

Appendix A

Test Information:

Serial No.:	2PYV-1	Test Date:	2024/08/15~2024/08/16
Test Site:	RF	Test Mode:	Transmitting
Tester:	Karl Liang	Test Result:	Pass

Environmental Conditions:

Temperature: (°C):	27.4~27.5	Relative Humidity: (%)	56~62	ATM Pressure: (kPa)	100.4~100.5
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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	323308-012	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	Test Channel (MHz)	Frequency Error		Limit (ppm)	Result
		(Hz)	(ppm)		
GPRS_Middle_Solt1_TN/VN	836.6	-9.0	-0.011	±2.5	Pass
GPRS_Middle_Solt1_T1/VN	836.6	2.1	0.003	±2.5	Pass
GPRS_Middle_Solt1_T2/VN	836.6	-3.7	-0.004	±2.5	Pass
GPRS_Middle_Solt1_T3/VN	836.6	-2.3	-0.003	±2.5	Pass
GPRS_Middle_Solt1_T4/VN	836.6	9.7	0.012	±2.5	Pass
GPRS_Middle_Solt1_T5/VN	836.6	0.6	0.001	±2.5	Pass
GPRS_Middle_Solt1_T6/VN	836.6	-1.5	-0.002	±2.5	Pass
GPRS_Middle_Solt1_T7/VN	836.6	2.3	0.003	±2.5	Pass
GPRS_Middle_Solt1_T8/VN	836.6	4.3	0.005	±2.5	Pass
GPRS_Middle_Solt1_TN/VH	836.6	16.2	0.019	±2.5	Pass
GPRS_Middle_Solt1_TN/VL	836.6	6.2	0.007	±2.5	Pass
EDGE_Middle_Solt1_TN/VN	836.6	12.0	0.014	±2.5	Pass
EDGE_Middle_Solt1_T1/VN	836.6	5.5	0.007	±2.5	Pass
EDGE_Middle_Solt1_T2/VN	836.6	9.7	0.012	±2.5	Pass
EDGE_Middle_Solt1_T3/VN	836.6	7.3	0.009	±2.5	Pass
EDGE_Middle_Solt1_T4/VN	836.6	8.2	0.010	±2.5	Pass
EDGE_Middle_Solt1_T5/VN	836.6	8.3	0.010	±2.5	Pass
EDGE_Middle_Solt1_T6/VN	836.6	5.7	0.007	±2.5	Pass
EDGE_Middle_Solt1_T7/VN	836.6	1.3	0.002	±2.5	Pass
EDGE_Middle_Solt1_T8/VN	836.6	-10.4	-0.012	±2.5	Pass
EDGE_Middle_Solt1_TN/VH	836.6	4.4	0.005	±2.5	Pass
EDGE_Middle_Solt1_TN/VL	836.6	0.9	0.001	±2.5	Pass

Note:

Frequency Error (ppm)=Frequency Error (MHz)/Test Channel(MHz)*10⁶

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	1850.079	1850	Pass
GPRS_Low_Solt1_T1/VN	1850.080	1850	Pass
GPRS_Low_Solt1_T2/VN	1850.075	1850	Pass
GPRS_Low_Solt1_T3/VN	1850.081	1850	Pass
GPRS_Low_Solt1_T4/VN	1850.080	1850	Pass
GPRS_Low_Solt1_T5/VN	1850.081	1850	Pass
GPRS_Low_Solt1_T6/VN	1850.082	1850	Pass
GPRS_Low_Solt1_T7/VN	1850.083	1850	Pass
GPRS_Low_Solt1_T8/VN	1850.082	1850	Pass
GPRS_Low_Solt1_TN/VH	1850.079	1850	Pass
GPRS_Low_Solt1_TN/VL	1850.079	1850	Pass
GPRS_High_Solt1_TN/VN	1909.924	1910	Pass
GPRS_High_Solt1_T1/VN	1909.922	1910	Pass
GPRS_High_Solt1_T2/VN	1909.924	1910	Pass
GPRS_High_Solt1_T3/VN	1909.924	1910	Pass
GPRS_High_Solt1_T4/VN	1909.924	1910	Pass
GPRS_High_Solt1_T5/VN	1909.921	1910	Pass
GPRS_High_Solt1_T6/VN	1909.923	1910	Pass
GPRS_High_Solt1_T7/VN	1909.927	1910	Pass
GPRS_High_Solt1_T8/VN	1909.925	1910	Pass
GPRS_High_Solt1_TN/VH	1909.927	1910	Pass
GPRS_High_Solt1_TN/VL	1909.927	1910	Pass
EDGE_Low_Solt1_TN/VN	1850.077	1850	Pass
EDGE_Low_Solt1_T1/VN	1850.080	1850	Pass
EDGE_Low_Solt1_T2/VN	1850.084	1850	Pass
EDGE_Low_Solt1_T3/VN	1850.079	1850	Pass
EDGE_Low_Solt1_T4/VN	1850.079	1850	Pass
EDGE_Low_Solt1_T5/VN	1850.080	1850	Pass
EDGE_Low_Solt1_T6/VN	1850.080	1850	Pass
EDGE_Low_Solt1_T7/VN	1850.081	1850	Pass
EDGE_Low_Solt1_T8/VN	1850.079	1850	Pass

Mode	Value (MHz)	Limit (MHz)	Result
EDGE_Low_Solt1_TN/VH	1850.076	1850	Pass
EDGE_Low_Solt1_TN/VL	1850.079	1850	Pass
EDGE_High_Solt1_TN/VN	1909.920	1910	Pass
EDGE_High_Solt1_T1/VN	1909.931	1910	Pass
EDGE_High_Solt1_T2/VN	1909.924	1910	Pass
EDGE_High_Solt1_T3/VN	1909.923	1910	Pass
EDGE_High_Solt1_T4/VN	1909.927	1910	Pass
EDGE_High_Solt1_T5/VN	1909.923	1910	Pass
EDGE_High_Solt1_T6/VN	1909.922	1910	Pass
EDGE_High_Solt1_T7/VN	1909.917	1910	Pass
EDGE_High_Solt1_T8/VN	1909.920	1910	Pass
EDGE_High_Solt1_TN/VH	1909.921	1910	Pass
EDGE_High_Solt1_TN/VL	1909.927	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

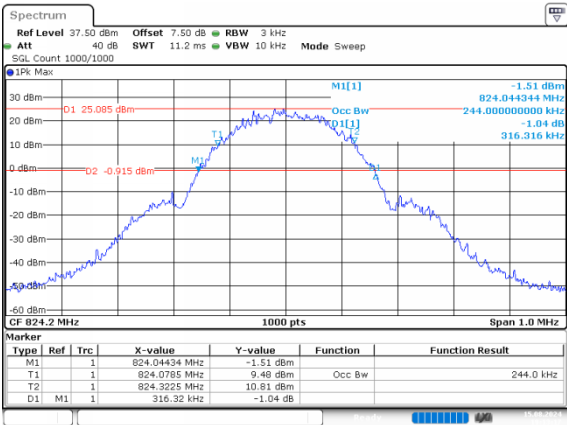
FCC Part 22H

GSM 850 , Normal

Mode	99% OBW (MHz)	EBW (MHz)
GPRS_Low_Solt1	0.244	0.316
GPRS_Middle_Solt1	0.243	0.319
GPRS_High_Solt1	0.242	0.320
EDGE_Low_Solt1	0.245	0.316
EDGE_Middle_Solt1	0.245	0.316
EDGE_High_Solt1	0.240	0.313

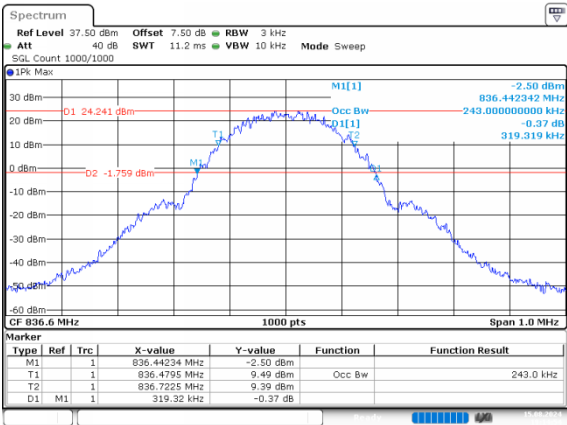
GSM 850 , Normal

GPRS_Low_Solt1 0.244MHz



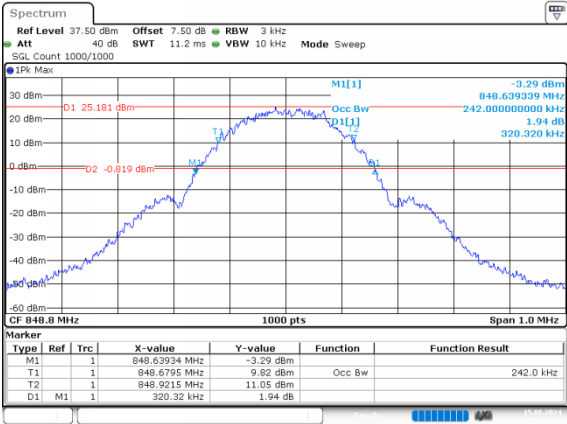
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GPRS_Middle_Solt1 0.243MHz



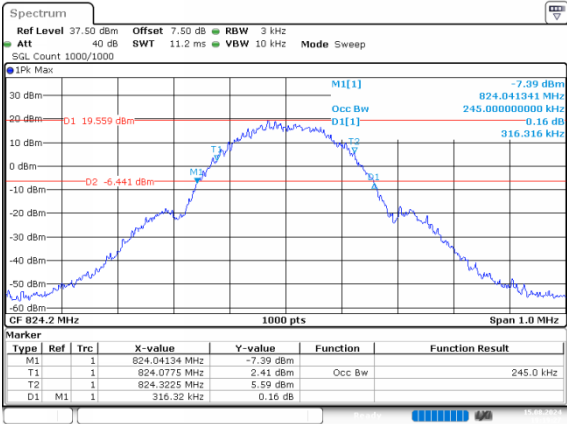
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GPRS_High_Solt1 0.242MHz



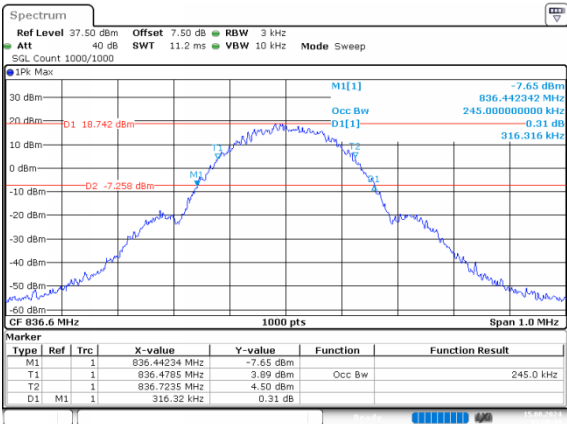
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EDGE_Low_Solt1 0.245MHz



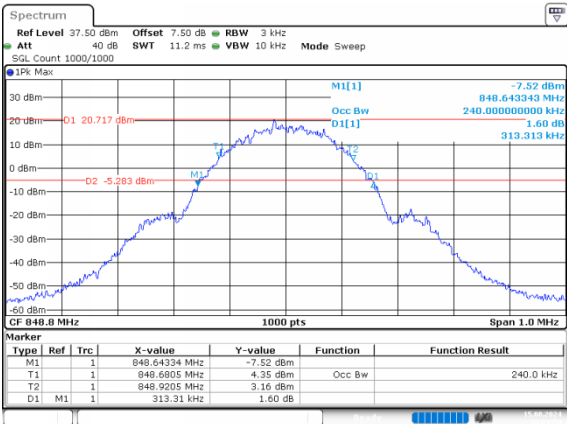
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EDGE_Middle_Solt1 0.245MHz



ProjectNo.:2402W20091E-RF Tester:Karl Liang
 Date: 15.AUG.2024 19:20:44

EDGE_High_Solt1 0.240MHz



ProjectNo.:2402W20091E-RF Tester:Karl Liang
 Date: 15.AUG.2024 19:21:54

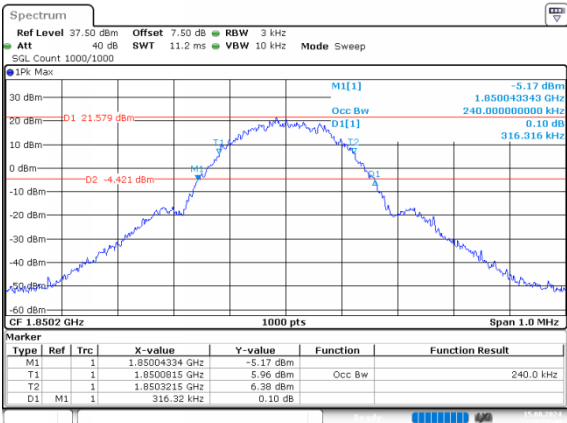
FCC Part 24E

GSM 1900 , Normal

Mode	99% OBW (MHz)	EBW (MHz)
GPRS_Low_Solt1	0.240	0.316
GPRS_Middle_Solt1	0.242	0.318
GPRS_High_Solt1	0.243	0.313
EDGE_Low_Solt1	0.245	0.316
EDGE_Middle_Solt1	0.243	0.312
EDGE_High_Solt1	0.249	0.317

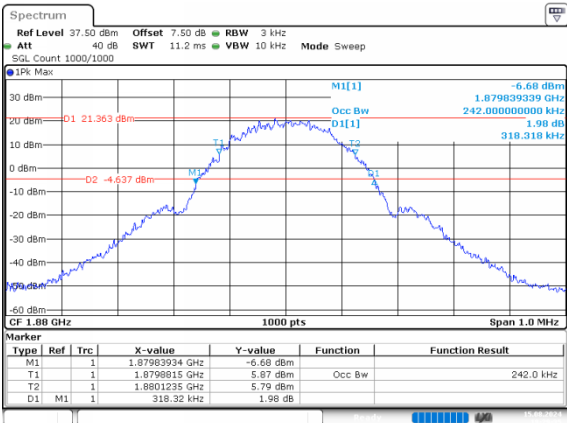
GSM 1900 , Normal

GPRS_Low_Solt1 0.240MHz



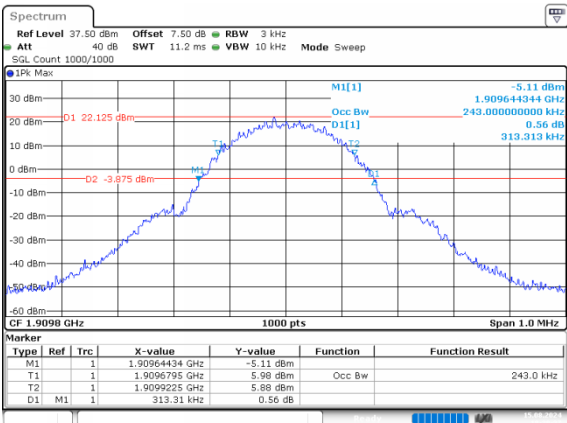
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GPRS_Middle_Solt1 0.242MHz



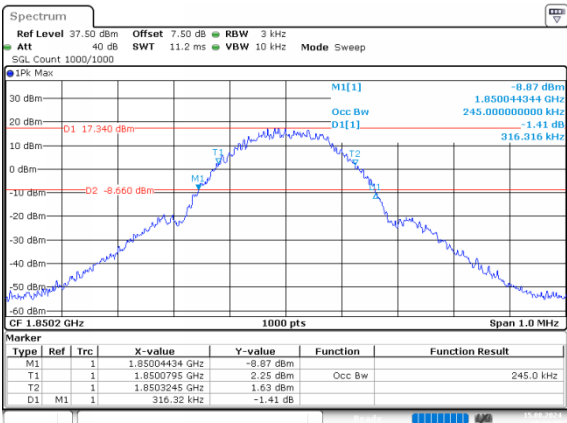
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GPRS_High_Solt1 0.243MHz



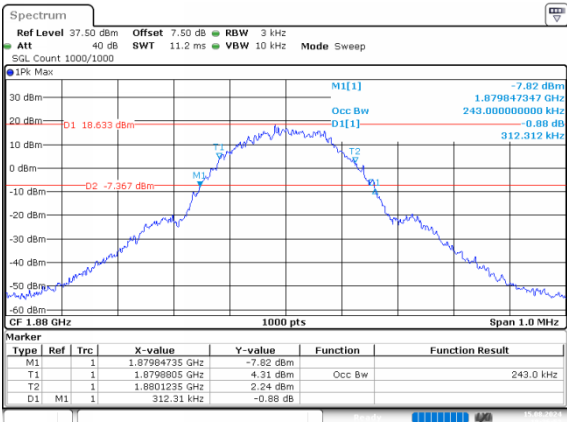
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EDGE_Low_Solt1 0.245MHz



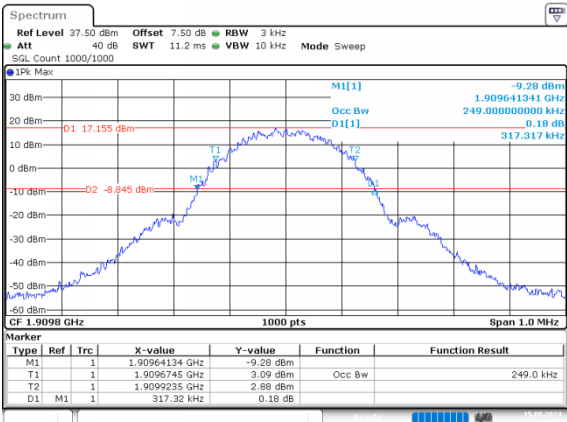
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EDGE_Middle_Solt1 0.243MHz



ProjectNo.:2402W20091E-RF Tester:Karl Liang
Date: 15.AUG.2024 19:36:53

EDGE_High_Solt1 0.249MHz



ProjectNo.:2402W20091E-RF Tester:Karl Liang
Date: 15.AUG.2024 19:38:02

RF Output Power

FCC Part 22H

GSM 850 , TN/VL

Mode	Peak Conducted Power(dBm)	ERP (dBm)	Limit(dBm)	Result
GPRS_Low_Solt1	32.51	32.62	38.45	Pass
GPRS_Low_Solt2	30.38	30.49	38.45	Pass
GPRS_Low_Solt3	28.40	28.51	38.45	Pass
GPRS_Low_Solt4	26.19	26.30	38.45	Pass
GPRS_Middle_Solt1	32.48	32.59	38.45	Pass
GPRS_Middle_Solt2	30.36	30.47	38.45	Pass
GPRS_Middle_Solt3	28.32	28.43	38.45	Pass
GPRS_Middle_Solt4	26.10	26.21	38.45	Pass
GPRS_High_Solt1	32.76	32.87	38.45	Pass
GPRS_High_Solt2	30.43	30.54	38.45	Pass
GPRS_High_Solt3	28.44	28.55	38.45	Pass
GPRS_High_Solt4	26.20	26.31	38.45	Pass
EDGE_Low_Solt1	27.75	27.86	38.45	Pass
EDGE_Low_Solt2	26.70	26.81	38.45	Pass
EDGE_Low_Solt3	23.80	23.91	38.45	Pass
EDGE_Low_Solt4	21.92	22.03	38.45	Pass
EDGE_Middle_Solt1	27.63	27.74	38.45	Pass
EDGE_Middle_Solt2	26.65	26.76	38.45	Pass
EDGE_Middle_Solt3	23.85	23.96	38.45	Pass
EDGE_Middle_Solt4	22.27	22.38	38.45	Pass
EDGE_High_Solt1	27.38	27.49	38.45	Pass
EDGE_High_Solt2	26.31	26.42	38.45	Pass
EDGE_High_Solt3	23.49	23.60	38.45	Pass
EDGE_High_Solt4	21.77	21.88	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 = 2.26dBi;

2.C_L = signal attenuation in the connecting cable between the transmitter and antenna in 0dB

FCC Part 24E

GSM 1900 , Normal

Mode	Peak Conducted Power(dBm)	EIRP (dBm)	Limit(dBm)	Result
GPRS_Low_Solt1	29.07	31.65	33	Pass
GPRS_Low_Solt2	27.15	29.73	33	Pass
GPRS_Low_Solt3	25.59	28.17	33	Pass
GPRS_Low_Solt4	23.61	26.19	33	Pass
GPRS_Middle_Solt1	29.47	32.05	33	Pass
GPRS_Middle_Solt2	27.03	29.61	33	Pass
GPRS_Middle_Solt3	25.64	28.22	33	Pass
GPRS_Middle_Solt4	23.62	26.20	33	Pass
GPRS_High_Solt1	29.54	32.12	33	Pass
GPRS_High_Solt2	27.17	29.75	33	Pass
GPRS_High_Solt3	25.55	28.13	33	Pass
GPRS_High_Solt4	23.52	26.10	33	Pass
EDGE_Low_Solt1	26.45	29.03	33	Pass
EDGE_Low_Solt2	25.06	27.64	33	Pass
EDGE_Low_Solt3	23.93	26.51	33	Pass
EDGE_Low_Solt4	20.89	23.47	33	Pass
EDGE_Middle_Solt1	26.31	28.89	33	Pass
EDGE_Middle_Solt2	25.02	27.60	33	Pass
EDGE_Middle_Solt3	24.00	26.58	33	Pass
EDGE_Middle_Solt4	21.06	23.64	33	Pass
EDGE_High_Solt1	26.15	28.73	33	Pass
EDGE_High_Solt2	24.59	27.17	33	Pass
EDGE_High_Solt3	23.59	26.17	33	Pass
EDGE_High_Solt4	20.55	23.13	33	Pass

Note:

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

1.Ant Gain = 2.58dBi;

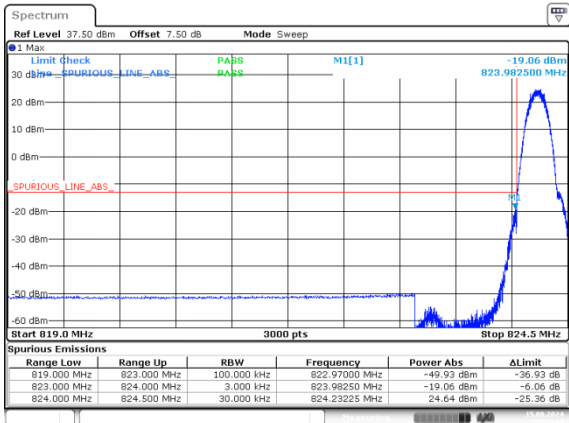
2.C_L = signal attenuation in the connecting cable between the transmitter and antenna in 0dB

Out of band emission,Band Edge

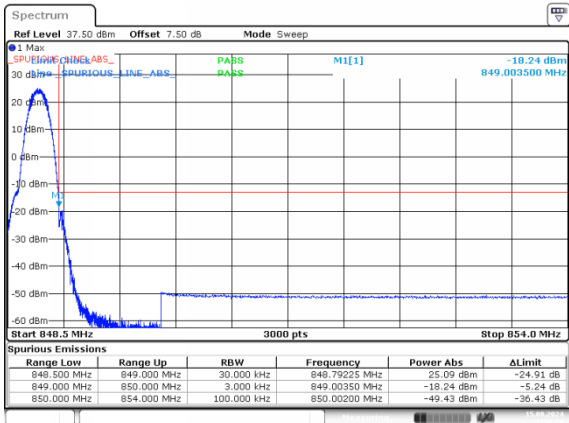
FCC Part 22H

GSM 850 , Normal

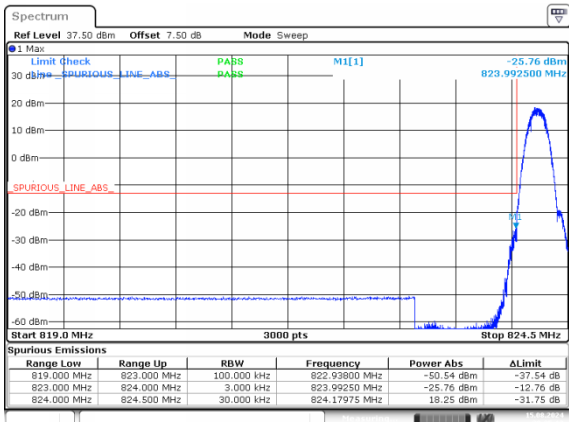
GPRS_Low_Solt1 -19.06dBm



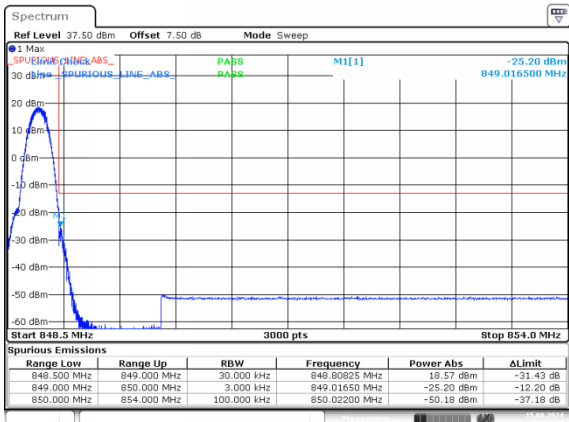
GPRS_High_Solt1 -18.24dBm



EDGE_Low_Solt1 -25.76dBm



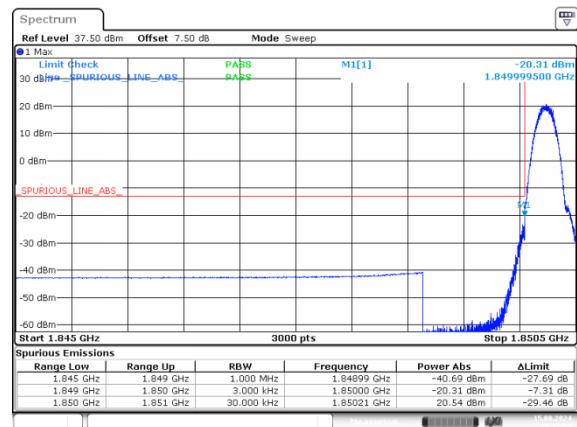
EDGE_High_Solt1 -25.20dBm



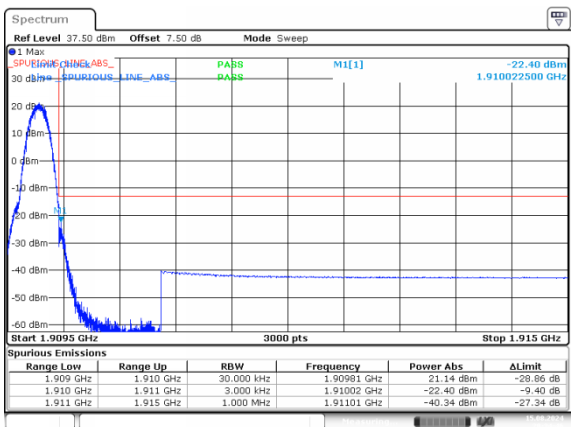
FCC Part 24E

GSM 1900 , Normal

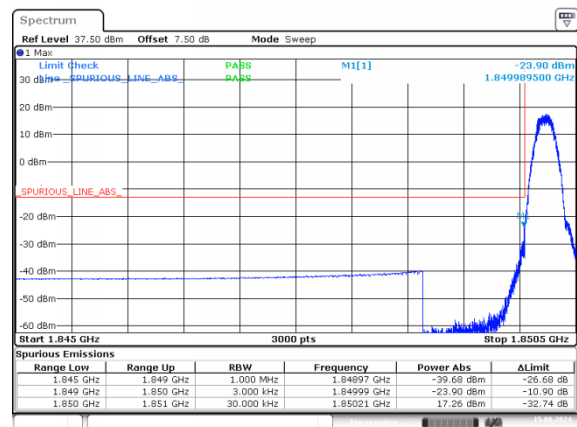
GPRS_Low_Solt1 -20.31dBm



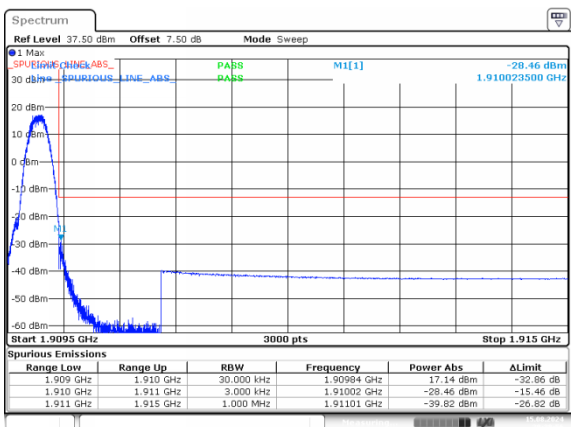
GPRS_High_Solt1 -22.40dBm



EDGE_Low_Solt1 -23.90dBm



EDGE_High_Solt1 -28.46dBm

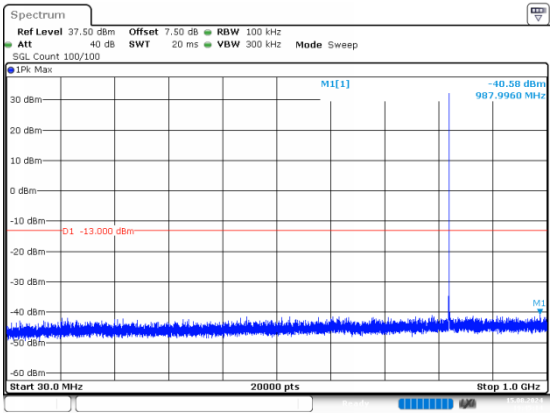


Spurious Emissions at Antenna Terminal

FCC Part 22H
GSM 850 , Normal

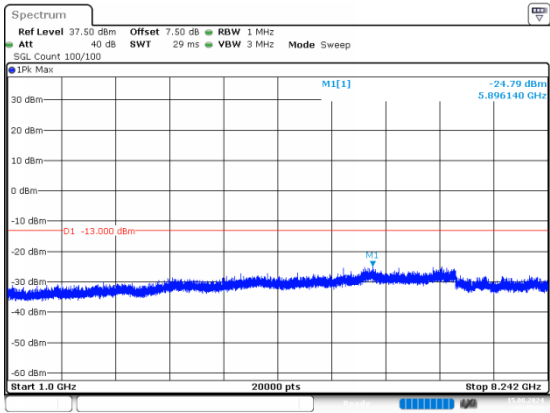
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Below 1G



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Date: 15.AUG.2024 19:45:14

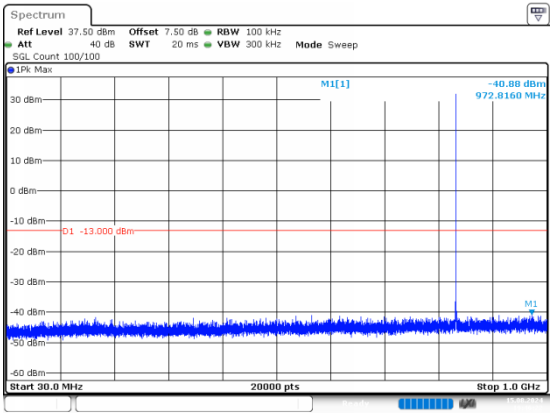
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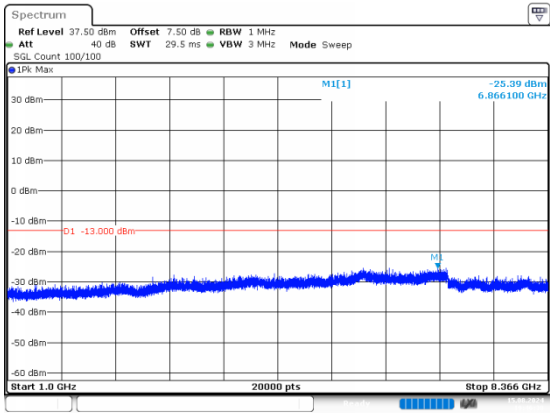
GPRS_Middle_Solt1

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Above 1G

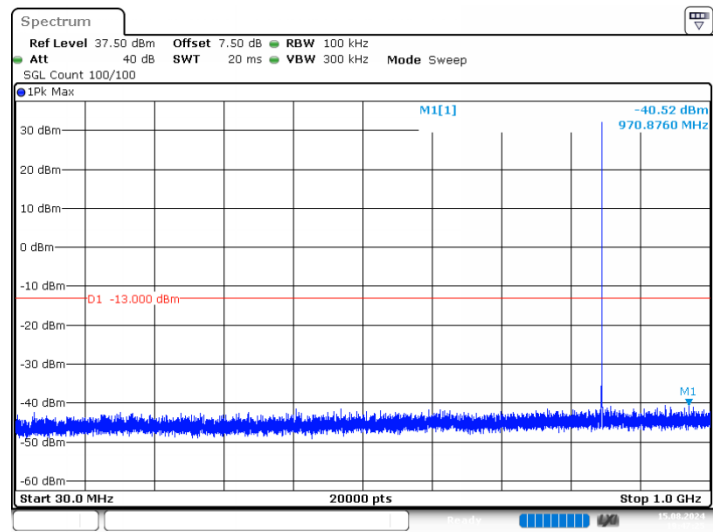


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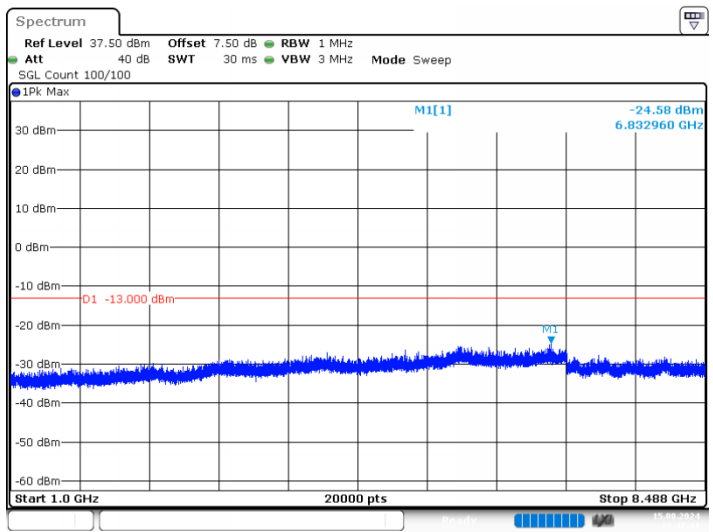
GPRS_High_Solt1

Below 1G

Above 1G



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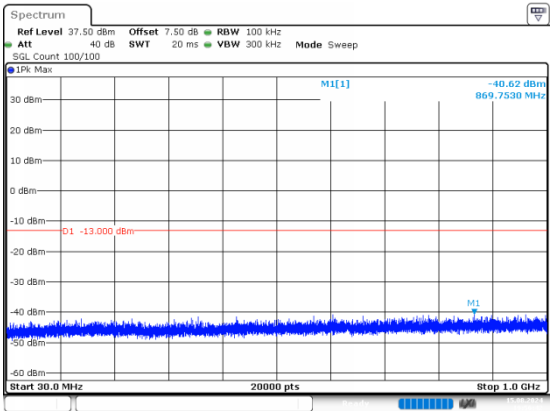


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GSM 1900 , Normal

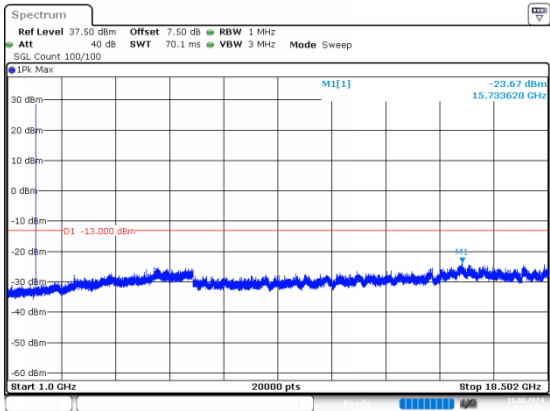
GPRS_Low_Solt1

Below 1G



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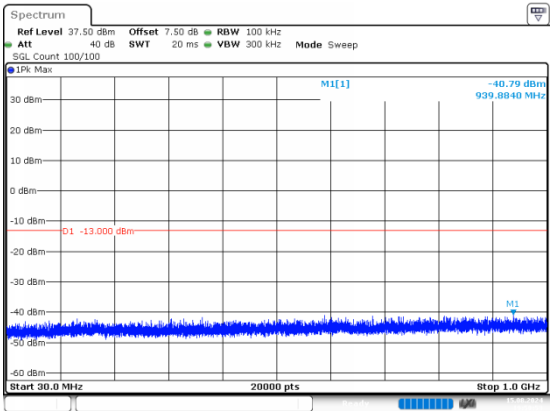
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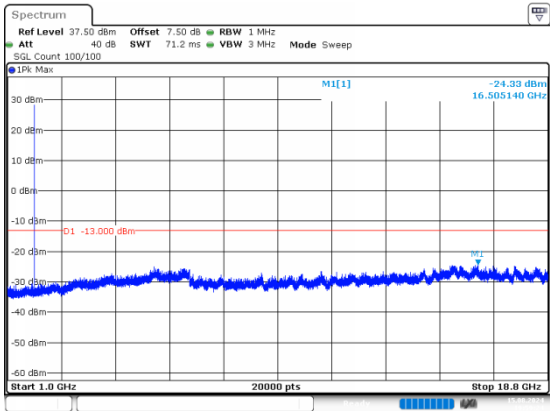
GPRS_Middle_Solt1

Below 1G



ProjectNo.:2402W20091E-RF Tester:Karl Liang
Date: 15.AUG.2024 19:58:53

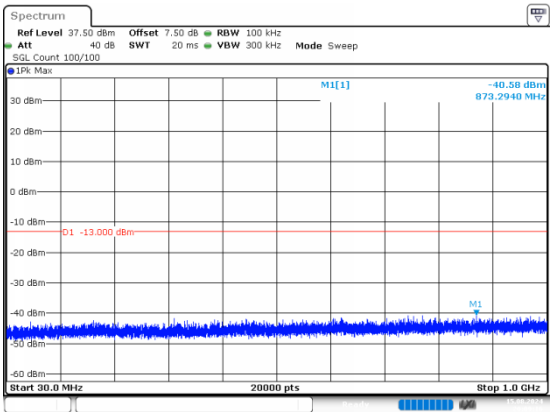
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ProjectNo.:2402W20091E-RF Tester:Karl Liang
Date: 15.AUG.2024 19:59:24

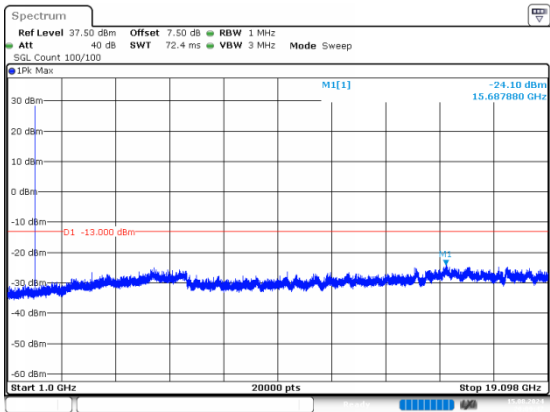
GPRS_High_Solt1

Below 1G



ProjectNo.:2402W20091E-RF Tester:Karl Liang
Date: 15.AUG.2024 20:09:17

Above 1G



ProjectNo.:2402W20091E-RF Tester:Karl Liang
Date: 15.AUG.2024 20:09:48