

Report No: CCISE180906701

# FCC REPORT (GSM & WCDMA)

Applicant:	General Procurement, Inc		
Address of Applicant:	800 E. Dyer Road, Santa Ana, California, United States		
Equipment Under Test (E	EUT)		
Product Name:	Smart Phone		
Model No.:	Eternity H67		
FCC ID:	2AQ7MH25568K		
Applicable standards:	FCC CFR Title 47 Part 2 FCC CFR Title 47 Part 22 Subpart H FCC CFR Title 47 Part 24 Subpart E		
Date of sample receipt:	15 Sep., 2018		
Date of Test:	15 Sep., to 25 Oct., 2018		
Date of report issued:	25 Oct., 2018		
Test Result:	PASS*		

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

Authorized Signature:



#### Laboratory Manager

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 and does not permit the use of the CCIS product certification mark. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

This report may only be reproduced and distributed in full. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards.

This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. 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.



## 2. Version

Version No.	Date	Description		
		This report was amended on FCC ID:		
		2AQ7MH25568K follow FCC Class II		
		Permissive Change.		
		The differences between them as below:		
00	25 Oct., 2018	Model number, Battery, Antenna welding		
		board and removed the Fingerprint		
		Identification. Base on the differences		
		description, the Radiated Spurious		
		Emission were re-tested.		

Tested by:

ang Test Engineer

Date:

25 Oct., 2018

Reviewed by:

han

Date:

25 Oct., 2018

**Project Engineer** 



# 3. Contents

		Page
1.	COVER PAGE	1
2.	VERSION	2
3.	CONTENTS	
4.	TEST SUMMARY	
5.	GENERAL INFORMATION	5
5	5.1 Client Information	5
5	5.2 GENERAL DESCRIPTION OF E.U.T.	
5	5.3 Test modes	7
5	5.4 DESCRIPTION OF SUPPORT UNITS	
5	5.5 MEASUREMENT UNCERTAINTY	7
-	5.6 LABORATORY FACILITY	
Ŭ	5.7 LABORATORY LOCATION	
5	5.8 TEST INSTRUMENTS LIST	
6.	TEST RESULTS	9
6	6.1 CONDUCTED OUTPUT POWER, ERP AND EIRP	9
6	6.2 PEAK-TO-AVERAGE POWER RATIO	
6	6.3 Occupy Bandwidth	
6	6.4 MODULATION CHARACTERISTIC	
6	6.5 OUT OF BAND EMISSION AT ANTENNA TERMINALS	
-	6.6 FIELD STRENGTH OF SPURIOUS RADIATION MEASUREMENT	
-	6.7 FREQUENCY STABILITY V.S. TEMPERATURE MEASUREMENT	
6	6.8 FREQUENCY STABILITY V.S. VOLTAGE MEASUREMENT	
7	TEST SETUP PHOTO	20
8	EUT CONSTRUCTIONAL DETAILS	



# 4. Test Summary

Test Item	Section in CFR 47	Result
RF Exposure (SAR)	Part 1.1307 Part 2.1093	Pass (Please refer to SAR Report)
RF Output Power	Part 2.1046 Part 22.913 (a)(2) Part 24.232 (c)	Pass*
Peak-to-Average Power Ratio	Part 24.232 (d) Part 27.50(d)(5)	Pass*
Modulation Characteristics	Part 2.1047	Pass*
99% & -26 dB Occupied Bandwidth	Part 2.1049 Part 22.917(b) Part 24.238(b)	Pass*
Out of band emission at antenna terminals	Part 2.1053 Part 22.917 (a) Part 24.238 (a)	Pass*
Field strength of spurious radiation	Part 22.917 (a) Part 24.238 (a)	Pass
Frequency stability vs. temperature	Part 22.355 Part 24.235 Part 27.54 Part 2.1055(a)(1)(b)	Pass*
Frequency stability vs. voltage	Part 22.355 Part 24.235 Part 27.54 Part 2.1055(d)(2)	Pass*



# **5. General Information**

### 5.1 Client Information

Applicant:	General Procurement, Inc
Address:	800 E. Dyer Road, Santa Ana, California, United States
Manufacturer	SHENZHEN HENG DA INFINITE COMMUNICATION EQUIPMENTS LIMITED
Address:	Rm 1301 Block D, Tian An Cloud Park Building 3rd, Bantian Street, Longgang District, Shenzhen. P. R. C.
Factory:	HUIZHOU HENG DA INFINITE COMMUNICATION EQUIPMENTS LIMITED
Address:	The Second Floor B01 No.15 Wanli Industrial Zone, Gan Po Hang, Huiyang Town, Huizhou

# 5.2 General Description of E.U.T.

Product Name:	Smart Phone
Model No.:	Eternity H67
Operation Frequency range:	GSM 850: 824.20MHz-848.80MHz
	PCS1900: 1850.20MHz-1909.80MHz
	WCDMA Band V: 826.4MHz-846.6MHz
	WCDMA Band II: 1852.4 MHz-1907.6 MHz
Modulation type:	GSM/GPRS: GMSK, UMTS: QPSK
Antenna type:	Internal Antenna
Antenna gain:	GSM 850: -2.2 dBi
	PCS 1900: 0.23 dBi
	WCDMA Band V:-2.2 dBi
	WCDMA Band II: 0.23 dBi
Power supply:	Rechargeable Li-ion Battery DC3.8V, 2300mAh
AC adapter:	Model: HJ-0501000E1-US
	Input: AC100-240V, 50/60Hz, 0.2A
	Output: DC 5.0V, 1000mA
Test Sample Condition:	The test samples were provided in good working order with no visible defects.



#### **Operation Frequency List:**

GS	VI 850	PCS1900		
Channel	Frequency (MHz)	Channel	Frequency (MHz)	
128	824.20	512	1850.20	
129	824.40	513	1850.40	
189	836.40	660	1879.80	
190	836.60	661	1880.00	
191	836.80	662	1880.20	
250	848.60	809	1909.60	
251	848.80	810	1909.80	
WCDM	A Band V	WCDMA Band II		
Channel	Frequency (MHz)	Channel	Frequency (MHz)	
4132	826.40	9262	1852.40	
4133	826.60	9263	1852.60	
4182	836.40	9399	1879.80	
4183	836.60	9400	1880.00	
4184	836.80	9401	1880.20	
4232	846.40	9537	1907.40	
4233	846.60	9538	1907.60	

Regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

GSM850			PCS1900			
Channel		Frequency(MHz)	Channel		Frequency(MHz)	
Lowest channel	128	824.20	Lowest channel	512	1850.20	
Middle channel	190	836.60	Middle channel	661	1880.00	
Highest channel	251	848.80	Highest channel 810		1909.80	
l l	WCDMA Band V			WCDMA Band II		
Chann	Channel Frequency(MHz)		Channel Frequency(N		Frequency(MHz)	
Lowest channel	4132	826.40	Lowest channel	9262	1852.40	
Middle channel	4183	836.60	Middle channel	9400	1880.00	
Highest channel	4233	846.60	Highest channel	9538	1907.60	



### 5.3 Test modes

Operating Environment	Operating Environment:			
Temperature:	Normal: 15℃ ~ 35℃, Extreme: -30℃ ~ +50℃			
Humidity:	20 % ~ 75 % RH			
Atmospheric Pressure:	1008 mbar			
Voltage:	Nominal: 3.8Vdc, Extreme: Low 3.5 Vdc, High 4.35 Vdc			
Test mode:				
GSM mode	Keep the EUT communication with simulated station in GSM mode			
GPRS mode	Keep the EUT communication with simulated station in GPRS mode			
RMC mode	Keep the EUT communication with simulated station in RMC mode			
HSDPA	Keep the EUT communication with simulated station in HSDPA mode			
HSUPA	Keep the EUT communication with simulated station in HSUPA mode			
Remark: The EUT has been tested under continuous transmitting mode. Channel Low, Mid and High for each type band with rated data rate were chosen for full testing. The field strength of spurious radiation emission was measured as EUT stand-up position (H mode) and lie down position (E1, E2 mode) for these modes with power adaptor, earphone and Data cable. Just the worst case position (H mode) shown in report.				

### 5.4 Description of Support Units

Test Equipment	Manufacturer	Model No.	Serial No.	
Simulated Station	Anritsu	MT8820C	6201026545	

### 5.5 Measurement Uncertainty

Parameters	Expanded Uncertainty		
Radiated Emission (9kHz ~ 30MHz)	±2.76 dB (k=2)		
Radiated Emission (30MHz ~ 1000MHz)	±4.28 dB (k=2)		
Radiated Emission (1GHz ~ 18GHz)	±5.72 dB (k=2)		
Radiated Emission (18GHz ~ 40GHz)	±2.88 dB (k=2)		

### 5.6 Laboratory Facility

The test facility is recognized, certified, or accredited by the following organizations:

#### • FCC - Registration No.: 727551

Shenzhen Zhongjian Nanfang Testing Co., Ltd. has been accredited as a testing laboratory by FCC (Federal Communications Commission). The Registration No. is 727551.

#### IC - Registration No.: 10106A-1

The 3m Semi-anechoic chamber of Shenzhen Zhongjian Nanfang Testing Co., Ltd. has been Registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 10106A-1.

#### • CNAS - Registration No.: CNAS L6048

Shenzhen Zhongjian Nanfang Testing Co., Ltd. is accredited to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration laboratories for the competence of testing. The Registration No. is CNAS L6048.

#### • A2LA - Registration No.: 4346.01

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 General requirements for the competence of testing and calibration laboratories. The test scope can be found as below link: <u>https://portal.a2la.org/scopepdf/4346-01.pdf</u>



### 5.7 Laboratory Location

Shenzhen Zhongjian Nanfang Testing Co., Ltd. Address: No. B-C, 1/F., Building 2, Laodong No.2 Industrial Park, Xixiang Road, Bao'an District, Shenzhen, Guangdong, China Tel: +86-755-23118282, Fax: +86-755-23116366 Email: info@ccis-cb.com, Website: http://www.ccis-cb.com

### 5.8 Test Instruments list

Test Equipment	Manufacturer	Model No.	Serial No.	Cal. Date (mm-dd-yy)	Cal. Due date (mm-dd-yy)
3m SAC	SAEMC	9m*6m*6m	966	07-22-2017	07-21-2020
BiConiLog Antenna	SCHWARZBECK	VULB9163	497	03-16-2018	03-15-2019
Biconical Antenna	SCHWARZBECK	VUBA9117	359	06-22-2017	06-21-2020
Horn Antenna	SCHWARZBECK	BBHA9120D	916	03-16-2018	03-15-2019
Horn Antenna	SCHWARZBECK	BBHA9120D	1805	06-22-2017	06-21-2020
Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170582	11-21-2017	11-20-2018
EMI Test Software	AUDIX	E3	V	ersion: 6.110919b	)
Pre-amplifier	HP	8447D	2944A09358	03-07-2018	03-06-2019
Pre-amplifier	CD	PAP-1G18	11804	03-07-2018	03-06-2019
Spectrum analyzer	Rohde & Schwarz	FSP30	101454	03-07-2018	03-06-2019
Spectrum analyzer	Rohde & Schwarz	FSP40	100363	11-21-2017	11-20-2018
EMI Test Receiver	Rohde & Schwarz	ESRP7	101070	03-07-2018	03-06-2019
Spectrum Analyzer	Agilent	N9020A	MY50510123	11-10-2017	11-09- 2018
Signal Generator	Rohde & Schwarz	SMX	835454/016	03-07-2018	03-06-2019
Signal Generator	R&S	SMR20	1008100050	03-07-2018	03-06-2019
RF Switch Unit	MWRFTEST	MW200	N/A	N/A	N/A
Test Software	MWRFTEST	MTS8200		Version: 2.0.0.0	
Cable	ZDECL	Z108-NJ-NJ-81	1608458	03-07-2018	03-06-2019
Cable	MICRO-COAX	MFR64639	K10742-5	03-07-2018	03-06-2019
Cable	SUHNER	SUCOFLEX100	58193/4PE	03-07-2018	03-06-2019
DC Power Supply	XinNuoEr	WYK-10020K	1409050110020	10-31-2017	10-30-2018
Temperature Humidity Chamber	HengPu	HPGDS-500	20140828008	09-24-2018	09-23-2019
Simulated Station	Rohde & Schwarz	CMW500	140493	07-16-2018	07-15-2019



# 6. Test results

### 6.1 Conducted Output Power, ERP and EIRP

Test Requirement:	FCC part 22.913(a)(2), FCC part 24.232(c)
Test Method:	ANSI/TIA-603-D 2010
Limit:	GSM 850: 7W, PCS 1900: 2W WCDMA Band V: 7W, WCDMA Band II: 2W
Test setup:	ATT EUT
Test Procedure:	The transmitter output was connected to a calibrated attenuator, the other end of which was connected to the simulated station. Transmitter output power was read off in dBm.
Test Instruments:	Refer to section 5.8 for details
Test mode:	Refer to section 5.3 for details
Test results:	Please refer to the FCC ID: 2AQ7MH25568K



# 6.2 Peak-to-Average Power Ratio

Test Requirement:	FCC part 24.232(d), FCC part 27.50(d)(5)
Test Method	ANSI/TIA-603-D 2010
Limit:	The peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.
Test setup:	System simulator Splitter ATT EUT Spectrum Analyzer
Test Procedure:	<ol> <li>The RF output of the transceiver was connected to a spectrum analyzer through appropriate attenuation.</li> <li>Set the CCDF option in spectrum analyzer, RBW ≥ OBW,</li> <li>Set the EUT working in highest power level, measured and recorded the 0.1% as PAPR level.</li> <li>Repeat step 1~3 at other frequency and modulations.</li> </ol>
Test Instruments:	Refer to section 5.8 for details
Test mode:	Refer to section 5.3 for details
Test results:	Please refer to the FCC ID: 2AQ7MH25568K



# 6.3 Occupy Bandwidth

Test Requirement:	FCC part 22.917(b), FCC part 24.238(b)
Test Method:	ANSI/TIA-603-D 2010
Test setup:	System simulator Splitter ATT EUT Spectrum Analyzer
Test Procedure:	<ol> <li>The EUT's output RF connector was connected with a short cable to the spectrum analyzer</li> <li>RBW was set to about 1% of emission BW, VBW= 3 times RBW.</li> <li>-26dBc display line was placed on the screen (or 99% bandwidth), the occupied bandwidth is the delta frequency between the two points where the display line intersects the signal trace.</li> </ol>
Test Instruments:	Refer to section 5.8 for details
Test mode:	Refer to section 5.3 for details
Test results:	Please refer to the FCC ID: 2AQ7MH25568K



### 6.4 Modulation Characteristic

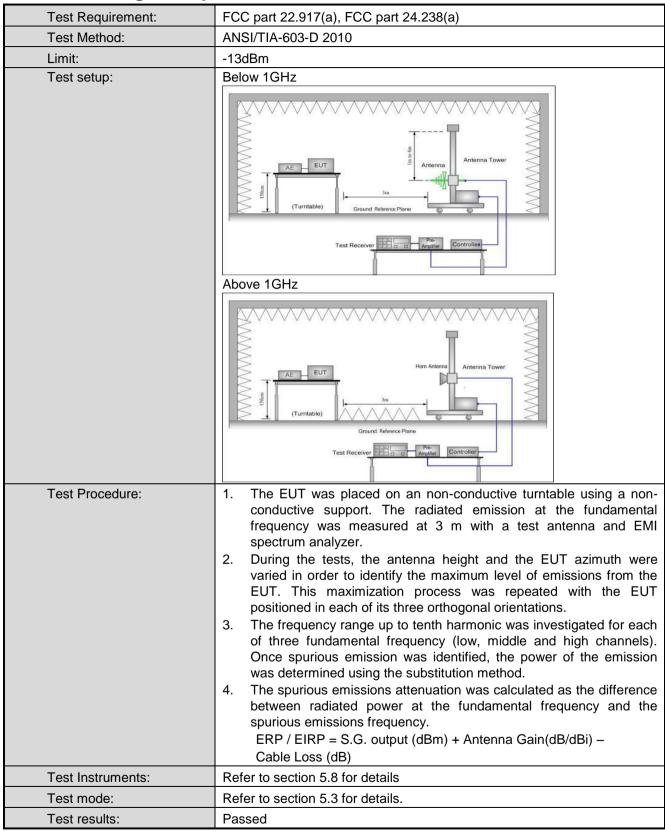
According to FCC § 2.1047(d), Part 22H & 24E there is no specific requirement for digital modulation, therefore modulation characteristic is not presented.

### 6.5 Out of band emission at antenna terminals

Test Requirement:	FCC part 22.917(a), FCC part 24.238(a)
Test Method:	ANSI/TIA-603-D 2010
Limit:	-13dBm
Test setup:	System simulator Splitter ATT EUT Spectrum Analyzer
Test Procedure:	<ol> <li>The RF output of the transceiver was connected to a spectrum analyzer through appropriate attenuation.</li> <li>The resolution bandwidth of the spectrum analyzer was set at 100 kHz when below 1GHz, 1MHz when above 1 GHz; sufficient scans were taken to show the out of band Emissions if any up to 10th harmonic.</li> <li>For the out of band: Set the RBW=100 kHz, VBW=300 kHz when below 1 GHz, RBW =1 MHz, VBW=3 MHz when above 1 GHz, Start=30MHz, Stop= 10th harmonic.</li> <li>Band Edge Requirements: In the 1 MHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least 1 percent of the emission bandwidth of the fundamental emission of the transmitter may be employed to measure the out of band Emissions.</li> </ol>
Test Instruments:	Refer to section 5.8 for details
Test mode:	Refer to section 5.3 for details
Test results:	Please refer to the FCC ID: 2AQ7MH25568K



### 6.6 Field strength of spurious radiation measurement





#### Measurement Data (worst case):

		GSM850		
		Lowest channel		
	Spurious Emission		Lineit (-Dirr)	Decult
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
1648.40	Vertical	-40.10		
2472.60	V	-45.18	-13.00	Pass
3296.80	V	-42.89		
1648.40	Horizontal	-33.63		
2472.60	Н	-41.28	-13.00	Pass
3296.80	Н	-44.58		
		Middle channel	· · · · · ·	
	Spurious	Emission	Lingit (dDmg)	Decult
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
1673.20	Vertical	-40.09		
2509.80	V	-46.74	-13.00	Pass
3346.40	V	-47.19		
1673.20	Horizontal	-36.01		
2509.80	Н	-42.23	-13.00	Pass
3346.40	Н	-48.13		
		Highest channel	· · · · · ·	
	Spurious	Emission	– Limit (dBm)	Result
Frequency (MHz)	Polarization	Level (dBm)		
1697.60	Vertical	-40.00		
2546.40	V	-43.99	-13.00	Pass
3395.20	V	-46.88		
1697.60	Horizontal	-37.79		
2546.40	Н	-40.67	-13.00	Pass
3395.20	Н	-42.96		



		PCS1900		
		Lowest channel		
	Spurious Emission			
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
3700.40	Vertical	-47.61	10.00	Daaa
5550.60	V	-43.38	-13.00	Pass
3700.40	Horizontal	-43.47	12.00	Deee
5550.60	Н	-44.81	-13.00	Pass
		Middle channel		
	Spurious	Emission		Result
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	
3760.00	Vertical	-45.94	40.00	Dees
5640.00	V	-44.34	-13.00	Pass
3760.00	Horizontal	-43.23	40.00	Dava
5640.00	Н	-43.89	-13.00	Pass
		Highest channel		
	Spurious	Emission		Result
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	
3819.60	Vertical	-45.35	12.00	Dees
5729.40	V	-44.00	-13.00	Pass
3819.60	Horizontal	-40.67	40.00	
5729.40	Н	-44.63	-13.00	Pass



		Lowest channel		
	Spurious Emission			
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result
1652.80	Vertical	-56.29		
2479.20	V	-53.09	-13.00	Pass
3305.60	V	-52.24		
1652.80	Horizontal	-52.68		
2479.20	Н	-49.74	-13.00	Pass
3305.60	Н	-51.47		
		Middle channel		
	Spurious Emission		Lingit (-IDage)	Decult
Frequency (MHz)	Polarization	Level (dBm)	– Limit (dBm)	Result
1673.20	Vertical	-56.35		Pass
2509.80	V	-55.44	-13.00	
3346.40	V	-51.57		
1673.20	Horizontal	-52.02		
2509.80	Н	-53.48	-13.00	Pass
3346.40	Н	-50.56		
		Highest channel		
	Spurious	Emission	Limit (dDm)	Deput
Frequency (MHz)	Polarization	Level (dBm)	– Limit (dBm)	Result
1693.20	Vertical	-51.53		
2539.80	V	-52.98	-13.00	Pass
3386.40	V	-50.70		
1693.20	Horizontal	-47.22		
2539.80	Н	-49.43	-13.00	Pass
3386.40	Н	-49.06		



WCDMA Band II 12.2k RMC					
-	Lowest channel				
	Spurious Emission			Result	
Frequency (MHz)	Polarization	Level (dBm)	– Limit (dBm)	Result	
3704.80	Vertical	-40.97	-13.00	Pass	
5557.20	V	-45.16	-13.00	Fass	
3704.80	Horizontal	-43.52	-13.00	Pass	
5557.20	Н	-44.26	-13.00	Pass	
		Middle channel			
	Spurious	Emission			
Frequency (MHz)	Polarization	Level (dBm)	– Limit (dBm)	Result	
3760.00	Vertical	-41.66	10.00	Daga	
5640.00	V	-43.44	-13.00	Pass	
3760.00	Horizontal	-44.50	-13.00	Daga	
5640.00	Н	-43.29	-13.00	Pass	
	Highest channel				
Spurious Emission		Emission	Limit (dDm)	Result	
Frequency (MHz)	Polarization	Level (dBm)	Limit (dBm)	Result	
3815.20	Vertical	-47.94	-13.00	Pass	
5722.80	V	-43.53	-13.00	Fass	
3815.20	Horizontal	-47.53	40.00	Daga	
5722.80	Н	-44.53	13.00	Pass	
Remark:	Remark:				
1. The emission levels of below 1 GHz are very lower than the limit and not show in test report.					



# 6.7 Frequency stability V.S. Temperature measurement

Test Requirement:	FCC Part 22.355, FCC Part 24.235, FCC Part 27.54, FCC Part 2.1055(a)(1)(b)
Test Method:	ANSI/TIA-6-3-D 2010
Limit:	±2.5 ppm
Test setup:	SA Divider EUT Divider Temperature & Humidity Chamber Power Source
Test procedure:	<ol> <li>The equipment under test was connected to an external DC power supply and input rated voltage.</li> <li>RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators.</li> <li>The EUT was placed inside the temperature chamber.</li> <li>Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 25°C operating frequency as reference frequency.</li> <li>Turn EUT off and set the chamber temperature to -30°C. After the temperature stabilized for approximately 30 minutes recorded the frequency.</li> <li>Repeat step measure with 10°C increased per stage until the highest temperature of +50°C reached</li> </ol>
Test Instruments:	Refer to section 5.8 for details
Test mode:	Refer to section 5.3 for details
Test results:	Please refer to the FCC ID: 2AQ7MH25568K



C

# 6.8 Frequency stability V.S. Voltage measurement

Test Requirement:	FCC Part 22.355, FCC Part 24.235, FCC Part 27.54, FCC Part 2.1055(d)(2)
Test Method:	ANSI/TIA-603-D 2010
Limit:	±2.5ppm
Test setup:	SS SS SS SS Divider EUT Divider Temperature & Humidity Chamber Power Source
Test procedure:	<ol> <li>Set chamber temperature to 25°C. Use a variable DC power source to power the EUT and set the voltage to rated voltage.</li> <li>Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency.</li> <li>Reduce the input voltage to specify extreme voltage variation (+/- 15%) and endpoint, record the maximum frequency change.</li> </ol>
Test Instruments:	Refer to section 5.8 for details
Test mode:	Refer to section 5.3 for details
Test results:	Please refer to the FCC ID: 2AQ7MH25568K