# RF EXPOSURE REPORT



Report No.: 17070925-FCC-H2 Supersede Report No.: N/A

Applicant	SMT TELE	COMM HK LIMITED		
Product Name	Mobile Pho	ne		
Model No.	X422A			
Serial No.	N/A			
Test Standard	FCC 2.109	3:2016		
Test Date	September	20 to October 09, 2017		
Issue Date	October 10	, 2017		
Test Result	Pass	Fail		
Equipment compl	ied with the	specification		
Equipment did not comply with the specification				
Loven	Luo	David Huang		
Loren Lu Test Engir		David Huang Checked By		

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Test result presented in this test report is applicable to the tested sample only

#### Issued by:

#### SIEMIC (SHENZHEN-CHINA) LABORATORIES

Zone A, Floor 1, Building 2 Wan Ye Long Technology Park
South Side of Zhoushi Road, Bao' an District, Shenzhen, Guangdong China 518108
Phone: +86 0755 2601 4629801 Email: China@siemic.com.cn



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### **Laboratories Introduction**

SIEMIC, headquartered in the heart of Silicon Valley, with superior facilities in US and Asia, is one of the leading independent testing and certification facilities providing customers with one-stop shop services for Compliance Testing and Global Certifications.



In addition to testing and certification, SIEMIC provides initial design reviews and compliance management throughout a project. Our extensive experience with China, Asia Pacific, North America, European, and International compliance requirements, assures the fastest, most cost effective way to attain regulatory compliance for the global markets.

#### **Accreditations for Conformity Assessment**

Country/Region	Scope
USA	EMC, RF/Wireless, SAR, Telecom
Canada	EMC, RF/Wireless, SAR, Telecom
Taiwan	EMC, RF, Telecom, SAR, Safety
Hong Kong	RF/Wireless, SAR, Telecom
Australia	EMC, RF, Telecom, SAR, Safety
Korea	EMI, EMS, RF, SAR, Telecom, Safety
Japan	EMI, RF/Wireless, SAR, Telecom
Singapore	EMC, RF, SAR, Telecom
Europe	EMC, RF, SAR, Telecom, Safety



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## 1. Report Revision History

Report No.	Report Version	Description	Issue Date
17070925-FCC-H2	NONE	Original	October 10, 2017

## 2. Customer information

Applicant Name	SMT TELECOMM HK LIMITED
Applicant Add	Unit C 8/F, CHARMHILL CTR 50 HILLWOOD RD TST KL
Manufacturer	SMT TELECOMM HK LIMITED
Manufacturer Add	Unit C 8/F, CHARMHILL CTR 50 HILLWOOD RD TST KL

## 3. Test site information

Lab performing tests	SIEMIC (Shenzhen-China) LABORATORIES
	Zone A, Floor 1, Building 2 Wan Ye Long Technology Park
Lab Address	South Side of Zhoushi Road, Bao' an District, Shenzhen, Guangdong China
	518108
FCC Test Site No.	535293
IC Test Site No.	4842E-1
Test Software	Radiated Emission Program-To Shenzhen v2.0



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## 4. Equipment under Test (EUT) Information

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Main Model: X422A

Serial Model: N/A

Date EUT received: September 20, 2017

Test Date(s): September 20 to October 09, 2017

GSM850: -1.86dBi

PCS1900: -0.09dBi

UMTS-FDD Band V: -1.86dBi

Antenna Gain: UMTS-FDD Band IV: -0.16dBi

UMTS-FDD Band II: -0.09dBi

WIFI: 0.37dBi

Bluetooth/BLE: 0.37dBi

Antenna Type: PIFA Antenna

GSM / GPRS: GMSK

EGPRS: GMSK,8PSK

UMTS-FDD: QPSK

Type of Modulation: 802.11b/g/n: DSSS, OFDM

Bluetooth: GFSK, π /4DQPSK, 8DPSK

BLE: GFSK



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GSM850 TX: 824.2 ~ 848.8 MHz; RX: 869.2 ~ 893.8 MHz

PCS1900 TX: 1850.2 ~ 1909.8 MHz; RX: 1930.2 ~ 1989.8 MHz

UMTS-FDD Band V TX: 826.4 ~ 846.6 MHz; RX: 871.4 ~ 891.6 MHz

UMTS-FDD Band IV TX:1712.4 ~ 1752.6 MHz;

RX: 2112.4 ~ 2152.6 MHz

RF Operating Frequency (ies):

UMTS-FDD Band II TX:1852.4 ~ 1907.6 MHz;

RX: 1932.4 ~ 1987.6 MHz

WIFI: 802.11b/g/n(20M): 2412-2462 MHz WIFI: 802.11n(40M): 2422-2452 MHz Bluetooth& BLE: 2402-2480 MHz

GSM 850: 124CH PCS1900: 299CH

UMTS-FDD Band V: 102CH UMTS-FDD Band IV: 202CH

Number of Channels: UMTS-FDD Band II: 277CH

WIFI:802.11b/g/n(20M): 11CH

WIFI:802.11n(40M):7CH

Bluetooth: 79CH

BLE: 40CH

Port: USB Port, Earphone Port

Adapter:

Model: PCX422

Input: AC100-240V~50/60Hz,0.15A

Output: DC 5.0V~500mA

Input Power:

Battery:

Model: BPX422

Battery Capacity: 3.7V, 1300mAh

Battery Voltage Limit: 4.2V

Trade Name : N/A

GPRS/EGPRS Multi-slot class 8/10/11/12

FCC ID: 2AIMEX422A



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## 5. FCC §2.1093 - Radiofrequency radiation exposure evaluation: portable devices.

#### 5.1 RF Exposure

#### Standard Requirement:

According to §15.247 (i) and §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

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)]  $\cdot [\sqrt{f_{(GHz)}}] \le 3.0$  for 1-g SAR and  $\le 7.5$  for 10-g extremity SAR,  $^{16}$  where

- f<sub>(GHz)</sub> is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation<sup>17</sup>
- The result is rounded to one decimal place for comparison

The test exclusions are applicable only when the minimum test separation distance is  $\leq 50$  mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is  $\leq 5$  mm, a distance of 5 mm is applied to determine SAR test exclusion.

Routine SAR evaluation refers to that specifically required by § 2.1093, using measurements or computer simulation. When routine SAR evaluation is not required, portable transmitters with output power greater than the applicable low threshold require SAR evaluation to qualify for TCB approval.

result =  $P\sqrt{F}/D$ 

P= Maximum turn-up power in mW

F= Channel frequency in GHz

D= Minimum test separation distance in mm



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### 5.2 Test Result

#### Bluetooth Mode:

Mandadatian	011	Freque	Conducted	Tune Up	Max Tune	Max Tune	D 14	1 !!4
Modulation	СН	ncy	Power	Power	Up Power	Up Power	Result	Limit
		(MHz)	(dBm)	(dBm)	(dBm)	(mW)		
GFSK	Low	2402	3.090	2.5±1	3.5	2.239	0.69	3
	Mid	2441	2.398	2.5±1	3.5	2.239	0.70	3
	High	2480	1.900	2.5±1	3.5	2.239	0.71	3
π /4 DQPSK	Low	2402	2.952	2.5±1	3.5	2.239	0.69	3
	Mid	2441	2.124	2.5±1	3.5	2.239	0.70	3
	High	2480	1.669	2.5±1	3.5	2.239	0.71	3
8-DPSK	Low	2402	3.292	2.5±1	3.5	2.239	0.69	3
	Mid	2441	2.392	2.5±1	3.5	2.239	0.70	3
	High	2480	1.600	2.5±1	3.5	2.239	0.71	3

#### BLE Mode:

Modulation	СН	Freq (MHz)	Conducted Power (dBm)	Tune Up Power (dBm)	Max Tune Up Power (dBm)	Max Tune Up Power (mW)	Result	Limit
GFSK	Low	2402	-3.884	-4±1	-3	0.501	0.16	3
	Mid	2440	-4.414	-4±1	-3	0.501	0.16	3
	High	2480	-4.524	-4±1	-3	0.501	0.16	3

Result: Compliance

No SAR measurement is required.