

Appendix A

Test Information:

Serial No.:	2TA3-3	Test Date:	2024/11/11~2024/11/12
Test Site:	RF	Test Mode:	Transmitting
Tester:	Karl Liang	Test Result:	Pass

Environmental Conditions:

Temperature: (°C):	25.5~25.6	Relative Humidity: (%)	56~57	ATM Pressure: (kPa)	101.5~101.6
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Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Micro-Coax	Coaxial Cable	UFB205A	323308-015	2024/01/02	2025/01/01
Minl-Clrcuts	Coaxial Power Splitters & Combiner	ZFRSC-183-S+	SF448201614	2024/02/25	2025/02/24
R&S	Coaxial Attenuator	10dB	F-08-EM512	2024/06/13	2025/06/12
All-sun	Multimeter	EM305A	8348897	2024/08/16	2025/08/15
R&S	Spectrum Analyzer	FSV40	101461	2024/09/05	2025/09/04
R&S	Wideband Radio Communication Tester	CMW500	144976	2024/09/05	2025/09/04
BACL	TEMP&HUMI Test Chamber	BTH-150-40	30173	2024/09/06	2025/09/05
TDK-Lambda	DC Power Supply	Z+60-14	F-08-EM038-1	N/A	N/A

* 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)	Verdict
		(Hz)	(ppm)		
GSM_Middle_TN/VN	836.6	-7.4	-0.009	±2.5	Pass
GSM_Middle_T1/VN	836.6	-1.2	-0.001	±2.5	Pass
GSM_Middle_T2/VN	836.6	-1.0	-0.001	±2.5	Pass
GSM_Middle_T3/VN	836.6	-1.9	-0.002	±2.5	Pass
GSM_Middle_T4/VN	836.6	-4.0	-0.005	±2.5	Pass
GSM_Middle_T5/VN	836.6	-0.5	-0.001	±2.5	Pass
GSM_Middle_T6/VN	836.6	2.0	0.002	±2.5	Pass
GSM_Middle_T7/VN	836.6	-1.9	-0.002	±2.5	Pass
GSM_Middle_T8/VN	836.6	-1.2	-0.001	±2.5	Pass
GSM_Middle_TN/VH	836.6	-3.3	-0.004	±2.5	Pass
GSM_Middle_TN/VL	836.6	-3.9	-0.005	±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	Result (MHz)	Limit (MHz)	Verdict
GSM_Low_TN/VN	1850.080	1850	Pass
GSM_Low_T1/VN	1850.079	1850	Pass
GSM_Low_T2/VN	1850.080	1850	Pass
GSM_Low_T3/VN	1850.078	1850	Pass
GSM_Low_T4/VN	1850.076	1850	Pass
GSM_Low_T5/VN	1850.080	1850	Pass
GSM_Low_T6/VN	1850.079	1850	Pass
GSM_Low_T7/VN	1850.079	1850	Pass
GSM_Low_T8/VN	1850.080	1850	Pass
GSM_Low_TN/VH	1850.077	1850	Pass
GSM_Low_TN/VL	1850.079	1850	Pass
GSM_High_TN/VN	1909.925	1910	Pass
GSM_High_T1/VN	1909.922	1910	Pass
GSM_High_T2/VN	1909.927	1910	Pass
GSM_High_T3/VN	1909.928	1910	Pass
GSM_High_T4/VN	1909.924	1910	Pass
GSM_High_T5/VN	1909.922	1910	Pass
GSM_High_T6/VN	1909.922	1910	Pass
GSM_High_T7/VN	1909.928	1910	Pass
GSM_High_T8/VN	1909.927	1910	Pass
GSM_High_TN/VH	1909.925	1910	Pass
GSM_High_TN/VL	1909.925	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

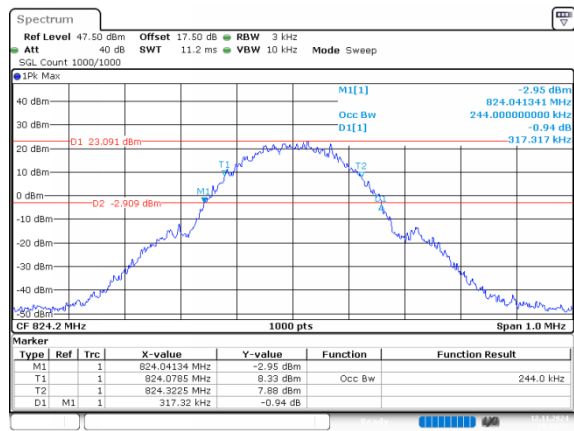
FCC Part 22H

GSM 850 , Normal

Mode	99% OBW (MHz)	EBW (MHz)
GSM_Low	0.244	0.317
GSM_Middle	0.247	0.319
GSM_High	0.247	0.321

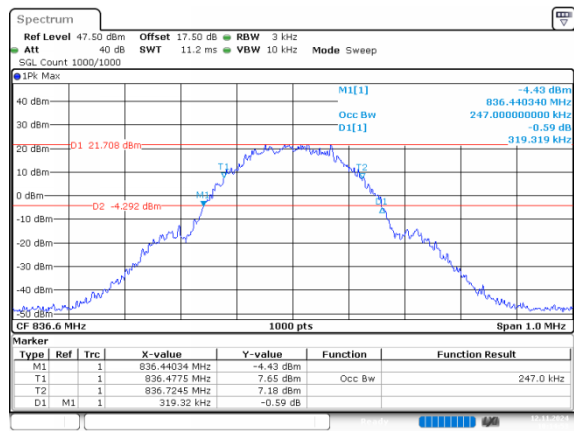
GSM 850 , Normal

GSM_Low



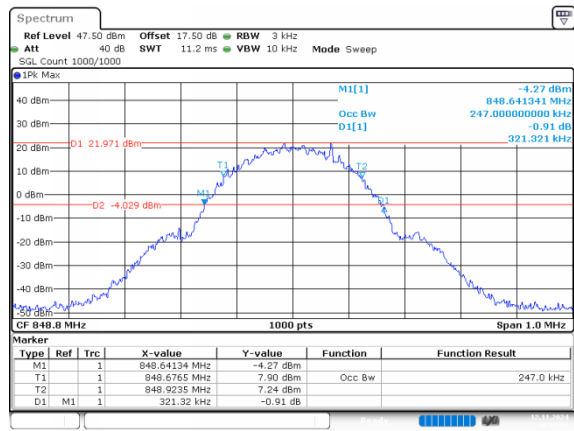
ProjectNo.:2402Y37628E-RF Tester:Karl Liang
Date: 12.NOV.2024 10:13:52

GSM_Middle



ProjectNo.:2402Y37628E-RF Tester:Karl Liang
Date: 12.NOV.2024 10:14:54

GSM_High



ProjectNo.:2402Y37628E-RF Tester:Karl Liang
Date: 12.NOV.2024 10:15:55

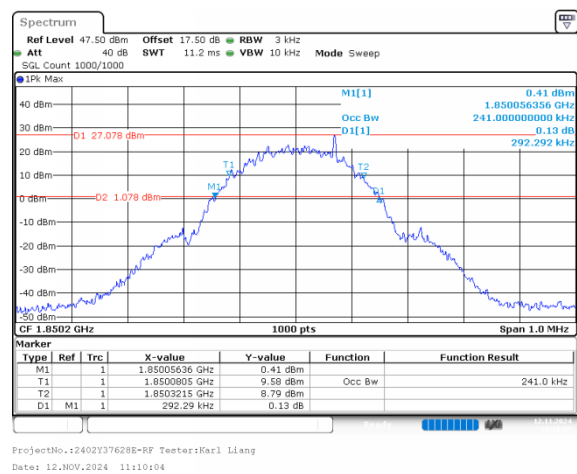
FCC Part 24E

GSM 1900 , Normal

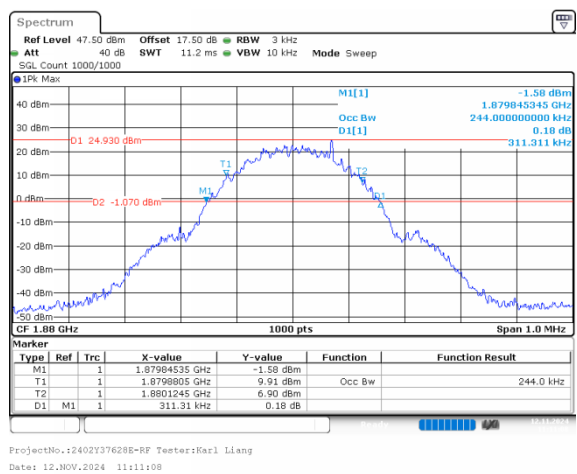
Mode	99% OBW (MHz)	EBW (MHz)
GSM_Low	0.241	0.292
GSM_Middle	0.244	0.311
GSM_High	0.245	0.311

GSM 1900 , Normal

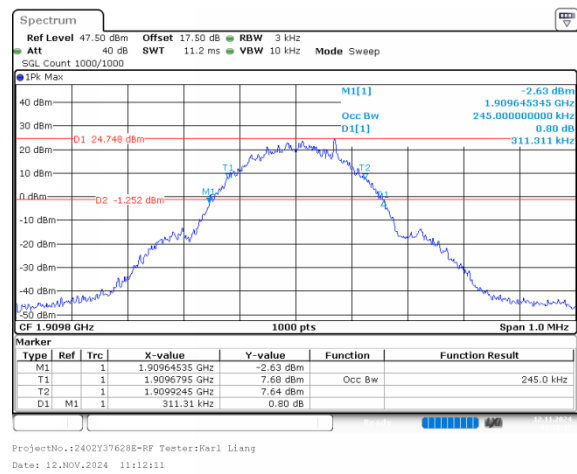
GSM_Low



GSM_Middle



GSM_High



RF Output Power

FCC Part 22H

GSM 850 , Normal

Mode	Average Conducted Power (dBm)	ERP (dBm)	Limit (dBm)	Verdict
GSM_Low	30.61	26.26	38.45	Pass
GSM_Middle	30.27	25.92	38.45	Pass
GSM_High	29.61	25.26	38.45	Pass
GPRS_Low_Solt1	30.61	26.26	38.45	Pass
GPRS_Low_Solt2	30.51	26.16	38.45	Pass
GPRS_Low_Solt3	30.18	25.83	38.45	Pass
GPRS_Low_Solt4	29.93	25.58	38.45	Pass
GPRS_Middle_Solt1	30.33	25.98	38.45	Pass
GPRS_Middle_Solt2	30.06	25.71	38.45	Pass
GPRS_Middle_Solt3	29.62	25.27	38.45	Pass
GPRS_Middle_Solt4	29.38	25.03	38.45	Pass
GPRS_High_Solt1	29.59	25.24	38.45	Pass
GPRS_High_Solt2	29.30	24.95	38.45	Pass
GPRS_High_Solt3	28.86	24.51	38.45	Pass
GPRS_High_Solt4	28.60	24.25	38.45	Pass

Note:

$$ERP = \text{Average Peak Conducted Power(dBm)} - L_C(\text{dB}) + G_T(\text{dBd})$$

$$G_T(\text{dBd}) = G_T(\text{dBi}) - 2.15$$

$$1.Ant\ Gain = -2.2\text{dBi};$$

$$2.C_L = \text{signal attenuation in the connecting cable between the transmitter and antenna in 0dB}$$

FCC Part 24E

GSM 1900 , Normal

Mode	Average Conducted Power (dBm)	EIRP (dBm)	Limit (dBm)	Verdict
GSM_Low	31.14	27.84	33	Pass
GSM_Middle	31.07	27.77	33	Pass
GSM_High	30.87	27.57	33	Pass
GPRS_Low_Solt1	31.14	27.84	33	Pass
GPRS_Low_Solt2	30.28	26.98	33	Pass
GPRS_Low_Solt3	27.62	24.32	33	Pass
GPRS_Low_Solt4	26.31	23.01	33	Pass
GPRS_Middle_Solt1	31.09	27.79	33	Pass
GPRS_Middle_Solt2	30.31	27.01	33	Pass
GPRS_Middle_Solt3	27.81	24.51	33	Pass
GPRS_Middle_Solt4	26.51	23.21	33	Pass
GPRS_High_Solt1	30.89	27.59	33	Pass
GPRS_High_Solt2	30.19	26.89	33	Pass
GPRS_High_Solt3	27.86	24.56	33	Pass
GPRS_High_Solt4	26.58	23.28	33	Pass

Note:

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

1.Ant Gain = -3.1dBi;

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

Peak-to-average Ratio(PAR)

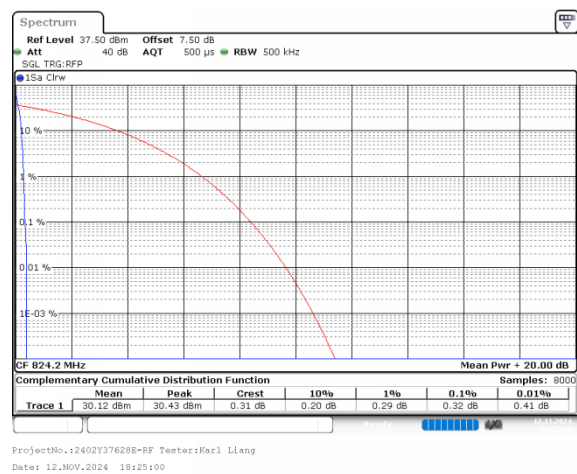
FCC Part 22H

GSM 850 , Normal

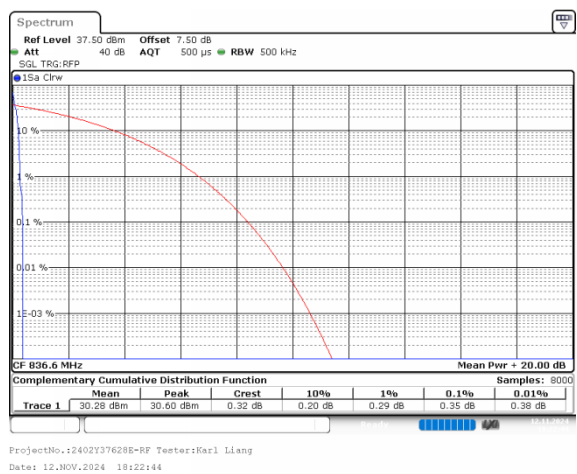
Mode	Result (dB)	Limit (dB)
GSM_Low	0.32	13
GSM_Middle	0.35	13
GSM_High	0.35	13

GSM 850 , Normal

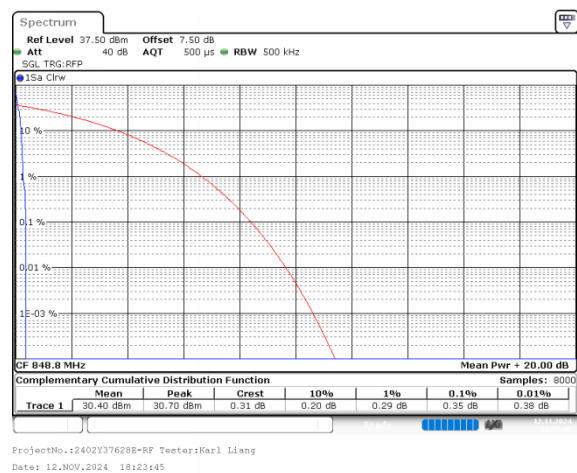
GSM_Low



GSM_Middle



GSM_High



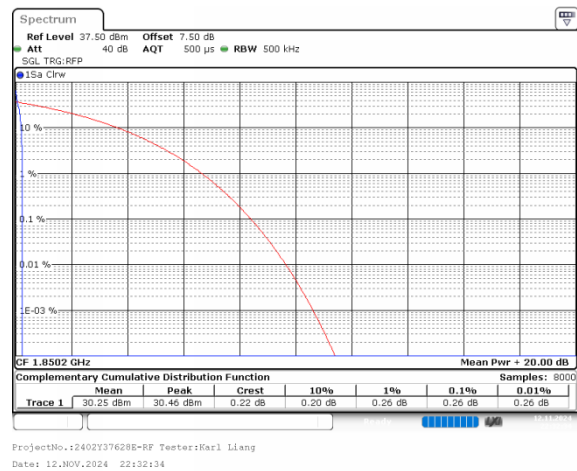
FCC Part 24E

GSM 1900 , Normal

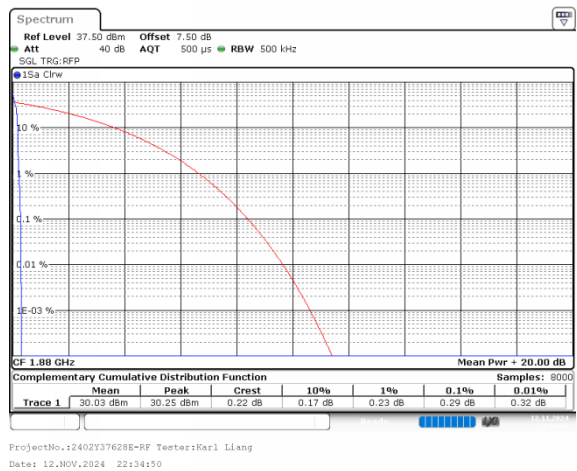
Mode	Result (dB)	Limit (dB)
GSM_Low	0.26	13
GSM_Middle	0.29	13
GSM_High	0.23	13

GSM 1900 , Normal

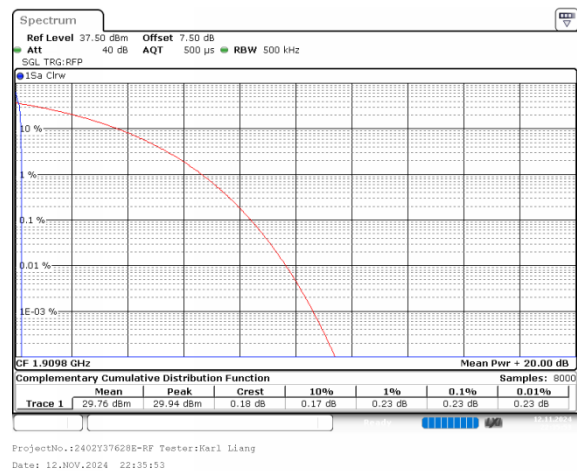
GSM_Low



GSM_Middle



GSM_High

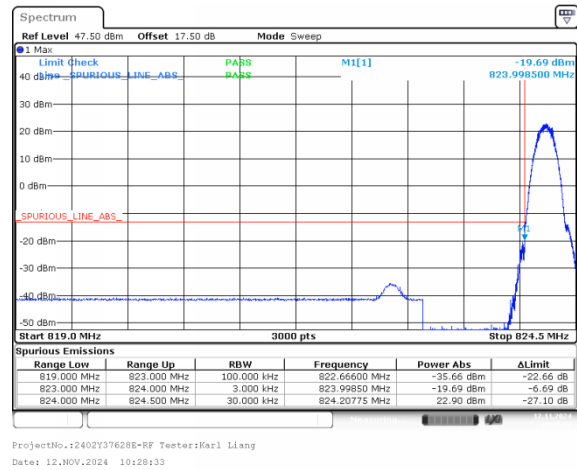


Out of band emission,Band Edge

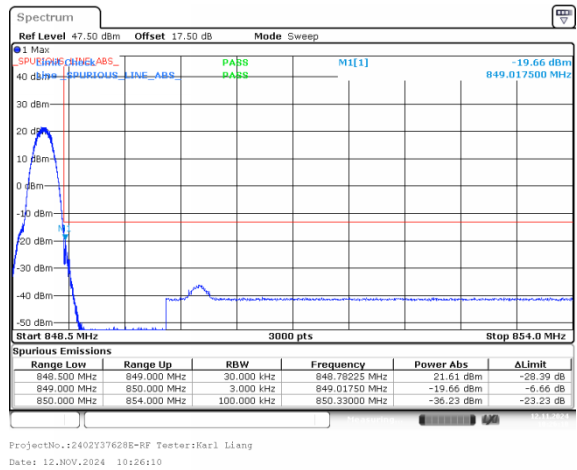
FCC Part 22H

GSM 850 , Normal

GSM_Low



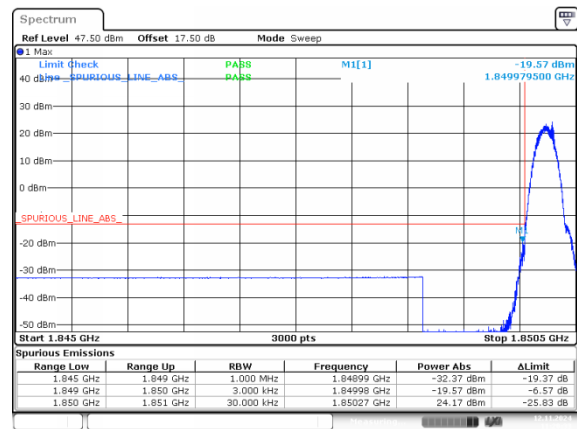
GSM_High



FCC Part 24E

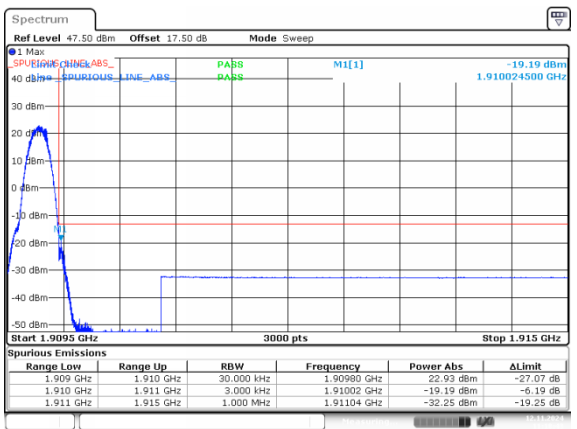
GSM 1900 , Normal

GSM_Low



ProjectNo.:2402Y37628E-RF Tester:Karl Liang
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GSM_High

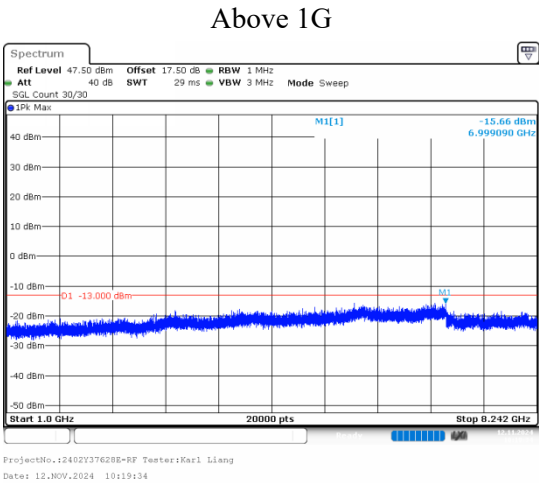
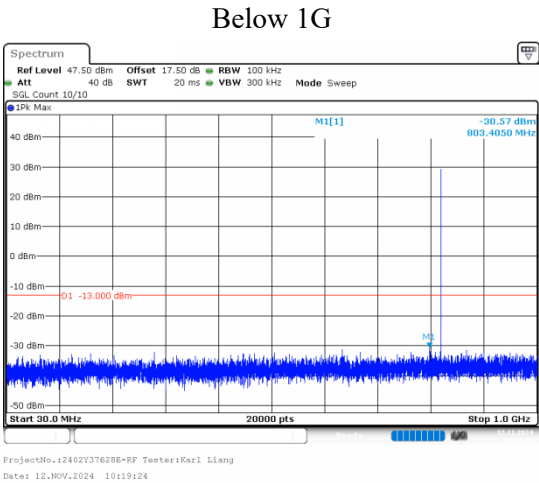


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Date: 12.NOV.2024 11:18:43

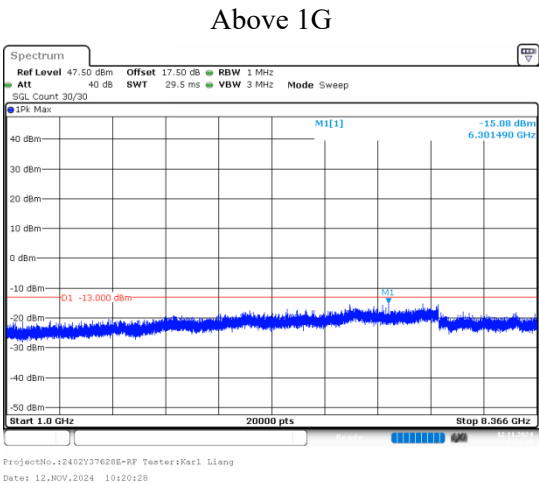
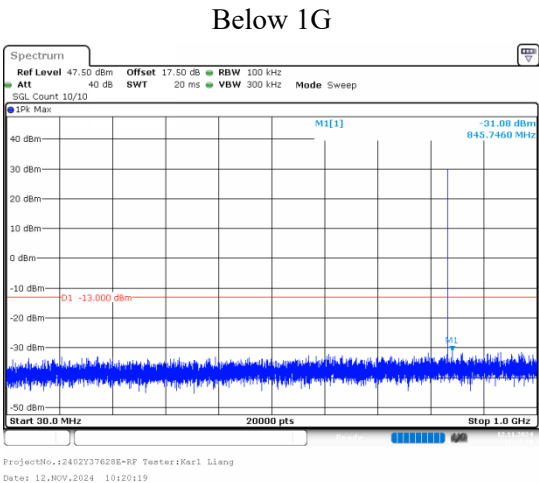
Spurious Emissions at Antenna Terminal

FCC Part 22H
GSM 850 , Normal

GSM_Low

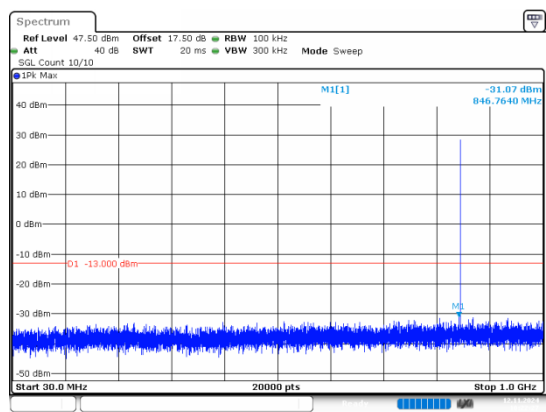


GSM_Middle



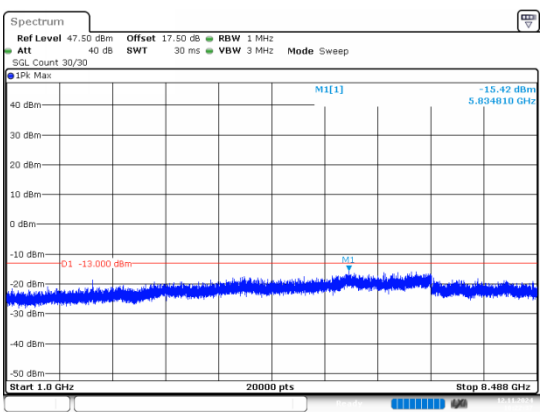
GSM_High

Below 1G



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Date: 12.NOV.2024 10:22:28

Above 1G

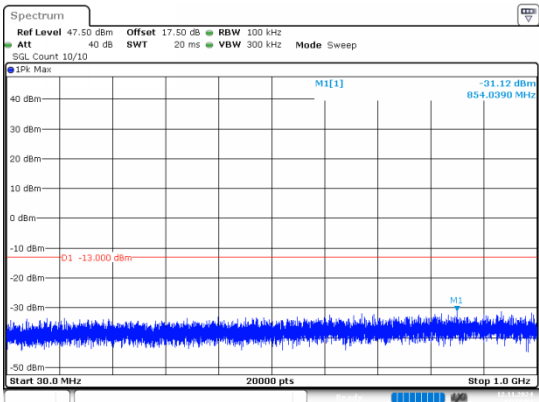


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FCC Part 24E
GSM 1900 , Normal

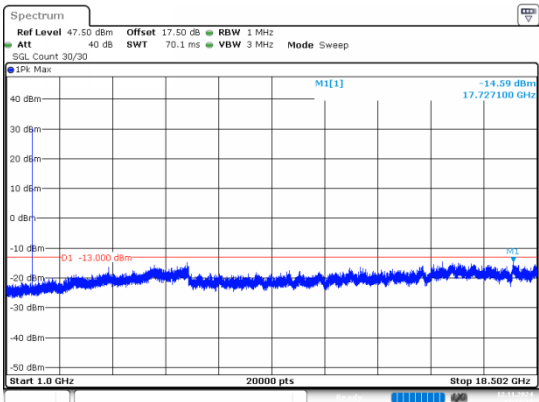
GSM_Low

Below 1G



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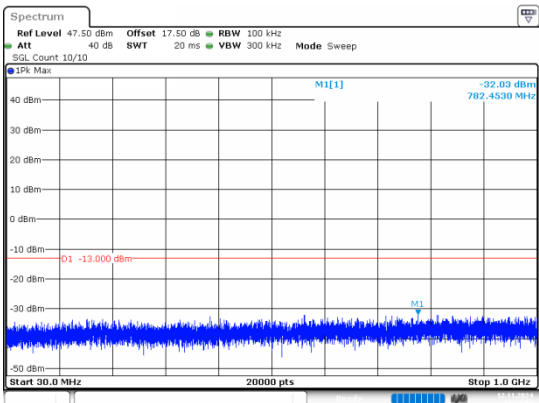
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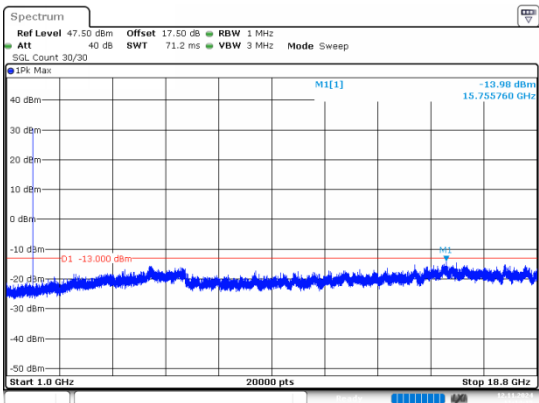
GSM_Middle

Below 1G



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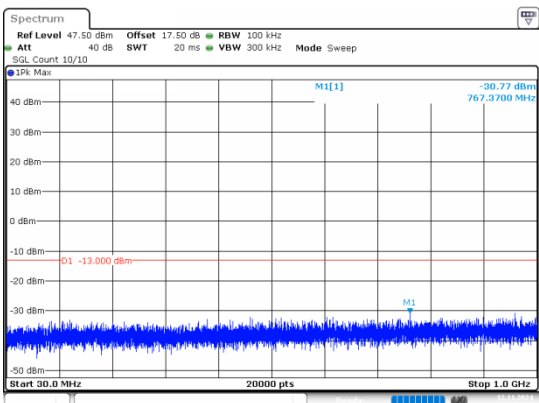
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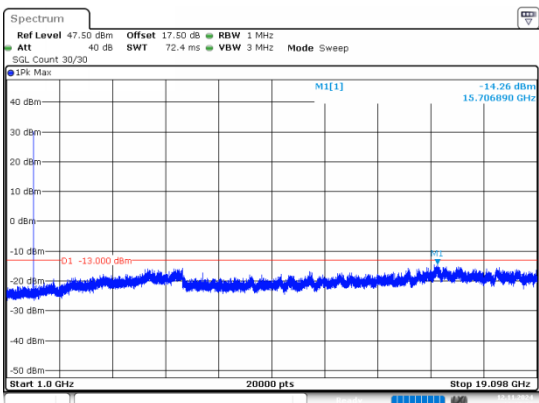
GSM_High

Below 1G



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Date: 12.NOV.2024 11:14:59

Above 1G



ProjectNo.:2402Y37628E-RF Tester:Karl Liang
Date: 12.NOV.2024 11:15:12