ACCREDITED
TESTING LABORATORY
CERTIFICATE # 4821.01

BACL
Bay Area Compliance Labs Corp.

FCC PART 15.247
TEST REPORT

For

TECNO MOBILE LIMITED

FLAT 39 8/F BLOCK D WAH LOK INDUSTRIAL CENTRE 31-35 SHAN MEI STREET
FOTAN NT Hong Kong

FCC ID: 2ADYY-CG6J

Report Type:	**Product Type:**
Class II Permissive Change	Mobile Phone

Report Number:	SZ1210901-45710E-RF-00CA1
Report Date:	2021-09-13
Reviewed By:	Jacob Kong RF Engineer
Prepared By:	Bay Area Compliance Laboratories Corp. (Shenzhen) 5F(B-West) , 6F, 7F, the 3rd Phase of Wan Li Industrial Building D, Shihua Rd, FuTian Free Trade Zone, Shenzhen, China Tel: +86-755-33320018 Fax: +86-755-33320008 www.baclcorp.com.cn

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GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

Product	Mobile Phone
Tested Model	CG6j
Frequency Range	Bluetooth: 2402-2480MHz
Maximum conducted Peak output power	Bluetooth: 5.95dBm
Modulation Technique	Bluetooth: GFSK, π/4-DQPSK, 8DPSK
Antenna Specification*	1.2dBi(It is provided by the applicant)
Power Supply	Rehargeable Li-ion polymer battery DC3.85V-4900mAh
Date of Test	2021-09-07
Sample number	SZ1210901-45710E-RFA1-S1 (Assigned by BACL, Shenzhen)
Received date	2021-09-01
Sample/EUT Status	Good condition
Adapter information	Model: U180TSA Input: 100-240V, 50/60Hz, 0.6A Output: 5.0V-9.0V,2A,9.0V-12.0V,1.5A

Objective

This test report is in accordance with Part 2-Subpart J, Part 15-Subparts A and C of the Federal Communication Commissions rules.

The tests were performed in order to determine compliance with FCC Part 15, Subpart C, section 15.203, 15.205, 15.207, 15.209 and 15.247 rules.

This is a CIIPC application of the device; the differences between the original device and the current one are as follows:

(1) Changing the antenna of EUT

(2) Changing the Carmera of EUT

Based on above difference listed, it's will affect the test items of "Radiated Disturbance", those items will be performed ,the other test data and the EUT photos Please refer to the original report: JYTSZB-R12-2100025,which under the FCC ID: 2ADYY-CG6J,tested and granted by JianYan Testing Group Shenzhen Co.,Ltd. and issued date is 20 Jan., 2021.

Test Methodology

All measurements contained in this report were conducted with ANSI C63.10-2013, American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices.

All emissions measurement was performed at Bay Area Compliance Laboratories Corp. (Shenzhen). The radiated testing was performed at an antenna-to-EUT distance of 3 meters.
Each test item follows test standards and with no deviation.

Measurement Uncertainty

Parameter		Uncertainty
Occupied Channel Bandwidth		±5%
RF Output Power with Power meter		±0.73dB
RF conducted test with spectrum		±1.6dB
AC Power Lines Conducted Emissions		±1.95dB
Emissions, Radiated	Below 1GHz	±4.75dB
	Above 1GHz	±4.88dB
Temperature		±1℃
Humidity		±6%
Supply voltages		±0.4%

Note: The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor K with the 95% confidence interval.Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty.

Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (Shenzhen) to collect test data is located on the 5F(B-West) , 6F, 7F, the 3rd Phase of Wan Li Industrial Building D, Shihua Rd, FuTian Free Trade Zone, Shenzhen, China.

The test site has been approved by the FCC under the KDB 974614 D01 and is listed in the FCC Public Access Link (PAL) database, FCC Registration No.: 342867, the FCC Designation No.: CN1221.

The test site has been registered with ISED Canada under ISED Canada Registration Number 3062B.

SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
§15.247 (i), §1.1307 (b) (1)& §2.1093	RF Exposure	Compliant
§15.203	Antenna Requirement	Compliant
§15.207(a)	AC Line Conducted Emissions	Compliant*
§15.205, §15.209 & §15.247(d)	Radiated Emissions	Compliant
§15.247(a)(1)	20 dB Emission Bandwidth	Compliant*
§15.247(a)(1)	Channel Separation Test	Compliant*
§15.247(a)(1)(iii)	Time of Occupancy (Dwell Time)	Compliant*
§15.247(a)(1)(iii)	Quantity of hopping channel Test	Compliant*
§15.247(b)(1)	Peak Output Power Measurement	Compliant*
§15.247(d)	Band edges	Compliant*

Compliant*: Please refer to the original report: JYTSZB-R12-2100025, which under the FCC ID: 2ADYY-CG6J, tested and granted by JianYan Testing Group Shenzhen Co.,Ltd. and issued date is 20 Jan.2021.

TEST EQUIPMENT LIST

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Radiated Emission Test					
R&S	EMI Test Receiver	ESR3	102455	2021/07/06	2022/07/05
Sonoma instrument	Pre-amplifier	310 N	186238	2021/08/03	2022/08/02
Sunol Sciences	Broadband Antenna	JB1	A040904-2	2020/12/22	2023/12/21
Unknown	Cable	Chamber Cable 1	F-03-EM236	2021/08/03	2022/08/02
Unknown	Cable	Chamber Cable 4	EC-007	2021/08/03	2022/08/02
Rohde & Schwarz	Auto test software	EMC 32	V9.10.00	NCR	NCR
CHIGO	Temperature & Humidity Meter	HTC-1S	T-03-EM451	2021/04/07	2022/04/06
Rohde & Schwarz	Spectrum Analyzer	FSV40-N	102259	2021/07/06	2022/07/05
COM-POWER	Pre-amplifier	PA-122	181919	2020/11/29	2021/11/28
A.H.System	Pre-amplifier	PAM-1840VH	190	2021/08/03	2022/08/02
Sunol Sciences	Horn Antenna	3115	9107-3694	2021/01/15	2024/01/14
Insulted Wire Inc.	RF Cable	SPS-2503-3150	02222010	2020/11/29	2021/11/28
Unknown	RF Cable	W1101-EQ1 OUT	F-19-EM005	2020/11/29	2021/11/28
MICRO-TRONICS	Passband filter	HPM50111	F-19-EM006	2021/04/20	2022/04/20
Ducommun Technolagies	Horn antenna	ARH-4223-02	1007726-02 1304	2020/12/06	2023/12/05

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

FCC§15.247 (i), §1.1307 (b) (1) &§2.1093 – RF EXPOSURE

Applicable Standard

According to FCC §2.1093 and §1.1307(b) (1), systems operating under the provisions of this section shall be operated in a manner that ensure that the public is not exposed to radio frequency energy level in excess of the Commission's guideline.

According to KDB 447498 D01 General RF Exposure Guidance

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:
[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] · [√f(GHz)] ≤ 3.0 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR, where
1. f(GHz) is the RF channel transmit frequency in GHz.
2. Power and distance are rounded to the nearest mW and mm before calculation.
3. The result is rounded to one decimal place for comparison.
4. When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test Exclusion.

For worst case:

Frequency (MHz)	Maximum Tune-up power		Calculated Distance (mm)	Calculated Value	Threshold (1-g SAR)	SAR Test Exclusion
	(dBm)	(mW)				
2402-2480	6.0	3.98	5	1.3	3.0	**Yes**

Result: No Standalone SAR test is required

FCC §15.203 – ANTENNA REQUIREMENT

Applicable Standard

According to FCC § 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

Antenna Connector Construction

The EUT has one internal antenna arrangement, which was permanently attached and the antenna gain is 1.2dBi, fulfill the requirement of this section. Please refer to the EUT photos.

Result: Compliant.

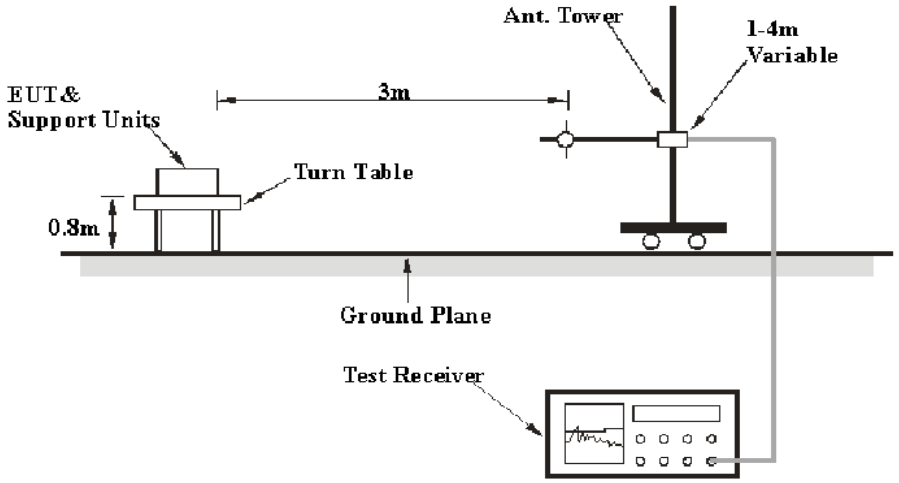
FCC §15.205, §15.209 & §15.247(d) – RADIATED EMISSIONS

Applicable Standard

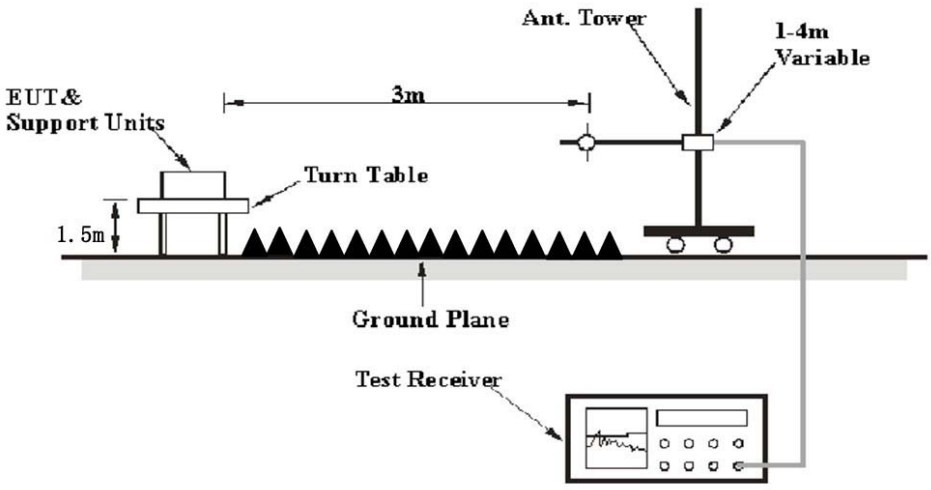
FCC §15.205; §15.209; §15.247(d)

EUT Setup

Below 1 GHz:



Above 1GHz:



The radiated emission tests were performed in the 3 meters, using the setup accordance with the ANSI C63.10-2013. The specification used was the FCC 15.209 and FCC 15.247 limits.

EMI Test Receiver & Spectrum Analyzer Setup

During the radiated emission test, the EMI test receiver & Spectrum Analyzer Setup were set with the following configurations:

Frequency Range	RBW	Video B/W	IF B/W	Measurement
30 MHz – 1000 MHz	100 kHz	300 kHz	120 kHz	QP
Above 1 GHz	1 MHz	3 MHz	/	PK
	1 MHz	10 Hz	/	Average

Test Procedure

Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all installation combinations.

All final data was recorded in Quasi-peak detection mode for frequency range of 30 MHz -1 GHz and peak and Average detection modes for frequencies above 1 GHz.

Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and Cable Loss, and subtracting the Amplifier Gain from the Meter Reading. The basic equation is as follows:

Corrected Amplitude = Meter Reading + Antenna Factor + Cable Loss - Amplifier Gain

The "**Margin**" column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of 7dB means the emission is 7dB below the limit. The equation for margin calculation is as follows:

Margin = Limit – Corrected Amplitude

Test Data

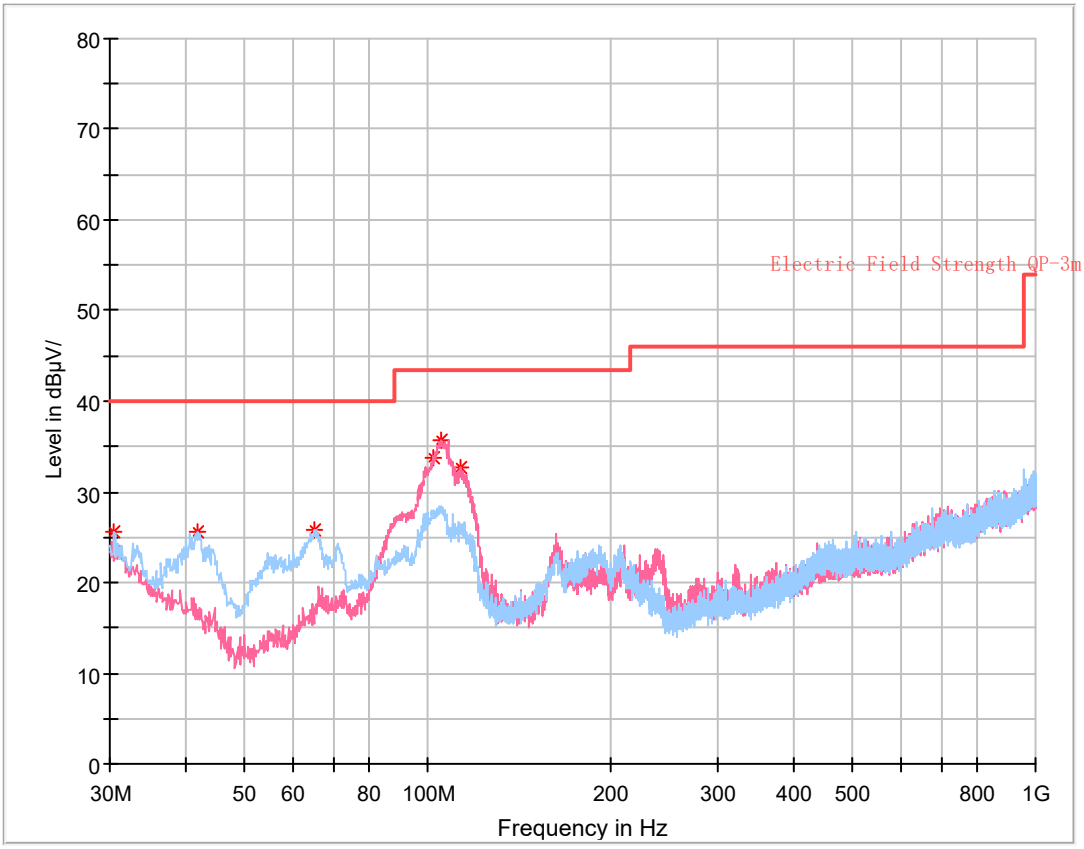
Environmental Conditions

Temperature:	26~27.2℃
Relative Humidity:	54~57 %
ATM Pressure:	101 kPa

The testing was performed by Cloud Qiu on 2021-09-07 for below 1GHz and Bruce Lin on 2021-09-07 for above 1GHz.

EUT operation mode: Transmitting

30 MHz~1 GHz: (*Bluetooth & Wi-Fi transmitting***)**



Critical_Freqs

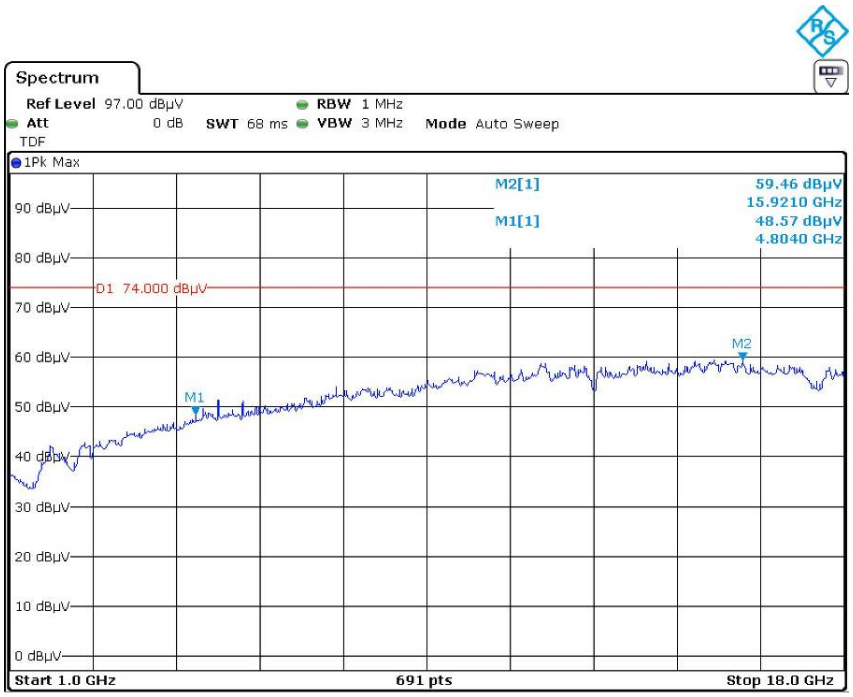
Frequency (MHz)	MaxPeak (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
30.485000	25.57	40.00	14.43	100.0	H	300.0	-3.9
41.882500	25.50	40.00	14.50	100.0	H	24.0	-11.7
64.920000	25.79	40.00	14.21	100.0	H	0.0	-16.3
102.265000	33.67	43.50	9.83	300.0	V	70.0	-13.1
105.538750	35.70	43.50	7.80	300.0	V	91.0	-12.3
113.541250	32.59	43.50	10.91	300.0	V	70.0	-10.9

1 GHz - 25 GHz: (*Scan with GFSK, π/4-DQPSK, 8DPSK mode, the worst case is 8DPSK Mode*)

Frequency (MHz)	Receiver		Turntable Degree	Rx Antenna		Corrected Factor (dB/m)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	PK/QP/Ave.		Height (m)	Polar (H/V)				
Low Channel (2402 MHz)									
2389.18	29.05	PK	9	2.0	H	31.87	60.92	74	13.08
2389.18	14.70	Ave.	9	2.0	H	31.87	46.57	54	7.43
2484.13	29.65	PK	204	1.6	H	32.13	61.78	74	12.22
2484.13	14.56	Ave.	204	1.6	H	32.13	46.69	54	7.31
4804.00	44.48	PK	299	1.6	H	6.28	50.76	74	23.24
4804.00	35.19	Ave.	299	1.6	H	6.28	41.47	54	12.53
Middle Channel (2441 MHz)									
4882.00	43.81	PK	288	1.6	H	6.76	50.57	74	23.43
4882.00	33.88	Ave.	288	1.6	H	6.76	40.64	54	13.36
High Channel (2480 MHz)									
2389.88	29.58	PK	335	1.4	H	31.87	61.45	74	12.55
2389.88	14.67	Ave.	335	1.4	H	31.87	46.54	54	7.46
2484.19	29.48	PK	74	1.4	H	32.13	61.61	74	12.39
2484.19	14.78	Ave.	74	1.4	H	32.13	46.91	54	7.09
4960.00	44.12	PK	71	1.0	H	6.80	50.92	74	23.08
4960.00	34.19	Ave.	71	1.0	H	6.80	40.99	54	13.01

Note:
Corrected Factor = Antenna factor (RX) + Cable Loss – Amplifier Factor
Corrected Amplitude = Corrected Factor + Reading
Margin = Limit - Corrected. Amplitude
The other spurious emission which is 20dB to the limit was not recorded.

Pre-scan with Low channel Peak
Horizontal



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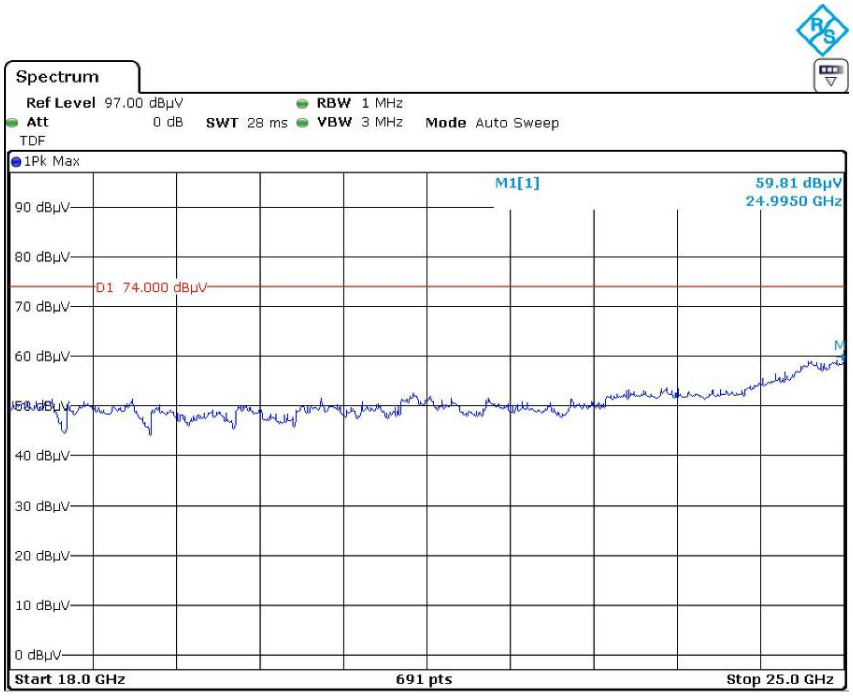

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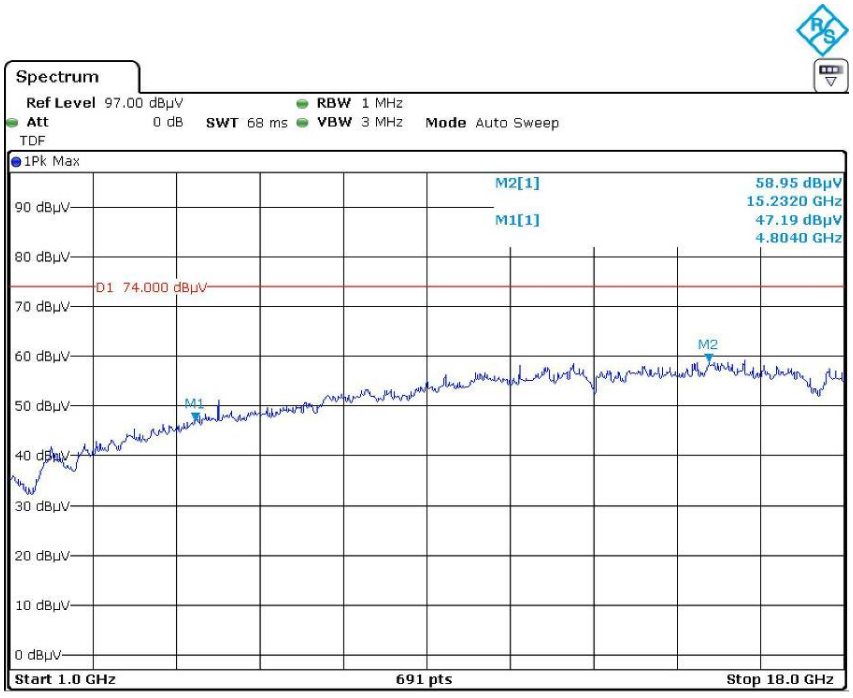
Vertical



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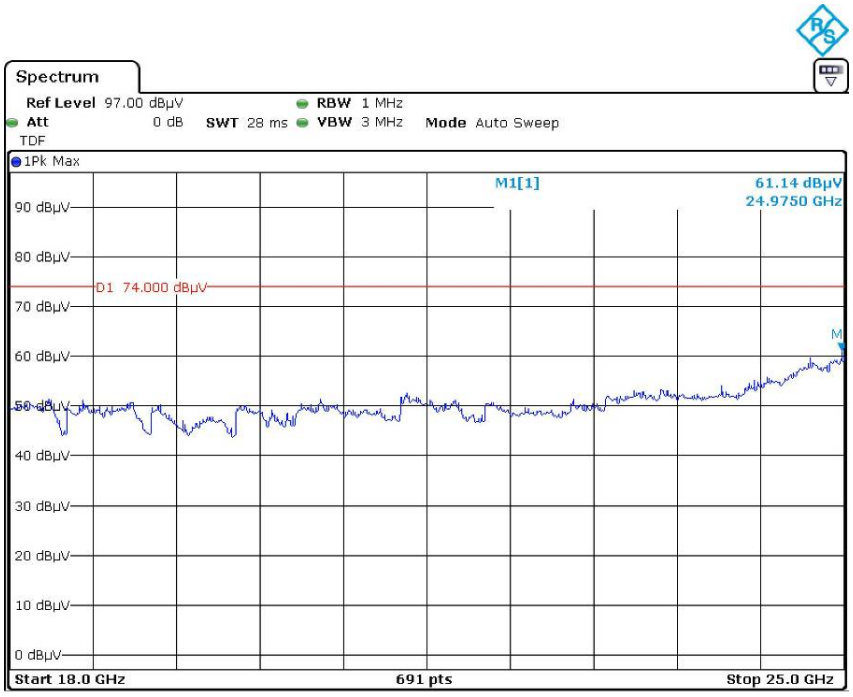

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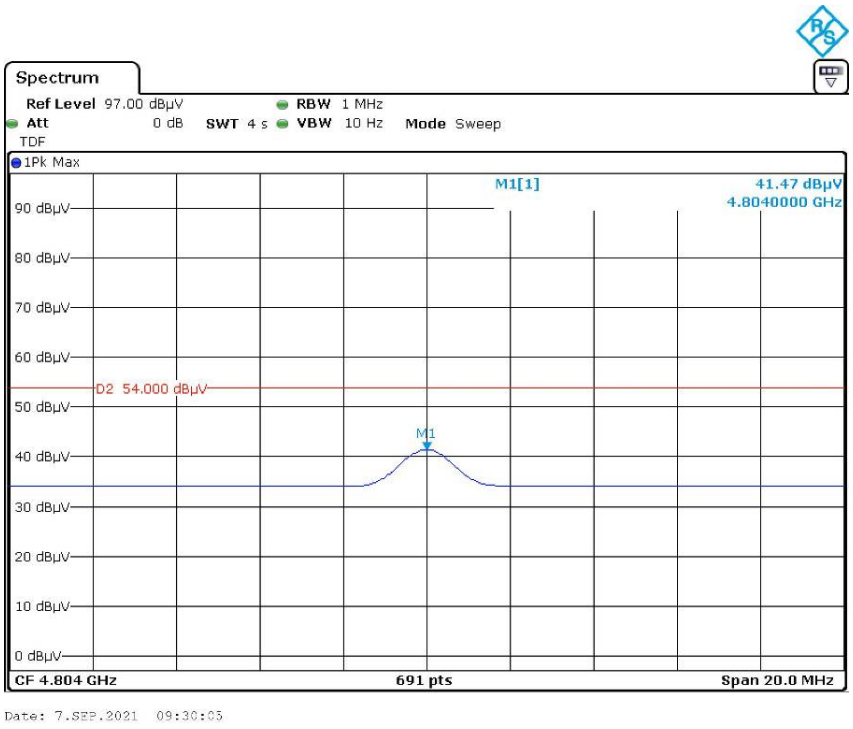
Average
Horizontal



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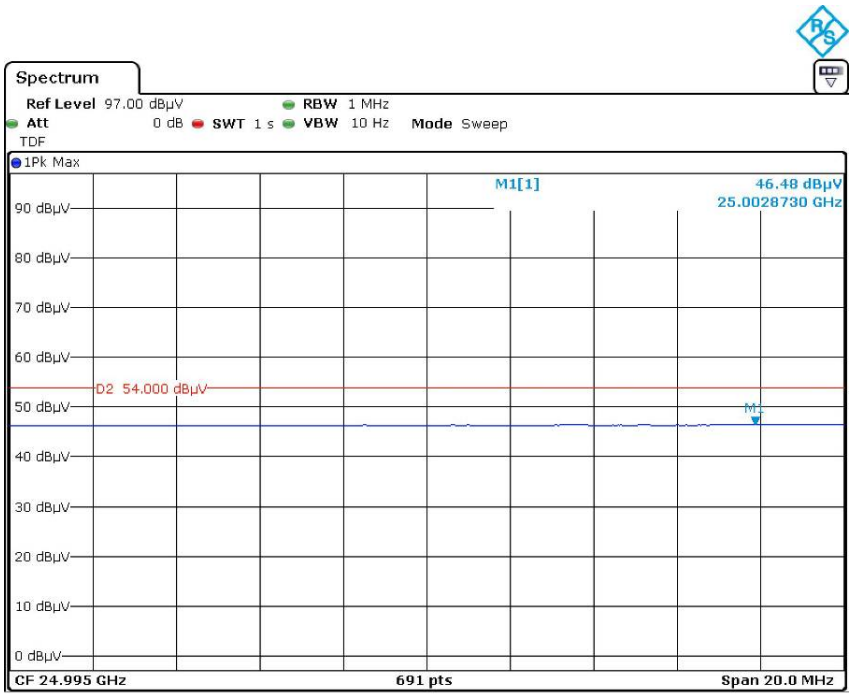

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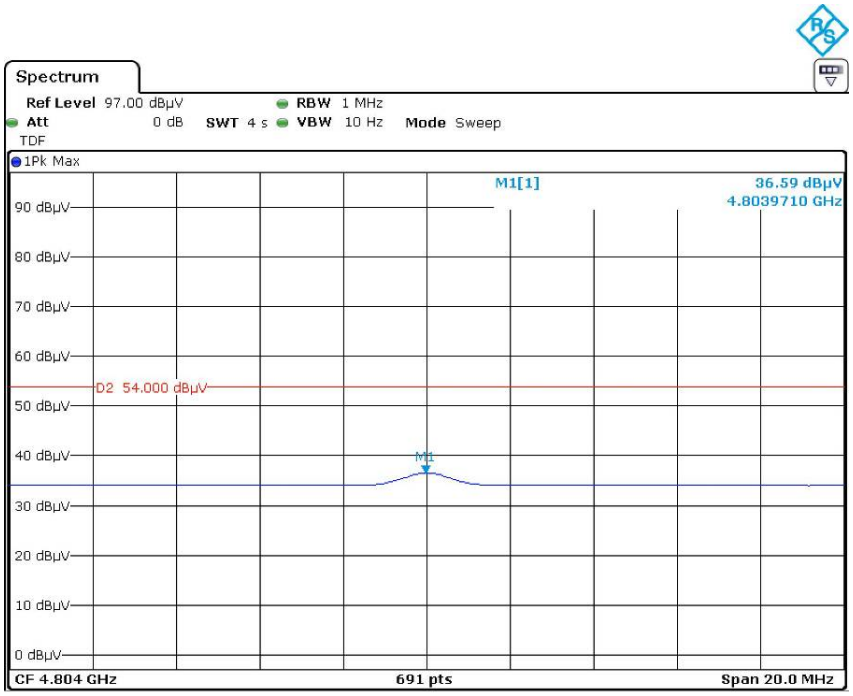

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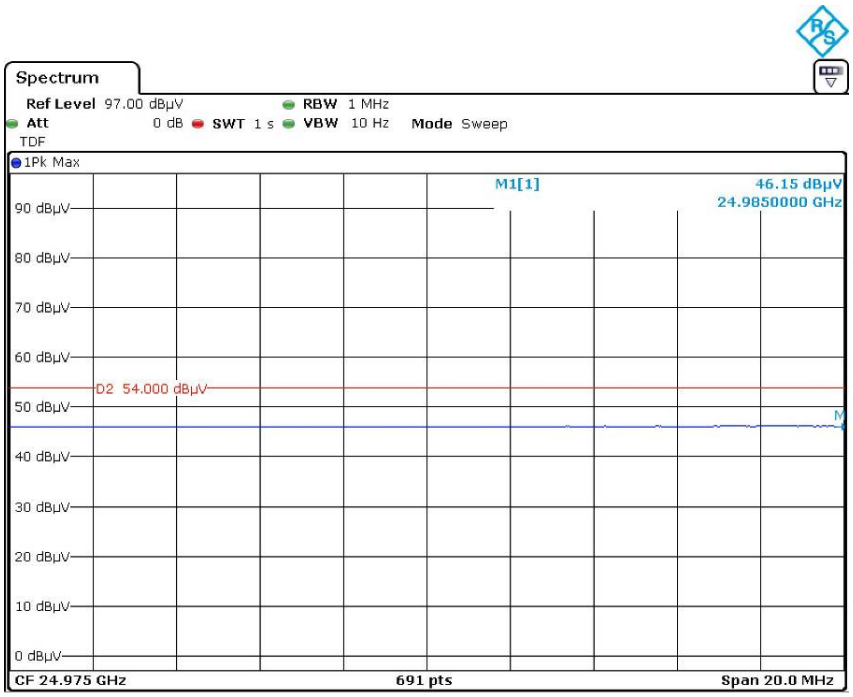

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