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CE marking and product approvals

Frequency Stability Measurements

For

Airspan Communications Ltd

Airsynergy base stations

SC_TR_85_B

28 June 2013

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Contents

Tables

Figures

1 Revision History

Revision	Originator	Date	Comment
A	C Blackham	09 Jun 2013	First Issue
B	C Blackham	28 Jun 2013	Addition of additional frequency variants in table 1.

2 Associated Documents

[1]	47CFR2	Title 47 of FCC Rules Part 2
[2]	ANSI / TIA-603-C-2004	TIA Standard: Land Mobile FM or PM – Communications Equipment – Measurement and Performance Standards

3 Products Covered

AirSynergy variant	Baseband bare PCB	Baseband PCA
SYN3-CN-00-A425a-000	328-02-143	900-02-242
SYN3-CN-00-U38-000	328-02-143	900-02-242
SYN3-CN-00-A25c-000	328-02-143	900-02-242
SYN3-CN-00-A36-000	328-02-143	900-02-240
SYN3-CN-00-A49-000	328-02-143	900-02-243

Table 1: Products covered by this report

These products all show the same printed circuit board and same frequency determining circuitry. The only differences are that final Printed Circuit board Assemblies (PCA) contain different RF filter components to reflect operation at different frequencies.

4 Test Configuration

Testing was performed on a A49, 4.9GHz unit, that was connected in a real-life representative manner as follows:

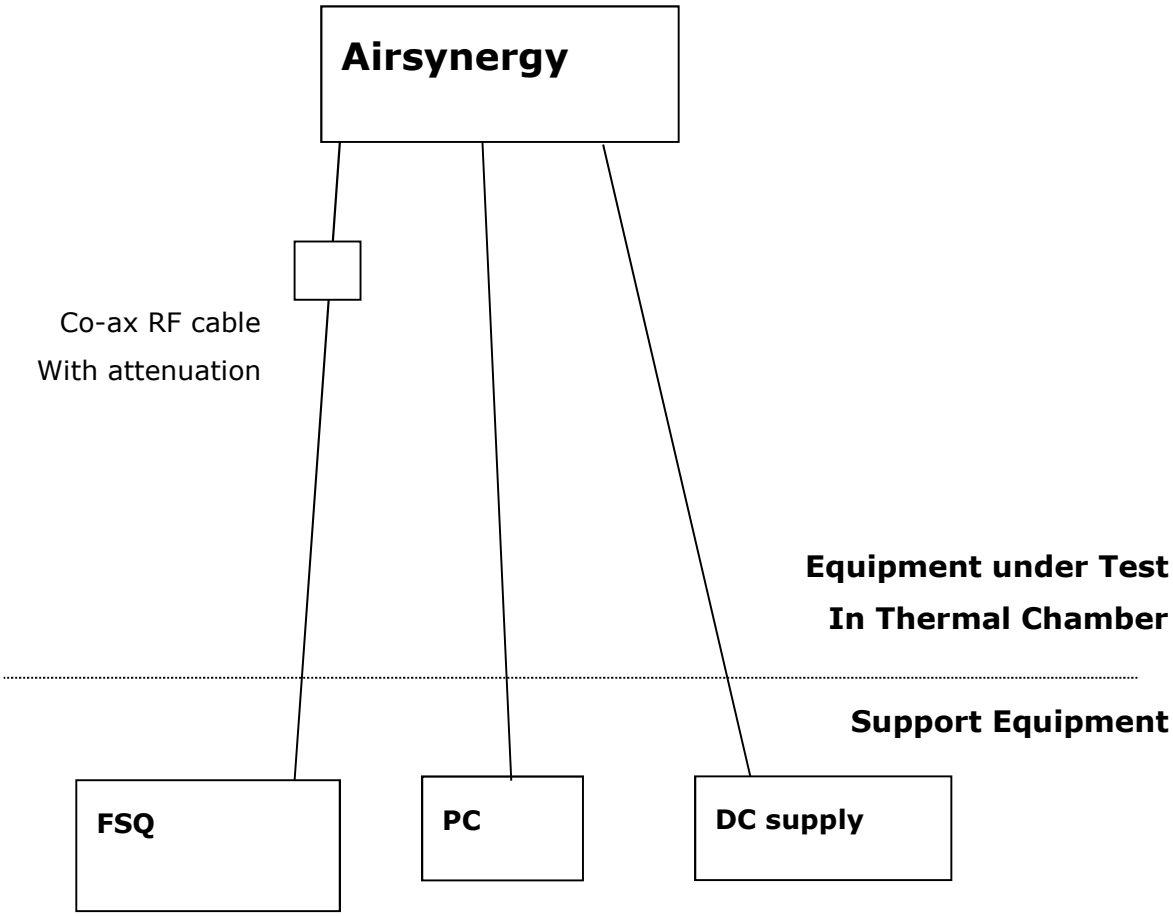

Figure 1: Test Configuration

Item	Part Number	Serial Number
Airsynergy	SYN-3N-00-0A49-000	6BEAD5FFEFA8

Table 2: Equipment under test

4.1 ***Measurement method***

- The EUT was placed into the thermal chamber and connected to a DC supply and FSQ measuring receiver outside the chamber
- The EUT was placed into commissioning mode and set to transmit a test waveform at 4950.0 MHz.
- The FSQ is fitted with the WiMAX 802.16e option and was set to reported frequency error in Hz relative to expected frequency of 4950.0 MHz
- The Temperature of the chamber was varied between -45°C and +60°C in 10°C steps and the EUT temperature allowed to stabilise for one hour at each. Measurements were recorded using ATE software
- Supply voltage was also varied when chamber was at 25°C.
- Frequency error was measured by the FSQ and the results shown in section 4.

5 Test Results

Voltage V)	Temp (°C)	Freq Error (Hz)	Freq Error (ppm)
48.0	-45	-2014.87	-0.40704
48.0	-35	-2266.89	-0.45796
48.0	-25	-1516.82	-0.30643
48.0	-15	892.41	0.180285
48.0	-5	2142.46	0.43282
48.0	5	2268.03	0.458188
48.0	15	2264.09	0.457392
40.8	25	2024.07	0.408903
48.0	25	2218.07	0.448095
55.2	25	2244.91	0.453517
48.0	35	2300.77	0.464802
48.0	45	2352.16	0.475184
48.0	55	2382.26	0.481265
48.0	60	4409.10	0.890727

Table 3: Test results

6 Test Location and Equipment

Testing was performed at:

Airspan Communication Ltd:

Capital Point,

33 Bath Road

Slough,

SL1 3UF

UK

By Parimal Modeshia of Airspan Communications Ltd and Charlie Blackham of Sulis Consultants Ltd

Item	Serial Number	Calibration Due
R&S FSQ 26	100409	2014-07-03

Table 4: Test Equipment