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Report No.: SHEM130200052901

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TEST REPORT

Application No. :	SHEM1304000529RF
Applicant:	AXESSTEL,INC.
FCC ID:	PH7AZ100
Equipment Under Test (E NOTE: The following samp	EUT): Dle(s) submitted was/were identified on behalf of the client as
Product Name:	Home Alert(Sensor)
Brand Name:	Axesstel
Model:	AZ100
Added Model:	N/A
Standards:	FCC PART 15 Subpart C Section 15.249: 2012 ANSI C63.10 (2009)
Date of Receipt:	April 07, 2013
Date of Test:	April 15, 2013 to May 13, 2013
Date of Issue:	June 04, 2013
Test Result :	PASS *

^{*} In the configuration tested, the EUT complied with the standards specified above.

Tony Wu

E&E Section Manager

June 2013

SGS-CSTC (Shanghai) Co., Ltd.

The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. 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.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. All test results in this report can be traceable to National or International Standards.

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2 Version

	Revision Record							
Version Chapter Date Modifier Remark								
00	/	June 04, 2013	/	Original				

Authorized for issue by:		
Engineer	Zenger Zhang Print Name	Zenger Zhang
Clerk	Amy Wang Print Name	Any Wang
Reviewer	Keny Xu Print Name	Kony un



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3 Test Summary

Test Item	FCC Requirement	IC Requirement	Test method	Result
Antenna Requirement	Section 15.203	RSS-Gen 7.1.2	ANSI C63.10 (2009)	PASS
AC Power Line Conducted Emission	Section 15.207	RSS-Gen Section 7.2.4	ANSI C63.10 (2009)	N/A
Field Strength of the Fundamental Signal	Section 15.249 (a)	RSS 210 A 2.9 (a)	ANSI C63.10 (2009)	PASS
Spurious Emissions	Section 15.249 (a)/15.209	RSS 210 A 2.9 (a)	ANSI C63.10 (2009)	PASS
20dB Occupied Bandwidth	Section 15.215 (c)		ANSI C63.10 (2009)	PASS
99% Occupied Bandwidth		RSS-Gen section 4.6.1	RSS-Gen section 4.6.1	PASS

Remark: N/A: Not applicable.



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5 General Information

5.1 Client Information

Applicant:	AXESSTEL, INC
Address of Applicant:	6815 Flanders Drive, Ste 210, San Diego, CA92121, USA
Manufacturer:	Axesstel (Shanghai) Ltd.
Address of Manufacturer:	Room 1101, Building 19, No.1515 Gumei Road, Xuhui District, Shanghai
Factory:	Eastcom incorporated Co., LTD.

5.2 General Description of EUT

Product Name	Home Alert(Sensor)
Brand Name:	Axesstel
Model No:	AZ100
Added Model:	N/A
Product Description:	Home Alert

5.3 Technical Specifications:

Operation Frequency:	908.42MHz/1Channel
Modulation Technique:	GFSK
Antenna Type	Integral
Antenna Gain	0.5dBi

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5.4 Support equipments for Testing

The EUT has been tested independently.

5.5 Deviation from Standards

None.

5.6 Abnormalities from Standard Conditions

None.

5.7 Other Information Requested by the Customer

None.

5.8 Test Environment and Mode

Operating Environment:			
Temperature:	22.0 °C		
Humidity:	55% RH		
Atmospheric Pressure:	1010 mbar		
Test mode:			
Transmitting mode:	Keep the EUT on continue transmitting mode.		
Test battery:	4.5V DC(During test use three new alkaline batteries)		



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5.9 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. No.588 West Jindu Road, Songjiang District, Shanghai, China.201612.

Tel: +86 21 6191 5666 Fax: +86 21 6191 5678

5.10 Test Facility

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

CNAS (No. CNAS L0599)

CNAS has accredited SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing. Date of expiry: 2014-07-26.

• FCC – Registration No.: 402683

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been registered and fully described in a report filed with the Federal Communications Commission (FCC). The acceptance letter from the FCC is maintained in our files. Registration No.: 402683, Expiry Date: 2015-02-22.

Industry Canada (IC) – IC Assigned Code: 8617A

The 3m Semi-anechoic chamber of SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 8617A. Expiry Date: 2014-09-20.

VCCI (Member No.: 3061)

The 3m Semi-anechoic chamber and Shielded Room of SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-3868 and C-4336 respectively. Date of Registration: 2012-05-29. Date of Expiry: 2015-05-28.



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6 Test Instruments List

Item	Test Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due date
1	EMI test receiver	Rohde & Schwarz	ESU40	100109	2013-6-2	2014-6-1
2	Horn Antenna	SCHWARZBECK	BBHA9120D	9120D-679	2013-6-2	2014-6-1
3	Horn Antenna	Rohde & Schwarz	HF906	100284	2013-6-2	2014-6-1
4	ANTENNA	SCHWARZBECK	VULB9168	9168-313	2013-6-2	2014-6-1
5	Ultra broadband antenna	Rohde & Schwarz	HL562	100227	2012-10-7	2013-10-6
6	Atmosphere pressure meter	Shanghai ZhongXuan Electronic Co;Ltd	BY-2009P		2012-10-13	2013-10-12
7	CLAMP METER	FLUKE	316	86080010	2013-4-2	2014-4-1
8	Thermo- Hygrometer	ZHICHEN	ZC1-2	01050033	2012-10-13	2013-10-12
9	High-low temperature cabinet	Shanghai YuanZhen	GW2050		2013-6-2	2014-6-1
11	Tunable Notch Filter	Wainwright instruments Gmbh	WRCT1800.0/ 2000.0-0.2/40- 5SSK	11	2013-1-24	2014-1-23
12	Tunable Notch Filter	Wainwright instruments Gmbh	WRCT800.0/88 0.0-0.2/40- 5SSK	9	2013-1-24	2014-1-23
13	High pass Filter	FSCW	HP 12/2800- 5AA2	19A45-02	2013-4-2	2014-4-1
14	Low nosie amplifier	TESEQ	LNA6900	70133	2012-7-5	2013-7-4
15	EMI test receiver	Rohde & Schwarz	ESCS30	100086	2013-6-2	2014-6-1
16	Line impedance stabilization network	SCHWARZBECK	NSLK8127	8127-490	2013-5-3	2014-5-2
18	AVG Power Sensor	Rohde & Schwarz	NRP-Z22	1137	2013-5-3	2014-5-2
20	Power meter	Rohde & Schwarz	NRP	101641	2013-5-3	2014-5-2
21	Active Loop Antenna	Beijing Daze	ZN30900A	0097	2012-10-28	2013-10-27



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7 Test results and Measurement Data

7.1 Antenna Requirement

Standard requirement: 47 CFR Part 15C Section 15.203

15.203 requirement:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

EUT Antenna:

The antenna is integrated on the main PCB and no consideration of replacement. The best case gain of the antenna is 0.5dBi.





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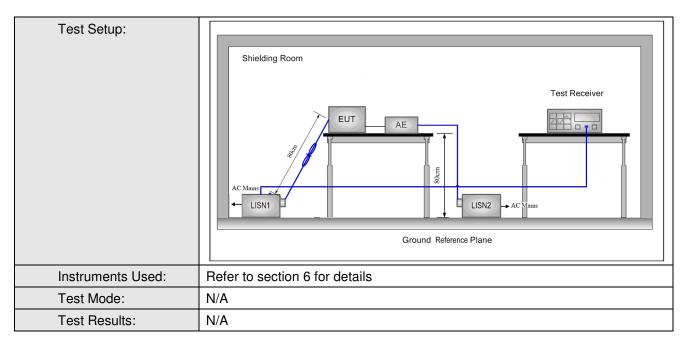
7.2 Conducted Emissions

Test Requirement:	47 CFR Part 15C Section 15.207 RSS-Gen Section 7.2.4					
Test Method:	ANSI C63.10: 2009	ANSI C63.10: 2009				
Test Frequency Range:	150KHz to 30MHz					
Limit:	Eroquonov rango (MHz)	Limit (dBuV)				
	Trequency range (Wiriz)	Quasi-peak	Average			
	0.15-0.5	66 to 56*	56 to 46*			
	0.5-5	56	46			
	5-30	60	50			
	* Decreases with the logarith	nm of the frequency.				
Test Procedure:	Frequency range (MHz) Limit (dBuV) Quasi-peak Average 0.15-0.5 66 to 56* 56 to 46* 0.5-5 56 46					



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Measurement Data

N/A

Remark: This EUT is powered by battery only, therefore the AC Conducted Emission test is not applicable.



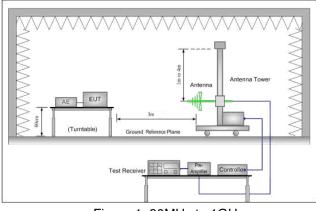
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7.3Field Strength of the Fundamental Signal

Test Requirement:		47 CFR Part 15C Section 15.249 and 15.209 RSS 210 A 2.9 (a)												
Test Method:	ANSI	C63.10: 2009												
Test Site:	Meas	surement Distance: 3m (S	emi-Anechoid	Chamber)										
Receiver Setup:		Frequency	Detector	RBW	٧	'BW	Remark							
		0.009MHz-0.090MHz	Peak	10kHz	30)KHz	Peak							
		0.009MHz-0.090MHz	Average	10kHz	30)KHz	Average							
								0.090MHz-0.110MHz	Quasi-peak	10kHz	30)KHz	Quasi-peak	
						0.110MHz-0.490MHz	Peak	10kHz	30)KHz	Peak			
			0.110MHz-0.490MHz	Average	10kHz	30)KHz	Average						
					0.490MHz -30MHz	Quasi-peak	10kHz	30)kHz	Quasi-peak				
				30MHz-1GHz	Quasi-peak	100 kHz	30	0KHz	Quasi-peak					
										Above 1011	Peak	1MHz	31	MHz
		Above 1GHz	Peak	1MHz	1	0Hz	Average							
Limit:		Frequency	Limit (d	Limit (dBuV/m @3m)		Remark								
		000MHz, 000MHz		94.0		Quasi-peak Value								
	902MHz~928MHz 114.0 Pea			eak Value										
Test Setup:														

Test Setup



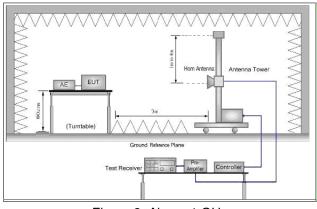


Figure 1. 30MHz to 1GHz

Figure 2. Above 1 GHz

Test Procedure:

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

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	 d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading. e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet. g. Test the EUT in the lowest channel, the middle channel, the Highest channel h. The radiation measurements are performed in X, Y, Z axis positioning. And found the X axis positioning which it is worse case, Only the test worst case mode is recorded in the report. i. Repeat above procedures until all frequencies measured was complete.
Instruments Used:	Refer to section 6 for details
Test Mode:	Transmitting mode
Test Results:	Pass

7.3.1 Measurement Data

Freq.	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Result Limit Level Line		Over Limit	Detector	Polarization
(MHz)	(dBµV)	(dB/m)	(dB)	(dB)	(dBµV/m)	(dBµV/m)	(dB)		
908.42	57.21	23.06	23.80	3.67	60.14	94.00	-33.86	QP	Horizontal
908.42	64.63	23.06	23.80	3.67	67.56	94.00	-26.44	QP	Vertical



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7.4Spurious Emissions

Test Requirement:	47 CFR Part 15C Section 15.249 and 15.209 RSS 210 A 2.9 (a)								
Test Method:	ANSI C63.10: 2009								
Test Site:	Measurement Distance: 3m (Semi-Anechoic Chamber)								
Test frequency range	9KHz – 10GHz								
Receiver Setup:	Frequency	Detector	RBW	VBW	Remark				
	0.009MHz-0.015MHz	Quasi-peak	200Hz	1KHz	Quasi-peak				
	0.015MHz-30MHz	Quasi-peak	9kHz	30KHz	Quasi-peak				
	30MHz-1GHz	Quasi-peak	120 kHz	300KHz	Quasi-peak				
	Above 1GHz	Peak	1MHz	3MHz	Peak				
	Above IGHZ	Peak	1MHz	10Hz	Average				
Limit: (Spurious Emissions)	Frequency	Field strength (microvolt/mete	Limit r) (dBuV/m)	Remark	Measurement distance (m)				
	0.009MHz-0.490MHz	2400/F(kHz)	-	Quasi-peak	300				
	0.490MHz-1.705MHz	24000/F(kHz)	-	Quasi-peak	30				
	1.705MHz-30MHz	30	-	Quasi-peak	30				
	30MHz-88MHz	100	40.0	Quasi-peak	3				
	88MHz-216MHz	150	43.5	Quasi-peak	3				
	216MHz-960MHz	200	46.0	Quasi-peak	3				
	960MHz-1GHz	500	54.0	Quasi-peak	3				
	Above 1GHz	500	54.0	Average	3				
	Above Taliz	300	74.0	Peak	3				



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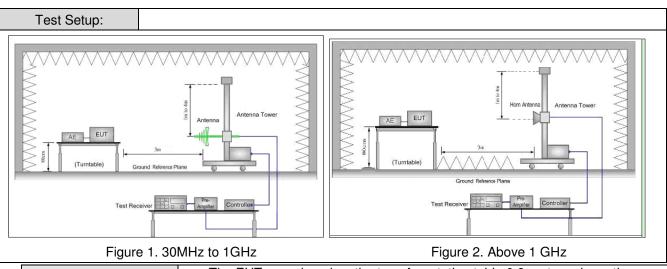


Figure 1. 30	MHz to 1GHz Figure 2. Above 1 GHz
Test Procedure:	 a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation. b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement. d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading. e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet. g. Test the EUT in the lowest channel, the middle channel, the Highest channel The radiation measurements are performed in X, Y, Z axis positioning. And found the X axis positioning which it is worse case, Only the test worst case mode is recorded in the report. i. Repeat above procedures until all frequencies measured was complete.
Instruments Used:	Refer to section 6 for details
Test Mode:	Transmitting mode
Test Results:	Pass



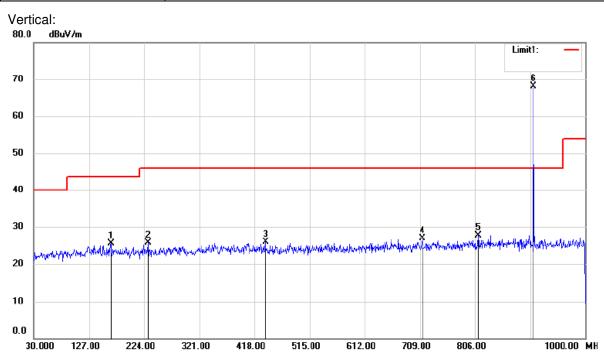
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7.4.1 Measurement Data

7.4.1.1 Spurious Emissions

30MHz~1GHz	
Test mode:	Transmitting mode



Mk.	Frequency (MHz)	Reading (dBuV/m)	Detector	Corrected factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
1	165.8000	24.40	peak	1.14	25.54	43.50	-17.96
2	230.7900	24.30	peak	1.32	25.62	46.00	-20.38
3	437.4000	24.00	peak	1.88	25.88	46.00	-20.12
4	712.8800	24.28	peak	2.66	26.94	46.00	-19.06
5	811.8200	25.20	peak	2.60	27.80	46.00	-18.20

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - Preamp Factor

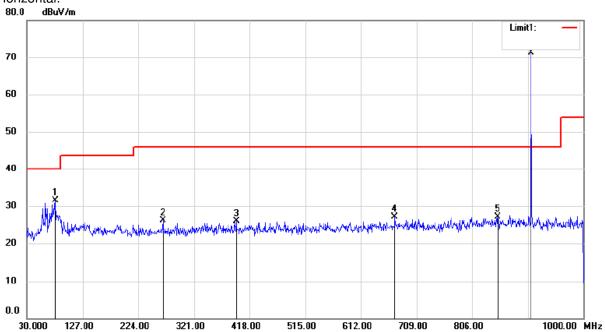
- 2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.
- 3. Mark 6 is the Fundamental signal.



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Mk.	Frequency (MHz)	Reading (dBuV/m)	Detector	Corrected factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
1	79.4700	30.82	peak	0.73	31.55	40.00	-8.45
2	266.6800	24.62	peak	1.42	26.04	46.00	-19.96
3	394.7200	24.12	peak	1.72	25.84	46.00	-20.16
4	671.1700	24.52	peak	2.53	27.05	46.00	-18.95
5	850.6200	24.43	peak	2.75	27.18	46.00	-18.82
_	***		· .				

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - Preamp Factor

- 2. If Peak Result comply with QP limit, QP Result is deemed to comply with QP limit.
- 3. Mark 6 is the Fundamental signal.



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1GHz - 10GHz								
Test mode: Transmitting mode		Test channel: 908MHz		Z	Remark:	Peak		
Frequency (MHz)	Factor (dB)	Read Level (dBuV)	Level (dBuV/m)		nit Line BuV/m)	Detector	Over Limit (dB)	Polarization
4536.25	-1.24	41.12	39.88		54	Peak	-14.12	Vertical
5335.75	34.1	0.91	35.01		54	Peak	-18.99	Vertical
7016	32.99	5.28	38.27		54	Peak	-15.73	Vertical
7897.25	35.2	7.74	42.94		54	Peak	-11.06	Vertical
9366	33.24	11.4	44.64		54	Peak	-9.36	Vertical
9987.35	11.19	39.08	50.27		54	Peak	-3.73	Vertical
2727.25	-5.84	63.33	57.49		54	Peak	-16.51	Horizontal
5241.75	33.99	0.81	34.8		54	Peak	-19.2	Horizontal
6334.5	31.87	3.05	34.92		54	Peak	-19.08	Horizontal
7638.75	36.79	7.73	44.52		54	Peak	-9.48	Horizontal
8167.35	7.99	35.89	43.88		54	Peak	-10.12	Horizontal
9342.5	33.45	11.3	44.75		54	Peak	-9.25	Horizontal

Remark:

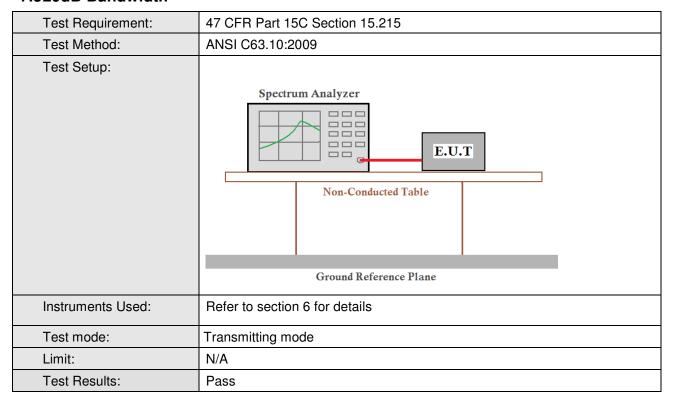
- The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:
 Final Test Level = Receiver Reading + Antenna Factor + Cable Factor - Preamplifier Factor
- The disturbance below 30MHz was very low, and the above harmonics were the highest point could be found when testing, so only the above harmonics had been displayed.



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7.520dB Bandwidth



Measurement Data

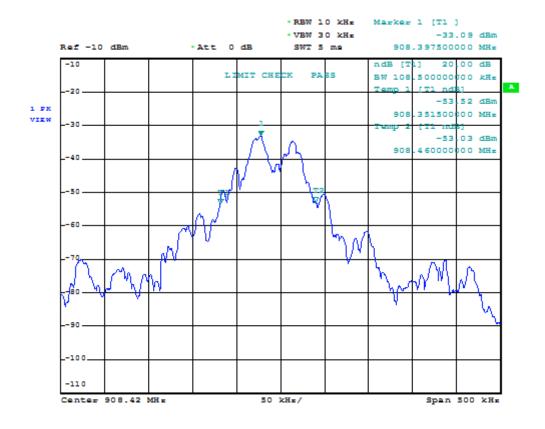
Test channel	20dB bandwidth	Results
908.42MHz	108.5KHz	Pass



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Test plot as follows:

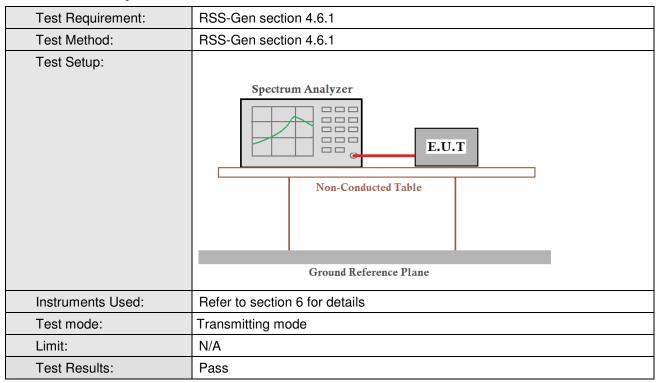




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7.6 99% Occupied Bandwidth



Measurement Data

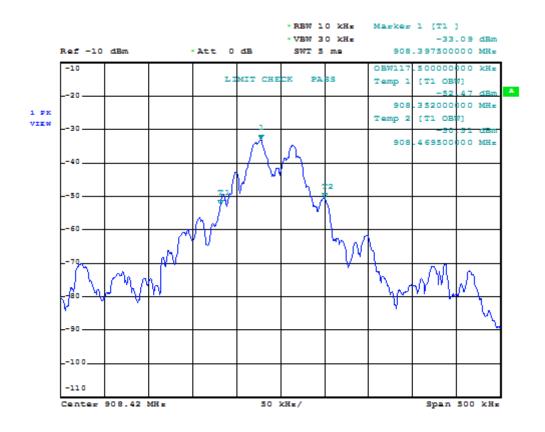
Test channel	99% bandwidth	Results
908.42MHz	117.5KHz	Pass



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Test plot as follows:





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8 Test Setup Photographs

Refer to the < AZ100-- Test Setup photos>.

9 EUT Constructional Details

Refer to the < AZ100-- External Photos > & < AZ100-- Internal Photos >.

End of Report