

FCC ID: APYHRO00268 Report No.: MH/2018/A0204

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# **FCC CERTIFICATION REPORT**

Test Report No. : MH/2018/A0204

**Applicant** : Sharp Corporation, Mobile Communication B.U.

**Address** : 2-13-1, Hachihonmatsu-lida, Higashi-hiroshima-shi, Hiroshima

739-0192, Japan

Manufacturer : Sharp Corporation

**Address** : 1 Takumi-cho, Sakai-ku, Sakai-Shi, Osaka 590-8522, Japan

**Equipment Under Test (EUT):** 

**Product Name** : Cellular Phone

**Standards** : FCC Part 15, Subpart B, Class B

FCC Designation Numbers: 916890 / TW1087

Date of Receipt: Oct. 26, 2018

Date of Test : Oct. 26 ~ Nov. 16, 2018

: Nov. 29, 2018 Date of Issue

Test Result: **PASS** 

In the configuration tested, the EUT complied with the standards specified above.

#### Remarks:

This report details the results of the testing carried out on one sample, the results contained in this test report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

The conformity assessment statement in this report is based solely on the test results, measurement uncertainty is excluded.

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Lowka Chen
Lowka Chen (Engineer) Date Nov. 29, 2018 Tested By:

Date Approved By Nov. 29, 2018

Eddy Cheng (Asst. Supervisor)





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# **Revision History**

Report Number	Revision	Description	Issue Date
MH/2018/A0204	Rev.00	Initial creation of document	Nov. 29, 2018

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# 1. General Information

## 1.1 Applicant & Manufacturer Information

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shi, Hiroshima 739-0192, Japan

Manufacturer : Sharp Corporation

Address of Manufacturer: 1 Takumi-cho, Sakai-ku, Sakai-Shi, Osaka 590-

8522, Japan

## 1.2 General Description of EUT

**Product Name** : Cellular Phone

#### 1.3 Details of EUT

: AC 100~240V, 50/60Hz Power Supply

Highest operate description : 2480 MHz

Battery : 3.8V, 1680mAh, 6.38Wh

Cradle : Model No.: A

Supplier: A

Worst case : CE worst case : Config 4

> Below RE worst case: Config 2 Above RE worst case: Config 3

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Type~A	Main Source	Main Source	V
Type~B	2 <sup>nd</sup> source-1	Main Source	Worst case
Type~C	2 <sup>nd</sup> source-2	2 <sup>nd</sup> source	V

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Accessories List: AC Charger : Salom/XN-2QC25 Data Cable : L6KU2001-CS-H PHF : Sony / MDR-EX15AP Conversion plug : n/a / SHX11QVA Cradle (In-box) : A	Config 1	Config 2	Config 3	Config 4
Applicable standard		FC	C 15B	
Accessories	EUT + AC Adaptor +USB Cable	HUSB Cable	EUT + Conversion plug +PHF	EUT +USB Cable +Cradle +Adapter
Main function	Speech	Data Link	Camera	Charging
Additional function		BT+WiFI	+GPS+NFC	
Description				
radiated emission	GSM 850/1900 WCDMA BV	Data R/W	MP4/ ;REC mode ;play REC	Charging
conducted emission (DC Power)	NA	NA	NA	NA
conducted emission (AC Power)	GSM 850/1900 WCDMA BV	Data R/W	NA	Charging

## 1.4 Operation Procedure

## Config 1

- 1. Let EUT plug in SD Card & SIM Card, connect to Adapter with USB cable and turn it on.
- 2. Turn on BT function and connect to the Bluetooth speaker.
- 3. Turn on WiFi function and connect with NB\_2 WiFi-AP, ping EUT IP Address.
- 4. Set up GPS simulator and turn on GPS test app.
- 5. Turn on the NFC function and confirm that the NFC function is normal.
- 6. Set up base station, set channel GSM/WCDMA/LTE Link or Idle.
- 7. Start the test.

#### Config 2

- 1. Let EUT plug in SD Card & SIM Card, connect to NB with USB cable.
- 2. Turn on BT function and connect to the Bluetooth speaker.
- 3. Turn on WiFi function and connect with NB 2 WiFi-AP, ping EUT IP Address.
- 4. Set up GPS simulator and turn on GPS test app.
- 5. Turn on the NFC function and confirm that the NFC function is normal.
- 6. Execute Data Read/Write in NB with EUT.
- 7. Start the test.

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#### Confia 3

- 1. Let EUT plug in SD Card & SIM Card, connect to USB to Audio Cable to Earphone.
- 2. Turn on BT function and connect to the Bluetooth speaker.
- 3. Turn on WiFi function and connect with NB\_2 WiFi-AP, ping EUT IP Address.
- 4. Set up GPS simulator and turn on GPS test app.
- 5. Turn on the NFC function and confirm that the NFC function is normal.
- 6. EUT execution: a\_1729.mp4 Play, b\_Camera REC, c\_Camera\_Play
- 7. Start the test.

## Confia 4

- 1. Let Cradle connect to Adapter with USB cable.
- 2. Let EUT plug in SD Card & SIM Card and turn it on.
- 3. Turn on BT function and connect to the Bluetooth speaker.
- 4. Turn on WiFi function and connect with NB\_2 WiFi-AP, ping EUT IP Address.
- 5. Set up GPS simulator and turn on GPS test app.
- 6. Turn on the NFC function and confirm that the NFC function is normal.
- 7. Place EUT on Cradle to charge
- 8. Start the test.

#### 1.5 Description of Support Units

PRODUCT	MANUFACTURER	MODEL NO.	SERIAL NO.
SIM Card	R&S	CMW-Z05	8952530076180138474
Micro SD	Transcend	SDHC (Class 4)	N/A
BT Speaker	Creative	MF8090	YFMF8090245R00855Y
Radio Communication Analyzer	R&S	CMU200	102189
Radio Communication Analyzer	R&S	CMW500	1201.002K50-152303-Zr
AP	BUFFALO	WZR-HP-G300NH2	44066221202559[[G]]
GPS Signal Generator	Spectracom	GSG53 GNSS4	200218
Mouse	Logitech	M-U0026	1738HS05FH98
Notebook (RE, HRE)	DELL	Latitude E5430	COVZYW1
Notebook (CE)	DELL	P56F	59WSJ72
Earphone	SONY	MDR-EX15AP	N/A
Adapter	Salom	XN-2QC25	N/A

**Support Equipment Used in Tested Cable** 

Cable Type	Core	Length	Shielding/Non-shielding
USB Cable*2	N/A	1.8m	Shielding

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#### 1.6 Modification List

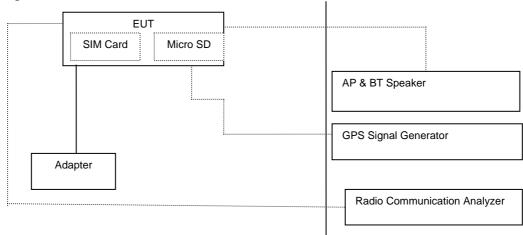
No modification was made by SGS Taiwan Electronics & Communication Laboratory.

#### 1.7 Accessories Cable List

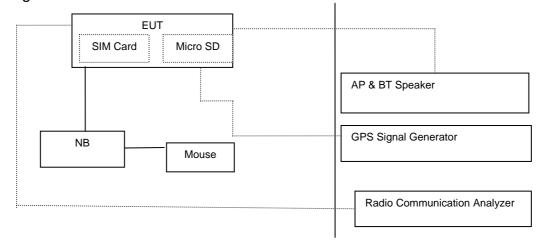
Cable Type	Core	Length	Shielding/Non-shielding
USB Cable	N/A	1m	Shielding
Earphone Cable	N/A	1.25m	Non-shielding

## 1.8 Test Set-Up Configuration

## Config 1



## Config 2



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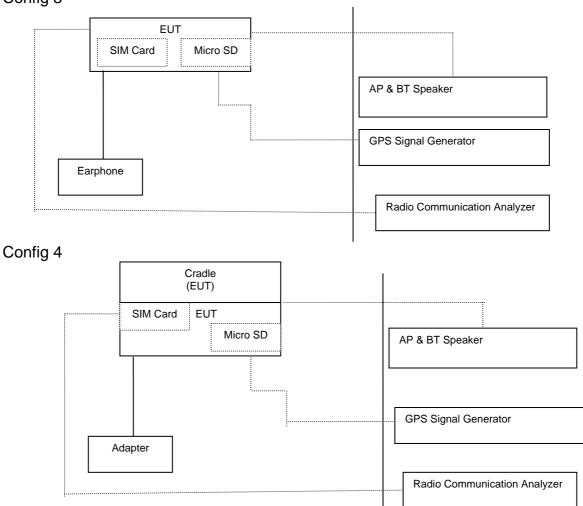
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# Config 3



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#### 1.9 Measurement Procedure

Conducted Emission Testing was performed according to ANSI C63.4:2014 in a shielded room with peripherals placed on a table, 0.8m high over a metal floor. It was located more than required distance away from the shielded room wall.

Radiated Emission Testing was performed according to ANSI C63.4:2014 at the 3/10m semi-anechoic chamber. The EUT was placed on a 0.8m high table along with the peripherals. The turn table was placed 10m distance from the antenna. Cables were placed in a position to produce maximum emissions as determined by experimentation, and operation mode was selected for production of maximum emission.

The frequencies and amplitudes of maximum emission were measured at varying azimuths, antenna heights and antenna polarities. Maximum emission levels are then reported.

#### 1.10 Standards Applicable for Testing

Tests to be carried out under FCC Part 15. Subpart B/CISPR 22

Test Standards	Status
FCC Part 15, Subpart B/ CISPR 22	Applicable
Deviation from Standard	No deviation

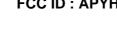
#### 1.11 Summary of Results

Highest Emission					
Standard Test Type Result Phase/Pol. Frequency(MHz) Margin(dB)					
CCC Dout 45 Culturant D	Conducted Emission	DACC	Line	0.3780	-10.59 (AVG)
FCC Part 15 Subpart B Class B	Conducted Emission	PASS	Neutral	0.3820	-8.75 (AVG)
Class B	Radiated Emission	PASS	Ver.	720.6400	-2.82 (QP)

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#### 2.1 Test Results

	Results
Conducted Emission	Pass
Radiated Emission	Pass

#### 2.2 Frequency Range

## FCC Part 15, Subpart B:

Conducted Emission : 150 kHz - 30 MHz
Radiated Emission : See below table

Highest frequency generated or Upper frequency of measurement used in the device or on which the range (MHz)

device operates or tunes (MHz)

----

Below 1.705 30 1.705 - 108 1000 108 - 500 2000 500 - 1000 5000

Above 1000 5th harmonic of the highest frequency or

40 GHz, whichever is lower

#### 2.3 Limits of Conducted and Radiated Emission

#### 2.3.1 Limits of Conducted Emission

## FCC Part 15, Subpart B/CISPR 22:

FREQUENCY	Class A	(dBuV)	Class B	(dBuV)
(MHz)	Quasi - peak	Average	Quasi - peak	Average
0.15 - 0.5	79	66	66 - 56	56 - 46
0.50 - 5.0	73	60	56	46
5.0 - 30.0	73	60	60	50

Note: (1) The lower limit shall apply at the transition frequencies.

- (2) The limit decreases linearly with the logarithm of the frequency in the range 0.15 to 0.50 MHz.
- (3) All emanation from a class A/B digital device or system, including any network of conductors and apparatus connected there to, shall not exceed the level of field strengths specified above.

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#### 2.3.2 Limits of Radiated Emissions

## FCC Part 15, Subpart B Limit:

Detector Function : Quasi – Peak

FREQUENCY	Class A (at 10m)	Class B (at 3m)
(MHz)	dBuV/m	dBuV/m
30~88	39	40
88~216	43.5	43.5
216~960	46.44	46
Above 960	49.54	54

Detector Function : Peak , Average

FREQUENCY	Class A (dB	uV/m) (at 3m)	Class B (dBuV/m) (at 3m)		
(MHz)	Peak	Average	Peak	Average	
Above 1000	79.3	59.3	73.9	53.9	

#### **CISPR 22 Limit:**

Detector Function : Quasi – Peak

FREQUENCY	Class A (at 10m)	Class B (at 10m)		
(MHz)	dBuV/m	dBuV/m		
30-230	40	30		
230-1000	47	37		

NOTE 1 The lower limit shall apply at the transition frequency.

NOTE 2 Additional provisions may be required for cases where interference occurs.

FREQUENCY	Class A (dE	BuV/m) (at 3m)	Class B (dBuV/m) (at 3m)		
(GHz)	Average	Peak	Average	Peak	
1~3	56	76	50	70	
3~6	60	80	54	74	

NOTE The lower limit applies at the transition frequency.

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#### 2.4.Test of Conducted Emission

#### 2.4.1 Test Equipments

200	0 1 / 1 5 1		10 11 0	EN 40	
SGS	Conducted_Emiss	ion HWAYA Conducte	ed Room No.B	_EMC	
EQUIPMENT TYPE	Manufacturer	Model Number	Serial	Calibration	Calibration
EQUIFWENT TIFE	Manufacturer	Model Number	Number	Date	Due
EMI Test Receiver	R&S	ESCI 3	100950	2017/12/12	2018/12/11
Coaxial Cable	EMC Instruments	EMC5D-BM-BM-	1401004	2018/5/25	2019/5/24
Coaxiai Cable	Corp.	3000	1401004	2016/5/25	2019/3/24
LISN	TESEQ	NNB 51	36061	2018/2/26	2019/2/25
Pulse Limiter	R&S	ESH3Z2	102099	2018/6/8	2019/6/7
LISN	TESEQ	NNB 51	36062	2018/3/30	2019/3/29
Communication Tester	R&S	CMU200	119988	2018/2/22	2019/2/21
Communication Tester	R&S	CMW500	152303	2018/2/21	2019/2/20
Test S/W	Farad	EZ-EMC	Ver. SGS- 03A2	N.C.R.	N.C.R.

SGS Taiwan LTD. Electronics & Communication Laboratory

No.2, Keji 1st Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.)

Measurement Uncertainty of Conducted Emission

Expanded uncertainty Ulab (K=2) of conducted emission is 2.25 dB

Theory values uncertainty Ucispr 16-4-2:2011+A1:2014 (K=2) of AC mains Conducted Emission is 3.44dB

## 2.4.2 Operating Environment

Temperature: 23 degree C Humidity: 64 %RH

Atmospheric Pressure: 992 mBar

#### 2.4.3 Measurement Level Calculation

Factor = LISN insertion loss + Cable loss + Pulse Limiter Insertion Loss

Measurement Level = Reading Level + Factor

Over (Margin) = Measurement Level - Limit

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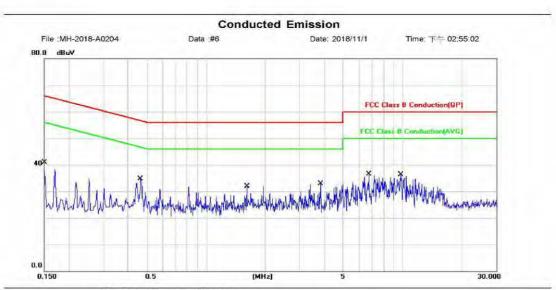


#### 2.4.4 Measurement Data:

#### Config\_1\_L

Temperature: Site : Conduction Room Phase: 11 AC 120V/60Hz Humidity: 64 % Limit: FCC Class B Conduction(QP) Power:

Mode: config\_1 Note: GSM 850



Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
	0.1500	12.50	19.65	32.15	66.00	-33.85	QP	
	0.1500	2.63	19.65	22.28	56.00	-33.72	AVG	
	0.4660	9.30	20.17	29.47	56.58	-27.11	QP	
*	0.4660	2.22	20.17	22.39	46.58	-24.19	AVG	
	1.6180	7.80	20.28	28.08	56.00	-27.92	QP	
	1.6180	1.05	20.28	21.33	46.00	-24.67	AVG	
	3.8260	7.02	20.21	27.23	56.00	-28.77	QP	
	3.8260	1.02	20.21	21.23	46.00	-24.77	AVG	
	6.7380	6.80	19.98	26.78	60.00	-33,22	QP	
	6.7380	0.96	19.98	20.94	50.00	-29.06	AVG	
	9.7980	5.90	19.95	25.85	60.00	-34.15	QP	
	9.7980	0.78	19.95	20.73	50.00	-29.27	AVG	
		MHz 0.1500 0.1500 0.4660 * 0.4660 1.6180 3.8260 3.8260 6.7380 6.7380 9.7980	Mk. Freq. Level  MHz dBuV  0.1500 12.50  0.1500 2.63  0.4660 9.30  * 0.4660 7.80  1.6180 1.05  3.8260 7.02  3.8260 1.02  6.7380 6.80  6.7380 0.96  9.7980 5.90	Mk.         Freq.         Level         Factor           MHz         dBuV         dB           0.1500         12.50         19.65           0.1500         2.63         19.65           0.4660         9.30         20.17           *         0.4660         2.22         20.17           1.6180         7.80         20.28           1.6180         1.05         20.28           3.8260         7.02         20.21           3.8260         1.02         20.21           6.7380         6.80         19.98           6.7380         0.96         19.98           9.7980         5.90         19.95	Mk.         Freq.         Level         Factor         ment           MHz         dBuV         dB         dBuV           0.1500         12.50         19.65         32.15           0.1500         2.63         19.65         22.28           0.4660         9.30         20.17         29.47           *         0.4660         2.22         20.17         22.39           1.6180         7.80         20.28         28.08           1.6180         1.05         20.28         21.33           3.8260         7.02         20.21         27.23           3.8260         1.02         20.21         21.23           6.7380         6.80         19.98         26.78           6.7380         0.96         19.98         20.94           9.7980         5.90         19.95         25.85	Mk.         Freq.         Level         Factor         ment         Limit           MHz         dBuV         dB         dBuV         dBuV           0.1500         12.50         19.65         32.15         66.00           0.1500         2.63         19.65         22.28         56.00           0.4660         9.30         20.17         29.47         56.58           1.6180         7.80         20.28         28.08         56.00           1.6180         1.05         20.28         21.33         46.00           3.8260         7.02         20.21         27.23         56.00           3.8260         1.02         20.21         21.23         46.00           6.7380         6.80         19.98         26.78         60.00           6.7380         0.96         19.98         20.94         50.00           9.7980         5.90         19.95         25.85         60.00	Mk.         Freq.         Level         Factor         ment         Limit         Over           MHz         dBuV         dB         dBuV         dBuV         dB           0.1500         12.50         19.65         32.15         66.00         -33.85           0.1500         2.63         19.65         22.28         56.00         -33.72           0.4660         9.30         20.17         29.47         56.58         -27.11           *         0.4660         2.22         20.17         22.39         46.58         -24.19           1.6180         7.80         20.28         28.08         56.00         -27.92           1.6180         1.05         20.28         21.33         46.00         -24.67           3.8260         7.02         20.21         27.23         56.00         -28.77           3.8260         1.02         20.21         21.23         46.00         -24.77           6.7380         6.80         19.98         26.78         60.00         -33.22           6.7380         0.96         19.98         20.94         50.00         -29.06           9.7980         5.90         19.95         25.85         60.00 <td>Mk.         Freq.         Level         Factor         ment         Limit         Over           MHz         dBuV         dB         dBuV         dBuV         dB         Detector           0.1500         12.50         19.65         32.15         66.00         -33.85         QP           0.1500         2.63         19.65         22.28         56.00         -33.72         AVG           0.4660         9.30         20.17         29.47         56.58         -27.11         QP           *         0.4660         2.22         20.17         22.39         46.58         -24.19         AVG           1.6180         7.80         20.28         28.08         56.00         -27.92         QP           1.6180         1.05         20.28         21.33         46.00         -24.67         AVG           3.8260         7.02         20.21         27.23         56.00         -28.77         QP           3.8260         1.02         20.21         21.23         46.00         -24.77         AVG           6.7380         6.80         19.98         26.78         60.00         -33.22         QP           6.7380         0.96         19</td>	Mk.         Freq.         Level         Factor         ment         Limit         Over           MHz         dBuV         dB         dBuV         dBuV         dB         Detector           0.1500         12.50         19.65         32.15         66.00         -33.85         QP           0.1500         2.63         19.65         22.28         56.00         -33.72         AVG           0.4660         9.30         20.17         29.47         56.58         -27.11         QP           *         0.4660         2.22         20.17         22.39         46.58         -24.19         AVG           1.6180         7.80         20.28         28.08         56.00         -27.92         QP           1.6180         1.05         20.28         21.33         46.00         -24.67         AVG           3.8260         7.02         20.21         27.23         56.00         -28.77         QP           3.8260         1.02         20.21         21.23         46.00         -24.77         AVG           6.7380         6.80         19.98         26.78         60.00         -33.22         QP           6.7380         0.96         19

<sup>\*:</sup> Maximum data x:Over limit

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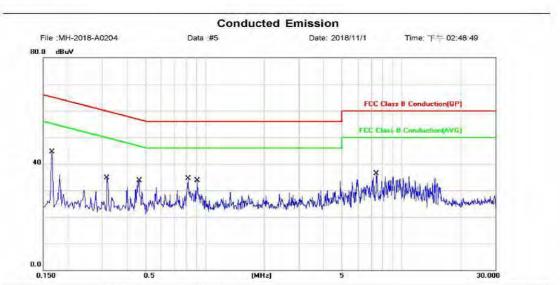
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# Config\_1\_N

Conduction Room Temperature: 23 0 Site : Phase: Humidity: 64 % Power: AC 120V/60Hz

Limit: FCC Class B Conduction(QP)

Mode: config\_1 Note: GSM 850



Vo.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1660	12.60	19.66	32.26	65.16	-32.90	QP	
2		0.1660	2.91	19.66	22.57	55.16	-32.59	AVG	
3		0.3180	9.80	19.92	29.72	59.76	-30.04	QP	
4		0.3180	1.90	19.92	21.82	49.76	-27.94	AVG	
5		0.4620	6.90	20.16	27.06	56.66	-29.60	QP	
6		0.4620	1.05	20.16	21.21	46.66	-25.45	AVG	
7		0.8180	10.78	19.98	30.76	56.00	-25.24	QP	
8	*	0.8180	2.69	19.98	22.67	46.00	-23.33	AVG	
9		0.9140	11,11	19.90	31.01	56.00	-24.99	QP	
10		0.9140	2.60	19.90	22.50	46.00	-23.50	AVG	
11		7.4620	6.60	19.96	26.56	60.00	-33.44	QP	
12		7.4620	1.01	19.96	20.97	50.00	-29.03	AVG	

<sup>\*</sup> Maximum data x:Over limit Lover margin

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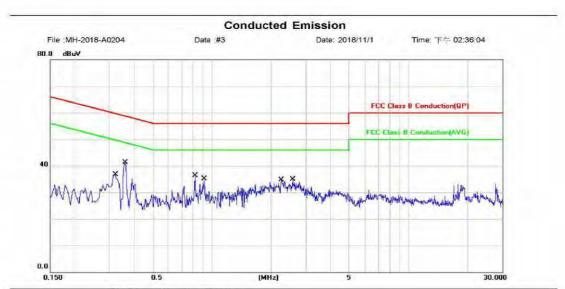
23 0

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Conduction Room Temperature: Site : Phase: L1 Humidity: 64 % Limit: FCC Class B Conduction(QP) Power: AC 120V/60Hz

Mode: config\_2 Note: Data write



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.3220	14.60	19.93	34.53	59.66	-25.13	QP	
2		0.3220	7.21	19.93	27.14	49.66	-22.52	AVG	
3		0.3620	20.00	20.00	40.00	58.68	-18.68	QP	
4	*	0.3620	19.60	20.00	39.60	48.68	-9.08	AVG	
5		0.8180	12.70	19.99	32.69	56.00	-23.31	QP	
6		0.8180	9.30	19.99	29.29	46.00	-16.71	AVG	
7		0.9180	12.60	19.91	32.51	56.00	-23.49	QP	
8		0.9180	8.30	19.91	28.21	46.00	-17.79	AVG	
9		2.2500	9.40	20.51	29.91	56.00	-26.09	QP	
10	Ş II	2.2500	2.13	20.51	22.64	46.00	-23.36	AVG	
11		2.5700	9.90	20.46	30.36	56.00	-25.64	QP	
12		2.5700	1.90	20.46	22.36	46.00	-23.64	AVG	

<sup>\*:</sup> Maximum data x:Over limit Lover margin

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# Config\_2\_N

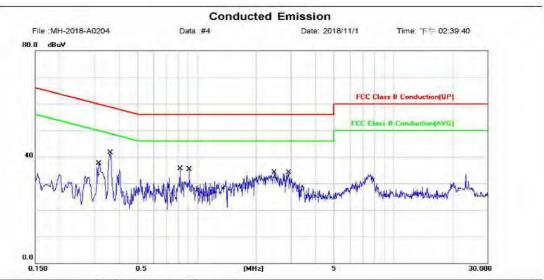
Conduction Room Site : Limit: FCC Class B Conduction(QP)

Mode: config\_2

Phase: Power: AC 120V/60Hz Temperature: 23 0

Humidity: 64 %

Note: Data write



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.3180	14.80	19.92	34.72	59.76	-25.04	QP	
2	7	0.3180	8.10	19.92	28.02	49.76	-21.74	AVG	
3		0.3620	20.40	19.99	40.39	58.68	-18.29	QP	
4	*	0.3620	19.40	19.99	39.39	48.68	-9.29	AVG	
5		0.8180	12.90	19.98	32.88	56.00	-23.12	QP	
6		0.8180	9.70	19.98	29.68	46.00	-16.32	AVG	
7		0.9180	12.90	19.90	32.80	56.00	-23.20	QP	
8		0.9180	8.50	19.90	28.40	46.00	-17.60	AVG	
9		2.4740	10.24	20.45	30.69	56.00	-25.31	QP	
10	§ 11	2.4740	2.75	20,45	23.20	46.00	-22.80	AVG	
11		2.9220	9.30	20.37	29.67	56.00	-26.33	QP	
12		2.9220	1.30	20.37	21.67	46.00	-24.33	AVG	

<sup>\*</sup> Maximum data x:Over limit Lover margin

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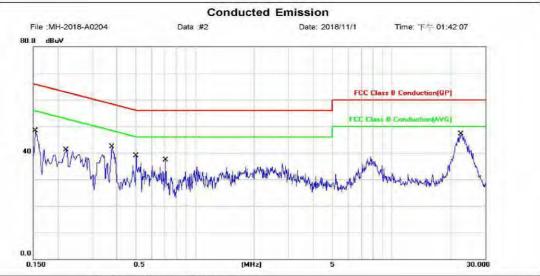
Conduction Room Site :

Limit: FCC Class B Conduction(QP)

Mode: config\_4 Note: charging

Temperature: 23 0 Phase: L1

Power: AC 120V/60Hz Humidity: 64 %



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1540	28.50	19.66	48.16	65.78	-17.62	QP	
2		0.1540	13.80	19.66	33.46	55.78	-22.32	AVG	
3		0.2220	18.90	19.78	38.68	62.74	-24.06	QP	
4		0.2220	10.40	19.78	30.18	52.74	-22.56	AVG	
5		0.3780	20,81	20.03	40.84	58.32	-17.48	QP	
6	*	0.3780	17.70	20.03	37.73	48.32	-10.59	AVG	
7		0.5020	14.40	20.23	34.63	56.00	-21.37	QP	
8		0.5020	4.90	20.23	25.13	46.00	-20.87	AVG	
9		0.7100	9.66	20.07	29.73	56.00	-26.27	QP	
10		0.7100	2.70	20.07	22.77	46.00	-23.23	AVG	
11		22.6100	21.42	20.09	41.51	60.00	-18.49	QP	
12		22.6100	12.90	20.09	32.99	50.00	-17.01	AVG	

<sup>\*:</sup> Maximum data x:Over limit Lover margin

File :MH-2018-A0204\Data :#2

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FCC ID: APYHRO00268 Report No.: MH/2018/A0204

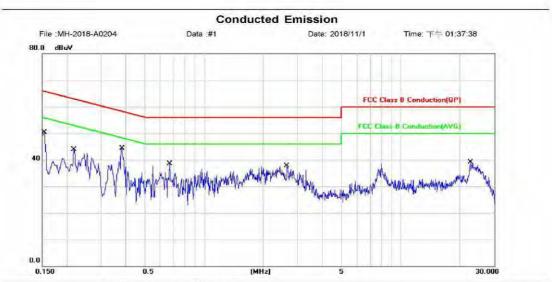
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# Config\_4\_N

Conduction Room Temperature: 23 0 Site : Phase: Limit: FCC Class B Conduction(QP) Power: AC 120V/60Hz Humidity: 64 %

Mode: config\_4 Note: charging



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1540	29.00	19.65	48.65	65.78	-17.13	QP	
2		0.1540	14.80	19.65	34.45	55.78	-21.33	AVG	
3		0.2180	21.50	19.75	41.25	62.89	-21.64	QP	
4		0.2180	12.91	19.75	32.66	52.89	-20.23	AVG	
5		0.3820	23,30	20.02	43.32	58.24	-14.92	QP	
6	*	0.3820	19.47	20.02	39.49	48.24	-8.75	AVG	
7		0.6700	14.70	20.08	34.78	56.00	-21.22	QP	
8		0.6700	5.30	20.08	25.38	46.00	-20,62	AVG	
9		2.6500	10.80	20.42	31.22	56.00	-24,78	QP	
10	Ş	2.6500	4.54	20.42	24.96	46.00	-21,04	AVG	
11		22.7580	12.60	20.12	32.72	60.00	-27.28	QP	
12		22.7580	5.04	20.12	25.16	50.00	-24.84	AVG	

<sup>\*:</sup> Maximum data x:Over limit Lover margin

File :MH-2018-A0204\Data :#1

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#### 2.5 Test of Radiated Emission

#### 2.5.1 Test Equipments

#### **Below 1GHz**

SGS Radiated_Below_1GHz HWAYA 10m_EMC											
EQUIPMENT TYPE	Manufacturer	Model Number	Serial	Calibration	Calibration						
EQUIFMENT TIFE	Manuacturei	Woder Number	Number	Date	Due						
EMI Test Receiver	R&S	ESCI 7	100950	2017/12/12	2018/12/11						
EMI Test Receiver	R&S	ESCI 3	101343	2018/1/31	2019/1/30						
Broadband Antenna	SCHWAZBECK	VULB9168	9168-628	2018/9/7	2019/9/6						
Broadband Antenna	SCHWAZBECK	VULB9168	9168-629	2018/9/7	2019/9/6						
Pre Amplifier	EMC Instruments Corp.	EMC330	980178	2018/3/31	2019/3/30						
Pre Amplifier	EMC Instruments Corp.	EMC330	980179	2018/3/31	2019/3/30						
Coaxial Cable	EMC Instruments	EMCCFD400-NM-NM	150917	2018/9/18	2019/9/17						
Coaxial Cable	EMC Instruments	EMCCFD400-NM-NM	150919	2018/9/18	2019/9/17						
Coaxial Cable	EMC Instruments	EMCCFD400-NM-NM	150820	2018/9/18	2019/9/17						
Coaxial Cable	EMC Instruments	EMCCFD400-NM-NM	150918	2018/9/18	2019/9/17						
Coaxial Cable	EMC Instruments	EMCCFD400-NM-NM	150821	2018/9/18	2019/9/17						
Coaxial Cable	EMC Instruments	EMCCFD400-NM-NM	150822	2018/9/18	2019/9/17						
Universal Digital Radio Communication Tester	R&S	CMU 200	119988	2018/2/22	2019/2/21						
Wideband Radio Communication Tester	R&S	CMW 500	152303	2018/2/21	2019/2/20						
Controller	MF	MF-7802	N/A	N.C.R.	N.C.R.						
Controller	MF	MF-7802	N/A	N.C.R.	N.C.R.						
Antenna Master	MF	N/A	N/A	N.C.R.	N.C.R.						
Antenna Master	MF	N/A	N/A	N.C.R.	N.C.R.						
Antenna Master	MF	N/A	N/A	N.C.R.	N.C.R.						
Turn Table	MF	N/A	N/A	N.C.R.	N.C.R.						
Site NSA	Chance Most	10M Chamber	10M SAC	2017/12/31	2018/12/30						
Test S/W	Farad	EZ-EMC	Ver. SGS- 03A2	N.C.R.	N.C.R.						

SGS Taiwan LTD. Electronics & Communication Laboratory

No.2, Keji 1st Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.)

Measurement Uncertainty of Radiated Emission

Expanded uncertainty Ulab (K=2) of radiated emission is 4.09 dB. (30MHz ~ 1000MHz)

Theory values uncertainty Ucispr 16-4-2:2011+A1:2014 (K=2) of radiated emission is 5.22 dB. (30MHz ~ 1000MHz)

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#### **Above 1GHz**

	SGS Radiated_Abo	ove_1GHz HWAYA	966A_EMC		
EQUIPMENT TYPE	Manufacturer	Model Number	Serial Number	Calibration Date	Calibration Due
Spectrum Analyzer	R&S	FSV 40	101419	2018/5/15	2019/5/14
EMI Test Receiver	R&S	ESR 7	101459	2018/2/21	2019/2/20
Horn Antenna	SCHWARZBECK	BBHA9120D	BBHA9120D28 5	2018/10/26	2019/10/25
Horn Antenna	Schwarzbeck	BBHA9170	BBHA9170-184	2017/12/12	2018/12/11
Pre Amplifier	EMC Instruments Corp.	EMC012645B	980216	2018/3/31	2019/3/30
Pre Amplifier	EMC Instruments Corp.	EMC184045B	980135	2018/10/27	2019/10/26
Coaxial Cable	JUNFLOW	MWX221- NMSNMS	J0778929	2018/4/23	2019/4/22
Coaxial Cable	Huber+Suhner	SUCCOFLEX 104PEA	30255/4PEA	2018/4/23	2019/4/22
Coaxial Cable	<b>EMC Instruments</b>	EMC104-SM-SM	140927	2018/4/23	2019/4/22
Coaxial Cable	Huber+Suhner	SUCOFLEX 102	MY 2651/2	2018/6/5	2019/6/4
Coaxial Cable	Huber+Suhner	SUCOFLEX 102	MY 2153/2	2018/6/5	2019/6/4
Universal Digital Radio Communication Tester	R&S	CMU 200	119988	2018/2/22	2019/2/21
Wideband Radio Communication Tester	R&S	CMW 500	152303	2018/2/21	2019/2/20
Controller	MF	MF-7802	N.C.R.	N.C.R.	N.C.R.
Antenna Master	MF	N/A	N/A	N.C.R.	N.C.R.
Turn Table	MF	N/A	N/A	N.C.R.	N.C.R.
Site VSWR	SGS	966 Chamber A	SAC-A	2018/1/12	2019/1/11
Test S/W	Farad	EZ-EMC	Ver. SGS-03A2	N.C.R.	N.C.R.

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No.2, Keji 1st Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.)

Measurement Uncertainty of Radiated Emission

Expanded uncertainty (k=2) of radiated emission measurement is 5.05 dB. (1-6GHz)

Expanded uncertainty (k=2) of radiated emission measurement is 5.07 dB. (6-18GHz)

Expanded uncertainty Ulab (k=2) of radiated emission measurement is 5.19 dB. (18-26GHz)

Expanded uncertainty Ulab (k=2) of radiated emission measurement is 5.14 dB. (26-40GHz)

Theory values uncertainty Ucispr 16-4-2:2011+A1:2014 (K=2) of radiated emission measurement is 5.18 dB.(1-6GHz)

Theory values uncertainty Ucispr 16-4-2:2011+A1:2014 (K=2) of radiated emission measurement is 5.48 dB.(6-18GHz)

Theory values uncertainty Ucispr 16-4-2:2011+A1:2014 (K=2) of radiated emission measurement is ---- dB.(18-26GHz)

Theory values uncertainty Ucispr 16-4-2:2011+A1:2014 (K=2) of radiated emission measurement is ---- dB.(26-40GHz)

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## 2.5.2 Operating Environment

Temperature: 24 degree C Humidity: 66 %RH

Atmospheric Pressure: 996 mBar

#### 2.5.3 Measurement Level Calculation

Correction Factor = Antenna Factor + Cable loss- Amplifier Gain Measurement Level = Reading Level + Correction Factor Over (Margin) = Measurement Level - Limit

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#### 2.5.4 Measurement Data

#### **Below 1GHz**

## Config\_1\_H

Site SGS 10m Chamber Limit: CISPR22 Class B 10M Radiation

Mode: Config\_1

Polarization: Horizontal Power: AC 120V/60Hz

Temperature:

24 °C

Distance: 10m

Humidity: 66 %

Note: GSM 850



No	Mk.	Freq	Reading Level	Correct Factor	Measure- ment	Limit	Over			
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment	
1		50.3700	27.13	-11.01	16.12	30.00	-13.88	QP		
2		148.3400	25.86	-11.03	14.83	30.00	-15.17	QP		
3		261.8300	33,41	-11.76	21.65	37.00	-15.35	QP		
4	*	877.7800	23,42	1.65	25.07	37.00	-11.93	QP		
5	-	921.4300	22.04	2.59	24.63	37.00	-12.37	QP		
6		952.4700	21.56	3.22	24.78	37.00	-12.22	QP		

File :A0204\Data :#14

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<sup>\*:</sup> Maximum data x:Over limit !:over margin



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## Config\_1\_V

Site SGS 10m Chamber

Limit: CISPR22 Class B 10M Radiation

Mode: Config\_1 Note: GSM 850

0.0

127.00

224.00

321.00

418.00

Polarization: Vertical Power: AC 120V/60Hz

Temperature: 24 °C Humidity: 66 %

1000.00 MHz

Distance: 10m

Radiated Emission File :A0204 Data #13 Date: 2018/11/2 Time: 下午 08:15:25 80.0 dBuV/m Limit1: Margin 3

No	Mk.	Freq	Reading Level	Correct Factor	Measure- ment	Limit	Over			
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment	
1		36.7900	26.87	-11.89	14.98	30.00	-15.02	QP		
2		190.0500	29.66	-13.80	15.86	30.00	-14.14	QP		
3		261.8300	36.35	-11.68	24.67	37.00	-12.33	QP		
4		796.3000	23,46	0.46	23.92	37.00	-13.08	QP		
5	*	907.8500	23.49	1.72	25.21	37.00	-11.79	QP		
6		990,3000	22.80	2.16	24.96	37.00	-12.04	QP		

515.00

612.00

709.00

806.00

\*: Maximum data x:Over limit !:over margin

File :A0204\Data :#13

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# Config\_2\_H

Site SGS 10m Chamber

Limit: CISPR22 Class B 10M Radiation

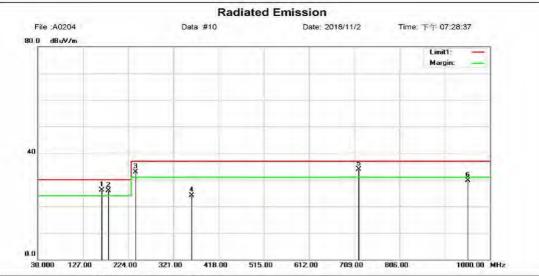
Mode: Config\_2 Note: Data Write Polarization: Horizontal

Temperature: 24 °C

Humidity: 66 %

Power: From system

Distance: 10m



No	Mk.	Freq	Reading Level	Correct Factor	Measure- ment	Limit	Over			
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment	
1	1	167.7400	37.47	-11.28	26.19	30.00	-3.81	QP		
2	1	181.3200	38 60	-12.66	25.94	30.00	-4.06	QP		
3	1	239.5200	45.20	-12.37	32.83	37.00	-4.17	QP		
4	3	359.8000	32.78	-8.62	24.16	37.00	-12.84	QP		
5	*	718.7000	34.68	-0.77	33.91	37.00	-3.09	QP		
6		952.4700	26.46	3.22	29.68	37.00	-7.32	QP		

\*: Maximum data x:Over limit !:over margin

File :A0204\Data :#10

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## Config\_2\_V

Site SGS 10m Chamber

Limit: CISPR22 Class B 10M Radiation

Mode: Config\_2 Note: Data Write Polarization: Vertical Power: From system

Temperature:

24 °C Humidity: 66 %

Distance: 10m

Radiated Emission File :A0204 Data #9 Date: 2018/11/2 Time: 下午 07:28:35 80.0 dBuV/m Limit1: Margin 3 0.0 127.00 418.00 515.00 612.00 709.00 806.00 1000.00 MHz

No.	Mk.	Freq	Reading Level	Correct Factor	Measure- ment	Limit	Over			
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment	
1	1	167.7400	37.17	-11.33	25.84	30.00	-4.16	QP		
2	4	181.3200	38.33	-12.42	25.91	30.00	-4.09	QP		
3	t	215.2700	39.63	-14.20	25.43	30.00	-4.57	QP		
4	t	239.5200	46.35	-12.73	33.62	37.00	-3.38	QP		
5	*	720.6400	35.45	-1.27	34.18	37.00	-2.82	QP		
6		919,4900	23.63	1.78	25.41	37.00	-11.59	QP		

\*: Maximum data x:Over limit !:over margin

File :A0204\Data :#9

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## Config\_3\_H

Site SGS 10m Chamber

Limit: CISPR22 Class B 10M Radiation

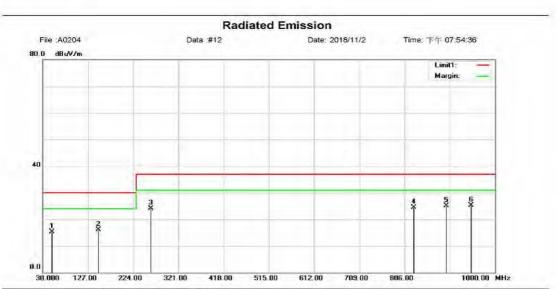
Mode: Config\_3 Note: REC Mode Polarization: Horizontal

Power: From Battery

Temperature: Humidity: 66 %

24 °C

Distance 10m



No	Mk.	Freq	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1		50.3700	26.28	-11.01	15.27	30.00	-14.73	QP	
2		149.3100	27.07	-11.01	16.06	30.00	-13.94	QP	
3		261.8300	35.89	-11.76	24.13	37.00	-12.87	QP	
4	6 1 1	826.3700	23.37	1.21	24.58	37.00	-12.42	QP	
5		896.2100	23.24	1.92	25.16	37.00	-11.84	QP	
6	*	948.5900	22.15	3.18	25.33	37.00	-11.67	QP	

\*: Maximum data x:Over limit !:over margin

File :A0204\Data :#12

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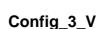
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Site SGS 10m Chamber

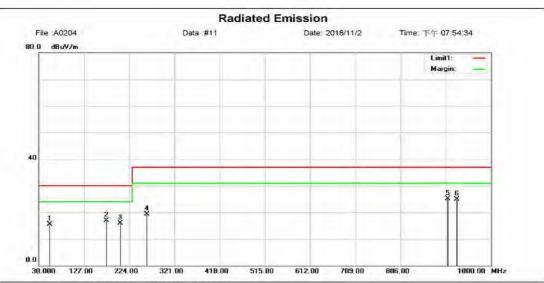
Limit: CISPR22 Class B 10M Radiation

Mode: Config\_3 Note: REC Mode Polarization: Vertical Power: From Battery

Temperature:

24 °C Humidity: 66 %

Distance: 10m



Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over			
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment	
	53.2800	26.25	-10.83	15.42	30.00	-14.58	QP		
	175.5000	28.71	-11.78	16.93	30.00	-13.07	QP		
	205.5700	29.92	-14.11	15,81	30.00	-14.19	QP		
	261.8300	30.92	-11.68	19.24	37.00	-17.76	QP		
*	907.8500	23.44	1.72	25.16	37.00	-11.84	QP		
	926.2800	23.04	1.87	24.91	37.00	-12.09	QP		
		MHz 53.2800 175.5000 205.5700 261.8300 * 907.8500	Mk. Freq. Level  MHz dBuV  53.2800 26.25  175.5000 28.71  205.5700 29.92  261.8300 30.92  * 907.8500 23.44	Mk.         Freq.         Level         Factor           MHz         dBuV         dB/m           53.2800         26.25         -10.83           175.5000         28.71         -11.78           205.5700         29.92         -14.11           261.8300         30.92         -11.68           *         907.8500         23.44         1.72	Mk.         Freq.         Level         Factor         ment           MHz         dBuV         dB/m         dBuV/m           53.2800         26.25         -10.83         15.42           175.5000         28.71         -11.78         16.93           205.5700         29.92         -14.11         15.81           261.8300         30.92         -11.68         19.24           *         907.8500         23.44         1.72         25.16	Mk.         Freq.         Level         Factor         ment         Limit           MHz         dBuV         dB/m         dBuV/m         dBu	Mk.         Freq.         Level         Factor         ment         Limit         Over           MHz         dBuV         dB/m         dBuV/m         dBuV/m         dB           53.2800         26.25         -10.83         15.42         30.00         -14.58           175.5000         28.71         -11.78         16.93         30.00         -13.07           205.5700         29.92         -14.11         15.81         30.00         -14.19           261.8300         30.92         -11.68         19.24         37.00         -17.76           *         907.8500         23.44         1.72         25.16         37.00         -11.84	Mk.         Freq.         Level         Factor         ment         Limit         Over           MHz         dBuV         dBuV         dBuV/m         dBuV/m         dBuV/m         dB         Detector           53.2800         26.25         -10.83         15.42         30.00         -14.58         QP           175.5000         28.71         -11.78         16.93         30.00         -13.07         QP           205.5700         29.92         -14.11         15.81         30.00         -14.19         QP           261.8300         30.92         -11.68         19.24         37.00         -17.76         QP           *         907.8500         23.44         1.72         25.16         37.00         -11.84         QP	Mk.         Freq.         Level         Factor         ment         Limit         Over           MHz         dBuV         dBuV         dBuV/m         dB Detector         Comment           53.2800         26.25         -10.83         15.42         30.00         -14.58         QP           175.5000         28.71         -11.78         16.93         30.00         -13.07         QP           205.5700         29.92         -14.11         15.81         30.00         -14.19         QP           261.8300         30.92         -11.68         19.24         37.00         -17.76         QP           *         907.8500         23.44         1.72         25.16         37.00         -11.84         QP

\*: Maximum data x:Over limit !:over margin

File :A0204\Data :#11

Page: 1

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# Config\_4\_H

Site SGS 10m Chamber

Limit: CISPR22 Class B 10M Radiation

Mode: Config\_4 Note: Charging

File :A0204

Polarization: Horizontal

Power: AC 120V/60Hz

Distance: 10m

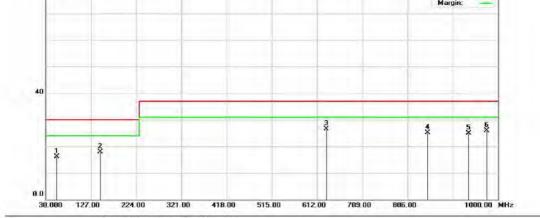
Temperature: 24 °C

Humidity: 66 %

Time: 下午 08:34:45

Radiated Emission Data #16 Date: 2018/11/2

80.0	dBuV/m		
			Limit1: Margin:



leading Level	Correct Factor	Measure- ment	Limit	Over		
dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
27.26	-11.13	16.13	30.00	-13.87	QP	
28.81	-10.99	17.82	30.00	-12.18	QP	
28.40	-1.83	26.57	37.00	-10.43	QP	
23.64	1.49	25,13	37.00	-11.87	QP	
21 90	3.02	24.92	37.00	-12.08	QP	
22.79	3.07	25.86	37.00	-11.14	QP	
2	8.40 3.64 1.90	8.40 -1.83 3.64 1.49 1.90 3.02	8.40 -1.83 26.57 3.64 1.49 25.13 1.90 3.02 24.92	8.40 -1.83 26.57 37.00 3.64 1.49 25.13 37.00 1.90 3.02 24.92 37.00	8.40 -1.83 26.57 37.00 -10.43 3.64 1.49 25.13 37.00 -11.87 1.90 3.02 24.92 37.00 -12.08	8.40 -1.83 26.57 37.00 -10.43 QP 3.64 1.49 25.13 37.00 -11.87 QP 1.90 3.02 24.92 37.00 -12.08 QP

\*: Maximum data x:Over limit !:over margin

File :A0204\Data :#16

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## Config\_4\_V

Site SGS 10m Chamber

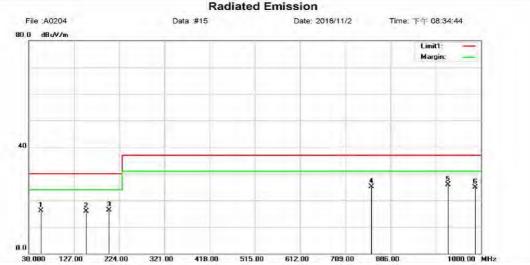
Limit: CISPR22 Class B 10M Radiation

Mode: Config\_4 Note: Charging Polarization: Vertical

Power: AC 120V/60Hz Distance: 10m

Temperature: Humidity: 66 %

24 °C



No	Mk.	Freq.	Level	Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1		56.1900	27.12	-11.00	16.12	30.00	-13.88	QP	
2		153.1900	26.62	-10.78	15.84	30.00	-14.16	QP	
3		202.6600	30.42	-14.05	16,37	30.00	-13.63	QP	
4	1	765.2600	25,10	-0.04	25.06	37.00	-11.94	QP	
5	*	929.1900	23 91	1.91	25.82	37.00	-11.18	QP	
6		987.3900	22.82	2.09	24.91	37.00	-12.09	QP	

\*: Maximum data x:Over limit !:over margin

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#### **Above 1GHz**

# 1GHz-18GHz Config 1 H

Site SGS 966 Chamber A

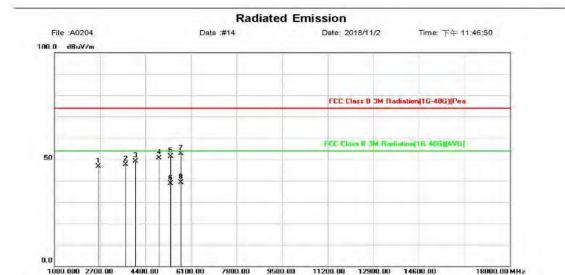
Limit: FCC Class B 3M Radiation(1G-40G)(Pea

Mode: Mode 1 Note: GSM 850 Polarization: Horizontal Power: AC 120V/60Hz

Temperature: 22 °℃

Humidity: 68 %

Distance:



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1		2649.000	58.06	-11.47	46.59	74.00	-27.41	peak	
2		3669,000	57.47	-9.82	47.65	74.00	-26.35	peak	
3		4026,000	57.32	-8.27	49.05	74.00	-24.95	peak	
4		4910,000	57.73	-7.20	50.53	74.00	-23.47	peak	
5		5335.000	57.80	-6.43	51.37	74.00	-22.63	peak	
6		5335.000	45.06	-6.43	38.63	54.00	-15.37	AVG	
7		5726.000	58,11	-5.41	52.70	74.00	-21.30	peak	
8	*	5726.000	44.63	-5.41	39.22	54.00	-14.78	AVG	

\*:Maximum data x:Over limit !:over margin

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## Config\_1\_V

Site SGS 966 Chamber A

Limit: FCC Class B 3M Radiation(1G-40G)(Pea

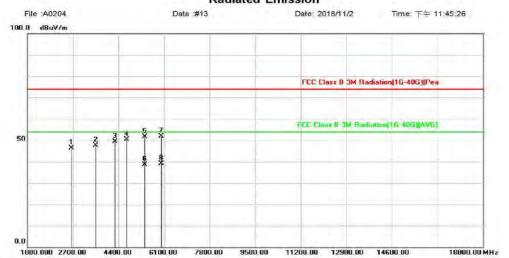
Mode: Mode 1 Note: GSM 850 Polarization: Vertical Power: AC 120V/60Hz

Temperature: 22 °C

Humidity: 68 %

Distance:

Radiated Emission



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1		2632.000	57.93	-11.44	46.49	74.00	-27.51	peak	
2	X	3550,000	58.12	-10.37	47.75	74.00	-26.25	peak	
3	12.7	4281.000	57.38	-7.97	49.41	74.00	-24.59	peak	
4		4706.000	57.95	-7.46	50.49	74.00	-23.51	peak	
5	1 1 1	5386,000	57.87	-6.33	51.54	74.00	-22.46	peak	
6		5386,000	44.99	-6.33	38.66	54.00	-15.34	AVG	
7	1	5998.000	56.38	-4.60	51.78	74.00	-22.22	peak	
8	*	5998.000	43.67	-4.60	39.07	54.00	-14.93	AVG	

\*:Maximum data x:Over limit l:over margin

File : A0204\Data :#13

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## Config\_2\_H

Site SGS 966 Chamber A

Limit: FCC Class B 3M Radiation(1G-40G)(Pea

Mode: Mode 2 Note: Data Write

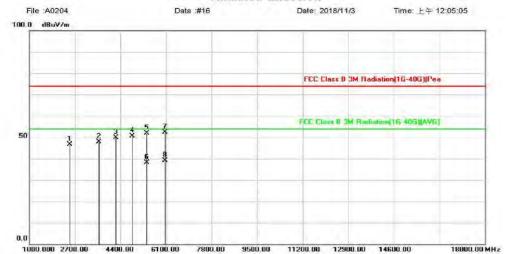
Polarization: Horizontal Power: From System

Temperature: 22 °C

Humidity: 68 %

Distance:

Radiated Emission



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1		2513.000	57.86	-11.22	46.64	74.00	-27.36	peak	
2		3584.000	58.11	-10.22	47.89	74.00	-26.11	peak	
3		4230,000	58.00	-8.02	49.98	74.00	-24.02	peak	
4		4842,000	58.00	-7.28	50.72	74.00	-23.28	peak	
5		5386.000	58.32	-6.33	51.99	74.00	-22.01	peak	
6		5386.000	44.51	-6.33	38.18	54.00	-15.82	AVG	
7		6066,000	56.51	-4.11	52.40	74.00	-21.60	peak	
8	*	6066.000	43.27	-4.11	39.16	54.00	-14.84	AVG	

\*:Maximum data x:Over limit l:over margin

File : A0204\Data :#16

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## Config\_2\_V

Site SGS 966 Chamber A

Limit: FCC Class B 3M Radiation(1G-40G)(Pea

Mode: Mode 2

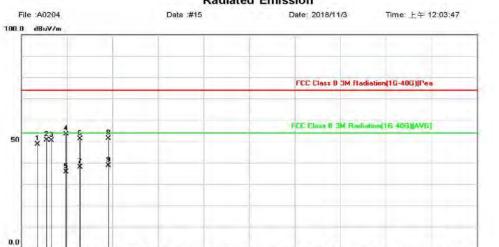
Note: Data Write

Polarization: Vertical Power: From System

Temperature: 22 °C Humidity: 68 %

Distance:

#### Radiated Emission



9500.00

11200.00 12900.00

14600.00

18000.00 MHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1		1595.000	66.98	-18.37	48,61	74.00	-25.39	peak	
2		1935.000	67.49	-16.80	50,69	74.00	-23.31	peak	
3	1	2122,000	65.65	-15.39	50.26	74.00	-23.74	peak	
4		2666,000	64.79	-11.49	53.30	74.00	-20.70	peak	
5	1 -	2666.000	47.11	-11.49	35.62	54.00	-18.38	AVG	
6		3193,000	62.74	-11.52	51.22	74.00	-22.78	peak	
7		3193,000	49.33	-11.52	37.81	54.00	-16.19	AVG	
8		4247.000	59.26	-8.00	51.26	74.00	-22.74	peak	
9	*	4247.000	46.54	-8.00	38,54	54.00	-15.46	AVG	

\*:Maximum data x:Over limit !:over margin

File :A0204\Data :#15

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6100.00

7800.00

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22 °C

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## Config\_3\_H

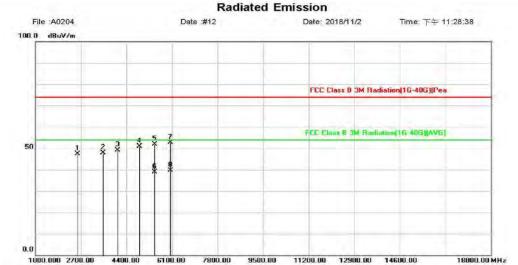
Site SGS 966 Chamber A

Limit: FCC Class B 3M Radiation(1G-40G)(Pea

Mode: Mode 3 Note: REC Mode Polarization: Horizontal Power: From Battery

Temperature: Humidity: 68 %

Distance:



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1		2581.000	58.65	-11.35	47.30	74.00	-26.70	peak	
2		3533,000	58.34	-10.45	47.89	74.00	-26.11	peak	
3		4060,000	57.30	-8.23	49.07	74.00	-24.93	peak	
4		4876.000	58.15	-7.24	50.91	74.00	-23.09	peak	
5		5454.000	58.12	-6.20	51.92	74.00	-22.08	peak	
6		5454.000	45.05	-6.20	38.85	54.00	-15,15	AVG	
7		6049.000	56.84	-4.24	52.60	74.00	-21,40	peak	
8	*	6049.000	43.85	-4.24	39.61	54.00	-14.39	AVG	

\*:Maximum data x:Over limit l:over margin

File :A0204\Data :#12

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## Config\_3\_V

Site SGS 966 Chamber A

Limit: FCC Class B 3M Radiation(1G-40G)(Pea

Mode: Mode 3

Polarization: Vertical Power: From Battery

Temperature: 22 °C Humidity: 68 %

Distance:

Note: REC Mode

# Radiated Emission File :A0204 Data :#11 Date: 2018/11/2 Time: 下午 11:27:06 100.0 dBuV/m FCC Class B 3M Radiation[16-40G][Pea FCC Class II 3M Radiation[16 40GHAVG] 50 1000.000 2700.00 7800.00 9500.00 11200.00 12900.00 18000.00 MHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1		2683.000	58.06	-11.53	46.53	74.00	-27.47	peak	
2		3635.000	57.54	-9.98	47.56	74.00	-26.44	peak	
3		4145.000	58.01	-8.13	49.88	74.00	-24.12	peak	
4		4927.000	58.17	-7.18	50.99	74.00	-23.01	peak	
5	1 1	5352.000	58.78	-6.40	52.38	74.00	-21.62	peak	
6		5352.000	44.73	-6.40	38.33	54.00	-15.67	AVG	
7		5794.000	56,94	-5.22	51.72	74.00	-22.28	peak	
8	*	5794.000	44.28	-5.22	39.06	54.00	-14.94	AVG	

\*:Maximum data x:Over limit !:over margin

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## Config\_4\_H

Site SGS 966 Chamber A

Limit: FCC Class B 3M Radiation(1G-40G)(Pea

Mode: Mode 4 Note: Charging Polarization: Horizontal Power: AC 120V/60Hz

Temperature: 22 °C

Humidity: 68 %

Distance:

Radiated Emission



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1		2564.000	57.81	-11.32	46.49	74.00	-27.51	peak	
2		3176.000	59.16	-11.57	47.59	74.00	-26.41	peak	
3		3754.000	57.14	-9.43	47.71	74.00	-26.29	peak	
4		4264.000	58.11	-7.99	50.12	74.00	-23.88	peak	
5	1	4961.000	57.71	-7.14	50.57	74.00	-23.43	peak	
6		5930.000	56.58	-4.80	51.78	74.00	-22.22	peak	
7	*	5930.000	44.21	-4.80	39.41	54.00	-14.59	AVG	

\*:Maximum data x:Over limit Lover margin

File :A0204\Data :#10

Page: 1

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## Config\_4\_V

Site SGS 966 Chamber A

Limit: FCC Class B 3M Radiation(1G-40G)(Pea

Mode: Mode 4 Note: Charging Polarization: Vertical Power: AC 120V/60Hz

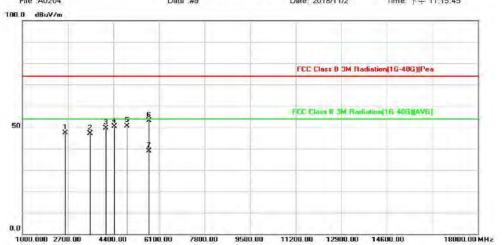
Temperature: 22 °C Humidity: 68 %

Distance:

Radiated Emission File :A0204 Data :#9

Date: 2018/11/2 Time: 下午 11:15:45





No.	Mk.	Freq.	Reading Level	Correct	Measure- ment	Limit	Over		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1		2598.000	58.74	-11.36	47.38	74.00	-26.62	peak	
2		3516.000	57.65	-10.52	47.13	74.00	-26.87	peak	
3	1.	4111.000	57.86	-8.17	49.69	74.00	-24.31	peak	
4		4434.000	58.19	-7.78	50.41	74.00	-23.59	peak	
5		4910.000	57.73	-7.20	50.53	74.00	-23.47	peak	
6		5726,000	58.52	-5.41	53.11	74.00	-20.89	peak	
7	*	5726.000	44.18	-5.41	38.77	54.00	-15,23	AVG	

\*:Maximum data x:Over limit l:over margin

File :A0204\Data :#9

Page: 1

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Site SGS 966 Chamber A

Limit: FCC Class B 1M Radiation(1G-40G)(Pea

Mode: Mode 1 Note: GSM 850

Polarization: Power: AC 120V/60Hz

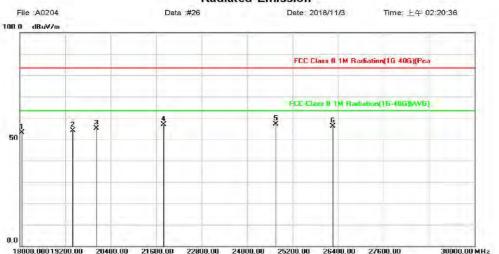
Horizontal

Temperature: 22 °C

Humidity: 68 %

Distance:

Radiated Emission



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over			
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment	
1		18060.000	51.59	1.55	53.14	83.50	-30.36	peak		
2		19404,000	52.56	1.62	54.18	83.50	-29.32	peak		
3	1	20028.000	52.47	2.70	55.17	83.50	-28.33	peak		
4		21792.000	52.15	4.63	56.78	83.50	-26.72	peak		
5	*	24756.000	50.85	6.25	57.10	83.50	-26.40	peak		
6	- 3	26268,000	50.12	5.92	56.04	83.50	-27.46	peak		
_										_

\*: Maximum data x:Over limit !:over margin

File :A0204\Data :#26

Page: 1

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## Config\_1\_V

Site SGS 966 Chamber A

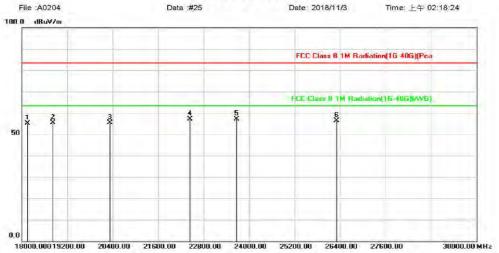
Limit: FCC Class B 1M Radiation(1G-40G)(Pea

Mode: Mode 1 Note: GSM 850 Polarization: Vertical Power: AC 120V/60Hz

Temperature: 22 °C Humidity: 68 %

Distance:

Radiated Emission File :A0204 Data :#25 Date: 2018/11/3



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1	5	18144.000	53.74	1.48	55.22	83.50	-28.28	peak	
2	-	18816,000	54.24	1.26	55.50	83.50	-28.00	peak	
3		20328.000	52.74	2.70	55.44	83.50	-28.06	peak	
4	*	22440.000	51.89	5.35	57.24	83.50	-26.26	peak	
5	11.11	23676.000	51.21	5.89	57.10	83.50	-26.40	peak	
6	3	26316.000	50.47	5.98	56.45	83.50	-27.05	peak	

\*: Maximum data x:Over limit !:over margin

File :A0204\Data :#25

Page: 1

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## Config\_2\_H

Site SGS 966 Chamber A Polarization: Horizontal Temperature: 22 °C Power: From System Humidity: 68 % Limit: FCC Class B 1M Radiation(1G-40G)(Pea

Mode: Mode 2 Distance:

21600.00

22800.00

Note: Data Write

# Radiated Emission File :A0204 Time: 上午 02:33:52 Data :#28 Date: 2018/11/3 100.0 dBuV/m FCC Class 8 1M Radiation(1G 40G)(Pea PCE Class B 1M Radiation(16-(05)(AVG) 50

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1		18060.000	51.09	1.55	52.64	83.50	-30.86	peak	
2		19632,000	51.28	1.96	53.24	83.50	-30.26	peak	
3		20412.000	51.28	2.70	53.98	83.50	-29.52	peak	
4	10	21792.000	52.15	4.63	56.78	83.50	-26.72	peak	
5	*	22560.000	51.96	5.42	57.38	83.50	-26.12	peak	
6	- 3	26268,000	50.62	5.92	56.54	83.50	-26.96	peak	

24000.00

25200.00

26400.00

30000.00 MHz

\*:Maximum data x:Over limit !:over margin

File :A0204\Data :#28

Page: 1

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## Config\_2\_V

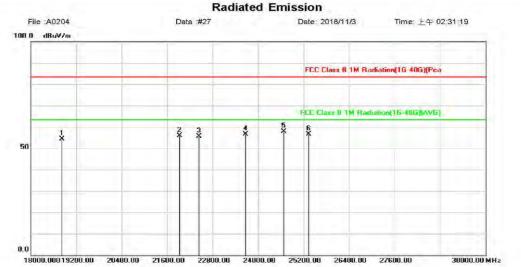
Site SGS 966 Chamber A

Limit: FCC Class B 1M Radiation(1G-40G)(Pea

Mode: Mode 2 Note: Data Write Polarization: Vertical Power: From System

Temperature: 22 °C Humidity: 68 %

Distance:



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1	-	18816.000	53.24	1.26	54.50	83.50	-29.00	peak	
2	- 3	21924.000	50.94	4.87	55.81	83.50	-27.69	peak	
3		22440.000	50.39	5.35	55.74	83.50	-27.76	peak	
4		23676.000	50.71	5.89	56.60	83.50	-26.90	peak	
5	*	24684.000	51.59	6.24	57.83	83.50	-25.67	peak	
6	3	25332,000	51.05	5.57	56.62	83.50	-26.88	peak	

\*: Maximum data x:Over limit !:over margin

File :A0204\Data :#27

Page: 1

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## Config\_3\_H

Site SGS 966 Chamber A

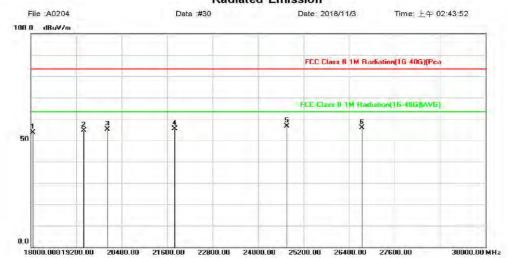
Limit: FCC Class B 1M Radiation(1G-40G)(Pea

Mode: Mode 3 Note: REC Mode Polarization: Horizontal Power: From Battery

Temperature: 22 °C Humidity: 68 %

Distance:

Radiated Emission



6.00	2.44	and the same of	Reading	Correct	Measure-	A rough	0		
No.	Mk.	Freq.	Level	Factor	ment	Limit	Over		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1		18060.000	52.09	1.55	53.64	83.50	-29.86	peak	
2		19404,000	53.06	1.62	54.68	83.50	-28.82	peak	
3	7	20028.000	52.47	2.70	55.17	83.50	-28.33	peak	
4		21792,000	50.65	4.63	55.28	83.50	-28.22	peak	
5	*	24756.000	50.35	6.25	56.60	83.50	-26.90	peak	
6	- 3	26748.000	49.77	6.10	55.87	83.50	-27.63	peak	

\*:Maximum data x:Over limit !:over margin

File :A0204\Data :#30

Page: 1

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FCC ID: APYHRO00268 Report No.: MH/2018/A0204

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## Config\_3\_V

Site SGS 966 Chamber A

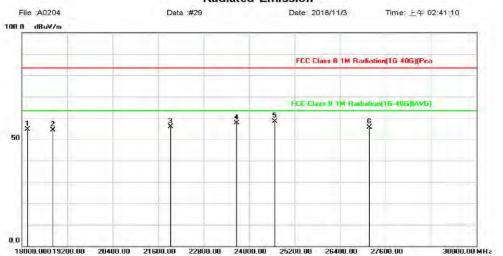
Limit: FCC Class B 1M Radiation(1G-40G)(Pea

Mode: Mode 3 Note: REC Mode Polarization: Vertical Power: From Battery

Temperature: 22 °C Humidity: 68 %

Distance:

#### Radiated Emission



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1		18144.000	53.24	1.48	54.72	83.50	-28.78	peak	
2	-	18816.000	53.24	1.26	54.50	83.50	-29.00	peak	
3		21924.000	50.94	4.87	55.81	83.50	-27.69	peak	
4	7	23676.000	51.71	5.89	57.60	83.50	-25.90	peak	
5	*	24684.000	52.09	6.24	58.33	83.50	-25.17	peak	
6	- 3	27168.000	49.50	6.17	55,67	83.50	-27.83	peak	

\*: Maximum data x:Over limit !:over margin

File :A0204\Data :#29

Page: 1

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## Config\_4\_H

Site SGS 966 Chamber A Limit: FCC Class B 1M Radiation(1G-40G)(Pea Polarization: Horizontal AC 120V/60Hz Power:

Temperature: 22 °C Humidity: 68 %

Mode: Mode 4

Distance:

Note: Charging

# Radiated Emission File :A0204 Time: 上午 02:57:45 Data :#32 Date: 2018/11/3 100.0 dBuV/m FCC Class 8 1M Radiation(1G 40G)(Pea FCE Class B 1M Radiation(16-(05)(AVG) 50 21600.00 22800.00 24000.00 25200.00 26400.00 30000.00 MHz

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1	- 1	18060.000	51.09	1.55	52.64	83.50	-30.86	peak	
2		18888,000	51.71	1.28	52.99	83.50	-30.51	peak	
3	9	19740.000	51.61	2.18	53.79	83.50	-29.71	peak	
4	2	21660.000	49.68	4.39	54.07	83.50	-29.43	peak	
5	- 2	22560.000	49.46	5.42	54.88	83.50	-28.62	peak	
6	* 2	24600.000	50.70	6.22	56.92	83.50	-26.58	peak	

\*: Maximum data x:Over limit !:over margin

File :A0204\Data :#32

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## Config\_4\_V

Site SGS 966 Chamber A

Limit: FCC Class B 1M Radiation(1G-40G)(Pea

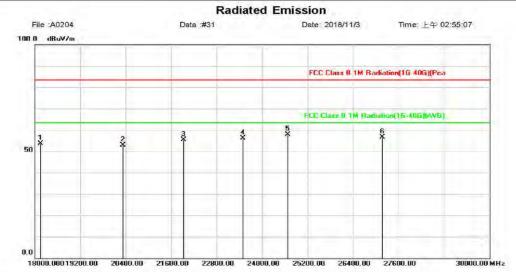
Mode: Mode 4 Note: Charging Polarization: Power: AC 120V/60Hz

Vertical

Temperature: 22 °C

Humidity: 68 %

Distance:



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	Comment
1	- 1	18144.000	52.24	1.48	53.72	83.50	-29.78	peak	
2	- 4	20328,000	50.24	2.70	52.94	83.50	-30.56	peak	
3	3	21924.000	50.44	4.87	55.31	83.50	-28.19	peak	
4	- 3	23496.000	50.23	5.90	56.13	83.50	-27.37	peak	
5	*	24684.000	51.59	6.24	57.83	83.50	-25.67	peak	
6	3	27168.000	50.50	6.17	56.67	83.50	-26.83	peak	

\*:Maximum data x:Over limit !:over margin

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Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

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