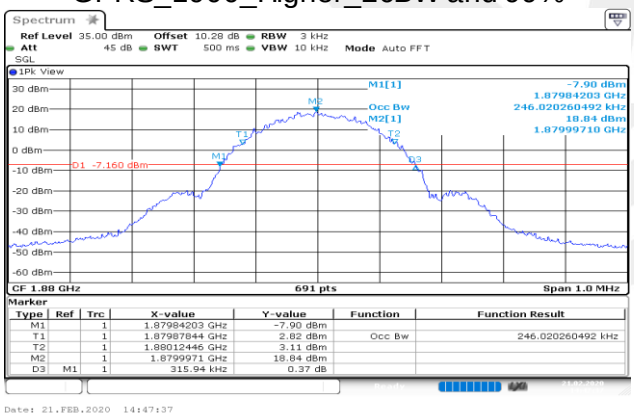
GPRS_1900_Middle_26BW and 99%



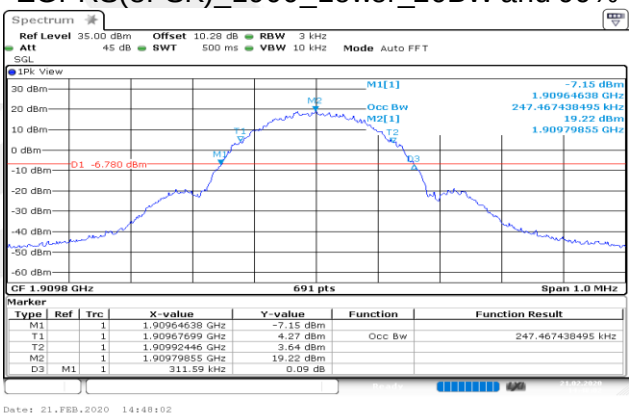
GPRS_1900_Higher_26BW and 99%



EGPRS(8PSK)_1900_Lower_26BW and 99%



EGPRS(8PSK)_1900_Middle_26BW and 99%



EGPRS(8PSK) 1900_Higher_26BW and 99%

A4.FREQUENCY STABILITY

Reference Frequency(Middle Channel): GPRS 836.6MHz			
Environment Temperature (°C)	Power Supplied (VDC)	Frequency Measure with Time Elapsed	
		Deviation Frequency (Hz)	within 836.6MHz±2.5ppm (Hz)
25	3.2	21.95	±2091.5
	3.8	37.68	±2091.5
	4.5	37.35	±2091.5
Reference Frequency(Middle Channel): GPRS 1880 MHz			
Environment Temperature (°C)	Power Supplied (VDC)	Frequency Measure with Time Elapsed	
		Deviation Frequency (Hz)	within 1880MHz±2.5ppm (Hz)
25	3.2	22.41	±4700
	3.8	19.79	±4700
	4.5	12.20	±4700
Reference Frequency(Middle Channel): EDGE 836.6MHz			
Environment Temperature (°C)	Power Supplied (VDC)	Frequency Measure with Time Elapsed	
		Deviation Frequency (Hz)	within 836.6MHz±2.5ppm (Hz)
25	3.2	4.62	±2091.5
	3.8	11.78	±2091.5
	4.5	23.76	±2091.5
Reference Frequency(Middle Channel): EDGE 1880 MHz			
Environment Temperature (°C)	Power Supplied (VDC)	Frequency Measure with Time Elapsed	
		Deviation Frequency (Hz)	within 1880MHz±2.5ppm (Hz)
25	3.2	19.53	±4700
	3.8	27.28	±4700
	4.5	41.33	±4700

GPRS850

Reference Frequency(Middle Channel): 836.6MHz			
Environment Temperature (°C)	Power Supplied (VDC)	Frequency Measure with Time Elapsed	
		Deviation Frequency (Hz)	within 836.6MHz±2.5ppm (Hz)
85	3.8	39.55	±2091.5
80	3.8	30.12	±2091.5
70	3.8	43.46	±2091.5
60	3.8	39.07	±2091.5
50	3.8	27.67	±2091.5
40	3.8	36.68	±2091.5
30	3.8	34.38	±2091.5
20	3.8	25.47	±2091.5
10	3.8	31.32	±2091.5
0	3.8	30.41	±2091.5
-10	3.8	22.21	±2091.5
-20	3.8	28.64	±2091.5
-30	3.8	31.93	±2091.5
-40	3.8	4.97	±2091.5

GPRS1900

Reference Frequency(Middle Channel): 1880 MHz			
Environment Temperature (°C)	Power Supplied (VDC)	Frequency Measure with Time Elapsed	
		Deviation Frequency (Hz)	within 1880MHz±2.5ppm (Hz)
85	3.8	15.69	±4700
80	3.8	1.49	±4700
70	3.8	7.46	±4700
60	3.8	12.79	±4700
50	3.8	17.60	±4700
40	3.8	5.88	±4700
30	3.8	5.52	±4700
20	3.8	10.36	±4700
10	3.8	12.17	±4700
0	3.8	14.75	±4700
-10	3.8	16.27	±4700
-20	3.8	15.34	±4700
-30	3.8	16.34	±4700
-40	3.8	18.98	±4700

EDGE850

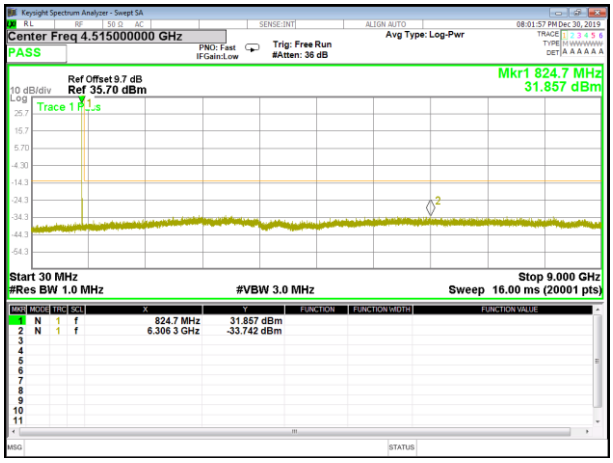
Reference Frequency(Middle Channel): 836.6MHz			
Environment Temperature (°C)	Power Supplied (VDC)	Frequency Measure with Time Elapsed	
		Deviation Frequency (Hz)	within 836.6MHz±2.5ppm (Hz)
85	3.8	22.63	±2091.5
80	3.8	25.18	±2091.5
70	3.8	24.38	±2091.5
60	3.8	21.18	±2091.5
50	3.8	22.89	±2091.5
40	3.8	24.67	±2091.5
30	3.8	25.31	±2091.5
20	3.8	31.03	±2091.5
10	3.8	31.83	±2091.5
0	3.8	27.06	±2091.5
-10	3.8	23.31	±2091.5
-20	3.8	28.35	±2091.5
-30	3.8	36.61	±2091.5
-40	3.8	27.38	±2091.5

EDGE1900

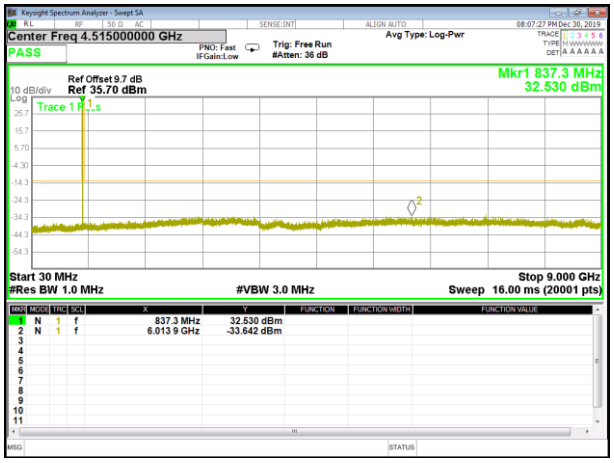
Reference Frequency(Middle Channel): 1880 MHz			
Environment Temperature (°C)	Power Supplied (VDC)	Frequency Measure with Time Elapsed	
		Deviation Frequency (Hz)	within 1880MHz±2.5ppm (Hz)
85	3.8	34.58	±4700
80	3.8	25.41	±4700
70	3.8	25.18	±4700
60	3.8	24.34	±4700
50	3.8	22.86	±4700
40	3.8	36.16	±4700
30	3.8	25.22	±4700
20	3.8	18.92	±4700
10	3.8	5.71	±4700
0	3.8	6.59	±4700
-10	3.8	11.62	±4700
-20	3.8	13.66	±4700
-30	3.8	12.01	±4700

-40	3.8	9.30	±4700

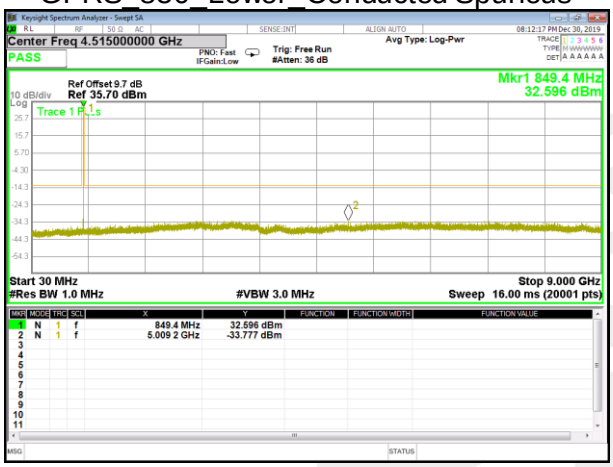
A5. SPURIOUS EMISSIONS AT ANTENNA TERMINALS



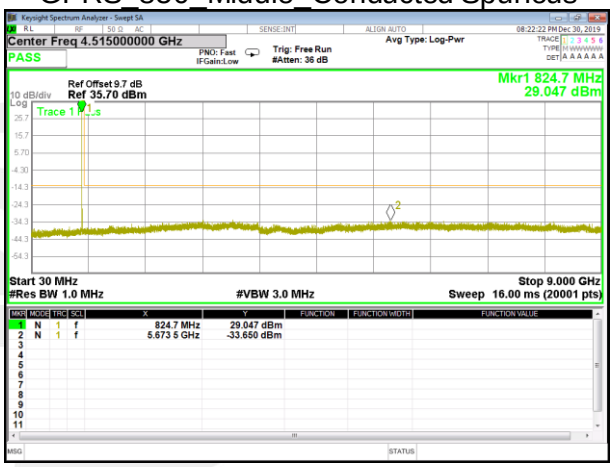
GPRS_850_Lower_Conducted Spurious



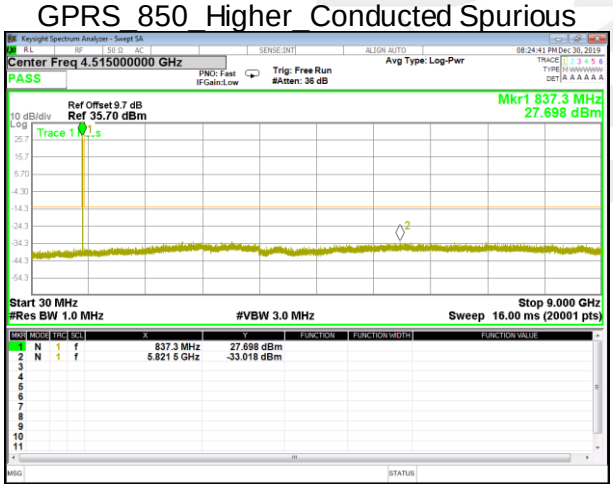
GPRS_850_Middle_Conducted Spurious



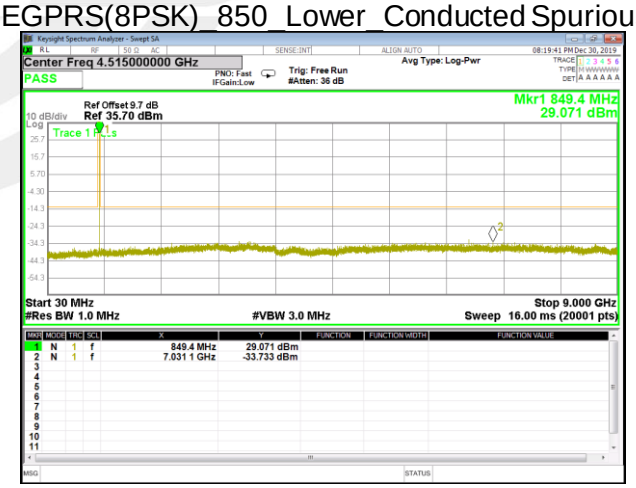
GPRS_850_Higher_Conducted Spurious



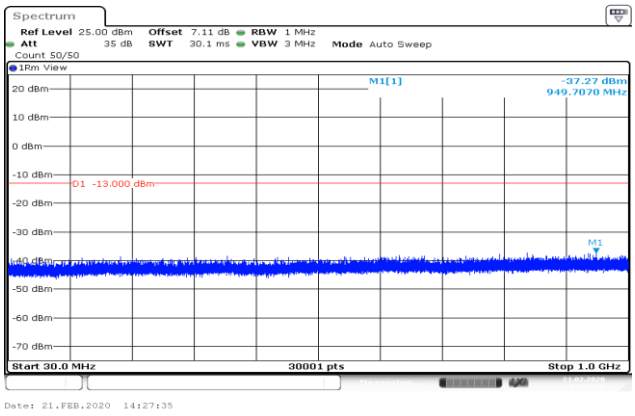
EGPRS(8PSK)_850_Lower_Conducted Spurious



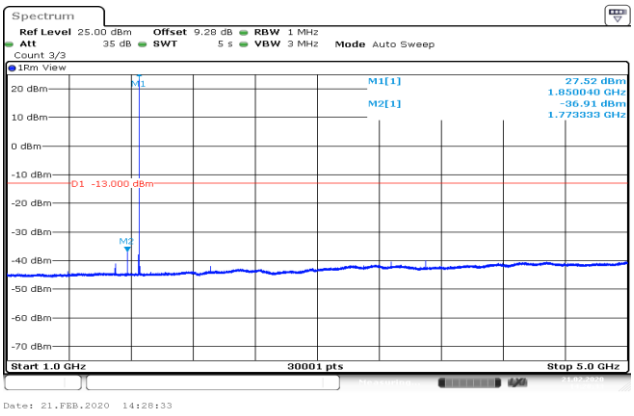
EGPRS(8PSK)_850_Middle_Conducted Spurious



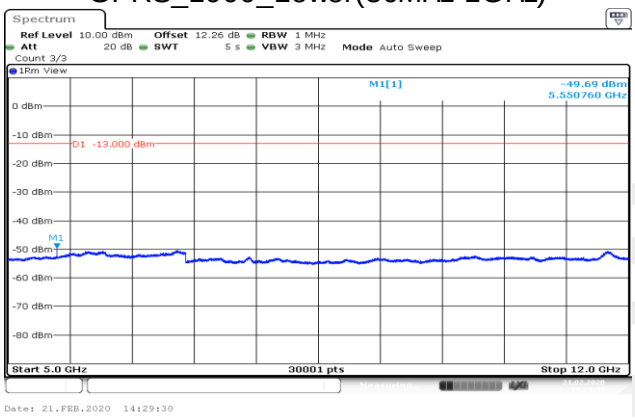
EGPRS(8PSK)_850_Higher_Conducted Spurious



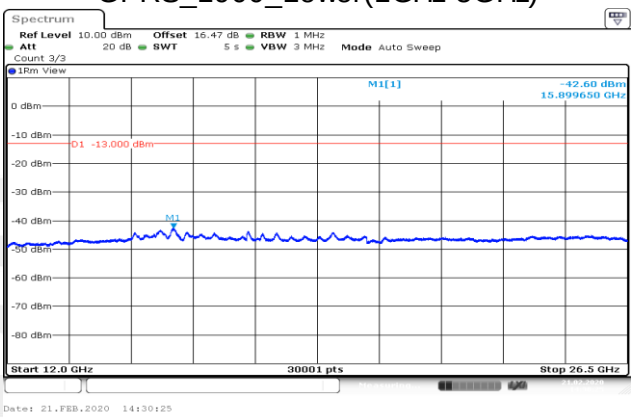
GPRS_1900_Lower(30MHz-1GHz)



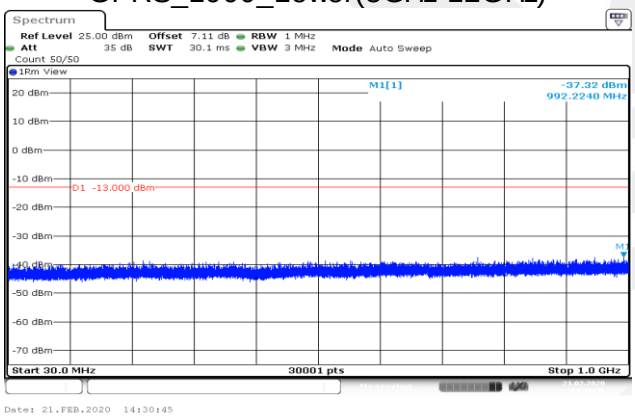
GPRS_1900_Lower(1GHz-5GHz)



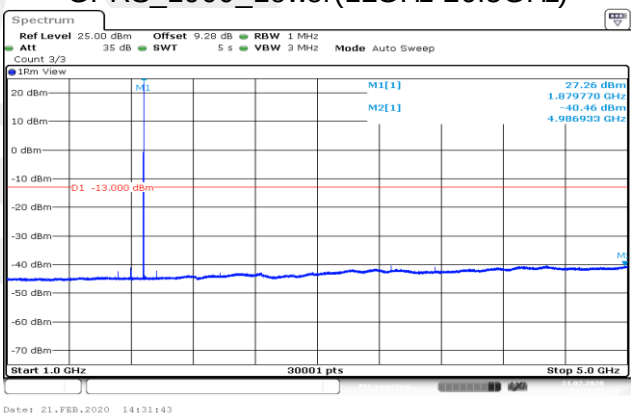
GPRS_1900_Lower(5GHz-12GHz)



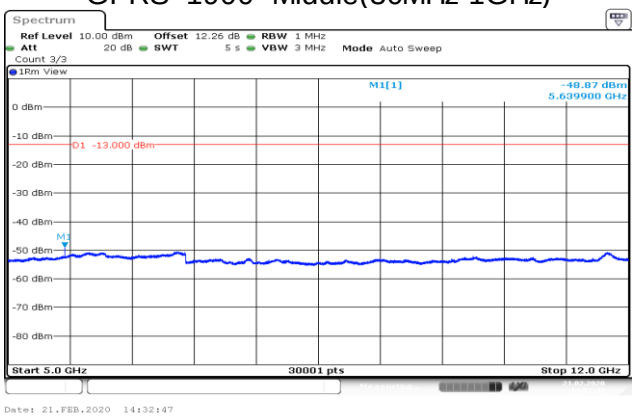
GPRS_1900_Lower(12GHz-26.5GHz)



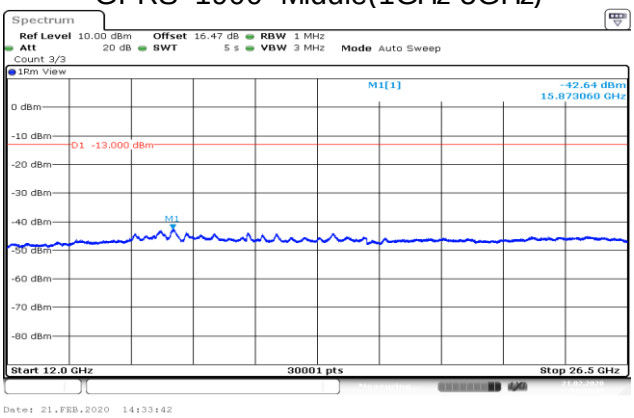
GPRS 1900 Middle(30MHz-1GHz)



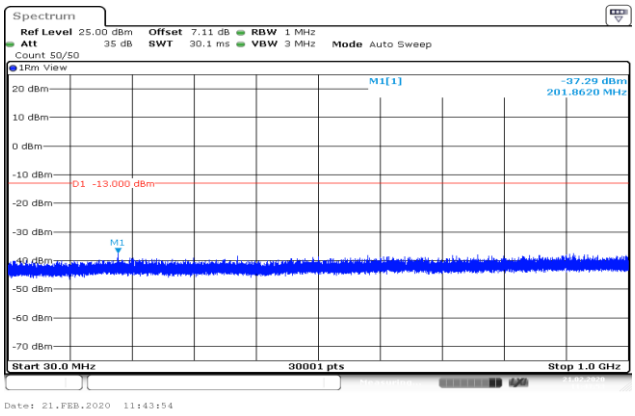
GPRS 1900 Middle(1GHz-5GHz)



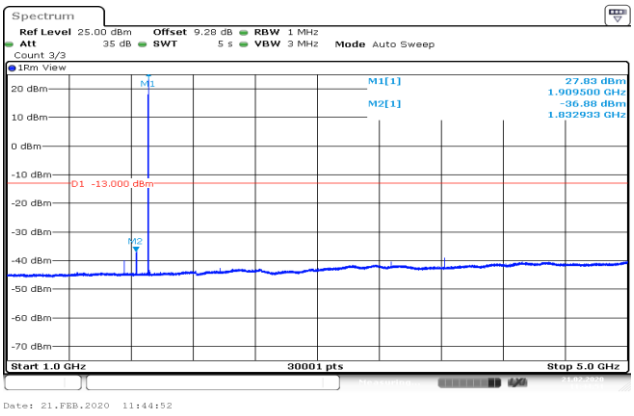
GPRS_1900_Middle(5GHz-12GHz)



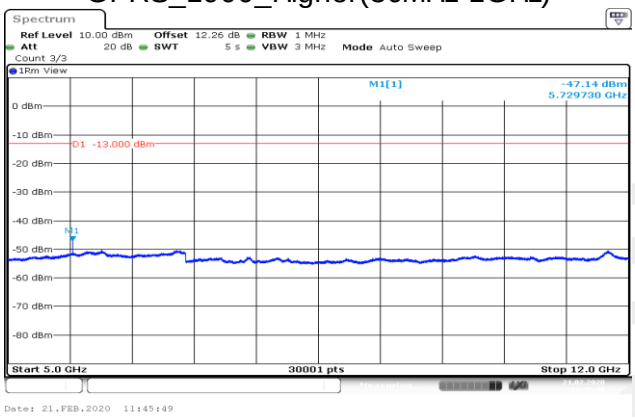
GPRS_1900_Middle(12GHz-26.5GHz)



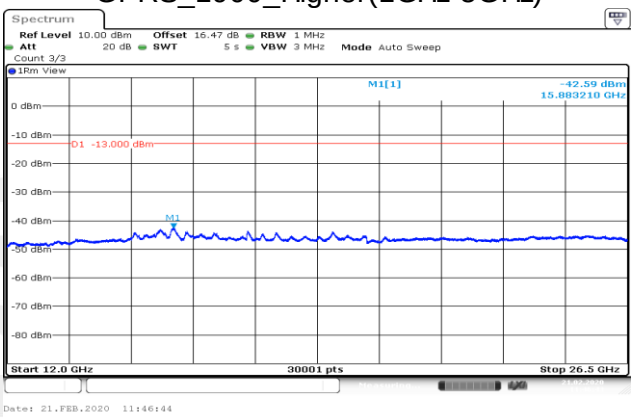
GPRS_1900_Higher(30MHz-1GHz)



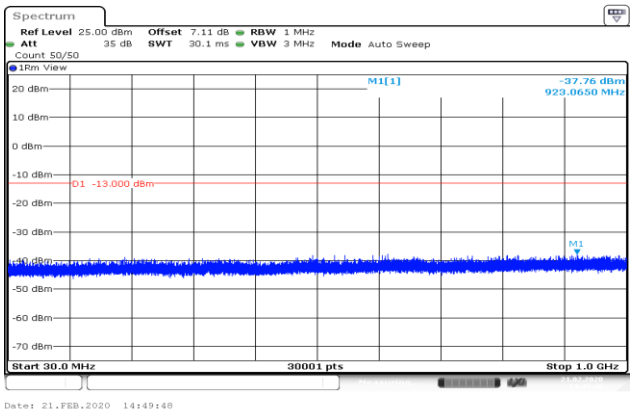
GPRS_1900_Higher(1GHz-5GHz)



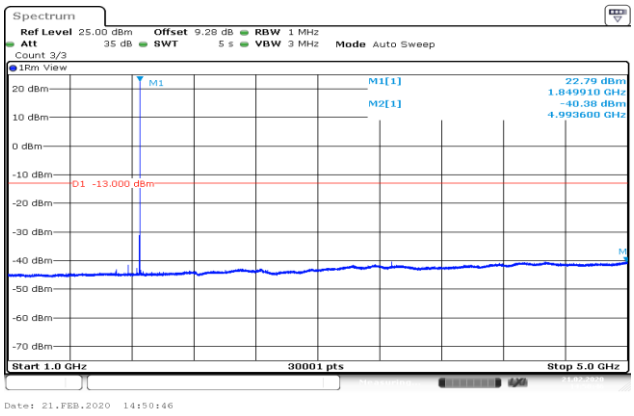
GPRS_1900_Higher(5GHz-12GHz)



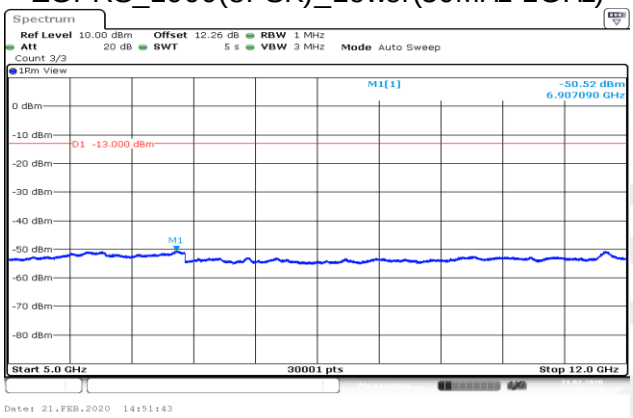
GPRS_1900_Higher(12GHz-26.5GHz)



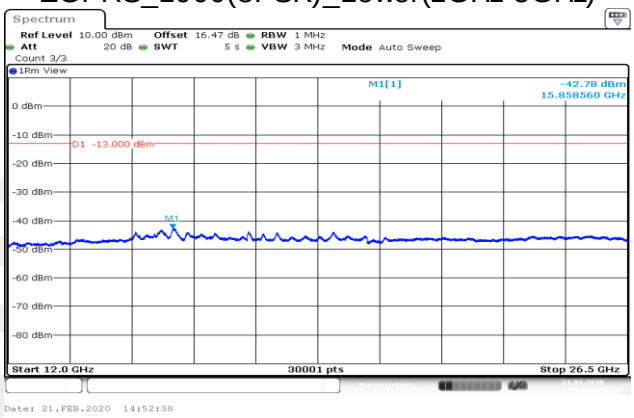
EGPRS_1900(8PSK)_Lower(30MHz-1GHz)



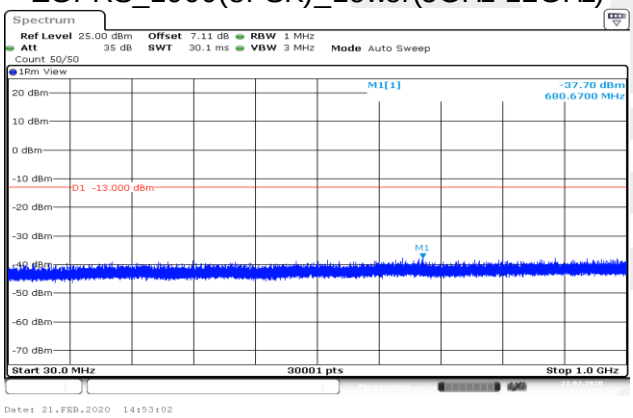
EGPRS_1900(8PSK)_Lower(1GHz-5GHz)



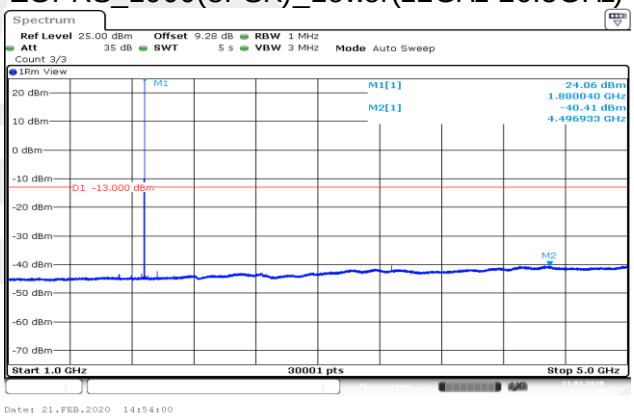
EGPRS_1900(8PSK)_Lower(5GHz-12GHz)



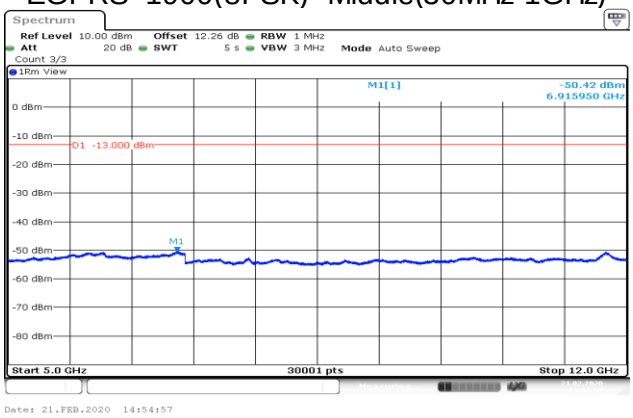
EGPRS_1900(8PSK)_Lower(12GHz-26.5GHz)



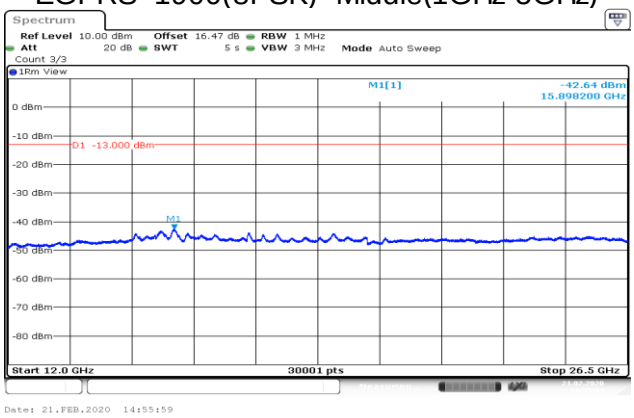
EGPRS 1900(8PSK) Middle(30MHz-1GHz)



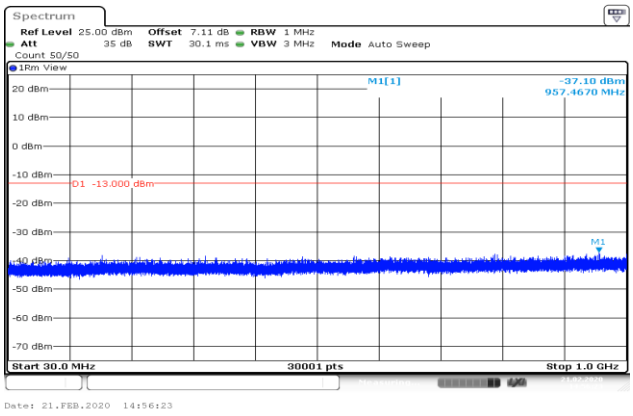
EGPRS 1900(8PSK) Middle(1GHz-5GHz)



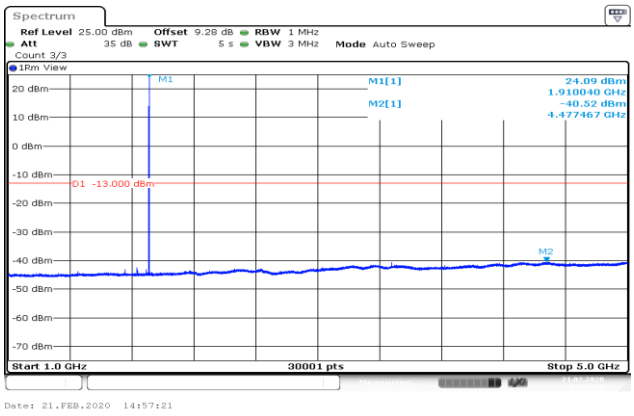
EGPRS_1900(8PSK)_Middle(5GHz-12GHz)



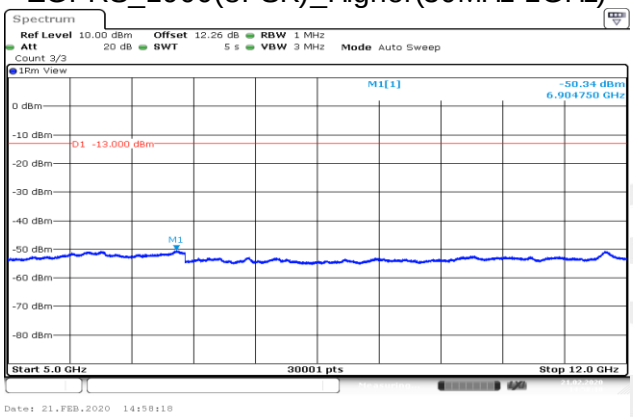
EGPRS_1900(8PSK)_Middle(12GHz-26.5GHz)



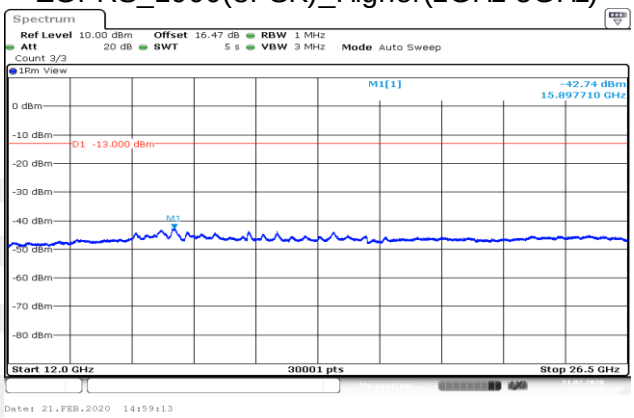
EGPRS_1900(8PSK)_Higher(30MHz-1GHz)



EGPRS_1900(8PSK)_Higher(1GHz-5GHz)

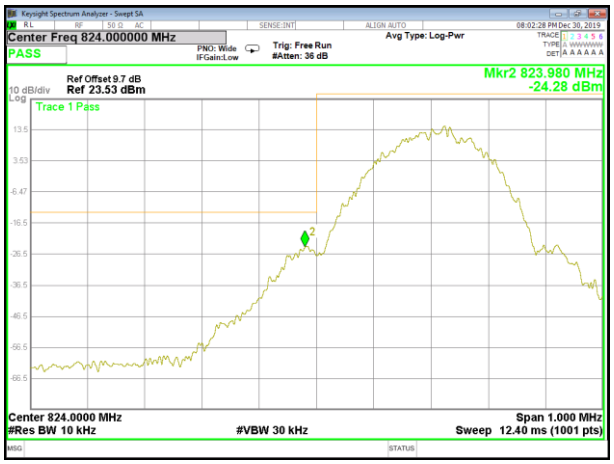


EGPRS_1900(8PSK)_Higher(5GHz-12GHz)

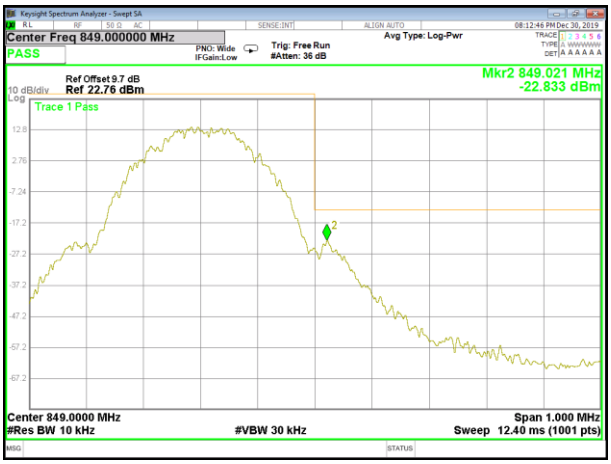


EGPRS_1900(8PSK)_Higher(12GHz-26.5GHz)

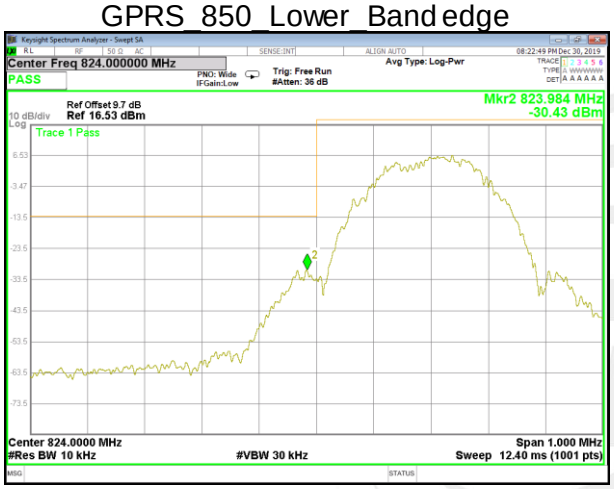
A6. BAND EDGE



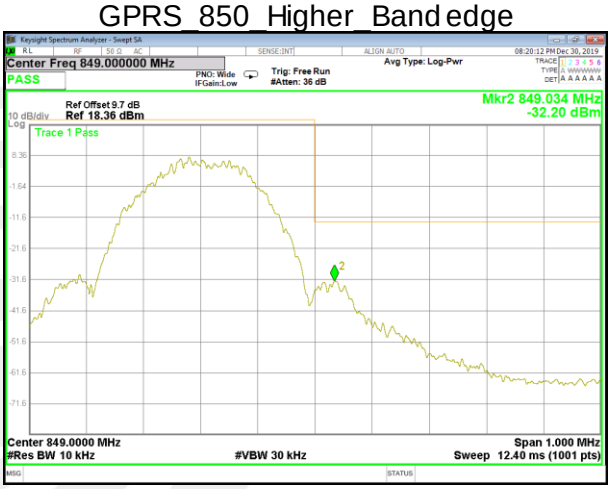
GPRS_850_Lower_Band edge



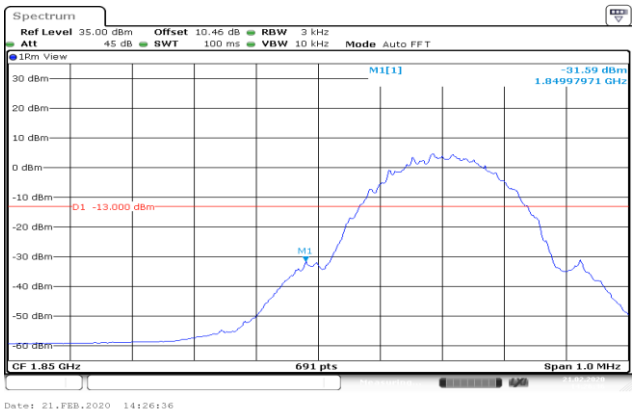
GPRS_850_Higher_Band edge



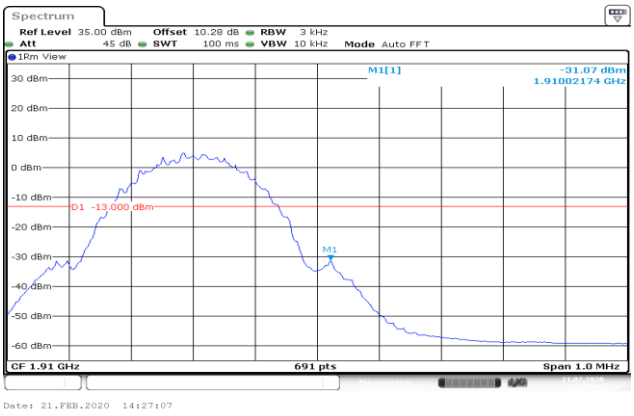
EGPRS_850(8PSK)_Lower_Band edge



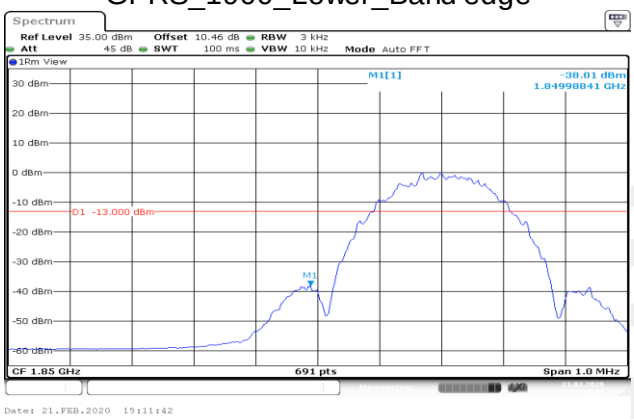
EGPRS_850(8PSK)_Higher_Band edge



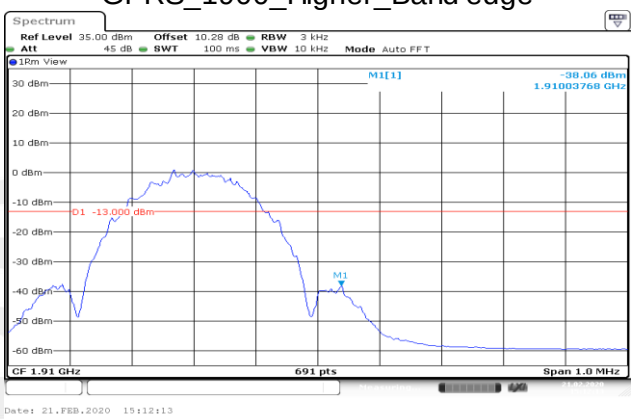
GPRS_1900_Lower_Band edge



GPRS_1900_Higher_Band edge



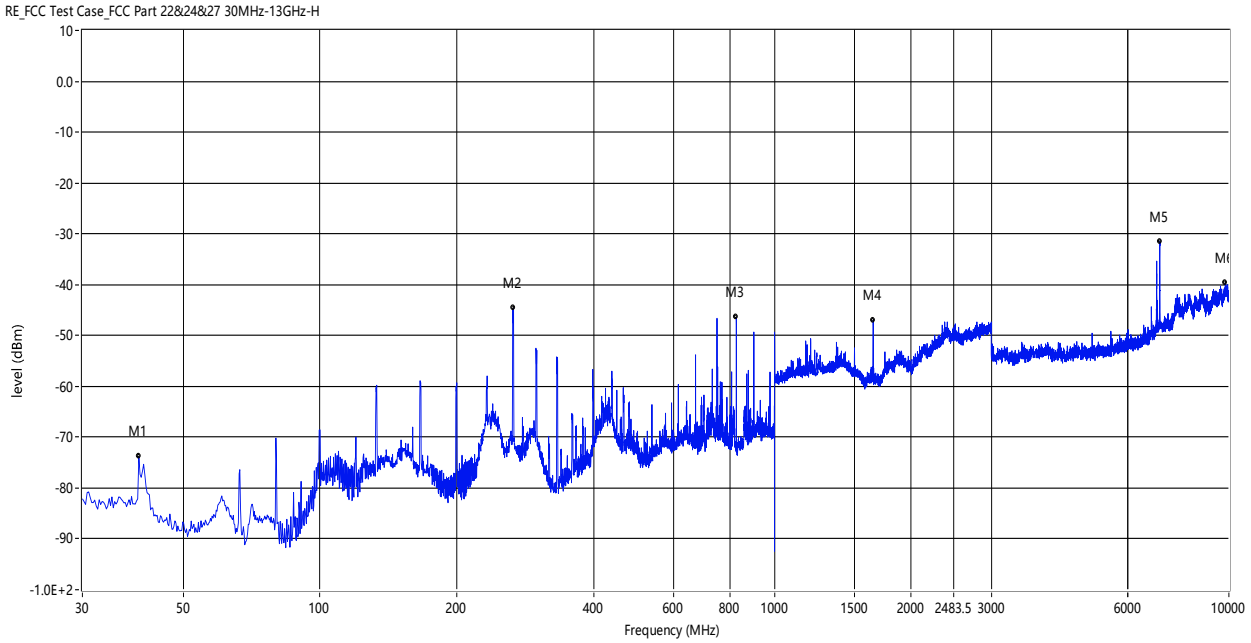
EGPRS_1900(8PSK)_Lower_Band edge



EGPRS_1900(8PSK)_Higher_Band edge

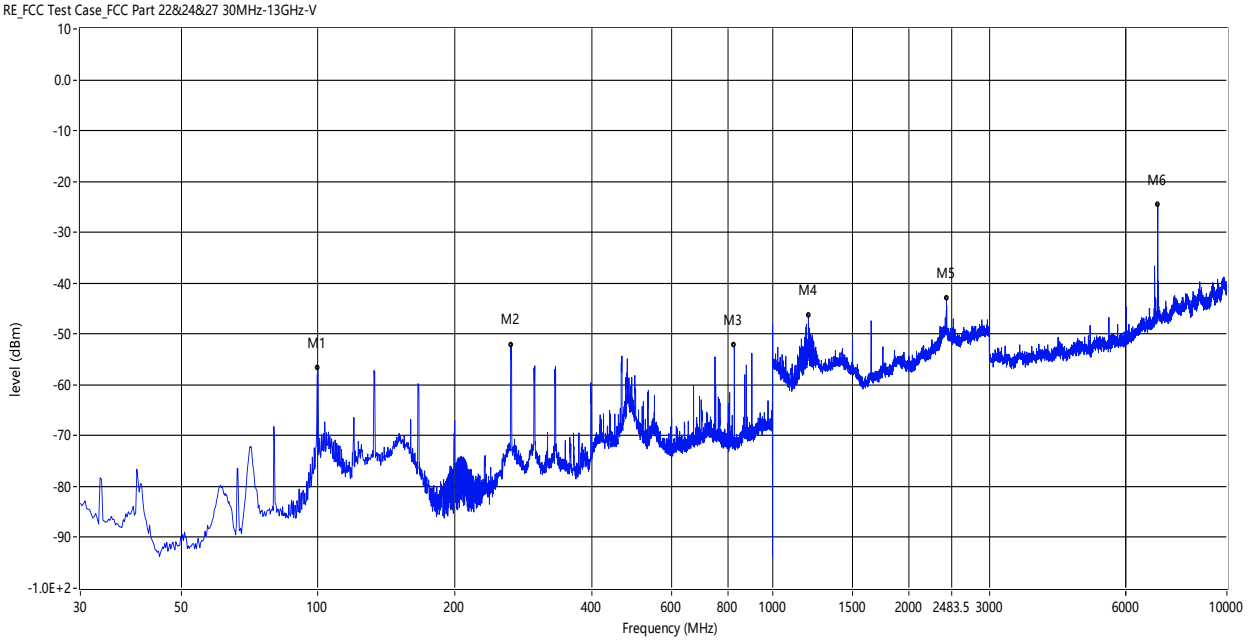
A7. FIELD STRENGTH OF SPURIOUS RADIATION MEASUREMENT

GPRS 850-GMSK-Low-H



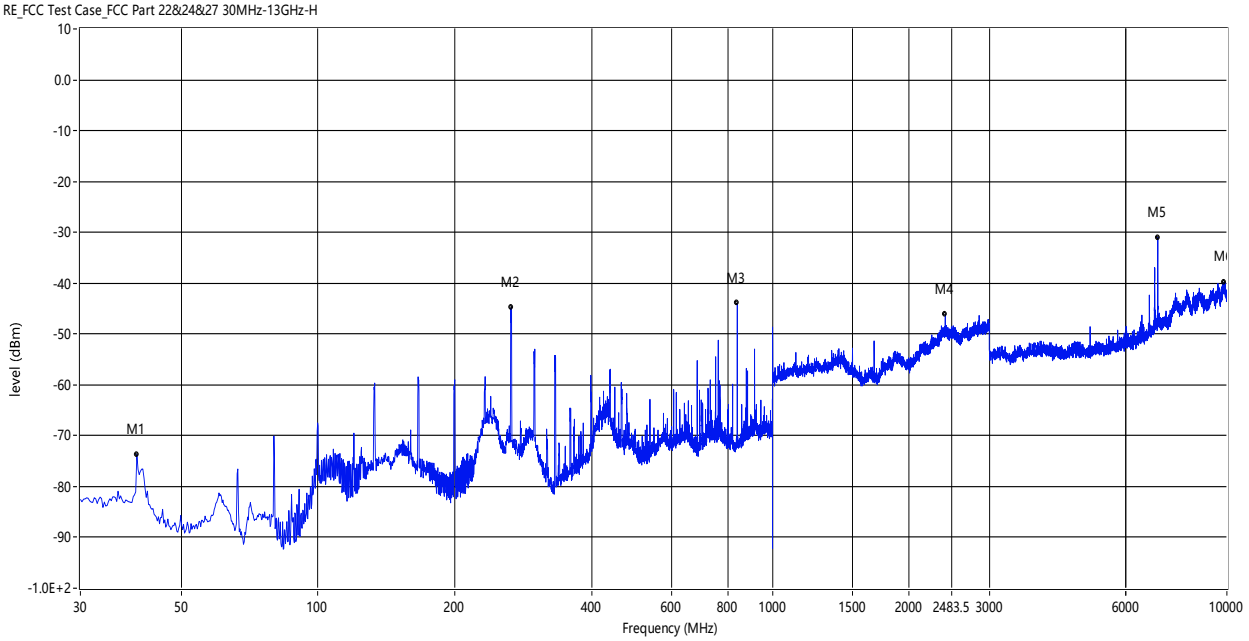
Frequency (MHz)	Result (dBm)	Limit (dBm)	Over Limit (dB)	ANT	Verdict
39.943	-73.83	-13.0	-60.83	Horizontal	Pass
266.438	-44.64	-13.0	-31.64	Horizontal	Pass
824.188	-46.44	-13.0	-33.44	Horizontal	Pass
1648.500	-47.00	-13.0	-34.00	Horizontal	Pass
7044.250	-31.52	-13.0	-18.52	Horizontal	Pass
9818.000	-39.70	-13.0	-26.70	Horizontal	Pass

GPRS 850-GMSK-Low-V



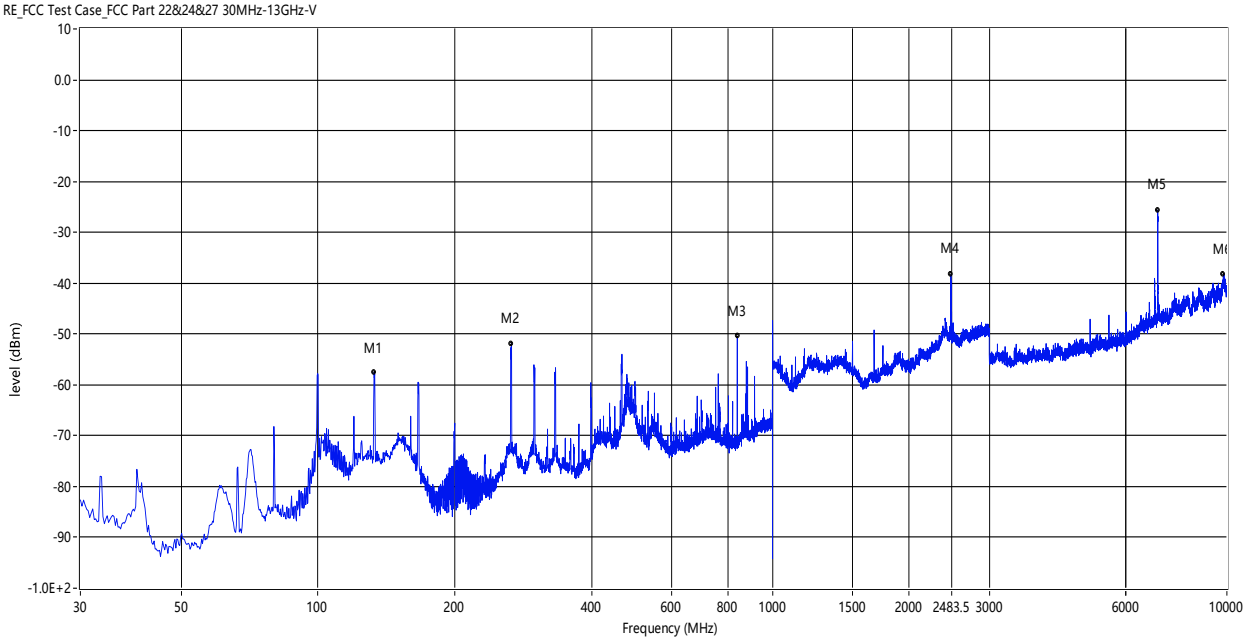
Frequency (MHz)	Result (dBm)	Limit (dBm)	Over Limit (dB)	ANT	Verdict
99.840	-56.74	-13.0	-43.74	Vertical	Pass
266.438	-52.07	-13.0	-39.07	Vertical	Pass
824.188	-52.16	-13.0	-39.16	Vertical	Pass
1200.000	-46.40	-13.0	-33.40	Vertical	Pass
2415.500	-43.07	-13.0	-30.07	Vertical	Pass
7046.000	-24.59	-13.0	-11.59	Vertical	Pass

GPRS 850-GMSK-Mid-H



Frequency (MHz)	Result (dBm)	Limit (dBm)	Over Limit (dB)	ANT	Verdict
39.943	-73.68	-13.0	-60.68	Horizontal	Pass
266.680	-44.74	-13.0	-31.74	Horizontal	Pass
836.555	-43.89	-13.0	-30.89	Horizontal	Pass
2400.500	-46.20	-13.0	-33.20	Horizontal	Pass
7047.750	-30.97	-13.0	-17.97	Horizontal	Pass
9868.750	-39.76	-13.0	-26.76	Horizontal	Pass

GPRS 850-GMSK-Mid-V



Frequency (MHz)	Result (dBm)	Limit (dBm)	Over Limit (dB)	ANT	Verdict
132.820	-57.52	-13.0	-44.52	Vertical	Pass
266.438	-51.88	-13.0	-38.88	Vertical	Pass
836.798	-50.47	-13.0	-37.47	Vertical	Pass
2469.000	-38.31	-13.0	-25.31	Vertical	Pass
7044.250	-25.65	-13.0	-12.65	Vertical	Pass
9819.750	-38.24	-13.0	-25.24	Vertical	Pass