



FCC PART 22H, PART 24E MEASUREMENT AND TEST REPORT

For

SWAGTEK

10205 NW 19th Street STE101 Miami, Florida 33172 United States

FCC ID: O55242518

Report Type: Class II Permissive Change	Product Type: 2.4 inch 3G Flip Phone
Report Number: RSZ190611001-00CA1	
Report Date: 2019-07-31	
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GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

Product	2.4 inch 3G Flip Phone
Tested Model	F8G
Multiple Model [#]	FLIP G, U8G
Frequency Range	Cellular: 824.2-848.8 MHz(GSM/GPRS) 826.4-846.6 MHz(WCDMA/HSPA) PCS: 1850.2-1909.8 MHz(GSM/GPRS), 1852.4-1907.6 MHz(WCDMA/HSPA)
Transmit Power	Radiated power: Cellular: 28.93dBm(GSM/GPRS), 18.93 dBm (WCDMA/HSPA) PCS: 25.70 dBm (GSM/GPRS), 19.20 dBm (WCDMA/HSPA)
Modulation Technique	GSM/PCS: GMSK WCDMA: Uplink: BPSK; Downlink: QPSK/16QAM
Antenna Specification	1.42 dBi
Voltage Range	DC 3.7 V from battery or DC 5.0V from adapter
Date of Test	2019-07-25~2019-07-26
Sample serial number	190611001
Received date	2019-06-11
Sample/EUT Status	Good condition
Adapter information	Model: XCM04-X0505000YU Input: AC 100-240V, 50/60Hz, 0.15A Output: DC 5.0V, 500mA

Model	Trade Name
F8G	LOGIC
FLIP G	iSWAG
U8G	UNONU

Notes: This series products model: FLIP G, U8G and F8G are electrically identical, model F8G was selected for fully testing, the detailed information can be referred to the declaration letter.

Objective

This type approval report is prepared on behalf of SWAGTEK in accordance with Part 2, Part 22-Subpart H, Part 24-Subpart E of the Federal Communication Commission's rules.

The objective is to determine the compliance of EUT with FCC rules for output power, modulation characteristic, occupied bandwidth, and spurious emission at antenna terminal, spurious radiated emission, frequency stability, and band edge.

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

1. Updating the single card to double card.
2. Changing the 2G&3G antenna.
3. Changing the label on adapter but the circuit parameter didn't change.
4. Changing the model number from "LOGIC F8G, iSWAG FLIP G, UNONU U8G, UNONU F8G" to "F8G, FLIP G, U8G".

Based on above differences, it will affected partial test data, so the changed items were performed.

Related Submittal(s)/Grant(s)

FCC Part 15B JBP and Part 15.247 DSS submissions with FCC ID: O55242518.

Test Methodology

All tests and measurements indicated in this document were performed in accordance with the Code of Federal Regulations Title 47 Part 2, Sub-Part J as well as the following parts:

Part 22 Subpart H - Public Mobile Services
Part 24 Subpart E - Personal Communication Services

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.

Measurement Uncertainty

Parameter		Uncertainty
Occupied Channel Bandwidth		±5%
RF output power, conducted		±0.5dB
Unwanted Emission, conducted		±1.5dB
Radiated Emissions	Below 1GHz	±4.75dB
	Above 1GHz	±4.88dB
Temperature		±3°C
Supply voltages		±0.4%

Note: 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 6/F., West Wing, Third Phase of Wanli Industrial Building, Shihua Road, Futian Free Trade Zone, Shenzhen, Guangdong, 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.

SYSTEM TEST CONFIGURATION

Description of Test Configuration

The EUT was configured for testing according to TIA/EIA-603-D.

The final qualification test was performed with the EUT operating at normal mode.

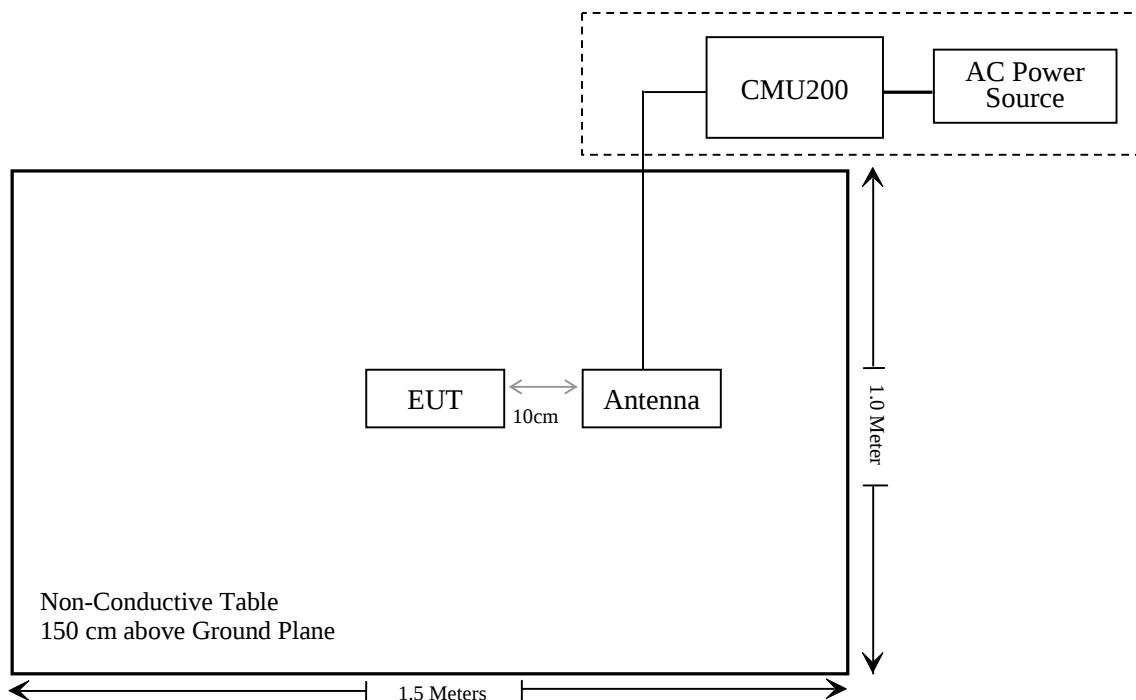
Equipment Modifications

No modification was made to the EUT.

Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
Rohde & Schwarz	Universal Radio Communication Tester	CMU200	106891

Block Diagram of Test Setup



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
§1.1307, §2.1093	RF Exposure (SAR)	Compliance**
§2.1046; § 22.913 (a); § 24.232 (c)	RF Output Power	Compliance---
§ 2.1047	Modulation Characteristics	Not Applicable
§ 2.1049; § 22.905; § 22.917; § 24.238	Occupied Bandwidth	Compliance*
§ 2.1051; § 22.917 (a); § 24.238 (a)	Spurious Emissions at Antenna Terminal	Compliance*
§ 2.1053; § 22.917 (a); § 24.238 (a)	Field Strength of Spurious Radiation	Compliance
§ 22.917 (a); § 24.238 (a)	Band Edge	Compliance*
§ 2.1055; § 22.355; § 24.235	Frequency stability	Compliance*

Compliance**: Please refer to SAR report released by BACL, report number: RSZ190611001-SAA1.

Compliance*: Please referred to FCC ID: O55242518 granted on 2018-10-11. Report No.: HUAK180803684E, which was tested by Shenzhen HUAK Testing Technology Co., Ltd.

Compliance---: Only test radiated power, conducted power please referred to FCC ID: O55242518 granted on 2018-10-11. Report No.: HUAK180803684E, which was tested by Shenzhen HUAK Testing Technology Co., Ltd.

TEST EQUIPMENT LIST

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Radiated Emission Test					
Sunol Sciences	Horn Antenna	DRH-118	A052604	2017-12-22	2020-12-21
Rohde & Schwarz	Signal Analyzer	FSEM	845987/005	2019-06-23	2020-06-23
Sunol Sciences	Broadband Antenna	JB1	A040904-1	2017-12-22	2020-12-21
COM-POWER	Pre-amplifier	PA-122	181919	2018-11-12	2019-11-12
Sonoma Instrument	Amplifier	310N	186238	2018-11-12	2019-11-12
Agilent	Signal Generator	N5183A	MY51040755	2018-12-03	2019-12-03
Rohde & Schwarz	EMI Test Receiver	ESR	1316.3003K03-101746-zn	2019-07-11	2020-07-11
COM-POWER	Dipole Antenna	AD-100	41000	NCR	NCR
A.H. System	Horn Antenna	SAS-200/571	135	2018-09-01	2021-08-31
UTiFLEX MICRO-COAX	RF Cable	UFA147A-2362-100100	MFR64639 231029-003	2018-11-12	2019-11-12
Ducommun Technologies	RF Cable	104PEA	218124002	2018-11-12	2019-11-12
Ducommun Technologies	RF Cable	RG-214	1	2019-05-21	2019-11-19
Ducommun Technologies	RF Cable	RG-214	2	2018-11-12	2019-11-12
Ducommun Technologies	Horn Antenna	ARH-4223-02	1007726-04	2017-12-29	2020-12-28
Ducommun Technologies	Horn Antenna	ARH-4223-02	1007726-03	2017-12-29	2020-12-28
Heatsink Required	Amplifier	QLW-18405536-J0	15964001002	2018-11-12	2019-11-12

* 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 §1.1307(b) & §2.1093 - RF EXPOSURE INFORMATION

Applicable Standard

FCC§1.1310 and §2.1093.

Test Result

Compliance, please refer to the SAR report: RSZ190611001-SAA1.

FCC § 2.1046, § 22.913 (a) & § 24.232 (c) - RF OUTPUT POWER**Applicable Standard**

According to FCC §2.1046 and §22.913 (a), the ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 watts.

According to FCC §2.1046 and §24.232 (C), mobile and portable stations are limited to 2 watts EIRP and the equipment must employ a means for limiting power to the minimum necessary for successful communications.

The peak-to-average power ratio (PAPR) of the transmitter output power must not exceed 13 dB.

Test Procedure

Conducted method:

The RF output of the transmitter was connected to the CMU200 through sufficient attenuation.



Radiated method:

TIA 603-D section 2.2.17

Test Data**Environmental Conditions**

Temperature:	25 °C
Relative Humidity:	52 %
ATM Pressure:	101.0 kPa

The testing was performed by Alan He on 2019-07-26.

Radiated Power**GSM Mode:**

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (m)	Polar (H/V)	Level (dBm)	Cable loss (dB)	Antenna Gain (dBi)			
ERP for Cellular Band (Part 22H), Middle Channel										
836.6	97.51	282	1	H	27.5	0.67	0	26.83	38.45	11.62
836.6	99.63	128	2.4	V	29.6	0.67	0	28.93	38.45	9.52
EIRP for PCS Band (Part 24E), Middle Channel										
1880	87.32	194	1.3	H	17.6	1.30	9.40	25.70	33	7.3
1880	83.6	17	2.2	V	13.7	1.30	9.40	21.80	33	11.2

WCDMA Mode:

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (m)	Polar (H/V)	Level (dBm)	Cable loss (dB)	Antenna Gain (dBi)			
ERP for WCDMA Band V (Part 22H), Middle Channel										
836.6	87.49	282	1	H	17.5	0.67	0	16.83	38.45	21.62
836.6	89.57	128	2.4	V	19.6	0.67	0	18.93	38.45	19.52
EIRP for WCDMA Band II (Part 24E), Middle Channel										
1880.00	80.80	332	1.2	H	11.1	1.30	9.40	19.20	33.00	13.80
1880.00	73.58	266	1.7	V	3.7	1.30	9.40	11.80	33.00	21.20

Note:

All above data were tested with no amplifier.

Absolute Level = Substituted Level - Cable loss + Antenna Gain

Margin = Limit- Absolute Level

FCC § 2.1053; § 22.917 (a);§ 24.238 (a) -SPURIOUS RADIATED EMISSIONS**Applicable Standard**

FCC § 2.1053, §22.917(a) and § 24.238(a).

Test Procedure

The transmitter was placed on a wooden turntable, and it was transmitting into a non-radiating load which was also placed on the turntable.

The measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the receiving antenna height and polarization as well as EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. The test was performed by placing the EUT on 3-orthogonal axis.

The frequency range up to tenth harmonic of the fundamental frequency was investigated.

Remove the EUT and replace it with substitution antenna. A signal generator was connected to the substitution antenna by a non-radiating cable. The absolute levels of the spurious emissions were measured by the substitution.

Spurious emissions in dB = 10 lg (TX pwr in Watts/0.001) – the absolute level

Spurious attenuation limit in dB = 43 + 10 Log₁₀ (power out in Watts)

Test Data**Environmental Conditions**

Temperature:	25 °C
Relative Humidity:	52 %
ATM Pressure:	101.0 kPa

The testing was performed by Alan He on 2019-07-25.

EUT operation mode: Transmitting

Pre-scan with Low, Middle and High channel, the worst case as below:

30 MHz ~ 10 GHz:

Cellular Band (Part 22H)

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (m)	Polar (H/V)	Level (dBm)	Cable Loss (dB)	Antenna Gain (dBi)			
GSM Mode, Middle channel										
512.6	33.12	344	1.3	H	-63.9	0.51	0	-64.41	-13	51.41
512.6	33.45	276	2.2	V	-63.5	0.51	0	-64.01	-13	51.01
1673.20	83.62	251	2.4	H	-22.7	1.30	8.90	-15.10	-13	2.10
1673.20	80.42	334	1.1	V	-25.3	1.30	8.90	-17.70	-13	4.70
2509.80	81.63	112	1.2	H	-21.7	2.60	10.20	-14.10	-13	1.10
2509.80	79.33	31	1.8	V	-23.4	2.60	10.20	-15.80	-13	2.80
3346.40	57.81	72	1.2	H	-43.1	1.50	11.70	-32.90	-13	19.90
3346.40	54.69	51	2.4	V	-46.2	1.50	11.70	-36.00	-13	23.00
4183.00	67.40	112	1.2	H	-34.5	1.50	11.80	-24.20	-13	11.20
4183.00	65.24	173	1.2	V	-35.9	1.50	11.80	-25.60	-13	12.60
5019.60	68.08	26	2.0	H	-30.7	1.70	12.00	-20.40	-13	7.40
5019.60	66.32	237	1.8	V	-31.9	1.70	12.00	-21.60	-13	8.60
5856.20	51.45	161	1.5	H	-44.3	1.70	12.20	-33.80	-13	20.80
5856.20	48.67	155	1.4	V	-46.5	1.70	12.20	-36.00	-13	23.00
WCDMA Mode, Middle channel										
1673.20	45.57	50	1.6	H	-60.8	1.30	8.90	-53.20	-13	40.20
1673.20	46.97	288	1.6	V	-58.8	1.30	8.90	-51.20	-13	38.20
2509.80	52.10	242	1.9	H	-51.3	2.60	10.20	-43.70	-13	30.70
2509.80	48.95	80	1.9	V	-53.8	2.60	10.20	-46.20	-13	33.20
4183.00	45.67	187	1.1	H	-56.3	1.50	11.80	-46.00	-13	33.00
4183.00	43.67	118	1.3	V	-57.5	1.50	11.80	-47.20	-13	34.20

30 MHz ~ 20 GHz:**PCS Band (Part 24E)**

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (m)	Polar (H/V)	Level (dBm)	Cable Loss (dB)	Antenna Gain (dBi)			
GSM Mode, Middle channel										
512.6	33.79	298	1.7	H	-63.2	0.51	0	-63.71	-13	50.71
512.6	33.27	305	1.0	V	-63.7	0.51	0	-64.21	-13	51.21
3760.00	52.14	3	2.4	H	-49.9	1.50	11.80	-39.60	-13	26.60
3760.00	49.41	90	2.2	V	-52.2	1.50	11.80	-41.90	-13	28.90
5640.00	70.98	139	2.3	H	-28.7	1.70	12.40	-18.00	-13	5.00
5640.00	66.99	66	1.1	V	-32.4	1.70	12.40	-21.70	-13	8.70
9400.00	51.46	162	2.1	H	-45.4	2.20	11.50	-36.10	-13	23.10
9400.00	49.71	22	2.1	V	-47.4	2.20	11.50	-38.10	-13	25.10
WCDMA Mode, Middle channel										
3760.00	47.32	152	1.2	H	-54.7	1.50	11.80	-44.40	-13	31.40
3760.00	45.27	242	2.2	V	-56.3	1.50	11.80	-46.00	-13	33.00
5640.00	45.91	63	2.0	H	-53.8	1.70	12.40	-43.10	-13	30.10
5640.00	44.63	15	1.7	V	-54.7	1.70	12.40	-44.00	-13	31.00
9400.00	45.77	73	1.8	H	-51.1	2.20	11.50	-41.80	-13	28.80
9400.00	44.85	61	1.6	V	-52.2	2.20	11.50	-42.90	-13	29.90

Note:

- 1) Absolute Level = Substituted Level - Cable loss + Antenna Gain
- 2) Margin = Limit- Absolute Level

******* END OF REPORT *******