

Appendix A

Test Information:

Serial No.:	2ONG-1	Test Date:	2024/07/20~2024/07/31
Test Site:	RF	Test Mode:	Transmitting
Tester:	Karl Liang	Test Result:	Pass

Environmental Conditions:

Temperature: (°C):	26.4~28.5	Relative Humidity: (%)	51~70	ATM Pressure: (kPa)	98.6~100.8
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Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSV40	101461	2023/11/27	2024/11/26
Micro-Coax	Coaxial Cable	UFB205A	323308-024	2024/01/02	2025/01/01
Minl-Clruids	Coaxial Power Splitters & Combiner	ZFRSC-183-S+	SF448201614	2024/02/25	2025/02/24
R&S	Wideband Radio Communication Tester	CMW500	144976	2023/10/18	2024/10/17
BACL	TEMP&HUMI Test Chamber	BTH-150-40	30173	2023/10/18	2024/10/17
TDK-Lambda	DC Power Supply	Z+60-14	F-08-EM038-1	N/A	N/A
All-sun	Multimeter	EM305A	8348897	2024/08/03	2025/08/02

* Statement of Traceability: Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Frequency stability vs. temperature &Frequency stability vs. voltage Compliance

FCC Part 22H

GSM 850

Mode	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)	Result
GPRS_Middle_Solt1_TN/VN	14.2	0.017	±2.5	Pass
GPRS_Middle_Solt1_T1/VN	14.6	0.017	±2.5	Pass
GPRS_Middle_Solt1_T2/VN	16.4	0.020	±2.5	Pass
GPRS_Middle_Solt1_T3/VN	15.8	0.019	±2.5	Pass
GPRS_Middle_Solt1_T4/VN	15.4	0.018	±2.5	Pass
GPRS_Middle_Solt1_T5/VN	14.9	0.018	±2.5	Pass
GPRS_Middle_Solt1_T6/VN	14.9	0.018	±2.5	Pass
GPRS_Middle_Solt1_T7/VN	14.1	0.017	±2.5	Pass
GPRS_Middle_Solt1_T8/VN	14.6	0.017	±2.5	Pass
GPRS_Middle_Solt1_TN/VH	14.9	0.018	±2.5	Pass
GPRS_Middle_Solt1_TN/VL	16.4	0.020	±2.5	Pass
EDGE_Middle_Solt1_TN/VN	15.0	0.018	±2.5	Pass
EDGE_Middle_Solt1_T1/VN	17.0	0.020	±2.5	Pass
EDGE_Middle_Solt1_T2/VN	15.7	0.019	±2.5	Pass
EDGE_Middle_Solt1_T3/VN	15.5	0.019	±2.5	Pass
EDGE_Middle_Solt1_T4/VN	15.4	0.018	±2.5	Pass
EDGE_Middle_Solt1_T5/VN	16.3	0.020	±2.5	Pass
EDGE_Middle_Solt1_T6/VN	13.5	0.016	±2.5	Pass
EDGE_Middle_Solt1_T7/VN	13.8	0.016	±2.5	Pass
EDGE_Middle_Solt1_T8/VN	14.5	0.017	±2.5	Pass
EDGE_Middle_Solt1_TN/VH	14.5	0.017	±2.5	Pass
EDGE_Middle_Solt1_TN/VL	13.7	0.016	±2.5	Pass

Note:

$$\text{Frequency Error (ppm)} = \text{Frequency Error (MHz)} / \text{Test Channel (MHz)} * 10^6$$

TN: 20°C; T1: -30°C; T2: -20°C; T3: -10°C; T4: 0°C; T5: 10°C; T6: 30°C; T7: 40°C; T8: 50°C.

VN: Normal Voltage; VL: Low Voltage; VH: High Voltage.

FCC Part 24E

GSM 1900

Mode	Value (MHz)	Limit (MHz)	Result
GPRS_Low_Solt1_TN/VN	1850.080	1850	Pass
GPRS_Low_Solt1_T1/VN	1850.080	1850	Pass
GPRS_Low_Solt1_T2/VN	1850.083	1850	Pass
GPRS_Low_Solt1_T3/VN	1850.079	1850	Pass
GPRS_Low_Solt1_T4/VN	1850.082	1850	Pass
GPRS_Low_Solt1_T5/VN	1850.083	1850	Pass
GPRS_Low_Solt1_T6/VN	1850.079	1850	Pass
GPRS_Low_Solt1_T7/VN	1850.080	1850	Pass
GPRS_Low_Solt1_T8/VN	1850.083	1850	Pass
GPRS_Low_Solt1_TN/VH	1850.080	1850	Pass
GPRS_Low_Solt1_TN/VL	1850.079	1850	Pass
GPRS_High_Solt1_TN/VN	1909.923	1910	Pass
GPRS_High_Solt1_T1/VN	1909.924	1910	Pass
GPRS_High_Solt1_T2/VN	1909.927	1910	Pass
GPRS_High_Solt1_T3/VN	1909.925	1910	Pass
GPRS_High_Solt1_T4/VN	1909.926	1910	Pass
GPRS_High_Solt1_T5/VN	1909.929	1910	Pass
GPRS_High_Solt1_T6/VN	1909.926	1910	Pass
GPRS_High_Solt1_T7/VN	1909.921	1910	Pass
GPRS_High_Solt1_T8/VN	1909.927	1910	Pass
GPRS_High_Solt1_TN/VH	1909.928	1910	Pass
GPRS_High_Solt1_TN/VL	1909.921	1910	Pass
EDGE_Low_Solt1_TN/VN	1850.078	1850	Pass
EDGE_Low_Solt1_T1/VN	1850.081	1850	Pass
EDGE_Low_Solt1_T2/VN	1850.081	1850	Pass
EDGE_Low_Solt1_T3/VN	1850.075	1850	Pass
EDGE_Low_Solt1_T4/VN	1850.078	1850	Pass
EDGE_Low_Solt1_T5/VN	1850.084	1850	Pass
EDGE_Low_Solt1_T6/VN	1850.083	1850	Pass
EDGE_Low_Solt1_T7/VN	1850.078	1850	Pass
EDGE_Low_Solt1_T8/VN	1850.082	1850	Pass

Mode	Value (MHz)	Limit (MHz)	Result
EDGE_Low_Solt1_TN/VH	1850.080	1850	Pass
EDGE_Low_Solt1_TN/VL	1850.078	1850	Pass
EDGE_High_Solt1_TN/VN	1909.927	1910	Pass
EDGE_High_Solt1_T1/VN	1909.925	1910	Pass
EDGE_High_Solt1_T2/VN	1909.927	1910	Pass
EDGE_High_Solt1_T3/VN	1909.924	1910	Pass
EDGE_High_Solt1_T4/VN	1909.926	1910	Pass
EDGE_High_Solt1_T5/VN	1909.926	1910	Pass
EDGE_High_Solt1_T6/VN	1909.928	1910	Pass
EDGE_High_Solt1_T7/VN	1909.930	1910	Pass
EDGE_High_Solt1_T8/VN	1909.921	1910	Pass
EDGE_High_Solt1_TN/VH	1909.920	1910	Pass
EDGE_High_Solt1_TN/VL	1909.921	1910	Pass

Note:

TN: 20°C; T1: -30°C; T2: -20°C; T3: -10°C; T4: 0°C; T5: 10°C; T6: 30°C; T7: 40°C; T8: 50°C.

VN: Normal Voltage; VL: Low Voltage; VH: High Voltage.

Occupied Bandwidth

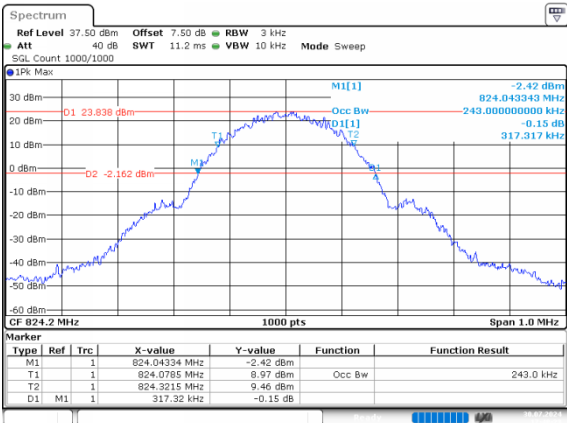
FCC Part 22H

GSM 850 , Normal

Mode	99% OBW (MHz)	EBW (MHz)
GPRS_Low_Solt1	0.243	0.317
GPRS_Middle_Solt1	0.243	0.314
GPRS_High_Solt1	0.244	0.313
EDGE_Low_Solt1	0.245	0.307
EDGE_Middle_Solt1	0.240	0.310
EDGE_High_Solt1	0.245	0.318

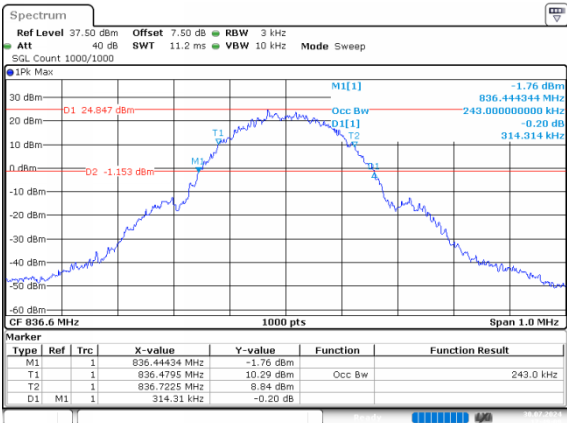
GSM 850 , Normal

GPRS_Low_Solt1 0.243MHz



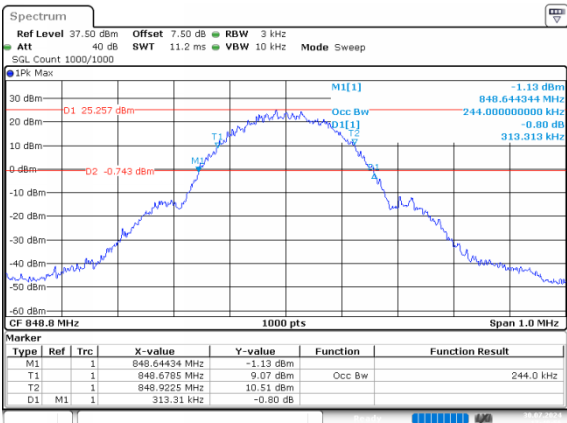
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Date: 30.JUL.2024 17:48:23

GPRS_Middle_Solt1 0.243MHz



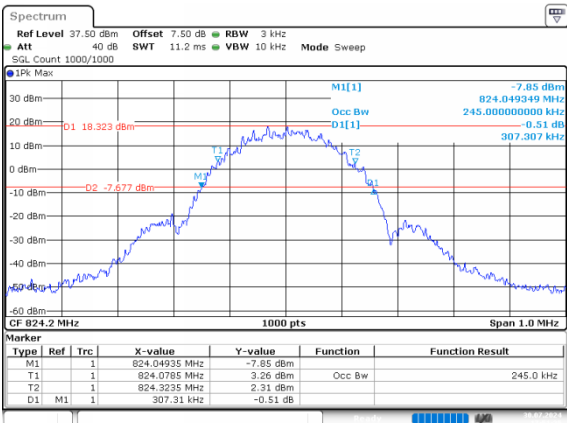
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Date: 30.JUL.2024 17:49:09

GPRS_High_Solt1 0.244MHz



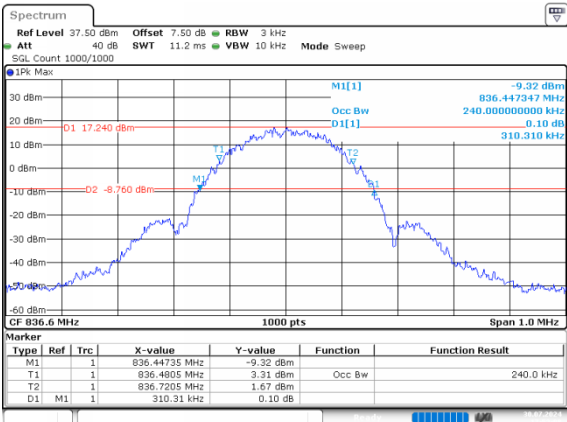
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EDGE_Low_Solt1 0.245MHz



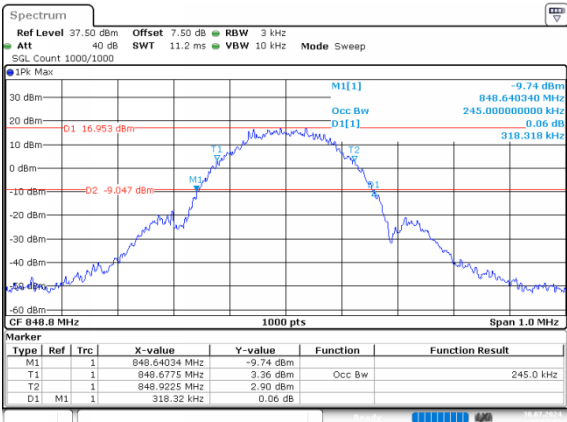
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Date: 30.JUL.2024 17:51:25

EDGE_Middle_Solt1 0.240MHz



ProjectNo.:2402V58055E-RF Tester:Karl Liang
Date: 30.JUL.2024 17:52:08

EDGE_High_Solt1 0.245MHz



ProjectNo.:2402V58055E-RF Tester:Karl Liang
Date: 30.JUL.2024 17:52:53

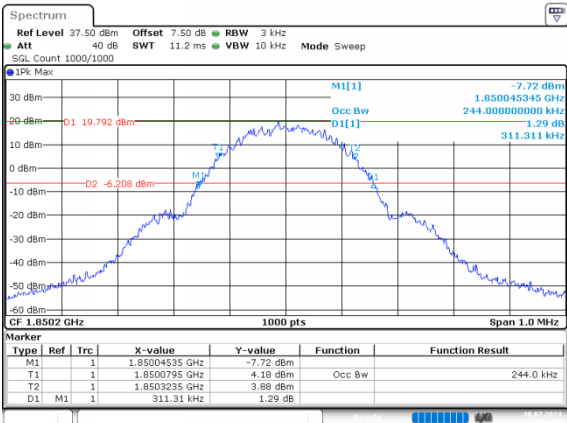
FCC Part 24E

GSM 1900 , Normal

Mode	99% OBW (MHz)	EBW (MHz)
GPRS_Low_Solt1	0.244	0.311
GPRS_Middle_Solt1	0.245	0.318
GPRS_High_Solt1	0.244	0.318
EDGE_Low_Solt1	0.243	0.311
EDGE_Middle_Solt1	0.246	0.314
EDGE_High_Solt1	0.242	0.316

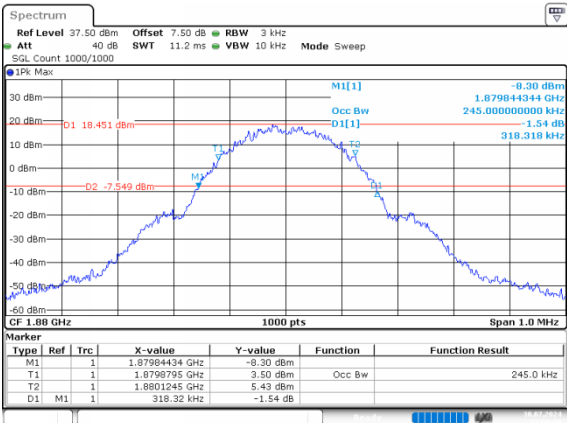
GSM 1900 , Normal

GPRS_Low_Solt1 0.244MHz



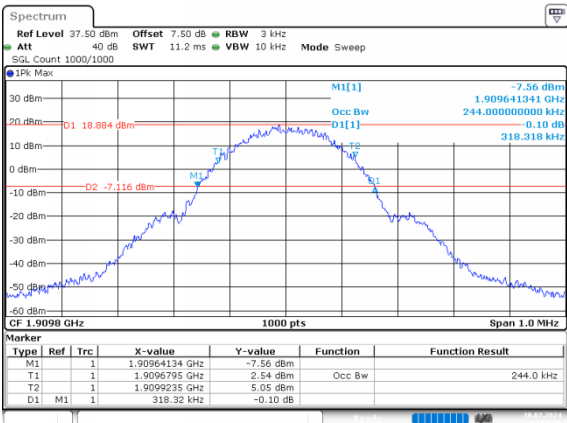
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GPRS_Middle_Solt1 0.245MHz



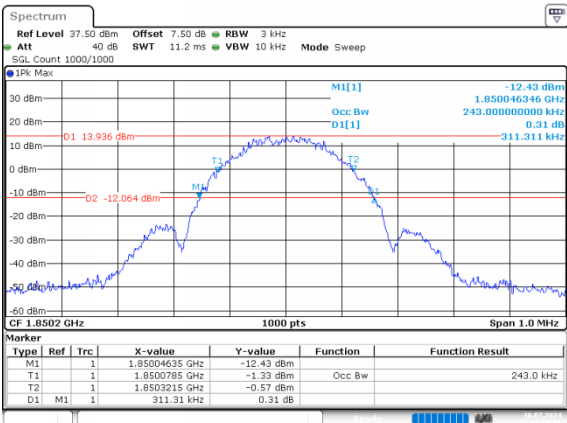
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GPRS_High_Solt1 0.244MHz



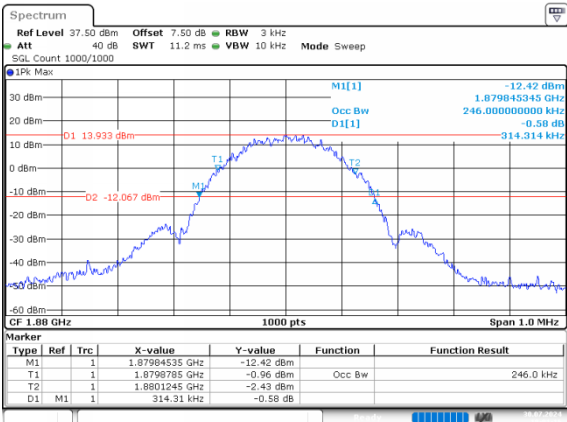
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EDGE_Low_Solt1 0.243MHz



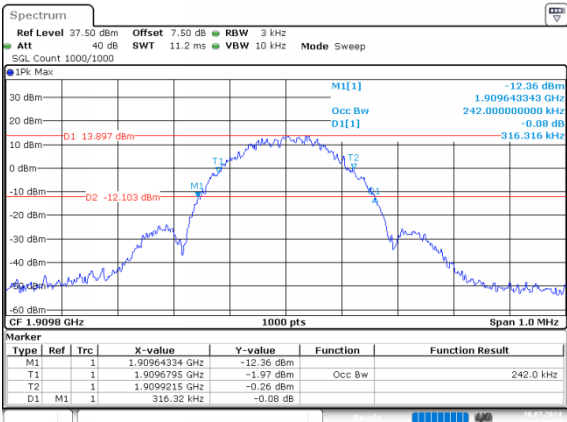
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Date: 30.JUL.2024 18:00:28

EDGE_Middle_Solt1 0.246MHz



ProjectNo.:2402V58055E-RF Tester:Karl Liang
Date: 30.JUL.2024 18:01:17

EDGE_High_Solt1 0.242MHz



ProjectNo.:2402V58055E-RF Tester:Karl Liang
Date: 30.JUL.2024 18:02:06

RF Output Power

FCC Part 22H

GSM 850 , Normal

Mode	Peak Conducted Power(dBm)	ERP (dBm)	Limit(dBm)	Result
GPRS_Low_Solt1	33.30	28.57	38.45	Pass
GPRS_Low_Solt2	31.28	26.55	38.45	Pass
GPRS_Low_Solt3	29.43	24.70	38.45	Pass
GPRS_Low_Solt4	28.26	23.53	38.45	Pass
GPRS_Middle_Solt1	33.02	28.29	38.45	Pass
GPRS_Middle_Solt2	31.36	26.63	38.45	Pass
GPRS_Middle_Solt3	29.30	24.57	38.45	Pass
GPRS_Middle_Solt4	28.17	23.44	38.45	Pass
GPRS_High_Solt1	33.57	28.84	38.45	Pass
GPRS_High_Solt2	31.66	26.93	38.45	Pass
GPRS_High_Solt3	29.57	24.84	38.45	Pass
GPRS_High_Solt4	28.34	23.61	38.45	Pass
EDGE_Low_Solt1	26.27	21.54	38.45	Pass
EDGE_Low_Solt2	25.90	21.17	38.45	Pass
EDGE_Low_Solt3	23.78	19.05	38.45	Pass
EDGE_Low_Solt4	22.25	17.52	38.45	Pass
EDGE_Middle_Solt1	26.12	21.39	38.45	Pass
EDGE_Middle_Solt2	25.85	21.12	38.45	Pass
EDGE_Middle_Solt3	23.69	18.96	38.45	Pass
EDGE_Middle_Solt4	22.16	17.43	38.45	Pass
EDGE_High_Solt1	26.28	21.55	38.45	Pass
EDGE_High_Solt2	25.99	21.26	38.45	Pass
EDGE_High_Solt3	23.83	19.10	38.45	Pass
EDGE_High_Solt4	22.25	17.52	38.45	Pass

Note:

ERP = Peak Conducted Power(dBm) - L_C(dB) + G_T(dBd)

G_T(dBd) = G_T(dBi) - 2.15

1.Ant Gain = -2.48dBi;

2.C_L = signal attenuation in the connecting cable between the transmitter and antenna in 0.1dB

FCC Part 24E

GSM 1900 , Normal

Mode	Peak Conducted Power(dBm)	EIRP (dBm)	Limit(dBm)	Result
GPRS_Low_Solt1	28.91	29.79	33	Pass
GPRS_Low_Solt2	28.11	28.99	33	Pass
GPRS_Low_Solt3	26.35	27.23	33	Pass
GPRS_Low_Solt4	24.78	25.66	33	Pass
GPRS_Middle_Solt1	28.88	29.76	33	Pass
GPRS_Middle_Solt2	27.83	28.71	33	Pass
GPRS_Middle_Solt3	26.18	27.06	33	Pass
GPRS_Middle_Solt4	24.69	25.57	33	Pass
GPRS_High_Solt1	28.79	29.67	33	Pass
GPRS_High_Solt2	27.74	28.62	33	Pass
GPRS_High_Solt3	26.11	26.99	33	Pass
GPRS_High_Solt4	24.45	25.33	33	Pass
EDGE_Low_Solt1	24.69	25.57	33	Pass
EDGE_Low_Solt2	24.56	25.44	33	Pass
EDGE_Low_Solt3	22.92	23.80	33	Pass
EDGE_Low_Solt4	21.43	22.31	33	Pass
EDGE_Middle_Solt1	24.28	25.16	33	Pass
EDGE_Middle_Solt2	24.21	25.09	33	Pass
EDGE_Middle_Solt3	22.61	23.49	33	Pass
EDGE_Middle_Solt4	21.11	21.99	33	Pass
EDGE_High_Solt1	24.13	25.01	33	Pass
EDGE_High_Solt2	24.06	24.94	33	Pass
EDGE_High_Solt3	22.59	23.47	33	Pass
EDGE_High_Solt4	21.00	21.88	33	Pass

Note:

$EIRP = \text{Peak Conducted Power(dBm)} - L_C(\text{dB}) + G_T(\text{dBi})$

1.Ant Gain = 1.08dBi;

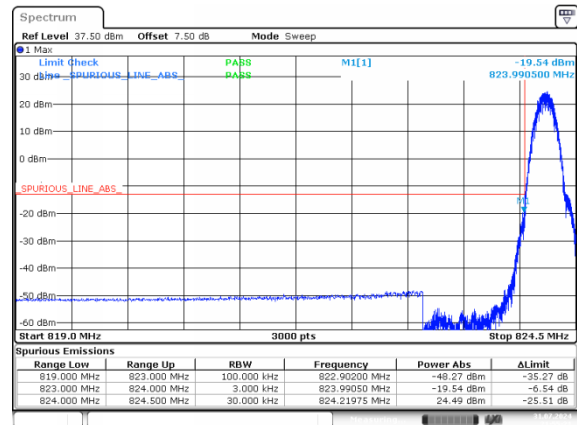
2.C_L = signal attenuation in the connecting cable between the transmitter and antenna in 0.2dB

Out of band emission,Band Edge

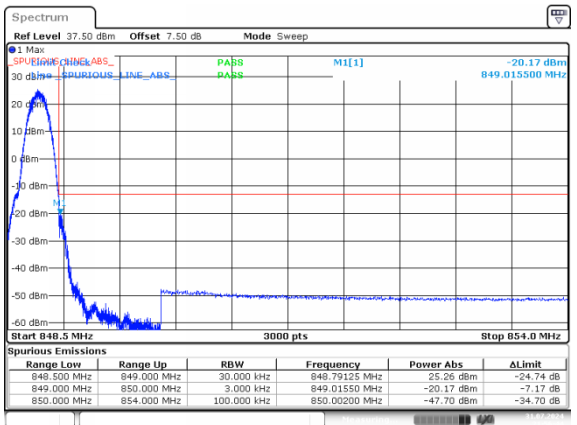
FCC Part 22H

GSM 850 , Normal

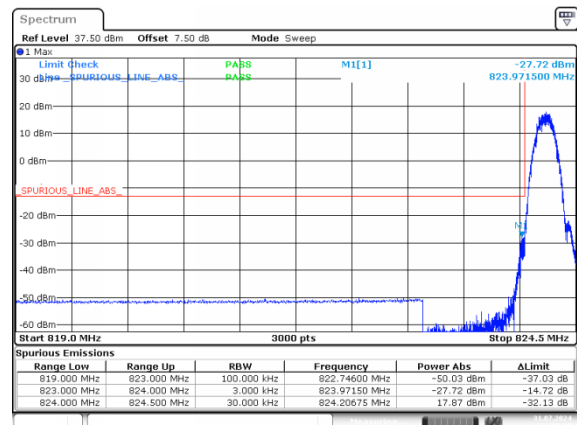
GPRS_Low_Solt1 -19.54dBm



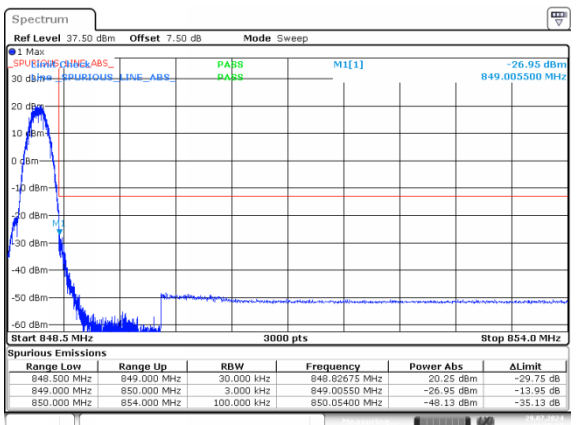
GPRS_High_Solt1 -20.17dBm



EDGE_Low_Solt1 -27.72dBm



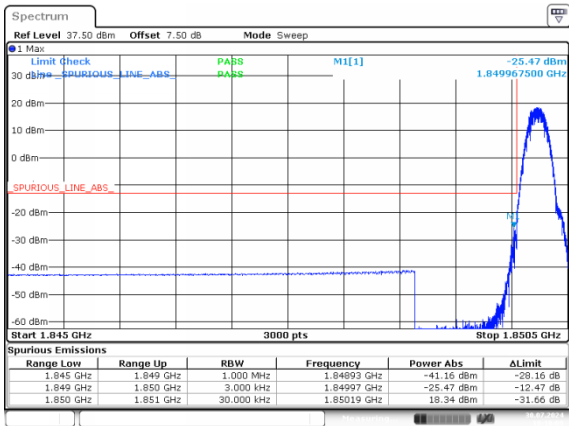
EDGE_High_Solt1 -26.95dBm



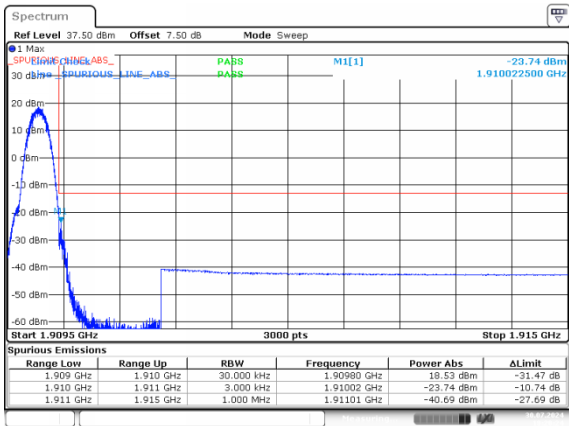
FCC Part 24E

GSM 1900 , Normal

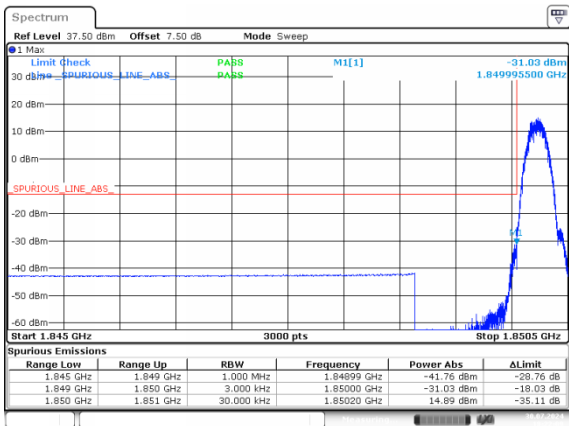
GPRS_Low_Solt1 -25.47dBm



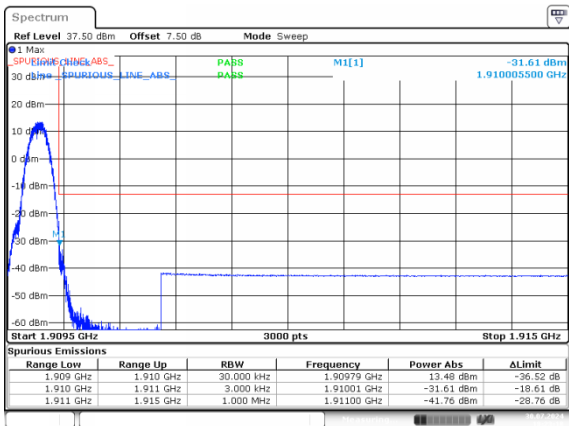
GPRS_High_Solt1 -23.74dBm



EDGE_Low_Solt1 -31.03dBm



EDGE_High_Solt1 -31.61dBm

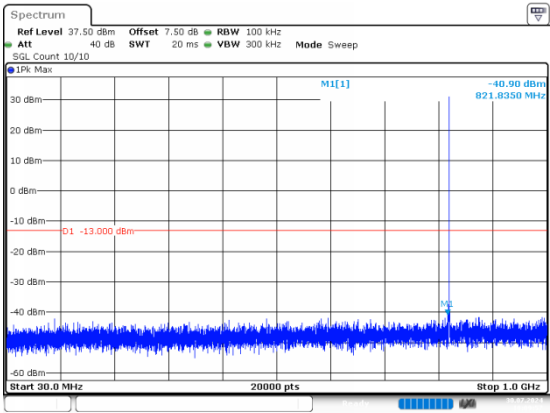


Spurious Emissions at Antenna Terminal

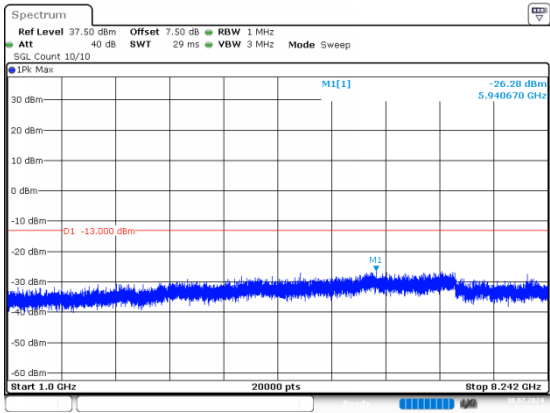
FCC Part 22H
GSM 850 , Normal

GPRS_Low_Solt1

Below 1G

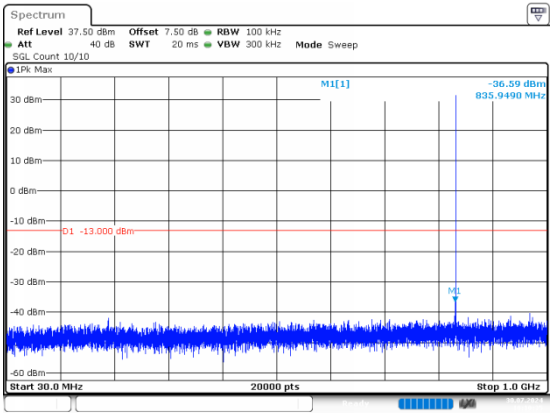


Above 1G

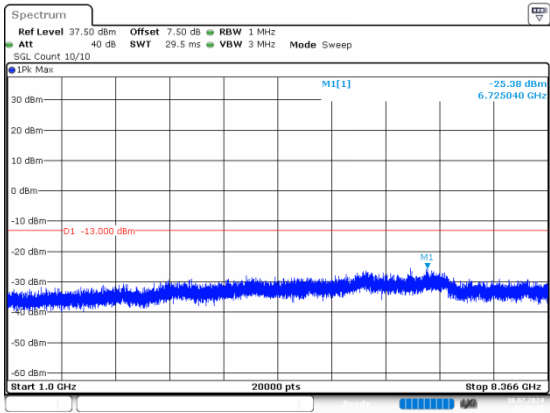


GPRS_Middle_Solt1

Below 1G



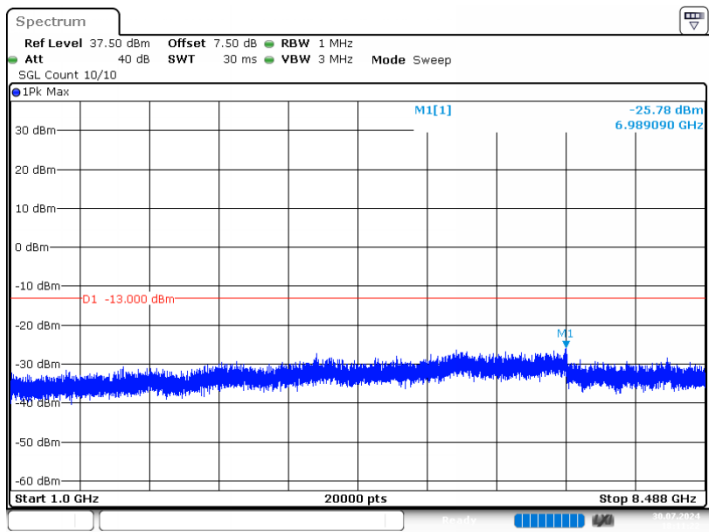
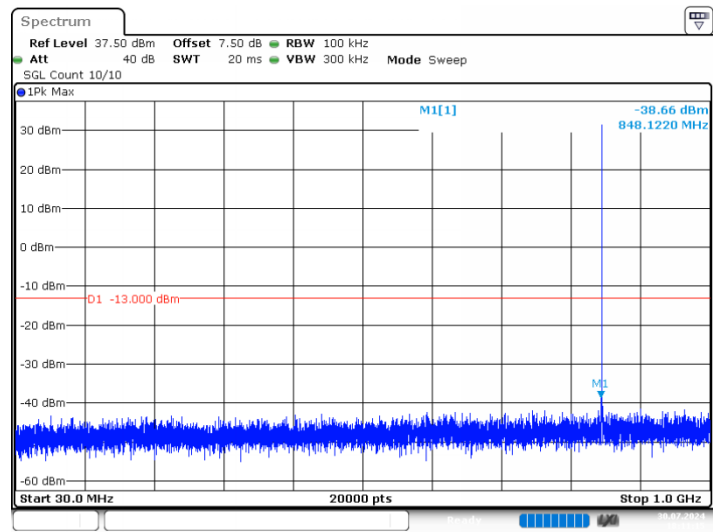
Above 1G



GPRS_High_Solt1

Below 1G

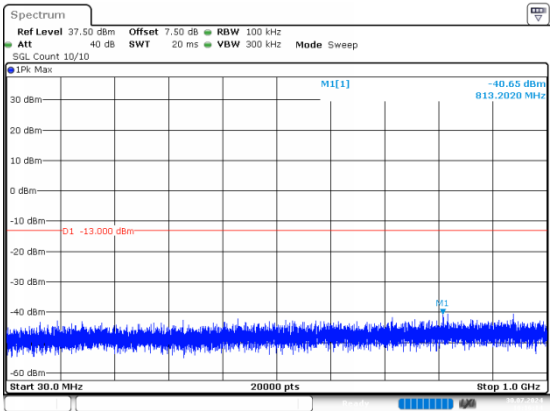
Above 1G



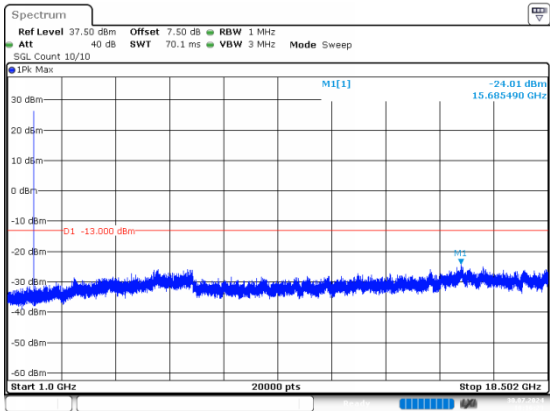
FCC Part 24E
GSM 1900 , Normal

GPRS_Low_Solt1

Below 1G

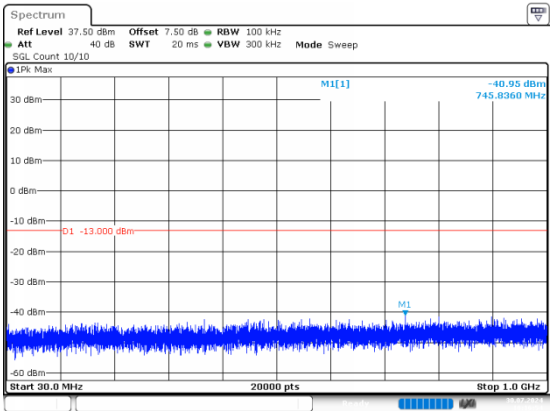


Above 1G

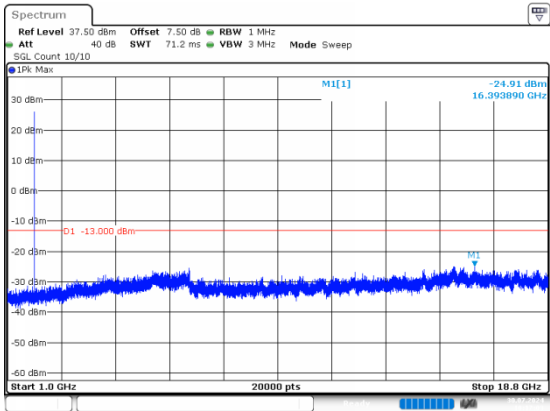


GPRS_Middle_Solt1

Below 1G

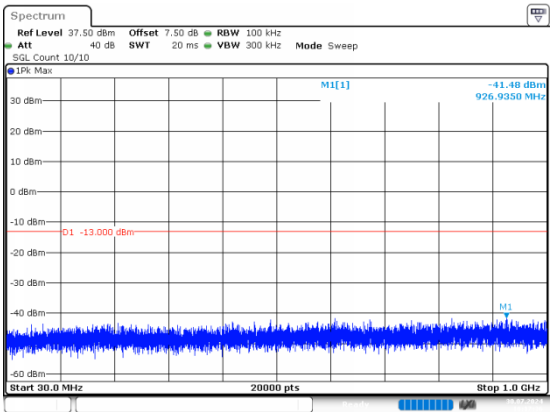


Above 1G



GPRS_High_Solt1

Below 1G



Above 1G

