Unit Test

Test Author: Josh Horejs				
	Test Case Name:	LA72914 unit Test #1	**Test ID #:**	TC-MT-1.1
	Description:	*Test modem(*LA72914V*) for power draw and signal input to output integrity. This determines if the IC is faulty.*	**Type:**	x white box □ black box □ _____
Tester Information				
	Name of Tester:		**Date:**	
	Hardware Version:	1.0	**Time:**	
	Setup:	*Connect 5V DC supply at TP2. Use function generator to apply the 1kHz signal. Connect oscilloscope to pin 9.*		

STEP	Action	Expected Result	PASS	FAIL	N/A	Comments
1	Power from pin 4 to 13	Should draw approximately 300 mW				
2	Apply 1kHz input to TP 5	1kHz output signal at J3				
3	Apply 1kHz input to J1	1kHz output signal at TP9				
	Overall test result:					

Test Author: Nick Lekas, Garrett Smith				
	Test Case Name:	Filter test	**Test ID #:**	2
	Description:	Test the individual lowpass and bandpass filter performance.	**Type:**	□ white box X black box □ _____
Tester Information				
	Name of Tester:		**Date:**	
	Hardware Version:	1.0	**Time:**	
	Setup:	Disconnect the lowpass filter and connect the bandpass filter. Connect CH1 of the VNA to J1 and CH2 to J2. Run test 1. Disconnect the bandpass filter and connect the lowpass filter. Connect CH1 of the VNA to J3 and CH2 to J2. Run test 2.		

TEST	**INPUTS**	**EXPECTED OUTPUTS**	**PASS**	**FAIL**	**N/A**	**Comments**
1	Frequency sweep from 1Hz to 10MHz	Tx 4.5MHz: Bandpass center frequency at 4.5MHz+/-250kHz with -6db+/-3db gain Tx 6.5MHz: Bandpass center frequency at 6.5MHz+/-250kHz with -9db+/-3db gain				
2	Frequency sweep from 1Hz to 10MHz	Tx 4.5MHz: Lowpass corner frequency at 4.5MHz+/-250kHz with -7db+/-3db gain Tx 6.5MHz: Lowpass corner frequency at 6.5MHz+/-250kHz with -6db+/-3db gain				
	Overall test result:					

Test Author: David Lay				
	Test Case Name:	Audio Detection Test	**Test ID #:**	3
	Description:	Tests the audio detection circuitry and verifies the ATTinys ability to cut the microphone input	**Type:**	X white box □ black box □ _____
Tester Information				
	Name of Tester:	David Lay	**Date:**	
	HW/SW Version:	1.0	**Time:**	
	Setup:	Two cans, a previously validated working can ('external can') and the unit under test (UUT) can. Both cans should have previously had the audio signal path and rf signal path validated.		

TEST	**INPUTS**	**EXPECTED OUTPUTS**	**PASS**	**FAIL**	**N/A**	**Comments**
1	1 kHz 1V_{P-P} sine wave into TP10. RV2 may need to be adjusted for gain on the amplifier. Rectification filter also be adjusted by replacing C20, 22, or 23	DC output on TP14 of at least +1 V with < 5 mV_{P-P} ripple.				
2	1 kHz 1V_{P-P} sine wave into TP10. RV3 may need to be adjusted for comparator bias voltage.	Logic low on TP14.				

3	1 kHz 1V_{P-P} sine wave into TP10, and audio input from microphone.	No signal measured from microphone on TP5.				
4	Audio input on external can connected via coax, and audio input from microphone on UUT can. Both external can and UUT can should have audio signal path and RF signal path tested previosuly	The audio input on UUT will not propagate to TP5.				
	Overall test result:					