

Appendix A

Test Information:

Serial No.:	2NI3-2	Test Date:	2024/07/01~2024/07/08
Test Site:	RF	Test Mode:	Transmitting
Tester:	Karl Liang	Test Result:	Pass

Environmental Conditions:

Temperature: (℃):	26.8~28.7	Relative Humidity: (%)	52~69	ATM Pressure: (kPa)	100.1~100.6
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Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Micro-Coax	Coaxial Cable	UFB205A	323308-012	2024/01/02	2025/01/01
Eastsheep	Coaxial Attenuator	5W-N-JK-6G-10dB	F-08-EM502	2024/06/07	2025/06/06
Minl-Clruits	Coaxial Power Splitters & Combiner	ZFRSC-183-S+	SF448201614	2024/02/25	2025/02/24
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
R&S	Wideband Radio Communication Tester	CMW500	149216	2023/10/18	2024/10/17
All-sun	Clamp Meter	EM305A	8348897	2023/08/03	2024/08/02
R&S	Spectrum Analyzer	FSV40	101461	2023/11/27	2024/11/26

* 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
GSM_Middle_TN/VN	8.5	0.010	±2.5	Pass
GSM_Middle_T1/VN	11.4	0.014	±2.5	Pass
GSM_Middle_T2/VN	0.7	0.001	±2.5	Pass
GSM_Middle_T3/VN	1.6	0.002	±2.5	Pass
GSM_Middle_T4/VN	5.8	0.007	±2.5	Pass
GSM_Middle_T5/VN	2.1	0.002	±2.5	Pass
GSM_Middle_T6/VN	9.1	0.011	±2.5	Pass
GSM_Middle_T7/VN	-0.1	0.000	±2.5	Pass
GSM_Middle_T8/VN	6.4	0.008	±2.5	Pass
GSM_Middle_TN/VH	8.4	0.010	±2.5	Pass
GSM_Middle_TN/VL	9.3	0.011	±2.5	Pass

Note:
Frequency Error (ppm)=Frequency Error (MHz)/Test Channel(MHz)
TN: 20 ℃; T1: -30 ℃; T2: -20 ℃; T3: -10 ℃; T4: 0 ℃; T5: 10 ℃; T6: 30 ℃; T7: 40 ℃; T8: 50 ℃.
VN: Normal Voltage; VL: Low Voltage; VH: High Voltage.

FCC Part 24E

GSM 1900

Mode	Value (MHz)	Limit (MHz)	Result
GSM_Low_TN/VN	1850.081	1850	Pass
GSM_Low_T1/VN	1850.080	1850	Pass
GSM_Low_T2/VN	1850.078	1850	Pass
GSM_Low_T3/VN	1850.083	1850	Pass
GSM_Low_T4/VN	1850.080	1850	Pass
GSM_Low_T5/VN	1850.078	1850	Pass
GSM_Low_T6/VN	1850.082	1850	Pass
GSM_Low_T7/VN	1850.081	1850	Pass
GSM_Low_T8/VN	1850.081	1850	Pass
GSM_Low_TN/VH	1850.081	1850	Pass
GSM_Low_TN/VL	1850.079	1850	Pass
GSM_High_TN/VN	1909.925	1910	Pass
GSM_High_T1/VN	1909.925	1910	Pass
GSM_High_T2/VN	1909.921	1910	Pass
GSM_High_T3/VN	1909.923	1910	Pass
GSM_High_T4/VN	1909.924	1910	Pass
GSM_High_T5/VN	1909.923	1910	Pass
GSM_High_T6/VN	1909.923	1910	Pass
GSM_High_T7/VN	1909.923	1910	Pass
GSM_High_T8/VN	1909.927	1910	Pass
GSM_High_TN/VH	1909.927	1910	Pass
GSM_High_TN/VL	1909.924	1910	Pass

Note:

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

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

Occupied Bandwidth

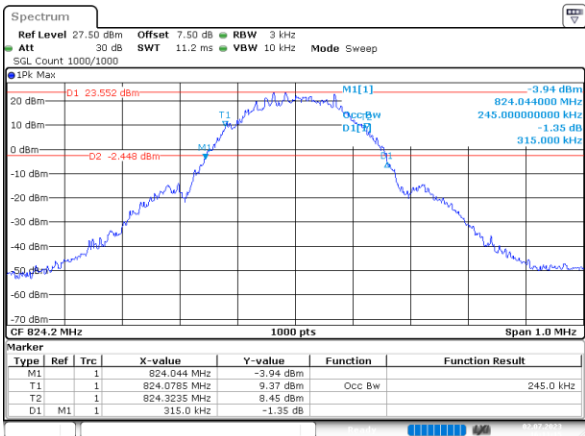
FCC Part 22H

GSM 850 , Normal

Mode	99% OBW (MHz)	EBW (MHz)
GSM_Low	0.245	0.315
GSM_Middle	0.244	0.315
GSM_High	0.242	0.313

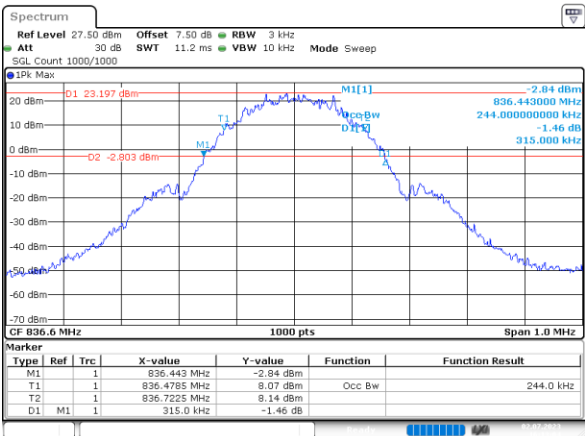
GSM 850 , Normal

GSM_Low 0.245MHz



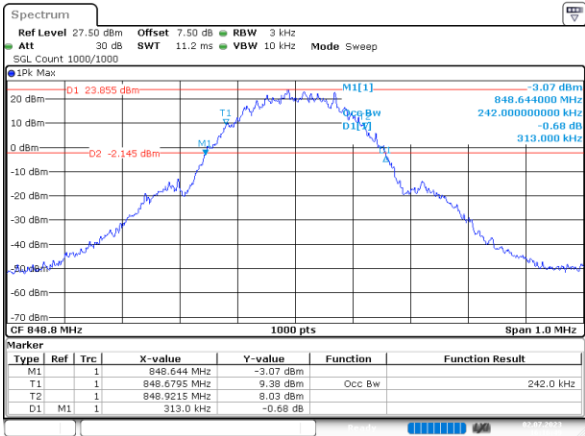
ProjectNo.:2402U82788E-RF Tester:Karl Liang
 Date: 2.JUL.2023 16:11:15

GSM_Middle 0.244MHz



ProjectNo.:2402U82788E-RF Tester:Karl Liang
 Date: 2.JUL.2023 16:13:04

GSM_High 0.242MHz



ProjectNo.:2402U82788E-RF Tester:Karl Liang
 Date: 2.JUL.2023 16:16:50

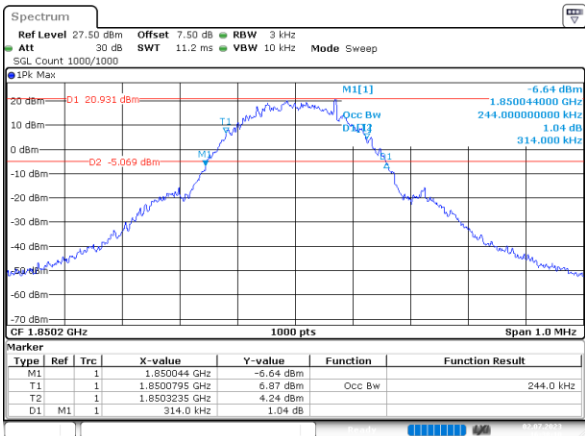
FCC Part 24E

GSM 1900 , Normal

Mode	99% OBW (MHz)	EBW (MHz)
GSM_Low	0.244	0.314
GSM_Middle	0.241	0.299
GSM_High	0.244	0.305

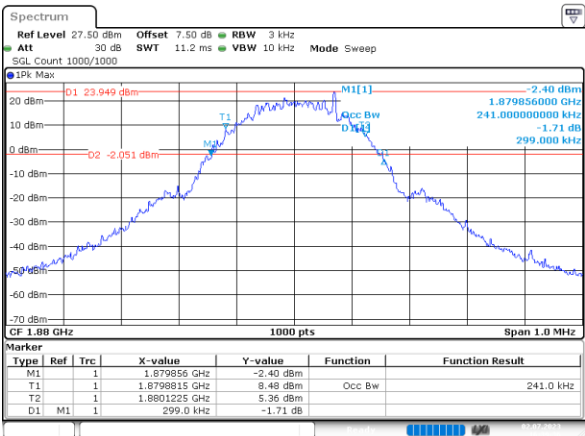
GSM 1900 , Normal

GSM_Low 0.244MHz



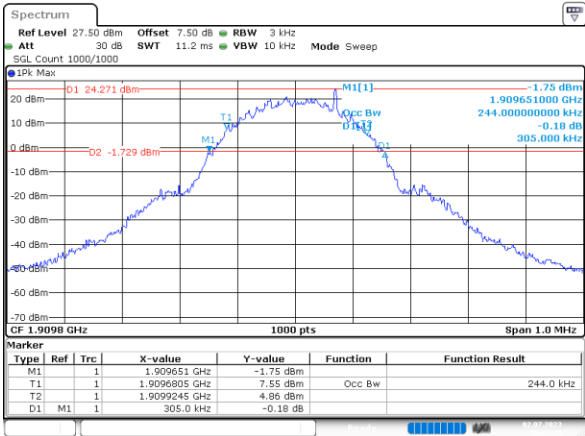
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GSM_Middle 0.241MHz



ProjectNo.:2402U82788E-RF Tester:Karl Liang
Date: 2.JUL.2023 16:39:36

GSM_High 0.244MHz



ProjectNo.:2402U82788E-RF Tester:Karl Liang
Date: 2.JUL.2023 16:41:32

RF Output Power

FCC Part 22H

GSM 850 , Normal

Mode	Conducted Power (dBm)	ERP (dBm)	Limit(dBm)	Result
GSM_Low	31.18	20.750	38.45	Pass
GSM_Middle	31.08	20.650	38.45	Pass
GSM_High	30.95	20.520	38.45	Pass
GPRS_Low_Solt1	31.15	20.720	38.45	Pass
GPRS_Low_Solt2	31.12	20.690	38.45	Pass
GPRS_Low_Solt3	29.94	19.510	38.45	Pass
GPRS_Low_Solt4	28.03	17.600	38.45	Pass
GPRS_Middle_Solt1	31.05	20.620	38.45	Pass
GPRS_Middle_Solt2	30.99	20.560	38.45	Pass
GPRS_Middle_Solt3	29.83	19.400	38.45	Pass
GPRS_Middle_Solt4	27.95	17.520	38.45	Pass
GPRS_High_Solt1	30.92	20.490	38.45	Pass
GPRS_High_Solt2	30.85	20.420	38.45	Pass
GPRS_High_Solt3	29.73	19.300	38.45	Pass
GPRS_High_Solt4	27.70	17.270	38.45	Pass

Note:

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

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

$1.Ant\ Gain = -8.28\text{dBi};$

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

FCC Part 24E

GSM 1900 , Normal

Mode	Conducted Power (dBm)	EIRP (dBm)	Limit(dBm)	Result
GSM_Low	29.93	27.430	33	Pass
GSM_Middle	30.11	27.610	33	Pass
GSM_High	30.16	27.660	33	Pass
GPRS_Low_Solt1	29.95	27.450	33	Pass
GPRS_Low_Solt2	27.78	25.280	33	Pass
GPRS_Low_Solt3	26.24	23.740	33	Pass
GPRS_Low_Solt4	24.04	21.540	33	Pass
GPRS_Middle_Solt1	30.13	27.630	33	Pass
GPRS_Middle_Solt2	28.02	25.520	33	Pass
GPRS_Middle_Solt3	26.49	23.990	33	Pass
GPRS_Middle_Solt4	24.38	21.880	33	Pass
GPRS_High_Solt1	30.19	27.690	33	Pass
GPRS_High_Solt2	28.18	25.680	33	Pass
GPRS_High_Solt3	26.67	24.170	33	Pass
GPRS_High_Solt4	24.50	22.000	33	Pass

Note:

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

1.Ant Gain = -2.3dBi;

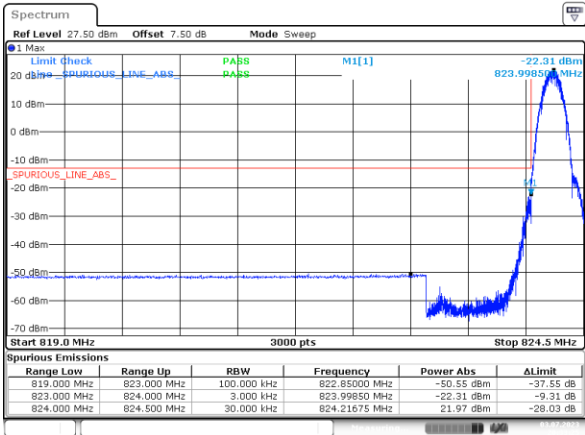
2.C_L = signal attenuation in the connecting cable between the transmitter and antenna in 0.2dB

Out of band emission,Band Edge

FCC Part 22H

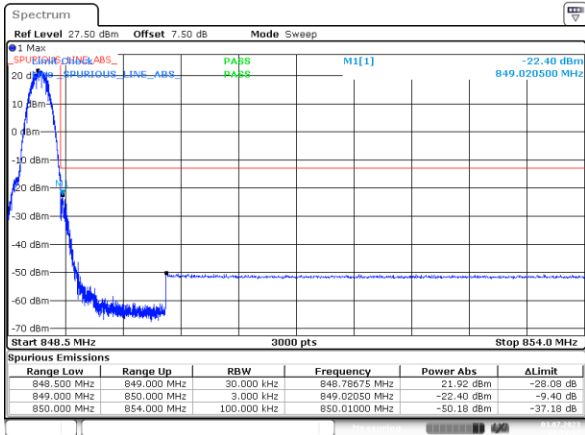
GSM 850 , Normal

GSM_Low



ProjectNo.:2402U82788E-RF Tester:Karl Liang
Date: 3.JUL.2023 20:33:25

GSM_High

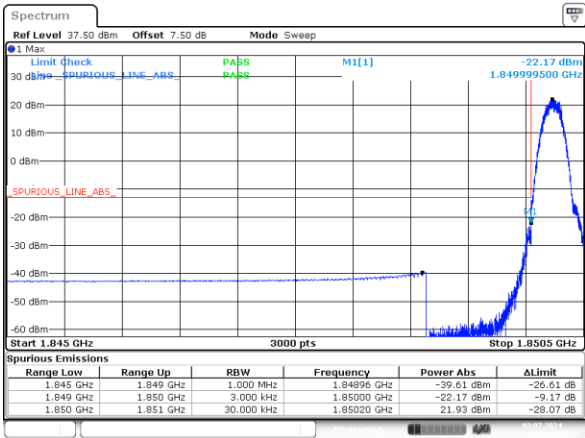


ProjectNo.:2402U82788E-RF Tester:Karl Liang
Date: 3.JUL.2023 20:11:18

FCC Part 24E

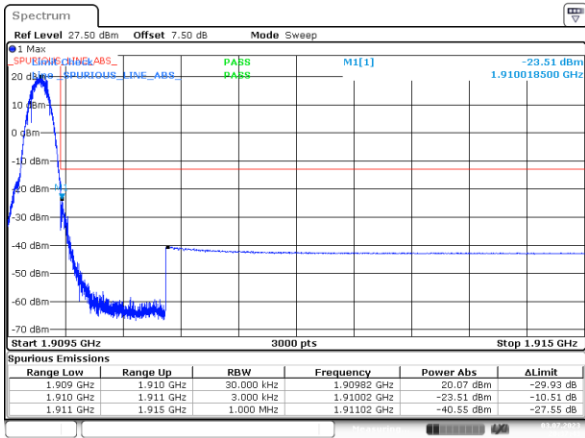
GSM 1900 , Normal

GSM_Low



ProjectNo.:2402U82788E-RF Tester:Karl Liang
Date: 3.JUL.2024 13:23:05

GSM_High



ProjectNo.:2402U82788E-RF Tester:Karl Liang
Date: 3.JUL.2023 20:37:42

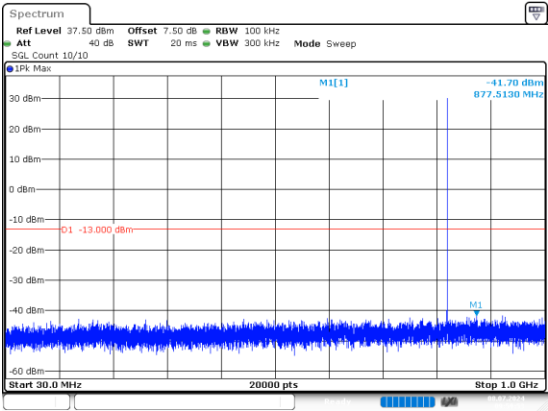
Spurious Emissions at Antenna Terminal

FCC Part 22H

GSM 850 , Normal

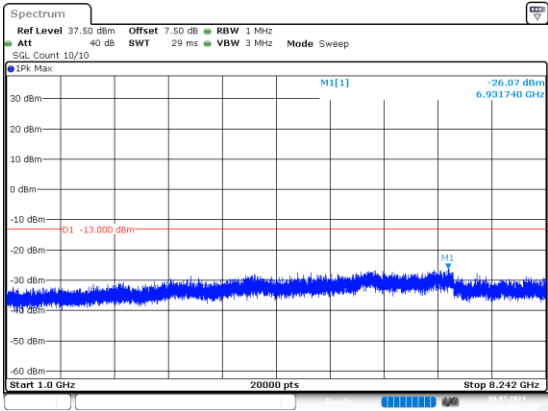
GSM_Low

Below 1G



ProjectNo.:2402U82788E-RF Tester:Karl Liang
Date: 8.JUL.2024 09:59:53

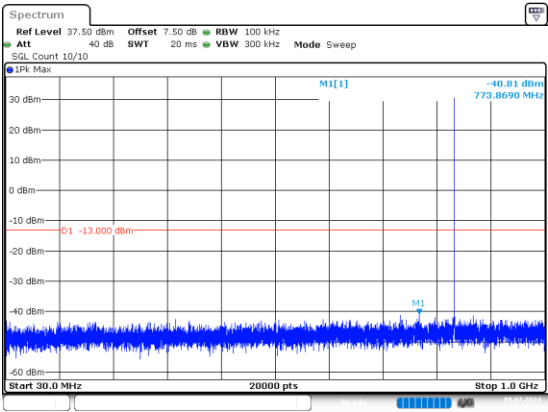
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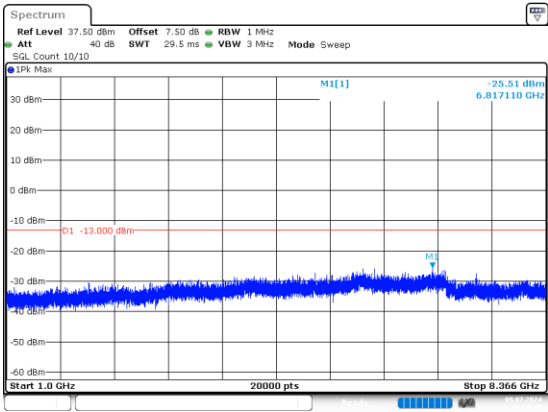
GSM_Middle

Below 1G



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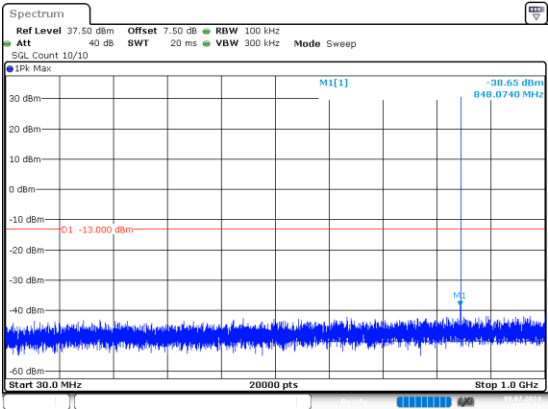
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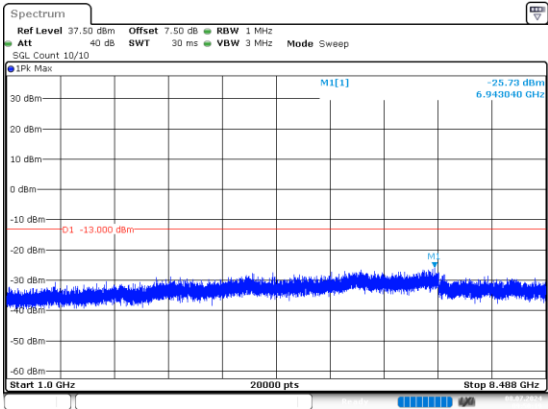
GSM_High

Below 1G



ProjectNo.:2402U82788E-RF Tester:Karl Liang
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Above 1G

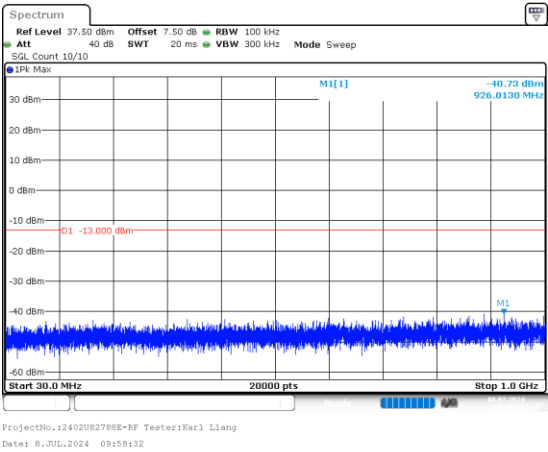


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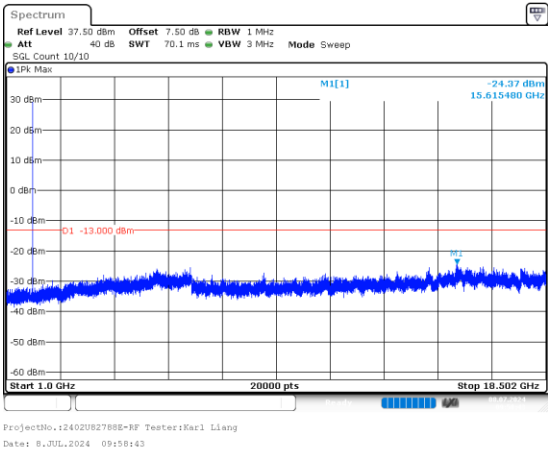
FCC Part 24E
GSM 1900 , Normal

GSM_Low

Below 1G

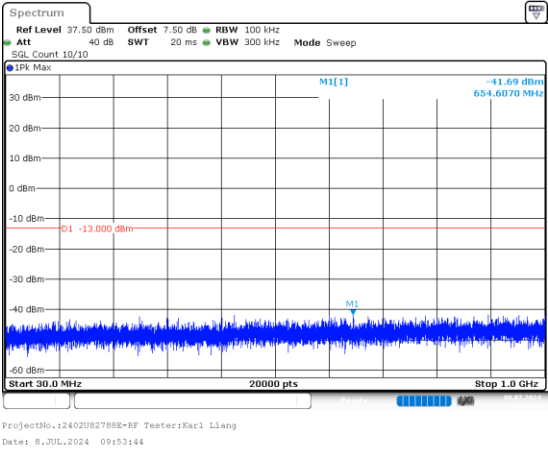


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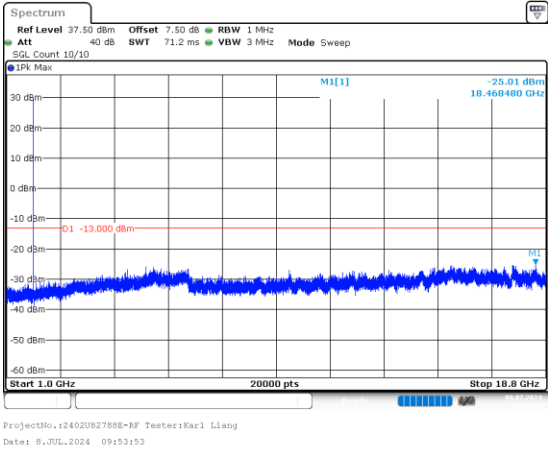


GSM_Middle

Below 1G

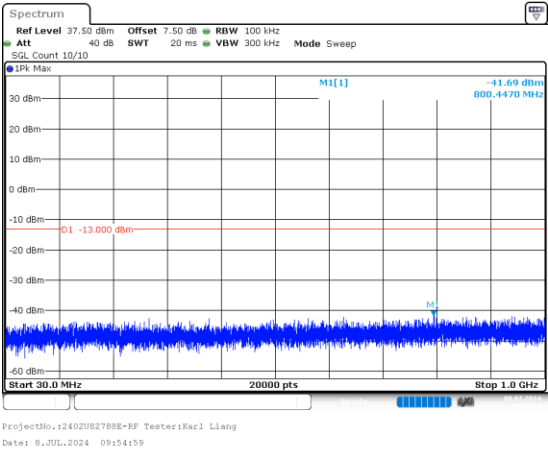


Above 1G



GSM_High

Below 1G



Above 1G

