

Temperature Stability Test Report:

Altiostar Networks

AWS Band iRM4451 RRH

FCC ID: NXP-44510400

SC_TR_182_A

Prepared for:

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1 Revision History

Revision	Originator	Date	Comment
A	C Blackham	16 Dec 2015	1 st release

2 Purpose

This document details the temperature stability testing performed on the Altiostar AWS Band iRM4451 RRH (Remote Radio Head), model number iRM44510400, designed to transmit in the 2110-2155 MHz band.

3 Reference Documents

[Ref 1]	47CFR2	Title 47 Code of Federal Regulations Part 2: frequency allocations and radio treaty matters; general rules and regulations
[Ref 2]	47 CRF27	Title 47 Code of Federal Regulations Part 27: Miscellaneous Communications Services
[Ref 3]	TIA-603-D	Land Mobile FM or PM – Communications Equipment – Measurement and Performance Standards

4 Test configuration

The iRM4451 was configured to transmit an E-TM1.1 waveform at 2132.5 MHz and the EVM of the signal was measured using the Analyser.

In order for the Analyser to be able to accurately measure the EVM, it was locked to a reference signal from the iRM4451 unit. The transmit Frequency of the iRM4451 is locked to GPS in typical install and 0.016 ppm was added to the EVM error as that represents the worst case baseband card frequency stability.

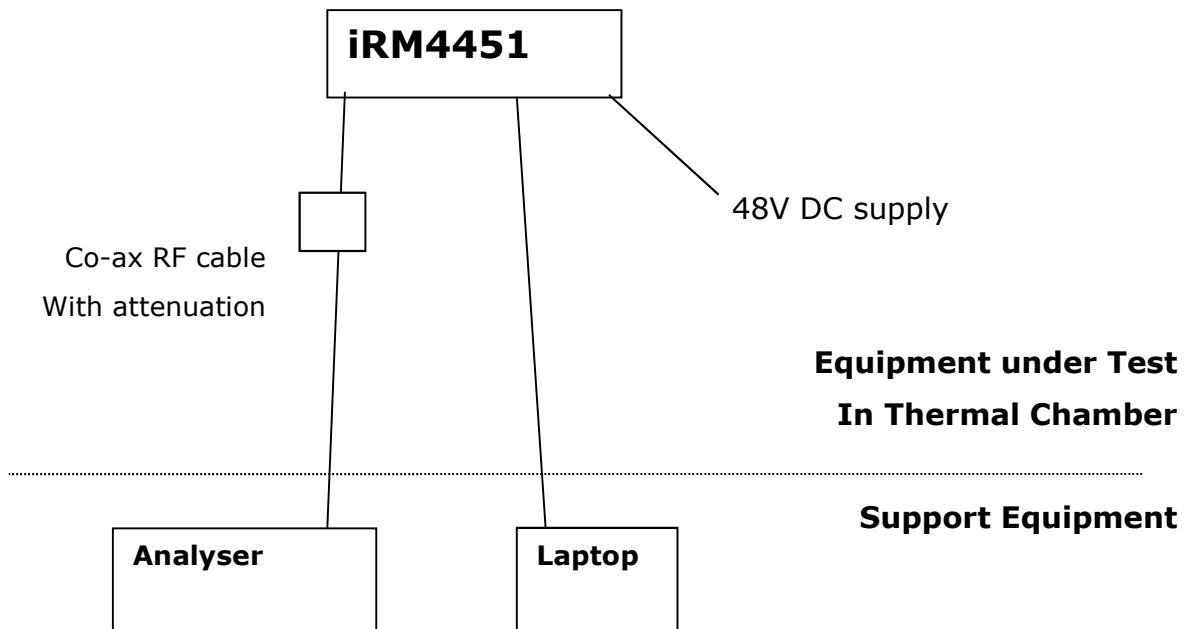


Figure 1: Test Configuration

4.1 Test sample and Operating mode

The equipment under test (EUT) was:

Manufacturer	Model Number	Serial Number
Altostar	iRM44510400	PLW47150004

Table 1: Equipment under test

4.2 Support equipment

The support equipment was:

Description	Manufacturer	Name	Serial Number
Laptop	HP	250	Dvt-mobile altostar

Table 2: Support Equipment

5 Test Results

Temp (°C)	System Freq Error (ppm)
-40.0	0.0174
-30.0	0.0170
-20.0	0.0175
-10.0	0.0172
0.0	0.0170
10.0	0.0170
20.0	0.0172
30.0	0.0171
40.0	0.0169
50.0	0.0166
60.0	0.0168

Table 3: Test results

Note : Varying DC input voltage by $\pm 15\%$ did not have any effect on the DC voltage output from the DC-DC power supply nor on voltage rails within the product and the frequency error at 20°C is unchanged for variations in supply voltage.

6 Test equipment and location

Testing was performed at:

Altiostar Networks UK Ltd
6 Horizon Business Village
1 Brooklands Road
Weybridge
KT13 0TJ

Description	Manufacturer	Name	Serial Number	Calibration certificate
Chamber	CTS	C-70/600	137108	Internally verified by Altiostar
PXA Signal Analyser	Agilent	N9030A	MY54200197	1-7032980367-1 Due 05/07/17
Attenuator	Fairview Microwave	SA18N100-30	None	N/A for frequency measurements
RF cable	Times Microwave	SLU18-SMNM-01.5m	3155	

Table 4: Test Equipment