



# FCC CERTIFICATION REPORT

**Test Report No.** : MH/2018/90204  
**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** : Smart Phone

**Standards** : FCC Part 15, Subpart B, Class B  
**FCC Designation Numbers** : 916890 / TW1087

**Date of Receipt** : Sep. 20, 2018  
**Date of Test** : Sep. 20 ~ Oct. 12, 2018  
**Date of Issue** : Oct. 18, 2018

<b>Test Result :</b>	<b>PASS</b>
----------------------	-------------

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.

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**Tested By:**

*Thomas Liu*

**Date**

Oct. 18, 2018

**Thomas Liu (Engineer)**

**Approved By**

*Eddy Cheng*

**Date**

Oct. 18, 2018

**Eddy Cheng (Asst. Supervisor)**



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SGS Taiwan Ltd.

No.134,Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan 24803/新北市五股區新北產業園區五工路 134 號

台灣檢驗科技股份有限公司

t (886-2) 2299-3279

f (886-2) 2298-0488

[www.tw.sgs.com](http://www.tw.sgs.com)

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## Revision History

Report Number	Revision	Description	Issue Date
MH/2018/90204	Rev.00	Initial creation of document	Oct. 18, 2018

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# 1. General Information

## 1.1 Applicant & Manufacturer Information

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 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 : Smart Phone

## 1.3 Details of EUT

Power Supply : AC 100~240V, 50/60Hz  
 Highest operate description : 1886 MHz  
 Battery : 3.85V, 3130mAh, 12.05Wh  
 Worst case : CE, Below / Above RE worst case : Config 2

	FCC ID : APYHRO00263
1 <sup>st</sup> Source (eMCP memory, UFS memory, Sub camera)	Worst case
2 <sup>nd</sup> Source (eMCP memory, UFS memory, Sub camera)	V

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<b>Accessories List:</b> <b>AC Charger : Salom/XN-2QC25</b> <b>Data Cable : Luxshare-ICT/L6KU2007-CS-H</b> <b>Conversion plug :</b> <b>Hosiden/RUITZA508AFZZ</b> <b>PHF : Sony / MDR-EX15AP</b>	<b>Config 1</b>	<b>Config2</b>	<b>Config 3</b>
Applicable standard	FCC 15B		
Accessories	EUT + AC Adaptor +USB Cable	EUT +USB Cable	EUT +Conversion plug +PHF
Main function	<i>Speech</i>	<i>Data Link</i>	<i>Camera</i>
Additional function	BT+WiFi +GPS+NFC		
Description			
radiated emission	GSM 850/1900 WCDMA BII/IV LTE B02/04/12/17	Data R/W	MP3/ ;REC mode (Front/Back) ;play REC
conducted emission (DC Power)	NA	NA	NA
conducted emission (AC Power)	GSM 850/1900 WCDMA BII/IV LTE B02/04/12/17	Data R/W	NA

## 1.4 Operation Procedure

### Config 1

1. Let EUT plug in SIM Card, connect to Adapter with USB cable and turn it on.
2. Execute 1k audio source.
3. NB & EUT link AP-WiFi (5G/2.4G), NB ping EUT IP.
4. BT Link BT Speaker and turn on NFC function.
5. Set up base station, set channel (GSM 850/1900, WCDMA B2/B4, LTE B2/B4/B12/B17) and transmitting data.
6. Set up GPS simulator and turn on GPS test app.
7. Start the test.

### Config 2

1. Let EUT plug in SIM Card, connect to NB\_1 with USB cable and turn it on.
2. Execute 1k audio source.
3. NB\_2 & EUT link AP-WiFi Worst(5G/2.4G), NB ping EUT IP..
4. BT Link BT Speaker and turn on NFC function.
5. Set up GPS simulator and turn on GPS test app.
6. NB\_1 execute Data Read/Write with EUT.
7. Start the test..

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### Config 3

1. Let EUT plug in SIM Card, Connect the Audio Transfer Cable to the Earphone.
2. Execute 1k audio source.
3. NB\_2 & EUT link AP-WiFi Worst(5G/2.4G), NB ping EUT IP..
4. BT Link BT Speaker and turn on NFC function.
5. Set up GPS simulator and turn on GPS test app.
6. Turn on Camera (Front/Rear) and execute Record.
7. Start the test.

## 1.5 Description of Support Units

PRODUCT	MANUFACTURER	MODEL NO.	SERIAL NO.
SIM Card	R&S	CMW-Z05	8952530076180138474
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	DELL	Latitude E6440	CYRVQ32
Earphone	SONY	MDR-EX15AP	N/A
Adapter	Salom	XN-2QC25	N/A
Conversion plug	Hosiden	RUITZA508AFZZ	N/A
Printer	HP	VCVRA-1004	CN33K19J3F

## Support Equipment Used in Tested Cable

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

## 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

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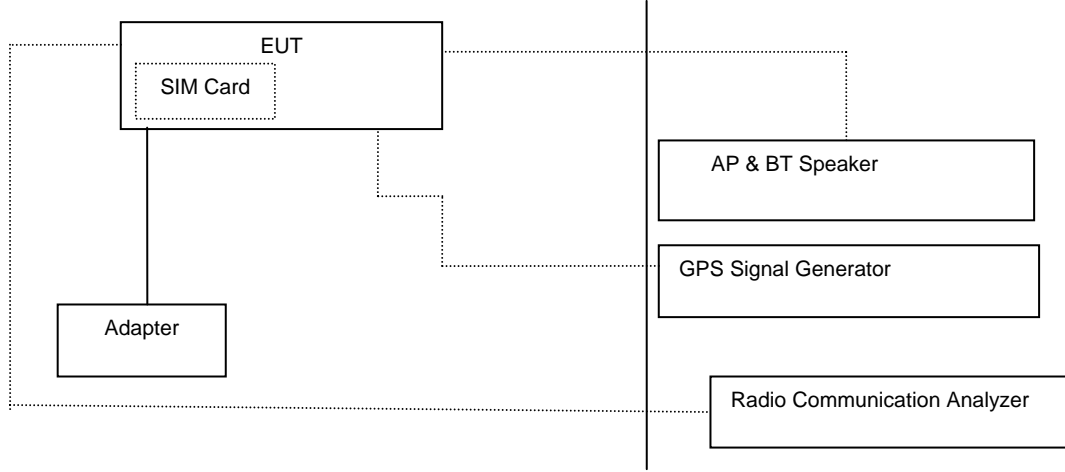
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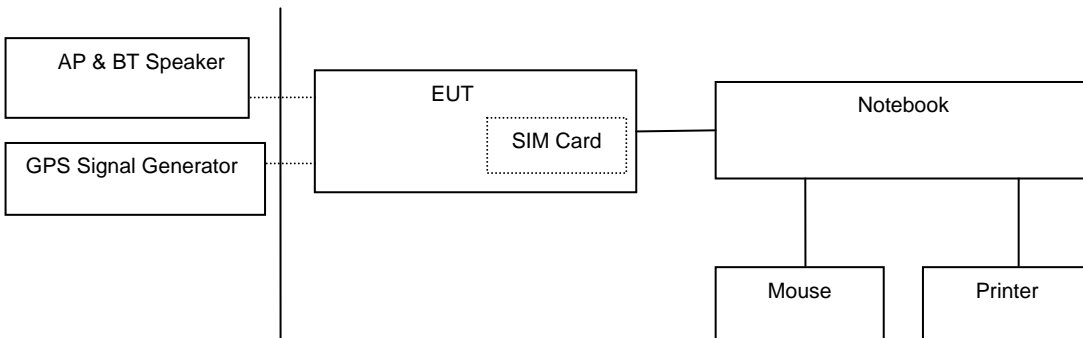


### 1.8 Test Set-Up Configuration

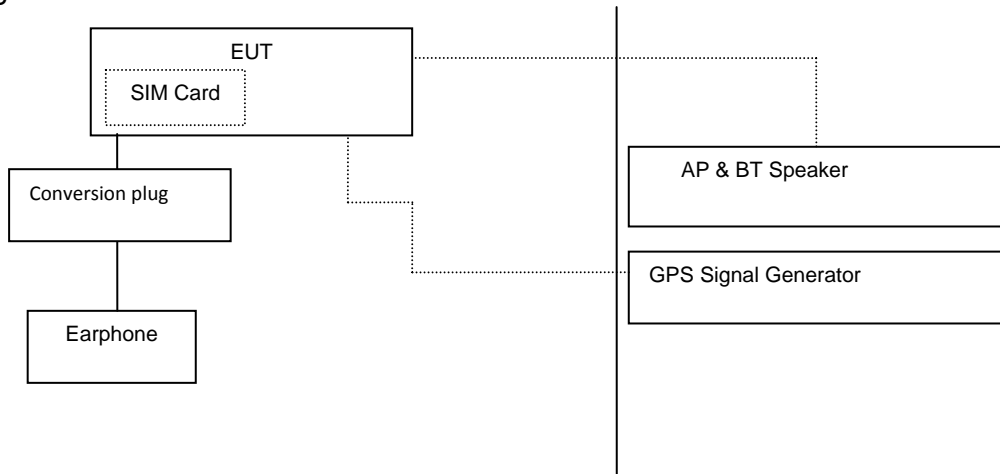
Config 1



Config 2



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

Standard	Test Type	Highest Emission			
		Result	Phase/Pol.	Frequency(MHz)	Margin(dB)
FCC Part 15 Subpart B Class B	Conducted Emission	PASS	Line	0.3940	-10.33 (AVG)
			Neutral	0.3820	-12.42 (AVG)
	Radiated Emission	PASS	Ver.	39.3630	-5.40 (QP)

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## 2. EMISSION

### 2.1 Test Results

	Results
Conducted Emission	<b>Pass</b>
Radiated Emission	<b>Pass</b>

### 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 device operates or tunes (MHz) range (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 (MHz)	Class A (dBuV)		Class B (dBuV)	
	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 (MHz)	Class A (at 10m)	Class B (at 3m)
	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 (MHz)	Class A (dBuV/m) (at 3m)		Class B (dBuV/m) (at 3m)	
	Peak	Average	Peak	Average
Above 1000	79.3	59.3	73.9	53.9

#### CISPR 22 Limit:

- Detector Function : Quasi – Peak

FREQUENCY (MHz)	Class A (at 10m)	Class B (at 10m)
	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 (GHz)	Class A (dBuV/m) (at 3m)		Class B (dBuV/m) (at 3m)	
	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

SGS Conducted_Emission HWAYA Conducted Room No.B EMC					
EQUIPMENT TYPE	Manufacturer	Model Number	Serial Number	Calibration Date	Calibration Due
EMI Test Receiver	R&S	ESCI 3	101300	2017/11/1	2018/10/31
Coaxial Cable	EMC Instruments Corp.	EMC5D-BM-BM-3000	1401004	2018/5/25	2019/5/24
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
(*)LISN	TESEQ	NNB 51	36076	2018/2/14	2019/2/13
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.

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 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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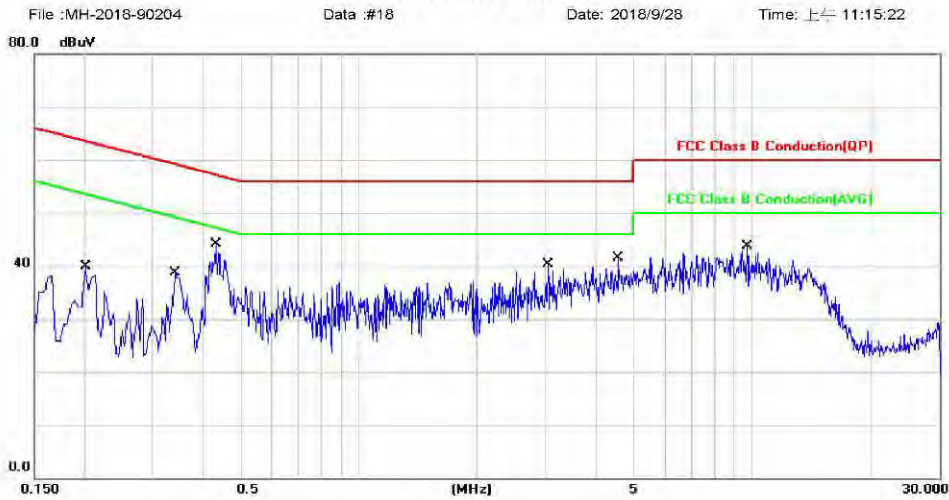


2.4.4 Measurement Data:

Config\_1\_L

Site : Conduction Room      Phase: L1      Temperature: 23 °C  
 Limit: FCC Class B Conduction(QP)      Power: AC 120V/60Hz      Humidity: 64 %  
 Mode: config 1  
 Note: WCDMA BII

Conducted Emission



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV	dBuV	dB		
1		0.2020	12.50	19.74	32.24	63.53	-31.29	QP	
2		0.2020	3.60	19.74	23.34	53.53	-30.19	AVG	
3		0.3420	9.90	19.97	29.87	59.15	-29.28	QP	
4		0.3420	3.10	19.97	23.07	49.15	-26.08	AVG	
5		0.4340	12.48	20.12	32.60	57.18	-24.58	QP	
6 *		0.4340	5.24	20.12	25.36	47.18	-21.82	AVG	
7		3.0340	9.52	20.36	29.88	56.00	-26.12	QP	
8		3.0340	2.67	20.36	23.03	46.00	-22.97	AVG	
9		4.5940	11.78	20.07	31.85	56.00	-24.15	QP	
10		4.5940	3.35	20.07	23.42	46.00	-22.58	AVG	
11		9.7540	14.32	19.95	34.27	60.00	-25.73	QP	
12		9.7540	5.32	19.95	25.27	50.00	-24.73	AVG	

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

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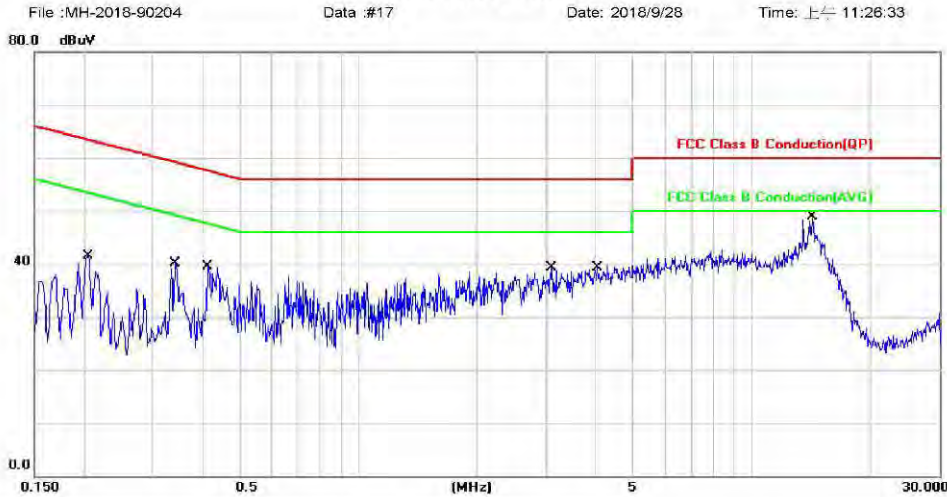
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### Config\_1\_N

Site : Conduction Room      Phase: **N**      Temperature: 23 °C  
 Limit: FCC Class B Conduction(QP)      Power: AC 120V/60Hz      Humidity: 64 %  
 Mode: config 1  
 Note: WCDMA BII

#### Conducted Emission



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV	dBuV	dB		
1		0.2060	15.60	19.73	35.33	63.37	-28.04	QP	
2		0.2060	6.80	19.73	26.53	53.37	-26.84	AVG	
3		0.3420	12.80	19.96	32.76	59.15	-26.39	QP	
4		0.3420	4.80	19.96	24.76	49.15	-24.39	AVG	
5		0.4140	13.81	20.08	33.89	57.57	-23.68	QP	
6 *		0.4140	6.90	20.08	26.98	47.57	-20.59	AVG	
7		3.0980	10.30	20.33	30.63	56.00	-25.37	QP	
8		3.0980	2.30	20.33	22.63	46.00	-23.37	AVG	
9		4.0700	11.43	20.15	31.58	56.00	-24.42	QP	
10		4.0700	3.65	20.15	23.80	46.00	-22.20	AVG	
11		14.2300	13.30	19.99	33.29	60.00	-26.71	QP	
12		14.2300	2.90	19.99	22.89	50.00	-27.11	AVG	

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

File :MH-2018-90204\Data :#17

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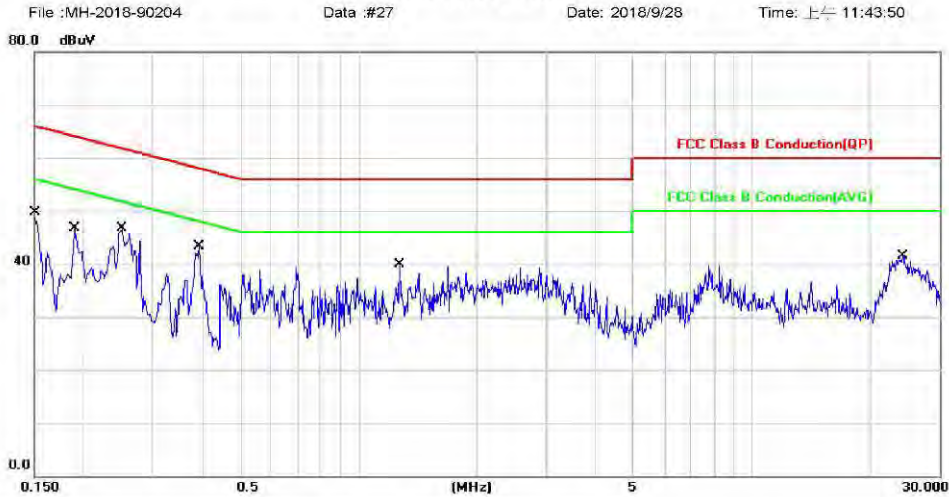
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### Config\_2\_L

Site : Conduction Room      Phase: **L1**      Temperature: 23 °C  
 Limit: FCC Class B Conduction(QP)      Power: AC 120V/60Hz      Humidity: 64 %  
 Mode: config 2  
 Note: Data R/W read

#### Conducted Emission



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV	dBuV	dB		
1		0.1500	27.80	19.65	47.45	66.00	-18.55	QP	
2		0.1500	13.70	19.65	33.35	56.00	-22.65	AVG	
3		0.1900	22.50	19.72	42.22	64.04	-21.82	QP	
4		0.1900	16.30	19.72	36.02	54.04	-18.02	AVG	
5		0.2500	25.20	19.82	45.02	61.76	-16.74	QP	
6		0.2500	17.50	19.82	37.32	51.76	-14.44	AVG	
7		0.3940	22.80	20.05	42.85	57.98	-15.13	QP	
8 *		0.3940	17.60	20.05	37.65	47.98	-10.33	AVG	
9		1.2740	12.50	20.04	32.54	56.00	-23.46	QP	
10		1.2740	4.60	20.04	24.64	46.00	-21.36	AVG	
11		24.2380	14.84	20.13	34.97	60.00	-25.03	QP	
12		24.2380	6.65	20.13	26.78	50.00	-23.22	AVG	

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

File :MH-2018-90204\Data :#27

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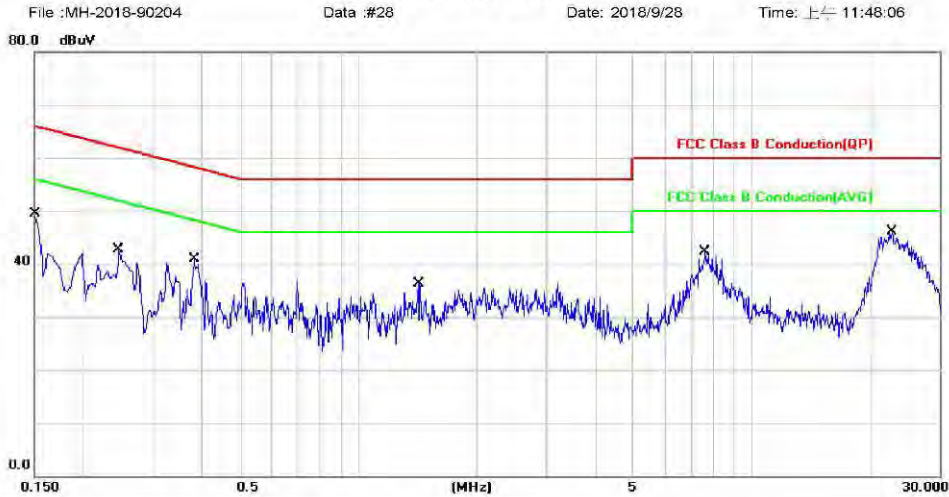
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### Config\_2\_N

Site : Conduction Room      Phase: **N**      Temperature: 23 °C  
 Limit: FCC Class B Conduction(QP)      Power: AC 120V/60Hz      Humidity: 64 %  
 Mode: config 2  
 Note: Data R/W read

#### Conducted Emission



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV	dBuV	dB		
1		0.1500	28.50	19.64	48.14	66.00	-17.86	QP	
2		0.1500	14.90	19.64	34.54	56.00	-21.46	AVG	
3		0.2460	21.30	19.80	41.10	61.89	-20.79	QP	
4		0.2460	9.90	19.80	29.70	51.89	-22.19	AVG	
5		0.3820	19.20	20.02	39.22	58.24	-19.02	QP	
6 *		0.3820	15.80	20.02	35.82	48.24	-12.42	AVG	
7		1.4220	9.80	20.13	29.93	56.00	-26.07	QP	
8		1.4220	4.30	20.13	24.43	46.00	-21.57	AVG	
9		7.6260	16.90	19.96	36.86	60.00	-23.14	QP	
10		7.6260	10.50	19.96	30.46	50.00	-19.54	AVG	
11		22.7140	20.30	20.12	40.42	60.00	-19.58	QP	
12		22.7140	12.30	20.12	32.42	50.00	-17.58	AVG	

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

File :MH-2018-90204\Data :#28

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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 Number	Calibration Date	Calibration 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.

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Measurement Uncertainty of Radiated Emission

Expanded uncertainty U<sub>lab</sub> (K=2) of radiated emission is 4.09 dB. (30MHz ~ 1000MHz)

Theory values uncertainty U<sub>cispr 16-4-2:2011+A1:2014</sub> (K=2) of radiated emission is 5.22 dB. (30MHz ~ 1000MHz)

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## Above 1GHz

SGS Radiated_Above_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	BBHA9120D673	2017/10/16	2018/10/15
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	2017/10/27	2018/10/26
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	EMC Instruments	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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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  
 Note: WCDMA\_B4

Polarization: **Horizontal**  
 Power: AC 120V/60Hz  
 Distance: 10m  
 Temperature: 24 °C  
 Humidity: 66 %

Radiated Emission



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measurement dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		30.2990	25.31	-12.41	12.90	30.00	-17.10	QP	
2		45.4860	23.50	-11.10	12.40	30.00	-17.60	QP	
3		147.1010	24.37	-10.97	13.40	30.00	-16.60	QP	
4		760.3300	23.43	0.77	24.20	37.00	-12.80	QP	
5		927.9520	23.31	2.89	26.20	37.00	-10.80	QP	
6 *		966.6020	23.50	3.10	26.60	37.00	-10.40	QP	

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

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### Config\_1\_V

Site: SGS 10m Chamber	Polarization: <b>Vertical</b>	Temperature: 24 °C
Limit: CISPR22 Class B 10M Radiation	Power: AC 120V/60Hz	Humidity: 66 %
Mode: Config_1	Distance: 10m	
Note: WCDMA_B4		

### Radiated Emission



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measurement dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		32.3740	28.05	-12.05	16.00	30.00	-14.00	QP	
2	*	40.3320	30.07	-11.47	18.60	30.00	-11.40	QP	
3		55.7880	27.12	-11.02	16.10	30.00	-13.90	QP	
4		933.0100	22.63	1.97	24.60	37.00	-12.40	QP	
5		978.0040	22.34	2.06	24.40	37.00	-12.60	QP	
6		987.8160	22.38	2.12	24.50	37.00	-12.50	QP	

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

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### Config\_2\_H

Site: SGS 10m Chamber      Polarization: *Horizontal*      Temperature: 24 °C  
 Limit: CISPR22 Class B 10M Radiation      Power: AC 120V/60Hz      Humidity: 66 %  
 Mode: Config\_2      Distance: 10m  
 Note: data write

### Radiated Emission



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measurement dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		32.3790	30.89	-12.29	18.60	30.00	-11.40	QP	
2		119.2400	32.00	-13.50	18.50	30.00	-11.50	QP	
3		824.2960	23.41	1.19	24.60	37.00	-12.40	QP	
4		913.4100	23.62	2.28	25.90	37.00	-11.10	QP	
5	*	952.3510	23.28	3.22	26.50	37.00	-10.50	QP	
6		987.0760	23.40	2.90	26.30	37.00	-10.70	QP	

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

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### Config\_2\_V

Site: SGS 10m Chamber	Polarization: <b>Vertical</b>	Temperature: 24 °C
Limit: CISPR22 Class B 10M Radiation	Power: AC 120V/60Hz	Humidity: 66 %
Mode: Config_2	Distance: 10m	
Note: data write		

### Radiated Emission



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measurement dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	*	39.3630	36.09	-11.49	24.60	30.00	-5.40	QP	
2		45.7960	25.38	-10.88	14.50	30.00	-15.50	QP	
3		96.2530	35.38	-16.48	18.90	30.00	-11.10	QP	
4		259.6460	37.91	-11.71	26.20	37.00	-10.80	QP	
5		927.1350	22.73	1.87	24.60	37.00	-12.40	QP	
6		956.2750	22.58	1.92	24.50	37.00	-12.50	QP	

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

File: MH-2018-90204\Data: #51

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### Config\_3\_H

Site SGS 10m Chamber      Polarization: *Horizontal*      Temperature: 24 °C  
 Limit: CISPR22 Class B 10M Radiation      Power: AC 120V/60Hz      Humidity: 66 %  
 Mode: Config\_3      Distance: 10m  
 Note: MP3

#### Radiated Emission



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measurement dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		33.5040	26.68	-12.28	14.40	30.00	-15.60	QP	
2		787.7310	23.30	0.80	24.10	37.00	-12.90	QP	
3		839.0700	23.51	1.39	24.90	37.00	-12.10	QP	
4		936.4630	23.39	3.01	26.40	37.00	-10.60	QP	
5 *		973.0790	23.42	3.08	26.50	37.00	-10.50	QP	
6		988.4290	23.29	2.91	26.20	37.00	-10.80	QP	

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

File :MH-2018-90204\Data :#44

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### Config\_3\_V

Site: SGS 10m Chamber      Polarization: **Vertical**      Temperature: 24 °C  
 Limit: CISPR22 Class B 10M Radiation      Power: AC 120V/60Hz      Humidity: 66 %  
 Mode: Config\_3      Distance: 10m  
 Note: MP3

#### Radiated Emission



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measurement dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		42.4020	24.04	-11.14	12.90	30.00	-17.10	QP	
2		152.9500	23.99	-10.79	13.20	30.00	-16.80	QP	
3		908.4910	22.58	1.72	24.30	37.00	-12.70	QP	
4	*	943.2340	22.56	1.94	24.50	37.00	-12.50	QP	
5		966.2790	22.41	1.89	24.30	37.00	-12.70	QP	
6		984.1580	22.26	2.04	24.30	37.00	-12.70	QP	

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

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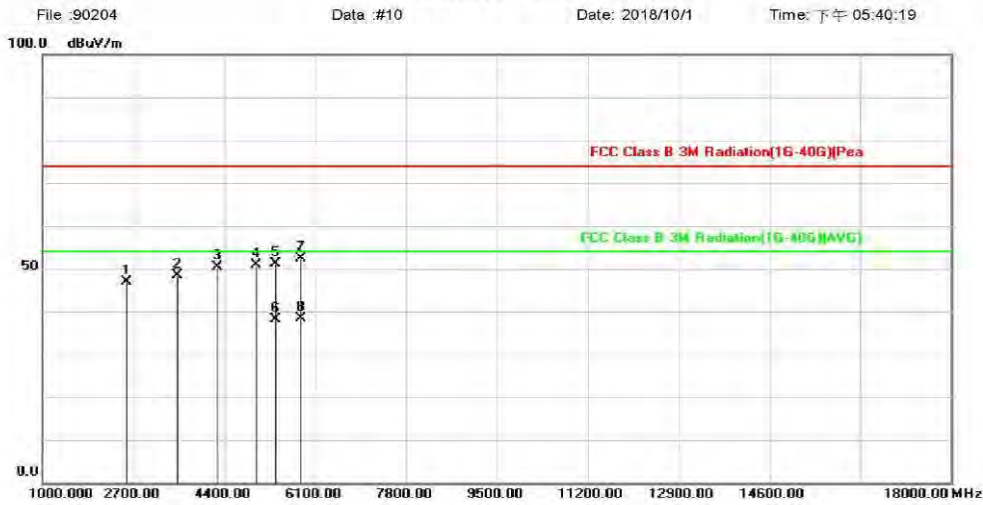
Above 1GHz

1GMz-18GMz

Config\_1\_H

Site: SGS 966 Chamber A  
 Limit: FCC Class B 3M Radiation(1G-40G)(Pea  
 Mode: Config 1  
 Note:  
 Polarization: **Horizontal**  
 Power: AC 120V/60Hz  
 Distance:  
 Temperature: 24 ℃  
 Humidity: 60 %

Radiated Emission



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
1		2581.000	58.35	-11.35	47.00	74.00	-27.00	peak	
2		3533.000	58.84	-10.45	48.39	74.00	-25.61	peak	
3		4281.000	58.24	-7.97	50.27	74.00	-23.73	peak	
4		4995.000	57.98	-7.10	50.88	74.00	-23.12	peak	
5		5369.000	57.43	-6.36	51.07	74.00	-22.93	peak	
6		5369.000	44.47	-6.36	38.11	54.00	-15.89	AVG	
7		5845.000	57.53	-5.07	52.46	74.00	-21.54	peak	
8 *		5845.000	43.50	-5.07	38.43	54.00	-15.57	AVG	

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

File :90204\Data :#10

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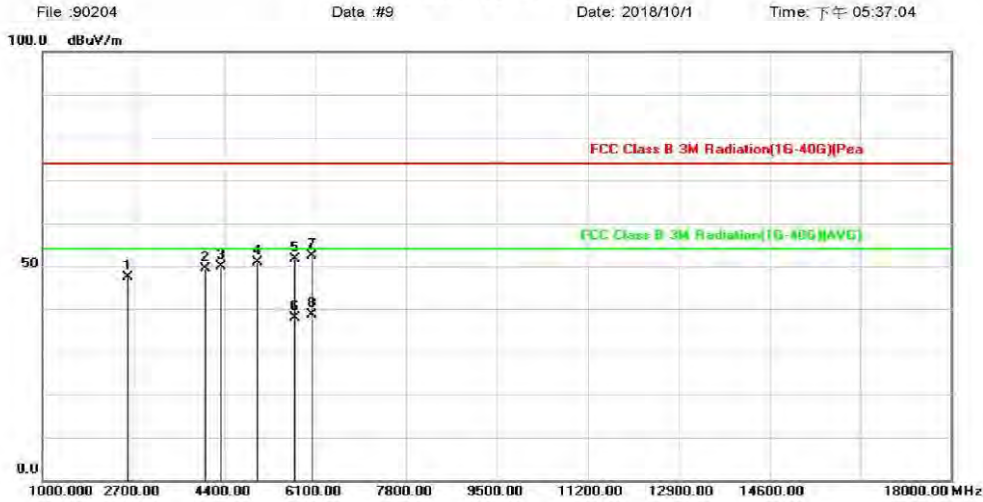
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### Config\_1\_V

Site: SGS 966 Chamber A  
 Limit: FCC Class B 3M Radiation(1G-40G)(Pea  
 Mode: Config 1  
 Note:  
 Polarization: **Vertical**  
 Power: AC 120V/60Hz  
 Distance:  
 Temperature: 24 °C  
 Humidity: 60 %

### Radiated Emission



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
1		2598.000	58.71	-11.36	47.35	74.00	-26.65	peak	
2		4043.000	57.74	-8.25	49.49	74.00	-24.51	peak	
3		4332.000	57.67	-7.91	49.76	74.00	-24.24	peak	
4		5012.000	57.88	-7.08	50.80	74.00	-23.20	peak	
5		5726.000	57.10	-5.41	51.69	74.00	-22.31	peak	
6		5726.000	43.29	-5.41	37.88	54.00	-16.12	AVG	
7		6049.000	56.68	-4.24	52.44	74.00	-21.56	peak	
8 *		6049.000	42.78	-4.24	38.54	54.00	-15.46	AVG	

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

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### Config\_2\_H

Site: SGS 966 Chamber A      Polarization: **Horizontal**      Temperature: 24 °C  
 Limit: FCC Class B 3M Radiation(1G-40G)(Pea)      Power: AC 120V/60Hz      Humidity: 60 %  
 Mode: Config 2      Distance:  
 Note:

#### Radiated Emission



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measurement dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		2870.000	58.59	-11.87	46.72	74.00	-27.28	peak	
2		4332.000	57.35	-7.91	49.44	74.00	-24.56	peak	
3		4808.000	58.81	-7.34	51.47	74.00	-22.53	peak	
4		4808.000	45.29	-7.34	37.95	54.00	-16.05	AVG	
5		5284.000	57.62	-6.53	51.09	74.00	-22.91	peak	
6		5284.000	44.67	-6.53	38.14	54.00	-15.86	AVG	
7		5777.000	57.31	-5.26	52.05	74.00	-21.95	peak	
8		5777.000	43.49	-5.26	38.23	54.00	-15.77	AVG	
9		6049.000	57.13	-4.24	52.89	74.00	-21.11	peak	
10 *		6049.000	42.75	-4.24	38.51	54.00	-15.49	AVG	

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

File :90204\Data :#8

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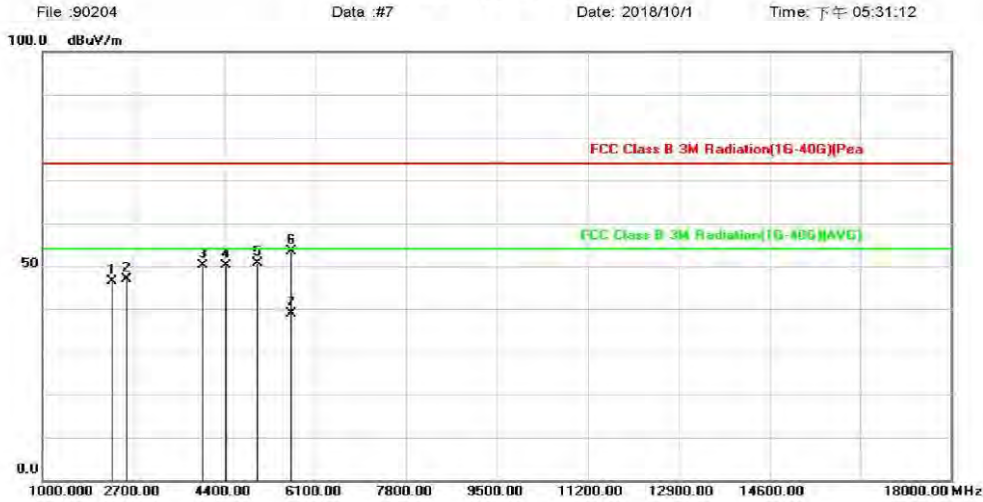
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### Config\_2\_V

Site: SGS 966 Chamber A  
 Limit: FCC Class B 3M Radiation(1G-40G)(Pea  
 Mode: Config 2  
 Note:  
 Polarization: **Vertical**  
 Power: AC 120V/60Hz  
 Distance:  
 Temperature: 24 °C  
 Humidity: 60 %

### Radiated Emission



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
1		2292.000	60.12	-13.84	46.28	74.00	-27.72	peak	
2		2581.000	58.22	-11.35	46.87	74.00	-27.13	peak	
3		4009.000	58.32	-8.29	50.03	74.00	-23.97	peak	
4		4434.000	58.01	-7.78	50.23	74.00	-23.77	peak	
5		5029.000	57.59	-7.04	50.55	74.00	-23.45	peak	
6		5658.000	59.07	-5.63	53.44	74.00	-20.56	peak	
7	*	5658.000	44.44	-5.63	38.81	54.00	-15.19	AVG	

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

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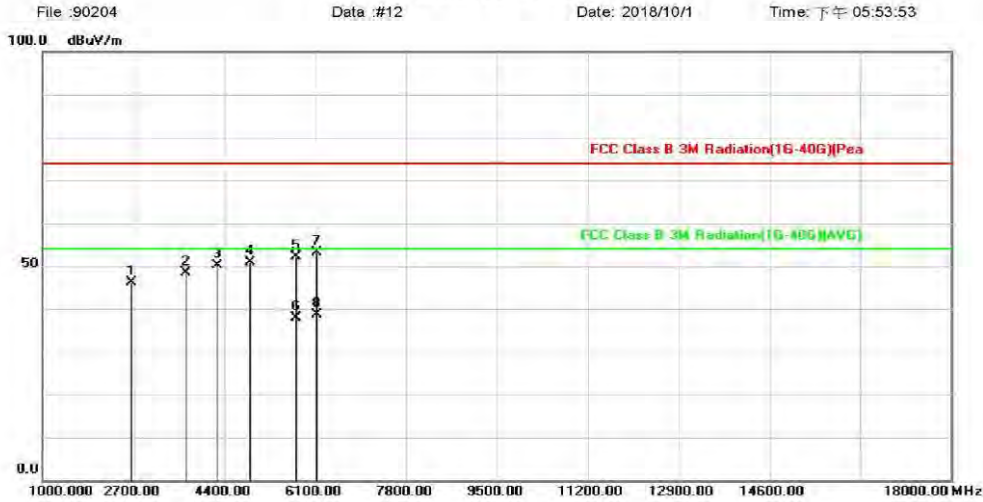
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## Config\_3\_H

Site: SGS 966 Chamber A  
 Limit: FCC Class B 3M Radiation(1G-40G)(Pea  
 Mode: Config 3  
 Note:  
 Polarization: **Horizontal**  
 Power: AC 120V/60Hz  
 Distance:  
 Temperature: 24 °C  
 Humidity: 60 %

### Radiated Emission



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
1		2666.000	57.73	-11.49	46.24	74.00	-27.76	peak	
2		3686.000	58.16	-9.74	48.42	74.00	-25.58	peak	
3		4264.000	58.12	-7.99	50.13	74.00	-23.87	peak	
4		4876.000	58.08	-7.24	50.84	74.00	-23.16	peak	
5		5743.000	57.46	-5.37	52.09	74.00	-21.91	peak	
6		5743.000	43.18	-5.37	37.81	54.00	-16.19	AVG	
7		6134.000	56.79	-3.65	53.14	74.00	-20.86	peak	
8 *		6134.000	42.21	-3.65	38.56	54.00	-15.44	AVG	

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

File :90204\Data :#12

Page: 1

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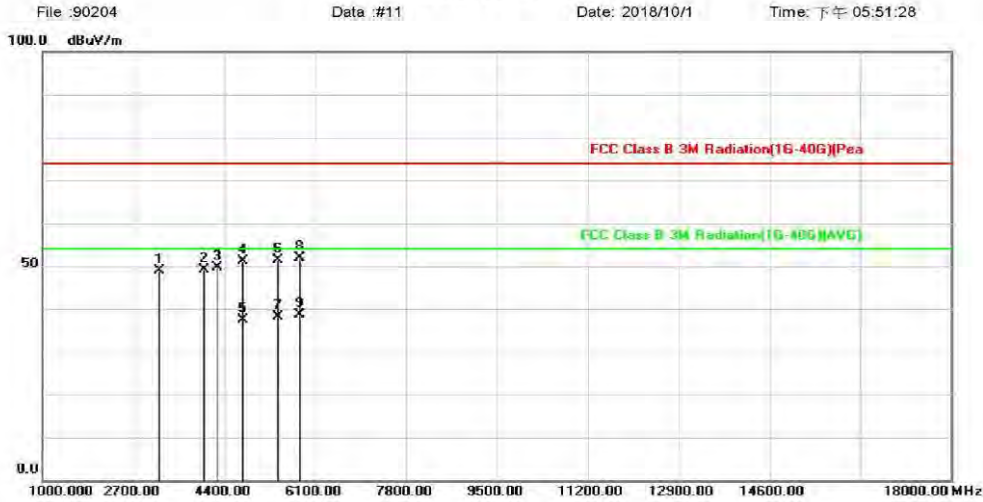
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### Config\_3\_V

Site: SGS 966 Chamber A  
 Limit: FCC Class B 3M Radiation(1G-40G)(Pea  
 Mode: Config 3  
 Note:  
 Polarization: **Vertical**  
 Power: AC 120V/60Hz  
 Temperature: 24 °C  
 Humidity: 60 %  
 Distance:

### Radiated Emission



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
1		3193.000	60.32	-11.52	48.80	74.00	-25.20	peak	
2		4026.000	57.49	-8.27	49.22	74.00	-24.78	peak	
3		4264.000	57.66	-7.99	49.67	74.00	-24.33	peak	
4		4757.000	58.52	-7.40	51.12	74.00	-22.88	peak	
5		4757.000	44.84	-7.40	37.44	54.00	-16.56	AVG	
6		5403.000	57.72	-6.30	51.42	74.00	-22.58	peak	
7		5403.000	44.40	-6.30	38.10	54.00	-15.90	AVG	
8		5811.000	57.05	-5.17	51.88	74.00	-22.12	peak	
9 *		5811.000	43.70	-5.17	38.53	54.00	-15.47	AVG	

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

File :90204\Data :#11

Page: 1

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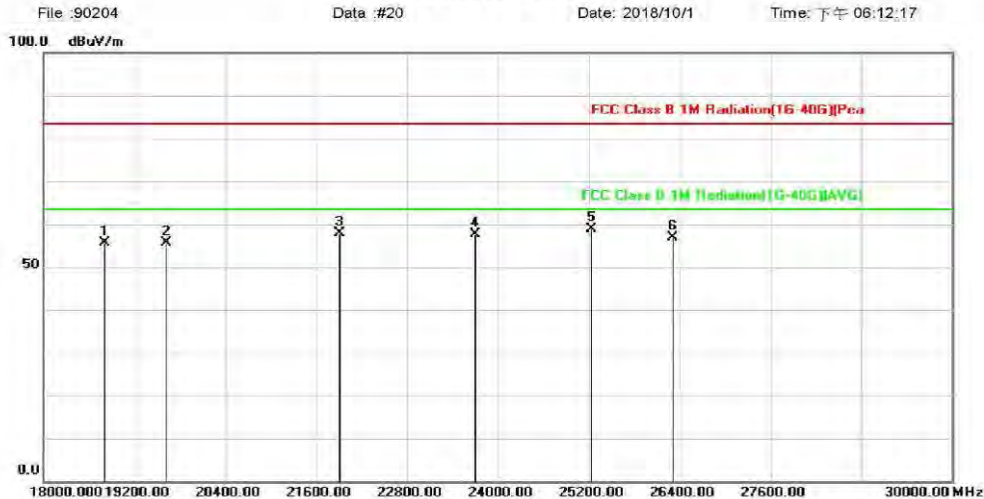
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### 18GMz-30GMz

### Config\_1\_H

Site: SGS 966 Chamber A	Polarization: <b>Horizontal</b>	Temperature: 24 °C
Limit: FCC Class B 1M Radiation(1G-40G)(Pea	Power: AC 120V/60Hz	Humidity: 60 %
Mode: Config 1	Distance:	
Note:		

#### Radiated Emission



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
1		18804.000	54.35	1.26	55.61	83.50	-27.89	peak	
2		19620.000	53.74	1.94	55.68	83.50	-27.82	peak	
3		21912.000	53.17	4.83	58.00	83.50	-25.50	peak	
4		23700.000	51.74	5.90	57.64	83.50	-25.86	peak	
5	*	25236.000	53.04	5.78	58.82	83.50	-24.68	peak	
6		26304.000	50.98	5.96	56.94	83.50	-26.56	peak	

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

File :90204\Data :#20

Page: 1

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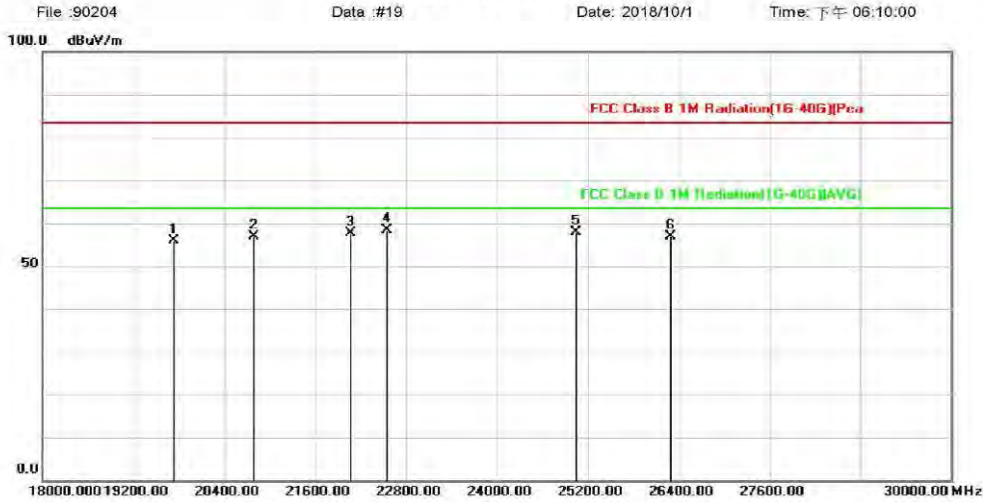
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### Config\_1\_V

Site: SGS 966 Chamber A      Polarization: **Vertical**      Temperature: 24 °C  
 Limit: FCC Class B 1M Radiation(1G-40G)(Pea      Power: AC 120V/60Hz      Humidity: 60 %  
 Mode: Config 1      Distance:  
 Note:

### Radiated Emission



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
1		19740.000	53.59	2.18	55.77	83.50	-27.73	peak	
2		20796.000	53.86	2.99	56.85	83.50	-26.65	peak	
3		22068.000	52.53	5.05	57.58	83.50	-25.92	peak	
4	*	22548.000	52.85	5.41	58.26	83.50	-25.24	peak	
5		25044.000	51.61	6.20	57.81	83.50	-25.69	peak	
6		26292.000	50.85	5.96	56.81	83.50	-26.69	peak	

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

File :90204\Data :#19

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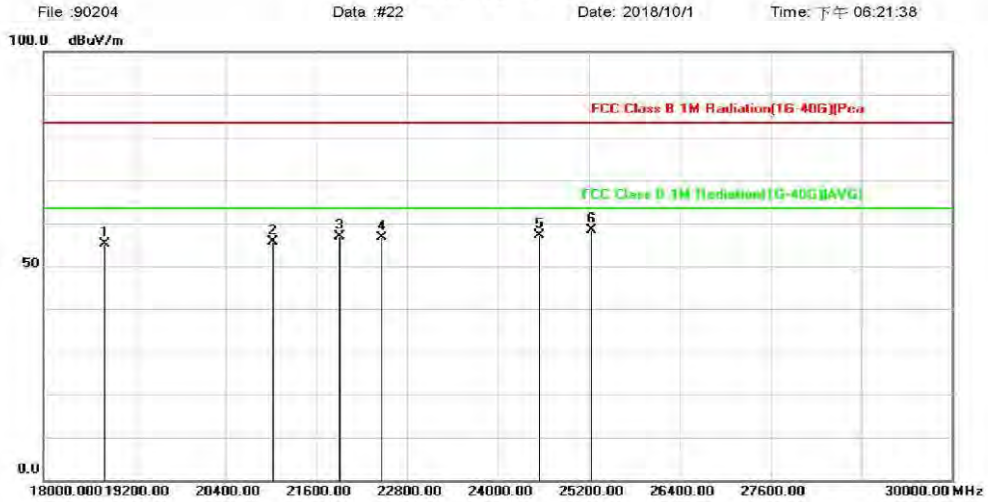
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### Config 2 H

Site: SGS 966 Chamber A  
 Limit: FCC Class B 1M Radiation(1G-40G)(Pea  
 Mode: Config 2  
 Note:  
 Polarization: **Horizontal**  
 Power: AC 120V/60Hz  
 Distance:  
 Temperature: 24 °C  
 Humidity: 60 %

### Radiated Emission



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
1		18804.000	53.85	1.26	55.11	83.50	-28.39	peak	
2		21024.000	52.28	3.25	55.53	83.50	-27.97	peak	
3		21912.000	52.17	4.83	57.00	83.50	-26.50	peak	
4		22464.000	51.26	5.38	56.64	83.50	-26.86	peak	
5		24552.000	50.96	6.21	57.17	83.50	-26.33	peak	
6 *		25236.000	52.54	5.78	58.32	83.50	-25.18	peak	

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

File :90204\Data :#22

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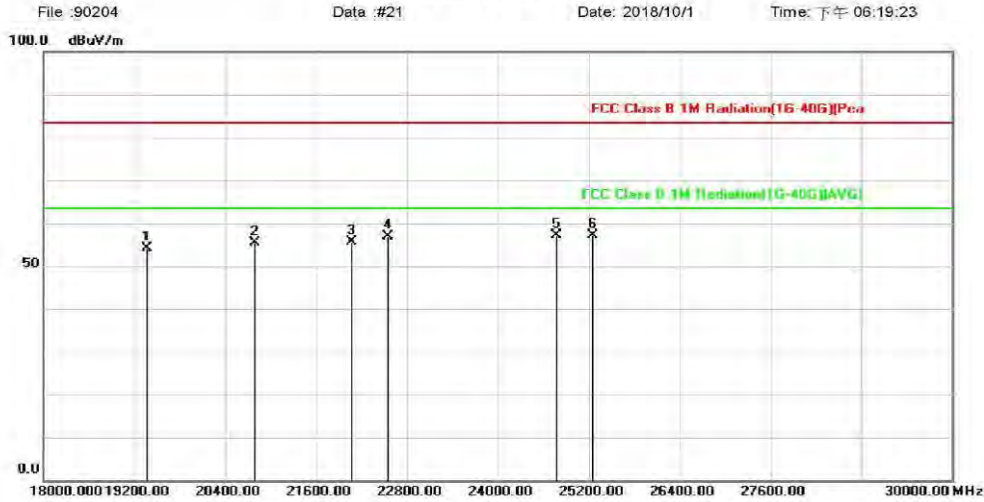
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### Config\_2\_V

Site: SGS 966 Chamber A      Polarization: **Vertical**      Temperature: 24 °C  
 Limit: FCC Class B 1M Radiation(1G-40G)(Pea      Power: AC 120V/60Hz      Humidity: 60 %  
 Mode: Config 2      Distance:  
 Note:

### Radiated Emission



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
1		19368.000	52.65	1.59	54.24	83.50	-29.26	peak	
2		20796.000	52.36	2.99	55.35	83.50	-28.15	peak	
3		22068.000	50.53	5.05	55.58	83.50	-27.92	peak	
4		22548.000	51.35	5.41	56.76	83.50	-26.74	peak	
5 *		24768.000	50.98	6.25	57.23	83.50	-26.27	peak	
6		25260.000	51.34	5.73	57.07	83.50	-26.43	peak	

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

File :90204\Data :#21

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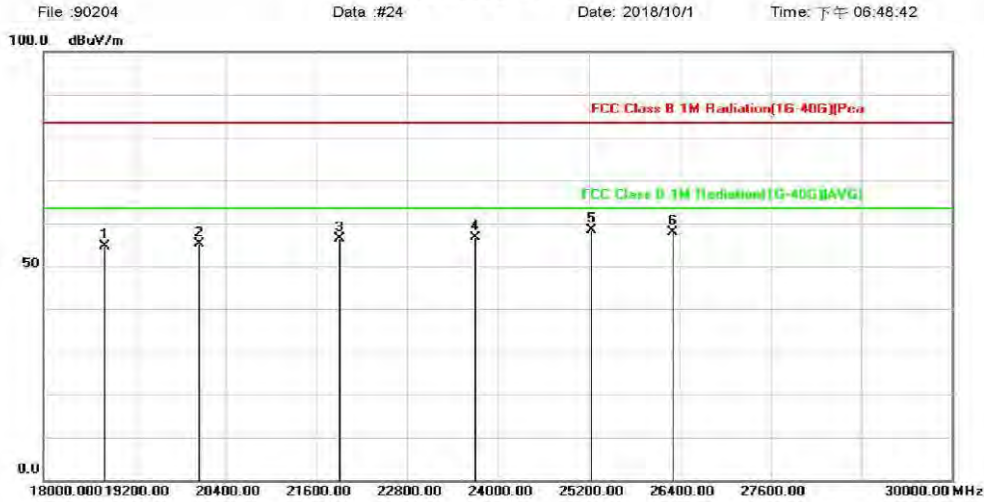
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### Config\_3\_H

Site: SGS 966 Chamber A  
 Limit: FCC Class B 1M Radiation(1G-40G)(Pea  
 Mode: Config 3  
 Note:  
 Polarization: **Horizontal**  
 Power: AC 120V/60Hz  
 Distance:  
 Temperature: 24 °C  
 Humidity: 60 %

### Radiated Emission



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
1		18804.000	53.35	1.26	54.61	83.50	-28.89	peak	
2		20052.000	52.35	2.70	55.05	83.50	-28.45	peak	
3		21912.000	51.67	4.83	56.50	83.50	-27.00	peak	
4		23700.000	50.74	5.90	56.64	83.50	-26.86	peak	
5 *		25236.000	52.54	5.78	58.32	83.50	-25.18	peak	
6		26304.000	51.98	5.96	57.94	83.50	-25.56	peak	

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

File :90204\Data :#24

Page: 1

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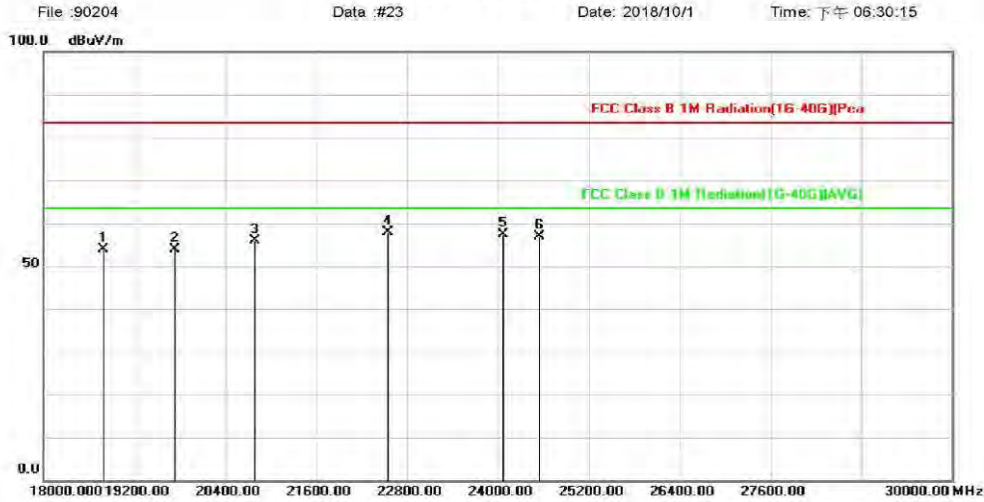
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### Config\_3\_V

Site: SGS 966 Chamber A      Polarization: **Vertical**      Temperature: 24 °C  
 Limit: FCC Class B 1M Radiation(1G-40G)(Pea      Power: AC 120V/60Hz      Humidity: 60 %  
 Mode: Config 3      Distance:  
 Note:

### Radiated Emission



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		
1		18792.000	52.60	1.26	53.86	83.50	-29.64	peak	
2		19740.000	51.59	2.18	53.77	83.50	-29.73	peak	
3		20796.000	52.86	2.99	55.85	83.50	-27.65	peak	
4	*	22548.000	52.35	5.41	57.76	83.50	-25.74	peak	
5		24072.000	51.52	5.95	57.47	83.50	-26.03	peak	
6		24552.000	50.72	6.21	56.93	83.50	-26.57	peak	

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

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**\*\* End of Report \*\***

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