FCC 47 CFR PART 90

Test Report

Applicant	:	Dexia Technology Co., Ltd.
Product Type	:	PAGER & PAGING SYSTEM
Trade Name	:	DEXIA
Model Number	:	PTX003
Applicable Standard	:	FCC 47 CFR PART 90 ANSI/TIA/EIA-603-D
Application Purpose	:	Original
Receive Date	:	Aug. 14, 2015
Test Period	:	Sep. 15 ~ Sep. 17, 2015
Issue Date	:	Jul. 11, 2016

Issue by

A Test Lab Techno Corp.
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Taiwan Accreditation Foundation accreditation number: 1330

Revision History

Rev.	Issue Date	Revisions	Revised By
00	Jun. 16, 2016	Initial Issue	Joyce Liao
01	Jul. 11, 2016	Initial Issue	Peggy Chang

Verification of Compliance

Issued Date: Jul. 11, 2016

Applicant	:	Dexia Technology Co., Ltd.
Product Type	:	PAGER & PAGING SYSTEM
Trade Name	:	DEXIA
Model Number	:	PTX003
FCC ID	:	2AFXLPTXCP
EUT Rated Voltage	:	DC 9V, 2A
Test Voltage	:	120 Vac / 60 Hz
Applicable Standard	:	FCC 47 CFR PART 90 ANSI/TIA/EIA-603-D
Application Purpose	:	Original
Test Result	:	Complied
Performing Lab.	:	A Test Lab Techno Corp. No. 140-1, Changan Street, Bade City, Taoyuan County 334, Taiwan R.O.C. Tel：+886-3-2710188 / Fax：+886-3-2710190 Taiwan Accreditation Foundation accreditation number: 1330 http://www.atl-lab.com.tw/e-index.htm

A Test Lab Techno Corp. tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by A Test Lab Techno Corp. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Approved By	:	Fly Lu	Reviewed By	:	Eric Ou Yang
(Manager)		(Fly Lu)	(Testing Engineer)		(Eric Ou Yang)

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1 General Information

1.1. EUT Description

Applicant	Dexia Technology Co., Ltd. 3E11, NO. 5, SEC. 5, HSINYI ROAD, TAIPEI TAIWAN
Manufacturer	Dexia Technology Co., Ltd. 3E11, NO. 5, SEC. 5, HSINYI ROAD, TAIPEI TAIWAN
Product Type	PAGER & PAGING SYSTEM
Trade Name	DEXIA
Model Number	PTX003
FCC ID	2AFXLPTXCP
Frequency Range	450.375 - 459.050 MHz
Channel Separation	25 kHz
Modulation Type	FSK
Type of Antenna	WHIP Antenna
Antenna Gain (dBi)	3.0 dBi
Max. RF Output power	0.000286 W (E.R.P.)
Occupied Bandwidth	11.63 kHz
Emission Designator	11K6F1D

1.2. Mode of Operation

ATL has verified the construction and function in typical operation. All the test modes were carried out with the EUT in normal operation, which was shown in this test report and defined as:

Test Mode
Mode 1: Link Mode

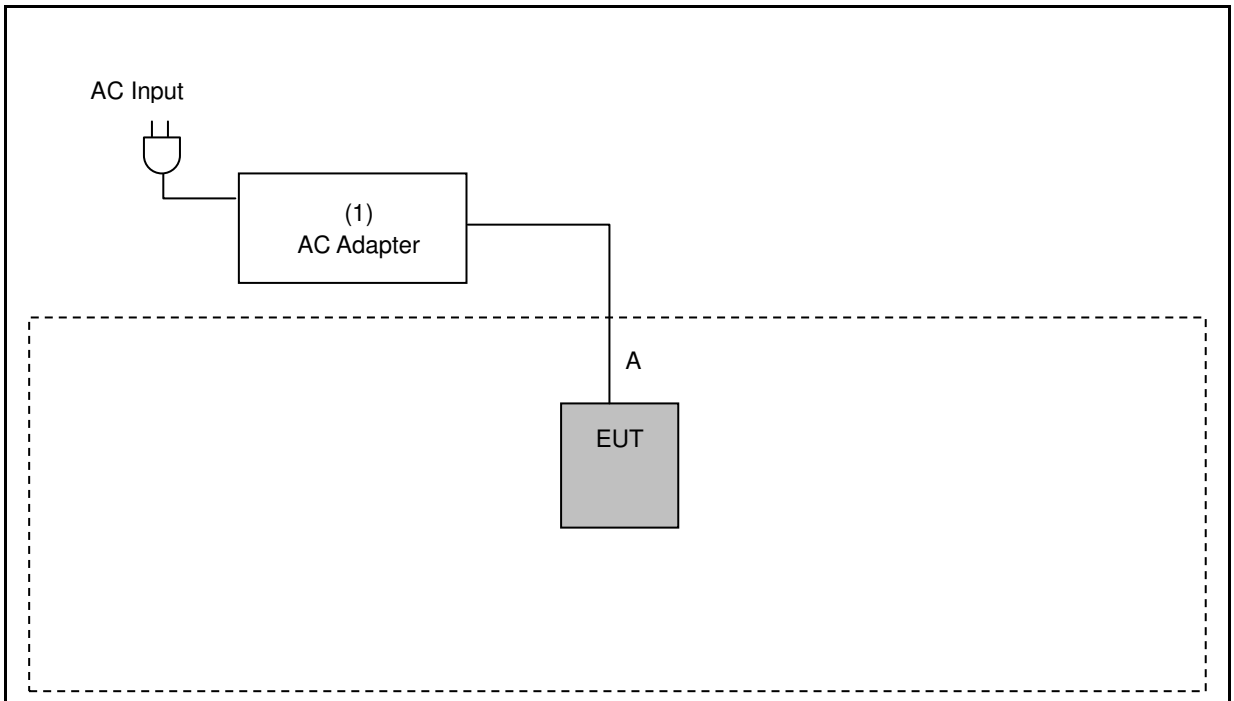
Note: Regards to the frequency band operation: the lowest, middle and highest frequency of channel were selected to perform the test, then shown on this report.

1.3. EUT Exercise Software

1	Setup the EUT as shown on 1.4.
2	Turn on the power of all equipment.

Measurement Software	
1	EZ-EMC Ver. ATL-03A1-1

1.4. Configuration of Test System Details



Signal Cable Type		Signal Cable Description
A	DC Power Cable	Non-Shielded, 1.5 m

Devices Description					
Product		Manufacturer	Model Number	Serial Number	Power Cord
1.	AC Adapter	QME	GFP181U-090200-2	15088-0000007	Non-Shielded, 1.5m

1.5. Test Site Environment

Items	Required (IEC 60068-1)	Actual
Temperature (°C)	15-35	26
Humidity (%RH)	25-75	60
Barometric pressure (mbar)	860-1060	950

1.6. Summary of Test Result

FCC Rule	Description	Result	Remark
§2.1046 §90.205	RF output power	Pass	-----
§2.1049 §90.209(b)(5)	Bandwidth limitation	Pass	-----
§90.210(c) §90.217(a)	Emission mask	Pass	-----
§2.1051 §90.210(c) §90.217(a)	Conducted spurious emissions	Pass	-----
§2.1053 §90.210(c) §90.217(a)	Radiated spurious emissions	Pass	-----
§2.1055 §90.213	Frequency stability	Pass	-----

1.7. Measurement Uncertainty

Test Item	Frequency Range	Uncertainty
Radiated Emission	30 MHz ~ 1000 MHz	6.300 dB
	1000 MHz ~ 18000 MHz	5.474 dB
	18000 MHz ~ 26500 MHz	5.630 dB
	26500 MHz ~ 40000 MHz	5.054 dB
RF output power		1.2 dB
Bandwidth limitation		±10Hz
Emission mask		±2.24 dB
Conducted spurious emissions		±2.24 dB
Radiated spurious emissions		±3.072 dB
Frequency stability		±10Hz

2 RF Output Power Test

2.1. Limit

According to FCC 90.205(h) 450 ~ 470 MHz. (1) The maximum allowable station effective radiated power (ERP) is dependent upon the station's antenna HAAT and required service area and will be authorized in accordance with table 2. Applicants requesting an ERP in excess of that listed in table 2 must submit an engineering analysis based upon generally accepted engineering practices and standards that include coverage contours to demonstrate that the requested station parameters will not produce coverage in excess of that which the applicant requires.

450 ~ 470 MHz Maximum ERP/Reference HAAT for a Specific Service Area Radius

	Service area radius (km)									
	3	8	13	16	24	32	40[4]	48[4]	64[4]	80[4]
Maximum ERP (W)[1]	2	100	[2]500	[2]500	[2]500	[2]500	[2]500	[2]500	[2]500	[2]500
Up to reference HAAT (m)[3]	15	15	15	27	63	125	150	410	950	2700

Note: 1. Maximum ERP indicated provides for a 39 dBu signal strength at the edge of the service area per FCC Report R-6602, Fig. 29 (See §73.699, Fig. 10 b).

2. Maximum ERP of 500 watts allowed. Signal strength at the service area contour may be less than 39dBu.

3. When the actual antenna HAAT is greater than the reference HAAT, the allowable ERP will be reduced in accordance with the following equation: $ERP_{allow}=ERP_{max}\times (HAATref/HAATactual)^2$.

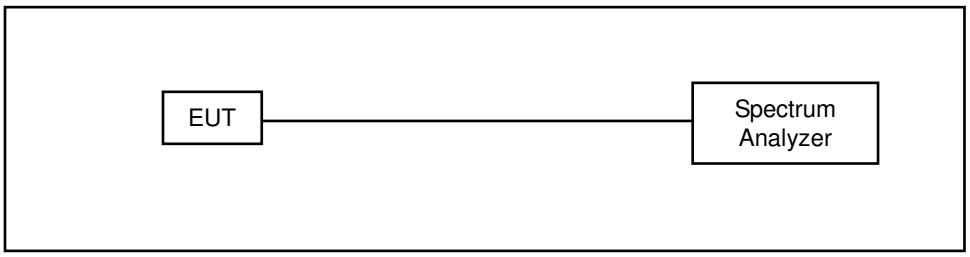
4. Applications for this service area radius may be granted upon specific request with justification and must include a technical demonstration that the signal strength at the edge of the service area does not exceed 39 dBu.

2.2. Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Cal. Period
Spectrum Analyzer	Agilent	N9030A	MY53120541	12/11/2014	1year
Test Site	ATL	TE05	TE05	N/A	-----

Note: N.C.R. = No Calibration Request.

2.3. Test Setup



2.4. Test Procedure

1. The transmitter output was connected to the spectrum analyzer.
2. Use the following spectrum analyzer setting

   Span = 1 MHz

   RBW = 100 KHz

   VBW = 100 KHz (≥ RBW)

   Sweep = auto

   Detector function = peak

   Trace = max hold
3. Mark the peak value .

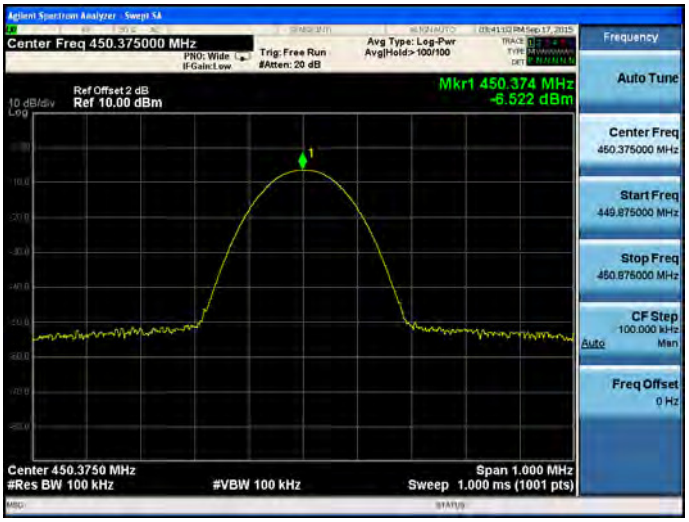
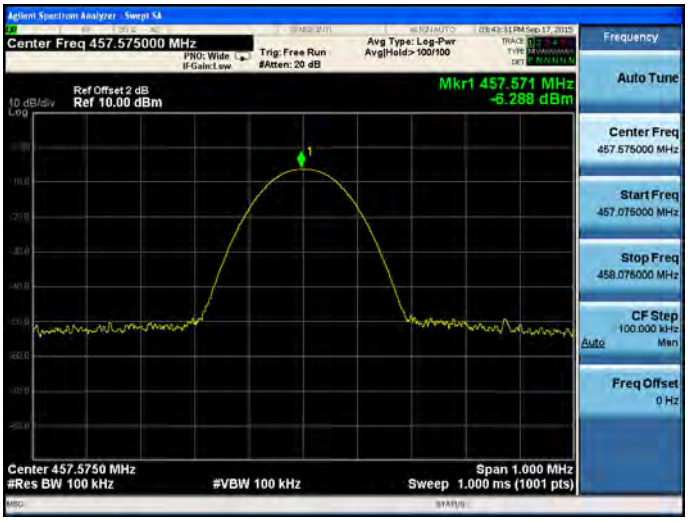
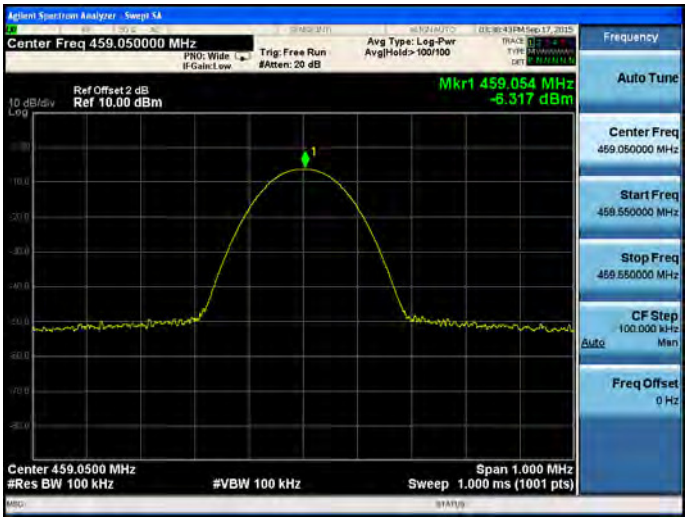
2.5. Test Result

Model Number	PTX003					
Test Item	RF Output Power					
Date of Test	09/15/2015					
Frequency (MHz)	Conducted Power (dBm)	Gain (dBi)	EIRP (dBm)	ERP		Limit
				(dBm)	(W)	
450.375	-6.522	3	-3.522	-5.672	0.000271	< 2W
457.575	-6.288	3	-3.288	-5.438	0.000286	< 2W
459.050	-6.317	3	-3.317	-5.467	0.000284	< 2W

Note: EIRP (dBm) = Conducted Power (dBm) + Gain (dBi)

ERP (dBm) = EIRP (dBm) – 2.15 (dB)

2.6. Test Graphs

450.375 MHz	
457.575 MHz	
459.050 MHz	

3 Bandwidth limitation Test

3.1. Limit

Operations using equipment designed to operate with a 25 kHz channel bandwidth will be authorized a 20 kHz bandwidth.

3.2. Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Cal. Period
Spectrum Analyzer	Agilent	N9030A	MY53120541	12/11/2014	1year
Test Site	ATL	TE05	TE05	N/A	-----

Note: N.C.R. = No calibration request.

3.3. Setup

3.4. Test Procedure

1. The transmitter output was connected to the spectrum analyzer.
2. Use the following spectrum analyzer setting

   Span = 25 kHz

   RBW = 100 Hz

   VBW = 300 Hz (≥ RBW)

   Sweep = auto

   Detector function = peak

   Trace = max hold

3.5. Test Result

Model Number	PTX003		
Test Item	Bandwidth limitation		
Date of Test	09/17/2015		
Frequency (MHz)	Channel Spacing (kHz)	Measured 99% Occ. BW (kHz)	Maximum Authorized Bandwidth (kHz)
450.375	25	11.630	20
457.575	25	11.621	20
459.050	25	11.566	20

3.6. Test Graphs

450.375 MHz	
457.575 MHz	
459.050 MHz	

4 Emission Mask Test

4.1. Limit

According to FCC part 90.210(c), Emission Mask C – 25 kHz channel bandwidth equipment. For transmitters designed to operate with a 25 kHz channel bandwidth, any emission must be attenuated below the power (P) of the highest emission contained within the authorized bandwidth as follows:

(1) On any frequency removed from the center of the authorized bandwidth by a displacement frequency (f_d in kHz) of more than 5 kHz, but not more than 10 kHz: At least 83 log (f_d/5) dB.

(2) On any frequency removed from the center of the authorized bandwidth by a displacement frequency (f_d in kHz) of more than 10 kHz, but not more than 250 percent of the authorized bandwidth: At least 29 log (f_d^2/11) dB or 50 dB, whichever is the lesser attenuation.

(3) On any frequency removed from the center of the authorized bandwidth by more than 250 percent of the authorized bandwidth: At least 43 + 10 log (P) dB.

According to FCC part 90.217(a),For equipment designed to operate with a 25 kHz channel bandwidth, the sum of the bandwidth occupied by the emitted signal plus the bandwidth required for frequency stability shall be adjusted so that any emission appearing on a frequency 40 kHz or more removed from the assigned frequency is attenuated at least 30 dB below the unmodulated carrier.

4.2. Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Cal. Period
Spectrum Analyzer	Agilent	N9030A	MY53120541	12/11/2014	1year
Test Site	ATL	TE05	TE05	N/A	-----

Note: N.C.R. = No calibration request.

4.3. Setup

4.4. Test Procedure

1. The transmitter output was connected to the spectrum analyzer.
2. Use the following spectrum analyzer setting.

   Span = 120 kHz

   RBW = 100 Hz

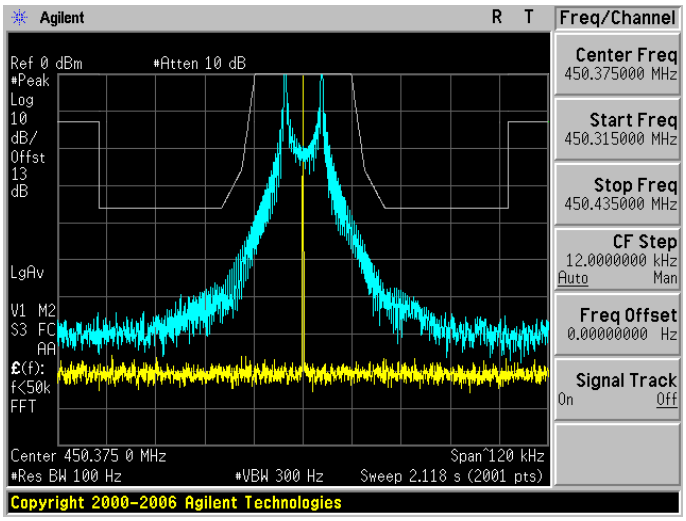
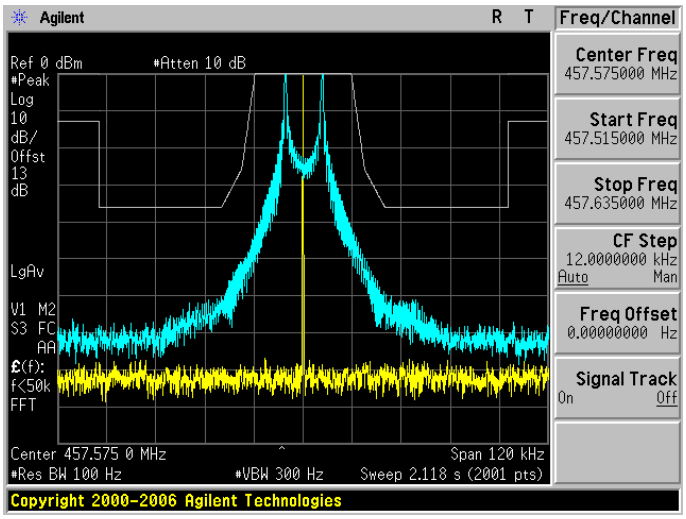
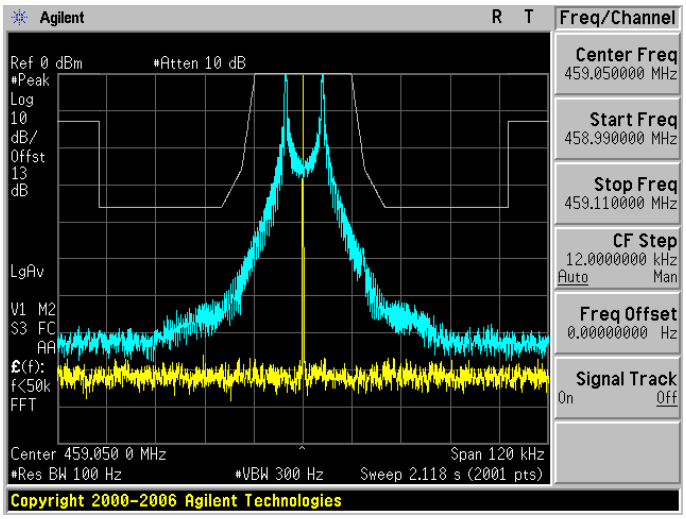
   VBW = 300 Hz (≥ RBW)

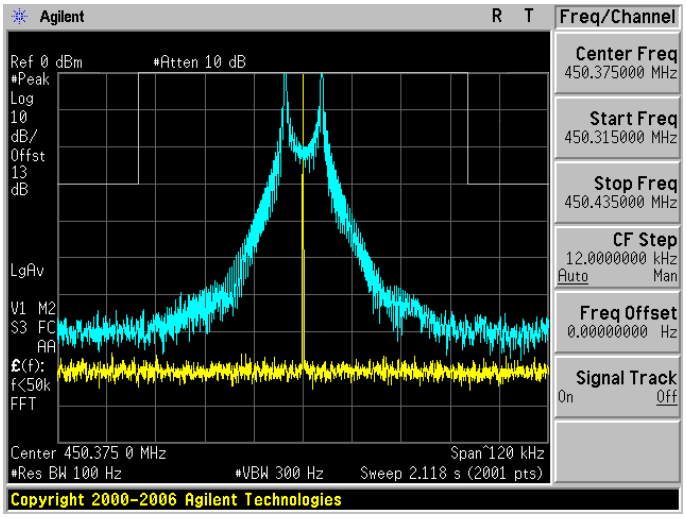
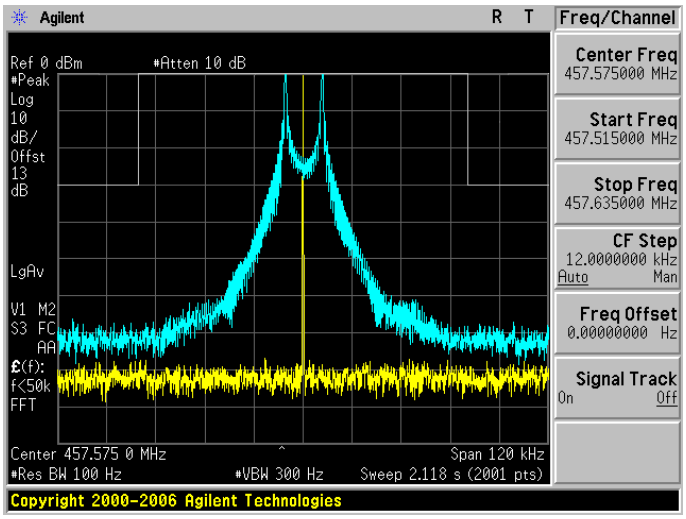
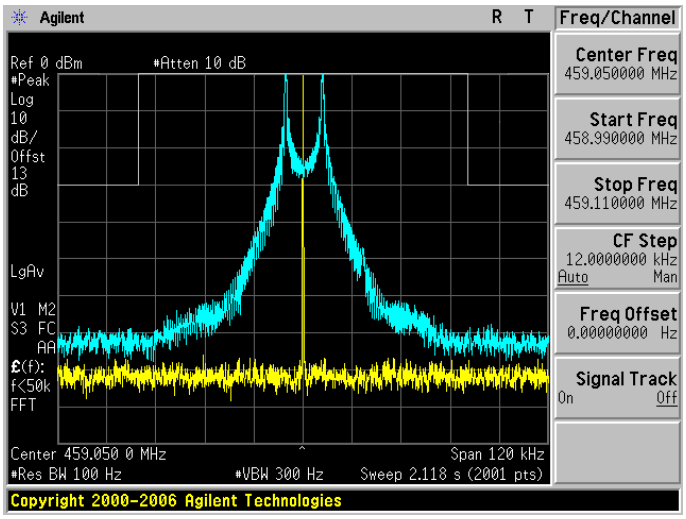
   Sweep = auto

   Detector function = peak

   Trace = max hold
3. Mark the peak frequency with maximum peak power as the center of the display of the spectrum analyzer.
4. Reference level is set to 0dBm by offset.
5. Record the power spectrum analyzer and compare to the mask.

4.5. Test Graphs

450.375 MHz	
457.575 MHz	
459.050 MHz	

450.375 MHz	
457.575 MHz	
459.050 MHz	

5 Conducted Spurious Emissions Test

5.1. Limit

According to FCC part 90.210(c), Emission Mask C – 25 kHz channel bandwidth equipment. For transmitters designed to operate with a 25 kHz channel bandwidth, any emission must be attenuated below the power (P) of the highest emission contained within the authorized bandwidth as follows:

(3) On any frequency removed from the center of the authorized bandwidth by more than 250 percent of the authorized bandwidth: At least 43 + 10 log (P) dB.

According to FCC part 90.217(a), For equipment designed to operate with a 25 kHz channel bandwidth, the sum of the bandwidth occupied by the emitted signal plus the bandwidth required for frequency stability shall be adjusted so that any emission appearing on a frequency 40 kHz or more removed from the assigned frequency is attenuated at least 30 dB below the unmodulated carrier.

Note: Limit (dBm) = Conducted Power (dBm) - 30dB

Low Channel Limit (dBm) = -6.522 (dBm) - 30 (dB) = -36.522 (dBm)

Middle Channel Limit (dBm) = -6.288 (dBm) - 30 (dB) = -36.288 (dBm)

High Channel Limit (dBm) = -6.317 (dBm) - 30 (dB) = -36.317 (dBm)

5.2. Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Cal. Period
Spectrum Analyzer	Agilent	N9030A	MY53120541	12/11/2014	1year
Test Site	ATL	TE05	TE05	N/A	-----

Note: N.C.R. = No calibration request.

5.3. Setup

5.4. Test Procedure

1. The transmitter output was connected to the spectrum analyzer.
2. Use the following spectrum analyzer setting

   Span = 30 MHz to 5 GHz

   RBW = 100 kHz ;1 MHz (above 1GHz)

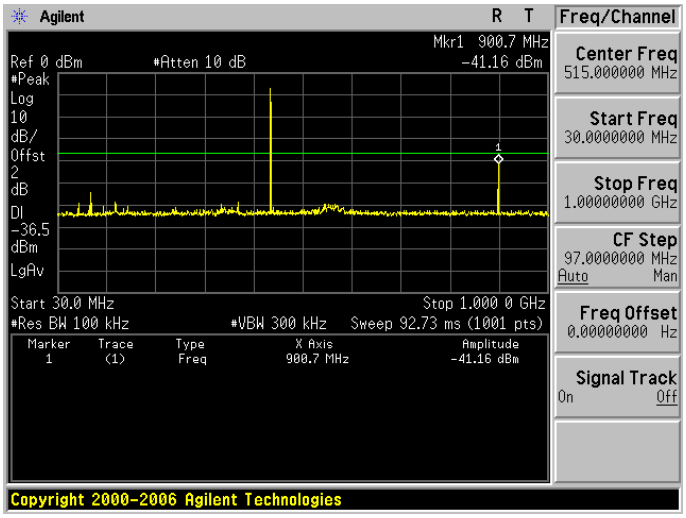
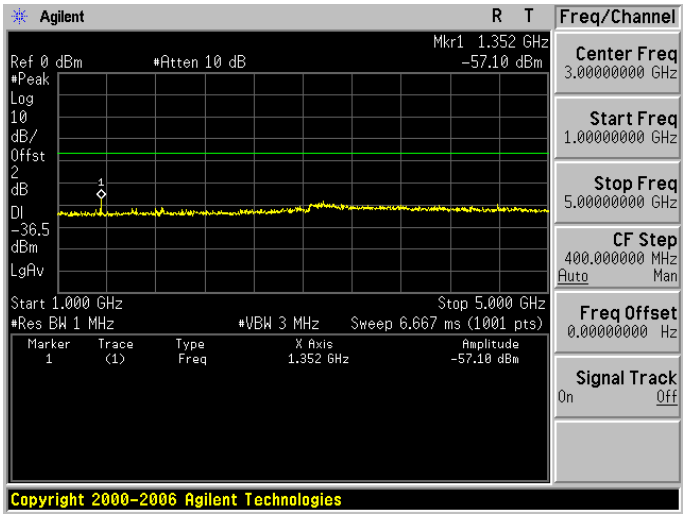
   VBW = 300 kHz ; 3 MHz (above 1GHz)

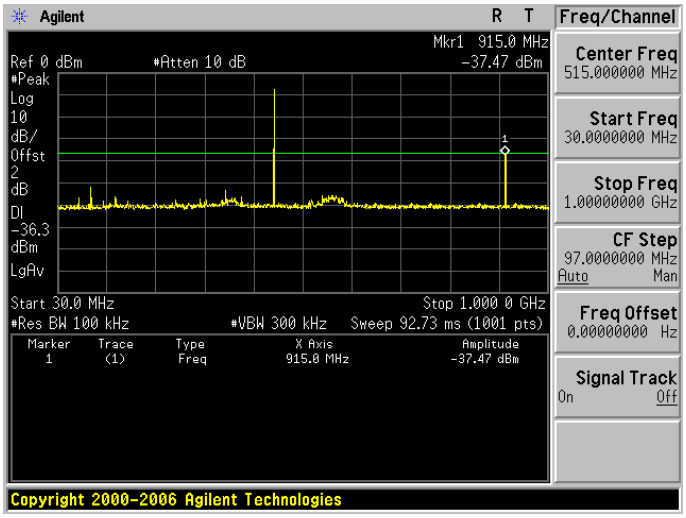
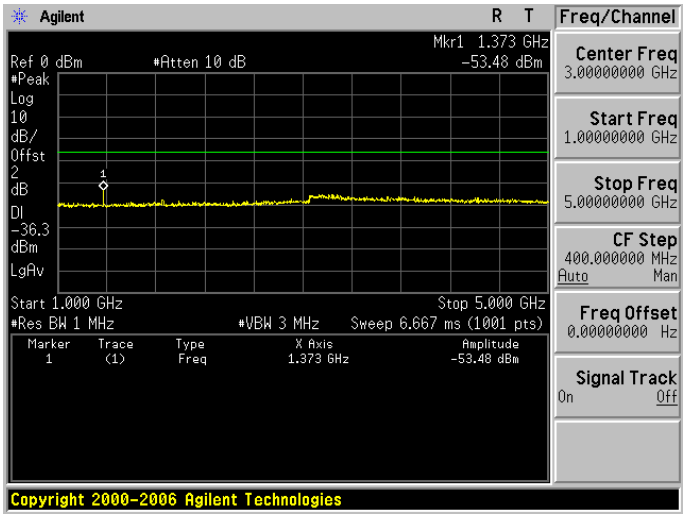
   Sweep = auto

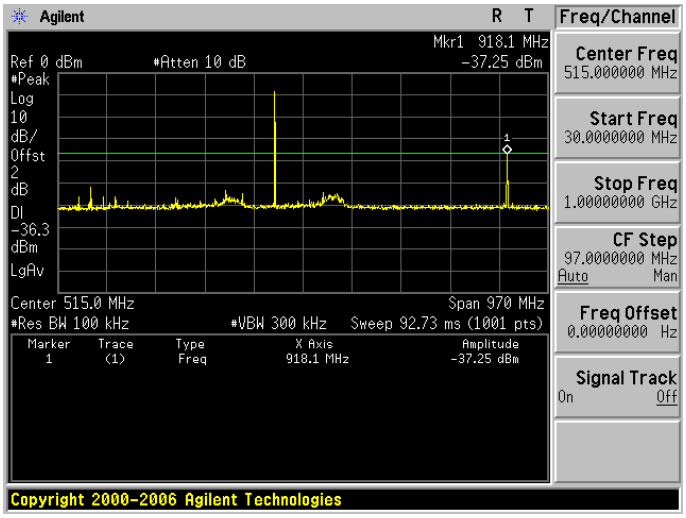
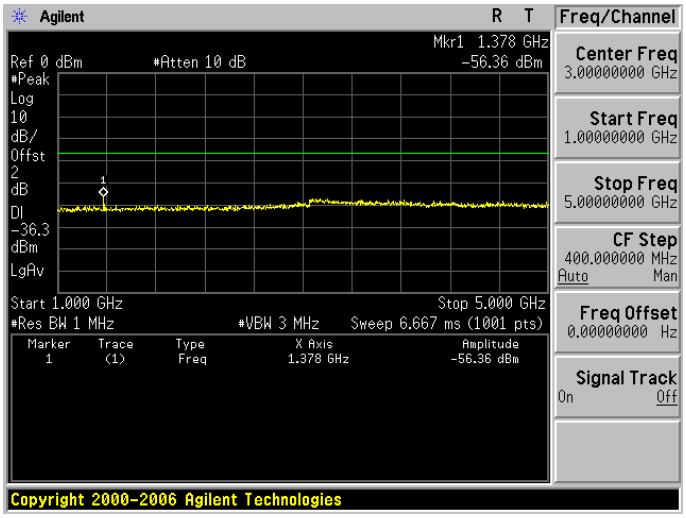
   Detector function = peak

   Trace = max hold

5.5. Test Graphs

450.375 MHz	
30MHz ~ 1GHz	
1GHz ~ 5GHz	

457.575 MHz	
30MHz ~ 1GHz	
1GHz ~ 5GHz	

459.050 MHz	
30MHz ~ 1GHz	
1GHz ~ 5GHz	

6 Radiation Spurious Emissions Test

6.1. Limit

According to §90.210(c), Spurious attenuated in dB = 43 + 10log(Power output in watts)

According to FCC part 90.217(a), For equipment designed to operate with a 25 kHz channel bandwidth, the sum of the bandwidth occupied by the emitted signal plus the bandwidth required for frequency stability shall be adjusted so that any emission appearing on a frequency 40 kHz or more removed from the assigned frequency is attenuated at least 30 dB below the unmodulated carrier.

Note: Limit (dBm) = ERP (dBm) - 30dB

Low Channel Limit (dBm) = -5.672 (dBm) - 30 (dB) = -35.67 (dBm)

Middle Channel Limit (dBm) = -5.438 (dBm) - 30 (dB) = -35.44 (dBm)

High Channel Limit (dBm) = -5.467 (dBm) - 30 (dB) = -35.47 (dBm)

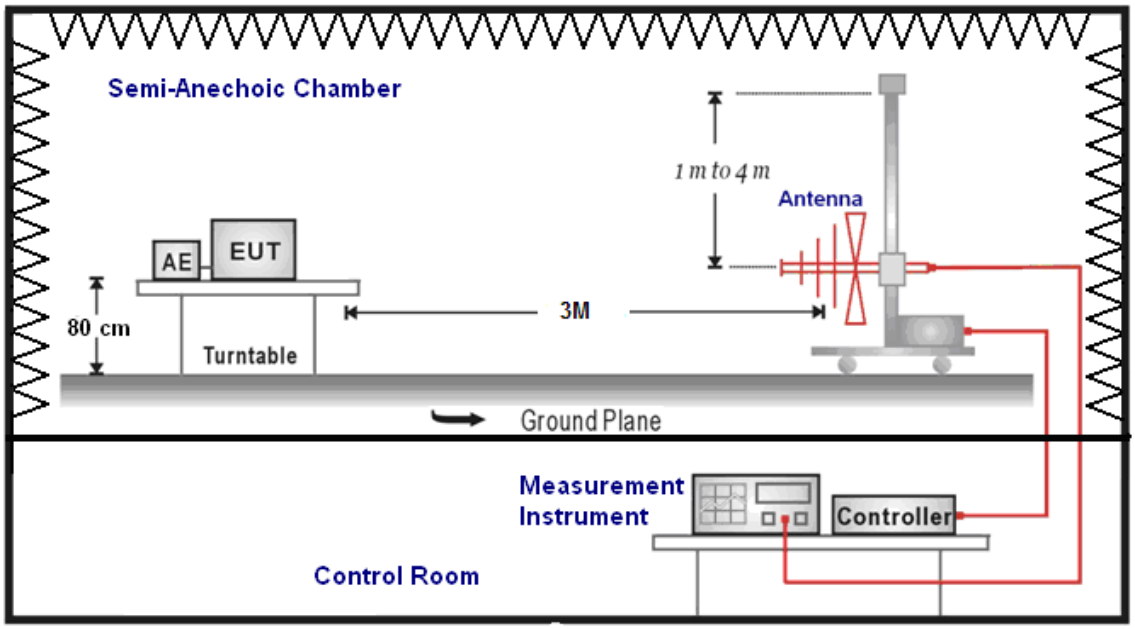
6.2. Test Instruments

3 Meter Chamber					
Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Cal. Period
RF Pre-selector	Agilent	N9039A	MY46520256	01/06/2015	1year
Spectrum Analyzer	Agilent	E4446A	MY46180578	01/06/2015	1year
Pre Amplifier	Agilent	8449B	3008A02237	02/24/2015	1year
Pre Amplifier	Agilent	8447D	2944A10961	02/24/2015	1year
Broadband Antenna (30MHz~1GHz)	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	9163-270	08/11/2015	1year
Horn Antenna (1~18GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA9120D	9120D-550	06/12/2015	1year
Horn Antenna (18~40GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA9170	9170-320	07/06/2015	1year
Test Site	ATL	TE01	888001	08/27/2015	1year

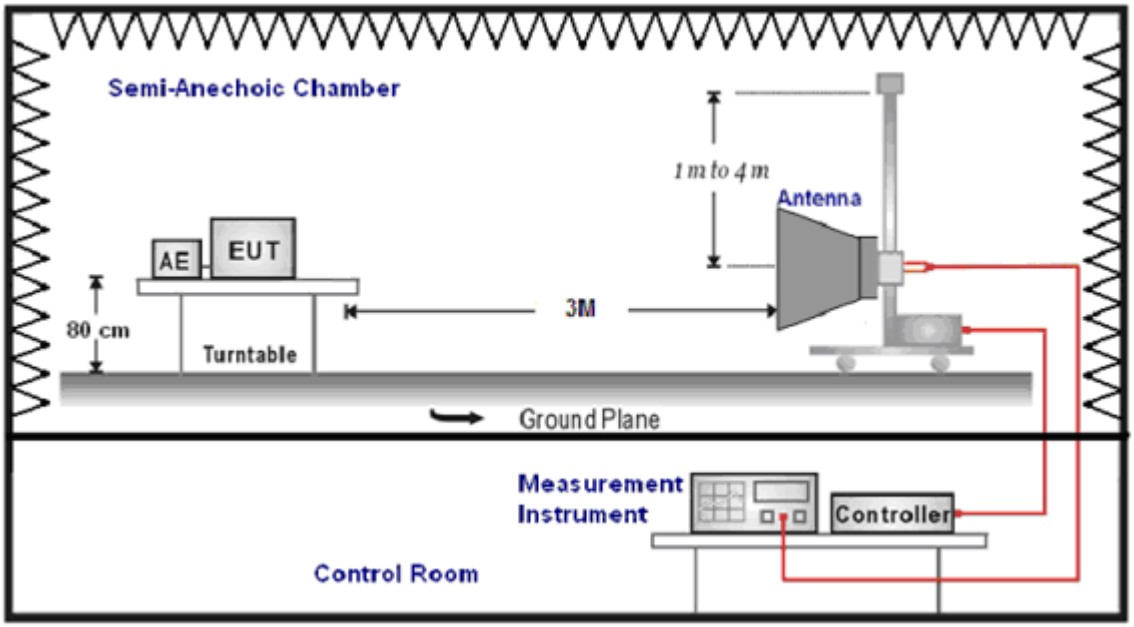
Note: N.C.R. = No Calibration Request.

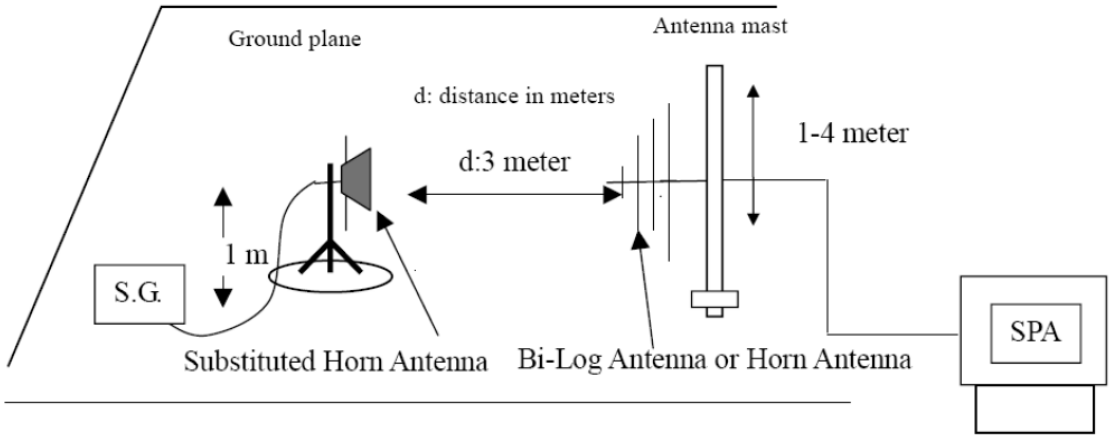
6.3. Setup

Below 1GHz



Above 1GHz




Ground plane
Antenna mast
d: distance in meters
1-4 meter
d:3 meter
1 m
S.G.
SPA
Substituted Horn Antenna
Bi-Log Antenna or Horn Antenna

6.4. Test Procedure

1. On a test site, the EUT shall be placed at 80 cm height on a turn table, and in the position closest to normal use as declared by the applicant.
2. The test antenna shall be oriented initially for vertical polarization located 3m from EUT to correspond to the fundamental frequency of the transmitter.
3. The output of the test antenna shall be connected to the measuring receiver and the peak detector is used for the measurement.
4. During the measurement of the EUT, the bandwidth of the fundamental frequency was measured with the spectrum analyzer using
   a) RBW: 100 kHz(< 1 GHz), 1 MHz(> 1 GHz).
   b) VBW: 100 kHz (< 1 GHz), 1 MHz (> 1 GHz).
5. The transmitter shall be switched on, the measuring receiver shall be tuned to the frequency of the transmitter under test.
6. The test antenna shall be raised and lowered through the specified range of height until a maximum signal level is detected by the measuring receiver.
7. The transmitter shall then the rotated through 360° in the horizontal plane, until the maximum signal level is detected by the measuring receiver.
8. The test antenna shall be raised and lowered again through the specified range of height until a maximum signal level is detected by the measuring receiver.
9. The maximum signal level detected by the measuring receiver shall be noted.
10. The EUT was replaced by half-wave dipole(below 1 000 MHz) or horn antenna(above 1 000 MHz) connected to a signal generator.
11. In necessary, the input attenuator setting of the measuring receiver shall be adjusted in order to increase the sensitivity of the measuring receiver.
12. The test antenna shall be raised and lowered through the specified range of height to ensure that the maximum signal is received.
13. The input signal to the substitution antenna shall be adjusted to the level that produces a level detected by the measuring received, which is equal to the level noted while the transmitter radiated power was measured, corrected for the change of input attenuator setting of the measuring receiver.
14. The input level to the substitution antenna shall be recorded as power level in dBm, corrected for any change of input attenuator setting of the measuring receiver.
15. The measurement shall be repeated with the test antenna and the substitution antenna orientated for horizontal polarization.
16. E.I.R.P. = Output power level of S.G – TX cable loss + Antenna gain of substitution horn
17. E.R.P. = E.I.R.P. – 2.15 dB

6.5. Test Result

Standard:	FCC Part 90	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	PTX003	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	1	Date:	09/15/2015
Frequency:	450.375 MHz	Test By:	Eric Ou Yang

Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
900.75	-45.87	8.65	-37.22	-35.67	-1.55	peak	H
1351.125	-61.63	10.35	-51.28	-35.67	-15.61	peak	H
900.75	-53.11	5.2	-47.91	-35.67	-12.24	peak	V
1351.125	-63.48	10.35	-53.13	-35.67	-17.46	peak	V

Standard:	FCC Part 90	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	PTX003	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	1	Date:	09/15/2015
Frequency:	457.575 MHz	Test By:	Eric Ou Yang

Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
915.1500	-46.75	9.09	-37.66	-35.44	-2.22	peak	H
1372.725	-59.55	10.32	-49.23	-35.44	-13.79	peak	H
915.1500	-54.33	6.08	-48.25	-35.44	-12.81	peak	V
1372.725	-60.26	10.32	-49.94	-35.44	-14.5	peak	V

Standard:	FCC Part 90	Test Distance:	3m
Test item:	Radiated Emission	Power:	AC 120V/60Hz
Model Number:	PTX003	Temp.(℃)/Hum.(%RH):	26(℃)/60%RH
Mode:	1	Date:	09/15/2015
Frequency:	459.050 MHz	Test By:	Eric Ou Yang

Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark	Ant.Polar. H / V
918.1000	-47.1	9.19	-37.91	-35.47	-2.44	peak	H
1377.150	-56.57	10.31	-46.26	-35.47	-10.79	peak	H
918.1000	-54.62	6.27	-48.35	-35.47	-12.88	peak	V
1377.150	-61.43	10.31	-51.12	-35.47	-15.65	peak	V

7 Frequency Stability Test

7.1. Limit

1. According to FCC part 2 section 2.1055(a)(1), the frequency stability shall be measured with variation of ambient temperature from -30 ℃ to +50 ℃ centigrade.
2. According to FCC part section 2.1055(d)(2), for battery powered equipment the frequency stability shall be measured with reducing primary supply voltage to the battery operating end point, which is specified by the manufacture.
3. According to FCC part 90 section 90.213, (a) unless noted elsewhere, transmitters used in the services overned by this part must have a minimum frequency stability as specified in the following table.

Minimum Frequency Stability [Parts per million (ppm)]

Frequency Range (MHz)	Fixed and base stations	Mobile stations	
		Over 2 watts output power	2 watts or less output power
Below 25	[1,2,3]100	100	200
25–50	20	20	50
72–76	5		50
150–174	[5,11]5	[6]5	[4,6]50
216–220	1.0		1.0
220–222[12]	0.1	1.5	1.5
421–512	[7,11,14]2.5	[8]5	[8]5
806–809	[14]1.0	1.5	1.5
809–824	[14]1.5	2.5	2.5
851–854	1.0	1.5	1.5
854–869	1.5	2.5	2.5
896–901	[14]0.1	1.5	1.5
902–928	2.5	2.5	2.5
902–928[13]	2.5	2.5	2.5
929–930	1.5		
935–940	0.1	1.5	1.5
1427–1435	[9]300	300	300
Above 2450[10]			

Note: 1. Fixed and base stations with over 200 watts transmitter power must have a frequency stability of 50 ppm except for equipment used in the Public Safety Pool where the frequency stability is 100 ppm.

2. For single sideband operations below 25 MHz, the carrier frequency must be maintained within 50 Hz of the authorized carrier frequency.
3. Travelers information station transmitters operating from 530 ~ 1 700 kHz and transmitters exceeding 200 watts peak envelope power used for disaster communications and long distance circuit operations pursuant to §90.242 and §90.264 must maintain the carrier frequency to within 20 Hz of the authorized frequency.
4. Stations operating in the 154.45 to 154.49 MHz or the 173.2 to 173.4 MHz bands must have a frequency stability of 5 ppm.

5. In the 150 ~ 174 MHz band, fixed and base stations with a 12.5 kHz channel bandwidth must have a frequency stability of 2.5 ppm. Fixed and base stations with a 6.25 kHz channel bandwidth must have a frequency stability of 1.0 ppm.
6. In the 150 ~ 174 MHz band, mobile stations designed to operate with a 12.5 kHz channel bandwidth or designed to operate on a frequency specifically designated for itinerant use or designed for low-power operation of two watts or less, must have a frequency stability of 5.0 ppm. Mobile stations designed to operate with a 6.25 kHz channel bandwidth must have a frequency stability of 2.0 ppm.
7. In the 421 ~ 512 MHz band, fixed and base stations with a 12.5 kHz channel bandwidth must have a frequency stability of 1.5 ppm. Fixed and base stations with a 6.25 kHz channel bandwidth must have a frequency stability of 0.5 ppm.
8. In the 421 ~ 512 MHz band, mobile stations designed to operate with a 12.5 kHz channel bandwidth must have a frequency stability of 2.5 ppm. Mobile stations designed to operate with a 6.25 kHz channel bandwidth must have a frequency stability of 1.0 ppm.
9. Fixed stations with output powers above 120 watts and necessary bandwidth less than 3 kHz must operate with a frequency stability of 100 ppm. Fixed stations with output powers less than 120 watts and using time-division multiplex must operate with a frequency stability of 500 ppm.
10. Except for DSRCS equipment in the 5 850 ~ 5 925 MHz band, frequency stability is to be specified in the station authorization. Frequency stability for DSRCS equipment in the 5 850 ~ 5 925 MHz band is specified in subpart M of this part.
11. Paging transmitters operating on paging-only frequencies must operate with frequency stability of 5 ppm in the 150 ~ 174 MHz band and 2.5 ppm in the 421 ~ 512 MHz band.
12. Mobile units may utilize synchronizing signals from associated base stations to achieve the specified carrier stability.
13. Fixed non-multilateration transmitters with an authorized bandwidth that is more than 40 kHz from the band edge, intermittently operated hand-held readers, and mobile transponders are not subject to frequency tolerance restrictions.
14. Control stations may operate with the frequency tolerance specified for associated mobile frequencies.

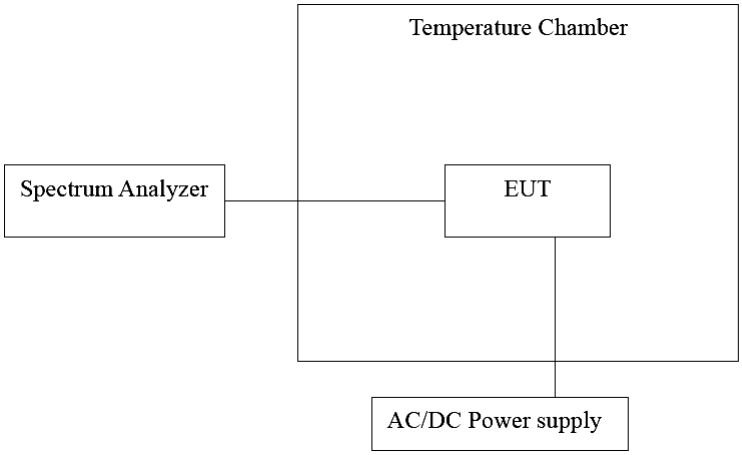
(b) For the purpose of determining the frequency stability limits, the power of a transmitter is considered to be the maximum rated output power as specified by the manufacturer.

7.2. Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Cal. Period
Spectrum Analyzer	Agilent	N9030A	MY53120541	12/11/2014	1year
Temperature & Humidity Chamber	TAICHY	MHU-225LA	980729	04/25/2015	1year
Test Site	ATL	TE05	TE05	N.C.R.	-----

Note: N.C.R. = No Calibration Request.

7.3. Setup



7.4. Test Procedure

1. The transmitter output was connected to the spectrum analyzer through an attenuator.
2. The transmission time was measured with the spectrum analyzer using RBW=1 kHz, VBW=1 kHz.
3. Set the temperature of chamber to -30℃. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize. While maintaining a constant temperature inside the chamber, turn the EUT on and measure the EUT operating frequency.
4. Repeat step 2 with a 10℃ decreased per stage until the highest temperature 50℃ is measured, record all measured frequencies on each temperature step.

7.5. Test Result

Model Number	PTX003						
Test Item	Frequency Stability						
Test Mode	Mode 1						
Date of Test	09/17/2015						
Level	Voltage [Vac]	Temperature (℃)	Frequency (MHz)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Result
Normal	120.0	-30	450.37611	1110.0000	2.465	±5	Pass
Normal	120.0	-20	450.37609	1090.0000	2.420	±5	Pass
Normal	120.0	-10	450.37612	1120.0000	2.487	±5	Pass
Normal	120.0	0	450.37607	1070.0000	2.376	±5	Pass
Normal	120.0	10	450.37545	450.0000	0.999	±5	Pass
Battery full point	138.0	20	450.37396	-1040.0000	-2.309	±5	Pass
Normal	120.0	20	450.37395	-1050.0000	-2.331	±5	Pass
Battery cut-off point	102.0	20	450.37395	-1050.0000	-2.331	±5	Pass
Normal	120.0	30	450.37398	-1020.0000	-2.265	±5	Pass
Normal	120.0	40	450.37395	-1050.0000	-2.331	±5	Pass
Normal	120.0	50	450.37412	-880.0000	-1.954	±5	Pass
Normal	120.0	60	450.37392	-1080.0000	-2.398	±5	Pass